

Junctions 11											
ARCADY 11 - Roundabout Module											
Version: 11.1.0.2307											
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Filename: J28_v1.j11

Path: \\uk-lon-fas02\projects\UNIF\Projects\BESP0016 Kent Countywide Model\KCC Model Custodian Framework\Call-off Tasks\Tonbridge & Malling and Sevenoaks LP\15 Local Modelling\July 2025 Modelling\J28 Morley's Roundabout

Report generation date: 16/09/2025 07:36:57

- »D1 - 2019 | Base | AM
- »D2 - 2019 | Base | PM
- »D3 - 2040 | T&M LP_High | AM
- »D4 - 2040 | T&M LP_High | PM
- »D5 - 2042 | Forecast Baseline | AM
- »D6 - 2042 | Forecast Baseline | PM

Summary of junction performance

	AM						PM					
	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Network Residual Capacity	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Network Residual Capacity
	2019 - Base											
A - A21 N	D1	0.9	7.43	0.46	A	24 % [D - A21 S]	D2	0.7	4.55	0.40	A	65 % [A - A21 N]
B - River Hill		0.6	3.91	0.37	A			0.6	3.85	0.37	A	
C - B245		0.5	2.39	0.34	A			0.3	1.91	0.21	A	
D - A21 S		2.0	9.79	0.65	A			0.4	4.09	0.30	A	
5 - Morleys Rd		0.4	5.80	0.27	A			0.2	3.06	0.14	A	
	2040 - T&M LP_High											
A - A21 N	D3	1.9	12.77	0.64	B	1 % [D - A21 S]	D4	2.3	10.88	0.70	B	16 % [A - A21 N]
B - River Hill		0.8	4.75	0.44	A			1.2	6.43	0.54	A	
C - B245		1.2	3.48	0.53	A			0.5	2.34	0.31	A	
D - A21 S		6.1	29.92	0.87	D			1.2	6.86	0.53	A	
5 - Morleys Rd		0.8	9.72	0.42	A			0.3	4.64	0.25	A	
	2042 - Forecast Baseline											
A - A21 N	D5	1.6	11.36	0.61	B	11 % [D - A21 S]	D6	1.3	6.90	0.56	A	32 % [A - A21 N]
B - River Hill		0.8	4.63	0.43	A			1.0	5.07	0.48	A	
C - B245		0.7	2.80	0.41	A			0.4	2.17	0.27	A	
D - A21 S		3.2	15.22	0.76	C			0.8	5.50	0.45	A	
5 - Morleys Rd		0.6	7.45	0.36	A			0.2	3.88	0.18	A	

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle. Network Residual Capacity indicates the amount by which network flow could be increased before a user-definable threshold (see Analysis Options) is met.

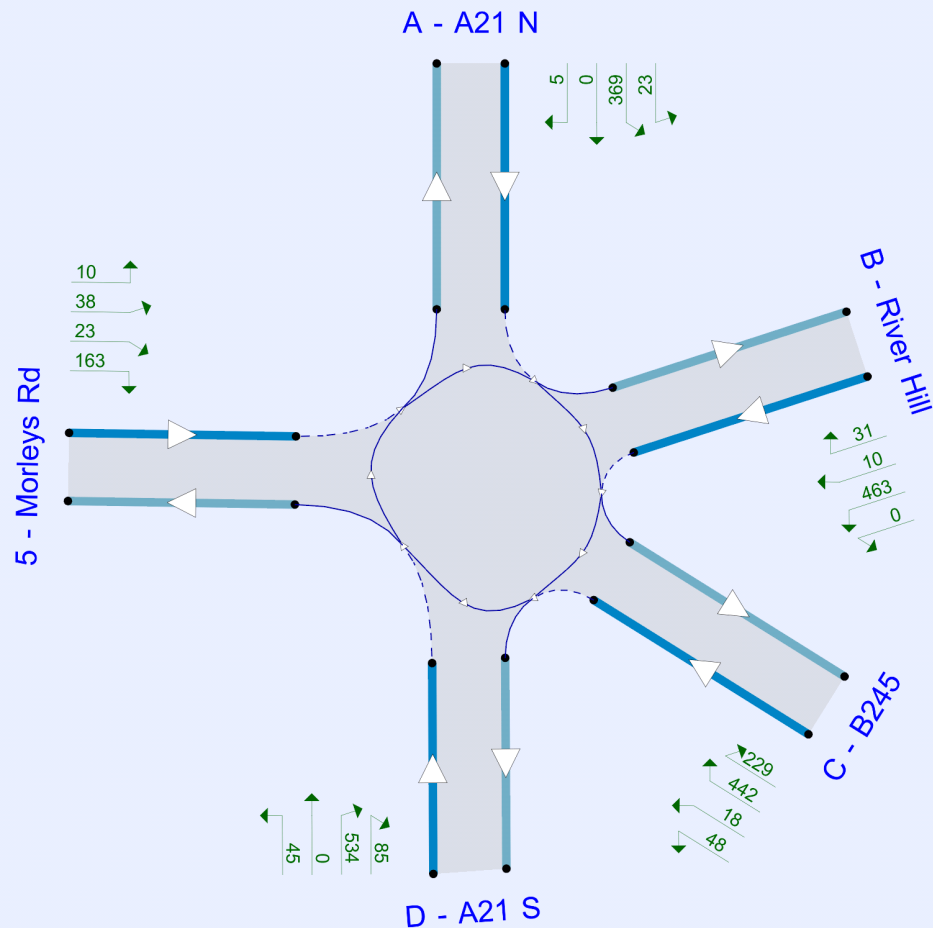
File summary

File Description

Title	
Location	
Site number	
Date	24/07/2025
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	JEGINTLSIUDZIS
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	PCU	PCU	perHour	s	-Min	perMin



Flows show original traffic demand (PCU/hr)

The junction diagram reflects the last run of Junctions.

Analysis Options

Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Show lane queues in feet / metres	Show all PICADY stream intercepts	Calculate residual capacity	Residual capacity criteria type	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)	Use simulation for HCM roundabouts	Use iterations for HCM roundabouts
5.75					✓	Delay	0.85	36.00	20.00		

Demand Set Summary

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2019	Base	AM	ONE HOUR	08:00	09:30	15	✓
D2	2019	Base	PM	ONE HOUR	17:00	18:30	15	✓
D3	2040	T&M LP_High	AM	ONE HOUR	08:00	09:30	15	✓
D4	2040	T&M LP_High	PM	ONE HOUR	17:00	18:30	15	✓
D5	2042	Forecast Baseline	AM	ONE HOUR	08:00	09:30	15	✓
D6	2042	Forecast Baseline	PM	ONE HOUR	17:00	18:30	15	✓

Analysis Set Details

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

D1 - 2019 | Base | 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	Morleys RBT	Large Roundabout		A, B, C, D, 5	5.73	A

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	24	D - A21 S	5.73	A

Arms

Arms

Arm	Name	Description	No give-way line
A	A21 N		
B	River Hill		
C	B245		
D	A21 S		
5	Morleys Rd		

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)	Entry only	Exit only
A - A21 N	4.50	4.50	0.0	48.8	127.5	15.0		
B - River Hill	4.50	4.50	0.0	32.0	127.5	17.0		
C - B245	7.00	8.18	12.0	25.0	127.5	12.0		
D - A21 S	6.47	6.47	0.0	106.0	134.6	11.0		
5 - Morleys Rd	4.75	4.75	0.0	257.0	124.1	8.5		

Large Roundabout Data

Arm	Circulating flow (PCU/hr)	Has entry-to-exit separation	Entry-to-exit separation (m)
A - A21 N	1180	✓	117.00
B - River Hill	710	✓	40.00
C - B245	740	✓	34.00
D - A21 S	809	✓	116.50
5 - Morleys Rd	1454	✓	68.00

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
A - A21 N	0.728	1814
B - River Hill	0.793	2066
C - B245	1.079	3192
D - A21 S	0.975	2598
5 - Morleys Rd	0.726	1995

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

Arm Capacity Adjustments

Arm	Type	Reason	Percentage capacity adjustment (%)
D - A21 S	Percentage		62.00

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2019	Base	AM	ONE HOUR	08:00	09:30	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - A21 N		ONE HOUR	✓	397	100.000
B - River Hill		ONE HOUR	✓	504	100.000
C - B245		ONE HOUR	✓	737	100.000
D - A21 S		ONE HOUR	✓	664	100.000
5 - Morleys Rd		ONE HOUR	✓	234	100.000

Origin-Destination Data

Demand (PCU/hr)

	To					
		A - A21 N	B - River Hill	C - B245	D - A21 S	5 - Morleys Rd
From	A - A21 N	0	23	369	0	5
	B - River Hill	31	0	0	463	10
	C - B245	442	229	0	48	18
	D - A21 S	0	534	85	0	45
	5 - Morleys Rd	10	38	23	163	0

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

	To					
		A - A21 N	B - River Hill	C - B245	D - A21 S	5 - Morleys Rd
From	A - A21 N	0	0	7	0	41
	B - River Hill	0	0	0	3	14
	C - B245	2	13	0	0	1
	D - A21 S	0	8	0	0	0
	5 - Morleys Rd	29	94	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A - A21 N	0.46	7.43	0.9	A	364	546
B - River Hill	0.37	3.91	0.6	A	462	694
C - B245	0.34	2.39	0.5	A	676	1014
D - A21 S	0.65	9.79	2.0	A	609	914
5 - Morleys Rd	0.27	5.80	0.4	A	215	322

D2 - 2019 | Base | 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	Morleys RBT	Large Roundabout		A, B, C, D, 5	3.53	A

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	65	A - A21 N	3.53	A

Arms

Arms

[same as above]

Roundabout Geometry

[same as above]

Large Roundabout Data

Arm	Circulating flow (PCU/hr)	Has entry-to-exit separation	Entry-to-exit separation (m)
A - A21 N	710	✓	117.00
B - River Hill	680	✓	40.00
C - B245	686	✓	34.00
D - A21 S	526	✓	116.50
5 - Morleys Rd	883	✓	68.00

Slope / Intercept / Capacity

[same as above]

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D2	2019	Base	PM	ONE HOUR	17:00	18:30	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - A21 N		ONE HOUR	✓	488	100.000
B - River Hill		ONE HOUR	✓	515	100.000
C - B245		ONE HOUR	✓	477	100.000
D - A21 S		ONE HOUR	✓	358	100.000
5 - Morleys Rd		ONE HOUR	✓	180	100.000

Origin-Destination Data

Demand (PCU/hr)

	To					
		A - A21 N	B - River Hill	C - B245	D - A21 S	5 - Morleys Rd
From	A - A21 N	0	38	446	0	4
	B - River Hill	17	0	0	494	4
	C - B245	306	139	0	24	8
	D - A21 S	0	324	16	0	18
	5 - Morleys Rd	14	14	48	104	0

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

	To					
		A - A21 N	B - River Hill	C - B245	D - A21 S	5 - Morleys Rd
From	A - A21 N	0	0	3	0	5
	B - River Hill	0	0	0	3	9
	C - B245	2	5	0	0	1
	D - A21 S	0	5	0	0	0
	5 - Morleys Rd	4	26	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A - A21 N	0.40	4.55	0.7	A	448	672
B - River Hill	0.37	3.85	0.6	A	473	709
C - B245	0.21	1.91	0.3	A	438	657
D - A21 S	0.30	4.09	0.4	A	329	493
5 - Morleys Rd	0.14	3.06	0.2	A	165	248

D3 - 2040 | T&M LP_High | 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	Morleys RBT	Large Roundabout		A, B, C, D, 5	11.63	B

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	1	D - A21 S	11.63	B

Arms

Arms

[same as above]

Roundabout Geometry

[same as above]

Large Roundabout Data

Arm	Circulating flow (PCU/hr)	Has entry-to-exit separation	Entry-to-exit separation (m)
A - A21 N	1334	✓	117.00
B - River Hill	805	✓	40.00
C - B245	837	✓	34.00
D - A21 S	1189	✓	116.50
5 - Morleys Rd	1832	✓	68.00

Slope / Intercept / Capacity

[same as above]

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D3	2040	T&M LP_High	AM	ONE HOUR	08:00	09:30	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - A21 N		ONE HOUR	✓	490	100.000
B - River Hill		ONE HOUR	✓	571	100.000
C - B245		ONE HOUR	✓	1103	100.000
D - A21 S		ONE HOUR	✓	703	100.000
5 - Morleys Rd		ONE HOUR	✓	267	100.000

Origin-Destination Data

Demand (PCU/hr)

	To					
		A - A21 N	B - River Hill	C - B245	D - A21 S	5 - Morleys Rd
From	A - A21 N	0	39	444	0	7
	B - River Hill	62	0	0	486	23
	C - B245	640	314	0	115	34
	D - A21 S	0	570	78	0	55
	5 - Morleys Rd	17	48	20	182	0

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

	To					
		A - A21 N	B - River Hill	C - B245	D - A21 S	5 - Morleys Rd
From	A - A21 N	0	0	8	0	39
	B - River Hill	6	0	0	4	6
	C - B245	2	8	0	0	8
	D - A21 S	0	7	0	0	0
	5 - Morleys Rd	9	84	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A - A21 N	0.64	12.77	1.9	B	450	674
B - River Hill	0.44	4.75	0.8	A	524	786
C - B245	0.53	3.48	1.2	A	1012	1518
D - A21 S	0.87	29.92	6.1	D	645	968
5 - Morleys Rd	0.42	9.72	0.8	A	245	368

D4 - 2040 | T&M LP_High | 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	Morleys RBT	Large Roundabout		A, B, C, D, 5	6.51	A

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	16	A - A21 N	6.51	A

Arms

Arms

[same as above]

Roundabout Geometry

[same as above]

Large Roundabout Data

Arm	Circulating flow (PCU/hr)	Has entry-to-exit separation	Entry-to-exit separation (m)
A - A21 N	1002	✓	117.00
B - River Hill	1004	✓	40.00
C - B245	829	✓	34.00
D - A21 S	759	✓	116.50
5 - Morleys Rd	1304	✓	68.00

Slope / Intercept / Capacity

[same as above]

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D4	2040	T&M LP_High	PM	ONE HOUR	17:00	18:30	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - A21 N		ONE HOUR	✓	693	100.000
B - River Hill		ONE HOUR	✓	612	100.000
C - B245		ONE HOUR	✓	655	100.000
D - A21 S		ONE HOUR	✓	557	100.000
5 - Morleys Rd		ONE HOUR	✓	235	100.000

Origin-Destination Data

Demand (PCU/hr)

	To					
		A - A21 N	B - River Hill	C - B245	D - A21 S	5 - Morleys Rd
From	A - A21 N	0	57	609	0	27
	B - River Hill	49	0	0	557	6
	C - B245	426	170	0	48	11
	D - A21 S	0	447	92	0	18
	5 - Morleys Rd	34	17	70	114	0

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

	To					
		A - A21 N	B - River Hill	C - B245	D - A21 S	5 - Morleys Rd
From	A - A21 N	0	0	1	0	1
	B - River Hill	0	0	0	3	8
	C - B245	2	4	0	0	1
	D - A21 S	0	4	0	0	0
	5 - Morleys Rd	2	24	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A - A21 N	0.70	10.88	2.3	B	636	954
B - River Hill	0.54	6.43	1.2	A	562	842
C - B245	0.31	2.34	0.5	A	601	902
D - A21 S	0.53	6.86	1.2	A	511	767
5 - Morleys Rd	0.25	4.64	0.3	A	216	323

D5 - 2042 | Forecast Baseline | 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	Morleys RBT	Large Roundabout		A, B, C, D, 5	8.08	A

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	11	D - A21 S	8.08	A

Arms

Arms

[same as above]

Roundabout Geometry

[same as above]

Large Roundabout Data

Arm	Circulating flow (PCU/hr)	Has entry-to-exit separation	Entry-to-exit separation (m)
A - A21 N	1293	✓	117.00
B - River Hill	799	✓	40.00
C - B245	831	✓	34.00
D - A21 S	956	✓	116.50
5 - Morleys Rd	1612	✓	68.00

Slope / Intercept / Capacity

[same as above]

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D5	2042	Forecast Baseline	AM	ONE HOUR	08:00	09:30	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - A21 N		ONE HOUR	✓	482	100.000
B - River Hill		ONE HOUR	✓	556	100.000
C - B245		ONE HOUR	✓	859	100.000
D - A21 S		ONE HOUR	✓	709	100.000
5 - Morleys Rd		ONE HOUR	✓	272	100.000

Origin-Destination Data

Demand (PCU/hr)

	To					
		A - A21 N	B - River Hill	C - B245	D - A21 S	5 - Morleys Rd
From	A - A21 N	0	44	431	0	7
	B - River Hill	55	0	0	473	28
	C - B245	493	262	0	81	23
	D - A21 S	0	579	75	0	55
	5 - Morleys Rd	14	45	21	192	0

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

	To					
		A - A21 N	B - River Hill	C - B245	D - A21 S	5 - Morleys Rd
From	A - A21 N	0	0	8	0	38
	B - River Hill	6	0	0	4	5
	C - B245	2	11	0	0	13
	D - A21 S	0	7	0	0	3
	5 - Morleys Rd	37	92	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A - A21 N	0.61	11.36	1.6	B	442	663
B - River Hill	0.43	4.63	0.8	A	510	765
C - B245	0.41	2.80	0.7	A	788	1182
D - A21 S	0.76	15.22	3.2	C	651	976
5 - Morleys Rd	0.36	7.45	0.6	A	250	374

D6 - 2042 | Forecast Baseline | 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	Morleys RBT	Large Roundabout		A, B, C, D, 5	4.85	A

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	32	A - A21 N	4.85	A

Arms

Arms

[same as above]

Roundabout Geometry

[same as above]

Large Roundabout Data

Arm	Circulating flow (PCU/hr)	Has entry-to-exit separation	Entry-to-exit separation (m)
A - A21 N	878	✓	117.00
B - River Hill	815	✓	40.00
C - B245	802	✓	34.00
D - A21 S	644	✓	116.50
5 - Morleys Rd	1158	✓	68.00

Slope / Intercept / Capacity

[same as above]

Traffic Demand

Demand Set Details

ID	Year	Scenario	Time period	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D6	2042	Forecast Baseline	PM	ONE HOUR	17:00	18:30	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A - A21 N		ONE HOUR	✓	607	100.000
B - River Hill		ONE HOUR	✓	617	100.000
C - B245		ONE HOUR	✓	564	100.000
D - A21 S		ONE HOUR	✓	504	100.000
5 - Morleys Rd		ONE HOUR	✓	195	100.000

Origin-Destination Data

Demand (PCU/hr)

	To					
		A - A21 N	B - River Hill	C - B245	D - A21 S	5 - Morleys Rd
From	A - A21 N	0	81	522	0	4
	B - River Hill	55	0	0	556	6
	C - B245	375	137	0	44	8
	D - A21 S	0	428	57	0	19
	5 - Morleys Rd	20	18	50	107	0

Vehicle Mix

HV data entry mode	PCU Factor for a HV (PCU)
HV Percentages	2.00

Heavy Vehicle %

	To					
		A - A21 N	B - River Hill	C - B245	D - A21 S	5 - Morleys Rd
From	A - A21 N	0	3	2	0	6
	B - River Hill	0	0	0	3	8
	C - B245	2	5	0	0	1
	D - A21 S	0	4	0	0	0
	5 - Morleys Rd	3	22	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A - A21 N	0.56	6.90	1.3	A	557	835
B - River Hill	0.48	5.07	1.0	A	566	849
C - B245	0.27	2.17	0.4	A	518	776
D - A21 S	0.45	5.50	0.8	A	462	694
5 - Morleys Rd	0.18	3.88	0.2	A	179	268