

APPENDIX A: TRAFFIC FLOW DIAGRAMS

Appendix Number	Appendix Title
A1.1	2022 Survey Traffic Flows
A2.1	2028 Growthed Reference Traffic Flows
A3.1	2030 Growthed Reference Traffic Flows
A4.1	2040 Growthed Reference Traffic Flows
A5.1	Total Committed Development Traffic Flows
A6.1	2028 Base Traffic Flows
A6.2	2028 Base Traffic Flows - Site Access Junctions
A7.1	2030 Base Traffic Flows
A7.2	2030 Base Traffic Flows - Site Access Junctions
A8.1	2040 Base Traffic Flows
A8.2	2040 Base Traffic Flows - Site Access Junctions
A9.1	Redistributed Traffic Associated with the Closure of Homestead Lane
A9.2	Redistributed Traffic Associated with the Closure of Homestead Lane - Site Access Junctions
A10.1	2028 Base Traffic Flows - Redistributed Traffic
A10.2	2028 Base Traffic Flows - Redistributed Traffic - Site Access Junctions
A11.1	2030 Base Traffic Flows - Redistributed Traffic
A11.2	2030 Base Traffic Flows - Redistributed Traffic - Site Access Junctions
A12.1	2040 Base Traffic Flows - Redistributed Traffic
A12.2	2040 Base Traffic Flows - Redistributed Traffic - Site Access Junctions
A13.1	Trip Distribution
A14.1	Traffic Assignment [Lower Berse Farm Development Site]
A14.2	Traffic Assignment - Site Access Junctions [Lower Berse Farm Development Site]
A15.1	2028 Assessment Traffic Flows [Base + Committed Development + Lower Berse Farm Development Site]
A15.2	2028 Assessment Traffic Flows - Site access Junctions [Base + Committed Development + Lower Berse Farm Development Site]
A16.1	2030 Assessment Traffic Flows [Base + Committed Development + Lower Berse Farm Development Site]
A16.2	2030 Assessment Traffic Flows - Site access Junctions [Base + Committed Development + Lower Berse Farm Development Site]
A17.1	2040 Assessment Traffic Flows [Base + Committed Development + Lower Berse Farm Development Site]
A17.2	2040 Assessment Traffic Flows - Site access Junctions [Base + Committed Development + Lower Berse Farm Development Site]

APPENDIX B: JUNCTION CAPACITY ASSESSMENT RESULTS

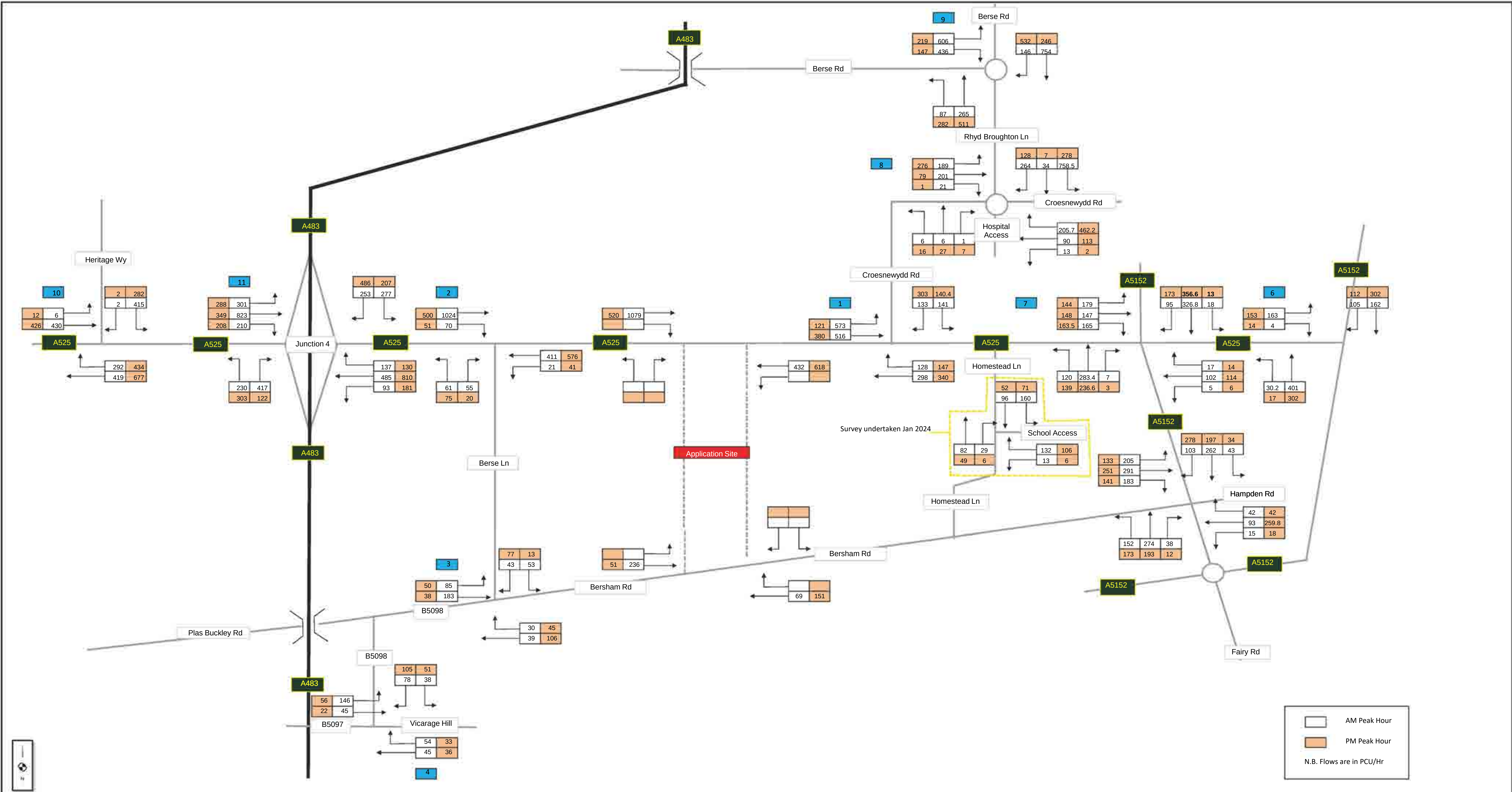
Appendix Number	Junction Number	Junction Name	Junction Type	Year	Scenario
B1	1	Proposed A525 Ruthin Road / Croesnewydd Road / Site Access Signalised Junction	Signalised	2028	AM Peak Hour With Assessment Traffic Flows
			Signalised	2028	PM Peak Hour With Assessment Traffic Flows
B2	2	Proposed North-Western Site Access on A525 Ruthin Road	Priority	2028	AM Peak Hour With Assessment Traffic Flows
			Priority	2028	PM Peak Hour With Assessment Traffic Flows
B3	3	Proposed South-Western Priority Access along Bersham Road	Priority	2028	AM Peak Hour With Assessment Traffic Flows
			Priority	2028	PM Peak Hour With Assessment Traffic Flows
B4	4	Proposed South-Eastern Priority Access along Bersham Road	Priority	2028	AM Peak Hour With Assessment Traffic Flows
			Priority	2028	PM Peak Hour With Assessment Traffic Flows
B5	5	A525 Ruthin Road / B5098 Berse Lane	Priority	2028	AM Peak Hour Base Traffic Flows
			Priority	2028	PM Peak Hour Base Traffic Flows
		A525 Ruthin Road / B5098 Berse Lane	Priority	2028	AM Peak Hour With Assessment Traffic Flows
			Priority	2028	PM Peak Hour With Assessment Traffic Flows
B6	6	B5098 / Vicarage Hill	Priority	2022	AM Peak Hour Survey Traffic Flows
			Priority	2022	PM Peak Hour Survey Traffic Flows
		B5098 / Vicarage Hill	Priority	2028	AM Peak Hour Base Traffic Flows
			Priority	2028	PM Peak Hour Base Traffic Flows
		B5098 / Vicarage Hill	Priority	2028	AM Peak Hour With Assessment Traffic Flows
			Priority	2028	PM Peak Hour With Assessment Traffic Flows
B7	7	A525 Ruthin Road / A5152 Ruabon Road	Priority	2022	AM Peak Hour Survey Traffic Flows
			Priority	2022	PM Peak Hour Survey Traffic Flows
		A525 Ruthin Road / A5152 Ruabon Road	Priority	2028	AM Peak Hour Base Traffic Flows
			Priority	2028	PM Peak Hour Base Traffic Flows
		A525 Ruthin Road / A5152 Ruabon Road	Priority	2028	AM Peak Hour With Assessment Traffic Flows
			Priority	2028	PM Peak Hour With Assessment Traffic Flows
B8	8	A525 Ruthin Road / A5152 Victoria Road	Signalised	2022	AM Peak Hour Survey Traffic Flows
			Signalised	2022	PM Peak Hour Survey Traffic Flows
		A525 Ruthin Road / A5152 Victoria Road	Signalised	2028	AM Peak Hour Base Traffic Flows
			Signalised	2028	PM Peak Hour Base Traffic Flows
		A525 Ruthin Road / A5152 Victoria Road	Signalised	2028	AM Peak Hour With Assessment Traffic Flows
			Signalised	2028	PM Peak Hour With Assessment Traffic Flows
B9	9	Croesnewydd Road / Rhyd Broughton Lane / Wrexham Maelor Hospital Access Roundabout	Roundabout	2022	AM Peak Hour Survey Traffic Flows
			Roundabout	2022	PM Peak Hour Survey Traffic Flows
		Croesnewydd Road / Rhyd Broughton Lane / Wrexham Maelor Hospital Access Roundabout	Roundabout	2028	AM Peak Hour Base Traffic Flows
			Roundabout	2028	PM Peak Hour Base Traffic Flows
		Croesnewydd Road / Rhyd Broughton Lane / Wrexham Maelor Hospital Access Roundabout	Roundabout	2028	AM Peak Hour With Assessment Traffic Flows
			Roundabout	2028	PM Peak Hour With Assessment Traffic Flows
B10	10	B5101 Berse Road / Rhyd Broughton Lane Roundabout	Roundabout	2022	AM Peak Hour Survey Traffic Flows
			Roundabout	2022	PM Peak Hour Survey Traffic Flows
		B5101 Berse Road / Rhyd Broughton Lane Roundabout	Roundabout	2028	AM Peak Hour Base Traffic Flows
			Roundabout	2028	PM Peak Hour Base Traffic Flows
		B5101 Berse Road / Rhyd Broughton Lane Roundabout	Roundabout	2028	AM Peak Hour With Assessment Traffic Flows
			Roundabout	2028	PM Peak Hour With Assessment Traffic Flows
B11	11	Junction 4 of the A483	Signalised	2030	AM Peak Hour Base Traffic Flows
			Signalised	2030	PM Peak Hour Base Traffic Flows
		Junction 4 of the A483	Signalised	2030	AM Peak Hour With Assessment Traffic Flows
			Signalised	2030	PM Peak Hour With Assessment Traffic Flows
		Junction 4 of the A483	Signalised	2040	AM Peak Hour Base Traffic Flows
			Signalised	2040	PM Peak Hour Base Traffic Flows
		Junction 4 of the A483	Signalised	2040	AM Peak Hour With Assessment Traffic Flows
			Signalised	2040	PM Peak Hour With Assessment Traffic Flows

APPENDIX C: OTHER TRAFFIC INFORMATION

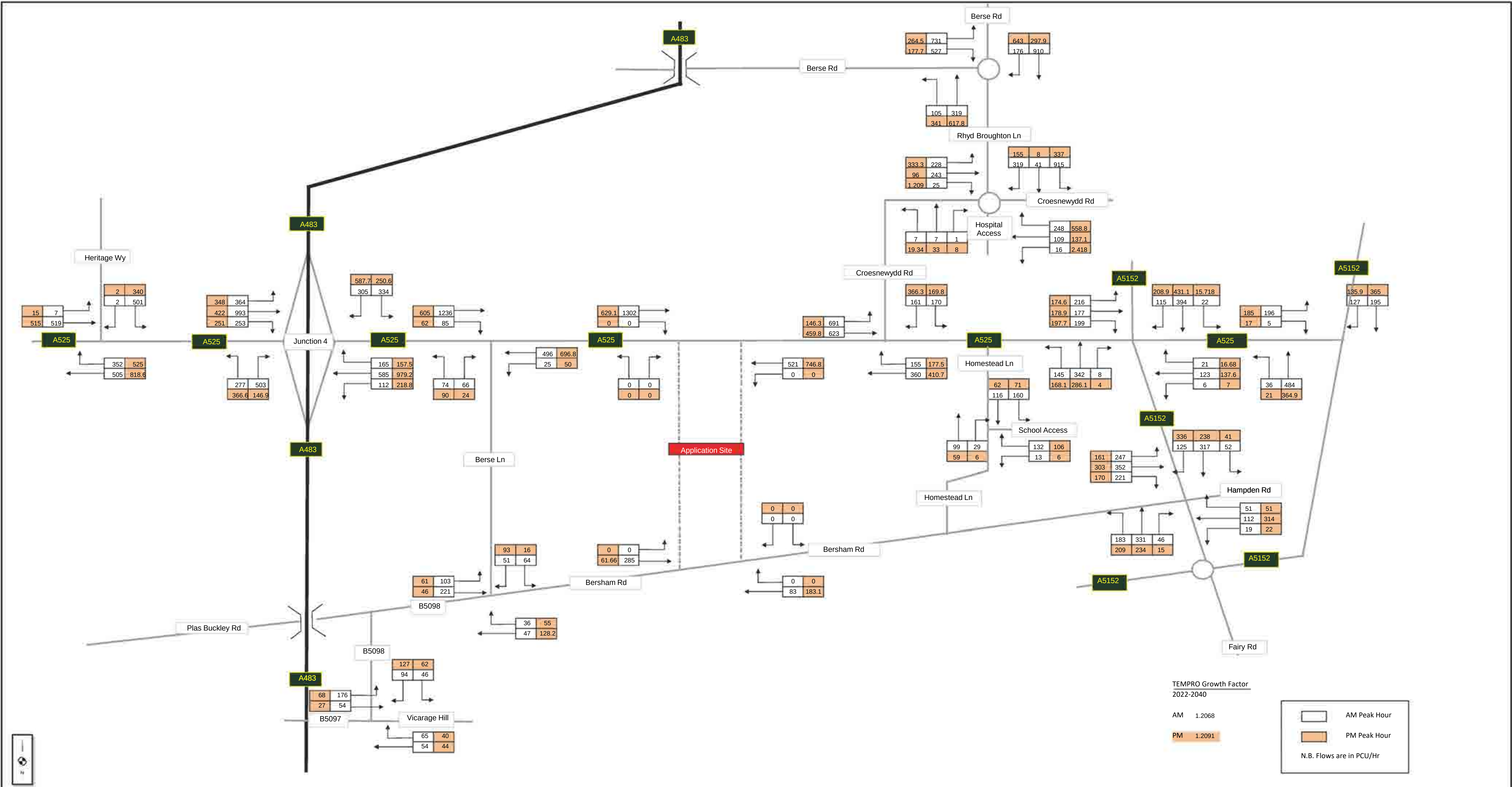
Appendix Number	Appendix Title
C1	Consultation Comments
C2	Accident Data
C3	Traffic Survey Data
C4	Site Layout Plan (July 2024)
C5	Active Travel Layout Drawings
C6	Junction Improvement Layout Drawings

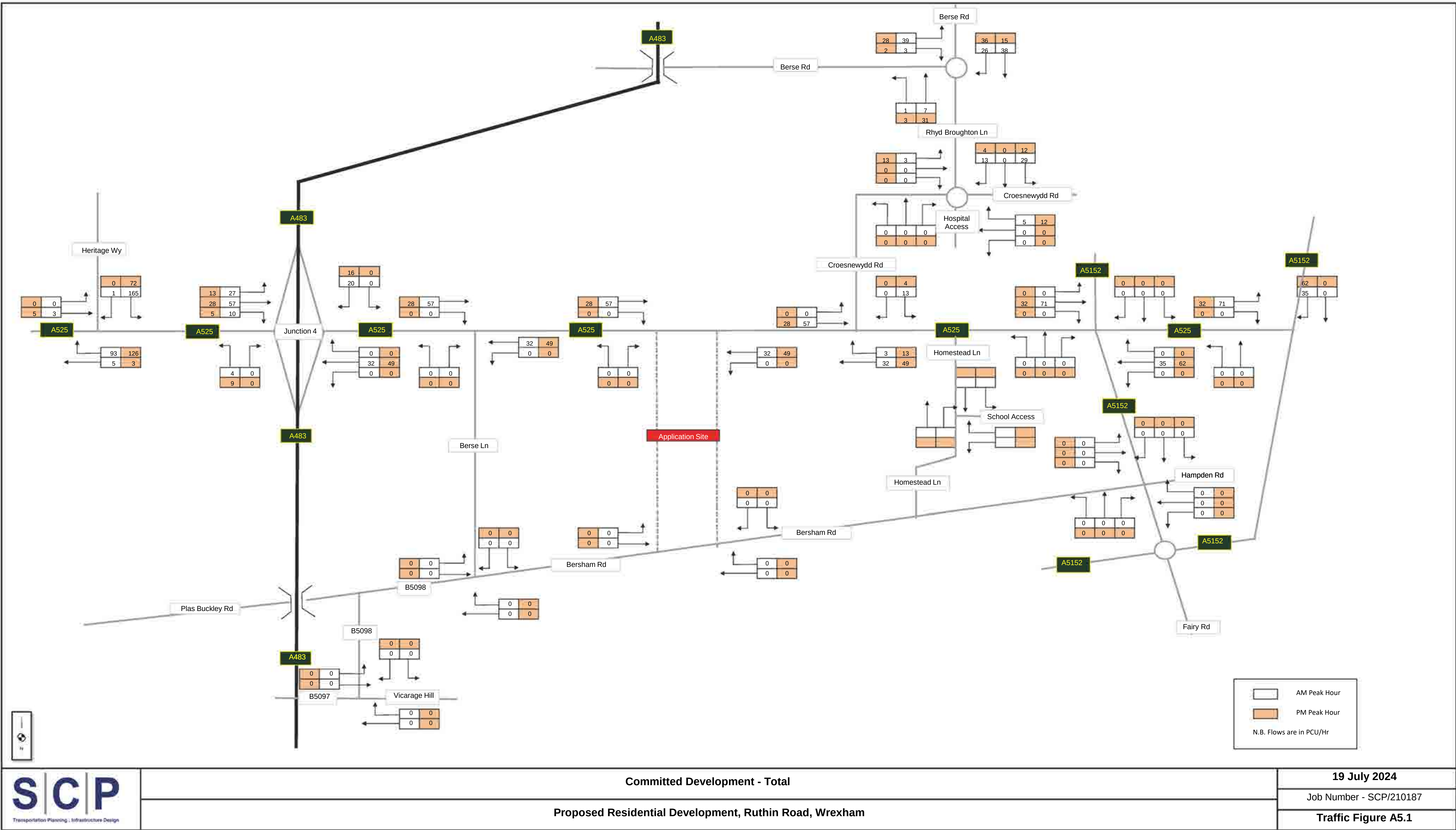
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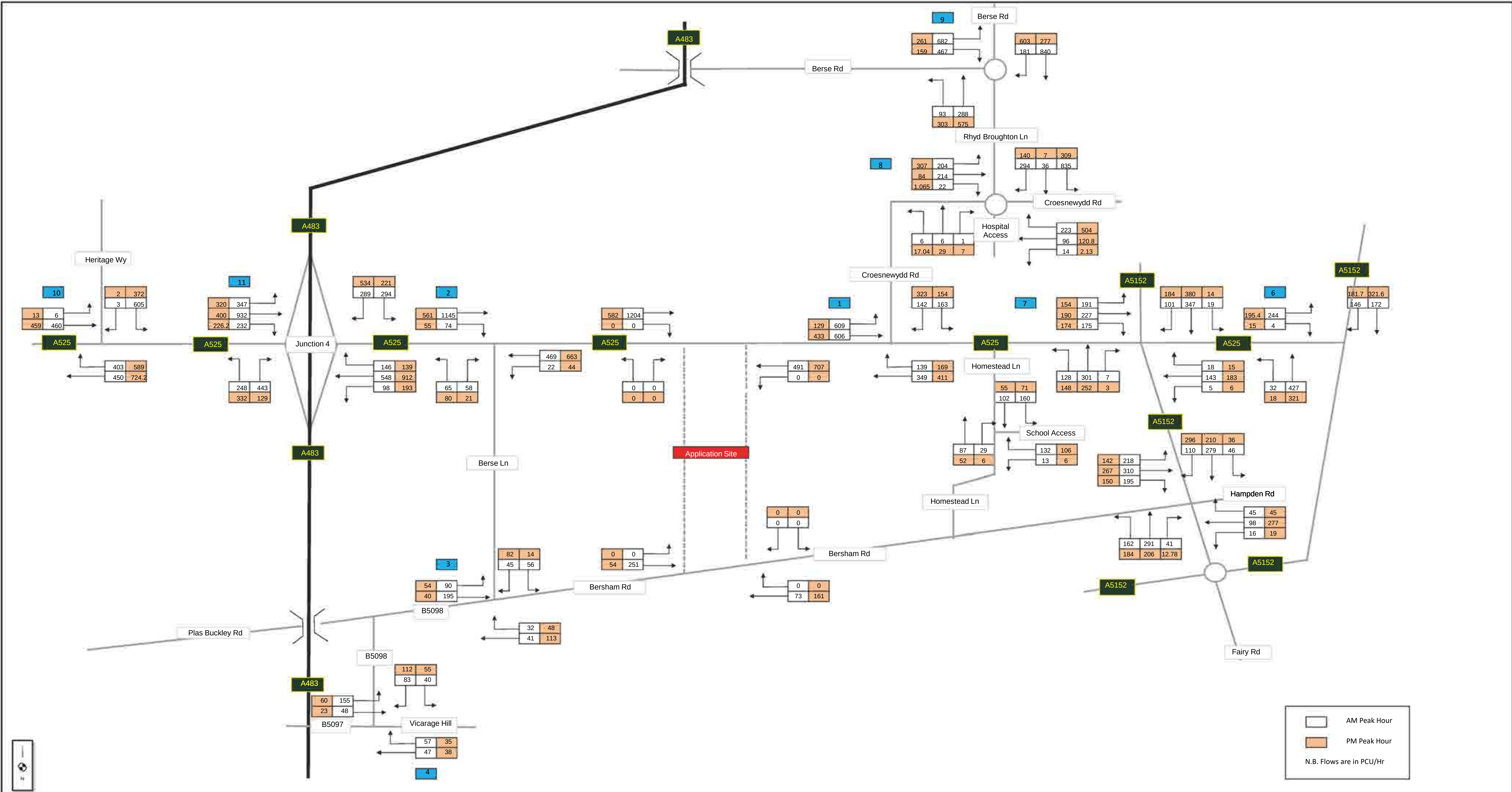
APPENDIX A



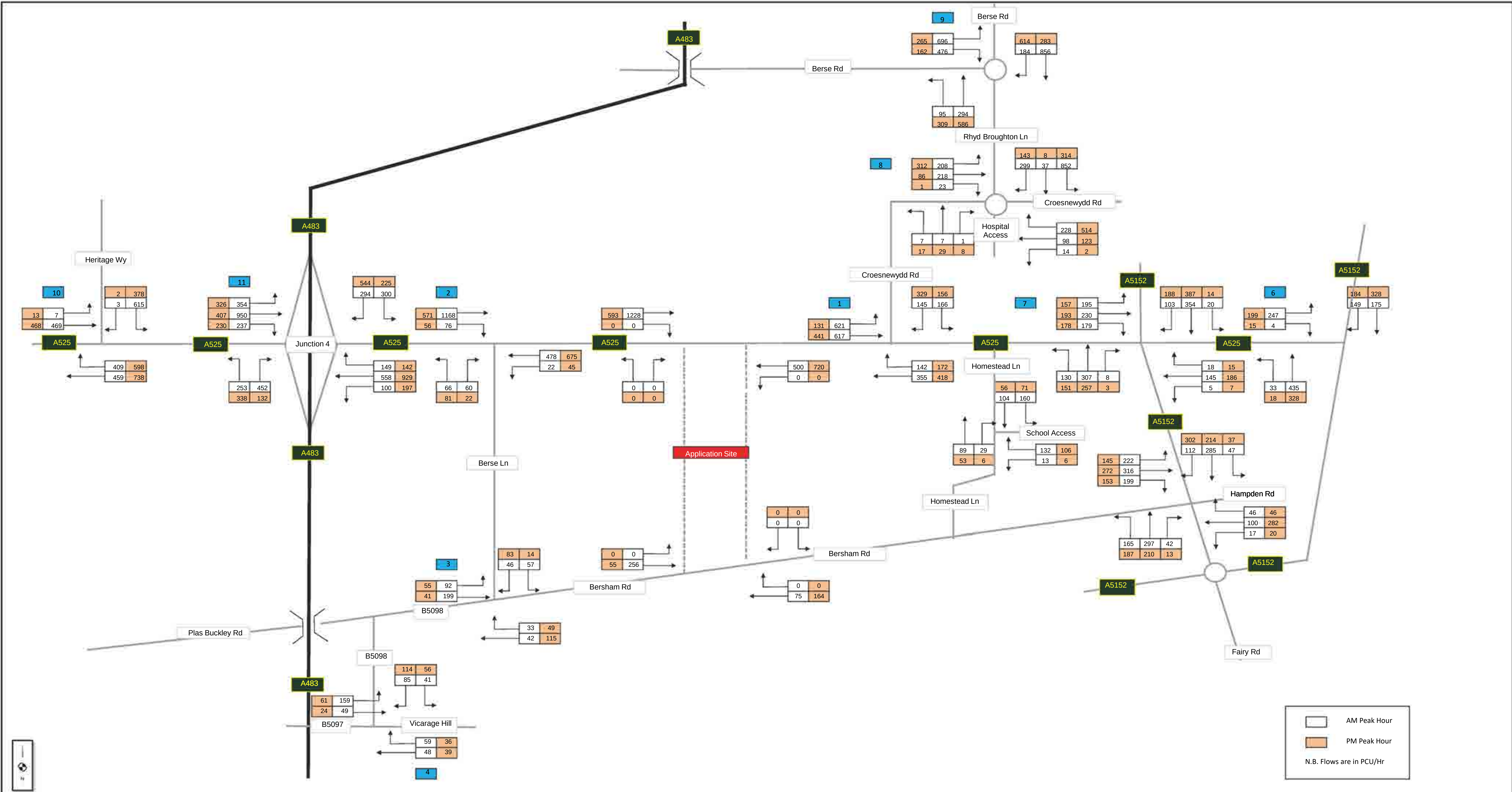
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	Proposed Residential Development, Ruthin Road, Wrexham	Job Number - SCP/210187
		Traffic Figure A1.1



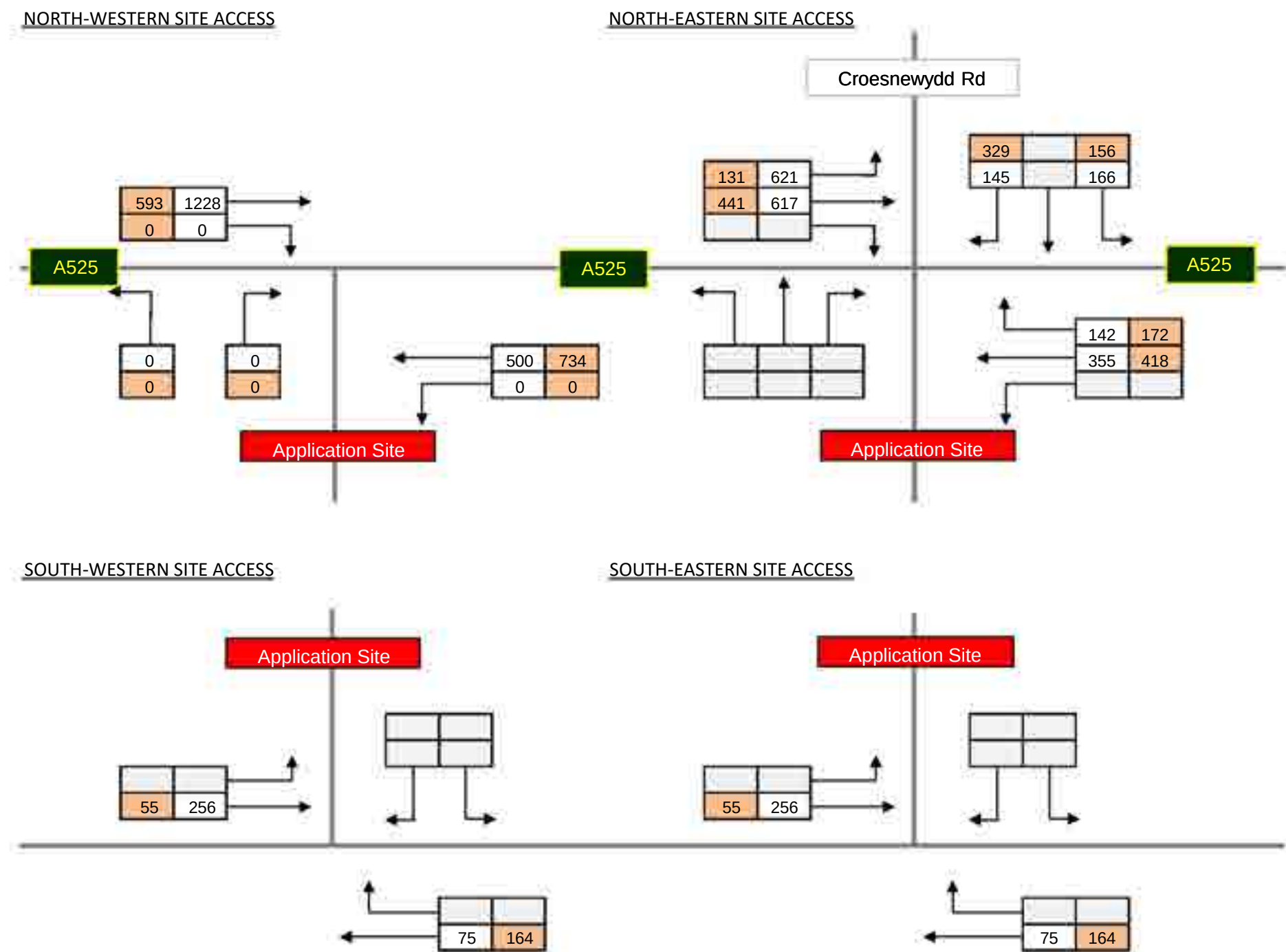


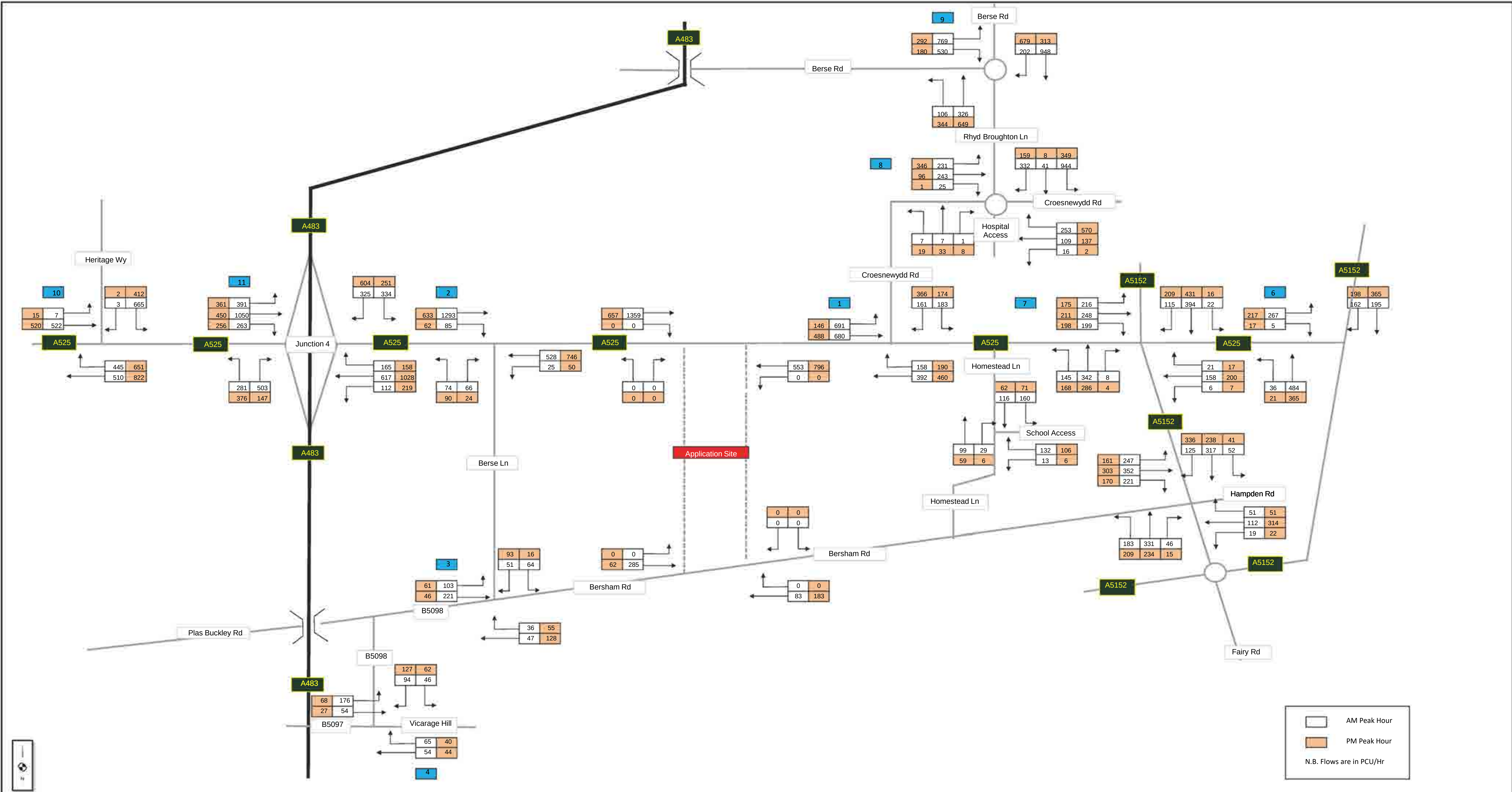


SCP Transportation Planning Infrastructure Design	Base Traffic Flows 2028		19 July 2024
	Proposed Residential Development, Ruthin Road, Wrexham		Job Number - SCP/210187
			Traffic Figure A6.1

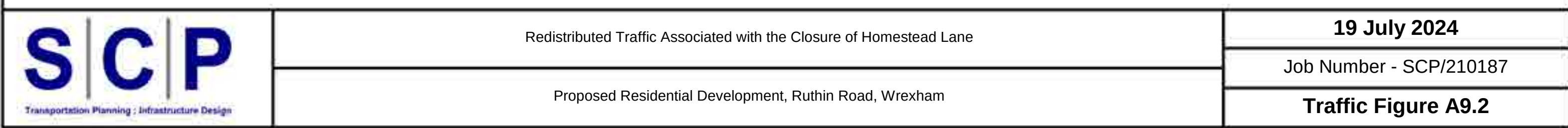


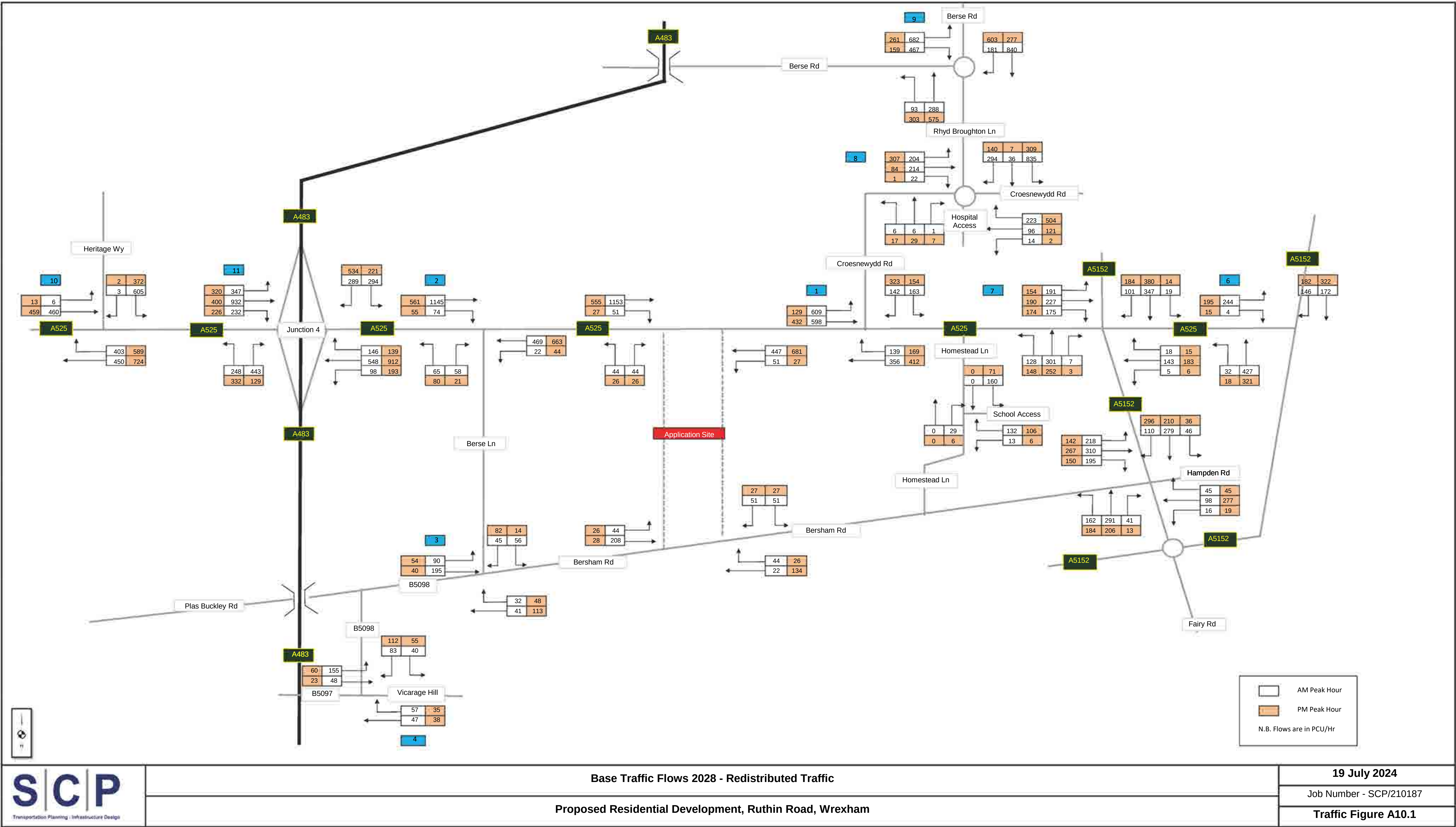
 Transportation Planning Infrastructure Design	Base Traffic Flows 2030		19 July 2024
	Proposed Residential Development, Ruthin Road, Wrexham		Job Number - SCP/210187
			Traffic Figure A7.1

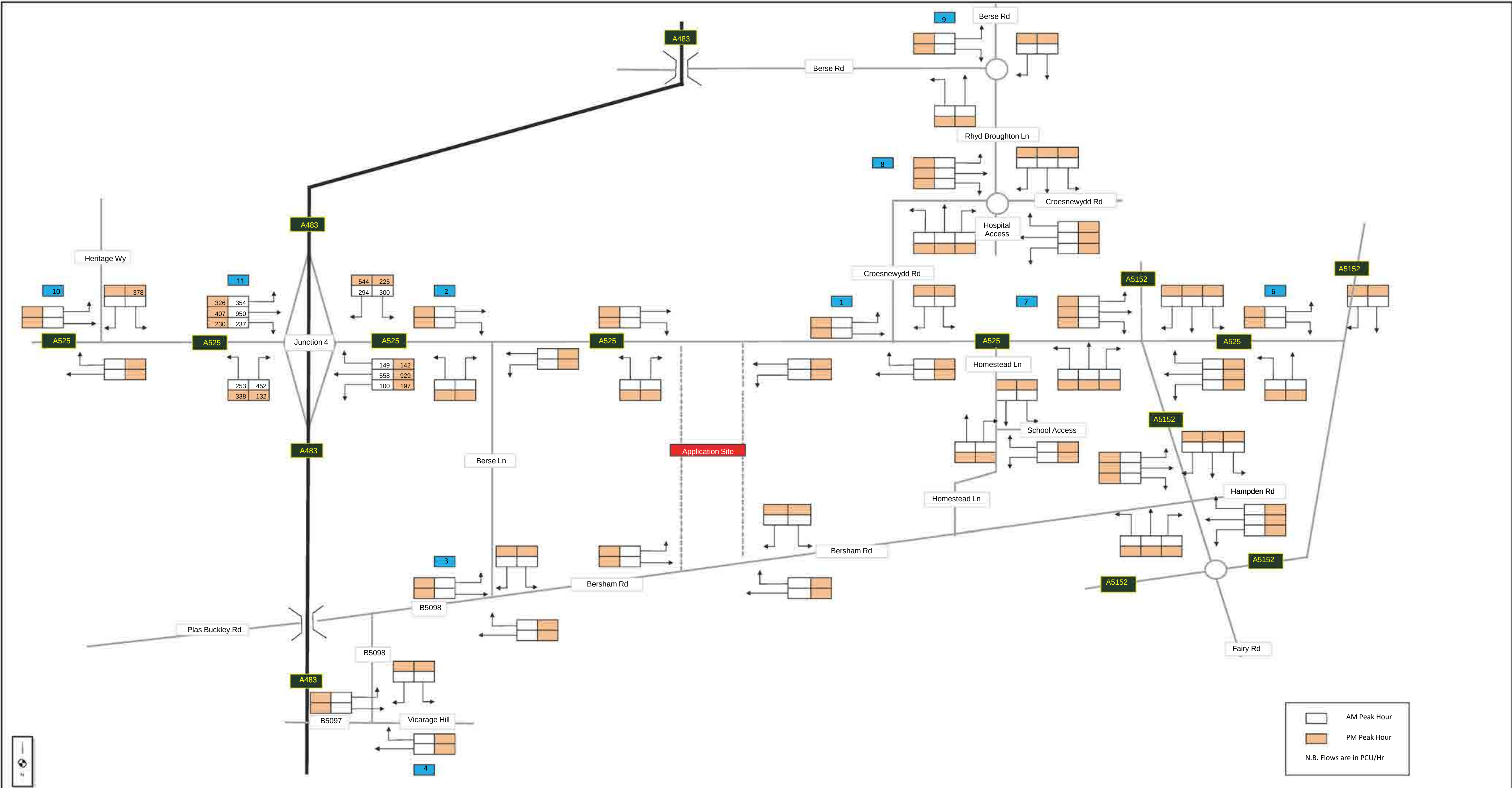




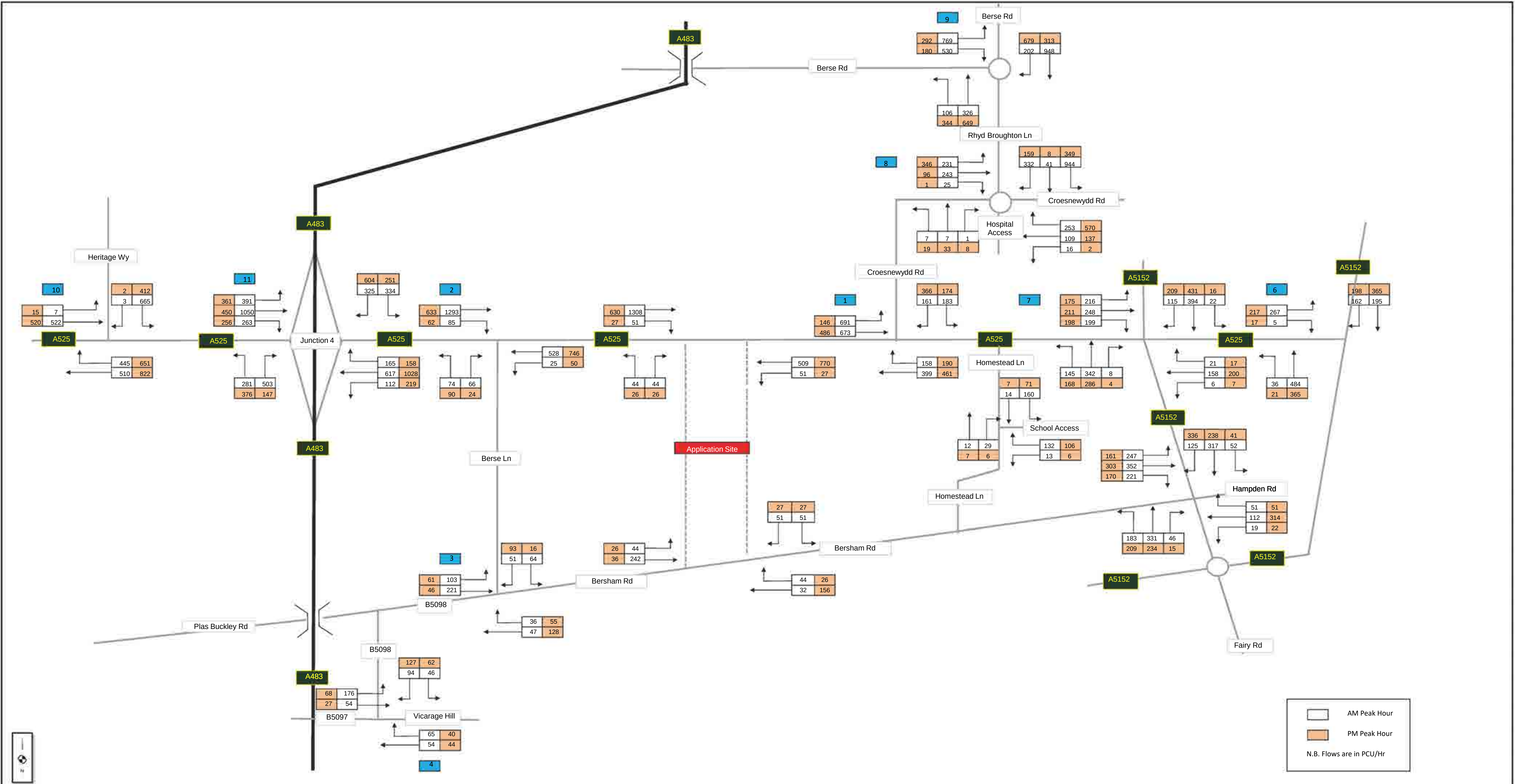
 Transportation Planning Infrastructure Design	Base Traffic Flows 2040		19 July 2024
	Proposed Residential Development, Ruthin Road, Wrexham		Job Number - SCP/210187
			Traffic Figure A8.1



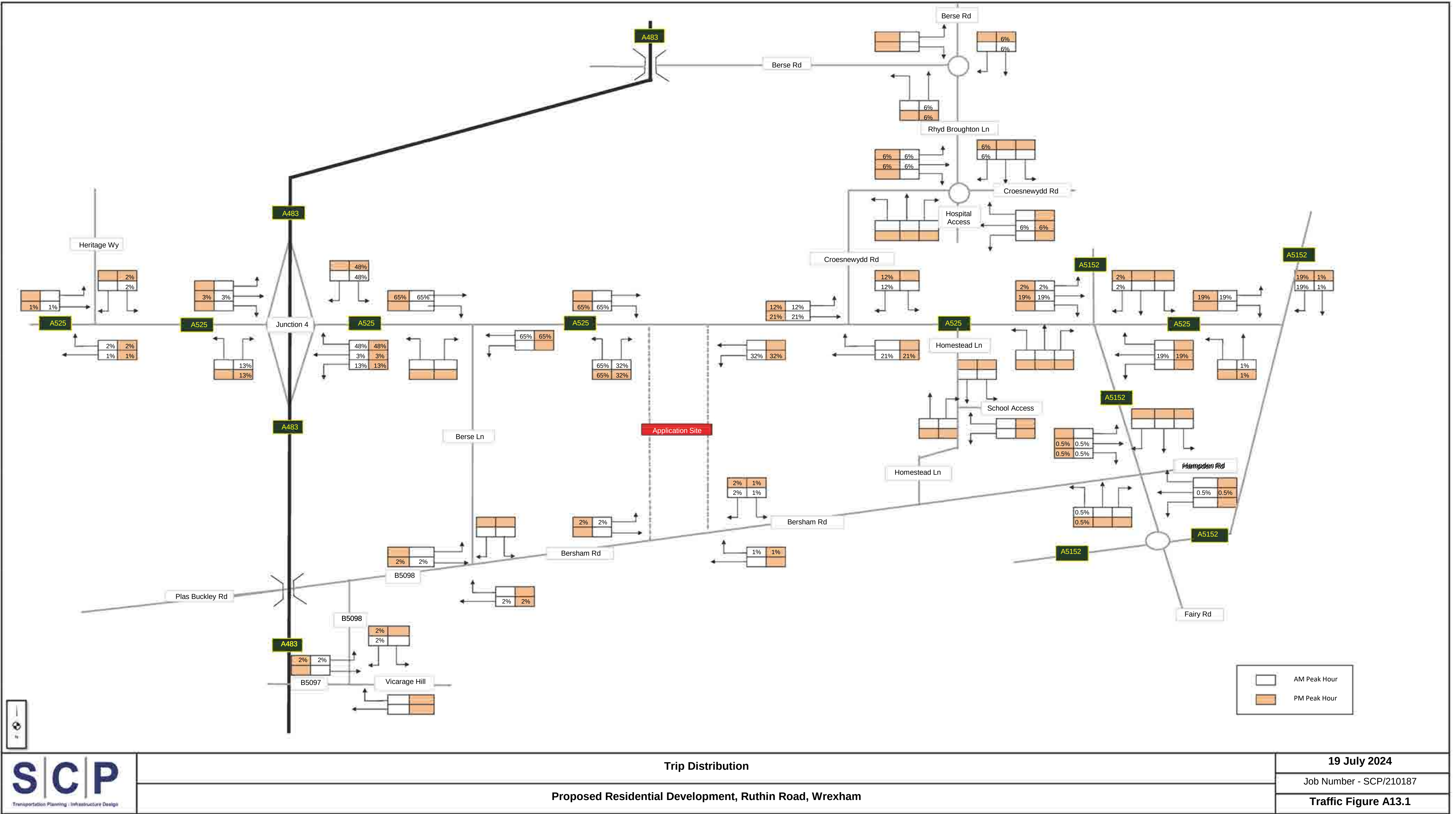


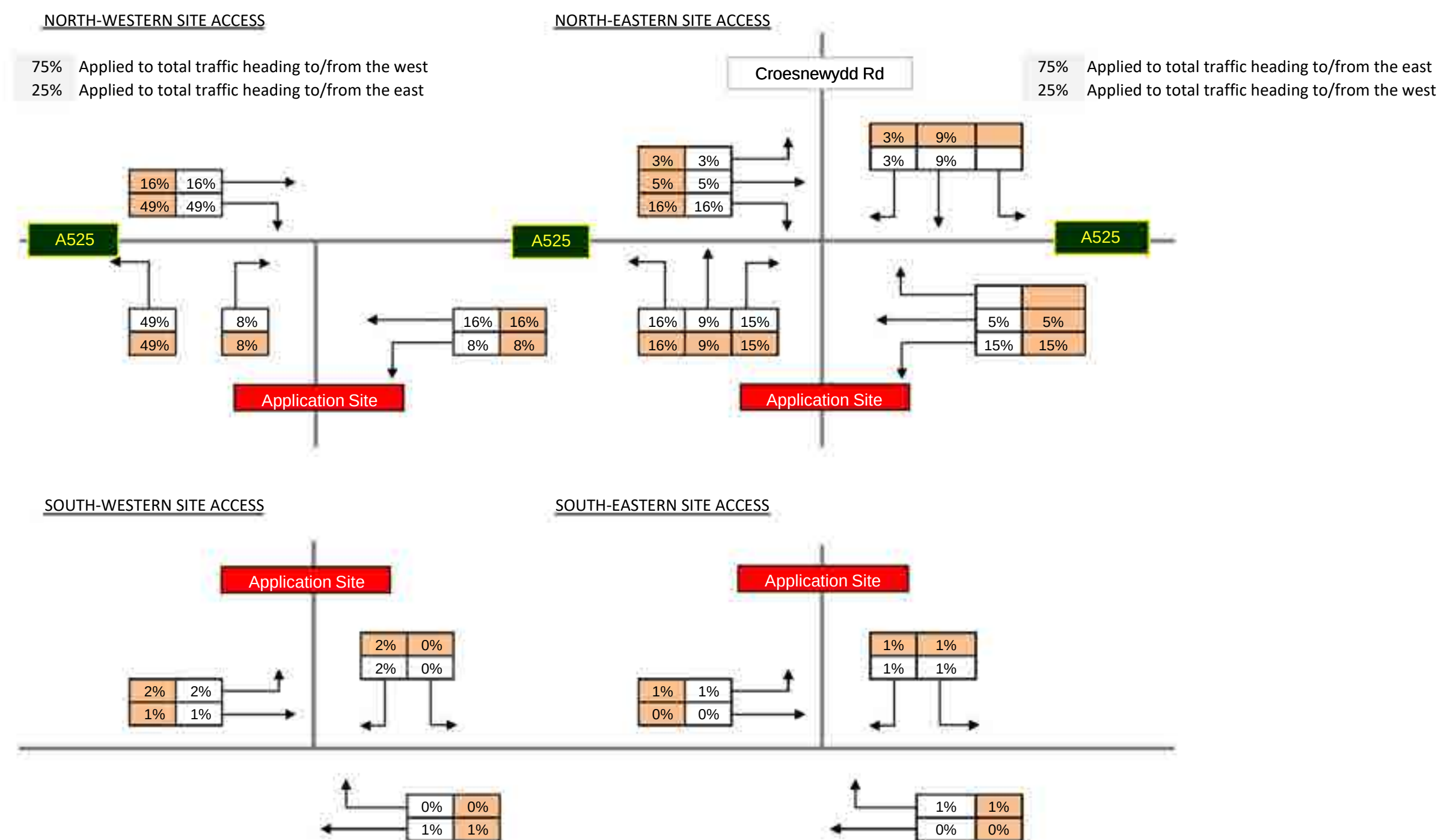


 SCP Transportation Planning Infrastructure Design	Base Traffic Flows 2030 - Redistributed Traffic		19 July 2024
	Proposed Residential Development, Ruthin Road, Wrexham		Job Number - SCP/210187
			Traffic Figure A11.1

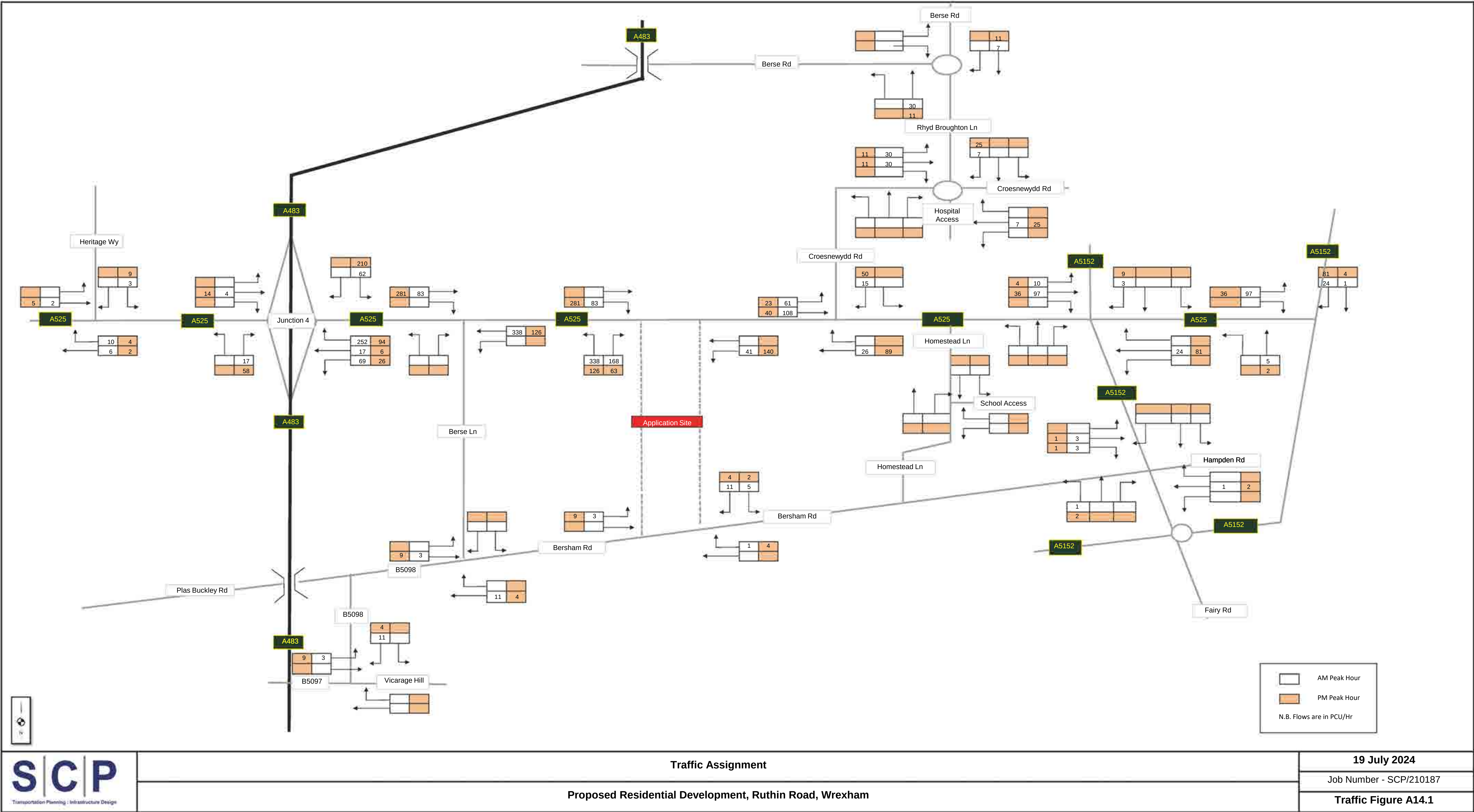


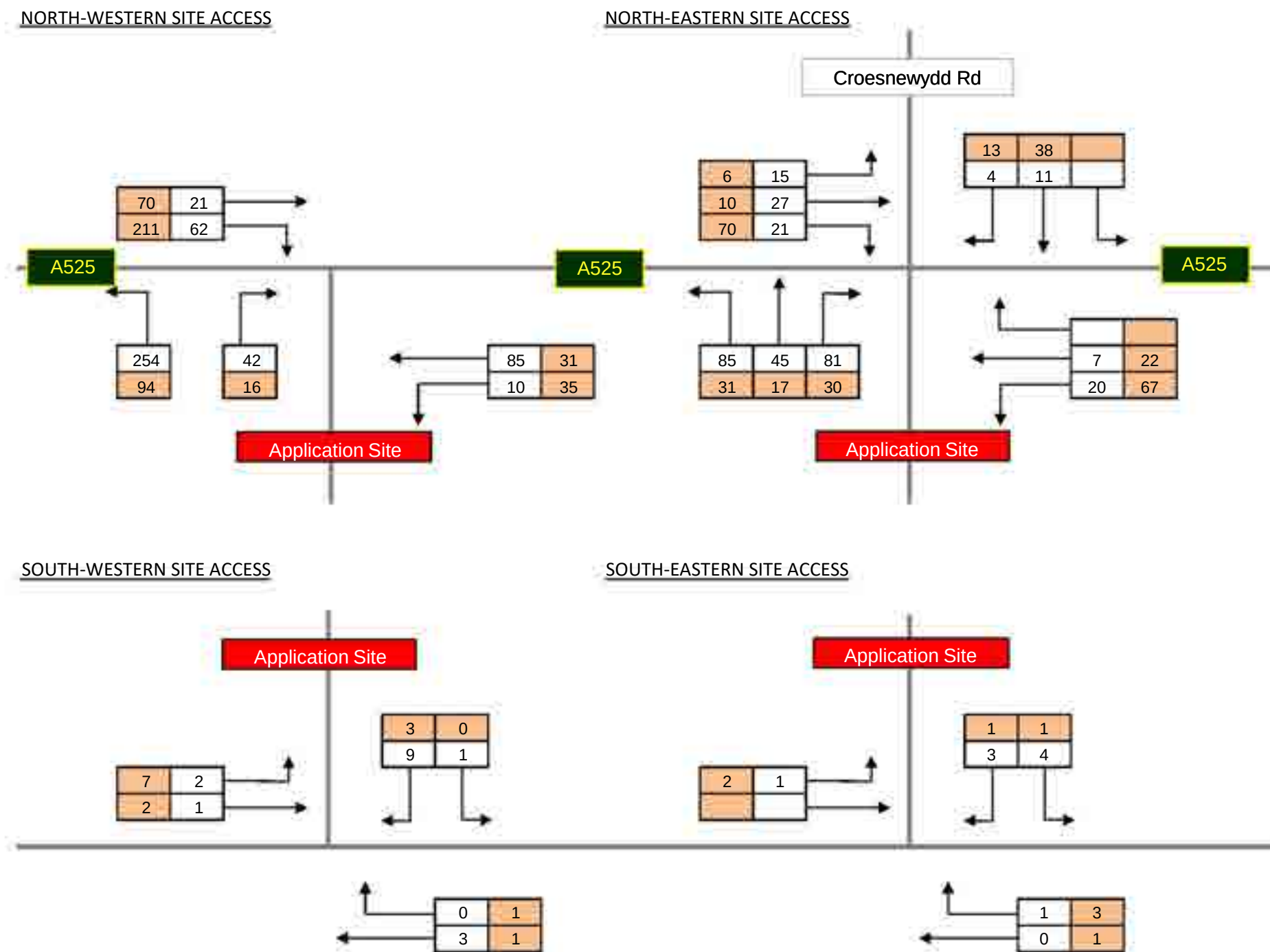
 Transportation Planning - Infrastructure Design	Base Traffic Flows 2040 - Redistributed Traffic		19 July 2024
	Proposed Residential Development, Ruthin Road, Wrexham		Job Number - SCP/210187
			Traffic Figure A12.1

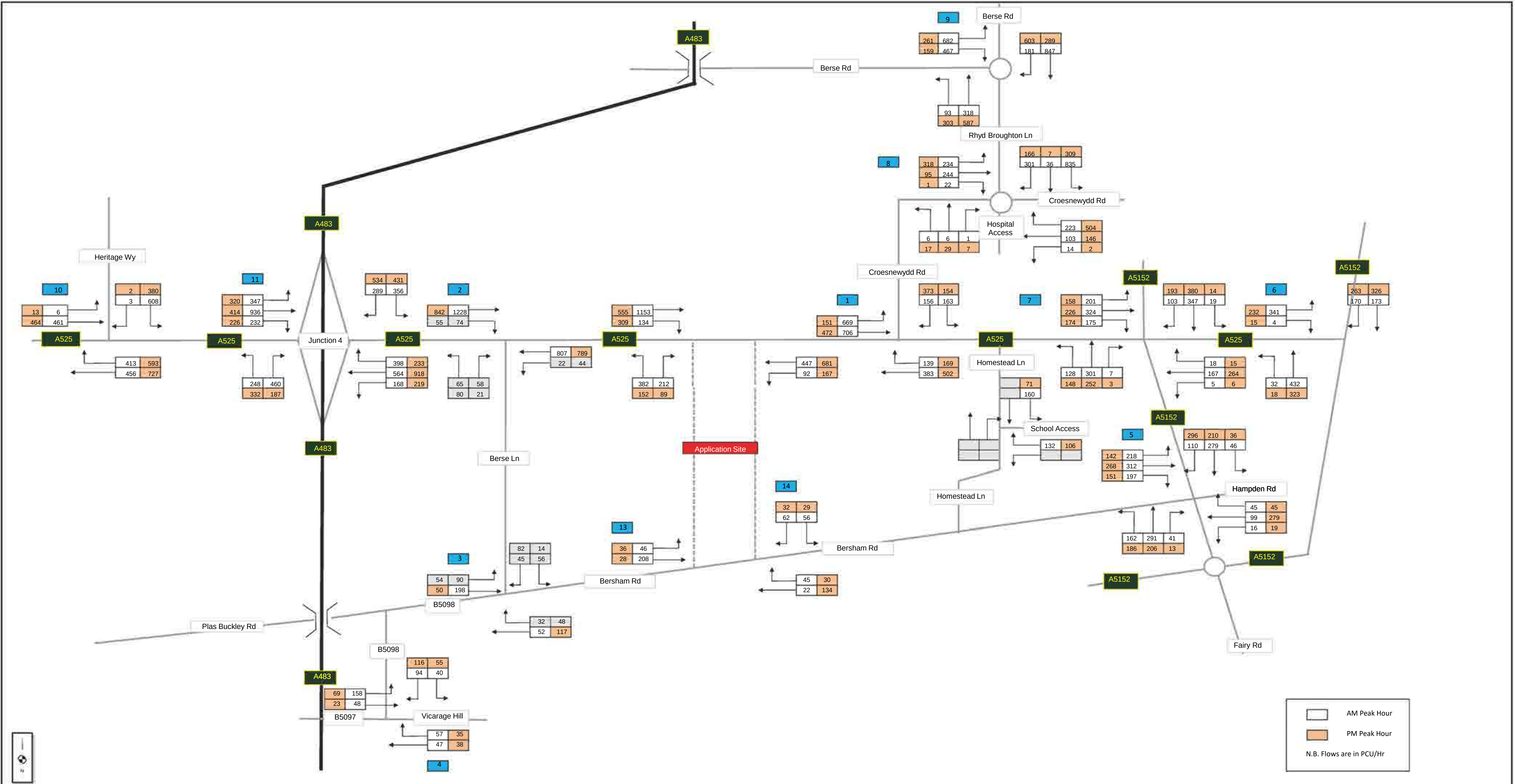




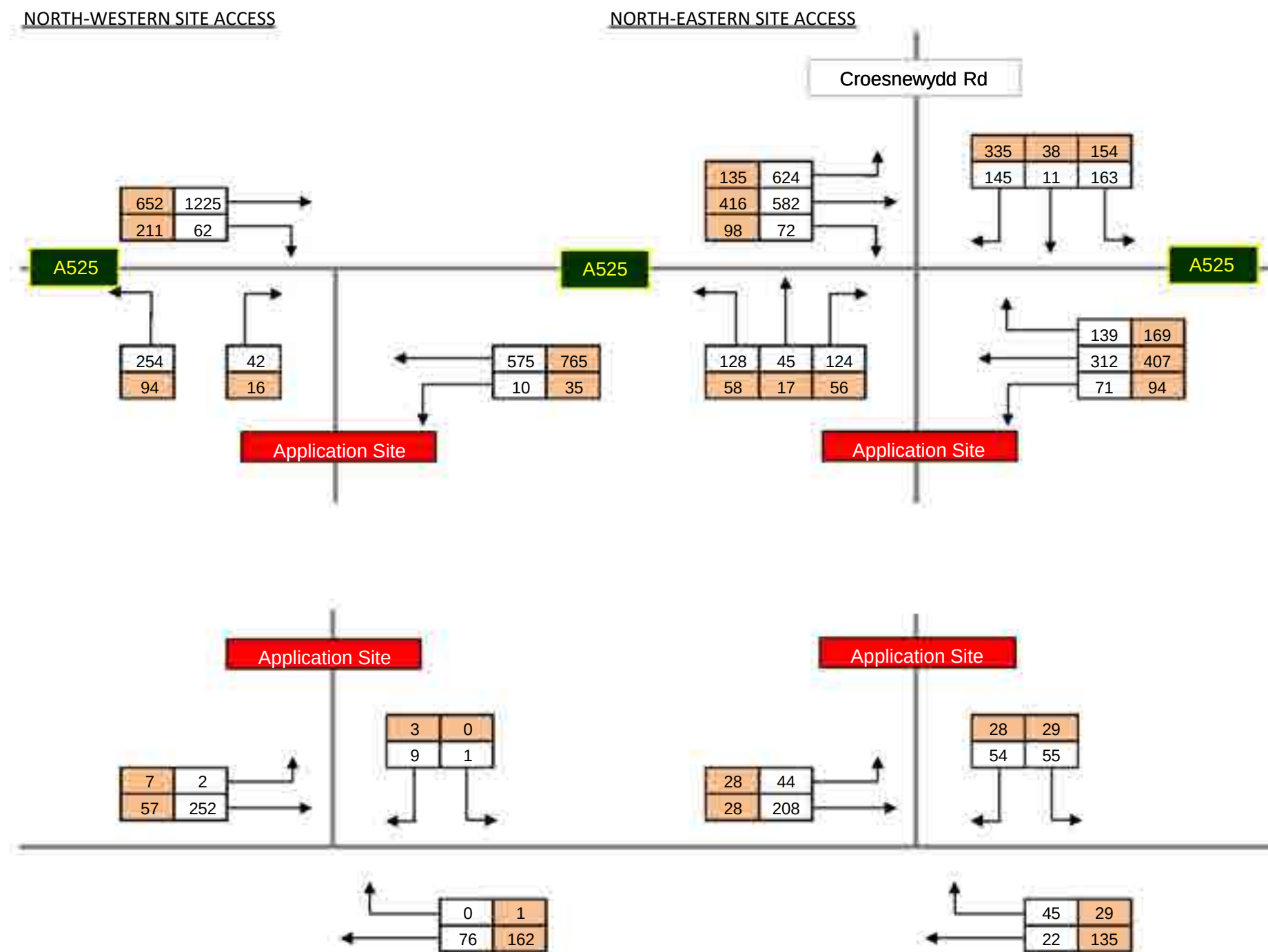
 Transportation Planning : Infrastructure Design	Trip Distribution		22 July 2024
	Proposed Residential Development, Ruthin Road, Wrexham		Job Number - SCP/210187
			Traffic Figure A13.2

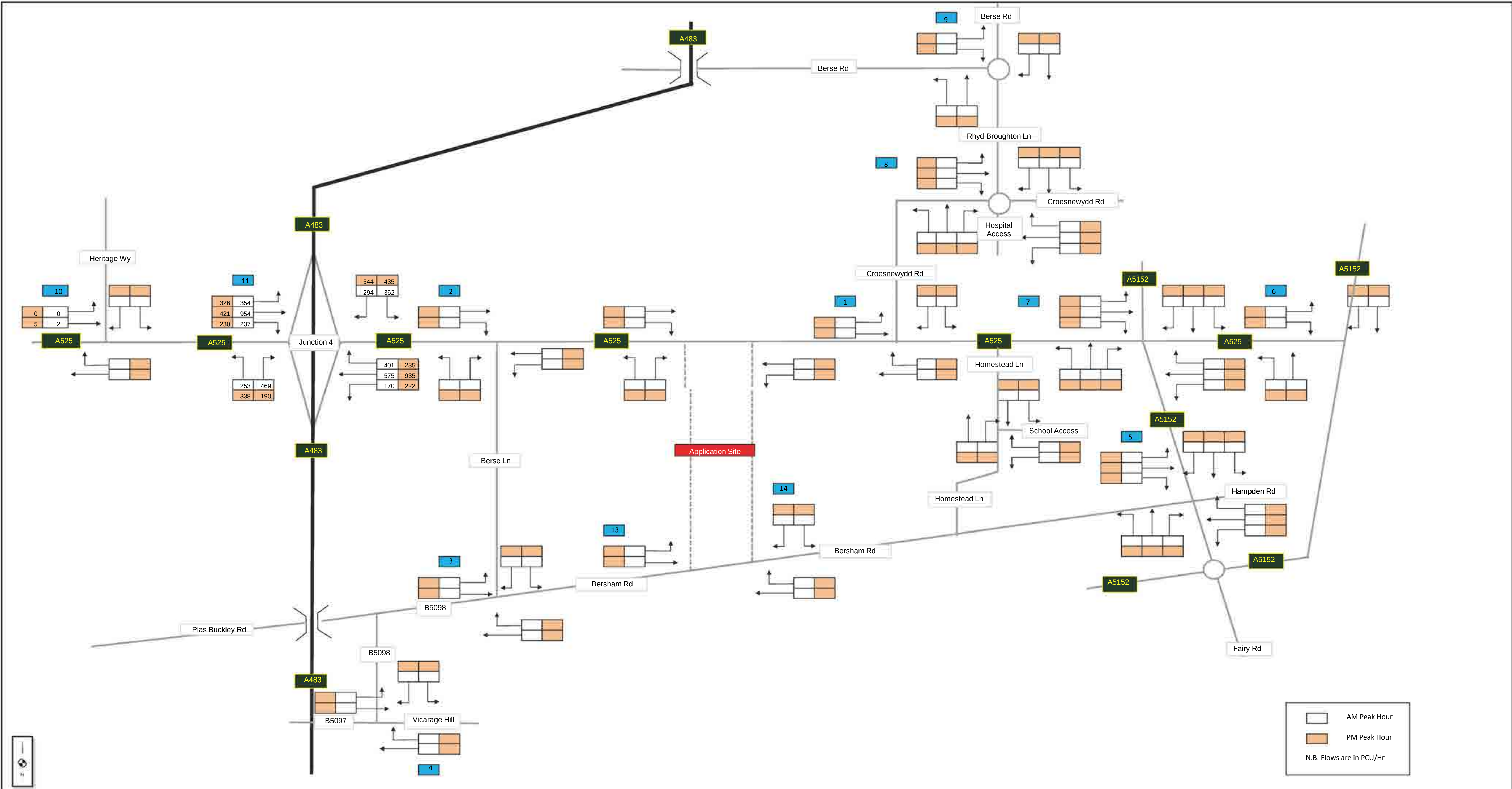




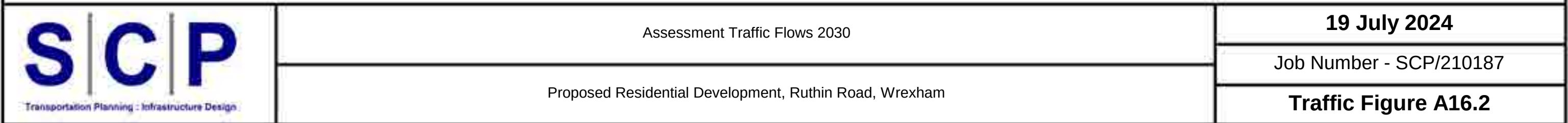


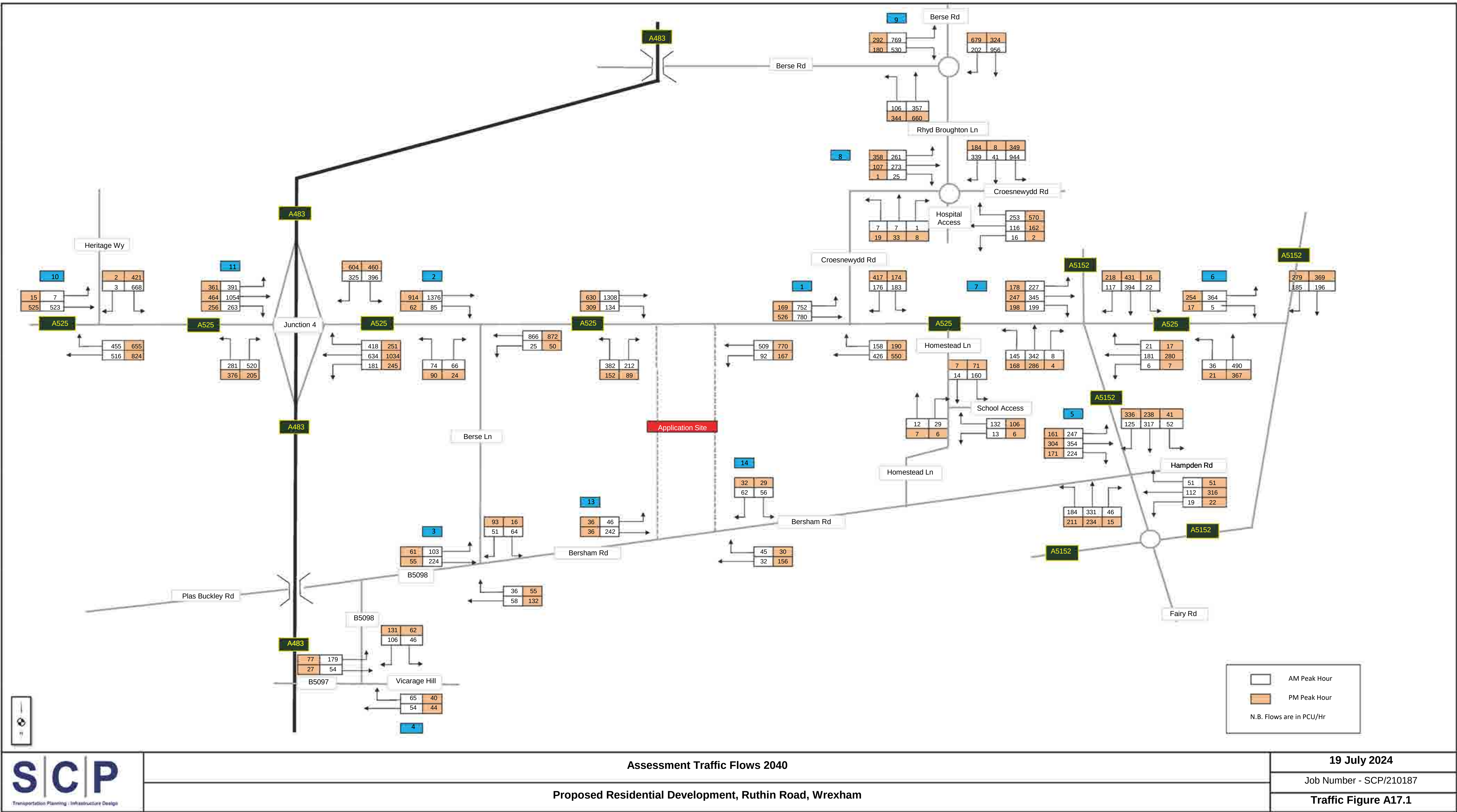
 Transportation Planning Infrastructure Design	Assessment Traffic Flows 2028		19 July 2024
	Proposed Residential Development, Ruthin Road, Wrexham		Job Number - SCP/210187
			Traffic Figure A15.1





 Transportation Planning Infrastructure Design	Assessment Traffic Flows 2030	19 July 2024
	Proposed Residential Development, Ruthin Road, Wrexham	Job Number - SCP/210187
		Traffic Figure A16.1





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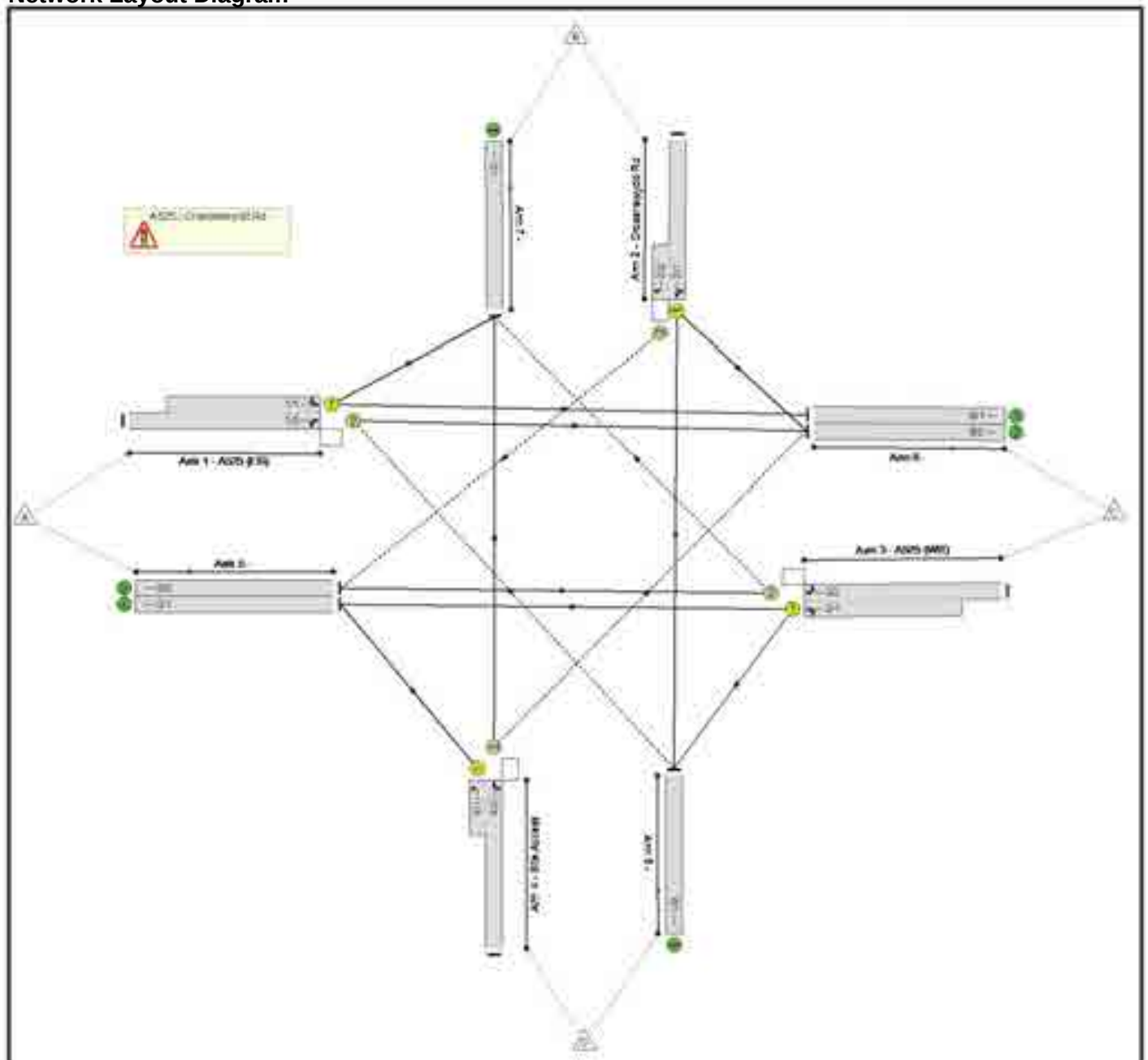
APPENDIX B1

Full Input Data And Results
Full Input Data And Results

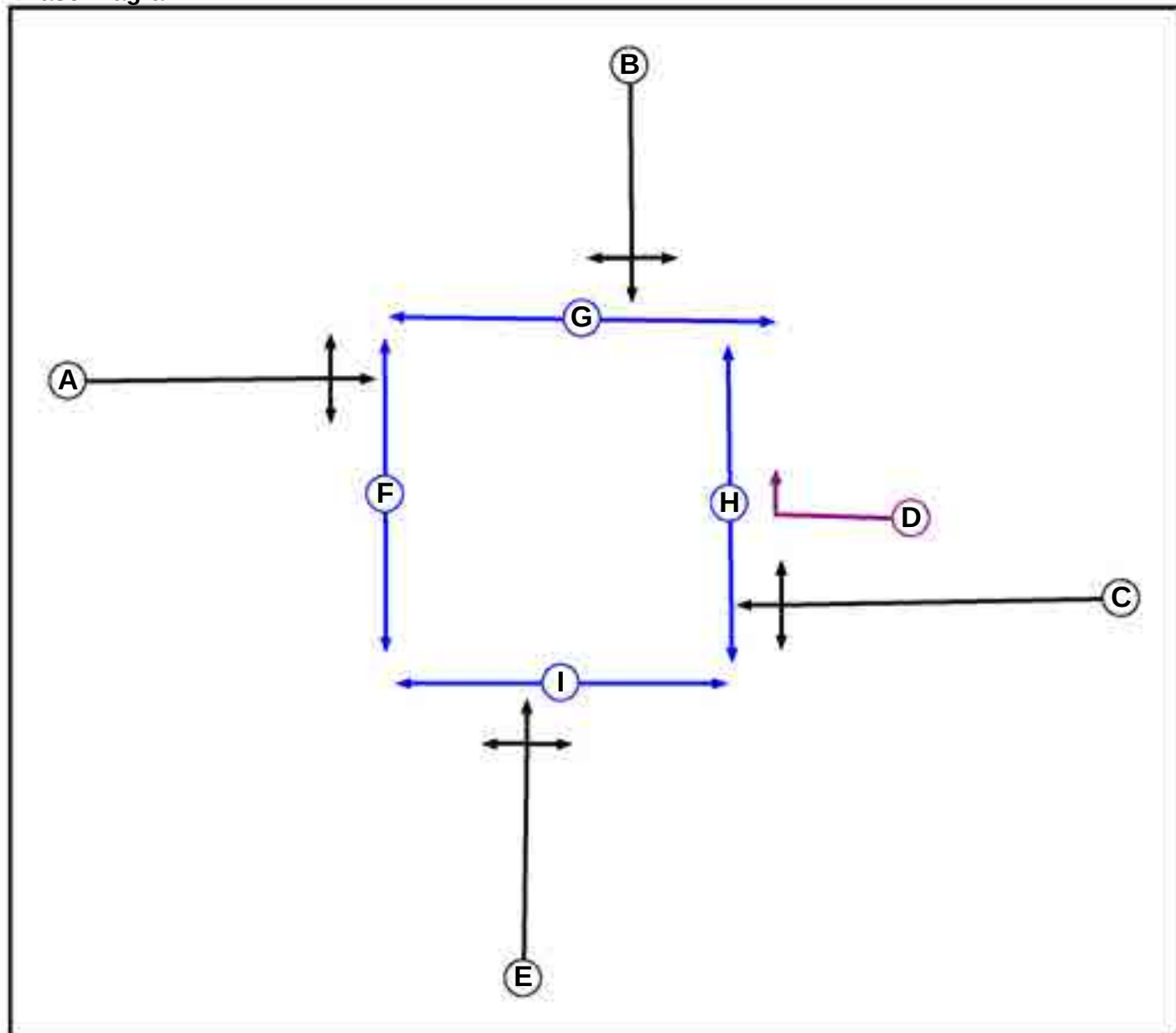
User and Project Details

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Location:	
Additional detail:	
File name:	Proposed_A525_Croesnewydd Rd_Additional Mitigation_02.07.24...lsg3x
Author:	
Company:	
Address:	

Network Layout Diagram



Phase Diagram



Phase Input Data

Phase Name	Phase Type	Assoc. Phase	Street Min	Cont Min
A	Traffic		7	7
B	Traffic		7	7
C	Traffic		7	7
D	Ind. Arrow	C	4	4
E	Traffic		7	7
F	Pedestrian		7	7
G	Pedestrian		7	7
H	Pedestrian		7	7
I	Pedestrian		7	7

Full Input Data And Results

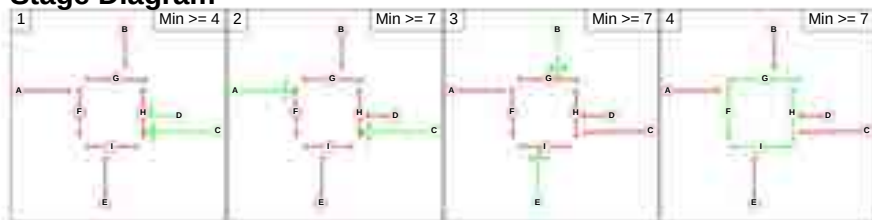
Phase Intergreens Matrix

		Starting Phase								
Terminating Phase		A	B	C	D	E	F	G	H	I
	A		7	-	5	6	5	6	9	10
	B	5		5	5	-	9	5	8	10
	C	-	5		-	5	8	-	-	5
	D	5	5	-		5	-	9	5	-
	E	7	-	5	5		9	8	10	5
	F	6	6	6	6	6		-	-	-
	G	6	6	-	6	6	-		-	-
	H	6	6	6	6	6	-	-		-
	I	6	6	6	-	6	-	-	-	

Phases in Stage

Stage No.	Phases in Stage
1	C D
2	A C
3	B E
4	F G H I

Stage Diagram



Phase Delays

Term. Stage	Start Stage	Phase	Type	Value	Cont value
There are no Phase Delays defined					

Prohibited Stage Change

		To Stage			
From Stage		1	2	3	4
	1		5	5	9
	2	5		7	10
	3	5	7		10
	4	6	6	6	

Full Input Data And Results

Give-Way Lane Input Data

Junction: A525 / Croesnewydd Rd											
Lane	Movement	Max Flow when Giving Way (PCU/Hr)	Min Flow when Giving Way (PCU/Hr)	Opposing Lane	Opp. Lane Coeff.	Opp. Mvmnts.	Right Turn Storage (PCU)	Non-Blocking Storage (PCU)	RTF	Right Turn Move up (s)	Max Turns in Intergreen (PCU)
1/2 (A525 (EB))	8/1 (Right)	1439	0	3/1	1.09	All	2.00	2.00	0.50	2	2.00
				3/2	1.09	To 5/2 (Ahead)					
2/2 (Croesnewydd Rd)	5/2 (Right)	1439	0	4/1	1.09	All	2.00	-	0.50	2	2.00
				4/2	1.09	To 7/1 (Ahead)					
3/2 (A525 (WB))	7/1 (Right)	1439	0	1/1	1.09	All	2.00	2.00	0.50	2	2.00
				1/2	1.09	To 6/2 (Ahead)					
4/2 (Site Access)	6/2 (Right)	1439	0	2/1	1.09	All	2.00	2.00	0.50	2	2.00

Full Input Data And Results

Lane Input Data

Junction: A525 / Croesnewydd Rd												
Lane	Lane Type	Phases	Start Disp.	End Disp.	Physical Length (PCU)	Sat Flow Type	Def User Saturation Flow (PCU/Hr)	Lane Width (m)	Gradient	Nearside Lane	Turns	Turning Radius (m)
1/1 (A525 (EB))	U	A	2	3	17.0	Geom	-	3.00	0.00	Y	Arm 6 Ahead	Inf
											Arm 7 Left	19.00
1/2 (A525 (EB))	O	A	2	3	60.0	Geom	-	3.00	0.00	Y	Arm 6 Ahead	Inf
											Arm 8 Right	Inf
2/1 (Croesnewydd Rd)	U	B	2	3	60.0	Geom	-	3.00	0.00	Y	Arm 6 Left	Inf
											Arm 8 Ahead	Inf
2/2 (Croesnewydd Rd)	O	B	2	3	5.0	Geom	-	3.00	0.00	Y	Arm 5 Right	Inf
3/1 (A525 (WB))	U	C	2	3	17.0	Geom	-	3.00	0.00	Y	Arm 5 Ahead	Inf
											Arm 8 Left	Inf
3/2 (A525 (WB))	O	C D	2	3	60.0	Geom	-	3.00	0.00	Y	Arm 5 Ahead	Inf
											Arm 7 Right	14.00
4/1 (Site Access)	U	E	2	3	5.0	Geom	-	3.00	0.00	Y	Arm 5 Left	Inf
4/2 (Site Access)	O	E	2	3	60.0	Geom	-	3.00	0.00	Y	Arm 6 Right	14.00
											Arm 7 Ahead	Inf
5/1	U		2	3	10.0	Inf	-	-	-	-	-	-
5/2	U		2	3	60.0	Inf	-	-	-	-	-	-
6/1	U		2	3	10.0	Inf	-	-	-	-	-	-
6/2	U		2	3	60.0	Inf	-	-	-	-	-	-
7/1	U		2	3	60.0	Inf	-	-	-	-	-	-
8/1	U		2	3	60.0	Inf	-	-	-	-	-	-

Traffic Flow Groups

Flow Group	Start Time	End Time	Duration	Formula
1: '2028 Assess AM'	08:00	09:00	01:00	
2: '2028 Assess PM'	16:30	17:30	01:00	

Full Input Data And Results

Scenario 1: '2028 Assess AM' (FG1: '2028 Assess AM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

	Destination					
		A	B	C	D	Tot.
Origin	A	0	71	312	139	522
	B	124	0	128	45	297
	C	624	582	0	72	1278
	D	163	11	145	0	319
	Tot.	911	664	585	256	2416

Traffic Lane Flows

Lane	Scenario 1: 2028 Assess AM
Junction: A525 / Croesnewydd Rd	
1/1 (short)	258
1/2 (with short)	522(In) 264(Out)
2/1 (with short)	297(In) 173(Out)
2/2 (short)	124
3/1 (short)	669
3/2 (with short)	1278(In) 609(Out)
4/1 (short)	163
4/2 (with short)	319(In) 156(Out)
5/1	760
5/2	151
6/1	187
6/2	398
7/1	664
8/1	256

Lane Saturation Flows

Junction: A525 / Croesnewydd Rd								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (A525 (EB))	3.00	0.00	Y	Arm 6 Ahead	Inf	72.5 %	1874	1874
				Arm 7 Left	19.00	27.5 %		
1/2 (A525 (EB))	3.00	0.00	Y	Arm 6 Ahead	Inf	47.3 %	1915	1915
				Arm 8 Right	Inf	52.7 %		
2/1 (Croesnewydd Rd)	3.00	0.00	Y	Arm 6 Left	Inf	74.0 %	1915	1915
				Arm 8 Ahead	Inf	26.0 %		
2/2 (Croesnewydd Rd)	3.00	0.00	Y	Arm 5 Right	Inf	100.0 %	1915	1915
3/1 (A525 (WB))	3.00	0.00	Y	Arm 5 Ahead	Inf	89.2 %	1915	1915
				Arm 8 Left	Inf	10.8 %		
3/2 (A525 (WB))	3.00	0.00	Y	Arm 5 Ahead	Inf	4.4 %	1737	1737
				Arm 7 Right	14.00	95.6 %		
4/1 (Site Access)	3.00	0.00	Y	Arm 5 Left	Inf	100.0 %	1915	1915
4/2 (Site Access)	3.00	0.00	Y	Arm 6 Right	14.00	92.9 %	1742	1742
				Arm 7 Ahead	Inf	7.1 %		
5/1				Infinite Saturation Flow			Inf	Inf
5/2				Infinite Saturation Flow			Inf	Inf
6/1				Infinite Saturation Flow			Inf	Inf
6/2				Infinite Saturation Flow			Inf	Inf
7/1				Infinite Saturation Flow			Inf	Inf
8/1				Infinite Saturation Flow			Inf	Inf

Scenario 2: '2028 Assess PM' (FG2: '2028 Assess PM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

	Destination					
		A	B	C	D	Tot.
Origin	A	0	94	407	169	670
	B	56	0	58	17	131
	C	416	98	0	135	649
	D	154	38	335	0	527
	Tot.	626	230	800	321	1977

Full Input Data And Results

Traffic Lane Flows

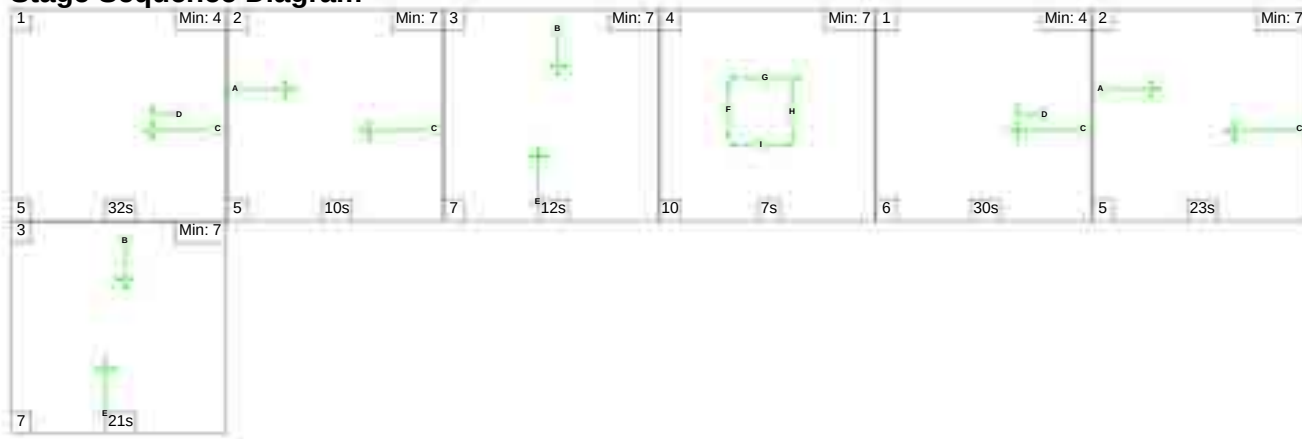
Lane	Scenario 2: 2028 Assess PM
Junction: A525 / Croesnewydd Rd	
1/1 (short)	329
1/2 (with short)	670(In) 341(Out)
2/1 (with short)	131(In) 75(Out)
2/2 (short)	56
3/1 (short)	330
3/2 (with short)	649(In) 319(Out)
4/1 (short)	154
4/2 (with short)	527(In) 373(Out)
5/1	349
5/2	277
6/1	235
6/2	565
7/1	230
8/1	321

Lane Saturation Flows

Junction: A525 / Croesnewydd Rd								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (A525 (EB))	3.00	0.00	Y	Arm 6 Ahead	Inf	71.4 %	1873	1873
				Arm 7 Left	19.00	28.6 %		
1/2 (A525 (EB))	3.00	0.00	Y	Arm 6 Ahead	Inf	50.4 %	1915	1915
				Arm 8 Right	Inf	49.6 %		
2/1 (Croesnewydd Rd)	3.00	0.00	Y	Arm 6 Left	Inf	77.3 %	1915	1915
				Arm 8 Ahead	Inf	22.7 %		
2/2 (Croesnewydd Rd)	3.00	0.00	Y	Arm 5 Right	Inf	100.0 %	1915	1915
3/1 (A525 (WB))	3.00	0.00	Y	Arm 5 Ahead	Inf	59.1 %	1915	1915
				Arm 8 Left	Inf	40.9 %		
3/2 (A525 (WB))	3.00	0.00	Y	Arm 5 Ahead	Inf	69.3 %	1854	1854
				Arm 7 Right	14.00	30.7 %		
4/1 (Site Access)	3.00	0.00	Y	Arm 5 Left	Inf	100.0 %	1915	1915
4/2 (Site Access)	3.00	0.00	Y	Arm 6 Right	14.00	89.8 %	1747	1747
				Arm 7 Ahead	Inf	10.2 %		
5/1				Infinite Saturation Flow			Inf	Inf
5/2				Infinite Saturation Flow			Inf	Inf
6/1				Infinite Saturation Flow			Inf	Inf
6/2				Infinite Saturation Flow			Inf	Inf
7/1				Infinite Saturation Flow			Inf	Inf
8/1				Infinite Saturation Flow			Inf	Inf

Scenario 1: '2028 Assess AM' (FG1: '2028 Assess AM', Plan 1: 'Network Control Plan 1')

Stage Sequence Diagram

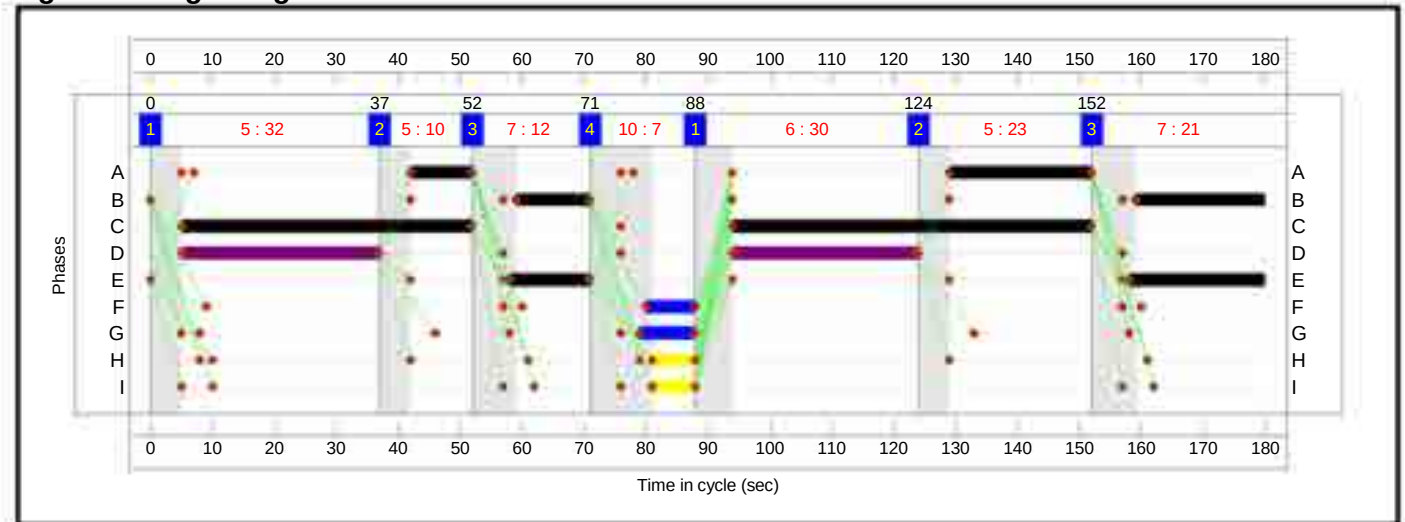


Full Input Data And Results

Stage Timings

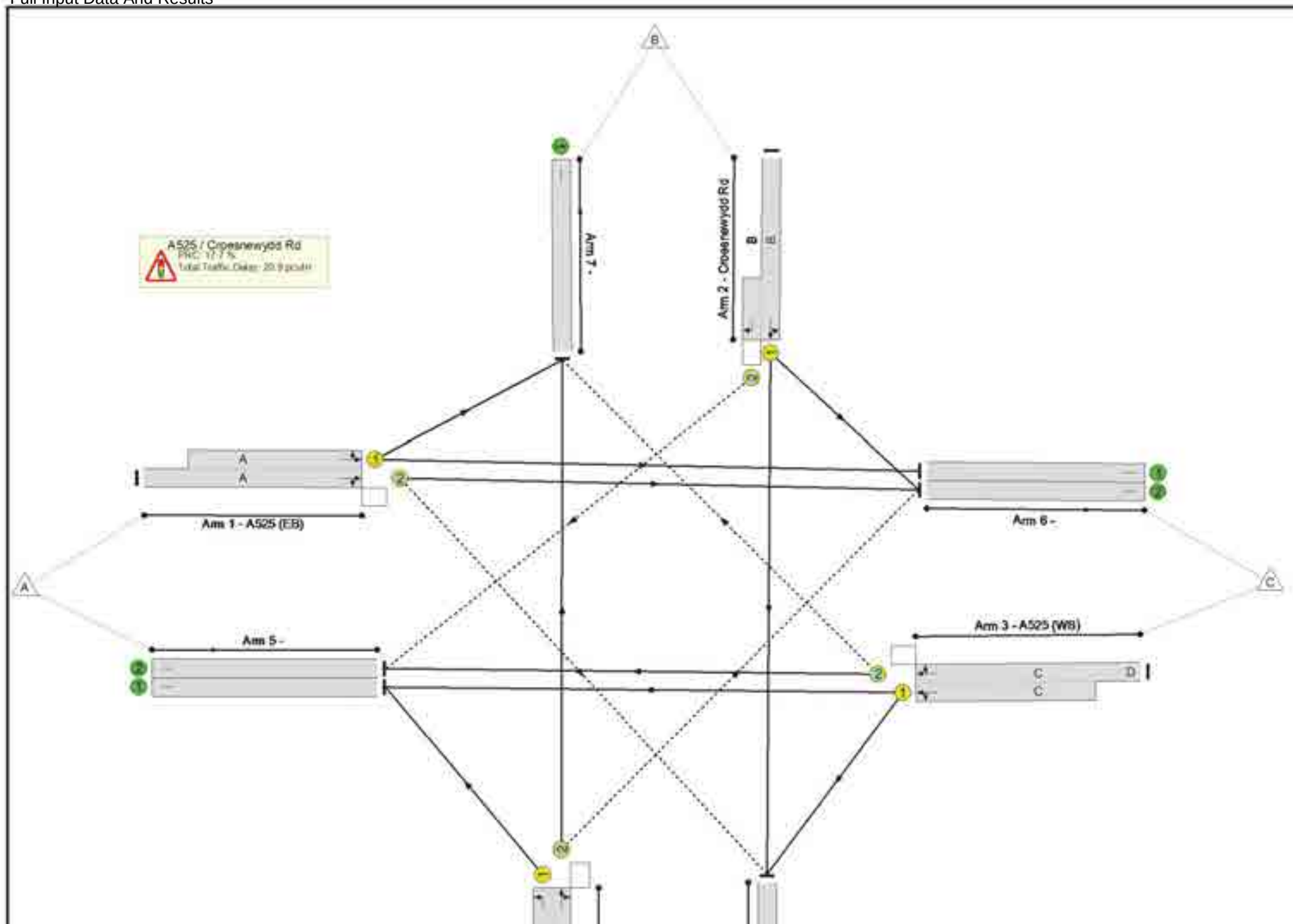
Stage	1	2	3	4	1	2	3
Duration	32	10	12	7	30	23	21
Change Point	0	37	52	71	88	124	152

Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	-	-	N/A	-	-		-	-	-	-	-	-	76.4%
A525 / Croesnewydd Rd	-	-	N/A	-	-		-	-	-	-	-	-	76.4%
1/2+1/1	A525 (EB) Ahead Left Right	O+U	N/A	N/A	A		2	33	-	522	1915:1874	355+347	74.4 : 74.3%
2/1+2/2	Croesnewydd Rd Right Left Ahead	U+O	N/A	N/A	B		2	33	-	297	1915:1915	305+212	56.7 : 58.5%
3/2+3/1	A525 (WB) Ahead Right Left	O+U	N/A	N/A	C	D	2	105	62	1278	1737:1915	797+875	76.4 : 76.4%
4/2+4/1	Site Access Left Right Ahead	O+U	N/A	N/A	E		2	35	-	319	1742:1915	205+214	76.1 : 76.1%
5/1		U	N/A	N/A	-		-	-	-	760	Inf	Inf	0.0%
5/2		U	N/A	N/A	-		-	-	-	151	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	187	Inf	Inf	0.0%
6/2		U	N/A	N/A	-		-	-	-	398	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	664	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	256	Inf	Inf	0.0%

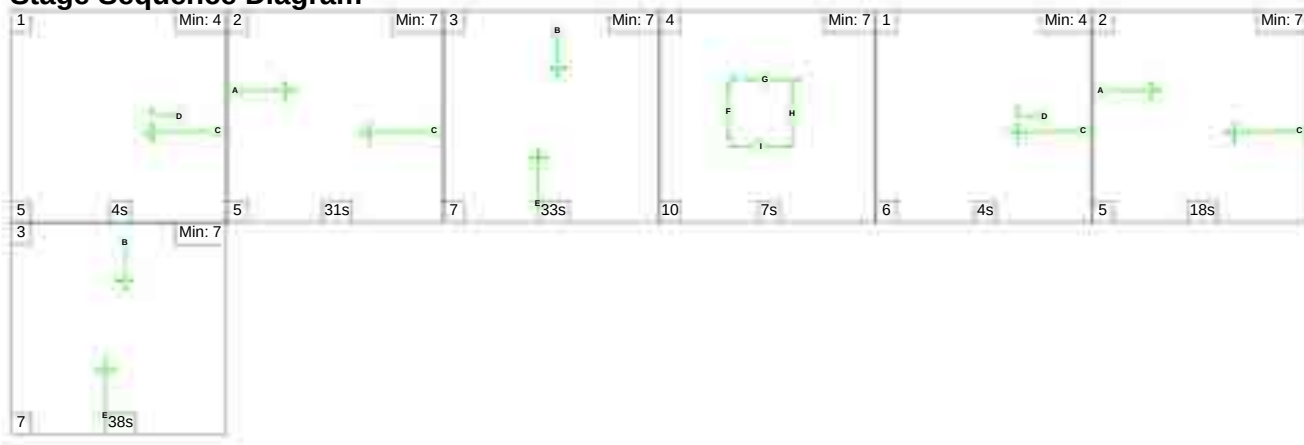
Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	-	-	445	458	87	14.9	5.3	0.8	20.9	-	-	-	-
A525 / Croesnewydd Rd	-	-	445	458	87	14.9	5.3	0.8	20.9	-	-	-	-
1/2+1/1	522	522	119	0	20	4.9	1.4	0.1	6.4	44.5	6.5	1.4	7.9
2/1+2/2	297	297	124	0	0	2.8	0.7	0.2	3.6	44.0	4.6	0.7	5.2
3/2+3/1	1278	1278	66	458	58	4.2	1.6	0.3	6.1	17.1	11.7	1.6	13.3
4/2+4/1	319	319	136	0	9	3.0	1.5	0.3	4.8	54.2	4.5	1.5	6.1
5/1	760	760	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/2	151	151	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	187	187	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/2	398	398	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	664	664	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	256	256	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
C1			PRC for Signalled Lanes (%):		17.7	Total Delay for Signalled Lanes (pcuHr):		20.94	Cycle Time (s): 180				
			PRC Over All Lanes (%):		17.7	Total Delay Over All Lanes(pcuHr):		20.94					

Full Input Data And Results

Scenario 2: '2028 Assess PM' (FG2: '2028 Assess PM', Plan 1: 'Network Control Plan 1')

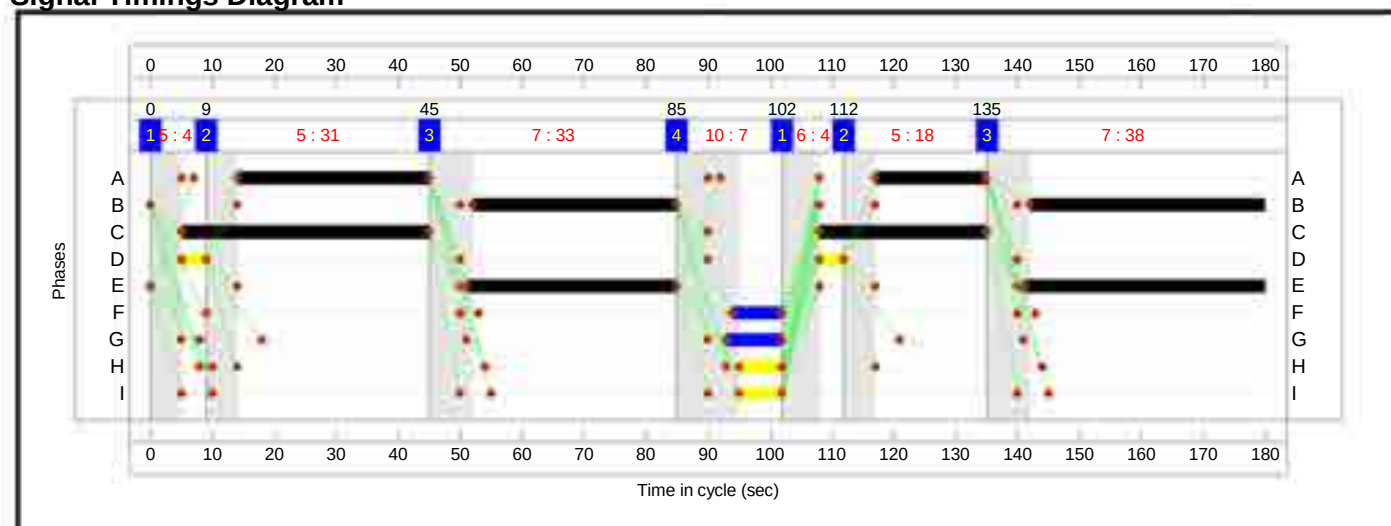
Stage Sequence Diagram



Stage Timings

Stage	1	2	3	4	1	2	3
Duration	4	31	33	7	4	18	38
Change Point	0	9	45	85	102	112	135

Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram

Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	-	-	N/A	-	-		-	-	-	-	-	-	63.9%
A525 / Croesnewydd Rd	-	-	N/A	-	-		-	-	-	-	-	-	63.9%
1/2+1/1	A525 (EB) Ahead Left Right	O+U	N/A	N/A	A		2	49	-	670	1915:1873	534+517	63.9 : 63.6%
2/1+2/2	Croesnewydd Rd Right Left Ahead	U+O	N/A	N/A	B		2	71	-	131	1915:1915	535+399	14.0 : 14.0%
3/2+3/1	A525 (WB) Ahead Right Left	O+U	N/A	N/A	C	D	2	67	8	649	1854:1915	584+604	54.6 : 54.6%
4/2+4/1	Site Access Left Right Ahead	O+U	N/A	N/A	E		2	73	-	527	1747:1915	588+243	63.5 : 63.5%
5/1		U	N/A	N/A	-		-	-	-	349	Inf	Inf	0.0%
5/2		U	N/A	N/A	-		-	-	-	277	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	235	Inf	Inf	0.0%
6/2		U	N/A	N/A	-		-	-	-	565	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	230	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	321	Inf	Inf	0.0%

Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	-	-	585	44	29	12.6	2.4	0.6	15.6	-	-	-	-
A525 / Croesnewydd Rd	-	-	585	44	29	12.6	2.4	0.6	15.6	-	-	-	-
1/2+1/1	670	670	154	0	15	5.3	0.9	0.2	6.3	34.1	8.1	0.9	9.0
2/1+2/2	131	131	56	0	0	0.6	0.1	0.0	0.7	19.7	1.2	0.1	1.3
3/2+3/1	649	649	39	44	14	3.8	0.6	0.2	4.5	25.2	6.8	0.6	7.4
4/2+4/1	527	527	335	0	0	2.9	0.9	0.2	4.0	27.2	8.3	0.9	9.2
5/1	349	349	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/2	277	277	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	235	235	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/2	565	565	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	230	230	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	321	321	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
C1			PRC for Signalled Lanes (%):		40.8	Total Delay for Signalled Lanes (pcuHr):		15.58	Cycle Time (s): 180				
			PRC Over All Lanes (%):		40.8	Total Delay Over All Lanes(pcuHr):		15.58					

S|C|P

APPENDIX B2

Junctions 9

PICADY 9 - Priority Intersection Module

Version: 9.5.2.1013

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Filename: 12. Right Turn Lane Ruthin Rd Site Access.j9

Path: C:\Users\Junctions shared\Desktop\Abbie\Wrexham July update 2024\Junctions\Standard\12. Right Turn Lane Ruthin Rd Site Access_Berse Ln Open

Report generation date: 19/07/2024 14:17:03

»2028 Assess Re-dist, AM

»2028 Assess Re-dist , PM

Summary of junction performance

	AM					PM				
	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Set ID	Queue (PCU)	Delay (s)	RFC	LOS
2028 Assess Re-dist										
Stream B-C	D7	1.8	24.42	0.63	C	D8	0.4	12.79	0.25	B
Stream B-A		0.5	44.20	0.34	E		0.2	38.26	0.15	E
Stream C-B		0.2	8.85	0.13	A		1.1	17.96	0.51	C

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	Right Turn Lane Site Access
Location	
Site number	
Date	01/12/2022
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	SCP\abbie.moore
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

Analysis Options

Calculate Queue Percentiles	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
		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)
D7	2028 Assess Re-dist	AM	ONE HOUR	07:45	09:15	15
D8	2028 Assess Re-dist	PM	ONE HOUR	16:15	17:45	15

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

2028 Assess Re-dist, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	Right Turn Lane Site Access	T-Junction	Two-way		3.97	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	A525 Ruthin Road East		Major
B	Site Access South		Minor
C	A525 Ruthin Road West		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right turn bay	Width for right turn (m)	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C	6.00		✓	3.00	100.0		-

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor arm type	Lane Width (Left) (m)	Lane Width (Right) (m)	Visibility to left (m)	Visibility to right (m)
B	Two lanes	3.00	3.00	27	30

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
B-A	501	0.091	0.231	0.145	0.330
B-C	643	0.099	0.249	-	-
C-B	687	0.266	0.266	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

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)
D7	2028 Assess Re-dist	AM	ONE HOUR	07:45	09:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	585	100.000
B		✓	296	100.000
C		✓	1287	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
	A	B	C	
From	A	0	10	575
	B	42	0	254
	C	1225	62	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
	A	B	C	
From	A	0	10	10
	B	10	0	10
	C	10	10	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.63	24.42	1.8	C
B-A	0.34	44.20	0.5	E
C-A				
C-B	0.13	8.85	0.2	A
A-B				
A-C				

Main Results for each time segment

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	191	517	0.370	189	0.6	11.957	B
B-A	32	251	0.126	31	0.2	17.920	C
C-A	922			922			
C-B	47	570	0.082	46	0.1	7.561	A
A-B	8			8			
A-C	433			433			

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	228	489	0.467	227	0.9	15.054	C
B-A	38	203	0.186	37	0.2	23.902	C
C-A	1101			1101			
C-B	56	547	0.102	56	0.1	8.058	A
A-B	9			9			
A-C	517			517			

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	280	442	0.633	276	1.8	23.433	C
B-A	46	136	0.341	45	0.5	43.204	E
C-A	1349			1349			
C-B	68	515	0.132	68	0.2	8.851	A
A-B	11			11			
A-C	633			633			

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	280	441	0.634	279	1.8	24.422	C
B-A	46	136	0.341	46	0.5	44.198	E
C-A	1349			1349			
C-B	68	515	0.132	68	0.2	8.854	A
A-B	11			11			
A-C	633			633			

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	228	488	0.468	232	1.0	15.651	C
B-A	38	203	0.186	39	0.3	24.350	C
C-A	1101			1101			
C-B	56	547	0.102	56	0.1	8.068	A
A-B	9			9			
A-C	517			517			

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	191	517	0.370	193	0.7	12.262	B
B-A	32	251	0.126	32	0.2	18.102	C
C-A	922			922			
C-B	47	570	0.082	47	0.1	7.576	A
A-B	8			8			
A-C	433			433			

2028 Assess Re-dist , PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	Right Turn Lane Site Access	T-Junction	Two-way		3.16	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)
D8	2028 Assess Re-dist	PM	ONE HOUR	16:15	17:45	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	800	100.000
B		✓	110	100.000
C		✓	863	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
From		A	B	C
	A	0	35	765
	B	16	0	94
	C	652	211	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
From		A	B	C
	A	0	10	10
	B	10	0	10
	C	10	10	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.25	12.79	0.4	B
B-A	0.15	38.26	0.2	E
C-A				
C-B	0.51	17.96	1.1	C
A-B				
A-C				

Main Results for each time segment

16:15 - 16:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	71	491	0.144	70	0.2	9.400	A
B-A	12	242	0.050	12	0.1	17.171	C
C-A	491			491			
C-B	159	527	0.302	157	0.5	10.662	B
A-B	26			26			
A-C	576			576			

16:30 - 16:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	85	459	0.184	84	0.2	10.547	B
B-A	14	191	0.075	14	0.1	22.342	C
C-A	586			586			
C-B	190	495	0.383	189	0.7	12.880	B
A-B	31			31			
A-C	688			688			

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	103	413	0.250	103	0.4	12.740	B
B-A	18	122	0.145	17	0.2	37.804	E
C-A	718			718			
C-B	232	452	0.513	231	1.1	17.693	C
A-B	39			39			
A-C	842			842			

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	103	413	0.251	103	0.4	12.794	B
B-A	18	121	0.146	18	0.2	38.260	E
C-A	718			718			
C-B	232	452	0.513	232	1.1	17.962	C
A-B	39			39			
A-C	842			842			

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	85	459	0.184	85	0.3	10.597	B
B-A	14	190	0.076	15	0.1	22.578	C
C-A	586			586			
C-B	190	495	0.383	191	0.7	13.100	B
A-B	31			31			
A-C	688			688			

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	71	490	0.144	71	0.2	9.448	A
B-A	12	241	0.050	12	0.1	17.293	C
C-A	491			491			
C-B	159	527	0.302	160	0.5	10.818	B
A-B	26			26			
A-C	576			576			

S|C|P

APPENDIX B3

Junctions 9

PICADY 9 - Priority Intersection Module

Version: 9.5.2.1013

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Filename: 13. B5099 Bersham Road Site Access (W).j9

Path: C:\Users\Junctions shared\Desktop\Abbie\Wrexham July update 2024\Junctions\Models

Report generation date: 02/07/2024 15:54:24

»2028 Assessment Re-dist, AM

»2028 Assessment Re-dist, PM

Summary of junction performance

	AM					PM				
	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Set ID	Queue (PCU)	Delay (s)	RFC	LOS
2028 Assessment Re-dist										
Stream B-C	D1	0.1	7.16	0.10	A	D2	0.1	6.12	0.05	A
Stream B-A		0.2	10.53	0.15	B		0.1	8.90	0.07	A
Stream C-AB		0.1	6.96	0.09	A		0.1	5.88	0.06	A

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.

File summary

File Description

Title	Junction 13 B5099 Bersham Road Site Access
Location	
Site number	
Date	01/12/2022
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	SCP\abbie.moore
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

Analysis Options

Calculate Queue Percentiles	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
		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)
D1	2028 Assessment Re-dist	AM	ONE HOUR	07:45	09:15	15
D2	2028 Assessment Re-dist	PM	ONE HOUR	16:15	17:45	15

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

2028 Assessment Re-dist, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm flare	Arm B - Minor arm geometry	Is flare very short? Estimated flare length is zero but has been increased to 1 because a zero flare length is not allowed.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	Junction 13 B5099 Bersham Road Site Access	T-Junction	Two-way		2.87	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	B5099 Bersham Road (W)		Major
B	Site Access (N)		Minor
C	B5099 Bersham Road (E)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right turn bay	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C	8.70			100.0	✓	0.00

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor arm type	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate flare length	Flare length (PCU)	Visibility to left (m)	Visibility to right (m)
B	One lane plus flare	8.60	3.50	3.40	3.40	3.40	✓	1.00	21	16

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
B-A	524	0.084	0.213	0.134	0.304
B-C	703	0.095	0.240	-	-
C-B	632	0.216	0.216	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

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)
D1	2028 Assessment Re-dist	AM	ONE HOUR	07:45	09:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	254	100.000
B		✓	118	100.000
C		✓	118	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
From		A	B	C
	A	0	46	208
	B	62	0	56
	C	73	45	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
From		A	B	C
	A	0	10	10
	B	10	0	10
	C	10	10	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.10	7.16	0.1	A
B-A	0.15	10.53	0.2	B
C-AB	0.09	6.96	0.1	A
C-A				
A-B				
A-C				

Main Results for each time segment

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	42	645	0.065	42	0.1	6.568	A
B-A	47	470	0.099	46	0.1	9.337	A
C-AB	37	627	0.059	37	0.1	6.701	A
C-A	52			52			
A-B	35			35			
A-C	157			157			

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	50	632	0.080	50	0.1	6.806	A
B-A	56	459	0.121	56	0.2	9.810	A
C-AB	45	627	0.072	45	0.1	6.806	A
C-A	61			61			
A-B	41			41			
A-C	187			187			

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	62	615	0.100	62	0.1	7.153	A
B-A	68	444	0.154	68	0.2	10.521	B
C-AB	57	626	0.091	57	0.1	6.953	A
C-A	73			73			
A-B	51			51			
A-C	229			229			

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	62	615	0.100	62	0.1	7.159	A
B-A	68	444	0.154	68	0.2	10.532	B
C-AB	57	626	0.091	57	0.1	6.957	A
C-A	73			73			
A-B	51			51			
A-C	229			229			

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	50	632	0.080	50	0.1	6.813	A
B-A	56	459	0.121	56	0.2	9.825	A
C-AB	45	627	0.072	45	0.1	6.813	A
C-A	61			61			
A-B	41			41			
A-C	187			187			

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	42	644	0.065	42	0.1	6.585	A
B-A	47	470	0.099	47	0.1	9.364	A
C-AB	37	628	0.059	37	0.1	6.709	A
C-A	52			52			
A-B	35			35			
A-C	157			157			

2028 Assessment Re-dist, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm flare	Arm B - Minor arm geometry	Is flare very short? Estimated flare length is zero but has been increased to 1 because a zero flare length is not allowed.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	Junction 13 B5099 Bersham Road Site Access	T-Junction	Two-way		2.17	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)
D2	2028 Assessment Re-dist	PM	ONE HOUR	16:15	17:45	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	64	100.000
B		✓	61	100.000
C		✓	191	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
From		A	B	C
	A	0	36	28
	B	32	0	29
	C	161	30	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
From		A	B	C
	A	0	10	10
	B	10	0	10
	C	10	10	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.05	6.12	0.1	A
B-A	0.07	8.90	0.1	A
C-AB	0.06	5.88	0.1	A
C-A				
A-B				
A-C				

Main Results for each time segment

16:15 - 16:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	22	687	0.032	22	0.0	5.951	A
B-A	24	494	0.049	24	0.1	8.419	A
C-AB	27	701	0.039	27	0.1	5.876	A
C-A	116			116			
A-B	27			27			
A-C	21			21			

16:30 - 16:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	26	683	0.038	26	0.0	6.025	A
B-A	29	488	0.059	29	0.1	8.617	A
C-AB	34	714	0.047	34	0.1	5.818	A
C-A	138			138			
A-B	32			32			
A-C	25			25			

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	32	678	0.047	32	0.1	6.124	A
B-A	35	480	0.073	35	0.1	8.899	A
C-AB	44	733	0.060	44	0.1	5.742	A
C-A	167			167			
A-B	40			40			
A-C	31			31			

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	32	678	0.047	32	0.1	6.125	A
B-A	35	480	0.073	35	0.1	8.900	A
C-AB	44	733	0.060	44	0.1	5.746	A
C-A	167			167			
A-B	40			40			
A-C	31			31			

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	26	683	0.038	26	0.0	6.030	A
B-A	29	488	0.059	29	0.1	8.621	A
C-AB	34	714	0.047	34	0.1	5.823	A
C-A	138			138			
A-B	32			32			
A-C	25			25			

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	22	686	0.032	22	0.0	5.959	A
B-A	24	494	0.049	24	0.1	8.429	A
C-AB	27	701	0.039	27	0.1	5.883	A
C-A	116			116			
A-B	27			27			
A-C	21			21			

S|C|P

APPENDIX B4

Junctions 9

PICADY 9 - Priority Intersection Module

Version: 9.5.2.1013

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Filename: 14. B5099 Bersham Road (E).j9

Path: C:\Users\Junctions shared\Desktop\Abbie\Wrexham July update 2024\Junctions\Standard\14. B5099 Bersham Road (E)_Junctions 9 Report

Report generation date: 18/07/2024 17:50:00

»2028 Assessment Re-dist, AM

»2028 Assessment Re-dist, PM

Summary of junction performance

	AM					PM				
	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Set ID	Queue (PCU)	Delay (s)	RFC	LOS
2028 Assessment Re-dist										
Stream B-C	D1	0.1	7.44	0.10	A	D2	0.1	6.19	0.05	A
Stream B-A		0.2	11.11	0.16	B		0.1	9.10	0.07	A
Stream C-AB		0.1	7.41	0.10	A		0.1	6.05	0.06	A

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.

File summary

File Description

Title	Junction 14, B5099 Bersham Road W
Location	Junction 14, B5099 Bersham Road W
Site number	
Date	01/12/2022
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	SCP\abbie.moore
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

Analysis Options

Calculate Queue Percentiles	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
		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)
D1	2028 Assessment Re-dist	AM	ONE HOUR	07:45	09:15	15
D2	2028 Assessment Re-dist	PM	ONE HOUR	16:15	17:45	15

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

2028 Assessment Re-dist, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm flare	Arm B - Minor arm geometry	Is flare very short? Estimated flare length is zero but has been increased to 1 because a zero flare length is not allowed.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	Junction 14, B5099 Bersham Road W	T-Junction	Two-way		2.79	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	B5099 Bersham Road (W)		Major
B	Site Access North		Minor
C	B5099 Bersham Road (W)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right turn bay	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C	6.00			50.0	✓	0.00

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor arm type	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate flare length	Flare length (PCU)	Visibility to left (m)	Visibility to right (m)
B	One lane plus flare	8.50	3.70	3.50	3.40	3.40	✓	1.00	19	17

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
B-A	526	0.096	0.242	0.152	0.346
B-C	700	0.107	0.271	-	-
C-B	603	0.234	0.234	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

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)
D1	2028 Assessment Re-dist	AM	ONE HOUR	07:45	09:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	288	100.000
B		✓	118	100.000
C		✓	128	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
From		A	B	C
	A	0	46	242
	B	62	0	56
	C	83	45	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
From		A	B	C
	A	0	10	10
	B	10	0	10
	C	10	10	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.10	7.44	0.1	A
B-A	0.16	11.11	0.2	B
C-AB	0.10	7.41	0.1	A
C-A				
A-B				
A-C				

Main Results for each time segment

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	42	630	0.067	42	0.1	6.732	A
B-A	47	457	0.102	46	0.1	9.620	A
C-AB	38	596	0.064	38	0.1	7.093	A
C-A	59			59			
A-B	35			35			
A-C	182			182			

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	50	615	0.082	50	0.1	7.013	A
B-A	56	444	0.126	56	0.2	10.200	B
C-AB	46	595	0.078	46	0.1	7.221	A
C-A	69			69			
A-B	41			41			
A-C	218			218			

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	62	594	0.104	62	0.1	7.433	A
B-A	68	425	0.161	68	0.2	11.091	B
C-AB	59	593	0.099	58	0.1	7.403	A
C-A	82			82			
A-B	51			51			
A-C	266			266			

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	62	594	0.104	62	0.1	7.439	A
B-A	68	425	0.161	68	0.2	11.107	B
C-AB	59	593	0.099	59	0.1	7.406	A
C-A	82			82			
A-B	51			51			
A-C	266			266			

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	50	614	0.082	50	0.1	7.024	A
B-A	56	444	0.126	56	0.2	10.218	B
C-AB	46	595	0.078	46	0.1	7.226	A
C-A	69			69			
A-B	41			41			
A-C	218			218			

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	42	629	0.067	42	0.1	6.750	A
B-A	47	457	0.102	47	0.1	9.653	A
C-AB	38	596	0.064	38	0.1	7.105	A
C-A	58			58			
A-B	35			35			
A-C	182			182			

2028 Assessment Re-dist, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm flare	Arm B - Minor arm geometry	Is flare very short? Estimated flare length is zero but has been increased to 1 because a zero flare length is not allowed.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	Junction 14, B5099 Bersham Road W	T-Junction	Two-way		2.06	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)
D2	2028 Assessment Re-dist	PM	ONE HOUR	16:15	17:45	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	72	100.000
B		✓	61	100.000
C		✓	213	100.000

Origin-Destination Data

Demand (PCU/hr)

	To		
	A	B	C
From	A	0	36
	B	32	0
	C	183	30

Vehicle Mix

Heavy Vehicle Percentages

	To		
	A	B	C
From	A	0	10
	B	10	0
	C	10	10

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.05	6.19	0.1	A
B-A	0.07	9.10	0.1	A
C-AB	0.06	6.05	0.1	A
C-A				
A-B				
A-C				

Main Results for each time segment

16:15 - 16:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	22	682	0.032	22	0.0	5.996	A
B-A	24	488	0.049	24	0.1	8.525	A
C-AB	28	683	0.041	28	0.1	6.046	A
C-A	132			132			
A-B	27			27			
A-C	27			27			

16:30 - 16:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	26	678	0.038	26	0.0	6.076	A
B-A	29	481	0.060	29	0.1	8.758	A
C-AB	35	699	0.051	35	0.1	5.970	A
C-A	156			156			
A-B	32			32			
A-C	32			32			

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	32	672	0.048	32	0.1	6.184	A
B-A	35	471	0.075	35	0.1	9.095	A
C-AB	46	721	0.064	46	0.1	5.872	A
C-A	189			189			
A-B	40			40			
A-C	40			40			

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	32	672	0.048	32	0.1	6.185	A
B-A	35	471	0.075	35	0.1	9.097	A
C-AB	46	721	0.064	46	0.1	5.874	A
C-A	189			189			
A-B	40			40			
A-C	40			40			

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	26	677	0.038	26	0.0	6.082	A
B-A	29	481	0.060	29	0.1	8.763	A
C-AB	35	699	0.051	35	0.1	5.973	A
C-A	156			156			
A-B	32			32			
A-C	32			32			

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	22	681	0.032	22	0.0	6.006	A
B-A	24	488	0.049	24	0.1	8.534	A
C-AB	28	683	0.042	28	0.1	6.052	A
C-A	132			132			
A-B	27			27			
A-C	27			27			

S|C|P

APPENDIX B5

Junctions 9

PICADY 9 - Priority Intersection Module

Version: 9.5.2.1013

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Filename: 2. A525 Ruthin Road _ Berse Lane Priority Junction 18.07.24...j9

Path: C:\Users\Junctions shared\Desktop\Abbie\Wrexham July update 2024\Junctions\Standard\2. A525 Ruthin Road _ Berse Lane Priority Junction;_Junctions 9 Report

Report generation date: 19/07/2024 14:26:32

»2028 Base, AM

»2028 Base, PM

»2028 Assessment Re-dist, AM

»2028 Assessment Re-dist, PM

Summary of junction performance

	AM					PM				
	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Set ID	Queue (PCU)	Delay (s)	RFC	LOS
	2028 Base									
Stream B-C	D1	0.2	8.49	0.14	A	D2	0.2	8.52	0.17	A
Stream B-A		0.5	29.84	0.35	D		0.1	19.00	0.11	C
Stream C-B		0.2	7.75	0.15	A		0.1	8.51	0.13	A
	2028 Assessment Re-dist									
Stream B-C	D7	0.6	29.00	0.37	D	D8	0.2	9.54	0.19	A
Stream B-A		2.5	156.31	0.78	F		0.2	30.53	0.16	D
Stream C-B		0.2	9.80	0.18	A		0.2	9.30	0.14	A

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.

File summary

File Description

Title	A525 Ruthin Road / Berse Lane Priority Junction;
Location	A525 Ruthin Road / Berse Lane Priority Junction;
Site number	
Date	29/11/2022
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	SCP\abbie.moore
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

Analysis Options

Calculate Queue Percentiles	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
		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)
D1	2028 Base	AM	ONE HOUR	07:45	09:15	15
D2	2028 Base	PM	ONE HOUR	16:15	17:45	15
D7	2028 Assessment Re-dist	AM	ONE HOUR	07:45	09:15	15
D8	2028 Assessment Re-dist	PM	ONE HOUR	16:15	17:45	15

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

2028 Base, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	A525 Ruthin Road / Berse Lane Priority Junction;	T-Junction	Two-way		1.56	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	A525 Ruthin Rd (E)		Major
B	B5098 Berse Lane		Minor
C	A525 Ruthin Rd (E)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right turn bay	Width for right turn (m)	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C	6.45		✓	3.00	100.0		-

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor arm type	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate flare length	Flare length (PCU)	Visibility to left (m)	Visibility to right (m)
B	One lane plus flare	10.00	7.70	6.40	4.80	3.40	✓	2.00	25	28

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
B-A	523	0.093	0.236	0.149	0.337
B-C	690	0.104	0.262	-	-
C-B	687	0.261	0.261	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

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)
D1	2028 Base	AM	ONE HOUR	07:45	09:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	491	100.000
B		✓	123	100.000
C		✓	1219	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
	A	B	C	
From	A	0	22	469
	B	58	0	65
	C	1145	74	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
	A	B	C	
From	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.14	8.49	0.2	A
B-A	0.35	29.84	0.5	D
C-A				
C-B	0.15	7.75	0.2	A
A-B				
A-C				

Main Results for each time segment

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	49	573	0.085	49	0.1	6.862	A
B-A	44	291	0.150	43	0.2	14.453	B
C-A	862			862			
C-B	56	590	0.094	55	0.1	6.723	A
A-B	17			17			
A-C	353			353			

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	58	545	0.107	58	0.1	7.396	A
B-A	52	246	0.212	52	0.3	18.452	C
C-A	1029			1029			
C-B	67	572	0.116	66	0.1	7.122	A
A-B	20			20			
A-C	422			422			

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	72	497	0.144	71	0.2	8.453	A
B-A	64	184	0.347	63	0.5	29.453	D
C-A	1261			1261			
C-B	81	546	0.149	81	0.2	7.747	A
A-B	24			24			
A-C	516			516			

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	72	495	0.144	72	0.2	8.493	A
B-A	64	184	0.346	64	0.5	29.836	D
C-A	1261			1261			
C-B	81	546	0.149	81	0.2	7.752	A
A-B	24			24			
A-C	516			516			

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	58	543	0.108	59	0.1	7.439	A
B-A	52	247	0.211	53	0.3	18.660	C
C-A	1029			1029			
C-B	67	572	0.116	67	0.1	7.132	A
A-B	20			20			
A-C	422			422			

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	49	571	0.086	49	0.1	6.893	A
B-A	44	292	0.150	44	0.2	14.552	B
C-A	862			862			
C-B	56	590	0.094	56	0.1	6.737	A
A-B	17			17			
A-C	353			353			

2028 Base, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	A525 Ruthin Road / Berse Lane Priority Junction;	T-Junction	Two-way		1.09	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)
D2	2028 Base	PM	ONE HOUR	16:15	17:45	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	707	100.000
B		✓	101	100.000
C		✓	616	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
From		A	B	C
	A	0	44	663
	B	21	0	80
	C	561	55	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
From		A	B	C
	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.17	8.52	0.2	A
B-A	0.11	19.00	0.1	C
C-A				
C-B	0.13	8.51	0.1	A
A-B				
A-C				

Main Results for each time segment

16:15 - 16:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	60	583	0.103	60	0.1	6.870	A
B-A	16	296	0.053	16	0.1	12.842	B
C-A	422			422			
C-B	41	548	0.076	41	0.1	7.096	A
A-B	33			33			
A-C	499			499			

16:30 - 16:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	72	553	0.130	72	0.1	7.477	A
B-A	19	261	0.072	19	0.1	14.862	B
C-A	504			504			
C-B	49	521	0.095	49	0.1	7.629	A
A-B	40			40			
A-C	596			596			

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	88	511	0.173	88	0.2	8.511	A
B-A	23	213	0.109	23	0.1	18.966	C
C-A	618			618			
C-B	61	484	0.125	60	0.1	8.500	A
A-B	48			48			
A-C	730			730			

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	88	510	0.173	88	0.2	8.523	A
B-A	23	213	0.109	23	0.1	19.000	C
C-A	618			618			
C-B	61	484	0.125	61	0.1	8.505	A
A-B	48			48			
A-C	730			730			

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	72	553	0.130	72	0.2	7.490	A
B-A	19	261	0.072	19	0.1	14.896	B
C-A	504			504			
C-B	49	521	0.095	50	0.1	7.637	A
A-B	40			40			
A-C	596			596			

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	60	583	0.103	60	0.1	6.890	A
B-A	16	296	0.053	16	0.1	12.865	B
C-A	422			422			
C-B	41	548	0.076	42	0.1	7.107	A
A-B	33			33			
A-C	499			499			

2028 Assessment Re-dist, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	A525 Ruthin Road / Berse Lane Priority Junction;	T-Junction	Two-way		5.18	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)
D7	2028 Assessment Re-dist	AM	ONE HOUR	07:45	09:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	829	100.000
B		✓	123	100.000
C		✓	1302	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
	A	B	C	
From	A	0	22	807
	B	58	0	65
	C	1228	74	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
	A	B	C	
From	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.37	29.00	0.6	D
B-A	0.78	156.31	2.5	F
C-A				
C-B	0.18	9.80	0.2	A
A-B				
A-C				

Main Results for each time segment

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	49	502	0.097	49	0.1	7.928	A
B-A	44	222	0.197	43	0.2	19.971	C
C-A	925			925			
C-B	56	524	0.106	55	0.1	7.671	A
A-B	17			17			
A-C	608			608			

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	58	453	0.129	58	0.1	9.118	A
B-A	52	164	0.319	51	0.4	31.828	D
C-A	1104			1104			
C-B	67	492	0.135	66	0.2	8.447	A
A-B	20			20			
A-C	725			725			

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	72	250	0.286	71	0.4	19.976	C
B-A	64	82	0.776	57	2.1	122.619	F
C-A	1352			1352			
C-B	81	449	0.182	81	0.2	9.788	A
A-B	24			24			
A-C	889			889			

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	72	194	0.368	71	0.6	29.002	D
B-A	64	83	0.770	62	2.5	156.310	F
C-A	1352			1352			
C-B	81	449	0.182	81	0.2	9.802	A
A-B	24			24			
A-C	889			889			

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	58	438	0.134	60	0.2	9.570	A
B-A	52	166	0.315	60	0.5	36.329	E
C-A	1104			1104			
C-B	67	492	0.135	67	0.2	8.463	A
A-B	20			20			
A-C	725			725			

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	49	499	0.098	49	0.1	8.001	A
B-A	44	223	0.196	45	0.3	20.323	C
C-A	925			925			
C-B	56	524	0.106	56	0.1	7.693	A
A-B	17			17			
A-C	608			608			

2028 Assessment Re-dist, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	A525 Ruthin Road / Berse Lane Priority Junction;	T-Junction	Two-way		1.05	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)
D8	2028 Assessment Re-dist	PM	ONE HOUR	16:15	17:45	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	833	100.000
B		✓	101	100.000
C		✓	897	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
From		A	B	C
	A	0	44	789
	B	21	0	80
	C	842	55	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
From		A	B	C
	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.19	9.54	0.2	A
B-A	0.16	30.53	0.2	D
C-A				
C-B	0.14	9.30	0.2	A
A-B				
A-C				

Main Results for each time segment

16:15 - 16:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	60	556	0.108	60	0.1	7.252	A
B-A	16	247	0.064	16	0.1	15.537	C
C-A	634			634			
C-B	41	523	0.079	41	0.1	7.461	A
A-B	33			33			
A-C	594			594			

16:30 - 16:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	72	519	0.139	72	0.2	8.042	A
B-A	19	202	0.093	19	0.1	19.576	C
C-A	757			757			
C-B	49	491	0.101	49	0.1	8.140	A
A-B	40			40			
A-C	709			709			

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	88	466	0.189	88	0.2	9.516	A
B-A	23	141	0.164	23	0.2	30.353	D
C-A	927			927			
C-B	61	448	0.135	60	0.2	9.294	A
A-B	48			48			
A-C	869			869			

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	88	465	0.189	88	0.2	9.539	A
B-A	23	141	0.164	23	0.2	30.529	D
C-A	927			927			
C-B	61	448	0.135	61	0.2	9.301	A
A-B	48			48			
A-C	869			869			

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	72	519	0.139	72	0.2	8.065	A
B-A	19	202	0.093	19	0.1	19.679	C
C-A	757			757			
C-B	49	491	0.101	50	0.1	8.151	A
A-B	40			40			
A-C	709			709			

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	60	555	0.108	60	0.1	7.274	A
B-A	16	247	0.064	16	0.1	15.595	C
C-A	634			634			
C-B	41	523	0.079	42	0.1	7.473	A
A-B	33			33			
A-C	594			594			

S|C|P

APPENDIX B6

Junctions 9

PICADY 9 - Priority Intersection Module

Version: 9.5.2.1013

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Filename: 4. B5098 _ Vicarage Hill Priority Junction;.j9

Path: C:\Users\Junctions shared\Desktop\Abbie\Wrexham July update 2024\Junctions

Report generation date: 01/07/2024 11:21:45

- »2028 Base Re-dist, AM
- »2028 Base Re-dist, PM
- »2028 Assess Re-dist, AM
- »2028 Assess Re-dist, PM
- »2022 Survey, AM
- »2022 Survey, PM

Summary of junction performance

	AM					PM				
	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Set ID	Queue (PCU)	Delay (s)	RFC	LOS
	2028 Base Re-dist									
Stream B-C	D1	0.1	6.62	0.07	A	D2	0.1	6.72	0.09	A
Stream B-A		0.2	8.83	0.17	A		0.3	8.93	0.22	A
Stream C-AB		0.2	7.43	0.11	A		0.1	6.81	0.07	A
	2028 Assess Re-dist									
Stream B-C	D3	0.1	6.72	0.07	A	D4	0.1	6.78	0.09	A
Stream B-A		0.3	9.38	0.20	A		0.3	9.37	0.23	A
Stream C-AB		0.2	7.44	0.11	A		0.1	6.83	0.07	A
	2022 Survey									
Stream B-C	D5	0.1	6.55	0.06	A	D6	0.1	6.45	0.09	A
Stream B-A		0.2	8.67	0.16	A		0.3	8.73	0.20	A
Stream C-AB		0.1	7.35	0.11	A		0.1	6.59	0.06	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	B5098 / Vicarage Hill Priority Junction;
Location	B5098 / Vicarage Hill Priority Junction;
Site number	
Date	29/11/2022
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	SCP\abbie.moore
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

Analysis Options

Calculate Queue Percentiles	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
		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)
D1	2028 Base Re-dist	AM	ONE HOUR	00:00	01:30	15
D2	2028 Base Re-dist	PM	ONE HOUR	00:00	01:30	15
D3	2028 Assess Re-dist	AM	ONE HOUR	00:00	01:30	15
D4	2028 Assess Re-dist	PM	ONE HOUR	00:00	01:30	15
D5	2022 Survey	AM	ONE HOUR	00:00	01:30	15
D6	2022 Survey	PM	ONE HOUR	00:00	01:30	15

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

2028 Base Re-dist, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	B5098 / Vicarage Hill Priority Junction;	T-Junction	Two-way		3.38	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	B5098 (W)		Major
B	B5098 (N)		Minor
C	Vicarage Hill (W)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right turn bay	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C	8.10			71.0	✓	0.00

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor arm type	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate flare length	Flare length (PCU)	Visibility to left (m)	Visibility to right (m)
B	One lane plus flare	10.00	9.20	6.20	4.20	3.60	✓	2.00	37	46

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
B-A	601	0.099	0.251	0.158	0.359
B-C	701	0.098	0.247	-	-
C-B	615	0.217	0.217	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

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)
D1	2028 Base Re-dist	AM	ONE HOUR	00:00	01:30	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	203	100.000
B		✓	123	100.000
C		✓	104	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	155	48
	B	83	0	40
	C	47	57	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	10	10
	B	10	0	10
	C	10	10	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.07	6.62	0.1	A
B-A	0.17	8.83	0.2	A
C-AB	0.11	7.43	0.2	A
C-A				
A-B				
A-C				

Main Results for each time segment

00:00 - 00:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	30	662	0.046	30	0.1	6.266	A
B-A	62	559	0.112	62	0.1	7.955	A
C-AB	46	606	0.075	45	0.1	7.057	A
C-A	33			33			
A-B	117			117			
A-C	36			36			

00:15 - 00:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	36	654	0.055	36	0.1	6.411	A
B-A	75	551	0.135	74	0.2	8.310	A
C-AB	55	604	0.091	55	0.1	7.209	A
C-A	38			38			
A-B	139			139			
A-C	43			43			

00:30 - 00:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	44	642	0.069	44	0.1	6.619	A
B-A	91	540	0.169	91	0.2	8.825	A
C-AB	69	602	0.114	69	0.2	7.422	A
C-A	46			46			
A-B	171			171			
A-C	53			53			

00:45 - 01:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	44	642	0.069	44	0.1	6.620	A
B-A	91	540	0.169	91	0.2	8.833	A
C-AB	69	602	0.114	69	0.2	7.426	A
C-A	46			46			
A-B	171			171			
A-C	53			53			

01:00 - 01:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	36	653	0.055	36	0.1	6.414	A
B-A	75	551	0.135	75	0.2	8.321	A
C-AB	55	604	0.091	55	0.1	7.214	A
C-A	38			38			
A-B	139			139			
A-C	43			43			

01:15 - 01:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	30	661	0.046	30	0.1	6.275	A
B-A	62	559	0.112	63	0.1	7.980	A
C-AB	46	606	0.075	46	0.1	7.072	A
C-A	33			33			
A-B	117			117			
A-C	36			36			

2028 Base Re-dist, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	B5098 / Vicarage Hill Priority Junction;	T-Junction	Two-way		5.02	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)
D2	2028 Base Re-dist	PM	ONE HOUR	00:00	01:30	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	83	100.000
B		✓	167	100.000
C		✓	73	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
	A	B	C	
From	A	0	60	23
	B	112	0	55
	C	38	35	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
	A	B	C	
From	A	0	10	10
	B	10	0	10
	C	10	10	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.09	6.72	0.1	A
B-A	0.22	8.93	0.3	A
C-AB	0.07	6.81	0.1	A
C-A				
A-B				
A-C				

Main Results for each time segment

00:00 - 00:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	41	667	0.062	41	0.1	6.319	A
B-A	84	578	0.146	84	0.2	8.004	A
C-AB	28	621	0.045	27	0.1	6.674	A
C-A	27			27			
A-B	45			45			
A-C	17			17			

00:15 - 00:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	49	660	0.075	49	0.1	6.484	A
B-A	101	573	0.176	101	0.2	8.376	A
C-AB	33	622	0.054	33	0.1	6.729	A
C-A	32			32			
A-B	54			54			
A-C	21			21			

00:30 - 00:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	61	650	0.093	60	0.1	6.719	A
B-A	123	567	0.218	123	0.3	8.917	A
C-AB	41	623	0.066	41	0.1	6.803	A
C-A	39			39			
A-B	66			66			
A-C	25			25			

00:45 - 01:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	61	650	0.093	61	0.1	6.721	A
B-A	123	567	0.218	123	0.3	8.927	A
C-AB	41	623	0.066	41	0.1	6.806	A
C-A	39			39			
A-B	66			66			
A-C	25			25			

01:00 - 01:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	49	660	0.075	50	0.1	6.488	A
B-A	101	573	0.176	101	0.2	8.392	A
C-AB	33	622	0.054	33	0.1	6.733	A
C-A	32			32			
A-B	54			54			
A-C	21			21			

01:15 - 01:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	41	667	0.062	41	0.1	6.332	A
B-A	84	578	0.146	85	0.2	8.035	A
C-AB	28	621	0.045	28	0.1	6.681	A
C-A	27			27			
A-B	45			45			
A-C	17			17			

2028 Assess Re-dist, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	B5098 / Vicarage Hill Priority Junction;	T-Junction	Two-way		3.62	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)
D3	2028 Assess Re-dist	AM	ONE HOUR	00:00	01:30	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	206	100.000
B		✓	134	100.000
C		✓	104	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
From		A	B	C
	A	0	158	48
	B	94	0	40
	C	47	57	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
From		A	B	C
	A	0	10	10
	B	10	0	10
	C	10	10	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.07	6.72	0.1	A
B-A	0.20	9.38	0.3	A
C-AB	0.11	7.44	0.2	A
C-A				
A-B				
A-C				

Main Results for each time segment

00:00 - 00:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	30	655	0.046	30	0.1	6.334	A
B-A	71	545	0.130	70	0.2	8.334	A
C-AB	46	605	0.075	45	0.1	7.063	A
C-A	33			33			
A-B	119			119			
A-C	36			36			

00:15 - 00:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	36	646	0.056	36	0.1	6.490	A
B-A	85	537	0.157	84	0.2	8.752	A
C-AB	55	604	0.091	55	0.1	7.217	A
C-A	38			38			
A-B	142			142			
A-C	43			43			

00:30 - 00:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	44	634	0.070	44	0.1	6.716	A
B-A	103	526	0.197	103	0.3	9.369	A
C-AB	69	601	0.114	69	0.2	7.432	A
C-A	46			46			
A-B	174			174			
A-C	53			53			

00:45 - 01:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	44	633	0.070	44	0.1	6.718	A
B-A	103	526	0.197	103	0.3	9.381	A
C-AB	69	601	0.114	69	0.2	7.436	A
C-A	46			46			
A-B	174			174			
A-C	53			53			

01:00 - 01:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	36	646	0.056	36	0.1	6.496	A
B-A	85	537	0.157	85	0.2	8.768	A
C-AB	55	604	0.091	55	0.1	7.224	A
C-A	38			38			
A-B	142			142			
A-C	43			43			

01:15 - 01:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	30	655	0.046	30	0.1	6.341	A
B-A	71	545	0.130	71	0.2	8.363	A
C-AB	46	605	0.075	46	0.1	7.075	A
C-A	33			33			
A-B	119			119			
A-C	36			36			

2028 Assess Re-dist, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	B5098 / Vicarage Hill Priority Junction;	T-Junction	Two-way		5.10	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)
D4	2028 Assess Re-dist	PM	ONE HOUR	00:00	01:30	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	92	100.000
B		✓	171	100.000
C		✓	73	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
	A	B	C	
From	A	0	69	23
	B	116	0	55
	C	38	35	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
	A	B	C	
From	A	0	10	10
	B	10	0	10
	C	10	10	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.09	6.78	0.1	A
B-A	0.23	9.37	0.3	A
C-AB	0.07	6.83	0.1	A
C-A				
A-B				
A-C				

Main Results for each time segment

00:00 - 00:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	41	664	0.062	41	0.1	6.354	A
B-A	87	561	0.156	87	0.2	8.328	A
C-AB	28	619	0.045	27	0.1	6.691	A
C-A	27			27			
A-B	52			52			
A-C	17			17			

00:15 - 00:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	49	656	0.075	49	0.1	6.526	A
B-A	104	557	0.187	104	0.3	8.745	A
C-AB	33	620	0.054	33	0.1	6.748	A
C-A	32			32			
A-B	62			62			
A-C	21			21			

00:30 - 00:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	61	645	0.094	60	0.1	6.775	A
B-A	128	550	0.232	127	0.3	9.353	A
C-AB	41	621	0.067	41	0.1	6.828	A
C-A	39			39			
A-B	76			76			
A-C	25			25			

00:45 - 01:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	61	645	0.094	61	0.1	6.776	A
B-A	128	550	0.232	128	0.3	9.366	A
C-AB	41	621	0.067	41	0.1	6.831	A
C-A	39			39			
A-B	76			76			
A-C	25			25			

01:00 - 01:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	49	656	0.075	50	0.1	6.533	A
B-A	104	557	0.187	105	0.3	8.766	A
C-AB	33	620	0.054	33	0.1	6.750	A
C-A	32			32			
A-B	62			62			
A-C	21			21			

01:15 - 01:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	41	664	0.062	41	0.1	6.367	A
B-A	87	561	0.156	88	0.2	8.364	A
C-AB	28	619	0.045	28	0.1	6.697	A
C-A	27			27			
A-B	52			52			
A-C	17			17			

2022 Survey, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	B5098 / Vicarage Hill Priority Junction;	T-Junction	Two-way		3.33	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)
D5	2022 Survey	AM	ONE HOUR	00:00	01:30	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	191	100.000
B		✓	116	100.000
C		✓	99	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
From		A	B	C
	A	0	146	45
	B	78	0	38
	C	45	54	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
From		A	B	C
	A	0	10	10
	B	10	0	10
	C	10	10	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.06	6.55	0.1	A
B-A	0.16	8.67	0.2	A
C-AB	0.11	7.35	0.1	A
C-A				
A-B				
A-C				

Main Results for each time segment

00:00 - 00:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	29	664	0.043	28	0.0	6.224	A
B-A	59	561	0.105	58	0.1	7.865	A
C-AB	43	607	0.071	43	0.1	7.017	A
C-A	31			31			
A-B	110			110			
A-C	34			34			

00:15 - 00:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	34	657	0.052	34	0.1	6.359	A
B-A	70	553	0.127	70	0.2	8.189	A
C-AB	52	605	0.086	52	0.1	7.155	A
C-A	37			37			
A-B	131			131			
A-C	40			40			

00:30 - 00:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	42	646	0.065	42	0.1	6.551	A
B-A	86	543	0.158	86	0.2	8.658	A
C-AB	65	603	0.107	65	0.1	7.351	A
C-A	44			44			
A-B	161			161			
A-C	50			50			

00:45 - 01:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	42	646	0.065	42	0.1	6.551	A
B-A	86	543	0.158	86	0.2	8.666	A
C-AB	65	603	0.107	65	0.1	7.352	A
C-A	44			44			
A-B	161			161			
A-C	50			50			

01:00 - 01:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	34	657	0.052	34	0.1	6.361	A
B-A	70	553	0.127	70	0.2	8.199	A
C-AB	52	605	0.086	52	0.1	7.159	A
C-A	37			37			
A-B	131			131			
A-C	40			40			

01:15 - 01:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	29	664	0.043	29	0.0	6.233	A
B-A	59	561	0.105	59	0.1	7.886	A
C-AB	43	607	0.071	43	0.1	7.026	A
C-A	31			31			
A-B	110			110			
A-C	34			34			

2022 Survey, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	B5098 / Vicarage Hill Priority Junction;	T-Junction	Two-way		4.87	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)
D6	2022 Survey	PM	ONE HOUR	00:00	01:30	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	78	100.000
B		✓	156	100.000
C		✓	69	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
	A	B	C	
From	A	0	56	22
	B	105	0	51
	C	36	33	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
	A	B	C	
From	A	0	10	7
	B	10	0	7
	C	7	7	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.09	6.45	0.1	A
B-A	0.20	8.73	0.3	A
C-AB	0.06	6.59	0.1	A
C-A				
A-B				
A-C				

Main Results for each time segment

00:00 - 00:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	38	669	0.057	38	0.1	6.099	A
B-A	79	579	0.137	78	0.2	7.899	A
C-AB	26	620	0.042	26	0.0	6.476	A
C-A	26			26			
A-B	42			42			
A-C	17			17			

00:15 - 00:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	46	663	0.069	46	0.1	6.245	A
B-A	94	575	0.164	94	0.2	8.236	A
C-AB	31	621	0.050	31	0.1	6.526	A
C-A	31			31			
A-B	50			50			
A-C	20			20			

00:30 - 00:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	56	653	0.086	56	0.1	6.452	A
B-A	116	569	0.203	115	0.3	8.724	A
C-AB	39	623	0.062	39	0.1	6.593	A
C-A	37			37			
A-B	62			62			
A-C	24			24			

00:45 - 01:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	56	653	0.086	56	0.1	6.453	A
B-A	116	569	0.203	116	0.3	8.733	A
C-AB	39	623	0.062	39	0.1	6.593	A
C-A	37			37			
A-B	62			62			
A-C	24			24			

01:00 - 01:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	46	662	0.069	46	0.1	6.249	A
B-A	94	575	0.164	95	0.2	8.251	A
C-AB	31	621	0.050	31	0.1	6.527	A
C-A	31			31			
A-B	50			50			
A-C	20			20			

01:15 - 01:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	38	669	0.057	38	0.1	6.109	A
B-A	79	579	0.137	79	0.2	7.925	A
C-AB	26	620	0.042	26	0.1	6.480	A
C-A	26			26			
A-B	42			42			
A-C	17			17			

S|C|P

APPENDIX B7

Junctions 9

PICADY 9 - Priority Intersection Module

Version: 9.5.2.1013

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Filename: 6. A5152 Ruabon Road _ A525 Ruthin Road Priority Junction.j9

Path: C:\Users\Junctions shared\Desktop\Abbie\Wrexham July update 2024\Junctions

Report generation date: 01/07/2024 11:41:21

- »2028 Base Re-dist, AM
- »2028 Base Re-dist, PM
- »2028 Assess Re-dist, AM
- »2028 Assess Re-dist, PM
- »2022 Survey, AM
- »2022 Survey, PM

Summary of junction performance

	AM					PM				
	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Set ID	Queue (PCU)	Delay (s)	RFC	LOS
	2028 Base Re-dist									
Stream B-C	D1	1.0	14.01	0.49	B	D2	0.6	10.99	0.37	B
Stream B-A		0.0	14.83	0.02	B		0.1	14.71	0.06	B
Stream C-AB		0.8	9.42	0.35	A		1.4	9.32	0.46	A
	2028 Assess Re-dist									
Stream B-C	D3	2.3	22.60	0.68	C	D4	0.9	12.46	0.45	B
Stream B-A		0.0	20.59	0.02	C		0.1	17.16	0.07	C
Stream C-AB		1.0	10.37	0.41	B		3.0	15.29	0.67	C
	2022 Survey									
Stream B-C	D5	0.5	10.45	0.32	B	D6	0.4	9.58	0.29	A
Stream B-A		0.0	12.53	0.01	B		0.1	12.77	0.05	B
Stream C-AB		0.5	8.13	0.25	A		0.6	7.02	0.28	A

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.

File summary

File Description

Title	A5152 Ruabon Road / A525 Ruthin Road Priority Junction
Location	A5152 Ruabon Road / A525 Ruthin Road Priority Junction
Site number	
Date	29/11/2022
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	SCP\abbie.moore
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

Analysis Options

Calculate Queue Percentiles	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
		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)
D1	2028 Base Re-dist	AM	ONE HOUR	07:45	09:15	15
D2	2028 Base Re-dist	PM	ONE HOUR	16:15	17:45	15
D3	2028 Assess Re-dist	AM	ONE HOUR	07:45	09:15	15
D4	2028 Assess Re-dist	PM	ONE HOUR	16:15	17:45	15
D5	2022 Survey	AM	ONE HOUR	07:45	09:15	15
D6	2022 Survey	PM	ONE HOUR	16:15	17:45	15

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

2028 Base Re-dist, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm flare	Arm B - Minor arm geometry	Is flare very short? Estimated flare length is zero but has been increased to 1 because a zero flare length is not allowed.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	A5152 Ruabon Road / A525 Ruthin Road Priority Junction	T-Junction	Two-way		5.19	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	A5152 Ruabon Road (S)		Major
B	A525 Ruthin Rd		Minor
C	A5152 Ruabon Road (N)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right turn bay	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C	7.00			100.0	✓	0.00

Geometries for Arm C are measured opposite Arm B. Geometries for Arm A (if relevant) are measured opposite Arm D.

Minor Arm Geometry

Arm	Minor arm type	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate flare length	Flare length (PCU)	Visibility to left (m)	Visibility to right (m)
B	One lane plus flare	7.90	3.50	3.30	3.30	3.00	✓	1.00	33	17

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
B-A	492	0.086	0.216	0.136	0.309
B-C	674	0.099	0.250	-	-
C-B	632	0.234	0.234	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

Streams may be combined, in which case capacity will be adjusted.

Values are shown for the first time segment only; they may differ for subsequent time segments.

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)
D1	2028 Base Re-dist	AM	ONE HOUR	07:45	09:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	459	100.000
B		✓	248	100.000
C		✓	318	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
From		A	B	C
	A	0	32	427
	B	4	0	244
	C	172	146	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
From		A	B	C
	A	0	10	10
	B	10	0	10
	C	10	10	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.49	14.01	1.0	B
B-A	0.02	14.83	0.0	B
C-AB	0.35	9.42	0.8	A
C-A				
A-B				
A-C				

Main Results for each time segment

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	184	590	0.311	182	0.5	9.651	A
B-A	3	356	0.008	3	0.0	11.206	B
C-AB	138	641	0.215	136	0.4	7.836	A
C-A	102			102			
A-B	24			24			
A-C	321			321			

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	219	574	0.382	219	0.7	11.127	B
B-A	4	323	0.011	4	0.0	12.396	B
C-AB	173	644	0.269	173	0.5	8.402	A
C-A	113			113			
A-B	29			29			
A-C	384			384			

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	269	551	0.488	267	1.0	13.881	B
B-A	4	272	0.016	4	0.0	14.781	B
C-AB	228	649	0.351	227	0.7	9.376	A
C-A	122			122			
A-B	35			35			
A-C	470			470			

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	269	551	0.488	269	1.0	14.007	B
B-A	4	271	0.016	4	0.0	14.825	B
C-AB	228	650	0.351	228	0.8	9.418	A
C-A	122			122			
A-B	35			35			
A-C	470			470			

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	219	574	0.382	221	0.7	11.261	B
B-A	4	322	0.011	4	0.0	12.437	B
C-AB	173	645	0.269	174	0.5	8.454	A
C-A	112			112			
A-B	29			29			
A-C	384			384			

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	184	590	0.311	184	0.5	9.782	A
B-A	3	355	0.008	3	0.0	11.243	B
C-AB	138	641	0.215	139	0.4	7.899	A
C-A	101			101			
A-B	24			24			
A-C	321			321			

2028 Base Re-dist, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm flare	Arm B - Minor arm geometry	Is flare very short? Estimated flare length is zero but has been increased to 1 because a zero flare length is not allowed.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	A5152 Ruabon Road / A525 Ruthin Road Priority Junction	T-Junction	Two-way		4.93	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)
D2	2028 Base Re-dist	PM	ONE HOUR	16:15	17:45	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	339	100.000
B		✓	210	100.000
C		✓	504	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	18	321
	B	15	0	195
	C	322	182	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	10	10
	B	10	0	10
	C	10	10	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.37	10.99	0.6	B
B-A	0.06	14.71	0.1	B
C-AB	0.46	9.32	1.4	A
C-A				
A-B				
A-C				

Main Results for each time segment

16:15 - 16:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	147	607	0.242	145	0.3	8.547	A
B-A	11	357	0.032	11	0.0	11.431	B
C-AB	204	737	0.277	202	0.6	7.380	A
C-A	175			175			
A-B	14			14			
A-C	242			242			

16:30 - 16:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	175	594	0.295	175	0.5	9.440	A
B-A	13	328	0.041	13	0.0	12.582	B
C-AB	265	760	0.349	264	0.8	7.995	A
C-A	188			188			
A-B	16			16			
A-C	289			289			

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	215	575	0.373	214	0.6	10.947	B
B-A	17	286	0.058	16	0.1	14.667	B
C-AB	365	793	0.460	363	1.3	9.232	A
C-A	190			190			
A-B	20			20			
A-C	353			353			

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	215	575	0.373	215	0.6	10.991	B
B-A	17	286	0.058	17	0.1	14.707	B
C-AB	366	793	0.461	365	1.4	9.320	A
C-A	189			189			
A-B	20			20			
A-C	353			353			

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	175	594	0.295	176	0.5	9.494	A
B-A	13	327	0.041	14	0.0	12.625	B
C-AB	266	762	0.350	268	0.8	8.092	A
C-A	187			187			
A-B	16			16			
A-C	289			289			

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	147	607	0.242	147	0.4	8.618	A
B-A	11	356	0.032	11	0.0	11.476	B
C-AB	205	738	0.278	206	0.6	7.472	A
C-A	174			174			
A-B	14			14			
A-C	242			242			

2028 Assess Re-dist, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm flare	Arm B - Minor arm geometry	Is flare very short? Estimated flare length is zero but has been increased to 1 because a zero flare length is not allowed.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	A5152 Ruabon Road / A525 Ruthin Road Priority Junction	T-Junction	Two-way		8.82	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)
D3	2028 Assess Re-dist	AM	ONE HOUR	07:45	09:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	464	100.000
B		✓	345	100.000
C		✓	343	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
	A	B	C	
From	A	0	32	432
	B	4	0	341
	C	173	170	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
	A	B	C	
From	A	0	10	10
	B	10	0	10
	C	10	10	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.68	22.60	2.3	C
B-A	0.02	20.59	0.0	C
C-AB	0.41	10.37	1.0	B
C-A				
A-B				
A-C				

Main Results for each time segment

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	257	589	0.436	253	0.8	11.683	B
B-A	3	330	0.009	3	0.0	12.102	B
C-AB	161	641	0.251	159	0.4	8.203	A
C-A	98			98			
A-B	24			24			
A-C	325			325			

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	307	573	0.535	305	1.2	14.704	B
B-A	4	281	0.013	4	0.0	14.280	B
C-AB	202	644	0.314	201	0.6	8.950	A
C-A	106			106			
A-B	29			29			
A-C	388			388			

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	375	550	0.683	372	2.2	21.750	C
B-A	4	200	0.022	4	0.0	20.234	C
C-AB	266	649	0.410	264	0.9	10.287	B
C-A	112			112			
A-B	35			35			
A-C	476			476			

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	375	550	0.683	375	2.3	22.602	C
B-A	4	197	0.022	4	0.0	20.590	C
C-AB	266	649	0.410	266	1.0	10.372	B
C-A	111			111			
A-B	35			35			
A-C	476			476			

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	307	573	0.535	310	1.3	15.326	C
B-A	4	277	0.013	4	0.0	14.467	B
C-AB	202	644	0.314	204	0.6	9.033	A
C-A	106			106			
A-B	29			29			
A-C	388			388			

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	257	589	0.436	258	0.9	12.042	B
B-A	3	328	0.009	3	0.0	12.202	B
C-AB	161	641	0.251	162	0.5	8.288	A
C-A	97			97			
A-B	24			24			
A-C	325			325			

2028 Assess Re-dist, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm flare	Arm B - Minor arm geometry	Is flare very short? Estimated flare length is zero but has been increased to 1 because a zero flare length is not allowed.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	A5152 Ruabon Road / A525 Ruthin Road Priority Junction	T-Junction	Two-way		8.42	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)
D4	2028 Assess Re-dist	PM	ONE HOUR	16:15	17:45	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	341	100.000
B		✓	247	100.000
C		✓	589	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	18	323
	B	15	0	232
	C	326	263	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	10	10
	B	10	0	10
	C	10	10	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.45	12.46	0.9	B
B-A	0.07	17.16	0.1	C
C-AB	0.67	15.29	3.0	C
C-A				
A-B				
A-C				

Main Results for each time segment

16:15 - 16:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	175	607	0.288	173	0.4	9.094	A
B-A	11	335	0.034	11	0.0	12.234	B
C-AB	296	739	0.401	293	0.9	8.828	A
C-A	147			147			
A-B	14			14			
A-C	243			243			

16:30 - 16:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	209	593	0.352	208	0.6	10.271	B
B-A	13	299	0.045	13	0.1	13.853	B
C-AB	386	763	0.506	384	1.5	10.468	B
C-A	144			144			
A-B	16			16			
A-C	290			290			

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	255	573	0.446	254	0.9	12.374	B
B-A	17	249	0.066	16	0.1	17.037	C
C-AB	532	796	0.668	526	2.9	14.676	B
C-A	117			117			
A-B	20			20			
A-C	356			356			

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	255	573	0.446	255	0.9	12.462	B
B-A	17	247	0.067	17	0.1	17.158	C
C-AB	534	798	0.670	534	3.0	15.292	C
C-A	114			114			
A-B	20			20			
A-C	356			356			

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	209	593	0.352	210	0.6	10.364	B
B-A	13	297	0.045	14	0.1	13.966	B
C-AB	389	766	0.508	395	1.6	10.920	B
C-A	141			141			
A-B	16			16			
A-C	290			290			

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	175	607	0.288	175	0.5	9.195	A
B-A	11	333	0.034	11	0.0	12.317	B
C-AB	298	741	0.403	301	1.0	9.085	A
C-A	145			145			
A-B	14			14			
A-C	243			243			

2022 Survey, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm flare	Arm B - Minor arm geometry	Is flare very short? Estimated flare length is zero but has been increased to 1 because a zero flare length is not allowed.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	A5152 Ruabon Road / A525 Ruthin Road Priority Junction	T-Junction	Two-way		3.32	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)
D5	2022 Survey	AM	ONE HOUR	07:45	09:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	431	100.000
B		✓	167	100.000
C		✓	267	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
	A	B	C	
From	A	0	30	401
	B	4	0	163
	C	162	105	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
	A	B	C	
From	A	0	10	10
	B	10	0	10
	C	10	10	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.32	10.45	0.5	B
B-A	0.01	12.53	0.0	B
C-AB	0.25	8.13	0.5	A
C-A				
A-B				
A-C				

Main Results for each time segment

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	123	595	0.206	122	0.3	8.335	A
B-A	3	380	0.008	3	0.0	10.516	B
C-AB	98	640	0.153	97	0.2	7.278	A
C-A	103			103			
A-B	23			23			
A-C	302			302			

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	147	580	0.253	146	0.4	9.124	A
B-A	4	355	0.010	4	0.0	11.253	B
C-AB	122	643	0.190	122	0.3	7.601	A
C-A	118			118			
A-B	27			27			
A-C	360			360			

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	179	559	0.321	179	0.5	10.430	B
B-A	4	321	0.014	4	0.0	12.517	B
C-AB	160	648	0.247	159	0.5	8.113	A
C-A	134			134			
A-B	33			33			
A-C	442			442			

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	179	559	0.321	179	0.5	10.445	B
B-A	4	321	0.014	4	0.0	12.526	B
C-AB	160	648	0.247	160	0.5	8.132	A
C-A	134			134			
A-B	33			33			
A-C	442			442			

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	147	580	0.253	147	0.4	9.164	A
B-A	4	355	0.010	4	0.0	11.265	B
C-AB	122	643	0.190	123	0.3	7.624	A
C-A	118			118			
A-B	27			27			
A-C	360			360			

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	123	595	0.206	123	0.3	8.393	A
B-A	3	379	0.008	3	0.0	10.530	B
C-AB	98	640	0.153	98	0.2	7.315	A
C-A	103			103			
A-B	23			23			
A-C	302			302			

2022 Survey, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm flare	Arm B - Minor arm geometry	Is flare very short? Estimated flare length is zero but has been increased to 1 because a zero flare length is not allowed.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	A5152 Ruabon Road / A525 Ruthin Road Priority Junction	T-Junction	Two-way		3.24	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)
D6	2022 Survey	PM	ONE HOUR	16:15	17:45	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	319	100.000
B		✓	167	100.000
C		✓	414	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
	A	B	C	
From	A	0	17	302
	B	14	0	153
	C	302	112	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
	A	B	C	
From	A	0	10	10
	B	10	0	10
	C	10	10	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.29	9.58	0.4	A
B-A	0.05	12.77	0.1	B
C-AB	0.28	7.02	0.6	A
C-A				
A-B				
A-C				

Main Results for each time segment

16:15 - 16:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	115	612	0.188	114	0.3	7.945	A
B-A	11	382	0.028	10	0.0	10.666	B
C-AB	122	730	0.168	121	0.3	6.496	A
C-A	189			189			
A-B	13			13			
A-C	227			227			

16:30 - 16:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	138	599	0.230	137	0.3	8.567	A
B-A	13	358	0.035	13	0.0	11.446	B
C-AB	158	751	0.211	158	0.4	6.679	A
C-A	214			214			
A-B	15			15			
A-C	271			271			

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	168	582	0.290	168	0.4	9.561	A
B-A	15	326	0.047	15	0.1	12.756	B
C-AB	216	781	0.276	215	0.6	7.003	A
C-A	240			240			
A-B	19			19			
A-C	333			333			

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	168	582	0.290	168	0.4	9.580	A
B-A	15	326	0.047	15	0.1	12.767	B
C-AB	216	781	0.276	216	0.6	7.023	A
C-A	240			240			
A-B	19			19			
A-C	333			333			

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	138	599	0.230	138	0.3	8.596	A
B-A	13	358	0.035	13	0.0	11.466	B
C-AB	159	752	0.211	159	0.4	6.704	A
C-A	214			214			
A-B	15			15			
A-C	271			271			

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	115	612	0.188	115	0.3	7.987	A
B-A	11	381	0.028	11	0.0	10.691	B
C-AB	123	731	0.168	123	0.3	6.532	A
C-A	189			189			
A-B	13			13			
A-C	227			227			

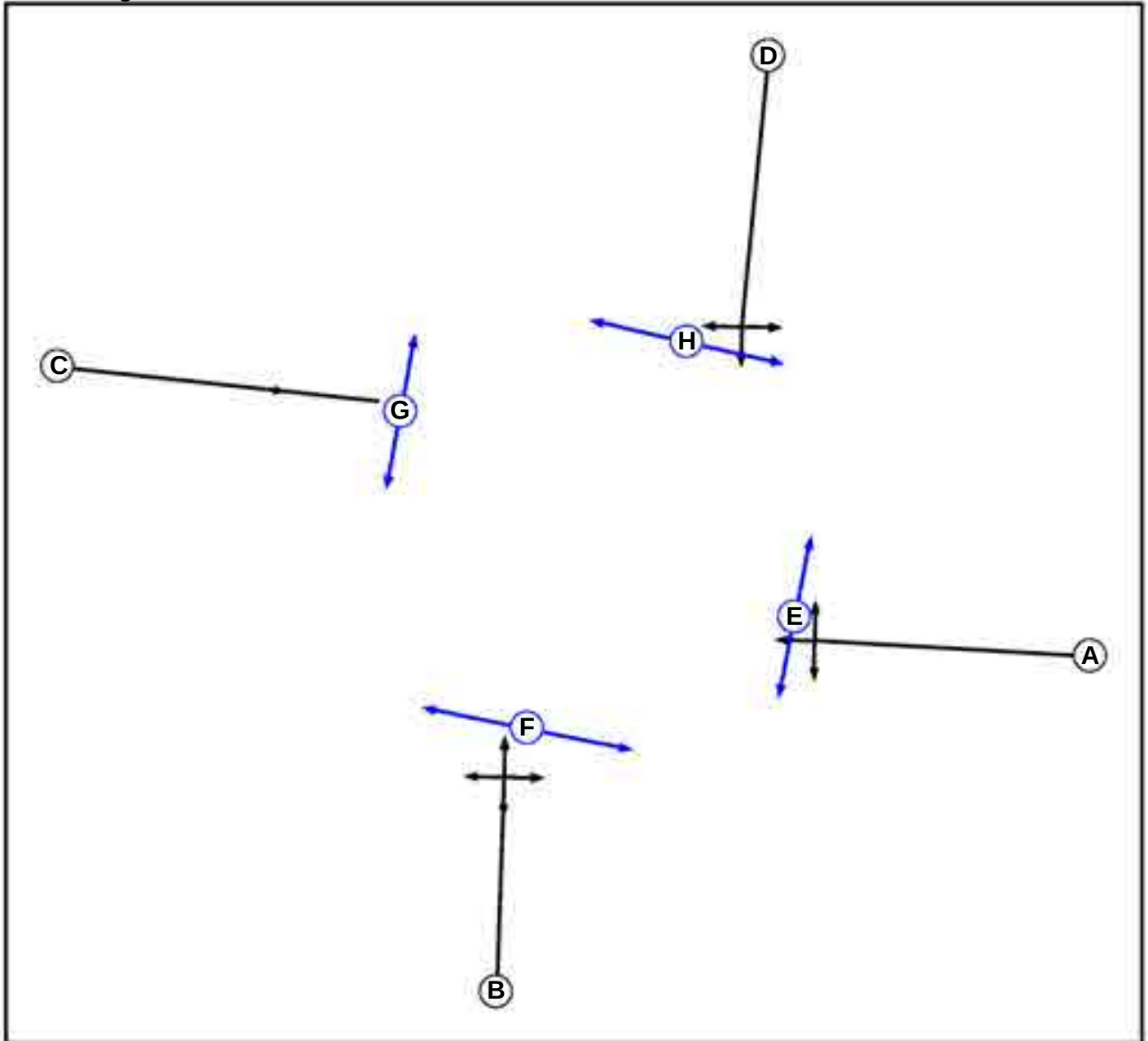
S|C|P

APPENDIX B8

Full Input Data And Results

Project:	
Title:	
Location:	
Additional detail:	
File name:	7. A525_A5152 10.08.23.lsg3x
Author:	
Company:	
Address:	

Phase Diagram



Phase Input Data

Phase Name	Phase Type	Assoc. Phase	Street Min	Cont Min
A	Traffic		7	7
B	Traffic		7	7
C	Traffic		7	7
D	Traffic		7	7
E	Pedestrian		5	5
F	Pedestrian		5	5
G	Pedestrian		5	5
H	Pedestrian		5	5

Full Input Data And Results

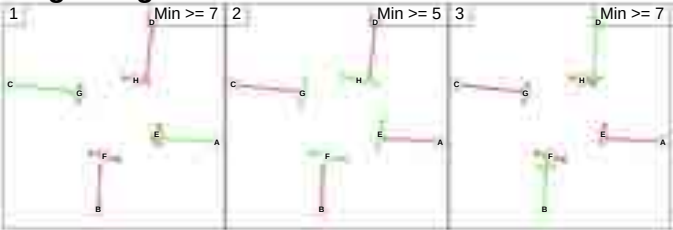
Phase Intergreens Matrix

Terminating Phase	Starting Phase								
		A	B	C	D	E	F	G	H
	A		6	-	5	9	9	9	9
	B	6		6	-	9	9	9	9
	C	-	6		6	9	9	9	9
	D	6	-	6		9	9	9	9
	E	5	5	5	5		-	-	-
	F	5	5	5	5	-		-	-
	G	5	5	5	5	-	-		-
	H	5	5	5	5	-	-	-	

Phases in Stage

Stage No.	Phases in Stage
1	A C
2	E F G H
3	B D

Stage Diagram



Phase Delays

Term. Stage	Start Stage	Phase	Type	Value	Cont value
There are no Phase Delays defined					

Prohibited Stage Change

From Stage	To Stage		
	1	2	3
	1	9	6
	2	5	5
	3	6	9

Full Input Data And Results

Give-Way Lane Input Data

Junction: A525 / A5152											
Lane	Movement	Max Flow when Giving Way (PCU/Hr)	Min Flow when Giving Way (PCU/Hr)	Opposing Lane	Opp. Lane Coeff.	Opp. Mvmnts.	Right Turn Storage (PCU)	Non-Blocking Storage (PCU)	RTF	Right Turn Move up (s)	Max Turns in Intergreen (PCU)
1/2 (A525 (EB))	6/1 (Right)	1439	0	3/1	1.09	To 6/1 (Left) To 7/1 (Ahead)	3.00	-	0.50	3	2.00
2/1 (A5152 (SB))	7/1 (Right)	1439	0	4/1	1.09	To 7/1 (Left) To 8/1 (Ahead)	3.00	2.00	0.50	3	2.00
3/1 (A525 (WB))	8/1 (Right)	1439	0	1/1	1.09	All	3.00	2.00	0.50	3	2.00
4/1 (A5152 (NB))	5/1 (Right)	1439	0	2/1	1.09	To 5/1 (Left) To 6/1 (Ahead)	3.00	2.00	0.50	3	2.00

Full Input Data And Results

Lane Input Data

Junction: A525 / A5152												
Lane	Lane Type	Phases	Start Disp.	End Disp.	Physical Length (PCU)	Sat Flow Type	Def User Saturation Flow (PCU/Hr)	Lane Width (m)	Gradient	Nearside Lane	Turns	Turning Radius (m)
1/1 (A525 (EB))	U	B	2	3	60.0	Geom	-	3.30	0.00	Y	Arm 5 Ahead	Inf
											Arm 8 Left	15.00
1/2 (A525 (EB))	O	B	2	3	5.2	Geom	-	3.30	0.00	Y	Arm 6 Right	15.00
2/1 (A5152 (SB))	O	D	2	3	60.0	Geom	-	3.70	0.00	Y	Arm 5 Left	19.00
											Arm 6 Ahead	Inf
											Arm 7 Right	21.00
3/1 (A525 (WB))	O	A	2	3	60.0	Geom	-	4.20	0.00	Y	Arm 6 Left	18.00
											Arm 7 Ahead	Inf
											Arm 8 Right	18.00
4/1 (A5152 (NB))	O	B	2	3	60.0	Geom	-	3.80	0.00	Y	Arm 5 Right	15.00
											Arm 7 Left	17.00
											Arm 8 Ahead	Inf
5/1	U		2	3	60.0	Inf	-	-	-	-	-	-
6/1	U		2	3	60.0	Inf	-	-	-	-	-	-
7/1	U		2	3	60.0	Inf	-	-	-	-	-	-
8/1	U		2	3	60.0	Inf	-	-	-	-	-	-

Traffic Flow Groups

Flow Group	Start Time	End Time	Duration	Formula
1: '2022 Survey AM'	08:00	09:00	01:00	
2: '2022 Survey PM'	16:30	17:30	01:00	
3: '2028 Base AM'	08:00	09:00	01:00	
4: '2028 Base PM'	16:30	17:30	01:00	
5: '2028 Assess AM'	08:00	09:00	01:00	
6: '2028 Assess PM'	16:30	17:30	01:00	

Full Input Data And Results

Scenario 1: '2022 Survey AM' (FG1: '2022 Survey AM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

	Destination					
		A	B	C	D	Tot.
Origin	A	0	18	327	95	440
	B	17	0	5	102	124
	C	283	7	0	120	410
	D	179	147	165	0	491
	Tot.	479	172	497	317	1465

Traffic Lane Flows

Lane	Scenario 1: 2022 Survey AM
Junction: A525 / A5152	
1/1 (with short)	491(In) 326(Out)
1/2 (short)	165
2/1	440
3/1	124
4/1	410
5/1	172
6/1	497
7/1	317
8/1	479

Lane Saturation Flows

Junction: A525 / A5152								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (A525 (EB))	3.30	0.00	Y	Arm 5 Ahead	Inf	45.1 %	1844	1844
				Arm 8 Left	15.00	54.9 %		
1/2 (A525 (EB))	3.30	0.00	Y	Arm 6 Right	15.00	100.0 %	1768	1768
2/1 (A5152 (SB))	3.70	0.00	Y	Arm 5 Left	19.00	4.1 %	1949	1949
				Arm 6 Ahead	Inf	74.3 %		
				Arm 7 Right	21.00	21.6 %		
3/1 (A525 (WB))	4.20	0.00	Y	Arm 6 Left	18.00	4.0 %	2005	2005
				Arm 7 Ahead	Inf	82.3 %		
				Arm 8 Right	18.00	13.7 %		
4/1 (A5152 (NB))	3.80	0.00	Y	Arm 5 Right	15.00	1.7 %	1942	1942
				Arm 7 Left	17.00	29.3 %		
				Arm 8 Ahead	Inf	69.0 %		
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf

Scenario 2: '2022 Survey PM' (FG2: '2022 Survey PM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

	Destination					
		A	B	C	D	Tot.
Origin	A	0	13	357	173	543
	B	14	0	6	114	134
	C	237	3	0	139	379
	D	144	148	164	0	456
	Tot.	395	164	527	426	1512

Traffic Lane Flows

Lane Saturation Flows

Junction: A525 / A5152								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (A525 (EB))	3.30	0.00	Y	Arm 5 Ahead	Inf	50.7 %	1854	1854
				Arm 8 Left	15.00	49.3 %		
1/2 (A525 (EB))	3.30	0.00	Y	Arm 6 Right	15.00	100.0 %	1768	1768
2/1 (A5152 (SB))	3.70	0.00	Y	Arm 5 Left	19.00	2.4 %	1937	1937
				Arm 6 Ahead	Inf	65.7 %		
				Arm 7 Right	21.00	31.9 %		
3/1 (A525 (WB))	4.20	0.00	Y	Arm 6 Left	18.00	4.5 %	2010	2010
				Arm 7 Ahead	Inf	85.1 %		
				Arm 8 Right	18.00	10.4 %		
4/1 (A5152 (NB))	3.80	0.00	Y	Arm 5 Right	15.00	0.8 %	1931	1931
				Arm 7 Left	17.00	36.7 %		
				Arm 8 Ahead	Inf	62.5 %		
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

Scenario 3: '2028 Base AM' (FG3: '2028 Base AM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

	Destination					
		A	B	C	D	Tot.
Origin	A	0	19	347	101	467
	B	18	0	5	143	166
	C	301	7	0	128	436
	D	191	227	175	0	593
	Tot.	510	253	527	372	1662

Traffic Lane Flows

Lane	Scenario 3: 2028 Base AM
Junction: A525 / A5152	
1/1 (with short)	593(In) 418(Out)
1/2 (short)	175
2/1	467
3/1	166
4/1	436
5/1	253
6/1	527
7/1	372
8/1	510

Lane Saturation Flows

Junction: A525 / A5152								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (A525 (EB))	3.30	0.00	Y	Arm 5 Ahead	Inf	54.3 %	1860	1860
				Arm 8 Left	15.00	45.7 %		
1/2 (A525 (EB))	3.30	0.00	Y	Arm 6 Right	15.00	100.0 %	1768	1768
2/1 (A5152 (SB))	3.70	0.00	Y	Arm 5 Left	19.00	4.1 %	1949	1949
				Arm 6 Ahead	Inf	74.3 %		
				Arm 7 Right	21.00	21.6 %		
3/1 (A525 (WB))	4.20	0.00	Y	Arm 6 Left	18.00	3.0 %	2012	2012
				Arm 7 Ahead	Inf	86.1 %		
				Arm 8 Right	18.00	10.8 %		
4/1 (A5152 (NB))	3.80	0.00	Y	Arm 5 Right	15.00	1.6 %	1942	1942
				Arm 7 Left	17.00	29.4 %		
				Arm 8 Ahead	Inf	69.0 %		
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf

Scenario 4: '2028 Base PM' (FG4: '2028 Base PM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

	Destination					
		A	B	C	D	Tot.
Origin	A	0	14	380	184	578
	B	15	0	6	183	204
	C	252	3	0	148	403
	D	154	190	174	0	518
	Tot.	421	207	560	515	1703

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 4: 2028 Base PM
Junction: A525 / A5152	
1/1 (with short)	518(In) 344(Out)
1/2 (short)	174
2/1	578
3/1	204
4/1	403
5/1	207
6/1	560
7/1	515
8/1	421

Lane Saturation Flows

Junction: A525 / A5152								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (A525 (EB))	3.30	0.00	Y	Arm 5 Ahead	Inf	55.2 %	1862	1862
				Arm 8 Left	15.00	44.8 %		
1/2 (A525 (EB))	3.30	0.00	Y	Arm 6 Right	15.00	100.0 %	1768	1768
2/1 (A5152 (SB))	3.70	0.00	Y	Arm 5 Left	19.00	2.4 %	1937	1937
				Arm 6 Ahead	Inf	65.7 %		
				Arm 7 Right	21.00	31.8 %		
3/1 (A525 (WB))	4.20	0.00	Y	Arm 6 Left	18.00	2.9 %	2018	2018
				Arm 7 Ahead	Inf	89.7 %		
				Arm 8 Right	18.00	7.4 %		
4/1 (A5152 (NB))	3.80	0.00	Y	Arm 5 Right	15.00	0.7 %	1931	1931
				Arm 7 Left	17.00	36.7 %		
				Arm 8 Ahead	Inf	62.5 %		
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

Scenario 5: '2028 Assess AM' (FG5: '2028 Assess AM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

	Destination					
		A	B	C	D	Tot.
Origin	A	0	19	347	103	469
	B	18	0	5	167	190
	C	301	7	0	128	436
	D	201	324	175	0	700
	Tot.	520	350	527	398	1795

Traffic Lane Flows

Lane	Scenario 5: 2028 Assess AM
Junction: A525 / A5152	
1/1 (with short)	700(In) 525(Out)
1/2 (short)	175
2/1	469
3/1	190
4/1	436
5/1	350
6/1	527
7/1	398
8/1	520

Lane Saturation Flows

Junction: A525 / A5152								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (A525 (EB))	3.30	0.00	Y	Arm 5 Ahead	Inf	61.7 %	1873	1873
				Arm 8 Left	15.00	38.3 %		
1/2 (A525 (EB))	3.30	0.00	Y	Arm 6 Right	15.00	100.0 %	1768	1768
2/1 (A5152 (SB))	3.70	0.00	Y	Arm 5 Left	19.00	4.1 %	1948	1948
				Arm 6 Ahead	Inf	74.0 %		
				Arm 7 Right	21.00	22.0 %		
3/1 (A525 (WB))	4.20	0.00	Y	Arm 6 Left	18.00	2.6 %	2015	2015
				Arm 7 Ahead	Inf	87.9 %		
				Arm 8 Right	18.00	9.5 %		
4/1 (A5152 (NB))	3.80	0.00	Y	Arm 5 Right	15.00	1.6 %	1942	1942
				Arm 7 Left	17.00	29.4 %		
				Arm 8 Ahead	Inf	69.0 %		
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf

Scenario 6: '2028 Assess PM' (FG6: '2028 Assess PM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

	Destination					
		A	B	C	D	Tot.
Origin	A	0	14	380	193	587
	B	15	0	6	264	285
	C	252	3	0	148	403
	D	158	226	174	0	558
	Tot.	425	243	560	605	1833

Traffic Lane Flows

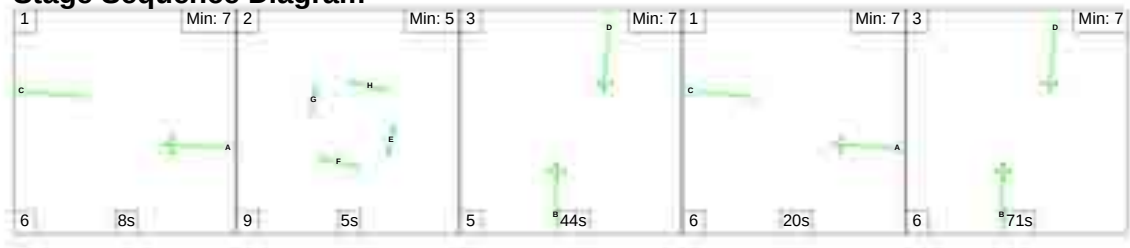
Lane Saturation Flows

Junction: A525 / A5152								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (A525 (EB))	3.30	0.00	Y	Arm 5 Ahead	Inf	58.9 %	1868	1868
				Arm 8 Left	15.00	41.1 %		
1/2 (A525 (EB))	3.30	0.00	Y	Arm 6 Right	15.00	100.0 %	1768	1768
2/1 (A5152 (SB))	3.70	0.00	Y	Arm 5 Left	19.00	2.4 %	1936	1936
				Arm 6 Ahead	Inf	64.7 %		
				Arm 7 Right	21.00	32.9 %		
3/1 (A525 (WB))	4.20	0.00	Y	Arm 6 Left	18.00	2.1 %	2023	2023
				Arm 7 Ahead	Inf	92.6 %		
				Arm 8 Right	18.00	5.3 %		
4/1 (A5152 (NB))	3.80	0.00	Y	Arm 5 Right	15.00	0.7 %	1931	1931
				Arm 7 Left	17.00	36.7 %		
				Arm 8 Ahead	Inf	62.5 %		
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

Scenario 1: '2022 Survey AM' (FG1: '2022 Survey AM', Plan 1: 'Network Control Plan 1')

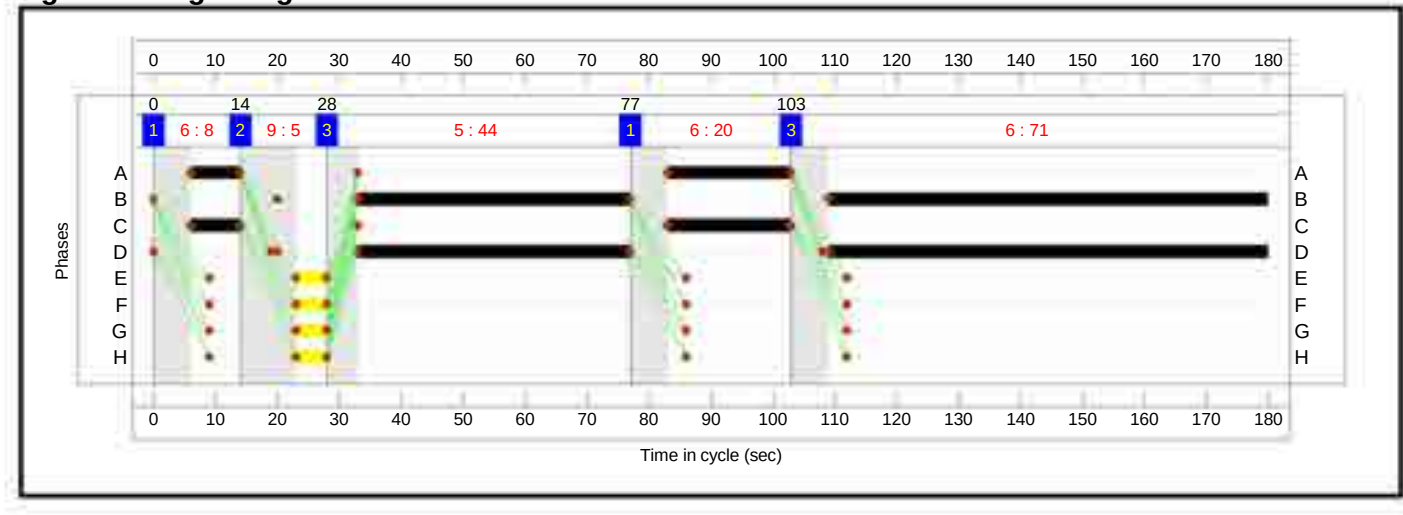
Stage Sequence Diagram



Stage Timings

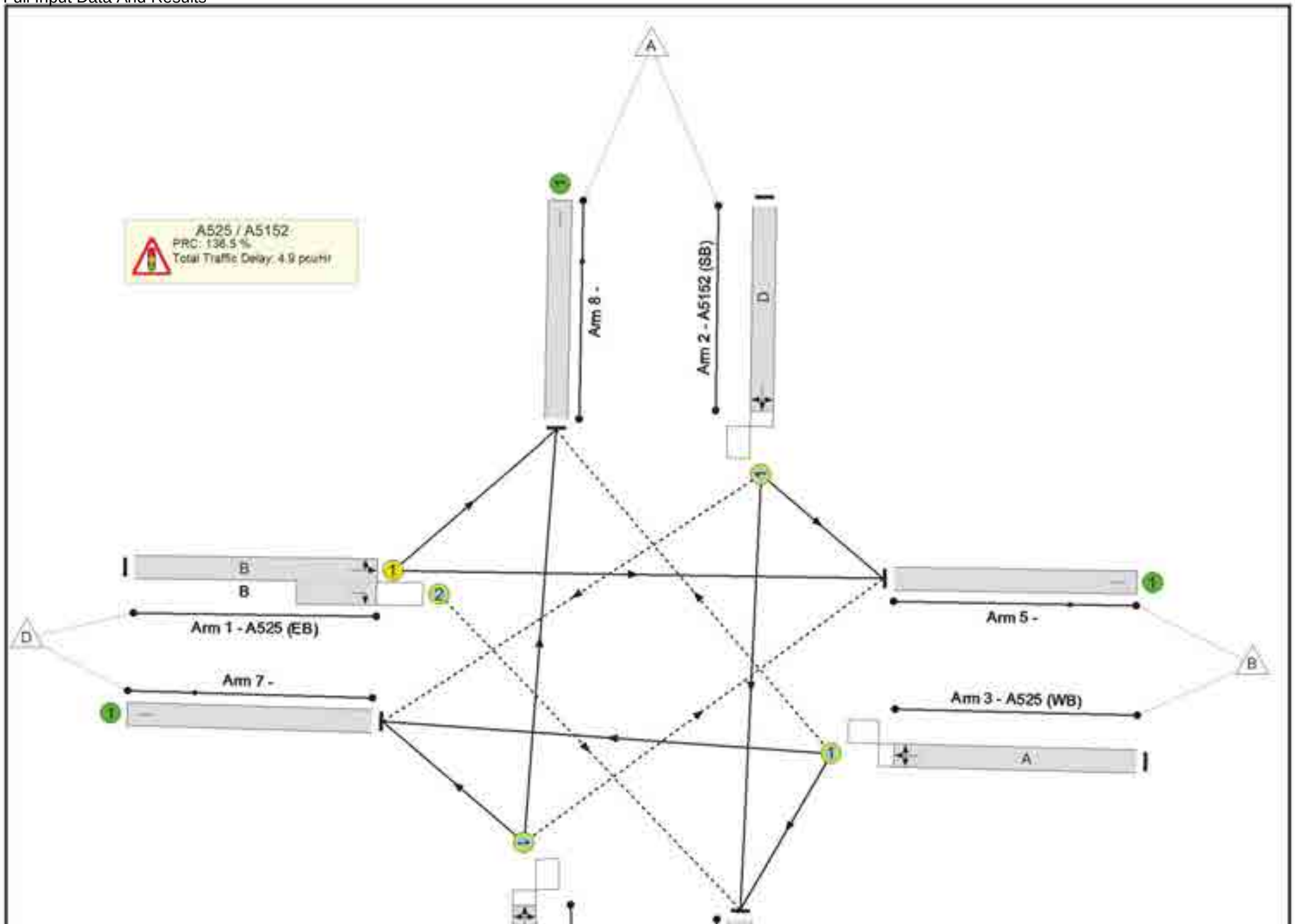
Stage	1	2	3	1	3
Duration	8	5	44	20	71
Change Point	0	14	28	77	103

Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	-	-	N/A	-	-		-	-	-	-	-	-	38.1%
A525 / A5152	-	-	N/A	-	-		-	-	-	-	-	-	38.1%
1/1+1/2	A525 (EB) Ahead Right Left	U+O	N/A	N/A	B		2	115	-	491	1844:1768	856+434	38.1 : 38.1%
2/1	A5152 (SB) Left Ahead Right	O	N/A	N/A	D		2	115	-	440	1949	1251	35.2%
3/1	A525 (WB) Left Ahead Right	O	N/A	N/A	A		2	28	-	124	2005	334	37.1%
4/1	A5152 (NB) Right Left Ahead	O	N/A	N/A	B		2	115	-	410	1942	1262	32.5%
5/1		U	N/A	N/A	-		-	-	-	172	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	497	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	317	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	479	Inf	Inf	0.0%

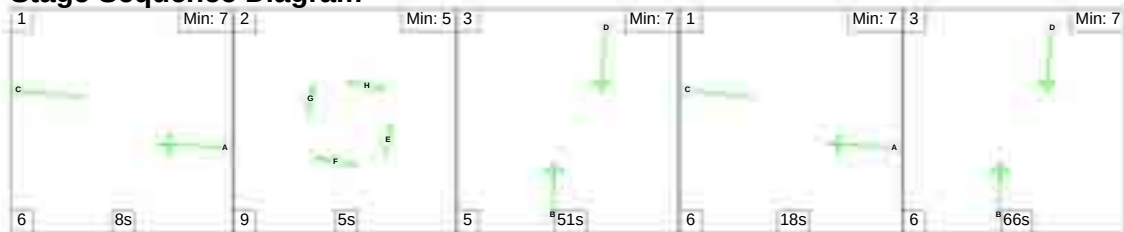
Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	-	-	101	176	7	3.7	1.1	0.1	4.9	-	-	-	-
A525 / A5152	-	-	101	176	7	3.7	1.1	0.1	4.9	-	-	-	-
1/1+1/2	491	491	0	159	5	0.9	0.3	0.0	1.2	8.7	3.4	0.3	3.7
2/1	440	440	94	0	1	0.9	0.3	0.1	1.2	9.9	5.0	0.3	5.3
3/1	124	124	0	16	1	1.2	0.3	0.0	1.5	42.2	3.0	0.3	3.3
4/1	410	410	7	0	0	0.8	0.2	0.0	1.0	9.1	4.6	0.2	4.8
5/1	172	172	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	497	497	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	317	317	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	479	479	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
C1 PRC for Signalled Lanes (%): 136.5 Total Delay for Signalled Lanes (pcuHr): 4.90 Cycle Time (s): 180 PRC Over All Lanes (%): 136.5 Total Delay Over All Lanes(pcuHr): 4.90													

Full Input Data And Results

Scenario 2: '2022 Survey PM' (FG2: '2022 Survey PM', Plan 1: 'Network Control Plan 1')

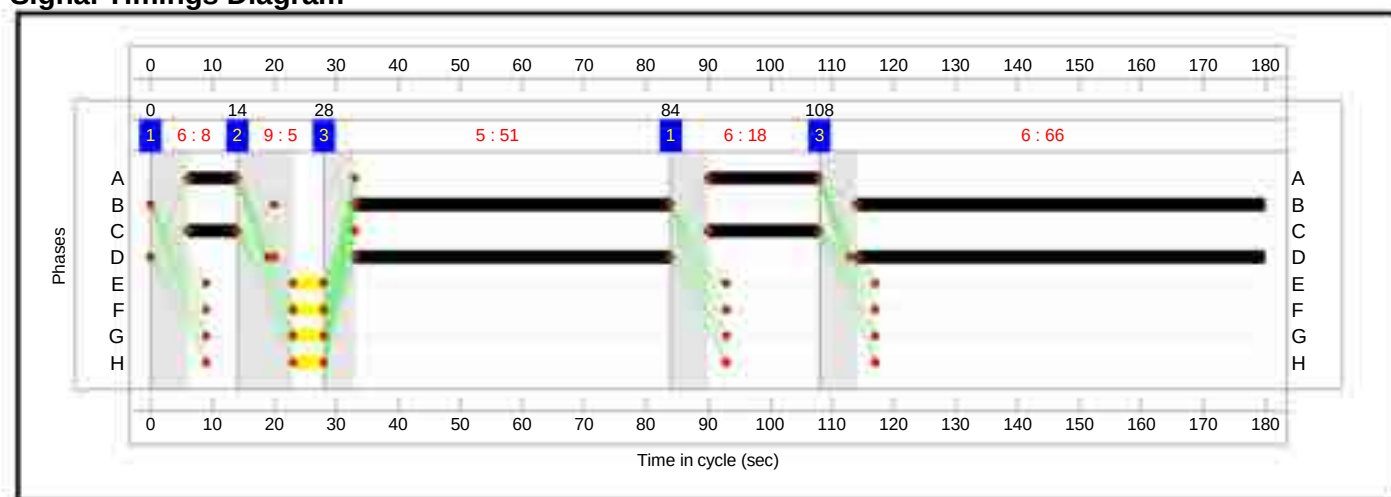
Stage Sequence Diagram



Stage Timings

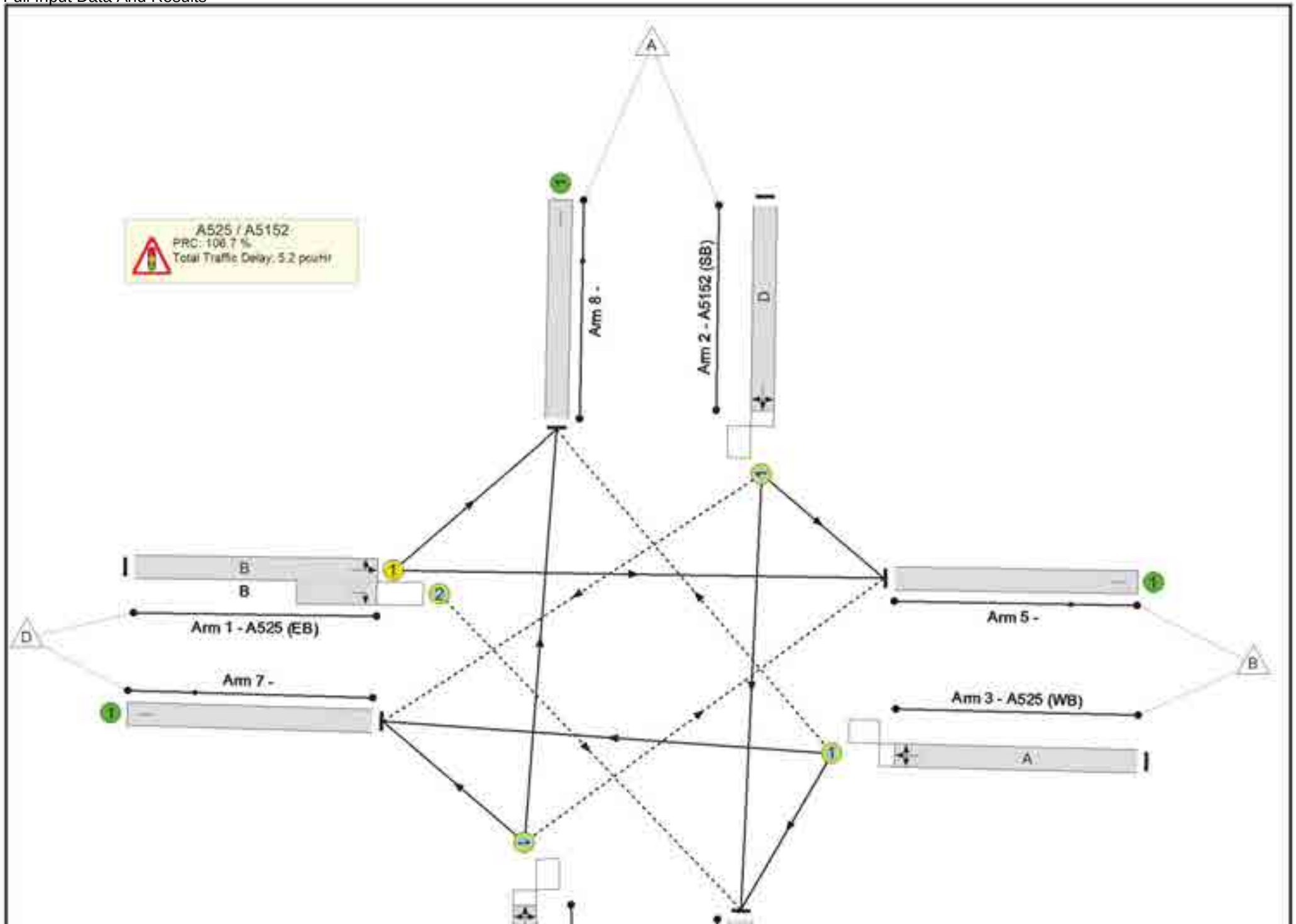
Stage	1	2	3	1	3
Duration	8	5	51	18	66
Change Point	0	14	28	84	108

Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	-	-	N/A	-	-		-	-	-	-	-	-	43.5%
A525 / A5152	-	-	N/A	-	-		-	-	-	-	-	-	43.5%
1/1+1/2	A525 (EB) Ahead Right Left	U+O	N/A	N/A	B		2	117	-	456	1854:1768	848+476	34.4 : 34.4%
2/1	A5152 (SB) Left Ahead Right	O	N/A	N/A	D		2	117	-	543	1937	1247	43.5%
3/1	A525 (WB) Left Ahead Right	O	N/A	N/A	A		2	26	-	134	2010	313	42.9%
4/1	A5152 (NB) Right Left Ahead	O	N/A	N/A	B		2	117	-	379	1931	1277	29.7%
5/1		U	N/A	N/A	-		-	-	-	164	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	527	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	426	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	395	Inf	Inf	0.0%

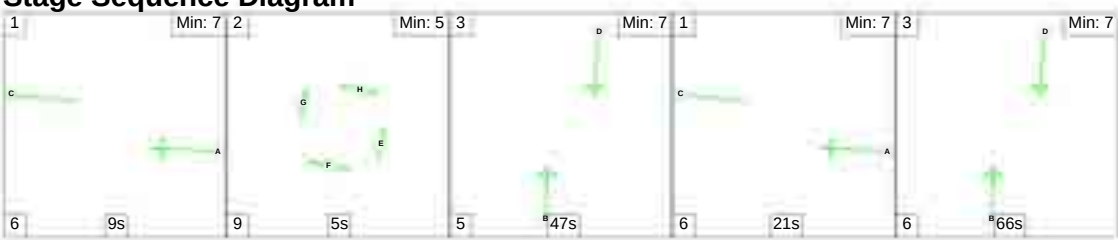
Full Input Data And Results

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Full Input Data And Results

Scenario 3: '2028 Base AM' (FG3: '2028 Base AM', Plan 1: 'Network Control Plan 1')

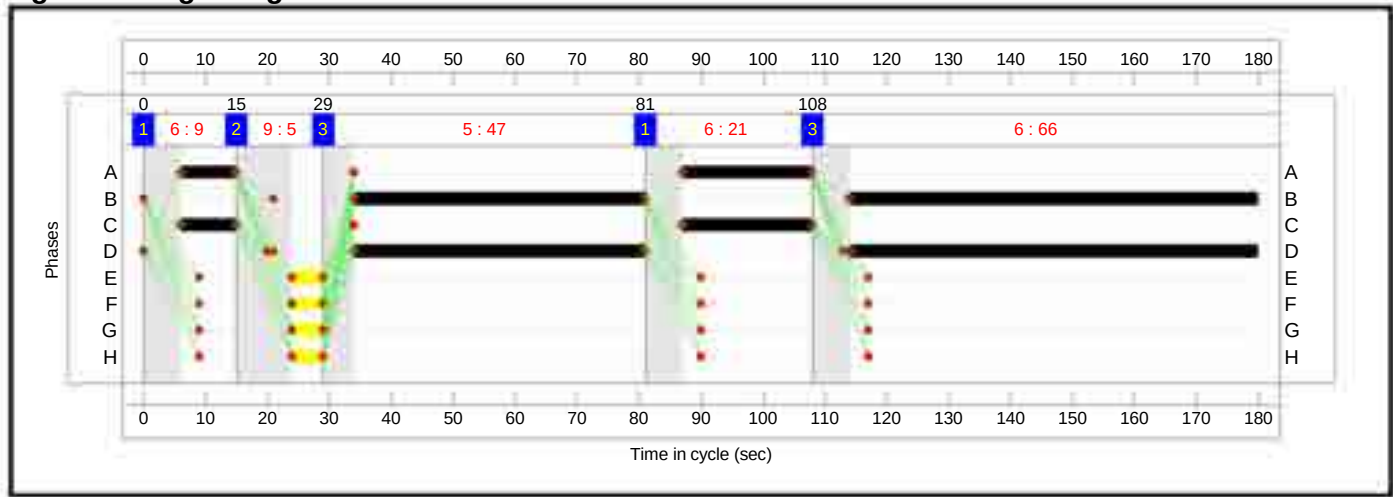
Stage Sequence Diagram



Stage Timings

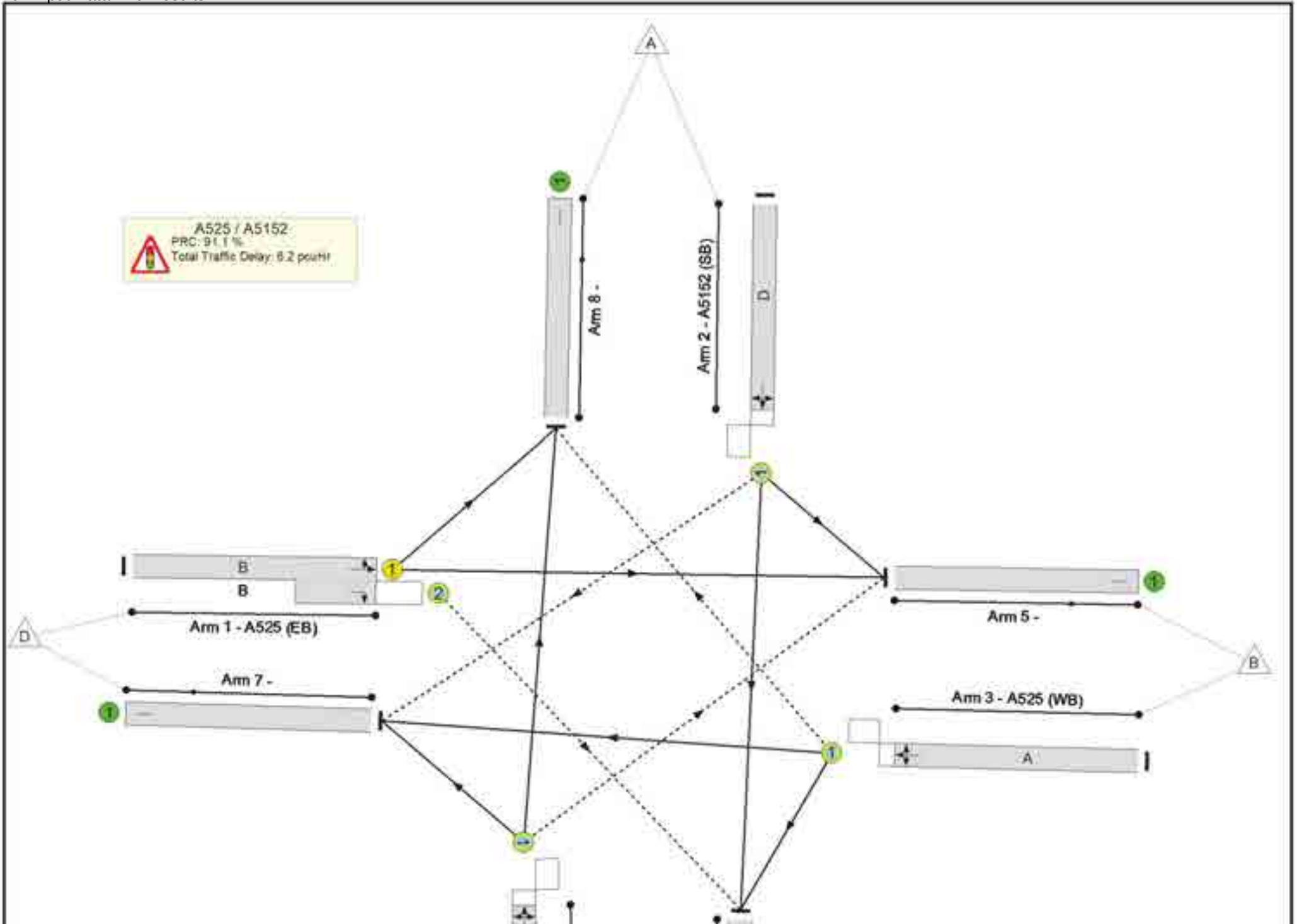
Stage	1	2	3	1	3
Duration	9	5	47	21	66
Change Point	0	15	29	81	108

Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	-	-	N/A	-	-		-	-	-	-	-	-	47.1%
A525 / A5152	-	-	N/A	-	-		-	-	-	-	-	-	47.1%
1/1+1/2	A525 (EB) Ahead Right Left	U+O	N/A	N/A	B		2	113	-	593	1860:1768	887+372	47.1 : 47.1%
2/1	A5152 (SB) Left Ahead Right	O	N/A	N/A	D		2	113	-	467	1949	1223	38.2%
3/1	A525 (WB) Left Ahead Right	O	N/A	N/A	A		2	30	-	166	2012	358	46.4%
4/1	A5152 (NB) Right Left Ahead	O	N/A	N/A	B		2	113	-	436	1942	1241	35.1%
5/1		U	N/A	N/A	-		-	-	-	253	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	527	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	372	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	510	Inf	Inf	0.0%

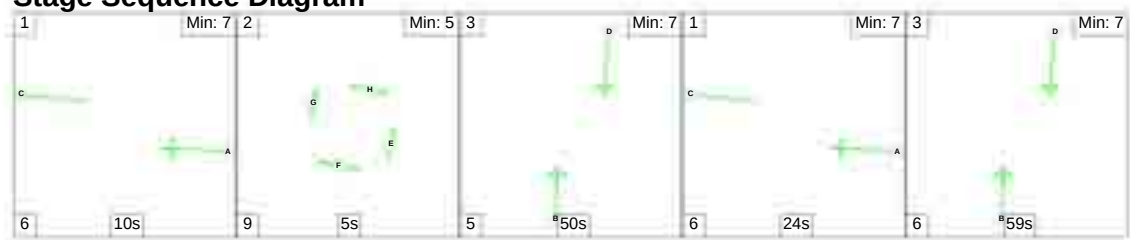
Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	-	-	107	186	8	4.6	1.5	0.1	6.2	-	-	-	-
A525 / A5152	-	-	107	186	8	4.6	1.5	0.1	6.2	-	-	-	-
1/1+1/2	593	593	0	169	6	1.2	0.4	0.0	1.6	10.0	4.9	0.4	5.3
2/1	467	467	100	0	1	1.0	0.3	0.1	1.4	10.8	5.6	0.3	5.9
3/1	166	166	0	17	1	1.5	0.4	0.0	2.0	42.6	3.8	0.4	4.3
4/1	436	436	7	0	0	0.9	0.3	0.0	1.2	9.8	5.1	0.3	5.4
5/1	253	253	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	527	527	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	372	372	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	510	510	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
C1			PRC for Signalled Lanes (%):		91.1	Total Delay for Signalled Lanes (pcuHr):			6.19	Cycle Time (s): 180			
			PRC Over All Lanes (%):		91.1	Total Delay Over All Lanes(pcuHr):			6.19				

Full Input Data And Results

Scenario 4: '2028 Base PM' (FG4: '2028 Base PM', Plan 1: 'Network Control Plan 1')

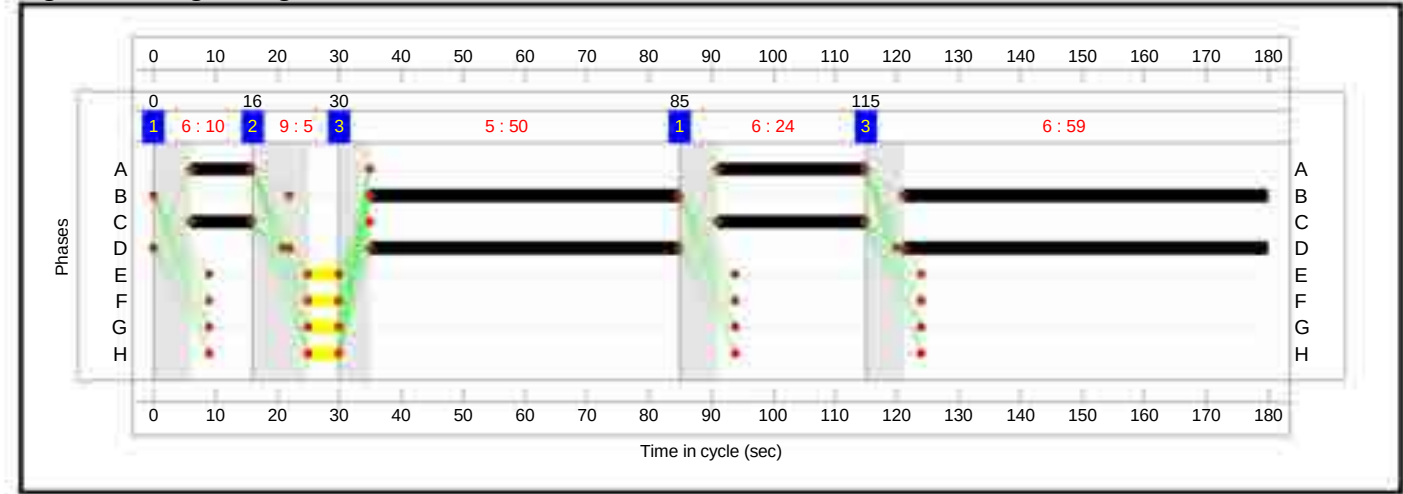
Stage Sequence Diagram



Stage Timings

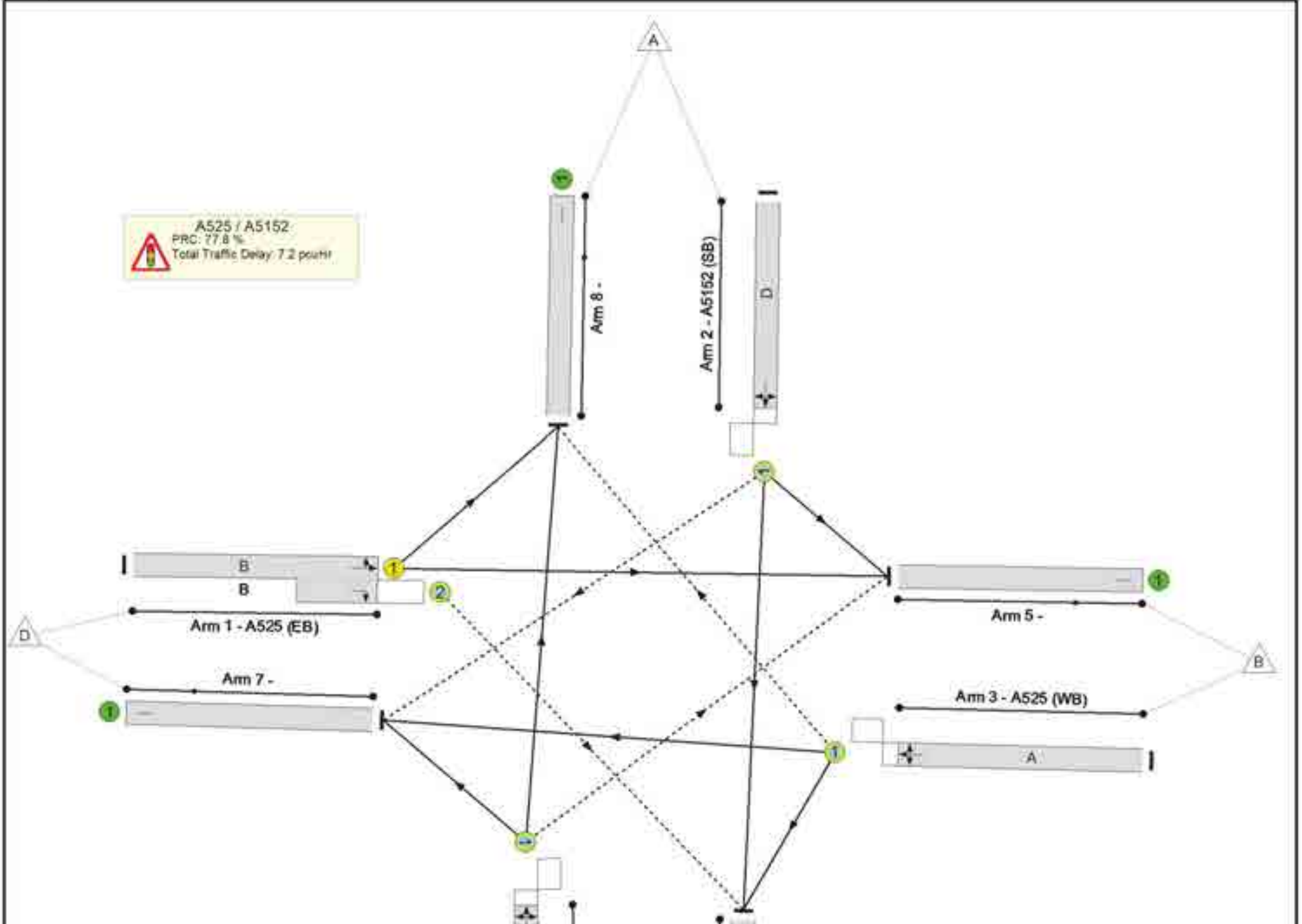
Stage	1	2	3	1	3
Duration	10	5	50	24	59
Change Point	0	16	30	85	115

Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	-	-	N/A	-	-		-	-	-	-	-	-	50.6%
A525 / A5152	-	-	N/A	-	-		-	-	-	-	-	-	50.6%
1/1+1/2	A525 (EB) Ahead Right Left	U+O	N/A	N/A	B		2	109	-	518	1862:1768	820+415	41.9 : 41.9%
2/1	A5152 (SB) Left Ahead Right	O	N/A	N/A	D		2	109	-	578	1937	1148	50.4%
3/1	A525 (WB) Left Ahead Right	O	N/A	N/A	A		2	34	-	204	2018	403	50.6%
4/1	A5152 (NB) Right Left Ahead	O	N/A	N/A	B		2	109	-	403	1931	1191	33.8%
5/1		U	N/A	N/A	-		-	-	-	207	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	560	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	515	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	421	Inf	Inf	0.0%

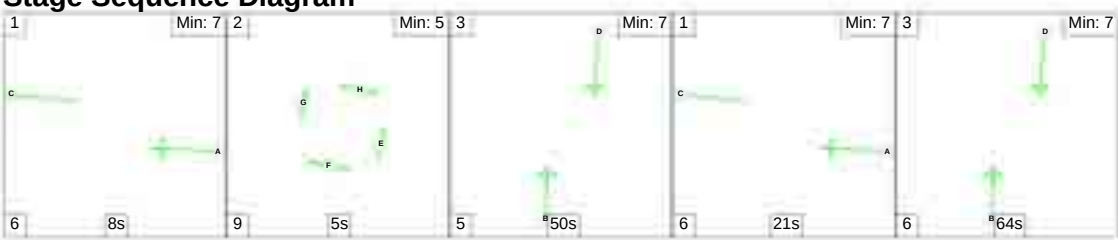
Full Input Data And Results

[illegible]

Full Input Data And Results

Scenario 5: '2028 Assess AM' (FG5: '2028 Assess AM', Plan 1: 'Network Control Plan 1')

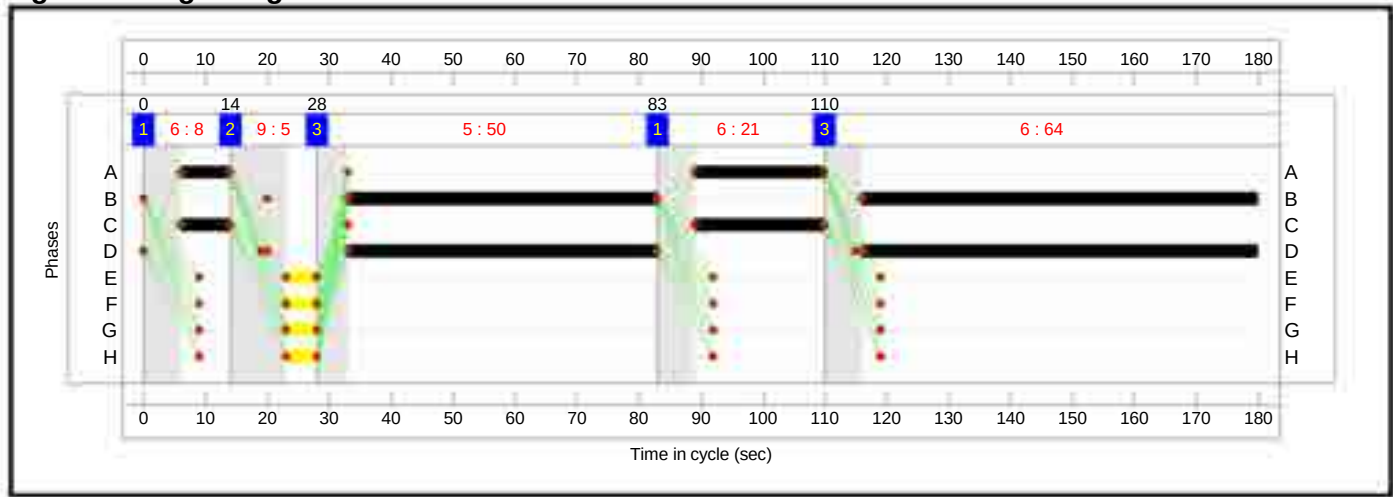
Stage Sequence Diagram



Stage Timings

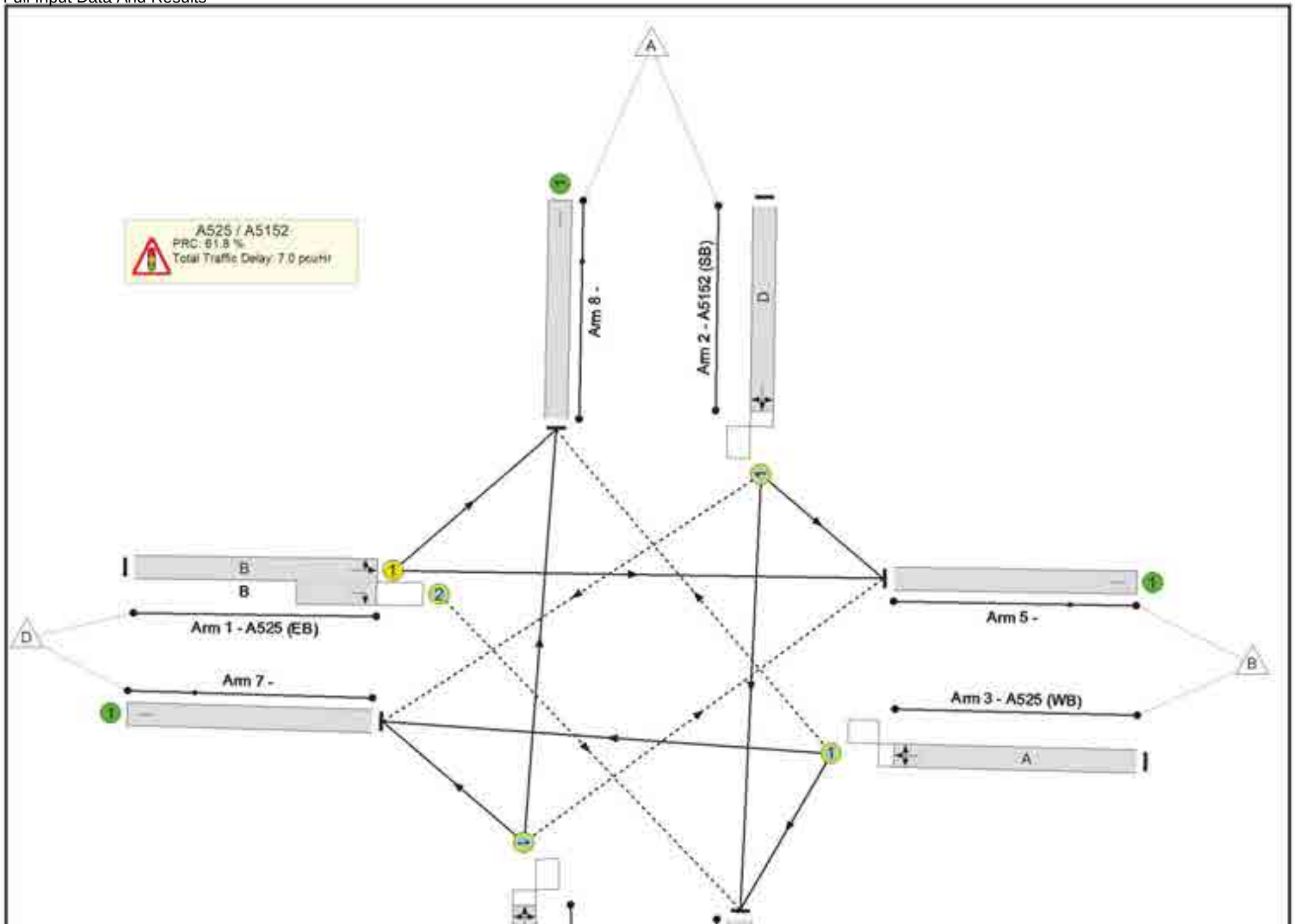
Stage	1	2	3	1	3
Duration	8	5	50	21	64
Change Point	0	14	28	83	110

Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	-	-	N/A	-	-		-	-	-	-	-	-	55.6%
A525 / A5152	-	-	N/A	-	-		-	-	-	-	-	-	55.6%
1/1+1/2	A525 (EB) Ahead Right Left	U+O	N/A	N/A	B		2	114	-	700	1873:1768	944+315	55.6 : 55.6%
2/1	A5152 (SB) Left Ahead Right	O	N/A	N/A	D		2	114	-	469	1948	1232	38.1%
3/1	A525 (WB) Left Ahead Right	O	N/A	N/A	A		2	29	-	190	2015	345	55.1%
4/1	A5152 (NB) Right Left Ahead	O	N/A	N/A	B		2	114	-	436	1942	1252	34.8%
5/1		U	N/A	N/A	-		-	-	-	350	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	527	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	398	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	520	Inf	Inf	0.0%

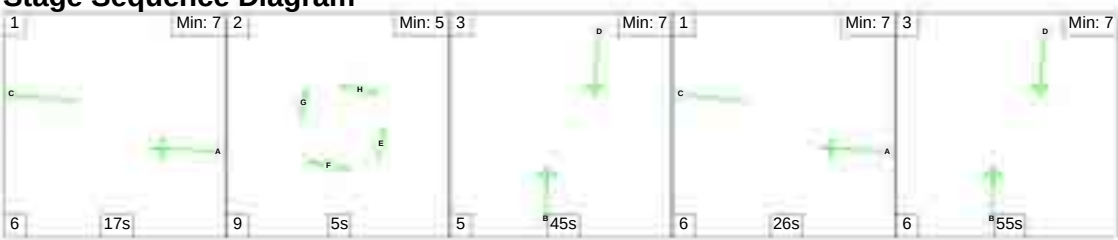
Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	-	-	109	184	10	5.2	1.8	0.1	7.0	-	-	-	-
A525 / A5152	-	-	109	184	10	5.2	1.8	0.1	7.0	-	-	-	-
1/1+1/2	700	700	0	169	6	1.5	0.6	0.0	2.1	10.9	7.2	0.6	7.8
2/1	469	469	102	0	1	1.0	0.3	0.1	1.4	10.5	5.5	0.3	5.8
3/1	190	190	0	15	3	1.8	0.6	0.0	2.4	45.6	4.3	0.6	4.9
4/1	436	436	7	0	0	0.9	0.3	0.0	1.2	9.6	5.0	0.3	5.2
5/1	350	350	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	527	527	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	398	398	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	520	520	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
C1	PRC for Signalled Lanes (%): PRC Over All Lanes (%):				61.8 61.8	Total Delay for Signalled Lanes (pcuHr): Total Delay Over All Lanes(pcuHr):			7.05 7.05	Cycle Time (s): 180			

Full Input Data And Results

Scenario 6: '2028 Assess PM' (FG6: '2028 Assess PM', Plan 1: 'Network Control Plan 1')

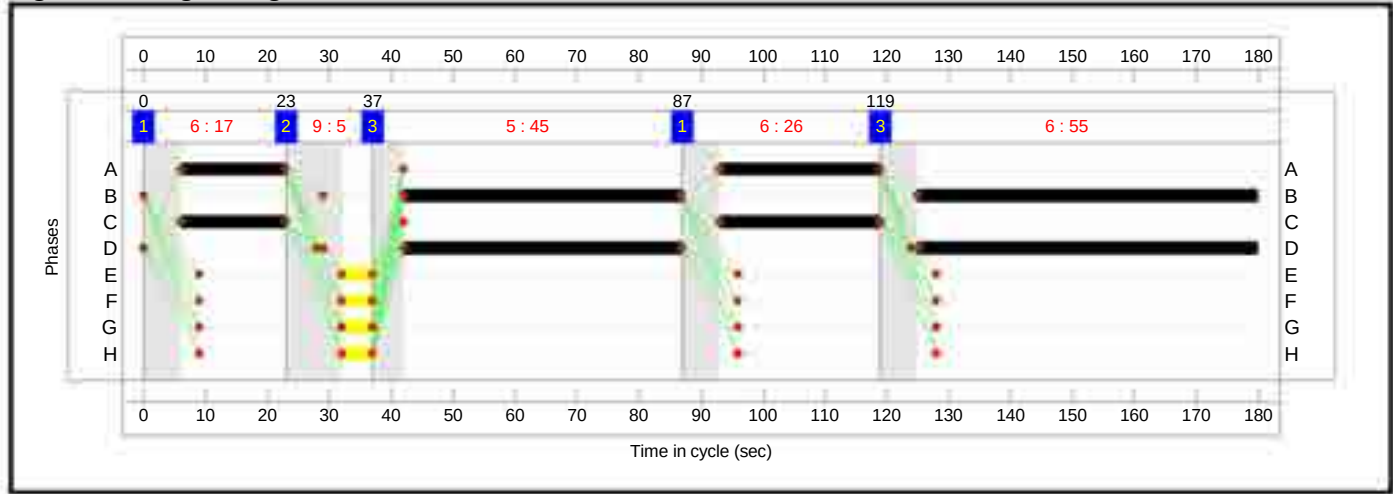
Stage Sequence Diagram



Stage Timings

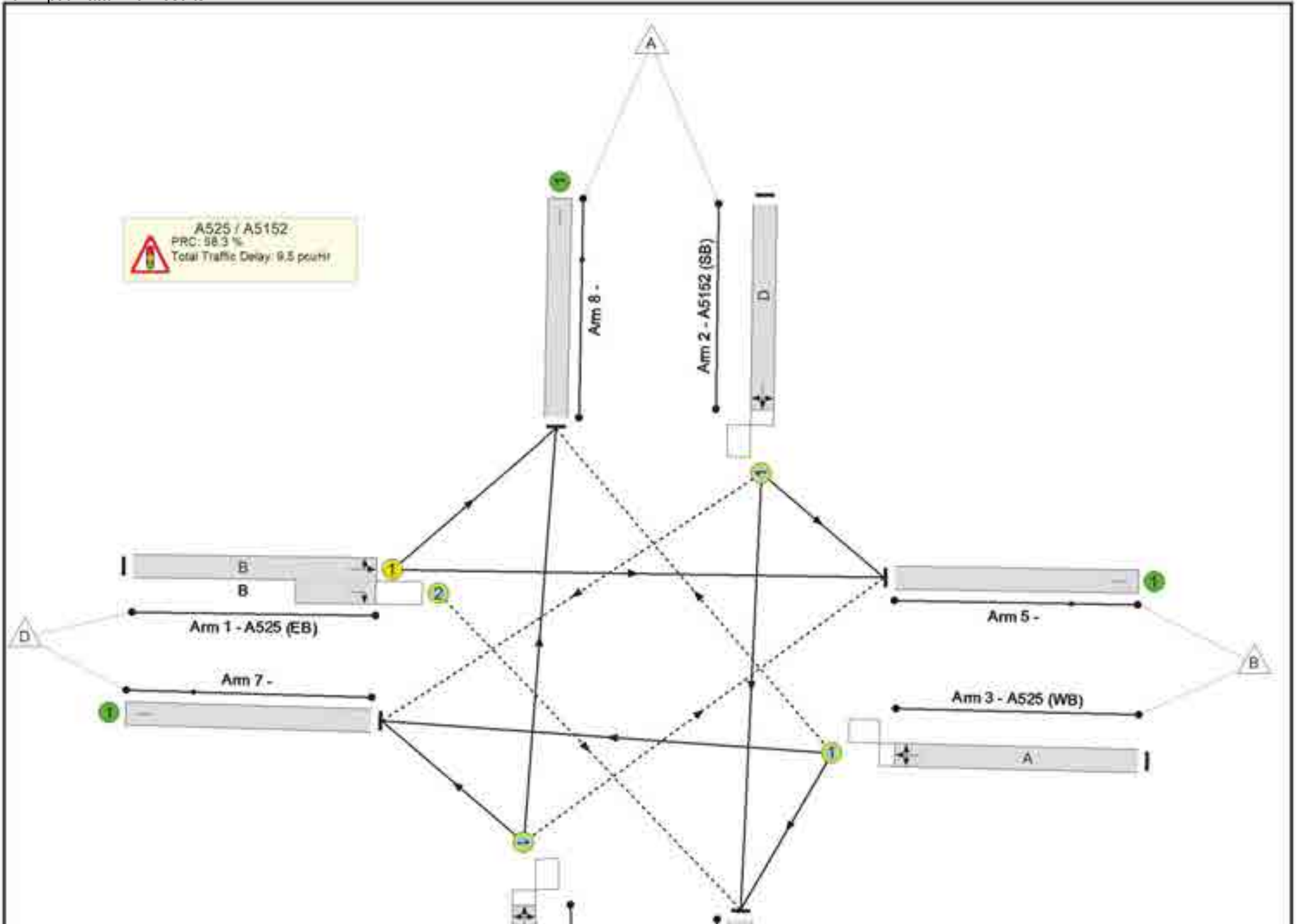
Stage	1	2	3	1	3
Duration	17	5	45	26	55
Change Point	0	23	37	87	119

Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	-	-	N/A	-	-		-	-	-	-	-	-	56.9%
A525 / A5152	-	-	N/A	-	-		-	-	-	-	-	-	56.9%
1/1+1/2	A525 (EB) Ahead Right Left	U+O	N/A	N/A	B		2	100	-	558	1868:1768	781+354	49.1 : 49.1%
2/1	A5152 (SB) Left Ahead Right	O	N/A	N/A	D		2	100	-	587	1936	1032	56.9%
3/1	A525 (WB) Left Ahead Right	O	N/A	N/A	A		2	43	-	285	2023	506	56.4%
4/1	A5152 (NB) Right Left Ahead	O	N/A	N/A	B		2	100	-	403	1931	1094	36.8%
5/1		U	N/A	N/A	-		-	-	-	243	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	560	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	605	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	425	Inf	Inf	0.0%

Full Input Data And Results

[illegible]

S|C|P

APPENDIX B9

Junctions 9

ARCADY 9 - Roundabout Module

Version: 9.5.2.1013

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Filename: 8. Croesnewydd Rd _ Rhyd Broughton Ln _ Hospital Access -2024 UPDATED.j9

Path: C:\Users\Junctions shared\AppData\Local\Temp\2ba7089b-9ef9-4f2f-a707-c2967a6501d0_8. Croesnewydd Rd _ Rhyd Broughton Ln _ Hospital Access -2024 UPDATED.zip.1d0

Report generation date: 01/07/2024 12:00:50

- »2028 Base Re-dist, AM
- »2028 Base Re-dist, PM
- »2028 Assess Re-dist, AM
- »2028 Assess Re-dist, PM
- »2022 Survey, AM
- »2022 Survey, PM

Summary of junction performance

	AM					PM				
	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Set ID	Queue (PCU)	Delay (s)	RFC	LOS
	2028 Base Re-dist									
Arm 1	D1	2.4	6.79	0.69	A	D2	0.4	2.67	0.25	A
Arm 2		0.4	4.14	0.28	A		1.0	5.16	0.47	A
Arm 3		0.0	5.24	0.02	A		0.1	6.31	0.09	A
Arm 4		0.6	4.42	0.35	A		0.6	5.35	0.37	A
	2028 Assess Re-dist									
Arm 1	D3	2.5	7.19	0.70	A	D4	0.4	2.74	0.27	A
Arm 2		0.4	4.20	0.28	A		1.1	5.48	0.50	A
Arm 3		0.0	5.29	0.02	A		0.1	6.61	0.09	A
Arm 4		0.7	4.77	0.40	A		0.7	5.53	0.39	A
	2022 Survey									
Arm 1	D5	1.8	5.55	0.62	A	D6	0.3	2.62	0.23	A
Arm 2		0.4	3.94	0.25	A		0.8	4.77	0.43	A
Arm 3		0.0	5.04	0.02	A		0.1	5.95	0.08	A
Arm 4		0.5	4.21	0.33	A		0.7	5.43	0.39	A

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.

File summary

File Description

Title	8.Croesnewydd Road / Rhyd Broughton Lane / Wrexham Maelor Hospital Access Priority Roundabout;
Location	8.Croesnewydd Road / Rhyd Broughton Lane / Wrexham Maelor Hospital Access Priority Roundabout;
Site number	
Date	01/12/2022
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	SCP\abbie.moore
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

Analysis Options

Calculate Queue Percentiles	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
		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)
D1	2028 Base Re-dist	AM	ONE HOUR	07:45	09:15	15
D2	2028 Base Re-dist	PM	ONE HOUR	16:15	17:45	15
D3	2028 Assess Re-dist	AM	ONE HOUR	07:45	09:15	15
D4	2028 Assess Re-dist	PM	ONE HOUR	16:15	17:45	15
D5	2022 Survey	AM	ONE HOUR	07:45	09:15	15
D6	2022 Survey	PM	ONE HOUR	16:15	17:45	15

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

2028 Base Re-dist, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	8.Croesnewydd Road / Rhyd Broughton Lane / Wrexham Maelor Hospital Access Priority Roundabout;	Standard Roundabout		1, 2, 3, 4	5.80	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description
1	Rhyd Broughton Lane	
2	Croesnewydd Rd (E)	
3	Hospital Access	
4	Croesnewydd Rd (W)	

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
1	3.00	8.00	37.0	65.0	35.0	26.4	
2	4.00	7.00	10.0	22.0	35.0	52.1	
3	3.00	5.00	7.0	16.0	35.0	53.8	
4	4.00	7.00	6.0	28.0	35.0	38.8	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
1	0.738	2058
2	0.600	1555
3	0.503	1109
4	0.613	1536

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)
D1	2028 Base Re-dist	AM	ONE HOUR	07:45	09:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		✓	1165	100.000
2		✓	333	100.000
3		✓	13	100.000
4		✓	440	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		1	2	3	4
From	1	0	835	36	294
	2	223	0	14	96
	3	6	1	0	6
	4	204	214	22	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1	2	3	4
From	1	0	10	10	10
	2	10	0	10	10
	3	10	10	0	10
	4	10	10	10	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.69	6.79	2.4	A
2	0.28	4.14	0.4	A
3	0.02	5.24	0.0	A
4	0.35	4.42	0.6	A

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	877	178	1927	0.455	873	0.9	3.748	A
2	251	264	1396	0.180	250	0.2	3.450	A
3	10	460	878	0.011	10	0.0	4.559	A
4	331	172	1430	0.232	330	0.3	3.594	A

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1047	213	1901	0.551	1046	1.3	4.622	A
2	299	316	1365	0.219	299	0.3	3.714	A
3	12	550	833	0.014	12	0.0	4.823	A
4	396	207	1409	0.281	395	0.4	3.906	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1283	261	1865	0.688	1279	2.4	6.702	A
2	367	386	1323	0.277	366	0.4	4.137	A
3	14	673	771	0.019	14	0.0	5.234	A
4	484	253	1381	0.351	484	0.6	4.413	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1283	261	1865	0.688	1283	2.4	6.795	A
2	367	388	1322	0.277	367	0.4	4.143	A
3	14	675	770	0.019	14	0.0	5.239	A
4	484	253	1380	0.351	484	0.6	4.419	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1047	213	1900	0.551	1051	1.4	4.689	A
2	299	318	1364	0.219	300	0.3	3.724	A
3	12	553	832	0.014	12	0.0	4.829	A
4	396	207	1409	0.281	396	0.4	3.913	A

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	877	179	1926	0.455	879	0.9	3.787	A
2	251	266	1395	0.180	251	0.2	3.460	A
3	10	462	877	0.011	10	0.0	4.566	A
4	331	173	1429	0.232	332	0.3	3.607	A

2028 Base Re-dist, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	8.Croesnewydd Road / Rhyd Broughton Lane / Wrexham Maelor Hospital Access Priority Roundabout;	Standard Roundabout		1, 2, 3, 4	4.51	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)
D2	2028 Base Re-dist	PM	ONE HOUR	16:15	17:45	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		✓	456	100.000
2		✓	627	100.000
3		✓	53	100.000
4		✓	392	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		1	2	3	4
From	1	0	309	7	140
	2	504	0	2	121
	3	29	7	0	17
	4	307	84	1	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1	2	3	4
From	1	0	10	10	10
	2	10	0	10	10
	3	10	10	0	10
	4	10	10	10	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.25	2.67	0.4	A
2	0.47	5.16	1.0	A
3	0.09	6.31	0.1	A
4	0.37	5.35	0.6	A

Main Results for each time segment

16:15 - 16:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	343	69	2007	0.171	342	0.2	2.378	A
2	472	111	1488	0.317	470	0.5	3.882	A
3	40	574	821	0.049	40	0.1	5.067	A
4	295	405	1288	0.229	294	0.3	3.980	A

16:30 - 16:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	410	83	1997	0.205	410	0.3	2.495	A
2	564	133	1475	0.382	563	0.7	4.340	A
3	48	687	764	0.062	48	0.1	5.527	A
4	352	485	1238	0.285	352	0.4	4.465	A

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	502	101	1983	0.253	502	0.4	2.673	A
2	690	163	1457	0.474	689	1.0	5.148	A
3	58	841	687	0.085	58	0.1	6.302	A
4	432	593	1172	0.368	431	0.6	5.338	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	502	101	1983	0.253	502	0.4	2.673	A
2	690	163	1457	0.474	690	1.0	5.165	A
3	58	842	686	0.085	58	0.1	6.309	A
4	432	595	1171	0.369	432	0.6	5.353	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	410	83	1997	0.205	410	0.3	2.498	A
2	564	133	1475	0.382	565	0.7	4.358	A
3	48	689	763	0.062	48	0.1	5.537	A
4	352	486	1237	0.285	353	0.4	4.483	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	343	69	2007	0.171	344	0.2	2.381	A
2	472	111	1488	0.317	473	0.5	3.903	A
3	40	577	819	0.049	40	0.1	5.082	A
4	295	407	1286	0.229	296	0.3	3.999	A

2028 Assess Re-dist, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	8.Croesnewydd Road / Rhyd Broughton Lane / Wrexham Maelor Hospital Access Priority Roundabout;	Standard Roundabout		1, 2, 3, 4	6.08	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)
D3	2028 Assess Re-dist	AM	ONE HOUR	07:45	09:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		✓	1172	100.000
2		✓	340	100.000
3		✓	13	100.000
4		✓	500	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		1	2	3	4
From	1	0	835	36	301
	2	223	0	14	103
	3	6	1	0	6
	4	234	244	22	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1	2	3	4
From	1	0	10	10	10
	2	10	0	10	10
	3	10	10	0	10
	4	10	10	10	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.70	7.19	2.5	A
2	0.28	4.20	0.4	A
3	0.02	5.29	0.0	A
4	0.40	4.77	0.7	A

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	882	200	1910	0.462	879	0.9	3.826	A
2	256	269	1393	0.184	255	0.2	3.475	A
3	10	470	873	0.011	10	0.0	4.587	A
4	376	172	1430	0.263	375	0.4	3.748	A

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1054	240	1881	0.560	1052	1.4	4.766	A
2	306	322	1361	0.225	305	0.3	3.749	A
3	12	563	826	0.014	12	0.0	4.860	A
4	449	207	1409	0.319	449	0.5	4.123	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1290	294	1841	0.701	1286	2.5	7.074	A
2	374	394	1318	0.284	374	0.4	4.191	A
3	14	689	763	0.019	14	0.0	5.287	A
4	551	253	1381	0.399	550	0.7	4.760	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1290	294	1841	0.701	1290	2.5	7.188	A
2	374	395	1318	0.284	374	0.4	4.197	A
3	14	690	762	0.019	14	0.0	5.293	A
4	551	253	1380	0.399	550	0.7	4.770	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1054	240	1880	0.560	1058	1.4	4.844	A
2	306	324	1360	0.225	306	0.3	3.757	A
3	12	565	825	0.014	12	0.0	4.867	A
4	449	207	1409	0.319	450	0.5	4.136	A

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	882	201	1909	0.462	884	1.0	3.870	A
2	256	271	1392	0.184	256	0.2	3.488	A
3	10	473	872	0.011	10	0.0	4.594	A
4	376	173	1429	0.263	377	0.4	3.763	A

2028 Assess Re-dist, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	8.Croesnewydd Road / Rhyd Broughton Lane / Wrexham Maelor Hospital Access Priority Roundabout;	Standard Roundabout		1, 2, 3, 4	4.71	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)
D4	2028 Assess Re-dist	PM	ONE HOUR	16:15	17:45	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		✓	482	100.000
2		✓	652	100.000
3		✓	53	100.000
4		✓	414	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		1	2	3	4
From	1	0	309	7	166
	2	504	0	2	146
	3	29	7	0	17
	4	318	95	1	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1	2	3	4
From	1	0	10	10	10
	2	10	0	10	10
	3	10	10	0	10
	4	10	10	10	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.27	2.74	0.4	A
2	0.50	5.48	1.1	A
3	0.09	6.61	0.1	A
4	0.39	5.53	0.7	A

Main Results for each time segment

16:15 - 16:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	363	77	2001	0.181	362	0.2	2.415	A
2	491	131	1476	0.332	489	0.5	4.000	A
3	40	612	802	0.050	40	0.1	5.195	A
4	312	405	1288	0.242	310	0.3	4.046	A

16:30 - 16:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	433	92	1990	0.218	433	0.3	2.544	A
2	586	156	1461	0.401	585	0.7	4.519	A
3	48	733	741	0.064	48	0.1	5.710	A
4	372	485	1238	0.301	372	0.5	4.567	A

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	531	113	1974	0.269	530	0.4	2.742	A
2	718	191	1440	0.499	716	1.1	5.461	A
3	58	897	658	0.089	58	0.1	6.595	A
4	456	593	1172	0.389	455	0.7	5.516	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	531	113	1974	0.269	531	0.4	2.743	A
2	718	192	1440	0.499	718	1.1	5.484	A
3	58	898	658	0.089	58	0.1	6.606	A
4	456	595	1171	0.389	456	0.7	5.535	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	433	93	1989	0.218	434	0.3	2.545	A
2	586	157	1461	0.401	588	0.7	4.543	A
3	48	735	740	0.064	48	0.1	5.724	A
4	372	487	1237	0.301	373	0.5	4.585	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	363	78	2000	0.181	363	0.2	2.418	A
2	491	131	1476	0.333	492	0.6	4.025	A
3	40	615	800	0.050	40	0.1	5.209	A
4	312	407	1286	0.242	312	0.4	4.067	A

2022 Survey, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	8.Croesnewydd Road / Rhyd Broughton Lane / Wrexham Maelor Hospital Access Priority Roundabout;	Standard Roundabout		1, 2, 3, 4	4.97	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)
D5	2022 Survey	AM	ONE HOUR	07:45	09:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		✓	1057	100.000
2		✓	309	100.000
3		✓	13	100.000
4		✓	411	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		1	2	3	4
From	1	0	759	34	264
	2	206	0	13	90
	3	6	1	0	6
	4	189	201	21	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1	2	3	4
From	1	0	10	10	10
	2	10	0	10	10
	3	10	10	0	10
	4	10	10	10	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.62	5.55	1.8	A
2	0.25	3.94	0.4	A
3	0.02	5.04	0.0	A
4	0.33	4.21	0.5	A

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	796	167	1934	0.411	793	0.8	3.460	A
2	233	239	1411	0.165	232	0.2	3.356	A
3	10	420	898	0.011	10	0.0	4.456	A
4	309	160	1438	0.215	308	0.3	3.503	A

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	950	200	1910	0.498	949	1.1	4.116	A
2	278	286	1383	0.201	278	0.3	3.582	A
3	12	503	857	0.014	12	0.0	4.686	A
4	369	191	1418	0.260	369	0.4	3.774	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1164	245	1877	0.620	1161	1.8	5.512	A
2	340	350	1344	0.253	340	0.4	3.942	A
3	14	616	800	0.018	14	0.0	5.040	A
4	453	234	1392	0.325	452	0.5	4.209	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1164	246	1877	0.620	1164	1.8	5.555	A
2	340	351	1344	0.253	340	0.4	3.944	A
3	14	617	799	0.018	14	0.0	5.043	A
4	453	235	1392	0.325	453	0.5	4.215	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	950	201	1910	0.498	953	1.1	4.151	A
2	278	288	1382	0.201	278	0.3	3.589	A
3	12	504	856	0.014	12	0.0	4.693	A
4	369	192	1418	0.261	370	0.4	3.779	A

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	796	168	1934	0.412	797	0.8	3.489	A
2	233	241	1410	0.165	233	0.2	3.365	A
3	10	422	897	0.011	10	0.0	4.462	A
4	309	161	1437	0.215	310	0.3	3.515	A

2022 Survey, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	8.Croesnewydd Road / Rhyd Broughton Lane / Wrexham Maelor Hospital Access Priority Roundabout;	Standard Roundabout		1, 2, 3, 4	4.40	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)
D6	2022 Survey	PM	ONE HOUR	16:15	17:45	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		✓	413	100.000
2		✓	577	100.000
3		✓	50	100.000
4		✓	429	100.000

Origin-Destination Data

Demand (PCU/hr)

		To			
		1	2	3	4
From	1	0	278	7	128
	2	462	0	2	113
	3	27	7	0	16
	4	325	103	1	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1	2	3	4
From	1	0	10	10	10
	2	10	0	10	10
	3	10	10	0	10
	4	10	10	10	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.23	2.62	0.3	A
2	0.43	4.77	0.8	A
3	0.08	5.95	0.1	A
4	0.39	5.43	0.7	A

Main Results for each time segment

16:15 - 16:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	311	83	1996	0.156	310	0.2	2.347	A
2	434	102	1493	0.291	433	0.4	3.726	A
3	38	527	844	0.045	37	0.1	4.906	A
4	323	372	1308	0.247	322	0.4	4.009	A

16:30 - 16:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	371	100	1984	0.187	371	0.3	2.454	A
2	519	122	1481	0.350	518	0.6	4.108	A
3	45	631	792	0.057	45	0.1	5.300	A
4	386	445	1263	0.305	385	0.5	4.511	A

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	455	122	1968	0.231	454	0.3	2.616	A
2	635	150	1465	0.434	634	0.8	4.761	A
3	55	773	721	0.076	55	0.1	5.947	A
4	472	545	1201	0.393	471	0.7	5.418	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	455	122	1968	0.231	455	0.3	2.617	A
2	635	150	1465	0.434	635	0.8	4.773	A
3	55	774	720	0.076	55	0.1	5.952	A
4	472	546	1201	0.393	472	0.7	5.434	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	371	100	1984	0.187	372	0.3	2.457	A
2	519	122	1481	0.350	520	0.6	4.123	A
3	45	633	791	0.057	45	0.1	5.308	A
4	386	447	1262	0.306	387	0.5	4.530	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	311	84	1996	0.156	311	0.2	2.352	A
2	434	102	1493	0.291	435	0.5	3.743	A
3	38	530	843	0.045	38	0.1	4.917	A
4	323	374	1306	0.247	323	0.4	4.030	A

S|C|P

APPENDIX B10

Junctions 9

ARCADY 9 - Roundabout Module

Version: 9.5.2.1013

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Filename: 9. B5101 Berse Rd_ Rhyd Broughton Lane.j9

Path: C:\Users\Junctions shared\Desktop\Abbie\Wrexham July update 2024\Junctions

Report generation date: 01/07/2024 13:20:15

- »2028 Base Re-dist, AM
- »2028 Base Re-dist, PM
- »2028 Assess Re-dist , AM
- »2028 Assess Re-dist , PM
- »2022 Survey, AM
- »2022 Survey, PM

Summary of junction performance

	AM					PM				
	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Set ID	Queue (PCU)	Delay (s)	RFC	LOS
2028 Base Re-dist										
Arm 1	D3	2.7	7.81	0.71	A	D4	1.5	5.43	0.57	A
Arm 2		2.9	8.47	0.73	A		2.0	7.66	0.65	A
Arm 3		0.6	5.50	0.37	A		0.7	5.26	0.38	A
2028 Assess Re-dist										
Arm 1	D5	3.0	8.49	0.73	A	D6	1.5	5.53	0.58	A
Arm 2		3.1	8.91	0.74	A		2.1	7.86	0.66	A
Arm 3		0.7	5.76	0.40	A		0.7	5.32	0.38	A
2022 Survey										
Arm 1	D7	1.9	6.27	0.64	A	D8	1.1	4.66	0.50	A
Arm 2		2.1	6.56	0.66	A		1.4	5.94	0.57	A
Arm 3		0.5	4.91	0.32	A		0.5	4.62	0.32	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	B5101 Berse Road/ Ryd Broughton Lane
Location	B5101 Berse Road/ Ryd Broughton Lane
Site number	
Date	29/11/2022
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	SCP\abbie.moore
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

Analysis Options

Calculate Queue Percentiles	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
		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)
D3	2028 Base Re-dist	AM	ONE HOUR	07:45	09:15	15
D4	2028 Base Re-dist	PM	ONE HOUR	16:15	17:45	15
D5	2028 Assess Re-dist	AM	ONE HOUR	07:45	09:15	15
D6	2028 Assess Re-dist	PM	ONE HOUR	16:15	17:45	15
D7	2022 Survey	AM	ONE HOUR	07:45	09:15	15
D8	2022 Survey	PM	ONE HOUR	16:15	17:45	15

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

2028 Base Re-dist, 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	B5101 Berse Road/ Ryd Broughton Lane	Standard Roundabout		1, 2, 3	7.76	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description
1	Berse Road (N)	
2	Rhyd Broughton Lane	
3	B5101 Berse Road (W)	

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
1	3.70	7.10	12.8	41.5	38.5	13.0	
2	4.80	6.80	10.8	20.9	38.5	11.0	
3	3.50	5.60	21.2	25.5	38.5	18.0	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
1	0.695	1819
2	0.718	1960
3	0.646	1624

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)
D3	2028 Base Re-dist	AM	ONE HOUR	07:45	09:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		✓	1128	100.000
2		✓	1149	100.000
3		✓	381	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
		1	2	3
From	1	0	840	288
	2	682	0	467
	3	288	93	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		1	2	3
From	1	0	10	10
	2	10	0	10
	3	10	10	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.71	7.81	2.7	A
2	0.73	8.47	2.9	A
3	0.37	5.50	0.6	A

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	849	70	1771	0.480	845	1.0	4.260	A
2	865	216	1805	0.479	861	1.0	4.178	A
3	287	511	1294	0.222	286	0.3	3.921	A

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1014	83	1761	0.576	1012	1.5	5.273	A
2	1033	258	1774	0.582	1031	1.5	5.312	A
3	343	612	1229	0.279	342	0.4	4.463	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1242	102	1748	0.710	1237	2.6	7.679	A
2	1265	316	1733	0.730	1260	2.9	8.270	A
3	419	748	1141	0.368	419	0.6	5.471	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1242	102	1748	0.710	1242	2.7	7.812	A
2	1265	317	1732	0.730	1265	2.9	8.465	A
3	419	751	1139	0.368	419	0.6	5.500	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1014	84	1761	0.576	1019	1.5	5.366	A
2	1033	260	1773	0.583	1038	1.6	5.431	A
3	343	616	1226	0.279	343	0.4	4.491	A

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	849	70	1771	0.480	851	1.0	4.315	A
2	865	217	1804	0.480	867	1.0	4.239	A
3	287	515	1292	0.222	287	0.3	3.945	A

2028 Base Re-dist, 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	B5101 Berse Road/ Ryd Broughton Lane	Standard Roundabout		1, 2, 3	6.30	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)
D4	2028 Base Re-dist	PM	ONE HOUR	16:15	17:45	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		✓	880	100.000
2		✓	878	100.000
3		✓	420	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
	1	2	3	
From	1	0	277	603
	2	575	0	303
	3	261	159	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
	1	2	3	
From	1	0	10	10
	2	10	0	10
	3	10	10	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.57	5.43	1.5	A
2	0.65	7.66	2.0	A
3	0.38	5.26	0.7	A

Main Results for each time segment

16:15 - 16:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	663	119	1737	0.381	660	0.7	3.668	A
2	661	452	1635	0.404	658	0.7	4.041	A
3	316	431	1346	0.235	315	0.3	3.836	A

16:30 - 16:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	791	143	1720	0.460	790	0.9	4.253	A
2	789	541	1571	0.502	788	1.1	5.047	A
3	378	516	1291	0.292	377	0.5	4.331	A

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	969	175	1698	0.571	967	1.4	5.400	A
2	967	663	1484	0.651	963	2.0	7.548	A
3	462	631	1217	0.380	462	0.7	5.238	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	969	175	1698	0.571	969	1.5	5.432	A
2	967	664	1483	0.652	967	2.0	7.665	A
3	462	633	1215	0.380	462	0.7	5.258	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	791	143	1720	0.460	793	0.9	4.283	A
2	789	543	1570	0.503	793	1.1	5.122	A
3	378	519	1289	0.293	378	0.5	4.355	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	663	120	1736	0.382	664	0.7	3.694	A
2	661	455	1633	0.405	662	0.8	4.085	A
3	316	434	1344	0.235	317	0.3	3.857	A

2028 Assess Re-dist , 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	B5101 Berse Road/ Ryd Broughton Lane	Standard Roundabout		1, 2, 3	8.26	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)
D5	2028 Assess Re-dist	AM	ONE HOUR	07:45	09:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		✓	1165	100.000
2		✓	1149	100.000
3		✓	411	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
	1	2	3	
From	1	0	847	318
	2	682	0	467
	3	318	93	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
	1	2	3	
From	1	0	10	10
	2	10	0	10
	3	10	10	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.73	8.49	3.0	A
2	0.74	8.91	3.1	A
3	0.40	5.76	0.7	A

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	877	70	1771	0.495	873	1.1	4.387	A
2	865	238	1789	0.484	861	1.0	4.250	A
3	309	511	1294	0.239	308	0.3	4.010	A

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1047	83	1761	0.595	1045	1.6	5.512	A
2	1033	285	1755	0.589	1031	1.6	5.452	A
3	369	612	1229	0.301	369	0.5	4.601	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1283	102	1748	0.734	1277	2.9	8.310	A
2	1265	349	1709	0.740	1259	3.0	8.682	A
3	453	747	1141	0.396	452	0.7	5.731	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1283	102	1748	0.734	1282	3.0	8.491	A
2	1265	350	1708	0.741	1265	3.1	8.913	A
3	453	751	1139	0.397	452	0.7	5.765	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1047	84	1761	0.595	1053	1.6	5.632	A
2	1033	287	1753	0.589	1039	1.6	5.586	A
3	369	617	1226	0.301	370	0.5	4.633	A

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	877	70	1771	0.495	879	1.1	4.454	A
2	865	240	1787	0.484	867	1.0	4.315	A
3	309	515	1292	0.240	310	0.3	4.036	A

2028 Assess Re-dist , 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	B5101 Berse Road/ Ryd Broughton Lane	Standard Roundabout		1, 2, 3	6.43	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)
D6	2028 Assess Re-dist	PM	ONE HOUR	16:15	17:45	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		✓	892	100.000
2		✓	890	100.000
3		✓	420	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
	1	2	3	
From	1	0	289	603
	2	587	0	303
	3	261	159	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
	1	2	3	
From	1	0	10	10
	2	10	0	10
	3	10	10	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.58	5.53	1.5	A
2	0.66	7.86	2.1	A
3	0.38	5.32	0.7	A

Main Results for each time segment

16:15 - 16:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	672	119	1737	0.387	669	0.7	3.699	A
2	670	452	1635	0.410	667	0.8	4.078	A
3	316	440	1340	0.236	315	0.3	3.858	A

16:30 - 16:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	802	143	1720	0.466	801	1.0	4.303	A
2	800	541	1571	0.509	799	1.1	5.118	A
3	378	527	1284	0.294	377	0.5	4.364	A

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	982	175	1698	0.578	980	1.5	5.498	A
2	980	662	1484	0.660	976	2.1	7.737	A
3	462	644	1208	0.383	462	0.7	5.295	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	982	175	1698	0.578	982	1.5	5.532	A
2	980	664	1483	0.661	980	2.1	7.863	A
3	462	646	1207	0.383	462	0.7	5.319	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	802	143	1720	0.466	804	1.0	4.333	A
2	800	544	1569	0.510	804	1.2	5.197	A
3	378	530	1282	0.295	378	0.5	4.389	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	672	120	1736	0.387	673	0.7	3.726	A
2	670	455	1633	0.410	672	0.8	4.124	A
3	316	443	1338	0.236	317	0.3	3.879	A

2022 Survey, 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	B5101 Berse Road/ Ryd Broughton Lane	Standard Roundabout		1, 2, 3	6.20	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)
D7	2022 Survey	AM	ONE HOUR	07:45	09:15	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		✓	1019	100.000
2		✓	1042	100.000
3		✓	352	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
	1	2	3	
From	1	0	754	265
	2	606	0	436
	3	265	87	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
	1	2	3	
From	1	0	10	10
	2	10	0	10
	3	10	10	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.64	6.27	1.9	A
2	0.66	6.56	2.1	A
3	0.32	4.91	0.5	A

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	767	65	1774	0.432	764	0.8	3.907	A
2	784	199	1817	0.432	781	0.8	3.809	A
3	265	454	1331	0.199	264	0.3	3.708	A

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	916	78	1765	0.519	915	1.2	4.648	A
2	937	238	1789	0.524	935	1.2	4.631	A
3	316	544	1273	0.249	316	0.4	4.138	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1122	96	1753	0.640	1119	1.9	6.215	A
2	1147	291	1751	0.655	1144	2.0	6.488	A
3	388	665	1195	0.324	387	0.5	4.898	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	1122	96	1753	0.640	1122	1.9	6.272	A
2	1147	292	1750	0.655	1147	2.1	6.563	A
3	388	667	1193	0.325	388	0.5	4.914	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	916	78	1765	0.519	919	1.2	4.696	A
2	937	239	1788	0.524	940	1.2	4.689	A
3	316	547	1271	0.249	317	0.4	4.153	A

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	767	66	1774	0.432	769	0.8	3.945	A
2	784	200	1816	0.432	786	0.8	3.850	A
3	265	457	1329	0.199	265	0.3	3.726	A

2022 Survey, 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	B5101 Berse Road/ Ryd Broughton Lane	Standard Roundabout		1, 2, 3	5.18	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)
D8	2022 Survey	PM	ONE HOUR	16:15	17:45	15

Vehicle mix source	PCU Factor for a HV (PCU)
HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		✓	778	100.000
2		✓	793	100.000
3		✓	366	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
		1	2	3
From	1	0	246	532
	2	511	0	282
	3	219	147	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
		1	2	3
From	1	0	10	10
	2	10	0	10
	3	10	10	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.50	4.66	1.1	A
2	0.57	5.94	1.4	A
3	0.32	4.62	0.5	A

Main Results for each time segment

16:15 - 16:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	586	110	1743	0.336	584	0.6	3.410	A
2	597	399	1673	0.357	595	0.6	3.664	A
3	276	383	1377	0.200	274	0.3	3.589	A

16:30 - 16:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	699	132	1728	0.405	699	0.7	3.846	A
2	713	478	1617	0.441	712	0.9	4.372	A
3	329	459	1328	0.248	329	0.4	3.962	A

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	857	162	1707	0.502	855	1.1	4.640	A
2	873	585	1540	0.567	871	1.4	5.899	A
3	403	561	1262	0.319	402	0.5	4.605	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	857	162	1707	0.502	857	1.1	4.656	A
2	873	586	1539	0.567	873	1.4	5.944	A
3	403	563	1261	0.320	403	0.5	4.615	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	699	132	1727	0.405	701	0.8	3.862	A
2	713	479	1616	0.441	715	0.9	4.407	A
3	329	461	1327	0.248	330	0.4	3.974	A

17:30 - 17:45

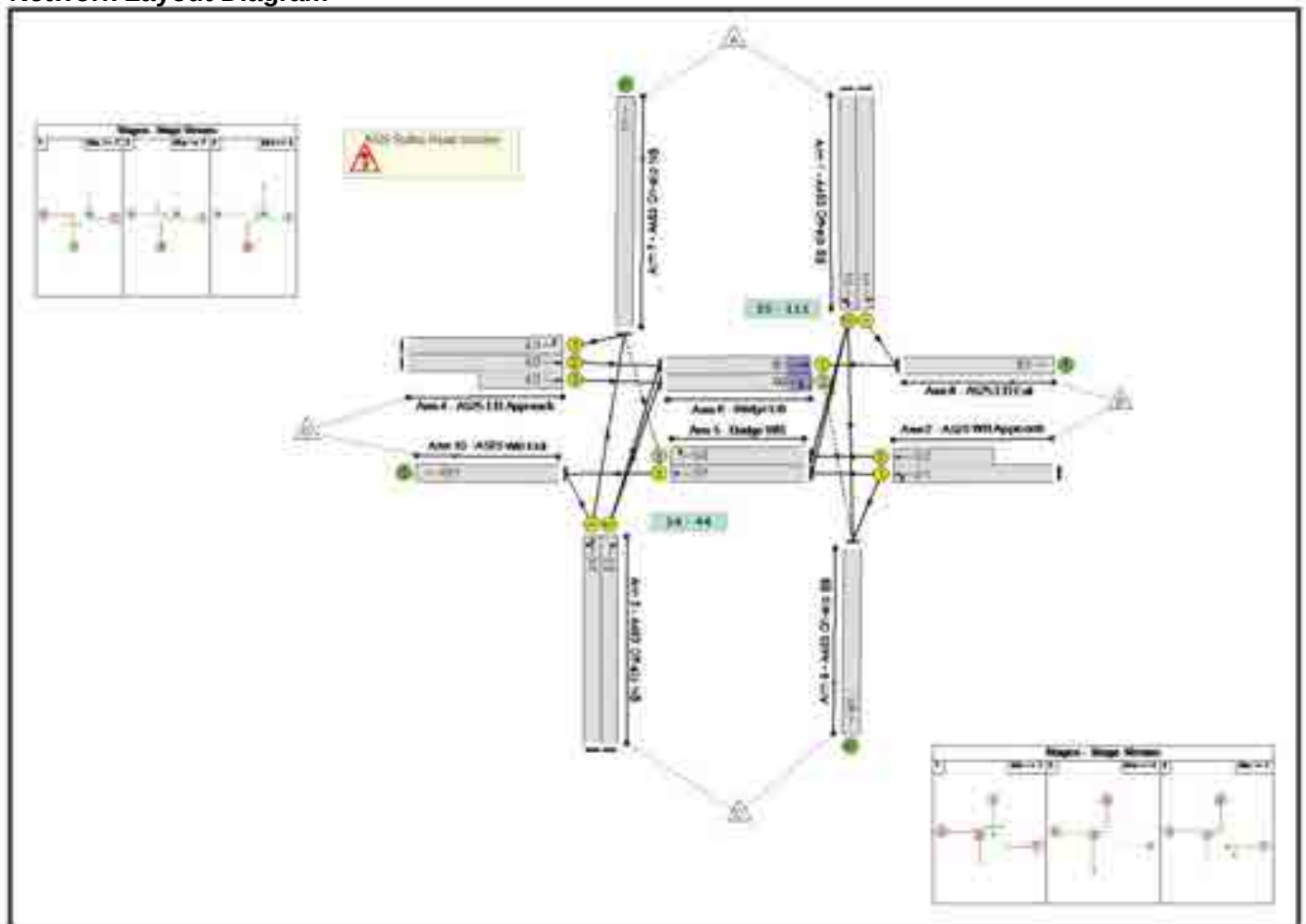
Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	586	111	1742	0.336	586	0.6	3.427	A
2	597	401	1672	0.357	598	0.6	3.690	A
3	276	385	1375	0.200	276	0.3	3.605	A

S|C|P

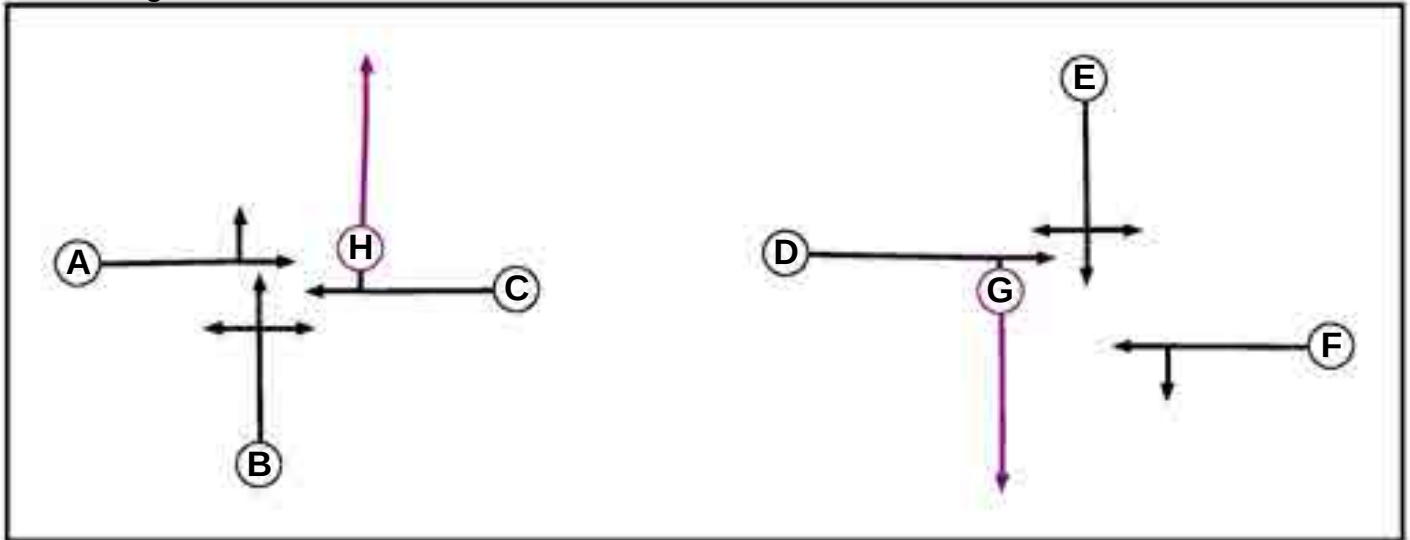
APPENDIX B11

Full Input Data And Results**User and Project Details**

Project:	Ruthin Road Wrexham
Title:	A483 / A525 Linsig Model
Location:	Junction of A483 & A525
Additional detail:	Based on Capita model supplied by Wrexham Council
File name:	Existing_A525_A483_12.07.24. Optimised.lsg3x
Author:	Jon Addy
Company:	SCP Transport
Address:	Colwyn Chambers, 19 York Street, Manchester, M2 3BA

Network Layout Diagram

Phase Diagram



Phase Input Data

Phase Name	Phase Type	Stage Stream	Assoc. Phase	Street Min	Cont Min
A	Traffic	2		7	7
B	Traffic	2		7	7
C	Traffic	2		7	7
D	Traffic	1		7	7
E	Traffic	1		7	7
F	Traffic	1		7	7
G	Ind. Arrow	1	D	4	4
H	Ind. Arrow	2	C	4	4

Phase Intergreens Matrix

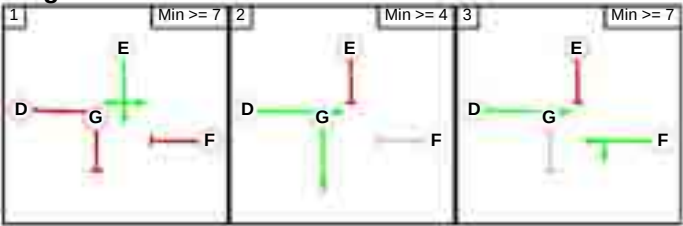
		Starting Phase							
Terminating Phase		A	B	C	D	E	F	G	H
	A		7	-	-	-	-	-	-
	B	7		7	-	-	-	-	-
	C	-	7		-	-	-	-	-
	D	-	-	-		7	-	-	-
	E	-	-	-	7		7	7	-
	F	-	-	-	-	7		-	-
	G	-	-	-	-	7	-		-
	H	-	-	-	-	-	-	-	

Phases in Stage

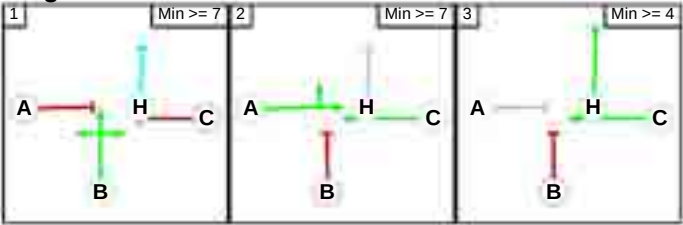
Stream	Stage No.	Phases in Stage
1	1	E
1	2	D G
1	3	D F
2	1	B
2	2	A C
2	3	C H

Stage Diagram

Stage Stream: 1



Stage Stream: 2



Phase Delays

Stage Stream: 1

Term. Stage	Start Stage	Phase	Type	Value	Cont value
There are no Phase Delays defined					

Stage Stream: 2

Term. Stage	Start Stage	Phase	Type	Value	Cont value
There are no Phase Delays defined					

Prohibited Stage Change

Stage Stream: 1

		To Stage		
From Stage		1	2	3
	1		7	7
	2	7		2
	3	7	0	

Stage Stream: 2

		To Stage		
From Stage		1	2	3
	1		7	X
	2	7		0
	3	7	2	

Full Input Data And Results

Give-Way Lane Input Data

Junction: A525 Ruthin Road Junction											
Lane	Movement	Max Flow when Giving Way (PCU/Hr)	Min Flow when Giving Way (PCU/Hr)	Opposing Lane	Opp. Lane Coeff.	Opp. Mvmnts.	Right Turn Storage (PCU)	Non-Blocking Storage (PCU)	RTF	Right Turn Move up (s)	Max Turns in Intergreen (PCU)
5/2 (Bridge WB)	7/1 (Right)	1439	0	4/1	1.09	All	0.01	-	0.50	0	2.00
				4/2	1.09	All					
				4/3	1.09	All					
6/2 (Bridge EB)	9/1 (Right)	1439	0	2/1	1.09	All	0.10	-	0.50	0	2.00
				2/2	1.09	All					

Full Input Data And Results

Lane Input Data

Junction: A525 Ruthin Road Junction												
Lane	Lane Type	Phases	Start Disp.	End Disp.	Physical Length (PCU)	Sat Flow Type	Def User Saturation Flow (PCU/Hr)	Lane Width (m)	Gradient	Nearside Lane	Turns	Turning Radius (m)
1/1 (A483 Off-slip SB)	U	E	2	3	43.5	Geom	-	3.00	2.00	Y	Arm 8 Left	20.00
1/2 (A483 Off-slip SB)	U	E	2	3	60.0	Geom	-	3.00	2.00	N	Arm 5 Right	15.00
											Arm 9 Ahead	Inf
2/1 (A525 WB Approach)	U	F	2	3	60.0	Geom	-	3.00	0.00	Y	Arm 5 Ahead	Inf
											Arm 9 Left	20.00
2/2 (A525 WB Approach)	U	F	2	3	8.7	User	1900	-	-	-	-	-
3/1 (A483 Off-slip NB)	U	B	2	3	60.0	Geom	-	3.00	2.00	Y	Arm 7 Ahead	Inf
											Arm 10 Left	20.00
3/2 (A483 Off-slip NB)	U	B	2	3	60.0	Geom	-	3.00	2.00	N	Arm 6 Right	10.00
4/1 (A525 EB Approach)	U	A	2	3	7.7	Geom	-	3.00	0.00	Y	Arm 7 Left	20.00
4/2 (A525 EB Approach)	U	A	2	3	60.0	User	1900	-	-	-	-	-
4/3 (A525 EB Approach)	U	A	2	3	7.3	User	1900	-	-	-	-	-
5/1 (Bridge WB)	U	C	2	3	10.1	User	1900	-	-	-	-	-
5/2 (Bridge WB)	O	C H	2	3	10.1	Geom	-	3.25	0.00	Y	Arm 7 Right	15.00
6/1 (Bridge EB)	U	D	2	3	10.1	User	1900	-	-	-	-	-
6/2 (Bridge EB)	O	D G	2	3	10.1	Geom	-	3.25	0.00	Y	Arm 9 Right	15.00
7/1 (A483 On-slip NB)	U		2	3	60.0	Inf	-	-	-	-	-	-
8/1 (A525 EB Exit)	U		2	3	60.0	Inf	-	-	-	-	-	-
9/1 (A483 On-slip SB)	U		2	3	60.0	Inf	-	-	-	-	-	-
10/1 (A525 WB Exit)	U		2	3	60.0	Inf	-	-	-	-	-	-

Full Input Data And Results

Traffic Flow Groups

Flow Group	Start Time	End Time	Duration	Formula
1: 'AM 2022 Survey'	08:00	09:00	01:00	
2: 'PM 2022 Survey'	16:15	17:15	01:00	
3: 'AM 2030 Base'	08:00	09:00	01:00	
4: 'PM 2030 Base'	16:15	17:15	01:00	
5: 'AM 2030 Assessment - 1520 Units'	08:00	09:00	01:00	
6: 'PM 2030 Assessment - 1520 Units'	16:15	17:15	01:00	
7: 'AM 2040 Base'	08:00	09:00	01:00	
8: 'PM 2040 Base'	16:15	17:15	01:00	
9: 'AM 2040 Assessment - 1520 Units'	08:00	09:00	01:00	
10: 'PM 2040 Assessment - 1520 Units'	16:15	17:15	01:00	

Scenario 1: 'AM 2030 Base' (FG3: 'AM 2030 Base', Plan 1: 'AM Control Plan')

Traffic Flows, Desired

Desired Flow :

	Destination					
		A	B	C	D	Tot.
Origin	A	0	300	0	294	594
	B	149	0	100	558	807
	C	0	452	0	253	705
	D	354	950	237	0	1541
	Tot.	503	1702	337	1105	3647

Traffic Lane Flows

Lane	Scenario 1: AM 2030 Base
Junction: A525 Ruthin Road Junction	
1/1	300
1/2	294
2/1 (with short)	807(In) 658(Out)
2/2 (short)	149
3/1	253
3/2	452
4/1	354
4/2 (with short)	1187(In) 950(Out)
4/3 (short)	237
5/1	852
5/2	149
6/1	1402
6/2	237
7/1	503
8/1	1702
9/1	337
10/1	1105

Full Input Data And Results

Lane Saturation Flows

Junction: A525 Ruthin Road Junction								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (A483 Off-slip SB)	3.00	2.00	Y	Arm 8 Left	20.00	100.0 %	1703	1703
1/2 (A483 Off-slip SB)	3.00	2.00	N	Arm 5 Right	15.00	100.0 %	1792	1792
				Arm 9 Ahead	Inf	0.0 %		
2/1 (A525 WB Approach)	3.00	0.00	Y	Arm 5 Ahead	Inf	84.8 %	1893	1893
				Arm 9 Left	20.00	15.2 %		
2/2 (A525 WB Approach Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
3/1 (A483 Off-slip NB)	3.00	2.00	Y	Arm 7 Ahead	Inf	0.0 %	1703	1703
				Arm 10 Left	20.00	100.0 %		
3/2 (A483 Off-slip NB)	3.00	2.00	N	Arm 6 Right	10.00	100.0 %	1714	1714
4/1 (A525 EB Approach)	3.00	0.00	Y	Arm 7 Left	20.00	100.0 %	1781	1781
4/2 (A525 EB Approach Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
4/3 (A525 EB Approach Lane 3)	This lane uses a directly entered Saturation Flow						1900	1900
5/1 (Bridge WB Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
5/2 (Bridge WB)	3.25	0.00	Y	Arm 7 Right	15.00	100.0 %	1764	1764
6/1 (Bridge EB Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
6/2 (Bridge EB)	3.25	0.00	Y	Arm 9 Right	15.00	100.0 %	1764	1764
7/1 (A483 On-slip NB Lane 1)	Infinite Saturation Flow						Inf	Inf
8/1 (A525 EB Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
9/1 (A483 On-slip SB Lane 1)	Infinite Saturation Flow						Inf	Inf
10/1 (A525 WB Exit Lane 1)	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

Scenario 2: 'PM 2030 Base' (FG4: 'PM 2030 Base', Plan 2: 'PM Control Plan')

Traffic Flows, Desired

Desired Flow :

	Destination					
		A	B	C	D	Tot.
Origin	A	0	225	0	544	769
	B	142	0	197	929	1268
	C	0	132	0	338	470
	D	326	407	230	0	963
	Tot.	468	764	427	1811	3470

Traffic Lane Flows

Lane	Scenario 2: PM 2030 Base
Junction: A525 Ruthin Road Junction	
1/1	225
1/2	544
2/1 (with short)	1268(In) 1126(Out)
2/2 (short)	142
3/1	338
3/2	132
4/1	326
4/2 (with short)	637(In) 407(Out)
4/3 (short)	230
5/1	1473
5/2	142
6/1	539
6/2	230
7/1	468
8/1	764
9/1	427
10/1	1811

Full Input Data And Results

Lane Saturation Flows

Junction: A525 Ruthin Road Junction								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (A483 Off-slip SB)	3.00	2.00	Y	Arm 8 Left	20.00	100.0 %	1703	1703
1/2 (A483 Off-slip SB)	3.00	2.00	N	Arm 5 Right	15.00	100.0 %	1792	1792
				Arm 9 Ahead	Inf	0.0 %		
2/1 (A525 WB Approach)	3.00	0.00	Y	Arm 5 Ahead	Inf	82.5 %	1890	1890
				Arm 9 Left	20.00	17.5 %		
2/2 (A525 WB Approach Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
3/1 (A483 Off-slip NB)	3.00	2.00	Y	Arm 7 Ahead	Inf	0.0 %	1703	1703
				Arm 10 Left	20.00	100.0 %		
3/2 (A483 Off-slip NB)	3.00	2.00	N	Arm 6 Right	10.00	100.0 %	1714	1714
4/1 (A525 EB Approach)	3.00	0.00	Y	Arm 7 Left	20.00	100.0 %	1781	1781
4/2 (A525 EB Approach Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
4/3 (A525 EB Approach Lane 3)	This lane uses a directly entered Saturation Flow						1900	1900
5/1 (Bridge WB Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
5/2 (Bridge WB)	3.25	0.00	Y	Arm 7 Right	15.00	100.0 %	1764	1764
6/1 (Bridge EB Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
6/2 (Bridge EB)	3.25	0.00	Y	Arm 9 Right	15.00	100.0 %	1764	1764
7/1 (A483 On-slip NB Lane 1)	Infinite Saturation Flow						Inf	Inf
8/1 (A525 EB Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
9/1 (A483 On-slip SB Lane 1)	Infinite Saturation Flow						Inf	Inf
10/1 (A525 WB Exit Lane 1)	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

Scenario 3: 'AM 2030 Assessment - 1520 Units' (FG5: 'AM 2030 Assessment - 1520 Units', Plan 1: 'AM Control Plan')

Traffic Flows, Desired

Desired Flow :

	Destination					
		A	B	C	D	Tot.
Origin	A	0	362	0	294	656
	B	401	0	170	575	1146
	C	0	469	0	253	722
	D	354	954	237	0	1545
	Tot.	755	1785	407	1122	4069

Traffic Lane Flows

Lane	Scenario 3: AM 2030 Assessment - 1520 Units
Junction: A525 Ruthin Road Junction	
1/1	362
1/2	294
2/1 (with short)	1146(In) 745(Out)
2/2 (short)	401
3/1	253
3/2	469
4/1	354
4/2 (with short)	1191(In) 954(Out)
4/3 (short)	237
5/1	869
5/2	401
6/1	1423
6/2	237
7/1	755
8/1	1785
9/1	407
10/1	1122

Full Input Data And Results

Lane Saturation Flows

Junction: A525 Ruthin Road Junction								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (A483 Off-slip SB)	3.00	2.00	Y	Arm 8 Left	20.00	100.0 %	1703	1703
1/2 (A483 Off-slip SB)	3.00	2.00	N	Arm 5 Right	15.00	100.0 %	1792	1792
				Arm 9 Ahead	Inf	0.0 %		
2/1 (A525 WB Approach)	3.00	0.00	Y	Arm 5 Ahead	Inf	77.2 %	1883	1883
				Arm 9 Left	20.00	22.8 %		
2/2 (A525 WB Approach Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
3/1 (A483 Off-slip NB)	3.00	2.00	Y	Arm 7 Ahead	Inf	0.0 %	1703	1703
				Arm 10 Left	20.00	100.0 %		
3/2 (A483 Off-slip NB)	3.00	2.00	N	Arm 6 Right	10.00	100.0 %	1714	1714
4/1 (A525 EB Approach)	3.00	0.00	Y	Arm 7 Left	20.00	100.0 %	1781	1781
4/2 (A525 EB Approach Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
4/3 (A525 EB Approach Lane 3)	This lane uses a directly entered Saturation Flow						1900	1900
5/1 (Bridge WB Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
5/2 (Bridge WB)	3.25	0.00	Y	Arm 7 Right	15.00	100.0 %	1764	1764
6/1 (Bridge EB Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
6/2 (Bridge EB)	3.25	0.00	Y	Arm 9 Right	15.00	100.0 %	1764	1764
7/1 (A483 On-slip NB Lane 1)	Infinite Saturation Flow						Inf	Inf
8/1 (A525 EB Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
9/1 (A483 On-slip SB Lane 1)	Infinite Saturation Flow						Inf	Inf
10/1 (A525 WB Exit Lane 1)	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

Scenario 4: 'PM 2030 Assessment - 1520 Units' (FG6: 'PM 2030 Assessment - 1520 Units', Plan 2: 'PM Control Plan')

Traffic Flows, Desired

Desired Flow :

	Destination					
		A	B	C	D	Tot.
Origin	A	0	435	0	544	979
	B	235	0	222	935	1392
	C	0	190	0	338	528
	D	326	421	230	0	977
	Tot.	561	1046	452	1817	3876

Traffic Lane Flows

Lane	Scenario 4: PM 2030 Assessment - 1520 Units
Junction: A525 Ruthin Road Junction	
1/1	435
1/2	544
2/1 (with short)	1392(In) 1157(Out)
2/2 (short)	235
3/1	338
3/2	190
4/1	326
4/2 (with short)	651(In) 421(Out)
4/3 (short)	230
5/1	1479
5/2	235
6/1	611
6/2	230
7/1	561
8/1	1046
9/1	452
10/1	1817

Full Input Data And Results

Lane Saturation Flows

Junction: A525 Ruthin Road Junction								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (A483 Off-slip SB)	3.00	2.00	Y	Arm 8 Left	20.00	100.0 %	1703	1703
1/2 (A483 Off-slip SB)	3.00	2.00	N	Arm 5 Right	15.00	100.0 %	1792	1792
				Arm 9 Ahead	Inf	0.0 %		
2/1 (A525 WB Approach)	3.00	0.00	Y	Arm 5 Ahead	Inf	80.8 %	1888	1888
				Arm 9 Left	20.00	19.2 %		
2/2 (A525 WB Approach Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
3/1 (A483 Off-slip NB)	3.00	2.00	Y	Arm 7 Ahead	Inf	0.0 %	1703	1703
				Arm 10 Left	20.00	100.0 %		
3/2 (A483 Off-slip NB)	3.00	2.00	N	Arm 6 Right	10.00	100.0 %	1714	1714
4/1 (A525 EB Approach)	3.00	0.00	Y	Arm 7 Left	20.00	100.0 %	1781	1781
4/2 (A525 EB Approach Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
4/3 (A525 EB Approach Lane 3)	This lane uses a directly entered Saturation Flow						1900	1900
5/1 (Bridge WB Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
5/2 (Bridge WB)	3.25	0.00	Y	Arm 7 Right	15.00	100.0 %	1764	1764
6/1 (Bridge EB Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
6/2 (Bridge EB)	3.25	0.00	Y	Arm 9 Right	15.00	100.0 %	1764	1764
7/1 (A483 On-slip NB Lane 1)	Infinite Saturation Flow						Inf	Inf
8/1 (A525 EB Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
9/1 (A483 On-slip SB Lane 1)	Infinite Saturation Flow						Inf	Inf
10/1 (A525 WB Exit Lane 1)	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

Scenario 5: 'AM 2040 Base' (FG7: 'AM 2040 Base', Plan 1: 'AM Control Plan')

Traffic Flows, Desired

Desired Flow :

	Destination					
		A	B	C	D	Tot.
Origin	A	0	334	0	325	659
	B	165	0	112	617	894
	C	0	503	0	281	784
	D	391	1050	263	0	1704
	Tot.	556	1887	375	1223	4041

Traffic Lane Flows

Lane	Scenario 5: AM 2040 Base
Junction: A525 Ruthin Road Junction	
1/1	334
1/2	325
2/1 (with short)	894(In) 729(Out)
2/2 (short)	165
3/1	281
3/2	503
4/1	391
4/2 (with short)	1313(In) 1050(Out)
4/3 (short)	263
5/1	942
5/2	165
6/1	1553
6/2	263
7/1	556
8/1	1887
9/1	375
10/1	1223

Full Input Data And Results

Lane Saturation Flows

Junction: A525 Ruthin Road Junction								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (A483 Off-slip SB)	3.00	2.00	Y	Arm 8 Left	20.00	100.0 %	1703	1703
1/2 (A483 Off-slip SB)	3.00	2.00	N	Arm 5 Right	15.00	100.0 %	1792	1792
				Arm 9 Ahead	Inf	0.0 %		
2/1 (A525 WB Approach)	3.00	0.00	Y	Arm 5 Ahead	Inf	84.6 %	1893	1893
				Arm 9 Left	20.00	15.4 %		
2/2 (A525 WB Approach Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
3/1 (A483 Off-slip NB)	3.00	2.00	Y	Arm 7 Ahead	Inf	0.0 %	1703	1703
				Arm 10 Left	20.00	100.0 %		
3/2 (A483 Off-slip NB)	3.00	2.00	N	Arm 6 Right	10.00	100.0 %	1714	1714
4/1 (A525 EB Approach)	3.00	0.00	Y	Arm 7 Left	20.00	100.0 %	1781	1781
4/2 (A525 EB Approach Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
4/3 (A525 EB Approach Lane 3)	This lane uses a directly entered Saturation Flow						1900	1900
5/1 (Bridge WB Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
5/2 (Bridge WB)	3.25	0.00	Y	Arm 7 Right	15.00	100.0 %	1764	1764
6/1 (Bridge EB Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
6/2 (Bridge EB)	3.25	0.00	Y	Arm 9 Right	15.00	100.0 %	1764	1764
7/1 (A483 On-slip NB Lane 1)	Infinite Saturation Flow						Inf	Inf
8/1 (A525 EB Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
9/1 (A483 On-slip SB Lane 1)	Infinite Saturation Flow						Inf	Inf
10/1 (A525 WB Exit Lane 1)	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

Scenario 6: 'PM 2040 Base' (FG8: 'PM 2040 Base', Plan 2: 'PM Control Plan')

Traffic Flows, Desired

Desired Flow :

	Destination					
		A	B	C	D	Tot.
Origin	A	0	251	0	604	855
	B	158	0	219	1028	1405
	C	0	147	0	376	523
	D	361	450	256	0	1067
	Tot.	519	848	475	2008	3850

Traffic Lane Flows

Lane	Scenario 6: PM 2040 Base
Junction: A525 Ruthin Road Junction	
1/1	251
1/2	604
2/1 (with short)	1405(In) 1247(Out)
2/2 (short)	158
3/1	376
3/2	147
4/1	361
4/2 (with short)	706(In) 450(Out)
4/3 (short)	256
5/1	1632
5/2	158
6/1	597
6/2	256
7/1	519
8/1	848
9/1	475
10/1	2008

Full Input Data And Results

Lane Saturation Flows

Junction: A525 Ruthin Road Junction								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (A483 Off-slip SB)	3.00	2.00	Y	Arm 8 Left	20.00	100.0 %	1703	1703
1/2 (A483 Off-slip SB)	3.00	2.00	N	Arm 5 Right	15.00	100.0 %	1792	1792
				Arm 9 Ahead	Inf	0.0 %		
2/1 (A525 WB Approach)	3.00	0.00	Y	Arm 5 Ahead	Inf	82.4 %	1890	1890
				Arm 9 Left	20.00	17.6 %		
2/2 (A525 WB Approach Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
3/1 (A483 Off-slip NB)	3.00	2.00	Y	Arm 7 Ahead	Inf	0.0 %	1703	1703
				Arm 10 Left	20.00	100.0 %		
3/2 (A483 Off-slip NB)	3.00	2.00	N	Arm 6 Right	10.00	100.0 %	1714	1714
4/1 (A525 EB Approach)	3.00	0.00	Y	Arm 7 Left	20.00	100.0 %	1781	1781
4/2 (A525 EB Approach Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
4/3 (A525 EB Approach Lane 3)	This lane uses a directly entered Saturation Flow						1900	1900
5/1 (Bridge WB Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
5/2 (Bridge WB)	3.25	0.00	Y	Arm 7 Right	15.00	100.0 %	1764	1764
6/1 (Bridge EB Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
6/2 (Bridge EB)	3.25	0.00	Y	Arm 9 Right	15.00	100.0 %	1764	1764
7/1 (A483 On-slip NB Lane 1)	Infinite Saturation Flow						Inf	Inf
8/1 (A525 EB Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
9/1 (A483 On-slip SB Lane 1)	Infinite Saturation Flow						Inf	Inf
10/1 (A525 WB Exit Lane 1)	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

Scenario 7: 'AM 2040 Assessment - 1520 Units' (FG9: 'AM 2040 Assessment - 1520 Units', Plan 1: 'AM Control Plan')

Traffic Flows, Desired

Desired Flow :

	Destination					
		A	B	C	D	Tot.
Origin	A	0	396	0	325	721
	B	418	0	181	634	1233
	C	0	520	0	281	801
	D	391	1054	263	0	1708
	Tot.	809	1970	444	1240	4463

Traffic Lane Flows

Lane	Scenario 7: AM 2040 Assessment - 1520 Units
Junction: A525 Ruthin Road Junction	
1/1	396
1/2	325
2/1 (with short)	1233(In) 815(Out)
2/2 (short)	418
3/1	281
3/2	520
4/1	391
4/2 (with short)	1317(In) 1054(Out)
4/3 (short)	263
5/1	959
5/2	418
6/1	1574
6/2	263
7/1	809
8/1	1970
9/1	444
10/1	1240

Full Input Data And Results

Lane Saturation Flows

Junction: A525 Ruthin Road Junction								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (A483 Off-slip SB)	3.00	2.00	Y	Arm 8 Left	20.00	100.0 %	1703	1703
1/2 (A483 Off-slip SB)	3.00	2.00	N	Arm 5 Right	15.00	100.0 %	1792	1792
				Arm 9 Ahead	Inf	0.0 %		
2/1 (A525 WB Approach)	3.00	0.00	Y	Arm 5 Ahead	Inf	77.8 %	1884	1884
				Arm 9 Left	20.00	22.2 %		
2/2 (A525 WB Approach Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
3/1 (A483 Off-slip NB)	3.00	2.00	Y	Arm 7 Ahead	Inf	0.0 %	1703	1703
				Arm 10 Left	20.00	100.0 %		
3/2 (A483 Off-slip NB)	3.00	2.00	N	Arm 6 Right	10.00	100.0 %	1714	1714
4/1 (A525 EB Approach)	3.00	0.00	Y	Arm 7 Left	20.00	100.0 %	1781	1781
4/2 (A525 EB Approach Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
4/3 (A525 EB Approach Lane 3)	This lane uses a directly entered Saturation Flow						1900	1900
5/1 (Bridge WB Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
5/2 (Bridge WB)	3.25	0.00	Y	Arm 7 Right	15.00	100.0 %	1764	1764
6/1 (Bridge EB Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
6/2 (Bridge EB)	3.25	0.00	Y	Arm 9 Right	15.00	100.0 %	1764	1764
7/1 (A483 On-slip NB Lane 1)	Infinite Saturation Flow						Inf	Inf
8/1 (A525 EB Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
9/1 (A483 On-slip SB Lane 1)	Infinite Saturation Flow						Inf	Inf
10/1 (A525 WB Exit Lane 1)	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

Scenario 8: 'PM 2040 Assessment - 1520 Units' (FG10: 'PM 2040 Assessment - 1520 Units', Plan 2: 'PM Control Plan')

Traffic Flows, Desired

Desired Flow :

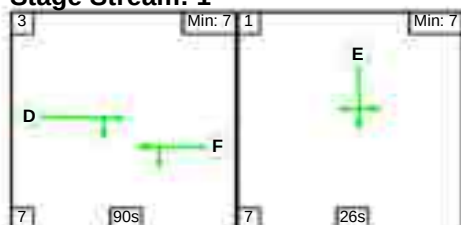
	Destination					
		A	B	C	D	Tot.
Origin	A	0	460	0	604	1064
	B	251	0	245	1034	1530
	C	0	205	0	376	581
	D	361	464	256	0	1081
	Tot.	612	1129	501	2014	4256

Traffic Lane Flows

Lane	Scenario 8: PM 2040 Assessment - 1520 Units
Junction: A525 Ruthin Road Junction	
1/1	460
1/2	604
2/1 (with short)	1530(In) 1279(Out)
2/2 (short)	251
3/1	376
3/2	205
4/1	361
4/2 (with short)	720(In) 464(Out)
4/3 (short)	256
5/1	1638
5/2	251
6/1	669
6/2	256
7/1	612
8/1	1129
9/1	501
10/1	2014

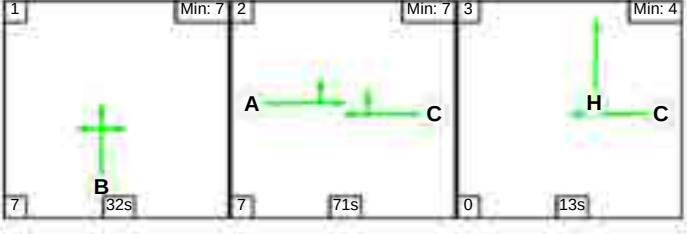
Lane Saturation Flows

Junction: A525 Ruthin Road Junction								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (A483 Off-slip SB)	3.00	2.00	Y	Arm 8 Left	20.00	100.0 %	1703	1703
1/2 (A483 Off-slip SB)	3.00	2.00	N	Arm 5 Right	15.00	100.0 %	1792	1792
				Arm 9 Ahead	Inf	0.0 %		
2/1 (A525 WB Approach)	3.00	0.00	Y	Arm 5 Ahead	Inf	80.8 %	1888	1888
				Arm 9 Left	20.00	19.2 %		
2/2 (A525 WB Approach Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
3/1 (A483 Off-slip NB)	3.00	2.00	Y	Arm 7 Ahead	Inf	0.0 %	1703	1703
				Arm 10 Left	20.00	100.0 %		
3/2 (A483 Off-slip NB)	3.00	2.00	N	Arm 6 Right	10.00	100.0 %	1714	1714
4/1 (A525 EB Approach)	3.00	0.00	Y	Arm 7 Left	20.00	100.0 %	1781	1781
4/2 (A525 EB Approach Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
4/3 (A525 EB Approach Lane 3)	This lane uses a directly entered Saturation Flow						1900	1900
5/1 (Bridge WB Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
5/2 (Bridge WB)	3.25	0.00	Y	Arm 7 Right	15.00	100.0 %	1764	1764
6/1 (Bridge EB Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
6/2 (Bridge EB)	3.25	0.00	Y	Arm 9 Right	15.00	100.0 %	1764	1764
7/1 (A483 On-slip NB Lane 1)	Infinite Saturation Flow						Inf	Inf
8/1 (A525 EB Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
9/1 (A483 On-slip SB Lane 1)	Infinite Saturation Flow						Inf	Inf
10/1 (A525 WB Exit Lane 1)	Infinite Saturation Flow						Inf	Inf

Scenario 1: 'AM 2030 Base' (FG3: 'AM 2030 Base', Plan 1: 'AM Control Plan')**Stage Sequence Diagram****Stage Stream: 1**

Full Input Data And Results

Stage Stream: 2



Stage Timings

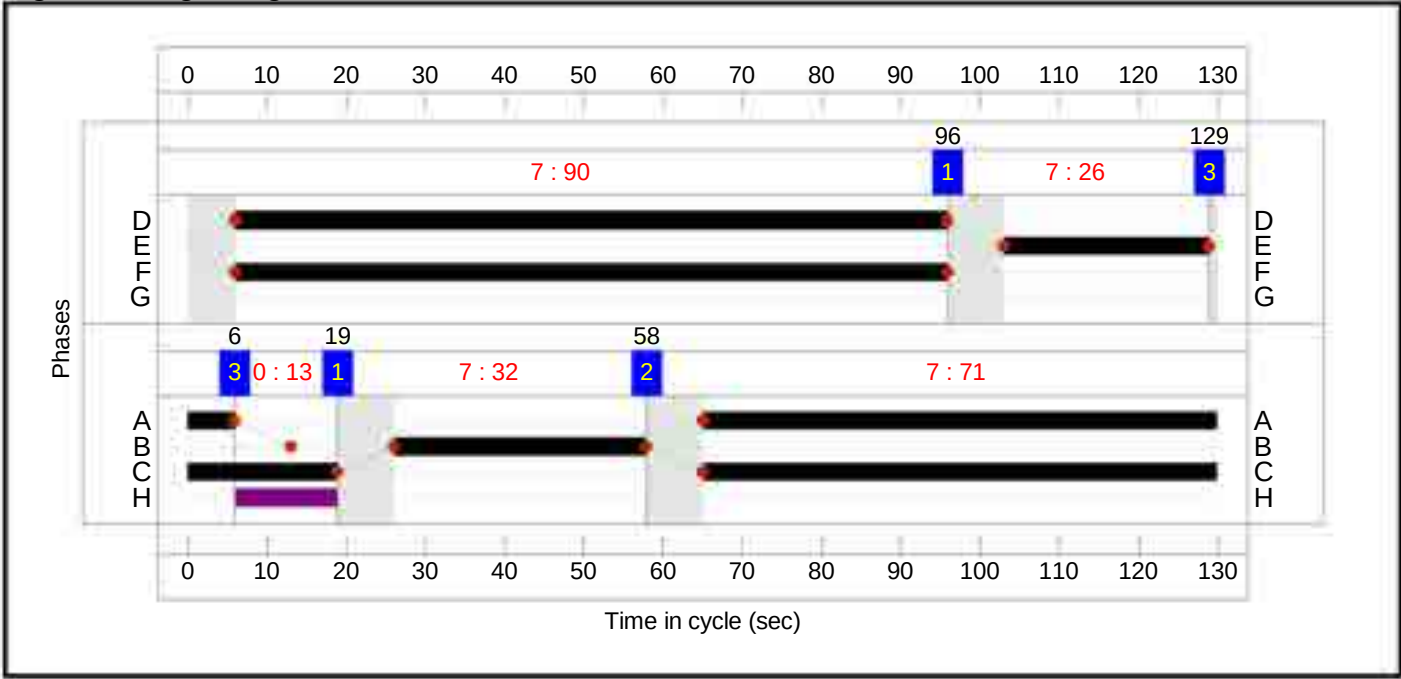
Stage Stream: 1

Stage	3	1
Duration	90	26
Change Point	129	96

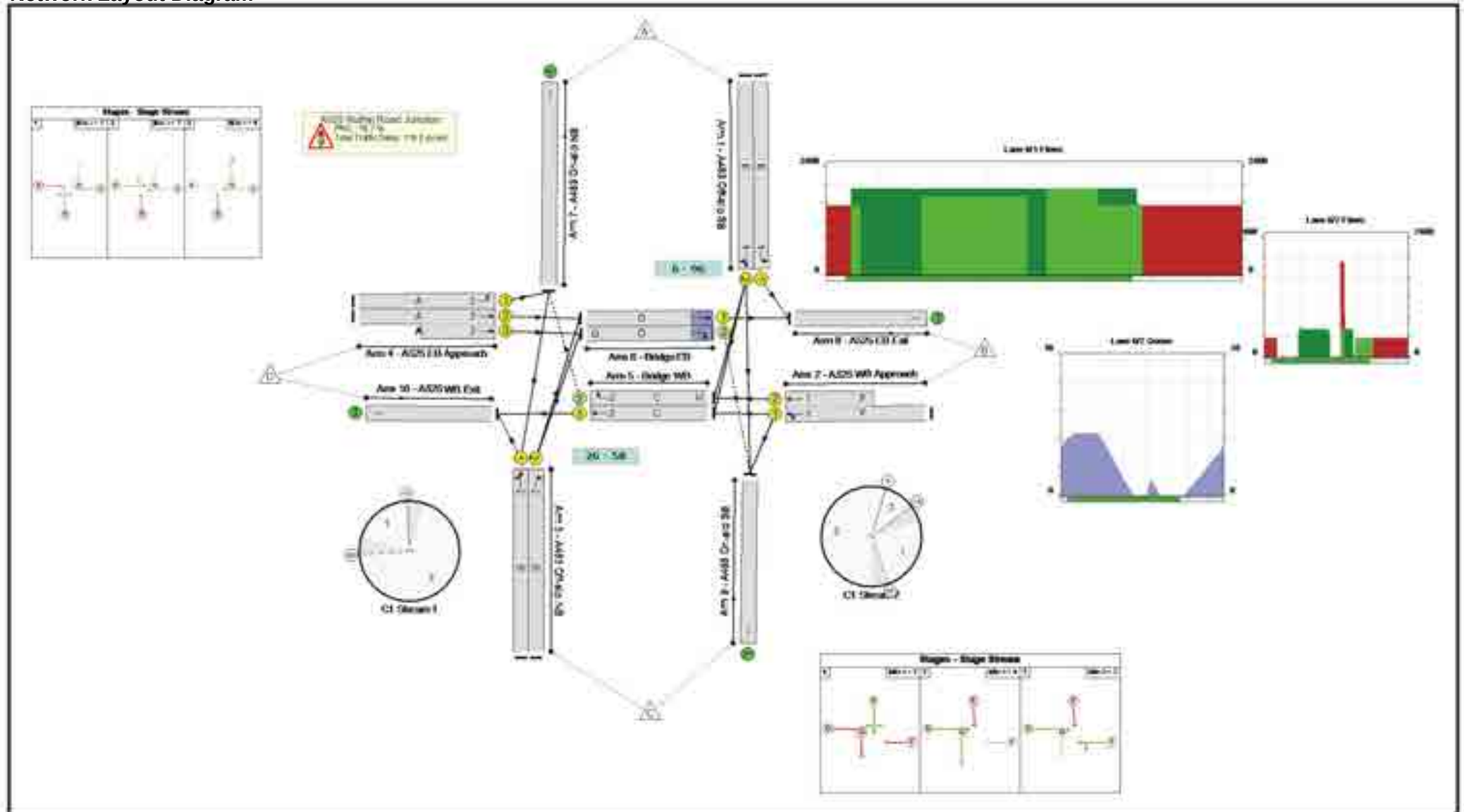
Stage Stream: 2

Stage	1	2	3
Duration	32	71	13
Change Point	19	58	6

Signal Timings Diagram



Full Input Data And Results Network Layout Diagram



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: A483 / A525 Linsig Model	-	-	N/A	-	-		-	-	-	-	-	-	106.8%
A525 Ruthin Road Junction	-	-	N/A	-	-		-	-	-	-	-	-	106.8%
1/1	A483 Off-slip SB Left	U	1	N/A	E		1	26	-	300	1703	354	84.8%
1/2	A483 Off-slip SB Right Ahead	U	1	N/A	E		1	26	-	294	1792	372	79.0%
2/1+2/2	A525 WB Approach Ahead Left	U	1	N/A	F		1	90	-	807	1893:1900	1136+257	57.9 : 57.9%
3/1	A483 Off-slip NB Ahead Left	U	2	N/A	B		1	32	-	253	1703	432	58.5%
3/2	A483 Off-slip NB Right	U	2	N/A	B		1	32	-	452	1714	435	103.9%
4/1	A525 EB Approach Left	U	2	N/A	A		1	71	-	354	1781	986	35.9%
4/2+4/3	A525 EB Approach Ahead	U	2	N/A	A		1	71	-	1187	1900:1900	889+222	106.8 : 106.8%
5/1	Bridge WB Ahead	U	2	N/A	C		1	84	-	852	1900	1242	68.6%
5/2	Bridge WB Right	O	2	N/A	C	H	1	84	13	149	1764	149	99.7%
6/1	Bridge EB Ahead	U	1	N/A	D		1	90	-	1402	1900	1330	99.6%
6/2	Bridge EB Right	O	1	N/A	D	G	1	90	0	237	1764	295	75.1%
7/1	A483 On-slip NB	U	N/A	N/A	-		-	-	-	503	Inf	Inf	0.0%
8/1	A525 EB Exit	U	N/A	N/A	-		-	-	-	1702	Inf	Inf	0.0%
9/1	A483 On-slip SB	U	N/A	N/A	-		-	-	-	337	Inf	Inf	0.0%
10/1	A525 WB Exit	U	N/A	N/A	-		-	-	-	1105	Inf	Inf	0.0%