

APPENDIX J – A227 WROTHAM ROAD / A2 WESTBOUND SLIP ROAD ROUNDABOUT – ARCADY REPORT

Junctions 9									
ARCADY 9 - Roundabout Module									
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Report generation date: 15/10/2024 13:08:20

- »2023, AM
- »2023, PM
- »2025 Do Nothing, AM
- »2025 Do Nothing, PM
- »2025 Do Minimum, AM
- »2025 Do Minimum, PM
- »2025 Do Minimum Residual, AM
- »2025 Do Minimum Residual, PM
- »2028 Do Nothing, AM
- »2028 Do Nothing, PM
- »2028 Do Minimum, AM
- »2028 Do Minimum, PM
- »2028 Do Minimum Residual, AM
- »2028 Do Minimum Residual, PM

Summary of junction performance

	AM					PM				
	Set ID	Queue (Veh)	Delay (s)	RFC	LOS	Set ID	Queue (Veh)	Delay (s)	RFC	LOS
	[Lane Simulation] - 2023									
Arm A227N	D1	3.2	8.14		A	D2	2.0	5.56		A
Arm A20FF		9.4	43.01		E		4.3	22.19		C
Arm A227S		3.0	12.28		B		2.1	8.84		A
	[Lane Simulation] - 2025 Do Nothing									
Arm A227N	D3	3.2	8.46		A	D4	2.0	5.77		A
Arm A20FF		10.6	46.63		E		5.3	28.13		D
Arm A227S		3.8	14.26		B		2.3	9.11		A
	[Lane Simulation] - 2025 Do Minimum									
Arm A227N	D5	3.8	9.73		A	D6	2.3	6.07		A
Arm A20FF		28.1	110.48		F		10.2	42.58		E
Arm A227S		4.1	14.91		B		2.4	9.65		A

	[Lane Simulation] - 2025 Do Minimum Residual									
Arm A227N	D7	3.6	9.41		A	D8	2.2	5.93		A
Arm A20FF		24.2	95.94		F		8.1	41.13		E
Arm A227S		4.0	15.95		C		2.5	9.54		A
	[Lane Simulation] - 2028 Do Nothing									
Arm A227N	D9	4.1	9.94		A	D10	2.5	5.99		A
Arm A20FF		22.8	95.01		F		8.8	42.51		E
Arm A227S		3.7	16.86		C		2.6	10.47		B
	[Lane Simulation] - 2028 Do Minimum									
Arm A227N	D11	5.2	11.93		B	D12	2.9	6.49		A
Arm A20FF		47.4	180.76		F		17.0	74.27		F
Arm A227S		5.6	19.15		C		2.7	10.97		B
	[Lane Simulation] - 2028 Do Minimum Residual									
Arm A227N	D13	4.9	11.26		B	D14	2.7	6.53		A
Arm A20FF		49.4	189.54		F		17.0	69.93		F
Arm A227S		4.6	19.25		C		3.1	11.21		B

There are warnings associated with one or more model runs - see the 'Data Errors and Warnings' tables for each Analysis or Demand Set.

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle. Arm and junction delays are averages for all movements, including movements with zero delay.

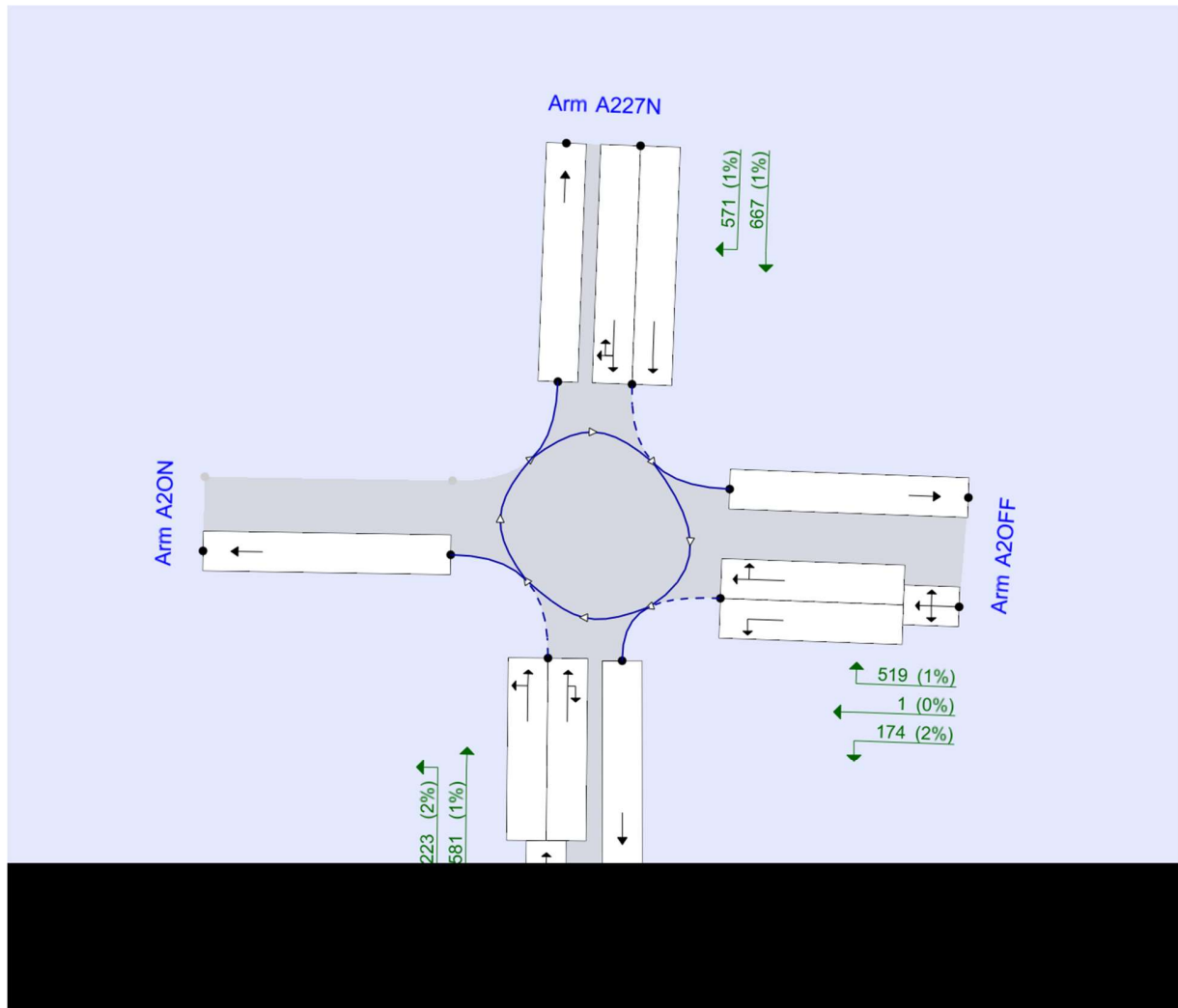
File summary

File Description

Title	
Location	
Site number	
Date	28/03/2023
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	MARKIDES\Markides Associates
Description	

Units

Distance units	Speed units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
m	kph	Veh	Veh	perHour	s	-Min	perMin



The junction diagram reflects the last run of Junctions.

Analysis Options

Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
5.75				0.85	36.00	20.00

Lane Simulation options

Criteria type	Stop criteria (%)	Stop criteria time (s)	Stop criteria number of trials	Random seed	Results refresh speed (s)	Individual vehicle animation number of trials	Average animation capture interval (s)	Use quick response	Do flow sampling	Suppress automatic lane creation	Last run random seed	Last run number of trials	Last run time taken (s)
Delay	1.00	100000	100000	-1	3	1	60	✓			1985754747	172	17.72

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2023	AM	ONE HOUR	07:45	09:15	15	✓

D2	2023	PM	ONE HOUR	16:45	18:15	15	✓
D3	2025 Do Nothing	AM	ONE HOUR	07:45	09:15	15	✓
D4	2025 Do Nothing	PM	ONE HOUR	16:45	18:15	15	✓
D5	2025 Do Minimum	AM	ONE HOUR	07:45	09:15	15	✓
D6	2025 Do Minimum	PM	ONE HOUR	16:45	18:15	15	✓
D7	2025 Do Minimum Residual	AM	ONE HOUR	07:45	09:15	15	✓
D8	2025 Do Minimum Residual	PM	ONE HOUR	16:45	18:15	15	✓
D9	2028 Do Nothing	AM	ONE HOUR	07:45	09:15	15	✓
D10	2028 Do Nothing	PM	ONE HOUR	16:45	18:15	15	✓
D11	2028 Do Minimum	AM	ONE HOUR	07:45	09:15	15	✓
D12	2028 Do Minimum	PM	ONE HOUR	16:45	18:15	15	✓
D13	2028 Do Minimum Residual	AM	ONE HOUR	07:45	09:15	15	✓
D14	2028 Do Minimum Residual	PM	ONE HOUR	16:45	18:15	15	✓

Analysis Set Details

ID	Use Lane Simulation	Include in report	Network flow scaling factor (%)	Network capacity scaling factor (%)
A1	✓	✓	100.000	100.000

2023, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Lane Simulation	A1 - [Lane Simulation]	This analysis set uses Lane Simulation mode. This is provided as an investigative tool and the user should apply judgement when interpreting the results.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	A227 / A2 WB Slip Roads RB	Standard Roundabout		A227N, A2OFF, A227S, A2ON	18.41	C

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description
A227N	A227 Wrotham Road (N)	
A2OFF	A2 WB Off Slip	
A227S	A227 Wrotham Road (S)	
A2ON	A2 WB On Slip	

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit only
A227N	7.60	8.10	6.9	20.8	59.9	36.0	
A2OFF	6.10	8.50	10.2	19.1	59.9	60.0	
A227S	4.90	9.20	22.2	24.1	59.9	49.0	
A2ON							✓

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
A227N	0.671	2380
A2OFF	0.586	2022
A227S	0.622	2157
A2ON		

The slope and intercept shown above include any corrections and adjustments.

Lane Simulation: Arm options

Arm	Lane capacity source	Traffic considering secondary lanes (%)
A227N	Evenly split	10.00
A2OFF	Evenly split	10.00
A227S	Evenly split	10.00
A2ON	Evenly split	10.00

Lanes

Arm	Side	Lane level	Lane	Destination arms	Has limited storage	Storage (PCU)	Has bottleneck	Minimum capacity (PCU/hr)	Maximum capacity (PCU/hr)	Signalised
A227N	Entry	1	1	A227S		Infinity		0	99999	
			2	A227N, A227S, A2ON		Infinity		0	99999	
	Exit	1	1			Infinity				
A2OFF	Entry	1	1	A227S	✓	4.00		0	99999	
			2	A227N, A2ON	✓	4.00		0	99999	
		2	1	(A227N, A227S, A2ON)		Infinity				
	Exit	1	1			Infinity				
A227S	Entry	1	1	A227N, A2ON	✓	4.00		0	99999	
			2	A227N, A227S	✓	4.00		0	99999	
		2	1	(A227N, A2OFF, A227S, A2ON)		Infinity				
	Exit	1	1			Infinity				
A2ON	Exit	1	1			Infinity				

Entry Lane slope and intercept

Arm	Side	Lane level	Lane	Final slope	Final intercept (PCU/hr)
A227N	Entry	1	1	0.335	1190
			2	0.335	1190
A2OFF	Entry	1	1	0.293	1011
			2	0.293	1011
A227S	Entry	1	1	0.311	1079

			2	0.311	1079
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Summary of Entry Lane allowed movements

Arm	Lane Level	Lane	Destination arm			
			A227N	A2OFF	A227S	A2ON
A227N	1	1			✓	
		2	✓		✓	✓
A2OFF	1	1			✓	
		2	✓			✓
	2	1	✓		✓	✓
A227S	1	1	✓			✓
		2	✓		✓	
	2	1	✓	✓	✓	✓

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2023	AM	ONE HOUR	07:45	09:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A227N		ONE HOUR	✓	1119	100.000
A2OFF		ONE HOUR	✓	669	100.000
A227S		ONE HOUR	✓	764	100.000
A2ON					

Origin-Destination Data

Demand (Veh/hr)

	To				
		A227N	A2OFF	A227S	A2ON
From	A227N	1	0	456	662
	A2OFF	487	0	178	4
	A227S	513	0	0	251
	A2ON	Exit-only	Exit-only	Exit-only	Exit-only

Vehicle Mix

Heavy Vehicle Percentages

From	To				
		A227N	A2OFF	A227S	A2ON
	A227N	100	0	3	5
	A2OFF	1	0	2	0
	A227S	2	0	0	3
	A2ON	Exit-only	Exit-only	Exit-only	Exit-only

Results

Results Summary for whole modelled period

Arm	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
A227N	8.14	3.2	A	1027	1541
A2OFF	43.01	9.4	E	617	926
A227S	12.28	3.0	B	699	1048
A2ON					

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	847	212	0	846	877	750	0.0	1.3	5.279	A
A2OFF	505	126	846	509	508	0	0.0	1.2	9.153	A
A227S	568	142	871	567	580	484	0.0	1.0	6.175	A
A2ON			0			689				

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	1008	252	0	1012	1048	899	1.3	1.6	6.128	A
A2OFF	601	150	1012	600	604	0	1.2	2.2	12.285	B
A227S	686	172	1041	683	695	570	1.0	1.7	7.573	A
A2ON			0			825				

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	1237	309	0	1241	1271	1096	1.6	2.6	7.524	A
A2OFF	732	183	1241	728	727	0	2.2	7.8	29.372	D
A227S	838	209	1278	837	846	690	1.7	2.8	11.911	B
A2ON			0			1020				

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	1229	307	0	1222	1288	1101	2.6	3.1	8.137	A
A2OFF	743	186	1222	737	734	0	7.8	9.3	43.008	E
A227S	836	209	1266	839	858	693	2.8	2.9	12.283	B
A2ON			0			1004				

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	1002	250	0	1003	1055	903	3.1	1.6	6.283	A
A2OFF	612	153	1003	615	647	0	9.3	2.3	20.984	C
A227S	686	172	1040	690	710	577	2.9	1.4	8.733	A
A2ON			0			827				

09:00 - 09:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	841	210	0	840	881	762	1.6	1.2	5.214	A
A2OFF	513	128	840	514	518	0	2.3	1.4	9.537	A
A227S	578	144	875	577	589	479	1.4	1.0	6.386	A
A2ON			0			690				

Lane Results

Lane Level notation: Lane Level 1 is always closest to the junction.

Lanes: Main Results for each time segment

07:45 - 08:00

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	Entry	1	1	A227S	240	1152	0.209	240	246	0.0	0.2	3.595	A
			2	A227N, A227S, A2ON	606	1135	0.534	606	631	0.0	1.1	5.943	A
	Exit	1	1		750			750	760	0.0	0.0	0.000	A
A2OFF	Entry	1	1	A227S	139	741	0.187	138	136	0.0	0.3	5.886	A
			2	A227N, A227S, A2ON	368	744	0.494	371	373	0.0	0.8	9.100	A
		2	1	(A227N, A227S, A2ON)	505			507	513	0.0	0.1	0.905	A
	Exit	1	1		0			0	0	0.0	0.0	0.000	A
A227S	Entry	1	1	A227N, A2ON	341	776	0.440	340	349	0.0	0.7	6.507	A
			2	A227N, A227S	228	786	0.290	227	230	0.0	0.3	5.488	A
		2	1	(A227N, A2OFF, A227S, A2ON)	568			569	584	0.0	0.0	0.075	A

	Exit	1	1		484			484	493	0.0	0.0	0.000	A
A2ON	Exit	1	1		689			689	712	0.0	0.0	0.000	A

08:00 - 08:15

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	Entry	1	1	A227S	300	1156	0.260	299	308	0.2	0.4	3.853	A
			2	A227N, A227S, A2ON	708	1132	0.626	713	740	1.1	1.2	7.095	A
	Exit	1	1		899			899	905	0.0	0.0	0.000	A
A2OFF	Entry	1	1	A227S	158	688	0.229	159	162	0.3	0.3	6.770	A
			2	A227N, A2ON	442	695	0.637	441	441	0.8	1.5	11.386	B
		2	1	(A227N, A227S, A2ON)	601			600	606	0.1	0.4	2.105	A
	Exit	1	1		0			0	0	0.0	0.0	0.000	A
A227S	Entry	1	1	A227N, A2ON	399	726	0.550	398	410	0.7	1.0	8.005	A
			2	A227N, A227S	286	729	0.392	285	286	0.3	0.6	6.556	A
		2	1	(A227N, A2OFF, A227S, A2ON)	686			685	698	0.0	0.1	0.163	A
	Exit	1	1		570			570	584	0.0	0.0	0.000	A
A2ON	Exit	1	1		825			825	858	0.0	0.0	0.000	A

08:15 - 08:30

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	Entry	1	1	A227S	391	1152	0.340	393	398	0.4	0.4	4.197	A
			2	A227N, A227S, A2ON	846	1138	0.745	848	873	1.2	2.3	9.053	A
	Exit	1	1		1096			1096	1095	0.0	0.0	0.000	A
A2OFF	Entry	1	1	A227S	189	622	0.304	190	195	0.3	0.5	8.532	A
			2	A227N, A2ON	537	626	0.857	538	532	1.5	2.8	16.905	C
		2	1	(A227N, A227S, A2ON)	732			726	733	0.4	4.5	14.582	B
	Exit	1	1		0			0	0	0.0	0.0	0.000	A
A227S	Entry	1	1	A227N, A2ON	470	651	0.722	470	483	1.0	1.6	11.365	B
			2	A227N, A227S	367	655	0.560	367	363	0.6	0.9	8.868	A
		2	1	(A227N, A2OFF, A227S, A2ON)	838			837	850	0.1	0.3	1.610	A
	Exit	1	1		690			690	707	0.0	0.0	0.000	A
A2ON	Exit	1	1		1020			1020	1043	0.0	0.0	0.000	A

08:30 - 08:45

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	Entry	1	1	A227S	392	1153	0.340	389	406	0.4	0.6	4.422	A
			2	A227N, A227S, A2ON	837	1134	0.738	832	882	2.3	2.5	9.880	A
	Exit	1	1		1101			1101	1108	0.0	0.0	0.000	A
A2OFF	Entry	1	1	A227S	195	625	0.313	196	197	0.5	0.4	9.189	A
			2	A227N, A2ON	541	631	0.857	541	536	2.8	2.8	18.795	C
		2	1	(A227N, A227S, A2ON)	743			736	733	4.5	6.1	26.769	D
	Exit	1	1		0			0	0	0.0	0.0	0.000	A
A227S	Entry	1	1	A227N, A2ON	476	652	0.732	478	490	1.6	1.5	11.627	B
			2	A227N, A227S	359	658	0.545	360	368	0.9	0.9	9.317	A
		2	1	(A227N, A2OFF, A227S, A2ON)	836			835	858	0.3	0.6	1.645	A
	Exit	1	1		693			693	713	0.0	0.0	0.000	A
A2ON	Exit	1	1		1004			1004	1058	0.0	0.0	0.000	A

08:45 - 09:00

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	Entry	1	1	A227S	294	1155	0.255	294	307	0.6	0.4	3.910	A
			2	A227N, A227S, A2ON	707	1137	0.622	709	748	2.5	1.3	7.276	A
	Exit	1	1		903			903	944	0.0	0.0	0.000	A
A2OFF	Entry	1	1	A227S	168	691	0.244	170	175	0.4	0.3	7.307	A
			2	A227N, A2ON	447	697	0.641	445	472	2.8	1.6	13.653	B
		2	1	(A227N, A227S, A2ON)	612			615	641	6.1	0.5	9.287	A
	Exit	1	1		0			0	0	0.0	0.0	0.000	A
A227S	Entry	1	1	A227N, A2ON	404	727	0.556	407	415	1.5	0.8	9.052	A
			2	A227N, A227S	283	731	0.387	283	295	0.9	0.6	7.208	A
		2	1	(A227N, A2OFF, A227S, A2ON)	686			687	706	0.6	0.0	0.476	A
	Exit	1	1		577			577	596	0.0	0.0	0.000	A
A2ON	Exit	1	1		827			827	873	0.0	0.0	0.000	A

09:00 - 09:15

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	Entry	1	1	A227S	240	1155	0.208	240	247	0.4	0.3	3.467	A

			2	A227N, A227S, A2ON	600	1134	0.529	600	634	1.3	1.0	5.912	A
	Exit	1	1		762			762	772	0.0	0.0	0.000	A
A2OFF	Entry	1	1	A227S	136	738	0.184	135	138	0.3	0.2	6.075	A
			2	A227N, A2ON	379	746	0.507	379	380	1.6	1.1	9.574	A
		2	1	(A227N, A227S, A2ON)	513			514	517	0.5	0.1	0.933	A
	Exit	1	1		0			0	0	0.0	0.0	0.000	A
A227S	Entry	1	1	A227N, A2ON	350	778	0.449	349	356	0.8	0.6	6.765	A
			2	A227N, A227S	228	781	0.292	228	233	0.6	0.3	5.590	A
		2	1	(A227N, A2OFF, A227S, A2ON)	578			578	587	0.0	0.0	0.087	A
	Exit	1	1		479			479	495	0.0	0.0	0.000	A
A2ON	Exit	1	1		690			690	722	0.0	0.0	0.000	A

2023, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Lane Simulation	A1 - [Lane Simulation]	This analysis set uses Lane Simulation mode. This is provided as an investigative tool and the user should apply judgement when interpreting the results.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	A227 / A2 WB Slip Roads RB	Standard Roundabout		A227N, A2OFF, A227S, A2ON	10.66	B

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D2	2023	PM	ONE HOUR	16:45	18:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A227N		ONE HOUR	✓	1118	100.000
A20FF		ONE HOUR	✓	617	100.000
A227S		ONE HOUR	✓	768	100.000
A20N					

Origin-Destination Data

Demand (Veh/hr)

	To				
		A227N	A20FF	A227S	A20N
From	A227N	0	0	635	483
	A20FF	447	0	169	1
	A227S	552	0	2	214
	A20N	Exit-only	Exit-only	Exit-only	Exit-only

Vehicle Mix

Heavy Vehicle Percentages

	To				
		A227N	A20FF	A227S	A20N
From	A227N	0	0	1	1
	A20FF	1	0	2	0
	A227S	1	0	0	2
	A20N	Exit-only	Exit-only	Exit-only	Exit-only

Results

Results Summary for whole modelled period

Arm	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
A227N	5.56	2.0	A	1028	1542
A20FF	22.19	4.3	C	564	846
A227S	8.84	2.1	A	701	1051
A20N					

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	842	211	1	842	849	749	0.0	1.0	4.309	A
A2OFF	464	116	843	464	467	0	0.0	1.0	7.893	A
A227S	575	144	699	574	587	608	0.0	0.9	5.390	A
A2ON			0			522				

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	1003	251	2	1005	1016	898	1.0	1.3	4.749	A
A2OFF	561	140	1007	561	559	0	1.0	1.8	10.999	B
A227S	684	171	843	685	696	724	0.9	1.2	6.248	A
A2ON			0			629				

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	1237	309	2	1235	1245	1092	1.3	2.0	5.564	A
A2OFF	674	169	1238	676	671	0	1.8	4.3	19.755	C
A227S	842	210	1024	841	854	890	1.2	2.1	8.494	A
A2ON			0			771				

17:30 - 17:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	1232	308	2	1232	1240	1092	2.0	2.0	5.464	A
A2OFF	672	168	1234	673	685	0	4.3	4.2	22.195	C
A227S	845	211	1017	845	856	890	2.1	2.0	8.836	A
A2ON			0			768				

17:45 - 18:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	1012	253	2	1011	1021	884	2.0	1.5	4.727	A
A2OFF	547	137	1013	549	571	0	4.2	1.5	12.284	B
A227S	687	172	834	686	702	727	2.0	1.2	6.555	A
A2ON			0			635				

18:00 - 18:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	843	211	2	842	855	750	1.5	1.0	4.304	A
A2OFF	466	116	844	463	472	0	1.5	1.1	8.186	A
A227S	572	143	703	572	586	604	1.2	0.9	5.532	A
A2ON			0			523				

Lane Results

Lane Level notation: Lane Level 1 is always closest to the junction.

Lanes: Main Results for each time segment

16:45 - 17:00

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	Entry	1	1	A227S	300	1178	0.255	300	301	0.0	0.3	3.595	A
			2	A227N, A227S, A2ON	542	1178	0.461	542	548	0.0	0.7	4.701	A
	Exit	1	1		749			749	759	0.0	0.0	0.000	A
A2OFF	Entry	1	1	A227S	127	747	0.170	128	129	0.0	0.2	5.726	A
			2	A227N, A2ON	337	754	0.447	336	338	0.0	0.8	8.249	A
		2	1	(A227N, A227S, A2ON)	464			464	471	0.0	0.0	0.328	A
	Exit	1	1		0			0	0	0.0	0.0	0.000	A
A227S	Entry	1	1	A227N, A2ON	339	847	0.401	339	347	0.0	0.6	5.642	A
			2	A227N, A227S	235	849	0.277	235	240	0.0	0.4	4.970	A
		2	1	(A227N, A2OFF, A227S, A2ON)	575			575	591	0.0	0.0	0.023	A
	Exit	1	1		608			608	614	0.0	0.0	0.000	A
A2ON	Exit	1	1		522			522	530	0.0	0.0	0.000	A

17:00 - 17:15

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	Entry	1	1	A227S	370	1178	0.314	371	373	0.3	0.4	3.873	A
			2	A227N, A227S, A2ON	633	1177	0.538	635	643	0.7	0.8	5.257	A
	Exit	1	1		898			898	903	0.0	0.0	0.000	A
A2OFF	Entry	1	1	A227S	156	699	0.223	155	155	0.2	0.4	6.615	A
			2	A227N, A2ON	405	705	0.574	406	405	0.8	1.2	10.629	B
		2	1	(A227N, A227S, A2ON)	561			561	562	0.0	0.2	1.466	A
	Exit	1	1		0			0	0	0.0	0.0	0.000	A
A227S	Entry	1	1	A227N, A2ON	396	801	0.494	396	403	0.6	0.8	6.584	A
			2	A227N, A227S	289	806	0.358	290	293	0.4	0.4	5.585	A
		2	1	(A227N, A2OFF, A227S, A2ON)	684			685	697	0.0	0.0	0.086	A
	Exit	1	1		724			724	732	0.0	0.0	0.000	A
A2ON	Exit	1	1		629			629	635	0.0	0.0	0.000	A

17:15 - 17:30

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	Entry	1	1	A227S	476	1177	0.405	477	477	0.4	0.6	4.404	A
			2	A227N, A227S, A2ON	760	1177	0.646	759	768	0.8	1.5	6.282	A
	Exit	1	1		1092			1092	1096	0.0	0.0	0.000	A
A2OFF	Entry	1	1	A227S	185	634	0.291	184	184	0.4	0.5	8.077	A
			2	A227N, A2ON	490	639	0.768	492	487	1.2	2.1	14.813	B
		2	1	(A227N, A227S, A2ON)	674			675	675	0.2	1.8	6.716	A
	Exit	1	1		0			0	0	0.0	0.0	0.000	A
A227S	Entry	1	1	A227N, A2ON	470	745	0.630	470	481	0.8	1.2	8.661	A
			2	A227N, A227S	371	750	0.494	371	373	0.4	0.7	7.225	A
		2	1	(A227N, A2OFF, A227S, A2ON)	842			841	857	0.0	0.2	0.457	A
	Exit	1	1		890			890	894	0.0	0.0	0.000	A
A2ON	Exit	1	1		771			771	780	0.0	0.0	0.000	A

17:30 - 17:45

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	Entry	1	1	A227S	473	1177	0.402	472	476	0.6	0.7	4.328	A
			2	A227N, A227S, A2ON	759	1177	0.645	760	764	1.5	1.3	6.173	A
	Exit	1	1		1092			1092	1106	0.0	0.0	0.000	A
A2OFF	Entry	1	1	A227S	185	633	0.293	186	191	0.5	0.4	8.279	A
			2	A227N, A2ON	486	639	0.760	487	495	2.1	2.1	15.742	C
		2	1	(A227N, A227S, A2ON)	672			671	685	1.8	1.7	8.510	A
	Exit	1	1		0			0	0	0.0	0.0	0.000	A
A227S	Entry	1	1	A227N, A2ON	471	748	0.630	471	481	1.2	1.2	8.897	A
			2	A227N, A227S	373	753	0.496	374	375	0.7	0.7	7.437	A
		2	1	(A227N, A2OFF, A227S, A2ON)	845			845	856	0.2	0.1	0.582	A
	Exit	1	1		890			890	898	0.0	0.0	0.000	A
A2ON	Exit	1	1		768			768	778	0.0	0.0	0.000	A

17:45 - 18:00

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	Entry	1	1	A227S	368	1177	0.312	367	374	0.7	0.4	3.844	A

			2	A227N, A227S, A2ON	645	1178	0.547	644	647	1.3	1.0	5.237	A
	Exit	1	1		884			884	916	0.0	0.0	0.000	A
A2OFF	Entry	1	1	A227S	154	699	0.221	155	158	0.4	0.3	7.025	A
			2	A227N, A2ON	393	705	0.557	394	413	2.1	1.1	11.326	B
		2	1	(A227N, A227S, A2ON)	547			547	566	1.7	0.2	2.250	A
	Exit	1	1		0			0	0	0.0	0.0	0.000	A
A227S	Entry	1	1	A227N, A2ON	398	805	0.495	397	404	1.2	0.8	6.894	A
			2	A227N, A227S	289	810	0.357	289	298	0.7	0.4	5.885	A
		2	1	(A227N, A2OFF, A227S, A2ON)	687			687	700	0.1	0.0	0.098	A
	Exit	1	1		727			727	740	0.0	0.0	0.000	A
A2ON	Exit	1	1		635			635	638	0.0	0.0	0.000	A

18:00 - 18:15

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	Entry	1	1	A227S	298	1177	0.253	298	302	0.4	0.3	3.614	A
			2	A227N, A227S, A2ON	545	1177	0.463	545	553	1.0	0.7	4.681	A
	Exit	1	1		750			750	761	0.0	0.0	0.000	A
A2OFF	Entry	1	1	A227S	124	746	0.167	124	130	0.3	0.2	5.963	A
			2	A227N, A2ON	341	755	0.452	339	342	1.1	0.9	8.501	A
		2	1	(A227N, A227S, A2ON)	466			465	471	0.2	0.0	0.392	A
	Exit	1	1		0			0	0	0.0	0.0	0.000	A
A227S	Entry	1	1	A227N, A2ON	335	846	0.396	335	344	0.8	0.6	5.806	A
			2	A227N, A227S	237	850	0.278	237	242	0.4	0.3	5.047	A
		2	1	(A227N, A2OFF, A227S, A2ON)	572			572	584	0.0	0.0	0.042	A
	Exit	1	1		604			604	614	0.0	0.0	0.000	A
A2ON	Exit	1	1		523			523	538	0.0	0.0	0.000	A

2025 Do Nothing, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Lane Simulation	A1 - [Lane Simulation]	This analysis set uses Lane Simulation mode. This is provided as an investigative tool and the user should apply judgement when interpreting the results.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	A227 / A2 WB Slip Roads RB	Standard Roundabout		A227N, A2OFF, A227S, A2ON	20.02	C

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D3	2025 Do Nothing	AM	ONE HOUR	07:45	09:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A227N		ONE HOUR	✓	1150	100.000
A2OFF		ONE HOUR	✓	683	100.000
A227S		ONE HOUR	✓	771	100.000
A2ON					

Origin-Destination Data

Demand (Veh/hr)

	To				
		A227N	A2OFF	A227S	A2ON
From	A227N	1	0	462	687
	A2OFF	498	0	181	4
	A227S	518	0	0	253
	A2ON	Exit-only	Exit-only	Exit-only	Exit-only

Vehicle Mix

Heavy Vehicle Percentages

From	To				
		A227N	A2OFF	A227S	A2ON
	A227N	100	0	3	5
	A2OFF	1	0	2	0
	A227S	2	0	0	3
	A2ON	Exit-only	Exit-only	Exit-only	Exit-only

Results

Results Summary for whole modelled period

Arm	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
A227N	8.46	3.2	A	1056	1584
A2OFF	46.63	10.6	E	628	943
A227S	14.26	3.8	B	709	1063
A2ON					

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	865	216	0	865	898	767	0.0	1.4	5.408	A
A2OFF	515	129	865	515	520	0	0.0	1.2	9.029	A
A227S	587	147	891	587	595	489	0.0	1.0	6.266	A
A2ON			0			711				

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	1034	258	0	1036	1078	919	1.4	1.7	6.417	A
A2OFF	618	154	1036	617	618	0	1.2	2.4	13.024	B
A227S	699	175	1073	698	709	580	1.0	1.6	7.927	A
A2ON			0			851				

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	1266	316	0	1261	1315	1111	1.7	3.1	8.455	A
A2OFF	751	188	1261	743	732	0	2.4	8.8	33.228	D
A227S	846	212	1296	849	863	709	1.6	2.9	12.417	B
A2ON			0			1033				

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	1266	316	0	1269	1322	1117	3.1	2.7	8.300	A
A2OFF	756	189	1269	744	750	0	8.8	10.6	46.630	E
A227S	856	214	1310	853	866	703	2.9	3.7	14.256	B
A2ON			0			1045				

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	1035	259	0	1036	1081	916	2.7	1.8	6.417	A
A2OFF	613	153	1036	615	653	0	10.6	2.5	22.539	C
A227S	687	172	1075	691	720	577	3.7	1.4	8.933	A
A2ON			0			850				

09:00 - 09:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	870	218	0	869	905	771	1.8	1.3	5.403	A
A2OFF	518	129	869	515	527	0	2.5	1.4	9.688	A
A227S	578	145	909	579	595	475	1.4	1.0	6.496	A
A2ON			0			717				

Lane Results

Lane Level notation: Lane Level 1 is always closest to the junction.

Lanes: Main Results for each time segment

07:45 - 08:00

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	Entry	1	1	A227S	244	1152	0.212	245	249	0.0	0.3	3.664	A
			2	A227N, A227S, A2ON	621	1136	0.547	620	648	0.0	1.1	6.088	A
	Exit	1	1		767			767	777	0.0	0.0	0.000	A
A2OFF	Entry	1	1	A227S	137	731	0.188	137	139	0.0	0.2	6.114	A
			2	A227N, A2ON	378	740	0.511	378	381	0.0	0.9	9.131	A
		2	1	(A227N, A227S, A2ON)	515			515	525	0.0	0.1	0.696	A
	Exit	1	1		0			0	0	0.0	0.0	0.000	A
A227S	Entry	1	1	A227N, A2ON	353	772	0.457	352	359	0.0	0.6	6.628	A
			2	A227N, A227S	234	775	0.302	234	236	0.0	0.4	5.512	A
		2	1	(A227N, A2OFF, A227S, A2ON)	587			587	599	0.0	0.0	0.080	A

	Exit	1	1		489			489	498	0.0	0.0	0.000	A
A2ON	Exit	1	1		711			711	738	0.0	0.0	0.000	A

08:00 - 08:15

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	Entry	1	1	A227S	306	1155	0.265	306	314	0.3	0.3	3.905	A
			2	A227N, A227S, A2ON	727	1135	0.640	730	763	1.1	1.3	7.471	A
	Exit	1	1		919			919	925	0.0	0.0	0.000	A
A2OFF	Entry	1	1	A227S	164	680	0.241	165	167	0.2	0.3	6.872	A
			2	A227N, A2ON	452	689	0.656	453	452	0.9	1.5	11.885	B
		2	1	(A227N, A227S, A2ON)	618			616	621	0.1	0.6	2.445	A
	Exit	1	1		0			0	0	0.0	0.0	0.000	A
A227S	Entry	1	1	A227N, A2ON	408	716	0.570	407	416	0.6	1.0	8.280	A
			2	A227N, A227S	291	720	0.405	291	293	0.4	0.5	6.642	A
		2	1	(A227N, A2OFF, A227S, A2ON)	699			699	712	0.0	0.1	0.322	A
	Exit	1	1		580			580	593	0.0	0.0	0.000	A
A2ON	Exit	1	1		851			851	888	0.0	0.0	0.000	A

08:15 - 08:30

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	Entry	1	1	A227S	403	1156	0.348	402	416	0.3	0.5	4.472	A
			2	A227N, A227S, A2ON	863	1136	0.760	859	898	1.3	2.6	10.327	B
	Exit	1	1		1111			1111	1114	0.0	0.0	0.000	A
A2OFF	Entry	1	1	A227S	198	614	0.322	198	196	0.3	0.6	8.954	A
			2	A227N, A2ON	546	620	0.880	545	536	1.5	2.9	17.496	C
		2	1	(A227N, A227S, A2ON)	751			744	738	0.6	5.3	17.898	C
	Exit	1	1		0			0	0	0.0	0.0	0.000	A
A227S	Entry	1	1	A227N, A2ON	477	647	0.737	479	489	1.0	1.5	11.749	B
			2	A227N, A227S	369	649	0.569	370	374	0.5	0.9	9.280	A
		2	1	(A227N, A2OFF, A227S, A2ON)	846			846	867	0.1	0.4	1.732	A
	Exit	1	1		709			709	723	0.0	0.0	0.000	A
A2ON	Exit	1	1		1033			1033	1074	0.0	0.0	0.000	A

08:30 - 08:45

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	Entry	1	1	A227S	401	1155	0.347	401	415	0.5	0.5	4.424	A
			2	A227N, A227S, A2ON	865	1134	0.763	868	907	2.6	2.3	10.112	B
	Exit	1	1		1117			1117	1127	0.0	0.0	0.000	A
A2OFF	Entry	1	1	A227S	198	612	0.324	198	201	0.6	0.5	9.461	A
			2	A227N, A2ON	548	617	0.888	546	549	2.9	3.0	19.234	C
		2	1	(A227N, A227S, A2ON)	756			746	750	5.3	7.1	29.956	D
	Exit	1	1		0			0	0	0.0	0.0	0.000	A
A227S	Entry	1	1	A227N, A2ON	480	641	0.749	481	491	1.5	1.8	12.713	B
			2	A227N, A227S	372	644	0.578	372	375	0.9	1.1	10.084	B
		2	1	(A227N, A2OFF, A227S, A2ON)	856			853	868	0.4	0.9	2.673	A
	Exit	1	1		703			703	725	0.0	0.0	0.000	A
A2ON	Exit	1	1		1045			1045	1086	0.0	0.0	0.000	A

08:45 - 09:00

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	Entry	1	1	A227S	307	1156	0.266	307	317	0.5	0.3	3.911	A
			2	A227N, A227S, A2ON	728	1135	0.641	729	764	2.3	1.5	7.479	A
	Exit	1	1		916			916	960	0.0	0.0	0.000	A
A2OFF	Entry	1	1	A227S	160	680	0.235	160	172	0.5	0.3	7.457	A
			2	A227N, A2ON	455	689	0.661	455	480	3.0	1.6	14.267	B
		2	1	(A227N, A227S, A2ON)	613			615	646	7.1	0.7	10.369	B
	Exit	1	1		0			0	0	0.0	0.0	0.000	A
A227S	Entry	1	1	A227N, A2ON	405	712	0.568	407	423	1.8	0.9	9.042	A
			2	A227N, A227S	282	719	0.392	284	297	1.1	0.5	7.448	A
		2	1	(A227N, A2OFF, A227S, A2ON)	687			688	714	0.9	0.1	0.592	A
	Exit	1	1		577			577	603	0.0	0.0	0.000	A
A2ON	Exit	1	1		850			850	891	0.0	0.0	0.000	A

09:00 - 09:15

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	Entry	1	1	A227S	242	1157	0.209	242	249	0.3	0.2	3.635	A

			2	A227N, A227S, A2ON	628	1136	0.553	627	656	1.5	1.1	6.087	A
	Exit	1	1		771			771	785	0.0	0.0	0.000	A
A2OFF	Entry	1	1	A227S	132	733	0.180	132	140	0.3	0.2	6.101	A
			2	A227N, A2ON	385	739	0.522	383	387	1.6	1.1	9.696	A
		2	1	(A227N, A227S, A2ON)	518			517	525	0.7	0.1	0.987	A
	Exit	1	1		0			0	0	0.0	0.0	0.000	A
A227S	Entry	1	1	A227N, A2ON	351	767	0.457	351	359	0.9	0.6	6.866	A
			2	A227N, A227S	228	770	0.296	228	236	0.5	0.4	5.721	A
		2	1	(A227N, A2OFF, A227S, A2ON)	578			579	593	0.1	0.0	0.088	A
	Exit	1	1		475			475	495	0.0	0.0	0.000	A
A2ON	Exit	1	1		717			717	747	0.0	0.0	0.000	A

2025 Do Nothing, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Lane Simulation	A1 - [Lane Simulation]	This analysis set uses Lane Simulation mode. This is provided as an investigative tool and the user should apply judgement when interpreting the results.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	A227 / A2 WB Slip Roads RB	Standard Roundabout		A227N, A2OFF, A227S, A2ON	12.36	B

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D4	2025 Do Nothing	PM	ONE HOUR	16:45	18:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A227N		ONE HOUR	✓	1138	100.000
A20FF		ONE HOUR	✓	633	100.000
A227S		ONE HOUR	✓	775	100.000
A20N					

Origin-Destination Data

Demand (Veh/hr)

	To				
		A227N	A20FF	A227S	A20N
From	A227N	0	0	641	497
	A20FF	461	0	171	1
	A227S	558	0	2	215
	A20N	Exit-only	Exit-only	Exit-only	Exit-only

Vehicle Mix

Heavy Vehicle Percentages

	To				
		A227N	A20FF	A227S	A20N
From	A227N	0	0	1	1
	A20FF	1	0	2	0
	A227S	1	0	0	2
	A20N	Exit-only	Exit-only	Exit-only	Exit-only

Results

Results Summary for whole modelled period

Arm	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
A227N	5.77	2.0	A	1046	1569
A20FF	28.13	5.3	D	583	874
A227S	9.11	2.3	A	715	1072
A20N					

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	861	215	2	860	874	770	0.0	1.1	4.476	A
A2OFF	478	119	862	479	485	0	0.0	1.0	8.306	A
A227S	582	146	726	582	591	615	0.0	0.8	5.560	A
A2ON			0			536				

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	1027	257	1	1028	1030	922	1.1	1.3	4.766	A
A2OFF	575	144	1029	574	574	0	1.0	1.8	10.764	B
A227S	702	175	866	703	710	738	0.8	1.2	6.472	A
A2ON			0			646				

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	1243	311	2	1243	1259	1110	1.3	2.0	5.681	A
A2OFF	698	174	1244	696	687	0	1.8	5.1	22.698	C
A227S	844	211	1043	842	857	897	1.2	2.1	8.449	A
A2ON			0			774				

17:30 - 17:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	1238	309	3	1243	1263	1125	2.0	1.8	5.769	A
A2OFF	691	173	1245	694	708	0	5.1	5.3	28.133	D
A227S	861	215	1050	861	863	889	2.1	2.3	9.113	A
A2ON			0			783				

17:45 - 18:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	1034	258	2	1037	1037	920	1.8	1.2	4.797	A
A2OFF	570	143	1039	568	598	0	5.3	2.2	14.419	B
A227S	709	177	864	712	711	743	2.3	1.1	6.890	A
A2ON			0			653				

18:00 - 18:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	871	218	2	871	875	779	1.2	1.0	4.383	A
A2OFF	485	121	873	485	493	0	2.2	1.1	8.881	A
A227S	589	147	733	588	595	625	1.1	1.0	5.504	A
A2ON			0			540				

Lane Results

Lane Level notation: Lane Level 1 is always closest to the junction.

Lanes: Main Results for each time segment

16:45 - 17:00

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	Entry	1	1	A227S	304	1176	0.259	303	308	0.0	0.4	3.651	A
			2	A227N, A227S, A2ON	557	1176	0.473	557	566	0.0	0.7	4.925	A
	Exit	1	1		770			770	775	0.0	0.0	0.000	A
A2OFF	Entry	1	1	A227S	133	741	0.179	132	135	0.0	0.2	5.961	A
			2	A227N, A2ON	345	748	0.461	347	350	0.0	0.7	8.508	A
		2	1	(A227N, A227S, A2ON)	478			478	489	0.0	0.0	0.501	A
	Exit	1	1		0			0	0	0.0	0.0	0.000	A
A227S	Entry	1	1	A227N, A2ON	342	840	0.407	341	346	0.0	0.5	5.830	A
			2	A227N, A227S	241	841	0.286	240	245	0.0	0.4	5.140	A
		2	1	(A227N, A2OFF, A227S, A2ON)	582			582	594	0.0	0.0	0.016	A
	Exit	1	1		615			615	626	0.0	0.0	0.000	A
A2ON	Exit	1	1		536			536	550	0.0	0.0	0.000	A

17:00 - 17:15

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	Entry	1	1	A227S	373	1177	0.317	372	374	0.4	0.4	3.940	A
			2	A227N, A227S, A2ON	654	1178	0.555	656	655	0.7	0.9	5.237	A
	Exit	1	1		922			922	927	0.0	0.0	0.000	A
A2OFF	Entry	1	1	A227S	155	688	0.226	155	156	0.2	0.3	6.602	A
			2	A227N, A2ON	419	700	0.599	419	418	0.7	1.3	10.559	B
		2	1	(A227N, A227S, A2ON)	575			575	577	0.0	0.2	1.253	A
	Exit	1	1		0			0	0	0.0	0.0	0.000	A
A227S	Entry	1	1	A227N, A2ON	406	796	0.510	408	410	0.5	0.7	6.768	A
			2	A227N, A227S	295	797	0.370	295	300	0.4	0.5	5.808	A
		2	1	(A227N, A2OFF, A227S, A2ON)	702			701	711	0.0	0.0	0.108	A
	Exit	1	1		738			738	738	0.0	0.0	0.000	A
A2ON	Exit	1	1		646			646	649	0.0	0.0	0.000	A

17:15 - 17:30

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	Entry	1	1	A227S	472	1178	0.401	471	483	0.4	0.6	4.414	A
			2	A227N, A227S, A2ON	771	1178	0.654	772	776	0.9	1.4	6.469	A
	Exit	1	1		1110			1110	1115	0.0	0.0	0.000	A
A2OFF	Entry	1	1	A227S	194	632	0.306	194	189	0.3	0.5	8.498	A
			2	A227N, A2ON	500	638	0.785	502	498	1.3	2.3	15.359	C
		2	1	(A227N, A227S, A2ON)	698			694	691	0.2	2.3	9.133	A
	Exit	1	1		0			0	0	0.0	0.0	0.000	A
A227S	Entry	1	1	A227N, A2ON	470	740	0.636	469	479	0.7	1.3	8.708	A
			2	A227N, A227S	374	744	0.502	373	378	0.5	0.8	7.204	A
		2	1	(A227N, A2OFF, A227S, A2ON)	844			844	860	0.0	0.1	0.404	A
	Exit	1	1		897			897	903	0.0	0.0	0.000	A
A2ON	Exit	1	1		774			774	784	0.0	0.0	0.000	A

17:30 - 17:45

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	Entry	1	1	A227S	473	1179	0.401	476	484	0.6	0.4	4.413	A
			2	A227N, A227S, A2ON	765	1178	0.649	767	779	1.4	1.4	6.611	A
	Exit	1	1		1125			1125	1136	0.0	0.0	0.000	A
A2OFF	Entry	1	1	A227S	189	630	0.300	191	192	0.5	0.5	8.786	A
			2	A227N, A2ON	501	638	0.786	503	516	2.3	2.2	16.980	C
		2	1	(A227N, A227S, A2ON)	691			690	708	2.3	2.6	13.353	B
	Exit	1	1		0			0	0	0.0	0.0	0.000	A
A227S	Entry	1	1	A227N, A2ON	477	739	0.645	474	482	1.3	1.4	9.247	A
			2	A227N, A227S	386	742	0.520	386	381	0.8	0.8	7.667	A
		2	1	(A227N, A2OFF, A227S, A2ON)	861			862	864	0.1	0.1	0.564	A
	Exit	1	1		889			889	905	0.0	0.0	0.000	A
A2ON	Exit	1	1		783			783	793	0.0	0.0	0.000	A

17:45 - 18:00

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	Entry	1	1	A227S	378	1178	0.321	379	378	0.4	0.4	3.903	A

			2	A227N, A227S, A2ON	656	1176	0.558	658	659	1.4	0.8	5.312	A
	Exit	1	1		920			920	945	0.0	0.0	0.000	A
A2OFF	Entry	1	1	A227S	154	690	0.223	155	161	0.5	0.3	7.526	A
			2	A227N, A2ON	416	698	0.595	413	436	2.2	1.5	12.069	B
		2	1	(A227N, A227S, A2ON)	570			570	594	2.6	0.3	3.707	A
	Exit	1	1		0			0	0	0.0	0.0	0.000	A
A227S	Entry	1	1	A227N, A2ON	407	797	0.511	409	409	1.4	0.6	7.200	A
			2	A227N, A227S	302	799	0.378	303	303	0.8	0.4	6.188	A
		2	1	(A227N, A2OFF, A227S, A2ON)	709			709	707	0.1	0.0	0.129	A
	Exit	1	1		743			743	747	0.0	0.0	0.000	A
A2ON	Exit	1	1		653			653	654	0.0	0.0	0.000	A

18:00 - 18:15

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	Entry	1	1	A227S	304	1177	0.259	305	308	0.4	0.3	3.609	A
			2	A227N, A227S, A2ON	567	1178	0.482	567	568	0.8	0.7	4.803	A
	Exit	1	1		779			779	788	0.0	0.0	0.000	A
A2OFF	Entry	1	1	A227S	133	739	0.180	132	135	0.3	0.2	6.015	A
			2	A227N, A2ON	351	745	0.472	353	359	1.5	0.8	9.092	A
		2	1	(A227N, A227S, A2ON)	485			485	490	0.3	0.1	0.659	A
	Exit	1	1		0			0	0	0.0	0.0	0.000	A
A227S	Entry	1	1	A227N, A2ON	342	836	0.410	341	347	0.6	0.6	5.811	A
			2	A227N, A227S	246	843	0.293	247	248	0.4	0.4	5.009	A
		2	1	(A227N, A2OFF, A227S, A2ON)	589			589	595	0.0	0.0	0.028	A
	Exit	1	1		625			625	628	0.0	0.0	0.000	A
A2ON	Exit	1	1		540			540	546	0.0	0.0	0.000	A

2025 Do Minimum, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Lane Simulation	A1 - [Lane Simulation]	This analysis set uses Lane Simulation mode. This is provided as an investigative tool and the user should apply judgement when interpreting the results.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	A227 / A2 WB Slip Roads RB	Standard Roundabout		A227N, A2OFF, A227S, A2ON	38.06	E

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D5	2025 Do Minimum	AM	ONE HOUR	07:45	09:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A227N		ONE HOUR	✓	1195	100.000
A2OFF		ONE HOUR	✓	726	100.000
A227S		ONE HOUR	✓	772	100.000
A2ON					

Origin-Destination Data

Demand (Veh/hr)

	To				
From		A227N	A2OFF	A227S	A2ON
	A227N	1	0	462	732
	A2OFF	541	0	181	4
	A227S	524	0	0	248
	A2ON	Exit-only	Exit-only	Exit-only	Exit-only

Vehicle Mix

Heavy Vehicle Percentages

From	To				
		A227N	A2OFF	A227S	A2ON
	A227N	100	0	3	5
	A2OFF	2	0	2	0
	A227S	2	0	0	3
	A2ON	Exit-only	Exit-only	Exit-only	Exit-only

Results

Results Summary for whole modelled period

Arm	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
A227N	9.73	3.8	A	1097	1645
A2OFF	110.48	28.1	F	667	1000
A227S	14.91	4.1	B	710	1065
A2ON					

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	893	223	0	893	938	807	0.0	1.5	5.706	A
A2OFF	556	139	893	553	551	0	0.0	2.0	11.069	B
A227S	589	147	960	587	596	486	0.0	1.2	6.553	A
A2ON			0			741				

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	1089	272	0	1088	1118	955	1.5	2.0	6.798	A
A2OFF	647	162	1088	641	658	0	2.0	3.8	17.181	C
A227S	687	172	1156	687	705	574	1.2	1.8	8.326	A
A2ON			0			887				

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	1309	327	0	1310	1363	1134	2.0	3.8	9.523	A
A2OFF	787	197	1310	742	752	0	3.8	17.9	58.760	F
A227S	856	214	1363	852	867	688	1.8	4.0	14.813	B
A2ON			0			1082				

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	1314	328	0	1315	1383	1143	3.8	3.4	9.726	A
A2OFF	806	201	1315	765	771	0	17.9	28.1	110.482	F
A227S	841	210	1375	841	870	705	4.0	3.5	14.912	B
A2ON			0			1074				

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	1083	271	0	1082	1129	1004	3.4	2.3	6.908	A
A2OFF	654	163	1082	709	756	0	28.1	6.1	68.435	F
A227S	697	174	1194	699	718	597	3.5	1.6	10.205	B
A2ON			0			889				

09:00 - 09:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	893	223	0	892	935	819	2.3	1.5	5.711	A
A2OFF	550	137	892	554	579	0	6.1	1.4	14.101	B
A227S	588	147	965	587	602	480	1.6	1.0	6.849	A
A2ON			0			732				

Lane Results

Lane Level notation: Lane Level 1 is always closest to the junction.

Lanes: Main Results for each time segment

07:45 - 08:00

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	Entry	1	1	A227S	245	1157	0.211	245	259	0.0	0.2	3.676	A
			2	A227N, A227S, A2ON	648	1139	0.569	648	679	0.0	1.3	6.489	A
	Exit	1	1		807			807	816	0.0	0.0	0.000	A
A2OFF	Entry	1	1	A227S	140	725	0.194	140	136	0.0	0.3	6.277	A
			2	A227N, A2ON	415	724	0.574	414	415	0.0	1.3	10.498	B
		2	1	(A227N, A227S, A2ON)	556			555	558	0.0	0.4	1.595	A
	Exit	1	1		0			0	0	0.0	0.0	0.000	A
A227S	Entry	1	1	A227N, A2ON	351	748	0.469	350	355	0.0	0.7	6.934	A
			2	A227N, A227S	238	755	0.315	237	241	0.0	0.4	5.719	A
		2	1	(A227N, A2OFF, A227S, A2ON)	589			589	601	0.0	0.0	0.110	A

	Exit	1	1		486			486	498	0.0	0.0	0.000	A
A2ON	Exit	1	1		741			741	771	0.0	0.0	0.000	A

08:00 - 08:15

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	Entry	1	1	A227S	315	1156	0.273	314	320	0.2	0.4	3.943	A
			2	A227N, A227S, A2ON	774	1136	0.682	774	798	1.3	1.6	7.966	A
	Exit	1	1		955			955	971	0.0	0.0	0.000	A
A2OFF	Entry	1	1	A227S	158	665	0.237	157	165	0.3	0.3	7.099	A
			2	A227N, A2ON	487	668	0.728	484	493	1.3	2.2	13.666	B
		2	1	(A227N, A227S, A2ON)	647			645	661	0.4	1.2	5.126	A
	Exit	1	1		0			0	0	0.0	0.0	0.000	A
A227S	Entry	1	1	A227N, A2ON	400	689	0.581	400	413	0.7	1.0	8.642	A
			2	A227N, A227S	286	692	0.414	287	292	0.4	0.6	7.044	A
		2	1	(A227N, A2OFF, A227S, A2ON)	687			686	707	0.0	0.2	0.338	A
	Exit	1	1		574			574	591	0.0	0.0	0.000	A
A2ON	Exit	1	1		887			887	919	0.0	0.0	0.000	A

08:15 - 08:30

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	Entry	1	1	A227S	411	1154	0.357	411	424	0.4	0.5	4.545	A
			2	A227N, A227S, A2ON	898	1134	0.792	898	939	1.6	3.2	11.804	B
	Exit	1	1		1134			1134	1148	0.0	0.0	0.000	A
A2OFF	Entry	1	1	A227S	184	600	0.307	184	191	0.3	0.6	9.315	A
			2	A227N, A2ON	559	600	0.933	558	561	2.2	3.4	20.078	C
		2	1	(A227N, A227S, A2ON)	787			744	757	1.2	14.0	41.188	E
	Exit	1	1		0			0	0	0.0	0.0	0.000	A
A227S	Entry	1	1	A227N, A2ON	480	622	0.772	479	487	1.0	1.8	13.041	B
			2	A227N, A227S	372	626	0.594	373	380	0.6	1.1	10.163	B
		2	1	(A227N, A2OFF, A227S, A2ON)	856			852	872	0.2	1.2	3.004	A
	Exit	1	1		688			688	714	0.0	0.0	0.000	A
A2ON	Exit	1	1		1082			1082	1120	0.0	0.0	0.000	A

08:30 - 08:45

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	Entry	1	1	A227S	420	1155	0.363	418	437	0.5	0.6	4.674	A
			2	A227N, A227S, A2ON	894	1131	0.790	897	946	3.2	2.9	12.104	B
	Exit	1	1		1143			1143	1168	0.0	0.0	0.000	A
A2OFF	Entry	1	1	A227S	192	598	0.321	191	192	0.6	0.6	9.973	A
			2	A227N, A2ON	575	598	0.963	574	579	3.4	3.7	22.209	C
	Exit	1	1	(A227N, A227S, A2ON)	806			767	772	14.0	23.9	91.345	F
A227S	Entry	1	1	A227N, A2ON	468	619	0.756	469	485	1.8	1.7	13.422	B
			2	A227N, A227S	372	624	0.597	372	385	1.1	1.1	10.588	B
	Exit	1	1	(A227N, A2OFF, A227S, A2ON)	841			840	870	1.2	0.7	2.764	A
A2ON	Exit	1	1		705			705	726	0.0	0.0	0.000	A
A2ON	Exit	1	1		1074			1074	1130	0.0	0.0	0.000	A

08:45 - 09:00

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	Entry	1	1	A227S	318	1155	0.275	317	327	0.6	0.4	3.879	A
			2	A227N, A227S, A2ON	766	1134	0.675	765	802	2.9	1.9	8.171	A
	Exit	1	1		1004			1004	1048	0.0	0.0	0.000	A
A2OFF	Entry	1	1	A227S	179	666	0.268	177	188	0.6	0.5	8.574	A
			2	A227N, A2ON	526	668	0.788	532	568	3.7	2.1	18.115	C
	Exit	1	1	(A227N, A227S, A2ON)	654			705	749	23.9	3.5	53.234	F
A227S	Entry	1	1	A227N, A2ON	401	676	0.594	403	415	1.7	0.9	10.213	B
			2	A227N, A227S	295	683	0.432	296	304	1.1	0.6	8.121	A
	Exit	1	1	(A227N, A2OFF, A227S, A2ON)	697			696	713	0.7	0.1	0.912	A
A2ON	Exit	1	1		597			597	622	0.0	0.0	0.000	A
A2ON	Exit	1	1		889			889	933	0.0	0.0	0.000	A

09:00 - 09:15

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	Entry	1	1	A227S	245	1154	0.212	246	256	0.4	0.2	3.603	A

			2	A227N, A227S, A2ON	648	1141	0.568	646	679	1.9	1.3	6.521	A
	Exit	1	1		819			819	843	0.0	0.0	0.000	A
A2OFF	Entry	1	1	A227S	136	728	0.187	135	142	0.5	0.3	6.410	A
			2	A227N, A2ON	416	725	0.574	418	437	2.1	1.0	11.366	B
		2	1	(A227N, A227S, A2ON)	550			552	573	3.5	0.1	4.164	A
	Exit	1	1		0			0	0	0.0	0.0	0.000	A
A227S	Entry	1	1	A227N, A2ON	348	749	0.465	349	358	0.9	0.6	7.260	A
			2	A227N, A227S	239	752	0.319	238	244	0.6	0.4	6.014	A
		2	1	(A227N, A2OFF, A227S, A2ON)	588			588	600	0.1	0.0	0.106	A
	Exit	1	1		480			480	502	0.0	0.0	0.000	A
A2ON	Exit	1	1		732			732	771	0.0	0.0	0.000	A

2025 Do Minimum, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Lane Simulation	A1 - [Lane Simulation]	This analysis set uses Lane Simulation mode. This is provided as an investigative tool and the user should apply judgement when interpreting the results.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	A227 / A2 WB Slip Roads RB	Standard Roundabout		A227N, A2OFF, A227S, A2ON	16.47	C

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D6	2025 Do Minimum	PM	ONE HOUR	16:45	18:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A227N		ONE HOUR	✓	1175	100.000
A2OFF		ONE HOUR	✓	667	100.000
A227S		ONE HOUR	✓	775	100.000
A2ON					

Origin-Destination Data

Demand (Veh/hr)

	To				
		A227N	A2OFF	A227S	A2ON
From	A227N	0	0	645	530
	A2OFF	498	0	168	1
	A227S	558	0	2	215
	A2ON	Exit-only	Exit-only	Exit-only	Exit-only

Vehicle Mix

Heavy Vehicle Percentages

	To				
		A227N	A2OFF	A227S	A2ON
From	A227N	0	0	1	1
	A2OFF	1	0	2	0
	A227S	1	0	0	2
	A2ON	Exit-only	Exit-only	Exit-only	Exit-only

Results

Results Summary for whole modelled period

Arm	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
A227N	6.07	2.3	A	1082	1624
A2OFF	42.58	10.2	E	616	924
A227S	9.65	2.4	A	713	1070
A2ON					

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	891	223	2	891	893	800	0.0	1.0	4.437	A
A2OFF	507	127	893	505	507	0	0.0	1.3	8.854	A
A227S	588	147	774	588	588	623	0.0	1.0	5.675	A
A2ON			0			560				

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	1058	265	2	1060	1069	951	1.0	1.3	4.999	A
A2OFF	604	151	1062	601	603	0	1.3	2.3	12.880	B
A227S	701	175	925	700	704	738	1.0	1.3	6.644	A
A2ON			0			672				

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	1307	327	2	1306	1305	1150	1.3	2.2	5.957	A
A2OFF	736	184	1308	722	718	0	2.3	8.1	30.593	D
A227S	857	214	1128	856	860	902	1.3	2.3	9.030	A
A2ON			0			832				

17:30 - 17:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	1303	326	3	1299	1311	1156	2.2	2.3	6.074	A
A2OFF	741	185	1302	718	735	0	8.1	10.1	42.581	E
A227S	852	213	1124	852	869	896	2.3	2.4	9.646	A
A2ON			0			817				

17:45 - 18:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	1050	262	2	1051	1071	957	2.3	1.3	4.977	A
A2OFF	605	151	1052	605	641	0	10.1	2.5	21.873	C
A227S	706	176	928	706	715	729	2.4	1.3	7.128	A
A2ON			0			675				

18:00 - 18:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	887	222	2	886	893	795	1.3	1.1	4.446	A
A2OFF	504	126	888	504	514	0	2.5	1.2	9.524	A
A227S	576	144	783	576	592	609	1.3	0.9	5.884	A
A2ON			0			563				

Lane Results

Lane Level notation: Lane Level 1 is always closest to the junction.

Lanes: Main Results for each time segment

16:45 - 17:00

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	Entry	1	1	A227S	311	1177	0.264	312	313	0.0	0.2	3.630	A
			2	A227N, A227S, A2ON	580	1178	0.492	579	580	0.0	0.8	4.872	A
	Exit	1	1		800			800	802	0.0	0.0	0.000	A
A2OFF	Entry	1	1	A227S	129	735	0.176	129	128	0.0	0.3	5.904	A
			2	A227N, A2ON	378	739	0.511	376	379	0.0	1.0	9.031	A
		2	1	(A227N, A227S, A2ON)	507			507	512	0.0	0.1	0.600	A
	Exit	1	1		0			0	0	0.0	0.0	0.000	A
A227S	Entry	1	1	A227N, A2ON	347	826	0.420	346	346	0.0	0.6	5.967	A
			2	A227N, A227S	241	826	0.292	242	243	0.0	0.3	5.191	A
		2	1	(A227N, A2OFF, A227S, A2ON)	588			588	592	0.0	0.0	0.028	A
	Exit	1	1		623			623	621	0.0	0.0	0.000	A
A2ON	Exit	1	1		560			560	566	0.0	0.0	0.000	A

17:00 - 17:15

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	Entry	1	1	A227S	387	1178	0.328	388	388	0.2	0.3	3.927	A
			2	A227N, A227S, A2ON	671	1176	0.571	672	681	0.8	0.9	5.612	A
	Exit	1	1		951			951	953	0.0	0.0	0.000	A
A2OFF	Entry	1	1	A227S	154	680	0.226	153	155	0.3	0.3	6.713	A
			2	A227N, A2ON	450	690	0.652	449	449	1.0	1.6	11.820	B
		2	1	(A227N, A227S, A2ON)	604			604	606	0.1	0.4	2.337	A
	Exit	1	1		0			0	0	0.0	0.0	0.000	A
A227S	Entry	1	1	A227N, A2ON	404	776	0.520	403	405	0.6	0.8	6.970	A
			2	A227N, A227S	298	780	0.382	297	299	0.3	0.5	6.000	A
		2	1	(A227N, A2OFF, A227S, A2ON)	701			701	706	0.0	0.0	0.088	A
	Exit	1	1		738			738	746	0.0	0.0	0.000	A
A2ON	Exit	1	1		672			672	678	0.0	0.0	0.000	A

17:15 - 17:30

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	Entry	1	1	A227S	503	1180	0.426	502	499	0.3	0.7	4.458	A
			2	A227N, A227S, A2ON	804	1177	0.683	804	806	0.9	1.5	6.886	A
	Exit	1	1		1150			1150	1151	0.0	0.0	0.000	A
A2OFF	Entry	1	1	A227S	185	612	0.302	185	185	0.3	0.4	8.732	A
			2	A227N, A2ON	538	619	0.868	536	533	1.6	2.8	17.218	C
		2	1	(A227N, A227S, A2ON)	736			723	723	0.4	4.9	15.416	C
	Exit	1	1		0			0	0	0.0	0.0	0.000	A
A227S	Entry	1	1	A227N, A2ON	478	715	0.668	478	480	0.8	1.3	9.184	A
			2	A227N, A227S	380	717	0.529	378	380	0.5	0.9	7.659	A
		2	1	(A227N, A2OFF, A227S, A2ON)	857			857	863	0.0	0.2	0.516	A
	Exit	1	1		902			902	905	0.0	0.0	0.000	A
A2ON	Exit	1	1		832			832	826	0.0	0.0	0.000	A

17:30 - 17:45

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	Entry	1	1	A227S	499	1177	0.424	497	499	0.7	0.6	4.563	A
			2	A227N, A227S, A2ON	804	1178	0.682	802	812	1.5	1.7	7.000	A
	Exit	1	1		1156			1156	1175	0.0	0.0	0.000	A
A2OFF	Entry	1	1	A227S	177	616	0.287	175	184	0.4	0.5	8.758	A
			2	A227N, A2ON	545	621	0.879	543	551	2.8	3.1	18.702	C
		2	1	(A227N, A227S, A2ON)	741			722	737	4.9	6.5	26.331	D
	Exit	1	1		0			0	0	0.0	0.0	0.000	A
A227S	Entry	1	1	A227N, A2ON	477	715	0.667	475	489	1.3	1.4	9.604	A
			2	A227N, A227S	376	720	0.522	376	381	0.9	0.8	8.189	A
		2	1	(A227N, A2OFF, A227S, A2ON)	852			853	870	0.2	0.2	0.660	A
	Exit	1	1		896			896	906	0.0	0.0	0.000	A
A2ON	Exit	1	1		817			817	834	0.0	0.0	0.000	A

17:45 - 18:00

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	Entry	1	1	A227S	379	1178	0.321	379	389	0.6	0.4	3.943	A

			2	A227N, A227S, A2ON	671	1177	0.570	671	682	1.7	1.0	5.568	A
	Exit	1	1		957			957	993	0.0	0.0	0.000	A
A2OFF	Entry	1	1	A227S	154	688	0.224	154	160	0.5	0.4	7.457	A
			2	A227N, A2ON	452	693	0.652	451	481	3.1	1.6	14.043	B
		2	1	(A227N, A227S, A2ON)	605			606	635	6.5	0.6	9.762	A
	Exit	1	1		0			0	0	0.0	0.0	0.000	A
A227S	Entry	1	1	A227N, A2ON	402	777	0.518	403	410	1.4	0.7	7.504	A
			2	A227N, A227S	303	779	0.389	303	306	0.8	0.5	6.246	A
		2	1	(A227N, A2OFF, A227S, A2ON)	706			705	711	0.2	0.1	0.168	A
	Exit	1	1		729			729	750	0.0	0.0	0.000	A
A2ON	Exit	1	1		675			675	685	0.0	0.0	0.000	A

18:00 - 18:15

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	Entry	1	1	A227S	305	1175	0.260	304	311	0.4	0.4	3.622	A
			2	A227N, A227S, A2ON	582	1178	0.494	582	582	1.0	0.7	4.886	A
	Exit	1	1		795			795	808	0.0	0.0	0.000	A
A2OFF	Entry	1	1	A227S	123	736	0.167	124	131	0.4	0.2	6.086	A
			2	A227N, A2ON	381	741	0.514	380	383	1.6	0.9	9.528	A
		2	1	(A227N, A227S, A2ON)	504			504	510	0.6	0.1	0.904	A
	Exit	1	1		0			0	0	0.0	0.0	0.000	A
A227S	Entry	1	1	A227N, A2ON	336	821	0.409	337	345	0.7	0.6	6.227	A
			2	A227N, A227S	240	825	0.291	239	247	0.5	0.4	5.317	A
		2	1	(A227N, A2OFF, A227S, A2ON)	576			576	591	0.1	0.0	0.043	A
	Exit	1	1		609			609	623	0.0	0.0	0.000	A
A2ON	Exit	1	1		563			563	569	0.0	0.0	0.000	A

2025 Do Minimum Residual, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Lane Simulation	A1 - [Lane Simulation]	This analysis set uses Lane Simulation mode. This is provided as an investigative tool and the user should apply judgement when interpreting the results.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	A227 / A2 WB Slip Roads RB	Standard Roundabout		A227N, A2OFF, A227S, A2ON	34.35	D

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D7	2025 Do Minimum Residual	AM	ONE HOUR	07:45	09:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A227N		ONE HOUR	✓	1189	100.000
A2OFF		ONE HOUR	✓	724	100.000
A227S		ONE HOUR	✓	772	100.000
A2ON					

Origin-Destination Data

Demand (Veh/hr)

	To				
		A227N	A2OFF	A227S	A2ON
From	A227N	1	0	462	726
	A2OFF	539	0	181	4
	A227S	524	0	0	248
	A2ON	Exit-only	Exit-only	Exit-only	Exit-only

Vehicle Mix

Heavy Vehicle Percentages

From	To				
		A227N	A2OFF	A227S	A2ON
	A227N	100	0	3	5
	A2OFF	2	0	2	0
	A227S	2	0	0	3
	A2ON	Exit-only	Exit-only	Exit-only	Exit-only

Results

Results Summary for whole modelled period

Arm	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
A227N	9.41	3.6	A	1091	1636
A2OFF	95.94	24.2	F	664	996
A227S	15.95	4.0	C	709	1064
A2ON					

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	891	223	0	892	927	808	0.0	1.3	5.638	A
A2OFF	549	137	892	549	552	0	0.0	1.5	10.377	B
A227S	584	146	957	587	597	485	0.0	1.0	6.584	A
A2ON			0			735				

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	1062	266	0	1059	1102	958	1.3	2.1	6.643	A
A2OFF	651	163	1059	654	656	0	1.5	3.3	16.594	C
A227S	690	173	1138	689	708	574	1.0	1.7	8.317	A
A2ON			0			869				

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	1305	326	0	1307	1353	1154	2.1	3.4	9.151	A
A2OFF	781	195	1307	755	756	0	3.3	15.6	52.300	F
A227S	861	215	1369	860	869	692	1.7	3.6	13.932	B
A2ON			0			1075				

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	1314	329	0	1315	1366	1144	3.4	3.5	9.410	A
A2OFF	797	199	1315	757	777	0	15.6	24.1	95.940	F
A227S	853	213	1370	853	871	702	3.6	4.0	15.953	C
A2ON			0			1079				

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	1080	270	0	1079	1126	988	3.5	2.1	6.957	A
A2OFF	657	164	1079	691	740	0	24.1	6.0	60.303	F
A227S	692	173	1177	692	722	592	4.0	1.7	10.012	B
A2ON			0			881				

09:00 - 09:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	891	223	0	893	937	802	2.1	1.3	5.665	A
A2OFF	549	137	893	551	576	0	6.0	1.5	14.264	B
A227S	575	144	963	575	596	481	1.7	1.0	6.885	A
A2ON			0			736				

Lane Results

Lane Level notation: Lane Level 1 is always closest to the junction.

Lanes: Main Results for each time segment

07:45 - 08:00

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	Entry	1	1	A227S	249	1156	0.216	251	254	0.0	0.2	3.710	A
			2	A227N, A227S, A2ON	641	1136	0.564	641	673	0.0	1.2	6.375	A
	Exit	1	1		808			808	819	0.0	0.0	0.000	A
A2OFF	Entry	1	1	A227S	135	722	0.187	136	138	0.0	0.2	6.156	A
			2	A227N, A2ON	414	725	0.571	414	415	0.0	1.1	10.090	B
		2	1	(A227N, A227S, A2ON)	549			549	558	0.0	0.2	1.254	A
	Exit	1	1		0			0	0	0.0	0.0	0.000	A
A227S	Entry	1	1	A227N, A2ON	348	750	0.464	349	356	0.0	0.7	6.973	A
			2	A227N, A227S	237	754	0.315	238	241	0.0	0.3	5.786	A
		2	1	(A227N, A2OFF, A227S, A2ON)	584			585	601	0.0	0.0	0.092	A

	Exit	1	1		485			485	493	0.0	0.0	0.000	A
A2ON	Exit	1	1		735			735	764	0.0	0.0	0.000	A

08:00 - 08:15

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	Entry	1	1	A227S	312	1158	0.270	312	317	0.2	0.4	3.934	A
			2	A227N, A227S, A2ON	750	1133	0.662	747	785	1.2	1.7	7.758	A
	Exit	1	1		958			958	968	0.0	0.0	0.000	A
A2OFF	Entry	1	1	A227S	163	675	0.241	163	166	0.2	0.4	7.182	A
			2	A227N, A2ON	489	673	0.726	491	491	1.1	1.8	13.536	B
		2	1	(A227N, A227S, A2ON)	651			652	660	0.2	1.1	4.632	A
	Exit	1	1		0			0	0	0.0	0.0	0.000	A
A227S	Entry	1	1	A227N, A2ON	401	693	0.578	401	414	0.7	1.0	8.714	A
			2	A227N, A227S	289	699	0.413	288	294	0.3	0.6	7.035	A
		2	1	(A227N, A2OFF, A227S, A2ON)	690			689	710	0.0	0.1	0.295	A
	Exit	1	1		574			574	589	0.0	0.0	0.000	A
A2ON	Exit	1	1		869			869	909	0.0	0.0	0.000	A

08:15 - 08:30

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	Entry	1	1	A227S	417	1154	0.362	417	423	0.4	0.6	4.462	A
			2	A227N, A227S, A2ON	887	1134	0.783	890	930	1.7	2.8	11.318	B
	Exit	1	1		1154			1154	1153	0.0	0.0	0.000	A
A2OFF	Entry	1	1	A227S	184	599	0.307	184	192	0.4	0.5	9.442	A
			2	A227N, A2ON	569	600	0.948	570	565	1.8	3.3	19.728	C
		2	1	(A227N, A227S, A2ON)	781			753	763	1.1	11.8	34.974	D
	Exit	1	1		0			0	0	0.0	0.0	0.000	A
A227S	Entry	1	1	A227N, A2ON	484	622	0.778	483	491	1.0	1.7	12.416	B
			2	A227N, A227S	377	627	0.602	377	378	0.6	1.1	9.940	A
		2	1	(A227N, A2OFF, A227S, A2ON)	861			861	873	0.1	0.8	2.571	A
	Exit	1	1		692			692	713	0.0	0.0	0.000	A
A2ON	Exit	1	1		1075			1075	1112	0.0	0.0	0.000	A

08:30 - 08:45

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	Entry	1	1	A227S	418	1157	0.361	418	428	0.6	0.5	4.553	A
			2	A227N, A227S, A2ON	896	1133	0.792	897	938	2.8	3.0	11.659	B
	Exit	1	1		1144			1144	1166	0.0	0.0	0.000	A
A2OFF	Entry	1	1	A227S	190	597	0.318	188	197	0.5	0.6	10.203	B
			2	A227N, A2ON	570	597	0.955	569	580	3.3	3.5	21.606	C
		2	1	(A227N, A227S, A2ON)	797			759	778	11.8	19.9	77.181	F
	Exit	1	1		0			0	0	0.0	0.0	0.000	A
A227S	Entry	1	1	A227N, A2ON	477	621	0.769	478	490	1.7	1.8	13.600	B
			2	A227N, A227S	373	623	0.599	374	381	1.1	1.0	10.907	B
		2	1	(A227N, A2OFF, A227S, A2ON)	853			851	871	0.8	1.1	3.532	A
	Exit	1	1		702			702	725	0.0	0.0	0.000	A
A2ON	Exit	1	1		1079			1079	1123	0.0	0.0	0.000	A

08:45 - 09:00

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	Entry	1	1	A227S	315	1154	0.273	315	325	0.5	0.4	3.923	A
			2	A227N, A227S, A2ON	765	1134	0.674	764	801	3.0	1.7	8.216	A
	Exit	1	1		988			988	1043	0.0	0.0	0.000	A
A2OFF	Entry	1	1	A227S	171	668	0.255	170	182	0.6	0.4	8.618	A
			2	A227N, A2ON	516	668	0.773	520	558	3.5	2.0	17.751	C
		2	1	(A227N, A227S, A2ON)	657			687	732	19.9	3.6	45.308	E
	Exit	1	1		0			0	0	0.0	0.0	0.000	A
A227S	Entry	1	1	A227N, A2ON	403	684	0.590	402	418	1.8	1.1	10.003	B
			2	A227N, A227S	289	685	0.422	290	304	1.0	0.5	8.109	A
		2	1	(A227N, A2OFF, A227S, A2ON)	692			692	717	1.1	0.1	0.867	A
	Exit	1	1		592			592	614	0.0	0.0	0.000	A
A2ON	Exit	1	1		881			881	930	0.0	0.0	0.000	A

09:00 - 09:15

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	Entry	1	1	A227S	246	1155	0.213	246	255	0.4	0.3	3.592	A

			2	A227N, A227S, A2ON	645	1134	0.569	647	681	1.7	1.1	6.460	A
	Exit	1	1		802			802	832	0.0	0.0	0.000	A
A2OFF	Entry	1	1	A227S	136	725	0.188	137	144	0.4	0.3	6.411	A
			2	A227N, A2ON	414	724	0.572	415	432	2.0	1.1	11.177	B
		2	1	(A227N, A227S, A2ON)	549			550	571	3.6	0.2	4.481	A
	Exit	1	1		0			0	0	0.0	0.0	0.000	A
A227S	Entry	1	1	A227N, A2ON	343	748	0.459	344	357	1.1	0.6	7.280	A
			2	A227N, A227S	231	753	0.307	232	239	0.5	0.3	6.043	A
		2	1	(A227N, A2OFF, A227S, A2ON)	575			575	594	0.1	0.0	0.107	A
	Exit	1	1		481			481	503	0.0	0.0	0.000	A
A2ON	Exit	1	1		736			736	775	0.0	0.0	0.000	A

2025 Do Minimum Residual, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Lane Simulation	A1 - [Lane Simulation]	This analysis set uses Lane Simulation mode. This is provided as an investigative tool and the user should apply judgement when interpreting the results.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	A227 / A2 WB Slip Roads RB	Standard Roundabout		A227N, A2OFF, A227S, A2ON	15.92	C

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D8	2025 Do Minimum Residual	PM	ONE HOUR	16:45	18:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A227N		ONE HOUR	✓	1170	100.000
A20FF		ONE HOUR	✓	662	100.000
A227S		ONE HOUR	✓	775	100.000
A20N					

Origin-Destination Data

Demand (Veh/hr)

	To				
		A227N	A20FF	A227S	A20N
From	A227N	0	0	645	525
	A20FF	493	0	168	1
	A227S	558	0	2	215
	A20N	Exit-only	Exit-only	Exit-only	Exit-only

Vehicle Mix

Heavy Vehicle Percentages

	To				
		A227N	A20FF	A227S	A20N
From	A227N	0	0	1	1
	A20FF	1	0	2	0
	A227S	1	0	0	2
	A20N	Exit-only	Exit-only	Exit-only	Exit-only

Results

Results Summary for whole modelled period

Arm	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
A227N	5.93	2.2	A	1077	1615
A20FF	41.13	8.1	E	605	908
A227S	9.54	2.5	A	711	1067
A20N					

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	886	222	2	882	887	784	0.0	1.3	4.433	A
A2OFF	500	125	883	499	498	0	0.0	1.2	8.967	A
A227S	578	144	770	577	585	612	0.0	0.8	5.603	A
A2ON			0			562				

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	1058	264	2	1058	1062	952	1.3	1.4	4.949	A
A2OFF	594	148	1061	595	594	0	1.2	2.0	12.172	B
A227S	701	175	923	701	702	733	0.8	1.3	6.673	A
A2ON			0			669				

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	1299	325	2	1303	1297	1148	1.4	2.2	5.932	A
A2OFF	724	181	1305	724	714	0	2.0	7.3	29.906	D
A227S	851	213	1120	850	857	909	1.3	2.5	9.199	A
A2ON			0			820				

17:30 - 17:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	1292	323	3	1289	1304	1157	2.2	2.2	5.852	A
A2OFF	724	181	1291	724	730	0	7.3	8.1	41.127	E
A227S	856	214	1119	856	868	897	2.5	2.2	9.539	A
A2ON			0			815				

17:45 - 18:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	1041	260	2	1042	1062	941	2.2	1.3	4.926	A
A2OFF	586	146	1044	589	625	0	8.1	2.1	19.515	C
A227S	701	175	908	700	704	725	2.2	1.5	7.228	A
A2ON			0			666				

18:00 - 18:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	884	221	1	882	889	793	1.3	1.1	4.422	A
A2OFF	503	126	883	501	507	0	2.1	1.5	9.460	A
A227S	582	146	769	580	593	615	1.5	1.0	5.730	A
A2ON			0			555				

Lane Results

Lane Level notation: Lane Level 1 is always closest to the junction.

Lanes: Main Results for each time segment

16:45 - 17:00

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	Entry	1	1	A227S	307	1178	0.261	308	311	0.0	0.3	3.605	A
			2	A227N, A227S, A2ON	579	1177	0.492	574	576	0.0	1.0	4.879	A
	Exit	1	1		784			784	789	0.0	0.0	0.000	A
A2OFF	Entry	1	1	A227S	126	735	0.172	127	127	0.0	0.2	5.901	A
			2	A227N, A2ON	372	743	0.501	372	370	0.0	0.9	9.064	A
		2	1	(A227N, A227S, A2ON)	500			499	502	0.0	0.1	0.699	A
	Exit	1	1		0			0	0	0.0	0.0	0.000	A
A227S	Entry	1	1	A227N, A2ON	339	825	0.411	339	342	0.0	0.5	5.937	A
			2	A227N, A227S	239	828	0.288	238	243	0.0	0.3	5.086	A
		2	1	(A227N, A2OFF, A227S, A2ON)	578			578	588	0.0	0.0	0.019	A
	Exit	1	1		612			612	618	0.0	0.0	0.000	A
A2ON	Exit	1	1		562			562	563	0.0	0.0	0.000	A

17:00 - 17:15

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	Entry	1	1	A227S	385	1176	0.327	384	387	0.3	0.4	3.913	A
			2	A227N, A227S, A2ON	673	1178	0.572	674	675	1.0	1.0	5.544	A
	Exit	1	1		952			952	946	0.0	0.0	0.000	A
A2OFF	Entry	1	1	A227S	152	683	0.223	150	154	0.2	0.4	6.665	A
			2	A227N, A2ON	443	690	0.642	444	440	0.9	1.4	11.367	B
		2	1	(A227N, A227S, A2ON)	594			595	597	0.1	0.3	2.006	A
	Exit	1	1		0			0	0	0.0	0.0	0.000	A
A227S	Entry	1	1	A227N, A2ON	401	779	0.515	401	402	0.5	0.8	7.025	A
			2	A227N, A227S	300	780	0.385	301	300	0.3	0.5	5.995	A
		2	1	(A227N, A2OFF, A227S, A2ON)	701			701	704	0.0	0.0	0.089	A
	Exit	1	1		733			733	742	0.0	0.0	0.000	A
A2ON	Exit	1	1		669			669	671	0.0	0.0	0.000	A

17:15 - 17:30

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	Entry	1	1	A227S	499	1175	0.424	499	496	0.4	0.7	4.559	A
			2	A227N, A227S, A2ON	801	1178	0.679	804	800	1.0	1.5	6.783	A
	Exit	1	1		1148			1148	1141	0.0	0.0	0.000	A
A2OFF	Entry	1	1	A227S	186	608	0.305	186	185	0.4	0.4	8.454	A
			2	A227N, A2ON	538	618	0.871	538	530	1.4	2.8	17.179	C
		2	1	(A227N, A227S, A2ON)	724			724	720	0.3	4.0	14.828	B
	Exit	1	1		0			0	0	0.0	0.0	0.000	A
A227S	Entry	1	1	A227N, A2ON	481	717	0.670	479	484	0.8	1.4	9.113	A
			2	A227N, A227S	371	721	0.514	371	373	0.5	0.9	7.726	A
		2	1	(A227N, A2OFF, A227S, A2ON)	851			852	861	0.0	0.2	0.687	A
	Exit	1	1		909			909	903	0.0	0.0	0.000	A
A2ON	Exit	1	1		820			820	824	0.0	0.0	0.000	A

17:30 - 17:45

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	Entry	1	1	A227S	491	1177	0.417	490	497	0.7	0.6	4.490	A
			2	A227N, A227S, A2ON	801	1177	0.680	798	807	1.5	1.6	6.691	A
	Exit	1	1		1157			1157	1169	0.0	0.0	0.000	A
A2OFF	Entry	1	1	A227S	185	619	0.299	184	184	0.4	0.5	9.203	A
			2	A227N, A2ON	541	622	0.870	540	545	2.8	2.7	18.519	C
		2	1	(A227N, A227S, A2ON)	724			726	730	4.0	4.8	24.945	C
	Exit	1	1		0			0	0	0.0	0.0	0.000	A
A227S	Entry	1	1	A227N, A2ON	480	716	0.670	480	485	1.4	1.2	9.530	A
			2	A227N, A227S	376	721	0.522	377	383	0.9	0.8	7.955	A
		2	1	(A227N, A2OFF, A227S, A2ON)	856			856	867	0.2	0.1	0.710	A
	Exit	1	1		897			897	905	0.0	0.0	0.000	A
A2ON	Exit	1	1		815			815	828	0.0	0.0	0.000	A

17:45 - 18:00

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	Entry	1	1	A227S	380	1173	0.324	380	388	0.6	0.4	3.915	A

			2	A227N, A227S, A2ON	661	1178	0.560	662	674	1.6	0.9	5.507	A
	Exit	1	1		941			941	969	0.0	0.0	0.000	A
A2OFF	Entry	1	1	A227S	148	689	0.214	149	159	0.5	0.3	7.220	A
			2	A227N, A2ON	440	696	0.632	440	466	2.7	1.5	13.513	B
		2	1	(A227N, A227S, A2ON)	586			587	619	4.8	0.4	7.845	A
	Exit	1	1		0			0	0	0.0	0.0	0.000	A
A227S	Entry	1	1	A227N, A2ON	400	782	0.512	400	403	1.2	0.8	7.562	A
			2	A227N, A227S	301	785	0.383	300	301	0.8	0.6	6.390	A
		2	1	(A227N, A2OFF, A227S, A2ON)	701			701	702	0.1	0.0	0.170	A
	Exit	1	1		725			725	749	0.0	0.0	0.000	A
A2ON	Exit	1	1		666			666	674	0.0	0.0	0.000	A

18:00 - 18:15

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	Entry	1	1	A227S	311	1176	0.265	311	312	0.4	0.3	3.653	A
			2	A227N, A227S, A2ON	573	1179	0.487	571	578	0.9	0.8	4.835	A
	Exit	1	1		793			793	804	0.0	0.0	0.000	A
A2OFF	Entry	1	1	A227S	125	735	0.170	125	129	0.3	0.2	6.074	A
			2	A227N, A2ON	376	741	0.508	376	378	1.5	1.0	9.502	A
		2	1	(A227N, A227S, A2ON)	503			501	505	0.4	0.2	0.868	A
	Exit	1	1		0			0	0	0.0	0.0	0.000	A
A227S	Entry	1	1	A227N, A2ON	340	825	0.412	339	345	0.8	0.6	6.111	A
			2	A227N, A227S	242	828	0.293	241	248	0.6	0.3	5.153	A
		2	1	(A227N, A2OFF, A227S, A2ON)	582			582	591	0.0	0.0	0.023	A
	Exit	1	1		615			615	622	0.0	0.0	0.000	A
A2ON	Exit	1	1		555			555	563	0.0	0.0	0.000	A

2028 Do Nothing, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Lane Simulation	A1 - [Lane Simulation]	This analysis set uses Lane Simulation mode. This is provided as an investigative tool and the user should apply judgement when interpreting the results.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	A227 / A2 WB Slip Roads RB	Standard Roundabout		A227N, A2OFF, A227S, A2ON	33.67	D

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D9	2028 Do Nothing	AM	ONE HOUR	07:45	09:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A227N		ONE HOUR	✓	1235	100.000
A2OFF		ONE HOUR	✓	712	100.000
A227S		ONE HOUR	✓	796	100.000
A2ON					

Origin-Destination Data

Demand (Veh/hr)

	To				
		A227N	A2OFF	A227S	A2ON
From	A227N	1	0	480	754
	A2OFF	521	0	187	4
	A227S	534	0	0	262
	A2ON	Exit-only	Exit-only	Exit-only	Exit-only

Vehicle Mix

Heavy Vehicle Percentages

From	To				
		A227N	A2OFF	A227S	A2ON
	A227N	100	0	3	4
	A2OFF	1	0	2	0
	A227S	2	0	0	3
	A2ON	Exit-only	Exit-only	Exit-only	Exit-only

Results

Results Summary for whole modelled period

Arm	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
A227N	9.94	4.1	A	1141	1712
A2OFF	95.01	22.8	F	654	981
A227S	16.86	3.7	C	729	1094
A2ON					

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	932	233	0	929	957	806	0.0	1.7	5.706	A
A2OFF	545	136	929	543	544	0	0.0	1.8	10.133	B
A227S	598	150	967	599	615	505	0.0	1.0	6.664	A
A2ON			0			759				

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	1101	275	0	1106	1148	937	1.7	1.8	6.883	A
A2OFF	630	158	1106	631	643	0	1.8	2.9	15.850	C
A227S	711	178	1133	708	722	603	1.0	1.8	8.602	A
A2ON			0			904				

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	1375	344	0	1369	1410	1137	1.8	4.0	9.374	A
A2OFF	788	197	1369	748	743	0	2.9	14.9	48.937	E
A227S	881	220	1390	880	886	727	1.8	3.5	13.978	B
A2ON			0			1133				

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	1367	342	0	1374	1413	1153	4.0	3.3	9.938	A
A2OFF	787	197	1374	764	766	0	14.9	22.7	95.008	F
A227S	873	218	1409	877	893	729	3.5	3.7	16.859	C
A2ON			0			1133				

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	1118	279	0	1114	1164	964	3.3	2.4	7.168	A
A2OFF	635	159	1114	673	721	0	22.7	3.4	47.526	E
A227S	710	178	1174	713	739	613	3.7	1.6	10.183	B
A2ON			0			923				

09:00 - 09:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	956	239	0	956	978	797	2.4	1.5	5.739	A
A2OFF	538	135	956	539	553	0	3.4	1.4	11.295	B
A227S	601	150	968	599	616	527	1.6	1.2	6.929	A
A2ON			0			770				

Lane Results

Lane Level notation: Lane Level 1 is always closest to the junction.

Lanes: Main Results for each time segment

07:45 - 08:00

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	Entry	1	1	A227S	265	1151	0.231	264	266	0.0	0.4	3.665	A
			2	A227N, A227S, A2ON	667	1143	0.583	665	691	0.0	1.4	6.498	A
	Exit	1	1		806			806	813	0.0	0.0	0.000	A
A2OFF	Entry	1	1	A227S	138	713	0.193	138	142	0.0	0.2	6.261	A
			2	A227N, A2ON	407	721	0.564	405	402	0.0	1.4	9.994	A
		2	1	(A227N, A227S, A2ON)	545			544	551	0.0	0.2	1.094	A
	Exit	1	1		0			0	0	0.0	0.0	0.000	A
A227S	Entry	1	1	A227N, A2ON	356	746	0.478	356	368	0.0	0.6	7.069	A
			2	A227N, A227S	242	753	0.322	242	248	0.0	0.4	5.822	A
		2	1	(A227N, A2OFF, A227S, A2ON)	598			598	620	0.0	0.0	0.099	A

	Exit	1	1		505			505	514	0.0	0.0	0.000	A
A2ON	Exit	1	1		759			759	789	0.0	0.0	0.000	A

08:00 - 08:15

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	Entry	1	1	A227S	329	1149	0.286	329	339	0.4	0.3	4.093	A
			2	A227N, A227S, A2ON	772	1146	0.674	777	809	1.4	1.5	8.056	A
	Exit	1	1		937			937	952	0.0	0.0	0.000	A
A2OFF	Entry	1	1	A227S	163	657	0.248	164	169	0.2	0.3	7.249	A
			2	A227N, A2ON	465	667	0.698	466	474	1.4	1.8	13.283	B
		2	1	(A227N, A227S, A2ON)	630			628	645	0.2	0.8	4.122	A
	Exit	1	1		0			0	0	0.0	0.0	0.000	A
A227S	Entry	1	1	A227N, A2ON	414	701	0.589	413	424	0.6	1.1	8.862	A
			2	A227N, A227S	297	702	0.423	296	298	0.4	0.6	7.157	A
		2	1	(A227N, A2OFF, A227S, A2ON)	711			710	725	0.0	0.1	0.442	A
	Exit	1	1		603			603	617	0.0	0.0	0.000	A
A2ON	Exit	1	1		904			904	944	0.0	0.0	0.000	A

08:15 - 08:30

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	Entry	1	1	A227S	441	1157	0.381	440	450	0.3	0.6	4.573	A
			2	A227N, A227S, A2ON	934	1142	0.817	928	960	1.5	3.4	11.638	B
	Exit	1	1		1137			1137	1133	0.0	0.0	0.000	A
A2OFF	Entry	1	1	A227S	200	582	0.342	199	201	0.3	0.6	10.026	B
			2	A227N, A2ON	553	590	0.936	549	542	1.8	3.3	19.654	C
		2	1	(A227N, A227S, A2ON)	788			752	750	0.8	11.0	31.634	D
	Exit	1	1		0			0	0	0.0	0.0	0.000	A
A227S	Entry	1	1	A227N, A2ON	491	619	0.793	489	499	1.1	1.9	12.881	B
			2	A227N, A227S	390	621	0.627	391	387	0.6	0.9	9.933	A
		2	1	(A227N, A2OFF, A227S, A2ON)	881			880	890	0.1	0.8	2.364	A
	Exit	1	1		727			727	748	0.0	0.0	0.000	A
A2ON	Exit	1	1		1133			1133	1158	0.0	0.0	0.000	A

08:30 - 08:45

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	Entry	1	1	A227S	443	1153	0.384	443	449	0.6	0.5	4.780	A
			2	A227N, A227S, A2ON	924	1144	0.807	931	964	3.4	2.8	12.371	B
	Exit	1	1		1153			1153	1154	0.0	0.0	0.000	A
A2OFF	Entry	1	1	A227S	199	583	0.342	197	205	0.6	0.7	10.918	B
			2	A227N, A2ON	569	588	0.967	567	561	3.3	3.6	22.637	C
		2	1	(A227N, A227S, A2ON)	787			768	767	11.0	18.5	75.540	F
	Exit	1	1		0			0	0	0.0	0.0	0.000	A
A227S	Entry	1	1	A227N, A2ON	486	612	0.793	485	499	1.9	1.8	14.276	B
			2	A227N, A227S	390	617	0.632	392	394	0.9	1.1	11.119	B
		2	1	(A227N, A2OFF, A227S, A2ON)	873			875	894	0.8	0.8	3.978	A
	Exit	1	1		729			729	747	0.0	0.0	0.000	A
A2ON	Exit	1	1		1133			1133	1170	0.0	0.0	0.000	A

08:45 - 09:00

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	Entry	1	1	A227S	330	1159	0.285	330	343	0.5	0.4	4.040	A
			2	A227N, A227S, A2ON	788	1143	0.689	783	821	2.8	2.0	8.497	A
	Exit	1	1		964			964	1018	0.0	0.0	0.000	A
A2OFF	Entry	1	1	A227S	179	661	0.270	181	193	0.7	0.3	8.443	A
			2	A227N, A2ON	487	666	0.732	492	528	3.6	1.7	16.623	C
		2	1	(A227N, A227S, A2ON)	635			666	712	18.5	1.4	33.674	D
	Exit	1	1		0			0	0	0.0	0.0	0.000	A
A227S	Entry	1	1	A227N, A2ON	416	685	0.606	418	429	1.8	0.9	10.135	B
			2	A227N, A227S	296	692	0.427	296	310	1.1	0.7	8.109	A
		2	1	(A227N, A2OFF, A227S, A2ON)	710			712	733	0.8	0.1	0.941	A
	Exit	1	1		613			613	640	0.0	0.0	0.000	A
A2ON	Exit	1	1		923			923	966	0.0	0.0	0.000	A

09:00 - 09:15

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	Entry	1	1	A227S	274	1156	0.237	274	275	0.4	0.3	3.682	A

			2	A227N, A227S, A2ON	682	1143	0.598	681	703	2.0	1.2	6.554	A
	Exit	1	1		797			797	818	0.0	0.0	0.000	A
A2OFF	Entry	1	1	A227S	146	710	0.206	146	148	0.3	0.3	6.528	A
			2	A227N, A2ON	392	714	0.549	393	405	1.7	1.1	10.470	B
		2	1	(A227N, A227S, A2ON)	538			538	550	1.4	0.1	1.966	A
	Exit	1	1		0			0	0	0.0	0.0	0.000	A
A227S	Entry	1	1	A227N, A2ON	361	752	0.480	361	367	0.9	0.8	7.279	A
			2	A227N, A227S	240	755	0.318	239	248	0.7	0.4	6.071	A
		2	1	(A227N, A2OFF, A227S, A2ON)	601			601	614	0.1	0.0	0.145	A
	Exit	1	1		527			527	526	0.0	0.0	0.000	A
A2ON	Exit	1	1		770			770	803	0.0	0.0	0.000	A

2028 Do Nothing, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Lane Simulation	A1 - [Lane Simulation]	This analysis set uses Lane Simulation mode. This is provided as an investigative tool and the user should apply judgement when interpreting the results.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	A227 / A2 WB Slip Roads RB	Standard Roundabout		A227N, A2OFF, A227S, A2ON	16.43	C

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D10	2028 Do Nothing	PM	ONE HOUR	16:45	18:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A227N		ONE HOUR	✓	1206	100.000
A20FF		ONE HOUR	✓	666	100.000
A227S		ONE HOUR	✓	806	100.000
A20N					

Origin-Destination Data

Demand (Veh/hr)

	To				
		A227N	A20FF	A227S	A20N
From	A227N	0	0	663	543
	A20FF	488	0	177	1
	A227S	581	0	2	223
	A20N	Exit-only	Exit-only	Exit-only	Exit-only

Vehicle Mix

Heavy Vehicle Percentages

	To				
		A227N	A20FF	A227S	A20N
From	A227N	0	0	1	1
	A20FF	1	0	2	0
	A227S	1	0	0	2
	A20N	Exit-only	Exit-only	Exit-only	Exit-only

Results

Results Summary for whole modelled period

Arm	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
A227N	5.99	2.5	A	1108	1662
A20FF	42.51	8.8	E	613	919
A227S	10.47	2.6	B	745	1118
A20N					

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	918	229	1	917	918	821	0.0	1.3	4.577	A
A2OFF	505	126	918	507	504	0	0.0	1.1	9.150	A
A227S	622	155	785	620	616	641	0.0	1.0	5.736	A
A2ON			0			583				

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	1086	272	2	1085	1092	966	1.3	1.6	5.034	A
A2OFF	598	150	1087	599	603	0	1.1	2.5	13.491	B
A227S	726	182	931	728	731	755	1.0	1.4	6.868	A
A2ON			0			692				

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	1340	335	2	1335	1340	1184	1.6	2.5	5.988	A
A2OFF	733	183	1337	728	718	0	2.5	8.5	33.775	D
A227S	894	223	1134	894	897	931	1.4	2.6	9.906	A
A2ON			0			842				

17:30 - 17:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	1321	330	2	1318	1336	1168	2.5	2.4	5.953	A
A2OFF	732	183	1319	727	742	0	8.5	8.8	42.510	E
A227S	878	219	1127	879	896	919	2.6	2.5	10.468	B
A2ON			0			836				

17:45 - 18:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	1084	271	1	1081	1101	972	2.4	1.7	5.084	A
A2OFF	606	151	1082	613	634	0	8.8	2.3	21.048	C
A227S	733	183	941	731	739	754	2.5	1.5	7.332	A
A2ON			0			699				

18:00 - 18:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	900	225	0.93	900	921	813	1.7	1.1	4.542	A
A2OFF	501	125	901	498	511	0	2.3	1.4	9.754	A
A227S	620	155	773	620	613	626	1.5	1.0	5.785	A
A2ON			0			579				

Lane Results

Lane Level notation: Lane Level 1 is always closest to the junction.

Lanes: Main Results for each time segment

16:45 - 17:00

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	Entry	1	1	A227S	323	1177	0.275	322	321	0.0	0.4	3.688	A
			2	A227N, A227S, A2ON	594	1178	0.504	595	597	0.0	0.9	5.055	A
	Exit	1	1		821			821	811	0.0	0.0	0.000	A
A2OFF	Entry	1	1	A227S	135	723	0.187	136	137	0.0	0.2	5.962	A
			2	A227N, A2ON	370	734	0.504	372	368	0.0	0.9	9.432	A
		2	1	(A227N, A227S, A2ON)	505			505	509	0.0	0.1	0.642	A
	Exit	1	1		0			0	0	0.0	0.0	0.000	A
A227S	Entry	1	1	A227N, A2ON	364	821	0.444	364	359	0.0	0.6	6.002	A
			2	A227N, A227S	257	824	0.312	257	257	0.0	0.4	5.298	A
		2	1	(A227N, A2OFF, A227S, A2ON)	622			622	620	0.0	0.0	0.026	A
	Exit	1	1		641			641	641	0.0	0.0	0.000	A
A2ON	Exit	1	1		583			583	586	0.0	0.0	0.000	A

17:00 - 17:15

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	Entry	1	1	A227S	396	1179	0.336	397	397	0.4	0.4	3.948	A
			2	A227N, A227S, A2ON	690	1177	0.586	688	694	0.9	1.2	5.655	A
	Exit	1	1		966			966	969	0.0	0.0	0.000	A
A2OFF	Entry	1	1	A227S	154	677	0.228	156	160	0.2	0.3	7.131	A
			2	A227N, A2ON	442	682	0.648	443	443	0.9	1.5	12.015	B
		2	1	(A227N, A227S, A2ON)	598			596	606	0.1	0.7	2.729	A
	Exit	1	1		0			0	0	0.0	0.0	0.000	A
A227S	Entry	1	1	A227N, A2ON	414	776	0.534	415	418	0.6	0.8	7.226	A
			2	A227N, A227S	313	777	0.402	313	313	0.4	0.6	6.114	A
		2	1	(A227N, A2OFF, A227S, A2ON)	726			727	733	0.0	0.0	0.121	A
	Exit	1	1		755			755	759	0.0	0.0	0.000	A
A2ON	Exit	1	1		692			692	697	0.0	0.0	0.000	A

17:15 - 17:30

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	Entry	1	1	A227S	517	1178	0.439	515	518	0.4	0.7	4.531	A
			2	A227N, A227S, A2ON	823	1179	0.698	819	822	1.2	1.8	6.905	A
	Exit	1	1		1184			1184	1171	0.0	0.0	0.000	A
A2OFF	Entry	1	1	A227S	188	605	0.311	188	191	0.3	0.5	9.092	A
			2	A227N, A2ON	540	610	0.884	540	527	1.5	2.8	18.189	C
		2	1	(A227N, A227S, A2ON)	733			728	724	0.7	5.2	17.863	C
	Exit	1	1		0			0	0	0.0	0.0	0.000	A
A227S	Entry	1	1	A227N, A2ON	497	712	0.698	496	500	0.8	1.4	9.737	A
			2	A227N, A227S	396	715	0.554	397	397	0.6	0.9	8.049	A
		2	1	(A227N, A2OFF, A227S, A2ON)	894			894	901	0.0	0.3	0.903	A
	Exit	1	1		931			931	936	0.0	0.0	0.000	A
A2ON	Exit	1	1		842			842	848	0.0	0.0	0.000	A

17:30 - 17:45

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	Entry	1	1	A227S	500	1178	0.424	499	507	0.7	0.6	4.539	A
			2	A227N, A227S, A2ON	821	1179	0.697	818	829	1.8	1.7	6.815	A
	Exit	1	1		1168			1168	1184	0.0	0.0	0.000	A
A2OFF	Entry	1	1	A227S	196	611	0.321	197	203	0.5	0.4	9.261	A
			2	A227N, A2ON	530	616	0.860	530	539	2.8	2.9	18.992	C
		2	1	(A227N, A227S, A2ON)	732			726	742	5.2	5.5	26.174	D
	Exit	1	1		0			0	0	0.0	0.0	0.000	A
A227S	Entry	1	1	A227N, A2ON	484	715	0.676	483	496	1.4	1.4	10.178	B
			2	A227N, A227S	393	719	0.547	396	400	0.9	0.8	8.586	A
		2	1	(A227N, A2OFF, A227S, A2ON)	878			877	896	0.3	0.2	1.012	A
	Exit	1	1		919			919	931	0.0	0.0	0.000	A
A2ON	Exit	1	1		836			836	858	0.0	0.0	0.000	A

17:45 - 18:00

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	Entry	1	1	A227S	394	1177	0.335	394	403	0.6	0.5	3.927	A

			2	A227N, A227S, A2ON	689	1176	0.586	688	697	1.7	1.3	5.754	A
	Exit	1	1		972			972	995	0.0	0.0	0.000	A
A2OFF	Entry	1	1	A227S	163	680	0.240	164	168	0.4	0.3	7.748	A
			2	A227N, A2ON	450	684	0.659	449	466	2.9	1.5	13.932	B
		2	1	(A227N, A227S, A2ON)	606			613	628	5.5	0.5	8.989	A
	Exit	1	1		0			0	0	0.0	0.0	0.000	A
A227S	Entry	1	1	A227N, A2ON	414	771	0.537	414	420	1.4	0.9	7.802	A
			2	A227N, A227S	318	776	0.410	318	319	0.8	0.5	6.300	A
		2	1	(A227N, A2OFF, A227S, A2ON)	733			732	736	0.2	0.0	0.188	A
	Exit	1	1		754			754	768	0.0	0.0	0.000	A
A2ON	Exit	1	1		699			699	711	0.0	0.0	0.000	A

18:00 - 18:15

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	Entry	1	1	A227S	311	1176	0.264	310	322	0.5	0.3	3.653	A
			2	A227N, A227S, A2ON	589	1177	0.500	590	600	1.3	0.8	5.020	A
	Exit	1	1		813			813	815	0.0	0.0	0.000	A
A2OFF	Entry	1	1	A227S	131	730	0.180	132	137	0.3	0.2	6.402	A
			2	A227N, A2ON	369	738	0.500	366	375	1.5	1.1	9.705	A
		2	1	(A227N, A227S, A2ON)	501			501	509	0.5	0.1	0.977	A
	Exit	1	1		0			0	0	0.0	0.0	0.000	A
A227S	Entry	1	1	A227N, A2ON	357	825	0.433	358	356	0.9	0.6	6.132	A
			2	A227N, A227S	263	829	0.318	262	257	0.5	0.4	5.229	A
		2	1	(A227N, A2OFF, A227S, A2ON)	620			620	611	0.0	0.0	0.033	A
	Exit	1	1		626			626	643	0.0	0.0	0.000	A
A2ON	Exit	1	1		579			579	587	0.0	0.0	0.000	A

2028 Do Minimum, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Lane Simulation	A1 - [Lane Simulation]	This analysis set uses Lane Simulation mode. This is provided as an investigative tool and the user should apply judgement when interpreting the results.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	A227 / A2 WB Slip Roads RB	Standard Roundabout		A227N, A2OFF, A227S, A2ON	58.35	F

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D11	2028 Do Minimum	AM	ONE HOUR	07:45	09:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A227N		ONE HOUR	✓	1280	100.000
A2OFF		ONE HOUR	✓	756	100.000
A227S		ONE HOUR	✓	797	100.000
A2ON					

Origin-Destination Data

Demand (Veh/hr)

	To				
		A227N	A2OFF	A227S	A2ON
From	A227N	1	0	480	799
	A2OFF	565	0	187	4
	A227S	540	0	0	257
	A2ON	Exit-only	Exit-only	Exit-only	Exit-only

Vehicle Mix

Heavy Vehicle Percentages

From	To				
		A227N	A2OFF	A227S	A2ON
	A227N	100	0	3	4
	A2OFF	2	0	2	0
	A227S	2	0	0	3
	A2ON	Exit-only	Exit-only	Exit-only	Exit-only

Results

Results Summary for whole modelled period

Arm	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
A227N	11.93	5.2	B	1179	1769
A2OFF	180.76	47.4	F	692	1038
A227S	19.15	5.6	C	736	1104
A2ON					

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	972	243	0	976	997	846	0.0	1.6	6.053	A
A2OFF	577	144	976	576	577	0	0.0	1.9	11.535	B
A227S	603	151	1054	606	617	499	0.0	1.1	6.991	A
A2ON			0			813				

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	1159	290	0	1154	1190	994	1.6	2.5	7.479	A
A2OFF	669	167	1154	672	681	0	1.9	4.4	21.059	C
A227S	715	179	1223	716	726	603	1.1	1.9	9.290	A
A2ON			0			945				

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	1407	352	0	1402	1448	1165	2.5	4.7	11.252	B
A2OFF	821	205	1402	753	754	0	4.4	25.2	77.754	F
A227S	889	222	1442	894	883	713	1.9	4.3	16.656	C
A2ON			0			1172				

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	1428	357	0	1423	1469	1156	4.7	5.1	11.928	B
A2OFF	834	208	1423	743	757	0	25.2	47.3	180.764	F
A227S	891	223	1454	883	897	713	4.3	5.5	19.147	C
A2ON			0			1180				

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	1154	288	0	1156	1206	1054	5.1	2.2	7.976	A
A2OFF	673	168	1156	762	801	0	47.3	19.0	144.588	F
A227S	715	179	1297	717	745	622	5.5	1.9	11.840	B
A2ON			0			960				

09:00 - 09:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	956	239	0	956	1002	858	2.2	1.7	5.968	A
A2OFF	574	144	956	594	649	0	19.0	2.2	36.035	E
A227S	600	150	1042	602	616	507	1.9	1.1	7.469	A
A2ON			0			786				

Lane Results

Lane Level notation: Lane Level 1 is always closest to the junction.

Lanes: Main Results for each time segment

07:45 - 08:00

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	Entry	1	1	A227S	268	1151	0.233	268	273	0.0	0.3	3.701	A
			2	A227N, A227S, A2ON	704	1142	0.616	708	725	0.0	1.4	6.940	A
	Exit	1	1		846			846	852	0.0	0.0	0.000	A
A2OFF	Entry	1	1	A227S	138	701	0.196	138	142	0.0	0.2	6.482	A
			2	A227N, A227S, A2ON	437	701	0.624	438	435	0.0	1.3	10.993	B
		2	1	(A227N, A227S, A2ON)	577			575	584	0.0	0.4	1.635	A
	Exit	1	1		0			0	0	0.0	0.0	0.000	A
A227S	Entry	1	1	A227N, A2ON	361	724	0.498	362	367	0.0	0.7	7.397	A
			2	A227N, A227S	243	726	0.335	244	250	0.0	0.4	6.016	A
		2	1	(A227N, A2OFF, A227S, A2ON)	603			603	622	0.0	0.0	0.153	A

	Exit	1	1		499			499	515	0.0	0.0	0.000	A
A2ON	Exit	1	1		813			813	825	0.0	0.0	0.000	A

08:00 - 08:15

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	Entry	1	1	A227S	340	1154	0.295	338	347	0.3	0.5	4.097	A
			2	A227N, A227S, A2ON	819	1144	0.716	816	843	1.4	2.0	8.881	A
	Exit	1	1		994			994	1001	0.0	0.0	0.000	A
A2OFF	Entry	1	1	A227S	165	646	0.256	166	169	0.2	0.4	7.660	A
			2	A227N, A2ON	505	649	0.778	506	512	1.3	2.2	15.093	C
		2	1	(A227N, A227S, A2ON)	669			670	685	0.4	1.8	7.752	A
	Exit	1	1		0			0	0	0.0	0.0	0.000	A
A227S	Entry	1	1	A227N, A2ON	412	668	0.616	413	422	0.7	1.0	9.534	A
			2	A227N, A227S	303	673	0.449	303	304	0.4	0.7	7.811	A
		2	1	(A227N, A2OFF, A227S, A2ON)	715			714	729	0.0	0.2	0.478	A
	Exit	1	1		603			603	614	0.0	0.0	0.000	A
A2ON	Exit	1	1		945			945	982	0.0	0.0	0.000	A

08:15 - 08:30

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	Entry	1	1	A227S	445	1156	0.385	446	458	0.5	0.6	4.742	A
			2	A227N, A227S, A2ON	962	1141	0.844	956	990	2.0	4.2	14.263	B
	Exit	1	1		1165			1165	1161	0.0	0.0	0.000	A
A2OFF	Entry	1	1	A227S	191	575	0.332	189	188	0.4	0.6	10.028	B
			2	A227N, A2ON	565	573	0.985	564	566	2.2	3.6	21.566	C
		2	1	(A227N, A227S, A2ON)	821			756	761	1.8	20.9	58.768	F
	Exit	1	1		0			0	0	0.0	0.0	0.000	A
A227S	Entry	1	1	A227N, A2ON	496	599	0.828	496	494	1.0	2.0	14.005	B
			2	A227N, A227S	399	603	0.661	398	389	0.7	1.3	10.915	B
		2	1	(A227N, A2OFF, A227S, A2ON)	889			895	889	0.2	1.0	3.979	A
	Exit	1	1		713			713	729	0.0	0.0	0.000	A
A2ON	Exit	1	1		1172			1172	1194	0.0	0.0	0.000	A

08:30 - 08:45

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	Entry	1	1	A227S	456	1156	0.394	455	463	0.6	0.7	4.887	A
			2	A227N, A227S, A2ON	972	1143	0.851	968	1005	4.2	4.4	15.211	C
	Exit	1	1		1156			1156	1173	0.0	0.0	0.000	A
A2OFF	Entry	1	1	A227S	186	568	0.328	184	187	0.6	0.6	10.917	B
			2	A227N, A2ON	559	568	0.984	559	569	3.6	3.8	24.036	C
		2	1	(A227N, A227S, A2ON)	834			745	757	20.9	43.0	160.179	F
	Exit	1	1		0			0	0	0.0	0.0	0.000	A
A227S	Entry	1	1	A227N, A2ON	494	595	0.830	493	500	2.0	2.2	15.222	C
			2	A227N, A227S	390	600	0.650	390	397	1.3	1.5	12.229	B
		2	1	(A227N, A2OFF, A227S, A2ON)	891			884	899	1.0	1.8	5.242	A
	Exit	1	1		713			713	731	0.0	0.0	0.000	A
A2ON	Exit	1	1		1180			1180	1219	0.0	0.0	0.000	A

08:45 - 09:00

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	Entry	1	1	A227S	332	1153	0.288	332	348	0.7	0.3	4.189	A
			2	A227N, A227S, A2ON	822	1149	0.715	824	858	4.4	1.9	9.537	A
	Exit	1	1		1054			1054	1106	0.0	0.0	0.000	A
A2OFF	Entry	1	1	A227S	188	646	0.291	187	194	0.6	0.5	9.111	A
			2	A227N, A2ON	574	647	0.887	576	607	3.8	3.0	20.197	C
		2	1	(A227N, A227S, A2ON)	673			762	797	43.0	15.5	127.676	F
	Exit	1	1		0			0	0	0.0	0.0	0.000	A
A227S	Entry	1	1	A227N, A2ON	415	646	0.641	416	429	2.2	1.1	11.244	B
			2	A227N, A227S	302	650	0.464	301	316	1.5	0.7	9.030	A
		2	1	(A227N, A2OFF, A227S, A2ON)	715			716	737	1.8	0.2	1.623	A
	Exit	1	1		622			622	640	0.0	0.0	0.000	A
A2ON	Exit	1	1		960			960	1007	0.0	0.0	0.000	A

09:00 - 09:15

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	Entry	1	1	A227S	264	1155	0.229	264	273	0.3	0.3	3.772	A
			2	A227N, A227S, A2ON	691	1145	0.604	692	730	1.9	1.4	6.801	A
	Exit	1	1		858			858	907	0.0	0.0	0.000	A
A2OFF	Entry	1	1	A227S	145	709	0.204	145	158	0.5	0.3	6.916	A
			2	A227N, A2ON	446	706	0.632	449	490	3.0	1.4	14.217	B
		2	1	(A227N, A227S, A2ON)	574			591	642	15.5	0.5	24.081	C
	Exit	1	1		0			0	0	0.0	0.0	0.000	A
A227S	Entry	1	1	A227N, A2ON	353	723	0.488	353	365	1.1	0.7	7.880	A
			2	A227N, A227S	247	729	0.339	249	252	0.7	0.4	6.487	A
		2	1	(A227N, A2OFF, A227S, A2ON)	600			600	613	0.2	0.0	0.175	A
	Exit	1	1		507			507	533	0.0	0.0	0.000	A
A2ON	Exit	1	1		786			786	828	0.0	0.0	0.000	A

2028 Do Minimum, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Lane Simulation	A1 - [Lane Simulation]	This analysis set uses Lane Simulation mode. This is provided as an investigative tool and the user should apply judgement when interpreting the results.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	A227 / A2 WB Slip Roads RB	Standard Roundabout		A227N, A2OFF, A227S, A2ON	25.09	D

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D12	2028 Do Minimum	PM	ONE HOUR	16:45	18:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A227N		ONE HOUR	✓	1243	100.000
A20FF		ONE HOUR	✓	699	100.000
A227S		ONE HOUR	✓	806	100.000
A20N					

Origin-Destination Data

Demand (Veh/hr)

	To				
		A227N	A20FF	A227S	A20N
From	A227N	0	0	667	576
	A20FF	524	0	174	1
	A227S	581	0	2	223
	A20N	Exit-only	Exit-only	Exit-only	Exit-only

Vehicle Mix

Heavy Vehicle Percentages

	To				
		A227N	A20FF	A227S	A20N
From	A227N	0	0	1	1
	A20FF	1	0	2	0
	A227S	1	0	0	2
	A20N	Exit-only	Exit-only	Exit-only	Exit-only

Results

Results Summary for whole modelled period

Arm	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
A227N	6.49	2.9	A	1141	1712
A20FF	74.27	17.0	F	642	963
A227S	10.97	2.7	B	737	1106
A20N					

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	941	235	1	940	941	836	0.0	1.3	4.604	A
A2OFF	537	134	941	538	531	0	0.0	1.5	9.787	A
A227S	609	152	846	607	611	632	0.0	1.0	5.851	A
A2ON			0			616				

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	1127	282	2	1124	1131	991	1.3	1.8	5.325	A
A2OFF	625	156	1126	629	634	0	1.5	2.8	14.713	B
A227S	712	178	999	712	733	755	1.0	1.5	6.984	A
A2ON			0			719				

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	1363	341	2	1360	1377	1192	1.8	2.4	6.430	A
A2OFF	766	191	1362	735	734	0	2.8	12.7	42.287	E
A227S	892	223	1168	893	896	929	1.5	2.7	10.216	B
A2ON			0			867				

17:30 - 17:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	1368	342	2	1364	1383	1217	2.4	2.9	6.492	A
A2OFF	765	191	1366	758	761	0	12.7	17.0	74.273	F
A227S	888	222	1196	889	899	928	2.7	2.6	10.975	B
A2ON			0			866				

17:45 - 18:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	1110	278	2	1110	1126	999	2.9	1.5	5.252	A
A2OFF	625	156	1111	642	695	0	17.0	2.8	32.756	D
A227S	723	181	995	724	733	759	2.6	1.5	7.852	A
A2ON			0			719				

18:00 - 18:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	937	234	1	937	942	826	1.5	1.2	4.674	A
A2OFF	533	133	938	532	540	0	2.8	1.3	10.736	B
A227S	599	150	835	598	612	635	1.5	1.0	6.166	A
A2ON			0			606				

Lane Results

Lane Level notation: Lane Level 1 is always closest to the junction.

Lanes: Main Results for each time segment

16:45 - 17:00

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	Entry	1	1	A227S	321	1180	0.272	321	324	0.0	0.3	3.655	A
			2	A227N, A227S, A2ON	620	1179	0.526	619	617	0.0	1.0	5.101	A
	Exit	1	1		836			836	833	0.0	0.0	0.000	A
A2OFF	Entry	1	1	A227S	134	715	0.188	135	136	0.0	0.2	6.356	A
			2	A227N, A2ON	401	727	0.552	403	395	0.0	1.1	9.654	A
		2	1	(A227N, A227S, A2ON)	537			536	537	0.0	0.2	0.958	A
	Exit	1	1		0			0	0	0.0	0.0	0.000	A
A227S	Entry	1	1	A227N, A2ON	351	802	0.438	350	357	0.0	0.6	6.176	A
			2	A227N, A227S	258	807	0.319	257	254	0.0	0.4	5.325	A
		2	1	(A227N, A2OFF, A227S, A2ON)	609			609	615	0.0	0.0	0.030	A
	Exit	1	1		632			632	639	0.0	0.0	0.000	A
A2ON	Exit	1	1		616			616	611	0.0	0.0	0.000	A

17:00 - 17:15

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	Entry	1	1	A227S	408	1180	0.345	407	409	0.3	0.5	4.087	A
			2	A227N, A227S, A2ON	719	1178	0.611	717	722	1.0	1.3	6.028	A
	Exit	1	1		991			991	999	0.0	0.0	0.000	A
A2OFF	Entry	1	1	A227S	154	670	0.230	154	159	0.2	0.3	7.242	A
			2	A227N, A2ON	472	672	0.703	475	475	1.1	1.7	12.563	B
		2	1	(A227N, A227S, A2ON)	625			626	636	0.2	0.8	3.432	A
	Exit	1	1		0			0	0	0.0	0.0	0.000	A
A227S	Entry	1	1	A227N, A2ON	406	752	0.539	405	420	0.6	0.9	7.336	A
			2	A227N, A227S	306	756	0.405	307	312	0.4	0.5	6.206	A
		2	1	(A227N, A2OFF, A227S, A2ON)	712			712	734	0.0	0.0	0.128	A
	Exit	1	1		755			755	766	0.0	0.0	0.000	A
A2ON	Exit	1	1		719			719	732	0.0	0.0	0.000	A

17:15 - 17:30

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	Entry	1	1	A227S	528	1178	0.448	527	529	0.5	0.7	4.711	A
			2	A227N, A227S, A2ON	835	1178	0.709	833	848	1.3	1.7	7.502	A
	Exit	1	1		1192			1192	1193	0.0	0.0	0.000	A
A2OFF	Entry	1	1	A227S	187	596	0.314	187	186	0.3	0.5	9.463	A
			2	A227N, A2ON	550	601	0.915	548	548	1.7	3.4	19.315	C
		2	1	(A227N, A227S, A2ON)	766			737	742	0.8	8.8	25.329	D
	Exit	1	1		0			0	0	0.0	0.0	0.000	A
A227S	Entry	1	1	A227N, A2ON	489	700	0.698	488	495	0.9	1.4	10.081	B
			2	A227N, A227S	404	704	0.573	405	402	0.5	1.0	8.271	A
		2	1	(A227N, A2OFF, A227S, A2ON)	892			892	900	0.0	0.3	0.934	A
	Exit	1	1		929			929	932	0.0	0.0	0.000	A
A2ON	Exit	1	1		867			867	883	0.0	0.0	0.000	A

17:30 - 17:45

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	Entry	1	1	A227S	525	1179	0.445	525	534	0.7	0.7	4.587	A
			2	A227N, A227S, A2ON	843	1178	0.716	839	849	1.7	2.2	7.689	A
	Exit	1	1		1217			1217	1216	0.0	0.0	0.000	A
A2OFF	Entry	1	1	A227S	193	597	0.324	191	191	0.5	0.7	9.669	A
			2	A227N, A2ON	566	601	0.942	567	570	3.4	3.4	21.543	C
		2	1	(A227N, A227S, A2ON)	765			759	762	8.8	12.9	55.705	F
	Exit	1	1		0			0	0	0.0	0.0	0.000	A
A227S	Entry	1	1	A227N, A2ON	491	693	0.708	491	501	1.4	1.4	10.489	B
			2	A227N, A227S	398	695	0.572	398	398	1.0	0.9	9.012	A
		2	1	(A227N, A2OFF, A227S, A2ON)	888			888	899	0.3	0.2	1.147	A
	Exit	1	1		928			928	939	0.0	0.0	0.000	A
A2ON	Exit	1	1		866			866	888	0.0	0.0	0.000	A

17:45 - 18:00

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	Entry	1	1	A227S	397	1175	0.338	398	407	0.7	0.4	4.015	A

			2	A227N, A227S, A2ON	713	1180	0.604	712	719	2.2	1.2	5.954	A
	Exit	1	1		999			999	1040	0.0	0.0	0.000	A
A2OFF	Entry	1	1	A227S	159	669	0.238	159	175	0.7	0.2	7.983	A
			2	A227N, A2ON	480	677	0.709	483	519	3.4	1.8	16.099	C
		2	1	(A227N, A227S, A2ON)	625			639	686	12.9	0.8	19.089	C
	Exit	1	1		0			0	0	0.0	0.0	0.000	A
A227S	Entry	1	1	A227N, A2ON	409	756	0.541	411	416	1.4	0.9	8.199	A
			2	A227N, A227S	313	759	0.413	313	317	0.9	0.5	6.878	A
		2	1	(A227N, A2OFF, A227S, A2ON)	723			722	730	0.2	0.1	0.237	A
	Exit	1	1		759			759	782	0.0	0.0	0.000	A
A2ON	Exit	1	1		719			719	731	0.0	0.0	0.000	A

18:00 - 18:15

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	Entry	1	1	A227S	328	1178	0.279	327	326	0.4	0.3	3.673	A
			2	A227N, A227S, A2ON	609	1178	0.517	610	615	1.2	0.8	5.206	A
	Exit	1	1		826			826	841	0.0	0.0	0.000	A
A2OFF	Entry	1	1	A227S	132	721	0.184	132	135	0.2	0.2	5.991	A
			2	A227N, A2ON	401	726	0.552	400	405	1.8	1.0	10.298	B
		2	1	(A227N, A227S, A2ON)	533			533	537	0.8	0.1	1.565	A
	Exit	1	1		0			0	0	0.0	0.0	0.000	A
A227S	Entry	1	1	A227N, A2ON	348	805	0.433	348	359	0.9	0.6	6.497	A
			2	A227N, A227S	250	809	0.310	250	253	0.5	0.4	5.558	A
		2	1	(A227N, A2OFF, A227S, A2ON)	599			598	610	0.1	0.0	0.064	A
	Exit	1	1		635			635	641	0.0	0.0	0.000	A
A2ON	Exit	1	1		606			606	612	0.0	0.0	0.000	A

2028 Do Minimum Residual, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Lane Simulation	A1 - [Lane Simulation]	This analysis set uses Lane Simulation mode. This is provided as an investigative tool and the user should apply judgement when interpreting the results.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	A227 / A2 WB Slip Roads RB	Standard Roundabout		A227N, A2OFF, A227S, A2ON	60.83	F

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D13	2028 Do Minimum Residual	AM	ONE HOUR	07:45	09:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A227N		ONE HOUR	✓	1273	100.000
A2OFF		ONE HOUR	✓	753	100.000
A227S		ONE HOUR	✓	797	100.000
A2ON					

Origin-Destination Data

Demand (Veh/hr)

	To				
		A227N	A2OFF	A227S	A2ON
From	A227N	1	0	480	792
	A2OFF	562	0	187	4
	A227S	540	0	0	257
	A2ON	Exit-only	Exit-only	Exit-only	Exit-only

Vehicle Mix

Heavy Vehicle Percentages

From	To				
		A227N	A2OFF	A227S	A2ON
	A227N	100	0	3	4
	A2OFF	2	0	2	0
	A227S	2	0	0	3
	A2ON	Exit-only	Exit-only	Exit-only	Exit-only

Results

Results Summary for whole modelled period

Arm	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
A227N	11.26	4.9	B	1168	1752
A2OFF	189.54	49.4	F	694	1042
A227S	19.25	4.6	C	731	1097
A2ON					

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	960	240	0	959	990	835	0.0	1.6	6.008	A
A2OFF	576	144	959	577	577	0	0.0	1.8	11.486	B
A227S	601	150	1032	601	610	504	0.0	1.2	6.865	A
A2ON			0			797				

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	1138	285	0	1141	1181	993	1.6	2.3	7.455	A
A2OFF	676	169	1141	678	679	0	1.8	4.2	20.232	C
A227S	721	180	1220	719	732	599	1.2	1.9	9.014	A
A2ON			0			945				

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	1397	349	0	1385	1440	1159	2.3	4.9	10.700	B
A2OFF	835	209	1385	749	759	0	4.2	26.4	79.509	F
A227S	873	218	1431	873	888	704	1.9	4.4	15.921	C
A2ON			0			1145				

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	1394	348	0	1394	1456	1157	4.9	4.4	11.258	B
A2OFF	833	208	1394	756	761	0	26.4	49.3	189.537	F
A227S	880	220	1440	883	901	710	4.4	4.5	19.246	C
A2ON			0			1167				

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	1156	289	0	1156	1200	1072	4.4	2.4	7.576	A
A2OFF	673	168	1156	774	810	0	49.3	20.6	154.001	F
A227S	715	179	1305	717	742	624	4.5	2.1	11.535	B
A2ON			0			949				

09:00 - 09:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	960	240	0	959	993	846	2.4	1.6	6.093	A
A2OFF	572	143	959	597	659	0	20.6	2.4	38.645	E
A227S	596	149	1050	595	612	506	2.1	1.2	7.524	A
A2ON			0			800				

Lane Results

Lane Level notation: Lane Level 1 is always closest to the junction.

Lanes: Main Results for each time segment

07:45 - 08:00

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	Entry	1	1	A227S	264	1154	0.229	263	271	0.0	0.3	3.706	A
			2	A227N, A227S, A2ON	696	1145	0.607	696	719	0.0	1.3	6.880	A
	Exit	1	1		835			835	842	0.0	0.0	0.000	A
A2OFF	Entry	1	1	A227S	144	708	0.203	144	145	0.0	0.3	6.319	A
			2	A227N, A2ON	431	706	0.611	433	432	0.0	1.2	11.005	B
		2	1	(A227N, A227S, A2ON)	576			575	583	0.0	0.3	1.633	A
	Exit	1	1		0			0	0	0.0	0.0	0.000	A
A227S	Entry	1	1	A227N, A2ON	361	727	0.496	361	365	0.0	0.7	7.230	A
			2	A227N, A227S	240	734	0.327	239	244	0.0	0.4	6.088	A
		2	1	(A227N, A2OFF, A227S, A2ON)	601			601	614	0.0	0.0	0.093	A

	Exit	1	1		504			504	516	0.0	0.0	0.000	A
A2ON	Exit	1	1		797			797	819	0.0	0.0	0.000	A

08:00 - 08:15

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	Entry	1	1	A227S	331	1156	0.287	332	342	0.3	0.4	4.107	A
			2	A227N, A227S, A2ON	807	1147	0.704	809	839	1.3	1.9	8.830	A
	Exit	1	1		993			993	1003	0.0	0.0	0.000	A
A2OFF	Entry	1	1	A227S	171	652	0.262	171	169	0.3	0.4	7.822	A
			2	A227N, A2ON	508	653	0.778	507	510	1.2	2.2	14.781	B
		2	1	(A227N, A227S, A2ON)	676			678	684	0.3	1.6	7.148	A
	Exit	1	1		0			0	0	0.0	0.0	0.000	A
A227S	Entry	1	1	A227N, A2ON	415	670	0.619	415	425	0.7	1.1	9.330	A
			2	A227N, A227S	305	674	0.453	304	307	0.4	0.7	7.522	A
		2	1	(A227N, A2OFF, A227S, A2ON)	721			720	734	0.0	0.1	0.439	A
	Exit	1	1		599			599	611	0.0	0.0	0.000	A
A2ON	Exit	1	1		945			945	978	0.0	0.0	0.000	A

08:15 - 08:30

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	Entry	1	1	A227S	442	1157	0.382	441	455	0.4	0.6	4.710	A
			2	A227N, A227S, A2ON	956	1143	0.836	944	985	1.9	4.3	13.475	B
	Exit	1	1		1159			1159	1172	0.0	0.0	0.000	A
A2OFF	Entry	1	1	A227S	183	579	0.316	182	186	0.4	0.5	9.791	A
			2	A227N, A2ON	570	580	0.983	567	572	2.2	3.7	21.309	C
		2	1	(A227N, A227S, A2ON)	835			753	765	1.6	22.1	60.762	F
	Exit	1	1		0			0	0	0.0	0.0	0.000	A
A227S	Entry	1	1	A227N, A2ON	488	604	0.809	487	498	1.1	2.1	13.656	B
			2	A227N, A227S	385	607	0.634	386	390	0.7	1.3	11.049	B
		2	1	(A227N, A2OFF, A227S, A2ON)	873			873	895	0.1	1.1	3.383	A
	Exit	1	1		704			704	729	0.0	0.0	0.000	A
A2ON	Exit	1	1		1145			1145	1186	0.0	0.0	0.000	A

08:30 - 08:45

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	Entry	1	1	A227S	438	1156	0.379	439	458	0.6	0.6	4.942	A
			2	A227N, A227S, A2ON	956	1143	0.837	955	998	4.3	3.9	14.193	B
	Exit	1	1		1157			1157	1177	0.0	0.0	0.000	A
A20FF	Entry	1	1	A227S	192	576	0.334	192	189	0.5	0.6	10.802	B
			2	A227N, A2ON	564	576	0.978	564	572	3.7	3.8	24.101	C
		2	1	(A227N, A227S, A2ON)	833			756	761	22.1	44.9	168.973	F
	Exit	1	1		0			0	0	0.0	0.0	0.000	A
A227S	Entry	1	1	A227N, A2ON	492	602	0.817	493	502	2.1	2.0	15.171	C
			2	A227N, A227S	391	603	0.649	390	398	1.3	1.3	12.176	B
		2	1	(A227N, A2OFF, A227S, A2ON)	880			883	900	1.1	1.3	5.396	A
	Exit	1	1		710			710	729	0.0	0.0	0.000	A
A2ON	Exit	1	1		1167			1167	1211	0.0	0.0	0.000	A

08:45 - 09:00

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	Entry	1	1	A227S	340	1154	0.295	341	348	0.6	0.3	4.034	A
			2	A227N, A227S, A2ON	816	1145	0.713	815	852	3.9	2.1	9.045	A
	Exit	1	1		1072			1072	1112	0.0	0.0	0.000	A
A20FF	Entry	1	1	A227S	187	649	0.287	187	198	0.6	0.4	9.567	A
			2	A227N, A2ON	582	646	0.902	587	611	3.8	2.9	20.450	C
		2	1	(A227N, A227S, A2ON)	673			769	805	44.9	17.2	136.714	F
	Exit	1	1		0			0	0	0.0	0.0	0.000	A
A227S	Entry	1	1	A227N, A2ON	408	642	0.635	409	426	2.0	1.2	11.266	B
			2	A227N, A227S	307	647	0.474	308	316	1.3	0.7	9.161	A
		2	1	(A227N, A2OFF, A227S, A2ON)	715			715	736	1.3	0.2	1.223	A
	Exit	1	1		624			624	644	0.0	0.0	0.000	A
A2ON	Exit	1	1		949			949	995	0.0	0.0	0.000	A

09:00 - 09:15

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	Entry	1	1	A227S	262	1157	0.227	262	267	0.3	0.3	3.769	A
			2	A227N, A227S, A2ON	698	1144	0.610	697	725	2.1	1.3	6.962	A
	Exit	1	1		846			846	906	0.0	0.0	0.000	A
A2OFF	Entry	1	1	A227S	146	707	0.206	146	163	0.4	0.2	7.273	A
			2	A227N, A2ON	447	705	0.635	451	496	2.9	1.3	14.224	B
		2	1	(A227N, A227S, A2ON)	572			593	652	17.2	0.9	26.683	D
	Exit	1	1		0			0	0	0.0	0.0	0.000	A
A227S	Entry	1	1	A227N, A2ON	356	723	0.493	355	362	1.2	0.8	7.951	A
			2	A227N, A227S	240	726	0.331	240	250	0.7	0.5	6.589	A
		2	1	(A227N, A2OFF, A227S, A2ON)	596			596	610	0.2	0.0	0.147	A
	Exit	1	1		506			506	530	0.0	0.0	0.000	A
A2ON	Exit	1	1		800			800	829	0.0	0.0	0.000	A

2028 Do Minimum Residual, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Lane Simulation	A1 - [Lane Simulation]	This analysis set uses Lane Simulation mode. This is provided as an investigative tool and the user should apply judgement when interpreting the results.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	A227 / A2 WB Slip Roads RB	Standard Roundabout		A227N, A2OFF, A227S, A2ON	24.13	C

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D14	2028 Do Minimum Residual	PM	ONE HOUR	16:45	18:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A227N		ONE HOUR	✓	1238	100.000
A20FF		ONE HOUR	✓	694	100.000
A227S		ONE HOUR	✓	806	100.000
A20N					

Origin-Destination Data

Demand (Veh/hr)

	To				
		A227N	A20FF	A227S	A20N
From	A227N	0	0	667	571
	A20FF	519	0	174	1
	A227S	581	0	2	223
	A20N	Exit-only	Exit-only	Exit-only	Exit-only

Vehicle Mix

Heavy Vehicle Percentages

	To				
		A227N	A20FF	A227S	A20N
From	A227N	0	0	1	1
	A20FF	1	0	2	0
	A227S	1	0	0	2
	A20N	Exit-only	Exit-only	Exit-only	Exit-only

Results

Results Summary for whole modelled period

Arm	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
A227N	6.53	2.7	A	1134	1701
A20FF	69.93	17.0	F	645	967
A227S	11.21	3.1	B	743	1115
A20N					

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	922	231	2	922	939	853	0.0	1.1	4.514	A
A2OFF	526	132	924	533	530	0	0.0	1.3	10.247	B
A227S	618	154	820	618	618	637	0.0	1.1	5.891	A
A2ON			0			583				

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	1122	281	1	1120	1124	997	1.1	1.7	5.246	A
A2OFF	624	156	1121	624	620	0	1.3	2.7	15.039	C
A227S	726	181	988	723	731	757	1.1	1.3	6.927	A
A2ON			0			713				

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	1370	343	3	1368	1371	1201	1.7	2.7	6.530	A
A2OFF	775	194	1371	744	735	0	2.7	13.0	44.604	E
A227S	894	224	1184	889	892	930	1.3	2.8	9.758	A
A2ON			0			870				

17:30 - 17:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	1362	340	3	1363	1379	1205	2.7	2.4	6.447	A
A2OFF	788	197	1365	756	766	0	13.0	17.0	69.931	F
A227S	882	221	1194	883	895	927	2.8	3.0	11.206	B
A2ON			0			869				

17:45 - 18:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	1096	274	2	1095	1134	1000	2.4	1.7	5.261	A
A2OFF	630	157	1097	637	693	0	17.0	3.5	36.925	E
A227S	729	182	983	723	740	751	3.0	1.8	7.868	A
A2ON			0			704				

18:00 - 18:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	933	233	1	934	938	829	1.7	1.2	4.529	A
A2OFF	526	131	935	528	538	0	3.5	1.2	10.207	B
A227S	611	153	826	608	618	637	1.8	1.1	5.939	A
A2ON			0			603				

Lane Results

Lane Level notation: Lane Level 1 is always closest to the junction.

Lanes: Main Results for each time segment

16:45 - 17:00

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	Entry	1	1	A227S	330	1176	0.280	329	330	0.0	0.3	3.642	A
			2	A227N, A227S, A2ON	593	1178	0.503	593	609	0.0	0.7	4.985	A
	Exit	1	1		853			853	841	0.0	0.0	0.000	A
A2OFF	Entry	1	1	A227S	127	722	0.176	129	134	0.0	0.2	6.379	A
			2	A227N, A2ON	400	730	0.548	404	396	0.0	1.0	10.132	B
		2	1	(A227N, A227S, A2ON)	526			527	535	0.0	0.1	1.042	A
	Exit	1	1		0			0	0	0.0	0.0	0.000	A
A227S	Entry	1	1	A227N, A2ON	358	811	0.442	357	360	0.0	0.7	6.220	A
			2	A227N, A227S	260	814	0.319	260	258	0.0	0.4	5.321	A
		2	1	(A227N, A2OFF, A227S, A2ON)	618			618	622	0.0	0.0	0.046	A
	Exit	1	1		637			637	647	0.0	0.0	0.000	A
A2ON	Exit	1	1		583			583	599	0.0	0.0	0.000	A

17:00 - 17:15

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	Entry	1	1	A227S	407	1178	0.346	406	406	0.3	0.5	4.036	A
			2	A227N, A227S, A2ON	715	1180	0.606	714	718	0.7	1.2	5.928	A
	Exit	1	1		997			997	991	0.0	0.0	0.000	A
A2OFF	Entry	1	1	A227S	155	671	0.232	155	155	0.2	0.4	7.204	A
			2	A227N, A2ON	470	673	0.697	469	465	1.0	1.7	12.815	B
		2	1	(A227N, A227S, A2ON)	624			625	624	0.1	0.7	3.604	A
	Exit	1	1		0			0	0	0.0	0.0	0.000	A
A227S	Entry	1	1	A227N, A2ON	409	759	0.539	409	417	0.7	0.8	7.316	A
			2	A227N, A227S	316	759	0.416	314	315	0.4	0.5	6.141	A
		2	1	(A227N, A2OFF, A227S, A2ON)	726			725	732	0.0	0.0	0.118	A
	Exit	1	1		757			757	760	0.0	0.0	0.000	A
A2ON	Exit	1	1		713			713	725	0.0	0.0	0.000	A

17:15 - 17:30

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	Entry	1	1	A227S	529	1176	0.450	528	526	0.5	0.8	4.694	A
			2	A227N, A227S, A2ON	842	1176	0.715	840	845	1.2	1.9	7.670	A
	Exit	1	1		1201			1201	1193	0.0	0.0	0.000	A
A2OFF	Entry	1	1	A227S	189	592	0.320	190	187	0.4	0.5	9.476	A
			2	A227N, A2ON	555	599	0.926	554	548	1.7	3.3	19.464	C
		2	1	(A227N, A227S, A2ON)	775			744	742	0.7	9.3	27.459	D
	Exit	1	1		0			0	0	0.0	0.0	0.000	A
A227S	Entry	1	1	A227N, A2ON	492	699	0.704	489	493	0.8	1.6	9.838	A
			2	A227N, A227S	402	700	0.575	401	399	0.5	1.1	8.091	A
		2	1	(A227N, A2OFF, A227S, A2ON)	894			894	898	0.0	0.2	0.691	A
	Exit	1	1		930			930	928	0.0	0.0	0.000	A
A2ON	Exit	1	1		870			870	877	0.0	0.0	0.000	A

17:30 - 17:45

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	Entry	1	1	A227S	525	1176	0.446	525	529	0.8	0.7	4.795	A
			2	A227N, A227S, A2ON	837	1177	0.711	838	850	1.9	1.6	7.475	A
	Exit	1	1		1205			1205	1219	0.0	0.0	0.000	A
A2OFF	Entry	1	1	A227S	187	596	0.313	186	189	0.5	0.5	10.193	B
			2	A227N, A2ON	570	603	0.946	570	577	3.3	3.3	20.766	C
		2	1	(A227N, A227S, A2ON)	788			757	766	9.3	13.2	51.758	F
	Exit	1	1		0			0	0	0.0	0.0	0.000	A
A227S	Entry	1	1	A227N, A2ON	483	691	0.699	483	496	1.6	1.6	10.720	B
			2	A227N, A227S	400	697	0.575	400	400	1.1	1.1	8.843	A
		2	1	(A227N, A2OFF, A227S, A2ON)	882			883	896	0.2	0.4	1.327	A
	Exit	1	1		927			927	937	0.0	0.0	0.000	A
A2ON	Exit	1	1		869			869	885	0.0	0.0	0.000	A

17:45 - 18:00

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	Entry	1	1	A227S	396	1177	0.336	395	411	0.7	0.5	4.189	A

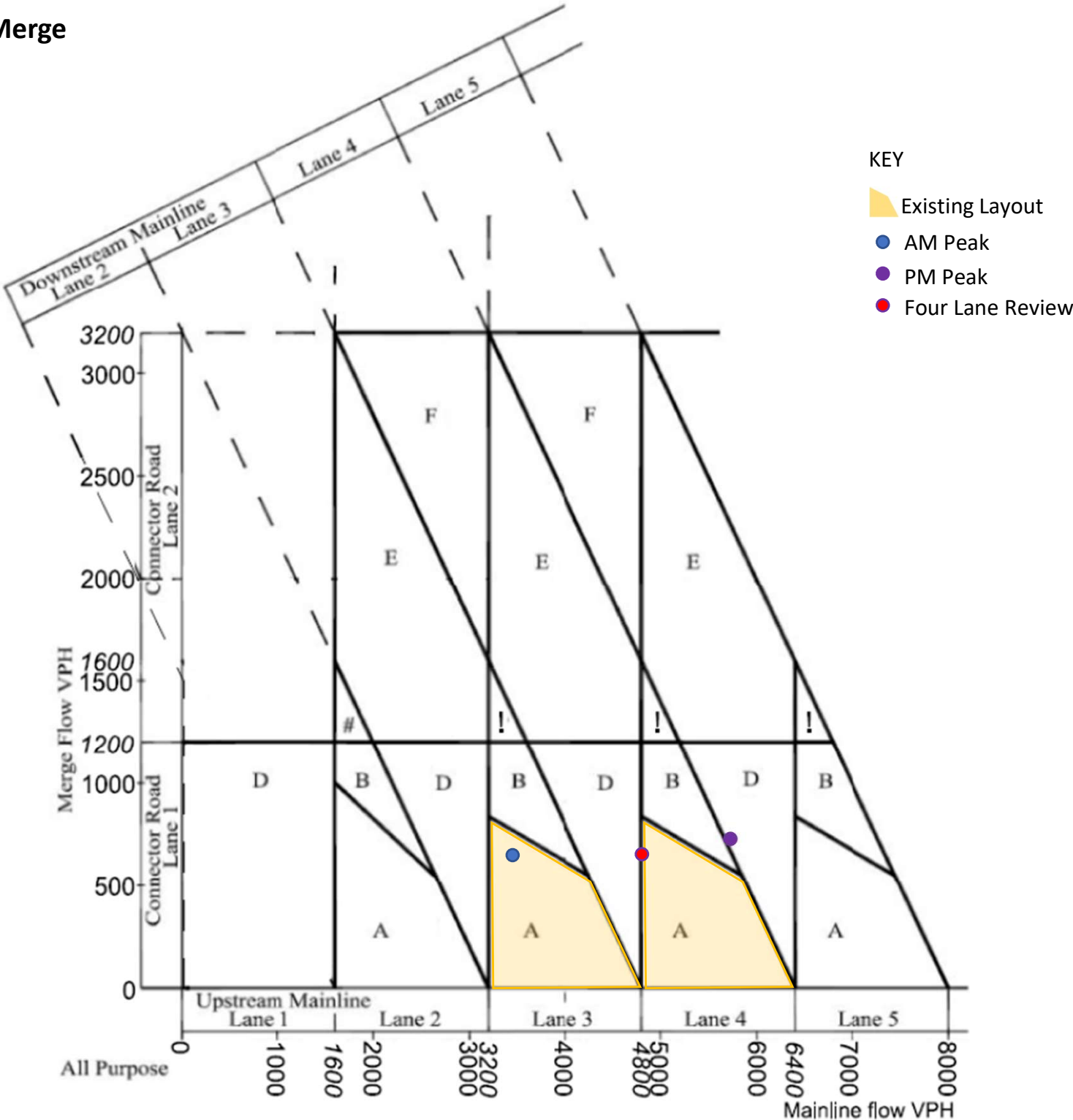
			2	A227N, A227S, A2ON	700	1176	0.595	700	723	1.6	1.2	5.869	A
	Exit	1	1		1000			1000	1052	0.0	0.0	0.000	A
A2OFF	Entry	1	1	A227S	161	674	0.239	160	172	0.5	0.4	8.151	A
			2	A227N, A2ON	478	680	0.704	477	520	3.3	1.8	16.021	C
		2	1	(A227N, A227S, A2ON)	630			639	686	13.2	1.3	23.315	C
	Exit	1	1		0			0	0	0.0	0.0	0.000	A
A227S	Entry	1	1	A227N, A2ON	412	759	0.543	411	418	1.6	1.0	8.233	A
			2	A227N, A227S	315	764	0.413	313	322	1.1	0.6	6.858	A
		2	1	(A227N, A2OFF, A227S, A2ON)	729			728	736	0.4	0.1	0.247	A
	Exit	1	1		751			751	787	0.0	0.0	0.000	A
A2ON	Exit	1	1		704			704	728	0.0	0.0	0.000	A

18:00 - 18:15

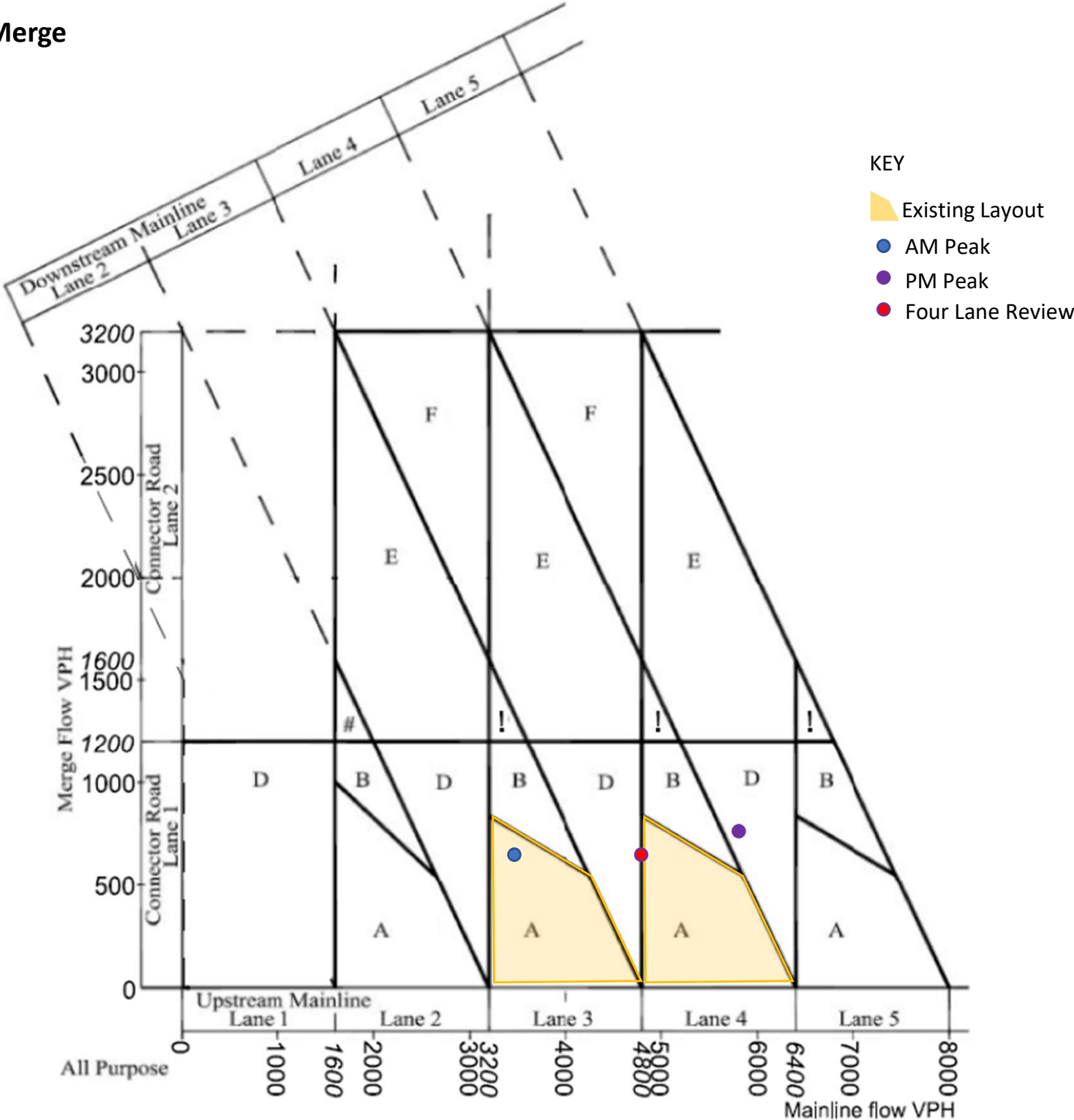
Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	Entry	1	1	A227S	319	1176	0.271	320	327	0.5	0.3	3.656	A
			2	A227N, A227S, A2ON	614	1176	0.522	613	611	1.2	0.9	4.997	A
	Exit	1	1		829			829	842	0.0	0.0	0.000	A
A2OFF	Entry	1	1	A227S	131	720	0.182	131	136	0.4	0.2	6.097	A
			2	A227N, A2ON	395	728	0.543	398	402	1.8	0.9	10.037	B
		2	1	(A227N, A227S, A2ON)	526			526	533	1.3	0.1	1.248	A
	Exit	1	1		0			0	0	0.0	0.0	0.000	A
A227S	Entry	1	1	A227N, A2ON	360	807	0.447	358	363	1.0	0.7	6.200	A
			2	A227N, A227S	251	810	0.309	250	255	0.6	0.4	5.450	A
		2	1	(A227N, A2OFF, A227S, A2ON)	611			611	615	0.1	0.0	0.055	A
	Exit	1	1		637			637	646	0.0	0.0	0.000	A
A2ON	Exit	1	1		603			603	605	0.0	0.0	0.000	A

APPENDIX K – MERGE / DIVERGE ASSESSMENT

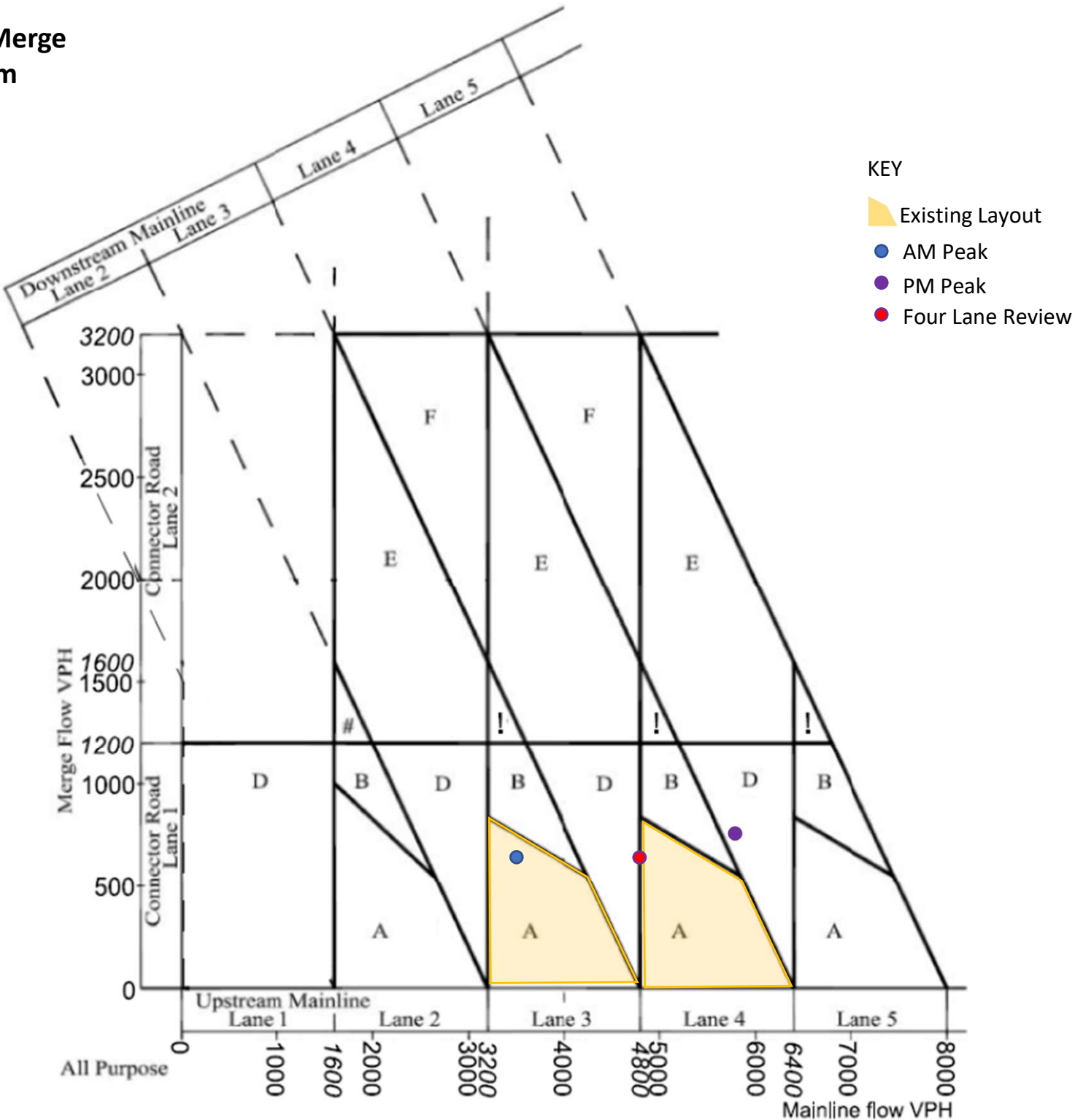
A2 Eastbound – Merge
2023 Base



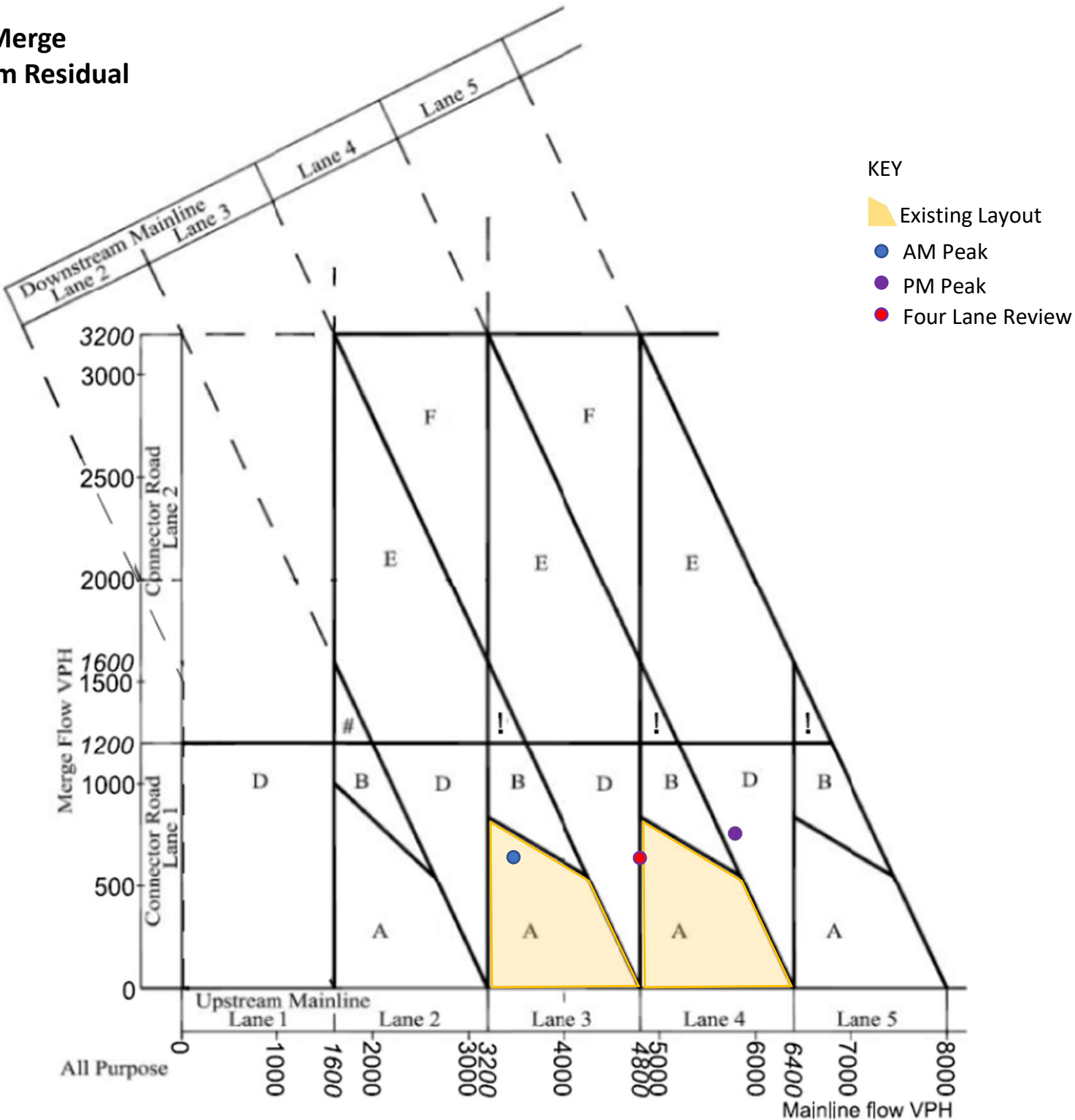
A2 Eastbound – Merge
2025 Do Nothing



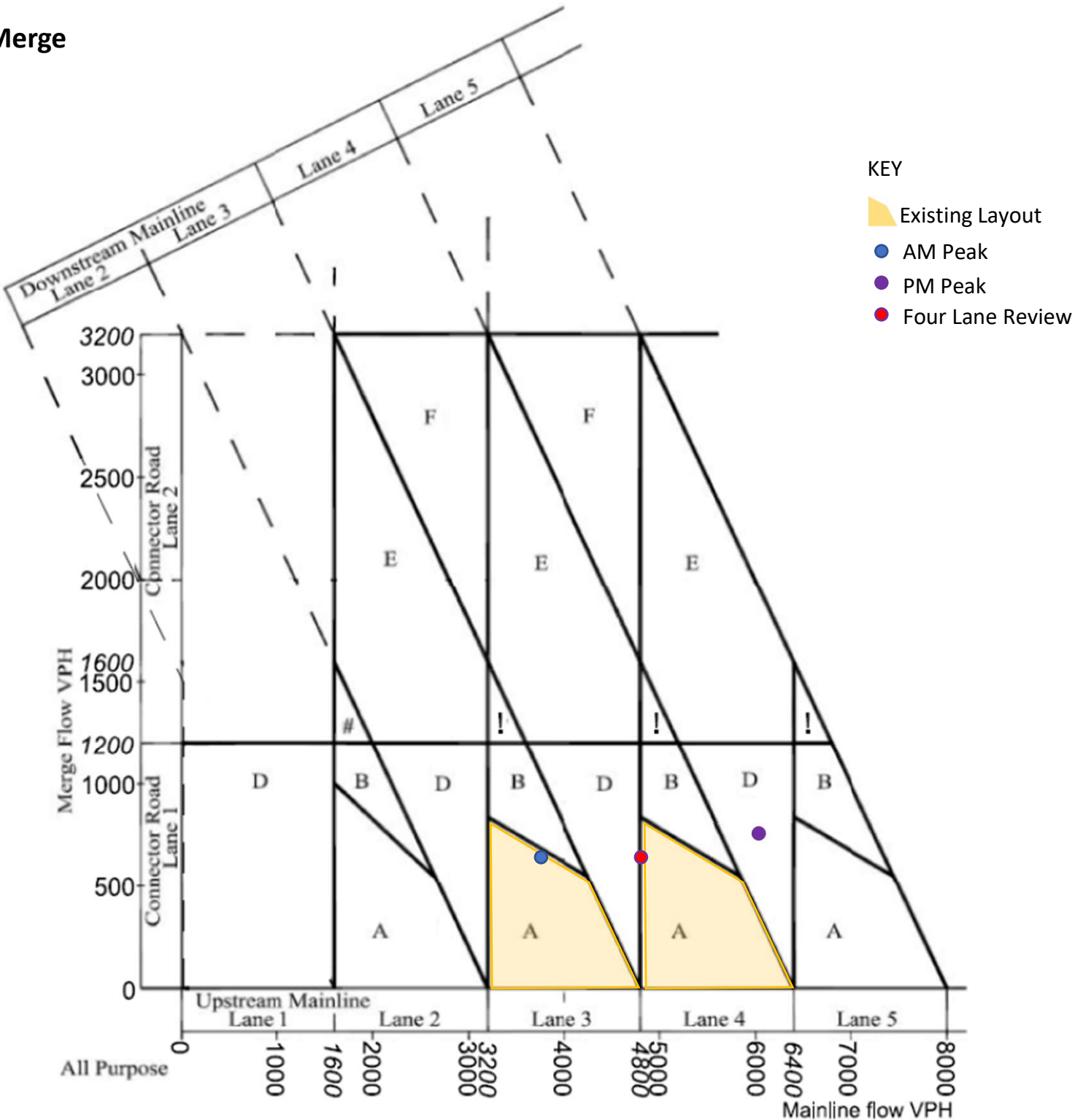
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2025 Do Minimum



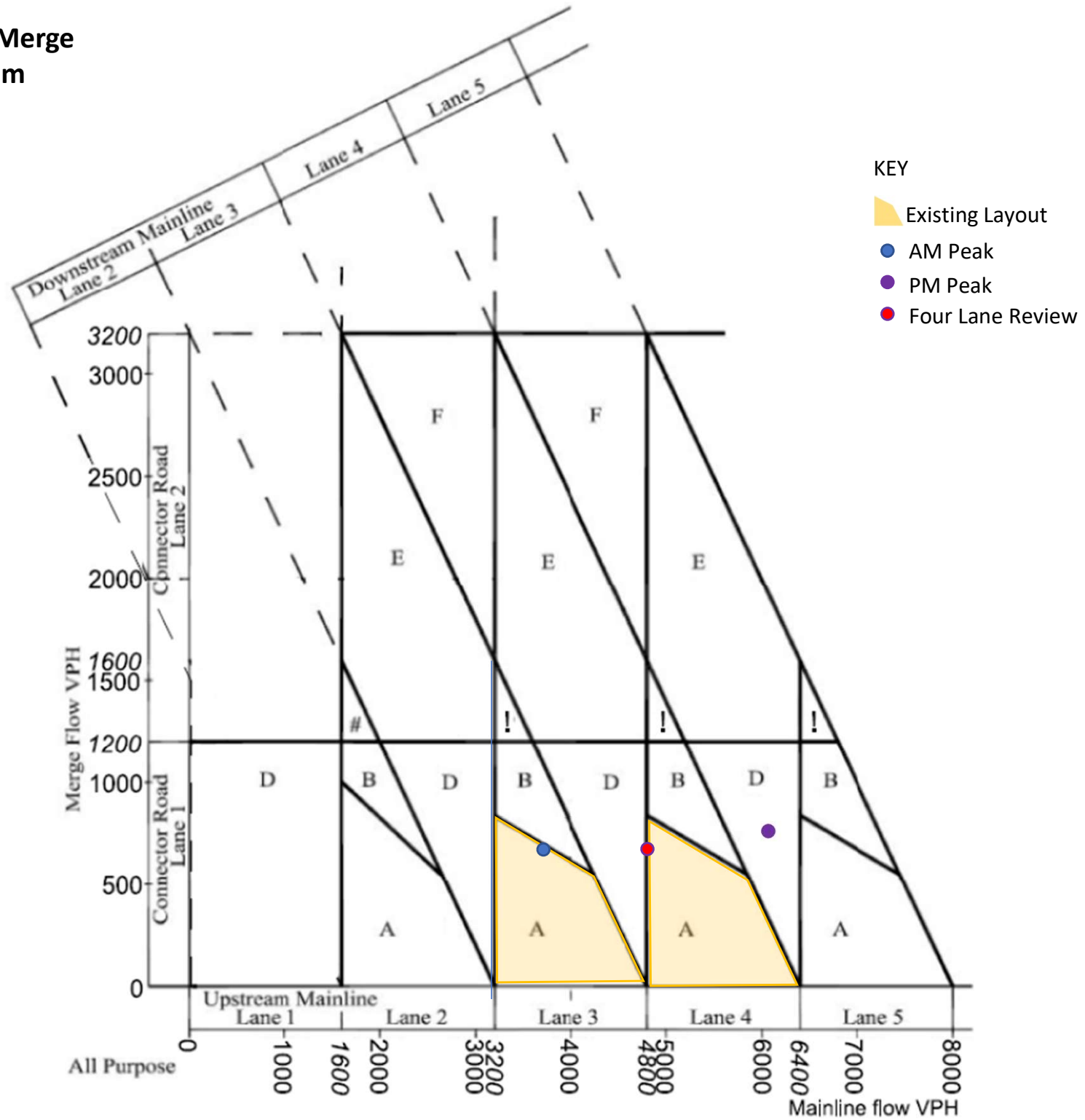
A2 Eastbound – Merge
2025 Do Minimum Residual



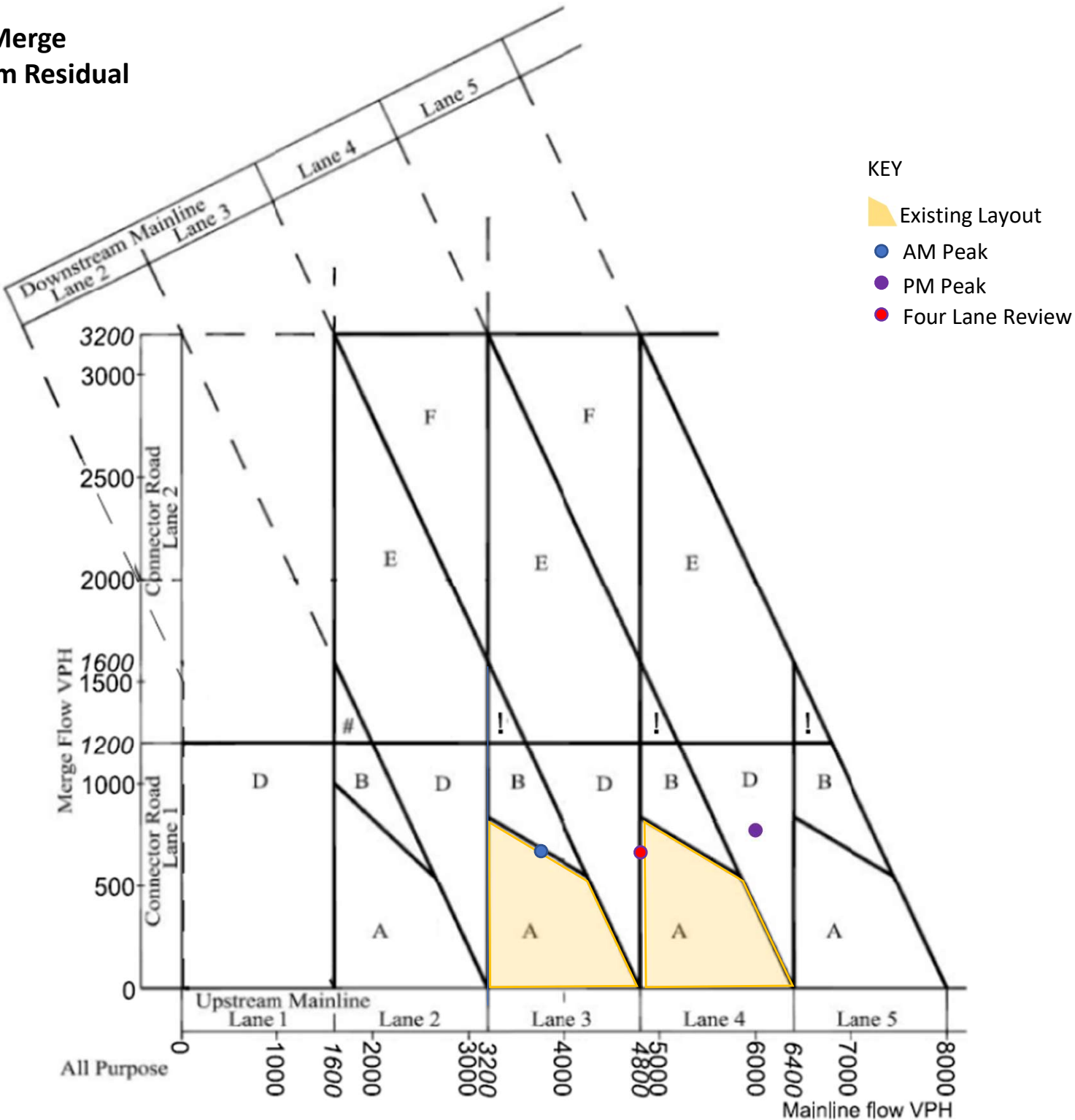
A2 Eastbound – Merge
2028 Do Nothing



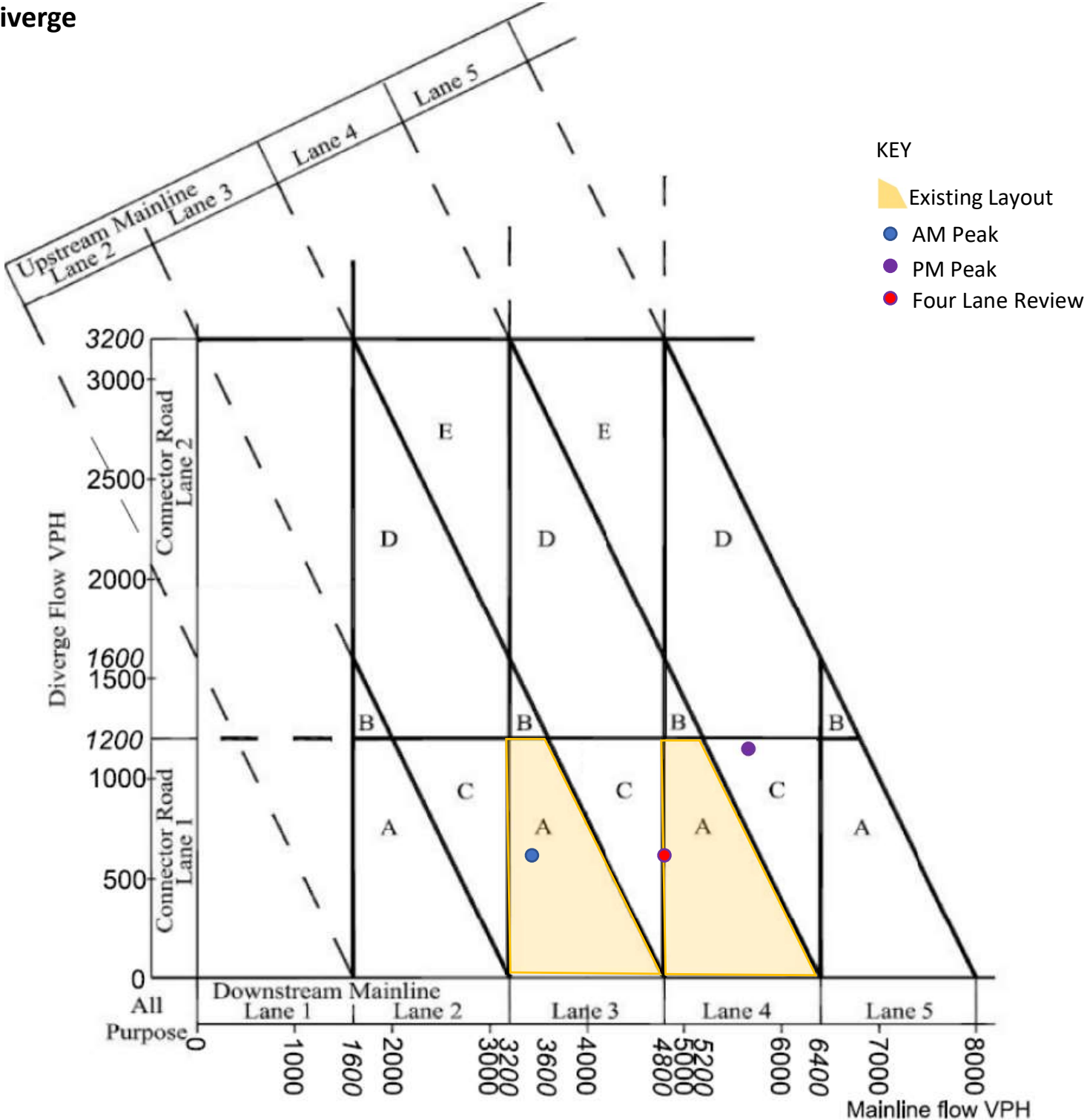
A2 Eastbound – Merge 2028 Do Minimum



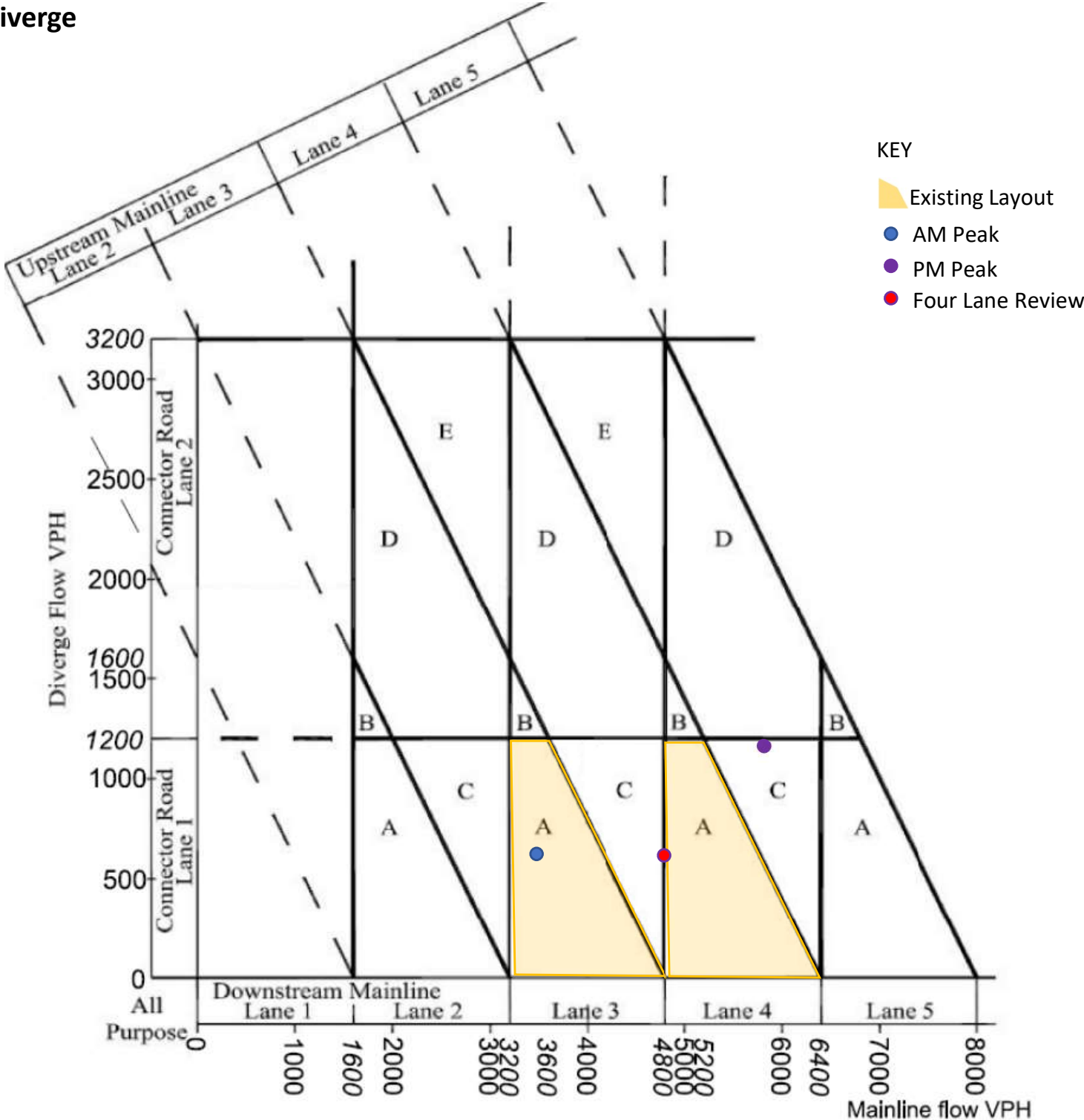
A2 Eastbound – Merge
2028 Do Minimum Residual



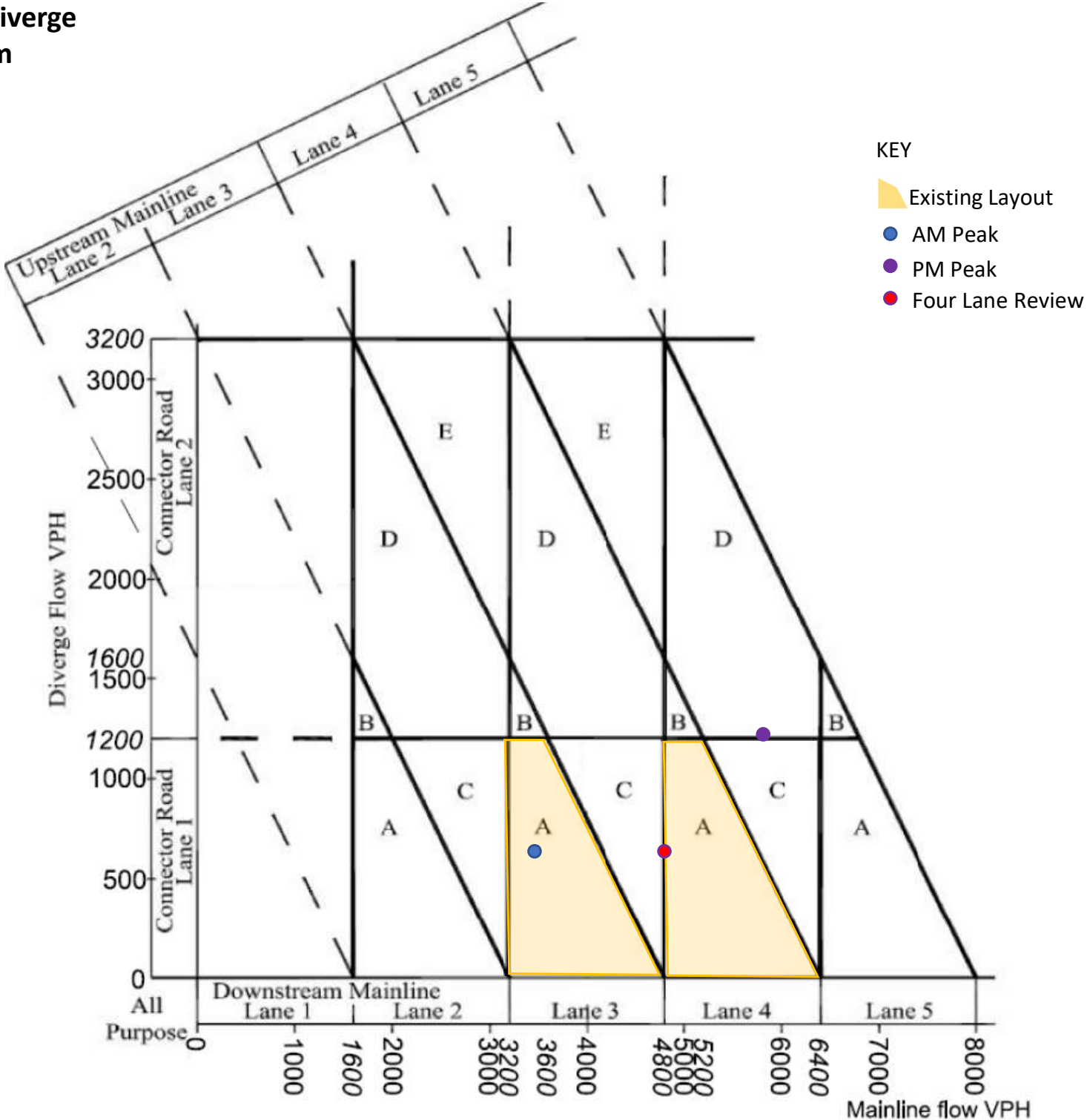
A2 Eastbound – Diverge
2023 Base



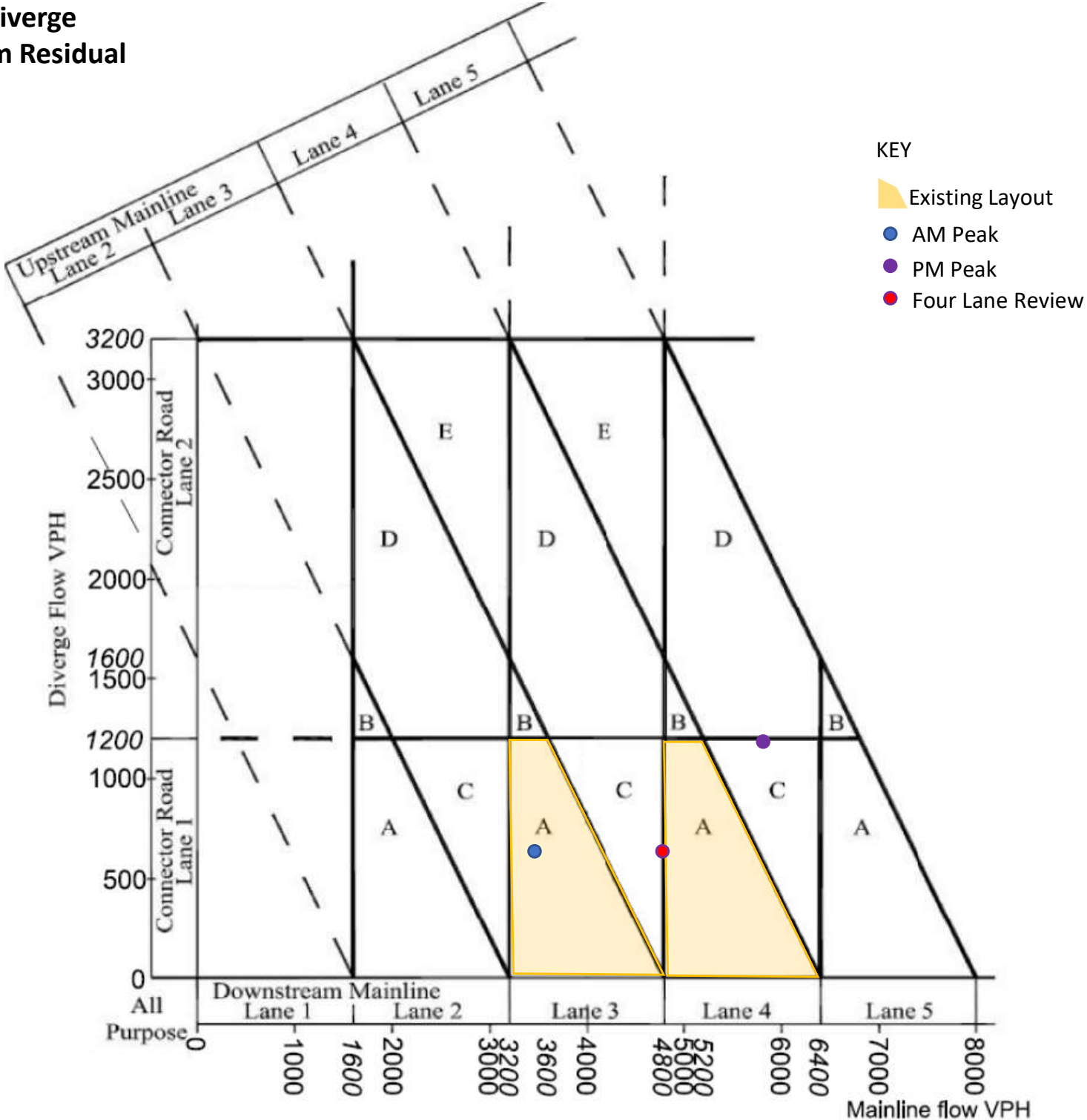
A2 Eastbound – Diverge
2025 Do Nothing



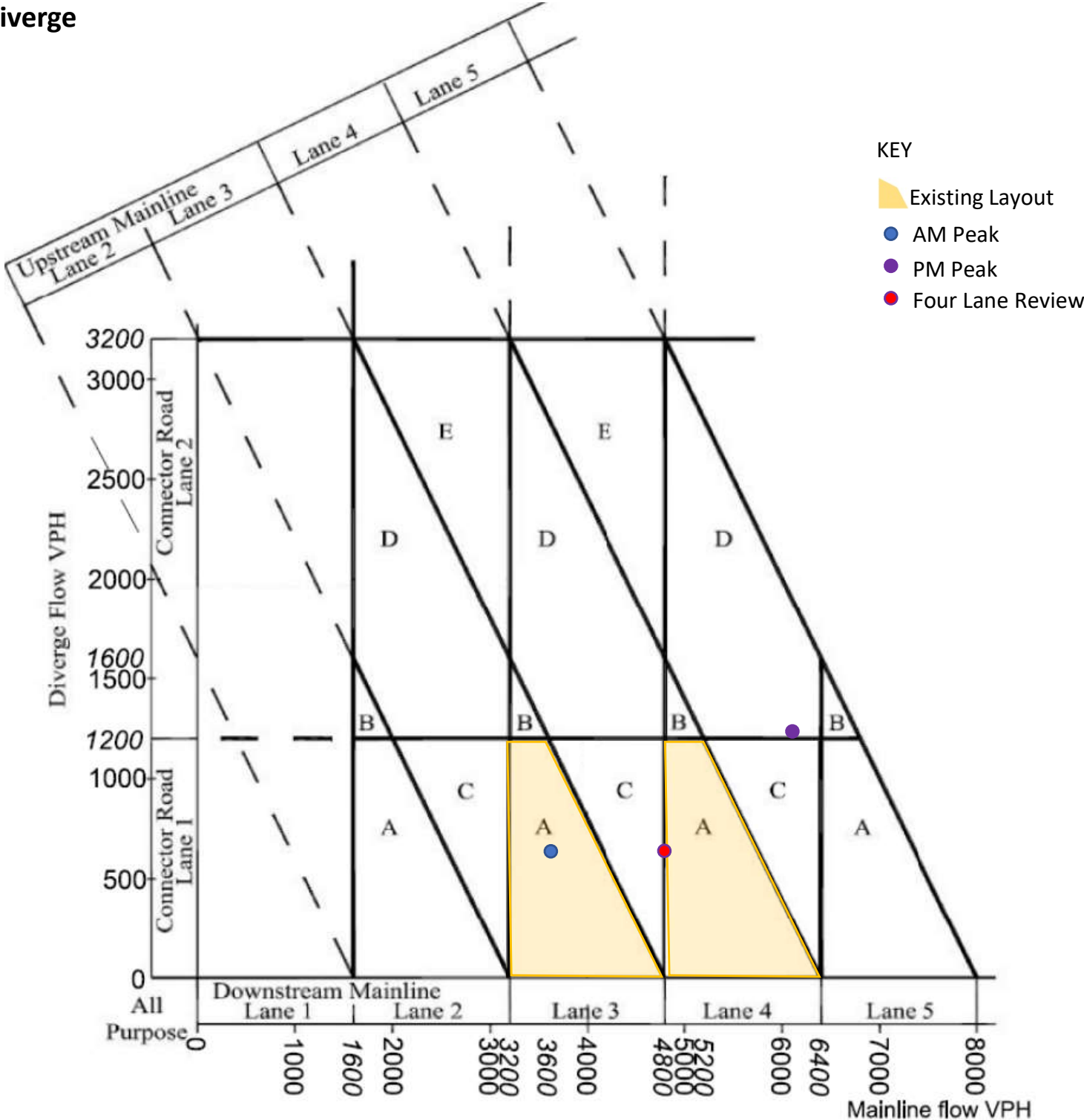
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2025 Do Minimum



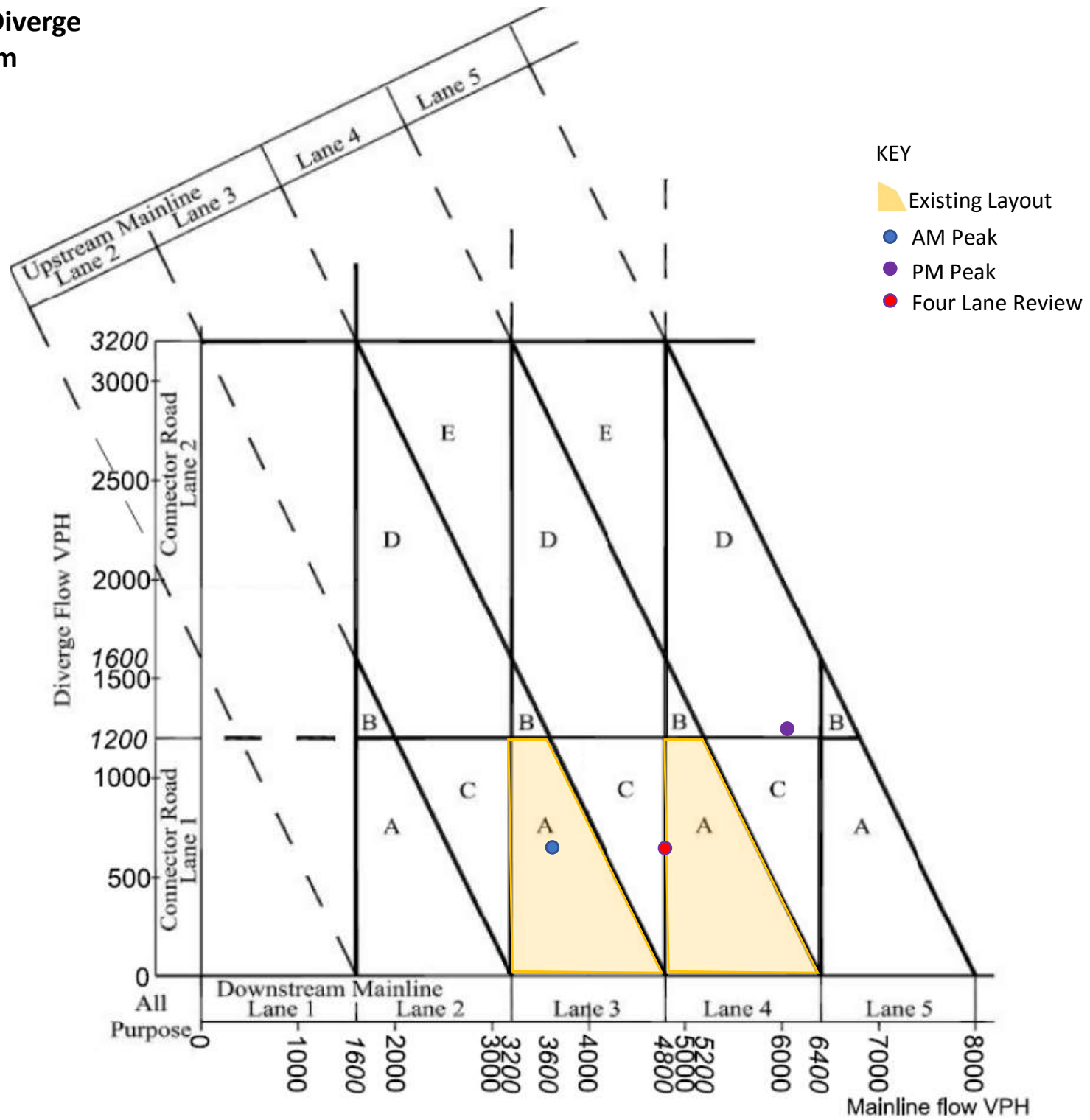
A2 Eastbound – Diverge
2025 Do Minimum Residual



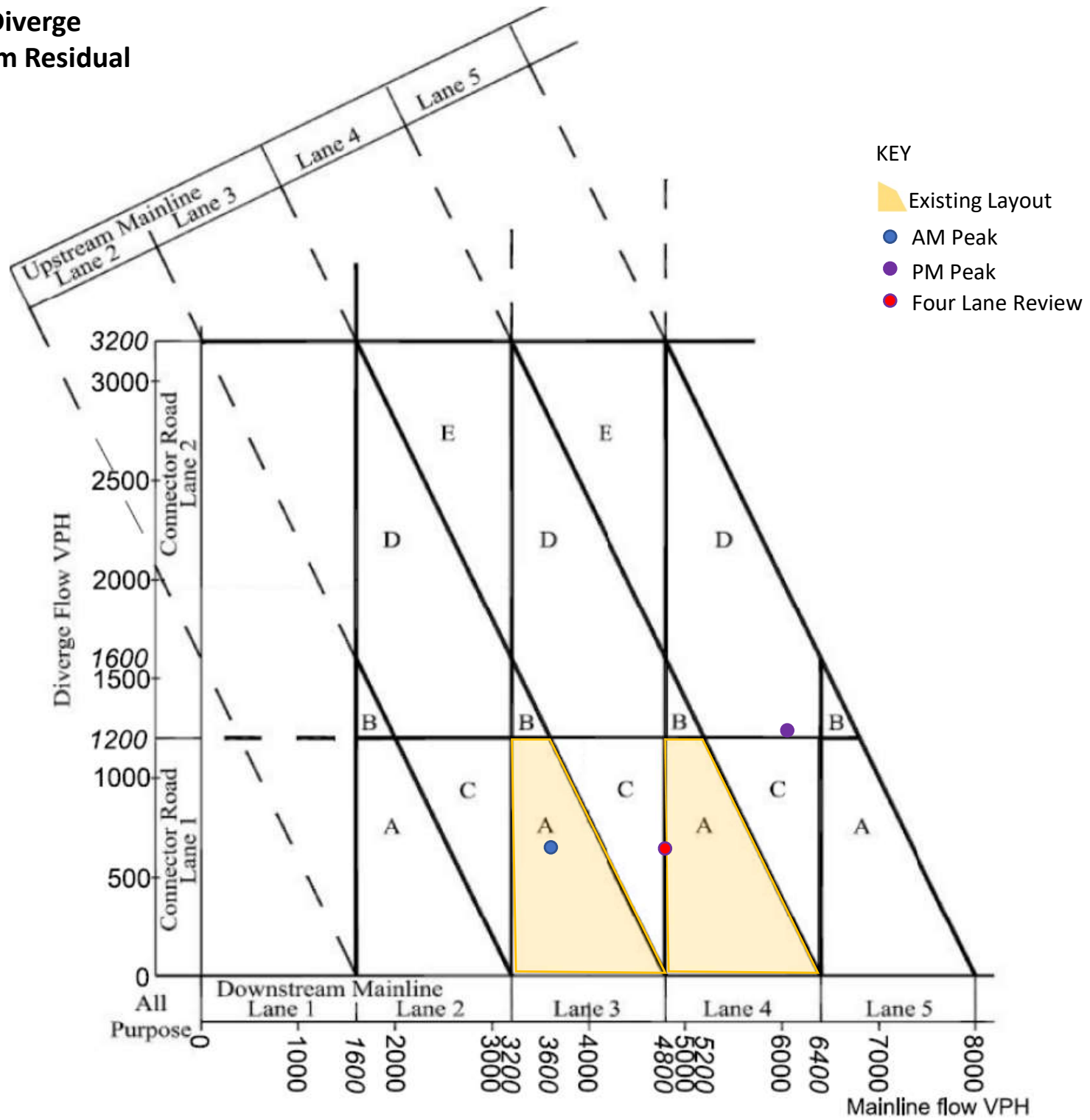
A2 Eastbound – Diverge
2028 Do Nothing



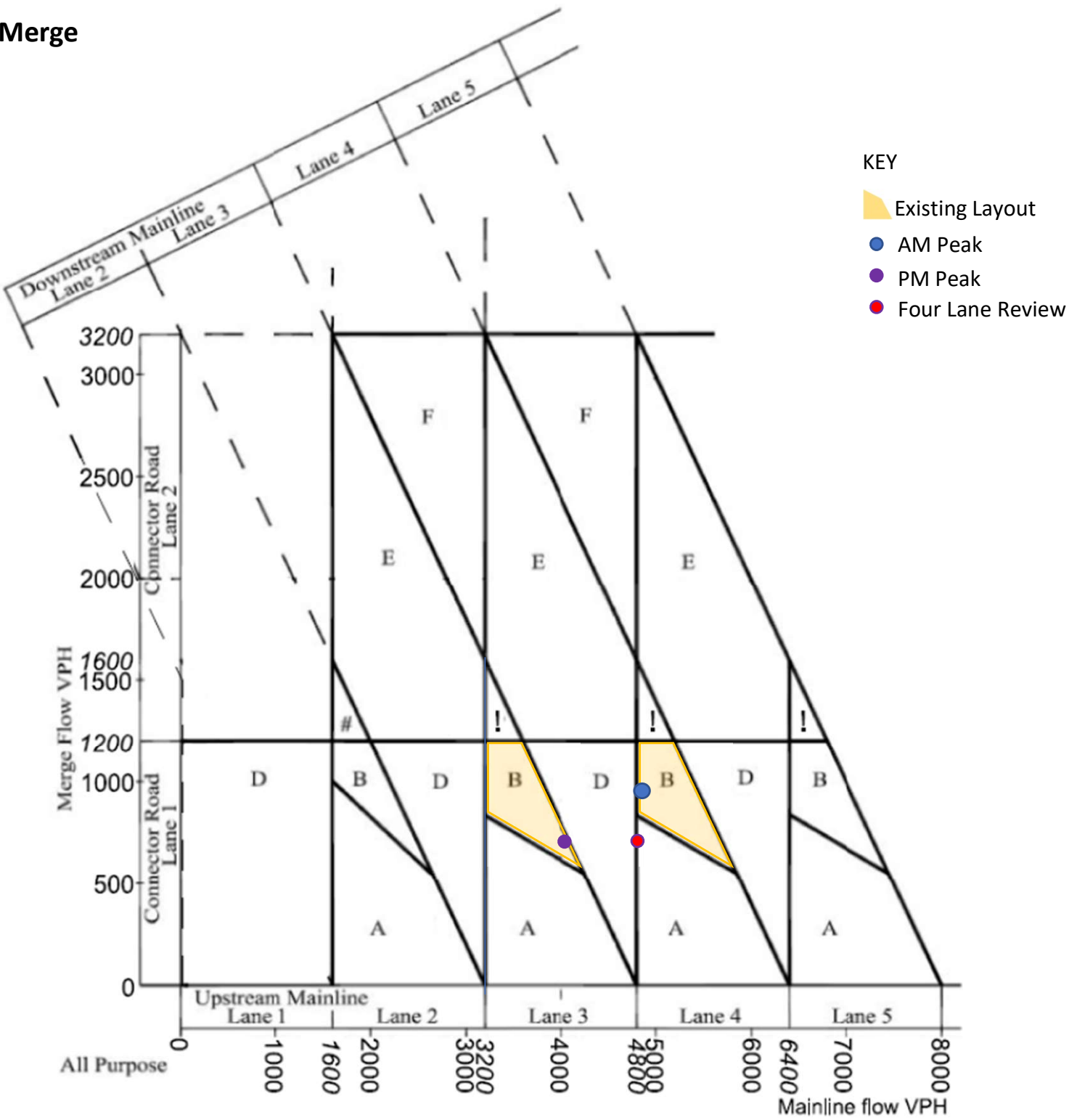
A2 Eastbound – Diverge 2028 Do Minimum



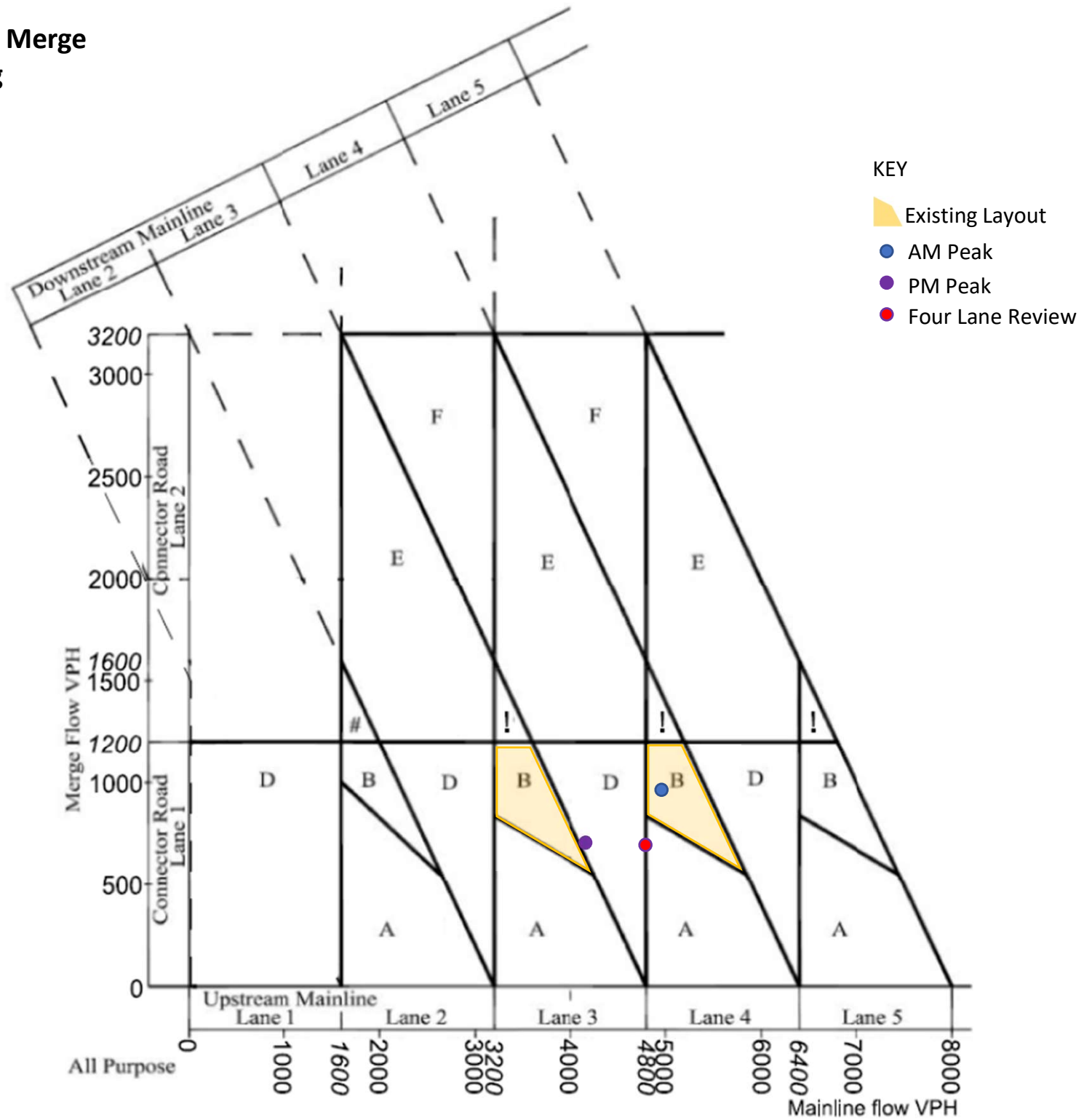
A2 Eastbound – Diverge
2028 Do Minimum Residual



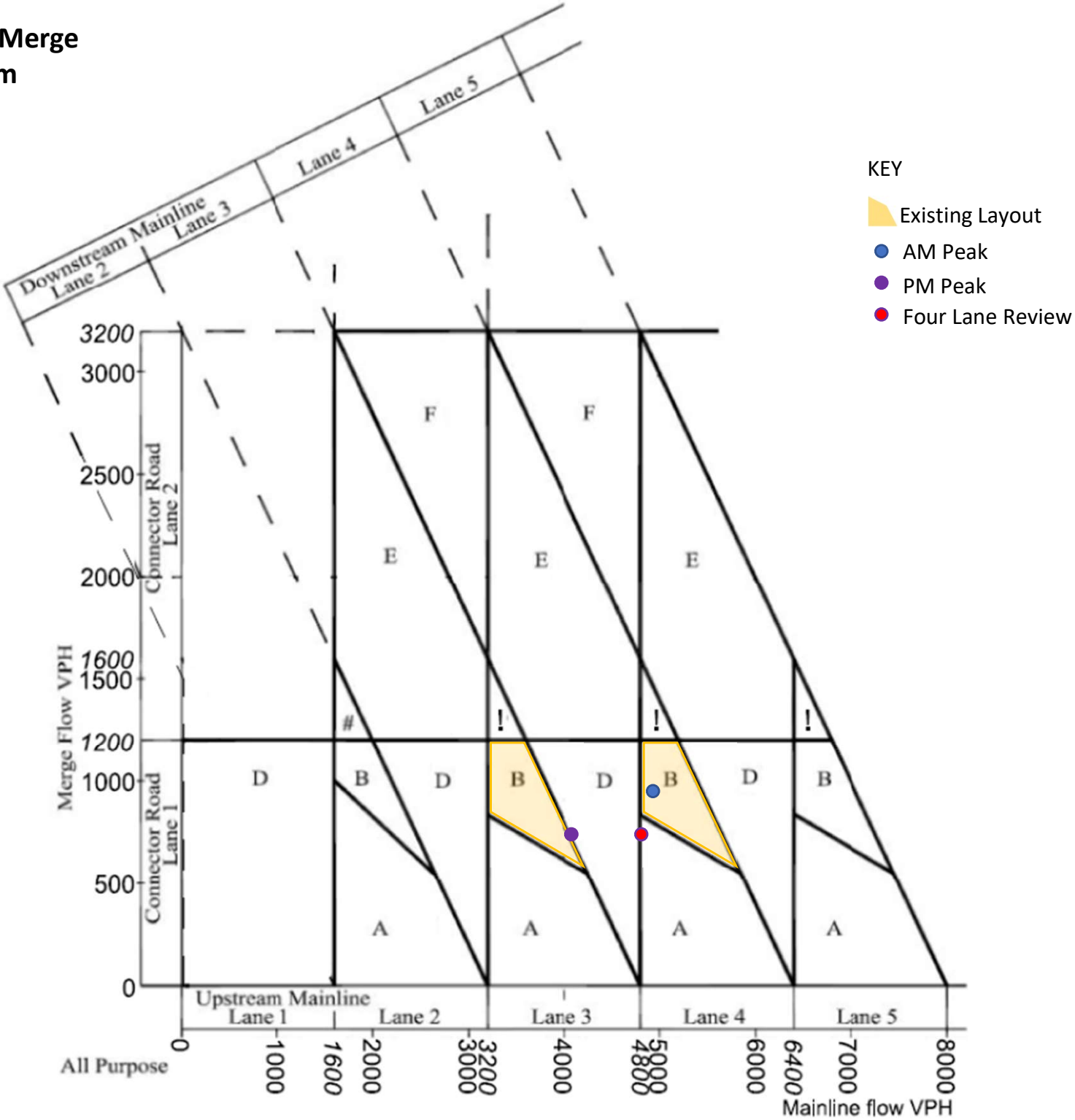
A2 Westbound – Merge
2023 Base



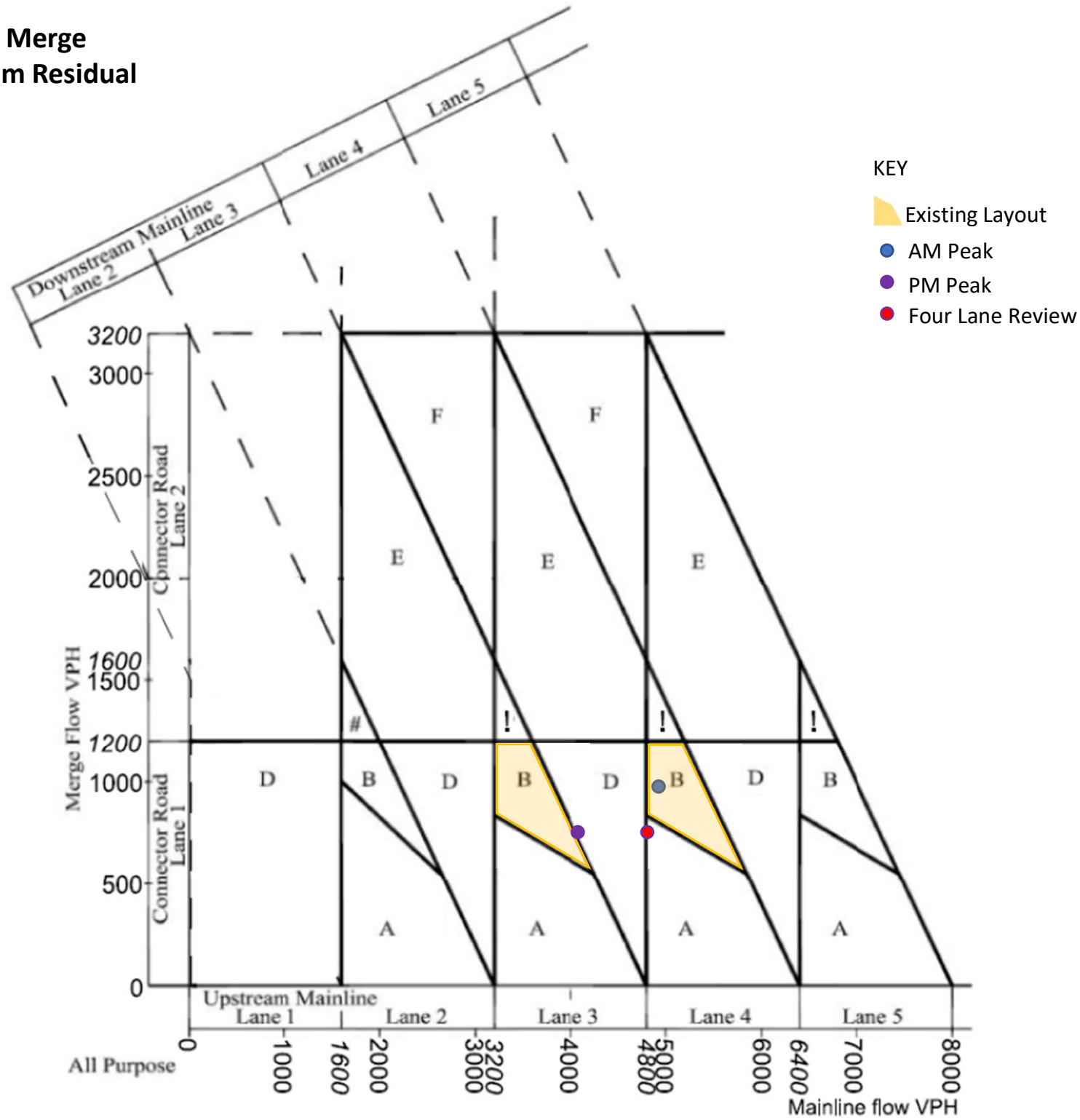
A2 Westbound – Merge 2025 Do Nothing



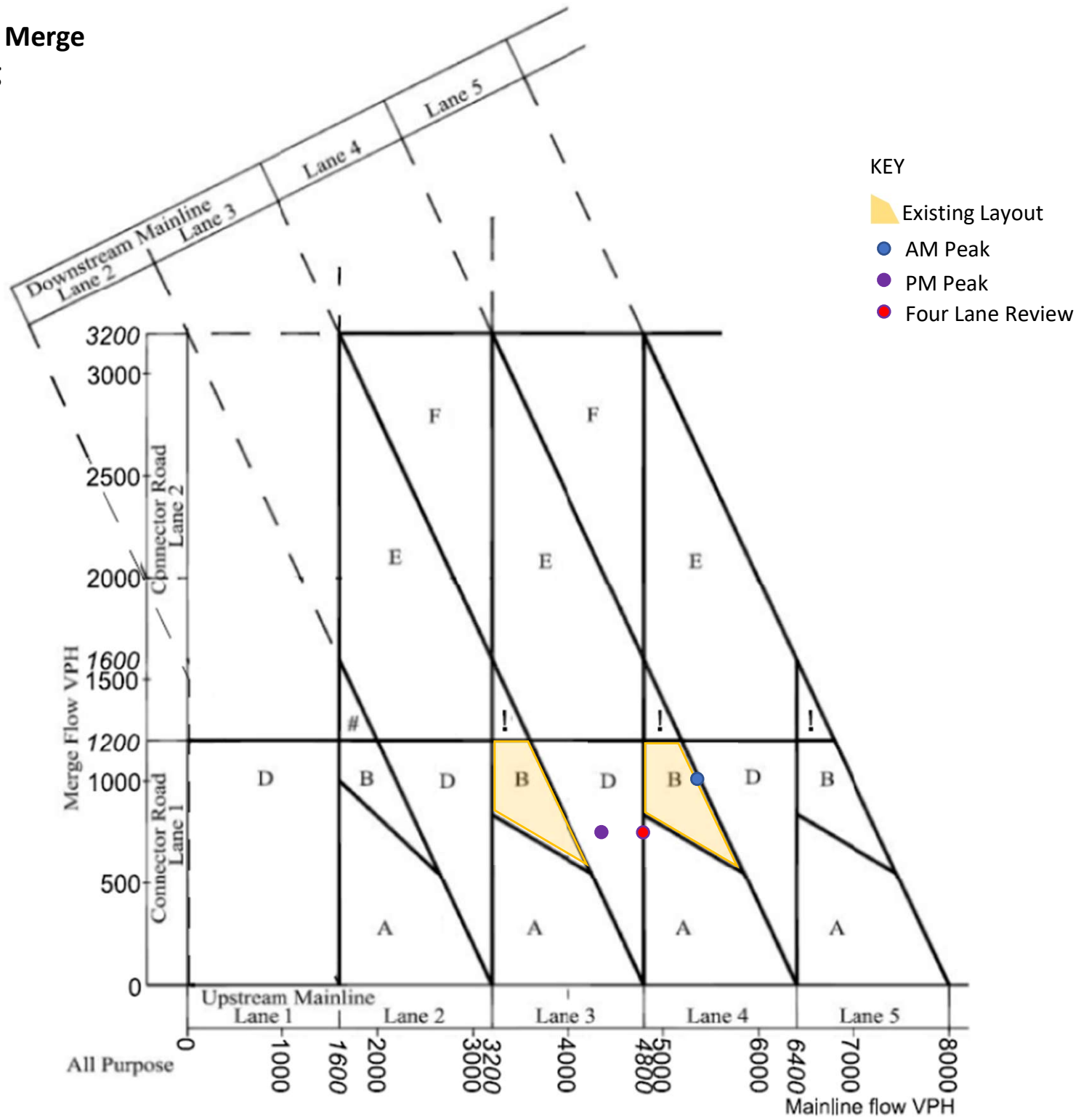
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2025 Do Minimum



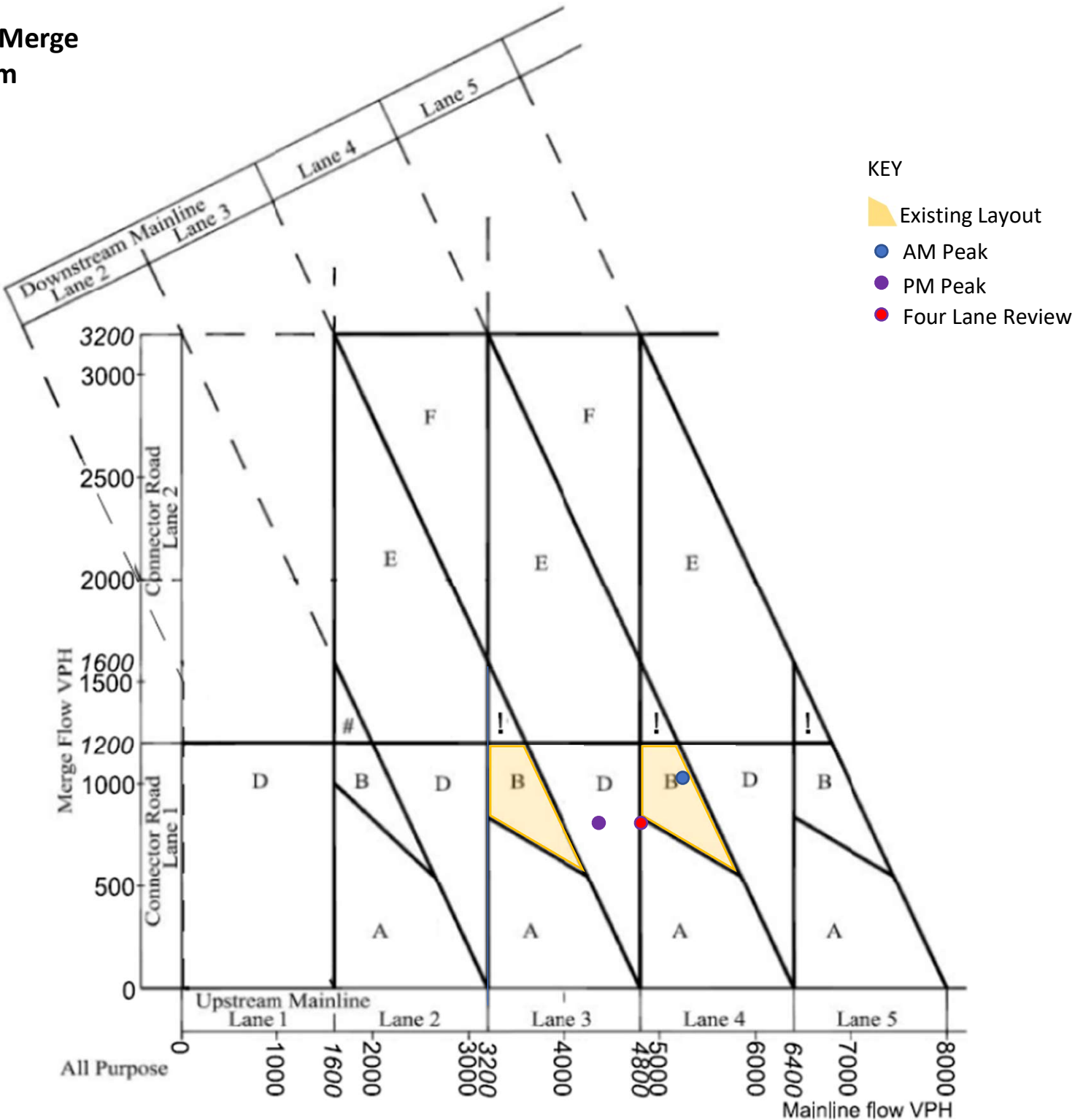
A2 Westbound – Merge
2025 Do Minimum Residual



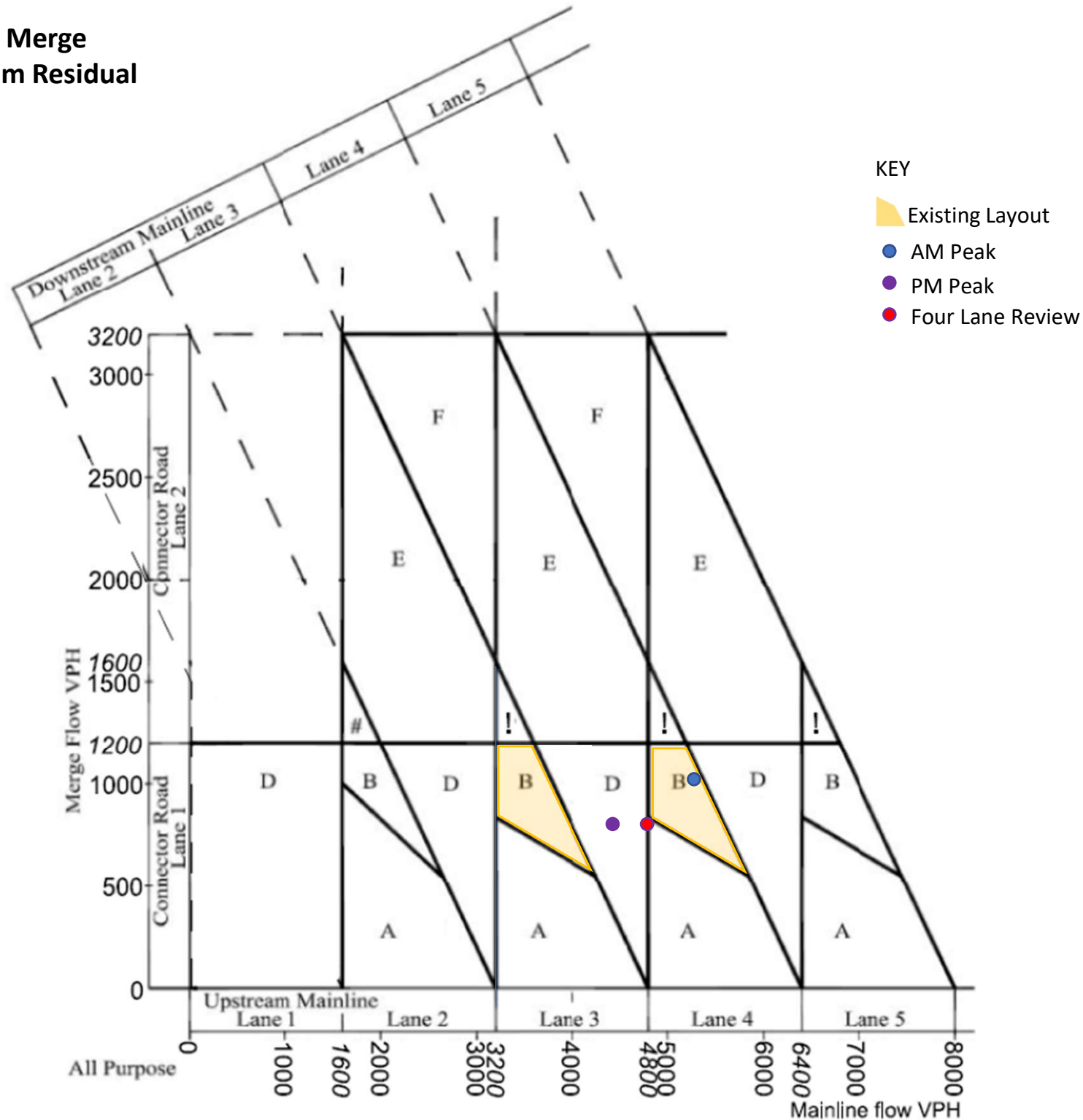
2028 Do Nothing



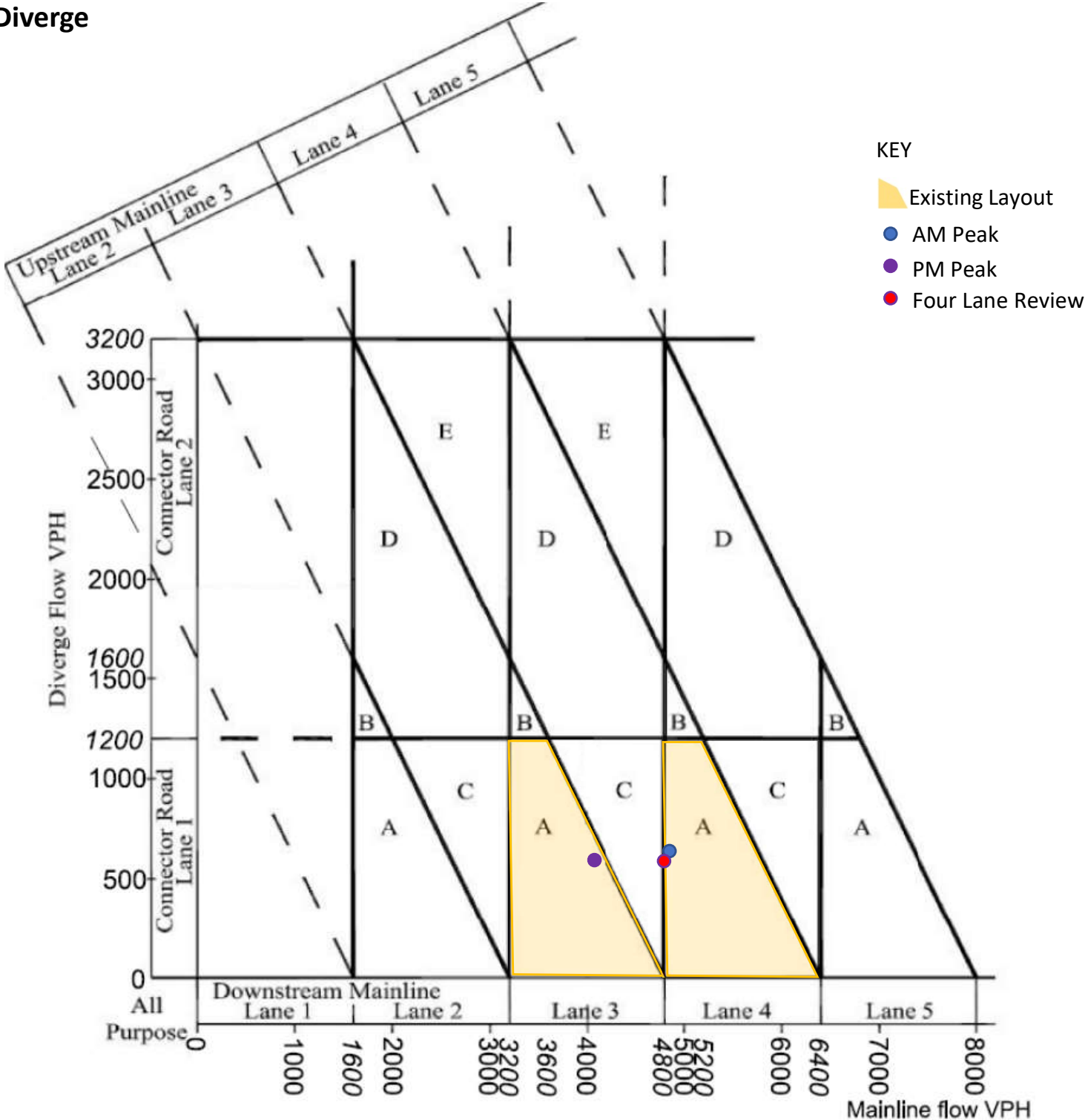
A2 Westbound – Merge
2028 Do Minimum



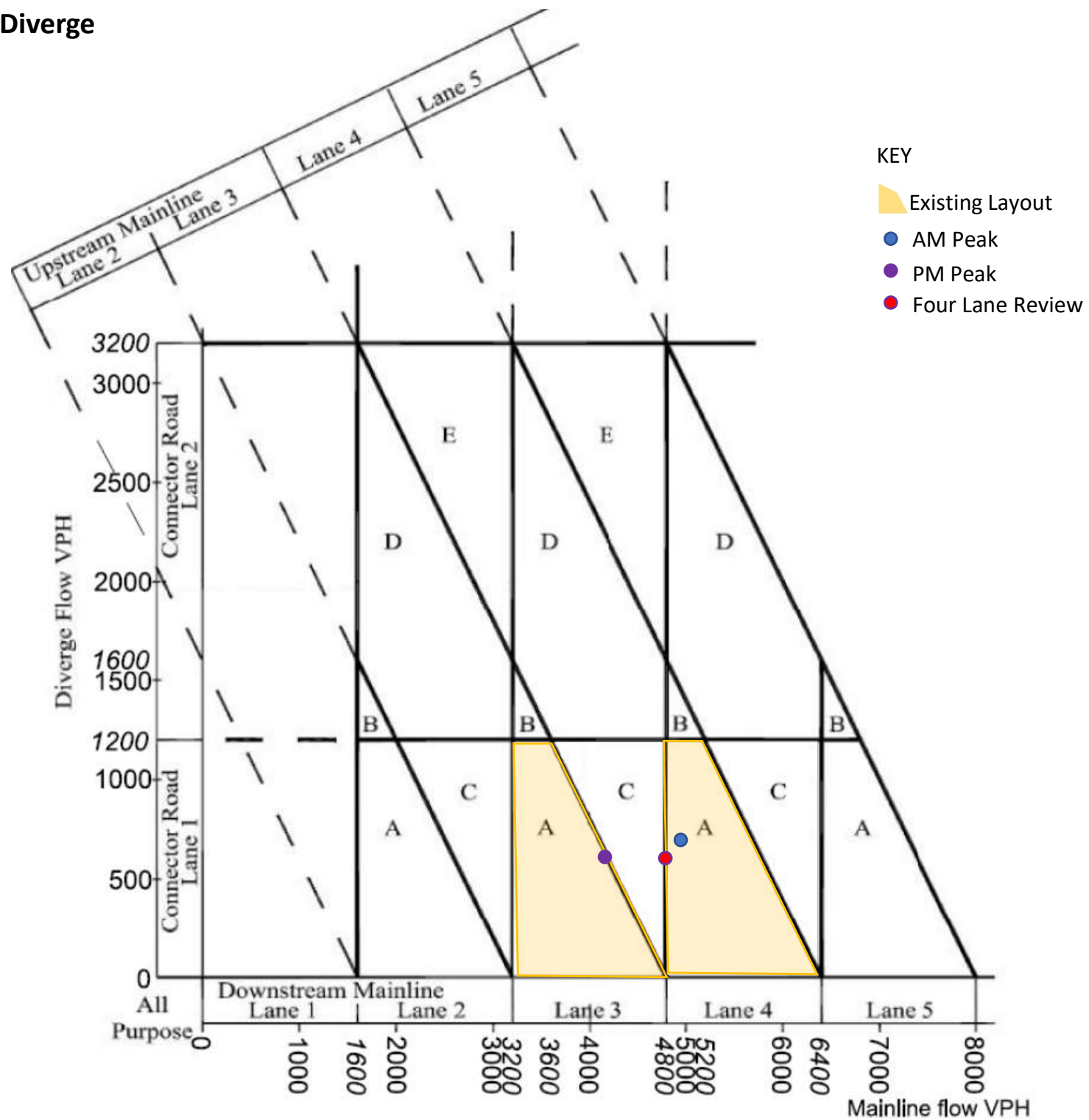
A2 Westbound – Merge
2028 Do Minimum Residual



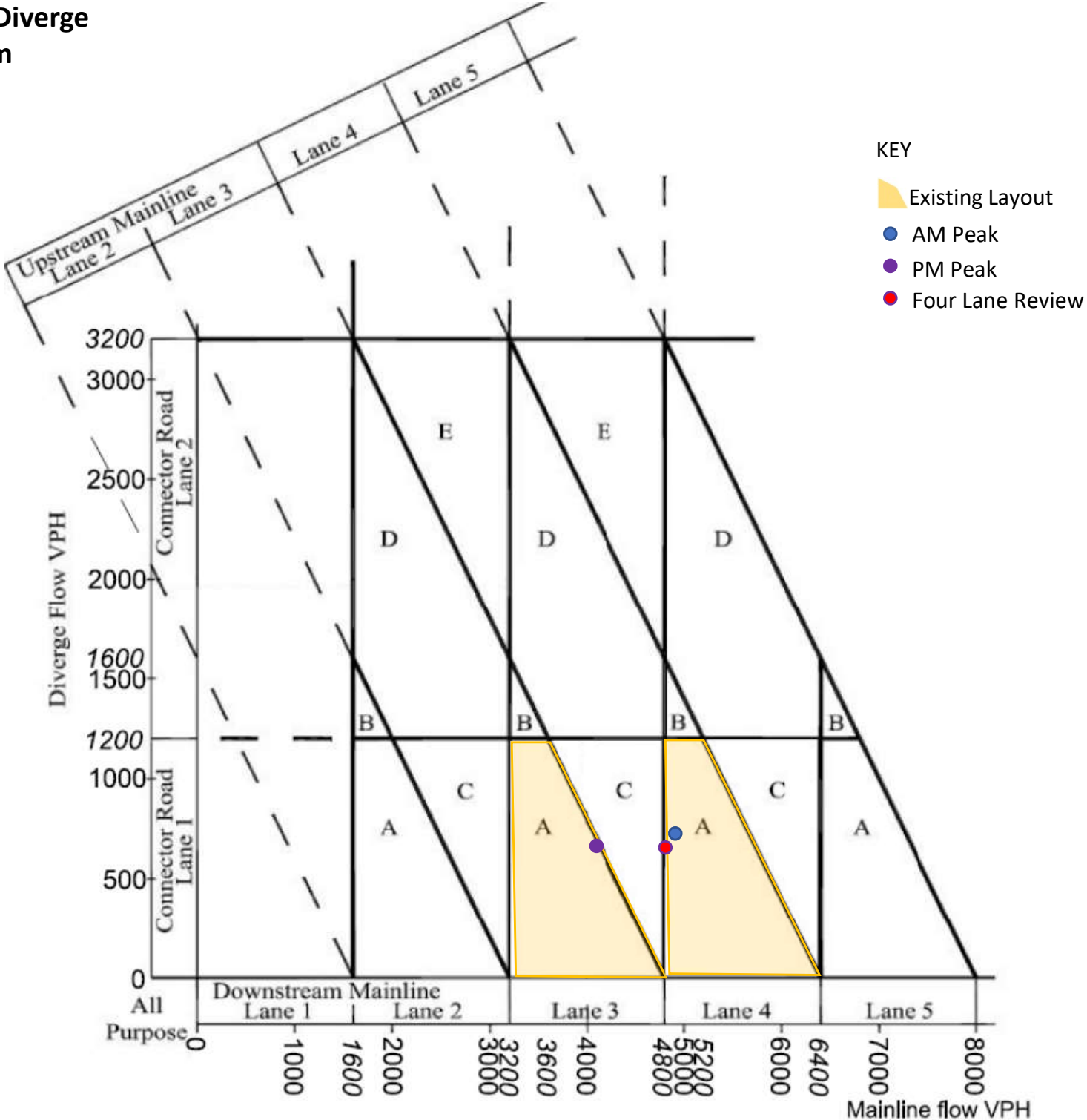
A2 Westbound – Diverge
2023 Base



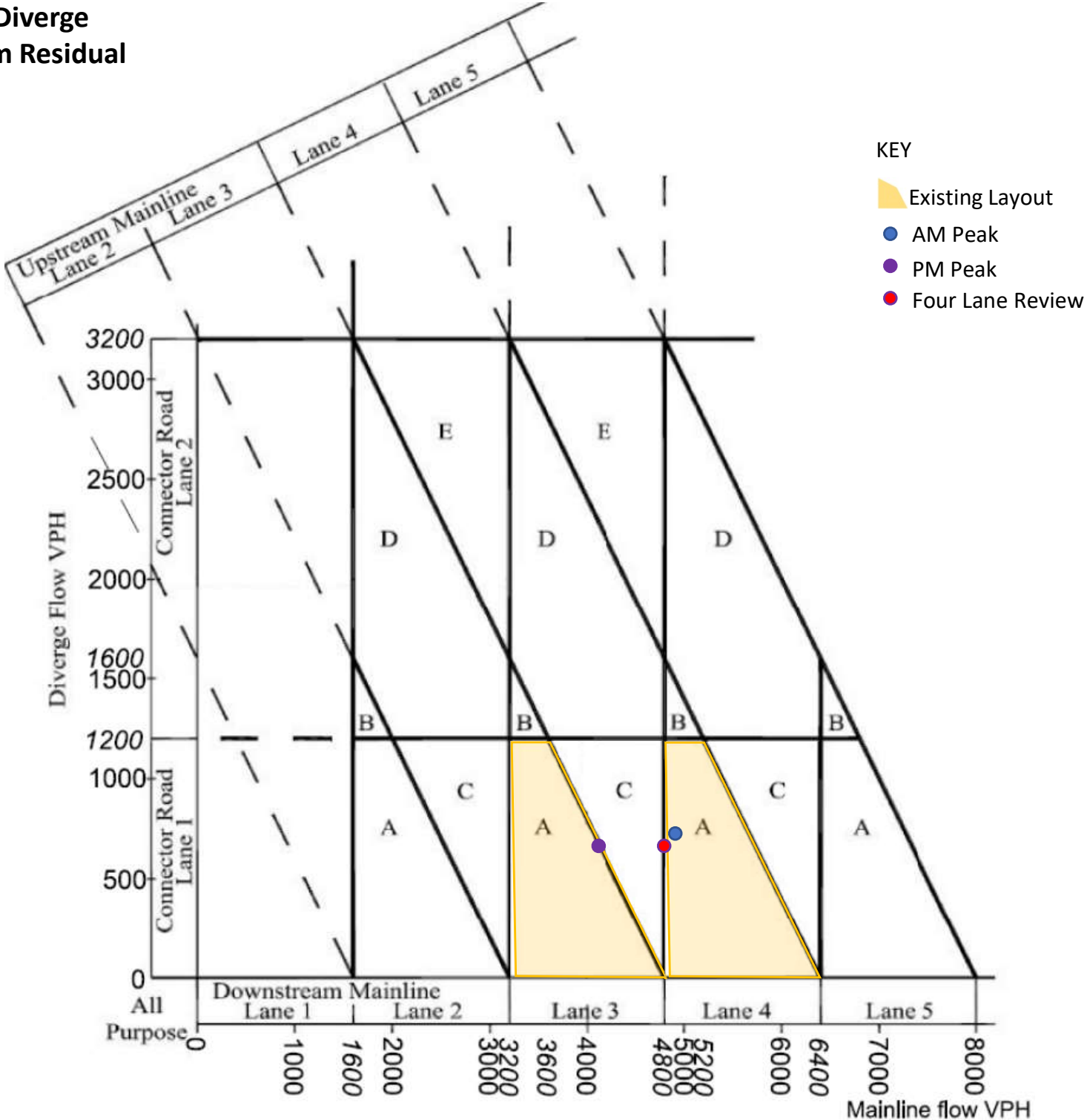
A2 Westbound – Diverge 2025 Do Nothing



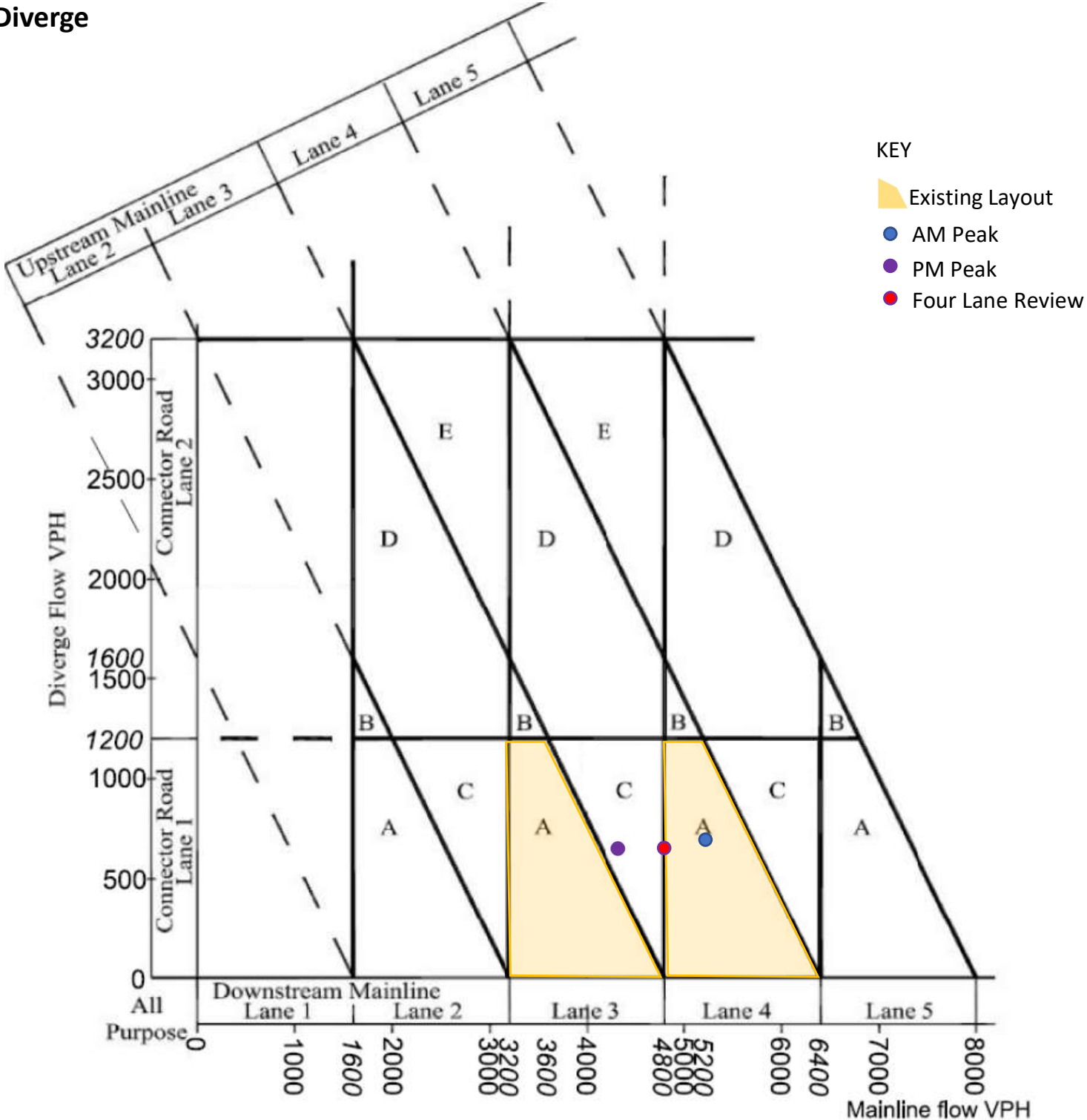
A2 Westbound – Diverge
2025 Do Minimum



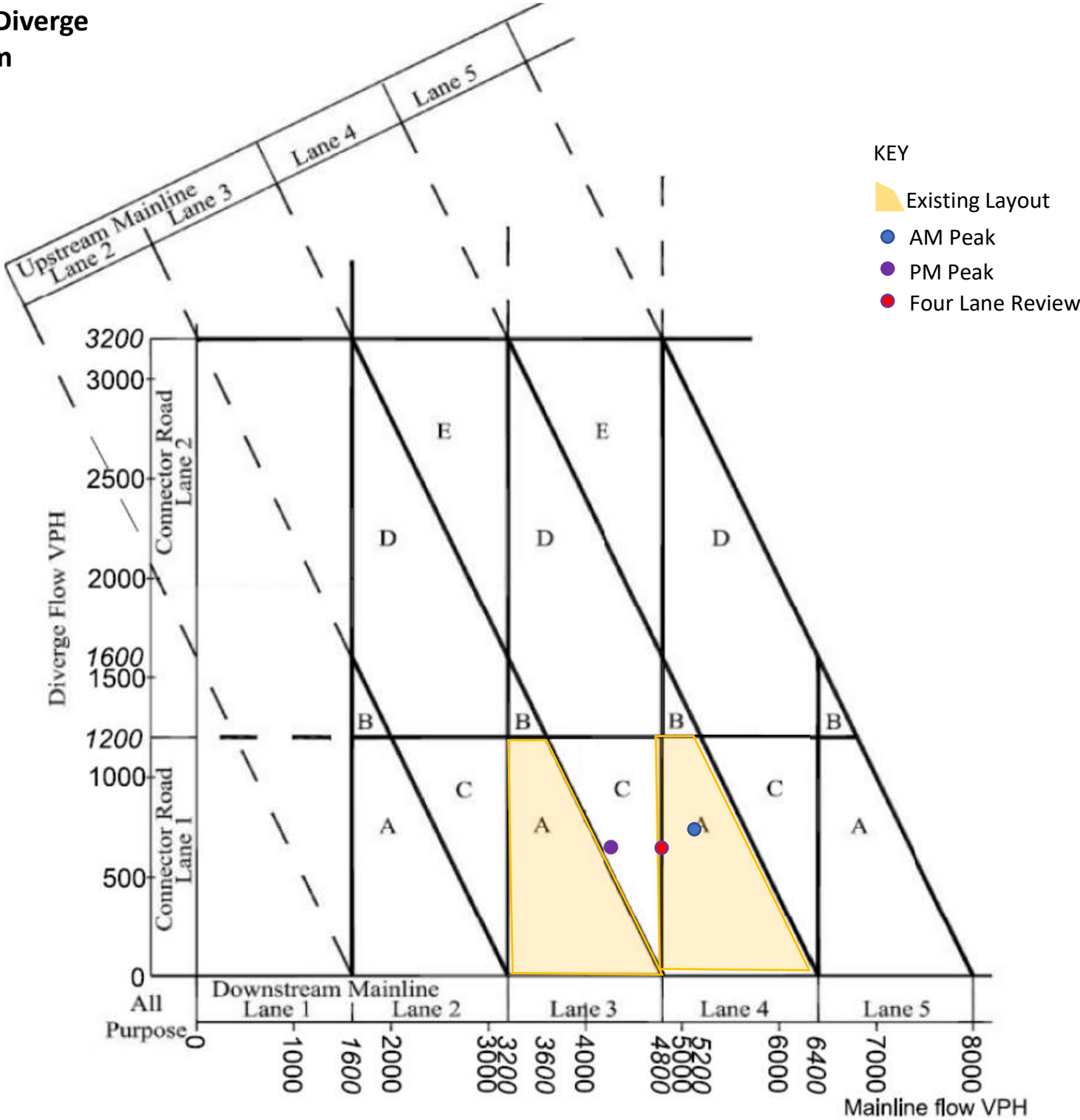
A2 Westbound – Diverge
2025 Do Minimum Residual



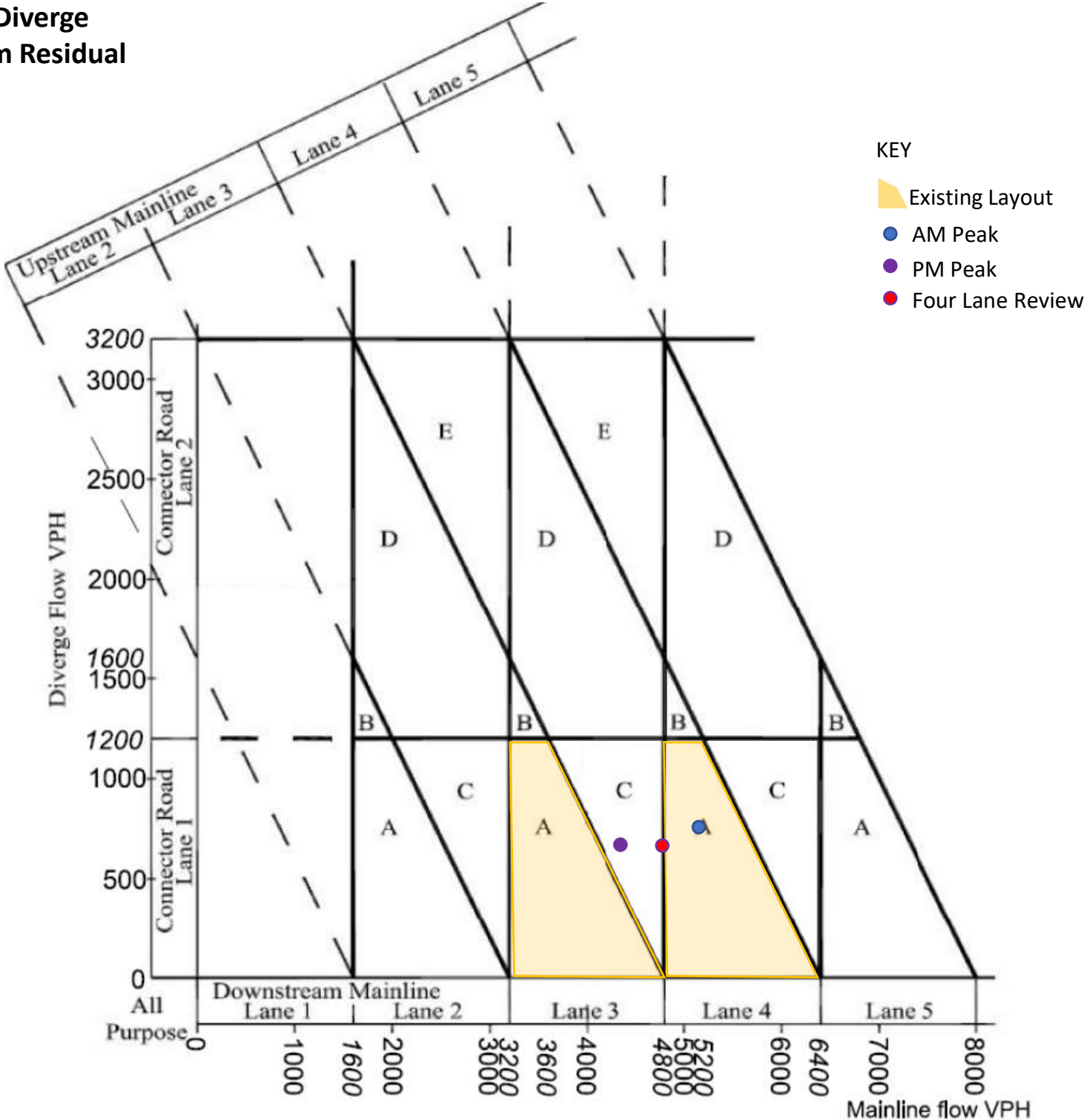
A2 Westbound – Diverge
2028 Do Nothing



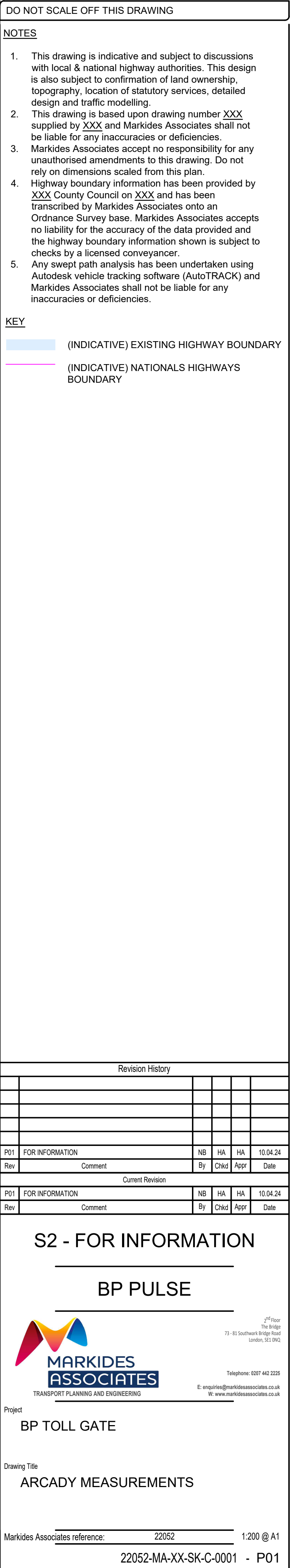
A2 Westbound – Diverge
2028 Do Minimum



A2 Westbound – Diverge
2028 Do Minimum Residual



APPENDIX L – IMPROVED SITE ACCESS DIMENSIONS



APPENDIX M - A227 WROTHAM ROAD / A2 EASTBOUND SLIP ROAD / SITE ACCESS ROUNDABOUT – MITIGATION ARCADY REPORT

Junctions 9										
ARCADY 9 - Roundabout Module										
Version: 9.5.1.7462 © Copyright TRL Limited, 2019										
For sales and distribution information, program advice and maintenance, contact TRL: +44 (0)1344 379777 software@trl.co.uk www.trlsoftware.co.uk										
The users of this computer program for the solution of an engineering problem are in no way relieved of their responsibility for the correctness of the solution										

Filename: A227_A2 EB Slips_Site Access RB Intercept SA Updates.j9

Path: M:\Projects\2022\22052 - BP Tollgate, Gravesend\07. Technical\07.02 Modelling\ARCADY

Report generation date: 15/10/2024 12:07:30

- »2025 Do Minimum, AM
- »2025 Do Minimum, PM
- »2025 Do Minimum Residual, AM
- »2025 Do Minimum Residual, PM
- »2028 Do Minimum, AM
- »2028 Do Minimum, PM
- »2028 Do Minimum Residual, AM
- »2028 Do Minimum Residual, PM

Summary of junction performance

	AM					PM				
	Set ID	Queue (Veh)	Delay (s)	RFC	LOS	Set ID	Queue (Veh)	Delay (s)	RFC	LOS
	2025 Do Minimum									
Arm A227N	D5	1.7	3.85	0.63	A	D6	1.5	3.70	0.60	A
Arm SA		0.2	5.44	0.15	A		0.2	5.76	0.17	A
Arm A227S		0.9	2.77	0.47	A		0.9	2.76	0.47	A
Arm A2OFF		0.6	3.10	0.39	A		2.2	5.91	0.69	A
	2025 Do Minimum Residual									
Arm A227N	D7	1.7	3.83	0.63	A	D8	1.5	3.67	0.60	A
Arm SA		0.2	5.40	0.13	A		0.2	5.69	0.16	A
Arm A227S		0.9	2.76	0.47	A		0.9	2.75	0.47	A
Arm A2OFF		0.6	3.09	0.38	A		2.1	5.78	0.68	A
	2028 Do Minimum									
Arm A227N	D11	2.1	4.41	0.67	A	D12	1.8	4.12	0.64	A
Arm SA		0.2	6.09	0.16	A		0.2	6.36	0.19	A
Arm A227S		1.0	2.86	0.49	A		1.0	2.87	0.49	A
Arm A2OFF		0.7	3.27	0.41	A		2.8	7.32	0.74	A
	2028 Do Minimum Residual									
Arm A227N	D13	2.0	4.39	0.67	A	D14	1.8	4.08	0.64	A
Arm SA		0.2	6.03	0.15	A		0.2	6.27	0.17	A
Arm A227S		1.0	2.85	0.49	A		1.0	2.86	0.49	A
Arm A2OFF		0.7	3.26	0.41	A		2.7	7.11	0.74	A

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle.

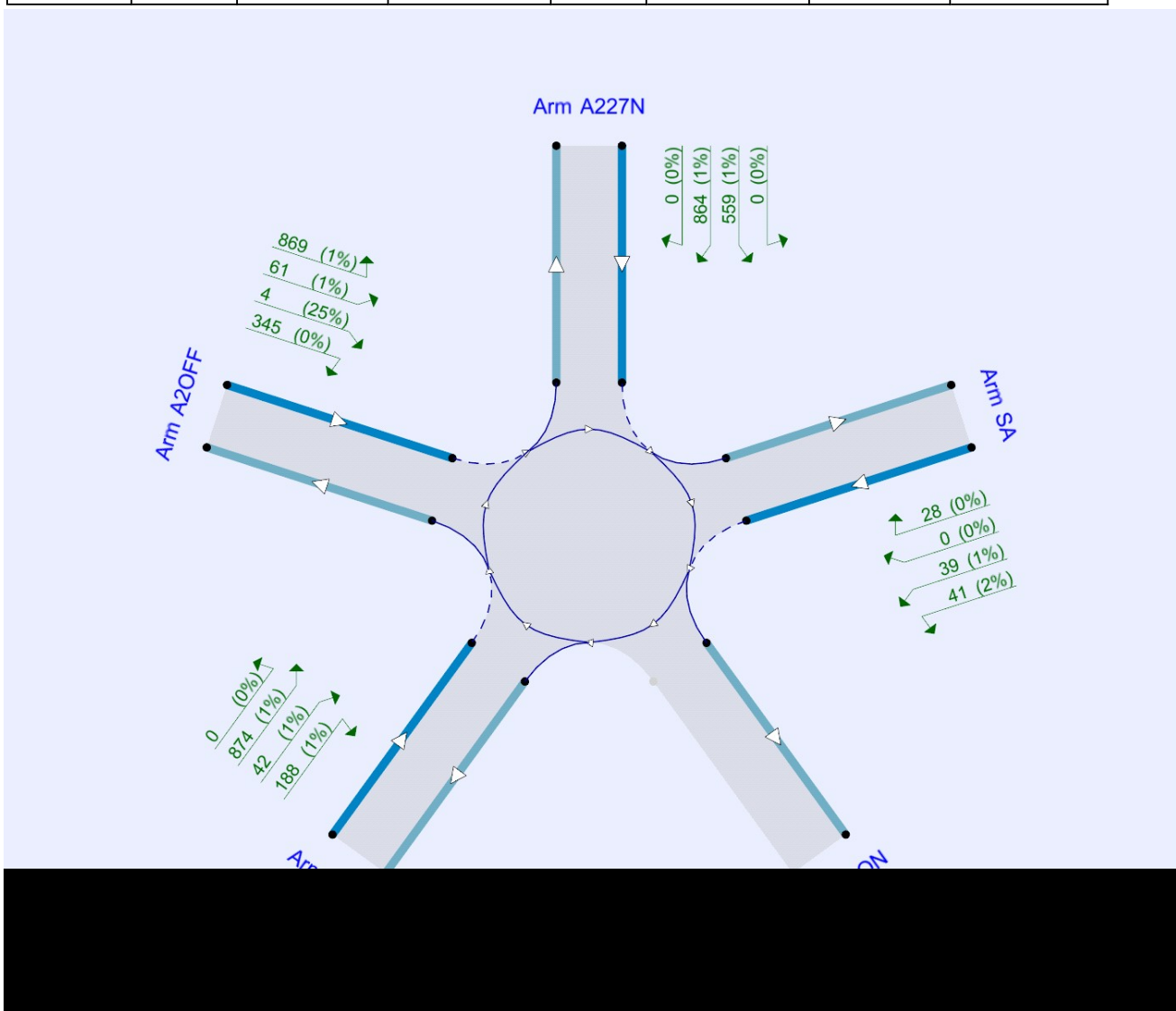
File summary

File Description

Title	
Location	
Site number	
Date	28/03/2023
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	MARKIDES\Markides Associates
Description	

Units

Distance units	Speed units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
m	kph	Veh	Veh	perHour	s	-Min	perMin



The junction diagram reflects the last run of Junctions.

Analysis Options

Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
5.75				0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D5	2025 Do Minimum	AM	ONE HOUR	07:45	09:15	15	✓
D6	2025 Do Minimum	PM	ONE HOUR	16:45	18:15	15	✓
D7	2025 Do Minimum Residual	AM	ONE HOUR	07:45	09:15	15	✓
D8	2025 Do Minimum Residual	PM	ONE HOUR	16:45	18:15	15	✓
D11	2028 Do Minimum	AM	ONE HOUR	07:45	09:15	15	✓
D12	2028 Do Minimum	PM	ONE HOUR	16:45	18:15	15	✓
D13	2028 Do Minimum Residual	AM	ONE HOUR	07:45	09:15	15	✓
D14	2028 Do Minimum Residual	PM	ONE HOUR	16:45	18:15	15	✓

Analysis Set Details

ID	Include in report	Network flow scaling factor (%)	Network capacity scaling factor (%)
A1	✓	100.000	100.000

2025 Do Minimum, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	A227 / A2 EB Slips / Site Access RB	Standard Roundabout		A227N, SA, A2ON, A227S, A2OFF	3.40	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description
A227N	A227 Wrotham Road (N)	
SA	Site Access	
A2ON	A2 EB On Slip	
A227S	A227 Wrotham Road (S)	
A2OFF	A2 EB Off Slip	

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit only
A227N	4.60	9.30	22.1	48.8	63.9	50.0	
SA	5.51	8.49	6.7	12.4	63.9	41.0	
A2ON							✓
A227S	7.10	9.30	17.9	31.1	63.9	47.0	
A2OFF	7.00	10.20	17.9	40.0	63.9	24.0	

Slope / Intercept / Capacity

Arm Intercept Adjustments

Arm	Type	Reason	Direct intercept adjustment (PCU/hr)
A227N	Direct	Queue Survey	750
SA	None		
A2ON			
A227S	None		
A2OFF	None		

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
A227N	0.600	2900
SA	0.552	1903
A2ON		
A227S	0.662	2521
A2OFF	0.741	2862

The slope and intercept shown above include any corrections and adjustments.

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D5	2025 Do Minimum	AM	ONE HOUR	07:45	09:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A227N		ONE HOUR	✓	1432	100.000
SA		ONE HOUR	✓	105	100.000
A20N					
A227S		ONE HOUR	✓	1061	100.000
A20FF		ONE HOUR	✓	662	100.000

Origin-Destination Data

Demand (Veh/hr)

	To					
		A227N	SA	A20N	A227S	A20FF
From	A227N	0	28	442	962	0
	SA	0	0	43	62	0
	A20N	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	A227S	816	53	191	1	0
	A20FF	459	32	2	169	0

Vehicle Mix

Heavy Vehicle Percentages

	To					
		A227N	SA	A20N	A227S	A20FF
From	A227N	0	0	2	4	0
	SA	0	0	2	2	0
	A20N	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	A227S	2	3	2	100	0
	A20FF	5	3	0	4	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
A227N	0.63	3.85	1.7	A	1314	1971
SA	0.15	5.44	0.2	A	96	145
A20N						
A227S	0.47	2.77	0.9	A	974	1460
A20FF	0.39	3.10	0.6	A	607	911

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	1078	270	336	2606	0.414	1075	958	0.0	0.7	2.348	A
SA	79	20	1327	1123	0.070	79	85	0.0	0.1	3.446	A
A2ON			897				509				
A227S	799	200	0	2468	0.324	797	897	0.0	0.5	2.153	A
A2OFF	498	125	797	2159	0.231	497	0	0.0	0.3	2.165	A

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	1287	322	402	2566	0.502	1286	1145	0.7	1.0	2.809	A
SA	94	24	1587	978	0.097	94	102	0.1	0.1	4.074	A
A2ON			1072				609				
A227S	954	238	0	2468	0.387	953	1072	0.5	0.6	2.375	A
A2OFF	595	149	953	2046	0.291	595	0	0.3	0.4	2.480	A

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	1577	394	493	2512	0.628	1574	1402	1.0	1.7	3.826	A
SA	116	29	1942	779	0.148	115	124	0.1	0.2	5.422	A
A2ON			1312				745				
A227S	1168	292	0	2468	0.473	1167	1312	0.6	0.9	2.765	A
A2OFF	729	182	1167	1891	0.385	728	0	0.4	0.6	3.093	A

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	1577	394	493	2512	0.628	1577	1404	1.7	1.7	3.849	A
SA	116	29	1945	777	0.149	116	124	0.2	0.2	5.439	A
A2ON			1315				746				
A227S	1168	292	0	2468	0.473	1168	1315	0.9	0.9	2.769	A
A2OFF	729	182	1168	1890	0.386	729	0	0.6	0.6	3.098	A

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	1287	322	403	2566	0.502	1290	1148	1.7	1.0	2.829	A
SA	94	24	1592	975	0.097	95	102	0.2	0.1	4.088	A
A2ON			1076				611				
A227S	954	238	0	2468	0.387	955	1076	0.9	0.6	2.380	A
A2OFF	595	149	955	2045	0.291	596	0	0.6	0.4	2.487	A

09:00 - 09:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	1078	270	338	2605	0.414	1079	961	1.0	0.7	2.360	A
SA	79	20	1332	1121	0.071	79	85	0.1	0.1	3.458	A
A2ON			900				511				
A227S	799	200	0	2468	0.324	799	900	0.6	0.5	2.158	A
A2OFF	498	125	799	2157	0.231	499	0	0.4	0.3	2.171	A

2025 Do Minimum, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	A227 / A2 EB Slips / Site Access RB	Standard Roundabout		A227N, SA, A2ON, A227S, A2OFF	4.22	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D6	2025 Do Minimum	PM	ONE HOUR	16:45	18:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A227N		ONE HOUR	✓	1346	100.000
SA		ONE HOUR	✓	117	100.000
A2ON					
A227S		ONE HOUR	✓	1063	100.000
A2OFF		ONE HOUR	✓	1205	100.000

Origin-Destination Data

Demand (Veh/hr)

	To					
		A227N	SA	A2ON	A227S	A2OFF
From	A227N	0	0	539	807	0
	SA	28	0	46	43	0
	A2ON	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	A227S	832	47	183	1	0
	A2OFF	801	70	4	330	0

Vehicle Mix

Heavy Vehicle Percentages

	To					
		A227N	SA	A2ON	A227S	A2OFF
From	A227N	0	0	1	1	0
	SA	0	0	1	1	0
	A2ON	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	A227S	1	1	1	0	0
	A2OFF	2	1	25	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
A227N	0.60	3.70	1.5	A	1235	1853
SA	0.17	5.76	0.2	A	107	161
A2ON						
A227S	0.47	2.76	0.9	A	975	1463
A2OFF	0.69	5.91	2.2	A	1106	1659

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	1013	253	477	2586	0.392	1011	1247	0.0	0.6	2.280	A
SA	88	22	1400	1115	0.079	88	88	0.0	0.1	3.505	A
A2ON			908				580				
A227S	800	200	21	2482	0.322	798	887	0.0	0.5	2.137	A
A2OFF	907	227	819	2216	0.409	904	0	0.0	0.7	2.738	A

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	1210	303	570	2531	0.478	1209	1492	0.6	0.9	2.721	A
SA	105	26	1674	963	0.109	105	105	0.1	0.1	4.195	A
A2ON			1086				693				
A227S	956	239	25	2479	0.385	955	1061	0.5	0.6	2.360	A
A2OFF	1083	271	980	2098	0.516	1082	0	0.7	1.1	3.538	A

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	1482	370	697	2454	0.604	1480	1825	0.9	1.5	3.683	A
SA	129	32	2049	756	0.170	128	129	0.1	0.2	5.733	A
A2ON			1328				849				
A227S	1170	293	31	2475	0.473	1169	1298	0.6	0.9	2.753	A
A2OFF	1327	332	1200	1936	0.685	1322	0	1.1	2.1	5.828	A

17:30 - 17:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	1482	370	699	2453	0.604	1482	1829	1.5	1.5	3.704	A
SA	129	32	2052	754	0.171	129	129	0.2	0.2	5.757	A
A2ON			1331				850				
A227S	1170	293	31	2475	0.473	1170	1300	0.9	0.9	2.758	A
A2OFF	1327	332	1201	1935	0.686	1327	0	2.1	2.2	5.915	A

17:45 - 18:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	1210	303	573	2529	0.478	1212	1497	1.5	0.9	2.740	A
SA	105	26	1679	960	0.110	106	105	0.2	0.1	4.213	A
A2ON			1090				695				
A227S	956	239	25	2479	0.385	957	1064	0.9	0.6	2.365	A
A2OFF	1083	271	982	2097	0.517	1088	0	2.2	1.1	3.584	A

18:00 - 18:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	1013	253	479	2585	0.392	1014	1252	0.9	0.6	2.292	A
SA	88	22	1405	1112	0.079	88	88	0.1	0.1	3.516	A
A2ON			911				582				
A227S	800	200	21	2482	0.322	801	890	0.6	0.5	2.142	A
A2OFF	907	227	822	2214	0.410	909	0	1.1	0.7	2.759	A

2025 Do Minimum Residual, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	A227 / A2 EB Slips / Site Access RB	Standard Roundabout		A227N, SA, A2ON, A227S, A2OFF	3.38	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D7	2025 Do Minimum Residual	AM	ONE HOUR	07:45	09:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A227N		ONE HOUR	✓	1432	100.000
SA		ONE HOUR	✓	94	100.000
A2ON					
A227S		ONE HOUR	✓	1058	100.000
A2OFF		ONE HOUR	✓	659	100.000

Origin-Destination Data

Demand (Veh/hr)

	To					
		A227N	SA	A2ON	A227S	A2OFF
From	A227N	0	28	442	962	0
	SA	0	0	39	55	0
	A2ON	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	A227S	816	50	191	1	0
	A2OFF	459	29	2	169	0

Vehicle Mix

Heavy Vehicle Percentages

	To					
		A227N	SA	A2ON	A227S	A2OFF
From	A227N	0	0	2	4	0
	SA	0	0	3	3	0
	A2ON	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	A227S	2	3	2	100	0
	A2OFF	5	4	0	4	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
A227N	0.63	3.83	1.7	A	1314	1971
SA	0.13	5.40	0.2	A	86	129
A2ON						
A227S	0.47	2.76	0.9	A	971	1456
A2OFF	0.38	3.09	0.6	A	605	907

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	1078	270	332	2608	0.413	1075	958	0.0	0.7	2.344	A
SA	71	18	1327	1112	0.064	70	80	0.0	0.1	3.455	A
A2ON			891				506				
A227S	797	199	0	2468	0.323	795	891	0.0	0.5	2.150	A
A2OFF	496	124	795	2160	0.230	495	0	0.0	0.3	2.162	A

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	1287	322	397	2569	0.501	1286	1145	0.7	1.0	2.803	A
SA	85	21	1587	968	0.087	84	96	0.1	0.1	4.073	A
A2ON			1066				605				
A227S	951	238	0	2468	0.385	951	1066	0.5	0.6	2.371	A
A2OFF	592	148	951	2047	0.289	592	0	0.3	0.4	2.474	A

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	1577	394	486	2516	0.627	1574	1402	1.0	1.7	3.810	A
SA	103	26	1942	771	0.134	103	118	0.1	0.2	5.387	A
A2ON			1305				741				
A227S	1165	291	0	2468	0.472	1164	1305	0.6	0.9	2.758	A
A2OFF	726	181	1164	1893	0.383	725	0	0.4	0.6	3.081	A

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	1577	394	487	2516	0.627	1577	1404	1.7	1.7	3.833	A
SA	103	26	1945	770	0.134	103	118	0.2	0.2	5.402	A
A2ON			1307				742				
A227S	1165	291	0	2468	0.472	1165	1307	0.9	0.9	2.762	A
A2OFF	726	181	1165	1892	0.384	726	0	0.6	0.6	3.085	A

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	1287	322	398	2569	0.501	1290	1148	1.7	1.0	2.820	A
SA	85	21	1591	966	0.087	85	96	0.2	0.1	4.088	A
A2ON			1069				607				
A227S	951	238	0	2468	0.385	952	1069	0.9	0.6	2.378	A
A2OFF	592	148	952	2046	0.290	593	0	0.6	0.4	2.481	A

09:00 - 09:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	1078	270	333	2608	0.413	1079	961	1.0	0.7	2.358	A
SA	71	18	1332	1110	0.064	71	81	0.1	0.1	3.467	A
A2ON			895				508				
A227S	797	199	0	2468	0.323	797	895	0.6	0.5	2.155	A
A2OFF	496	124	797	2158	0.230	497	0	0.4	0.3	2.169	A

2025 Do Minimum Residual, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	A227 / A2 EB Slips / Site Access RB	Standard Roundabout		A227N, SA, A2ON, A227S, A2OFF	4.15	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D8	2025 Do Minimum Residual	PM	ONE HOUR	16:45	18:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A227N		ONE HOUR	✓	1346	100.000
SA		ONE HOUR	✓	108	100.000
A2ON					
A227S		ONE HOUR	✓	1058	100.000
A2OFF		ONE HOUR	✓	1196	100.000

Origin-Destination Data

Demand (Veh/hr)

	To					
		A227N	SA	A2ON	A227S	A2OFF
From	A227N	0	0	539	807	0
	SA	28	0	41	39	0
	A2ON	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	A227S	832	42	183	1	0
	A2OFF	801	61	4	330	0

Vehicle Mix

Heavy Vehicle Percentages

	To					
		A227N	SA	A2ON	A227S	A2OFF
From	A227N	0	0	1	1	0
	SA	0	0	2	1	0
	A2ON	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	A227S	1	1	1	0	0
	A2OFF	2	1	25	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
A227N	0.60	3.67	1.5	A	1235	1853
SA	0.16	5.69	0.2	A	99	149
A2ON						
A227S	0.47	2.75	0.9	A	971	1456
A2OFF	0.68	5.78	2.1	A	1097	1646

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	1013	253	466	2593	0.391	1011	1247	0.0	0.6	2.271	A
SA	81	20	1400	1111	0.073	81	77	0.0	0.1	3.495	A
A2ON			905				576				
A227S	797	199	21	2482	0.321	795	884	0.0	0.5	2.132	A
A2OFF	900	225	816	2219	0.406	898	0	0.0	0.7	2.718	A

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	1210	303	558	2538	0.477	1209	1492	0.6	0.9	2.705	A
SA	97	24	1674	960	0.101	97	92	0.1	0.1	4.173	A
A2ON			1082				689				
A227S	951	238	25	2479	0.384	951	1057	0.5	0.6	2.353	A
A2OFF	1075	269	976	2101	0.512	1074	0	0.7	1.0	3.499	A

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	1482	370	682	2464	0.602	1480	1825	0.9	1.5	3.649	A
SA	119	30	2049	753	0.158	119	113	0.1	0.2	5.669	A
A2ON			1324				843				
A227S	1165	291	31	2475	0.471	1164	1293	0.6	0.9	2.742	A
A2OFF	1317	329	1195	1940	0.679	1313	0	1.0	2.1	5.703	A

17:30 - 17:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	1482	370	684	2463	0.602	1482	1829	1.5	1.5	3.669	A
SA	119	30	2052	751	0.158	119	113	0.2	0.2	5.691	A
A2ON			1327				844				
A227S	1165	291	31	2475	0.471	1165	1296	0.9	0.9	2.746	A
A2OFF	1317	329	1196	1939	0.679	1317	0	2.1	2.1	5.783	A

17:45 - 18:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	1210	303	560	2537	0.477	1212	1497	1.5	0.9	2.722	A
SA	97	24	1679	957	0.101	97	93	0.2	0.1	4.191	A
A2ON			1086				691				
A227S	951	238	25	2479	0.384	952	1061	0.9	0.6	2.358	A
A2OFF	1075	269	977	2100	0.512	1079	0	2.1	1.1	3.540	A

18:00 - 18:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	1013	253	468	2592	0.391	1014	1252	0.9	0.6	2.283	A
SA	81	20	1405	1108	0.073	81	78	0.1	0.1	3.509	A
A2ON			908				578				
A227S	797	199	21	2482	0.321	797	887	0.6	0.5	2.139	A
A2OFF	900	225	818	2217	0.406	902	0	1.1	0.7	2.741	A

2028 Do Minimum, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	A227 / A2 EB Slips / Site Access RB	Standard Roundabout		A227N, SA, A2ON, A227S, A2OFF	3.74	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D11	2028 Do Minimum	AM	ONE HOUR	07:45	09:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A227N		ONE HOUR	✓	1532	100.000
SA		ONE HOUR	✓	105	100.000
A2ON					
A227S		ONE HOUR	✓	1097	100.000
A2OFF		ONE HOUR	✓	704	100.000

Origin-Destination Data

Demand (Veh/hr)

	To					
		A227N	SA	A2ON	A227S	A2OFF
From	A227N	0	28	464	1040	0
	SA	0	0	43	62	0
	A2ON	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	A227S	846	53	197	1	0
	A2OFF	493	32	2	177	0

Vehicle Mix

Heavy Vehicle Percentages

From	To					
		A227N	SA	A2ON	A227S	A2OFF
	A227N	0	0	2	4	0
	SA	0	0	2	2	0
	A2ON	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	A227S	2	3	2	100	0
	A2OFF	4	3	0	4	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
A227N	0.67	4.41	2.1	A	1406	2109
SA	0.16	6.09	0.2	A	96	145
A2ON						
A227S	0.49	2.86	1.0	A	1007	1510
A2OFF	0.41	3.27	0.7	A	646	969

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	1153	288	347	2599	0.444	1150	1006	0.0	0.8	2.479	A
SA	79	20	1412	1075	0.074	79	85	0.0	0.1	3.611	A
A2ON			961				530				
A227S	826	206	0	2468	0.335	824	961	0.0	0.5	2.187	A
A2OFF	530	133	824	2154	0.246	529	0	0.0	0.3	2.213	A

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	1377	344	415	2558	0.538	1376	1203	0.8	1.2	3.040	A
SA	94	24	1689	921	0.103	94	102	0.1	0.1	4.357	A
A2ON			1150				634				
A227S	986	247	0	2468	0.400	986	1150	0.5	0.7	2.427	A
A2OFF	633	158	986	2036	0.311	632	0	0.3	0.4	2.565	A

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	1687	422	508	2503	0.674	1683	1473	1.2	2.0	4.377	A
SA	116	29	2067	709	0.163	115	124	0.1	0.2	6.059	A
A2ON			1406				776				
A227S	1208	302	0	2468	0.489	1207	1406	0.7	1.0	2.852	A
A2OFF	775	194	1207	1875	0.413	774	0	0.4	0.7	3.267	A

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	1687	422	509	2502	0.674	1687	1474	2.0	2.1	4.414	A
SA	116	29	2071	707	0.164	116	124	0.2	0.2	6.086	A
A2ON			1409				777				
A227S	1208	302	0	2468	0.489	1208	1409	1.0	1.0	2.856	A
A2OFF	775	194	1208	1874	0.414	775	0	0.7	0.7	3.274	A

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	1377	344	416	2558	0.538	1381	1205	2.1	1.2	3.069	A
SA	94	24	1695	917	0.103	95	102	0.2	0.1	4.377	A
A2ON			1154				636				
A227S	986	247	0	2468	0.400	987	1154	1.0	0.7	2.435	A
A2OFF	633	158	987	2035	0.311	634	0	0.7	0.5	2.571	A

09:00 - 09:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	1153	288	348	2598	0.444	1155	1009	1.2	0.8	2.495	A
SA	79	20	1418	1072	0.074	79	85	0.1	0.1	3.627	A
A2ON			965				532				
A227S	826	206	0	2468	0.335	827	965	0.7	0.5	2.195	A
A2OFF	530	133	827	2152	0.246	531	0	0.5	0.3	2.222	A

2028 Do Minimum, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	A227 / A2 EB Slips / Site Access RB	Standard Roundabout		A227N, SA, A2ON, A227S, A2OFF	4.88	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D12	2028 Do Minimum	PM	ONE HOUR	16:45	18:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A227N		ONE HOUR	✓	1423	100.000
SA		ONE HOUR	✓	117	100.000
A2ON					
A227S		ONE HOUR	✓	1110	100.000
A2OFF		ONE HOUR	✓	1288	100.000

Origin-Destination Data

Demand (Veh/hr)

	To					
		A227N	SA	A2ON	A227S	A2OFF
From	A227N	0	0	559	864	0
	SA	28	0	46	43	0
	A2ON	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	A227S	874	47	188	1	0
	A2OFF	869	70	4	345	0

Vehicle Mix

Heavy Vehicle Percentages

From	To					
		A227N	SA	A2ON	A227S	A2OFF
A227N	0	0	1	1	0	
SA	0	0	1	1	0	
A2ON	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only	
A227S	1	1	1	0	0	
A2OFF	1	1	25	0	0	

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
A227N	0.64	4.12	1.8	A	1306	1959
SA	0.19	6.36	0.2	A	107	161
A2ON						
A227S	0.49	2.87	1.0	A	1019	1528
A2OFF	0.74	7.32	2.8	A	1182	1773

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	1071	268	492	2578	0.416	1068	1330	0.0	0.7	2.382	A
SA	88	22	1472	1075	0.082	88	88	0.0	0.1	3.648	A
A2ON			962				598				
A227S	836	209	21	2482	0.337	834	941	0.0	0.5	2.181	A
A2OFF	970	242	855	2205	0.440	967	0	0.0	0.8	2.900	A

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	1279	320	588	2520	0.508	1278	1590	0.7	1.0	2.896	A
SA	105	26	1761	915	0.115	105	105	0.1	0.1	4.442	A
A2ON			1150				716				
A227S	998	249	25	2479	0.403	997	1125	0.5	0.7	2.428	A
A2OFF	1158	289	1022	2080	0.557	1156	0	0.8	1.2	3.886	A

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	1567	392	719	2442	0.642	1564	1945	1.0	1.8	4.087	A
SA	129	32	2154	698	0.185	128	128	0.1	0.2	6.320	A
A2ON			1407				876				
A227S	1222	306	31	2475	0.494	1221	1376	0.7	1.0	2.867	A
A2OFF	1418	355	1252	1910	0.742	1412	0	1.2	2.8	7.135	A

17:30 - 17:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	1567	392	721	2440	0.642	1567	1950	1.8	1.8	4.120	A
SA	129	32	2159	695	0.185	129	129	0.2	0.2	6.357	A
A2ON			1410				877				
A227S	1222	306	31	2475	0.494	1222	1379	1.0	1.0	2.871	A
A2OFF	1418	355	1253	1909	0.743	1418	0	2.8	2.8	7.318	A

17:45 - 18:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	1279	320	591	2518	0.508	1282	1597	1.8	1.0	2.921	A
SA	105	26	1768	911	0.115	106	106	0.2	0.1	4.471	A
A2ON			1155				718				
A227S	998	249	25	2479	0.403	999	1130	1.0	0.7	2.435	A
A2OFF	1158	289	1024	2079	0.557	1164	0	2.8	1.3	3.963	A

18:00 - 18:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	1071	268	494	2576	0.416	1073	1335	1.0	0.7	2.397	A
SA	88	22	1478	1071	0.082	88	88	0.1	0.1	3.664	A
A2ON			966				601				
A227S	836	209	21	2482	0.337	836	945	0.7	0.5	2.188	A
A2OFF	970	242	857	2203	0.440	972	0	1.3	0.8	2.927	A

2028 Do Minimum Residual, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	A227 / A2 EB Slips / Site Access RB	Standard Roundabout		A227N, SA, A2ON, A227S, A2OFF	3.71	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D13	2028 Do Minimum Residual	AM	ONE HOUR	07:45	09:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A227N		ONE HOUR	✓	1532	100.000
SA		ONE HOUR	✓	94	100.000
A2ON					
A227S		ONE HOUR	✓	1094	100.000
A2OFF		ONE HOUR	✓	701	100.000

Origin-Destination Data

Demand (Veh/hr)

	To					
		A227N	SA	A2ON	A227S	A2OFF
From	A227N	0	28	464	1040	0
	SA	0	0	39	55	0
	A2ON	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	A227S	846	50	197	1	0
	A2OFF	493	29	2	177	0

Vehicle Mix

Heavy Vehicle Percentages

	To					
		A227N	SA	A2ON	A227S	A2OFF
From	A227N	0	0	2	4	0
	SA	0	0	3	3	0
	A2ON	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	A227S	2	3	2	100	0
	A2OFF	4	4	0	4	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
A227N	0.67	4.39	2.0	A	1406	2109
SA	0.15	6.03	0.2	A	86	129
A2ON						
A227S	0.49	2.85	1.0	A	1004	1506
A2OFF	0.41	3.26	0.7	A	643	965

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	1153	288	342	2602	0.443	1150	1006	0.0	0.8	2.475	A
SA	71	18	1412	1065	0.066	70	80	0.0	0.1	3.619	A
A2ON			956				527				
A227S	824	206	0	2468	0.334	822	956	0.0	0.5	2.184	A
A2OFF	528	132	822	2154	0.245	526	0	0.0	0.3	2.209	A

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	1377	344	410	2561	0.538	1376	1203	0.8	1.2	3.032	A
SA	85	21	1689	912	0.093	84	96	0.1	0.1	4.352	A
A2ON			1143				630				
A227S	983	246	0	2468	0.399	983	1143	0.5	0.7	2.423	A
A2OFF	630	158	983	2037	0.309	630	0	0.3	0.4	2.558	A

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	1687	422	502	2506	0.673	1683	1473	1.2	2.0	4.356	A
SA	103	26	2067	702	0.147	103	118	0.1	0.2	6.007	A
A2ON			1399				772				
A227S	1205	301	0	2468	0.488	1203	1399	0.7	0.9	2.844	A
A2OFF	772	193	1203	1877	0.411	771	0	0.4	0.7	3.252	A

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	1687	422	502	2506	0.673	1687	1474	2.0	2.0	4.394	A
SA	103	26	2071	700	0.148	103	118	0.2	0.2	6.033	A
A2ON			1402				773				
A227S	1205	301	0	2468	0.488	1205	1402	0.9	1.0	2.849	A
A2OFF	772	193	1205	1876	0.411	772	0	0.7	0.7	3.260	A

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	1377	344	410	2561	0.538	1381	1205	2.0	1.2	3.061	A
SA	85	21	1695	908	0.093	85	96	0.2	0.1	4.371	A
A2ON			1147				632				
A227S	983	246	0	2468	0.399	985	1147	1.0	0.7	2.428	A
A2OFF	630	158	985	2036	0.310	631	0	0.7	0.5	2.564	A

09:00 - 09:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	1153	288	344	2601	0.443	1155	1009	1.2	0.8	2.491	A
SA	71	18	1418	1062	0.067	71	81	0.1	0.1	3.631	A
A2ON			960				529				
A227S	824	206	0	2468	0.334	824	960	0.7	0.5	2.192	A
A2OFF	528	132	824	2152	0.245	528	0	0.5	0.3	2.216	A

2028 Do Minimum Residual, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	A227 / A2 EB Slips / Site Access RB	Standard Roundabout		A227N, SA, A2ON, A227S, A2OFF	4.78	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D14	2028 Do Minimum Residual	PM	ONE HOUR	16:45	18:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A227N		ONE HOUR	✓	1423	100.000
SA		ONE HOUR	✓	108	100.000
A2ON					
A227S		ONE HOUR	✓	1105	100.000
A2OFF		ONE HOUR	✓	1279	100.000

Origin-Destination Data

Demand (Veh/hr)

	To					
		A227N	SA	A2ON	A227S	A2OFF
From	A227N	0	0	559	864	0
	SA	28	0	41	39	0
	A2ON	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only
	A227S	874	42	188	1	0
	A2OFF	869	61	4	345	0

Vehicle Mix

Heavy Vehicle Percentages

From	To					
		A227N	SA	A2ON	A227S	A2OFF
A227N	0	0	1	1	0	
SA	0	0	2	1	0	
A2ON	Exit-only	Exit-only	Exit-only	Exit-only	Exit-only	
A227S	1	1	1	0	0	
A2OFF	1	1	25	0	0	

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
A227N	0.64	4.08	1.8	A	1306	1959
SA	0.17	6.27	0.2	A	99	149
A2ON						
A227S	0.49	2.86	1.0	A	1014	1521
A2OFF	0.74	7.11	2.7	A	1174	1760

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	1071	268	481	2584	0.415	1068	1330	0.0	0.7	2.372	A
SA	81	20	1472	1071	0.076	81	77	0.0	0.1	3.637	A
A2ON			959				595				
A227S	832	208	21	2482	0.335	830	938	0.0	0.5	2.176	A
A2OFF	963	241	851	2208	0.436	960	0	0.0	0.8	2.877	A

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	1279	320	576	2527	0.506	1278	1590	0.7	1.0	2.879	A
SA	97	24	1761	912	0.106	97	92	0.1	0.1	4.418	A
A2ON			1147				711				
A227S	993	248	25	2479	0.401	993	1122	0.5	0.7	2.420	A
A2OFF	1150	287	1018	2084	0.552	1148	0	0.8	1.2	3.840	A

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	1567	392	704	2451	0.639	1564	1945	1.0	1.8	4.046	A
SA	119	30	2154	695	0.171	119	113	0.1	0.2	6.239	A
A2ON			1402				871				
A227S	1217	304	31	2475	0.491	1215	1372	0.7	1.0	2.854	A
A2OFF	1408	352	1246	1914	0.736	1402	0	1.2	2.7	6.949	A

17:30 - 17:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	1567	392	706	2450	0.640	1567	1950	1.8	1.8	4.077	A
SA	119	30	2159	693	0.172	119	113	0.2	0.2	6.274	A
A2ON			1406				872				
A227S	1217	304	31	2475	0.491	1217	1375	1.0	1.0	2.859	A
A2OFF	1408	352	1247	1913	0.736	1408	0	2.7	2.7	7.115	A

17:45 - 18:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	1279	320	578	2526	0.506	1282	1597	1.8	1.0	2.903	A
SA	97	24	1768	908	0.107	97	93	0.2	0.1	4.443	A
A2ON			1152				713				
A227S	993	248	25	2479	0.401	995	1126	1.0	0.7	2.428	A
A2OFF	1150	287	1020	2082	0.552	1156	0	2.7	1.2	3.909	A

18:00 - 18:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	1071	268	483	2583	0.415	1073	1335	1.0	0.7	2.385	A
SA	81	20	1478	1068	0.076	81	78	0.1	0.1	3.650	A
A2ON			963				597				
A227S	832	208	21	2482	0.335	833	942	0.7	0.5	2.185	A
A2OFF	963	241	854	2206	0.437	965	0	1.2	0.8	2.905	A

APPENDIX N - A227 WROTHAM ROAD / A2 WESTBOUND SLIP ROAD ROUNDABOUT – MITIGATION ARCADY REPORT

Junctions 9				
ARCADY 9 - Roundabout Module				
Version: 9.5.1.7462 © Copyright TRL Limited, 2019				
For sales and distribution information, program advice and maintenance, contact TRL: +44 (0)1344 379777 software@trl.co.uk www.trlsoftware.co.uk				
The users of this computer program for the solution of an engineering problem are in no way relieved of their responsibility for the correctness of the solution				

Filename: A227_A2 WB Slips RB Lane Sim Mitigation.j9
Path: M:\Projects\2022\22052 - BP Tollgate, Gravesend\07. Technical\07.02 Modelling\ARCADY
Report generation date: 15/10/2024 13:38:34

»2025 Do Minimum, AM
 »2025 Do Minimum, PM
 »2025 Do Minimum Residual, AM
 »2025 Do Minimum Residual, PM
 »2028 Do Minimum, AM
 »2028 Do Minimum, PM
 »2028 Do Minimum Residual, AM
 »2028 Do Minimum Residual, PM

Summary of junction performance

	AM					PM				
	Set ID	Queue (Veh)	Delay (s)	RFC	LOS	Set ID	Queue (Veh)	Delay (s)	RFC	LOS
	[Lane Simulation] - 2025 Do Minimum									
Arm A227N	D5	3.7	9.87		A	D6	2.2	6.03		A
Arm A2OFF		3.4	14.23		B		2.8	11.56		B
Arm A227S		4.5	18.23		C		2.8	9.87		A
	[Lane Simulation] - 2025 Do Minimum Residual									
Arm A227N	D7	3.6	9.82		A	D8	2.3	5.98		A
Arm A2OFF		3.0	13.07		B		2.5	10.63		B
Arm A227S		4.3	15.00		C		2.8	9.96		A
	[Lane Simulation] - 2028 Do Minimum									
Arm A227N	D11	5.0	11.25		B	D12	2.6	6.59		A
Arm A2OFF		4.7	18.64		C		3.6	12.90		B
Arm A227S		5.9	23.26		C		3.8	12.00		B
	[Lane Simulation] - 2028 Do Minimum Residual									
Arm A227N	D13	4.3	11.11		B	D14	2.6	6.59		A
Arm A2OFF		4.3	16.80		C		2.6	12.37		B
Arm A227S		5.7	22.61		C		3.2	11.39		B

There are warnings associated with one or more model runs - see the 'Data Errors and Warnings' tables for each Analysis or Demand Set.

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle. Arm and junction delays are averages for all movements, including movements with zero delay.

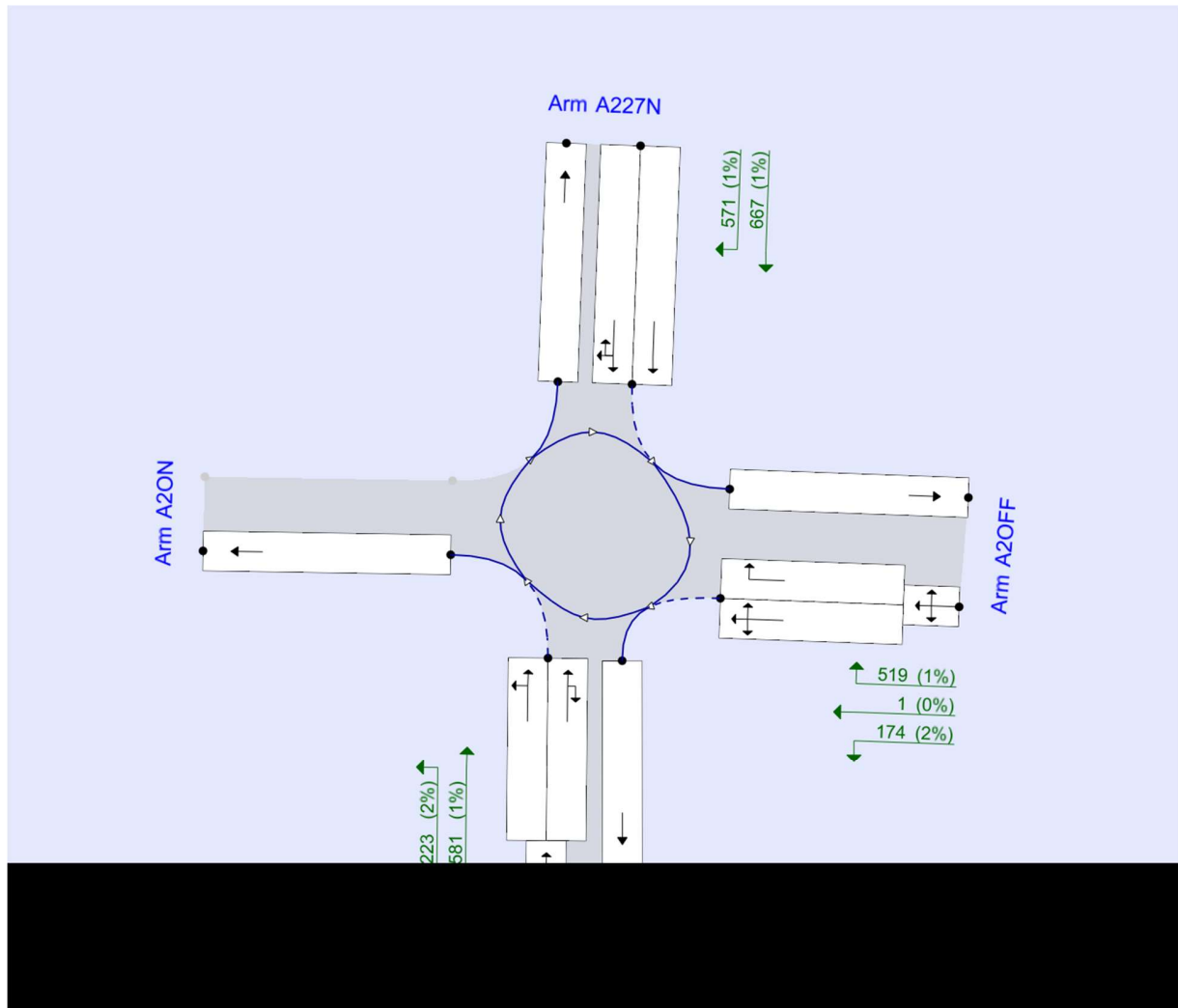
File summary

File Description

Title	
Location	
Site number	
Date	28/03/2023
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	MARKIDES\Markides Associates
Description	

Units

Distance units	Speed units	Traffic units input	Traffic units results	Flow units	Average delay units	Total delay units	Rate of delay units
m	kph	Veh	Veh	perHour	s	-Min	perMin



The junction diagram reflects the last run of Junctions.

Analysis Options

Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
5.75				0.85	36.00	20.00

Lane Simulation options

Criteria type	Stop criteria (%)	Stop criteria time (s)	Stop criteria number of trials	Random seed	Results refresh speed (s)	Individual vehicle animation number of trials	Average animation capture interval (s)	Use quick response	Do flow sampling	Suppress automatic lane creation	Last run random seed	Last run number of trials	Last run time taken (s)
Delay	1.00	100000	100000	-1	3	1	60	✓			270072855	72	8.74

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D5	2025 Do Minimum	AM	ONE HOUR	07:45	09:15	15	✓

D6	2025 Do Minimum	PM	ONE HOUR	16:45	18:15	15	✓
D7	2025 Do Minimum Residual	AM	ONE HOUR	07:45	09:15	15	✓
D8	2025 Do Minimum Residual	PM	ONE HOUR	16:45	18:15	15	✓
D11	2028 Do Minimum	AM	ONE HOUR	07:45	09:15	15	✓
D12	2028 Do Minimum	PM	ONE HOUR	16:45	18:15	15	✓
D13	2028 Do Minimum Residual	AM	ONE HOUR	07:45	09:15	15	✓
D14	2028 Do Minimum Residual	PM	ONE HOUR	16:45	18:15	15	✓

Analysis Set Details

ID	Use Lane Simulation	Include in report	Network flow scaling factor (%)	Network capacity scaling factor (%)
A1	✓	✓	100.000	100.000

2025 Do Minimum, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Lane Simulation	A1 - [Lane Simulation]	This analysis set uses Lane Simulation mode. This is provided as an investigative tool and the user should apply judgement when interpreting the results.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	A227 / A2 WB Slip Roads RB	Standard Roundabout		A227N, A2OFF, A227S, A2ON	13.42	B

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description
A227N	A227 Wrotham Road (N)	
A2OFF	A2 WB Off Slip	
A227S	A227 Wrotham Road (S)	
A2ON	A2 WB On Slip	

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit only
A227N	7.60	8.10	6.9	20.8	59.9	36.0	
A2OFF	6.10	8.50	10.2	19.1	59.9	60.0	
A227S	4.90	9.20	22.2	24.1	59.9	49.0	
A2ON							✓

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
A227N	0.671	2380
A2OFF	0.586	2022
A227S	0.622	2157
A2ON		

The slope and intercept shown above include any corrections and adjustments.

Lane Simulation: Arm options

Arm	Lane capacity source	Traffic considering secondary lanes (%)
A227N	Evenly split	10.00
A2OFF	Evenly split	10.00
A227S	Evenly split	10.00
A2ON	Evenly split	10.00

Lanes

Arm	Side	Lane level	Lane	Destination arms	Has limited storage	Storage (PCU)	Has bottleneck	Minimum capacity (PCU/hr)	Maximum capacity (PCU/hr)	Signalised
A227N	Entry	1	1	A227S		Infinity		0	99999	
			2	A227N, A227S, A2ON		Infinity		0	99999	
	Exit	1	1			Infinity				
A2OFF	Entry	1	1	A227N, A227S, A2ON	✓	4.00		0	99999	
			2	A227N	✓	4.00		0	99999	
		2	1	(A227N, A227S, A2ON)		Infinity				
	Exit	1	1			Infinity				
A227S	Entry	1	1	A227N, A2ON	✓	4.00		0	99999	
			2	A227N, A227S	✓	4.00		0	99999	
		2	1	(A227N, A2OFF, A227S, A2ON)		Infinity				
	Exit	1	1			Infinity				
A2ON	Exit	1	1			Infinity				

Entry Lane slope and intercept

Arm	Side	Lane level	Lane	Final slope	Final intercept (PCU/hr)
A227N	Entry	1	1	0.335	1190
			2	0.335	1190
A2OFF	Entry	1	1	0.293	1011
			2	0.293	1011
A227S	Entry	1	1	0.311	1079
			2	0.311	1079

Summary of Entry Lane allowed movements

Arm	Lane Level	Lane	Destination arm			
			A227N	A2OFF	A227S	A2ON
A227N	1	1			✓	

		2	✓		✓	✓
A2OFF	1	1	✓		✓	✓
		2	✓			
	2	1	✓		✓	✓
A227S	1	1	✓			✓
		2	✓		✓	
	2	1	✓	✓	✓	✓

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D5	2025 Do Minimum	AM	ONE HOUR	07:45	09:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A227N		ONE HOUR	✓	1195	100.000
A2OFF		ONE HOUR	✓	726	100.000
A227S		ONE HOUR	✓	772	100.000
A2ON					

Origin-Destination Data

Demand (Veh/hr)

	To				
		A227N	A2OFF	A227S	A2ON
From	A227N	1	0	462	732
	A2OFF	541	0	181	4
	A227S	524	0	0	248
	A2ON	Exit-only	Exit-only	Exit-only	Exit-only

Vehicle Mix

Heavy Vehicle Percentages

	To				
		A227N	A2OFF	A227S	A2ON
From	A227N	100	0	3	5
	A2OFF	2	0	2	0
	A227S	2	0	0	3
	A2ON	Exit-only	Exit-only	Exit-only	Exit-only

Results

Results Summary for whole modelled period

Arm	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
A227N	9.87	3.7	A	1097	1645
A2OFF	14.23	3.4	B	668	1002
A227S	18.23	4.5	C	711	1067
A2ON					

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	908	227	0	902	930	798	0.0	1.8	5.451	A
A2OFF	549	137	902	553	553	0	0.0	0.9	6.516	A
A227S	570	143	965	568	594	491	0.0	1.1	6.414	A
A2ON			0			734				

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	1067	267	0	1062	1108	964	1.8	2.4	6.782	A
A2OFF	662	165	1062	665	663	0	0.9	1.4	7.938	A
A227S	693	173	1152	691	705	574	1.1	1.8	8.485	A
A2ON			0			879				

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	1317	329	0	1316	1364	1167	2.4	3.7	9.872	A
A2OFF	804	201	1316	801	820	0	1.4	3.4	13.701	B
A227S	863	216	1405	854	872	711	1.8	4.3	14.872	B
A2ON			0			1093				

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	1306	327	0	1312	1378	1181	3.7	2.8	9.651	A
A2OFF	791	198	1312	793	812	0	3.4	2.8	14.232	B
A227S	856	214	1393	861	881	713	4.3	4.3	18.229	C
A2ON			0			1073				

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	1090	272	0	1086	1138	980	2.8	1.9	6.789	A
A2OFF	663	166	1086	665	678	0	2.8	1.4	9.096	A
A227S	705	176	1159	709	732	592	4.3	1.4	9.799	A
A2ON			0			887				

09:00 - 09:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	895	224	0	894	941	795	1.9	1.7	5.660	A
A2OFF	540	135	894	542	559	0	1.4	0.9	6.761	A
A227S	581	145	953	579	597	484	1.4	1.1	6.872	A
A2ON			0			737				

Lane Results

Lane Level notation: Lane Level 1 is always closest to the junction.

Lanes: Main Results for each time segment

07:45 - 08:00

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	Entry	1	1	A227S	252	1153	0.219	251	257	0.0	0.3	3.600	A
			2	A227N, A227S, A2ON	656	1137	0.577	651	672	0.0	1.5	6.165	A
	Exit	1	1		798			798	813	0.0	0.0	0.000	A
A2OFF	Entry	1	1	A227N, A227S, A2ON	317	719	0.441	320	320	0.0	0.5	6.832	A
			2	A227N	232	721	0.321	233	233	0.0	0.4	6.038	A
		2	1	(A227N, A227S, A2ON)	549			549	557	0.0	0.0	0.019	A
	Exit	1	1		0			0	0	0.0	0.0	0.000	A
A227S	Entry	1	1	A227N, A2ON	335	750	0.445	334	353	0.0	0.7	6.877	A
			2	A227N, A227S	235	750	0.314	234	241	0.0	0.4	5.604	A
		2	1	(A227N, A2OFF, A227S, A2ON)	570			570	598	0.0	0.0	0.055	A
	Exit	1	1		491			491	502	0.0	0.0	0.000	A
A2ON	Exit	1	1		734			734	762	0.0	0.0	0.000	A

08:00 - 08:15

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	Entry	1	1	A227S	311	1154	0.270	312	321	0.3	0.3	4.000	A

			2	A227N, A227S, A2ON	756	1135	0.667	749	787	1.5	2.1	7.929	A
	Exit	1	1		964			964	968	0.0	0.0	0.000	A
A2OFF	Entry	1	1	A227N, A227S, A2ON	367	676	0.544	370	374	0.5	0.7	8.331	A
			2	A227N	294	677	0.434	295	288	0.4	0.6	7.059	A
	Exit	1	1	(A227N, A227S, A2ON)	662			661	664	0.0	0.1	0.155	A
			1		0			0	0	0.0	0.0	0.000	A
	Exit	1	1		0			0	0	0.0	0.0	0.000	A
A227S	Entry	1	1	A227N, A2ON	403	687	0.587	401	411	0.7	1.0	8.867	A
			2	A227N, A227S	290	697	0.417	290	295	0.4	0.5	6.971	A
		2	1	(A227N, A2OFF, A227S, A2ON)	693			693	708	0.0	0.2	0.402	A
	Exit	1	1		574			574	591	0.0	0.0	0.000	A
			1		574			574	591	0.0	0.0	0.000	A
A2ON	Exit	1	1		879			879	917	0.0	0.0	0.000	A

08:15 - 08:30

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	Entry	1	1	A227S	427	1152	0.370	424	429	0.3	0.7	4.654	A
			2	A227N, A227S, A2ON	890	1138	0.781	892	936	2.1	3.0	12.302	B
	Exit	1	1		1167			1167	1203	0.0	0.0	0.000	A
A2OFF	Entry	1	1	A227N, A227S, A2ON	442	596	0.741	444	449	0.7	1.6	12.728	B
			2	A227N	358	598	0.600	357	372	0.6	1.2	10.945	B
		2	1	(A227N, A227S, A2ON)	804			800	826	0.1	0.7	1.771	A
	Exit	1	1		0			0	0	0.0	0.0	0.000	A
A227S	Entry	1	1	A227N, A2ON	482	610	0.791	480	490	1.0	1.9	13.492	B
			2	A227N, A227S	376	611	0.615	374	382	0.5	1.3	11.056	B
		2	1	(A227N, A2OFF, A227S, A2ON)	863			858	879	0.2	1.1	2.431	A
	Exit	1	1		711			711	729	0.0	0.0	0.000	A
A2ON	Exit	1	1		1093			1093	1125	0.0	0.0	0.000	A

08:30 - 08:45

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	Entry	1	1	A227S	420	1154	0.364	423	435	0.7	0.4	4.500	A
			2	A227N, A227S, A2ON	886	1133	0.781	890	943	3.0	2.5	12.066	B
	Exit	1	1		1181			1181	1210	0.0	0.0	0.000	A

A2OFF	Entry	1	1	A227N, A227S, A2ON	433	600	0.722	434	443	1.6	1.5	12.742	B
			2	A227N	359	599	0.598	359	369	1.2	1.1	11.092	B
		2	1	(A227N, A227S, A2ON)	791			792	811	0.7	0.3	2.245	A
	Exit	1	1		0			0	0	0.0	0.0	0.000	A
A227S	Entry	1	1	A227N, A2ON	474	614	0.774	475	490	1.9	1.9	15.162	C
			2	A227N, A227S	385	618	0.624	386	391	1.3	1.3	11.929	B
		2	1	(A227N, A2OFF, A227S, A2ON)	856			858	882	1.1	1.1	4.491	A
	Exit	1	1		713			713	727	0.0	0.0	0.000	A
A2ON	Exit	1	1		1073			1073	1134	0.0	0.0	0.000	A

08:45 - 09:00

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	Entry	1	1	A227S	321	1152	0.279	320	327	0.4	0.3	3.923	A
			2	A227N, A227S, A2ON	769	1133	0.678	766	811	2.5	1.6	7.978	A
	Exit	1	1		980			980	1006	0.0	0.0	0.000	A
A2OFF	Entry	1	1	A227N, A227S, A2ON	374	664	0.563	375	382	1.5	0.8	9.340	A
			2	A227N	288	666	0.432	290	296	1.1	0.5	8.139	A
		2	1	(A227N, A227S, A2ON)	663			661	673	0.3	0.1	0.289	A
	Exit	1	1		0			0	0	0.0	0.0	0.000	A
A227S	Entry	1	1	A227N, A2ON	406	689	0.588	408	421	1.9	0.8	9.938	A
			2	A227N, A227S	298	689	0.432	300	310	1.3	0.6	7.853	A
		2	1	(A227N, A2OFF, A227S, A2ON)	705			704	723	1.1	0.1	0.810	A
	Exit	1	1		592			592	597	0.0	0.0	0.000	A
A2ON	Exit	1	1		887			887	946	0.0	0.0	0.000	A

09:00 - 09:15

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	Entry	1	1	A227S	248	1163	0.214	250	255	0.3	0.2	3.587	A
			2	A227N, A227S, A2ON	646	1138	0.569	644	686	1.6	1.4	6.446	A
	Exit	1	1		795			795	814	0.0	0.0	0.000	A
A2OFF	Entry	1	1	A227N, A227S, A2ON	311	727	0.428	312	323	0.8	0.6	7.099	A
			2	A227N	228	722	0.316	230	235	0.5	0.3	6.181	A

		2	1	(A227N, A227S, A2ON)	540			540	557	0.1	0.0	0.057	A
	Exit	1	1		0			0	0	0.0	0.0	0.000	A
A227S	Entry	1	1	A227N, A2ON	346	756	0.459	346	358	0.8	0.7	7.216	A
			2	A227N, A227S	235	751	0.312	234	239	0.6	0.4	5.993	A
	Exit	1	1	(A227N, A2OFF, A227S, A2ON)	581			581	597	0.1	0.0	0.151	A
			1		484			484	501	0.0	0.0	0.000	A
A2ON	Exit	1	1		737			737	782	0.0	0.0	0.000	A

2025 Do Minimum, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Lane Simulation	A1 - [Lane Simulation]	This analysis set uses Lane Simulation mode. This is provided as an investigative tool and the user should apply judgement when interpreting the results.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	A227 / A2 WB Slip Roads RB	Standard Roundabout		A227N, A2OFF, A227S, A2ON	8.59	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D6	2025 Do Minimum	PM	ONE HOUR	16:45	18:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A227N		ONE HOUR	✓	1175	100.000
A2OFF		ONE HOUR	✓	667	100.000
A227S		ONE HOUR	✓	775	100.000

A2ON					
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Origin-Destination Data

Demand (Veh/hr)

	To				
		A227N	A2OFF	A227S	A2ON
From	A227N	0	0	645	530
	A2OFF	498	0	168	1
	A227S	558	0	2	215
	A2ON	Exit-only	Exit-only	Exit-only	Exit-only

Vehicle Mix

Heavy Vehicle Percentages

	To				
		A227N	A2OFF	A227S	A2ON
From	A227N	0	0	1	1
	A2OFF	1	0	2	0
	A227S	1	0	0	2
	A2ON	Exit-only	Exit-only	Exit-only	Exit-only

Results

Results Summary for whole modelled period

Arm	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
A227N	6.03	2.2	A	1082	1624
A2OFF	11.56	2.8	B	622	933
A227S	9.87	2.8	A	710	1065
A2ON					

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	897	224	1	898	898	785	0.0	0.7	4.323	A
A2OFF	493	123	899	491	500	0	0.0	0.9	6.197	A
A227S	573	143	766	577	589	623	0.0	0.6	5.525	A
A2ON			0			557				

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	1055	264	0.77	1053	1061	956	0.7	1.5	4.889	A
A2OFF	611	153	1053	611	601	0	0.9	1.5	7.166	A
A227S	697	174	933	694	687	731	0.6	1.4	6.375	A
A2ON			0			670				

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	1273	318	1	1276	1306	1178	1.5	2.0	5.975	A
A2OFF	773	193	1277	761	746	0	1.5	2.7	10.869	B
A227S	849	212	1130	854	851	908	1.4	2.2	9.315	A
A2ON			0			805				

17:30 - 17:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	1326	331	3	1322	1316	1157	2.0	2.2	6.032	A
A2OFF	752	188	1325	753	761	0	2.7	2.4	11.560	B
A227S	850	213	1161	848	856	917	2.2	2.8	9.871	A
A2ON			0			850				

17:45 - 18:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	1087	272	2	1088	1085	953	2.2	1.3	4.897	A
A2OFF	602	150	1090	599	612	0	2.4	1.3	7.947	A
A227S	700	175	939	698	717	751	2.8	1.4	6.967	A
A2ON			0			681				

18:00 - 18:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	857	214	2	862	886	796	1.3	0.7	4.326	A
A2OFF	497	124	864	495	499	0	1.3	1.0	6.272	A
A227S	590	148	753	593	604	605	1.4	0.6	5.812	A
A2ON			0			549				

Lane Results

Lane Level notation: Lane Level 1 is always closest to the junction.

Lanes: Main Results for each time segment

16:45 - 17:00

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	Entry	1	1	A227S	319	1183	0.270	319	313	0.0	0.3	3.480	A

			2	A227N, A227S, A2ON	578	1179	0.490	579	585	0.0	0.5	4.775	A
	Exit	1	1		785			785	787	0.0	0.0	0.000	A
A2OFF	Entry	1	1	A227N, A227S, A2ON	284	740	0.384	284	292	0.0	0.6	6.601	A
			2	A227N	209	740	0.282	207	208	0.0	0.3	5.572	A
	Exit	1	1	(A227N, A227S, A2ON)	493			493	503	0.0	0.0	0.026	A
			1		0			0	0	0.0	0.0	0.000	A
	Exit	1	1		0			0	0	0.0	0.0	0.000	A
A227S	Entry	1	1	A227N, A2ON	340	830	0.409	340	347	0.0	0.4	5.814	A
			2	A227N, A227S	233	834	0.280	236	242	0.0	0.2	5.059	A
	Exit	1	1	(A227N, A2OFF, A227S, A2ON)	573			573	592	0.0	0.0	0.023	A
			1		623			623	624	0.0	0.0	0.000	A
	Exit	1	1		623			623	624	0.0	0.0	0.000	A
A2ON	Exit	1	1		557			557	576	0.0	0.0	0.000	A

17:00 - 17:15

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	Entry	1	1	A227S	385	1181	0.326	384	386	0.3	0.4	3.735	A
			2	A227N, A227S, A2ON	670	1179	0.569	669	675	0.5	1.1	5.548	A
	Exit	1	1		956			956	945	0.0	0.0	0.000	A
A2OFF	Entry	1	1	A227N, A227S, A2ON	352	694	0.506	353	344	0.6	0.9	7.553	A
			2	A227N	259	689	0.375	258	257	0.3	0.6	6.561	A
	Exit	1	1	(A227N, A227S, A2ON)	611			610	603	0.0	0.1	0.036	A
			1		0			0	0	0.0	0.0	0.000	A
A227S	Entry	1	1	A227N, A2ON	401	772	0.519	399	394	0.4	0.9	6.696	A
			2	A227N, A227S	296	780	0.379	295	292	0.2	0.5	5.754	A
	Exit	1	1	(A227N, A2OFF, A227S, A2ON)	697			697	690	0.0	0.0	0.082	A
			1		731			731	730	0.0	0.0	0.000	A
A2ON	Exit	1	1		670			670	673	0.0	0.0	0.000	A

17:15 - 17:30

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	Entry	1	1	A227S	489	1182	0.414	489	502	0.4	0.6	4.610	A
			2	A227N, A227S, A2ON	784	1178	0.666	787	805	1.1	1.4	6.826	A
	Exit	1	1		1178			1178	1159	0.0	0.0	0.000	A

A2OFF	Entry	1	1	A227N, A227S, A2ON	429	626	0.687	423	411	0.9	1.4	10.952	B
			2	A227N	340	629	0.540	338	335	0.6	1.0	9.419	A
		2	1	(A227N, A227S, A2ON)	773			769	750	0.1	0.4	0.603	A
	Exit	1	1		0			0	0	0.0	0.0	0.000	A
A227S	Entry	1	1	A227N, A2ON	477	711	0.671	481	475	0.9	1.2	9.557	A
			2	A227N, A227S	374	715	0.523	373	376	0.5	1.0	7.729	A
		2	1	(A227N, A2OFF, A227S, A2ON)	849			851	854	0.0	0.0	0.569	A
	Exit	1	1		908			908	920	0.0	0.0	0.000	A
A2ON	Exit	1	1		805			805	825	0.0	0.0	0.000	A

17:30 - 17:45

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	Entry	1	1	A227S	512	1182	0.433	510	499	0.6	0.7	4.497	A
			2	A227N, A227S, A2ON	813	1178	0.690	812	817	1.4	1.5	6.973	A
	Exit	1	1		1157			1157	1182	0.0	0.0	0.000	A
A2OFF	Entry	1	1	A227N, A227S, A2ON	414	611	0.678	413	421	1.4	1.4	11.343	B
			2	A227N	338	614	0.551	341	340	1.0	0.8	9.698	A
		2	1	(A227N, A227S, A2ON)	752			752	761	0.4	0.2	0.958	A
	Exit	1	1		0			0	0	0.0	0.0	0.000	A
A227S	Entry	1	1	A227N, A2ON	474	704	0.673	475	483	1.2	1.4	9.668	A
			2	A227N, A227S	375	705	0.532	373	373	1.0	1.0	8.304	A
		2	1	(A227N, A2OFF, A227S, A2ON)	850			849	858	0.0	0.4	0.780	A
	Exit	1	1		917			917	909	0.0	0.0	0.000	A
A2ON	Exit	1	1		850			850	842	0.0	0.0	0.000	A

17:45 - 18:00

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	Entry	1	1	A227S	393	1177	0.334	393	392	0.7	0.4	3.905	A
			2	A227N, A227S, A2ON	693	1176	0.589	695	693	1.5	0.9	5.459	A
	Exit	1	1		953			953	972	0.0	0.0	0.000	A
A2OFF	Entry	1	1	A227N, A227S, A2ON	349	676	0.515	347	352	1.4	0.7	8.304	A
			2	A227N	253	680	0.372	252	260	0.8	0.6	7.214	A

		2	1	(A227N, A227S, A2ON)	602			602	608	0.2	0.0	0.118	A
	Exit	1	1		0			0	0	0.0	0.0	0.000	A
A227S	Entry	1	1	A227N, A2ON	394	775	0.508	395	407	1.4	0.8	7.340	A
			2	A227N, A227S	306	778	0.393	304	310	1.0	0.6	6.194	A
	Exit	1	1	(A227N, A2OFF, A227S, A2ON)	700			700	713	0.4	0.0	0.151	A
					751			751	754	0.0	0.0	0.000	A
A2ON	Exit	1	1		681			681	688	0.0	0.0	0.000	A

18:00 - 18:15

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	Entry	1	1	A227S	299	1170	0.255	300	307	0.4	0.2	3.605	A
			2	A227N, A227S, A2ON	558	1178	0.474	562	579	0.9	0.6	4.707	A
	Exit	1	1		796			796	805	0.0	0.0	0.000	A
A2OFF	Entry	1	1	A227N, A227S, A2ON	292	744	0.394	292	291	0.7	0.6	6.597	A
			2	A227N	205	747	0.276	203	207	0.6	0.4	5.759	A
	Exit	1	1	(A227N, A227S, A2ON)	497			497	498	0.0	0.0	0.023	A
					0			0	0	0.0	0.0	0.000	A
A227S	Entry	1	1	A227N, A2ON	349	830	0.421	351	355	0.8	0.3	6.035	A
			2	A227N, A227S	241	837	0.287	242	249	0.6	0.3	5.436	A
	Exit	1	1	(A227N, A2OFF, A227S, A2ON)	590			590	601	0.0	0.0	0.024	A
					605			605	608	0.0	0.0	0.000	A
A2ON	Exit	1	1		549			549	576	0.0	0.0	0.000	A

2025 Do Minimum Residual, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Lane Simulation	A1 - [Lane Simulation]	This analysis set uses Lane Simulation mode. This is provided as an investigative tool and the user should apply judgement when interpreting the results.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
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1	A227 / A2 WB Slip Roads RB	Standard Roundabout		A227N, A2OFF, A227S, A2ON	12.18	B
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Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D7	2025 Do Minimum Residual	AM	ONE HOUR	07:45	09:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A227N		ONE HOUR	✓	1189	100.000
A2OFF		ONE HOUR	✓	724	100.000
A227S		ONE HOUR	✓	772	100.000
A2ON					

Origin-Destination Data

Demand (Veh/hr)

	To				
		A227N	A2OFF	A227S	A2ON
From	A227N	1	0	462	726
	A2OFF	539	0	181	4
	A227S	524	0	0	248
	A2ON	Exit-only	Exit-only	Exit-only	Exit-only

Vehicle Mix

Heavy Vehicle Percentages

	To				
		A227N	A2OFF	A227S	A2ON
From	A227N	100	0	3	5
	A2OFF	2	0	2	0
	A227S	2	0	0	3
	A2ON	Exit-only	Exit-only	Exit-only	Exit-only

Results

Results Summary for whole modelled period

Arm	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
A227N	9.82	3.6	A	1088	1631
A2OFF	13.07	3.0	B	666	1000
A227S	15.00	4.3	C	715	1073
A2ON					

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	886	222	0	889	935	793	0.0	1.2	5.821	A
A2OFF	544	136	889	547	546	0	0.0	0.9	6.512	A
A227S	580	145	947	580	592	489	0.0	1.0	6.562	A
A2ON			0			734				

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	1055	264	0	1060	1113	972	1.2	1.8	6.801	A
A2OFF	650	162	1060	652	663	0	0.9	1.5	8.242	A
A227S	705	176	1139	708	717	573	1.0	1.6	8.614	A
A2ON			0			875				

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	1307	327	0	1304	1359	1172	1.8	3.3	9.113	A
A2OFF	804	201	1304	803	803	0	1.5	2.9	12.173	B
A227S	850	213	1400	852	843	708	1.6	3.7	15.001	C
A2ON			0			1080				

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	1337	334	0	1334	1372	1168	3.3	3.5	9.824	A
A2OFF	797	199	1334	800	809	0	2.9	2.7	13.068	B
A227S	867	217	1409	861	872	725	3.7	4.2	14.833	B
A2ON			0			1102				

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
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A227N	1053	263	0	1052	1115	962	3.5	2.1	6.752	A
A2OFF	652	163	1052	650	666	0	2.7	1.9	8.671	A
A227S	694	173	1121	701	723	581	4.2	1.3	9.318	A
A2ON			0			860				

09:00 - 09:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	890	222	0	888	941	812	2.1	1.3	5.765	A
A2OFF	551	138	888	552	562	0	1.9	1.1	6.797	A
A227S	596	149	951	595	606	488	1.3	1.0	6.753	A
A2ON			0			734				

Lane Results

Lane Level notation: Lane Level 1 is always closest to the junction.

Lanes: Main Results for each time segment

07:45 - 08:00

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	Entry	1	1	A227S	239	1159	0.205	240	252	0.0	0.2	3.893	A
			2	A227N, A227S, A2ON	648	1141	0.567	649	683	0.0	1.0	6.542	A
	Exit	1	1		793			793	806	0.0	0.0	0.000	A
A2OFF	Entry	1	1	A227N, A227S, A2ON	316	729	0.435	318	317	0.0	0.6	6.767	A
			2	A227N	227	731	0.311	230	229	0.0	0.3	6.065	A
		2	1	(A227N, A227S, A2ON)	544			544	550	0.0	0.0	0.040	A
	Exit	1	1		0			0	0	0.0	0.0	0.000	A
A227S	Entry	1	1	A227N, A2ON	346	757	0.456	344	352	0.0	0.7	6.936	A
			2	A227N, A227S	234	763	0.308	237	240	0.0	0.3	5.749	A
		2	1	(A227N, A2OFF, A227S, A2ON)	580			580	597	0.0	0.0	0.107	A
	Exit	1	1		489			489	498	0.0	0.0	0.000	A
A2ON	Exit	1	1		734			734	770	0.0	0.0	0.000	A

08:00 - 08:15

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	Entry	1	1	A227S	314	1155	0.272	316	325	0.2	0.3	3.995	A
			2	A227N, A227S, A2ON	740	1138	0.651	744	788	1.0	1.5	7.978	A
	Exit	1	1		972			972	980	0.0	0.0	0.000	A

A20FF	Entry	1	1	A227N, A227S, A2ON	367	676	0.542	368	376	0.6	0.9	8.615	A
			2	A227N	283	675	0.419	284	288	0.3	0.5	7.451	A
		2	1	(A227N, A227S, A2ON)	650			650	665	0.0	0.0	0.131	A
	Exit	1	1		0			0	0	0.0	0.0	0.000	A
A227S	Entry	1	1	A227N, A2ON	412	695	0.593	415	423	0.7	0.9	8.914	A
			2	A227N, A227S	293	694	0.423	293	294	0.3	0.6	7.443	A
		2	1	(A227N, A20FF, A227S, A2ON)	705			705	719	0.0	0.1	0.300	A
	Exit	1	1		573			573	595	0.0	0.0	0.000	A
A2ON	Exit	1	1		875			875	918	0.0	0.0	0.000	A

08:15 - 08:30

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	Entry	1	1	A227S	407	1149	0.354	406	419	0.3	0.5	4.518	A
			2	A227N, A227S, A2ON	900	1135	0.792	898	941	1.5	2.8	11.190	B
	Exit	1	1		1172			1172	1165	0.0	0.0	0.000	A
A20FF	Entry	1	1	A227N, A227S, A2ON	438	601	0.730	438	440	0.9	1.5	11.909	B
			2	A227N	367	601	0.611	365	363	0.5	1.3	9.892	A
		2	1	(A227N, A227S, A2ON)	804			805	809	0.0	0.1	1.175	A
	Exit	1	1		0			0	0	0.0	0.0	0.000	A
A227S	Entry	1	1	A227N, A2ON	478	615	0.777	479	477	0.9	1.7	12.758	B
			2	A227N, A227S	375	618	0.608	373	366	0.6	1.1	10.009	B
		2	1	(A227N, A20FF, A227S, A2ON)	850			854	848	0.1	0.9	3.420	A
	Exit	1	1		708			708	722	0.0	0.0	0.000	A
A2ON	Exit	1	1		1080			1080	1119	0.0	0.0	0.000	A

08:30 - 08:45

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	Entry	1	1	A227S	426	1160	0.367	426	430	0.5	0.6	4.540	A
			2	A227N, A227S, A2ON	911	1145	0.797	907	941	2.8	2.9	12.285	B
	Exit	1	1		1168			1168	1190	0.0	0.0	0.000	A
A20FF	Entry	1	1	A227N, A227S, A2ON	436	595	0.733	438	441	1.5	1.4	12.734	B
			2	A227N	361	595	0.606	362	368	1.3	1.0	10.606	B

		2	1	(A227N, A227S, A2ON)	797			796	807	0.1	0.3	1.292	A
	Exit	1	1		0			0	0	0.0	0.0	0.000	A
A227S	Entry	1	1	A227N, A2ON	481	613	0.785	481	487	1.7	1.9	13.523	B
			2	A227N, A227S	379	617	0.615	380	385	1.1	1.1	10.645	B
	Exit	1	1	(A227N, A2OFF, A227S, A2ON)	867			860	874	0.9	1.1	2.571	A
					725			725	731	0.0	0.0	0.000	A
A2ON	Exit	1	1		1102			1102	1133	0.0	0.0	0.000	A

08:45 - 09:00

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	Entry	1	1	A227S	309	1146	0.270	308	322	0.6	0.4	3.967	A
			2	A227N, A227S, A2ON	744	1132	0.656	743	794	2.9	1.7	7.900	A
	Exit	1	1		962			962	986	0.0	0.0	0.000	A
A2OFF	Entry	1	1	A227N, A227S, A2ON	362	673	0.539	362	376	1.4	1.1	8.873	A
			2	A227N	288	674	0.428	288	291	1.0	0.7	7.826	A
	Exit	1	1	(A227N, A227S, A2ON)	652			651	664	0.3	0.1	0.270	A
					0			0	0	0.0	0.0	0.000	A
A227S	Entry	1	1	A227N, A2ON	397	703	0.565	401	417	1.9	0.9	9.474	A
			2	A227N, A227S	297	704	0.422	301	306	1.1	0.4	7.494	A
	Exit	1	1	(A227N, A2OFF, A227S, A2ON)	694			694	716	1.1	0.0	0.740	A
					581			581	596	0.0	0.0	0.000	A
A2ON	Exit	1	1		860			860	923	0.0	0.0	0.000	A

09:00 - 09:15

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	Entry	1	1	A227S	249	1160	0.215	250	254	0.4	0.1	3.723	A
			2	A227N, A227S, A2ON	641	1135	0.564	638	687	1.7	1.2	6.538	A
	Exit	1	1		812			812	826	0.0	0.0	0.000	A
A2OFF	Entry	1	1	A227N, A227S, A2ON	317	722	0.438	317	325	1.1	0.7	7.151	A
			2	A227N	235	728	0.323	235	238	0.7	0.4	6.161	A
	Exit	1	1	(A227N, A227S, A2ON)	551			551	560	0.1	0.0	0.076	A
					0			0	0	0.0	0.0	0.000	A

A227S	Entry	1	1	A227N, A2ON	355	755	0.472	353	363	0.9	0.7	7.065	A
			2	A227N, A227S	241	759	0.318	241	243	0.4	0.4	6.081	A
		2	1	(A227N, A2OFF, A227S, A2ON)	596			596	605	0.0	0.0	0.084	A
	Exit	1	1		488			488	504	0.0	0.0	0.000	A
A2ON	Exit	1	1		734			734	780	0.0	0.0	0.000	A

2025 Do Minimum Residual, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Lane Simulation	A1 - [Lane Simulation]	This analysis set uses Lane Simulation mode. This is provided as an investigative tool and the user should apply judgement when interpreting the results.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	A227 / A2 WB Slip Roads RB	Standard Roundabout		A227N, A2OFF, A227S, A2ON	8.35	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D8	2025 Do Minimum Residual	PM	ONE HOUR	16:45	18:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A227N		ONE HOUR	✓	1170	100.000
A2OFF		ONE HOUR	✓	662	100.000
A227S		ONE HOUR	✓	775	100.000
A2ON					

Origin-Destination Data

Demand (Veh/hr)

	To				
		A227N	A2OFF	A227S	A2ON
From	A227N	0	0	645	525
	A2OFF	493	0	168	1
	A227S	558	0	2	215
	A2ON	Exit-only	Exit-only	Exit-only	Exit-only

Vehicle Mix

Heavy Vehicle Percentages

	To				
		A227N	A2OFF	A227S	A2ON
From	A227N	0	0	1	1
	A2OFF	1	0	2	0
	A227S	1	0	0	2
	A2ON	Exit-only	Exit-only	Exit-only	Exit-only

Results

Results Summary for whole modelled period

Arm	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
A227N	5.98	2.3	A	1064	1595
A2OFF	10.63	2.5	B	605	907
A227S	9.96	2.8	A	707	1060
A2ON					

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	887	222	1	882	913	788	0.0	1.4	4.452	A
A2OFF	502	125	883	501	505	0	0.0	0.8	6.161	A
A227S	586	147	762	585	590	623	0.0	1.0	5.693	A
A2ON			0			557				

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	1042	261	2	1038	1059	960	1.4	1.5	4.914	A
A2OFF	579	145	1040	579	605	0	0.8	1.2	7.422	A
A227S	702	176	896	705	703	722	1.0	1.1	6.449	A
A2ON			0			640				

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	1297	324	2	1294	1316	1166	1.5	2.3	5.782	A
A2OFF	752	188	1296	750	744	0	1.2	2.5	10.224	B
A227S	834	209	1149	836	846	897	1.1	2.8	8.992	A
A2ON			0			818				

17:30 - 17:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	1243	311	3	1242	1300	1149	2.3	2.3	5.978	A
A2OFF	722	181	1245	720	745	0	2.5	2.3	10.632	B
A227S	845	211	1085	844	872	880	2.8	2.3	9.960	A
A2ON			0			777				

17:45 - 18:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	1019	255	3	1025	1051	946	2.3	1.1	4.829	A
A2OFF	596	149	1027	593	603	0	2.3	1.4	7.408	A
A227S	695	174	894	691	718	726	2.3	1.7	7.083	A
A2ON			0			636				

18:00 - 18:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	894	224	1	897	891	765	1.1	0.9	4.425	A
A2OFF	478	120	898	477	501	0	1.4	0.9	6.010	A
A227S	578	144	746	578	600	629	1.7	0.8	5.737	A
A2ON			0			558				

Lane Results

Lane Level notation: Lane Level 1 is always closest to the junction.

Lanes: Main Results for each time segment

16:45 - 17:00

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	Entry	1	1	A227S	316	1180	0.268	315	322	0.0	0.4	3.563	A

			2	A227N, A227S, A2ON	571	1173	0.487	567	591	0.0	1.0	4.937	A
	Exit	1	1		788			788	797	0.0	0.0	0.000	A
A2OFF	Entry	1	1	A227N, A227S, A2ON	297	737	0.403	297	294	0.0	0.5	6.439	A
			2	A227N	205	742	0.276	204	211	0.0	0.3	5.760	A
		2	1	(A227N, A227S, A2ON)	502			502	508	0.0	0.0	0.006	A
	Exit	1	1		0			0	0	0.0	0.0	0.000	A
A227S	Entry	1	1	A227N, A2ON	338	831	0.407	337	343	0.0	0.6	5.927	A
			2	A227N, A227S	248	828	0.299	248	247	0.0	0.4	5.352	A
		2	1	(A227N, A2OFF, A227S, A2ON)	586			586	594	0.0	0.0	0.007	A
	Exit	1	1		623			623	634	0.0	0.0	0.000	A
A2ON	Exit	1	1		557			557	576	0.0	0.0	0.000	A

17:00 - 17:15

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	Entry	1	1	A227S	377	1176	0.320	377	384	0.4	0.4	3.973	A
			2	A227N, A227S, A2ON	665	1177	0.565	661	675	1.0	1.1	5.450	A
	Exit	1	1		960			960	960	0.0	0.0	0.000	A
A2OFF	Entry	1	1	A227N, A227S, A2ON	329	691	0.476	327	344	0.5	0.8	7.665	A
			2	A227N	250	695	0.360	251	261	0.3	0.4	6.552	A
		2	1	(A227N, A227S, A2ON)	579			579	607	0.0	0.0	0.238	A
	Exit	1	1		0			0	0	0.0	0.0	0.000	A
A227S	Entry	1	1	A227N, A2ON	400	787	0.509	400	401	0.6	0.7	6.985	A
			2	A227N, A227S	302	787	0.384	305	302	0.4	0.4	5.604	A
		2	1	(A227N, A2OFF, A227S, A2ON)	702			702	703	0.0	0.0	0.060	A
	Exit	1	1		722			722	744	0.0	0.0	0.000	A
A2ON	Exit	1	1		640			640	663	0.0	0.0	0.000	A

17:15 - 17:30

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	Entry	1	1	A227S	482	1174	0.411	482	501	0.4	0.7	4.359	A
			2	A227N, A227S, A2ON	815	1178	0.692	811	815	1.1	1.6	6.657	A
	Exit	1	1		1166			1166	1163	0.0	0.0	0.000	A

A2OFF	Entry	1	1	A227N, A227S, A2ON	413	621	0.665	410	412	0.8	1.5	10.204	B
			2	A227N	338	620	0.545	341	331	0.4	0.8	8.848	A
		2	1	(A227N, A227S, A2ON)	752			751	748	0.0	0.3	0.613	A
	Exit	1	1		0			0	0	0.0	0.0	0.000	A
A227S	Entry	1	1	A227N, A2ON	468	709	0.660	469	474	0.7	1.5	9.241	A
			2	A227N, A227S	367	709	0.517	367	371	0.4	1.0	7.512	A
		2	1	(A227N, A2OFF, A227S, A2ON)	834			835	852	0.0	0.2	0.511	A
	Exit	1	1		897			897	910	0.0	0.0	0.000	A
A2ON	Exit	1	1		818			818	832	0.0	0.0	0.000	A

17:30 - 17:45

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	Entry	1	1	A227S	476	1175	0.405	476	498	0.7	0.7	4.557	A
			2	A227N, A227S, A2ON	768	1176	0.652	766	802	1.6	1.6	6.859	A
	Exit	1	1		1149			1149	1181	0.0	0.0	0.000	A
A2OFF	Entry	1	1	A227N, A227S, A2ON	406	632	0.641	404	416	1.5	1.3	10.774	B
			2	A227N	316	636	0.497	316	329	0.8	0.9	9.241	A
		2	1	(A227N, A227S, A2ON)	722			722	745	0.3	0.2	0.548	A
	Exit	1	1		0			0	0	0.0	0.0	0.000	A
A227S	Entry	1	1	A227N, A2ON	467	724	0.645	466	484	1.5	1.4	9.959	A
			2	A227N, A227S	377	731	0.516	378	388	1.0	0.8	8.369	A
		2	1	(A227N, A2OFF, A227S, A2ON)	845			844	870	0.2	0.2	0.712	A
	Exit	1	1		880			880	916	0.0	0.0	0.000	A
A2ON	Exit	1	1		777			777	820	0.0	0.0	0.000	A

17:45 - 18:00

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	Entry	1	1	A227S	368	1177	0.313	368	381	0.7	0.4	3.772	A
			2	A227N, A227S, A2ON	650	1174	0.554	656	670	1.6	0.7	5.436	A
	Exit	1	1		946			946	968	0.0	0.0	0.000	A
A2OFF	Entry	1	1	A227N, A227S, A2ON	334	697	0.480	333	343	1.3	0.8	7.689	A
			2	A227N	262	699	0.374	260	260	0.9	0.6	6.772	A

		2	1	(A227N, A227S, A2ON)	596			596	600	0.2	0.0	0.119	A
	Exit	1	1		0			0	0	0.0	0.0	0.000	A
A227S	Entry	1	1	A227N, A2ON	393	786	0.500	393	411	1.4	0.9	7.412	A
			2	A227N, A227S	301	789	0.381	299	308	0.8	0.7	6.288	A
		2	1	(A227N, A2OFF, A227S, A2ON)	695			694	716	0.2	0.0	0.151	A
	Exit	1	1		726			726	739	0.0	0.0	0.000	A
A2ON	Exit	1	1		636			636	666	0.0	0.0	0.000	A

18:00 - 18:15

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	Entry	1	1	A227S	324	1178	0.275	325	319	0.4	0.2	3.732	A
			2	A227N, A227S, A2ON	570	1177	0.484	572	572	0.7	0.7	4.810	A
	Exit	1	1		765			765	798	0.0	0.0	0.000	A
A2OFF	Entry	1	1	A227N, A227S, A2ON	283	735	0.384	283	296	0.8	0.5	6.230	A
			2	A227N	195	739	0.264	194	205	0.6	0.4	5.687	A
		2	1	(A227N, A227S, A2ON)	478			478	498	0.0	0.0	0.003	A
	Exit	1	1		0			0	0	0.0	0.0	0.000	A
A227S	Entry	1	1	A227N, A2ON	345	835	0.414	346	353	0.9	0.4	5.950	A
			2	A227N, A227S	232	837	0.278	232	246	0.7	0.4	5.422	A
		2	1	(A227N, A2OFF, A227S, A2ON)	578			578	597	0.0	0.0	0.013	A
	Exit	1	1		629			629	636	0.0	0.0	0.000	A
A2ON	Exit	1	1		558			558	556	0.0	0.0	0.000	A

2028 Do Minimum, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Lane Simulation	A1 - [Lane Simulation]	This analysis set uses Lane Simulation mode. This is provided as an investigative tool and the user should apply judgement when interpreting the results.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
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1	A227 / A2 WB Slip Roads RB	Standard Roundabout		A227N, A2OFF, A227S, A2ON	16.56	C
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Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D11	2028 Do Minimum	AM	ONE HOUR	07:45	09:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A227N		ONE HOUR	✓	1280	100.000
A2OFF		ONE HOUR	✓	756	100.000
A227S		ONE HOUR	✓	797	100.000
A2ON					

Origin-Destination Data

Demand (Veh/hr)

	To				
		A227N	A2OFF	A227S	A2ON
From	A227N	1	0	480	799
	A2OFF	565	0	187	4
	A227S	540	0	0	257
	A2ON	Exit-only	Exit-only	Exit-only	Exit-only

Vehicle Mix

Heavy Vehicle Percentages

	To				
		A227N	A2OFF	A227S	A2ON
From	A227N	100	0	3	4
	A2OFF	2	0	2	0
	A227S	2	0	0	3
	A2ON	Exit-only	Exit-only	Exit-only	Exit-only

Results

Results Summary for whole modelled period

Arm	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
A227N	11.25	5.0	B	1180	1770
A2OFF	18.64	4.7	C	692	1038
A227S	23.26	5.9	C	731	1096
A2ON					

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	954	239	0	954	989	829	0.0	1.5	6.093	A
A2OFF	572	143	954	572	586	0	0.0	1.0	6.937	A
A227S	603	151	1027	604	604	500	0.0	1.2	7.179	A
A2ON			0			803				

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	1174	294	0	1172	1188	984	1.5	2.6	7.146	A
A2OFF	673	168	1172	669	689	0	1.0	1.8	8.866	A
A227S	715	179	1225	714	725	615	1.2	2.0	8.779	A
A2ON			0			956				

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	1410	353	0	1414	1449	1198	2.6	4.3	11.249	B
A2OFF	828	207	1414	819	841	0	1.8	4.4	16.000	C
A227S	871	218	1497	863	876	736	2.0	5.6	18.047	C
A2ON			0			1162				

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	1428	357	0	1416	1465	1226	4.3	4.9	10.707	B
A2OFF	840	210	1416	838	851	0	4.4	4.6	18.645	C
A227S	877	219	1509	867	896	745	5.6	5.8	23.264	C
A2ON			0			1149				

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
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A227N	1153	288	0	1145	1209	973	4.9	3.3	8.009	A
A2OFF	665	166	1145	663	698	0	4.6	2.0	10.342	B
A227S	711	178	1204	710	745	604	5.8	1.9	11.094	B
A2ON			0			941				

09:00 - 09:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	961	240	0	957	1001	850	3.3	2.2	6.130	A
A2OFF	575	144	957	577	587	0	2.0	1.1	6.938	A
A227S	610	153	1039	611	630	495	1.9	1.2	7.216	A
A2ON			0			801				

Lane Results

Lane Level notation: Lane Level 1 is always closest to the junction.

Lanes: Main Results for each time segment

07:45 - 08:00

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	Entry	1	1	A227S	260	1144	0.227	260	270	0.0	0.3	3.721	A
			2	A227N, A227S, A2ON	695	1148	0.604	695	719	0.0	1.2	6.986	A
	Exit	1	1		829			829	846	0.0	0.0	0.000	A
A2OFF	Entry	1	1	A227N, A227S, A2ON	324	705	0.461	326	337	0.0	0.6	7.284	A
			2	A227N	248	704	0.352	246	250	0.0	0.4	6.379	A
		2	1	(A227N, A227S, A2ON)	572			572	591	0.0	0.0	0.038	A
	Exit	1	1		0			0	0	0.0	0.0	0.000	A
A227S	Entry	1	1	A227N, A2ON	360	734	0.492	361	362	0.0	0.8	7.550	A
			2	A227N, A227S	243	736	0.331	243	242	0.0	0.4	6.209	A
		2	1	(A227N, A2OFF, A227S, A2ON)	603			603	609	0.0	0.0	0.167	A
	Exit	1	1		500			500	515	0.0	0.0	0.000	A
A2ON	Exit	1	1		803			803	819	0.0	0.0	0.000	A

08:00 - 08:15

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	Entry	1	1	A227S	346	1154	0.300	347	342	0.3	0.4	4.074	A
			2	A227N, A227S, A2ON	829	1147	0.723	825	847	1.2	2.1	8.398	A
	Exit	1	1		984			984	1001	0.0	0.0	0.000	A

A20FF	Entry	1	1	A227N, A227S, A2ON	378	644	0.586	377	387	0.6	1.0	9.089	A
			2	A227N	295	644	0.458	292	302	0.4	0.8	7.991	A
		2	1	(A227N, A227S, A2ON)	673			673	692	0.0	0.1	0.250	A
	Exit	1	1		0			0	0	0.0	0.0	0.000	A
A227S	Entry	1	1	A227N, A2ON	409	666	0.615	410	423	0.8	1.1	9.159	A
			2	A227N, A227S	305	671	0.454	304	302	0.4	0.8	7.340	A
		2	1	(A227N, A20FF, A227S, A2ON)	715			714	728	0.0	0.1	0.373	A
	Exit	1	1		615			615	621	0.0	0.0	0.000	A
A2ON	Exit	1	1		956			956	980	0.0	0.0	0.000	A

08:15 - 08:30

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	Entry	1	1	A227S	458	1155	0.396	459	459	0.4	0.6	4.870	A
			2	A227N, A227S, A2ON	953	1146	0.831	956	990	2.1	3.8	14.219	B
	Exit	1	1		1198			1198	1229	0.0	0.0	0.000	A
A20FF	Entry	1	1	A227N, A227S, A2ON	444	570	0.779	441	454	1.0	2.1	14.053	B
			2	A227N	381	570	0.669	378	387	0.8	1.4	12.068	B
		2	1	(A227N, A227S, A2ON)	828			826	848	0.1	0.9	2.847	A
	Exit	1	1		0			0	0	0.0	0.0	0.000	A
A227S	Entry	1	1	A227N, A2ON	475	585	0.812	474	484	1.1	2.2	14.946	B
			2	A227N, A227S	389	586	0.666	389	392	0.8	1.4	11.586	B
		2	1	(A227N, A20FF, A227S, A2ON)	871			864	883	0.1	2.0	4.544	A
	Exit	1	1		736			736	746	0.0	0.0	0.000	A
A2ON	Exit	1	1		1162			1162	1191	0.0	0.0	0.000	A

08:30 - 08:45

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	Entry	1	1	A227S	464	1157	0.402	459	469	0.6	1.0	4.888	A
			2	A227N, A227S, A2ON	963	1144	0.843	956	996	3.8	4.0	13.477	B
	Exit	1	1		1226			1226	1247	0.0	0.0	0.000	A
A20FF	Entry	1	1	A227N, A227S, A2ON	460	571	0.808	458	461	2.1	2.1	15.476	C
			2	A227N	380	569	0.667	380	389	1.4	1.5	13.348	B

		2	1	(A227N, A227S, A2ON)	840			840	851	0.9	1.1	4.120	A
	Exit	1	1		0			0	0	0.0	0.0	0.000	A
A227S	Entry	1	1	A227N, A2ON	474	581	0.815	474	496	2.2	2.1	16.496	C
			2	A227N, A227S	392	582	0.672	392	400	1.4	1.3	12.823	B
	Exit	1	1	(A227N, A2OFF, A227S, A2ON)	877			865	895	2.0	2.5	8.412	A
					745			745	769	0.0	0.0	0.000	A
A2ON	Exit	1	1		1149			1149	1196	0.0	0.0	0.000	A

08:45 - 09:00

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	Entry	1	1	A227S	340	1160	0.294	338	354	1.0	0.6	4.176	A
			2	A227N, A227S, A2ON	812	1144	0.711	807	855	4.0	2.7	9.621	A
	Exit	1	1		973			973	1024	0.0	0.0	0.000	A
A2OFF	Entry	1	1	A227N, A227S, A2ON	375	650	0.577	375	390	2.1	1.1	10.097	B
			2	A227N	291	654	0.444	288	308	1.5	0.8	8.932	A
	Exit	1	1	(A227N, A227S, A2ON)	665			665	692	1.1	0.0	0.832	A
					0			0	0	0.0	0.0	0.000	A
A227S	Entry	1	1	A227N, A2ON	412	677	0.608	411	430	2.1	1.2	10.758	B
			2	A227N, A227S	299	679	0.440	299	315	1.3	0.7	8.729	A
	Exit	1	1	(A227N, A2OFF, A227S, A2ON)	711			710	739	2.5	0.1	1.323	A
					604			604	621	0.0	0.0	0.000	A
A2ON	Exit	1	1		941			941	1007	0.0	0.0	0.000	A

09:00 - 09:15

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	Entry	1	1	A227S	261	1156	0.226	260	273	0.6	0.4	3.751	A
			2	A227N, A227S, A2ON	700	1146	0.610	697	728	2.7	1.9	7.036	A
	Exit	1	1		850			850	871	0.0	0.0	0.000	A
A2OFF	Entry	1	1	A227N, A227S, A2ON	328	706	0.465	329	333	1.1	0.7	7.334	A
			2	A227N	247	709	0.348	248	254	0.8	0.4	6.330	A
	Exit	1	1	(A227N, A227S, A2ON)	575			575	584	0.0	0.0	0.041	A
					0			0	0	0.0	0.0	0.000	A

A227S	Entry	1	1	A227N, A2ON	358	727	0.491	358	375	1.2	0.7	7.512	A
			2	A227N, A227S	253	732	0.347	253	255	0.7	0.5	6.468	A
		2	1	(A227N, A2OFF, A227S, A2ON)	610			611	628	0.1	0.0	0.138	A
	Exit	1	1		495			495	515	0.0	0.0	0.000	A
A2ON	Exit	1	1		801			801	833	0.0	0.0	0.000	A

2028 Do Minimum, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Lane Simulation	A1 - [Lane Simulation]	This analysis set uses Lane Simulation mode. This is provided as an investigative tool and the user should apply judgement when interpreting the results.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	A227 / A2 WB Slip Roads RB	Standard Roundabout		A227N, A2OFF, A227S, A2ON	9.80	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D12	2028 Do Minimum	PM	ONE HOUR	16:45	18:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A227N		ONE HOUR	✓	1243	100.000
A2OFF		ONE HOUR	✓	699	100.000
A227S		ONE HOUR	✓	806	100.000
A2ON					

Origin-Destination Data

Demand (Veh/hr)

	To				
		A227N	A2OFF	A227S	A2ON
From	A227N	0	0	667	576
	A2OFF	524	0	174	1
	A227S	581	0	2	223
	A2ON	Exit-only	Exit-only	Exit-only	Exit-only

Vehicle Mix

Heavy Vehicle Percentages

	To				
		A227N	A2OFF	A227S	A2ON
From	A227N	0	0	1	1
	A2OFF	1	0	2	0
	A227S	1	0	0	2
	A2ON	Exit-only	Exit-only	Exit-only	Exit-only

Results

Results Summary for whole modelled period

Arm	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
A227N	6.59	2.6	A	1133	1699
A2OFF	12.90	3.6	B	648	973
A227S	12.00	3.8	B	742	1113
A2ON					

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	954	238	2	958	950	835	0.0	1.2	4.667	A
A2OFF	542	135	960	543	539	0	0.0	0.8	6.453	A
A227S	599	150	845	599	616	658	0.0	1.1	5.902	A
A2ON			0			608				

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	1098	275	3	1102	1113	998	1.2	1.5	5.234	A
A2OFF	629	157	1105	631	631	0	0.8	1.2	7.996	A
A227S	736	184	979	737	737	757	1.1	1.6	7.070	A
A2ON			0			715				

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	1350	338	3	1350	1361	1268	1.5	2.3	6.292	A
A2OFF	806	202	1353	804	781	0	1.2	3.6	12.262	B
A227S	915	229	1231	919	908	926	1.6	2.8	10.828	B
A2ON			0			880				

17:30 - 17:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	1343	336	1	1345	1374	1209	2.3	2.5	6.588	A
A2OFF	781	195	1346	786	783	0	3.6	2.3	12.897	B
A227S	878	220	1223	864	891	909	2.8	3.7	11.997	B
A2ON			0			876				

17:45 - 18:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	1105	276	3	1108	1149	1007	2.5	1.5	5.254	A
A2OFF	630	157	1111	627	638	0	2.3	1.6	8.357	A
A227S	733	183	985	734	736	754	3.7	1.6	8.023	A
A2ON			0			710				

18:00 - 18:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	945	236	2	939	943	796	1.5	1.5	4.579	A
A2OFF	504	126	942	510	531	0	1.6	0.7	6.767	A
A227S	588	147	815	584	606	637	1.6	1.1	6.034	A
A2ON			0			600				

Lane Results

Lane Level notation: Lane Level 1 is always closest to the junction.

Lanes: Main Results for each time segment

16:45 - 17:00

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	Entry	1	1	A227S	339	1177	0.288	339	332	0.0	0.4	3.667	A

			2	A227N, A227S, A2ON	615	1178	0.521	619	618	0.0	0.8	5.205	A
	Exit	1	1		835			835	851	0.0	0.0	0.000	A
A2OFF	Entry	1	1	A227N, A227S, A2ON	314	716	0.437	314	307	0.0	0.5	6.840	A
			2	A227N	228	718	0.317	229	232	0.0	0.4	5.935	A
	Exit	1	1	(A227N, A227S, A2ON)	542			542	542	0.0	0.0	0.004	A
			1		0			0	0	0.0	0.0	0.000	A
	Exit	1	1		0			0	0	0.0	0.0	0.000	A
A227S	Entry	1	1	A227N, A2ON	352	805	0.438	353	360	0.0	0.6	6.217	A
			2	A227N, A227S	247	809	0.305	246	256	0.0	0.4	5.409	A
	Exit	1	1	(A227N, A2OFF, A227S, A2ON)	599			599	620	0.0	0.0	0.022	A
			1		658			658	646	0.0	0.0	0.000	A
	Exit	1	1		658			658	646	0.0	0.0	0.000	A
A2ON	Exit	1	1		608			608	608	0.0	0.0	0.000	A

17:00 - 17:15

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	Entry	1	1	A227S	394	1179	0.335	393	404	0.4	0.4	4.072	A
			2	A227N, A227S, A2ON	704	1180	0.597	709	709	0.8	1.1	5.895	A
	Exit	1	1		998			998	995	0.0	0.0	0.000	A
A2OFF	Entry	1	1	A227N, A227S, A2ON	351	675	0.518	352	357	0.5	0.7	8.261	A
			2	A227N	279	681	0.410	279	274	0.4	0.5	7.040	A
	Exit	1	1	(A227N, A227S, A2ON)	629			631	633	0.0	0.0	0.268	A
			1		0			0	0	0.0	0.0	0.000	A
A227S	Entry	1	1	A227N, A2ON	427	763	0.560	428	424	0.6	0.9	7.351	A
			2	A227N, A227S	310	762	0.407	309	313	0.4	0.7	6.369	A
	Exit	1	1	(A227N, A2OFF, A227S, A2ON)	736			737	739	0.0	0.0	0.138	A
			1		757			757	766	0.0	0.0	0.000	A
A2ON	Exit	1	1		715			715	720	0.0	0.0	0.000	A

17:15 - 17:30

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	Entry	1	1	A227S	514	1179	0.436	514	516	0.4	0.7	4.741	A
			2	A227N, A227S, A2ON	837	1175	0.712	836	845	1.1	1.6	7.242	A
	Exit	1	1		1268			1268	1234	0.0	0.0	0.000	A

A2OFF	Entry	1	1	A227N, A227S, A2ON	437	602	0.726	435	426	0.7	1.8	11.957	B
			2	A227N	370	604	0.612	370	354	0.5	1.3	10.282	B
		2	1	(A227N, A227S, A2ON)	806			807	789	0.0	0.5	1.057	A
	Exit	1	1		0			0	0	0.0	0.0	0.000	A
A227S	Entry	1	1	A227N, A2ON	500	679	0.737	500	499	0.9	1.5	10.640	B
			2	A227N, A227S	416	685	0.607	419	410	0.7	1.0	8.591	A
		2	1	(A227N, A2OFF, A227S, A2ON)	915			916	912	0.0	0.4	1.106	A
	Exit	1	1		926			926	922	0.0	0.0	0.000	A
A2ON	Exit	1	1		880			880	894	0.0	0.0	0.000	A

17:30 - 17:45

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	Entry	1	1	A227S	503	1179	0.427	502	521	0.7	0.8	4.712	A
			2	A227N, A227S, A2ON	841	1179	0.713	842	853	1.6	1.7	7.736	A
	Exit	1	1		1209			1209	1228	0.0	0.0	0.000	A
A2OFF	Entry	1	1	A227N, A227S, A2ON	426	608	0.702	429	427	1.8	1.3	12.401	B
			2	A227N	355	607	0.584	358	355	1.3	0.8	10.455	B
		2	1	(A227N, A227S, A2ON)	781			781	778	0.5	0.3	1.372	A
	Exit	1	1		0			0	0	0.0	0.0	0.000	A
A227S	Entry	1	1	A227N, A2ON	471	685	0.688	472	494	1.5	1.4	11.177	B
			2	A227N, A227S	394	687	0.573	392	397	1.0	1.1	9.550	A
		2	1	(A227N, A2OFF, A227S, A2ON)	878			865	892	0.4	1.2	1.500	A
	Exit	1	1		909			909	927	0.0	0.0	0.000	A
A2ON	Exit	1	1		876			876	893	0.0	0.0	0.000	A

17:45 - 18:00

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	Entry	1	1	A227S	392	1176	0.334	395	417	0.8	0.4	4.041	A
			2	A227N, A227S, A2ON	713	1177	0.605	714	732	1.7	1.1	5.942	A
	Exit	1	1		1007			1007	1006	0.0	0.0	0.000	A
A2OFF	Entry	1	1	A227N, A227S, A2ON	361	674	0.536	359	363	1.3	0.9	8.678	A
			2	A227N	270	674	0.401	268	275	0.8	0.7	7.614	A

		2	1	(A227N, A227S, A2ON)	630			631	637	0.3	0.0	0.169	A
	Exit	1	1		0			0	0	0.0	0.0	0.000	A
A227S	Entry	1	1	A227N, A2ON	420	759	0.554	421	420	1.4	0.8	8.087	A
			2	A227N, A227S	315	763	0.413	314	316	1.1	0.8	6.872	A
	Exit	1	1	(A227N, A2OFF, A227S, A2ON)	733			735	732	1.2	0.0	0.546	A
			1		754			754	782	0.0	0.0	0.000	A
A2ON	Exit	1	1		710			710	736	0.0	0.0	0.000	A

18:00 - 18:15

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	Entry	1	1	A227S	329	1183	0.278	327	325	0.4	0.5	3.682	A
			2	A227N, A227S, A2ON	615	1180	0.521	612	619	1.1	1.0	5.050	A
	Exit	1	1		796			796	831	0.0	0.0	0.000	A
A2OFF	Entry	1	1	A227N, A227S, A2ON	286	724	0.394	291	306	0.9	0.4	7.035	A
			2	A227N	218	726	0.300	219	225	0.7	0.3	6.287	A
	Exit	1	1	(A227N, A227S, A2ON)	504			504	527	0.0	0.0	0.049	A
			1		0			0	0	0.0	0.0	0.000	A
A227S	Entry	1	1	A227N, A2ON	341	811	0.422	339	351	0.8	0.7	6.427	A
			2	A227N, A227S	246	818	0.301	245	255	0.8	0.4	5.429	A
	Exit	1	1	(A227N, A2OFF, A227S, A2ON)	588			588	604	0.0	0.0	0.027	A
			1		637			637	641	0.0	0.0	0.000	A
A2ON	Exit	1	1		600			600	608	0.0	0.0	0.000	A

2028 Do Minimum Residual, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Lane Simulation	A1 - [Lane Simulation]	This analysis set uses Lane Simulation mode. This is provided as an investigative tool and the user should apply judgement when interpreting the results.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
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1	A227 / A2 WB Slip Roads RB	Standard Roundabout		A227N, A2OFF, A227S, A2ON	15.84	C
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Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D13	2028 Do Minimum Residual	AM	ONE HOUR	07:45	09:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A227N		ONE HOUR	✓	1273	100.000
A2OFF		ONE HOUR	✓	753	100.000
A227S		ONE HOUR	✓	797	100.000
A2ON					

Origin-Destination Data

Demand (Veh/hr)

	To				
		A227N	A2OFF	A227S	A2ON
From	A227N	1	0	480	792
	A2OFF	562	0	187	4
	A227S	540	0	0	257
	A2ON	Exit-only	Exit-only	Exit-only	Exit-only

Vehicle Mix

Heavy Vehicle Percentages

	To				
		A227N	A2OFF	A227S	A2ON
From	A227N	100	0	3	4
	A2OFF	2	0	2	0
	A227S	2	0	0	3
	A2ON	Exit-only	Exit-only	Exit-only	Exit-only

Results

Results Summary for whole modelled period

Arm	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
A227N	11.11	4.3	B	1168	1752
A2OFF	16.80	4.3	C	691	1036
A227S	22.61	5.7	C	731	1097
A2ON					

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	948	237	0	951	978	833	0.0	1.4	5.787	A
A2OFF	572	143	951	572	576	0	0.0	1.1	6.789	A
A227S	599	150	1018	602	615	504	0.0	1.0	6.892	A
A2ON			0			787				

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	1144	286	0	1141	1178	992	1.4	2.3	7.196	A
A2OFF	679	170	1141	681	688	0	1.1	1.7	8.733	A
A227S	721	180	1216	718	729	606	1.0	2.1	9.255	A
A2ON			0			943				

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	1411	353	0	1414	1448	1209	2.3	4.2	11.107	B
A2OFF	830	207	1414	827	835	0	1.7	4.2	15.803	C
A227S	885	221	1501	876	883	740	2.1	5.6	17.977	C
A2ON			0			1168				

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	1400	350	0	1399	1445	1204	4.2	4.1	10.974	B
A2OFF	822	205	1399	819	839	0	4.2	4.3	16.796	C
A227S	877	219	1479	877	901	740	5.6	5.7	22.615	C
A2ON			0			1152				

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
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A227N	1160	290	0	1162	1198	981	4.1	2.2	7.648	A
A2OFF	681	170	1162	679	700	0	4.3	1.9	10.193	B
A227S	709	177	1232	706	746	609	5.7	2.0	11.128	B
A2ON			0			957				

09:00 - 09:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	944	236	0	948	992	827	2.2	1.5	5.895	A
A2OFF	562	140	948	562	581	0	1.9	1.1	7.123	A
A227S	599	150	1019	600	620	491	2.0	1.0	7.270	A
A2ON			0			792				

Lane Results

Lane Level notation: Lane Level 1 is always closest to the junction.

Lanes: Main Results for each time segment

07:45 - 08:00

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	Entry	1	1	A227S	264	1158	0.228	264	268	0.0	0.2	3.618	A
			2	A227N, A227S, A2ON	684	1143	0.599	687	710	0.0	1.1	6.613	A
	Exit	1	1		833			833	849	0.0	0.0	0.000	A
A2OFF	Entry	1	1	A227N, A227S, A2ON	329	708	0.465	329	330	0.0	0.7	7.137	A
			2	A227N	243	708	0.343	243	246	0.0	0.4	6.201	A
		2	1	(A227N, A227S, A2ON)	572			572	580	0.0	0.0	0.052	A
	Exit	1	1		0			0	0	0.0	0.0	0.000	A
A227S	Entry	1	1	A227N, A2ON	353	732	0.482	356	366	0.0	0.6	7.293	A
			2	A227N, A227S	246	739	0.334	246	249	0.0	0.4	6.005	A
		2	1	(A227N, A2OFF, A227S, A2ON)	599			599	619	0.0	0.0	0.123	A
	Exit	1	1		504			504	510	0.0	0.0	0.000	A
A2ON	Exit	1	1		787			787	809	0.0	0.0	0.000	A

08:00 - 08:15

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	Entry	1	1	A227S	336	1156	0.291	336	340	0.2	0.4	4.026	A
			2	A227N, A227S, A2ON	808	1145	0.706	805	838	1.1	2.0	8.496	A
	Exit	1	1		992			992	1009	0.0	0.0	0.000	A

A20FF	Entry	1	1	A227N, A227S, A2ON	382	651	0.586	384	387	0.7	0.9	8.974	A
			2	A227N	298	651	0.457	297	302	0.4	0.7	7.828	A
		2	1	(A227N, A227S, A2ON)	679			680	690	0.0	0.1	0.257	A
	Exit	1	1		0			0	0	0.0	0.0	0.000	A
A227S	Entry	1	1	A227N, A2ON	414	672	0.616	413	423	0.6	1.2	9.456	A
			2	A227N, A227S	307	675	0.455	306	306	0.4	0.7	7.633	A
		2	1	(A227N, A20FF, A227S, A2ON)	721			721	733	0.0	0.1	0.564	A
	Exit	1	1		606			606	612	0.0	0.0	0.000	A
A2ON	Exit	1	1		943			943	975	0.0	0.0	0.000	A

08:15 - 08:30

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	Entry	1	1	A227S	452	1155	0.391	452	459	0.4	0.5	4.772	A
			2	A227N, A227S, A2ON	959	1144	0.838	962	989	2.0	3.7	14.062	B
	Exit	1	1		1209			1209	1220	0.0	0.0	0.000	A
A20FF	Entry	1	1	A227N, A227S, A2ON	447	571	0.783	445	452	0.9	2.0	13.882	B
			2	A227N	384	570	0.673	382	383	0.7	1.4	11.937	B
		2	1	(A227N, A227S, A2ON)	830			830	843	0.1	0.8	2.777	A
	Exit	1	1		0			0	0	0.0	0.0	0.000	A
A227S	Entry	1	1	A227N, A2ON	486	581	0.838	485	495	1.2	2.2	14.579	B
			2	A227N, A227S	393	586	0.671	391	388	0.7	1.5	11.687	B
		2	1	(A227N, A20FF, A227S, A2ON)	885			879	890	0.1	1.9	4.598	A
	Exit	1	1		740			740	751	0.0	0.0	0.000	A
A2ON	Exit	1	1		1168			1168	1194	0.0	0.0	0.000	A

08:30 - 08:45

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	Entry	1	1	A227S	448	1158	0.387	449	455	0.5	0.5	4.695	A
			2	A227N, A227S, A2ON	952	1144	0.832	951	990	3.7	3.5	13.890	B
	Exit	1	1		1204			1204	1242	0.0	0.0	0.000	A
A20FF	Entry	1	1	A227N, A227S, A2ON	443	575	0.771	443	454	2.0	1.9	14.684	B
			2	A227N	379	575	0.658	376	385	1.4	1.6	12.453	B

		2	1	(A227N, A227S, A2ON)	822			822	839	0.8	0.8	3.128	A
	Exit	1	1		0			0	0	0.0	0.0	0.000	A
A227S	Entry	1	1	A227N, A2ON	483	587	0.823	485	498	2.2	2.1	16.256	C
			2	A227N, A227S	391	593	0.659	392	403	1.5	1.4	12.768	B
		2	1	(A227N, A2OFF, A227S, A2ON)	877			874	900	1.9	2.2	7.933	A
	Exit	1	1		740			740	747	0.0	0.0	0.000	A
A2ON	Exit	1	1		1152			1152	1197	0.0	0.0	0.000	A

08:45 - 09:00

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	Entry	1	1	A227S	343	1152	0.298	343	350	0.5	0.5	4.081	A
			2	A227N, A227S, A2ON	816	1144	0.714	818	847	3.5	1.8	9.147	A
	Exit	1	1		981			981	1028	0.0	0.0	0.000	A
A2OFF	Entry	1	1	A227N, A227S, A2ON	380	647	0.586	379	389	1.9	1.0	10.133	B
			2	A227N	300	644	0.466	300	310	1.6	0.7	8.766	A
		2	1	(A227N, A227S, A2ON)	681			680	693	0.8	0.1	0.734	A
	Exit	1	1		0			0	0	0.0	0.0	0.000	A
A227S	Entry	1	1	A227N, A2ON	415	667	0.623	413	432	2.1	1.2	10.645	B
			2	A227N, A227S	294	670	0.438	293	314	1.4	0.7	8.638	A
		2	1	(A227N, A2OFF, A227S, A2ON)	709			709	740	2.2	0.1	1.458	A
	Exit	1	1		609			609	622	0.0	0.0	0.000	A
A2ON	Exit	1	1		957			957	994	0.0	0.0	0.000	A

09:00 - 09:15

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	Entry	1	1	A227S	258	1157	0.223	259	269	0.5	0.2	3.716	A
			2	A227N, A227S, A2ON	686	1143	0.600	689	723	1.8	1.2	6.713	A
	Exit	1	1		827			827	852	0.0	0.0	0.000	A
A2OFF	Entry	1	1	A227N, A227S, A2ON	321	711	0.451	321	331	1.0	0.7	7.486	A
			2	A227N	241	712	0.339	241	249	0.7	0.4	6.473	A
		2	1	(A227N, A227S, A2ON)	562			562	578	0.1	0.0	0.079	A
	Exit	1	1		0			0	0	0.0	0.0	0.000	A

A227S	Entry	1	1	A227N, A2ON	356	734	0.485	357	370	1.2	0.7	7.725	A
			2	A227N, A227S	243	735	0.330	243	251	0.7	0.4	6.314	A
		2	1	(A227N, A2OFF, A227S, A2ON)	599			599	617	0.1	0.0	0.122	A
	Exit	1	1		491			491	512	0.0	0.0	0.000	A
A2ON	Exit	1	1		792			792	829	0.0	0.0	0.000	A

2028 Do Minimum Residual, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Lane Simulation	A1 - [Lane Simulation]	This analysis set uses Lane Simulation mode. This is provided as an investigative tool and the user should apply judgement when interpreting the results.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	A227 / A2 WB Slip Roads RB	Standard Roundabout		A227N, A2OFF, A227S, A2ON	9.48	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D14	2028 Do Minimum Residual	PM	ONE HOUR	16:45	18:15	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A227N		ONE HOUR	✓	1238	100.000
A2OFF		ONE HOUR	✓	694	100.000
A227S		ONE HOUR	✓	806	100.000
A2ON					

Origin-Destination Data

Demand (Veh/hr)

	To				
		A227N	A2OFF	A227S	A2ON
From	A227N	0	0	667	571
	A2OFF	519	0	174	1
	A227S	581	0	2	223
	A2ON	Exit-only	Exit-only	Exit-only	Exit-only

Vehicle Mix

Heavy Vehicle Percentages

	To				
		A227N	A2OFF	A227S	A2ON
From	A227N	0	0	1	1
	A2OFF	1	0	2	0
	A227S	1	0	0	2
	A2ON	Exit-only	Exit-only	Exit-only	Exit-only

Results

Results Summary for whole modelled period

Arm	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
A227N	6.59	2.6	A	1133	1700
A2OFF	12.37	2.6	B	644	966
A227S	11.39	3.2	B	734	1101
A2ON					

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	930	232	2	928	938	813	0.0	1.4	4.698	A
A2OFF	513	128	929	509	513	0	0.0	1.0	6.193	A
A227S	590	148	809	592	606	630	0.0	0.9	5.882	A
A2ON			0			586				

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	1118	280	2	1112	1126	988	1.4	1.8	5.553	A
A2OFF	631	158	1114	632	630	0	1.0	1.3	7.851	A
A227S	713	178	988	719	726	758	0.9	1.2	7.070	A
A2ON			0			717				

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	1335	334	2	1328	1359	1215	1.8	2.6	6.463	A
A2OFF	785	196	1330	785	788	0	1.3	2.6	12.365	B
A227S	867	217	1201	864	876	914	1.2	2.8	10.531	B
A2ON			0			849				

17:30 - 17:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	1377	344	2	1386	1389	1202	2.6	2.1	6.591	A
A2OFF	756	189	1388	759	767	0	2.6	2.0	12.301	B
A227S	889	222	1206	881	893	941	2.8	3.2	11.393	B
A2ON			0			882				

17:45 - 18:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	1110	277	3	1111	1119	994	2.1	1.6	5.180	A
A2OFF	635	159	1113	637	634	0	2.0	1.3	8.559	A
A227S	728	182	985	728	749	765	3.2	1.7	7.873	A
A2ON			0			717				

18:00 - 18:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Throughput (Veh/hr)	Average throughput (PCU/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	929	232	0.87	930	959	855	1.6	1.0	4.787	A
A2OFF	542	136	931	543	540	0	1.3	1.1	6.492	A
A227S	619	155	828	618	628	645	1.7	1.1	6.079	A
A2ON			0			591				

Lane Results

Lane Level notation: Lane Level 1 is always closest to the junction.

Lanes: Main Results for each time segment

16:45 - 17:00

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	Entry	1	1	A227S	327	1175	0.279	327	331	0.0	0.3	3.808	A

			2	A227N, A227S, A2ON	603	1177	0.513	601	607	0.0	1.0	5.180	A
	Exit	1	1		813			813	815	0.0	0.0	0.000	A
A2OFF	Entry	1	1	A227N, A227S, A2ON	293	725	0.405	292	296	0.0	0.6	6.401	A
			2	A227N	219	730	0.300	217	217	0.0	0.4	5.865	A
	Exit	1	1	(A227N, A227S, A2ON)	513			513	517	0.0	0.0	0.019	A
			1		0			0	0	0.0	0.0	0.000	A
	Exit	1	1		0			0	0	0.0	0.0	0.000	A
A227S	Entry	1	1	A227N, A2ON	344	814	0.422	345	353	0.0	0.5	6.293	A
			2	A227N, A227S	247	817	0.302	247	253	0.0	0.4	5.170	A
	Exit	1	1	(A227N, A2OFF, A227S, A2ON)	590			591	609	0.0	0.0	0.059	A
			1		630			630	644	0.0	0.0	0.000	A
	Exit	1	1		630			630	644	0.0	0.0	0.000	A
A2ON	Exit	1	1		586			586	597	0.0	0.0	0.000	A

17:00 - 17:15

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	Entry	1	1	A227S	413	1178	0.350	412	412	0.3	0.5	4.281	A
			2	A227N, A227S, A2ON	705	1177	0.599	700	714	1.0	1.3	6.285	A
	Exit	1	1		988			988	992	0.0	0.0	0.000	A
A2OFF	Entry	1	1	A227N, A227S, A2ON	351	671	0.522	350	355	0.6	0.8	8.170	A
			2	A227N	281	674	0.417	282	275	0.4	0.5	7.128	A
	Exit	1	1	(A227N, A227S, A2ON)	631			631	631	0.0	0.0	0.134	A
			1		0			0	0	0.0	0.0	0.000	A
A227S	Entry	1	1	A227N, A2ON	413	760	0.543	416	422	0.5	0.7	7.365	A
			2	A227N, A227S	301	761	0.396	302	304	0.4	0.4	6.298	A
	Exit	1	1	(A227N, A2OFF, A227S, A2ON)	713			714	727	0.0	0.0	0.153	A
			1		758			758	764	0.0	0.0	0.000	A
A2ON	Exit	1	1		717			717	726	0.0	0.0	0.000	A

17:15 - 17:30

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	Entry	1	1	A227S	503	1177	0.428	501	514	0.5	0.8	4.828	A
			2	A227N, A227S, A2ON	832	1177	0.706	827	845	1.3	1.8	7.454	A
	Exit	1	1		1215			1215	1211	0.0	0.0	0.000	A

A2OFF	Entry	1	1	A227N, A227S, A2ON	429	609	0.704	427	431	0.8	1.5	12.105	B
			2	A227N	357	609	0.586	358	357	0.5	1.0	10.314	B
		2	1	(A227N, A227S, A2ON)	785			786	792	0.0	0.1	1.072	A
	Exit	1	1		0			0	0	0.0	0.0	0.000	A
A227S	Entry	1	1	A227N, A2ON	477	690	0.691	476	487	0.7	1.4	10.207	B
			2	A227N, A227S	387	694	0.557	388	389	0.4	1.1	8.638	A
		2	1	(A227N, A2OFF, A227S, A2ON)	867			865	881	0.0	0.3	1.010	A
	Exit	1	1		914			914	932	0.0	0.0	0.000	A
A2ON	Exit	1	1		849			849	879	0.0	0.0	0.000	A

17:30 - 17:45

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	Entry	1	1	A227S	542	1178	0.460	546	536	0.8	0.6	4.807	A
			2	A227N, A227S, A2ON	835	1178	0.708	839	853	1.8	1.6	7.711	A
	Exit	1	1		1202			1202	1219	0.0	0.0	0.000	A
A2OFF	Entry	1	1	A227N, A227S, A2ON	410	593	0.690	410	420	1.5	1.2	12.223	B
			2	A227N	346	595	0.581	348	348	1.0	0.8	10.390	B
		2	1	(A227N, A227S, A2ON)	756			756	765	0.1	0.0	0.912	A
	Exit	1	1		0			0	0	0.0	0.0	0.000	A
A227S	Entry	1	1	A227N, A2ON	500	691	0.723	497	498	1.4	1.7	10.773	B
			2	A227N, A227S	387	693	0.559	384	396	1.1	1.2	9.224	A
		2	1	(A227N, A2OFF, A227S, A2ON)	889			887	895	0.3	0.3	1.306	A
	Exit	1	1		941			941	940	0.0	0.0	0.000	A
A2ON	Exit	1	1		882			882	890	0.0	0.0	0.000	A

17:45 - 18:00

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	Entry	1	1	A227S	406	1181	0.344	406	404	0.6	0.4	4.041	A
			2	A227N, A227S, A2ON	704	1176	0.599	705	715	1.6	1.2	5.827	A
	Exit	1	1		994			994	1017	0.0	0.0	0.000	A
A2OFF	Entry	1	1	A227N, A227S, A2ON	355	672	0.529	355	356	1.2	0.9	8.922	A
			2	A227N	280	673	0.416	282	278	0.8	0.5	7.726	A

		2	1	(A227N, A227S, A2ON)	635			635	632	0.0	0.0	0.164	A
	Exit	1	1		0			0	0	0.0	0.0	0.000	A
A227S	Entry	1	1	A227N, A2ON	417	759	0.549	416	425	1.7	1.0	8.122	A
			2	A227N, A227S	312	762	0.409	311	324	1.2	0.6	6.914	A
		2	1	(A227N, A2OFF, A227S, A2ON)	728			729	744	0.3	0.0	0.293	A
	Exit	1	1		765			765	759	0.0	0.0	0.000	A
A2ON	Exit	1	1		717			717	727	0.0	0.0	0.000	A

18:00 - 18:15

Arm	Side	Lane level	Lane	Destination arms	Total Demand (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Average throughput (PCU/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
A227N	Entry	1	1	A227S	329	1181	0.279	328	335	0.4	0.3	3.827	A
			2	A227N, A227S, A2ON	600	1176	0.510	602	624	1.2	0.7	5.306	A
	Exit	1	1		855			855	850	0.0	0.0	0.000	A
A2OFF	Entry	1	1	A227N, A227S, A2ON	310	727	0.427	311	313	0.9	0.7	6.847	A
			2	A227N	232	730	0.318	232	226	0.5	0.4	5.954	A
		2	1	(A227N, A227S, A2ON)	542			542	539	0.0	0.0	0.022	A
	Exit	1	1		0			0	0	0.0	0.0	0.000	A
A227S	Entry	1	1	A227N, A2ON	363	808	0.449	362	366	1.0	0.6	6.406	A
			2	A227N, A227S	257	809	0.317	257	262	0.6	0.5	5.572	A
		2	1	(A227N, A2OFF, A227S, A2ON)	619			619	626	0.0	0.0	0.023	A
	Exit	1	1		645			645	653	0.0	0.0	0.000	A
A2ON	Exit	1	1		591			591	623	0.0	0.0	0.000	A