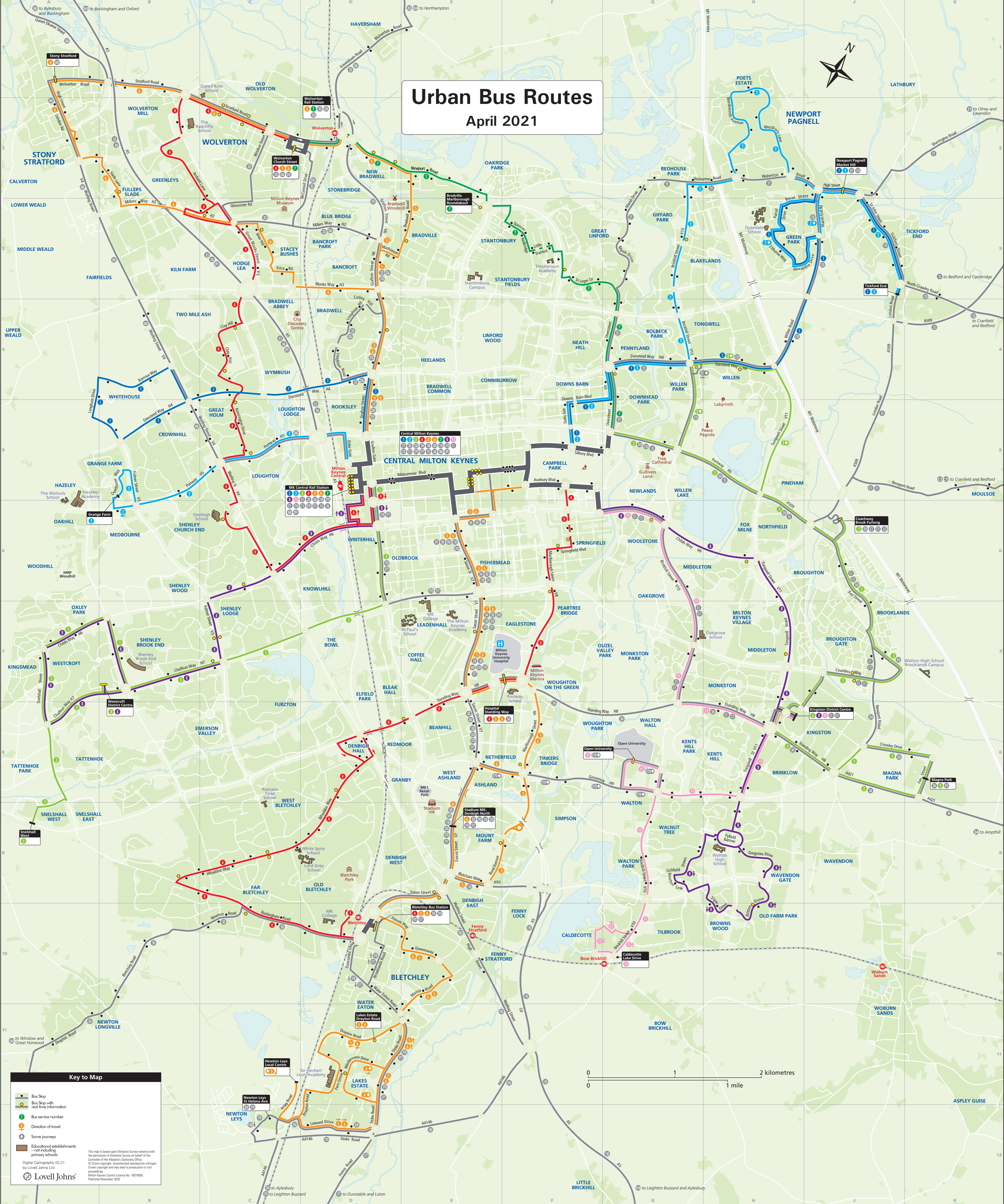


Appendix 7 – MKC Bus Map

Urban Bus Routes

April 2021



Key to Map

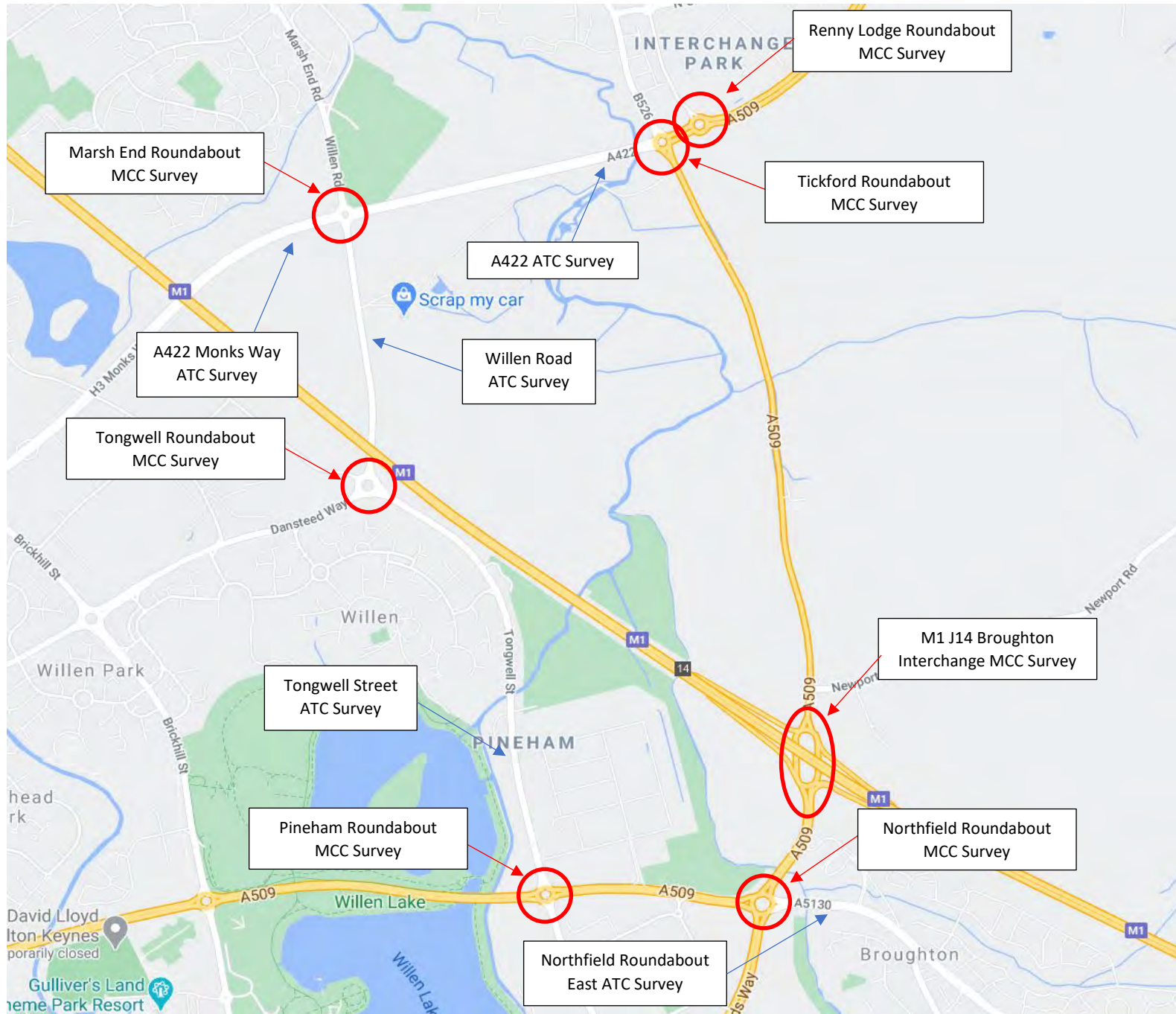
- Bus Stop
- Bus Stop with real time information
- Bus service number
- Direction of travel
- Some journeys
- Educational establishments - not including primary schools

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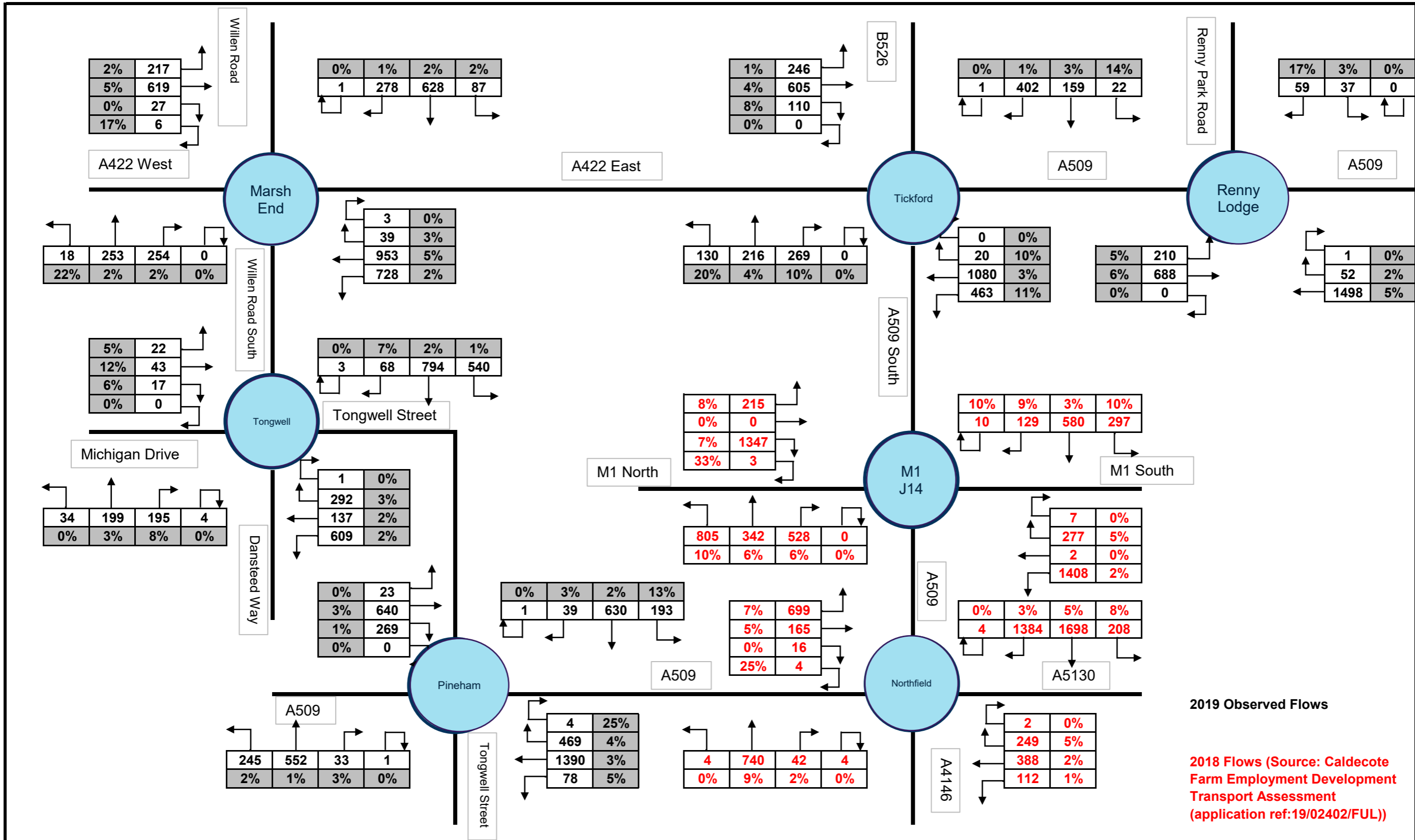
INDEX TO PLACES SERVED

Grid	Destination	Service	Grid	Destination	Service	Grid	Destination	Service	Grid	Destination	Service	Grid	Destination	Service
E8	Ashland	5, 6, 100, 150, 310, F70	J6	Coachway	3, 310, C1, C11, X5	E4	Heelands	5, 6, 33, 33A, 310	K5	Moulsoe	C1, C11	B7	Shenley Brook End	8A
D3	Bancroft	5, 6, 33/33A, 310	E7	Coffee Hall	4, 5, 6, 34, 50, 150, 310, F70	C3	Hodge Lea	4, 6	E9	Mount Farm	5, 6, 50, 100, 150, 310, F70, F77	B6	Shenley Church End	2, 8A
E8	Beanhill	4, 50, 100, 150, 310, F70	B5	Crownhill	2	G8	Kents Hill	310, F70, F77	F4	Neath Hill	2, 7, 21	A7	Westcroft	8A
G3	Blakelands	2, 21	E10	Denbigh East	5, 6, 150, F70	B3	Kiln Farm	6, 34	H8	Netherfield	4, 5, 6, 34, 50, 100, 310, F70	B6	Shenley Wood	8A
D7	Bleak Hall	1, 2, 7, 21	G4	Downhead Park	1, 2, 7, 21	H8	Kingston	3, 8A, 34, C1, C11	F9	Simpson	5, 7, 310	G4	Willen Park	3, 8A, 11
D10	Bletchley	4, 5, 6, 50, 310, F77	F4	Downs Barn	1, 2, 7, 21	D6	Knowhill	8A	C6	Springfield	5, 7, 310	C2	Wolverton	4, 5, 6, 7, 33/33A
D3	Blue Bridge	33/33A	K9	Eagle Farm	3	D11	Lakes Estate	5, 6, F77	G3	Stacey Bushes	4, 6	G6	Woolstone	8A, 11, C1, C11
G4	Bolbeck Park	1, 2, 21	F7	Eagleton	4, 5, 6, 34, 50, 100, 150, 310, F70	E7	Leadenhall	5, 6, 33, 34, 50, 100, 150, 310, F70	E8	Stadium MK (MK Dons FC)	6, 50, 100, 150, 310, F70, F77	B4	Two Mile Ash	4
E3	Bradville	5, 7, 33/33A, 310	C8	Emerson Valley	8A	C5	Loughton	2, 4, 8A	H6	Northfield	3, 8A, C10	E3	Stantonbury	7
D4	Bradwell	5, 6, 33/33A, 310	B9	Far Bletchley	2, 4, 8A	J8	Magna Park	3, 34, 310	A2	Stony Stratford	6, 8, 89	J3	Tickford End	1, 2, C10
E4	Bradwell Common	5, 6, 33/33A, 310	E10	Fenny Stratford	5, 100	B6	Medbourne	2	H10	Old Farm Park	8A	J3	Tickford End	1, 2, C10
H8	Brinklow	3, 8A, 34	E6	Fishermead	4, 5, 6, 34, 50, 100, 150, 310, F70	E6	Fishermead	4, 5, 6, 34, 50, 100, 150, 310, F70	H2	Oakridge Park	7	G10	Tilbrook	11
J6	Broughton	3, 8A, C1, C11	H6	Fox Milne	8A	H7	Middleton/MK Village	3, 8A, 11, 310, C1, C11	E6	Oldbrook	3, 5, 6, 34, 50, 100, 150, 310, F70	F8	Tinkers Bridge	5, 6
J7	Broughton Gate	3, 310, C1, C11	H10	Browns Wood	6	D5	Milton Keynes Central Rail Station	1, 2, 3, 4, 5, 6, 7, 8A, 11, 21, 33/33A, 100, 150, 310, C1, C10, C11, F70, X5, X6, X60, X91	G8	Open University	11, F77	H4	Tongwell	1, 2, 21
H10	Browns Wood	6	G3	Giffard Park	2, 21	G3	Giffard Park	2, 21	F7	Peartree Bridge	4	G9	Walnut Tree	8A, 11
F10	Caldecotte	11	C5	Loughton	2, 4, 8A	F5	Campbell Park	2, 4, 7	G4	Pennyland	1, 2, 7, 21	G9	Walton	11, F77
F5	Campbell Park	2, 4, 7	F3	Great Linford	7, 21	F3	Great Linford	7, 21	H2	Poets Estate	2	G8	Walton Hall	11, F77
E5	Central Milton Keynes	1, 2, 3, 4, 5, 6, 7, 8A, 11, 21, 33/33A, 34, 50, 150, 310, C1, C10, C11, F70, X5, X6, X60, X91	H3	Green Park	4, 5, 6	E7	Milton Keynes University Hospital	4, 5, 6	G2	Redhouse Park	2, 21	G9	Walton Park	11
			B2	Greenleys	4, 6	H7	Monkston	8A, 11, 34, C1, C11	E8	Redmoor	5, 6, F77	D1	Water Eaton	8A
			D1	Haversham	33/33A	G7	Monkston Park	11, C1, C11	D5	Rooksley	5, 6, 33/33A, 310	H9	Wavendon Gate	8A

Appendix 8 –Traffic Survey Locations Plan



Appendix 9 –Traffic Flow Diagrams

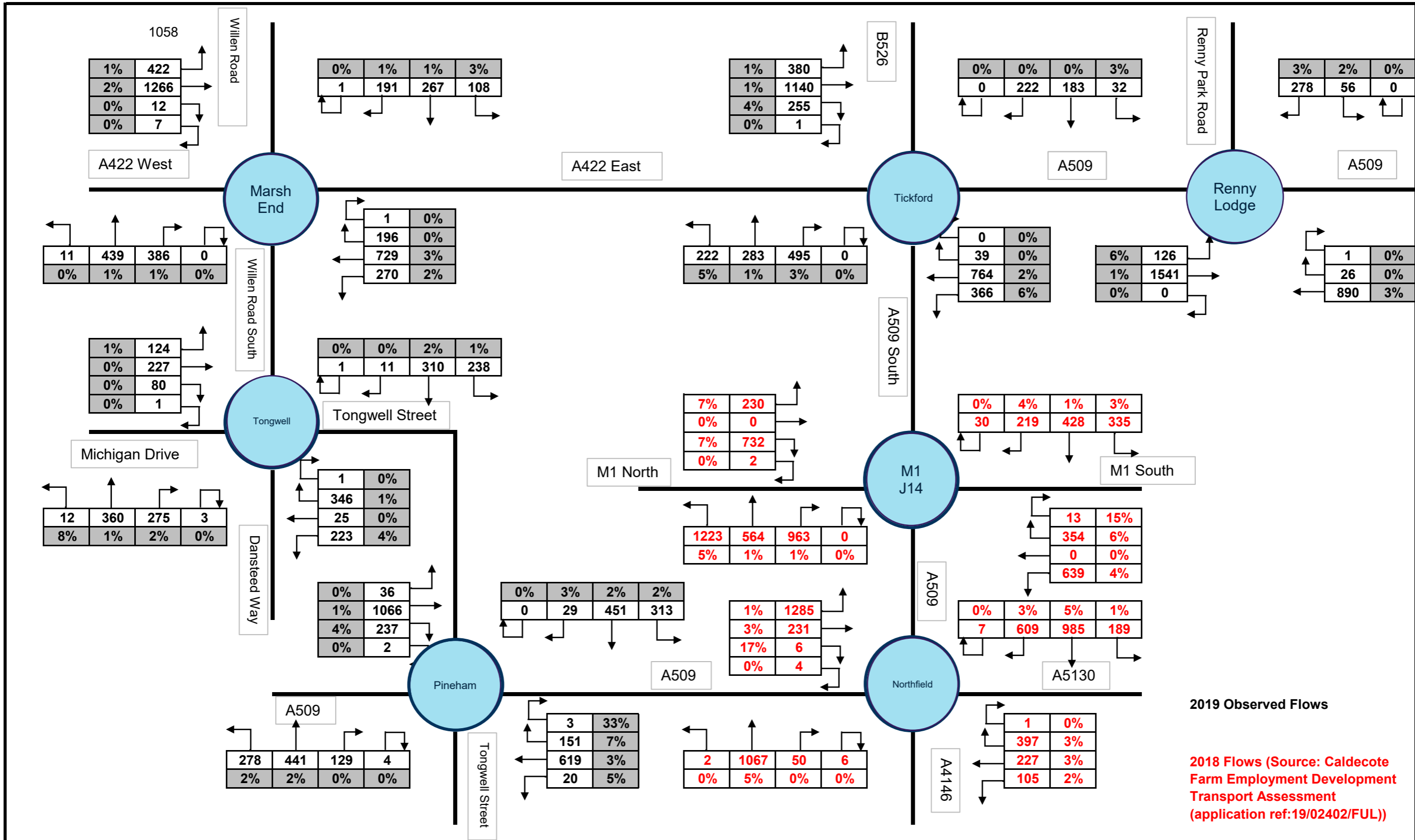


Notes

Transport and Engineering

Project Name: Newport Pagnell
Project Number: JNY10094
Title: 2018/2019 Observed Flows
 AM Peak: 08:00-09:00

Diagram Ref: TFD-01



2019 Observed Flows

2018 Flows (Source: Caldecote Farm Employment Development Transport Assessment (application ref:19/02402/FUL))

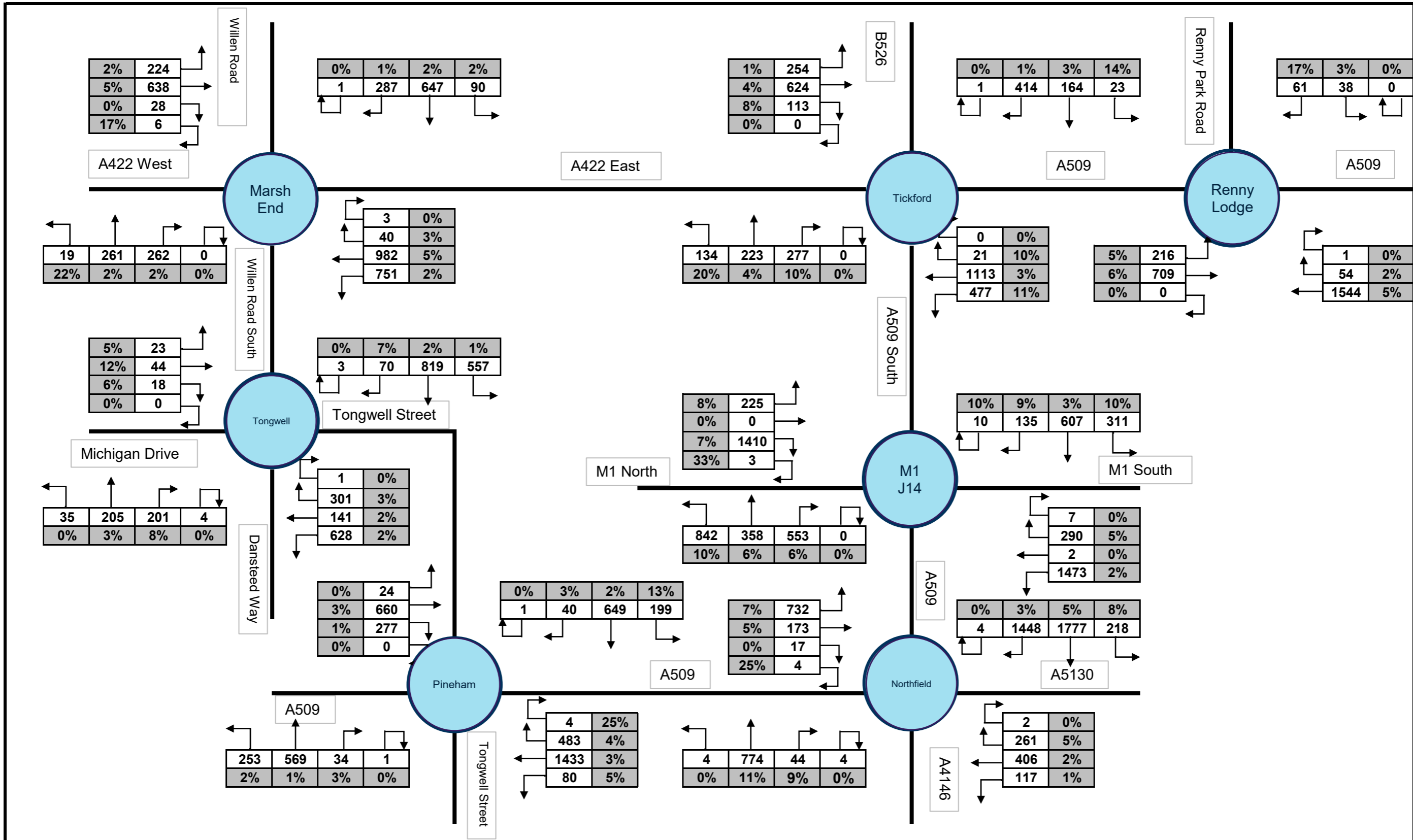


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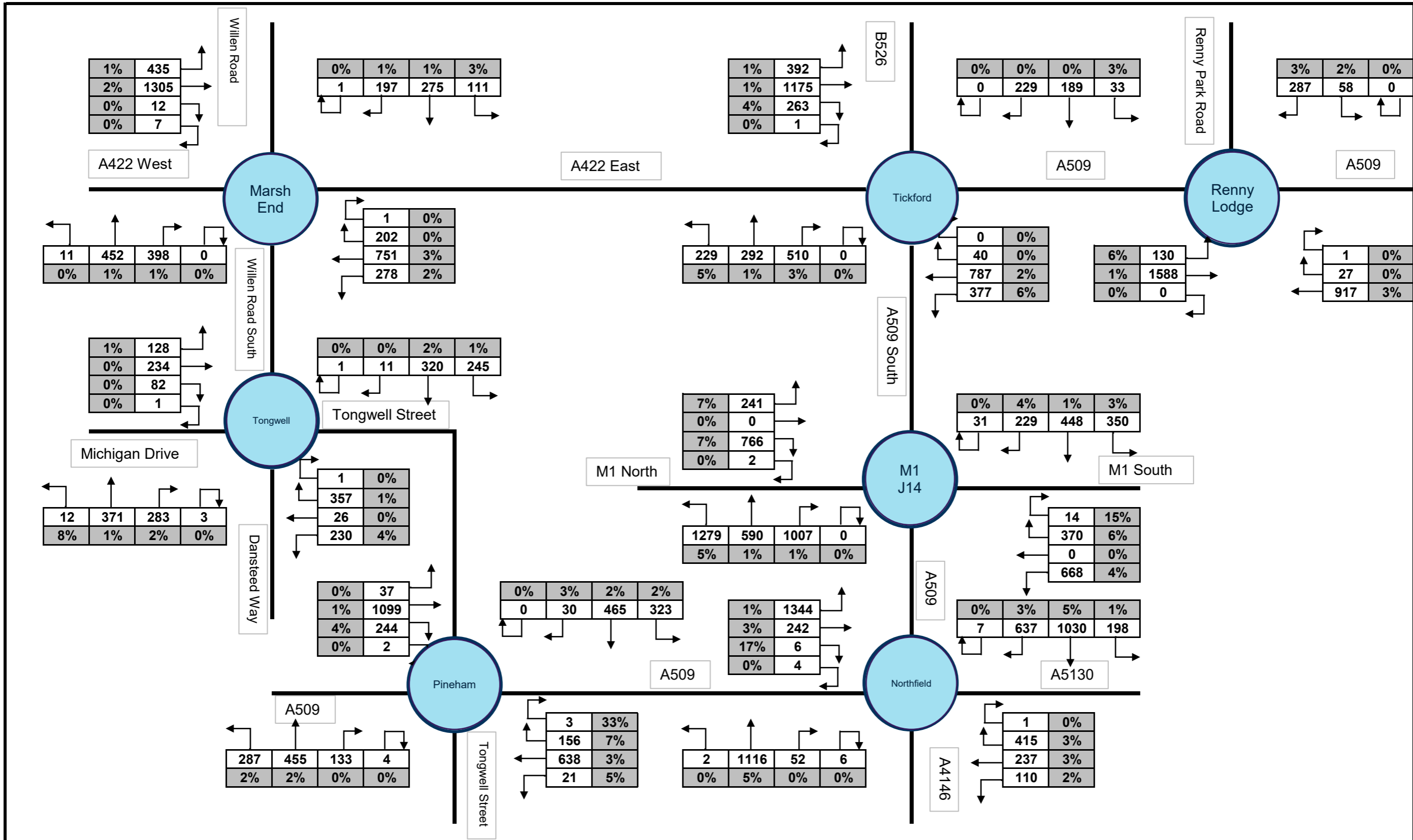
Transport and Engineering

Project Name: Newport Pagnell
 Project Number: JNY10094
 Title: 2018/2019 Observed Flows
 PM Peak: 17:00-18:00

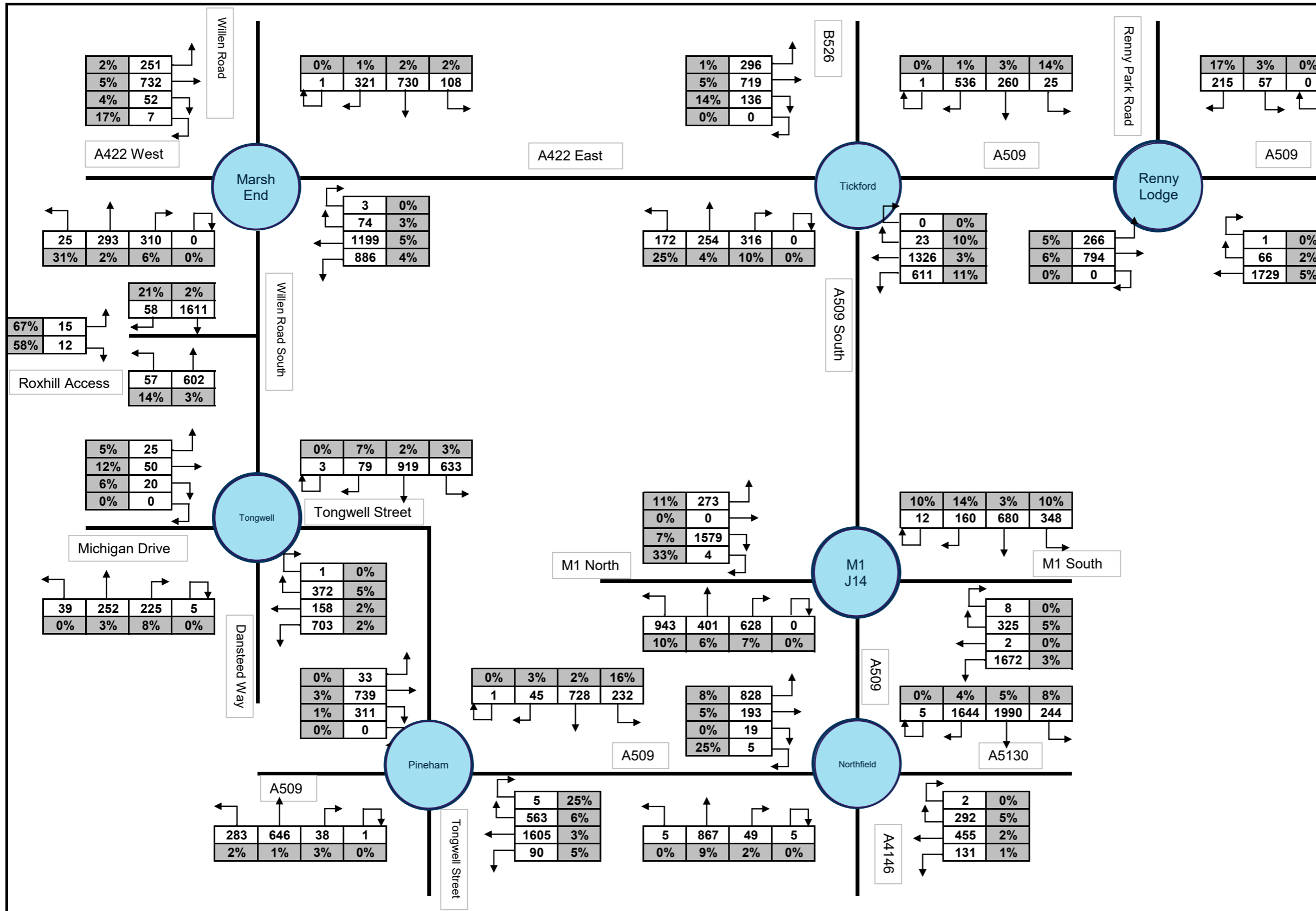
Diagram Ref: TFD-02



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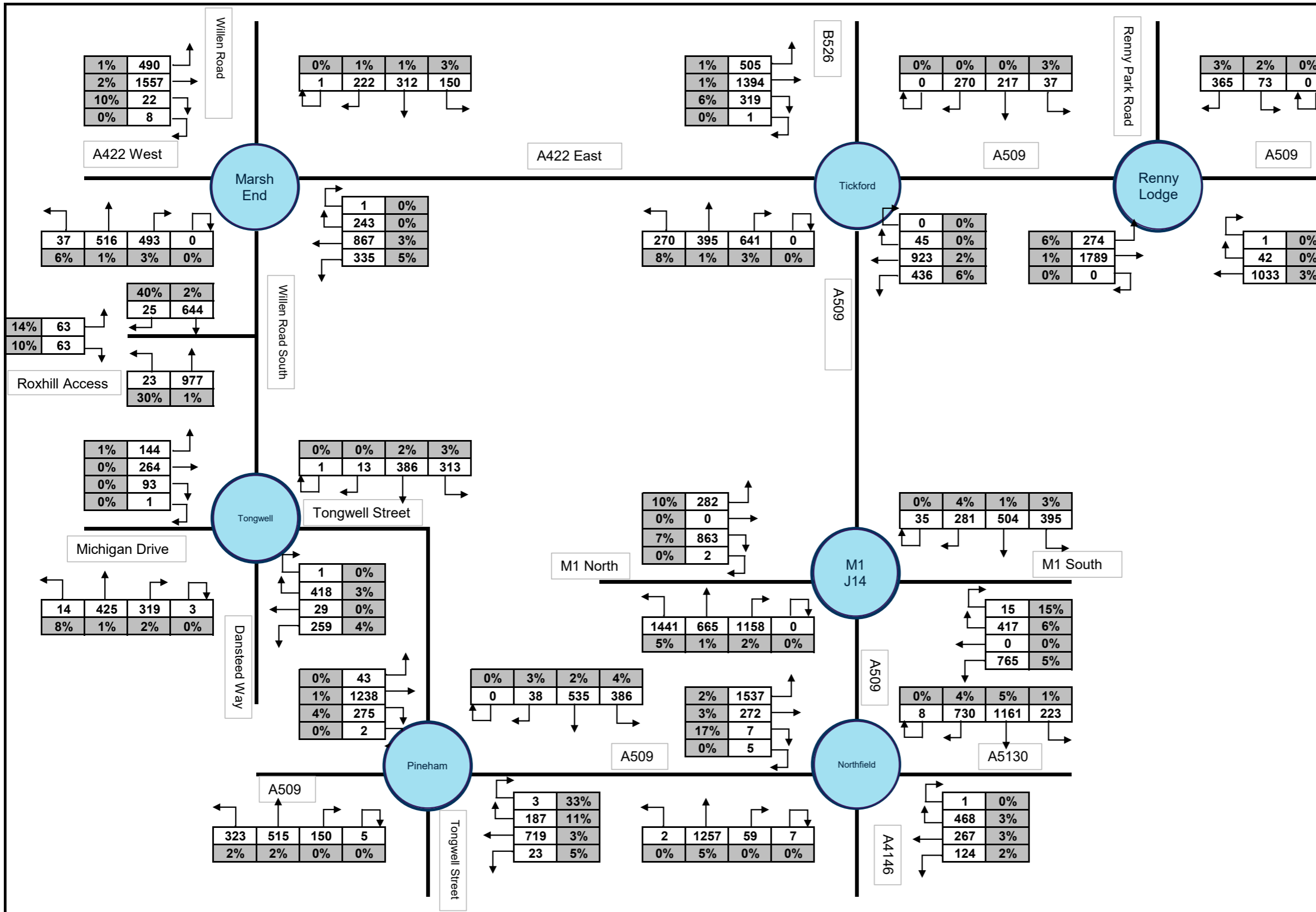


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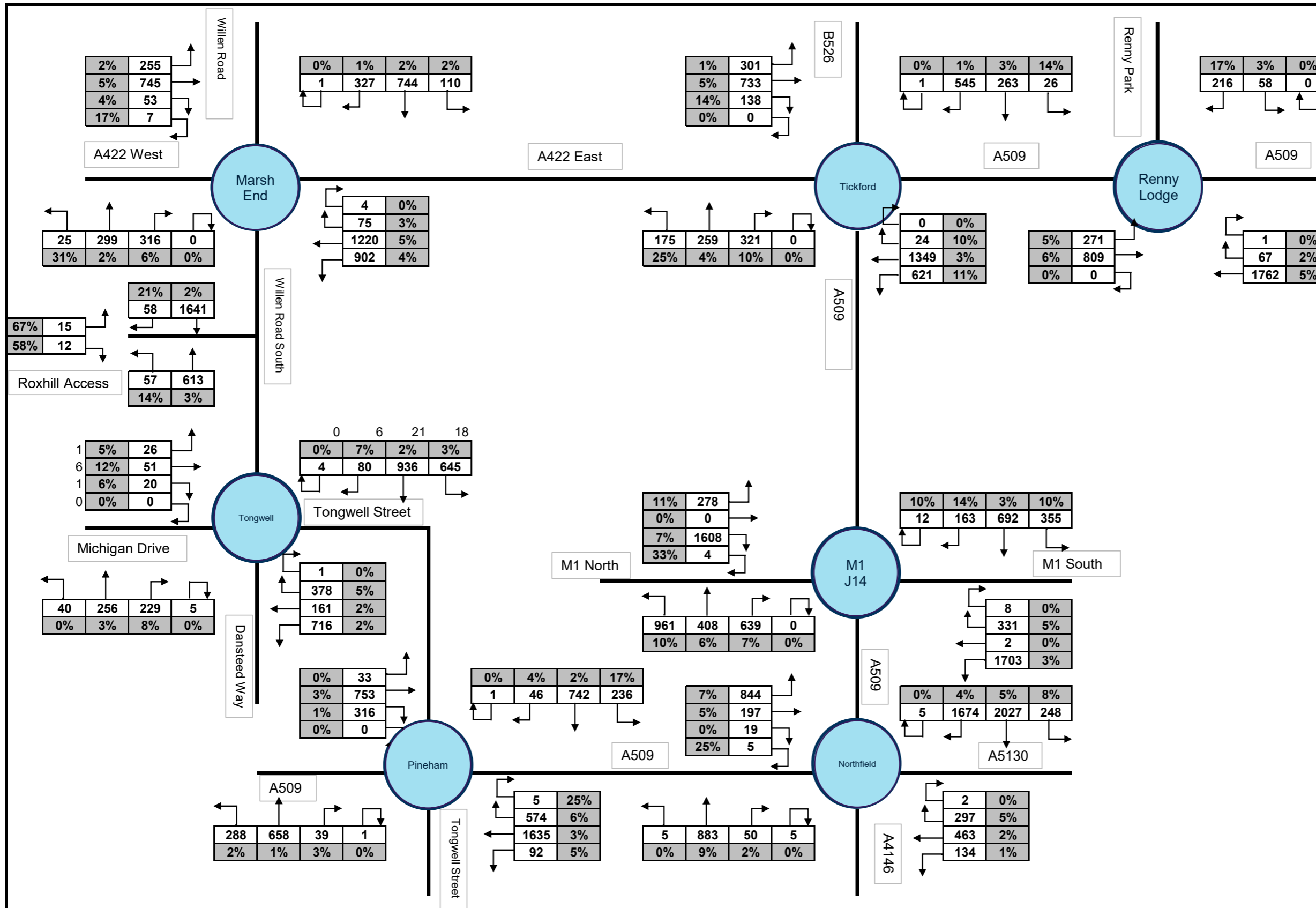
Notes

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Project Number: JNY10094
Title: 2031 + Committed Traffic Flows
 AM Peak: 08:00-09:00



Notes

Project Name: Newport Pagnell
Project Number: JNY10094
Title: 2031 + Committed Traffic Flows
 PM Peak: 17:00-18:00

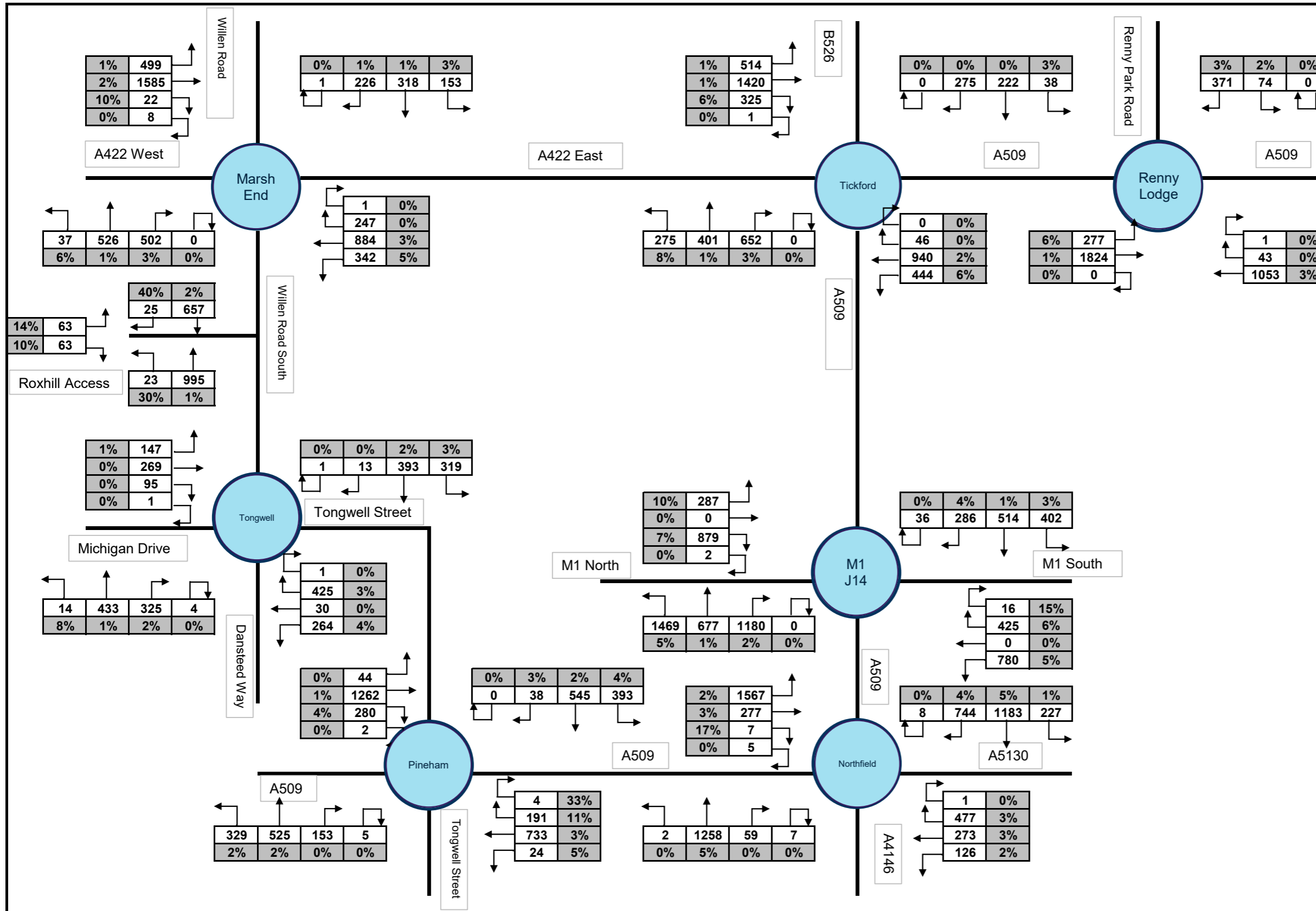


Notes

Transport and Engineering

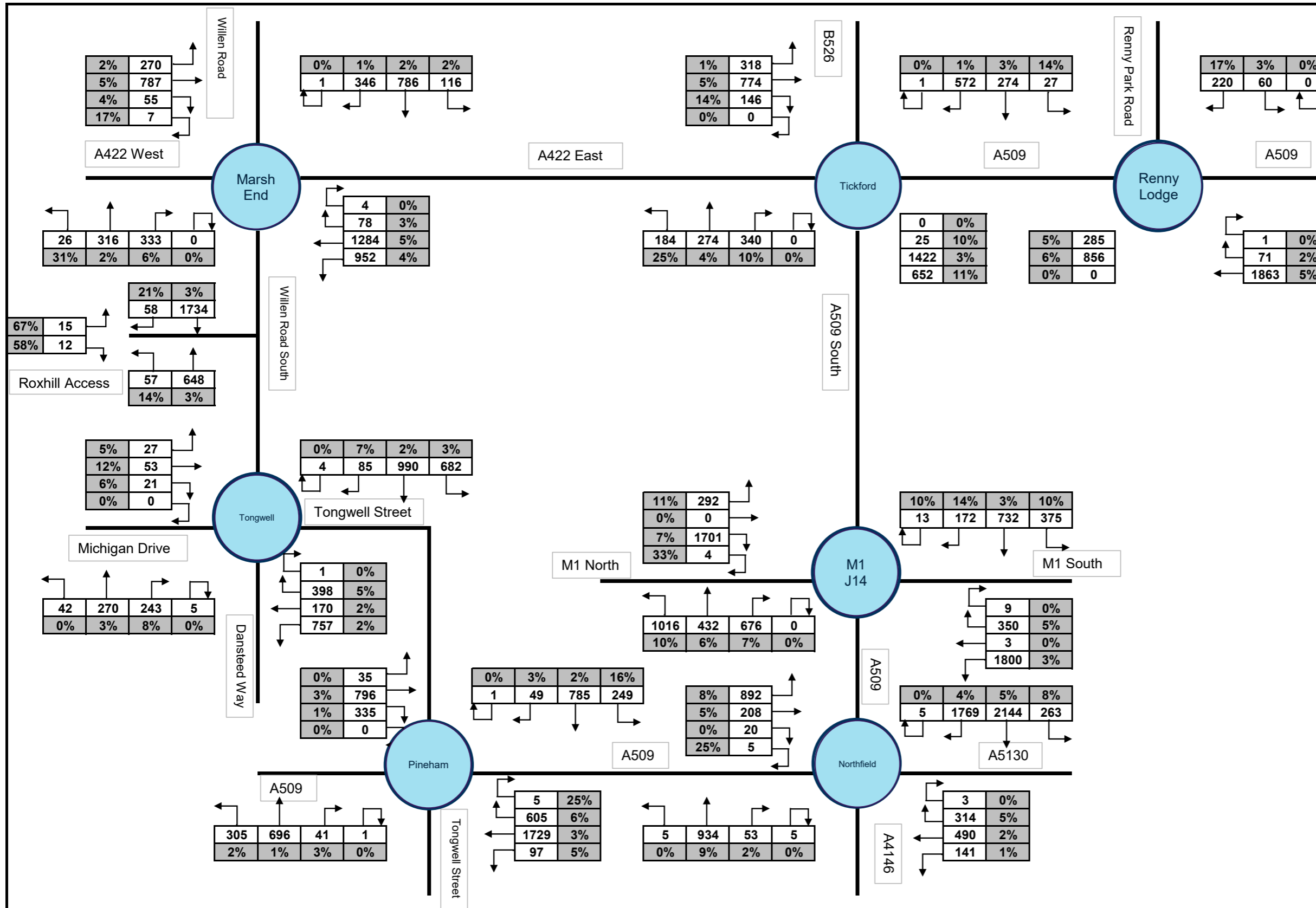
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 Project Number: JNY10094
 Title: 2033 + Committed Traffic Flows
 AM Peak: 08:00-09:00

Diagram Ref: TFD-15



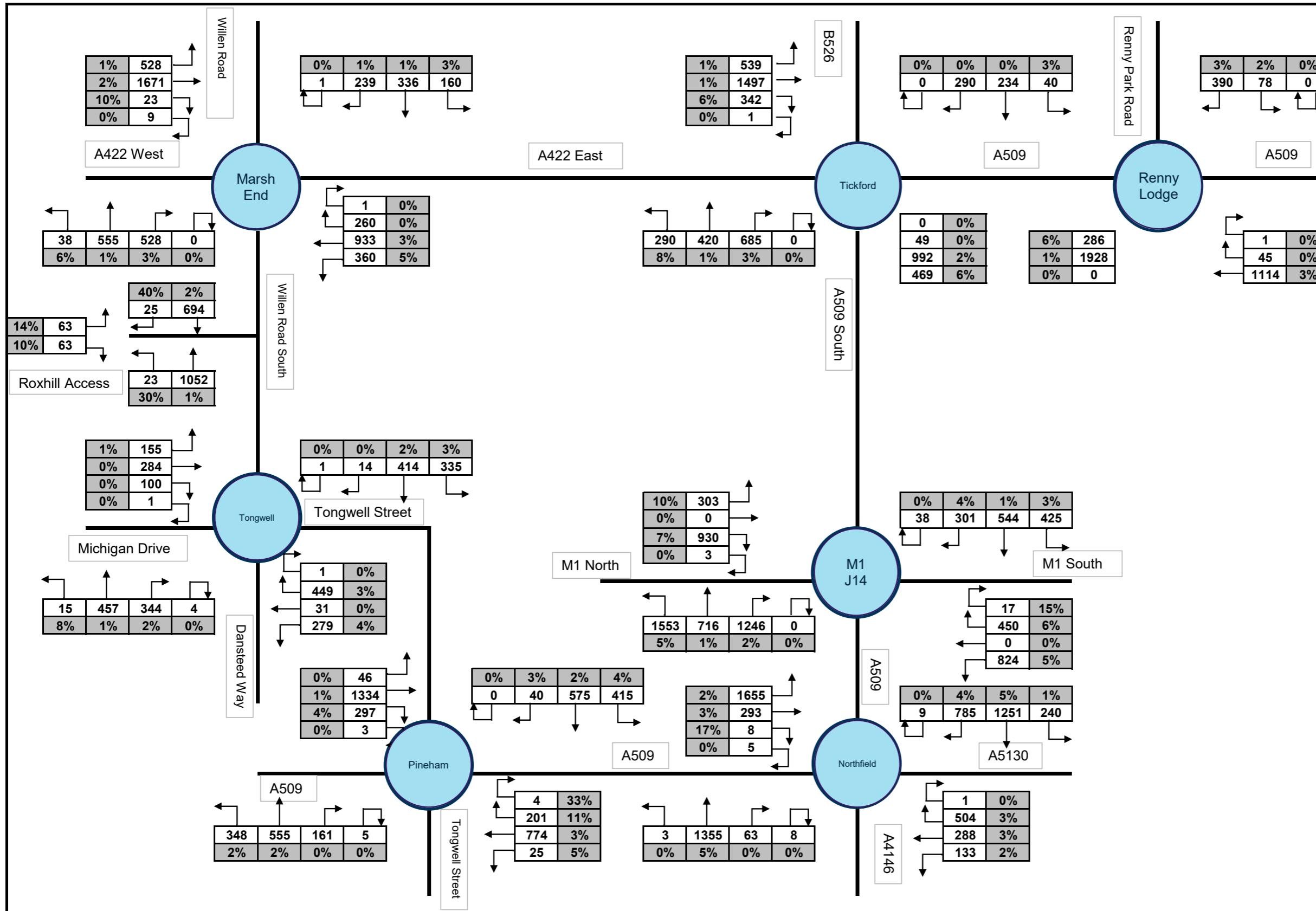
Notes

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Project Number: JNY10094
Title: 2033 + Committed Traffic Flows
 PM Peak: 17:00-18:00



Notes

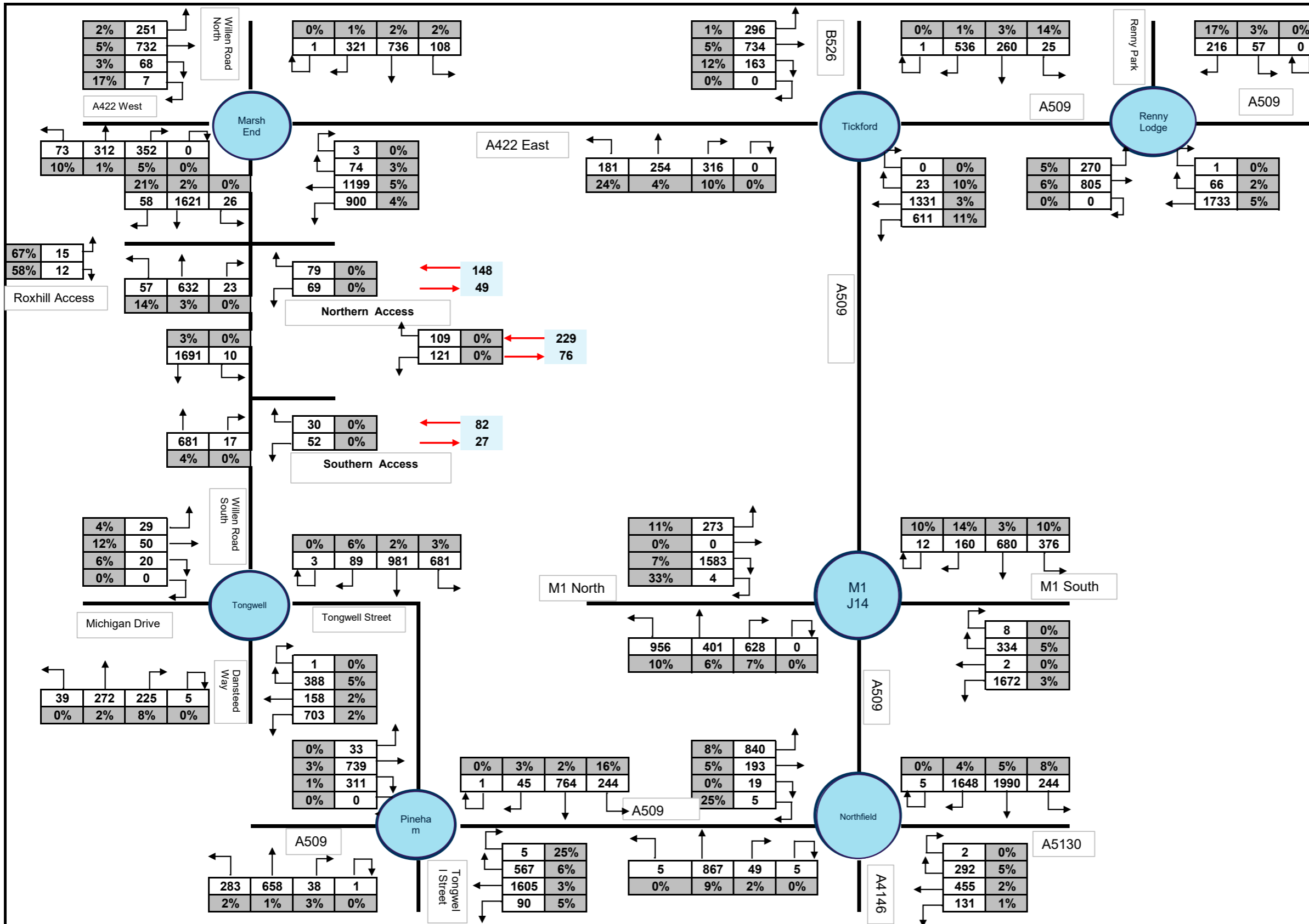
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Project Number: JNY10094
Title: 2041 + Committed Traffic Flows
 AM Peak: 08:00-09:00



Notes

Project Name: Newport Pagnell
Project Number: JNY10094
Title: 2041 + Committed Traffic Flows
 PM Peak: 17:00-18:00

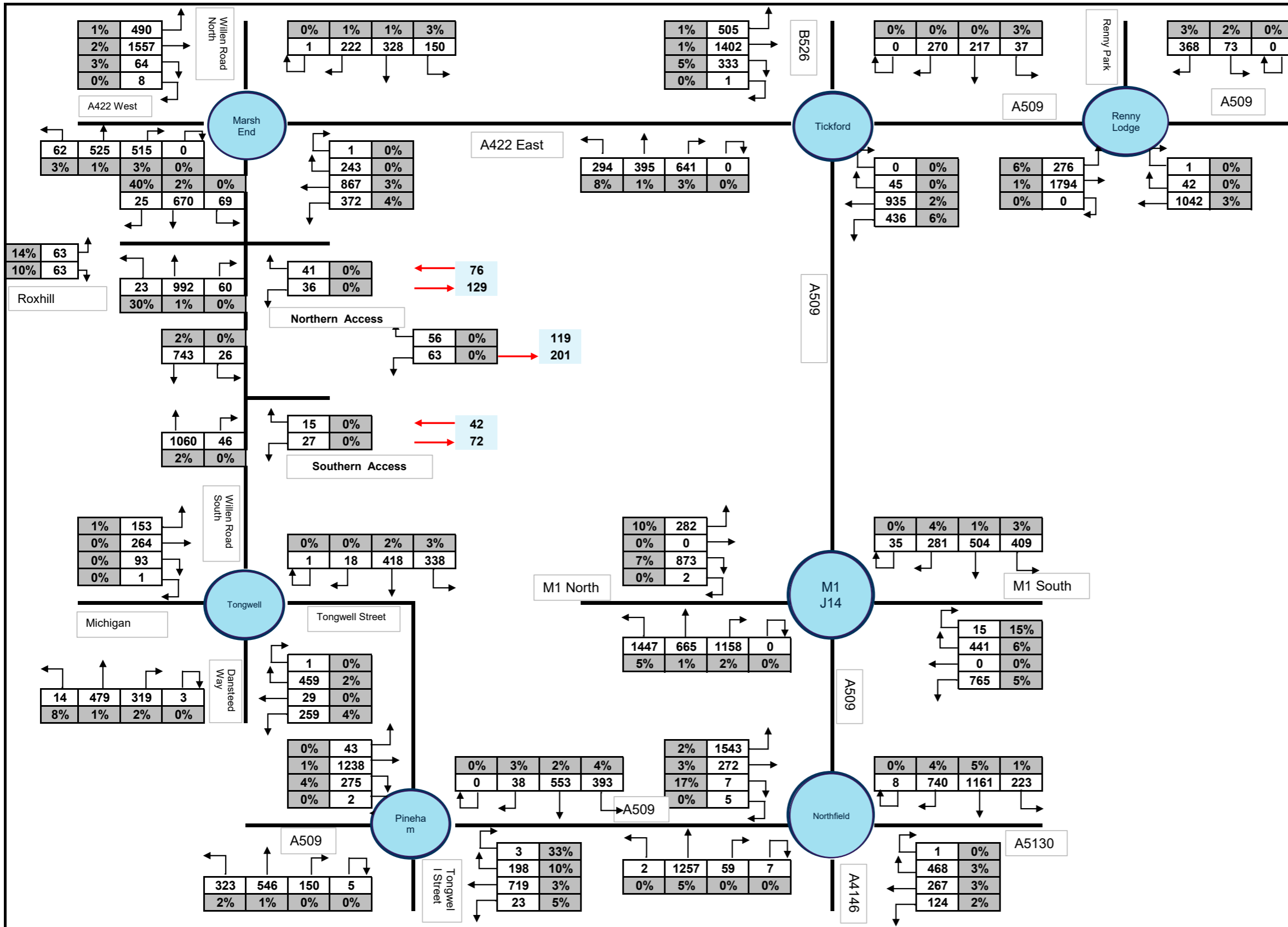
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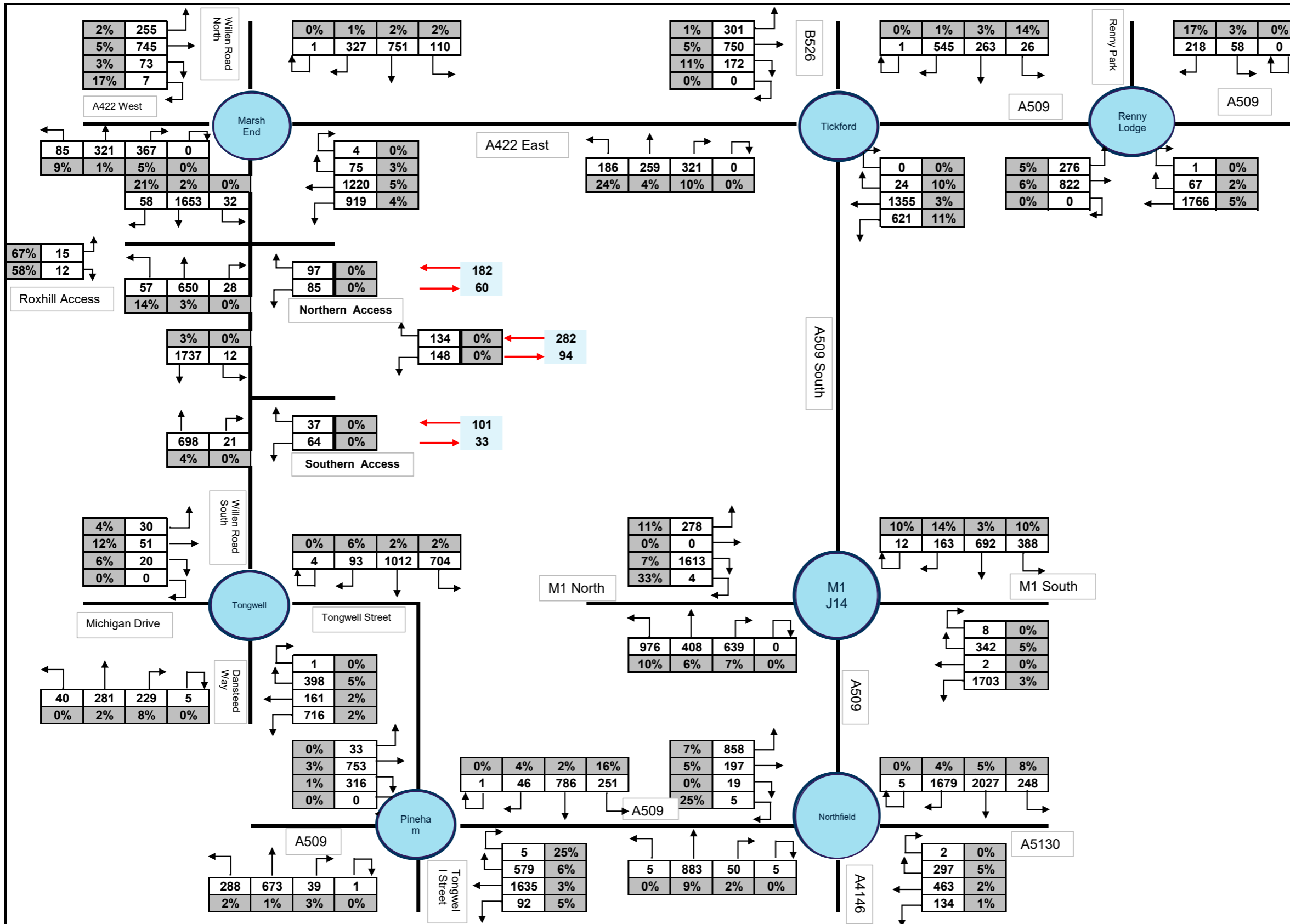
Project Name: Newport Pagnell
Project Number: JNY10094
Title: 2031 + Committed + Proposed
 AM Peak: 08:00-09:00

Diagram Ref: TFD-19



Notes

Project Name: Newport Pagnell
Project Number: JNY10094
Title: 2031 + Committed + Proposed
 PM Peak: 17:00-18:00

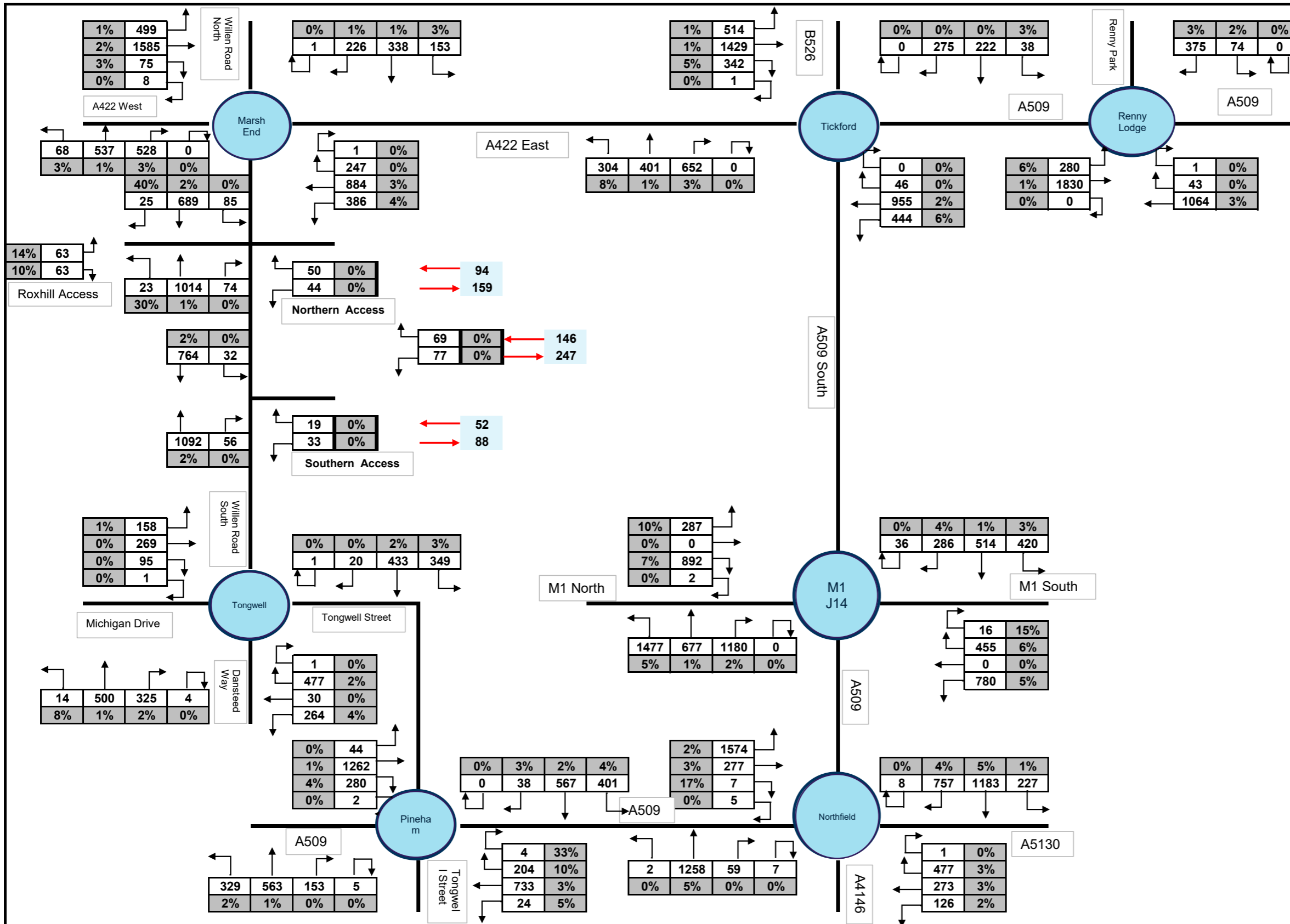


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Transport and Engineering

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Project Number: JNY10094
Title: 2033 + Committed + Proposed
 AM Peak: 08:00-09:00

Diagram Ref: TFD-21

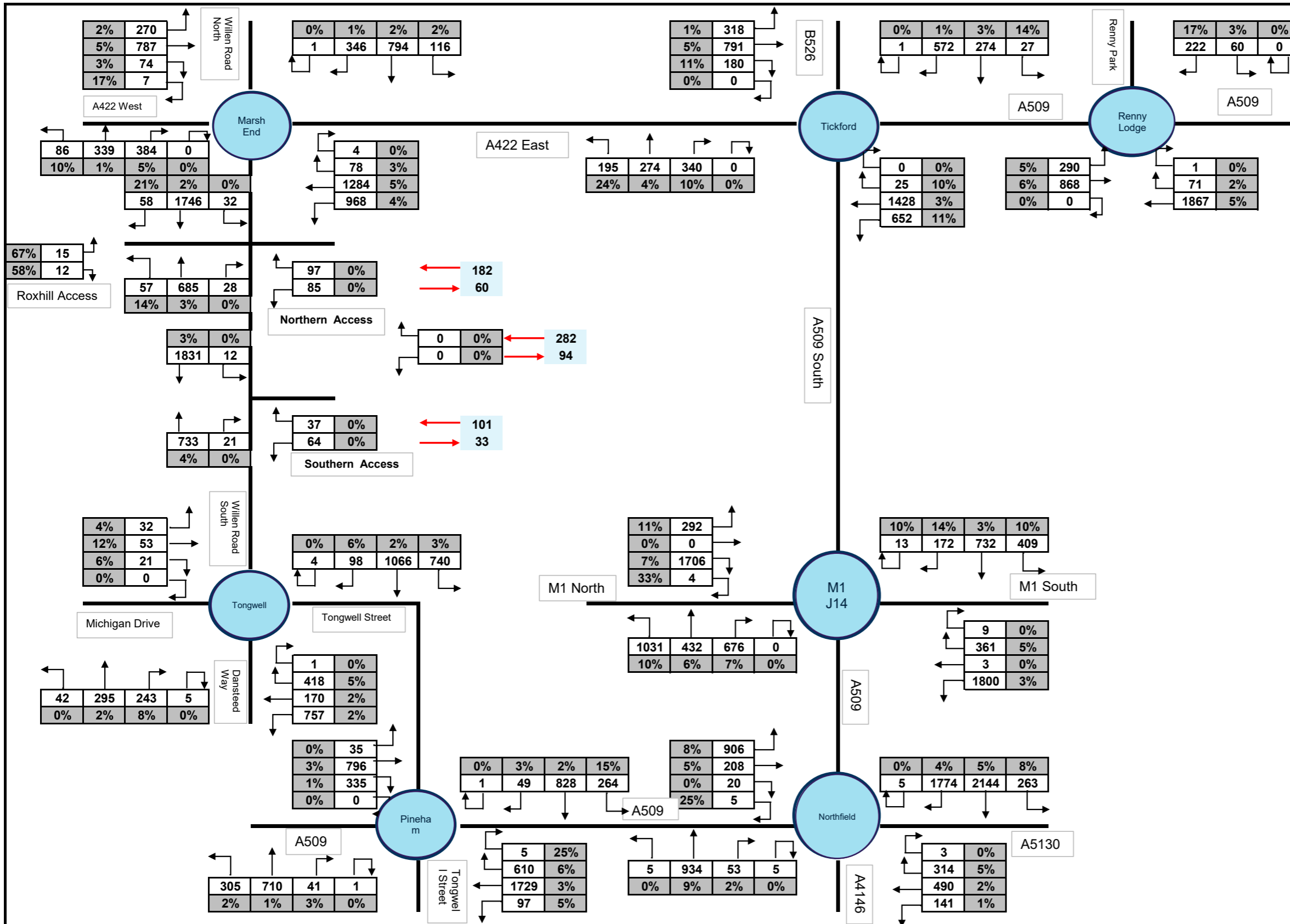


Transport and Engineering

Notes

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Project Number: JNY10094
Title: 2033 + Committed + Proposed
 PM Peak: 17:00-18:00

Diagram Ref: TFD-22

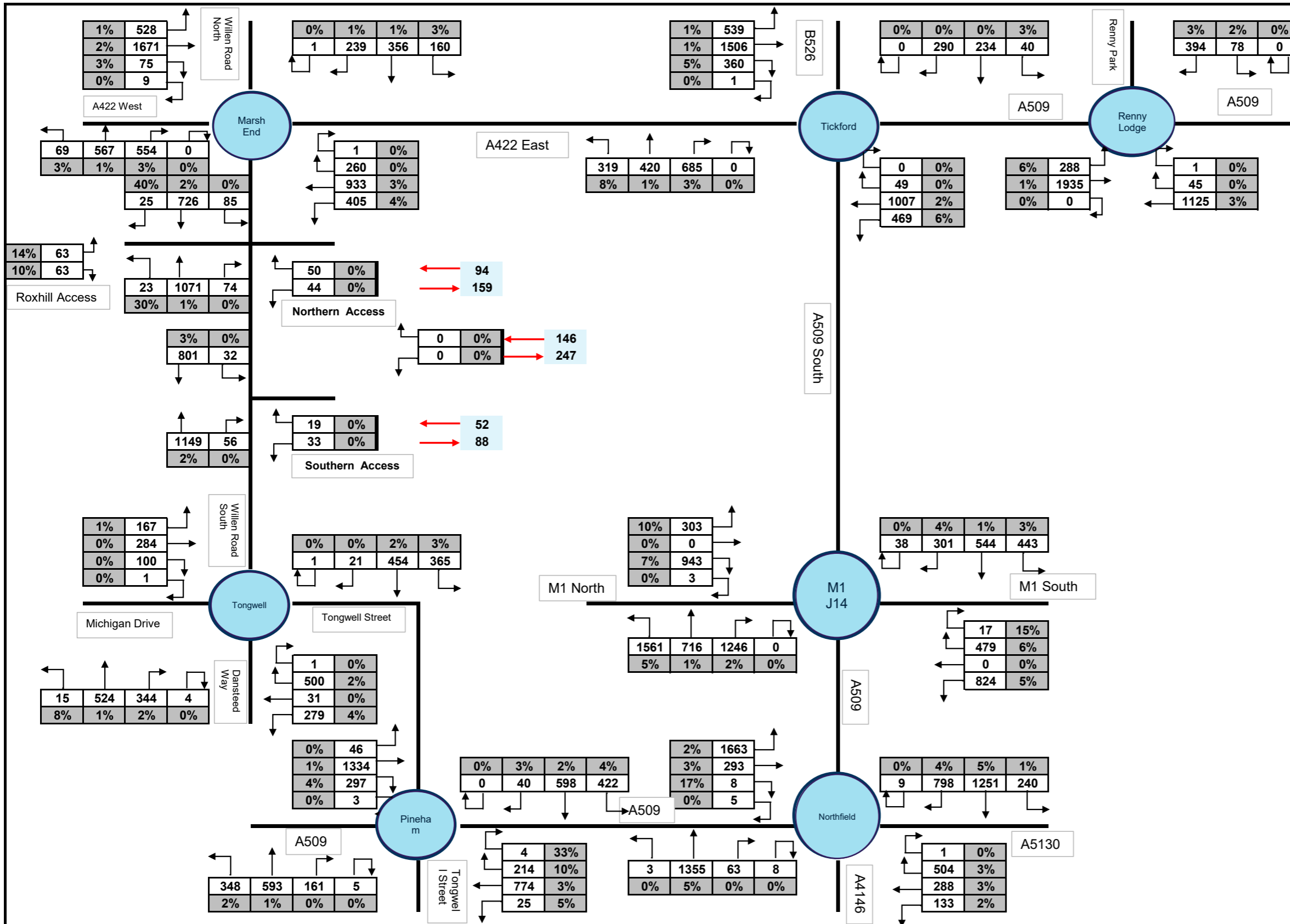


Notes

Transport and Engineering

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Project Number: JNY10094
Title: 2041 + Committed + Proposed
 AM Peak: 08:00-09:00

Diagram Ref: TFD-23

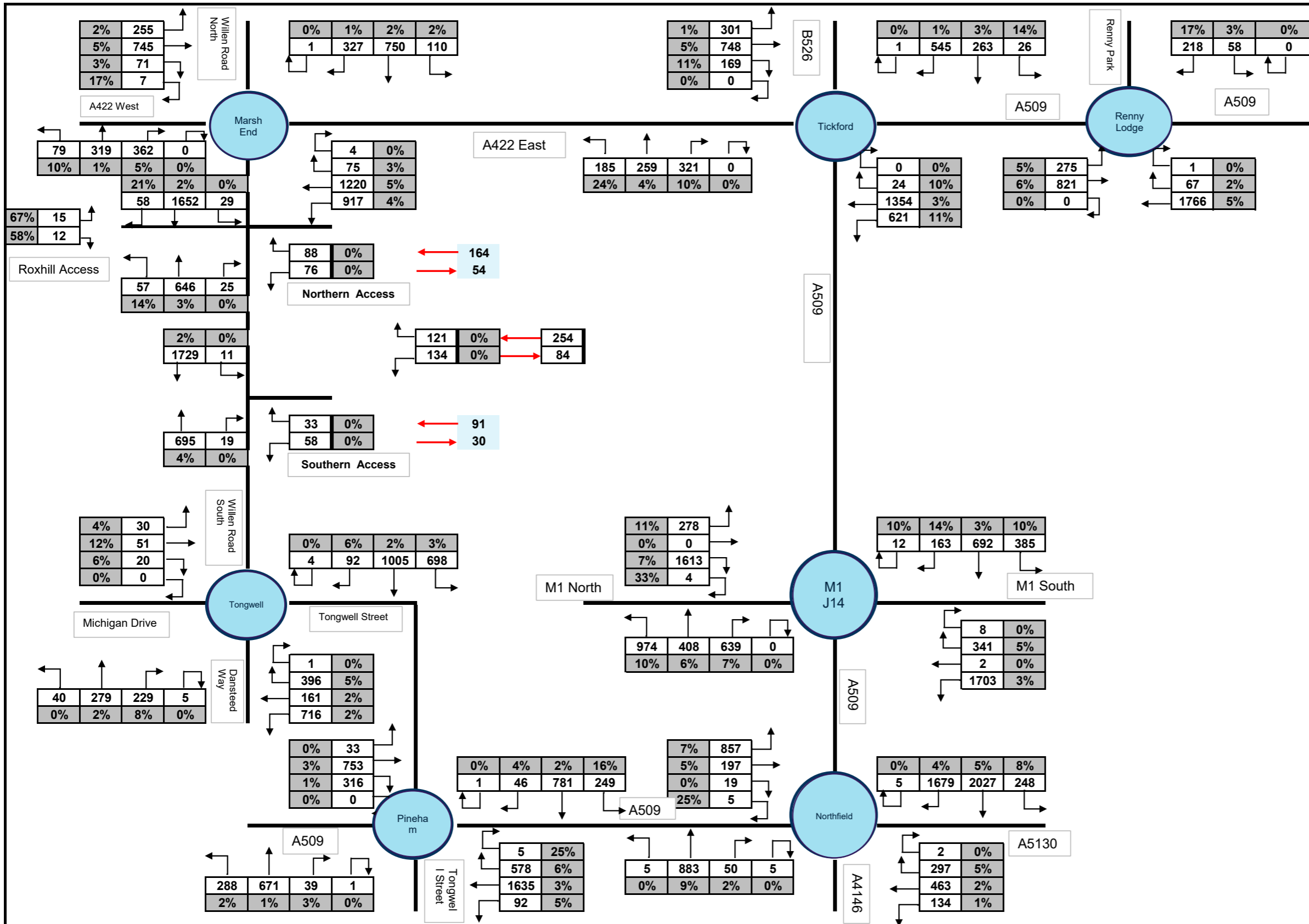


Notes

Transport and Engineering

Project Name: Newport Pagnell
Project Number: JNY10094
Title: 2041 + Committed + Proposed
 PM Peak: 17:00-18:00

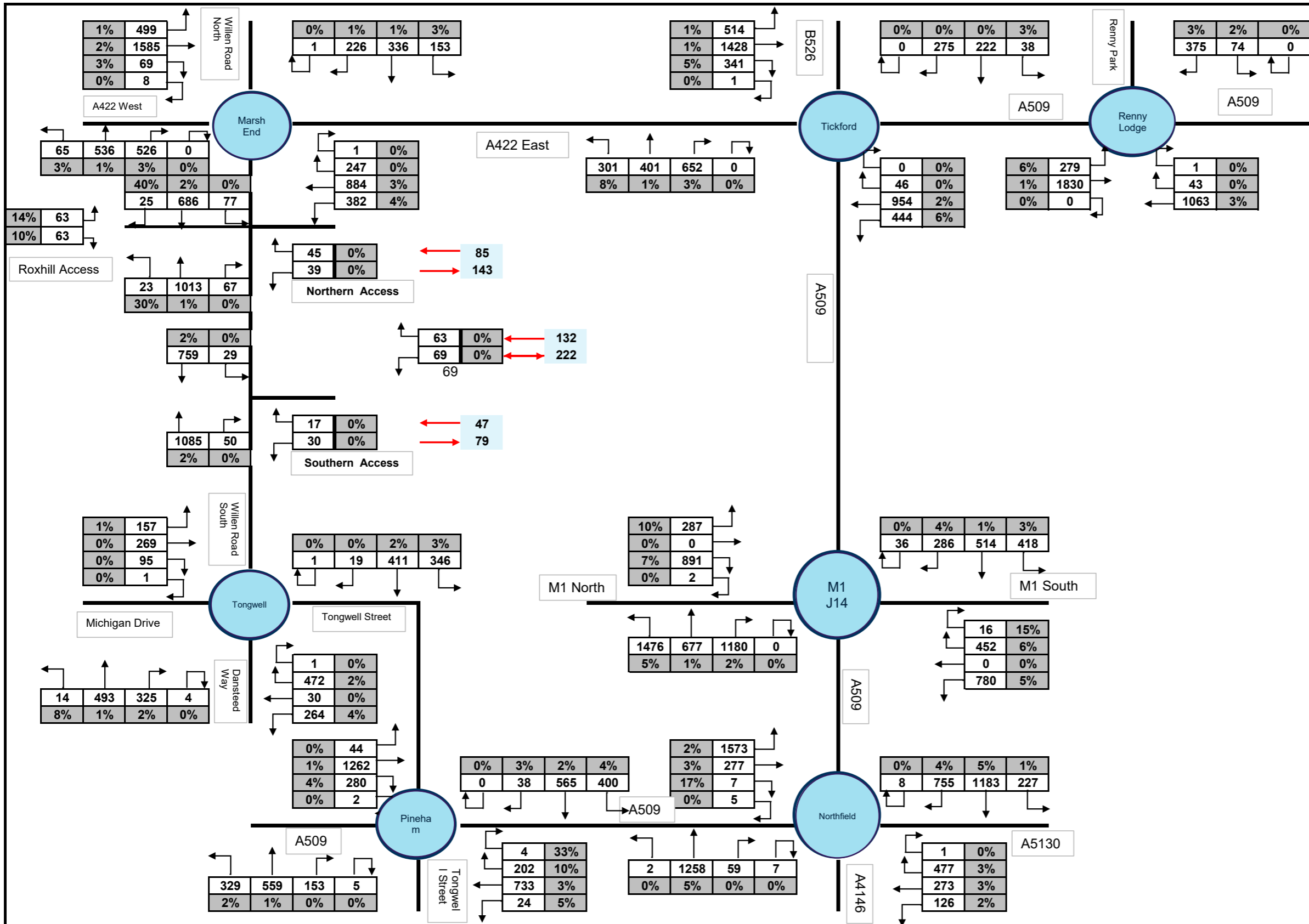
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Notes

Project Name: Newport Pagnell
Project Number: JNY10094
Title: 2033 + Committed + Proposed - 10% Modal Shift
 AM Peak: 08:00-09:00

Diagram Ref: TFD-25

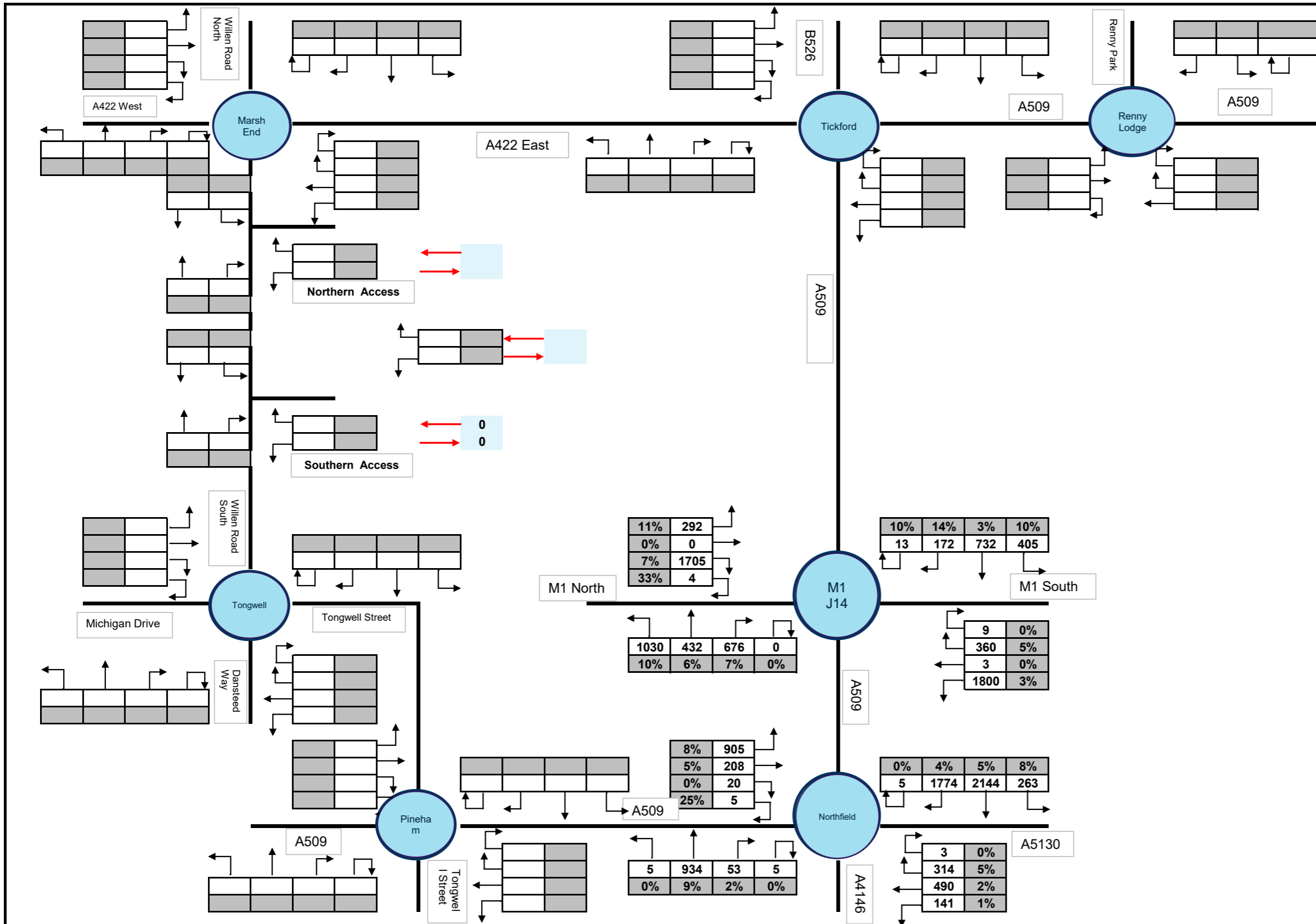


Notes

Transport and Engineering

Project Name: Newport Pagnell
Project Number: JNY10094
Title: 2033 + Committed + Proposed - 10% Modal Shift
 PM Peak: 17:00-18:00

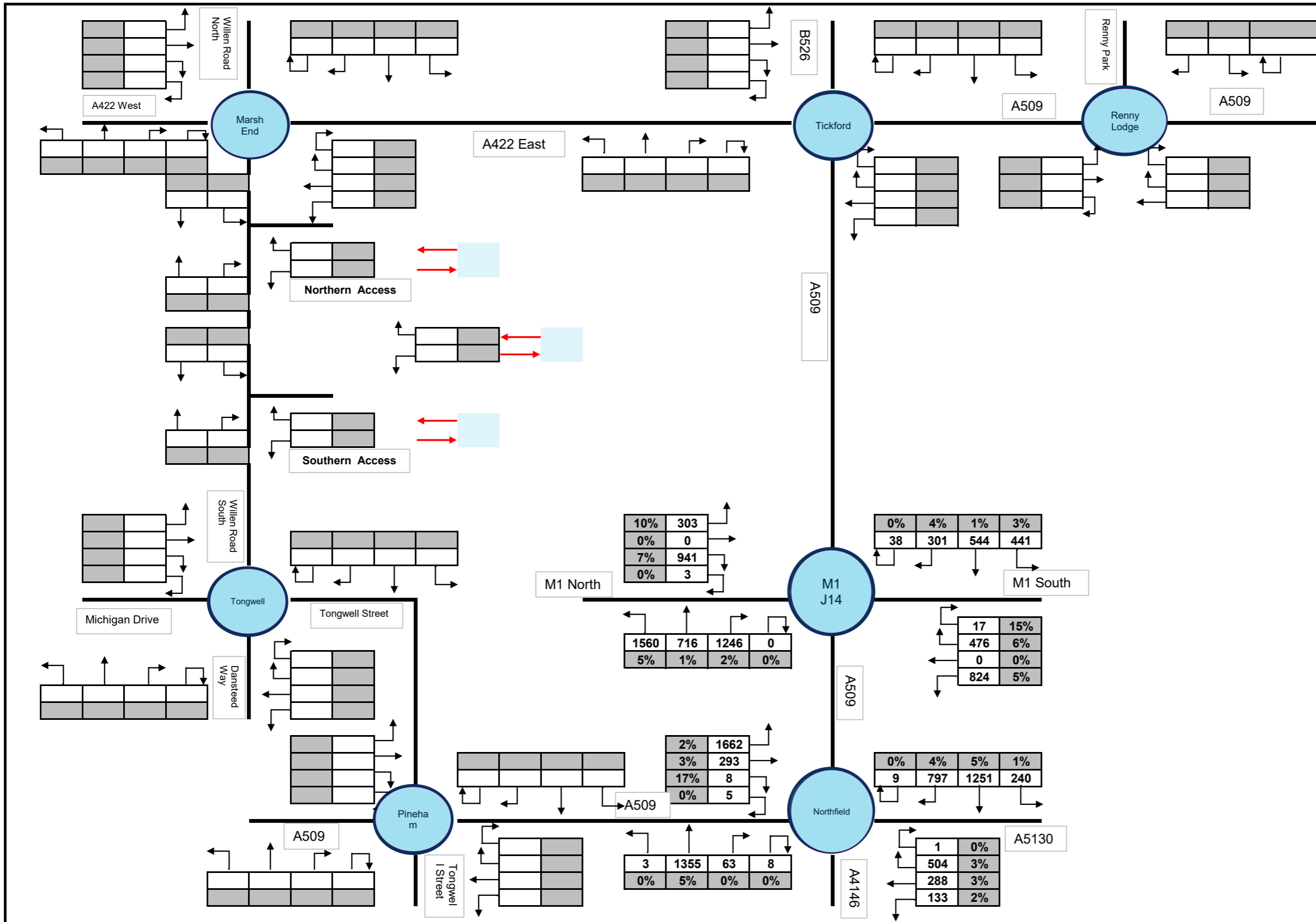
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Transport and Engineering

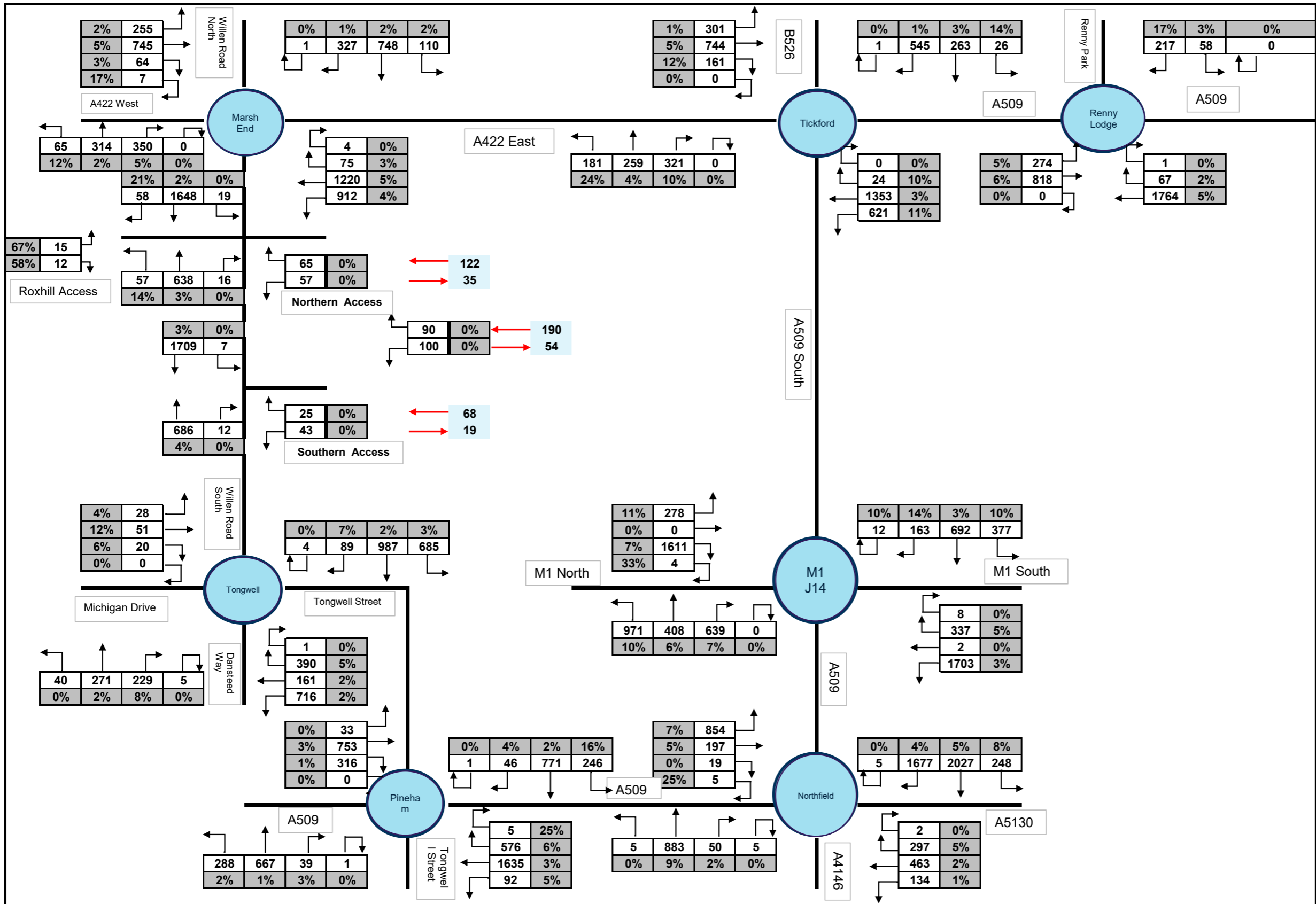
Project Name: Newport Pagnell
Project Number: JNY10094
Title: 2041 + Committed + Proposed - 10% Modal Shift
 AM Peak: 08:00-09:00

Diagram Ref: TFD-27



Notes

Project Name: Newport Pagnell
Project Number: JNY10094
Title: 2041 + Committed + Proposed - 10% Modal Shift
 PM Peak: 17:00-18:00

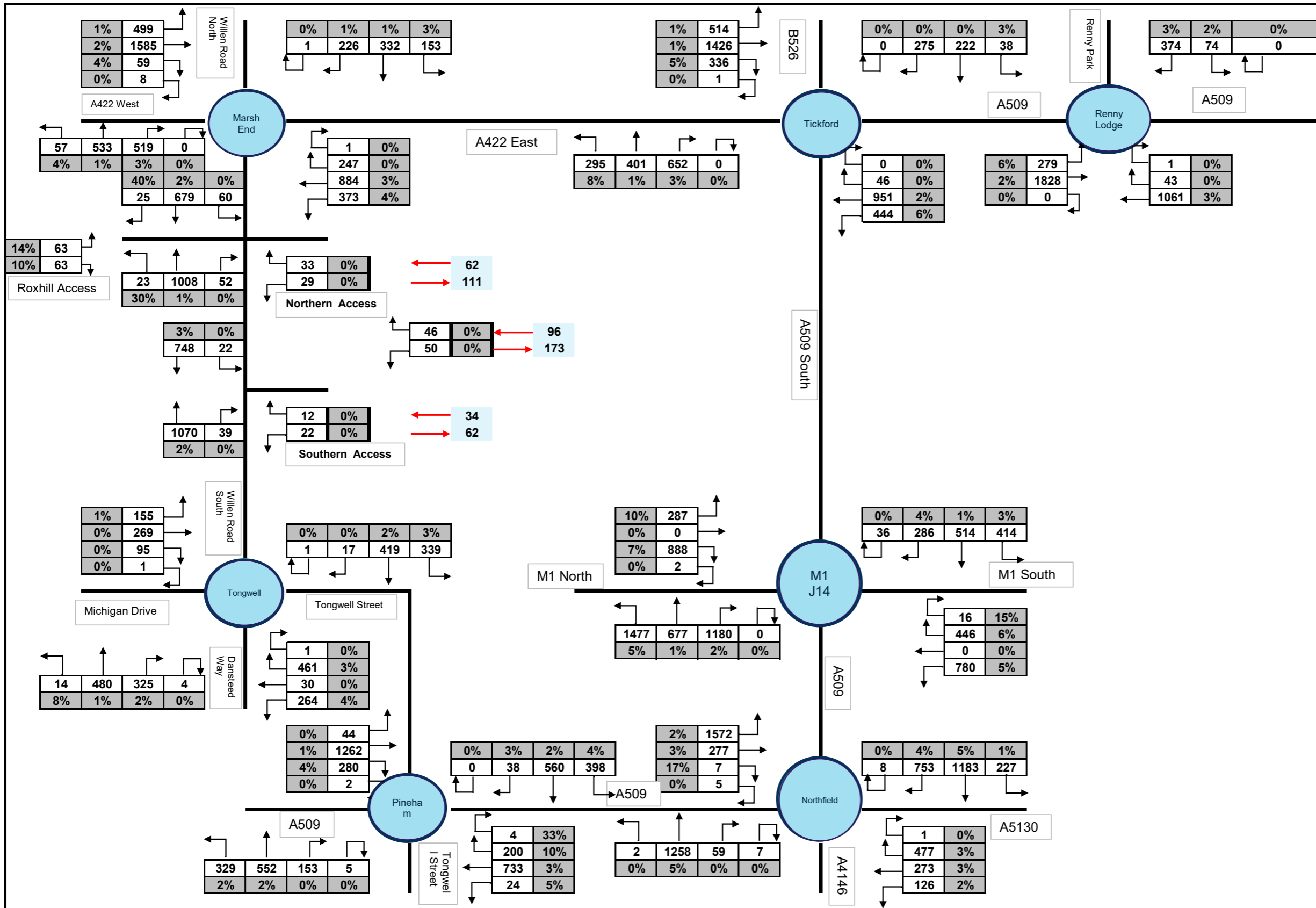


Transport and Engineering

Notes

Project Name: Newport Pagnell
Project Number: JNY10094
Title: 2033 + Committed + Proposed - MKE 2031 Trip Rates
 AM Peak: 08:00-09:00

Diagram Ref: TFD-31

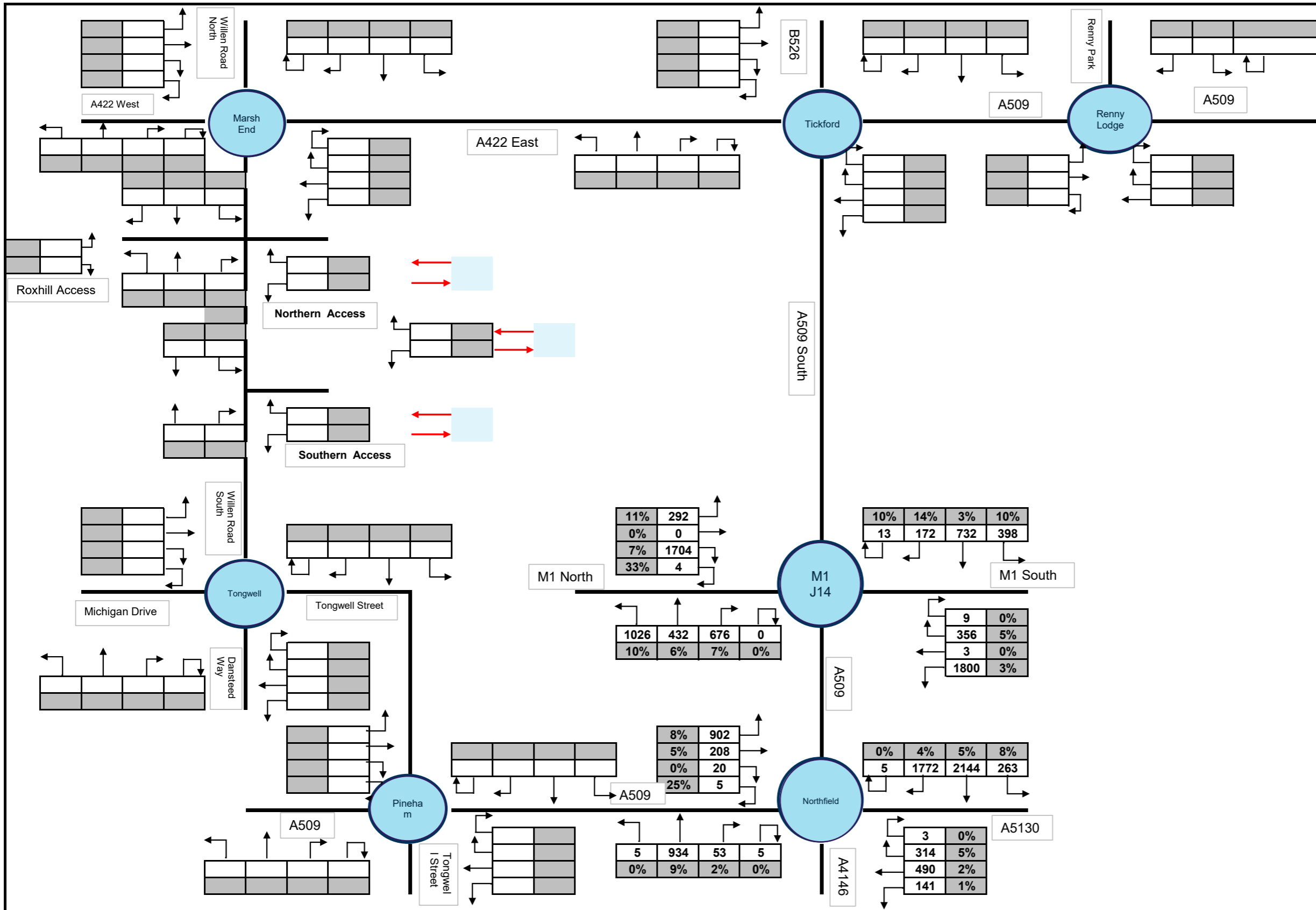


Notes

Transport and Engineering

Project Name: Newport Pagnell
Project Number: JNY10094
Title: 2033 + Committed + Proposed - MKE 2031 Trip Rates
 PM Peak: 17:00-18:00

Diagram Ref: TFD-32

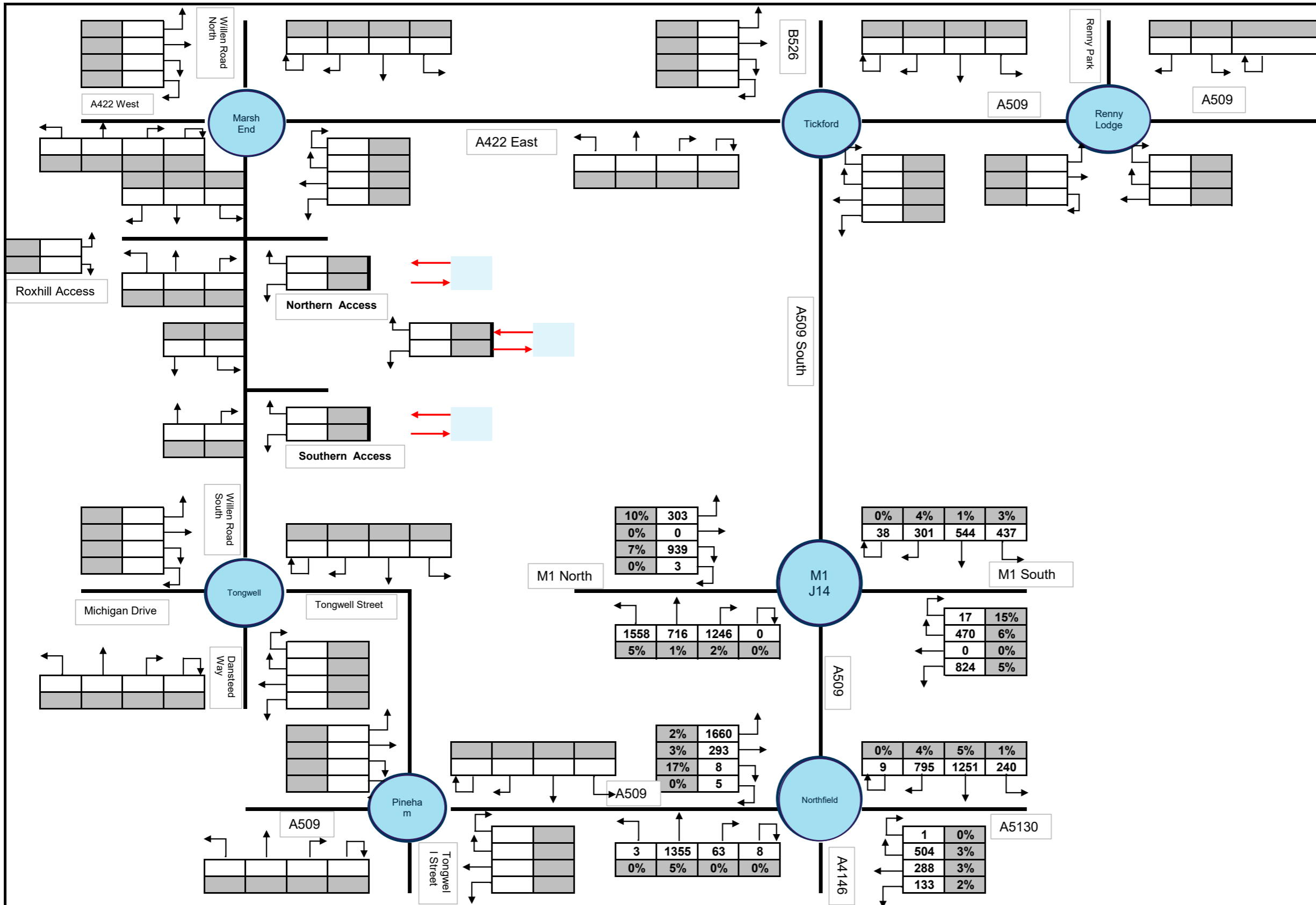


Notes

Transport and Engineering

Project Name: Newport Pagnell
Project Number: JNY10094
Title: 2041 + Committed + Proposed - MKE 2031 Trip Rates
 AM Peak: 08:00-09:00

Diagram Ref: TFD-33



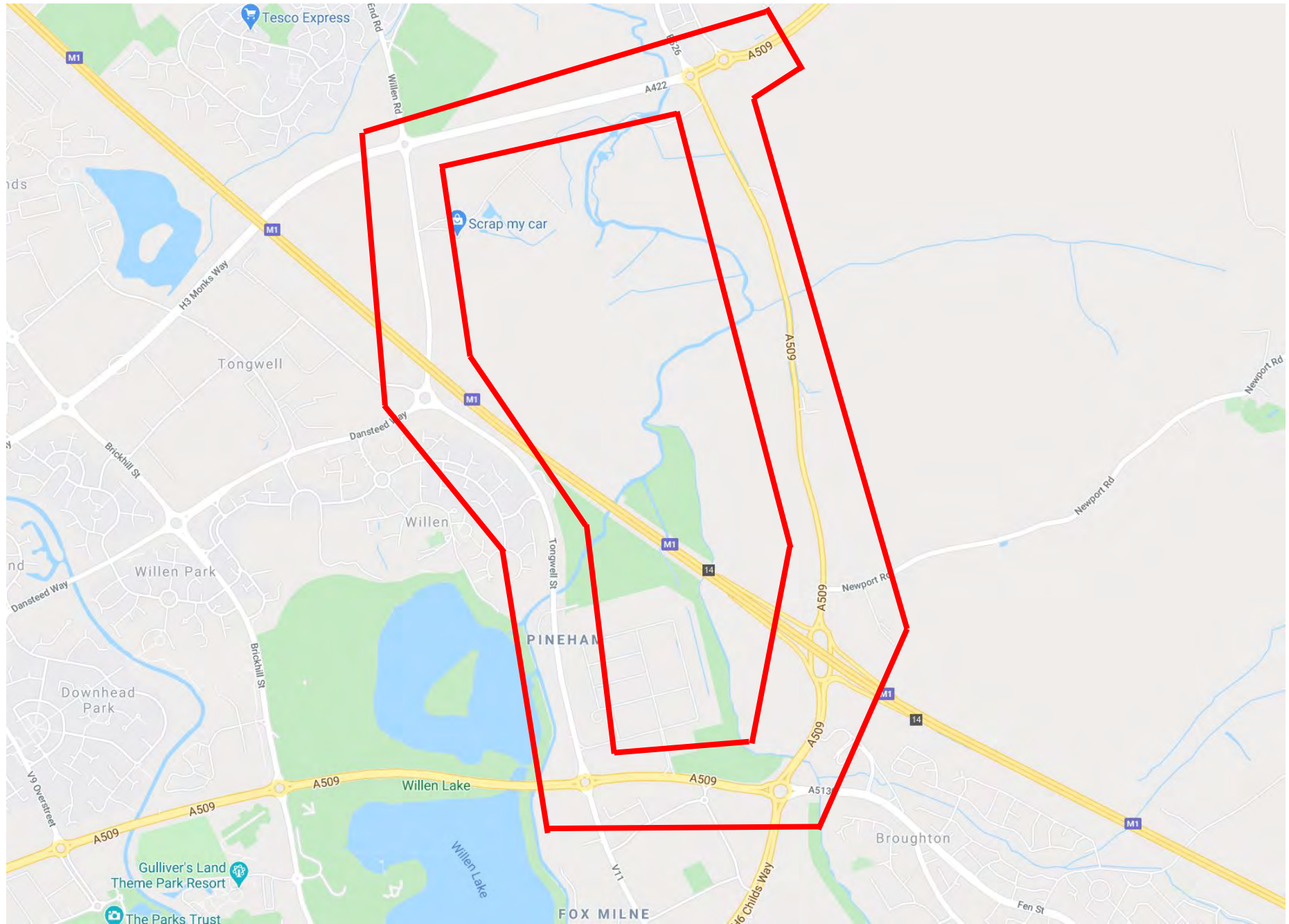
Transport and Engineering

Notes

Project Name: Newport Pagnell
Project Number: JNY10094
Title: 2041 + Committed + Proposed - MKE 2031 Trip Rates
 PM Peak: 17:00-18:00

Diagram Ref: TFD-34

Appendix 10 – Personal Injury Accident (PIA) Data



Accidents between dates 01/02/2015 and 31/01/2020 (60) months

Selection: Notes:
Selected using Manual Selection A509, A422, Willen Road.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Friday 24/04/2015 Time 2125 Slight at A509, APPRX 150 METRES N/EAST OF RENNY LODGE RBT, NEWPORT PAGNELL, MK

E: 489010 N: 242987 Junction Detail: 0 Control

Fine without high winds Road surface Dry Darkness: no street lighting

GV1 TRAV S/WEST IN LN 1, C2 TRAV IN LN 2 & PASSING GV1, GV1 CHANGED LANES & HIT N/SIDE C2 CAUSING C2 TO LEAVE C/WAY ONTO CENT RES. GV1 STOPPED BUT THEN DROVE OFF.

Road Type Dual carriageway Vehicles 2 Casualties 1 Police Ref. S0980415 Speed limit 70

Crossing: Control 0 Facilities 0 Local Authority: E06000042 Parish: 1938 Road Section: 162 Accident Type(s) MD

Causation

	Factor:	Participant:	Confidence:
1st:	Poor turn or manoeuvre	Vehicle 1	Very Likely
2nd:	Failed to look properly	Vehicle 1	Very Likely
3rd:			
4th:			
5th:			
6th:			

Vehicle Reference 1 Goods vehicle - unknown weight Moving from NE to S Changing lane to right Left hand drive: No

On main carriageway No skidding, jack-knifing or overturning
First point of impact Offside Parts damaged: 0 0 0 Age of Driver Sex of Driver Not traced Breath test Driver not contacted

Accidents between dates 01/02/2015 and 31/01/2020 (60) months

Selection: Notes:
Selected using Manual Selection A509, A422, Willen Road.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Vehicle Reference 2 Car Moving from NE to S Going ahead other Left hand drive: No

On main carriageway No skidding, jack-knifing or overturning
First point of impact Nearside Parts damaged: 0 0 0 Age of Driver 25 Sex of Driver Female Breath test Negative

Casualty Reference: 1 Age: 25 Female Driver/rider Severity: Slight Injured by vehicle: 2

Seatbelt: Unknown Cycle helmet Not a cyclist

Ped. Location Ped. Movement Ped. Direction Ped. Injury School pupil: 0

Accidents between dates 01/02/2015 and 31/01/2020 (60) months

Selection: Notes:
Selected using Manual Selection A509, A422, Willen Road.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Tuesday 23/06/2015 Time 1002 Slight at A422 JNC WILLEN ROAD, MARSH END ROUNDABOUT, NEWPORT PAGNELL, MK

E: 487702 N: 242576 Junction Detail: 1 Control 4

Fine without high winds Road surface Dry Daylight

C1 TRAV W ON A422 AT EXCESS SPEED, DRVR LOST CONTRL ON RBT, C1 HIT CENT ISLAND & LEFT C/WAY AHEAD INTO DITCH. DRVR C1 POS B. TEST.

Road Type Dual carriageway Vehicles 1 Casualties 1 Police Ref. S1070615 Speed limit 70

Crossing: Control 0 Facilities 0 Local Authority: E06000042 Parish: 1938 Road Section: 208 Accident Type(s) SG

Causation

	Factor:	Participant:	Confidence:
1st:	Impaired by alcohol	Vehicle 1	Very Likely
2nd:	Loss of control	Vehicle 1	Very Likely
3rd:	Exceeding speed limit	Vehicle 1	
4th:			
5th:			
6th:			

Vehicle Reference 1 Car Moving from E to W Going ahead other Left hand drive: No

On main carriageway No skidding, jack-knifing or overturning
First point of impact Front Parts damaged: 0 0 0 Age of Driver 41 Sex of Driver Male Breath test Not provided (medical reasons)

Casualty Reference: 1 Age: 41 Male Driver/rider Severity: Slight Injured by vehicle: 1

Seatbelt: Unknown Cycle helmet Not a cyclist

Ped. Location Ped. Movement Ped. Direction Ped. Injury School pupil: 0

Accidents between dates 01/02/2015 and 31/01/2020 (60) months

Selection: Notes:
Selected using Manual Selection A509, A422, Willen Road.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Wednesday 19/08/2015 Time 0645 Slight at A422, 400METRES WEST OF JNC LONDON ROAD, NEWPORT PAGNELL, MK

E: 488286 N: 242760 Junction Detail: 0 Control

Fine without high winds Road surface Dry Daylight

C1 & PC2 TRAV E, C1 HIT REAR PC2.

Road Type Dual carriageway Vehicles 2 Casualties 1 Police Ref. S0840815 Speed limit 70

Crossing: Control 0 Facilities 0 Local Authority: E06000042 Parish: 1938 Road Section: 206 Accident Type(s) NB

Causation

	Factor:	Participant:	Confidence:
1st:	Failed to look properly	Vehicle 1	Possible
2nd:			
3rd:			
4th:			
5th:			
6th:			

Vehicle Reference 1 Car Moving from W to E Going ahead other Left hand drive: No

On main carriageway No skidding, jack-knifing or overturning

First point of impact Front Parts damaged: 0 0 0 Age of Driver Sex of Driver Male Breath test Driver not contacted

Accidents between dates 01/02/2015 and 31/01/2020 (60) months

Selection: Notes:
Selected using Manual Selection A509, A422, Willen Road.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Vehicle Reference 2 Pedal Cycle Moving from W to E Going ahead other Left hand drive: No

On main carriageway No skidding, jack-knifing or overturning

First point of impact Back Parts damaged: 0 0 0 Age of Driver 31 Sex of Driver Male Breath test Driver not contacted

Casualty Reference: 1 Age: 31 Male Driver/rider Severity: Slight Injured by vehicle: 2

Seatbelt: Not Applicable Cycle helmet Yes

Ped. Location Ped. Movement Ped. Direction Ped. Injury School pupil: 0

Accidents between dates 01/02/2015 and 31/01/2020 (60) months

Selection: Selected using Manual Selection
Notes: A509, A422, Willen Road.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Thursday 03/09/2015 Time 0611 Slight at A422 JNC WILLEN ROAD, MARSH END ROUNDABOUT, NEWPORT PAGNELL, MK
E: 487737 N: 242603 Junction Detail: 1 Control 4
Fine without high winds Road surface Dry Darkness: street lights present and lit
PC2 TRAV S NEG RBT, C1 TRAV W ON A422 ENTERD RBT INTO PATH PC2, C1 COLL WITH PC2.
Road Type Dual carriageway Vehicles 2 Casualties 1 Police Ref. S0140915 Speed limit 70
Crossing: Control 0 Facilities 0 Local Authority: E06000042 Parish: 1938 Road Section: 208 Accident Type(s) CM

Causation

	Factor:	Participant:	Confidence:
1st:	Failed to look properly	Vehicle 1	Very Likely
2nd:	Careless/Reckless/In a hurry	Vehicle 1	Very Likely
3rd:			
4th:			
5th:			
6th:			

Vehicle Reference 1 Car Moving from E to W Going ahead other Left hand drive: No

On main carriageway
First point of impact Front Parts damaged: 0 0 0 Age of Driver 42 Sex of Driver Male No skidding, jack-knifing or overturning
Breath test Negative

Accidents between dates 01/02/2015 and 31/01/2020 (60) months

Selection: Notes:
Selected using Manual Selection A509, A422, Willen Road.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Vehicle Reference 2 Pedal Cycle Moving from N to S Going ahead other Left hand drive: No

On main carriageway No skidding, jack-knifing or overturning
First point of impact Back Parts damaged: 0 0 0 Age of Driver 58 Sex of Driver Male Breath test Not requested

Casualty Reference: 1 Age: 58 Male Driver/rider Severity: Slight Injured by vehicle: 2

Seatbelt: Not Applicable Cycle helmet Yes

Ped. Location Ped. Movement Ped. Direction Ped. Injury School pupil: 0

Accidents between dates 01/02/2015 and 31/01/2020 (60) months

Selection: Notes:
Selected using Manual Selection A509, A422, Willen Road.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Saturday 10/10/2015 Time 0844 Slight at A422, EXACT LOCATION NOT KNOWN, NEWPORT PAGNELL, MK

E: 488351 N: 242776 Junction Detail: 0 Control

Fine without high winds Road surface Dry Daylight

C2 & C1 TRAV EAST, C1 SWERVED TO AVOID PED IN C/WAY (PED MASKED BY C2) & COLL WITH REAR C2. C1 LEFT C/WAY TO N/SIDE DOWN EMBANKMNT.

Road Type Dual carriageway Vehicles 2 Casualties 1 Police Ref. S0571015 Speed limit 70

Crossing: Control 0 Facilities 0 Local Authority: E06000042 Parish: 1938 Road Section: Accident Type(s) NB

Causation

	Factor:	Participant:	Confidence:
1st:	Failed to judge other persons path or speed	Vehicle 1	Possible
2nd:	Loss of control	Vehicle 1	Very Likely
3rd:			
4th:			
5th:			
6th:			

Vehicle Reference 1 Car Moving from W to E Going ahead other Left hand drive: No

On main carriageway Skidded and overturned
First point of impact Front Parts damaged: 0 0 0 Age of Driver 38 Sex of Driver Male Breath test Negative

Casualty Reference: 1 Age: 38 Male Driver/rider Severity: Slight Injured by vehicle: 1

Seatbelt: Unknown Cycle helmet Not a cyclist

Ped. Location Ped. Movement Ped. Direction Ped. Injury School pupil: 0

Accidents between dates 01/02/2015 and 31/01/2020 (60) months

Selection: Notes:
Selected using Manual Selection A509, A422, Willen Road.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Vehicle Reference 2 Car Moving from W to E Going ahead other Left hand drive: No
On main carriageway No skidding, jack-knifing or overturning
First point of impact Back Parts damaged: 0 0 0 Age of Driver 60 Sex of Driver Female Breath test Negative

Accidents between dates 01/02/2015 and 31/01/2020 (60) months

Selection: Selected using Manual Selection
Notes: A509, A422, Willen Road.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Friday 06/11/2015 Time 1355 Slight at A509 JNC RENNY PARK RD, RENNY LODGE ROUNDABOUT, NEWPORT PAGNELL, MK

E: 488826 N: 242956 Junction Detail: 1 Control 4

Raining without high winds Road surface Wet/Damp Daylight

C2 TRAV N/EAST ON A509 NEG RBT, C1 TRAV S ON RENNY PK RD ENTERD RBT INTO PATH C2, C2 COLL WITH O/SIDE C1.

Road Type Dual carriageway Vehicles 2 Casualties 3 Police Ref. S0151115 Speed limit 70

Crossing: Control 0 Facilities 0 Local Authority: E06000042 Parish: 1938 Road Section: 162 Accident Type(s) CM

Causation

	Factor:	Participant:	Confidence:
1st:	Failed to judge other persons path or speed	Vehicle 1	Very Likely
2nd:	Poor turn or manoeuvre	Vehicle 1	Very Likely
3rd:	Careless/Reckless/In a hurry	Vehicle 1	
4th:			
5th:			
6th:			

Accidents between dates 01/02/2015 and 31/01/2020 (60) months

Selection: Notes:
Selected using Manual Selection A509, A422, Willen Road.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Vehicle Reference 1 Car Moving from N to S Turning right Left hand drive: No

On main carriageway
First point of impact Offside Parts damaged: 0 0 0 Age of Driver 33 Sex of Driver Male No skidding, jack-knifing or overturning
Breath test Negative

Casualty Reference: 1 Age: 33 Male Driver/rider Severity: Slight Injured by vehicle: 1

Seatbelt: Worn but not independently confirmed

Cycle helmet Not a cyclist

Ped. Location

Ped. Movement

Ped. Direction

Ped. Injury

School pupil: 0

Casualty Reference: 3 Age: 29 Male Passenger Severity: Slight Injured by vehicle: 1

Seatbelt: Worn but not independently confirmed

Cycle helmet Not a cyclist

Ped. Location

Ped. Movement

Ped. Direction

Ped. Injury

School pupil: 0

Vehicle Reference 2 Car Moving from S to NE Going ahead other Left hand drive: No

On main carriageway
First point of impact Front Parts damaged: 0 0 0 Age of Driver 40 Sex of Driver Male No skidding, jack-knifing or overturning
Breath test Negative

Casualty Reference: 2 Age: 40 Male Driver/rider Severity: Slight Injured by vehicle: 2

Seatbelt: Worn but not independently confirmed

Cycle helmet Not a cyclist

Ped. Location

Ped. Movement

Ped. Direction

Ped. Injury

School pupil: 0

Accidents between dates 01/02/2015 and 31/01/2020 (60) months

Selection: Notes:
Selected using Manual Selection A509, A422, Willen Road.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Wednesday 23/03/2016 Time 1726 Slight at LONDON ROAD, JUST SOUTH OF TICKFORD ROUNDABOUT, NEWPORT PAGNELL, MK

E: 488748 N: 242826 Junction Detail: 8 Control 4

Fine without high winds Road surface Dry Daylight

GV3 (VAN) BROKEN DOWN & PUSHED ONTO DRIVEWAY SOUTH OF RBT, C4 PARKED & DRVR ASSISTING, C2 TRAV S
EXITED RBT & SLOWING TO TURN LEFT INTO DRIVEWAY, C1 EXITED RBT & COLL WITH REAR C2, C1 THEN HIT GV3 &
C4.

Road Type Single carriageway Vehicles 4 Casualties 1 Police Ref. S1230316 Speed limit 60

Crossing: Control 0 Facilities 0 Local Authority: E06000042 Parish: 1938 Road Section: 201 Accident Type(s) NB

Causation

	Factor:	Participant:	Confidence:
1st:	Careless/Reckless/In a hurry	Vehicle 1	Very Likely
2nd:	Failed to judge other persons path or speed	Vehicle 1	Very Likely
3rd:	Loss of control	Vehicle 1	
4th:			
5th:			
6th:			

Vehicle Reference 1 Car Moving from N to S Going ahead other Left hand drive: No

On main carriageway
First point of impact Front Parts damaged: 0 0 0 Age of Driver 25 Sex of Driver Male No skidding, jack-knifing or overturning
Breath test Negative

Vehicle Reference 2 Car Moving from N to E Turning left Left hand drive: No

On main carriageway
First point of impact Front Parts damaged: 0 0 0 Age of Driver 32 Sex of Driver Male No skidding, jack-knifing or overturning
Breath test Negative

Accidents between dates 01/02/2015 and 31/01/2020 (60) months

Selection: Notes:
Selected using Manual Selection A509, A422, Willen Road.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Vehicle Reference 3 Van or Goods 3.5 tonnes mgw and under Moving from to Parked Left hand drive: No

On main carriageway
First point of impact Front Parts damaged: 0 0 0 Age of Driver 30 Sex of Driver Male No skidding, jack-knifing or overturning
Breath test Not requested
Casualty Reference: 1 Age: 30 Male Driver/rider Severity: Slight Injured by vehicle: 3
Seatbelt: Unknown Cycle helmet Not a cyclist
Ped. Location Ped. Movement Ped. Direction Ped. Injury School pupil: 0

Vehicle Reference 4 Car Moving from to Parked Left hand drive: No

On main carriageway
First point of impact Offside Parts damaged: 0 0 0 Age of Driver 60 Sex of Driver Male No skidding, jack-knifing or overturning
Breath test Not requested

Accidents between dates 01/02/2015 and 31/01/2020 (60) months

Selection: Notes:
Selected using Manual Selection A509, A422, Willen Road.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Saturday 26/03/2016 Time 1732 Serious at LONDON ROAD, 650METRES NORTH OF HOLIDAY INN HOTEL, NEWPORT PAGNELL, MK
E: 488996 N: 242343 Junction Detail: 0 Control
Raining without high winds Road surface Wet/Damp Daylight
C2 TRAV SOUTH ON A509, C1 TRAV OPP DIR, C1 CROSSED INTO OPP LANE & COLL WITH FRONT C2 CAUSING C2 TO SPIN.
Road Type Single carriageway Vehicles 2 Casualties 4 Police Ref. S1160316 Speed limit 60
Crossing: Control 0 Facilities 0 Local Authority: E06000042 Parish: 1190 Road Section: 203 Accident Type(s) NN

Causation

	Factor:	Participant:	Confidence:
1st:	Fatigue	Vehicle 1	Very Likely
2nd:	Illness or disability, mental or physical	Vehicle 1	Very Likely
3rd:	Distraction in vehicle	Vehicle 1	Possible
4th:	Impaired by drugs (illicit or medicinal)	Vehicle 1	Possible
5th:	Failed to look properly	Vehicle 1	Very Likely
6th:	Careless/Reckless/In a hurry	Vehicle 1	Possible

Vehicle Reference 1 Car Moving from S to N Going ahead other Left hand drive: No

On main carriageway Skidded
First point of impact Front Parts damaged: 0 0 0 Age of Driver 63 Sex of Driver Male Breath test Not provided (medical reasons)

Casualty Reference: 1 Age: 63 Male Driver/rider Severity: Slight Injured by vehicle: 1

Seatbelt: Worn but not independently confirmed Cycle helmet Not a cyclist
Ped. Location Ped. Movement Ped. Direction Ped. Injury School pupil: 0

Accidents between dates 01/02/2015 and 31/01/2020 (60) months

Selection: Notes:
Selected using Manual Selection A509, A422, Willen Road.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Vehicle Reference	2	Car		Moving from	N	to	S	Going ahead other	Left hand drive: No
On main carriageway								Skidded	
First point of impact	Front	Parts damaged:	0 0 0	Age of Driver	23	Sex of Driver	Male	Breath test	Not provided (medical reasons)
Casualty Reference:	2	Age:	23	Male	Driver/rider	Severity:	Serious	Injured by vehicle:	2
Seatbelt:	Worn but not independently confirmed			Cycle helmet	Not a cyclist				
Ped. Location		Ped. Movement		Ped. Direction		Ped. Injury		School pupil:	0
Casualty Reference:	3	Age:	23	Male	Passenger	Severity:	Slight	Injured by vehicle:	2
Seatbelt:	Worn but not independently confirmed			Cycle helmet	Not a cyclist				
Ped. Location		Ped. Movement		Ped. Direction		Ped. Injury		School pupil:	0
Casualty Reference:	4	Age:	21	Male	Passenger	Severity:	Slight	Injured by vehicle:	2
Seatbelt:	Worn but not independently confirmed			Cycle helmet	Not a cyclist				
Ped. Location		Ped. Movement		Ped. Direction		Ped. Injury		School pupil:	0

Accidents between dates 01/02/2015 and 31/01/2020 (60) months

Selection: Selected using Manual Selection
Notes: A509, A422, Willen Road.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Friday 01/04/2016 Time 1725 Slight at LONDON ROAD, LAYBY 330METRES NORTH OF HOTEL, NEWPORT PAGNELL, MK

E: 489069 N: 242098 Junction Detail: 0 Control

Fine without high winds Road surface Dry Daylight

STAT TRAFFIC QUEUE S/BND, MC2 TRAV S & PASSING STAT VEHS WHEN C1 COMM U--TURN ACROSS PATH MC2, MC2 COLL WITH O/SIDE C1.

Road Type Single carriageway Vehicles 2 Casualties 1 Police Ref. S0010416 Speed limit 60

Crossing: Control 0 Facilities 0 Local Authority: E06000042 Parish: 1190 Road Section: 204 Accident Type(s) UU

Causation

	Factor:	Participant:	Confidence:
1st:	Failed to look properly	Vehicle 1	Very Likely
2nd:	Careless/Reckless/In a hurry	Vehicle 1	Very Likely
3rd:			
4th:			
5th:			
6th:			

Vehicle Reference 1 Car Moving from N to N U-turn Left hand drive: No

On main carriageway No skidding, jack-knifing or overturning
First point of impact Offside Parts damaged: 0 0 0 Age of Driver 32 Sex of Driver Male Breath test Negative

Accidents between dates 01/02/2015 and 31/01/2020 (60) months

Selection: Notes:
Selected using Manual Selection A509, A422, Willen Road.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Vehicle Reference 2 Motorcycle over 500cc Moving from N to S Overtaking stat vehicle O/SLeft hand drive: No

On main carriageway No skidding, jack-knifing or overturning
First point of impact Front Parts damaged: 0 0 0 Age of Driver 48 Sex of Driver Male Breath test Negative

Casualty Reference: 1 Age: 48 Male Driver/rider Severity: Slight Injured by vehicle: 2

Seatbelt: Not Applicable Cycle helmet Not a cyclist

Ped. Location Ped. Movement Ped. Direction Ped. Injury School pupil: 0

Accidents between dates 01/02/2015 and 31/01/2020 (60) months

Selection: Notes:
Selected using Manual Selection A509, A422, Willen Road.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Wednesday 17/08/2016 Time 1920 Slight at A509 JNC LONDON ROAD, TICKFORD ROUNDABOUT, NEWPORT PAGNELL, MK

E: 488707 N: 242892 Junction Detail: 1 Control 4

Fine without high winds Road surface Dry Daylight

GV1 WITH TRAILER LOADED WITH STRAW BAILS NEG RBT TO EXIT N/E ONTO A509, TRAILER MOUNTED CENT ISLND
CAUSING IT TO ROLL ONTO SIDE.

Road Type Dual carriageway Vehicles 1 Casualties 1 Police Ref. S0690816 Speed limit 70

Crossing: Control 0 Facilities 0 Local Authority: E06000042 Parish: 1938 Road Section: Accident Type(s) SG

Causation

	Factor:	Participant:	Confidence:
1st:	Overloaded or poorly loaded vehicle or trailer	Vehicle 1	Possible
2nd:	Poor turn or manoeuvre	Vehicle 1	Very Likely
3rd:			
4th:			
5th:			
6th:			

Vehicle Reference 1 Goods 7.5 tonnes mgw and over Moving from S to NE Turning right Left hand drive: No

On main carriageway Overturned
First point of impact Offside Parts damaged: 0 0 0 Age of Driver 31 Sex of Driver Male Breath test Negative

Casualty Reference: 1 Age: 31 Male Driver/rider Severity: Slight Injured by vehicle: 1

Seatbelt: Not worn

Cycle helmet Not a cyclist

Ped. Location Ped. Movement Ped. Direction Ped. Injury School pupil: 0

Accidents between dates 01/02/2015 and 31/01/2020 (60) months

Selection: Selected using Manual Selection
Notes: A509, A422, Willen Road.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Tuesday 13/09/2016 Time 1850 Slight at A422 JNC WILLEN ROAD, MARSH END RBT, NEWPORT PAGNELL, MK
E: 487736 N: 242599 Junction Detail: 1 Control 4
Fine without high winds Road surface Dry Daylight
PC2 TRAV S ON WILLEN RD NEG RBT, C1 TRAV S/W ON A422 ENTERD RBT INTO PATH PC2, PC2 COLL WITH O/SIDE C1.
Road Type Dual carriageway Vehicles 2 Casualties 1 Police Ref. 160298242 Speed limit 70
Crossing: Control 0 Facilities 0 Local Authority: E06000042 Parish: 1938 Road Section: Accident Type(s) CM

Causation

	Factor:	Participant:	Confidence:
1st:	Failed to look properly	Vehicle 1	Very Likely
2nd:			
3rd:			
4th:			
5th:			
6th:			

Vehicle Reference 1 Car Moving from E to W Going ahead other Left hand drive: No

On main carriageway No skidding, jack-knifing or overturning
First point of impact Offside Parts damaged: 0 0 0 Age of Driver 21 Sex of Driver Male Breath test Not requested

Accidents between dates 01/02/2015 and 31/01/2020 (60) months

Selection: Notes:
Selected using Manual Selection A509, A422, Willen Road.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Vehicle Reference 2 Pedal Cycle Moving from N to S Going ahead other Left hand drive: No

On main carriageway No skidding, jack-knifing or overturning
First point of impact Front Parts damaged: 0 0 0 Age of Driver 34 Sex of Driver Male Breath test Not applicable

Casualty Reference: 1 Age: 34 Male Driver/rider Severity: Slight Injured by vehicle: 2

Seatbelt: Not Applicable Cycle helmet Yes

Ped. Location Ped. Movement Ped. Direction Ped. Injury School pupil: 0

Accidents between dates 01/02/2015 and 31/01/2020 (60) months

Selection: Notes:
Selected using Manual Selection A509, A422, Willen Road.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Wednesday 15/03/2017 Time 0620 Slight at A509 JNC RENNY PARK ROAD, RENNY LODGE RBT, NEWPORT PAGNELL, MK

E: 488862 N: 242927 Junction Detail: 1 Control 4

Fog or mist Road surface Wet/Damp Daylight

GV2 NEG RBT TURNING RIGHT TWDS A422 S/WBND, GV1 (VAN) TRAV S/W ON A509, DRVR GV1 FELL ASLEEP & GV1 MOUNTED N/SIDE VERGE THEN ENTERD RBT & COLL WITH N/SIDE GV2.

Road Type Dual carriageway Vehicles 2 Casualties 1 Police Ref. 170121019 Speed limit 70

Crossing: Control 0 Facilities 0 Local Authority: E06000042 Parish: 1938 Road Section: Accident Type(s) CM

Causation

	Factor:	Participant:	Confidence:
1st:	Failed to judge other persons path or speed	Vehicle 1	Very Likely
2nd:	Careless/Reckless/In a hurry	Vehicle 1	Very Likely
3rd:	Other	Vehicle 1	
4th:			
5th:			
6th:			

DRIVER GV1 FELL ASLEEP AT THE WHEEL.

Vehicle Reference 1 Van or Goods 3.5 tonnes mgw and under Moving from NE to S Going ahead other Left hand drive: No

On main carriageway No skidding, jack-knifing or overturning
First point of impact Front Parts damaged: 0 0 0 Age of Driver 27 Sex of Driver Male Breath test Negative

Casualty Reference: 1 Age: 27 Male Driver/rider Severity: Slight Injured by vehicle: 1

Seatbelt: Unknown Cycle helmet Not a cyclist

Ped. Location Ped. Movement Ped. Direction Ped. Injury School pupil: 0

Accidents between dates 01/02/2015 and 31/01/2020 (60) months

Selection: Notes:
Selected using Manual Selection A509, A422, Willen Road.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Vehicle Reference 2 Goods 7.5 tonnes mgw and over Moving from N to S Turning right Left hand drive: No

On main carriageway No skidding, jack-knifing or overturning
First point of impact Nearside Parts damaged: 0 0 0 Age of Driver 62 Sex of Driver Male Breath test Negative

Accidents between dates 01/02/2015 and 31/01/2020 (60) months

Selection: Notes:
Selected using Manual Selection A509, A422, Willen Road.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Thursday 25/05/2017 Time 2021 Slight at A422 JNC LONDON RD, TICKFORD ROUNDABOUT, NEWPORT PAGNELL, MK

E: 488743 N: 242890 Junction Detail: 1 Control 4

Fine without high winds Road surface Dry Daylight

C2 EXITED RBT TRAV N/E ONTO A509 IN LN2, C1 TRAV SAME DIR IN LN1, C1 THEN COLL WITH N/SIDE C2. VEHS STOP THEN C1 DRIVES OFF.

Road Type Dual carriageway Vehicles 2 Casualties 1 Police Ref. 170164227 Speed limit 70

Crossing: Control 0 Facilities 0 Local Authority: E06000042 Parish: 1938 Road Section: Accident Type(s) MD

Causation

	Factor:	Participant:	Confidence:
1st:	Failed to look properly	Vehicle 1	Possible
2nd:			
3rd:			
4th:			
5th:			
6th:			

Vehicle Reference 1 Car Moving from S to NE Changing lane to right Left hand drive: No

On main carriageway No skidding, jack-knifing or overturning
First point of impact Offside Parts damaged: 0 0 0 Age of Driver 30 Sex of Driver Female Breath test Driver not contacted

Accidents between dates 01/02/2015 and 31/01/2020 (60) months

Selection: Notes:
Selected using Manual Selection A509, A422, Willen Road.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Vehicle Reference 2 Car Moving from S to NE Going ahead other Left hand drive: No

On main carriageway No skidding, jack-knifing or overturning
First point of impact Nearside Parts damaged: 0 0 0 Age of Driver 30 Sex of Driver Female Breath test Driver not contacted

Casualty Reference: 1 Age: 30 Female Driver/rider Severity: Slight Injured by vehicle: 2

Seatbelt: Unknown Cycle helmet Not a cyclist

Ped. Location Ped. Movement Ped. Direction Ped. Injury School pupil: 0

Accidents between dates 01/02/2015 and 31/01/2020 (60) months

Selection: Notes:
Selected using Manual Selection A509, A422, Willen Road.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Monday 05/06/2017 Time 1842 Serious at A422 JNC WILLEN ROAD, MARSH END RBT, NEWPORT PAGNELL, MK

E: 487745 N: 242607 Junction Detail: 1 Control 4

Raining with high winds Road surface Wet/Damp Daylight

MC1 & MC2 TRAV WEST ON A422 APPR RBT, C1 BRAKED & LOST GRIP ON SURFACE CAUSING RIDER TO FALL, MC2 FOLL
LOST CONTRL & RIDER FELL.

Road Type Dual carriageway Vehicles 2 Casualties 2 Police Ref. 170170562 Speed limit 70

Crossing: Control 0 Facilities 0 Local Authority: E06000042 Parish: 1983 Road Section: Accident Type(s) NC

Causation

	Factor:	Participant:	Confidence:
1st:	Following too close	Vehicle 2	Very Likely
2nd:	Inexperienced or learner driver/rider	Vehicle 1	Very Likely
3rd:	Slippery road (due to weather)	Vehicle 1	Very Likely
4th:	Slippery road (due to weather)	Vehicle 2	Very Likely
5th:	Travelling too fast for conditions	Vehicle 1	Possible
6th:			

Vehicle Reference 1 Motorcycle 50cc and under Moving from E to W Stopping Left hand drive: No

On main carriageway Skidded
First point of impact Did not impact Parts damaged: 0 0 0 Age of Driver 16 Sex of Driver Male Breath test Negative

Casualty Reference: 1 Age: 16 Male Driver/rider Severity: Slight Injured by vehicle: 1

Seatbelt: Not Applicable

Cycle helmet Not a cyclist

Ped. Location

Ped. Movement

Ped. Direction

Ped. Injury

School pupil: 0

Accidents between dates 01/02/2015 and 31/01/2020 (60) months

Selection: Notes:
Selected using Manual Selection A509, A422, Willen Road.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Vehicle Reference 2 Motorcycle 50cc and under Moving from E to W Stopping Left hand drive: No

On main carriageway Skidded

First point of impact Did not impact Parts damaged: 0 0 0 Age of Driver 17 Sex of Driver Male Breath test Negative

Casualty Reference: 2 Age: 17 Male Driver/rider Severity: Serious Injured by vehicle: 2

Seatbelt: Not Applicable Cycle helmet Not a cyclist

Ped. Location Ped. Movement Ped. Direction Ped. Injury School pupil: 0

Accidents between dates 01/02/2015 and 31/01/2020 (60) months

Selection: Selected using Manual Selection
Notes: A509, A422, Willen Road.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Saturday 05/08/2017 Time 1350 Slight at A422 JNC WILLEN ROAD, MARSH END ROUNDABOUT, NEWPORT PAGNELL, MK
E: 487678 N: 242609 Junction Detail: 1 Control 4
Raining without high winds Road surface Wet/Damp Daylight
C2 & C1 TRAV EAST ON A422 APPR RBT, C1 COLL WITH REAR C2.
Road Type Dual carriageway Vehicles 2 Casualties 2 Police Ref. 170241882 Speed limit 70
Crossing: Control 0 Facilities 0 Local Authority: E06000042 Parish: 1938 Road Section: Accident Type(s) NB

Causation

	Factor:	Participant:	Confidence:
1st:	Failed to look properly	Vehicle 1	Very Likely
2nd:	Failed to judge other persons path or speed	Vehicle 1	Very Likely
3rd:			
4th:			
5th:			
6th:			

Accidents between dates 01/02/2015 and 31/01/2020 (60) months

Selection: Notes:
Selected using Manual Selection A509, A422, Willen Road.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Vehicle Reference 1 Car Moving from W to E Going ahead other Left hand drive: No

On main carriageway
First point of impact Front Parts damaged: 0 0 0 Age of Driver 50 Sex of Driver Female No skidding, jack-knifing or overturning
Breath test Negative

Casualty Reference: 1 Age: 50 Female Driver/rider Severity: Slight Injured by vehicle: 1

Seatbelt: Worn but not independently confirmed

Cycle helmet Not a cyclist

Ped. Location

Ped. Movement

Ped. Direction

Ped. Injury

School pupil: 0

Casualty Reference: 2 Age: 71 Female Passenger Severity: Slight Injured by vehicle: 1

Seatbelt: Worn but not independently confirmed

Cycle helmet Not a cyclist

Ped. Location

Ped. Movement

Ped. Direction

Ped. Injury

School pupil: 0

Vehicle Reference 2 Car Moving from W to E Stopping Left hand drive: No

On main carriageway
First point of impact Back Parts damaged: 0 0 0 Age of Driver 26 Sex of Driver Male No skidding, jack-knifing or overturning
Breath test Negative

Accidents between dates 01/02/2015 and 31/01/2020 (60) months

Selection: Notes:
Selected using Manual Selection A509, A422, Willen Road.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Tuesday 19/09/2017 Time 1137 Slight at A422, 290M EAST OF JNC WILLEN RD, NEWPORT PAGNELL, MK

E: 487997 N: 242686 Junction Detail: 0 Control

Fine without high winds Road surface Dry Daylight

C2 TRAV N/E STOPPED FOR TRAFFIC QUEUE AHEAD, C1 TRAV SAME DIR FAILS TO SEE QUEUE & COLL WITH REAR C2 AT SPEED. C1 THEN LEAVES SCENE.

Road Type Dual carriageway Vehicles 2 Casualties 1 Police Ref. 170281181 Speed limit 70

Crossing: Control 0 Facilities 0 Local Authority: E06000042 Parish: 1938 Road Section: Accident Type(s) NB

Causation

	Factor:	Participant:	Confidence:
1st:	Failed to look properly	Vehicle 1	Very Likely
2nd:	Failed to judge other persons path or speed	Vehicle 1	Very Likely
3rd:			
4th:			
5th:			
6th:			

Vehicle Reference 1 Car Moving from S to NE Going ahead other Left hand drive: No

On main carriageway No skidding, jack-knifing or overturning
First point of impact Front Parts damaged: 0 0 0 Age of Driver Sex of Driver Male Breath test Driver not contacted

Accidents between dates 01/02/2015 and 31/01/2020 (60) months

Selection: Notes:
Selected using Manual Selection A509, A422, Willen Road.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Vehicle Reference 2 Car Moving from S to NE Going ahead but held up Left hand drive: No

On main carriageway No skidding, jack-knifing or overturning
First point of impact Back Parts damaged: 0 0 0 Age of Driver 41 Sex of Driver Male Breath test Negative

Casualty Reference: 1 Age: 41 Male Driver/rider Severity: Slight Injured by vehicle: 2

Seatbelt: Worn and independently confirmed Cycle helmet Not a cyclist

Ped. Location Ped. Movement Ped. Direction Ped. Injury School pupil: 0

Accidents between dates 01/02/2015 and 31/01/2020 (60) months

Selection: Notes:
Selected using Manual Selection A509, A422, Willen Road.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Thursday 21/09/2017 Time 1755 Serious at A509 JNC RENNY LODGE ROUDABOUT, NEWPORT PAGNELL, MK

E: 488884 N: 242934 Junction Detail: 1 Control 4

Raining without high winds Road surface Wet/Damp Daylight

C2 TRAV S/W ON A509 SLOWING FOR RBT AHEAD, C1 FOLL AT SPEED FAILS TO SLOW & COLL WITH REAR C2, C1 OVERTURNS.

Road Type Dual carriageway Vehicles 2 Casualties 3 Police Ref. 170295140 Speed limit 70

Crossing: Control 0 Facilities 0 Local Authority: E06000042 Parish: 1938 Road Section: Accident Type(s) NB

Causation

	Factor:	Participant:	Confidence:
1st:	Travelling too fast for conditions	Vehicle 1	Very Likely
2nd:	Poor turn or manoeuvre	Vehicle 1	Possible
3rd:	Failed to judge other persons path or speed	Vehicle 1	
4th:			
5th:			
6th:			

Accidents between dates 01/02/2015 and 31/01/2020 (60) months

Selection: Notes:
Selected using Manual Selection A509, A422, Willen Road.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Vehicle Reference 1 Car Moving from NE to S Going ahead other Left hand drive: No

On main carriageway Skidded and overturned
 First point of impact Front Parts damaged: 0 0 0 Age of Driver 24 Sex of Driver Male Breath test Negative
 Casualty Reference: 1 Age: 24 Male Driver/rider Severity: Serious Injured by vehicle: 1
 Seatbelt: Worn but not independently confirmed Cycle helmet Not a cyclist
 Ped. Location Ped. Movement Ped. Direction Ped. Injury School pupil: 0
 Casualty Reference: 2 Age: 29 Male Passenger Severity: Slight Injured by vehicle: 1
 Seatbelt: Worn but not independently confirmed Cycle helmet Not a cyclist
 Ped. Location Ped. Movement Ped. Direction Ped. Injury School pupil: 0

Vehicle Reference 2 Car Moving from NE to S Stopping Left hand drive: No

On main carriageway No skidding, jack-knifing or overturning
 First point of impact Back Parts damaged: 0 0 0 Age of Driver 31 Sex of Driver Male Breath test Negative
 Casualty Reference: 3 Age: 31 Male Driver/rider Severity: Slight Injured by vehicle: 2
 Seatbelt: Worn but not independently confirmed Cycle helmet Not a cyclist
 Ped. Location Ped. Movement Ped. Direction Ped. Injury School pupil: 0

Accidents between dates 01/02/2015 and 31/01/2020 (60) months

Selection: Notes:
Selected using Manual Selection A509, A422, Willen Road.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Wednesday 25/10/2017 Time 0244 Slight at LONDON ROAD, SOUTH OF JNC A422 RBT, NEWPORT PAGNELL, MK

E: 488809 N: 242696 Junction Detail: 0 Control

Fine without high winds Road surface Dry Darkness: no street lighting

GV1 TRAV SOUTH ON LONDND RD, PED WALKING SOUTH IN C/WAY ON GV1 N/SIDE & WEARING DARK CLOTHING, GV1
CLIPPED PED ELBOW KNOCKING HIM OVER.

Road Type Single carriageway Vehicles 1 Casualties 1 Police Ref. 170333397 Speed limit 60

Crossing: Control 0 Facilities 0 Local Authority: E06000042 Parish: 1938 Road Section: Accident Type(s) PY

Causation

	Factor:	Participant:	Confidence:
1st:	Pedestrian wearing dark clothing at night	Casualty 1	Very Likely
2nd:			
3rd:			
4th:			
5th:			
6th:			

Vehicle Reference 1 Goods 7.5 tonnes mgw and over Moving from N to S Going ahead other Left hand drive: No

On main carriageway No skidding, jack-knifing or overturning
First point of impact Front Parts damaged: 0 0 0 Age of Driver 55 Sex of Driver Male Breath test Negative

Casualty Reference: 1 Age: 54 Male Pedestrian Severity: Slight Injured by vehicle: 1

Seatbelt: Not Applicable

Cycle helmet Not a cyclist

Ped. Location 10 Ped. Movement 1 Ped. Direction 5 Ped. Injury 0 School pupil: 0

Accidents between dates 01/02/2015 and 31/01/2020 (60) months

Selection: Notes:
Selected using Manual Selection A509, A422, Willen Road.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Friday 01/12/2017 Time 1327 Slight at A509 JNC RENNY PARK RD, RENNY LODGE RBT, NEWPORT PAGNELL, MK

E: 488864 N: 242921 Junction Detail: 1 Control 4

Fine without high winds Road surface Dry Daylight

C1 TRAV S/W ON A509 APPR JNC, DRVR FAILS TO NEG BEND & C1 CROSSES N/SIDE VERGE ENTERING RBT & COLL WITH C2 WHO WAS NEG RBT. DRVR C1 POS B.TEST.

Road Type Dual carriageway Vehicles 2 Casualties 2 Police Ref. 170368429 Speed limit 70

Crossing: Control 0 Facilities 0 Local Authority: E06000042 Parish: 1938 Road Section: Accident Type(s) CM

Causation

	Factor:	Participant:	Confidence:
1st:	Travelling too fast for conditions	Vehicle 1	Very Likely
2nd:	Impaired by alcohol	Vehicle 1	Very Likely
3rd:			
4th:			
5th:			
6th:			

Vehicle Reference 1 Car Moving from NE to S Going ahead other Left hand drive: No

On main carriageway No skidding, jack-knifing or overturning
First point of impact Front Parts damaged: 0 0 0 Age of Driver 43 Sex of Driver Male Breath test Positive

Accidents between dates 01/02/2015 and 31/01/2020 (60) months

Selection: Notes:
Selected using Manual Selection A509, A422, Willen Road.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Vehicle Reference	2	Car		Moving from	N	to	SE	Going ahead other	Left hand drive: No			
On main carriageway								No skidding, jack-knifing or overturning				
First point of impact		Nearside	Parts damaged:	0	0	0	Age of Driver	40	Sex of Driver	Male	Breath test	Negative
Casualty Reference:	1		Age:	40	Male		Driver/rider	Severity:	Slight	Injured by vehicle:	2	
Seatbelt:		Unknown					Cycle helmet	Not a cyclist				
Ped. Location			Ped. Movement				Ped. Direction	Ped. Injury		School pupil:	0	
Casualty Reference:	2		Age:	26	Female		Passenger	Severity:	Slight	Injured by vehicle:	2	
Seatbelt:		Unknown					Cycle helmet	Not a cyclist				
Ped. Location			Ped. Movement				Ped. Direction	Ped. Injury		School pupil:	0	

Accidents between dates 01/02/2015 and 31/01/2020 (60) months

Selection: Notes:
Selected using Manual Selection A509, A422, Willen Road.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Monday 04/12/2017 Time 1244 Slight at WILLEN ROAD, 160M SOUTH OF CALDECOTE FARM ACCESS, NEWPORT PAGNELL, MK

E: 487786 N: 242140 Junction Detail: 0 Control

Fine without high winds Road surface Wet/Damp Daylight

GV2 TRAV SOUTH BEHIND SLOW MOVING ROADSWEeping VEH, C1 TRAV SAME DIR FAILS TO NOTICE SLOW TRAFFIC & COLL WITH REAR GV2.

Road Type Single carriageway Vehicles 2 Casualties 2 Police Ref. 170369405 Speed limit 60

Crossing: Control 0 Facilities 0 Local Authority: E06000042 Parish: 1190 Road Section: Accident Type(s) NB

Causation

	Factor:	Participant:	Confidence:
1st:	Failed to look properly	Vehicle 1	Possible
2nd:			
3rd:			
4th:			
5th:			
6th:			

Vehicle Reference 1 Car Moving from N to S Going ahead other Left hand drive: No

On main carriageway No skidding, jack-knifing or overturning
First point of impact Front Parts damaged: 0 0 0 Age of Driver 20 Sex of Driver Female Breath test Negative

Casualty Reference: 1 Age: 20 Female Driver/rider Severity: Slight Injured by vehicle: 1

Seatbelt: Worn but not independently confirmed Cycle helmet Not a cyclist

Ped. Location Ped. Movement Ped. Direction Ped. Injury School pupil: 0

Accidents between dates 01/02/2015 and 31/01/2020 (60) months

Selection: Notes:
Selected using Manual Selection A509, A422, Willen Road.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Vehicle Reference 2 Goods over 3.5 tonnes and under 7.5 tonnes mgw Moving from N to S Going ahead other Left hand drive: No

On main carriageway No skidding, jack-knifing or overturning
First point of impact Back Parts damaged: 0 0 0 Age of Driver 40 Sex of Driver Male Breath test Negative

Casualty Reference: 2 Age: 40 Male Driver/rider Severity: Slight Injured by vehicle: 2

Seatbelt: Worn but not independently confirmed

Cycle helmet Not a cyclist

Ped. Location

Ped. Movement

Ped. Direction

Ped. Injury

School pupil: 0

Accidents between dates 01/02/2015 and 31/01/2020 (60) months

Selection: Notes:
Selected using Manual Selection A509, A422, Willen Road.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Wednesday 31/01/2018 Time 0910 Slight at LONDON ROAD, 200M SOUTH OF JNC A422 RBT, NEWPORT PAGNELL, MK

E: 488821 N: 242669 Junction Detail: 0 Control

Raining with high winds Road surface Wet/Damp Daylight

C2 TRAV SOUTH, MC1 TRAV SAME DIR & FILTERING PAST OTHER VEHS, C2 MOVED OUT TO PASS LARGE PUDDLE ON N/SIDE & COLL WITH N/SIDE MC1.

Road Type Single carriageway Vehicles 2 Casualties 1 Police Ref. 180039554 Speed limit 60

Crossing: Control 0 Facilities 0 Local Authority: E06000042 Parish: 1190 Road Section: Accident Type(s) ZZ

Causation

	Factor:	Participant:	Confidence:
1st:	Poor turn or manoeuvre	Vehicle 1	Very Likely
2nd:	Failed to look properly	Vehicle 2	Possible
3rd:	Failed to signal/Misleading signal	Vehicle 2	
4th:			
5th:			
6th:			

Vehicle Reference 1 Motorcycle over 500cc Moving from N to S Overtaking moving vehicle ~~DR~~ hand drive: No

On main carriageway No skidding, jack-knifing or overturning
First point of impact Offside Parts damaged: 0 0 0 Age of Driver 19 Sex of Driver Male Breath test Negative

Casualty Reference: 1 Age: 19 Male Driver/rider Severity: Slight Injured by vehicle: 1

Seatbelt: Not Applicable Cycle helmet Not a cyclist

Ped. Location Ped. Movement Ped. Direction Ped. Injury School pupil: 0

Accidents between dates 01/02/2015 and 31/01/2020 (60) months

Selection: Notes:
Selected using Manual Selection A509, A422, Willen Road.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Vehicle Reference	2	Car		Moving from	N	to	S	Going ahead other	Left hand drive: No
On main carriageway								No skidding, jack-knifing or overturning	
First point of impact	Offside	Parts damaged:	0 0 0	Age of Driver	34	Sex of Driver	Male	Breath test	Negative

Accidents between dates 01/02/2015 and 31/01/2020 (60) months

Selection: Notes:
Selected using Manual Selection A509, A422, Willen Road.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Wednesday 28/03/2018 Time 1740 Slight at A422, EAST OF JNC WILLEN ROAD, NEWPORT PAGNELL, MK

E: 487922 N: 242666 Junction Detail: 0 Control

Fine without high winds Road surface Wet/Damp Daylight

C2 TRAV EAST ON A422 IN LN 1 & STOPPED AT TRAFF QUEUE, C1 TRAV EAST IN LN 2 MOVED INTO LN 1 & FAILED TO SEE QUEUE AHEAD, C1 COLL INTO REAR C2.

Road Type Dual carriageway Vehicles 2 Casualties 2 Police Ref. 180100693 Speed limit 70

Crossing: Control 0 Facilities 0 Local Authority: E06000042 Parish: 1938 Road Section: Accident Type(s) NB

Causation

	Factor:	Participant:	Confidence:
1st:	Failed to look properly	Vehicle 1	Very Likely
2nd:	Failed to judge other persons path or speed	Vehicle 1	Very Likely
3rd:	Distraction in vehicle	Vehicle 1	
4th:			
5th:			
6th:			

Vehicle Reference 1 Car Moving from W to E Changing lane to left Left hand drive: No

On main carriageway No skidding, jack-knifing or overturning
First point of impact Front Parts damaged: 0 0 0 Age of Driver 23 Sex of Driver Male Breath test Negative

Accidents between dates 01/02/2015 and 31/01/2020 (60) months

Selection: Notes:
Selected using Manual Selection A509, A422, Willen Road.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Vehicle Reference 2 Car Moving from W to E Going ahead but held up Left hand drive: No

On main carriageway
First point of impact Back Parts damaged: 0 0 0 Age of Driver 33 Sex of Driver Male No skidding, jack-knifing or overturning
Breath test Negative

Casualty Reference: 1 Age: 33 Male Driver/rider Severity: Slight Injured by vehicle: 2

Seatbelt: Unknown

Cycle helmet Not a cyclist

Ped. Location Ped. Movement Ped. Direction Ped. Injury School pupil: 0

Casualty Reference: 2 Age: 29 Female Passenger Severity: Slight Injured by vehicle: 2

Seatbelt: Unknown

Cycle helmet Not a cyclist

Ped. Location Ped. Movement Ped. Direction Ped. Injury School pupil: 0

Accidents between dates 01/02/2015 and 31/01/2020 (60) months

Selection: Notes:
Selected using Manual Selection A509, A422, Willen Road.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Saturday 30/06/2018 Time 1917 Slight at LONDON ROAD, NEAR JNC A422 O/S PYMS STABLES, NEWPORT PAGNELL, MK

E: 488748 N: 242814 Junction Detail: 0 Control

Fine without high winds Road surface Dry Daylight

C2 TRAV N/W ON LONDND RD APPR JNC, C1 EXITD RBT TRAV OPP DIR ON LONDND RD, DRVR C1 LOST CONTRL & C1 COLL WITH FRONT C2.

Road Type Single carriageway Vehicles 2 Casualties 4 Police Ref. 180204729 Speed limit 60

Crossing: Control 0 Facilities 0 Local Authority: E06000042 Parish: 1938 Road Section: Accident Type(s) NN

Causation

	Factor:	Participant:	Confidence:
1st:	Careless/Reckless/In a hurry	Vehicle 1	Very Likely
2nd:	Loss of control	Vehicle 1	Very Likely
3rd:			
4th:			
5th:			
6th:			

Vehicle Reference 1 Car Moving from N to SE Going ahead other Left hand drive: No

On main carriageway No skidding, jack-knifing or overturning
First point of impact Front Parts damaged: 0 0 0 Age of Driver 30 Sex of Driver Male Breath test Not requested

Casualty Reference: 1 Age: 30 Male Driver/rider Severity: Slight Injured by vehicle: 1

Seatbelt: Unknown Cycle helmet Not a cyclist

Ped. Location Ped. Movement Ped. Direction Ped. Injury School pupil: 0

Accidents between dates 01/02/2015 and 31/01/2020 (60) months

Selection: Notes:
Selected using Manual Selection A509, A422, Willen Road.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Vehicle Reference	2	Car		Moving from	SE	to	N	Going ahead other	Left hand drive: No
On main carriageway								No skidding, jack-knifing or overturning	
First point of impact	Front	Parts damaged:	0 0 0	Age of Driver	40	Sex of Driver	Male	Breath test	Not requested
Casualty Reference:	2	Age:	Female		Passenger		Severity:	Slight	Injured by vehicle: 2
Seatbelt:	Unknown				Cycle helmet	Not a cyclist			
Ped. Location		Ped. Movement		Ped. Direction		Ped. Injury		School pupil:	0
Casualty Reference:	3	Age:	Male		Passenger		Severity:	Slight	Injured by vehicle: 2
Seatbelt:	Unknown				Cycle helmet	Not a cyclist			
Ped. Location		Ped. Movement		Ped. Direction		Ped. Injury		School pupil:	0
Casualty Reference:	4	Age:	Male		Passenger		Severity:	Slight	Injured by vehicle: 2
Seatbelt:	Unknown				Cycle helmet	Not a cyclist			
Ped. Location		Ped. Movement		Ped. Direction		Ped. Injury		School pupil:	0

Accidents between dates 01/02/2015 and 31/01/2020 (60) months

Selection: Notes:
Selected using Manual Selection A509, A422, Willen Road.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Tuesday 22/01/2019 Time 1830 Slight at A422 JNC LONDON ROAD, TICKFORD ROUNDABOUT, NEWPORT PAGNELL, MK

E: 488726 N: 242833 Junction Detail: 1 Control 4

Raining without high winds Road surface Wet/Damp Darkness: street lights present and lit

C2 TRAV NORTH ON LONDON RD STOPS AT ENTRY TO RBT, C1 FOLL COLLS WITH REAR C2. C1 THEN LEAVES SCENE & DRIVES OFF AT SPEED.

Road Type Single carriageway Vehicles 2 Casualties 1 Police Ref. 190024437 Speed limit 60

Crossing: Control 0 Facilities 0 Local Authority: E06000042 Parish: 1938 Road Section: Accident Type(s) NB

Causation

	Factor:	Participant:	Confidence:
1st:	Failed to look properly	Vehicle 1	Possible
2nd:			
3rd:			
4th:			
5th:			
6th:			

Vehicle Reference 1 Car Moving from S to N Going ahead other Left hand drive: No

On main carriageway No skidding, jack-knifing or overturning
First point of impact Front Parts damaged: 0 0 0 Age of Driver Sex of Driver Unknown Breath test Driver not contacted

Accidents between dates 01/02/2015 and 31/01/2020 (60) months

Selection: Notes:
Selected using Manual Selection A509, A422, Willen Road.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Vehicle Reference 2 Car Moving from S to N Going ahead but held up Left hand drive: No

On main carriageway No skidding, jack-knifing or overturning
First point of impact Back Parts damaged: 0 0 0 Age of Driver 39 Sex of Driver Unknown Breath test Driver not contacted

Casualty Reference: 1 Age: 39 Driver/rider Severity: Slight Injured by vehicle: 2

Seatbelt: Unknown

Cycle helmet Not a cyclist

Ped. Location

Ped. Movement

Ped. Direction

Ped. Injury

School pupil: 0

Accidents between dates 01/02/2015 and 31/01/2020 (60) months

Selection: Notes:
Selected using Manual Selection A509, A422, Willen Road.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Wednesday 20/02/2019 Time 1232 Slight at LONDON ROAD, PRIV ACCESS 420M SOUTH OF JNC A422 RBT, NEWPORT PAGNELL, MK
E: 488926 N: 242477 Junction Detail: 8 Control 4
Fine without high winds Road surface Dry Daylight

C1 TRAV SOUTH ON A509 GOING WRONG WAY SO DRVR PULLED INTO ACCESS TO U-TURN, C2 ALSO TRAV SOUTH, C1 U-TURNS INTO PATH C2 & COLLS WITH C2. C1 THEN LEAVES C/WAY INTO DITCH.

Road Type Single carriageway Vehicles 2 Casualties 2 Police Ref. 190062883 Speed limit 60
Crossing: Control 0 Facilities 0 Local Authority: E06000042 Parish: 1190 Road Section: Accident Type(s) UU

Causation

	Factor:	Participant:	Confidence:
1st:	Failed to judge other persons path or speed	Vehicle 1	Very Likely
2nd:	Loss of control	Vehicle 1	Very Likely
3rd:			
4th:			
5th:			
6th:			

Vehicle Reference 1 Car Moving from N to N U-turn Left hand drive: No

On main carriageway No skidding, jack-knifing or overturning
First point of impact Front Parts damaged: 0 0 0 Age of Driver 76 Sex of Driver Female Breath test Negative

Casualty Reference: 1 Age: 76 Female Driver/rider Severity: Slight Injured by vehicle: 1

Seatbelt: Worn but not independently confirmed Cycle helmet Not a cyclist
Ped. Location Ped. Movement Ped. Direction Ped. Injury School pupil: 0

Accidents between dates 01/02/2015 and 31/01/2020 (60) months

Selection: Notes:
Selected using Manual Selection A509, A422, Willen Road.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Vehicle Reference 2 Car Moving from N to S Going ahead other Left hand drive: No

On main carriageway No skidding, jack-knifing or overturning
First point of impact Front Parts damaged: 0 0 0 Age of Driver 61 Sex of Driver Female Breath test Negative

Casualty Reference: 2 Age: 61 Female Driver/rider Severity: Slight Injured by vehicle: 2

Seatbelt: Worn but not independently confirmed Cycle helmet Not a cyclist

Ped. Location Ped. Movement Ped. Direction Ped. Injury School pupil: 0

Accidents between dates 01/02/2015 and 31/01/2020 (60) months

Selection: Notes:
Selected using Manual Selection A509, A422, Willen Road.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Friday 22/02/2019 Time 2100 Slight at WILLEN ROAD JNC ACCESS TO TRAVELLER SITE, NEWPORT PAGNELL, MK

E: 487800 N: 242062 Junction Detail: 8 Control 4

Fine without high winds Road surface Dry Darkness: no street lighting

GV2 (VAN) TRAV NORTH & TURNING RIGHT INTO TRAVELLER SITE, C1 TRAV SAME DIR POSS EXCESS SPEED & COLLS INTO REAR GV2. DRVR C1 LEAVES SCENE THEN RETURNS.

Road Type Single carriageway Vehicles 2 Casualties 2 Police Ref. 190069263 Speed limit 60

Crossing: Control 0 Facilities 0 Local Authority: E06000042 Parish: 1190 Road Section: Accident Type(s) NB

Causation

	Factor:	Participant:	Confidence:
1st:	Failed to look properly	Vehicle 1	Very Likely
2nd:	Careless/Reckless/In a hurry	Vehicle 1	Very Likely
3rd:			
4th:			
5th:			
6th:			

Vehicle Reference 1 Car Moving from S to N Going ahead other Left hand drive: No

On main carriageway No skidding, jack-knifing or overturning
First point of impact Front Parts damaged: 0 0 0 Age of Driver 22 Sex of Driver Female Breath test Not requested

Casualty Reference: 2 Age: 27 Male Passenger Severity: Slight Injured by vehicle: 1

Seatbelt: Unknown Cycle helmet Not a cyclist

Ped. Location Ped. Movement Ped. Direction Ped. Injury School pupil: 0

Accidents between dates 01/02/2015 and 31/01/2020 (60) months

Selection: Notes:
Selected using Manual Selection A509, A422, Willen Road.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Vehicle Reference 2 Van or Goods 3.5 tonnes mgw and under Moving from S to E Turning right Left hand drive: No

On main carriageway
First point of impact Back Parts damaged: 0 0 0 Age of Driver 25 Sex of Driver Male No skidding, jack-knifing or overturning
Breath test Not requested

Casualty Reference: 1 Age: 25 Male Driver/rider Severity: Slight Injured by vehicle: 2

Seatbelt: Unknown

Cycle helmet Not a cyclist

Ped. Location

Ped. Movement

Ped. Direction

Ped. Injury

School pupil: 0

Accidents between dates 01/02/2015 and 31/01/2020 (60) months

Selection: Selected using Manual Selection
Notes: A509, A422, Willen Road.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Wednesday 22/05/2019 Time 1413 Slight at A509 LONDON ROAD, 600M SOUTH OF JNC A422, NEWPORT PAGNELL, MK

E: 489017 N: 242282 Junction Detail: 0 Control

Fine without high winds Road surface Dry Daylight

C1 (POLICE ON CALL) TRAV NORTH & OVRTKNG OTHER VEH, C3 TRAV OPP DIR SLOWS FOR C1, C2 FOLL C3 FAILS TO SLOW & COLLS WITH REAR C3.

Road Type Single carriageway Vehicles 3 Casualties 1 Police Ref. 190154603 Speed limit 60
Crossing: Control 0 Facilities 0 Local Authority: E06000042 Parish: 1190 Road Section: Accident Type(s) NB

Causation

	Factor:	Participant:	Confidence:
1st:	Distraction in vehicle	Vehicle 2	Very Likely
2nd:	Failed to judge other persons path or speed	Vehicle 2	Very Likely
3rd:			
4th:			
5th:			
6th:			

Vehicle Reference 1 Car Moving from S to N Overtaking moving vehicle ~~DR~~ hand drive: No

On main carriageway No skidding, jack-knifing or overturning
First point of impact Did not impact Parts damaged: 0 0 0 Age of Driver 26 Sex of Driver Male Breath test Negative

Accidents between dates 01/02/2015 and 31/01/2020 (60) months

Selection: Notes:
Selected using Manual Selection A509, A422, Willen Road.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Vehicle Reference 2 Car Moving from N to S Going ahead other Left hand drive: No

On main carriageway
First point of impact Front Parts damaged: 0 0 0 Age of Driver 35 Sex of Driver Female Skidded
Breath test Negative

Casualty Reference: 1 Age: 35 Female Driver/rider Severity: Slight Injured by vehicle: 2

Seatbelt: Worn and independently confirmed

Cycle helmet Not a cyclist

Ped. Location

Ped. Movement

Ped. Direction

Ped. Injury

School pupil: 0

Vehicle Reference 3 Car Moving from N to S Stopping Left hand drive: No

On main carriageway
First point of impact Back Parts damaged: 0 0 0 Age of Driver 62 Sex of Driver Male No skidding, jack-knifing or overturning
Breath test Negative

Accidents between dates 01/02/2015 and 31/01/2020 (60) months

Selection:
Selected using Manual Selection

Notes:
A509, A422, Willen Road.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Accidents involving:

	Fatal	Serious	Slight	Total
Motor vehicles only (excluding 2-wheels)	0	2	19	21
2-wheeled motor vehicles	0	1	2	3
Pedal cycles	0	0	3	3
Horses & other	0	0	0	0
Total	0	3	24	27

Casualties:

	Fatal	Serious	Slight	Total
Vehicle driver	0	2	23	25
Passenger	0	0	11	11
Motorcycle rider	0	1	3	4
Cyclist	0	0	3	3
Pedestrian	0	0	1	1
Other	0	0	0	0
Total	0	3	41	44

Number of casualties meeting the criteria: 44

Accidents between dates 01/02/2015 and 31/01/2020 (60) months

Selection: Selected using Manual Selection
Notes: A509, Tongwell Street.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Wednesday 20/05/2015 Time 0748 Slight at V11 TONGWELL STREET JNC COTTON VALLEY SEWAGE WORKS, PINEHAM, MK

E: 488368 N: 240486 Junction Detail: 3 Control 4

Fine without high winds Road surface Dry Daylight

C2 TRAV S ON V11 APPR JNC, GV1 (VAN) TRAV OPP DIR TURNED RIGHT FROM V11 ACROSS PATH C2, GV1 COLL WITH O/SIDE C2.

Road Type Single carriageway Vehicles 2 Casualties 1 Police Ref. S1010515 Speed limit 60

Crossing: Control 0 Facilities 0 Local Authority: E06000042 Parish: 1983 Road Section: 61 Accident Type(s) ID

Causation

	Factor:	Participant:	Confidence:
1st:	Failed to judge other persons path or speed	Vehicle 1	Very Likely
2nd:	Poor turn or manoeuvre	Vehicle 1	Very Likely
3rd:			
4th:			
5th:			
6th:			

Vehicle Reference 1 Van or Goods 3.5 tonnes mgw and under Moving from S to E Turning right Left hand drive: No

On main carriageway
First point of impact Front Parts damaged: 0 0 0 Age of Driver 36 Sex of Driver Male No skidding, jack-knifing or overturning
Breath test Negative

Accidents between dates 01/02/2015 and 31/01/2020 (60) months

Selection: Notes:
Selected using Manual Selection A509, Tongwell Street.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Vehicle Reference 2 Car Moving from N to S Going ahead other Left hand drive: No

On main carriageway No skidding, jack-knifing or overturning
First point of impact Offside Parts damaged: 0 0 0 Age of Driver 57 Sex of Driver Female Breath test Negative

Casualty Reference: 1 Age: 57 Female Driver/rider Severity: Slight Injured by vehicle: 2

Seatbelt: Worn but not independently confirmed Cycle helmet Not a cyclist

Ped. Location Ped. Movement Ped. Direction Ped. Injury School pupil: 0

Accidents between dates 01/02/2015 and 31/01/2020 (60) months

Selection: Selected using Manual Selection
Notes: A509, Tongwell Street.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Wednesday 27/05/2015 Time 1715 Slight at MICHIGAN DRIVE, NEAR DANSTEED WAY, TONGWELL, MK

E: 487708 N: 241757 Junction Detail: 0 Control

Fine without high winds Road surface Dry Daylight

C1 TRAV S/EAST ON MICHIGAN DR OVR TK OTHER VEH ON APPR TO RBT & HIT REAR C2 STAT AHEAD.

Road Type Single carriageway Vehicles 2 Casualties 1 Police Ref. S1390515 Speed limit 30

Crossing: Control 0 Facilities 0 Local Authority: E06000042 Parish: 1983 Road Section: 3 Accident Type(s) OO

Causation

	Factor:	Participant:	Confidence:
1st:	Poor turn or manoeuvre	Vehicle 1	Possible
2nd:			
3rd:			
4th:			
5th:			
6th:			

Vehicle Reference 1 Car Moving from N to SE Overtaking moving vehicle ~~DR~~ hand drive: No

On main carriageway No skidding, jack-knifing or overturning
First point of impact Front Parts damaged: 0 0 0 Age of Driver 35 Sex of Driver Male Breath test Negative

Accidents between dates 01/02/2015 and 31/01/2020 (60) months

Selection: Notes:
Selected using Manual Selection A509, Tongwell Street.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Vehicle Reference 2 Car Moving from N to SE Going ahead but held up Left hand drive: No

On main carriageway No skidding, jack-knifing or overturning
First point of impact Back Parts damaged: 0 0 0 Age of Driver 21 Sex of Driver Female Breath test Negative

Casualty Reference: 1 Age: 21 Female Driver/rider Severity: Slight Injured by vehicle: 2

Seatbelt: Unknown

Cycle helmet Not a cyclist

Ped. Location Ped. Movement Ped. Direction Ped. Injury School pupil: 0

Accidents between dates 01/02/2015 and 31/01/2020 (60) months

Selection: Selected using Manual Selection
Notes: A509, Tongwell Street.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Tuesday 14/07/2015 Time 1538 Slight at A509 ROUNDABOUT JNC M1 SOUTHBND EXIT SLIP RD (JNC 14), PINEHAM, MK

E: 489188 N: 240929 Junction Detail: 1 Control 2

Fine without high winds Road surface Dry Daylight

C1 STAT AT TOP OF SLIP RD TO ENTER RBT, MC2 NEG RBT, C1 MOVED FORWARD OVER STOP LINE TO SEE TRAFFIC ON RBT, MC2 BRAKED & COLL WITH O/SIDE C1. ATS ON RBT NOT WORKING.

Road Type Dual carriageway Vehicles 2 Casualties 1 Police Ref. S0640715 Speed limit 70

Crossing: Control 0 Facilities 0 Local Authority: E06000042 Parish: 1983 Road Section: 208 Accident Type(s) CM

Causation

	Factor:	Participant:	Confidence:
1st:	Defective traffic signals	Vehicle 1	Very Likely
2nd:	Failed to judge other persons path or speed	Vehicle 1	Possible
3rd:			
4th:			
5th:			
6th:			

Vehicle Reference 1 Car Moving from N to SE Starting Left hand drive: No

On main carriageway No skidding, jack-knifing or overturning
First point of impact Offside Parts damaged: 0 0 0 Age of Driver 69 Sex of Driver Male Breath test Negative

Accidents between dates 01/02/2015 and 31/01/2020 (60) months

Selection: Notes:
Selected using Manual Selection A509, Tongwell Street.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Vehicle Reference 2 Motorcycle - unknown cc Moving from S to N Going ahead other Left hand drive: No

On main carriageway No skidding, jack-knifing or overturning
First point of impact Front Parts damaged: 0 0 0 Age of Driver 42 Sex of Driver Male Breath test Negative

Casualty Reference: 1 Age: 42 Male Driver/rider Severity: Slight Injured by vehicle: 2

Seatbelt: Not Applicable

Cycle helmet Not a cyclist

Ped. Location

Ped. Movement

Ped. Direction

Ped. Injury

School pupil: 0

Accidents between dates 01/02/2015 and 31/01/2020 (60) months

Selection: Selected using Manual Selection
Notes: A509, Tongwell Street.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Monday 27/07/2015 Time 2045 Serious at M1 MOTORWAY / A509 JNC 14 ROUNDABOUT, BROOK FURLONG, MK
E: 489250 N: 240900 Junction Detail: 1 Control 2
Fine without high winds Road surface Dry Daylight
GV1 NEG RBT TWDS M1 SOUTHBND ENTRY SLIP, GV1 ROLLED OVER ONTO N/SIDE.
Road Type Roundabout Vehicles 1 Casualties 1 Police Ref. S1260715 Speed limit 70
Crossing: Control 0 Facilities 0 Local Authority: E06000042 Parish: 1983 Road Section: 208 Accident Type(s) SG

Causation

	Factor:	Participant:	Confidence:
1st:	Overloaded or poorly loaded vehicle or trailer	Vehicle 1	Possible
2nd:	Poor turn or manoeuvre	Vehicle 1	Possible
3rd:			
4th:			
5th:			
6th:			

Vehicle Reference 1 Goods 7.5 tonnes mgw and over Moving from N to S Going ahead other Left hand drive: No

On main carriageway
First point of impact Nearside Parts damaged: 0 0 0 Age of Driver 37 Sex of Driver Male Overturned Male Breath test Negative

Casualty Reference: 1 Age: 37 Male Driver/rider Severity: Serious Injured by vehicle: 1

Seatbelt: Not worn

Cycle helmet Not a cyclist

Ped. Location

Ped. Movement

Ped. Direction

Ped. Injury

School pupil: 0

Accidents between dates 01/02/2015 and 31/01/2020 (60) months

Selection: Notes:
Selected using Manual Selection A509, Tongwell Street.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Saturday 08/08/2015 Time 0800 Serious at H5 JNC V11 PINEHAM ROUNDABOUT, PINEHAM, MK

E: 488380 N: 240395 Junction Detail: 1 Control 4

Fine without high winds Road surface Dry Daylight

MC1 TRAV E ON H5 ENTERD RBT INTO PATH OF OTHER VEHS ALREADY CIRC RBT, RIDER LOST CONTRL OF MC1 & FELL.

Road Type Dual carriageway Vehicles 1 Casualties 1 Police Ref. S0400815 Speed limit 70

Crossing: Control 0 Facilities 0 Local Authority: E06000042 Parish: 1983 Road Section: 309 Accident Type(s) SG

Causation

	Factor:	Participant:	Confidence:
1st:	Travelling too fast for conditions	Vehicle 1	Possible
2nd:	Failed to look properly	Vehicle 1	Possible
3rd:	Failed to judge other persons path or speed	Vehicle 1	Possible
4th:	Sudden braking	Vehicle 1	Possible
5th:	Loss of control	Vehicle 1	Very Likely
6th:			

Vehicle Reference 1 Motorcycle over 500cc Moving from W to E Going ahead other Left hand drive: No

On main carriageway Skidded
First point of impact Did not impact Parts damaged: 0 0 0 Age of Driver 26 Sex of Driver Male Breath test Negative

Casualty Reference: 1 Age: 26 Male Driver/rider Severity: Serious Injured by vehicle: 1

Seatbelt: Not Applicable Cycle helmet Not a cyclist

Ped. Location Ped. Movement Ped. Direction Ped. Injury School pupil: 0

Accidents between dates 01/02/2015 and 31/01/2020 (60) months

Selection: Selected using Manual Selection
Notes: A509, Tongwell Street.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Saturday 19/09/2015 Time 1209 **Serious** at H5 JNC H6 NORTHFIELD ROUNDABOUT, PINEHAM, MK

E: 489070 N: 240391 Junction Detail: 1 Control 2

Fine without high winds Road surface Dry Daylight

MC2 & C1 STAT AT RED ATS ON RBT FACING TWDS A509 NORTH EXIT, MC2 IN MIDD LN, C1 IN LN 3 (MARKED RIGHT ONLY), C1 EXITED NORTH ONTO A509 & COLL WITH O/SIDE MC2.

Road Type Dual carriageway Vehicles 2 Casualties 1 Police Ref. S0650915 Speed limit 70

Crossing: Control 0 Facilities 0 Local Authority: E06000042 Parish: 1983 Road Section: 213 Accident Type(s) CN

Causation

	Factor:	Participant:	Confidence:
1st:	Careless/Reckless/In a hurry	Vehicle 1	Very Likely
2nd:	Failed to look properly	Vehicle 1	Very Likely
3rd:	Poor turn or manoeuvre	Vehicle 1	
4th:			
5th:			
6th:			

Vehicle Reference 1 Car Moving from S to NE Changing lane to left Left hand drive: No

On main carriageway No skidding, jack-knifing or overturning
First point of impact Nearside Parts damaged: 0 0 0 Age of Driver 40 Sex of Driver Female Breath test Negative

Accidents between dates 01/02/2015 and 31/01/2020 (60) months

Selection: Notes:
Selected using Manual Selection A509, Tongwell Street.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Vehicle Reference 2 Motor Cycle over 125 cc and up to 500cc Moving from S to NE Going ahead other Left hand drive: No

On main carriageway No skidding, jack-knifing or overturning
First point of impact Offside Parts damaged: 0 0 0 Age of Driver 37 Sex of Driver Male Breath test Negative

Casualty Reference: 1 Age: 37 Male Driver/rider Severity: Serious Injured by vehicle: 2

Seatbelt: Not Applicable

Cycle helmet Not a cyclist

Ped. Location

Ped. Movement

Ped. Direction

Ped. Injury

School pupil: 0

Accidents between dates 01/02/2015 and 31/01/2020 (60) months

Selection: Notes:
Selected using Manual Selection A509, Tongwell Street.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Sunday 27/09/2015 Time 1700 Slight at H5 JNC H6 NORTHFIELD ROUNDABOUT, NORTHFIELD, MK

E: 489052 N: 240328 Junction Detail: 1 Control 4

Fine without high winds Road surface Dry Daylight

C2 NEG RBT TWDS H5 W/BND EXIT, C1 TRAV N ON H6 ENTERD RBT, C1 COLL WITH N/SIDE C2. EITHER C1 OR C2 JUMPED RED ATS.

Road Type Dual carriageway Vehicles 2 Casualties 1 Police Ref. S1600915 Speed limit 70

Crossing: Control 0 Facilities 0 Local Authority: E06000042 Parish: 1983 Road Section: 213 Accident Type(s) CM

Causation

	Factor:	Participant:	Confidence:
1st:	Failed to look properly	Vehicle 1	Possible
2nd:	Failed to look properly	Vehicle 2	Possible
3rd:	Disobeyed automatic traffic signal	Vehicle 1	Possible
4th:	Disobeyed automatic traffic signal	Vehicle 2	Possible
5th:			
6th:			

Vehicle Reference 1 Car Moving from S to N Starting Left hand drive: No

On main carriageway No skidding, jack-knifing or overturning
First point of impact Front Parts damaged: 0 0 0 Age of Driver 76 Sex of Driver Female Breath test Negative

Casualty Reference: 1 Age: 76 Female Driver/rider Severity: Slight Injured by vehicle: 1

Seatbelt: Unknown Cycle helmet Not a cyclist

Ped. Location Ped. Movement Ped. Direction Ped. Injury School pupil: 0

Accidents between dates 01/02/2015 and 31/01/2020 (60) months

Selection: Notes:
Selected using Manual Selection A509, Tongwell Street.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Vehicle Reference	2	Car		Moving from	E	to	W	Going ahead other	Left hand drive: No
On main carriageway								No skidding, jack-knifing or overturning	
First point of impact	Nearside	Parts damaged:	0 0 0	Age of Driver	41	Sex of Driver	Male	Breath test	Negative

Accidents between dates 01/02/2015 and 31/01/2020 (60) months

Selection: Selected using Manual Selection
Notes: A509, Tongwell Street.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Thursday 10/12/2015 Time 1835 Slight at H6 JNC H5 NORTHFIELD ROUNDABOUT, NORTHFIELD, MK

E: 489082 N: 240360 Junction Detail: 1 Control 2

Raining without high winds Road surface Wet/Damp Darkness: street lights present and lit

ALLEGED THAT OTHER VEH CUT IN FRONT OF C1 CAUSING C1 TO BRAKE HARD, C2 FOLL THEN HIT REAR C1. C1 AND OTHER VEH DROVE OFF. DIR TRAV POSS WEST ON A509.

Road Type Dual carriageway Vehicles 2 Casualties 2 Police Ref. S1031215 Speed limit 70

Crossing: Control 0 Facilities 0 Local Authority: E06000042 Parish: 1983 Road Section: 213 Accident Type(s) NB

Causation

	Factor:	Participant:	Confidence:
1st:	Failed to look properly	Vehicle 1	Very Likely
2nd:	Failed to judge other persons path or speed	Vehicle 1	Very Likely
3rd:	Failed to look properly	Vehicle 1	Very Likely
4th:	Failed to judge other persons path or speed	Vehicle 1	Very Likely
5th:			
6th:			

Vehicle Reference 1 Car Moving from E to W Going ahead other Left hand drive: No

On main carriageway No skidding, jack-knifing or overturning
First point of impact Back Parts damaged: 0 0 0 Age of Driver Sex of Driver Unknown Breath test Driver not contacted

Accidents between dates 01/02/2015 and 31/01/2020 (60) months

Selection: Notes:
Selected using Manual Selection A509, Tongwell Street.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Vehicle Reference	2	Car		Moving from	E	to	W	Going ahead other	Left hand drive: No
On main carriageway								No skidding, jack-knifing or overturning	
First point of impact	Front	Parts damaged:	0 0 0	Age of Driver	24	Sex of Driver	Male	Breath test	Negative
Casualty Reference:	1	Age:	34	Female	Passenger	Severity:	Slight	Injured by vehicle:	2
Seatbelt:	Not worn			Cycle helmet	Not a cyclist				
Ped. Location		Ped. Movement		Ped. Direction		Ped. Injury		School pupil:	0
Casualty Reference:	2	Age:	18	Female	Passenger	Severity:	Slight	Injured by vehicle:	2
Seatbelt:	Not worn			Cycle helmet	Not a cyclist				
Ped. Location		Ped. Movement		Ped. Direction		Ped. Injury		School pupil:	0

Accidents between dates 01/02/2015 and 31/01/2020 (60) months

Selection: Notes:
Selected using Manual Selection A509, Tongwell Street.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Sunday 21/02/2016 Time 1306 Slight at H5 JNC H6 NORTHFIELD ROUNDABOUT, PINEHAM, MK

E: 489058 N: 240382 Junction Detail: 1 Control 2

Fine without high winds Road surface Dry Daylight

GV1 (VAN) & PSV2 STAT ON RBT AT RED ATS, APPEARS GV1 ATTEMPT TO CUT ACROSS PATH PSV2 TO TRAV N ON A509 & HIT O/SIDE FRONT PSV2. GV1 OVRTRND.

Road Type Dual carriageway Vehicles 2 Casualties 1 Police Ref. S1080216 Speed limit 70

Crossing: Control 0 Facilities 0 Local Authority: E06000042 Parish: 1983 Road Section: 213 Accident Type(s) CO

Causation

	Factor:	Participant:	Confidence:
1st:	Poor turn or manoeuvre	Vehicle 1	Very Likely
2nd:	Aggressive driving	Vehicle 1	Very Likely
3rd:			
4th:			
5th:			
6th:			

Vehicle Reference 1 Van or Goods 3.5 tonnes mgw and under Moving from S to NE Changing lane to left Left hand drive: No

On main carriageway Overturned
First point of impact Front Parts damaged: 0 0 0 Age of Driver 43 Sex of Driver Female Breath test Negative

Casualty Reference: 1 Age: 43 Female Driver/rider Severity: Slight Injured by vehicle: 1

Seatbelt: Unknown

Cycle helmet Not a cyclist

Ped. Location

Ped. Movement

Ped. Direction

Ped. Injury

School pupil: 0

Accidents between dates 01/02/2015 and 31/01/2020 (60) months

Selection: Notes:
Selected using Manual Selection A509, Tongwell Street.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Vehicle Reference	2	Bus or coach		Moving from	S	to	SE	Turning right	Left hand drive: No
On main carriageway								No skidding, jack-knifing or overturning	
First point of impact	Front	Parts damaged:	0 0 0	Age of Driver	45	Sex of Driver	Male	Breath test	Negative

Accidents between dates 01/02/2015 and 31/01/2020 (60) months

Selection: Notes:
Selected using Manual Selection A509, Tongwell Street.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Monday 11/04/2016 Time 1047 Slight at H5 PORTWAY, 100METRES WEST OF JNC H6 RBT, NORTHFIELD, MK

E: 488940 N: 240357 Junction Detail: 0 Control

Fine without high winds Road surface Dry Daylight

C3, C1 & C2 TRAV WEST ON H5 FROM RBT, C3 BRAKES, C1 FAILS TO REACT & COLLS WITH REAR C3, C2 THEN COLL WITH REAR C1.

Road Type Dual carriageway Vehicles 3 Casualties 2 Police Ref. S0350416 Speed limit 70

Crossing: Control 0 Facilities 0 Local Authority: E06000042 Parish: 1983 Road Section: 304 Accident Type(s) NB

Causation

	Factor:	Participant:	Confidence:
1st:	Following too close	Vehicle 1	Very Likely
2nd:	Careless/Reckless/In a hurry	Vehicle 1	Very Likely
3rd:	Careless/Reckless/In a hurry	Vehicle 2	Very Likely
4th:	Careless/Reckless/In a hurry	Vehicle 3	Very Likely
5th:	Inexperience with type of vehicle	Vehicle 3	Possible
6th:			

Vehicle Reference 1 Car Moving from E to W Going ahead other Left hand drive: No

On main carriageway No skidding, jack-knifing or overturning
First point of impact Front Parts damaged: 0 0 0 Age of Driver 51 Sex of Driver Male Breath test Negative

Casualty Reference: 1 Age: 51 Male Driver/rider Severity: Slight Injured by vehicle: 1

Seatbelt: Unknown Cycle helmet Not a cyclist

Ped. Location Ped. Movement Ped. Direction Ped. Injury School pupil: 0

Accidents between dates 01/02/2015 and 31/01/2020 (60) months

Selection: Notes:
Selected using Manual Selection A509, Tongwell Street.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Vehicle Reference 2 Car Moving from E to W Going ahead other Left hand drive: No

On main carriageway
First point of impact Front Parts damaged: 0 0 0 Age of Driver 47 Sex of Driver Female No skidding, jack-knifing or overturning
Breath test Negative

Vehicle Reference 3 Car Moving from E to W Going ahead other Left hand drive: No

On main carriageway
First point of impact Back Parts damaged: 0 0 0 Age of Driver 52 Sex of Driver Male No skidding, jack-knifing or overturning
Breath test Negative

Casualty Reference: 2 Age: 25 Male Passenger Severity: Slight Injured by vehicle: 3

Seatbelt: Unknown

Cycle helmet Not a cyclist

Ped. Location

Ped. Movement

Ped. Direction

Ped. Injury

School pupil: 0

Accidents between dates 01/02/2015 and 31/01/2020 (60) months

Selection: Selected using Manual Selection
Notes: A509, Tongwell Street.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Tuesday 19/04/2016 Time 1231 Slight at H4 JNC WILLEN ROAD, TONGWELL ROUNDABOUT, TONGWELL, MK

E: 487811 N: 241759 Junction Detail: 1 Control 4

Fine without high winds Road surface Dry Daylight

C2 & C1 TRAV S ON WILLEN RD STAT AT RBT ENTRY, C2 STARTED TO MOVE OFF THEN STOPPED, C1 MOVED OFF & HIT REAR C2.

Road Type Single carriageway Vehicles 2 Casualties 1 Police Ref. S0880416 Speed limit 60

Crossing: Control 0 Facilities 0 Local Authority: E06000042 Parish: 1983 Road Section: 8 Accident Type(s) NB

Causation

	Factor:	Participant:	Confidence:
1st:	Failed to look properly	Vehicle 1	Very Likely
2nd:	Failed to judge other persons path or speed	Vehicle 1	Very Likely
3rd:	Careless/Reckless/In a hurry	Vehicle 1	
4th:			
5th:			
6th:			

Vehicle Reference 1 Car Moving from N to S Starting Left hand drive: No

On main carriageway
First point of impact Front Parts damaged: 0 0 0 Age of Driver 19 Sex of Driver Female No skidding, jack-knifing or overturning
Breath test Negative

Accidents between dates 01/02/2015 and 31/01/2020 (60) months

Selection: Notes:
Selected using Manual Selection A509, Tongwell Street.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Vehicle Reference 2 Car Moving from N to S Stopping Left hand drive: No

On main carriageway No skidding, jack-knifing or overturning
First point of impact Back Parts damaged: 0 0 0 Age of Driver 45 Sex of Driver Female Breath test Negative

Casualty Reference: 1 Age: 45 Female Driver/rider Severity: Slight Injured by vehicle: 2

Seatbelt: Unknown Cycle helmet Not a cyclist

Ped. Location Ped. Movement Ped. Direction Ped. Injury School pupil: 0

Accidents between dates 01/02/2015 and 31/01/2020 (60) months

Selection: Notes:
Selected using Manual Selection A509, Tongwell Street.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Tuesday 31/05/2016 Time 0929 Slight at H6 CHILDS WAY, 100METRES S/W OF JNC H5 RBT, BROUGHTON, MK

E: 489070 N: 240230 Junction Detail: 0 Control

Fine without high winds Road surface Dry Daylight

C2 TRAV S/W FROM RBT IN LN 1, GV1 TRAV S/W IN LN 2 MOVED INTO LN 1 & COLL WITH C2 PUSHING C2 OFF THE ROAD.

Road Type Dual carriageway Vehicles 2 Casualties 1 Police Ref. S1250516 Speed limit 70

Crossing: Control 0 Facilities 0 Local Authority: E06000042 Parish: 1983 Road Section: 634 Accident Type(s) MS

Causation

	Factor:	Participant:	Confidence:
1st:	Failed to look properly	Vehicle 1	Very Likely
2nd:			
3rd:			
4th:			
5th:			
6th:			

Vehicle Reference 1 Goods 7.5 tonnes mgw and over Moving from NE to S Changing lane to left Left hand drive: No

On main carriageway No skidding, jack-knifing or overturning
First point of impact Nearside Parts damaged: 0 0 0 Age of Driver 44 Sex of Driver Male Breath test Negative

Accidents between dates 01/02/2015 and 31/01/2020 (60) months

Selection: Notes:
Selected using Manual Selection A509, Tongwell Street.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Vehicle Reference 2 Car Moving from NE to S Going ahead other Left hand drive: No

On main carriageway No skidding, jack-knifing or overturning
First point of impact Offside Parts damaged: 0 0 0 Age of Driver 29 Sex of Driver Male Breath test Negative

Casualty Reference: 1 Age: 29 Male Driver/rider Severity: Slight Injured by vehicle: 2

Seatbelt: Worn but not independently confirmed Cycle helmet Not a cyclist

Ped. Location Ped. Movement Ped. Direction Ped. Injury School pupil: 0

Accidents between dates 01/02/2015 and 31/01/2020 (60) months

Selection: Selected using Manual Selection
Notes: A509, Tongwell Street.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Friday 03/06/2016 Time 1310 Slight at A509 JNC 14 M1 ROUNDABOUT, BROOK FURLONG, MK

E: 489246 N: 240886 Junction Detail: 1 Control 4

Fine without high winds Road surface Dry Daylight

LORRY IN CENTRE OF RBT REVERSING TO ACCESS M1 S/BND ENTRY SLIP, C2 PASSING LORRY ON ITS N/SIDE, GV1 (VAN) ALSO ON N/SIDE & CUT IN FRONT OF C2 COLL WITH N/SIDE FRONT C2. DRVR C2 POSS SIEZURE.

Road Type Roundabout Vehicles 2 Casualties 1 Police Ref. S0280616 Speed limit 70

Crossing: Control 0 Facilities 0 Local Authority: E06000042 Parish: 1983 Road Section: 803 Accident Type(s) MD

Causation

	Factor:	Participant:	Confidence:
1st:	Failed to look properly	Vehicle 1	Very Likely
2nd:	Poor turn or manoeuvre	Vehicle 1	Possible
3rd:			
4th:			
5th:			
6th:			

Vehicle Reference 1 Van or Goods 3.5 tonnes mgw and under Moving from N to S Going ahead other Left hand drive: No

On main carriageway
First point of impact Offside Parts damaged: 0 0 0 Age of Driver 33 Sex of Driver Male No skidding, jack-knifing or overturning
Breath test Negative

Accidents between dates 01/02/2015 and 31/01/2020 (60) months

Selection: Notes:
Selected using Manual Selection A509, Tongwell Street.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Vehicle Reference 2 Car Moving from N to S Going ahead other Left hand drive: No

On main carriageway No skidding, jack-knifing or overturning
First point of impact Nearside Parts damaged: 0 0 0 Age of Driver 27 Sex of Driver Male Breath test Not provided (medical reasons)

Casualty Reference: 1 Age: 27 Male Driver/rider Severity: Slight Injured by vehicle: 2

Seatbelt: Unknown Cycle helmet Not a cyclist

Ped. Location Ped. Movement Ped. Direction Ped. Injury School pupil: 0

Accidents between dates 01/02/2015 and 31/01/2020 (60) months

Selection: Notes:
Selected using Manual Selection A509, Tongwell Street.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Sunday 12/06/2016 Time 1945 Slight at H5 JNC V11 PINEHAM ROUNDABOUT, PINEHAM, MK

E: 488389 N: 240366 Junction Detail: 1 Control 2

Raining without high winds Road surface Wet/Damp Daylight

MC1 NEG RBT, DIR TRAV NOT KNOWN, RIDER LOST CONTRL & FELL FROM MACHINE.

Road Type Dual carriageway Vehicles 1 Casualties 1 Police Ref. S0760616 Speed limit 70

Crossing: Control 0 Facilities 0 Local Authority: E06000042 Parish: 1983 Road Section: 309 Accident Type(s) SG

Causation

	Factor:	Participant:	Confidence:
1st:	Slippery road (due to weather)	Vehicle 1	Possible
2nd:	Deposit on road (eg oil, mud, chippings)	Vehicle 1	Possible
3rd:			
4th:			
5th:			
6th:			

Vehicle Reference 1 Motorcycle over 500cc Moving from Un to Un Going ahead other Left hand drive: No

On main carriageway No skidding, jack-knifing or overturning
First point of impact Did not impact Parts damaged: 0 0 0 Age of Driver 67 Sex of Driver Male Breath test Negative

Casualty Reference: 1 Age: 67 Male Driver/rider Severity: Slight Injured by vehicle: 1

Seatbelt: Not Applicable Cycle helmet Not a cyclist

Ped. Location Ped. Movement Ped. Direction Ped. Injury School pupil: 0

Accidents between dates 01/02/2015 and 31/01/2020 (60) months

Selection: Notes:
Selected using Manual Selection A509, Tongwell Street.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Tuesday 18/10/2016 Time 1521 Slight at H5 JNC V11 PINEHAM ROUNDABOUT, PINEHAM, MK

E: 488397 N: 240368 Junction Detail: 1 Control 4

Fine without high winds Road surface Dry Daylight

PSV2 STAT AT RBT ENTRY & MOVED OFF TO ENTER RBT, DIR TRAV NOT KNOWN, C1 NEG RBT CHANGED DIR ON RBT CAUSING PSV2 TO BRAKE, PASS ON PSV2 SLIPPED OFF SEAT.

Road Type Dual carriageway Vehicles 2 Casualties 1 Police Ref. 160298022 Speed limit 70

Crossing: Control 0 Facilities 0 Local Authority: E06000042 Parish: 1983 Road Section: Accident Type(s) ZZ

Causation

	Factor:	Participant:	Confidence:
1st:	Junction overshoot	Vehicle 2	Possible
2nd:			
3rd:			
4th:			
5th:			
6th:			

Vehicle Reference 1 Bus or coach Moving from Un to Un Starting Left hand drive: No

On main carriageway No skidding, jack-knifing or overturning
First point of impact Did not impact Parts damaged: 0 0 0 Age of Driver 50 Sex of Driver Male Breath test Driver not contacted

Casualty Reference: 1 Age: Female Passenger Severity: Slight Injured by vehicle: 1

Seatbelt: Not Applicable Cycle helmet Not a cyclist

Ped. Location Ped. Movement Ped. Direction Ped. Injury School pupil: 0

Accidents between dates 01/02/2015 and 31/01/2020 (60) months

Selection: Notes:
Selected using Manual Selection A509, Tongwell Street.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Vehicle Reference	2	Car		Moving from	Un	to	Un	Going ahead other	Left hand drive: No
On main carriageway								No skidding, jack-knifing or overturning	
First point of impact	Did not impact	Parts damaged:	0 0 0	Age of Driver	Sex of Driver	Not traced	Breath test	Driver not contacted	

Accidents between dates 01/02/2015 and 31/01/2020 (60) months

Selection: Selected using Manual Selection
Notes: A509, Tongwell Street.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Friday 18/11/2016 Time 1502 Slight at A509 ROUNDABOUT OVER M1 JNC 14, PINEHAM, MK

E: 489179 N: 240830 Junction Detail: 1 Control 2

Fine without high winds Road surface Dry Daylight

GV1 (FORGN REG L/H DRIVE) NEG RBT IN LN 1, C2 TRAV ALONGSIDE IN LN 2, GV1 MOVED INTO LN 2 & CLIPPED C2 CAUSING C2 TO SPIN.

Road Type Roundabout Vehicles 2 Casualties 1 Police Ref. 160334932 Speed limit 60

Crossing: Control 0 Facilities 0 Local Authority: E06000042 Parish: 1983 Road Section: Accident Type(s) MD

Causation

	Factor:	Participant:	Confidence:
1st:	Vehicle blind spot	Vehicle 1	Very Likely
2nd:	Poor turn or manoeuvre	Vehicle 1	Possible
3rd:			
4th:			
5th:			
6th:			

Vehicle Reference 1 Goods 7.5 tonnes mgw and over Moving from S to N Changing lane to right Left hand drive: Yes

On main carriageway No skidding, jack-knifing or overturning
First point of impact Front Parts damaged: 0 0 0 Age of Driver 43 Sex of Driver Male Breath test Negative

Accidents between dates 01/02/2015 and 31/01/2020 (60) months

Selection: Notes:
Selected using Manual Selection A509, Tongwell Street.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Vehicle Reference 2 Car Moving from S to N Going ahead other Left hand drive: No

On main carriageway No skidding, jack-knifing or overturning
First point of impact Nearside Parts damaged: 0 0 0 Age of Driver 75 Sex of Driver Female Breath test Negative

Casualty Reference: 1 Age: 75 Female Driver/rider Severity: Slight Injured by vehicle: 2

Seatbelt: Unknown Cycle helmet Not a cyclist

Ped. Location Ped. Movement Ped. Direction Ped. Injury School pupil: 0

Accidents between dates 01/02/2015 and 31/01/2020 (60) months

Selection: Selected using Manual Selection
Notes: A509, Tongwell Street.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Sunday 26/03/2017 Time 1600 Slight at A509 / M1 JNC 14 ROUNDABOUT, BROOK FURLONG, MK

E: 489242 N: 240758 Junction Detail: 1 Control 2

Fine without high winds Road surface Dry Daylight

C1 & PC2 NEG RBT TWDS A509 S/BND EXIT, ATS CHANGE TO GREEN, C1 & PC2 MOVE OFF TOGETHER & COLL.

Road Type Dual carriageway Vehicles 2 Casualties 1 Police Ref. 170112017 Speed limit 70

Crossing: Control 0 Facilities 0 Local Authority: E06000042 Parish: 1983 Road Section: Accident Type(s) CO

Causation

	Factor:	Participant:	Confidence:
1st:	Failed to look properly	Vehicle 1	Possible
2nd:	Failed to look properly	Vehicle 2	Possible
3rd:			
4th:			
5th:			
6th:			

Vehicle Reference 1 Car Moving from NE to S Starting Left hand drive: No

On main carriageway
First point of impact Nearside Parts damaged: 0 0 0 Age of Driver 51 Sex of Driver Female No skidding, jack-knifing or overturning
Breath test Negative

Accidents between dates 01/02/2015 and 31/01/2020 (60) months

Selection: Notes:
Selected using Manual Selection A509, Tongwell Street.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Vehicle Reference 2 Pedal Cycle Moving from NE to S Starting Left hand drive: No

On main carriageway No skidding, jack-knifing or overturning
First point of impact Offside Parts damaged: 0 0 0 Age of Driver 58 Sex of Driver Male Breath test Not applicable

Casualty Reference: 1 Age: 58 Male Driver/rider Severity: Slight Injured by vehicle: 2

Seatbelt: Not Applicable Cycle helmet Yes

Ped. Location Ped. Movement Ped. Direction Ped. Injury School pupil: 0

Accidents between dates 01/02/2015 and 31/01/2020 (60) months

Selection: Notes:
Selected using Manual Selection A509, Tongwell Street.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Saturday 15/07/2017 Time 1830 Slight at A509 JNC COACHWAY ACCESS ROAD, BROOK FURLONG, MK

E: 489213 N: 240562 Junction Detail: 3 Control 4

Fine without high winds Road surface Dry Daylight

C1 TRAV S/W ON A509 FROM JNC 14 IN LN 1, C2 TRAV S/W IN LN 2 CUTS ACROSS PATH C1 & TURNS LEFT INTO COACHWAY, C2 COLL WITH C1 THEN FAILS TO STOP.

Road Type Dual carriageway Vehicles 2 Casualties 1 Police Ref. 170214319 Speed limit 70

Crossing: Control 0 Facilities 0 Local Authority: E06000042 Parish: 1983 Road Section: Accident Type(s) EB

Causation

	Factor:	Participant:	Confidence:
1st:	Poor turn or manoeuvre	Vehicle 1	Very Likely
2nd:	Careless/Reckless/In a hurry	Vehicle 1	Very Likely
3rd:			
4th:			
5th:			
6th:			

Vehicle Reference 1 Car Moving from NE to S Going ahead other Left hand drive: No

On main carriageway No skidding, jack-knifing or overturning
First point of impact Back Parts damaged: 0 0 0 Age of Driver 25 Sex of Driver Female Breath test Negative

Casualty Reference: 1 Age: 25 Female Driver/rider Severity: Slight Injured by vehicle: 1

Seatbelt: Worn but not independently confirmed Cycle helmet Not a cyclist

Ped. Location Ped. Movement Ped. Direction Ped. Injury School pupil: 0

Accidents between dates 01/02/2015 and 31/01/2020 (60) months

Selection: Notes:
Selected using Manual Selection A509, Tongwell Street.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Vehicle Reference	2	Car		Moving from	NE	to	SE	Turning left	Left hand drive: No
On main carriageway								No skidding, jack-knifing or overturning	
First point of impact	Front	Parts damaged:	0 0 0	Age of Driver	Sex of Driver	Unknown	Breath test	Driver not contacted	

Accidents between dates 01/02/2015 and 31/01/2020 (60) months

Selection: Notes:
Selected using Manual Selection A509, Tongwell Street.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Monday 25/09/2017 Time 1445 Slight at H5 JNC H6 NORTHFIELD ROUNDABOUT, NORTHFIELD, MK

E: 489111 N: 240336 Junction Detail: 1 Control 2

Fine without high winds Road surface Dry Daylight

C2 NEG RBT SOUTH DIR IN CENT LN FOLL BY C1, OTHER VEH AHEAD BRAKES & SUDD CHANGES DIR CAUSING C2 TO BRAKE, C1 FAILS TO REACT & COLLS WITH REAR C2.

Road Type Dual carriageway Vehicles 2 Casualties 2 Police Ref. 170295238 Speed limit 70

Crossing: Control 0 Facilities 0 Local Authority: E06000042 Parish: 1983 Road Section: Accident Type(s) NB

Causation

	Factor:	Participant:	Confidence:
1st:	Failed to judge other persons path or speed	Vehicle 1	Possible
2nd:	Sudden braking	Vehicle 2	Possible
3rd:			
4th:			
5th:			
6th:			

Vehicle Reference 1 Car Moving from N to S Going ahead other Left hand drive: No

On main carriageway No skidding, jack-knifing or overturning
First point of impact Front Parts damaged: 0 0 0 Age of Driver 38 Sex of Driver Female Breath test Negative

Casualty Reference: 1 Age: 38 Female Driver/rider Severity: Slight Injured by vehicle: 1

Seatbelt: Unknown Cycle helmet Not a cyclist

Ped. Location Ped. Movement Ped. Direction Ped. Injury School pupil: 0

Accidents between dates 01/02/2015 and 31/01/2020 (60) months

Selection: Notes:
Selected using Manual Selection A509, Tongwell Street.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Vehicle Reference 2 Car Moving from N to S Going ahead other Left hand drive: No

On main carriageway No skidding, jack-knifing or overturning
First point of impact Back Parts damaged: 0 0 0 Age of Driver 32 Sex of Driver Male Breath test Negative

Casualty Reference: 2 Age: 32 Male Driver/rider Severity: Slight Injured by vehicle: 2

Seatbelt: Unknown Cycle helmet Not a cyclist

Ped. Location Ped. Movement Ped. Direction Ped. Injury School pupil: 0

Accidents between dates 01/02/2015 and 31/01/2020 (60) months

Selection: Selected using Manual Selection
Notes: A509, Tongwell Street.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Monday 30/10/2017 Time 1054 Slight at H5 JNC V11 PINEHAM ROUNDABOUT, WILLEN, MK

E: 488363 N: 240382 Junction Detail: 1 Control 4

Fine without high winds Road surface Dry Daylight

GV1 TRAV E ON H5 ENTERS RBT IN MIDDLE LN, C2 TRAV SAME DIR ENTERS RBT IN O/S LN, GV1 CUTS ACROSS RBT & COLL WITH C2 PUSHING C2 ONTO CENT ISLND.

Road Type Dual carriageway Vehicles 2 Casualties 1 Police Ref. 170332119 Speed limit 70

Crossing: Control 0 Facilities 0 Local Authority: E06000042 Parish: 1983 Road Section: Accident Type(s) CO

Causation

	Factor:	Participant:	Confidence:
1st:	Poor turn or manoeuvre	Vehicle 1	Very Likely
2nd:	Careless/Reckless/In a hurry	Vehicle 1	Very Likely
3rd:	Fatigue	Vehicle 1	
4th:			
5th:			
6th:			

Vehicle Reference 1 Goods vehicle - unknown weight Moving from W to E Going ahead other Left hand drive: No

On main carriageway No skidding, jack-knifing or overturning
First point of impact Offside Parts damaged: 0 0 0 Age of Driver 51 Sex of Driver Male Breath test Negative

Accidents between dates 01/02/2015 and 31/01/2020 (60) months

Selection: Notes:
Selected using Manual Selection A509, Tongwell Street.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Vehicle Reference 2 Car Moving from W to E Going ahead other Left hand drive: No

On main carriageway No skidding, jack-knifing or overturning
First point of impact Nearside Parts damaged: 0 0 0 Age of Driver 29 Sex of Driver Female Breath test Negative

Casualty Reference: 1 Age: 29 Female Driver/rider Severity: Slight Injured by vehicle: 2

Seatbelt: Unknown Cycle helmet Not a cyclist

Ped. Location Ped. Movement Ped. Direction Ped. Injury School pupil: 0

Accidents between dates 01/02/2015 and 31/01/2020 (60) months

Selection: Notes:
Selected using Manual Selection A509, Tongwell Street.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Sunday 18/02/2018 Time 0635 Slight at V11 JNC H4 TONGWELL ROUNDABOUT, TONGWELL, MK
 E: 487819 N: 241700 Junction Detail: 1 Control 4
 Fine without high winds Road surface Wet/Damp Darkness: street lights present and lit
 GV1 (VAN) TRAV N/W ON V11, DRVR FAILS TO NEG RBT & GV1 COLL WITH SPLITTER ISLND THEN CENT ISLND OF RBT.
 Road Type Single carriageway Vehicles 1 Casualties 1 Police Ref. 180057730 Speed limit 60
 Crossing: Control 0 Facilities 0 Local Authority: E06000042 Parish: 1983 Road Section: Accident Type(s) SG

Causation

	Factor:	Participant:	Confidence:
1st:	Fatigue	Vehicle 1	Possible
2nd:	Illness or disability, mental or physical	Vehicle 1	Possible
3rd:			
4th:			
5th:			
6th:			

Vehicle Reference 1 Van or Goods 3.5 tonnes mgw and under Moving from SE to N Going ahead other Left hand drive: No

On main carriageway No skidding, jack-knifing or overturning
 First point of impact Front Parts damaged: 0 0 0 Age of Driver 47 Sex of Driver Male Breath test Negative

Casualty Reference: 1 Age: 47 Male Driver/rider Severity: Slight Injured by vehicle: 1

Seatbelt: Worn and independently confirmed

Cycle helmet Not a cyclist

Ped. Location

Ped. Movement

Ped. Direction

Ped. Injury

School pupil: 0

Accidents between dates 01/02/2015 and 31/01/2020 (60) months

Selection: Notes:
Selected using Manual Selection A509, Tongwell Street.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Saturday 24/02/2018 Time 1549 Serious at A509 JNC 14 M1 ROUNDABOUT, BROOK FURLONG, MK

E: 489182 N: 240919 Junction Detail: 1 Control 2

Fine without high winds Road surface Dry Daylight

C2 TRAV N ON RBT & STAT AT RED ATS, GV1 (VAN WITH TRAILER) TRAV N ON RBT, DRVR GV1 FAILS TO SEE STAT C2 AHEAD, GV1 COLL WITH REAR C2 THEN CAREERS ACROSS S/BND SLIP RD & COLL WITH TRAFF SIGNALS & TWO STAT VEHS ON SLIP RD.

Road Type Roundabout Vehicles 2 Casualties 1 Police Ref. 180065772 Speed limit 40

Crossing: Control 0 Facilities 0 Local Authority: E06000042 Parish: 1983 Road Section: Accident Type(s) NB

Causation

	Factor:	Participant:	Confidence:
1st:	Travelling too fast for conditions	Vehicle 1	Possible
2nd:	Failed to judge other persons path or speed	Vehicle 1	Possible
3rd:	Poor turn or manoeuvre	Vehicle 1	
4th:			
5th:			
6th:			

Vehicle Reference 1 Van or Goods 3.5 tonnes mgw and under Moving from S to N Going ahead other Left hand drive: No

On main carriageway Skidded and overturned
First point of impact Front Parts damaged: 0 0 0 Age of Driver 29 Sex of Driver Male Breath test Negative

Casualty Reference: 1 Age: 29 Male Driver/rider Severity: Serious Injured by vehicle: 1

Seatbelt: Unknown Cycle helmet Not a cyclist

Ped. Location Ped. Movement Ped. Direction Ped. Injury School pupil: 0

Accidents between dates 01/02/2015 and 31/01/2020 (60) months

Selection: Notes:
Selected using Manual Selection A509, Tongwell Street.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Vehicle Reference 2 Car Moving from S to N Going ahead but held up Left hand drive: No

On main carriageway No skidding, jack-knifing or overturning
First point of impact Back Parts damaged: 0 0 0 Age of Driver 58 Sex of Driver Female Breath test Negative

Accidents between dates 01/02/2015 and 31/01/2020 (60) months

Selection: Notes:
Selected using Manual Selection A509, Tongwell Street.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Wednesday 28/02/2018 Time 0525 Slight at H5 PORTWAY, 150M WEST OF JNC V11 PINEHAM RBT, WILLEN, MK

E: 488209 N: 240361 Junction Detail: 0 Control

Fine without high winds Road surface Frost/Ice Darkness: street lights present and lit

PC1 TRAV EAST ON H5 IN LN 1, C2 TRAV EAST IN LN 2, PC1 MOVED INTO LN 2 & INTO PATH C2, C2 COLL WITH REAR PC1.

Road Type Dual carriageway Vehicles 2 Casualties 1 Police Ref. 180063729 Speed limit 70

Crossing: Control 0 Facilities 0 Local Authority: E06000042 Parish: 1983 Road Section: Accident Type(s) MD

Causation

	Factor:	Participant:	Confidence:
1st:	Failed to look properly	Vehicle 1	Very Likely
2nd:	Failed to judge other persons path or speed	Vehicle 1	Very Likely
3rd:	Careless/Reckless/In a hurry	Vehicle 1	
4th:			
5th:			
6th:			

Vehicle Reference 1 Pedal Cycle Moving from W to E Changing lane to right Left hand drive: No

On main carriageway No skidding, jack-knifing or overturning
First point of impact Back Parts damaged: 0 0 0 Age of Driver 27 Sex of Driver Male Breath test Not applicable

Casualty Reference: 1 Age: 27 Male Driver/rider Severity: Slight Injured by vehicle: 1

Seatbelt: Not Applicable Cycle helmet Yes

Ped. Location Ped. Movement Ped. Direction Ped. Injury School pupil: 0

Accidents between dates 01/02/2015 and 31/01/2020 (60) months

Selection: Notes:
Selected using Manual Selection A509, Tongwell Street.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Vehicle Reference 2 Car Moving from W to E Going ahead other Left hand drive: No

On main carriageway No skidding, jack-knifing or overturning
First point of impact Front Parts damaged: 0 0 0 Age of Driver 65 Sex of Driver Female Breath test Negative

Accidents between dates 01/02/2015 and 31/01/2020 (60) months

Selection: Notes:
Selected using Manual Selection A509, Tongwell Street.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Friday 09/03/2018 Time 2200 Slight at H5 JNC H6 NORTHFIELD ROUNDABOUT, NORTHFIELD, MK

E: 489092 N: 240356 Junction Detail: 1 Control 2

Fine without high winds Road surface Wet/Damp Darkness: street lights present and lit

C2 NEG RBT IN LN 1, DIR TRAV NOT KNOWN, GV1 NEG RBT IN LN 2 DRIFTED INTO LN 1 & COLL WITH C2.

Road Type Dual carriageway Vehicles 2 Casualties 3 Police Ref. 180080504 Speed limit 70

Crossing: Control 0 Facilities 0 Local Authority: E06000042 Parish: 1983 Road Section: Accident Type(s) CM

Causation

	Factor:	Participant:	Confidence:
1st:	Poor turn or manoeuvre	Vehicle 1	Possible
2nd:			
3rd:			
4th:			
5th:			
6th:			

Vehicle Reference 1 Goods vehicle - unknown weight Moving from Un to Un Going ahead other Left hand drive: No

On main carriageway No skidding, jack-knifing or overturning
First point of impact Nearside Parts damaged: 0 0 0 Age of Driver Sex of Driver Male Breath test Driver not contacted

Accidents between dates 01/02/2015 and 31/01/2020 (60) months

Selection: Notes:
Selected using Manual Selection A509, Tongwell Street.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Vehicle Reference	2	Car		Moving from	Un	to	Un	Going ahead other	Left hand drive: No
On main carriageway								No skidding, jack-knifing or overturning	
First point of impact	Offside	Parts damaged:	0 0 0	Age of Driver	33	Sex of Driver	Male	Breath test	Driver not contacted
Casualty Reference:	1	Age:	33	Male	Driver/rider		Severity:	Slight	Injured by vehicle: 2
Seatbelt:	Unknown				Cycle helmet	Not a cyclist			
Ped. Location		Ped. Movement			Ped. Direction	Ped. Injury		School pupil:	0
Casualty Reference:	2	Age:	28	Female	Passenger		Severity:	Slight	Injured by vehicle: 2
Seatbelt:	Unknown				Cycle helmet	Not a cyclist			
Ped. Location		Ped. Movement			Ped. Direction	Ped. Injury		School pupil:	0
Casualty Reference:	3	Age:	7	Female	Passenger		Severity:	Slight	Injured by vehicle: 2
Seatbelt:	Unknown				Cycle helmet	Not a cyclist			
Ped. Location		Ped. Movement			Ped. Direction	Ped. Injury		School pupil:	0

Accidents between dates 01/02/2015 and 31/01/2020 (60) months

Selection: Selected using Manual Selection
Notes: A509, Tongwell Street.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Monday 04/06/2018 Time 1615 Slight at M1 MOTORWAY, SOUTHEND EXIT SLIP LANE TO JNC 14 ROUNDABOUT, PINEHAM, MK

E: 489171 N: 240924 Junction Detail: 1 Control 2

Fine without high winds Road surface Dry Daylight

C2 TRAV ON S/BND EXIT SLIP STOPS AT RBT FOR RED ATS, C1 STOPS BEHIND C2, DRVR C1 FOOT SLIPPED OFF CLUTCH PEDAL, C1 HIT REAR C2.

Road Type Dual carriageway Vehicles 2 Casualties 1 Police Ref. 180168903 Speed limit 70

Crossing: Control 0 Facilities 0 Local Authority: E06000042 Parish: 1983 Road Section: Accident Type(s) NB

Causation

	Factor:	Participant:	Confidence:
1st:	Inexperience with type of vehicle	Vehicle 1	Very Likely
2nd:	Other	Vehicle 1	Very Likely
3rd:			
4th:			
5th:			
6th:			

DRVR C1 FOOT SLIPPED OFF CLUTCH PEDAL.

Vehicle Reference 1 Car Moving from N to SE Starting Left hand drive: No

On main carriageway No skidding, jack-knifing or overturning
First point of impact Front Parts damaged: 0 0 0 Age of Driver 36 Sex of Driver Male Breath test Negative

Accidents between dates 01/02/2015 and 31/01/2020 (60) months

Selection: Notes:
Selected using Manual Selection A509, Tongwell Street.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Vehicle Reference 2 Car Moving from N to SE Going ahead but held up Left hand drive: No

On main carriageway No skidding, jack-knifing or overturning
First point of impact Back Parts damaged: 0 0 0 Age of Driver 40 Sex of Driver Male Breath test Negative

Casualty Reference: 1 Age: 40 Male Driver/rider Severity: Slight Injured by vehicle: 2

Seatbelt: Unknown Cycle helmet Not a cyclist

Ped. Location Ped. Movement Ped. Direction Ped. Injury School pupil: 0

Accidents between dates 01/02/2015 and 31/01/2020 (60) months

Selection: Notes:
Selected using Manual Selection A509, Tongwell Street.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Saturday 22/09/2018 Time 1750 Slight at H5 JNC V11 PINEHAM ROUNDABOUT, NORTHFIELD, MK

E: 488365 N: 240347 Junction Detail: 1 Control 2

Raining without high winds Road surface Wet/Damp Daylight

C1 TRAV WEST NEG RBT, DRVR LOST CONTRL ON RBT EXIT, C1 SKIDDED & LEFT C/WAY TO N/SIDE COLL WITH BARRIER.

Road Type Dual carriageway Vehicles 1 Casualties 1 Police Ref. 180293967 Speed limit 70

Crossing: Control 0 Facilities 0 Local Authority: E06000042 Parish: 1983 Road Section: Accident Type(s) SG

Causation

	Factor:	Participant:	Confidence:
1st:	Travelling too fast for conditions	Vehicle 1	Possible
2nd:			
3rd:			
4th:			
5th:			
6th:			

Vehicle Reference 1 Car Moving from E to W Going ahead other Left hand drive: No

On main carriageway Skidded
First point of impact Front Parts damaged: 0 0 0 Age of Driver Sex of Driver Male Breath test Driver not contacted

Casualty Reference: 1 Age: Male Driver/rider Severity: Slight Injured by vehicle: 1

Seatbelt: Unknown Cycle helmet Not a cyclist

Ped. Location Ped. Movement Ped. Direction Ped. Injury School pupil: 0

Accidents between dates 01/02/2015 and 31/01/2020 (60) months

Selection: Notes:
Selected using Manual Selection A509, Tongwell Street.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Friday 12/10/2018 Time 1550 Slight at H5 PORTWAY, 100M WEST OF JNC V11 RBT, WILLEN LAKE, MK

E: 488255 N: 240352 Junction Detail: 0 Control

Fine with high winds Road surface Dry Daylight

ALL VEHS TRAV WEST ON H5, C3 TRAV IN LN 2 & SLOWING, GV2 (VAN) TRAV IN LN 1 MOVES INTO LN 2, C1 FOLL COLLS INTO REAR GV2, GV2 COLL WITH REAR C3.

Road Type Dual carriageway Vehicles 3 Casualties 2 Police Ref. 180317373 Speed limit 70

Crossing: Control 0 Facilities 0 Local Authority: E06000042 Parish: 1983 Road Section: Accident Type(s) MD

Causation

	Factor:	Participant:	Confidence:
1st:	Driving too slow for conditions or slow veh	Vehicle 3	Possible
2nd:	Failed to look properly	Vehicle 2	Possible
3rd:	Failed to judge other persons path or speed	Vehicle 1	
4th:			
5th:			
6th:			

Accidents between dates 01/02/2015 and 31/01/2020 (60) months

Selection: Notes:
Selected using Manual Selection A509, Tongwell Street.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Vehicle Reference 1 Car Moving from E to W Going ahead other Left hand drive: No

On main carriageway
First point of impact Front Parts damaged: 0 0 0 Age of Driver 38 Sex of Driver Male No skidding, jack-knifing or overturning
Breath test Negative

Casualty Reference: 1 Age: 38 Male Driver/rider Severity: Slight Injured by vehicle: 1

Seatbelt: Worn and independently confirmed

Cycle helmet Not a cyclist

Ped. Location

Ped. Movement

Ped. Direction

Ped. Injury

School pupil: 0

Casualty Reference: 2 Age: 29 Female Passenger Severity: Slight Injured by vehicle: 1

Seatbelt: Worn and independently confirmed

Cycle helmet Not a cyclist

Ped. Location

Ped. Movement

Ped. Direction

Ped. Injury

School pupil: 0

Vehicle Reference 2 Van or Goods 3.5 tonnes mgw and under Moving from E to W Changing lane to right Left hand drive: No

On main carriageway
First point of impact Back Parts damaged: 0 0 0 Age of Driver 65 Sex of Driver Male No skidding, jack-knifing or overturning
Breath test Negative

Vehicle Reference 3 Car Moving from E to W Stopping Left hand drive: No

On main carriageway
First point of impact Back Parts damaged: 0 0 0 Age of Driver 41 Sex of Driver Female No skidding, jack-knifing or overturning
Breath test Negative

Accidents between dates 01/02/2015 and 31/01/2020 (60) months

Selection: Notes:
Selected using Manual Selection A509, Tongwell Street.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Tuesday 06/11/2018 Time 1400 Slight at H5 JNC A5130 NORTHFIELD ROUNDABOUT, NORTHFIELD, MK

E: 489112 N: 240370 Junction Detail: 1 Control 2

Fine without high winds Road surface Dry Daylight

C2 NEG RBT TWDS A5130 EXIT WHEN STRUCK FROM BEHIND BY C1.

Road Type Dual carriageway Vehicles 2 Casualties 1 Police Ref. 180347896 Speed limit 70

Crossing: Control 0 Facilities 0 Local Authority: E06000042 Parish: 1983 Road Section: Accident Type(s) CO

Causation

	Factor:	Participant:	Confidence:
1st:	Temporary road layout (eg contraflow)	Vehicle 1	Possible
2nd:	Disobeyed Give Way or Stop sign or markings	Vehicle 1	Possible
3rd:	Careless/Reckless/In a hurry	Vehicle 1	
4th:			
5th:			
6th:			

Vehicle Reference 1 Car Moving from W to E Going ahead other Left hand drive: No

On main carriageway No skidding, jack-knifing or overturning
First point of impact Front Parts damaged: 0 0 0 Age of Driver 25 Sex of Driver Female Breath test Driver not contacted

Accidents between dates 01/02/2015 and 31/01/2020 (60) months

Selection: Notes:
Selected using Manual Selection A509, Tongwell Street.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Vehicle Reference 2 Car Moving from W to E Going ahead other Left hand drive: No

On main carriageway No skidding, jack-knifing or overturning
First point of impact Back Parts damaged: 0 0 0 Age of Driver 52 Sex of Driver Female Breath test Driver not contacted

Casualty Reference: 1 Age: 52 Female Driver/rider Severity: Slight Injured by vehicle: 2

Seatbelt: Unknown Cycle helmet Not a cyclist

Ped. Location Ped. Movement Ped. Direction Ped. Injury School pupil: 0

Accidents between dates 01/02/2015 and 31/01/2020 (60) months

Selection: Notes:
Selected using Manual Selection A509, Tongwell Street.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Sunday 09/12/2018 Time 2310 Slight at H5 JNC H6 NORTHFIELD ROUNDABOUT, NORTHFIELD, MK

E: 489053 N: 240328 Junction Detail: 1 Control 2

Fine without high winds Road surface Dry Darkness: street lights present and lit

C1 NEG RBT TO EXIT W/BND ONTO H5, C2 TRAV NORTH ON H6 & ENTERING RBT ON GREEN ATS, C1 PASSES THRU RED
ATS ON RBT & COLLS WITH C2.

Road Type Dual carriageway Vehicles 2 Casualties 1 Police Ref. 180383925 Speed limit 70

Crossing: Control 0 Facilities 0 Local Authority: E06000042 Parish: 1983 Road Section: Accident Type(s) CM

Causation

	Factor:	Participant:	Confidence:
1st:	Failed to judge other persons path or speed	Vehicle 1	Very Likely
2nd:	Defective traffic signals	Vehicle 1	Very Likely
3rd:			
4th:			
5th:			
6th:			

Vehicle Reference 1 Car Moving from E to W Going ahead other Left hand drive: No

On main carriageway Overturned
First point of impact Front Parts damaged: 0 0 0 Age of Driver 61 Sex of Driver Male Breath test Negative

Casualty Reference: 1 Age: 61 Male Driver/rider Severity: Slight Injured by vehicle: 1

Seatbelt: Worn and independently confirmed

Cycle helmet Not a cyclist

Ped. Location

Ped. Movement

Ped. Direction

Ped. Injury

School pupil: 0

Accidents between dates 01/02/2015 and 31/01/2020 (60) months

Selection: Notes:
Selected using Manual Selection A509, Tongwell Street.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Vehicle Reference 2 Car Moving from S to N Going ahead other Left hand drive: No
On main carriageway No skidding, jack-knifing or overturning
First point of impact Front Parts damaged: 0 0 0 Age of Driver 26 Sex of Driver Male Breath test Negative

Accidents between dates 01/02/2015 and 31/01/2020 (60) months

Selection: Notes:
Selected using Manual Selection A509, Tongwell Street.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Tuesday 15/01/2019 Time 0728 Slight at M1 MOTORWAY, SOUTHEND EXIT SLIP ROAD TO JNC 14 RBT, PINEHAM, MILTON KEYNES

E: 489131 N: 240945 Junction Detail: 0 Control

Fine without high winds Road surface Dry Darkness: street lighting unknown

C2 TRAV SOUTH & IN STAT TRAFF ON SLIP RD, GV1 TRAV SAME DIR COLLS WITH REAR C2. GV1 PULLS AROUND C2 THEN DRIVES OFF FROM SCENE.

Road Type Slip road Vehicles 2 Casualties 1 Police Ref. 190016874 Speed limit 70

Crossing: Control 0 Facilities 0 Local Authority: E06000042 Parish: 1983 Road Section: Accident Type(s) NB

Causation

	Factor:	Participant:	Confidence:
1st:	Careless/Reckless/In a hurry	Vehicle 1	Possible
2nd:			
3rd:			
4th:			
5th:			
6th:			

Vehicle Reference 1 Goods vehicle - unknown weight Moving from N to SE Going ahead other Left hand drive: No

On main carriageway No skidding, jack-knifing or overturning
First point of impact Front Parts damaged: 0 0 0 Age of Driver Sex of Driver Unknown Breath test Driver not contacted

Accidents between dates 01/02/2015 and 31/01/2020 (60) months

Selection: Notes:
Selected using Manual Selection A509, Tongwell Street.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Vehicle Reference 2 Car Moving from N to SE Going ahead but held up Left hand drive: No

On main carriageway No skidding, jack-knifing or overturning
First point of impact Back Parts damaged: 0 0 0 Age of Driver 25 Sex of Driver Male Breath test Driver not contacted

Casualty Reference: 1 Age: 25 Male Driver/rider Severity: Slight Injured by vehicle: 2

Seatbelt: Unknown

Cycle helmet Not a cyclist

Ped. Location

Ped. Movement

Ped. Direction

Ped. Injury

School pupil: 0

Accidents between dates 01/02/2015 and 31/01/2020 (60) months

Selection: Selected using Manual Selection
Notes: A509, Tongwell Street.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Thursday 07/02/2019 Time 0840 Slight at V11 JNC H5 PINEHAM ROUNDABOUT, FOX MILNE, MK

E: 488390 N: 240333 Junction Detail: 1 Control 4

Fine without high winds Road surface Dry Daylight

C2 TRAV NORTH ON V11 & STAT AT ENTRY TO RBT, C1 TRAV SAME DIR COLLS WITH REAR C2.

Road Type Single carriageway Vehicles 2 Casualties 1 Police Ref. 190045180 Speed limit 60

Crossing: Control 0 Facilities 0 Local Authority: E06000042 Parish: 1983 Road Section: Accident Type(s) NB

Causation

	Factor:	Participant:	Confidence:
1st:			
2nd:			
3rd:			
4th:			
5th:			
6th:			

Vehicle Reference 1 Car Moving from S to N Going ahead other Left hand drive: No

On main carriageway
First point of impact Front Parts damaged: 0 0 0 Age of Driver Sex of Driver Unknown Breath test Driver not contacted
No skidding, jack-knifing or overturning

Accidents between dates 01/02/2015 and 31/01/2020 (60) months

Selection: Notes:
Selected using Manual Selection A509, Tongwell Street.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Vehicle Reference 2 Car Moving from S to N Going ahead but held up Left hand drive: No

On main carriageway No skidding, jack-knifing or overturning
First point of impact Back Parts damaged: 0 0 0 Age of Driver 43 Sex of Driver Female Breath test Driver not contacted

Casualty Reference: 1 Age: 43 Female Driver/rider Severity: Slight Injured by vehicle: 2

Seatbelt: Unknown

Cycle helmet Not a cyclist

Ped. Location Ped. Movement Ped. Direction Ped. Injury School pupil: 0

Accidents between dates 01/02/2015 and 31/01/2020 (60) months

Selection: Selected using Manual Selection
Notes: A509, Tongwell Street.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Monday 11/02/2019 Time 1536 Slight at A509 ROUNDABOUT JNC 14 M1, PINEHAM, MK

E: 489198 N: 240738 Junction Detail: 1 Control 2

Fine without high winds Road surface Dry Daylight

C1, C2 & C3 TRAV NORTH ON A509 APPR RBT, C1 BRAKES LATE & HARD, C2 FOLL COLLS WITH REAR C1, C3 FOLL C2 & COLLS WITH REAR C2.

Road Type Dual carriageway Vehicles 3 Casualties 1 Police Ref. 190064219 Speed limit 70

Crossing: Control 0 Facilities 0 Local Authority: E06000042 Parish: 1983 Road Section: Accident Type(s) NB

Causation

	Factor:	Participant:	Confidence:
1st:	Sudden braking	Vehicle 1	Possible
2nd:	Nervous/Uncertain/Panic	Vehicle 1	Possible
3rd:	Following too close	Vehicle 2	Possible
4th:	Following too close	Vehicle 3	Possible
5th:			
6th:			

Vehicle Reference 1 Car Moving from S to N Stopping Left hand drive: No

On main carriageway No skidding, jack-knifing or overturning
First point of impact Back Parts damaged: 0 0 0 Age of Driver 20 Sex of Driver Female Breath test Not requested

Accidents between dates 01/02/2015 and 31/01/2020 (60) months

Selection: Notes:
Selected using Manual Selection A509, Tongwell Street.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Vehicle Reference 2 Car Moving from S to N Going ahead other Left hand drive: No

On main carriageway
First point of impact Front Parts damaged: 0 0 0 Age of Driver 62 Sex of Driver Male No skidding, jack-knifing or overturning
Breath test Not requested
Casualty Reference: 1 Age: 64 Female Passenger Severity: Slight Injured by vehicle: 2
Seatbelt: Unknown Cycle helmet Not a cyclist
Ped. Location Ped. Movement Ped. Direction Ped. Injury School pupil: 0

Vehicle Reference 3 Car Moving from S to N Going ahead other Left hand drive: No

On main carriageway
First point of impact Front Parts damaged: 0 0 0 Age of Driver 24 Sex of Driver Male No skidding, jack-knifing or overturning
Breath test Negative

Accidents between dates 01/02/2015 and 31/01/2020 (60) months

Selection: Notes:
Selected using Manual Selection A509, Tongwell Street.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Wednesday 13/03/2019 Time 0640 Slight at A509 ROUNDABOUT JNC 14 M1, PINEHAM, MK

E: 489179 N: 240913 Junction Detail: 1 Control 2

Fine without high winds Road surface Wet/Damp Daylight

GV2 (VAN) TRAV NORTH ON RBT & STAT AT RED ATS, C1 TRAV SAME DIR COLLS WITH REAR GV2. C1 THEN LEAVES SCENE.

Road Type Roundabout Vehicles 2 Casualties 1 Police Ref. 190078199 Speed limit 60

Crossing: Control 0 Facilities 0 Local Authority: E06000042 Parish: 1983 Road Section: Accident Type(s) NB

Causation

	Factor:	Participant:	Confidence:
1st:			
2nd:			
3rd:			
4th:			
5th:			
6th:			

Vehicle Reference 1 Car Moving from S to N Going ahead other Left hand drive: No

On main carriageway No skidding, jack-knifing or overturning
First point of impact Front Parts damaged: 0 0 0 Age of Driver 35 Sex of Driver Female Breath test Driver not contacted

Accidents between dates 01/02/2015 and 31/01/2020 (60) months

Selection: Notes:
Selected using Manual Selection A509, Tongwell Street.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Vehicle Reference 2 Van or Goods 3.5 tonnes mgw and under Moving from S to N Going ahead but held up Left hand drive: No

On main carriageway No skidding, jack-knifing or overturning
First point of impact Back Parts damaged: 0 0 0 Age of Driver 32 Sex of Driver Male Breath test Driver not contacted

Casualty Reference: 1 Age: 32 Male Driver/rider Severity: Slight Injured by vehicle: 2

Seatbelt: Unknown

Cycle helmet Not a cyclist

Ped. Location

Ped. Movement

Ped. Direction

Ped. Injury

School pupil: 0

Accidents between dates 01/02/2015 and 31/01/2020 (60) months

Selection: Selected using Manual Selection
Notes: A509, Tongwell Street.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Thursday 04/07/2019 Time 1545 Slight at A509 JNC M1 ROUNDABOUT- JNC 14, BROOK FURLONG, MK

E: 489237 N: 240755 Junction Detail: 1 Control 2

Fine without high winds Road surface Dry Daylight

C2 & GV1 (VAN) STAT AT RBT ENTRY TOP OF N/BND EXIT SLIP RD FROM M1, ATS TURNED GREEN C2 & GV1 MOVED OFF, OTHER VEH APP FROM RIGHT THRU RED ATS, C2 BRAKED, GV1 HIT REAR C2.

Road Type Roundabout Vehicles 2 Casualties 1 Police Ref. 190207636 Speed limit 60

Crossing: Control 0 Facilities 0 Local Authority: E06000042 Parish: 1983 Road Section: Accident Type(s) NB

Causation

	Factor:	Participant:	Confidence:
1st:			
2nd:			
3rd:			
4th:			
5th:			
6th:			

Vehicle Reference 1 Van or Goods 3.5 tonnes mgw and under Moving from SE to N Starting Left hand drive: No

On main carriageway
First point of impact Front Parts damaged: 0 0 0 Age of Driver 39 Sex of Driver Male No skidding, jack-knifing or overturning
Breath test Driver not contacted

Accidents between dates 01/02/2015 and 31/01/2020 (60) months

Selection: Notes:
Selected using Manual Selection A509, Tongwell Street.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Vehicle Reference 2 Car Moving from SE to N Stopping Left hand drive: No

On main carriageway No skidding, jack-knifing or overturning
First point of impact Back Parts damaged: 0 0 0 Age of Driver 42 Sex of Driver Male Breath test Driver not contacted

Casualty Reference: 1 Age: 42 Male Driver/rider Severity: Slight Injured by vehicle: 2

Seatbelt: Unknown Cycle helmet Not a cyclist

Ped. Location Ped. Movement Ped. Direction Ped. Injury School pupil: 0

Accidents between dates 01/02/2015 and 31/01/2020 (60) months

Selection: Notes:
Selected using Manual Selection A509, Tongwell Street.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Friday 11/10/2019 Time 1651 Serious at V11 TONGWELL ST JNC CARLETON GATE, WILLEN, MK

E: 488201 N: 241385 Junction Detail: 3 Control 4

Fine without high winds Road surface Wet/Damp Daylight

C2 STAT ON CARLTN GT TO TURN RIGHT ONTO V11, GV1 (VAN) TRAV N/W ON V11 APPR JNC, DRVR GV1 CLAIMS TO HAVE BLACKED OUT & GV1 COLLS WITH O/SIDE C2. GV1 THEN COLLS WITH TRAFF SIGN.

Road Type Single carriageway Vehicles 2 Casualties 1 Police Ref. 190316337 Speed limit 60

Crossing: Control 0 Facilities 0 Local Authority: E06000042 Parish: 1983 Road Section: Accident Type(s) ZZ

Causation

	Factor:	Participant:	Confidence:
1st:	Illness or disability, mental or physical	Vehicle 1	Very Likely
2nd:			
3rd:			
4th:			
5th:			
6th:			

Vehicle Reference 1 Van or Goods 3.5 tonnes mgw and under Moving from SE to N Going ahead other Left hand drive: No

On main carriageway No skidding, jack-knifing or overturning
First point of impact Front Parts damaged: 0 0 0 Age of Driver 46 Sex of Driver Male Breath test Negative

Accidents between dates 01/02/2015 and 31/01/2020 (60) months

Selection: Notes:
Selected using Manual Selection A509, Tongwell Street.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Vehicle Reference 2 Car Moving from S to SE Waiting to turn right Left hand drive: No

On main carriageway No skidding, jack-knifing or overturning
First point of impact Offside Parts damaged: 0 0 0 Age of Driver 60 Sex of Driver Female Breath test Negative

Casualty Reference: 1 Age: 60 Female Driver/rider Severity: Serious Injured by vehicle: 2

Seatbelt: Worn and independently confirmed Cycle helmet Not a cyclist

Ped. Location Ped. Movement Ped. Direction Ped. Injury School pupil: 0

Accidents between dates 01/02/2015 and 31/01/2020 (60) months

Selection: Notes:
Selected using Manual Selection A509, Tongwell Street.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Monday 25/11/2019 Time 2017 Slight at H5 JNC V11 PINEHAM ROUNDABOUT, FOX MILNE, MK

E: 488381 N: 240345 Junction Detail: 1 Control 4

Raining without high winds Road surface Wet/Damp Darkness: street lights present and lit

PC2 TRAV WEST ON H5 NEG RBT, C1 TRAV NORTH ON V11 DOES NOT SEE PC2 & ENTERS RBT COLL WITH PC2 AT LOW SPEED. PC2 NO LIGHTS.

Road Type Dual carriageway Vehicles 2 Casualties 1 Police Ref. 190371724 Speed limit 70

Crossing: Control 0 Facilities 0 Local Authority: E06000042 Parish: 1983 Road Section: Accident Type(s) CM

Causation

	Factor:	Participant:	Confidence:
1st:	Not displaying lights at night or in poor visibility	Vehicle 2	Very Likely
2nd:			
3rd:			
4th:			
5th:			
6th:			

Vehicle Reference 1 Car Moving from S to N Going ahead other Left hand drive: No

On main carriageway No skidding, jack-knifing or overturning
First point of impact Front Parts damaged: 0 0 0 Age of Driver 41 Sex of Driver Male Breath test Negative

Accidents between dates 01/02/2015 and 31/01/2020 (60) months

Selection: Notes:
Selected using Manual Selection A509, Tongwell Street.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Vehicle Reference 2 Pedal Cycle Moving from E to W Going ahead other Left hand drive: No

On main carriageway No skidding, jack-knifing or overturning
First point of impact Nearside Parts damaged: 0 0 0 Age of Driver 51 Sex of Driver Male Breath test Not applicable

Casualty Reference: 1 Age: 51 Male Driver/rider Severity: Slight Injured by vehicle: 2

Seatbelt: Not Applicable Cycle helmet Yes

Ped. Location Ped. Movement Ped. Direction Ped. Injury School pupil: 0

Accidents between dates 01/02/2015 and 31/01/2020 (60) months

Selection: Notes:
Selected using Manual Selection A509, Tongwell Street.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Wednesday 18/12/2019 Time 2012 Slight at M1 MOTORWAY, NORTHBND ON-SLIP RD FROM JNC 14 RBT, PINEHAM, MK

E: 489147 N: 240831 Junction Detail: 0 Control

Fine without high winds Road surface Wet/Damp Darkness: no street lighting

GV1 & C2 TRAV ON SLIP RD N/BND, FRONT C2 COLLS WITH O/SIDE GV1. C2 OVRTURNS.

Road Type Slip road Vehicles 2 Casualties 2 Police Ref. 190395296 Speed limit 70

Crossing: Control 0 Facilities 0 Local Authority: E06000042 Parish: 1983 Road Section: Accident Type(s) ZZ

Causation

	Factor:	Participant:	Confidence:
1st:	Careless/Reckless/In a hurry	Vehicle 2	Possible
2nd:	Failed to judge other persons path or speed	Vehicle 2	Possible
3rd:	Following too close	Vehicle 1	
4th:			
5th:			
6th:			

Vehicle Reference 1 Goods 7.5 tonnes mgw and over Moving from SE to N Going ahead other Left hand drive: No

On main carriageway No skidding, jack-knifing or overturning
First point of impact Offside Parts damaged: 0 0 0 Age of Driver Sex of Driver Male Breath test Negative

Accidents between dates 01/02/2015 and 31/01/2020 (60) months

Selection: Notes:
Selected using Manual Selection A509, Tongwell Street.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Vehicle Reference	2	Car		Moving from	SE	to	N	Going ahead other	Left hand drive: No
On main carriageway								No skidding, jack-knifing or overturning	
First point of impact	Front	Parts damaged:	0 0 0	Age of Driver	31	Sex of Driver	Female	Breath test	Negative
Casualty Reference:	1	Age:	31	Female	Driver/rider	Severity:	Slight	Injured by vehicle:	2
Seatbelt:	Unknown			Cycle helmet	Not a cyclist				
Ped. Location		Ped. Movement		Ped. Direction		Ped. Injury		School pupil:	0
Casualty Reference:	2	Age:	20	Male	Passenger	Severity:	Slight	Injured by vehicle:	2
Seatbelt:	Unknown			Cycle helmet	Not a cyclist				
Ped. Location		Ped. Movement		Ped. Direction		Ped. Injury		School pupil:	0

Accidents between dates 01/02/2015 and 31/01/2020 (60) months

Selection: Selected using Manual Selection
Notes: A509, Tongwell Street.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Thursday 26/12/2019 Time 2050 Slight at H5 JNC H6 NORTHFIELD ROUNDABOUT, NORTHFIELD, MK

E: 489062 N: 240325 Junction Detail: 1 Control 2

Fine without high winds Road surface Dry Darkness: street lights present and lit

C2 NEG RBT TO EXIT W/BND ONTO H5, C1 NEG RBT COLLS WITH O/SIDE C2. DRVR C1 ALCOHOL IMPRMNT, C1 DID NOT EXCHANGE DETAILS & LEFT THE SCENE.

Road Type Dual carriageway Vehicles 2 Casualties 1 Police Ref. 190406027 Speed limit 70

Crossing: Control 0 Facilities 0 Local Authority: E06000042 Parish: 1983 Road Section: Accident Type(s) CO

Causation

	Factor:	Participant:	Confidence:
1st:	Impaired by alcohol	Vehicle 1	Possible
2nd:			
3rd:			
4th:			
5th:			
6th:			

Vehicle Reference 1 Car Moving from E to W Going ahead other Left hand drive: No

On main carriageway No skidding, jack-knifing or overturning
First point of impact Front Parts damaged: 0 0 0 Age of Driver Sex of Driver Female Breath test Driver not contacted

Accidents between dates 01/02/2015 and 31/01/2020 (60) months

Selection: Notes:
Selected using Manual Selection A509, Tongwell Street.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Vehicle Reference 2 Car Moving from E to W Going ahead other Left hand drive: Yes

On main carriageway No skidding, jack-knifing or overturning
First point of impact Offside Parts damaged: 0 0 0 Age of Driver Sex of Driver Unknown Breath test Driver not contacted

Casualty Reference: 1 Age: 21 Passenger Severity: Slight Injured by vehicle: 2

Seatbelt: Unknown Cycle helmet Not a cyclist

Ped. Location Ped. Movement Ped. Direction Ped. Injury School pupil: 0

Accidents between dates 01/02/2015 and 31/01/2020 (60) months

Selection: Selected using Manual Selection
Notes: A509, Tongwell Street.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Friday 27/12/2019 Time 1950 Slight at A509 JNC WITH M1 JNC 14 ROUNDABOUT, PINEHAM, MK

E: 489195 N: 240739 Junction Detail: 1 Control 2

Fine without high winds Road surface Wet/Damp Darkness: street lighting unknown

C2 TRAV NORTH ON A509 STAT AT ENTRY TO RBT, C1 FOLL COLLS WITH REAR C2.

Road Type Dual carriageway Vehicles 2 Casualties 1 Police Ref. 190403179 Speed limit 70

Crossing: Control 0 Facilities 0 Local Authority: E06000042 Parish: 1983 Road Section: Accident Type(s) NB

Causation

	Factor:	Participant:	Confidence:
1st:	Failed to look properly	Vehicle 1	Very Likely
2nd:	Failed to judge other persons path or speed	Vehicle 1	Possible
3rd:			
4th:			
5th:			
6th:			

Vehicle Reference 1 Car Moving from S to N Going ahead other Left hand drive: No

On main carriageway
First point of impact Front Parts damaged: 0 0 0 Age of Driver 32 Sex of Driver Male No skidding, jack-knifing or overturning
Breath test Negative

Accidents between dates 01/02/2015 and 31/01/2020 (60) months

Selection: Notes:
Selected using Manual Selection A509, Tongwell Street.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Vehicle Reference 2 Car Moving from S to N Going ahead but held up Left hand drive: No

On main carriageway No skidding, jack-knifing or overturning
First point of impact Back Parts damaged: 0 0 0 Age of Driver 46 Sex of Driver Female Breath test Negative

Casualty Reference: 1 Age: 46 Female Driver/rider Severity: Slight Injured by vehicle: 2

Seatbelt: Unknown

Cycle helmet Not a cyclist

Ped. Location Ped. Movement Ped. Direction Ped. Injury School pupil: 0

Accidents between dates 01/02/2015 and 31/01/2020 (60) months

Selection:
Selected using Manual Selection

Notes:
A509, Tongwell Street.

CONFIDENTIAL ROAD ACCIDENT INFORMATION: NOT TO BE TRANSMITTED TO THIRD PARTIES

Accidents involving:

	Fatal	Serious	Slight	Total
Motor vehicles only (excluding 2-wheels)	0	3	29	32
2-wheeled motor vehicles	0	2	2	4
Pedal cycles	0	0	3	3
Horses & other	0	0	0	0
Total	0	5	34	39

Casualties:

	Fatal	Serious	Slight	Total
Vehicle driver	0	3	27	30
Passenger	0	0	10	10
Motorcycle rider	0	2	1	3
Cyclist	0	0	3	3
Pedestrian	0	0	0	0
Other	0	0	0	0
Total	0	5	41	46

Number of casualties meeting the criteria: 46

Accidents between dates 01/02/2015 and 31/01/2020 (60) months

Selection: Notes:
Selected using Manual Selection Tongwell Street (fatal).

Monday 11/01/2016 Time 1428 Fatal at V11 TONGWELL STREET, VICINITY OF M1 FOOTBRIDGE, WILLEN, MK

E: 488085 N: 241539 Junction Detail: 0 Control

Fine without high winds Road surface Wet/Damp Daylight

Vehicle Reference 1 Minibus Moving from N to S Going ahead other Left hand drive: No

Casualty Reference: 1 Age: 65 Male Driver/rider Severity: Slight Injured by vehicle: 1

Seatbelt: Worn but not independently confirmed Cycle helmet Not a cyclist

Vehicle Reference 2 Car Moving from S to N Going ahead other Left hand drive: No

Casualty Reference: 2 Age: 60 Male Driver/rider Severity: Fatal Injured by vehicle: 2

Seatbelt: Worn and independently confirmed Cycle helmet Not a cyclist

Vehicle Reference 3 Car Moving from S to N Going ahead other Left hand drive: No

Casualty Reference: 3 Age: 66 Female Driver/rider Severity: Serious Injured by vehicle: 3

Seatbelt: Worn and independently confirmed Cycle helmet Not a cyclist

Accidents between dates **01/02/2015 and 31/01/2020** (60) months

Selection: **Notes:**
 Selected using Manual Selection Tongwell Street (fatal).

Accidents involving:

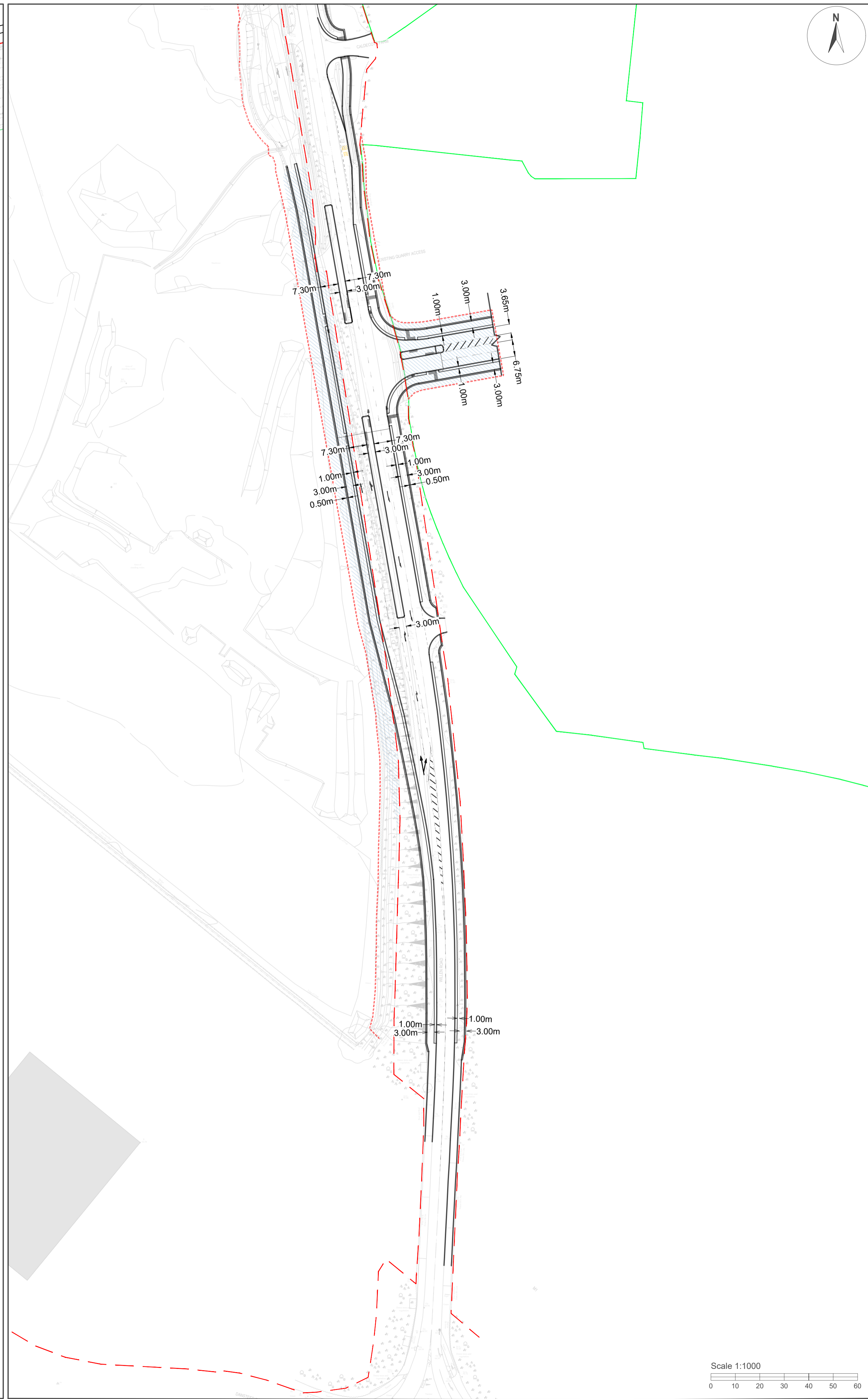
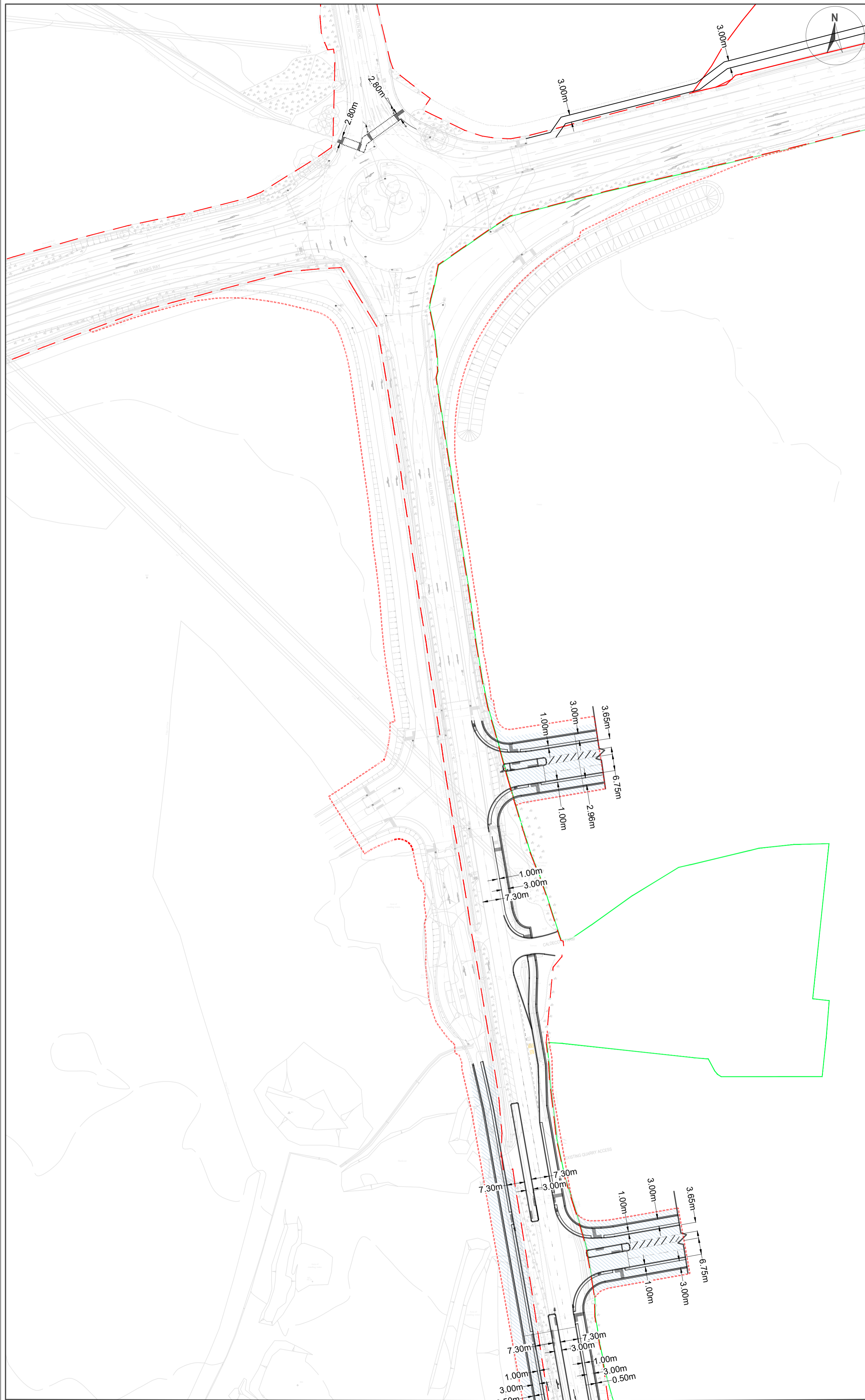
	Fatal	Serious	Slight	Total
Motor vehicles only (excluding 2-wheels)	1	0	0	1
2-wheeled motor vehicles	0	0	0	0
Pedal cycles	0	0	0	0
Horses & other	0	0	0	0
Total	1	0	0	1

Casualties:

	Fatal	Serious	Slight	Total
Vehicle driver	1	1	1	3
Passenger	0	0	0	0
Motorcycle rider	0	0	0	0
Cyclist	0	0	0	0
Pedestrian	0	0	0	0
Other	0	0	0	0
Total	1	1	1	3

Number of casualties meeting the criteria: 3

Appendix 11 – Proposed Access Junctions / Highway Improvement Plan



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- NOTES
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 2. If received electronically it is the recipient's responsibility to print to correct scale. Only written dimensions should be used.
 3. This drawing is to be read in conjunction with all relevant scheme drawings.
 4. All measurements are in metres, unless stated otherwise.
 5. Drawing based on drawing 4179-sk015 p38 - export 20062

- Key:
- Land required to accommodate Bloors Highway Improvements
 - Existing highway boundary
 - Proposed highway boundary
 - Bloor's site boundary

Rev	Description	By	CB	Date
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Client Bloor Homes

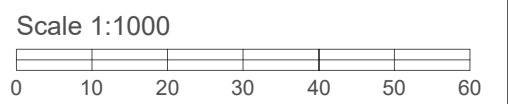
Project Newport Pagnell

Title Bloors Highway Improvements

Status Drawn By PM/Checked by
 PRELIMINARY KJ SRD

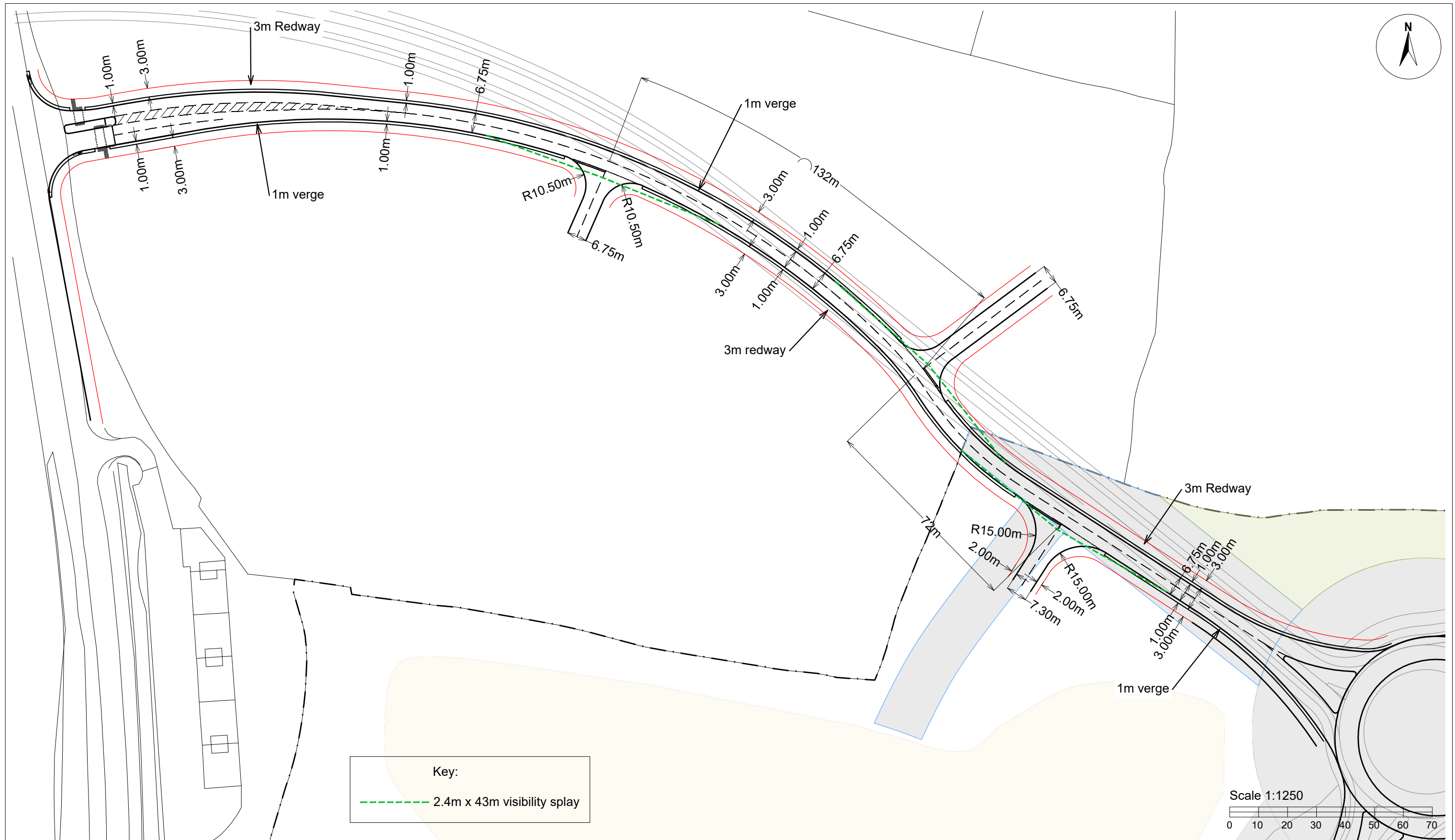
Project Number Scale @ A1 Date Created
 JNY10094 1:1000 Oct 2021

RPS Drawing/Figure Number Rev
 JNY10094-47 -



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Appendix 12 – Preliminary Southern Access Road Drawing



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Client Bloor Homes

Project Newport Pagnell

Title Proposed Southern Access Road Preliminary Design

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3. This drawing is to be read in conjunction with all relevant scheme drawings.

B	Title change	AJ	SRD	14.10.21
A	Realigned to WSP Willen Link Rd Design (mke-wsp-xx-xx-c-m2-0101-201009)	AJ	SRD	12.11.20
Rev	Description	By	CB	Date

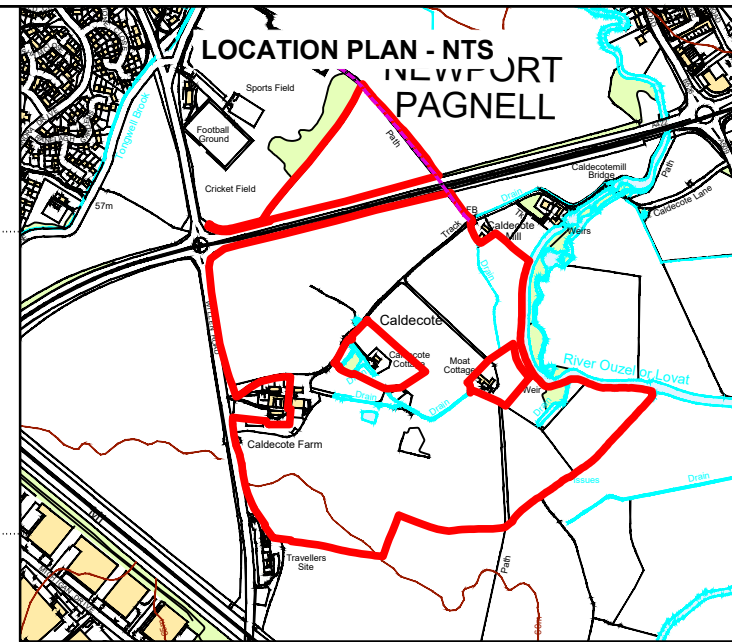
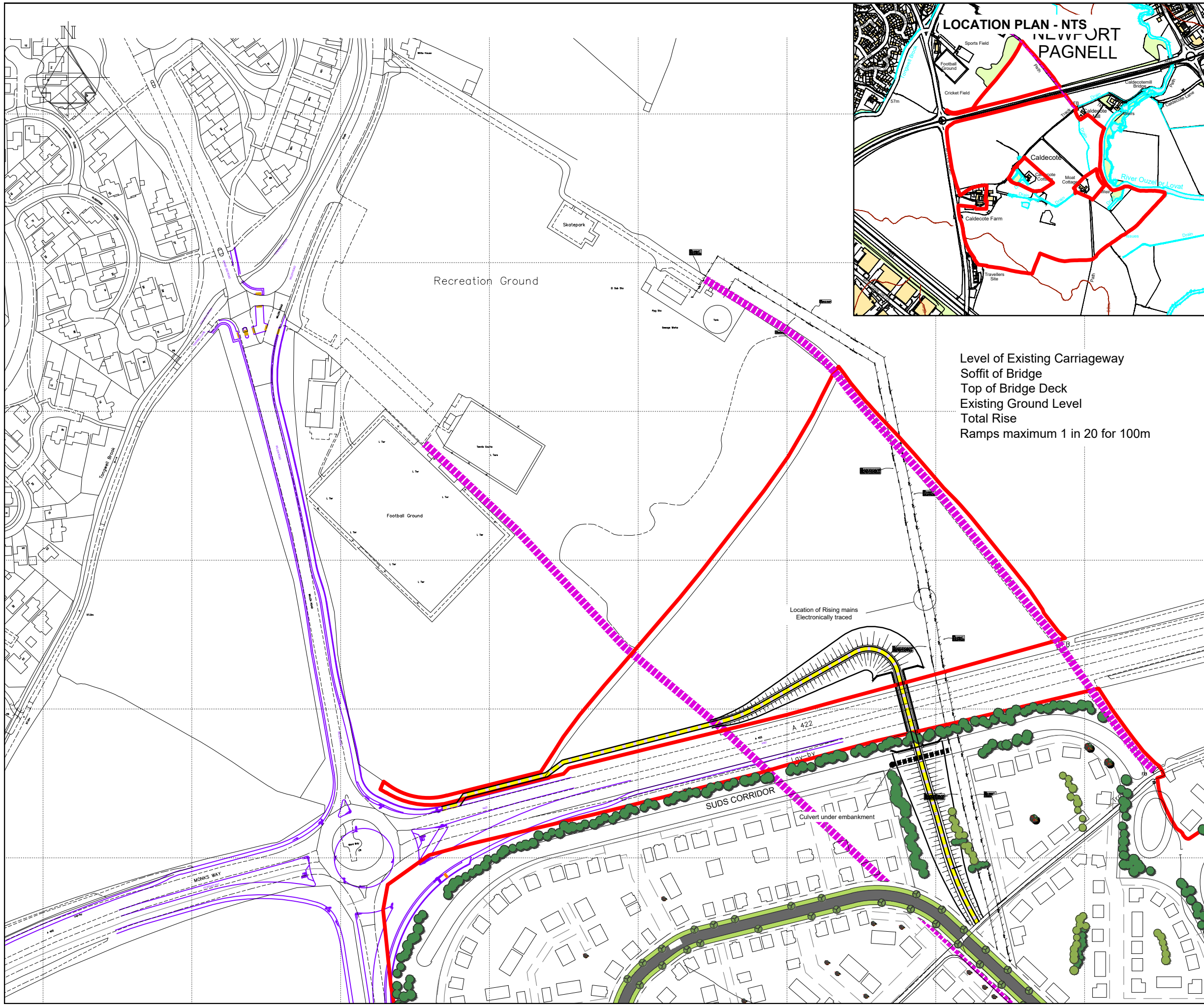
Status PRELIMINARY Drawn By AJ PM/Checked by SRD






Project Number JNY10094 Scale @ A3 1:1250 Date Created 07/10/20

RPS Drawing/Figure Number JNY10094-30 Rev B

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Appendix 13 – Proposed Pedestrian / Cycle Overbridge



- GENERAL KEY**
-  Land under control of Homes
 -  Earthworks for Overbridge
 -  Proposed footway/cycleway
 -  Proposed works in public highway
 -  Public Right of Way

Level of Existing Carriageway
 Soffit of Bridge
 Top of Bridge Deck
 Existing Ground Level
 Total Rise
 Ramps maximum 1 in 20 for 100m

Revision.		
C	EARTHWORKS AMMENDED TO NORTH OF WILLEN ROAD. ADDITIONAL LINK ADDED	02-06-20 NC

Job.	Milton Keynes East		
Title.	Proposed Footway/Cycleway Overbridge		
Scale.	1:2500	Drawn.	NC
Date.	April 2021	Checked.	

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Drawing No.	SM5123-EN-009	Rev.	C
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Appendix 14 – TRICS Output Files

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 03 - RESIDENTIAL
 Category : A - HOUSES PRIVATELY OWNED
 TOTAL VEHICLES

Selected regions and areas:

02	SOUTH EAST	
	ES EAST SUSSEX	2 days
	HF HERTFORDSHIRE	1 days
	KC KENT	1 days
	SC SURREY	1 days
	WS WEST SUSSEX	3 days
03	SOUTH WEST	
	DV DEVON	1 days
05	EAST MIDLANDS	
	DS DERBYSHIRE	1 days
06	WEST MIDLANDS	
	ST STAFFORDSHIRE	1 days
07	YORKSHIRE & NORTH LINCOLNSHIRE	
	NE NORTH EAST LINCOLNSHIRE	1 days
11	SCOTLAND	
	FA FALKIRK	1 days

This section displays the number of survey days per TRICS® sub-region in the selected set

Primary Filtering selection:

This data displays the chosen trip rate parameter and its selected range. Only sites that fall within the parameter range are included in the trip rate calculation.

Parameter: No of Dwellings
 Actual Range: 116 to 918 (units:)
 Range Selected by User: 50 to 1000 (units:)

Parking Spaces Range: All Surveys Included

Parking Spaces per Dwelling Range: All Surveys Included

Bedrooms per Dwelling Range: All Surveys Included

Percentage of dwellings privately owned: All Surveys Included

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/13 to 13/10/20

This data displays the range of survey dates selected. Only surveys that were conducted within this date range are included in the trip rate calculation.

Selected survey days:

Monday	4 days
Tuesday	2 days
Wednesday	3 days
Thursday	2 days
Friday	2 days

This data displays the number of selected surveys by day of the week.

Selected survey types:

Manual count	13 days
Directional ATC Count	0 days

This data displays the number of manual classified surveys and the number of unclassified ATC surveys, the total adding up to the overall number of surveys in the selected set. Manual surveys are undertaken using staff, whilst ATC surveys are undertaken using machines.

Selected Locations:

Suburban Area (PPS6 Out of Centre)	3
Edge of Town	10

This data displays the number of surveys per main location category within the selected set. The main location categories consist of Free Standing, Edge of Town, Suburban Area, Neighbourhood Centre, Edge of Town Centre, Town Centre and Not Known.

This data displays the number of surveys per location sub-category within the selected set. The location sub-categories consist of Commercial Zone, Industrial Zone, Development Zone, Residential Zone, Retail Zone, Built-Up Zone, Village, Out of Town, High Street and No Sub Category.

Secondary Filtering selection:

Use Class:

C3 13 days

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order 2005 has been used for this purpose, which can be found within the Library module of TRICS®.

Population within 500m Range:

All Surveys Included

Population within 1 mile:

1,000 or Less	1 days
5,001 to 10,000	2 days
10,001 to 15,000	7 days
20,001 to 25,000	3 days

This data displays the number of selected surveys within stated 1-mile radii of population.

Population within 5 miles:

5,001 to 25,000	3 days
50,001 to 75,000	2 days
75,001 to 100,000	2 days
100,001 to 125,000	1 days
125,001 to 250,000	5 days

This data displays the number of selected surveys within stated 5-mile radii of population.

Car ownership within 5 miles:

0.6 to 1.0	3 days
1.1 to 1.5	8 days
1.6 to 2.0	2 days

This data displays the number of selected surveys within stated ranges of average cars owned per residential dwelling, within a radius of 5-miles of selected survey sites.

Travel Plan:

Yes	5 days
No	8 days

This data displays the number of surveys within the selected set that were undertaken at sites with Travel Plans in place, and the number of surveys that were undertaken at sites without Travel Plans.

PTAL Rating:

No PTAL Present 13 days

This data displays the number of selected surveys with PTAL Ratings.

LIST OF SITES relevant to selection parameters

1	DS-03-A-02 RADBOURNE LANE DERBY	MIXED HOUSES	DERBYSHIRE
	Edge of Town Residential Zone Total No of Dwellings: 371 <i>Survey date: TUESDAY 10/07/18</i>		<i>Survey Type: MANUAL</i>
2	DV-03-A-02 MILLHEAD ROAD HONITON	HOUSES & BUNGALOWS	DEVON
	Suburban Area (PPS6 Out of Centre) Residential Zone Total No of Dwellings: 116 <i>Survey date: FRIDAY 25/09/15</i>		<i>Survey Type: MANUAL</i>
3	ES-03-A-03 SHEPHAM LANE POLEGATE	MIXED HOUSES & FLATS	EAST SUSSEX
	Edge of Town Residential Zone Total No of Dwellings: 212 <i>Survey date: MONDAY 11/07/16</i>		<i>Survey Type: MANUAL</i>
4	ES-03-A-04 NEW LYDD ROAD CAMBER	MIXED HOUSES & FLATS	EAST SUSSEX
	Edge of Town Residential Zone Total No of Dwellings: 134 <i>Survey date: FRIDAY 15/07/16</i>		<i>Survey Type: MANUAL</i>
5	FA-03-A-02 ROSEBANK AVENUE & SPRINGFIELD DRIVE FALKIRK	MIXED HOUSES	FALKIRK
	Suburban Area (PPS6 Out of Centre) Residential Zone Total No of Dwellings: 161 <i>Survey date: WEDNESDAY 29/05/13</i>		<i>Survey Type: MANUAL</i>
6	HF-03-A-03 HARE STREET ROAD BUNTINGFORD	MIXED HOUSES	HERTFORDSHIRE
	Edge of Town Residential Zone Total No of Dwellings: 160 <i>Survey date: MONDAY 08/07/19</i>		<i>Survey Type: MANUAL</i>
7	KC-03-A-06 MARGATE ROAD HERNE BAY	MIXED HOUSES & FLATS	KENT
	Suburban Area (PPS6 Out of Centre) Residential Zone Total No of Dwellings: 363 <i>Survey date: WEDNESDAY 27/09/17</i>		<i>Survey Type: MANUAL</i>
8	NE-03-A-02 HANOVER WALK SCUNTHORPE	SEMI DETACHED & DETACHED	NORTH EAST LINCOLNSHIRE
	Edge of Town No Sub Category Total No of Dwellings: 432 <i>Survey date: MONDAY 12/05/14</i>		<i>Survey Type: MANUAL</i>

LIST OF SITES relevant to selection parameters (Cont.)

9	SC-03-A-05 REIGATE ROAD HORLEY	MIXED HOUSES	SURREY
	Edge of Town Residential Zone Total No of Dwellings: 207 <i>Survey date: MONDAY 01/04/19</i>		<i>Survey Type: MANUAL</i>
10	ST-03-A-07 BEACONSIDE STAFFORD MARSTON GATE	DETACHED & SEMI-DETACHED	STAFFORDSHIRE
	Edge of Town Residential Zone Total No of Dwellings: 248 <i>Survey date: WEDNESDAY 22/11/17</i>		<i>Survey Type: MANUAL</i>
11	WS-03-A-08 ROUNDSTONE LANE ANGMERING	MIXED HOUSES	WEST SUSSEX
	Edge of Town Residential Zone Total No of Dwellings: 180 <i>Survey date: THURSDAY 19/04/18</i>		<i>Survey Type: MANUAL</i>
12	WS-03-A-09 LITTLEHAMPTON ROAD WORTHING WEST DURRINGTON	MIXED HOUSES & FLATS	WEST SUSSEX
	Edge of Town Residential Zone Total No of Dwellings: 197 <i>Survey date: THURSDAY 05/07/18</i>		<i>Survey Type: MANUAL</i>
13	WS-03-A-11 ELLIS ROAD WEST HORSHAM S BROADBRIDGE HEATH	MIXED HOUSES	WEST SUSSEX
	Edge of Town Residential Zone Total No of Dwellings: 918 <i>Survey date: TUESDAY 02/04/19</i>		<i>Survey Type: MANUAL</i>

This section provides a list of all survey sites and days in the selected set. For each individual survey site, it displays a unique site reference code and site address, the selected trip rate calculation parameter and its value, the day of the week and date of each survey, and whether the survey was a manual classified count or an ATC count.

MANUALLY DESELECTED SITES

Site Ref	Reason for Deselection
DH-03-A-01	unsuitable
DH-03-A-03	unsuitable
DV-03-A-03	unsuitable
ES-03-A-05	unsuitable
EX-03-A-02	unsuitable
HC-03-A-23	unsuitable
KC-03-A-03	unsuitable
KC-03-A-04	unsuitable
KC-03-A-07	unsuitable
NF-03-A-04	unsuitable
NF-03-A-06	unsuitable
NF-03-A-07	unsuitable
NF-03-A-22	unsuitable
NY-03-A-09	unsuitable
NY-03-A-10	unsuitable
SC-03-A-04	unsuitable
SF-03-A-07	unsuitable
SH-03-A-05	unsuitable
SY-03-A-01	unsuitable
WS-03-A-10	unsuitable

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED

TOTAL VEHICLES

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	13	285	0.065	13	285	0.304	13	285	0.369
08:00 - 09:00	13	285	0.107	13	285	0.377	13	285	0.484
09:00 - 10:00	13	285	0.137	13	285	0.159	13	285	0.296
10:00 - 11:00	13	285	0.120	13	285	0.151	13	285	0.271
11:00 - 12:00	13	285	0.122	13	285	0.133	13	285	0.255
12:00 - 13:00	13	285	0.152	13	285	0.142	13	285	0.294
13:00 - 14:00	13	285	0.145	13	285	0.152	13	285	0.297
14:00 - 15:00	13	285	0.158	13	285	0.182	13	285	0.340
15:00 - 16:00	13	285	0.246	13	285	0.165	13	285	0.411
16:00 - 17:00	13	285	0.273	13	285	0.159	13	285	0.432
17:00 - 18:00	13	285	0.352	13	285	0.158	13	285	0.510
18:00 - 19:00	13	285	0.318	13	285	0.168	13	285	0.486
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			2.195			2.250			4.445

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

*To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.*

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Parameter summary

Trip rate parameter range selected: 116 - 918 (units:)
 Survey date date range: 01/01/13 - 13/10/20
 Number of weekdays (Monday-Friday): 13
 Number of Saturdays: 0
 Number of Sundays: 0
 Surveys automatically removed from selection: 17
 Surveys manually removed from selection: 20

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are show. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED

TAXIS

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	13	285	0.002	13	285	0.002	13	285	0.004
08:00 - 09:00	13	285	0.004	13	285	0.004	13	285	0.008
09:00 - 10:00	13	285	0.002	13	285	0.001	13	285	0.003
10:00 - 11:00	13	285	0.002	13	285	0.002	13	285	0.004
11:00 - 12:00	13	285	0.001	13	285	0.002	13	285	0.003
12:00 - 13:00	13	285	0.002	13	285	0.002	13	285	0.004
13:00 - 14:00	13	285	0.002	13	285	0.001	13	285	0.003
14:00 - 15:00	13	285	0.002	13	285	0.002	13	285	0.004
15:00 - 16:00	13	285	0.004	13	285	0.004	13	285	0.008
16:00 - 17:00	13	285	0.003	13	285	0.003	13	285	0.006
17:00 - 18:00	13	285	0.002	13	285	0.001	13	285	0.003
18:00 - 19:00	13	285	0.001	13	285	0.002	13	285	0.003
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.027			0.026			0.053

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

*To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.*

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED

OGVS

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	13	285	0.001	13	285	0.001	13	285	0.002
08:00 - 09:00	13	285	0.002	13	285	0.001	13	285	0.003
09:00 - 10:00	13	285	0.002	13	285	0.001	13	285	0.003
10:00 - 11:00	13	285	0.002	13	285	0.003	13	285	0.005
11:00 - 12:00	13	285	0.001	13	285	0.001	13	285	0.002
12:00 - 13:00	13	285	0.002	13	285	0.003	13	285	0.005
13:00 - 14:00	13	285	0.002	13	285	0.001	13	285	0.003
14:00 - 15:00	13	285	0.002	13	285	0.002	13	285	0.004
15:00 - 16:00	13	285	0.002	13	285	0.003	13	285	0.005
16:00 - 17:00	13	285	0.001	13	285	0.000	13	285	0.001
17:00 - 18:00	13	285	0.001	13	285	0.001	13	285	0.002
18:00 - 19:00	13	285	0.001	13	285	0.001	13	285	0.002
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.019			0.018			0.037

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

*To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.*

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED

PSVS

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	13	285	0.001	13	285	0.001	13	285	0.002
08:00 - 09:00	13	285	0.001	13	285	0.001	13	285	0.002
09:00 - 10:00	13	285	0.001	13	285	0.001	13	285	0.002
10:00 - 11:00	13	285	0.001	13	285	0.001	13	285	0.002
11:00 - 12:00	13	285	0.001	13	285	0.001	13	285	0.002
12:00 - 13:00	13	285	0.001	13	285	0.001	13	285	0.002
13:00 - 14:00	13	285	0.001	13	285	0.001	13	285	0.002
14:00 - 15:00	13	285	0.001	13	285	0.001	13	285	0.002
15:00 - 16:00	13	285	0.001	13	285	0.001	13	285	0.002
16:00 - 17:00	13	285	0.001	13	285	0.001	13	285	0.002
17:00 - 18:00	13	285	0.001	13	285	0.001	13	285	0.002
18:00 - 19:00	13	285	0.000	13	285	0.000	13	285	0.000
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.011			0.011			0.022

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

*To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.*

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
 CYCLISTS

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	13	285	0.002	13	285	0.007	13	285	0.009
08:00 - 09:00	13	285	0.004	13	285	0.015	13	285	0.019
09:00 - 10:00	13	285	0.001	13	285	0.002	13	285	0.003
10:00 - 11:00	13	285	0.002	13	285	0.002	13	285	0.004
11:00 - 12:00	13	285	0.003	13	285	0.004	13	285	0.007
12:00 - 13:00	13	285	0.004	13	285	0.004	13	285	0.008
13:00 - 14:00	13	285	0.001	13	285	0.001	13	285	0.002
14:00 - 15:00	13	285	0.004	13	285	0.002	13	285	0.006
15:00 - 16:00	13	285	0.005	13	285	0.002	13	285	0.007
16:00 - 17:00	13	285	0.010	13	285	0.005	13	285	0.015
17:00 - 18:00	13	285	0.010	13	285	0.006	13	285	0.016
18:00 - 19:00	13	285	0.010	13	285	0.009	13	285	0.019
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.056			0.059			0.115

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

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TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
 CARS

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	13	285	0.044	13	285	0.246	13	285	0.290
08:00 - 09:00	13	285	0.080	13	285	0.299	13	285	0.379
09:00 - 10:00	13	285	0.096	13	285	0.122	13	285	0.218
10:00 - 11:00	13	285	0.081	13	285	0.107	13	285	0.188
11:00 - 12:00	13	285	0.088	13	285	0.095	13	285	0.183
12:00 - 13:00	13	285	0.104	13	285	0.100	13	285	0.204
13:00 - 14:00	13	285	0.102	13	285	0.101	13	285	0.203
14:00 - 15:00	13	285	0.110	13	285	0.129	13	285	0.239
15:00 - 16:00	13	285	0.181	13	285	0.109	13	285	0.290
16:00 - 17:00	13	285	0.202	13	285	0.110	13	285	0.312
17:00 - 18:00	13	285	0.281	13	285	0.113	13	285	0.394
18:00 - 19:00	13	285	0.257	13	285	0.124	13	285	0.381
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			1.626			1.655			3.281

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

*To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.*

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
 LGVS

Calculation factor: 1 DWELLS

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	13	285	0.011	13	285	0.024	13	285	0.035
08:00 - 09:00	13	285	0.012	13	285	0.018	13	285	0.030
09:00 - 10:00	13	285	0.018	13	285	0.015	13	285	0.033
10:00 - 11:00	13	285	0.019	13	285	0.019	13	285	0.038
11:00 - 12:00	13	285	0.016	13	285	0.019	13	285	0.035
12:00 - 13:00	13	285	0.020	13	285	0.016	13	285	0.036
13:00 - 14:00	13	285	0.019	13	285	0.024	13	285	0.043
14:00 - 15:00	13	285	0.018	13	285	0.018	13	285	0.036
15:00 - 16:00	13	285	0.021	13	285	0.019	13	285	0.040
16:00 - 17:00	13	285	0.021	13	285	0.018	13	285	0.039
17:00 - 18:00	13	285	0.026	13	285	0.014	13	285	0.040
18:00 - 19:00	13	285	0.018	13	285	0.012	13	285	0.030
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.219			0.216			0.435

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

*To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.*

TRIP RATE for Land Use 03 - RESIDENTIAL/A - HOUSES PRIVATELY OWNED
 MOTOR CYCLES
 Calculation factor: 1 DWELLS
 BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate	No. Days	Ave. DWELLS	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	13	285	0.001	13	285	0.002	13	285	0.003
08:00 - 09:00	13	285	0.000	13	285	0.003	13	285	0.003
09:00 - 10:00	13	285	0.000	13	285	0.000	13	285	0.000
10:00 - 11:00	13	285	0.000	13	285	0.000	13	285	0.000
11:00 - 12:00	13	285	0.000	13	285	0.000	13	285	0.000
12:00 - 13:00	13	285	0.000	13	285	0.001	13	285	0.001
13:00 - 14:00	13	285	0.001	13	285	0.001	13	285	0.002
14:00 - 15:00	13	285	0.001	13	285	0.000	13	285	0.001
15:00 - 16:00	13	285	0.001	13	285	0.001	13	285	0.002
16:00 - 17:00	13	285	0.001	13	285	0.002	13	285	0.003
17:00 - 18:00	13	285	0.003	13	285	0.002	13	285	0.005
18:00 - 19:00	13	285	0.003	13	285	0.001	13	285	0.004
19:00 - 20:00									
20:00 - 21:00									
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			0.011			0.013			0.024

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

*To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.*

Appendix 15 – Technical Modelling Report

WILLEN ROAD NEWPORT PAGNELL

LinSig Modelling
Technical Note

JNY10094-11
LinSig Modelling Technical Note
Version -
25 October 2021

Document Status

Version	Purpose of document	Authored by	Reviewed by	Approved by	Review date
-	Information	Kara Dale	Kara Dale	Shelley Dix	25 October 2021

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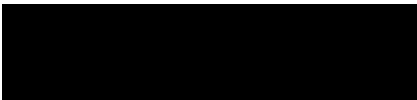
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1 INTRODUCTION

- 1.1 This study has been commissioned by RPS Group to support the transport assessment for a site located on Willen Road, Newport Pagnell. The development is for up to 800 residential dwellings including a primary school and local centre. The site is allocated as part of a wider expansion area for in excess of 5,000 dwellings.
- 1.2 This technical note relates to the LinSig modelling methodology undertaken to produce validated base model for M1 J14 and Northfield. Subsequently future year scenarios (with and without the proposed Newport Pagnell development) have been developed for M1 J14, Northfield, Marsh End and Tickford RABs as well as access junction to the site to assess the impact of the proposed development.

2 MODELLING APPROACH

Junction Assessment

- 2.1 LinSig modelling software has been used as the preferred modelling approach to assess the impact the proposed development on the surrounding highway network. The following junctions have been assessed as part of the proposed development:
- Marsh End Roundabout;
 - M1 Junction 14;
 - Northfield Roundabout;
 - Tickford Roundabout; and
 - Proposed site access (Northern and Southern access junctions).
- 2.2 As part of the Roxhill development planning application, junction improvements have been proposed at Tickford roundabout and Marsh End roundabout to signalise the junctions. Therefore, the Roxhill TA LinSig models have been used as a starting point, calibrated as necessary and finally the proposed Newport Pagnell development has been modelled to assess the impact of the scheme.
- 2.3 Marsh End roundabout model is a linked network model inclusive of Roxhill site access to the south of the junction. Two site accesses have been proposed as part of the Newport scheme, one forming a crossroad with Roxhill site access, the other located south of the Roxhill site access. A copy of the access drawing is presented in Appendix 9 of the Transport Assessment.
- 2.4 The proposed site access has been modelled as a linked junction with Marsh End RAB within LinSig.
- 2.5 A copy of the linked network model comprising of M1 Junction 14 and Northfield roundabout was obtained from HE. Additional readings have been undertaken for M1 Junction 14 to validate the base model, details of which have been provided in this Technical Note.

Modelling Software

- 2.6 Modelling software LinSig has been used to model the signalised junctions. The results from LinSig models are expressed in Practical Reserve Capacity (PRC), which is calculated based on a maximum Degree of Saturation (DoS) on each signalised approach.
- 2.7 A summary of DoS result interpretation is presented below:
- 0%-90% - The junction operates within capacity;
 - 90%-100% - Traffic will experience some delay and vehicles may not clear every cycle; and
 - 100%+ - The arm is significantly over capacity and queues may exponentially increase as traffic struggles to clear the junction.
- 2.8 LinSig also provides queue results as Mean Maximum Queue (MMQ), which is the estimated mean number of vehicles (or PCUs) which have added onto the back of the queue up to the time when the queue finally clears at the junction stop line.

Assessment Scenario

- 2.9 In the modelling assessments the scenarios are defined as follows:
- 2018 & 2021 Base (M1 J14 and Northfield RAB only);
 - 2031 Base + Committed Development;
 - 2033 Base + Committed Development;
 - 2041 Base + Committed Development;
 - 2031 Base + Committed Development + Proposed Development;
 - 2033 Base + Committed Development + Proposed Development;
 - 2041 Base + Committed Development + Proposed Development;
 - 2033 Base + Committed Development + Proposed Development (10% MS);
 - 2041 Base + Committed Development + Proposed Development (10% MS);
 - 2033 Base + Committed Development + Proposed Development (MKE); and
 - 2041 Base + Committed Development + Proposed Development (MKE).
- 2.10 The 2041 assessment scenario has only been undertaken for M1 junction 14 and Northfield Roundabout.

3 HIGHWAY IMPACT ASSESSMENT

Marsh End Roundabout Site Access

Table 1: Marsh End RAB & Site Access DoS Comparison AM

	Arm / Lane	2031 Base + Com	2033 Base + Com	2031 Base + Com + Dev	2033 Base + Com + Dev	2033 Base + Com + Dev (10% MS)	2033 Base + Com + Dev (MKE)
Marsh End Roundabout							
Willen Road N	1/2+1/1	76.9%	78.4%	82.3%	89.0%	89.6%	87.2%
	1/3	58.0%	59.0%	58.0%	66.9%	66.9%	50.2%
A422 E	2/2+2/1	73.5%	74.8%	84.0%	90.0%	89.0%	84.5%
	2/3	68.2%	67.2%	64.9%	85.1%	68.4%	69.1%
Willend Road S	3/1	80.8%	89.8%	82.8%	87.3%	85.8%	86.8%
	3/2+3/3	37.9%	42.1%	44.5%	40.9%	44.2%	45.0%
A422 W	4/2+4/1	41.0%	41.7%	43.1%	45.1%	46.1%	45.0%
	4/3	41.0%	41.7%	38.2%	40.1%	39.8%	39.5%
Northern Circulatory	6/1	48.7%	49.6%	54.4%	51.6%	50.9%	57.8%
	6/2	48.9%	49.8%	51.3%	48.9%	50.1%	56.3%
Eastern Circulatory	8/1	53.1%	56.8%	60.2%	53.1%	49.6%	66.5%
	8/2	70.4%	75.5%	60.8%	59.7%	63.0%	43.9%
Southern Circulatory	8/3	50.7%	54.3%	52.2%	45.0%	45.9%	45.4%
	10/1	56.3%	55.9%	71.3%	64.2%	78.4%	64.7%
Western Circulatory	10/2	63.7%	63.2%	53.8%	64.4%	50.7%	60.9%
	10/3	5.8%	5.8%	6.0%	6.2%	6.6%	6.1%
Eastern Circulatory	11/1	48.9%	49.8%	54.7%	53.7%	53.4%	52.7%
	11/2	20.3%	20.7%	26.0%	23.8%	21.3%	21.3%
Western Circulatory	11/3	20.6%	21.0%	27.4%	25.9%	28.3%	26.5%
	Roxhill Site Access						
Willen Road N	1/1	75.3%	76.6%	81.5%	83.0%	80.7%	83.7%
	1/2+1/3	44.1%	44.1%	37.2%	44.1%	44.1%	39.2%
Willen Road S	2/1	30.9%	31.4%	26.1%	28.9%	28.7%	27.5%
	2/2	24.2%	24.7%	24.8%	26.6%	24.1%	23.0%
Roxhill Site Access	3/1	22.7%	22.7%	20.7%	17.6%	17.6%	20.5%
Proposed Northern Site Access	6/1			53.4%	50.1%	44.8%	44.1%
	6/2			82.6%	87.9%	79.7%	68.0%
Proposed Southern Site Access							
Proposed Southern Site Access	2/1			43.1%	53.1%	48.1%	35.7%
	2/2			24.9%	29.9%	27.4%	20.7%
Willend Road S	3/1+3/2			37.8%	39.3%	39.1%	38.4%
Willen Road N	5/1			86.2%	87.3%	83.8%	88.8%
	5/2			28.7%	30.8%	33.5%	26.5%

Table 2: Marsh End RAB & Site Access DoS Comparison PM

	Arm / Lane	2031 Base + Com	2033 Base + Com	2031 Base + Com + Dev	2033 Base + Com + Dev	2033 Base + Com + Dev (10% MS)	2033 Base + Com + Dev (MKE)
Marsh End Roundabout							
Willen Road N	1/2+1/1	92.4%	94.3%	88.9%	89.0%	94.8%	85.6%
	1/3	85.2%	86.7%	68.1%	77.1%	77.1%	69.4%
A422 E	2/2+2/1	85.2%	91.3%	73.2%	98.2%	83.5%	88.6%
	2/3	85.0%	91.2%	63.2%	87.7%	74.4%	76.8%
Willend Road S	3/1	79.5%	77.3%	74.3%	91.8%	94.0%	89.4%
	3/2+3/3	35.6%	35.4%	48.1%	55.5%	56.6%	50.5%
A422 W	4/2+4/1	95.6%	97.3%	95.9%	94.5%	94.7%	96.6%
	4/3	95.8%	97.5%	93.1%	91.8%	91.8%	95.1%
Northern Circulatory	6/1	74.2%	75.5%	72.2%	73.6%	75.1%	76.1%
	6/2	74.3%	75.6%	88.2%	87.1%	86.2%	86.4%
Eastern Circulatory	8/1	9.0%	8.9%	19.9%	15.8%	16.9%	16.1%
	8/2	24.0%	23.6%	26.2%	24.0%	25.8%	23.9%
	8/3	21.9%	21.6%	26.0%	21.7%	25.9%	23.0%
Southern Circulatory	10/1	67.2%	70.7%	75.0%	68.4%	68.4%	69.8%
	10/2	43.7%	46.1%	47.8%	41.3%	39.7%	39.8%
	10/3	24.8%	26.0%	27.4%	24.6%	23.7%	24.4%
Western Circulatory	11/1	88.3%	89.9%	93.0%	98.8%	98.7%	94.4%
	11/2	28.7%	29.1%	16.6%	20.2%	22.6%	22.2%
	11/3	28.7%	29.2%	45.4%	46.5%	45.0%	40.4%
Roxhill Site Access							
Willen Road N	1/1	31.0%	31.6%	36.3%	36.0%	34.6%	35.5%
	1/2+1/3	19.8%	19.8%	19.0%	19.1%	19.0%	19.0%
Willen Road S	2/1	47.5%	48.4%	40.7%	42.1%	38.5%	41.2%
	2/2	40.4%	41.2%	38.4%	40.8%	38.4%	38.5%
Roxhill Site Access	3/1	70.5%	70.5%	63.9%	62.5%	93.6%	62.5%
Proposed Northern Site Access	6/1			17.8%	20.2%	30.2%	14.4%
	6/2			36.5%	42.3%	52.6%	29.4%
Proposed Southern Site Access							
Proposed Southern Site Access	2/1			22.4%	27.4%	24.9%	18.2%
	2/2			12.4%	15.8%	14.1%	10.8%
Willend Road S	3/1+3/2			60.0%	62.6%	62.0%	59.9%
Willen Road N	5/1			37.6%	36.5%	37.4%	37.1%
	5/2			14.5%	17.4%	15.9%	15.2%

Table 3: Marsh End RAB & Site Access Queue Comparison AM (Mean Max Queue in PCU)

Arm / Lane	2031 Base + Com	2033 Base + Com	2031 Base + Com + Dev	2033 Base + Com + Dev	2033 Base + Com + Dev (10% MS)	2033 Base + Com + Dev (MKE)
Marsh End Roundabout						
Willen Road N	1/2+1/1	8	8	9	11	12
	1/3	5	5	5	6	5
A422 E	2/2+2/1	10	10	14	16	14
	2/3	10	10	9	15	10
Willend Road S	3/1	7	9	8	9	9
	3/2+3/3	2	3	3	3	3
A422 W	4/2+4/1	5	5	5	5	5
	4/3	5	5	4	4	4
Northern Circulatory	6/1	3	3	7	6	4
	6/2	3	3	7	5	4
Eastern Circulatory	8/1	1	1	1	4	3
	8/2	1	1	1	4	1
	8/3	0	0	1	2	1
Southern Circulatory	10/1	3	3	5	3	3
	10/2	3	3	2	2	1
	10/3	0	0	0	0	0
Western Circulatory	11/1	1	1	6	1	1
	11/2	0	0	1	0	0
	11/3	0	0	1	0	0
Roxhill Site Access						
Willen Road N	1/1	24	24	34	34	36
	1/2+1/3	8	8	5	6	5
Willen Road S	2/1	6	6	3	5	3
	2/2	5	5	3	4	3
Roxhill Site Access	3/1	1	1	1	1	1
Proposed Northern Site Access	6/1			3	3	2
	6/2			5	6	3
Proposed Southern Site Access						
Proposed Southern Site Access	2/1			2	3	2
	2/2			1	1	1
Willend Road S	3/1+3/2			5	5	5
Willen Road N	5/1			14	15	20
	5/2			4	3	2

Table 4: Marsh End RAB & Site Access Queue Comparison PM (Mean Max Queue in PCU)

	Arm / Lane	2031 Base + Com	2033 Base + Com	2031 Base + Com + Dev	2033 Base + Com + Dev	2033 Base + Com + Dev (10% MS)	2033 Base + Com + Dev (MKE)
Marsh End Roundabout							
Willen Road N	1/2+1/1	8	9	7	7	7	6
	1/3	6	6	5	5	5	5
A422 E	2/2+2/1	11	11	10	15	12	12
	2/3	11	14	8	12	9	10
Willend Road S	3/1	10	10	10	14	15	13
	3/2+3/3	3	3	5	6	6	5
A422 W	4/2+4/1	21	24	22	21	21	23
	4/3	21	23	18	18	18	20
Northern Circulatory	6/1	4	4	2	3	3	3
	6/2	4	4	6	6	19	7
Eastern Circulatory	8/1	0	0	1	1	1	1
	8/2	0	0	1	0	0	0
	8/3	0	0	0	0	0	0
Southern Circulatory	10/1	2	2	2	2	2	2
	10/2	2	2	3	2	2	2
	10/3	0	0	1	0	0	0
Western Circulatory	11/1	6	6	5	6	7	7
	11/2	1	1	0	0	0	0
	11/3	1	1	1	1	1	1
Roxhill Site Access							
Willen Road N	1/1	6	6	8	9	7	8
	1/2+1/3	3	3	3	4	3	3
Willen Road S	2/1	11	11	4	4	6	5
	2/2	9	9	4	4	6	4
Roxhill Site Access	3/1	5	5	5	5	8	5
Proposed Northern Site Access	6/1			1	2	2	1
	6/2			2	2	2	1
Proposed Southern Site Access							
Proposed Southern Site Access	2/1			1	1	1	1
	2/2			1	1	1	1
Willend Road S	3/1+3/2			9	10	10	9
Willen Road N	5/1			6	6	10	6
	5/2			2	2	1	2

Table 5: Marsh End RAB & Site Access PRC Comparison (%)

Scenario	AM	PM
2031 Base + Committed	11.4	-6.4
2033 Base + Committed	0.2	-8.3
2031 Base + Committed + Proposed Development	4.4	-6.6
2033 Base + Committed + Proposed Development	0.0	-9.8
2033 Base + Committed + Proposed Development (10%)	0.4	-9.6
2033 Base + Committed + Proposed Development (MKE)	1.3	-7.4

- 3.1 The modelling output suggests that the network will operate over the 90% Degree of Saturation threshold in the 2031 and 2033 evening peak scenarios however the introduction of the development has negligible overall impact on capacity results.
- 3.2 There is a slight impact in the AM peak with the introduction of the development where the overall PRC value changes from +11.4 to +4.4 in the 2031 forecast year. The overall PRC for the 2033 forecast remains fairly consistent with and without the development and the network operates just under capacity in both 2031 and 2033 morning peak hour scenarios.
- 3.3 The main impact in terms of individual lanes / approaches is on Willen Road North in the AM and Willen Road South in the PM respectively with both approaches noting an increase in degree of saturation and mean max queues with the introduction of the development.
- 3.4 Queue limits have been applied to internal stop lines within the circular carriageway and queue graphs have been analysed to ensure the internal queues clear every cycle
- 3.5 Pedestrian demand at both Northern and Southern access junctions has been assumed to be 50% i.e. the pedestrian stages will be demanded every other cycle which means the maximum pedestrian wait time would be 120s or 2 minutes
- 3.6 The cycle time for both Northern and Southern access junction has been set to 120s whereas the cycle time for Marsh End RAB has been updated to 60s. All 3 junctions can be run as part of a single UTC network but will need to operate different cycle times. The longer cycle times at access junctions provides additional green time for the SB movement which, as highlighted in preliminary results, suffers from congestion particularly in the AM peak.
- 3.7 Please refer to appendices for full LinSig input and data results summary.
- 3.8 Additional modelling has been undertaken to test an option of providing signalised pedestrian crossing facilities on the northern arm of Marsh End Roundabout, results of which are presented in the tables below.

Table 6: Marsh End RAB and Site Access DoS AM (Pedestrian Option)

	Arm / Lane	2031 Base + Com + Dev	2033 Base + Com + Dev	2033 Base + Com + Dev (10% MS)	2033 Base + Com + Dev (MKE)
Marsh End Roundabout					
Willen Road N	1/2+1/1	82.3%	89.0%	89.6%	87.2%
	1/3	58.0%	66.9%	66.9%	50.2%
A422 E	2/2+2/1	84.0%	90.0%	89.0%	84.5%
	2/3	64.9%	85.1%	68.4%	69.1%
Willend Road S	3/1	82.8%	87.3%	85.8%	86.8%
	3/2+3/3	44.5%	40.9%	44.2%	45.0%
A422 W	4/2+4/1	43.1%	45.1%	46.1%	45.0%
	4/3	38.2%	40.1%	39.8%	39.5%
Northern Ped Crossing	5/1	44.4%	45.4%	45.3%	44.9%
Northern Circulatory	6/1	72.2%	51.6%	50.9%	57.8%
	6/2	51.3%	48.9%	50.1%	56.3%
Eastern Circulatory	8/1	60.2%	53.1%	49.6%	66.5%
	8/2	60.8%	59.7%	63.0%	43.9%
Southern Circulatory	8/3	52.2%	45.0%	45.9%	45.4%
	10/1	71.3%	64.2%	78.4%	64.7%
Western Circulatory	10/2	53.8%	64.4%	50.7%	60.9%
	10/3	6.0%	6.2%	6.6%	6.1%
Northern Circulatory	11/1	54.7%	53.7%	53.4%	52.7%
	11/2	26.0%	23.8%	21.3%	21.3%
Western Circulatory	11/3	27.4%	25.9%	28.3%	26.5%
Roxhill Site Access					
Willen Road N	1/1	81.5%	83.0%	80.7%	83.7%
	1/2+1/3	37.2%	44.1%	44.1%	39.2%
Willen Road S	2/1	26.1%	28.9%	28.7%	27.5%
	2/2	24.8%	26.6%	24.1%	23.0%
Roxhill Site Access	3/1	20.7%	17.6%	17.6%	20.5%
Proposed Northern Site Access	6/1	53.4%	50.1%	44.8%	44.1%
	6/2	82.6%	87.9%	79.7%	68.0%
Proposed Southern Site Access					
Proposed Southern Site Access	2/1	43.1%	53.1%	48.1%	35.7%
	2/2	24.9%	29.9%	27.4%	20.7%
Willend Road S	3/1+3/2	37.8%	39.3%	39.1%	38.4%
Willen Road N	5/1	86.2%	87.3%	83.8%	88.8%
	5/2	28.7%	30.8%	33.5%	26.5%

Table 7: Marsh End RAB and Site Access DoS PM (Pedestrian Option)

	Arm / Lane	2031 Base + Com + Dev	2033 Base + Com + Dev	2033 Base + Com + Dev (10% MS)	2033 Base + Com + Dev (MKE)
Marsh End Roundabout					
Willen Road N	1/2+1/1	88.9%	89.0%	94.8%	85.6%
	1/3	68.1%	77.1%	77.1%	69.4%
A422 E	2/2+2/1	73.2%	98.2%	83.5%	88.6%
	2/3	63.2%	87.7%	74.4%	76.8%
Willend Road S	3/1	74.3%	91.8%	94.0%	89.4%
	3/2+3/3	48.1%	55.5%	56.6%	50.5%
A422 W	4/2+4/1	95.9%	94.5%	94.7%	96.6%
	4/3	93.1%	91.8%	91.8%	95.1%
Northern Ped Crossing	5/1	88.3%	90.0%	90.0%	89.7%
Northern Circulatory	6/1	72.2%	73.6%	75.1%	76.1%
	6/2	88.2%	87.1%	86.2%	86.4%
Eastern Circulatory	8/1	19.9%	15.8%	16.9%	16.1%
	8/2	26.2%	24.0%	25.8%	23.9%
	8/3	26.0%	21.7%	25.9%	23.0%
Southern Circulatory	10/1	75.0%	68.4%	68.4%	69.8%
	10/2	47.8%	41.3%	39.7%	39.8%
	10/3	27.4%	24.6%	23.7%	24.4%
Western Circulatory	11/1	93.0%	98.8%	98.7%	94.4%
	11/2	16.6%	20.2%	22.6%	22.2%
	11/3	45.4%	46.5%	45.0%	40.4%
Roxhill Site Access					
Willen Road N	1/1	36.3%	36.0%	34.6%	35.5%
	1/2+1/3	19.0%	19.1%	19.0%	19.0%
Willen Road S	2/1	40.7%	42.1%	38.5%	41.2%
	2/2	38.4%	40.8%	38.4%	38.5%
Roxhill Site Access	3/1	63.9%	62.5%	93.6%	62.5%
Proposed Northern Site Access	6/1	17.8%	20.2%	30.2%	14.4%
	6/2	36.5%	42.3%	52.6%	29.4%
Proposed Southern Site Access					
Proposed Southern Site Access	2/1	22.4%	27.4%	24.9%	18.2%
	2/2	12.4%	15.8%	14.1%	10.8%
Willend Road S	3/1+3/2	60.0%	62.6%	62.0%	59.9%
Willen Road N	5/1	37.6%	36.5%	37.4%	37.1%
	5/2	14.5%	17.4%	15.9%	15.2%

Table 8: Marsh End RAB and Site Access Queue AM – Willen Road North Ped Crossing Option (Mean Max Queue in PCU)

	Arm / Lane	2031 Base + Com + Dev	2033 Base + Com + Dev	2033 Base + Com + Dev (10% MS)	2033 Base + Com + Dev (MKE)
Marsh End Roundabout					
Willen Road N	1/2+1/1	9	11	11	12
	1/3	5	6	6	5
A422 E	2/2+2/1	14	16	15	14
	2/3	9	15	9	10
Willend Road S	3/1	8	9	9	9
	3/2+3/3	3	3	3	3
A422 W	4/2+4/1	5	5	5	5
	4/3	4	4	4	4
Northern Ped Crossing	5/1	2	4	4	1
Northern Circulatory	6/1	7	6	6	4
	6/2	7	5	6	4
Eastern Circulatory	8/1	1	4	4	3
	8/2	1	4	5	1
	8/3	1	2	2	1
Southern Circulatory	10/1	5	3	5	3
	10/2	2	2	1	3
	10/3	0	0	0	0
Western Circulatory	11/1	6	1	1	1
	11/2	1	0	0	0
	11/3	1	0	0	0
Roxhill Site Access					
Willen Road N	1/1	34	34	31	36
	1/2+1/3	5	6	7	5
Willen Road S	2/1	3	5	5	3
	2/2	3	4	3	3
Roxhill Site Access	3/1	1	1	1	1
Proposed Northern Site Access	6/1	3	3	3	2
	6/2	5	6	5	3
Proposed Southern Site Access					
Proposed Southern Site Access	2/1	2	3	2	2
	2/2	1	1	1	1
Willend Road S	3/1+3/2	5	5	5	5
Willen Road N	5/1	14	15	13	20
	5/2	4	3	4	2

Table 9: Marsh End RAB and Site Access Queue PM – Willen Road North Ped Crossing Option (Mean Max Queue in PCU)

	Arm / Lane	2031 Base + Com + Dev	2033 Base + Com + Dev	2033 Base + Com + Dev (10% MS)	2033 Base + Com + Dev (MKE)
Marsh End Roundabout					
Willen Road N	1/2+1/1	7	7	7	6
	1/3	5	5	5	5
A422 E	2/2+2/1	10	15	12	12
	2/3	8	12	9	10
Willend Road S	3/1	10	14	15	13
	3/2+3/3	5	6	6	5
A422 W	4/2+4/1	22	21	21	23
	4/3	18	18	18	20
Northern Ped Crossing	5/1	23	25	25	23
Northern Circulatory	6/1	2	3	3	3
	6/2	6	6	19	7
Eastern Circulatory	8/1	1	1	1	1
	8/2	1	0	0	0
	8/3	0	0	0	0
Southern Circulatory	10/1	2	2	2	2
	10/2	3	2	2	2
	10/3	1	0	0	0
Western Circulatory	11/1	5	6	7	7
	11/2	0	0	0	0
	11/3	1	1	1	1
Roxhill Site Access					
Willen Road N	1/1	8	9	7	8
	1/2+1/3	3	4	3	3
Willen Road S	2/1	4	4	6	5
	2/2	4	4	6	4
Roxhill Site Access	3/1	5	5	8	5
Proposed Northern Site Access	6/1	1	2	2	1
	6/2	2	2	2	1
Proposed Southern Site Access					
Proposed Southern Site Access	2/1	1	1	1	1
	2/2	1	1	1	1
Willend Road S	3/1+3/2	9	10	10	9
Willen Road N	5/1	6	6	10	6
	5/2	2	2	1	2

M1 Junction 14 and Northfield Roundabout (Roxhill TA Base Model Enhancement)

- 3.9 As mentioned previously within the Modelling Approach section of this technical note, the Roxhill Transport Assessment LinSig models have been used as a starting point, calibrated as necessary and finally the proposed Newport Pagnell development has been modelled to assess the impact of the scheme.
- 3.10 Green times and saturation flows have been observed where possible from available 2019 video footage and applied to the 2018 M1 J14 and Northfield RAB model. As the baseline traffic flows used within Roxhill TA were observed in 2018 and the green times derived from 2019 video footage, further manual adjustments have been made to the stage change points to ensure a better fit for the base LinSig results with the observed operation of the junction.
- 3.11 Traffic flows have been entered using Origin-Destination matrix within LinSig and have been assigned to balance entry flows across each lane on any given approach.
- 3.12 Comparison of modelled queue lengths for 2018 Base Case scenario (AM and PM peak periods) has been undertaken using the 2019 video footage. The comparison indicated that the modelled queue lengths correlate well with the 2019 video data on most approaches within the model.
- 3.13 There are disparities between observed and modelled queue lengths on A5130 East and A4145 Childs Way South arms at Northfield RAB with the modelled queues significantly longer than observed. This can be attributed to the underperformance of the ANPR sites around Northfield RAB on the day of survey which was been highlighted by the survey company once data was collected and analysed.
- 3.14 Furthermore, the signal timings (2019 video footage) correlate to a different day than the modelled traffic flows (2018 Roxhill TA) which would explain the disparity in queue lengths for A5130 East and A4145 S approaches.
- 3.15 Degree of Saturation readings were also collected where possible from the available 2019 video footage and whilst it has not been possible to validate the modelled DoS to within 10% of the observed due to the variability in survey dates, most modelled approaches compare reasonably well with observed data.
- 3.16 Therefore, the Base LinSig model for M1 J14 and Northfield RAB is considered to an acceptable representation of the existing conditions in operation at the junction with some disparity observed on A5130 and A4145 S approaches.
- 3.17 The base model has been utilised to undertake future year assessments, results of which are presented in the tables below.

Table 10: M1 J14 DoS Comparison AM

	Arm / Lane	2018 Base	2021 Base	2031 Base + Com	2033 Base + Com	2041 Base + Com	2031 Base + Com + Dev	2033 Base + Com + Dev	2041 Base + Com + Dev	2033 Base + Com + Dev (10% MS)	2041 Base + Com + Dev (10% MS)	2033 Base + Com + Dev (MKE)	2041 Base + Com + Dev (MKE)
A509 S	1/2+1/1	61.2%	60.0%	66.7%	67.2%	71.2%	69.2%	68.6%	71.5%	70.0%	71.8%	79.4%	66.3%
	1/3	37.6%	35.9%	44.0%	44.1%	44.1%	40.3%	42.3%	43.9%	41.2%	43.9%	48.5%	49.1%
Western Circulatory	2/1	95.2%	97.9%	94.6%	95.8%	100.0%	99.4%	98.2%	100.2%	99.7%	100.5%	90.7%	94.3%
	2/2	62.6%	59.7%	56.5%	56.6%	56.5%	51.7%	54.3%	56.3%	52.8%	56.2%	62.2%	62.9%
M1 SB Off Slip	3/2+3/1	77.7%	76.4%	91.7%	93.1%	97.0%	91.9%	93.4%	97.1%	93.4%	97.1%	92.9%	97.3%
	3/3	72.6%	72.2%	88.0%	90.0%	96.7%	88.2%	90.3%	97.1%	90.3%	97.0%	90.5%	96.8%
A509 N	5/1	68.7%	64.7%	79.9%	82.9%	93.3%	86.5%	91.1%	101.7%	90.4%	100.6%	88.2%	99.2%
	5/2+5/3	83.8%	84.2%	104.4%	107.9%	120.5%	104.6%	108.6%	120.3%	108.6%	120.3%	108.0%	120.6%
M1 NB Off Slip	6/2	88.8%	88.5%	109.0%	111.0%	117.7%	112.0%	114.7%	121.3%	114.3%	121.0%	113.0%	119.7%
Eastern Circulatory	7/1	87.7%	87.0%	94.3%	95.9%	98.8%	94.5%	96.1%	98.9%	96.1%	98.9%	95.8%	98.9%
	7/2+7/3	86.9%	86.9%	94.8%	95.8%	99.2%	95.0%	95.9%	99.5%	95.9%	99.4%	96.2%	99.2%
Southern Circulatory	8/1	18.5%	17.0%	13.5%	13.5%	14.1%	13.8%	13.3%	13.8%	13.5%	14.2%	13.2%	11.2%
	8/2+8/3	87.0%	86.7%	61.8%	61.4%	59.5%	61.5%	61.5%	59.8%	61.4%	59.4%	61.7%	62.4%

Table 11: M1 J14 DoS Comparison PM

	Arm / Lane	2018 Base	2021 Base	2031 Base + Com	2033 Base + Com	2041 Base + Com	2031 Base + Com + Dev	2033 Base + Com + Dev	2041 Base + Com + Dev	2033 Base + Com + Dev (10% MS)	2041 Base + Com + Dev (10% MS)	2033 Base + Com + Dev (MKE)	2041 Base + Com + Dev (MKE)
A509 S	1/2+1/1	96.5%	101.8%	99.8%	100.0%	102.4%	99.9%	100.1%	99.7%	100.1%	101.2%	100.7%	102.4%
	1/3	83.0%	77.1%	79.1%	79.6%	83.8%	78.9%	79.5%	83.7%	79.5%	83.6%	96.3%	97.0%
Western Circulatory	2/1	93.9%	97.8%	100.5%	100.5%	96.4%	100.5%	100.4%	97.7%	100.4%	97.7%	84.7%	84.5%
	2/2	73.6%	68.4%	72.7%	73.2%	77.0%	72.5%	73.1%	77.0%	73.1%	76.9%	88.5%	89.2%
M1 SB Off Slip	3/2+3/1	88.6%	78.7%	95.1%	96.9%	102.0%	96.1%	98.3%	104.0%	98.3%	103.8%	100.2%	100.8%
	3/3	58.3%	66.3%	80.0%	81.2%	86.5%	80.8%	82.5%	86.9%	82.5%	87.1%	80.0%	89.6%
A509 N	5/1	70.5%	69.4%	87.0%	89.4%	97.1%	90.4%	93.9%	101.1%	93.4%	100.7%	90.4%	100.1%
	5/2+5/3	66.6%	76.3%	100.8%	104.0%	112.6%	101.5%	105.0%	112.9%	105.0%	112.9%	104.9%	112.4%
M1 NB Off Slip	6/2	78.5%	77.1%	106.9%	109.0%	115.4%	113.1%	116.7%	122.8%	115.9%	122.1%	114.4%	120.5%
Eastern Circulatory	7/1	69.3%	65.7%	67.9%	69.0%	72.0%	68.2%	69.6%	71.8%	69.6%	71.8%	70.4%	72.0%
	7/2+7/3	61.8%	66.4%	70.2%	70.9%	72.7%	70.9%	71.3%	73.0%	71.3%	73.0%	70.0%	74.0%
Southern Circulatory	8/1	18.0%	18.2%	24.5%	24.1%	23.5%	24.4%	23.9%	23.5%	23.9%	23.5%	23.9%	24.2%
	8/2+8/3	77.4%	76.4%	92.8%	92.5%	91.8%	92.6%	92.3%	91.7%	92.3%	91.7%	92.3%	91.2%

Table 12: M1 J14 Queue Comparison AM (Mean Max Queue in PCU)

	Arm / Lane	2018 Base	2021 Base	2031 Base + Com	2033 Base + Com	2041 Base + Com	2031 Base + Com + Dev	2033 Base + Com + Dev	2041 Base + Com + Dev	2033 Base + Com + Dev (10% MS)	2041 Base + Com + Dev (10% MS)	2033 Base + Com + Dev (MKE)	2041 Base + Com + Dev (MKE)
A509 S	1/2+1/1	25	27	28	28	27	28	28	28	28	28	29	28
	1/3	6	6	6	6	6	5	5	6	5	6	7	7
Western Circulatory	2/1	12	12	6	7	8	7	7	9	7	10	11	6
	2/2	7	7	2	2	2	2	2	2	2	2	2	2
M1 SB Off Slip	3/2+3/1	12	12	18	19	24	18	19	24	19	24	19	24
	3/3	11	10	15	16	23	15	17	23	17	23	17	23
A509 N	5/1	4	4	6	6	11	7	10	26	10	25	8	16
	5/2+5/3	8	8	35	45	79	36	46	78	46	78	45	79
M1 NB Off Slip	6/2	8	8	24	27	37	28	32	42	32	42	30	40
Eastern Circulatory	7/1	3	3	19	19	20	19	19	20	19	20	19	20
	7/2+7/3	13	13	18	19	20	18	19	20	19	20	19	20
Southern Circulatory	8/1	1	1	1	1	1	1	1	1	1	1	1	1
	8/2+8/3	1	1	1	1	1	1	1	1	1	1	1	1

Table 13: M1 J14 Queue Comparison PM (Mean Max Queue in PCU)

	Arm / Lane	2018 Base	2021 Base	2031 Base + Com	2033 Base + Com	2041 Base + Com	2031 Base + Com + Dev	2033 Base + Com + Dev	2041 Base + Com + Dev	2033 Base + Com + Dev (10% MS)	2041 Base + Com + Dev (10% MS)	2033 Base + Com + Dev (MKE)	2041 Base + Com + Dev (MKE)
A509 S	1/2+1/1	46	60	50	51	69	51	51	52	51	59	57	63
	1/3	11	11	12	12	13	12	12	13	12	13	24	25
Western Circulatory	2/1	16	17	22	22	18	22	22	19	22	19	14	13
	2/2	0	0	0	0	0	0	0	0	0	0	1	1
M1 SB Off Slip	3/2+3/1	9	7	10	10	17	10	10	22	10	22	11	13
	3/3	5	6	8	8	10	8	9	10	9	10	8	11
A509 N	5/1	3	3	9	10	15	10	12	30	12	30	10	29
	5/2+5/3	4	4	28	40	55	31	44	55	44	55	41	56
M1 NB Off Slip	6/2	8	7	26	30	42	38	44	57	43	55	40	52
Eastern Circulatory	7/1	2	2	3	3	3	3	3	3	3	3	3	3
	7/2+7/3	8	8	9	10	10	9	10	10	10	10	9	10
Southern Circulatory	8/1	2	2	2	2	2	2	2	2	2	2	2	2
	8/2+8/3	2	2	2	2	2	2	2	2	2	2	2	2

Table 14: Northfield RAB DoS Comparison AM

	Arm / Lane	2018 Base	2021 Base	2031 Base + Com	2033 Base + Com	2041 Base + Com	2031 Base + Com + Dev	2033 Base + Com + Dev	2041 Base + Com + Dev	2033 Base + Com + Dev (10% MS)	2041 Base + Com + Dev (10% MS)	2033 Base + Com + Dev (MKE)	2041 Base + Com + Dev (MKE)
A4145	1/1	120.0%	114.5%	142.8%	145.5%	153.7%	142.8%	145.2%	153.7%	145.2%	153.4%	145.9%	153.4%
	1/2+1/3	119.4%	114.9%	142.8%	145.7%	153.9%	142.8%	145.7%	154.2%	145.7%	154.2%	145.4%	154.2%
Western Circulatory	2/1	56.7%	72.6%	62.6%	61.6%	59.1%	63.2%	62.1%	59.1%	61.9%	58.9%	43.8%	54.2%
	2/2	98.9%	78.1%	71.1%	72.9%	77.9%	70.3%	72.3%	77.9%	72.4%	78.0%	92.1%	84.0%
	2/3	7.1%	7.3%	7.4%	7.5%	8.0%	7.4%	7.5%	8.0%	7.5%	8.0%	7.5%	8.0%
A509 W	3/1	34.5%	34.5%	41.9%	42.6%	45.2%	42.4%	43.4%	46.0%	43.3%	46.0%	42.9%	44.3%
	3/2	36.5%	35.1%	42.3%	43.1%	45.5%	43.1%	43.8%	46.1%	43.8%	46.0%	43.9%	47.4%
	3/3	18.6%	18.7%	22.3%	22.7%	24.0%	22.3%	22.7%	24.0%	22.7%	24.0%	22.7%	24.0%
A509 N	4/1	78.2%	71.7%	79.9%	81.5%	85.5%	80.0%	81.2%	85.6%	81.3%	85.6%	81.1%	85.4%
	4/2	63.6%	70.2%	78.9%	80.2%	84.1%	78.7%	80.6%	84.1%	80.5%	84.0%	80.6%	84.2%
	4/3+4/4	82.3%	84.5%	96.7%	96.5%	100.7%	96.8%	97.5%	100.9%	97.4%	101.1%	96.7%	103.2%
Northern Circulatory	5/1	35.5%	47.8%	57.6%	58.0%	61.2%	57.6%	58.0%	60.8%	58.4%	60.8%	58.4%	56.1%
	5/2	50.1%	42.2%	43.4%	45.4%	49.3%	43.8%	45.0%	49.7%	44.6%	49.7%	45.4%	53.3%
	5/3	5.9%	2.4%	2.0%	1.6%	0.4%	1.6%	2.0%	0.4%	2.0%	0.4%	1.2%	1.6%
Eastern Circulatory	6/1	64.1%	58.4%	68.4%	69.9%	73.5%	68.6%	69.5%	73.7%	69.6%	73.6%	69.5%	73.2%
	6/2	71.6%	78.2%	92.1%	93.6%	97.9%	91.9%	94.1%	97.9%	94.0%	97.8%	94.0%	98.2%
	6/3	53.5%	55.0%	68.7%	66.6%	66.9%	68.6%	68.4%	67.2%	68.1%	66.7%	65.9%	72.9%
	6/4	53.8%	55.2%	61.7%	65.6%	69.4%	62.1%	64.0%	69.3%	64.3%	69.5%	66.5%	60.6%
A5130 E	7/1	93.1%	104.4%	104.4%	105.3%	108.4%	105.6%	106.3%	108.4%	106.0%	108.1%	106.0%	103.2%
	7/2+7/3	100.5%	108.0%	108.0%	108.3%	110.6%	108.3%	108.6%	110.6%	108.6%	110.6%	108.6%	104.0%
Southern Circulatory	8/1	66.6%	70.7%	82.6%	80.4%	80.5%	82.6%	82.2%	80.7%	81.9%	80.3%	75.7%	85.9%
	8/2	78.7%	80.1%	87.2%	91.0%	94.7%	87.6%	89.5%	94.6%	89.8%	94.8%	89.0%	86.2%
	8/3	19.3%	9.4%	12.1%	13.0%	15.6%	11.7%	12.7%	15.6%	12.8%	15.6%	22.9%	18.7%

Table 15: Northfield RAB DoS Comparison PM

	Arm / Lane	2018 Base	2021 Base	2031 Base + Com	2033 Base + Com	2041 Base + Com	2031 Base + Com + Dev	2033 Base + Com + Dev	2041 Base + Com + Dev	2033 Base + Com + Dev (10% MS)	2041 Base + Com + Dev (10% MS)	2033 Base + Com + Dev (MKE)	2041 Base + Com + Dev (MKE)
A4145	1/1	103.4%	109.5%	115.6%	115.3%	124.2%	115.5%	115.3%	124.0%	115.3%	124.2%	116.2%	125.0%
	1/2+1/3	103.5%	110.2%	116.3%	116.9%	126.0%	116.7%	116.9%	126.0%	116.9%	126.0%	116.0%	125.4%
Western Circulatory	2/1	71.7%	70.6%	78.1%	78.7%	80.4%	78.1%	78.7%	79.9%	78.7%	80.6%	67.8%	69.0%
	2/2	75.6%	70.6%	80.0%	80.3%	81.3%	80.0%	80.3%	81.7%	80.3%	80.9%	91.2%	92.6%
	2/3	4.9%	5.1%	6.0%	5.9%	5.4%	6.0%	5.9%	5.4%	5.9%	5.4%	6.0%	5.5%
A509 W	3/1	106.5%	110.3%	118.9%	121.5%	128.4%	119.6%	122.3%	129.0%	122.3%	128.9%	122.0%	128.7%
	3/2	106.7%	110.1%	119.6%	121.7%	128.4%	119.9%	122.0%	129.0%	122.0%	129.0%	121.8%	129.0%
	3/3	41.4%	42.1%	44.8%	45.6%	48.4%	44.8%	45.6%	48.4%	45.6%	48.4%	45.6%	48.4%
A509 N	4/1	48.2%	44.9%	85.0%	87.0%	91.6%	85.1%	86.8%	91.1%	86.8%	91.0%	87.0%	92.0%
	4/2	42.5%	46.0%	85.9%	87.0%	91.3%	85.6%	87.3%	90.5%	87.3%	90.7%	87.0%	91.6%
	4/3+4/4	37.7%	38.4%	65.6%	66.7%	71.0%	66.4%	67.8%	71.7%	67.8%	71.9%	68.0%	71.2%
Northern Circulatory	5/1	41.1%	52.1%	22.9%	23.2%	23.0%	22.9%	23.2%	23.2%	23.2%	23.0%	23.8%	24.3%
	5/2	51.2%	42.0%	17.5%	17.8%	19.3%	17.6%	17.7%	19.1%	17.7%	19.3%	17.0%	17.8%
	5/3	0.6%	0.6%	0.6%	0.5%	0.7%	0.5%	0.6%	0.7%	0.6%	0.7%	0.9%	1.0%
Eastern Circulatory	6/1	44.0%	38.8%	38.1%	39.2%	41.2%	38.2%	38.9%	41.0%	38.9%	41.0%	38.9%	42.3%
	6/2	59.1%	63.9%	62.1%	62.9%	66.1%	61.9%	63.1%	65.6%	63.1%	65.7%	63.1%	68.4%
	6/3	31.4%	31.6%	30.6%	30.8%	30.8%	31.1%	31.2%	31.6%	31.2%	31.4%	30.5%	32.3%
	6/4	30.4%	31.6%	31.8%	32.4%	34.8%	32.2%	33.0%	35.0%	33.0%	35.2%	33.4%	35.9%
A5130 E	7/1	41.2%	43.6%	68.6%	70.2%	77.0%	68.6%	70.2%	75.4%	70.2%	75.6%	67.6%	65.4%
	7/2+7/3	55.9%	57.6%	77.8%	79.4%	81.9%	77.8%	79.4%	82.4%	79.4%	83.7%	79.5%	79.3%
Southern Circulatory	8/1	42.2%	42.1%	48.9%	49.6%	51.6%	49.4%	50.0%	51.9%	50.0%	51.8%	48.2%	49.7%
	8/2	56.7%	57.4%	66.5%	67.7%	71.4%	66.9%	68.4%	71.8%	68.4%	72.5%	59.9%	63.7%
	8/3	19.0%	17.1%	20.8%	21.1%	22.0%	20.8%	21.1%	22.4%	21.1%	21.6%	31.0%	32.3%

Table 16: Northfield RAB Queue AM (Mean Max Queue in PCU)

	Arm / Lane	2018 Base	2021 Base	2031 Base + Com	2033 Base + Com	2041 Base + Com	2031 Base + Com + Dev	2033 Base + Com + Dev	2041 Base + Com + Dev	2033 Base + Com + Dev (10% MS)	2041 Base + Com + Dev (10% MS)	2033 Base + Com + Dev (MKE)	2041 Base + Com + Dev (MKE)
A4145	1/1	44	34	74	78	91	74	78	91	78	91	79	91
	1/2+1/3	49	40	86	92	107	86	92	107	92	107	91	107
Western Circulatory	2/1	0	2	2	2	2	2	2	2	2	2	0	1
	2/2	10	2	3	3	3	3	3	3	3	3	5	4
	2/3	1	1	1	1	1	1	1	1	1	1	1	1
A509 W	3/1	4	4	5	5	5	5	5	5	5	5	5	5
	3/2	4	4	5	5	5	5	5	6	5	6	5	6
	3/3	2	2	2	2	2	2	2	2	2	2	2	2
A509 N	4/1	16	14	9	11	12	10	10	11	10	12	10	11
	4/2	15	15	8	9	11	8	9	11	9	11	9	11
	4/3+4/4	17	18	34	34	53	33	36	54	36	55	34	68
Northern Circulatory	5/1	1	2	2	2	2	2	2	2	2	2	2	2
	5/2	2	2	1	1	1	1	1	1	1	1	1	1
	5/3	0	0	0	0	0	0	0	0	0	0	0	0
Eastern Circulatory	6/1	4	3	2	2	3	2	2	3	2	3	2	3
	6/2	5	5	6	6	8	5	7	8	7	8	6	9
	6/3	3	3	2	2	2	2	2	2	2	2	2	2
	6/4	3	3	2	2	2	2	2	2	2	2	2	2
A5130 E	7/1	9	34	20	21	25	21	22	25	22	25	22	18
	7/2+7/3	13	57	32	33	40	32	34	40	34	41	34	26
Southern Circulatory	8/1	9	10	8	7	8	8	8	8	8	8	7	10
	8/2	9	10	6	7	13	6	7	13	7	13	7	7
	8/3	0	0	0	0	0	0	0	0	0	0	0	0

Table 17: Northfield RAB Queue PM (Mean Max Queue in PCU)

Arm / Lane	2018 Base	2021 Base	2031 Base + Com	2033 Base + Com	2041 Base + Com	2031 Base + Com + Dev	2033 Base + Com + Dev	2041 Base + Com + Dev	2033 Base + Com + Dev (10% MS)	2041 Base + Com + Dev (10% MS)	2033 Base + Com + Dev (MKE)	2041 Base + Com + Dev (MKE)	
A4145	1/1	26	38	56	55	79	55	55	78	55	79	57	81
	1/2+1/3	29	45	68	69	98	69	69	98	69	98	66	96
Western Circulatory	2/1	3	4	2	3	11	2	3	11	3	11	1	1
	2/2	3	3	1	1	1	1	1	1	1	1	3	6
	2/3	1	1	1	1	1	1	1	1	1	1	1	1
A509 W	3/1	37	47	78	86	110	80	89	112	89	111	88	111
	3/2	39	49	86	93	117	87	94	119	94	119	94	119
	3/3	4	4	4	4	5	4	4	5	4	5	4	5
A509 N	4/1	8	8	12	13	15	12	13	15	13	15	13	16
	4/2	8	8	13	14	16	13	14	16	14	16	14	16
	4/3+4/4	4	4	5	6	6	5	6	6	6	6	6	6
Northern Circulatory	5/1	2	3	2	2	2	2	2	2	2	2	2	2
	5/2	3	2	2	2	3	2	2	3	2	3	2	2
	5/3	0	0	0	0	0	0	0	0	0	0	0	0
Eastern Circulatory	6/1	2	2	0	0	0	0	0	0	0	1	0	1
	6/2	2	3	1	2	3	1	2	3	2	9	2	9
	6/3	1	1	0	0	0	0	0	0	0	1	0	1
	6/4	1	1	0	0	0	0	0	0	0	1	0	1
A5130 E	7/1	4	4	6	6	7	6	6	7	6	7	5	5
	7/2+7/3	5	5	7	7	8	7	7	8	7	8	7	7
Southern Circulatory	8/1	4	4	2	2	2	2	2	2	2	2	2	2
	8/2	4	4	7	7	7	7	7	7	7	7	5	5
	8/3	0	0	1	1	1	1	1	1	1	0	1	1

Table 18: Network PRC Comparison (%)

Scenario	AM	PM
2018 Base	-33.3	-18.6
2021 Base	-39.0	-22.5
2031 Base + Committed	-58.7	-32.8
2033 Base + Committed	-61.9	-35.2
2041 Base + Committed	-71.0	-42.7
2031 Base + Committed + Proposed Development	-58.7	-33.2
2033 Base + Committed + Proposed Development	-61.9	-35.9
2041 Base + Committed + Proposed Development	-71.4	-43.4
2033 Base + Committed + Proposed Development (10%)	-61.9	-35.9
2041 Base + Committed + Proposed Development (10%)	-71.4	-43.4
2033 Base + Committed + Proposed Development (MKE)	-61.9	-35.5
2041 Base + Committed + Proposed Development (MKE)	-71.4	-43.4

- 3.18 The above tables demonstrate that the impact of the proposed development on M1 J14 and Northfield RAB is negligible as the additional traffic volume travelling through these junctions with the introduction of the development is low.
- 3.19 The A4145 Childs Way South and A5130 East arms are already congested in the 2018 Base scenario and therefore the delay and queues increase on these approaches with the additional background traffic growth and committed development trips.
- 3.20 The impact of the proposed development is however negligible with Degree of Saturation increases of less than 5% observed on individual approaches.

Tickford Roundabout

- 3.21 The tables below compare the modelling results for Tickford RAB in terms of Degree of Saturation and Mean Max Queues.

Table 19: Tickford RAB DoS Comparison AM

	Arm / Lane	2031 Base + Com	2033 Base + Com	2031 Base + Com + Dev	2033 Base + Com + Dev	2033 Base + Com + Dev (10% MS)	2033 Base + Com + Dev (MKE)
B526	1/2+1/1	42.4%	43.4%	43.4%	44.6%	44.5%	43.4%
	1/3	87.4%	89.9%	89.4%	92.4%	92.2%	89.9%
	2/1	91.9%	93.4%	91.9%	93.4%	93.4%	93.4%
A509 E	2/2	101.4%	103.2%	101.8%	103.6%	103.6%	103.2%
	2/3	101.5%	103.3%	101.8%	103.8%	103.6%	103.3%
A509 S	3/2+3/1	72.0%	73.8%	71.9%	73.7%	73.7%	73.8%
	3/3	72.0%	73.8%	71.9%	73.7%	73.7%	73.8%
A422	4/1	70.0%	71.2%	82.0%	80.5%	83.6%	71.2%
	4/2	69.8%	71.2%	81.8%	80.4%	83.6%	71.2%
Eastern	9/1	40.3%	40.8%	43.1%	44.3%	44.0%	40.8%
Circulatory	9/2	54.6%	55.5%	54.6%	55.5%	55.5%	55.5%
Southern	10/1	49.1%	49.4%	49.1%	49.4%	49.4%	49.4%
Circulatory	10/2	49.1%	49.3%	49.1%	49.3%	49.3%	49.3%
Western	11/1	37.4%	38.0%	33.5%	35.3%	34.1%	38.0%
Circulatory	11/2	34.6%	35.2%	31.0%	32.7%	31.6%	35.2%
Northern	12/1	16.4%	16.6%	17.5%	18.0%	17.8%	16.6%
Circulatory	12/2	45.3%	46.1%	46.4%	47.4%	47.3%	46.1%

Table 20: Tickford RAB DoS Comparison PM

	Arm / Lane	2031 Base + Com	2033 Base + Com	2031 Base + Com + Dev	2033 Base + Com + Dev	2033 Base + Com + Dev (10% MS)	2033 Base + Com + Dev (MKE)
B526	1/2+1/1	54.1%	55.9%	54.3%	56.1%	56.1%	55.9%
	1/3	67.4%	69.3%	67.6%	69.5%	69.5%	69.3%
A509 E	2/1	81.0%	77.9%	76.5%	77.9%	77.9%	77.9%
	2/2	89.9%	86.5%	86.0%	87.7%	87.7%	86.5%
	2/3	89.9%	86.5%	86.0%	87.9%	87.7%	86.5%
A509 S	3/2+3/1	87.6%	90.3%	88.2%	91.0%	91.0%	90.3%
	3/3	87.6%	90.1%	88.2%	90.8%	90.8%	90.1%
A422	4/1	145.9%	148.7%	147.4%	150.4%	150.3%	148.7%
	4/2	145.9%	148.6%	147.4%	150.3%	150.1%	148.6%
Eastern	9/1	39.3%	40.9%	41.1%	41.8%	41.7%	40.9%
Circulatory	9/2	24.4%	25.5%	25.1%	25.5%	25.5%	25.5%
Southern	10/1	32.6%	33.2%	32.9%	33.6%	33.6%	33.2%
Circulatory	10/2	32.6%	33.2%	32.9%	33.6%	33.5%	33.2%
Western	11/1	63.5%	64.6%	63.5%	64.6%	64.6%	64.6%
Circulatory	11/2	58.4%	59.3%	58.4%	59.3%	59.3%	59.3%
Northern	12/1	28.3%	28.4%	28.4%	28.6%	28.6%	28.4%
Circulatory	12/2	67.3%	67.7%	67.3%	67.7%	67.7%	67.7%

Table 21: Tickford RAB Queue Comparison AM (Mean Max Queue in PCU)

	Arm / Lane	2031 Base + Com	2033 Base + Com	2031 Base + Com + Dev	2033 Base + Com + Dev	2033 Base + Com + Dev (10% MS)	2033 Base + Com + Dev (MKE)
B526	1/2+1/1	1	1	1	1	1	1
	1/3	9	11	11	12	12	11
A509 E	2/1	15	16	15	16	16	16
	2/2	27	31	28	32	32	31
	2/3	27	32	28	33	32	32
A509 S	3/2+3/1	5	5	5	5	5	5
	3/3	5	5	5	5	5	5
A422	4/1	9	9	11	11	12	9
	4/2	9	9	11	11	12	9
Eastern	9/1	5	5	6	6	6	5
Circulatory	9/2	6	6	5	5	5	6
Southern	10/1	1	1	1	1	1	1
Circulatory	10/2	1	1	1	1	1	1
Western	11/1	3	3	3	3	2	3
Circulatory	11/2	3	2	2	2	2	2
Northern	12/1	0	0	0	0	0	0
Circulatory	12/2	0	0	0	1	0	0

Table 22: Tickford RAB Queue Comparison PM (Mean Max Queue in PCU)

	Arm / Lane	2031 Base + Com	2033 Base + Com	2031 Base + Com + Dev	2033 Base + Com + Dev	2033 Base + Com + Dev (10% MS)	2033 Base + Com + Dev (MKE)
B526	1/2+1/1	2	2	2	2	2	2
	1/3	4	4	4	4	4	4
A509 E	2/1	9	8	8	8	8	8
	2/2	12	11	11	11	11	11
	2/3	12	11	11	11	11	11
A509 S	3/2+3/1	10	11	10	12	12	11
	3/3	10	11	10	11	11	11
A422	4/1	202	212	206	218	218	212
	4/2	202	211	206	218	217	211
Eastern	9/1	6	6	6	6	6	6
Circulatory	9/2	2	2	2	2	2	2
Southern	10/1	0	0	0	0	0	0
Circulatory	10/2	0	0	0	0	0	0
Western	11/1	7	7	7	7	7	7
Circulatory	11/2	6	6	6	6	6	6
Northern	12/1	0	0	0	0	0	0
Circulatory	12/2	1	1	1	1	1	1

Table 23: Tickford RAB PRC Comparison (%)

Scenario	AM	PM
2031 Base + Committed	-12.8	-62.1
2033 Base + Committed	-14.8	-65.2
2031 Base + Committed + Proposed Development	-13.1	-63.7
2033 Base + Committed + Proposed Development	-15.3	-67.1
2033 Base + Committed + Proposed Development (10%)	-15.1	-67.0
2033 Base + Committed + Proposed Development (MKE)	-14.8	-65.2

3.22 The Tickford RAB modelling results indicate that the impact of the development in both 2031 and 2033 forecast years is negligible with very minor increases noted in terms of overall PRC values with the introduction of the development. The overall PRC value changes from -12.8 to -13.1 in the AM peak for 2031 and from -62.1 to -63.7 in the PM peak for 2031 forecast year.

3.23 Similarly, the overall PRC changes from -14.8 to -15.3 in the AM peak for 2033 and from -65.2 to -67.1 in the PM peak for 2033 forecast year.

- 3.24 Initial modelling results suggest that the junction will already operate over capacity in the 2031 and 2033 forecast years without the introduction of the proposed development. Therefore, in a congested model the introduction of additional traffic flows will have some impact due to lack of any further signal optimisation strategy however the impact observed in the models can be considered negligible. The worst affected arm is the A422 west in the AM peak which demonstrates an increase of 10% in DoS values however the link DoS value is still under 90% for the AM peak which would suggest the arm operates within capacity.
- 3.25 Please refer to appendices for full LinSig input and data results summary.

4 CONCLUSION

- 4.1 This study has been commissioned by RPS Group to support the transport assessment for a site located on Willen Road, Newport Pagnell. The development is for up to 800 residential dwellings including a primary school and local centre. The site is allocated as part of a wider expansion area for in excess of 5,000 dwellings.
- 4.2 LinSig modelling software has been used to assess the impact of the proposed development on the surrounding highway network.
- 4.3 The following forecast scenarios have been developed to support the assessment
- 2018 & 2021 Base (M1 J14 and Northfield RAB only);
 - 2031 Base + Committed Development;
 - 2033 Base + Committed Development;
 - 2041 Base + Committed Development;
 - 2031 Base + Committed Development + Proposed Development;
 - 2033 Base + Committed Development + Proposed Development;
 - 2041 Base + Committed Development + Proposed Development;
 - 2033 Base + Committed Development + Proposed Development (10% MS);
 - 2041 Base + Committed Development + Proposed Development (10% MS);
 - 2033 Base + Committed Development + Proposed Development (MKE); and
 - 2041 Base + Committed Development + Proposed Development (MKE).
- 4.4 The modelling demonstrates that the impact of the proposed Willen Road, Newport Pagnell development will be minimal at M1 J14, Northfield and Tickford Roundabouts whilst some impact is observed at Marsh End Roundabout.
- 4.5 There is a slight impact in the AM peak at Marsh End roundabout with the introduction of the development where the overall Practical Reserve Capacity (PRC) value changes from +11.4 to +4.4 in the 2031 forecast year however the positive PRC suggesting that there is enough resilience at the junction to cope with the additional traffic. The overall PRC for the 2033 forecast remains fairly consistent with and without the development and the network operates just under capacity in both 2031 and 2033 morning peak hour scenarios.
- 4.6 The main impact in terms of individual lanes/approaches is on Willen Road North in the AM and Willen Road South in the PM respectively with both approaches noting an increase in degree of saturation and mean max queues with the introduction of the development.
- 4.7 The modelling results for M1 J14 and Northfield Roundabout demonstrate that the impact of the proposed development is negligible as the additional traffic volume travelling through these junctions with the introduction of the development is low.
- 4.8 The A4145 Childs Way South and A5130 East arms are already congested in the 2018 Base scenario and therefore the delay and queues increase on these approaches with the additional background traffic growth and committed development trips.

- 4.9 The impact of the proposed development on M1 J14 and Northfield Roundabout is however negligible with Degree of Saturation increases of less than 5% observed on individual approaches.
- 4.10 For Tickford RAB, the modelling results suggest that the junction will already operate over capacity in the 2031 and 2033 forecast years without the introduction of the proposed development. Therefore, in a congested model the introduction of additional traffic flows will have some impact due to lack of any further signal optimisation strategy however the impact observed in the models can be considered minimal. The worst affected arm is the A422 west in the AM peak which demonstrates an increase of 10% in DoS values however the link DoS value is still under 90% for the AM peak which would suggest the arm operates within capacity.

Appendix 16 – Junctions 9 ARCADY Model Reports

Junctions 9
ARCADY 9 - Roundabout Module
Version: 9.0.2.5947 © Copyright TRL Limited, 2017
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Filename: 2021 10 06 Marsh End Roundabout.j9
 Path: P:\JNY10094 - Newport Pagnell\Transport\Arcady\2021 07 20 BD Updates
 Report generation date: 06/10/2021 14:17:45

»2021 Base, AM

»2021 Base, PM

Summary of junction performance

	AM				PM			
	Queue (Veh)	Delay (s)	RFC	LOS	Queue (Veh)	Delay (s)	RFC	LOS
2021 Base								
1 - A422 East	25.0	53.23	0.98	F	1.3	3.68	0.56	A
2 - Willen Road South	1.1	7.08	0.52	A	2.6	11.14	0.73	B
3 - A422 Monks Way	0.8	3.06	0.43	A	37.0	77.41	1.00	F
4 - Willen Road North	8.2	30.11	0.90	D	4.6	29.75	0.83	D

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

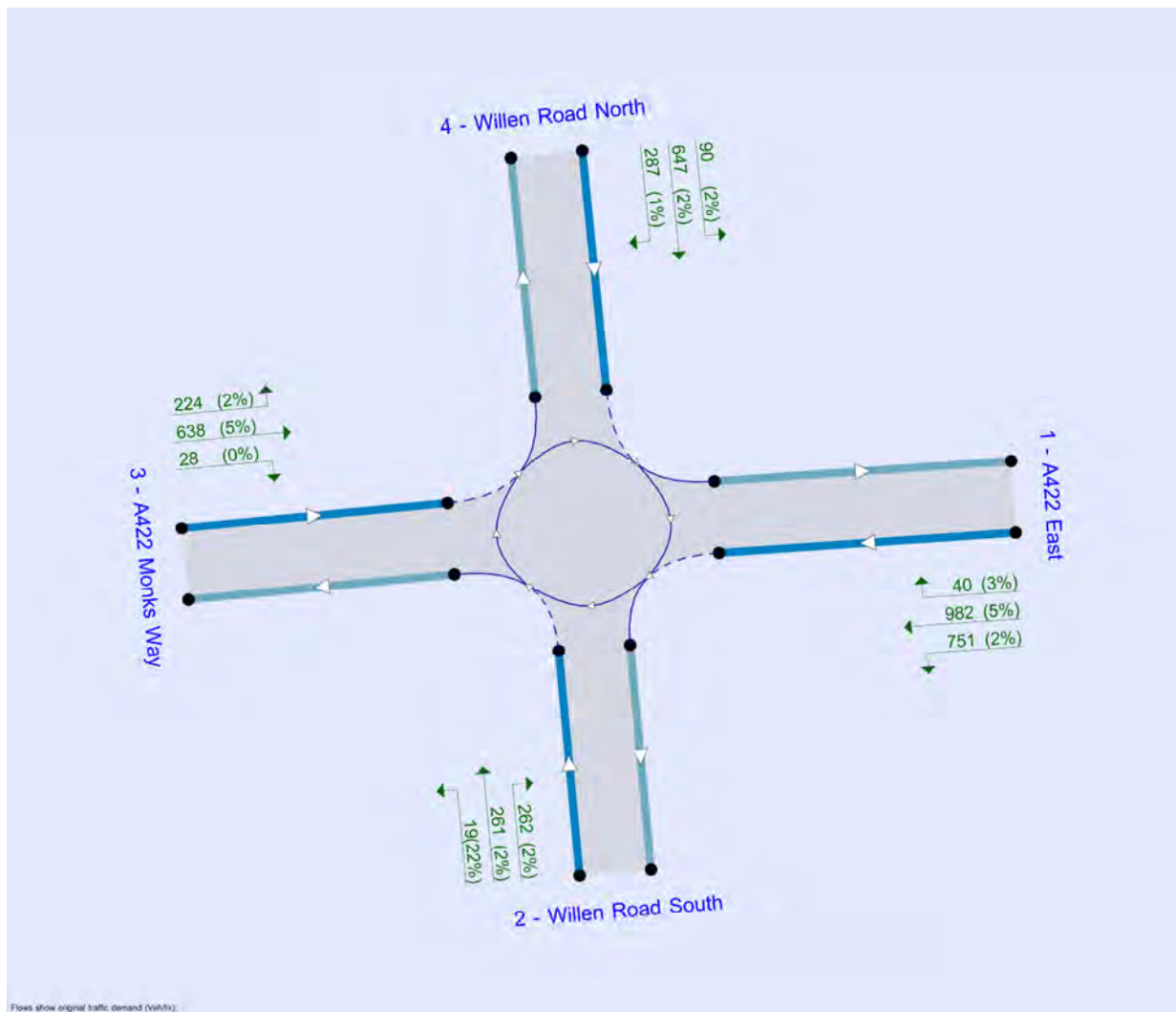
File summary

File Description

Title	
Location	
Site number	
Date	20/05/2020
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	EUR\Danesh.Aryan
Description	

Units

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



Analysis Options

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

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D1	2021 Base	AM	FLAT	08:00	09:00	60	15	✓
D2	2021 Base	PM	FLAT	17:00	18:00	60	15	✓

Analysis Set Details

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

2021 Base, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout	1, 2, 3, 4	31.14	D

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description
1	A422 East	
2	Willen Road South	
3	A422 Monks Way	
4	Willen Road North	

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 - A422 East	7.00	8.90	13.2	62.5	55.2	25.0	
2 - Willen Road South	3.80	8.80	15.9	24.9	55.2	27.0	
3 - A422 Monks Way	6.70	9.70	14.7	48.0	55.2	37.0	
4 - Willen Road North	3.40	8.90	13.3	42.5	55.2	40.0	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
1 - A422 East	0.768	2642
2 - Willen Road South	0.633	1945
3 - A422 Monks Way	0.746	2591
4 - Willen Road North	0.587	1732

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 period length (min)	Time segment length (min)	Run automatically
D1	2021 Base	AM	FLAT	08:00	09:00	60	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - A422 East		FLAT	✓	1776	100.000
2 - Willen Road South		FLAT	✓	542	100.000
3 - A422 Monks Way		FLAT	✓	896	100.000
4 - Willen Road North		FLAT	✓	1025	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1 - A422 East	2 - Willen Road South	3 - A422 Monks Way	4 - Willen Road North
From	1 - A422 East	3	751	982	40
	2 - Willen Road South	262	0	19	261
	3 - A422 Monks Way	638	28	6	224
	4 - Willen Road North	90	647	287	1

Proportions

		To			
		1 - A422 East	2 - Willen Road South	3 - A422 Monks Way	4 - Willen Road North
From	1 - A422 East	0.00	0.42	0.55	0.02
	2 - Willen Road South	0.48	0.00	0.04	0.48
	3 - A422 Monks Way	0.71	0.03	0.01	0.25
	4 - Willen Road North	0.09	0.63	0.28	0.00

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1 - A422 East	2 - Willen Road South	3 - A422 Monks Way	4 - Willen Road North
From	1 - A422 East	0	2	5	3
	2 - Willen Road South	2	0	22	2
	3 - A422 Monks Way	5	0	17	2
	4 - Willen Road North	2	2	1	0

Average PCU Per Veh

		To			
		1 - A422 East	2 - Willen Road South	3 - A422 Monks Way	4 - Willen Road North
From	1 - A422 East	1.000	1.020	1.050	1.030
	2 - Willen Road South	1.020	1.000	1.220	1.020
	3 - A422 Monks Way	1.050	1.000	1.170	1.020
	4 - Willen Road North	1.020	1.020	1.010	1.000

Detailed Demand Data

Demand for each time segment

Arm	Time Segment	Demand (Veh/hr)	Demand in PCU (PCU/hr)
1 - A422 East	08:00-08:15	1776	1841
	08:15-08:30	1776	1841
	08:30-08:45	1776	1841
	08:45-09:00	1776	1841
2 - Willen Road South	08:00-08:15	542	557
	08:15-08:30	542	557
	08:30-08:45	542	557
	08:45-09:00	542	557
3 - A422 Monks Way	08:00-08:15	896	933
	08:15-08:30	896	933
	08:30-08:45	896	933
	08:45-09:00	896	933
4 - Willen Road North	08:00-08:15	1025	1043
	08:15-08:30	1025	1043
	08:30-08:45	1025	1043
	08:45-09:00	1025	1043

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - A422 East	0.98	53.23	25.0	F	1776	1776
2 - Willen Road South	0.52	7.08	1.1	A	542	542
3 - A422 Monks Way	0.43	3.06	0.8	A	896	896
4 - Willen Road North	0.90	30.11	8.2	D	1025	1025

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS

1 - A422 East	1776	444	944	1837	0.967	1718	986	0.0	14.4	23.886	C
2 - Willen Road South	542	136	1278	1073	0.505	538	1384	0.0	1.0	6.676	A
3 - A422 Monks Way	896	224	562	2077	0.431	893	1254	0.0	0.8	3.034	A
4 - Willen Road North	1025	256	933	1143	0.897	998	522	0.0	6.9	21.782	C

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - A422 East	1776	444	966	1821	0.976	1755	993	14.4	19.6	41.159	E
2 - Willen Road South	542	136	1306	1055	0.514	542	1415	1.0	1.0	7.012	A
3 - A422 Monks Way	896	224	566	2073	0.432	896	1282	0.8	0.8	3.057	A
4 - Willen Road North	1025	256	937	1140	0.899	1022	525	6.9	7.7	28.719	D

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - A422 East	1776	444	968	1819	0.976	1763	993	19.6	22.8	48.458	E
2 - Willen Road South	542	136	1311	1052	0.515	542	1420	1.0	1.1	7.058	A
3 - A422 Monks Way	896	224	567	2073	0.432	896	1287	0.8	0.8	3.058	A
4 - Willen Road North	1025	256	937	1140	0.899	1024	526	7.7	8.0	29.694	D

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - A422 East	1776	444	968	1819	0.976	1767	993	22.8	25.0	53.228	F
2 - Willen Road South	542	136	1314	1050	0.516	542	1422	1.1	1.1	7.079	A
3 - A422 Monks Way	896	224	567	2073	0.432	896	1289	0.8	0.8	3.058	A
4 - Willen Road North	1025	256	937	1140	0.899	1024	526	8.0	8.2	30.114	D

2021 Base, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout	1, 2, 3, 4	37.79	E

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D2	2021 Base	PM	FLAT	17:00	18:00	60	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - A422 East		FLAT	✓	1232	100.000
2 - Willen Road South		FLAT	✓	861	100.000
3 - A422 Monks Way		FLAT	✓	1759	100.000
4 - Willen Road North		FLAT	✓	584	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1 - A422 East	2 - Willen Road South	3 - A422 Monks Way	4 - Willen Road North
From	1 - A422 East	1	278	751	202
	2 - Willen Road South	398	0	11	452
	3 - A422 Monks Way	1305	12	7	435
	4 - Willen Road North	111	275	197	1

Proportions

		To			
		1 - A422 East	2 - Willen Road South	3 - A422 Monks Way	4 - Willen Road North
From	1 - A422 East	0.00	0.23	0.61	0.16
	2 - Willen Road South	0.46	0.00	0.01	0.52
	3 - A422 Monks Way	0.74	0.01	0.00	0.25
	4 - Willen Road North	0.19	0.47	0.34	0.00

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1 - A422 East	2 - Willen Road South	3 - A422 Monks Way	4 - Willen Road North
From	1 - A422 East	0	2	3	0
	2 - Willen Road South	1	0	0	1
	3 - A422 Monks Way	2	0	0	1
	4 - Willen Road North	3	1	1	0

Average PCU Per Veh

		To			
		1 - A422 East	2 - Willen Road South	3 - A422 Monks Way	4 - Willen Road North
From	1 - A422 East	1.000	1.020	1.030	1.000
	2 - Willen Road South	1.010	1.000	1.000	1.010
	3 - A422 Monks Way	1.020	1.000	1.000	1.010
	4 - Willen Road North	1.030	1.010	1.010	1.000

Detailed Demand Data

Demand for each time segment

Arm	Time Segment	Demand (Veh/hr)	Demand in PCU (PCU/hr)
1 - A422 East	17:00-17:15	1232	1260
	17:15-17:30	1232	1260
	17:30-17:45	1232	1260
	17:45-18:00	1232	1260
2 - Willen Road South	17:00-17:15	861	870
	17:15-17:30	861	870
	17:30-17:45	861	870
	17:45-18:00	861	870
3 - A422 Monks Way	17:00-17:15	1759	1789
	17:15-17:30	1759	1789
	17:30-17:45	1759	1789
	17:45-18:00	1759	1789
4 - Willen Road North	17:00-17:15	584	592
	17:15-17:30	584	592
	17:30-17:45	584	592
	17:45-18:00	584	592

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - A422 East	0.56	3.68	1.3	A	1232	1232
2 - Willen Road South	0.73	11.14	2.6	B	861	861
3 - A422 Monks Way	1.00	77.41	37.0	F	1759	1759
4 - Willen Road North	0.83	29.75	4.6	D	584	584

Main Results for each time segment

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - A422 East	1232	308	480	2220	0.555	1227	1753	0.0	1.2	3.609	A
2 - Willen Road South	861	215	1150	1189	0.724	851	557	0.0	2.5	10.353	B
3 - A422 Monks Way	1759	440	1043	1776	0.991	1685	958	0.0	18.6	29.141	D
4 - Willen Road North	584	146	1662	730	0.800	570	1066	0.0	3.6	20.966	C

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - A422 East	1232	308	490	2212	0.557	1232	1791	1.2	1.2	3.671	A
2 - Willen Road South	861	215	1158	1184	0.727	861	564	2.5	2.6	11.097	B
3 - A422 Monks Way	1759	440	1054	1768	0.995	1727	965	18.6	26.5	54.413	F
4 - Willen Road North	584	146	1699	708	0.825	581	1082	3.6	4.2	27.490	D

17:30 - 17:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - A422 East	1232	308	491	2211	0.557	1232	1798	1.2	1.3	3.675	A
2 - Willen Road South	861	215	1159	1184	0.727	861	564	2.6	2.6	11.129	B
3 - A422 Monks Way	1759	440	1054	1768	0.995	1736	966	26.5	32.3	67.377	F
4 - Willen Road North	584	146	1706	704	0.829	583	1084	4.2	4.5	29.026	D

17:45 - 18:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - A422 East	1232	308	491	2211	0.557	1232	1801	1.3	1.3	3.676	A
2 - Willen Road South	861	215	1159	1184	0.727	861	565	2.6	2.6	11.140	B
3 - A422 Monks Way	1759	440	1054	1768	0.995	1740	966	32.3	37.0	77.410	F
4 - Willen Road North	584	146	1709	702	0.831	583	1085	4.5	4.6	29.748	D

<h1>Junctions 9</h1>
<h2>ARCADY 9 - Roundabout Module</h2>
Version: 9.0.2.5947 © Copyright TRL Limited, 2017
[REDACTED]
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Filename: 2021 10 06 Tickford Roundabout & Renny Lodge Roundabout (combined).j9
 Path: P:\JNY10094 - Newport Pagnell\Transport\Arcady\2021 07 20 BD Updates
 Report generation date: 06/10/2021 14:13:47

- »2021 Base, AM
- »2021 Base, PM
- »2031 Base + Committed, AM
- »2031 Base + Committed, PM
- »2033 Base + Committed, AM
- »2033 Base + Committed, PM
- »2031 Base + Committed + Proposed Dev, AM
- »2031 Base + Committed + Proposed Dev, PM
- »2033 Base + Committed + Proposed Dev, AM
- »2033 Base + Committed + Proposed Dev, PM
- »2033 Base + Committed + Proposed Dev (MKE Trip Rate), AM
- »2033 Base + Committed + Proposed Dev (MKE Trip Rate), PM
- »2033 Base + Committed + Proposed Dev (10% Modal Shift), AM
- »2033 Base + Committed + Proposed Dev (10% Modal Shift), PM

Summary of junction performance

	AM				PM			
	Queue (Veh)	Delay (s)	RFC	LOS	Queue (Veh)	Delay (s)	RFC	LOS
2021 Base								
1 - Tickford Roundabout - 1 - A509 East	1.6	3.65	0.62	A	0.8	2.46	0.45	A
1 - Tickford Roundabout - 2 - A509 South	1.2	7.11	0.56	A	1.9	6.79	0.66	A
1 - Tickford Roundabout - 3 - A422 West	0.9	3.22	0.47	A	14.5	30.07	0.94	D
1 - Tickford Roundabout - 4 - B526 North	0.9	5.39	0.47	A	1.6	12.78	0.62	B
2 - Renny Lodge Roundabout - 1 - A509 East	2.9	6.55	0.74	A	0.8	3.24	0.46	A
2 - Renny Lodge Roundabout - 2 - A509 West	0.6	2.27	0.37	A	1.9	3.92	0.65	A
2 - Renny Lodge Roundabout - 3 - Renny Park Road	0.1	2.89	0.07	A	0.5	5.67	0.35	A
2031 Base + Committed								
1 - Tickford Roundabout - 1 - A509 East	4.5	8.44	0.82	A	1.1	2.96	0.53	A
1 - Tickford Roundabout - 2 - A509 South	4.2	21.05	0.81	C	9.4	27.16	0.91	D
1 - Tickford Roundabout - 3 - A422 West	1.3	4.11	0.57	A	455.0	815.85	1.26	F
1 - Tickford Roundabout - 4 - B526 North	2.4	10.63	0.71	B	3.0	21.12	0.76	C
2 - Renny Lodge Roundabout - 1 - A509 East	7.1	14.51	0.88	B	1.2	3.87	0.54	A
2 - Renny Lodge Roundabout - 2 - A509 West	0.7	2.51	0.43	A	2.1	4.31	0.68	A
2 - Renny Lodge Roundabout - 3 - Renny Park Road	0.3	3.62	0.21	A	0.8	6.37	0.44	A
2033 Base + Committed								
1 - Tickford Roundabout - 1 - A509 East	4.6	8.64	0.82	A	1.2	3.04	0.55	A
1 - Tickford Roundabout - 2 - A509 South	4.8	23.48	0.83	C	12.7	36.36	0.94	E
1 - Tickford Roundabout - 3 - A422 West	1.4	4.25	0.58	A	506.8	914.21	1.29	F
1 - Tickford Roundabout - 4 - B526 North	2.6	11.54	0.73	B	3.3	22.66	0.77	C
2 - Renny Lodge Roundabout - 1 - A509 East	7.0	14.43	0.88	B	1.2	3.97	0.55	A
2 - Renny Lodge Roundabout - 2 - A509 West	0.8	2.54	0.44	A	2.1	4.33	0.68	A
2 - Renny Lodge Roundabout - 3 - Renny Park Road	0.3	3.66	0.22	A	0.8	6.48	0.44	A
2031 Base + Committed + Proposed Dev								
1 - Tickford Roundabout - 1 - A509 East	4.8	9.01	0.83	A	1.2	3.01	0.54	A
1 - Tickford Roundabout - 2 - A509 South	4.6	22.54	0.83	C	12.3	35.07	0.93	E
1 - Tickford Roundabout - 3 - A422 West	1.4	4.31	0.59	A	473.2	846.73	1.27	F
1 - Tickford Roundabout - 4 - B526 North	2.6	11.52	0.72	B	3.0	21.38	0.76	C
2 - Renny Lodge Roundabout - 1 - A509 East	7.2	14.78	0.88	B	1.2	3.91	0.54	A
2 - Renny Lodge Roundabout - 2 - A509 West	0.8	2.53	0.43	A	2.1	4.29	0.68	A
2 - Renny Lodge Roundabout - 3 - Renny Park Road	0.3	3.65	0.22	A	0.8	6.38	0.44	A
2033 Base + Committed + Proposed Dev								
1 - Tickford Roundabout - 1 - A509 East	5.6	10.33	0.85	B	1.2	3.10	0.55	A
1 - Tickford Roundabout - 2 - A509 South	5.9	28.93	0.86	D	19.2	53.78	0.96	F
1 - Tickford Roundabout - 3 - A422 West	1.5	4.50	0.60	A	527.1	948.09	1.30	F

1 - Tickford Roundabout - 4 - B526 North	2.9	12.81	0.75	B	3.3	23.01	0.77	C
2 - Renny Lodge Roundabout - 1 - A509 East	8.5	17.22	0.90	C	1.2	4.03	0.55	A
2 - Renny Lodge Roundabout - 2 - A509 West	0.8	2.58	0.44	A	2.1	4.31	0.68	A
2 - Renny Lodge Roundabout - 3 - Renny Park Road	0.3	3.69	0.22	A	0.8	6.49	0.45	A
2033 Base + Committed + Proposed Dev (MKE Trip Rate)								
1 - Tickford Roundabout - 1 - A509 East	5.4	10.00	0.85	A	1.2	3.08	0.55	A
1 - Tickford Roundabout - 2 - A509 South	5.6	27.38	0.86	D	16.8	47.42	0.96	E
1 - Tickford Roundabout - 3 - A422 West	1.5	4.41	0.60	A	519.3	934.61	1.30	F
1 - Tickford Roundabout - 4 - B526 North	2.8	12.36	0.74	B	3.3	22.87	0.77	C
2 - Renny Lodge Roundabout - 1 - A509 East	8.4	17.01	0.90	C	1.2	4.01	0.55	A
2 - Renny Lodge Roundabout - 2 - A509 West	0.8	2.56	0.44	A	2.1	4.36	0.68	A
2 - Renny Lodge Roundabout - 3 - Renny Park Road	0.3	3.68	0.22	A	0.8	6.51	0.45	A
2033 Base + Committed + Proposed Dev (10% Modal Shift)								
1 - Tickford Roundabout - 1 - A509 East	5.6	10.25	0.85	B	1.2	3.10	0.55	A
1 - Tickford Roundabout - 2 - A509 South	5.8	28.64	0.86	D	18.4	51.65	0.96	F
1 - Tickford Roundabout - 3 - A422 West	1.5	4.47	0.60	A	525.5	945.45	1.30	F
1 - Tickford Roundabout - 4 - B526 North	2.9	12.66	0.75	B	3.3	22.98	0.77	C
2 - Renny Lodge Roundabout - 1 - A509 East	8.5	17.22	0.90	C	1.2	4.03	0.55	A
2 - Renny Lodge Roundabout - 2 - A509 West	0.8	2.57	0.44	A	2.1	4.31	0.68	A
2 - Renny Lodge Roundabout - 3 - Renny Park Road	0.3	3.69	0.22	A	0.8	6.50	0.45	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	
Location	
Site number	
Date	20/05/2020
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	EUR\Danesh.Aryan
Description	

Units

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

Analysis Options

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

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D1	2021 Base	AM	FLAT	08:00	09:00	60	15	✓
D2	2021 Base	PM	FLAT	17:00	18:00	60	15	✓
D7	2031 Base + Committed	AM	FLAT	08:00	09:00	60	15	✓
D8	2031 Base + Committed	PM	FLAT	17:00	18:00	60	15	✓
D9	2033 Base + Committed	AM	FLAT	08:00	09:00	60	15	✓
D10	2033 Base + Committed	PM	FLAT	17:00	18:00	60	15	✓
D11	2031 Base + Committed + Proposed Dev	AM	FLAT	08:00	09:00	60	15	✓
D12	2031 Base + Committed + Proposed Dev	PM	FLAT	17:00	18:00	60	15	✓
D13	2033 Base + Committed + Proposed Dev	AM	FLAT	08:00	09:00	60	15	✓
D14	2033 Base + Committed + Proposed Dev	PM	FLAT	17:00	18:00	60	15	✓
D15	2033 Base + Committed + Proposed Dev (MKE Trip Rate)	AM	FLAT	08:00	09:00	60	15	✓
D16	2033 Base + Committed + Proposed Dev (MKE Trip Rate)	PM	FLAT	17:00	18:00	60	15	✓
D17	2033 Base + Committed + Proposed Dev (10% Modal Shift)	AM	FLAT	08:00	09:00	60	15	✓
D18	2033 Base + Committed + Proposed Dev (10% Modal Shift)	PM	FLAT	17:00	18:00	60	15	✓

Analysis Set Details

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

2021 Base, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	1 - Tickford Roundabout - 2 - A509 South - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Linked Roundabout	1 - Tickford Roundabout - 1 - A509 East	If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled.
Warning	Linked Roundabout	2 - Renny Lodge Roundabout - 2 - A509 West	If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	Tickford Roundabout	Standard Roundabout	1, 2, 3, 4	4.40	A
2	Renny Lodge Roundabout	Standard Roundabout	1, 2, 3	4.89	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Junction	Arm	Name	Description
1 - Tickford Roundabout	1	A509 East	
	2	A509 South	
	3	A422 West	
	4	B526 North	
2 - Renny Lodge Roundabout	1	A509 East	
	2	A509 West	
	3	Renny Park Road	

Roundabout Geometry

Junction	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 - Tickford Roundabout	1 - A509 East	10.53	10.93	1.4	33.5	59.8	28.5	
	2 - A509 South	3.47	9.57	32.0	113.1	59.8	23.0	
	3 - A422 West	7.67	8.65	4.4	30.0	59.8	24.0	
	4 - B526 North	3.22	8.97	18.8	59.0	59.8	23.0	
2 - Renny Lodge Roundabout	1 - A509 East	7.26	7.71	20.0	26.3	66.0	37.0	
	2 - A509 West	8.13	8.87	2.6	45.2	66.0	25.0	
	3 - Renny Park Road	3.29	7.77	23.3	45.9	66.0	23.0	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Junction	Arm	Final slope	Final intercept (PCU/hr)
1 - Tickford Roundabout	1 - A509 East	0.848	3335
	2 - A509 South	0.686	2341
	3 - A422 West	0.722	2590
	4 - B526 North	0.618	1961
2 - Renny Lodge Roundabout	1 - A509 East	0.619	2298
	2 - A509 West	0.698	2696
	3 - Renny Park Road	0.575	1933

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

Traffic Demand

Demand Set Details

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ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D1	2021 Base	AM	FLAT	08:00	09:00	60	15	✓

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

Linked Arm Data

Junction	Arm	Feeding Junction	Feeding Arm	Link Type	Flow source	Uniform flow (Veh/hr)	Flow multiplier (%)	Internal storage space (PCU)
1 - Tickford Roundabout	1 - A509 East	2	2	Simple (vertical queueing)	Normal	0	100.00	
2 - Renny Lodge Roundabout	2 - A509 West	1	1	Simple (vertical queueing)	Normal	0	100.00	

Demand overview (Traffic)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Tickford Roundabout	1 - A509 East	✓				
	2 - A509 South		FLAT	✓	634	100.000
	3 - A422 West		FLAT	✓	991	100.000
	4 - B526 North		FLAT	✓	602	100.000
2 - Renny Lodge Roundabout	1 - A509 East		FLAT	✓	1599	100.000
	2 - A509 West	✓				
	3 - Renny Park Road		FLAT	✓	99	100.000

Origin-Destination Data

Demand (Veh/hr)

1 - Tickford Roundabout

		To			
		1 - A509 East	2 - A509 South	3 - A422 West	4 - B526 North
From	1 - A509 East	0	477	1113	21
	2 - A509 South	277	0	134	223
	3 - A422 West	624	113	0	254
	4 - B526 North	23	164	414	1

Demand (Veh/hr)

2 - Renny Lodge Roundabout

		To		
		1 - A509 East	2 - A509 West	3 - Renny Park Road
From	1 - A509 East	1	1544	54
	2 - A509 West	709	0	216
	3 - Renny Park Road	38	61	0

Vehicle Mix

Heavy Vehicle Percentages

1 - Tickford Roundabout

		To			
		1 - A509 East	2 - A509 South	3 - A422 West	4 - B526 North
From	1 - A509 East	0	11	3	10
	2 - A509 South	10	0	20	4
	3 - A422 West	4	8	0	1
	4 - B526 North	14	3	1	0

Heavy Vehicle Percentages

2 - Renny Lodge Roundabout

		To		
		1 - A509 East	2 - A509 West	3 - Renny Park Road
From	1 - A509 East	0	5	2
	2 - A509 West	6	0	5
	3 - Renny Park Road	3	17	0

Results

Results Summary for whole modelled period

Junction	Arm	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - Tickford Roundabout	1 - A509 East	0.62	3.65	1.6	A	1602	1602
	2 - A509 South	0.56	7.11	1.2	A	634	634
	3 - A422 West	0.47	3.22	0.9	A	991	991

	4 - B526 North	0.47	5.39	0.9	A	602	602
2 - Renny Lodge Roundabout	1 - A509 East	0.74	6.55	2.9	A	1599	1599
	2 - A509 West	0.37	2.27	0.6	A	925	925
	3 - Renny Park Road	0.07	2.89	0.1	A	99	99

Main Results for each time segment

08:00 - 08:15

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tickford Roundabout	1 - A509 East	1594	398	688	2594	0.614	1588	920	0.0	1.6	3.555	A
	2 - A509 South	634	159	1530	1150	0.552	629	746	0.0	1.2	6.856	A
	3 - A422 West	991	248	518	2110	0.470	987	1641	0.0	0.9	3.197	A
	4 - B526 North	602	150	1009	1273	0.473	598	496	0.0	0.9	5.307	A
2 - Renny Lodge Roundabout	1 - A509 East	1599	400	61	2148	0.744	1588	744	0.0	2.8	6.299	A
	2 - A509 West	922	230	55	2512	0.367	920	1594	0.0	0.6	2.258	A
	3 - Renny Park Road	99	25	706	1346	0.074	99	268	0.0	0.1	2.887	A

08:15 - 08:30

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tickford Roundabout	1 - A509 East	1605	401	692	2591	0.619	1605	924	1.6	1.6	3.648	A
	2 - A509 South	634	159	1544	1140	0.556	634	752	1.2	1.2	7.107	A
	3 - A422 West	991	248	522	2108	0.470	991	1657	0.9	0.9	3.223	A
	4 - B526 North	602	150	1014	1270	0.474	602	499	0.9	0.9	5.385	A
2 - Renny Lodge Roundabout	1 - A509 East	1599	400	61	2148	0.744	1599	749	2.8	2.9	6.547	A
	2 - A509 West	926	232	55	2512	0.369	926	1605	0.6	0.6	2.270	A
	3 - Renny Park Road	99	25	711	1343	0.074	99	270	0.1	0.1	2.893	A

08:30 - 08:45

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tickford Roundabout	1 - A509 East	1605	401	692	2591	0.619	1605	924	1.6	1.6	3.649	A
	2 - A509 South	634	159	1545	1140	0.556	634	752	1.2	1.2	7.111	A
	3 - A422 West	991	248	522	2107	0.470	991	1657	0.9	0.9	3.223	A
	4 - B526 North	602	150	1014	1270	0.474	602	499	0.9	0.9	5.386	A
2 - Renny Lodge Roundabout	1 - A509 East	1599	400	61	2148	0.744	1599	749	2.9	2.9	6.549	A
	2 - A509 West	926	232	55	2512	0.369	926	1605	0.6	0.6	2.270	A
	3 - Renny Park Road	99	25	711	1343	0.074	99	270	0.1	0.1	2.893	A

08:45 - 09:00

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tickford Roundabout	1 - A509 East	1605	401	692	2591	0.619	1605	924	1.6	1.6	3.649	A
	2 - A509 South	634	159	1545	1140	0.556	634	752	1.2	1.2	7.112	A
	3 - A422 West	991	248	522	2107	0.470	991	1657	0.9	0.9	3.223	A
	4 - B526 North	602	150	1014	1270	0.474	602	499	0.9	0.9	5.386	A
2 - Renny Lodge Roundabout	1 - A509 East	1599	400	61	2148	0.744	1599	749	2.9	2.9	6.552	A
	2 - A509 West	926	232	55	2512	0.369	926	1605	0.6	0.6	2.270	A
	3 - Renny Park Road	99	25	711	1343	0.074	99	270	0.1	0.1	2.893	A

2021 Base, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	1 - Tickford Roundabout - 2 - A509 South - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Linked Roundabout	1 - Tickford Roundabout - 1 - A509 East	If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled.
Warning	Linked Roundabout	2 - Renny Lodge Roundabout - 2 - A509 West	If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	Tickford Roundabout	Standard Roundabout	1, 2, 3, 4	15.59	C
2	Renny Lodge Roundabout	Standard Roundabout	1, 2, 3	3.91	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 period length (min)	Time segment length (min)	Run automatically
D2	2021 Base	PM	FLAT	17:00	18:00	60	15	✓

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

Linked Arm Data

Junction	Arm	Feeding Junction	Feeding Arm	Link Type	Flow source	Uniform flow (Veh/hr)	Flow multiplier (%)	Internal storage space (PCU)
1 - Tickford Roundabout	1 - A509 East	2	2	Simple (vertical queueing)	Normal	0	100.00	
2 - Renny Lodge Roundabout	2 - A509 West	1	1	Simple (vertical queueing)	Normal	0	100.00	

Demand overview (Traffic)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Tickford Roundabout	1 - A509 East	✓				
	2 - A509 South		FLAT	✓	1031	100.000
	3 - A422 West		FLAT	✓	1831	100.000
	4 - B526 North		FLAT	✓	451	100.000
2 - Renny Lodge Roundabout	1 - A509 East		FLAT	✓	945	100.000
	2 - A509 West	✓				
	3 - Renny Park Road		FLAT	✓	345	100.000

Origin-Destination Data

Demand (Veh/hr)

1 - Tickford Roundabout

		To			
		1 - A509 East	2 - A509 South	3 - A422 West	4 - B526 North
From	1 - A509 East	0	377	787	40
	2 - A509 South	510	0	229	292
	3 - A422 West	1175	263	1	392
	4 - B526 North	33	189	229	0

Demand (Veh/hr)

2 - Renny Lodge Roundabout

		To		
		1 - A509 East	2 - A509 West	3 - Renny Park Road
From	1 - A509 East	1	917	27
	2 - A509 West	1588	0	130
	3 - Renny Park Road	58	287	0

Vehicle Mix

Heavy Vehicle Percentages

1 - Tickford Roundabout

		To			
		1 - A509 East	2 - A509 South	3 - A422 West	4 - B526 North
From	1 - A509 East	0	6	2	0
	2 - A509 South	3	0	5	1
	3 - A422 West	1	4	0	1
	4 - B526 North	3	0	0	0

Heavy Vehicle Percentages

2 - Renny Lodge Roundabout

		To		
		1 - A509 East	2 - A509 West	3 - Renny Park Road
From	1 - A509 East	0	3	0
	2 - A509 West	1	0	6
	3 - Renny Park Road	2	3	0

Results

Results Summary for whole modelled period

Junction	Arm	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - Tickford Roundabout	1 - A509 East	0.45	2.46	0.8	A	1201	1201
	2 - A509 South	0.66	6.79	1.9	A	1031	1031
	3 - A422 West	0.94	30.07	14.5	D	1831	1831
	4 - B526 North	0.62	12.78	1.6	B	451	451
2 - Renny Lodge Roundabout	1 - A509 East	0.46	3.24	0.8	A	945	945
	2 - A509 West	0.65	3.92	1.9	A	1712	1712
	3 - Renny Park Road	0.35	5.67	0.5	A	345	345

Main Results for each time segment

17:00 - 17:15

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tickford Roundabout	1 - A509 East	1197	299	670	2673	0.448	1194	1685	0.0	0.8	2.429	A
	2 - A509 South	1031	258	1047	1567	0.658	1023	817	0.0	1.9	6.536	A
	3 - A422 West	1831	458	836	1946	0.941	1786	1235	0.0	11.2	19.055	C
	4 - B526 North	451	113	1910	756	0.597	445	712	0.0	1.4	11.391	B
2 - Renny Lodge Roundabout	1 - A509 East	945	236	285	2056	0.460	942	1614	0.0	0.8	3.221	A
	2 - A509 West	1689	422	28	2640	0.640	1682	1199	0.0	1.8	3.732	A
	3 - Renny Park Road	345	86	1556	1000	0.345	343	154	0.0	0.5	5.461	A

17:15 - 17:30

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tickford Roundabout	1 - A509 East	1202	300	680	2664	0.451	1202	1713	0.8	0.8	2.461	A
	2 - A509 South	1031	258	1055	1561	0.660	1031	827	1.9	1.9	6.780	A
	3 - A422 West	1831	458	842	1941	0.943	1823	1244	11.2	13.1	27.476	D
	4 - B526 North	451	113	1943	735	0.613	451	722	1.4	1.5	12.613	B
2 - Renny Lodge Roundabout	1 - A509 East	945	236	287	2055	0.460	945	1646	0.8	0.8	3.242	A
	2 - A509 West	1717	429	28	2640	0.651	1717	1204	1.8	1.8	3.898	A
	3 - Renny Park Road	345	86	1588	982	0.351	345	157	0.5	0.5	5.651	A

17:30 - 17:45

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
	1 - A509 East	1202	300	681	2663	0.451	1202	1716	0.8	0.8	2.463	A

1 - Tickford Roundabout	2 - A509 South	1031	258	1055	1561	0.660	1031	828	1.9	1.9	6.787	A
	3 - A422 West	1831	458	842	1941	0.943	1827	1245	13.1	14.0	29.218	D
	4 - B526 North	451	113	1946	733	0.615	451	723	1.5	1.6	12.736	B
2 - Renny Lodge Roundabout	1 - A509 East	945	236	287	2055	0.460	945	1649	0.8	0.8	3.242	A
	2 - A509 West	1720	430	28	2640	0.652	1720	1204	1.8	1.9	3.912	A
	3 - Renny Park Road	345	86	1591	980	0.352	345	157	0.5	0.5	5.665	A

17:45 - 18:00

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tickford Roundabout	1 - A509 East	1202	300	682	2663	0.451	1202	1717	0.8	0.8	2.463	A
	2 - A509 South	1031	258	1055	1561	0.660	1031	828	1.9	1.9	6.787	A
	3 - A422 West	1831	458	842	1941	0.943	1829	1245	14.0	14.5	30.069	D
	4 - B526 North	451	113	1947	733	0.616	451	723	1.6	1.6	12.777	B
2 - Renny Lodge Roundabout	1 - A509 East	945	236	287	2055	0.460	945	1650	0.8	0.8	3.242	A
	2 - A509 West	1721	430	28	2640	0.652	1721	1204	1.9	1.9	3.916	A
	3 - Renny Park Road	345	86	1592	980	0.352	345	157	0.5	0.5	5.669	A

2031 Base + Committed, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	1 - Tickford Roundabout - 2 - A509 South - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Linked Roundabout	1 - Tickford Roundabout - 1 - A509 East	If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled.
Warning	Linked Roundabout	2 - Renny Lodge Roundabout - 2 - A509 West	If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	Tickford Roundabout	Standard Roundabout	1, 2, 3, 4	9.86	A
2	Renny Lodge Roundabout	Standard Roundabout	1, 2, 3	9.42	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 period length (min)	Time segment length (min)	Run automatically
D7	2031 Base + Committed	AM	FLAT	08:00	09:00	60	15	✓

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

Linked Arm Data

Junction	Arm	Feeding Junction	Feeding Arm	Link Type	Flow source	Uniform flow (Veh/hr)	Flow multiplier (%)	Internal storage space (PCU)
1 - Tickford Roundabout	1 - A509 East	2	2	Simple (vertical queueing)	Normal	0	100.00	
2 - Renny Lodge Roundabout	2 - A509 West	1	1	Simple (vertical queueing)	Normal	0	100.00	

Demand overview (Traffic)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Tickford Roundabout	1 - A509 East	✓				
	2 - A509 South		FLAT	✓	742	100.000
	3 - A422 West		FLAT	✓	1151	100.000
	4 - B526 North		FLAT	✓	822	100.000
2 - Renny Lodge Roundabout	1 - A509 East		FLAT	✓	1796	100.000
	2 - A509 West	✓				
	3 - Renny Park Road		FLAT	✓	272	100.000

Origin-Destination Data

Demand (Veh/hr)

1 - Tickford Roundabout

		To			
		1 - A509 East	2 - A509 South	3 - A422 West	4 - B526 North
From	1 - A509 East	0	611	1326	23
	2 - A509 South	316	0	172	254
	3 - A422 West	719	136	0	296
	4 - B526 North	25	260	536	1

Demand (Veh/hr)

2 - Renny Lodge Roundabout

		To		
		1 - A509 East	2 - A509 West	3 - Renny Park Road
From	1 - A509 East	1	1729	66
	2 - A509 West	794	0	266
	3 - Renny Park Road	57	215	0

Vehicle Mix

Heavy Vehicle Percentages

1 - Tickford Roundabout

		To			
		1 - A509 East	2 - A509 South	3 - A422 West	4 - B526 North
From	1 - A509 East	0	11	3	10
	2 - A509 South	10	0	25	4
	3 - A422 West	5	14	0	1
	4 - B526 North	14	3	1	0

Heavy Vehicle Percentages

2 - Renny Lodge Roundabout

		To		
		1 - A509 East	2 - A509 West	3 - Renny Park Road
From	1 - A509 East	0	5	2
	2 - A509 West	6	0	5
	3 - Renny Park Road	3	17	0

Results

Results Summary for whole modelled period

Junction	Arm	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - Tickford Roundabout	1 - A509 East	0.82	8.44	4.5	A	1951	1951
	2 - A509 South	0.81	21.05	4.2	C	742	742
	3 - A422 West	0.57	4.11	1.3	A	1151	1151
	4 - B526 North	0.71	10.63	2.4	B	822	822
2 - Renny Lodge Roundabout	1 - A509 East	0.88	14.51	7.1	B	1796	1796
	2 - A509 West	0.43	2.51	0.7	A	1067	1067
	3 - Renny Park Road	0.21	3.62	0.3	A	272	272

Main Results for each time segment

08:00 - 08:15

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tickford Roundabout	1 - A509 East	1932	483	923	2391	0.808	1916	1050	0.0	4.0	7.345	A
	2 - A509 South	742	186	1850	933	0.795	728	990	0.0	3.5	16.530	C
	3 - A422 West	1151	288	583	2036	0.565	1146	1995	0.0	1.3	4.023	A
	4 - B526 North	822	205	1161	1167	0.705	813	567	0.0	2.3	9.932	A
2 - Renny Lodge Roundabout	1 - A509 East	1796	449	214	2043	0.879	1770	849	0.0	6.5	12.233	B
	2 - A509 West	1060	265	66	2505	0.423	1057	1918	0.0	0.7	2.480	A
	3 - Renny Park Road	272	68	793	1270	0.214	271	330	0.0	0.3	3.598	A

08:15 - 08:30

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tickford Roundabout	1 - A509 East	1956	489	933	2384	0.821	1955	1059	4.0	4.4	8.351	A
	2 - A509 South	742	186	1882	913	0.813	740	1005	3.5	4.0	20.454	C
	3 - A422 West	1151	288	592	2028	0.567	1151	2030	1.3	1.3	4.103	A
	4 - B526 North	822	205	1170	1161	0.708	822	573	2.3	2.4	10.595	B
2 - Renny Lodge Roundabout	1 - A509 East	1796	449	215	2042	0.879	1795	858	6.5	6.9	14.327	B
	2 - A509 West	1069	267	67	2504	0.427	1069	1943	0.7	0.7	2.507	A
	3 - Renny Park Road	272	68	801	1266	0.215	272	334	0.3	0.3	3.621	A

08:30 - 08:45

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
	1 - A509 East	1957	489	933	2383	0.821	1957	1060	4.4	4.5	8.424	A

1 - Tickford Roundabout	2 - A509 South	742	186	1884	912	0.814	741	1006	4.0	4.2	20.925	C
	3 - A422 West	1151	288	594	2028	0.568	1151	2032	1.3	1.3	4.106	A
	4 - B526 North	822	205	1171	1160	0.708	822	574	2.4	2.4	10.625	B
2 - Renny Lodge Roundabout	1 - A509 East	1796	449	215	2042	0.879	1795	859	6.9	7.0	14.458	B
	2 - A509 West	1069	267	67	2504	0.427	1069	1943	0.7	0.7	2.508	A
	3 - Renny Park Road	272	68	802	1265	0.215	272	334	0.3	0.3	3.622	A

08:45 - 09:00

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tickford Roundabout	1 - A509 East	1958	489	933	2383	0.821	1957	1060	4.5	4.5	8.440	A
	2 - A509 South	742	186	1884	912	0.814	742	1006	4.2	4.2	21.052	C
	3 - A422 West	1151	288	594	2027	0.568	1151	2032	1.3	1.3	4.107	A
	4 - B526 North	822	205	1171	1160	0.708	822	574	2.4	2.4	10.632	B
2 - Renny Lodge Roundabout	1 - A509 East	1796	449	215	2042	0.879	1796	859	7.0	7.1	14.510	B
	2 - A509 West	1069	267	67	2504	0.427	1069	1944	0.7	0.7	2.508	A
	3 - Renny Park Road	272	68	802	1265	0.215	272	334	0.3	0.3	3.622	A

2031 Base + Committed, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	1 - Tickford Roundabout - 2 - A509 South - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Linked Roundabout	1 - Tickford Roundabout - 1 - A509 East	If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled.
Warning	Linked Roundabout	2 - Renny Lodge Roundabout - 2 - A509 West	If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	Tickford Roundabout	Standard Roundabout	1, 2, 3, 4	339.88	F
2	Renny Lodge Roundabout	Standard Roundabout	1, 2, 3	4.44	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 period length (min)	Time segment length (min)	Run automatically
D8	2031 Base + Committed	PM	FLAT	17:00	18:00	60	15	✓

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

Linked Arm Data

Junction	Arm	Feeding Junction	Feeding Arm	Link Type	Flow source	Uniform flow (Veh/hr)	Flow multiplier (%)	Internal storage space (PCU)
1 - Tickford Roundabout	1 - A509 East	2	2	Simple (vertical queueing)	Normal	0	100.00	
2 - Renny Lodge Roundabout	2 - A509 West	1	1	Simple (vertical queueing)	Normal	0	100.00	

Demand overview (Traffic)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Tickford Roundabout	1 - A509 East	✓				
	2 - A509 South		FLAT	✓	1306	100.000
	3 - A422 West		FLAT	✓	2219	100.000
	4 - B526 North		FLAT	✓	524	100.000
2 - Renny Lodge Roundabout	1 - A509 East		FLAT	✓	1076	100.000
	2 - A509 West	✓				
	3 - Renny Park Road		FLAT	✓	438	100.000

Origin-Destination Data

Demand (Veh/hr)

1 - Tickford Roundabout

		To			
		1 - A509 East	2 - A509 South	3 - A422 West	4 - B526 North
From	1 - A509 East	0	436	923	45
	2 - A509 South	641	0	270	395
	3 - A422 West	1394	319	1	505
	4 - B526 North	37	217	270	0

Demand (Veh/hr)

2 - Renny Lodge Roundabout

		To		
		1 - A509 East	2 - A509 West	3 - Renny Park Road
From	1 - A509 East	1	1033	42
	2 - A509 West	1789	0	274
	3 - Renny Park Road	73	365	0

Vehicle Mix

Heavy Vehicle Percentages

1 - Tickford Roundabout

		To			
		1 - A509 East	2 - A509 South	3 - A422 West	4 - B526 North
From	1 - A509 East	0	6	2	0
	2 - A509 South	3	0	8	1
	3 - A422 West	1	6	0	1
	4 - B526 North	3	0	0	0

Heavy Vehicle Percentages

2 - Renny Lodge Roundabout

		To		
		1 - A509 East	2 - A509 West	3 - Renny Park Road
From	1 - A509 East	0	3	0
	2 - A509 West	1	0	6
	3 - Renny Park Road	2	3	0

Results

Results Summary for whole modelled period

Junction	Arm	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - Tickford Roundabout	1 - A509 East	0.53	2.96	1.1	A	1394	1394
	2 - A509 South	0.91	27.16	9.4	D	1306	1306
	3 - A422 West	1.26	815.85	455.0	F	2219	2219
	4 - B526 North	0.76	21.12	3.0	C	524	524
2 - Renny Lodge Roundabout	1 - A509 East	0.54	3.87	1.2	A	1076	1076
	2 - A509 West	0.68	4.31	2.1	A	1783	1783
	3 - Renny Park Road	0.44	6.37	0.8	A	438	438

Main Results for each time segment

17:00 - 17:15

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tickford Roundabout	1 - A509 East	1389	347	731	2618	0.530	1384	1771	0.0	1.1	2.906	A
	2 - A509 South	1306	326	1220	1442	0.905	1275	896	0.0	7.6	19.011	C
	3 - A422 West	2219	555	1056	1780	1.246	1765	1439	0.0	113.5	120.653	F
	4 - B526 North	524	131	1989	702	0.746	513	832	0.0	2.7	18.143	C
2 - Renny Lodge Roundabout	1 - A509 East	1076	269	362	2009	0.536	1071	1603	0.0	1.1	3.823	A
	2 - A509 West	1772	443	43	2622	0.676	1764	1391	0.0	2.1	4.157	A
	3 - Renny Park Road	438	110	1531	1014	0.432	435	276	0.0	0.8	6.183	A

17:15 - 17:30

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tickford Roundabout	1 - A509 East	1396	349	741	2611	0.535	1395	1784	1.1	1.1	2.961	A
	2 - A509 South	1306	326	1232	1434	0.911	1302	904	7.6	8.7	25.641	D
	3 - A422 West	2219	555	1077	1765	1.257	1765	1457	113.5	227.1	352.061	F
	4 - B526 North	524	131	2002	694	0.755	523	840	2.7	2.9	20.875	C
2 - Renny Lodge Roundabout	1 - A509 East	1076	269	365	2007	0.536	1076	1623	1.1	1.1	3.865	A
	2 - A509 West	1786	447	43	2622	0.681	1786	1398	2.1	2.1	4.303	A
	3 - Renny Park Road	438	110	1550	1004	0.436	438	279	0.8	0.8	6.363	A

17:30 - 17:45

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
	1 - A509 East	1396	349	741	2610	0.535	1396	1785	1.1	1.1	2.962	A

1 - Tickford Roundabout	2 - A509 South	1306	326	1233	1434	0.911	1304	904	8.7	9.2	26.718	D
	3 - A422 West	2219	555	1079	1764	1.258	1763	1458	227.1	341.0	583.523	F
	4 - B526 North	524	131	2002	694	0.755	524	841	2.9	3.0	21.061	C
2 - Renny Lodge Roundabout	1 - A509 East	1076	269	365	2007	0.536	1076	1623	1.1	1.2	3.865	A
	2 - A509 West	1787	447	43	2622	0.681	1787	1398	2.1	2.1	4.307	A
	3 - Renny Park Road	438	110	1550	1003	0.437	438	279	0.8	0.8	6.367	A

17:45 - 18:00

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tickford Roundabout	1 - A509 East	1396	349	741	2610	0.535	1396	1785	1.1	1.1	2.962	A
	2 - A509 South	1306	326	1233	1433	0.911	1305	904	9.2	9.4	27.161	D
	3 - A422 West	2219	555	1080	1763	1.259	1763	1458	341.0	455.0	815.854	F
	4 - B526 North	524	131	2002	694	0.755	524	841	3.0	3.0	21.117	C
2 - Renny Lodge Roundabout	1 - A509 East	1076	269	365	2007	0.536	1076	1623	1.2	1.2	3.865	A
	2 - A509 West	1787	447	43	2622	0.681	1787	1398	2.1	2.1	4.308	A
	3 - Renny Park Road	438	110	1550	1003	0.437	438	279	0.8	0.8	6.368	A

2033 Base + Committed, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	1 - Tickford Roundabout - 2 - A509 South - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Linked Roundabout	1 - Tickford Roundabout - 1 - A509 East	If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled.
Warning	Linked Roundabout	2 - Renny Lodge Roundabout - 2 - A509 West	If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	Tickford Roundabout	Standard Roundabout	1, 2, 3, 4	10.55	B
2	Renny Lodge Roundabout	Standard Roundabout	1, 2, 3	9.34	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 period length (min)	Time segment length (min)	Run automatically
D9	2033 Base + Committed	AM	FLAT	08:00	09:00	60	15	✓

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

Linked Arm Data

Junction	Arm	Feeding Junction	Feeding Arm	Link Type	Flow source	Uniform flow (Veh/hr)	Flow multiplier (%)	Internal storage space (PCU)
1 - Tickford Roundabout	1 - A509 East	2	2	Simple (vertical queueing)	Normal	0	100.00	
2 - Renny Lodge Roundabout	2 - A509 West	1	1	Simple (vertical queueing)	Normal	0	100.00	

Demand overview (Traffic)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Tickford Roundabout	1 - A509 East	✓				
	2 - A509 South		FLAT	✓	755	100.000
	3 - A422 West		FLAT	✓	1172	100.000
	4 - B526 North		FLAT	✓	835	100.000
2 - Renny Lodge Roundabout	1 - A509 East		FLAT	✓	1794	100.000
	2 - A509 West	✓				
	3 - Renny Park Road		FLAT	✓	274	100.000

Origin-Destination Data

Demand (Veh/hr)

1 - Tickford Roundabout

		To			
		1 - A509 East	2 - A509 South	3 - A422 West	4 - B526 North
From	1 - A509 East	0	621	1349	24
	2 - A509 South	321	0	175	259
	3 - A422 West	733	138	0	301
	4 - B526 North	26	263	545	1

Demand (Veh/hr)

2 - Renny Lodge Roundabout

		To		
		1 - A509 East	2 - A509 West	3 - Renny Park Road
From	1 - A509 East	1	1726	67
	2 - A509 West	809	0	271
	3 - Renny Park Road	58	216	0

Vehicle Mix

Heavy Vehicle Percentages

1 - Tickford Roundabout

		To			
		1 - A509 East	2 - A509 South	3 - A422 West	4 - B526 North
From	1 - A509 East	0	11	3	10
	2 - A509 South	10	0	25	4
	3 - A422 West	5	14	0	1
	4 - B526 North	14	3	1	0

Heavy Vehicle Percentages

2 - Renny Lodge Roundabout

		To		
		1 - A509 East	2 - A509 West	3 - Renny Park Road
From	1 - A509 East	0	5	2
	2 - A509 West	6	0	5
	3 - Renny Park Road	3	17	0

Results

Results Summary for whole modelled period

Junction	Arm	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - Tickford Roundabout	1 - A509 East	0.82	8.64	4.6	A	1949	1949
	2 - A509 South	0.83	23.48	4.8	C	755	755
	3 - A422 West	0.58	4.25	1.4	A	1172	1172
	4 - B526 North	0.73	11.54	2.6	B	835	835
2 - Renny Lodge Roundabout	1 - A509 East	0.88	14.43	7.0	B	1794	1794
	2 - A509 West	0.44	2.54	0.8	A	1087	1087
	3 - Renny Park Road	0.22	3.66	0.3	A	274	274

Main Results for each time segment

08:00 - 08:15

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tickford Roundabout	1 - A509 East	1930	483	937	2380	0.811	1914	1070	0.0	4.1	7.478	A
	2 - A509 South	755	189	1857	929	0.813	739	993	0.0	3.9	17.781	C
	3 - A422 West	1172	293	592	2029	0.578	1167	2005	0.0	1.4	4.150	A
	4 - B526 North	835	209	1181	1154	0.724	825	577	0.0	2.5	10.655	B
2 - Renny Lodge Roundabout	1 - A509 East	1794	449	215	2042	0.878	1768	865	0.0	6.5	12.186	B
	2 - A509 West	1079	270	67	2504	0.431	1076	1916	0.0	0.8	2.515	A
	3 - Renny Park Road	274	69	807	1263	0.217	273	336	0.0	0.3	3.633	A

08:15 - 08:30

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tickford Roundabout	1 - A509 East	1955	489	947	2372	0.824	1953	1079	4.1	4.5	8.540	A
	2 - A509 South	755	189	1891	908	0.832	753	1009	3.9	4.5	22.623	C
	3 - A422 West	1172	293	603	2021	0.580	1172	2040	1.4	1.4	4.240	A
	4 - B526 North	835	209	1191	1147	0.728	835	584	2.5	2.6	11.485	B
2 - Renny Lodge Roundabout	1 - A509 East	1794	449	216	2042	0.879	1793	874	6.5	6.8	14.255	B
	2 - A509 West	1089	272	68	2504	0.435	1089	1941	0.8	0.8	2.543	A
	3 - Renny Park Road	274	69	816	1258	0.218	274	340	0.3	0.3	3.657	A

08:30 - 08:45

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
	1 - A509 East	1955	489	947	2372	0.824	1955	1080	4.5	4.6	8.620	A

1 - Tickford Roundabout	2 - A509 South	755	189	1892	907	0.833	754	1010	4.5	4.7	23.289	C
	3 - A422 West	1172	293	604	2020	0.580	1172	2042	1.4	1.4	4.245	A
	4 - B526 North	835	209	1192	1147	0.728	835	584	2.6	2.6	11.526	B
2 - Renny Lodge Roundabout	1 - A509 East	1794	449	216	2042	0.879	1793	875	6.8	6.9	14.383	B
	2 - A509 West	1089	272	68	2504	0.435	1089	1941	0.8	0.8	2.545	A
	3 - Renny Park Road	274	69	817	1258	0.218	274	340	0.3	0.3	3.658	A

08:45 - 09:00

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tickford Roundabout	1 - A509 East	1956	489	947	2372	0.825	1956	1080	4.6	4.6	8.636	A
	2 - A509 South	755	189	1892	906	0.833	755	1010	4.7	4.8	23.481	C
	3 - A422 West	1172	293	604	2020	0.580	1172	2043	1.4	1.4	4.246	A
	4 - B526 North	835	209	1192	1147	0.728	835	584	2.6	2.6	11.539	B
2 - Renny Lodge Roundabout	1 - A509 East	1794	449	216	2042	0.879	1794	875	6.9	7.0	14.434	B
	2 - A509 West	1090	272	68	2504	0.435	1090	1942	0.8	0.8	2.545	A
	3 - Renny Park Road	274	69	817	1258	0.218	274	340	0.3	0.3	3.658	A

2033 Base + Committed, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	1 - Tickford Roundabout - 2 - A509 South - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Linked Roundabout	1 - Tickford Roundabout - 1 - A509 East	If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled.
Warning	Linked Roundabout	2 - Renny Lodge Roundabout - 2 - A509 West	If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	Tickford Roundabout	Standard Roundabout	1, 2, 3, 4	382.17	F
2	Renny Lodge Roundabout	Standard Roundabout	1, 2, 3	4.50	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 period length (min)	Time segment length (min)	Run automatically
D10	2033 Base + Committed	PM	FLAT	17:00	18:00	60	15	✓

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

Linked Arm Data

Junction	Arm	Feeding Junction	Feeding Arm	Link Type	Flow source	Uniform flow (Veh/hr)	Flow multiplier (%)	Internal storage space (PCU)
1 - Tickford Roundabout	1 - A509 East	2	2	Simple (vertical queueing)	Normal	0	100.00	
2 - Renny Lodge Roundabout	2 - A509 West	1	1	Simple (vertical queueing)	Normal	0	100.00	

Demand overview (Traffic)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Tickford Roundabout	1 - A509 East	✓				
	2 - A509 South		FLAT	✓	1328	100.000
	3 - A422 West		FLAT	✓	2260	100.000
	4 - B526 North		FLAT	✓	535	100.000
2 - Renny Lodge Roundabout	1 - A509 East		FLAT	✓	1097	100.000
	2 - A509 West	✓				
	3 - Renny Park Road		FLAT	✓	445	100.000

Origin-Destination Data

Demand (Veh/hr)

1 - Tickford Roundabout

		To			
		1 - A509 East	2 - A509 South	3 - A422 West	4 - B526 North
From	1 - A509 East	0	444	940	46
	2 - A509 South	652	0	275	401
	3 - A422 West	1420	325	1	514
	4 - B526 North	38	222	275	0

Demand (Veh/hr)

2 - Renny Lodge Roundabout

		To		
		1 - A509 East	2 - A509 West	3 - Renny Park Road
From	1 - A509 East	1	1053	43
	2 - A509 West	1824	0	277
	3 - Renny Park Road	74	371	0

Vehicle Mix

Heavy Vehicle Percentages

1 - Tickford Roundabout

		To			
		1 - A509 East	2 - A509 South	3 - A422 West	4 - B526 North
From	1 - A509 East	0	6	2	0
	2 - A509 South	3	0	8	1
	3 - A422 West	1	6	0	1
	4 - B526 North	3	0	0	0

Heavy Vehicle Percentages

2 - Renny Lodge Roundabout

		To		
		1 - A509 East	2 - A509 West	3 - Renny Park Road
From	1 - A509 East	0	3	0
	2 - A509 West	1	0	6
	3 - Renny Park Road	2	3	0

Results

Results Summary for whole modelled period

Junction	Arm	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - Tickford Roundabout	1 - A509 East	0.55	3.04	1.2	A	1420	1420
	2 - A509 South	0.94	36.36	12.7	E	1328	1328
	3 - A422 West	1.29	914.21	506.8	F	2260	2260
	4 - B526 North	0.77	22.66	3.3	C	535	535
2 - Renny Lodge Roundabout	1 - A509 East	0.55	3.97	1.2	A	1097	1097
	2 - A509 West	0.68	4.33	2.1	A	1787	1787
	3 - Renny Park Road	0.44	6.48	0.8	A	445	445

Main Results for each time segment

17:00 - 17:15

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tickford Roundabout	1 - A509 East	1414	354	740	2612	0.542	1410	1775	0.0	1.2	2.984	A
	2 - A509 South	1328	332	1242	1428	0.930	1290	908	0.0	9.4	22.222	C
	3 - A422 West	2260	565	1069	1771	1.276	1757	1464	0.0	125.7	133.322	F
	4 - B526 North	535	134	1991	701	0.763	523	835	0.0	2.9	19.187	C
2 - Renny Lodge Roundabout	1 - A509 East	1097	274	368	2005	0.547	1092	1610	0.0	1.2	3.923	A
	2 - A509 West	1777	444	44	2622	0.678	1768	1417	0.0	2.1	4.178	A
	3 - Renny Park Road	445	111	1536	1011	0.440	442	276	0.0	0.8	6.289	A

17:15 - 17:30

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tickford Roundabout	1 - A509 East	1421	355	749	2604	0.546	1421	1788	1.2	1.2	3.043	A
	2 - A509 South	1328	332	1255	1418	0.936	1320	915	9.4	11.3	32.692	D
	3 - A422 West	2260	565	1093	1754	1.289	1754	1483	125.7	252.3	392.363	F
	4 - B526 North	535	134	2003	693	0.772	534	843	2.9	3.2	22.347	C
2 - Renny Lodge Roundabout	1 - A509 East	1097	274	371	2003	0.548	1097	1629	1.2	1.2	3.971	A
	2 - A509 West	1790	447	44	2622	0.683	1790	1424	2.1	2.1	4.326	A
	3 - Renny Park Road	445	111	1555	1001	0.445	445	279	0.8	0.8	6.477	A

17:30 - 17:45

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
	1 - A509 East	1422	355	749	2604	0.546	1422	1789	1.2	1.2	3.044	A

1 - Tickford Roundabout	2 - A509 South	1328	332	1256	1418	0.936	1324	915	11.3	12.2	35.162	E
	3 - A422 West	2260	565	1096	1751	1.290	1751	1484	252.3	379.4	652.742	F
	4 - B526 North	535	134	2003	693	0.772	535	844	3.2	3.3	22.588	C
2 - Renny Lodge Roundabout	1 - A509 East	1097	274	371	2003	0.548	1097	1629	1.2	1.2	3.971	A
	2 - A509 West	1791	448	44	2622	0.683	1791	1424	2.1	2.1	4.331	A
	3 - Renny Park Road	445	111	1556	1000	0.445	445	279	0.8	0.8	6.482	A

17:45 - 18:00

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tickford Roundabout	1 - A509 East	1422	355	749	2604	0.546	1422	1789	1.2	1.2	3.044	A
	2 - A509 South	1328	332	1256	1418	0.937	1326	915	12.2	12.7	36.358	E
	3 - A422 West	2260	565	1097	1751	1.291	1751	1485	379.4	506.8	914.215	F
	4 - B526 North	535	134	2003	693	0.772	535	844	3.3	3.3	22.664	C
2 - Renny Lodge Roundabout	1 - A509 East	1097	274	371	2003	0.548	1097	1630	1.2	1.2	3.971	A
	2 - A509 West	1791	448	44	2622	0.683	1791	1424	2.1	2.1	4.332	A
	3 - Renny Park Road	445	111	1556	1000	0.445	445	279	0.8	0.8	6.483	A

2031 Base + Committed + Proposed Dev, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	1 - Tickford Roundabout - 2 - A509 South - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Linked Roundabout	1 - Tickford Roundabout - 1 - A509 East	If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled.
Warning	Linked Roundabout	2 - Renny Lodge Roundabout - 2 - A509 West	If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	Tickford Roundabout	Standard Roundabout	1, 2, 3, 4	10.52	B
2	Renny Lodge Roundabout	Standard Roundabout	1, 2, 3	9.56	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 period length (min)	Time segment length (min)	Run automatically
D11	2031 Base + Committed + Proposed Dev	AM	FLAT	08:00	09:00	60	15	✓

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

Linked Arm Data

Junction	Arm	Feeding Junction	Feeding Arm	Link Type	Flow source	Uniform flow (Veh/hr)	Flow multiplier (%)	Internal storage space (PCU)
1 - Tickford Roundabout	1 - A509 East	2	2	Simple (vertical queueing)	Normal	0	100.00	
2 - Renny Lodge Roundabout	2 - A509 West	1	1	Simple (vertical queueing)	Normal	0	100.00	

Demand overview (Traffic)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Tickford Roundabout	1 - A509 East	✓				
	2 - A509 South		FLAT	✓	751	100.000
	3 - A422 West		FLAT	✓	1193	100.000
	4 - B526 North		FLAT	✓	822	100.000
2 - Renny Lodge Roundabout	1 - A509 East		FLAT	✓	1800	100.000
	2 - A509 West	✓				
	3 - Renny Park Road		FLAT	✓	273	100.000

Origin-Destination Data

Demand (Veh/hr)

1 - Tickford Roundabout

		To			
		1 - A509 East	2 - A509 South	3 - A422 West	4 - B526 North
From	1 - A509 East	0	611	1331	23
	2 - A509 South	316	0	181	254
	3 - A422 West	734	163	0	296
	4 - B526 North	25	260	536	1

Demand (Veh/hr)

2 - Renny Lodge Roundabout

		To		
		1 - A509 East	2 - A509 West	3 - Renny Park Road
From	1 - A509 East	1	1733	66
	2 - A509 West	805	0	270
	3 - Renny Park Road	57	216	0

Vehicle Mix

Heavy Vehicle Percentages

1 - Tickford Roundabout

		To			
		1 - A509 East	2 - A509 South	3 - A422 West	4 - B526 North
From	1 - A509 East	0	11	3	10
	2 - A509 South	10	0	24	4
	3 - A422 West	5	12	0	1
	4 - B526 North	14	3	1	0

Heavy Vehicle Percentages

2 - Renny Lodge Roundabout

		To		
		1 - A509 East	2 - A509 West	3 - Renny Park Road
From	1 - A509 East	0	5	2
	2 - A509 West	6	0	5
	3 - Renny Park Road	3	17	0

Results

Results Summary for whole modelled period

Junction	Arm	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - Tickford Roundabout	1 - A509 East	0.83	9.01	4.8	A	1956	1956
	2 - A509 South	0.83	22.54	4.6	C	751	751
	3 - A422 West	0.59	4.31	1.4	A	1193	1193
	4 - B526 North	0.72	11.52	2.6	B	822	822
2 - Renny Lodge Roundabout	1 - A509 East	0.88	14.78	7.2	B	1800	1800
	2 - A509 West	0.43	2.53	0.8	A	1082	1082
	3 - Renny Park Road	0.22	3.65	0.3	A	273	273

Main Results for each time segment

08:00 - 08:15

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tickford Roundabout	1 - A509 East	1937	484	950	2370	0.817	1920	1065	0.0	4.3	7.730	A
	2 - A509 South	751	188	1853	932	0.806	736	1016	0.0	3.8	17.264	C
	3 - A422 West	1193	298	582	2037	0.586	1187	2007	0.0	1.4	4.208	A
	4 - B526 North	822	205	1202	1141	0.720	812	567	0.0	2.5	10.688	B
2 - Renny Lodge Roundabout	1 - A509 East	1800	450	215	2042	0.881	1774	860	0.0	6.6	12.397	B
	2 - A509 West	1074	269	66	2505	0.429	1071	1923	0.0	0.7	2.505	A
	3 - Renny Park Road	273	68	803	1265	0.216	272	334	0.0	0.3	3.623	A

08:15 - 08:30

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tickford Roundabout	1 - A509 East	1962	490	960	2362	0.831	1960	1074	4.3	4.7	8.898	A
	2 - A509 South	751	188	1887	910	0.825	749	1032	3.8	4.3	21.774	C
	3 - A422 West	1193	298	592	2030	0.588	1193	2044	1.4	1.4	4.301	A
	4 - B526 North	822	205	1212	1135	0.724	822	573	2.5	2.6	11.472	B
2 - Renny Lodge Roundabout	1 - A509 East	1800	450	216	2042	0.882	1798	869	6.6	7.0	14.585	B
	2 - A509 West	1083	271	67	2504	0.433	1083	1948	0.7	0.8	2.533	A
	3 - Renny Park Road	273	68	812	1260	0.217	273	338	0.3	0.3	3.646	A

08:30 - 08:45

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
	1 - A509 East	1962	491	960	2361	0.831	1962	1075	4.7	4.8	8.990	A

1 - Tickford Roundabout	2 - A509 South	751	188	1889	909	0.826	750	1033	4.3	4.5	22.376	C
	3 - A422 West	1193	298	593	2029	0.588	1193	2046	1.4	1.4	4.306	A
	4 - B526 North	822	205	1213	1134	0.725	822	574	2.6	2.6	11.511	B
2 - Renny Lodge Roundabout	1 - A509 East	1800	450	216	2042	0.882	1799	870	7.0	7.1	14.728	B
	2 - A509 West	1084	271	67	2504	0.433	1084	1948	0.8	0.8	2.534	A
	3 - Renny Park Road	273	68	813	1260	0.217	273	338	0.3	0.3	3.648	A

08:45 - 09:00

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tickford Roundabout	1 - A509 East	1963	491	960	2361	0.831	1963	1075	4.8	4.8	9.011	A
	2 - A509 South	751	188	1889	909	0.826	751	1033	4.5	4.6	22.544	C
	3 - A422 West	1193	298	594	2029	0.588	1193	2046	1.4	1.4	4.307	A
	4 - B526 North	822	205	1213	1134	0.725	822	574	2.6	2.6	11.522	B
2 - Renny Lodge Roundabout	1 - A509 East	1800	450	216	2042	0.882	1800	870	7.1	7.2	14.783	B
	2 - A509 West	1084	271	67	2504	0.433	1084	1949	0.8	0.8	2.534	A
	3 - Renny Park Road	273	68	813	1259	0.217	273	338	0.3	0.3	3.648	A

2031 Base + Committed + Proposed Dev, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	1 - Tickford Roundabout - 2 - A509 South - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Linked Roundabout	1 - Tickford Roundabout - 1 - A509 East	If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled.
Warning	Linked Roundabout	2 - Renny Lodge Roundabout - 2 - A509 West	If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	Tickford Roundabout	Standard Roundabout	1, 2, 3, 4	353.82	F
2	Renny Lodge Roundabout	Standard Roundabout	1, 2, 3	4.45	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 period length (min)	Time segment length (min)	Run automatically
D12	2031 Base + Committed + Proposed Dev	PM	FLAT	17:00	18:00	60	15	✓

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

Linked Arm Data

Junction	Arm	Feeding Junction	Feeding Arm	Link Type	Flow source	Uniform flow (Veh/hr)	Flow multiplier (%)	Internal storage space (PCU)
1 - Tickford Roundabout	1 - A509 East	2	2	Simple (vertical queueing)	Normal	0	100.00	
2 - Renny Lodge Roundabout	2 - A509 West	1	1	Simple (vertical queueing)	Normal	0	100.00	

Demand overview (Traffic)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Tickford Roundabout	1 - A509 East	✓				
	2 - A509 South		FLAT	✓	1330	100.000
	3 - A422 West		FLAT	✓	2241	100.000
	4 - B526 North		FLAT	✓	524	100.000
2 - Renny Lodge Roundabout	1 - A509 East		FLAT	✓	1085	100.000
	2 - A509 West	✓				
	3 - Renny Park Road		FLAT	✓	441	100.000

Origin-Destination Data

Demand (Veh/hr)

1 - Tickford Roundabout

		To			
		1 - A509 East	2 - A509 South	3 - A422 West	4 - B526 North
From	1 - A509 East	0	436	935	45
	2 - A509 South	641	0	294	395
	3 - A422 West	1402	333	1	505
	4 - B526 North	37	217	270	0

Demand (Veh/hr)

2 - Renny Lodge Roundabout

		To		
		1 - A509 East	2 - A509 West	3 - Renny Park Road
From	1 - A509 East	1	1042	42
	2 - A509 West	1794	0	276
	3 - Renny Park Road	73	368	0

Vehicle Mix

Heavy Vehicle Percentages

1 - Tickford Roundabout

		To			
		1 - A509 East	2 - A509 South	3 - A422 West	4 - B526 North
From	1 - A509 East	0	6	2	0
	2 - A509 South	3	0	8	1
	3 - A422 West	1	5	0	1
	4 - B526 North	3	0	0	0

Heavy Vehicle Percentages

2 - Renny Lodge Roundabout

		To		
		1 - A509 East	2 - A509 West	3 - Renny Park Road
From	1 - A509 East	0	3	0
	2 - A509 West	1	0	6
	3 - Renny Park Road	2	3	0

Results

Results Summary for whole modelled period

Junction	Arm	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - Tickford Roundabout	1 - A509 East	0.54	3.01	1.2	A	1406	1406
	2 - A509 South	0.93	35.07	12.3	E	1330	1330
	3 - A422 West	1.27	846.73	473.2	F	2241	2241
	4 - B526 North	0.76	21.38	3.0	C	524	524
2 - Renny Lodge Roundabout	1 - A509 East	0.54	3.91	1.2	A	1085	1085
	2 - A509 West	0.68	4.29	2.1	A	1779	1779
	3 - Renny Park Road	0.44	6.38	0.8	A	441	441

Main Results for each time segment

17:00 - 17:15

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tickford Roundabout	1 - A509 East	1401	350	741	2613	0.536	1396	1767	0.0	1.1	2.948	A
	2 - A509 South	1330	333	1231	1433	0.928	1293	905	0.0	9.2	21.836	C
	3 - A422 West	2241	560	1052	1786	1.255	1771	1473	0.0	117.6	124.275	F
	4 - B526 North	524	131	1995	700	0.749	513	827	0.0	2.7	18.330	C
2 - Renny Lodge Roundabout	1 - A509 East	1085	271	365	2007	0.541	1080	1599	0.0	1.2	3.866	A
	2 - A509 West	1769	442	43	2622	0.674	1760	1403	0.0	2.0	4.139	A
	3 - Renny Park Road	441	110	1527	1017	0.434	438	277	0.0	0.8	6.190	A

17:15 - 17:30

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tickford Roundabout	1 - A509 East	1408	352	750	2605	0.540	1408	1781	1.1	1.2	3.005	A
	2 - A509 South	1330	333	1244	1425	0.934	1323	913	9.2	11.0	31.772	D
	3 - A422 West	2241	560	1075	1769	1.267	1768	1492	117.6	235.7	364.137	F
	4 - B526 North	524	131	2007	692	0.757	523	836	2.7	3.0	21.124	C
2 - Renny Lodge Roundabout	1 - A509 East	1085	271	368	2005	0.541	1085	1619	1.2	1.2	3.911	A
	2 - A509 West	1782	446	43	2622	0.680	1782	1410	2.0	2.1	4.284	A
	3 - Renny Park Road	441	110	1546	1006	0.438	441	280	0.8	0.8	6.372	A

17:30 - 17:45

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
	1 - A509 East	1408	352	750	2605	0.540	1408	1782	1.2	1.2	3.005	A

1 - Tickford Roundabout	2 - A509 South	1330	333	1245	1424	0.934	1327	913	11.0	11.8	34.009	D
	3 - A422 West	2241	560	1078	1766	1.269	1766	1493	235.7	354.4	604.896	F
	4 - B526 North	524	131	2008	692	0.758	524	837	3.0	3.0	21.322	C
2 - Renny Lodge Roundabout	1 - A509 East	1085	271	368	2005	0.541	1085	1619	1.2	1.2	3.911	A
	2 - A509 West	1783	446	43	2622	0.680	1783	1410	2.1	2.1	4.290	A
	3 - Renny Park Road	441	110	1546	1005	0.439	441	280	0.8	0.8	6.376	A

17:45 - 18:00

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tickford Roundabout	1 - A509 East	1408	352	750	2605	0.540	1408	1782	1.2	1.2	3.006	A
	2 - A509 South	1330	333	1245	1424	0.934	1328	913	11.8	12.3	35.072	E
	3 - A422 West	2241	560	1079	1766	1.269	1766	1494	354.4	473.2	846.729	F
	4 - B526 North	524	131	2008	692	0.758	524	837	3.0	3.0	21.381	C
2 - Renny Lodge Roundabout	1 - A509 East	1085	271	368	2005	0.541	1085	1620	1.2	1.2	3.911	A
	2 - A509 West	1783	446	43	2622	0.680	1783	1410	2.1	2.1	4.291	A
	3 - Renny Park Road	441	110	1547	1005	0.439	441	280	0.8	0.8	6.378	A

2033 Base + Committed + Proposed Dev, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	1 - Tickford Roundabout - 2 - A509 South - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Linked Roundabout	1 - Tickford Roundabout - 1 - A509 East	If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled.
Warning	Linked Roundabout	2 - Renny Lodge Roundabout - 2 - A509 West	If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	Tickford Roundabout	Standard Roundabout	1, 2, 3, 4	12.39	B
2	Renny Lodge Roundabout	Standard Roundabout	1, 2, 3	10.95	B

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D13	2033 Base + Committed + Proposed Dev	AM	FLAT	08:00	09:00	60	15	✓

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

Linked Arm Data

Junction	Arm	Feeding Junction	Feeding Arm	Link Type	Flow source	Uniform flow (Veh/hr)	Flow multiplier (%)	Internal storage space (PCU)
1 - Tickford Roundabout	1 - A509 East	2	2	Simple (vertical queueing)	Normal	0	100.00	
2 - Renny Lodge Roundabout	2 - A509 West	1	1	Simple (vertical queueing)	Normal	0	100.00	

Demand overview (Traffic)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Tickford Roundabout	1 - A509 East	✓				
	2 - A509 South		FLAT	✓	766	100.000
	3 - A422 West		FLAT	✓	1223	100.000
	4 - B526 North		FLAT	✓	835	100.000
2 - Renny Lodge Roundabout	1 - A509 East		FLAT	✓	1834	100.000
	2 - A509 West	✓				
	3 - Renny Park Road		FLAT	✓	276	100.000

Origin-Destination Data

Demand (Veh/hr)

1 - Tickford Roundabout

		To			
		1 - A509 East	2 - A509 South	3 - A422 West	4 - B526 North
From	1 - A509 East	0	621	1355	24
	2 - A509 South	321	0	186	259
	3 - A422 West	750	172	0	301
	4 - B526 North	26	263	545	1

Demand (Veh/hr)

2 - Renny Lodge Roundabout

		To		
		1 - A509 East	2 - A509 West	3 - Renny Park Road
From	1 - A509 East	1	1766	67
	2 - A509 West	822	0	276
	3 - Renny Park Road	58	218	0

Vehicle Mix

Heavy Vehicle Percentages

1 - Tickford Roundabout

		To			
		1 - A509 East	2 - A509 South	3 - A422 West	4 - B526 North
From	1 - A509 East	0	11	3	10
	2 - A509 South	10	0	24	4
	3 - A422 West	5	11	0	1
	4 - B526 North	14	3	1	0

Heavy Vehicle Percentages

2 - Renny Lodge Roundabout

		To		
		1 - A509 East	2 - A509 West	3 - Renny Park Road
From	1 - A509 East	0	5	2
	2 - A509 West	6	0	5
	3 - Renny Park Road	3	17	0

Results

Results Summary for whole modelled period

Junction	Arm	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - Tickford Roundabout	1 - A509 East	0.85	10.33	5.6	B	1990	1990
	2 - A509 South	0.86	28.93	5.9	D	766	766
	3 - A422 West	0.60	4.50	1.5	A	1223	1223
	4 - B526 North	0.75	12.81	2.9	B	835	835
2 - Renny Lodge Roundabout	1 - A509 East	0.90	17.22	8.5	C	1834	1834
	2 - A509 West	0.44	2.58	0.8	A	1103	1103
	3 - Renny Park Road	0.22	3.69	0.3	A	276	276

Main Results for each time segment

08:00 - 08:15

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tickford Roundabout	1 - A509 East	1968	492	969	2354	0.836	1949	1085	0.0	4.8	8.514	A
	2 - A509 South	766	191	1882	913	0.839	748	1036	0.0	4.5	20.026	C
	3 - A422 West	1223	306	591	2033	0.602	1217	2040	0.0	1.5	4.381	A
	4 - B526 North	835	209	1231	1123	0.743	824	577	0.0	2.8	11.636	B
2 - Renny Lodge Roundabout	1 - A509 East	1834	458	217	2041	0.899	1804	876	0.0	7.6	13.782	B
	2 - A509 West	1095	274	67	2504	0.437	1092	1954	0.0	0.8	2.543	A
	3 - Renny Park Road	276	69	818	1257	0.220	275	340	0.0	0.3	3.663	A

08:15 - 08:30

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tickford Roundabout	1 - A509 East	1996	499	981	2345	0.851	1993	1095	4.8	5.4	10.125	B
	2 - A509 South	766	191	1920	889	0.861	762	1054	4.5	5.4	27.135	D
	3 - A422 West	1223	306	602	2025	0.604	1223	2080	1.5	1.5	4.490	A
	4 - B526 North	835	209	1241	1116	0.748	835	584	2.8	2.9	12.723	B
2 - Renny Lodge Roundabout	1 - A509 East	1834	458	218	2040	0.899	1832	886	7.6	8.2	16.850	C
	2 - A509 West	1105	276	68	2504	0.441	1105	1982	0.8	0.8	2.573	A
	3 - Renny Park Road	276	69	828	1252	0.221	276	345	0.3	0.3	3.689	A

08:30 - 08:45

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
	1 - A509 East	1997	499	981	2345	0.852	1997	1096	5.4	5.6	10.288	B

1 - Tickford Roundabout	2 - A509 South	766	191	1923	888	0.863	765	1055	5.4	5.8	28.490	D
	3 - A422 West	1223	306	604	2023	0.605	1223	2083	1.5	1.5	4.498	A
	4 - B526 North	835	209	1242	1116	0.748	835	585	2.9	2.9	12.790	B
2 - Renny Lodge Roundabout	1 - A509 East	1834	458	218	2040	0.899	1833	887	8.2	8.4	17.113	C
	2 - A509 West	1106	277	68	2504	0.442	1106	1983	0.8	0.8	2.575	A
	3 - Renny Park Road	276	69	829	1251	0.221	276	345	0.3	0.3	3.690	A

08:45 - 09:00

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tickford Roundabout	1 - A509 East	1998	499	981	2345	0.852	1997	1097	5.6	5.6	10.328	B
	2 - A509 South	766	191	1923	887	0.863	765	1055	5.8	5.9	28.934	D
	3 - A422 West	1223	306	605	2023	0.605	1223	2084	1.5	1.5	4.500	A
	4 - B526 North	835	209	1243	1116	0.749	835	585	2.9	2.9	12.811	B
2 - Renny Lodge Roundabout	1 - A509 East	1834	458	218	2040	0.899	1834	887	8.4	8.5	17.218	C
	2 - A509 West	1106	277	68	2504	0.442	1106	1984	0.8	0.8	2.575	A
	3 - Renny Park Road	276	69	829	1251	0.221	276	345	0.3	0.3	3.691	A

2033 Base + Committed + Proposed Dev, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	1 - Tickford Roundabout - 2 - A509 South - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Linked Roundabout	1 - Tickford Roundabout - 1 - A509 East	If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled.
Warning	Linked Roundabout	2 - Renny Lodge Roundabout - 2 - A509 West	If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	Tickford Roundabout	Standard Roundabout	1, 2, 3, 4	399.46	F
2	Renny Lodge Roundabout	Standard Roundabout	1, 2, 3	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 period length (min)	Time segment length (min)	Run automatically
D14	2033 Base + Committed + Proposed Dev	PM	FLAT	17:00	18:00	60	15	✓

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

Linked Arm Data

Junction	Arm	Feeding Junction	Feeding Arm	Link Type	Flow source	Uniform flow (Veh/hr)	Flow multiplier (%)	Internal storage space (PCU)
1 - Tickford Roundabout	1 - A509 East	2	2	Simple (vertical queueing)	Normal	0	100.00	
2 - Renny Lodge Roundabout	2 - A509 West	1	1	Simple (vertical queueing)	Normal	0	100.00	

Demand overview (Traffic)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Tickford Roundabout	1 - A509 East	✓				
	2 - A509 South		FLAT	✓	1357	100.000
	3 - A422 West		FLAT	✓	2286	100.000
	4 - B526 North		FLAT	✓	535	100.000
2 - Renny Lodge Roundabout	1 - A509 East		FLAT	✓	1108	100.000
	2 - A509 West	✓				
	3 - Renny Park Road		FLAT	✓	449	100.000

Origin-Destination Data

Demand (Veh/hr)

1 - Tickford Roundabout

		To			
		1 - A509 East	2 - A509 South	3 - A422 West	4 - B526 North
From	1 - A509 East	0	444	955	46
	2 - A509 South	652	0	304	401
	3 - A422 West	1429	342	1	514
	4 - B526 North	38	222	275	0

Demand (Veh/hr)

2 - Renny Lodge Roundabout

		To		
		1 - A509 East	2 - A509 West	3 - Renny Park Road
From	1 - A509 East	1	1064	43
	2 - A509 West	1830	0	280
	3 - Renny Park Road	74	375	0

Vehicle Mix

Heavy Vehicle Percentages

1 - Tickford Roundabout

		To			
		1 - A509 East	2 - A509 South	3 - A422 West	4 - B526 North
From	1 - A509 East	0	6	2	0
	2 - A509 South	3	0	8	1
	3 - A422 West	1	5	0	1
	4 - B526 North	3	0	0	0

Heavy Vehicle Percentages

2 - Renny Lodge Roundabout

		To		
		1 - A509 East	2 - A509 West	3 - Renny Park Road
From	1 - A509 East	0	3	0
	2 - A509 West	1	0	6
	3 - Renny Park Road	2	3	0

Results

Results Summary for whole modelled period

Junction	Arm	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - Tickford Roundabout	1 - A509 East	0.55	3.10	1.2	A	1435	1435
	2 - A509 South	0.96	53.78	19.2	F	1357	1357
	3 - A422 West	1.30	948.09	527.1	F	2286	2286
	4 - B526 North	0.77	23.01	3.3	C	535	535
2 - Renny Lodge Roundabout	1 - A509 East	0.55	4.03	1.2	A	1108	1108
	2 - A509 West	0.68	4.31	2.1	A	1782	1782
	3 - Renny Park Road	0.45	6.49	0.8	A	449	449

Main Results for each time segment

17:00 - 17:15

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tickford Roundabout	1 - A509 East	1429	357	751	2604	0.549	1425	1770	0.0	1.2	3.039	A
	2 - A509 South	1357	339	1256	1416	0.958	1308	919	0.0	12.1	26.656	D
	3 - A422 West	2286	571	1061	1779	1.285	1766	1504	0.0	130.1	137.197	F
	4 - B526 North	535	134	1997	698	0.766	523	829	0.0	3.0	19.413	C
2 - Renny Lodge Roundabout	1 - A509 East	1108	277	372	2003	0.553	1103	1603	0.0	1.2	3.981	A
	2 - A509 West	1771	443	44	2622	0.676	1763	1432	0.0	2.1	4.153	A
	3 - Renny Park Road	449	112	1530	1015	0.442	446	277	0.0	0.8	6.295	A

17:15 - 17:30

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tickford Roundabout	1 - A509 East	1437	359	760	2597	0.553	1437	1783	1.2	1.2	3.102	A
	2 - A509 South	1357	339	1270	1407	0.965	1343	926	12.1	15.8	43.915	E
	3 - A422 West	2286	571	1088	1760	1.299	1759	1525	130.1	261.7	405.320	F
	4 - B526 North	535	134	2009	691	0.774	534	838	3.0	3.2	22.667	C
2 - Renny Lodge Roundabout	1 - A509 East	1108	277	375	2001	0.554	1108	1623	1.2	1.2	4.031	A
	2 - A509 West	1785	446	44	2622	0.681	1784	1439	2.1	2.1	4.299	A
	3 - Renny Park Road	449	112	1549	1004	0.447	449	280	0.8	0.8	6.483	A

17:30 - 17:45

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
	1 - A509 East	1437	359	760	2597	0.553	1437	1784	1.2	1.2	3.102	A

1 - Tickford Roundabout	2 - A509 South	1357	339	1271	1407	0.965	1349	926	15.8	17.8	50.058	F
	3 - A422 West	2286	571	1092	1756	1.302	1756	1527	261.7	394.2	675.948	F
	4 - B526 North	535	134	2009	691	0.775	535	839	3.2	3.3	22.926	C
2 - Renny Lodge Roundabout	1 - A509 East	1108	277	375	2001	0.554	1108	1624	1.2	1.2	4.031	A
	2 - A509 West	1786	446	44	2622	0.681	1786	1439	2.1	2.1	4.306	A
	3 - Renny Park Road	449	112	1550	1004	0.447	449	280	0.8	0.8	6.490	A

17:45 - 18:00

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tickford Roundabout	1 - A509 East	1437	359	760	2597	0.553	1437	1784	1.2	1.2	3.102	A
	2 - A509 South	1357	339	1271	1406	0.965	1351	926	17.8	19.2	53.778	F
	3 - A422 West	2286	571	1094	1755	1.303	1755	1528	394.2	527.1	948.086	F
	4 - B526 North	535	134	2009	691	0.775	535	840	3.3	3.3	23.010	C
2 - Renny Lodge Roundabout	1 - A509 East	1108	277	375	2001	0.554	1108	1624	1.2	1.2	4.031	A
	2 - A509 West	1786	447	44	2622	0.681	1786	1439	2.1	2.1	4.308	A
	3 - Renny Park Road	449	112	1550	1003	0.447	449	280	0.8	0.8	6.492	A

2033 Base + Committed + Proposed Dev (MKE Trip Rate), AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	1 - Tickford Roundabout - 2 - A509 South - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Linked Roundabout	1 - Tickford Roundabout - 1 - A509 East	If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled.
Warning	Linked Roundabout	2 - Renny Lodge Roundabout - 2 - A509 West	If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	Tickford Roundabout	Standard Roundabout	1, 2, 3, 4	11.91	B
2	Renny Lodge Roundabout	Standard Roundabout	1, 2, 3	10.84	B

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D15	2033 Base + Committed + Proposed Dev (MKE Trip Rate)	AM	FLAT	08:00	09:00	60	15	✓

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

Linked Arm Data

Junction	Arm	Feeding Junction	Feeding Arm	Link Type	Flow source	Uniform flow (Veh/hr)	Flow multiplier (%)	Internal storage space (PCU)
1 - Tickford Roundabout	1 - A509 East	2	2	Simple (vertical queueing)	Normal	0	100.00	
2 - Renny Lodge Roundabout	2 - A509 West	1	1	Simple (vertical queueing)	Normal	0	100.00	

Demand overview (Traffic)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Tickford Roundabout	1 - A509 East	✓				
	2 - A509 South		FLAT	✓	761	100.000
	3 - A422 West		FLAT	✓	1206	100.000
	4 - B526 North		FLAT	✓	835	100.000
2 - Renny Lodge Roundabout	1 - A509 East		FLAT	✓	1832	100.000
	2 - A509 West	✓				
	3 - Renny Park Road		FLAT	✓	275	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1 - A509 East	2 - A509 South	3 - A422 West	4 - B526 North
1 - Tickford Roundabout	From 1 - A509 East	0	621	1353	24
	From 2 - A509 South	321	0	181	259
	From 3 - A422 West	744	161	0	301
	From 4 - B526 North	26	263	545	1

Demand (Veh/hr)

2 - Renny Lodge Roundabout

		To		
		1 - A509 East	2 - A509 West	3 - Renny Park Road
From	1 - A509 East	1	1764	67
	2 - A509 West	818	0	274
	3 - Renny Park Road	58	217	0

Vehicle Mix

Heavy Vehicle Percentages

1 - Tickford Roundabout

		To			
		1 - A509 East	2 - A509 South	3 - A422 West	4 - B526 North
From	1 - A509 East	0	11	3	10
	2 - A509 South	10	0	24	4
	3 - A422 West	5	12	0	1
	4 - B526 North	14	3	1	0

Heavy Vehicle Percentages

2 - Renny Lodge Roundabout

		To		
		1 - A509 East	2 - A509 West	3 - Renny Park Road
From	1 - A509 East	0	5	2
	2 - A509 West	6	0	5
	3 - Renny Park Road	3	17	0

Results

Results Summary for whole modelled period

Junction	Arm	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - Tickford Roundabout	1 - A509 East	0.85	10.00	5.4	A	1987	1987
	2 - A509 South	0.86	27.38	5.6	D	761	761
	3 - A422 West	0.60	4.41	1.5	A	1206	1206
	4 - B526 North	0.74	12.36	2.8	B	835	835
2 - Renny Lodge Roundabout	1 - A509 East	0.90	17.01	8.4	C	1832	1832
	2 - A509 West	0.44	2.56	0.8	A	1097	1097
	3 - Renny Park Road	0.22	3.68	0.3	A	275	275

Main Results for each time segment

08:00 - 08:15

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tickford Roundabout	1 - A509 East	1965	491	959	2362	0.832	1946	1080	0.0	4.7	8.316	A
	2 - A509 South	761	190	1880	915	0.832	744	1025	0.0	4.3	19.402	C
	3 - A422 West	1206	302	591	2031	0.594	1200	2033	0.0	1.4	4.304	A
	4 - B526 North	835	209	1214	1133	0.737	824	577	0.0	2.7	11.295	B
2 - Renny Lodge Roundabout	1 - A509 East	1832	458	216	2041	0.897	1802	872	0.0	7.5	13.667	B
	2 - A509 West	1089	272	67	2504	0.435	1086	1951	0.0	0.8	2.533	A
	3 - Renny Park Road	275	69	815	1259	0.218	274	338	0.0	0.3	3.651	A

08:15 - 08:30

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tickford Roundabout	1 - A509 East	1993	498	970	2354	0.847	1991	1090	4.7	5.3	9.818	A
	2 - A509 South	761	190	1918	892	0.854	758	1043	4.3	5.2	25.876	D
	3 - A422 West	1206	302	602	2023	0.596	1206	2073	1.4	1.5	4.406	A
	4 - B526 North	835	209	1225	1127	0.741	835	584	2.7	2.8	12.287	B
2 - Renny Lodge Roundabout	1 - A509 East	1832	458	217	2041	0.898	1830	882	7.5	8.1	16.656	C
	2 - A509 West	1099	275	68	2504	0.439	1099	1979	0.8	0.8	2.562	A
	3 - Renny Park Road	275	69	824	1254	0.219	275	343	0.3	0.3	3.677	A

08:30 - 08:45

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tickford Roundabout	1 - A509 East	1994	499	970	2353	0.847	1994	1091	5.3	5.4	9.963	A
	2 - A509 South	761	190	1920	890	0.855	760	1044	5.2	5.4	27.021	D
	3 - A422 West	1206	302	604	2022	0.597	1206	2076	1.5	1.5	4.413	A
	4 - B526 North	835	209	1226	1126	0.742	835	585	2.8	2.8	12.347	B
2 - Renny Lodge Roundabout	1 - A509 East	1832	458	217	2041	0.898	1831	883	8.1	8.3	16.907	C
	2 - A509 West	1100	275	68	2504	0.439	1100	1980	0.8	0.8	2.564	A
	3 - Renny Park Road	275	69	825	1253	0.219	275	343	0.3	0.3	3.678	A

08:45 - 09:00

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tickford Roundabout	1 - A509 East	1995	499	970	2353	0.848	1994	1091	5.4	5.4	9.998	A
	2 - A509 South	761	190	1920	890	0.855	760	1044	5.4	5.6	27.383	D
	3 - A422 West	1206	302	605	2021	0.597	1206	2076	1.5	1.5	4.415	A
	4 - B526 North	835	209	1226	1126	0.742	835	585	2.8	2.8	12.363	B
2 - Renny Lodge Roundabout	1 - A509 East	1832	458	217	2041	0.898	1832	883	8.3	8.4	17.007	C
	2 - A509 West	1100	275	68	2504	0.440	1100	1981	0.8	0.8	2.565	A
	3 - Renny Park Road	275	69	825	1253	0.219	275	343	0.3	0.3	3.679	A

2033 Base + Committed + Proposed Dev (MKE Trip Rate), PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	1 - Tickford Roundabout - 2 - A509 South - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Linked Roundabout	1 - Tickford Roundabout - 1 - A509 East	If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled.
Warning	Linked Roundabout	2 - Renny Lodge Roundabout - 2 - A509 West	If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	Tickford Roundabout	Standard Roundabout	1, 2, 3, 4	392.42	F
2	Renny Lodge Roundabout	Standard Roundabout	1, 2, 3	4.53	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 period length (min)	Time segment length (min)	Run automatically
D16	2033 Base + Committed + Proposed Dev (MKE Trip Rate)	PM	FLAT	17:00	18:00	60	15	✓

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

Linked Arm Data

Junction	Arm	Feeding Junction	Feeding Arm	Link Type	Flow source	Uniform flow (Veh/hr)	Flow multiplier (%)	Internal storage space (PCU)
1 - Tickford Roundabout	1 - A509 East	2	2	Simple (vertical queueing)	Normal	0	100.00	
2 - Renny Lodge Roundabout	2 - A509 West	1	1	Simple (vertical queueing)	Normal	0	100.00	

Demand overview (Traffic)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Tickford Roundabout	1 - A509 East	✓				
	2 - A509 South		FLAT	✓	1348	100.000
	3 - A422 West		FLAT	✓	2277	100.000
	4 - B526 North		FLAT	✓	535	100.000
2 - Renny Lodge Roundabout	1 - A509 East		FLAT	✓	1105	100.000
	2 - A509 West	✓				
	3 - Renny Park Road		FLAT	✓	448	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1 - A509 East	2 - A509 South	3 - A422 West	4 - B526 North
1 - Tickford Roundabout	From 1 - A509 East	0	444	951	46
	From 2 - A509 South	652	0	295	401
	From 3 - A422 West	1426	336	1	514
	From 4 - B526 North	38	222	275	0

Demand (Veh/hr)

2 - Renny Lodge Roundabout

		To		
		1 - A509 East	2 - A509 West	3 - Renny Park Road
From	1 - A509 East	1	1061	43
	2 - A509 West	1828	0	279
	3 - Renny Park Road	74	374	0

Vehicle Mix

Heavy Vehicle Percentages

1 - Tickford Roundabout

		To			
		1 - A509 East	2 - A509 South	3 - A422 West	4 - B526 North
From	1 - A509 East	0	6	2	0
	2 - A509 South	3	0	8	1
	3 - A422 West	1	5	0	1
	4 - B526 North	3	0	0	0

Heavy Vehicle Percentages

2 - Renny Lodge Roundabout

		To		
		1 - A509 East	2 - A509 West	3 - Renny Park Road
From	1 - A509 East	0	3	0
	2 - A509 West	2	0	6
	3 - Renny Park Road	2	3	0

Results

Results Summary for whole modelled period

Junction	Arm	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - Tickford Roundabout	1 - A509 East	0.55	3.08	1.2	A	1431	1431
	2 - A509 South	0.96	47.42	16.8	E	1348	1348
	3 - A422 West	1.30	934.61	519.3	F	2277	2277
	4 - B526 North	0.77	22.87	3.3	C	535	535
2 - Renny Lodge Roundabout	1 - A509 East	0.55	4.01	1.2	A	1105	1105
	2 - A509 West	0.68	4.36	2.1	A	1769	1769
	3 - Renny Park Road	0.45	6.51	0.8	A	448	448

Main Results for each time segment

17:00 - 17:15

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tickford Roundabout	1 - A509 East	1425	356	747	2608	0.547	1421	1772	0.0	1.2	3.020	A
	2 - A509 South	1348	337	1253	1419	0.950	1303	915	0.0	11.2	25.217	D
	3 - A422 West	2277	569	1063	1777	1.281	1764	1492	0.0	128.3	135.566	F
	4 - B526 North	535	134	1996	699	0.765	523	831	0.0	3.0	19.321	C
2 - Renny Lodge Roundabout	1 - A509 East	1105	276	371	2003	0.552	1100	1593	0.0	1.2	3.965	A
	2 - A509 West	1759	440	44	2600	0.676	1750	1428	0.0	2.1	4.199	A
	3 - Renny Park Road	448	112	1520	1012	0.443	445	275	0.0	0.8	6.313	A

17:15 - 17:30

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tickford Roundabout	1 - A509 East	1433	358	756	2600	0.551	1432	1785	1.2	1.2	3.083	A
	2 - A509 South	1348	337	1266	1410	0.956	1336	922	11.2	14.2	40.090	E
	3 - A422 West	2277	569	1089	1758	1.295	1758	1513	128.3	258.0	400.021	F
	4 - B526 North	535	134	2008	692	0.773	534	840	3.0	3.2	22.540	C
2 - Renny Lodge Roundabout	1 - A509 East	1105	276	374	2002	0.552	1105	1612	1.2	1.2	4.014	A
	2 - A509 West	1772	443	44	2599	0.682	1772	1435	2.1	2.1	4.348	A
	3 - Renny Park Road	448	112	1538	1001	0.447	448	278	0.8	0.8	6.503	A

17:30 - 17:45

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Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tickford Roundabout	1 - A509 East	1433	358	756	2600	0.551	1433	1786	1.2	1.2	3.083	A
	2 - A509 South	1348	337	1267	1410	0.956	1342	922	14.2	15.8	44.778	E
	3 - A422 West	2277	569	1094	1755	1.297	1755	1515	258.0	388.5	666.626	F
	4 - B526 North	535	134	2008	692	0.774	535	841	3.2	3.3	22.791	C
2 - Renny Lodge Roundabout	1 - A509 East	1105	276	374	2002	0.552	1105	1613	1.2	1.2	4.014	A
	2 - A509 West	1773	443	44	2599	0.682	1773	1435	2.1	2.1	4.354	A
	3 - Renny Park Road	448	112	1539	1001	0.448	448	278	0.8	0.8	6.509	A

17:45 - 18:00

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tickford Roundabout	1 - A509 East	1433	358	756	2600	0.551	1433	1786	1.2	1.2	3.083	A
	2 - A509 South	1348	337	1267	1410	0.956	1344	922	15.8	16.8	47.422	E
	3 - A422 West	2277	569	1096	1754	1.298	1754	1515	388.5	519.3	934.606	F
	4 - B526 North	535	134	2008	691	0.774	535	841	3.3	3.3	22.874	C
2 - Renny Lodge Roundabout	1 - A509 East	1105	276	374	2002	0.552	1105	1613	1.2	1.2	4.014	A
	2 - A509 West	1773	443	44	2599	0.682	1773	1435	2.1	2.1	4.356	A
	3 - Renny Park Road	448	112	1539	1001	0.448	448	278	0.8	0.8	6.511	A

2033 Base + Committed + Proposed Dev (10% Modal Shift), AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	1 - Tickford Roundabout - 2 - A509 South - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Linked Roundabout	1 - Tickford Roundabout - 1 - A509 East	If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled.
Warning	Linked Roundabout	2 - Renny Lodge Roundabout - 2 - A509 West	If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	Tickford Roundabout	Standard Roundabout	1, 2, 3, 4	12.29	B
2	Renny Lodge Roundabout	Standard Roundabout	1, 2, 3	10.96	B

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D17	2033 Base + Committed + Proposed Dev (10% Modal Shift)	AM	FLAT	08:00	09:00	60	15	✓

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

Linked Arm Data

Junction	Arm	Feeding Junction	Feeding Arm	Link Type	Flow source	Uniform flow (Veh/hr)	Flow multiplier (%)	Internal storage space (PCU)
1 - Tickford Roundabout	1 - A509 East	2	2	Simple (vertical queueing)	Normal	0	100.00	
2 - Renny Lodge Roundabout	2 - A509 West	1	1	Simple (vertical queueing)	Normal	0	100.00	

Demand overview (Traffic)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Tickford Roundabout	1 - A509 East	✓				
	2 - A509 South		FLAT	✓	765	100.000
	3 - A422 West		FLAT	✓	1218	100.000
	4 - B526 North		FLAT	✓	835	100.000
2 - Renny Lodge Roundabout	1 - A509 East		FLAT	✓	1834	100.000
	2 - A509 West	✓				
	3 - Renny Park Road		FLAT	✓	276	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1 - A509 East	2 - A509 South	3 - A422 West	4 - B526 North
1 - Tickford Roundabout	From 1 - A509 East	0	621	1354	24
	From 2 - A509 South	321	0	185	259
	From 3 - A422 West	748	169	0	301
	From 4 - B526 North	26	263	545	1

Demand (Veh/hr)

2 - Renny Lodge Roundabout

		To		
		1 - A509 East	2 - A509 West	3 - Renny Park Road
From	1 - A509 East	1	1766	67
	2 - A509 West	821	0	275
	3 - Renny Park Road	58	218	0

Vehicle Mix

Heavy Vehicle Percentages

1 - Tickford Roundabout

		To			
		1 - A509 East	2 - A509 South	3 - A422 West	4 - B526 North
From	1 - A509 East	0	11	3	10
	2 - A509 South	10	0	24	4
	3 - A422 West	5	11	0	1
	4 - B526 North	14	3	1	0

Heavy Vehicle Percentages

2 - Renny Lodge Roundabout

		To		
		1 - A509 East	2 - A509 West	3 - Renny Park Road
From	1 - A509 East	0	5	2
	2 - A509 West	6	0	5
	3 - Renny Park Road	3	17	0

Results

Results Summary for whole modelled period

Junction	Arm	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - Tickford Roundabout	1 - A509 East	0.85	10.25	5.6	B	1990	1990
	2 - A509 South	0.86	28.64	5.8	D	765	765
	3 - A422 West	0.60	4.47	1.5	A	1218	1218
	4 - B526 North	0.75	12.66	2.9	B	835	835
2 - Renny Lodge Roundabout	1 - A509 East	0.90	17.22	8.5	C	1834	1834
	2 - A509 West	0.44	2.57	0.8	A	1101	1101
	3 - Renny Park Road	0.22	3.69	0.3	A	276	276

Main Results for each time segment

08:00 - 08:15

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tickford Roundabout	1 - A509 East	1968	492	967	2357	0.835	1949	1083	0.0	4.8	8.467	A
	2 - A509 South	765	191	1882	913	0.838	747	1033	0.0	4.5	19.913	C
	3 - A422 West	1218	305	591	2033	0.599	1212	2039	0.0	1.5	4.353	A
	4 - B526 North	835	209	1226	1127	0.741	824	577	0.0	2.7	11.525	B
2 - Renny Lodge Roundabout	1 - A509 East	1834	458	217	2041	0.899	1804	875	0.0	7.6	13.782	B
	2 - A509 West	1093	273	67	2504	0.436	1090	1954	0.0	0.8	2.540	A
	3 - Renny Park Road	276	69	817	1257	0.220	275	339	0.0	0.3	3.661	A

08:15 - 08:30

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tickford Roundabout	1 - A509 East	1996	499	978	2348	0.850	1994	1093	4.8	5.4	10.050	B
	2 - A509 South	765	191	1920	890	0.860	761	1051	4.5	5.4	26.901	D
	3 - A422 West	1218	305	602	2025	0.602	1218	2079	1.5	1.5	4.461	A
	4 - B526 North	835	209	1236	1120	0.746	835	584	2.7	2.8	12.579	B
2 - Renny Lodge Roundabout	1 - A509 East	1834	458	218	2040	0.899	1832	885	7.6	8.2	16.850	C
	2 - A509 West	1103	276	68	2504	0.441	1103	1982	0.8	0.8	2.569	A
	3 - Renny Park Road	276	69	827	1252	0.220	276	344	0.3	0.3	3.687	A

08:30 - 08:45

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tickford Roundabout	1 - A509 East	1997	499	978	2348	0.851	1997	1094	5.4	5.5	10.210	B
	2 - A509 South	765	191	1922	888	0.861	764	1052	5.4	5.7	28.215	D
	3 - A422 West	1218	305	604	2023	0.602	1218	2082	1.5	1.5	4.469	A
	4 - B526 North	835	209	1237	1119	0.746	835	585	2.8	2.9	12.645	B
2 - Renny Lodge Roundabout	1 - A509 East	1834	458	218	2040	0.899	1833	886	8.2	8.4	17.113	C
	2 - A509 West	1104	276	68	2504	0.441	1104	1983	0.8	0.8	2.571	A
	3 - Renny Park Road	276	69	828	1252	0.221	276	344	0.3	0.3	3.688	A

08:45 - 09:00

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tickford Roundabout	1 - A509 East	1998	499	978	2348	0.851	1997	1095	5.5	5.6	10.249	B
	2 - A509 South	765	191	1923	888	0.862	764	1052	5.7	5.8	28.645	D
	3 - A422 West	1218	305	605	2023	0.602	1218	2083	1.5	1.5	4.471	A
	4 - B526 North	835	209	1238	1119	0.746	835	585	2.9	2.9	12.663	B
2 - Renny Lodge Roundabout	1 - A509 East	1834	458	218	2040	0.899	1834	886	8.4	8.5	17.218	C
	2 - A509 West	1104	276	68	2504	0.441	1104	1984	0.8	0.8	2.572	A
	3 - Renny Park Road	276	69	828	1252	0.221	276	344	0.3	0.3	3.689	A

2033 Base + Committed + Proposed Dev (10% Modal Shift), PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	1 - Tickford Roundabout - 2 - A509 South - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Linked Roundabout	1 - Tickford Roundabout - 1 - A509 East	If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled.
Warning	Linked Roundabout	2 - Renny Lodge Roundabout - 2 - A509 West	If the distance between linked junctions is small, results should be treated with caution. The linked junctions will be modelled as separate junctions, but the real behaviour may be that of a complex system with interactions that cannot be modelled.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	Tickford Roundabout	Standard Roundabout	1, 2, 3, 4	397.94	F
2	Renny Lodge Roundabout	Standard Roundabout	1, 2, 3	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 period length (min)	Time segment length (min)	Run automatically
D18	2033 Base + Committed + Proposed Dev (10% Modal Shift)	PM	FLAT	17:00	18:00	60	15	✓

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

Linked Arm Data

Junction	Arm	Feeding Junction	Feeding Arm	Link Type	Flow source	Uniform flow (Veh/hr)	Flow multiplier (%)	Internal storage space (PCU)
1 - Tickford Roundabout	1 - A509 East	2	2	Simple (vertical queueing)	Normal	0	100.00	
2 - Renny Lodge Roundabout	2 - A509 West	1	1	Simple (vertical queueing)	Normal	0	100.00	

Demand overview (Traffic)

Junction	Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Tickford Roundabout	1 - A509 East	✓				
	2 - A509 South		FLAT	✓	1354	100.000
	3 - A422 West		FLAT	✓	2284	100.000
	4 - B526 North		FLAT	✓	535	100.000
2 - Renny Lodge Roundabout	1 - A509 East		FLAT	✓	1107	100.000
	2 - A509 West	✓				
	3 - Renny Park Road		FLAT	✓	449	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1 - A509 East	2 - A509 South	3 - A422 West	4 - B526 North
1 - Tickford Roundabout	From 1 - A509 East	0	444	954	46
	From 2 - A509 South	652	0	301	401
	From 3 - A422 West	1428	341	1	514
	From 4 - B526 North	38	222	275	0

Demand (Veh/hr)

2 - Renny Lodge Roundabout

		To		
		1 - A509 East	2 - A509 West	3 - Renny Park Road
From	1 - A509 East	1	1063	43
	2 - A509 West	1830	0	279
	3 - Renny Park Road	74	375	0

Vehicle Mix

Heavy Vehicle Percentages

1 - Tickford Roundabout

		To			
		1 - A509 East	2 - A509 South	3 - A422 West	4 - B526 North
From	1 - A509 East	0	6	2	0
	2 - A509 South	3	0	8	1
	3 - A422 West	1	5	0	1
	4 - B526 North	3	0	0	0

Heavy Vehicle Percentages

2 - Renny Lodge Roundabout

		To		
		1 - A509 East	2 - A509 West	3 - Renny Park Road
From	1 - A509 East	0	3	0
	2 - A509 West	1	0	6
	3 - Renny Park Road	2	3	0

Results

Results Summary for whole modelled period

Junction	Arm	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - Tickford Roundabout	1 - A509 East	0.55	3.10	1.2	A	1434	1434
	2 - A509 South	0.96	51.65	18.4	F	1354	1354
	3 - A422 West	1.30	945.45	525.5	F	2284	2284
	4 - B526 North	0.77	22.98	3.3	C	535	535
2 - Renny Lodge Roundabout	1 - A509 East	0.55	4.03	1.2	A	1107	1107
	2 - A509 West	0.68	4.31	2.1	A	1782	1782
	3 - Renny Park Road	0.45	6.50	0.8	A	449	449

Main Results for each time segment

17:00 - 17:15

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tickford Roundabout	1 - A509 East	1428	357	750	2605	0.548	1424	1770	0.0	1.2	3.035	A
	2 - A509 South	1354	339	1255	1417	0.956	1307	918	0.0	11.8	26.192	D
	3 - A422 West	2284	571	1062	1779	1.284	1765	1501	0.0	129.8	136.899	F
	4 - B526 North	535	134	1997	699	0.766	523	830	0.0	3.0	19.394	C
2 - Renny Lodge Roundabout	1 - A509 East	1107	277	372	2003	0.553	1102	1604	0.0	1.2	3.977	A
	2 - A509 West	1771	443	44	2622	0.676	1763	1431	0.0	2.1	4.155	A
	3 - Renny Park Road	449	112	1531	1014	0.443	446	276	0.0	0.8	6.302	A

17:15 - 17:30

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tickford Roundabout	1 - A509 East	1436	359	760	2597	0.553	1436	1783	1.2	1.2	3.098	A
	2 - A509 South	1354	339	1269	1408	0.962	1340	926	11.8	15.2	42.665	E
	3 - A422 West	2284	571	1088	1759	1.298	1759	1522	129.8	261.0	404.326	F
	4 - B526 North	535	134	2009	691	0.774	534	839	3.0	3.2	22.641	C
2 - Renny Lodge Roundabout	1 - A509 East	1107	277	375	2001	0.553	1107	1624	1.2	1.2	4.026	A
	2 - A509 West	1785	446	44	2622	0.681	1785	1438	2.1	2.1	4.300	A
	3 - Renny Park Road	449	112	1550	1004	0.447	449	279	0.8	0.8	6.490	A

17:30 - 17:45

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Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tickford Roundabout	1 - A509 East	1436	359	760	2597	0.553	1436	1784	1.2	1.2	3.098	A
	2 - A509 South	1354	339	1270	1407	0.962	1346	925	15.2	17.1	48.311	E
	3 - A422 West	2284	571	1093	1756	1.301	1756	1523	261.0	393.1	674.153	F
	4 - B526 North	535	134	2009	691	0.774	535	840	3.2	3.3	22.896	C
2 - Renny Lodge Roundabout	1 - A509 East	1107	277	375	2001	0.553	1107	1625	1.2	1.2	4.026	A
	2 - A509 West	1786	446	44	2622	0.681	1786	1438	2.1	2.1	4.307	A
	3 - Renny Park Road	449	112	1551	1003	0.448	449	279	0.8	0.8	6.497	A

17:45 - 18:00

Junction	Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tickford Roundabout	1 - A509 East	1436	359	760	2597	0.553	1436	1784	1.2	1.2	3.098	A
	2 - A509 South	1354	339	1270	1407	0.962	1349	925	17.1	18.4	51.653	F
	3 - A422 West	2284	571	1095	1754	1.302	1754	1524	393.1	525.5	945.449	F
	4 - B526 North	535	134	2009	691	0.775	535	840	3.3	3.3	22.981	C
2 - Renny Lodge Roundabout	1 - A509 East	1107	277	375	2001	0.553	1107	1625	1.2	1.2	4.026	A
	2 - A509 West	1786	447	44	2622	0.681	1786	1438	2.1	2.1	4.309	A
	3 - Renny Park Road	449	112	1551	1003	0.448	449	279	0.8	0.8	6.499	A

Junctions 9

ARCADY 9 - Roundabout Module

Version: 9.0.2.5947
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Filename: 2021 10 08 Pineham Roundabout.j9

Path: P:\JNY10094 - Newport Pagnell\Transport\Arcady\2021 07 20 BD Updates

Report generation date: 08/10/2021 10:47:13

- »2021 Base, AM
- »2021 Base, PM
- »2031 Base + Committed, AM
- »2031 Base + Committed, PM
- »2033 Base + Committed, AM
- »2033 Base + Committed, PM
- »2031 Base + Committed + Proposed Dev, AM
- »2031 Base + Committed + Proposed Dev, PM
- »2033 Base + Committed + Proposed Dev, AM
- »2033 Base + Committed + Proposed Dev, PM
- »2033 Base + Committed + Proposed Dev (MKE Trip Rates), AM
- »2033 Base + Committed + Proposed Dev (MKE Trip Rates), PM
- »2033 Base + Committed + Proposed Dev (10% Modal Shift), AM
- »2033 Base + Committed + Proposed Dev (10% Modal Shift), PM

Summary of junction performance

	AM				PM			
	Queue (Veh)	Delay (s)	RFC	LOS	Queue (Veh)	Delay (s)	RFC	LOS
2021 Base								
1 - A509 East	5.8	10.60	0.86	B	0.5	2.16	0.33	A
2 - Tongwell Street South	1.5	6.46	0.61	A	0.6	2.66	0.39	A
3 - A509 West	0.9	3.46	0.48	A	1.6	4.09	0.61	A
4 - Tongwell Street North	0.7	2.73	0.40	A	0.8	3.36	0.43	A
2031 Base + Committed								
1 - A509 East	60.0	94.61	1.01	F	0.6	2.48	0.39	A
2 - Tongwell Street South	3.4	12.95	0.78	B	0.9	3.14	0.46	A
3 - A509 West	1.3	4.49	0.57	A	2.5	5.80	0.72	A
4 - Tongwell Street North	0.9	3.28	0.48	A	1.2	4.63	0.55	A
2033 Base + Committed								
1 - A509 East	102.8	154.25	1.04	F	0.7	2.53	0.40	A
2 - Tongwell Street South	3.7	13.74	0.79	B	0.9	3.23	0.48	A
3 - A509 West	1.4	4.65	0.59	A	2.7	6.24	0.73	A
4 - Tongwell Street North	1.0	3.40	0.49	A	1.3	4.89	0.57	A
2031 Base + Committed + Proposed Dev								
1 - A509 East	81.1	125.03	1.02	F	0.7	2.51	0.40	A
2 - Tongwell Street South	3.4	12.88	0.78	B	0.9	3.22	0.48	A
3 - A509 West	1.4	4.53	0.58	A	2.6	6.05	0.72	A
4 - Tongwell Street North	1.0	3.43	0.50	A	1.3	4.78	0.57	A
2033 Base + Committed + Proposed Dev								
1 - A509 East	135.3	202.00	1.05	F	0.7	2.58	0.41	A
2 - Tongwell Street South	3.7	13.41	0.79	B	1.0	3.34	0.49	A
3 - A509 West	1.4	4.69	0.59	A	2.9	6.60	0.74	A
4 - Tongwell Street North	1.1	3.58	0.52	A	1.4	5.09	0.59	A

2033 Base + Committed + Proposed Dev (MKE Trip Rates)								
1 - A509 East	122.8	183.54	1.05	F	0.7	2.56	0.41	A
2 - Tongwell Street South	3.6	13.48	0.79	B	1.0	3.33	0.49	A
3 - A509 West	1.4	4.67	0.59	A	2.9	6.52	0.74	A
4 - Tongwell Street North	1.0	3.51	0.51	A	1.4	5.02	0.58	A
2033 Base + Committed + Proposed Dev (10% Modal Shift)								
1 - A509 East	131.1	195.78	1.05	F	0.7	2.57	0.41	A
2 - Tongwell Street South	3.7	13.44	0.79	B	1.0	3.32	0.49	A
3 - A509 West	1.4	4.69	0.59	A	2.9	6.55	0.74	A
4 - Tongwell Street North	1.1	3.56	0.52	A	1.4	5.07	0.59	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	
Location	
Site number	
Date	20/05/2020
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	EUR\Danesh.Aryan
Description	

Units

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

Analysis Options

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

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D1	2021 Base	AM	FLAT	08:00	09:00	60	15	✓
D2	2021 Base	PM	FLAT	17:00	18:00	60	15	✓
D7	2031 Base + Committed	AM	FLAT	08:00	09:00	60	15	✓
D8	2031 Base + Committed	PM	FLAT	17:00	18:00	60	15	✓
D9	2033 Base + Committed	AM	FLAT	08:00	09:00	60	15	✓
D10	2033 Base + Committed	PM	FLAT	17:00	18:00	60	15	✓
D11	2031 Base + Committed + Proposed Dev	AM	FLAT	08:00	09:00	60	15	✓
D12	2031 Base + Committed + Proposed Dev	PM	FLAT	17:00	18:00	60	15	✓
D13	2033 Base + Committed + Proposed Dev	AM	FLAT	08:00	09:00	60	15	✓
D14	2033 Base + Committed + Proposed Dev	PM	FLAT	17:00	18:00	60	15	✓
D15	2033 Base + Committed + Proposed Dev (MKE Trip Rates)	AM	FLAT	08:00	09:00	60	15	✓
D16	2033 Base + Committed + Proposed Dev (MKE Trip Rates)	PM	FLAT	17:00	18:00	60	15	✓
D17	2033 Base + Committed + Proposed Dev (10% Modal Shift)	AM	FLAT	08:00	09:00	60	15	✓
D18	2033 Base + Committed + Proposed Dev (10% Modal Shift)	PM	FLAT	17:00	18:00	60	15	✓

Analysis Set Details

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

2021 Base, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	2 - Tongwell Street South - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	4 - Tongwell Street North - 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	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout	1, 2, 3, 4	6.90	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description
1	A509 East	
2	Tongwell Street South	
3	A509 West	
4	Tongwell Street North	

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 - A509 East	10.29	10.62	4.7	40.0	66.1	40.0	
2 - Tongwell Street South	7.14	9.86	58.0	39.5	66.1	36.0	
3 - A509 West	7.48	10.64	12.9	52.4	66.1	34.0	
4 - Tongwell Street North	7.00	10.62	64.0	39.5	66.1	37.0	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
1 - A509 East	0.761	3167
2 - Tongwell Street South	0.719	2890
3 - A509 West	0.715	2849
4 - Tongwell Street North	0.744	3049

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

Traffic Demand

Demand Set Details

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ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D1	2021 Base	AM	FLAT	08:00	09:00	60	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - A509 East		FLAT	✓	2000	100.000
2 - Tongwell Street South		FLAT	✓	857	100.000
3 - A509 West		FLAT	✓	961	100.000
4 - Tongwell Street North		FLAT	✓	889	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1 - A509 East	2 - Tongwell Street South	3 - A509 West	4 - Tongwell Street North
From	1 - A509 East	4	80	1433	483
	2 - Tongwell Street South	34	1	253	569
	3 - A509 West	660	277	0	24
	4 - Tongwell Street North	199	649	40	1

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1 - A509 East	2 - Tongwell Street South	3 - A509 West	4 - Tongwell Street North
From	1 - A509 East	25	5	3	4
	2 - Tongwell Street South	3	0	2	1
	3 - A509 West	3	1	0	0
	4 - Tongwell Street North	13	2	3	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - A509 East	0.86	10.60	5.8	B	2000	2000
2 - Tongwell Street South	0.61	6.46	1.5	A	857	857
3 - A509 West	0.48	3.46	0.9	A	961	961
4 - Tongwell Street North	0.40	2.73	0.7	A	889	889

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - A509 East	2000	500	965	2341	0.854	1978	894	0.0	5.5	9.424	A
2 - Tongwell Street South	857	214	1940	1430	0.599	851	1003	0.0	1.5	6.163	A
3 - A509 West	961	240	1083	2008	0.479	957	1709	0.0	0.9	3.415	A

4 - Tongwell Street North	889	222	972	2208	0.403	886	1068	0.0	0.7	2.717	A
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08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - A509 East	2000	500	968	2339	0.855	1999	897	5.5	5.7	10.533	B
2 - Tongwell Street South	857	214	1960	1415	0.606	857	1007	1.5	1.5	6.448	A
3 - A509 West	961	240	1092	2002	0.480	961	1725	0.9	0.9	3.458	A
4 - Tongwell Street North	889	222	976	2206	0.403	889	1077	0.7	0.7	2.733	A

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - A509 East	2000	500	968	2339	0.855	2000	897	5.7	5.7	10.579	B
2 - Tongwell Street South	857	214	1961	1414	0.606	857	1007	1.5	1.5	6.457	A
3 - A509 West	961	240	1092	2001	0.480	961	1726	0.9	0.9	3.459	A
4 - Tongwell Street North	889	222	976	2205	0.403	889	1077	0.7	0.7	2.733	A

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - A509 East	2000	500	968	2339	0.855	2000	897	5.7	5.8	10.595	B
2 - Tongwell Street South	857	214	1961	1414	0.606	857	1007	1.5	1.5	6.459	A
3 - A509 West	961	240	1092	2001	0.480	961	1726	0.9	0.9	3.459	A
4 - Tongwell Street North	889	222	976	2205	0.403	889	1077	0.7	0.7	2.733	A

2021 Base, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	2 - Tongwell Street South - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	4 - Tongwell Street North - 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	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout	1, 2, 3, 4	3.20	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 period length (min)	Time segment length (min)	Run automatically
D2	2021 Base	PM	FLAT	17:00	18:00	60	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - A509 East		FLAT	✓	818	100.000
2 - Tongwell Street South		FLAT	✓	879	100.000
3 - A509 West		FLAT	✓	1382	100.000
4 - Tongwell Street North		FLAT	✓	818	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1 - A509 East	2 - Tongwell Street South	3 - A509 West	4 - Tongwell Street North
From	1 - A509 East	3	21	638	156
	2 - Tongwell Street South	133	4	287	455
	3 - A509 West	1099	244	2	37
	4 - Tongwell Street North	323	465	30	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1 - A509 East	2 - Tongwell Street South	3 - A509 West	4 - Tongwell Street North
From	1 - A509 East	33	5	3	7
	2 - Tongwell Street South	0	0	2	2
	3 - A509 West	1	4	0	0
	4 - Tongwell Street North	2	2	3	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - A509 East	0.33	2.16	0.5	A	818	818
2 - Tongwell Street South	0.39	2.66	0.6	A	879	879
3 - A509 West	0.61	4.09	1.6	A	1382	1382
4 - Tongwell Street North	0.43	3.36	0.8	A	818	818

Main Results for each time segment

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - A509 East	818	205	742	2489	0.329	816	1551	0.0	0.5	2.150	A
2 - Tongwell Street South	879	220	827	2235	0.393	876	731	0.0	0.6	2.646	A
3 - A509 West	1382	346	749	2264	0.610	1376	955	0.0	1.5	4.024	A
4 - Tongwell Street North	818	204	1479	1895	0.432	815	646	0.0	0.8	3.324	A

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - A509 East	818	205	745	2487	0.329	818	1558	0.5	0.5	2.156	A
2 - Tongwell Street South	879	220	829	2233	0.394	879	734	0.6	0.6	2.658	A
3 - A509 West	1382	346	751	2263	0.611	1382	957	1.5	1.6	4.087	A
4 - Tongwell Street North	818	204	1485	1890	0.433	818	648	0.8	0.8	3.357	A

17:30 - 17:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - A509 East	818	205	745	2487	0.329	818	1558	0.5	0.5	2.156	A
2 - Tongwell Street South	879	220	829	2233	0.394	879	734	0.6	0.6	2.658	A
3 - A509 West	1382	346	751	2263	0.611	1382	957	1.6	1.6	4.087	A
4 - Tongwell Street North	818	204	1485	1890	0.433	818	648	0.8	0.8	3.358	A

17:45 - 18:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - A509 East	818	205	745	2487	0.329	818	1558	0.5	0.5	2.156	A
2 - Tongwell Street South	879	220	829	2233	0.394	879	734	0.6	0.6	2.658	A
3 - A509 West	1382	346	751	2263	0.611	1382	957	1.6	1.6	4.087	A
4 - Tongwell Street North	818	204	1485	1890	0.433	818	648	0.8	0.8	3.358	A

2031 Base + Committed, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	2 - Tongwell Street South - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	4 - Tongwell Street North - 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	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout	1, 2, 3, 4	44.29	E

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D7	2031 Base + Committed	AM	FLAT	08:00	09:00	60	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - A509 East		FLAT	✓	2263	100.000
2 - Tongwell Street South		FLAT	✓	968	100.000
3 - A509 West		FLAT	✓	1083	100.000
4 - Tongwell Street North		FLAT	✓	1006	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1 - A509 East	2 - Tongwell Street South	3 - A509 West	4 - Tongwell Street North
From	1 - A509 East	5	90	1605	563
	2 - Tongwell Street South	38	1	283	646
	3 - A509 West	739	311	0	33
	4 - Tongwell Street North	232	728	45	1

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1 - A509 East	2 - Tongwell Street South	3 - A509 West	4 - Tongwell Street North
From	1 - A509 East	25	5	3	6
	2 - Tongwell Street South	3	0	2	1
	3 - A509 West	3	1	0	0
	4 - Tongwell Street North	16	2	3	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - A509 East	1.01	94.61	60.0	F	2263	2263
2 - Tongwell Street South	0.78	12.95	3.4	B	968	968
3 - A509 West	0.57	4.49	1.3	A	1083	1083
4 - Tongwell Street North	0.48	3.28	0.9	A	1006	1006

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - A509 East	2263	566	1082	2242	1.009	2159	1009	0.0	25.9	29.891	D
2 - Tongwell Street South	968	242	2119	1291	0.750	957	1122	0.0	2.9	10.449	B
3 - A509 West	1083	271	1220	1903	0.569	1078	1856	0.0	1.3	4.338	A
4 - Tongwell Street North	1006	252	1088	2108	0.477	1002	1209	0.0	0.9	3.245	A

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - A509 East	2263	566	1086	2239	1.011	2210	1014	25.9	39.2	60.102	F
2 - Tongwell Street South	968	242	2168	1254	0.772	967	1128	2.9	3.2	12.409	B
3 - A509 West	1083	271	1240	1888	0.574	1083	1895	1.3	1.3	4.470	A
4 - Tongwell Street North	1006	252	1094	2104	0.478	1006	1229	0.9	0.9	3.277	A

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - A509 East	2263	566	1086	2239	1.011	2219	1014	39.2	50.1	78.530	F
2 - Tongwell Street South	968	242	2177	1248	0.776	968	1128	3.2	3.3	12.780	B
3 - A509 West	1083	271	1243	1886	0.574	1083	1902	1.3	1.3	4.483	A
4 - Tongwell Street North	1006	252	1094	2104	0.478	1006	1232	0.9	0.9	3.277	A

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - A509 East	2263	566	1086	2239	1.011	2224	1014	50.1	60.0	94.609	F
2 - Tongwell Street South	968	242	2181	1245	0.778	968	1128	3.3	3.4	12.950	B
3 - A509 West	1083	271	1244	1885	0.575	1083	1905	1.3	1.3	4.488	A
4 - Tongwell Street North	1006	252	1094	2104	0.478	1006	1233	0.9	0.9	3.278	A

2031 Base + Committed, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	2 - Tongwell Street South - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	4 - Tongwell Street North - 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	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout	1, 2, 3, 4	4.24	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 period length (min)	Time segment length (min)	Run automatically
D8	2031 Base + Committed	PM	FLAT	17:00	18:00	60	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - A509 East		FLAT	✓	932	100.000
2 - Tongwell Street South		FLAT	✓	993	100.000
3 - A509 West		FLAT	✓	1558	100.000
4 - Tongwell Street North		FLAT	✓	959	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1 - A509 East	2 - Tongwell Street South	3 - A509 West	4 - Tongwell Street North
From	1 - A509 East	3	23	719	187
	2 - Tongwell Street South	150	5	323	515
	3 - A509 West	1238	275	2	43
	4 - Tongwell Street North	386	535	38	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1 - A509 East	2 - Tongwell Street South	3 - A509 West	4 - Tongwell Street North
From	1 - A509 East	33	5	3	11
	2 - Tongwell Street South	0	0	2	2
	3 - A509 West	1	4	0	0
	4 - Tongwell Street North	4	2	3	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - A509 East	0.39	2.48	0.6	A	932	932
2 - Tongwell Street South	0.46	3.14	0.9	A	993	993
3 - A509 West	0.72	5.80	2.5	A	1558	1558
4 - Tongwell Street North	0.55	4.63	1.2	A	959	959

Main Results for each time segment

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - A509 East	932	233	850	2389	0.390	929	1767	0.0	0.6	2.462	A
2 - Tongwell Street South	993	248	946	2141	0.464	990	833	0.0	0.9	3.116	A
3 - A509 West	1558	389	857	2180	0.715	1548	1079	0.0	2.4	5.612	A
4 - Tongwell Street North	959	240	1663	1744	0.550	954	742	0.0	1.2	4.529	A

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - A509 East	932	233	855	2386	0.391	932	1777	0.6	0.6	2.476	A
2 - Tongwell Street South	993	248	949	2140	0.464	993	838	0.9	0.9	3.139	A
3 - A509 West	1558	389	860	2178	0.715	1558	1082	2.4	2.5	5.800	A
4 - Tongwell Street North	959	240	1673	1737	0.552	959	745	1.2	1.2	4.626	A

17:30 - 17:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - A509 East	932	233	855	2386	0.391	932	1777	0.6	0.6	2.476	A
2 - Tongwell Street South	993	248	949	2139	0.464	993	838	0.9	0.9	3.139	A
3 - A509 West	1558	389	860	2178	0.715	1558	1082	2.5	2.5	5.803	A
4 - Tongwell Street North	959	240	1673	1737	0.552	959	745	1.2	1.2	4.626	A

17:45 - 18:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - A509 East	932	233	855	2386	0.391	932	1777	0.6	0.6	2.476	A
2 - Tongwell Street South	993	248	949	2139	0.464	993	838	0.9	0.9	3.139	A
3 - A509 West	1558	389	860	2178	0.715	1558	1082	2.5	2.5	5.803	A
4 - Tongwell Street North	959	240	1673	1737	0.552	959	745	1.2	1.2	4.626	A

2033 Base + Committed, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	2 - Tongwell Street South - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	4 - Tongwell Street North - 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	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout	1, 2, 3, 4	69.97	F

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D9	2033 Base + Committed	AM	FLAT	08:00	09:00	60	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - A509 East		FLAT	✓	2306	100.000
2 - Tongwell Street South		FLAT	✓	986	100.000
3 - A509 West		FLAT	✓	1102	100.000
4 - Tongwell Street North		FLAT	✓	1025	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1 - A509 East	2 - Tongwell Street South	3 - A509 West	4 - Tongwell Street North
From	1 - A509 East	5	92	1635	574
	2 - Tongwell Street South	39	1	288	658
	3 - A509 West	753	316	0	33
	4 - Tongwell Street North	236	742	46	1

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1 - A509 East	2 - Tongwell Street South	3 - A509 West	4 - Tongwell Street North
From	1 - A509 East	25	5	3	6
	2 - Tongwell Street South	3	0	2	1
	3 - A509 West	3	1	0	0
	4 - Tongwell Street North	17	2	4	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - A509 East	1.04	154.25	102.8	F	2306	2306
2 - Tongwell Street South	0.79	13.74	3.7	B	986	986
3 - A509 West	0.59	4.65	1.4	A	1102	1102
4 - Tongwell Street North	0.49	3.40	1.0	A	1025	1025

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - A509 East	2306	577	1101	2227	1.035	2166	1028	0.0	35.1	37.098	E
2 - Tongwell Street South	986	247	2126	1285	0.767	974	1141	0.0	3.1	11.147	B
3 - A509 West	1102	275	1234	1893	0.582	1096	1866	0.0	1.4	4.492	A
4 - Tongwell Street North	1025	256	1108	2089	0.491	1021	1223	0.0	1.0	3.360	A

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - A509 East	2306	577	1106	2224	1.037	2211	1033	35.1	58.9	83.676	F
2 - Tongwell Street South	986	247	2170	1253	0.787	984	1147	3.1	3.5	13.280	B
3 - A509 West	1102	275	1253	1879	0.587	1102	1901	1.4	1.4	4.632	A
4 - Tongwell Street North	1025	256	1114	2084	0.492	1025	1241	1.0	1.0	3.397	A

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - A509 East	2306	577	1106	2224	1.037	2217	1033	58.9	81.1	119.565	F
2 - Tongwell Street South	986	247	2175	1249	0.790	986	1147	3.5	3.6	13.610	B
3 - A509 West	1102	275	1255	1877	0.587	1102	1906	1.4	1.4	4.644	A
4 - Tongwell Street North	1025	256	1114	2084	0.492	1025	1244	1.0	1.0	3.397	A

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - A509 East	2306	577	1106	2224	1.037	2219	1033	81.1	102.8	154.252	F
2 - Tongwell Street South	986	247	2178	1247	0.791	986	1148	3.6	3.7	13.736	B
3 - A509 West	1102	275	1256	1876	0.587	1102	1908	1.4	1.4	4.648	A
4 - Tongwell Street North	1025	256	1114	2084	0.492	1025	1244	1.0	1.0	3.397	A

2033 Base + Committed, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	2 - Tongwell Street South - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	4 - Tongwell Street North - 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	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout	1, 2, 3, 4	4.48	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D10	2033 Base + Committed	PM	FLAT	17:00	18:00	60	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - A509 East		FLAT	✓	952	100.000
2 - Tongwell Street South		FLAT	✓	1012	100.000
3 - A509 West		FLAT	✓	1588	100.000
4 - Tongwell Street North		FLAT	✓	976	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1 - A509 East	2 - Tongwell Street South	3 - A509 West	4 - Tongwell Street North
From	1 - A509 East	4	24	733	191
	2 - Tongwell Street South	153	5	329	525
	3 - A509 West	1262	280	2	44
	4 - Tongwell Street North	393	545	38	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1 - A509 East	2 - Tongwell Street South	3 - A509 West	4 - Tongwell Street North
From	1 - A509 East	33	5	3	11
	2 - Tongwell Street South	0	0	2	2
	3 - A509 West	1	4	0	0
	4 - Tongwell Street North	4	2	3	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - A509 East	0.40	2.53	0.7	A	952	952
2 - Tongwell Street South	0.48	3.23	0.9	A	1012	1012
3 - A509 West	0.73	6.24	2.7	A	1588	1588
4 - Tongwell Street North	0.57	4.89	1.3	A	976	976

Main Results for each time segment

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - A509 East	952	238	865	2377	0.400	949	1801	0.0	0.7	2.517	A
2 - Tongwell Street South	1012	253	965	2127	0.476	1008	849	0.0	0.9	3.206	A
3 - A509 West	1588	397	875	2167	0.733	1577	1099	0.0	2.7	5.999	A
4 - Tongwell Street North	976	244	1695	1721	0.567	971	757	0.0	1.3	4.769	A

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - A509 East	952	238	870	2374	0.401	952	1812	0.7	0.7	2.531	A
2 - Tongwell Street South	1012	253	968	2125	0.476	1012	854	0.9	0.9	3.233	A
3 - A509 West	1588	397	878	2165	0.734	1588	1102	2.7	2.7	6.234	A
4 - Tongwell Street North	976	244	1706	1713	0.570	976	760	1.3	1.3	4.886	A

17:30 - 17:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - A509 East	952	238	870	2374	0.401	952	1812	0.7	0.7	2.531	A
2 - Tongwell Street South	1012	253	968	2125	0.476	1012	854	0.9	0.9	3.233	A
3 - A509 West	1588	397	878	2165	0.734	1588	1102	2.7	2.7	6.236	A
4 - Tongwell Street North	976	244	1706	1713	0.570	976	760	1.3	1.3	4.886	A

17:45 - 18:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - A509 East	952	238	870	2374	0.401	952	1812	0.7	0.7	2.531	A
2 - Tongwell Street South	1012	253	968	2125	0.476	1012	854	0.9	0.9	3.233	A
3 - A509 West	1588	397	878	2165	0.734	1588	1102	2.7	2.7	6.239	A
4 - Tongwell Street North	976	244	1706	1713	0.570	976	760	1.3	1.3	4.886	A

2031 Base + Committed + Proposed Dev, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	2 - Tongwell Street South - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	4 - Tongwell Street North - 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	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout	1, 2, 3, 4	56.78	F

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D11	2031 Base + Committed + Proposed Dev	AM	FLAT	08:00	09:00	60	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - A509 East		FLAT	✓	2267	100.000
2 - Tongwell Street South		FLAT	✓	980	100.000
3 - A509 West		FLAT	✓	1083	100.000
4 - Tongwell Street North		FLAT	✓	1054	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1 - A509 East	2 - Tongwell Street South	3 - A509 West	4 - Tongwell Street North
From	1 - A509 East	5	90	1605	567
	2 - Tongwell Street South	38	1	283	658
	3 - A509 West	739	311	0	33
	4 - Tongwell Street North	244	764	45	1

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1 - A509 East	2 - Tongwell Street South	3 - A509 West	4 - Tongwell Street North
From	1 - A509 East	25	5	3	6
	2 - Tongwell Street South	3	0	2	1
	3 - A509 West	3	1	0	0
	4 - Tongwell Street North	16	2	3	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - A509 East	1.02	125.03	81.1	F	2267	2267
2 - Tongwell Street South	0.78	12.88	3.4	B	980	980
3 - A509 West	0.58	4.53	1.4	A	1083	1083
4 - Tongwell Street North	0.50	3.43	1.0	A	1054	1054

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - A509 East	2267	567	1117	2216	1.023	2145	1021	0.0	30.4	33.722	D
2 - Tongwell Street South	980	245	2106	1300	0.754	968	1157	0.0	2.9	10.507	B
3 - A509 West	1083	271	1231	1895	0.572	1078	1843	0.0	1.3	4.378	A
4 - Tongwell Street North	1054	263	1088	2108	0.500	1050	1221	0.0	1.0	3.390	A

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - A509 East	2267	567	1122	2212	1.025	2193	1026	30.4	48.9	72.387	F
2 - Tongwell Street South	980	245	2152	1266	0.774	979	1163	2.9	3.3	12.421	B
3 - A509 West	1083	271	1250	1881	0.576	1083	1880	1.3	1.3	4.512	A
4 - Tongwell Street North	1054	263	1094	2104	0.501	1054	1240	1.0	1.0	3.428	A

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - A509 East	2267	567	1122	2212	1.025	2201	1026	48.9	65.4	99.607	F
2 - Tongwell Street South	980	245	2159	1261	0.777	980	1163	3.3	3.4	12.746	B
3 - A509 West	1083	271	1253	1879	0.576	1083	1886	1.3	1.4	4.523	A
4 - Tongwell Street North	1054	263	1094	2104	0.501	1054	1242	1.0	1.0	3.428	A

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - A509 East	2267	567	1122	2212	1.025	2204	1026	65.4	81.1	125.032	F
2 - Tongwell Street South	980	245	2163	1258	0.779	980	1163	3.4	3.4	12.881	B
3 - A509 West	1083	271	1254	1878	0.577	1083	1889	1.4	1.4	4.528	A
4 - Tongwell Street North	1054	263	1094	2104	0.501	1054	1243	1.0	1.0	3.428	A

2031 Base + Committed + Proposed Dev, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	2 - Tongwell Street South - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	4 - Tongwell Street North - 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	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout	1, 2, 3, 4	4.38	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D12	2031 Base + Committed + Proposed Dev	PM	FLAT	17:00	18:00	60	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - A509 East		FLAT	✓	944	100.000
2 - Tongwell Street South		FLAT	✓	1024	100.000
3 - A509 West		FLAT	✓	1558	100.000
4 - Tongwell Street North		FLAT	✓	984	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1 - A509 East	2 - Tongwell Street South	3 - A509 West	4 - Tongwell Street North
From	1 - A509 East	3	24	719	198
	2 - Tongwell Street South	150	5	323	546
	3 - A509 West	1238	275	2	43
	4 - Tongwell Street North	393	553	38	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1 - A509 East	2 - Tongwell Street South	3 - A509 West	4 - Tongwell Street North
From	1 - A509 East	33	5	3	10
	2 - Tongwell Street South	0	0	2	1
	3 - A509 West	1	4	0	0
	4 - Tongwell Street North	4	2	3	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - A509 East	0.40	2.51	0.7	A	944	944
2 - Tongwell Street South	0.48	3.22	0.9	A	1024	1024
3 - A509 West	0.72	6.05	2.6	A	1558	1558
4 - Tongwell Street North	0.57	4.78	1.3	A	984	984

Main Results for each time segment

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - A509 East	944	236	868	2379	0.397	941	1773	0.0	0.7	2.500	A
2 - Tongwell Street South	1024	256	957	2145	0.477	1020	852	0.0	0.9	3.189	A
3 - A509 West	1558	389	899	2155	0.723	1548	1079	0.0	2.5	5.838	A
4 - Tongwell Street North	984	246	1663	1745	0.564	979	784	0.0	1.3	4.670	A

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - A509 East	944	236	873	2375	0.397	944	1784	0.7	0.7	2.514	A
2 - Tongwell Street South	1024	256	960	2143	0.478	1024	857	0.9	0.9	3.215	A
3 - A509 West	1558	389	902	2153	0.724	1558	1082	2.5	2.6	6.048	A
4 - Tongwell Street North	984	246	1673	1737	0.566	984	787	1.3	1.3	4.778	A

17:30 - 17:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - A509 East	944	236	873	2375	0.397	944	1784	0.7	0.7	2.514	A
2 - Tongwell Street South	1024	256	960	2143	0.478	1024	857	0.9	0.9	3.215	A
3 - A509 West	1558	389	902	2153	0.724	1558	1082	2.6	2.6	6.051	A
4 - Tongwell Street North	984	246	1673	1737	0.566	984	787	1.3	1.3	4.779	A

17:45 - 18:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - A509 East	944	236	873	2375	0.397	944	1784	0.7	0.7	2.514	A
2 - Tongwell Street South	1024	256	960	2143	0.478	1024	857	0.9	0.9	3.215	A
3 - A509 West	1558	389	902	2153	0.724	1558	1082	2.6	2.6	6.053	A
4 - Tongwell Street North	984	246	1673	1737	0.566	984	787	1.3	1.3	4.779	A

2033 Base + Committed + Proposed Dev, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	2 - Tongwell Street South - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	4 - Tongwell Street North - 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	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout	1, 2, 3, 4	89.35	F

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D13	2033 Base + Committed + Proposed Dev	AM	FLAT	08:00	09:00	60	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - A509 East		FLAT	✓	2311	100.000
2 - Tongwell Street South		FLAT	✓	1001	100.000
3 - A509 West		FLAT	✓	1102	100.000
4 - Tongwell Street North		FLAT	✓	1084	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1 - A509 East	2 - Tongwell Street South	3 - A509 West	4 - Tongwell Street North
From	1 - A509 East	5	92	1635	579
	2 - Tongwell Street South	39	1	288	673
	3 - A509 West	753	316	0	33
	4 - Tongwell Street North	251	786	46	1

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1 - A509 East	2 - Tongwell Street South	3 - A509 West	4 - Tongwell Street North
From	1 - A509 East	25	5	3	6
	2 - Tongwell Street South	3	0	2	1
	3 - A509 West	3	1	0	0
	4 - Tongwell Street North	16	2	4	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - A509 East	1.05	202.00	135.3	F	2311	2311
2 - Tongwell Street South	0.79	13.41	3.7	B	1001	1001
3 - A509 West	0.59	4.69	1.4	A	1102	1102
4 - Tongwell Street North	0.52	3.58	1.1	A	1084	1084

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - A509 East	2311	578	1145	2195	1.053	2144	1042	0.0	41.9	42.753	E
2 - Tongwell Street South	1001	250	2105	1301	0.770	988	1184	0.0	3.2	11.117	B
3 - A509 West	1102	275	1247	1884	0.585	1096	1847	0.0	1.4	4.542	A
4 - Tongwell Street North	1084	271	1108	2093	0.518	1080	1235	0.0	1.1	3.539	A

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - A509 East	2311	578	1150	2191	1.055	2183	1048	41.9	73.8	102.279	F
2 - Tongwell Street South	1001	250	2143	1272	0.787	1000	1190	3.2	3.5	13.083	B
3 - A509 West	1102	275	1265	1871	0.589	1102	1878	1.4	1.4	4.681	A
4 - Tongwell Street North	1084	271	1114	2089	0.519	1084	1253	1.1	1.1	3.582	A

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - A509 East	2311	578	1150	2191	1.055	2187	1048	73.8	104.7	152.395	F
2 - Tongwell Street South	1001	250	2147	1270	0.788	1001	1190	3.5	3.6	13.325	B
3 - A509 West	1102	275	1266	1869	0.590	1102	1881	1.4	1.4	4.691	A
4 - Tongwell Street North	1084	271	1114	2089	0.519	1084	1255	1.1	1.1	3.582	A

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - A509 East	2311	578	1150	2191	1.055	2189	1048	104.7	135.3	202.003	F
2 - Tongwell Street South	1001	250	2149	1269	0.789	1001	1190	3.6	3.7	13.411	B
3 - A509 West	1102	275	1267	1869	0.590	1102	1883	1.4	1.4	4.694	A
4 - Tongwell Street North	1084	271	1114	2089	0.519	1084	1255	1.1	1.1	3.582	A

2033 Base + Committed + Proposed Dev, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	2 - Tongwell Street South - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	4 - Tongwell Street North - 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	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout	1, 2, 3, 4	4.68	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 period length (min)	Time segment length (min)	Run automatically
D14	2033 Base + Committed + Proposed Dev	PM	FLAT	17:00	18:00	60	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - A509 East		FLAT	✓	965	100.000
2 - Tongwell Street South		FLAT	✓	1050	100.000
3 - A509 West		FLAT	✓	1588	100.000
4 - Tongwell Street North		FLAT	✓	1006	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1 - A509 East	2 - Tongwell Street South	3 - A509 West	4 - Tongwell Street North
From	1 - A509 East	4	24	733	204
	2 - Tongwell Street South	153	5	329	563
	3 - A509 West	1262	280	2	44
	4 - Tongwell Street North	401	567	38	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1 - A509 East	2 - Tongwell Street South	3 - A509 West	4 - Tongwell Street North
From	1 - A509 East	33	5	3	10
	2 - Tongwell Street South	0	0	2	1
	3 - A509 West	1	4	0	0
	4 - Tongwell Street North	4	2	3	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - A509 East	0.41	2.58	0.7	A	965	965
2 - Tongwell Street South	0.49	3.34	1.0	A	1050	1050
3 - A509 West	0.74	6.60	2.9	A	1588	1588
4 - Tongwell Street North	0.59	5.09	1.4	A	1006	1006

Main Results for each time segment

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - A509 East	965	241	887	2364	0.408	962	1808	0.0	0.7	2.564	A
2 - Tongwell Street South	1050	262	978	2130	0.493	1046	871	0.0	1.0	3.310	A
3 - A509 West	1588	397	926	2135	0.744	1577	1098	0.0	2.8	6.326	A
4 - Tongwell Street North	1006	251	1694	1721	0.584	1000	808	0.0	1.4	4.957	A

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - A509 East	965	241	892	2360	0.409	965	1820	0.7	0.7	2.579	A
2 - Tongwell Street South	1050	262	981	2127	0.494	1050	876	1.0	1.0	3.340	A
3 - A509 West	1588	397	929	2133	0.745	1588	1102	2.8	2.9	6.598	A
4 - Tongwell Street North	1006	251	1706	1713	0.587	1006	811	1.4	1.4	5.092	A

17:30 - 17:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - A509 East	965	241	892	2360	0.409	965	1820	0.7	0.7	2.579	A
2 - Tongwell Street South	1050	262	981	2127	0.494	1050	876	1.0	1.0	3.340	A
3 - A509 West	1588	397	929	2133	0.745	1588	1102	2.9	2.9	6.604	A
4 - Tongwell Street North	1006	251	1706	1713	0.587	1006	811	1.4	1.4	5.092	A

17:45 - 18:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - A509 East	965	241	892	2360	0.409	965	1820	0.7	0.7	2.579	A
2 - Tongwell Street South	1050	262	981	2127	0.494	1050	876	1.0	1.0	3.340	A
3 - A509 West	1588	397	929	2133	0.745	1588	1102	2.9	2.9	6.604	A
4 - Tongwell Street North	1006	251	1706	1713	0.587	1006	811	1.4	1.4	5.093	A

2033 Base + Committed + Proposed Dev (MKE Trip Rates), AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	2 - Tongwell Street South - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	4 - Tongwell Street North - 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	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout	1, 2, 3, 4	81.85	F

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D15	2033 Base + Committed + Proposed Dev (MKE Trip Rates)	AM	FLAT	08:00	09:00	60	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - A509 East		FLAT	✓	2308	100.000
2 - Tongwell Street South		FLAT	✓	995	100.000
3 - A509 West		FLAT	✓	1102	100.000
4 - Tongwell Street North		FLAT	✓	1064	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1 - A509 East	2 - Tongwell Street South	3 - A509 West	4 - Tongwell Street North
From	1 - A509 East	5	92	1635	576
	2 - Tongwell Street South	39	1	288	667
	3 - A509 West	753	316	0	33
	4 - Tongwell Street North	246	771	46	1

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1 - A509 East	2 - Tongwell Street South	3 - A509 West	4 - Tongwell Street North
From	1 - A509 East	25	5	3	6
	2 - Tongwell Street South	3	0	2	1
	3 - A509 West	3	1	0	0
	4 - Tongwell Street North	16	2	4	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - A509 East	1.05	183.54	122.8	F	2308	2308
2 - Tongwell Street South	0.79	13.48	3.6	B	995	995
3 - A509 West	0.59	4.67	1.4	A	1102	1102
4 - Tongwell Street North	0.51	3.51	1.0	A	1064	1064

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - A509 East	2308	577	1130	2206	1.046	2151	1037	0.0	39.2	40.569	E
2 - Tongwell Street South	995	249	2112	1295	0.768	982	1169	0.0	3.1	11.098	B
3 - A509 West	1102	275	1241	1888	0.584	1096	1854	0.0	1.4	4.517	A
4 - Tongwell Street North	1064	266	1108	2093	0.508	1060	1229	0.0	1.0	3.470	A

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - A509 East	2308	577	1135	2202	1.048	2193	1043	39.2	68.0	95.081	F
2 - Tongwell Street South	995	249	2152	1266	0.786	994	1175	3.1	3.5	13.111	B
3 - A509 West	1102	275	1259	1875	0.588	1102	1887	1.4	1.4	4.657	A
4 - Tongwell Street North	1064	266	1114	2089	0.509	1064	1247	1.0	1.0	3.512	A

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - A509 East	2308	577	1135	2202	1.048	2198	1043	68.0	95.6	139.682	F
2 - Tongwell Street South	995	249	2157	1262	0.788	995	1176	3.5	3.6	13.384	B
3 - A509 West	1102	275	1261	1873	0.588	1102	1891	1.4	1.4	4.667	A
4 - Tongwell Street North	1064	266	1114	2089	0.509	1064	1249	1.0	1.0	3.512	A

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - A509 East	2308	577	1135	2202	1.048	2199	1043	95.6	122.8	183.539	F
2 - Tongwell Street South	995	249	2159	1261	0.789	995	1176	3.6	3.6	13.479	B
3 - A509 West	1102	275	1262	1873	0.588	1102	1892	1.4	1.4	4.670	A
4 - Tongwell Street North	1064	266	1114	2089	0.509	1064	1250	1.0	1.0	3.512	A

2033 Base + Committed + Proposed Dev (MKE Trip Rates), PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	2 - Tongwell Street South - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	4 - Tongwell Street North - 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	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout	1, 2, 3, 4	4.63	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 period length (min)	Time segment length (min)	Run automatically
D16	2033 Base + Committed + Proposed Dev (MKE Trip Rates)	PM	FLAT	17:00	18:00	60	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - A509 East		FLAT	✓	961	100.000
2 - Tongwell Street South		FLAT	✓	1039	100.000
3 - A509 West		FLAT	✓	1588	100.000
4 - Tongwell Street North		FLAT	✓	996	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1 - A509 East	2 - Tongwell Street South	3 - A509 West	4 - Tongwell Street North
From	1 - A509 East	4	24	733	200
	2 - Tongwell Street South	153	5	329	552
	3 - A509 West	1262	280	2	44
	4 - Tongwell Street North	398	560	38	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1 - A509 East	2 - Tongwell Street South	3 - A509 West	4 - Tongwell Street North
From	1 - A509 East	33	5	3	10
	2 - Tongwell Street South	0	0	2	2
	3 - A509 West	1	4	0	0
	4 - Tongwell Street North	4	2	3	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - A509 East	0.41	2.56	0.7	A	961	961
2 - Tongwell Street South	0.49	3.33	1.0	A	1039	1039
3 - A509 West	0.74	6.52	2.9	A	1588	1588
4 - Tongwell Street North	0.58	5.02	1.4	A	996	996

Main Results for each time segment

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - A509 East	961	240	880	2370	0.406	958	1805	0.0	0.7	2.546	A
2 - Tongwell Street South	1039	260	974	2122	0.490	1035	864	0.0	1.0	3.303	A
3 - A509 West	1588	397	911	2142	0.741	1577	1099	0.0	2.8	6.251	A
4 - Tongwell Street North	996	249	1695	1721	0.579	991	793	0.0	1.4	4.892	A

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - A509 East	961	240	885	2366	0.406	961	1817	0.7	0.7	2.561	A
2 - Tongwell Street South	1039	260	977	2119	0.490	1039	869	1.0	1.0	3.331	A
3 - A509 West	1588	397	914	2140	0.742	1588	1102	2.8	2.8	6.514	A
4 - Tongwell Street North	996	249	1706	1713	0.581	996	796	1.4	1.4	5.021	A

17:30 - 17:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - A509 East	961	240	885	2366	0.406	961	1817	0.7	0.7	2.561	A
2 - Tongwell Street South	1039	260	977	2119	0.490	1039	869	1.0	1.0	3.331	A
3 - A509 West	1588	397	914	2140	0.742	1588	1102	2.8	2.8	6.519	A
4 - Tongwell Street North	996	249	1706	1713	0.582	996	796	1.4	1.4	5.022	A

17:45 - 18:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - A509 East	961	240	885	2366	0.406	961	1817	0.7	0.7	2.561	A
2 - Tongwell Street South	1039	260	977	2119	0.490	1039	869	1.0	1.0	3.331	A
3 - A509 West	1588	397	914	2140	0.742	1588	1102	2.8	2.9	6.522	A
4 - Tongwell Street North	996	249	1706	1713	0.582	996	796	1.4	1.4	5.022	A

2033 Base + Committed + Proposed Dev (10% Modal Shift), AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	2 - Tongwell Street South - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	4 - Tongwell Street North - 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	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout	1, 2, 3, 4	86.83	F

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D17	2033 Base + Committed + Proposed Dev (10% Modal Shift)	AM	FLAT	08:00	09:00	60	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - A509 East		FLAT	✓	2310	100.000
2 - Tongwell Street South		FLAT	✓	999	100.000
3 - A509 West		FLAT	✓	1102	100.000
4 - Tongwell Street North		FLAT	✓	1077	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1 - A509 East	2 - Tongwell Street South	3 - A509 West	4 - Tongwell Street North
From	1 - A509 East	5	92	1635	578
	2 - Tongwell Street South	39	1	288	671
	3 - A509 West	753	316	0	33
	4 - Tongwell Street North	249	781	46	1

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1 - A509 East	2 - Tongwell Street South	3 - A509 West	4 - Tongwell Street North
From	1 - A509 East	25	5	3	6
	2 - Tongwell Street South	3	0	2	1
	3 - A509 West	3	1	0	0
	4 - Tongwell Street North	16	2	4	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - A509 East	1.05	195.78	131.1	F	2310	2310
2 - Tongwell Street South	0.79	13.44	3.7	B	999	999
3 - A509 West	0.59	4.69	1.4	A	1102	1102
4 - Tongwell Street North	0.52	3.56	1.1	A	1077	1077

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - A509 East	2310	577	1140	2198	1.051	2146	1040	0.0	41.0	42.014	E
2 - Tongwell Street South	999	250	2107	1299	0.769	986	1179	0.0	3.2	11.111	B
3 - A509 West	1102	275	1245	1885	0.585	1096	1849	0.0	1.4	4.533	A
4 - Tongwell Street North	1077	269	1108	2093	0.515	1073	1233	0.0	1.1	3.514	A

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - A509 East	2310	577	1145	2195	1.052	2186	1046	41.0	71.9	99.849	F
2 - Tongwell Street South	999	250	2146	1270	0.786	998	1185	3.2	3.5	13.093	B
3 - A509 West	1102	275	1263	1872	0.589	1102	1881	1.4	1.4	4.673	A
4 - Tongwell Street North	1077	269	1114	2089	0.516	1077	1251	1.1	1.1	3.557	A

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - A509 East	2310	577	1145	2195	1.052	2191	1046	71.9	101.7	148.105	F
2 - Tongwell Street South	999	250	2151	1267	0.788	999	1185	3.5	3.6	13.349	B
3 - A509 West	1102	275	1265	1871	0.589	1102	1884	1.4	1.4	4.683	A
4 - Tongwell Street North	1077	269	1114	2089	0.516	1077	1253	1.1	1.1	3.557	A

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - A509 East	2310	577	1145	2195	1.052	2192	1046	101.7	131.1	195.780	F
2 - Tongwell Street South	999	250	2152	1266	0.789	999	1185	3.6	3.7	13.435	B
3 - A509 West	1102	275	1265	1870	0.589	1102	1886	1.4	1.4	4.686	A
4 - Tongwell Street North	1077	269	1114	2089	0.516	1077	1253	1.1	1.1	3.557	A

2033 Base + Committed + Proposed Dev (10% Modal Shift), PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	2 - Tongwell Street South - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	4 - Tongwell Street North - 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	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout	1, 2, 3, 4	4.65	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 period length (min)	Time segment length (min)	Run automatically
D18	2033 Base + Committed + Proposed Dev (10% Modal Shift)	PM	FLAT	17:00	18:00	60	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - A509 East		FLAT	✓	963	100.000
2 - Tongwell Street South		FLAT	✓	1046	100.000
3 - A509 West		FLAT	✓	1588	100.000
4 - Tongwell Street North		FLAT	✓	1003	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1 - A509 East	2 - Tongwell Street South	3 - A509 West	4 - Tongwell Street North
From	1 - A509 East	4	24	733	202
	2 - Tongwell Street South	153	5	329	559
	3 - A509 West	1262	280	2	44
	4 - Tongwell Street North	400	565	38	0

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1 - A509 East	2 - Tongwell Street South	3 - A509 West	4 - Tongwell Street North
From	1 - A509 East	33	5	3	10
	2 - Tongwell Street South	0	0	2	1
	3 - A509 West	1	4	0	0
	4 - Tongwell Street North	4	2	3	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - A509 East	0.41	2.57	0.7	A	963	963
2 - Tongwell Street South	0.49	3.32	1.0	A	1046	1046
3 - A509 West	0.74	6.55	2.9	A	1588	1588
4 - Tongwell Street North	0.59	5.07	1.4	A	1003	1003

Main Results for each time segment

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - A509 East	963	241	885	2366	0.407	960	1807	0.0	0.7	2.557	A
2 - Tongwell Street South	1046	262	976	2131	0.491	1042	869	0.0	1.0	3.296	A
3 - A509 West	1588	397	920	2140	0.742	1577	1098	0.0	2.8	6.278	A
4 - Tongwell Street North	1003	251	1695	1721	0.583	997	802	0.0	1.4	4.937	A

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - A509 East	963	241	890	2362	0.408	963	1819	0.7	0.7	2.572	A
2 - Tongwell Street South	1046	262	979	2129	0.491	1046	874	1.0	1.0	3.323	A
3 - A509 West	1588	397	923	2137	0.743	1588	1102	2.8	2.8	6.545	A
4 - Tongwell Street North	1003	251	1706	1713	0.586	1003	805	1.4	1.4	5.070	A

17:30 - 17:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - A509 East	963	241	890	2362	0.408	963	1819	0.7	0.7	2.572	A
2 - Tongwell Street South	1046	262	979	2129	0.491	1046	874	1.0	1.0	3.323	A
3 - A509 West	1588	397	923	2137	0.743	1588	1102	2.8	2.9	6.551	A
4 - Tongwell Street North	1003	251	1706	1713	0.586	1003	805	1.4	1.4	5.071	A

17:45 - 18:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - A509 East	963	241	890	2362	0.408	963	1819	0.7	0.7	2.572	A
2 - Tongwell Street South	1046	262	979	2129	0.491	1046	874	1.0	1.0	3.323	A
3 - A509 West	1588	397	923	2137	0.743	1588	1102	2.9	2.9	6.553	A
4 - Tongwell Street North	1003	251	1706	1713	0.586	1003	805	1.4	1.4	5.071	A

<h1>Junctions 9</h1>			
<h2>ARCADY 9 - Roundabout Module</h2>			
Version: 9.0.2.5947 © Copyright TRL Limited, 2017			
<div style="background-color: black; width: 100%; height: 20px; margin-bottom: 5px;"></div>			
The users of this computer program for the solution of an engineering problem are in no way relieved of their responsibility for the correctness of the solution			

Filename: 2021 10 15 Tongwell Roundabout.j9

Path: P:\JNY10094 - Newport Pagnell\Transport\Arcady\2021 07 20 BD Updates

Report generation date: 15/10/2021 17:03:16

- »2021 Base, AM
- »2021 Base, PM
- »2031 Base + Committed, AM
- »2031 Base + Committed, PM
- »2033 Base + Committed, AM
- »2033 Base + Committed, PM
- »2031 Base + Committed + Proposed Dev, AM
- »2031 Base + Committed + Proposed Dev, PM
- »2033 Base + Committed + Proposed Dev, AM
- »2033 Base + Committed + Proposed Dev, PM
- »2033 Base + Committed + Proposed Dev (MKE Trip Rates), AM
- »2033 Base + Committed + Proposed Dev (MKE Trip Rates), PM
- »2033 Base + Committed + Proposed Dev (10% Modal Shift), AM
- »2033 Base + Committed + Proposed Dev (10% Modal Shift), PM

Summary of junction performance

	AM				PM			
	Queue (Veh)	Delay (s)	RFC	LOS	Queue (Veh)	Delay (s)	RFC	LOS
2021 Base								
1 - Tongwell Street	2.4	8.21	0.71	A	0.5	3.00	0.34	A
2 - Danstead Way	0.4	3.20	0.28	A	0.6	3.50	0.39	A
3 - Michigan Drive	0.1	3.20	0.07	A	0.6	5.02	0.38	A
4 - Willen Road North	4.4	11.12	0.82	B	0.6	3.53	0.36	A
2031 Base + Committed								
1 - Tongwell Street	5.9	17.86	0.86	C	0.7	3.46	0.40	A
2 - Danstead Way	0.5	3.64	0.34	A	0.9	4.03	0.46	A
3 - Michigan Drive	0.1	3.47	0.08	A	0.9	6.28	0.47	A
4 - Willen Road North	13.7	31.74	0.94	D	0.9	4.36	0.46	A
2033 Base + Committed								
1 - Tongwell Street	7.1	21.17	0.88	C	0.7	3.52	0.41	A
2 - Danstead Way	0.5	3.69	0.35	A	0.9	4.12	0.47	A
3 - Michigan Drive	0.1	3.50	0.09	A	0.9	6.52	0.48	A
4 - Willen Road North	18.5	42.17	0.96	E	0.9	4.47	0.47	A
2031 Base + Committed + Proposed Dev								
1 - Tongwell Street	7.7	23.23	0.89	C	0.8	3.64	0.43	A
2 - Danstead Way	0.6	3.73	0.36	A	1.0	4.41	0.50	A
3 - Michigan Drive	0.1	3.52	0.09	A	1.0	6.99	0.50	A
4 - Willen Road North	49.3	101.22	1.01	F	1.0	4.72	0.50	A
2033 Base + Committed + Proposed Dev								
1 - Tongwell Street	9.7	28.72	0.91	D	0.8	3.78	0.45	A
2 - Danstead Way	0.6	3.82	0.37	A	1.1	4.64	0.52	A
3 - Michigan Drive	0.1	3.57	0.09	A	1.1	7.54	0.52	A

4 - Willen Road North	89.4	171.87	1.04	F	1.1	4.95	0.52	A
2033 Base + Committed + Proposed Dev (MKE Trip Rates)								
1 - Tongwell Street	8.8	26.22	0.91	D	0.8	3.72	0.44	A
2 - Dansteed Way	0.6	3.76	0.36	A	1.0	4.48	0.51	A
3 - Michigan Drive	0.1	3.55	0.09	A	1.0	7.23	0.51	A
4 - Willen Road North	58.7	118.20	1.02	F	1.0	4.77	0.51	A
2033 Base + Committed + Proposed Dev (10% Modal Shift)								
1 - Tongwell Street	9.4	27.81	0.91	D	0.8	3.71	0.44	A
2 - Dansteed Way	0.6	3.81	0.37	A	1.1	4.58	0.52	A
3 - Michigan Drive	0.1	3.56	0.09	A	1.1	7.42	0.52	A
4 - Willen Road North	83.3	161.74	1.04	F	1.0	4.78	0.51	A

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

File summary

File Description

Title	
Location	
Site number	
Date	20/05/2020
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	EUR\Danesh.Aryan
Description	

Units

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

Analysis Options

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

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D1	2021 Base	AM	FLAT	08:00	09:00	60	15	✓
D2	2021 Base	PM	FLAT	17:00	18:00	60	15	✓
D7	2031 Base + Committed	AM	FLAT	08:00	09:00	60	15	✓
D8	2031 Base + Committed	PM	FLAT	17:00	18:00	60	15	✓
D9	2033 Base + Committed	AM	FLAT	08:00	09:00	60	15	✓
D10	2033 Base + Committed	PM	FLAT	17:00	18:00	60	15	✓
D11	2031 Base + Committed + Proposed Dev	AM	FLAT	08:00	09:00	60	15	✓
D12	2031 Base + Committed + Proposed Dev	PM	FLAT	17:00	18:00	60	15	✓
D13	2033 Base + Committed + Proposed Dev	AM	FLAT	08:00	09:00	60	15	✓
D14	2033 Base + Committed + Proposed Dev	PM	FLAT	17:00	18:00	60	15	✓
D15	2033 Base + Committed + Proposed Dev (MKE Trip Rates)	AM	FLAT	08:00	09:00	60	15	✓
D16	2033 Base + Committed + Proposed Dev (MKE Trip Rates)	PM	FLAT	17:00	18:00	60	15	✓
D17	2033 Base + Committed + Proposed Dev (10% Modal Shift)	AM	FLAT	08:00	09:00	60	15	✓
D18	2033 Base + Committed + Proposed Dev (10% Modal Shift)	PM	FLAT	17:00	18:00	60	15	✓

Analysis Set Details

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

2021 Base, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout	1, 2, 3, 4	8.69	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description
1	Tongwell Street	
2	Dansteed Way	
3	Michigan Drive	
4	Willen Road North	

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 - Tongwell Street	3.80	8.80	21.0	55.7	65.9	25.0	
2 - Dansteed Way	3.90	8.50	14.6	40.0	65.9	25.0	
3 - Michigan Drive	3.70	7.29	10.7	31.8	65.9	22.0	
4 - Willen Road North	3.90	8.20	16.6	31.3	65.9	23.0	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
1 - Tongwell Street	0.604	2109
2 - Dansteed Way	0.577	1954
3 - Michigan Drive	0.540	1721
4 - Willen Road North	0.580	1973

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 period length (min)	Time segment length (min)	Run automatically
D1	2021 Base	AM	FLAT	08:00	09:00	60	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Tongwell Street		FLAT	✓	1071	100.000
2 - Dansteed Way		FLAT	✓	445	100.000
3 - Michigan Drive		FLAT	✓	85	100.000
4 - Willen Road North		FLAT	✓	1449	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1 - Tongwell Street	2 - Dansteed Way	3 - Michigan Drive	4 - Willen Road North
From	1 - Tongwell Street	1	628	141	301
	2 - Dansteed Way	201	4	35	205
	3 - Michigan Drive	44	18	0	23
	4 - Willen Road North	557	819	70	3

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1 - Tongwell Street	2 - Dansteed Way	3 - Michigan Drive	4 - Willen Road North
From	1 - Tongwell Street	0	2	2	3
	2 - Dansteed Way	8	0	0	3
	3 - Michigan Drive	12	6	0	5
	4 - Willen Road North	1	2	7	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - Tongwell Street	0.71	8.21	2.4	A	1071	1071
2 - Dansteed Way	0.28	3.20	0.4	A	445	445
3 - Michigan Drive	0.07	3.20	0.1	A	85	85
4 - Willen Road North	0.82	11.12	4.4	B	1449	1449

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tongwell Street	1071	268	904	1516	0.707	1062	796	0.0	2.3	7.779	A
2 - Dansteed Way	445	111	511	1571	0.283	443	1454	0.0	0.4	3.188	A
3 - Michigan Drive	85	21	711	1213	0.070	85	244	0.0	0.1	3.189	A
4 - Willen Road North	1449	362	267	1773	0.817	1432	529	0.0	4.2	10.123	B

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tongwell Street	1071	268	914	1509	0.710	1071	803	2.3	2.4	8.196	A
2 - Dansteed Way	445	111	516	1568	0.284	445	1469	0.4	0.4	3.203	A
3 - Michigan Drive	85	21	715	1211	0.070	85	246	0.1	0.1	3.195	A

4 - Willen Road North	1449	362	268	1772	0.818	1448	532	4.2	4.3	11.075	B
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08:30 - 08:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tongwell Street	1071	268	914	1509	0.710	1071	803	2.4	2.4	8.208	A
2 - Danstead Way	445	111	516	1568	0.284	445	1469	0.4	0.4	3.203	A
3 - Michigan Drive	85	21	715	1211	0.070	85	246	0.1	0.1	3.195	A
4 - Willen Road North	1449	362	268	1772	0.818	1449	532	4.3	4.4	11.106	B

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tongwell Street	1071	268	914	1509	0.710	1071	803	2.4	2.4	8.210	A
2 - Danstead Way	445	111	516	1568	0.284	445	1469	0.4	0.4	3.203	A
3 - Michigan Drive	85	21	715	1211	0.070	85	246	0.1	0.1	3.195	A
4 - Willen Road North	1449	362	268	1772	0.818	1449	532	4.4	4.4	11.119	B

2021 Base, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout	1, 2, 3, 4	3.66	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 period length (min)	Time segment length (min)	Run automatically
D2	2021 Base	PM	FLAT	17:00	18:00	60	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Tongwell Street		FLAT	✓	614	100.000
2 - Dansteed Way		FLAT	✓	669	100.000
3 - Michigan Drive		FLAT	✓	445	100.000
4 - Willen Road North		FLAT	✓	577	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1 - Tongwell Street	2 - Dansteed Way	3 - Michigan Drive	4 - Willen Road North
From	1 - Tongwell Street	1	230	26	357
	2 - Dansteed Way	283	3	12	371
	3 - Michigan Drive	234	82	1	128
	4 - Willen Road North	245	320	11	1

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1 - Tongwell Street	2 - Dansteed Way	3 - Michigan Drive	4 - Willen Road North
From	1 - Tongwell Street	0	4	0	1
	2 - Dansteed Way	2	0	8	1
	3 - Michigan Drive	0	0	0	1
	4 - Willen Road North	1	2	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - Tongwell Street	0.34	3.00	0.5	A	614	614
2 - Dansteed Way	0.39	3.50	0.6	A	669	669
3 - Michigan Drive	0.38	5.02	0.6	A	445	445
4 - Willen Road North	0.36	3.53	0.6	A	577	577

Main Results for each time segment

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tongwell Street	614	153	416	1816	0.338	612	760	0.0	0.5	2.984	A
2 - Dansteed Way	669	167	396	1698	0.394	666	633	0.0	0.6	3.482	A
3 - Michigan Drive	445	111	1012	1164	0.382	443	50	0.0	0.6	4.970	A
4 - Willen Road North	577	144	601	1597	0.361	575	854	0.0	0.6	3.515	A

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tongwell Street	614	153	418	1815	0.338	614	763	0.5	0.5	2.996	A
2 - Dansteed Way	669	167	397	1697	0.394	669	635	0.6	0.6	3.501	A
3 - Michigan Drive	445	111	1016	1162	0.383	445	50	0.6	0.6	5.017	A
4 - Willen Road North	577	144	604	1595	0.362	577	857	0.6	0.6	3.534	A

17:30 - 17:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tongwell Street	614	153	418	1815	0.338	614	763	0.5	0.5	2.996	A
2 - Dansteed Way	669	167	397	1697	0.394	669	635	0.6	0.6	3.501	A
3 - Michigan Drive	445	111	1016	1162	0.383	445	50	0.6	0.6	5.018	A
4 - Willen Road North	577	144	604	1595	0.362	577	857	0.6	0.6	3.534	A

17:45 - 18:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tongwell Street	614	153	418	1815	0.338	614	763	0.5	0.5	2.996	A
2 - Dansteed Way	669	167	397	1697	0.394	669	635	0.6	0.6	3.501	A
3 - Michigan Drive	445	111	1016	1162	0.383	445	50	0.6	0.6	5.018	A
4 - Willen Road North	577	144	604	1595	0.362	577	857	0.6	0.6	3.534	A

2031 Base + Committed, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout	1, 2, 3, 4	21.76	C

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D7	2031 Base + Committed	AM	FLAT	08:00	09:00	60	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Tongwell Street		FLAT	✓	1234	100.000
2 - Dansteed Way		FLAT	✓	521	100.000
3 - Michigan Drive		FLAT	✓	95	100.000
4 - Willen Road North		FLAT	✓	1634	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1 - Tongwell Street	2 - Dansteed Way	3 - Michigan Drive	4 - Willen Road North
From	1 - Tongwell Street	1	703	158	372
	2 - Dansteed Way	225	5	39	252
	3 - Michigan Drive	50	20	0	25
	4 - Willen Road North	633	919	79	3

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1 - Tongwell Street	2 - Dansteed Way	3 - Michigan Drive	4 - Willen Road North
From	1 - Tongwell Street	0	2	2	5
	2 - Dansteed Way	8	0	0	3
	3 - Michigan Drive	12	6	0	5

4 - Willen Road North	3	2	7	0
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Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - Tongwell Street	0.86	17.86	5.9	C	1234	1234
2 - Dansteed Way	0.34	3.64	0.5	A	521	521
3 - Michigan Drive	0.08	3.47	0.1	A	95	95
4 - Willen Road North	0.94	31.74	13.7	D	1634	1634

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tongwell Street	1234	308	1000	1449	0.852	1213	891	0.0	5.2	14.257	B
2 - Dansteed Way	521	130	602	1517	0.343	519	1611	0.0	0.5	3.599	A
3 - Michigan Drive	95	24	850	1138	0.084	95	271	0.0	0.1	3.451	A
4 - Willen Road North	1634	409	300	1739	0.939	1591	645	0.0	10.7	20.427	C

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tongwell Street	1234	308	1022	1435	0.860	1232	906	5.2	5.7	17.364	C
2 - Dansteed Way	521	130	612	1511	0.345	521	1642	0.5	0.5	3.634	A
3 - Michigan Drive	95	24	857	1134	0.084	95	275	0.1	0.1	3.465	A
4 - Willen Road North	1634	409	301	1739	0.940	1627	651	10.7	12.4	29.174	D

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tongwell Street	1234	308	1024	1434	0.861	1233	908	5.7	5.9	17.731	C
2 - Dansteed Way	521	130	613	1511	0.345	521	1645	0.5	0.5	3.635	A
3 - Michigan Drive	95	24	858	1133	0.084	95	276	0.1	0.1	3.465	A
4 - Willen Road North	1634	409	301	1739	0.940	1631	652	12.4	13.2	30.887	D

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tongwell Street	1234	308	1025	1433	0.861	1234	908	5.9	5.9	17.864	C
2 - Dansteed Way	521	130	613	1511	0.345	521	1646	0.5	0.5	3.636	A
3 - Michigan Drive	95	24	858	1133	0.084	95	276	0.1	0.1	3.466	A
4 - Willen Road North	1634	409	301	1739	0.940	1632	652	13.2	13.7	31.739	D

2031 Base + Committed, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout	1, 2, 3, 4	4.38	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D8	2031 Base + Committed	PM	FLAT	17:00	18:00	60	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Tongwell Street		FLAT	✓	707	100.000
2 - Dansteed Way		FLAT	✓	761	100.000
3 - Michigan Drive		FLAT	✓	502	100.000
4 - Willen Road North		FLAT	✓	713	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1 - Tongwell Street	2 - Dansteed Way	3 - Michigan Drive	4 - Willen Road North
From	1 - Tongwell Street	1	259	29	418
	2 - Dansteed Way	319	3	14	425
	3 - Michigan Drive	264	93	1	144
	4 - Willen Road North	313	386	13	1

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1 - Tongwell Street	2 - Dansteed Way	3 - Michigan Drive	4 - Willen Road North
From	1 - Tongwell Street	0	4	0	3
	2 - Dansteed Way	2	0	8	1
	3 - Michigan Drive	0	0	0	1

4 - Willen Road North	3	2	0	0
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Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - Tongwell Street	0.40	3.46	0.7	A	707	707
2 - Dansteed Way	0.46	4.03	0.9	A	761	761
3 - Michigan Drive	0.47	6.28	0.9	A	502	502
4 - Willen Road North	0.46	4.36	0.9	A	713	713

Main Results for each time segment

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tongwell Street	707	177	494	1749	0.404	704	892	0.0	0.7	3.436	A
2 - Dansteed Way	761	190	461	1655	0.460	758	738	0.0	0.8	3.995	A
3 - Michigan Drive	502	125	1162	1078	0.466	499	57	0.0	0.9	6.175	A
4 - Willen Road North	713	178	677	1540	0.463	710	984	0.0	0.9	4.318	A

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tongwell Street	707	177	497	1748	0.405	707	897	0.7	0.7	3.458	A
2 - Dansteed Way	761	190	463	1654	0.460	761	741	0.8	0.8	4.029	A
3 - Michigan Drive	502	125	1167	1076	0.467	502	57	0.9	0.9	6.275	A
4 - Willen Road North	713	178	681	1538	0.464	713	988	0.9	0.9	4.364	A

17:30 - 17:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tongwell Street	707	177	497	1748	0.405	707	897	0.7	0.7	3.458	A
2 - Dansteed Way	761	190	463	1654	0.460	761	741	0.8	0.8	4.029	A
3 - Michigan Drive	502	125	1167	1076	0.467	502	57	0.9	0.9	6.275	A
4 - Willen Road North	713	178	681	1538	0.464	713	988	0.9	0.9	4.364	A

17:45 - 18:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tongwell Street	707	177	497	1748	0.405	707	897	0.7	0.7	3.458	A
2 - Dansteed Way	761	190	463	1654	0.460	761	741	0.8	0.9	4.029	A
3 - Michigan Drive	502	125	1167	1076	0.467	502	57	0.9	0.9	6.276	A
4 - Willen Road North	713	178	681	1538	0.464	713	988	0.9	0.9	4.364	A

2033 Base + Committed, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout	1, 2, 3, 4	27.80	D

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D9	2033 Base + Committed	AM	FLAT	08:00	09:00	60	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Tongwell Street		FLAT	✓	1256	100.000
2 - Dansteed Way		FLAT	✓	530	100.000
3 - Michigan Drive		FLAT	✓	97	100.000
4 - Willen Road North		FLAT	✓	1665	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1 - Tongwell Street	2 - Dansteed Way	3 - Michigan Drive	4 - Willen Road North
From	1 - Tongwell Street	1	716	161	378
	2 - Dansteed Way	229	5	40	256
	3 - Michigan Drive	51	20	0	26
	4 - Willen Road North	645	936	80	4

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1 - Tongwell Street	2 - Dansteed Way	3 - Michigan Drive	4 - Willen Road North
From	1 - Tongwell Street	0	2	2	5
	2 - Dansteed Way	8	0	0	3
	3 - Michigan Drive	12	6	0	5

4 - Willen Road North	3	2	7	0
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Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - Tongwell Street	0.88	21.17	7.1	C	1256	1256
2 - Dansteed Way	0.35	3.69	0.5	A	530	530
3 - Michigan Drive	0.09	3.50	0.1	A	97	97
4 - Willen Road North	0.96	42.17	18.5	E	1665	1665

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tongwell Street	1256	314	1013	1441	0.872	1232	905	0.0	5.9	15.835	C
2 - Dansteed Way	530	132	611	1512	0.351	528	1634	0.0	0.5	3.651	A
3 - Michigan Drive	97	24	864	1130	0.086	97	275	0.0	0.1	3.482	A
4 - Willen Road North	1665	416	305	1736	0.959	1613	656	0.0	13.1	23.426	C

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tongwell Street	1256	314	1038	1426	0.881	1253	922	5.9	6.7	20.196	C
2 - Dansteed Way	530	132	622	1505	0.352	530	1669	0.5	0.5	3.689	A
3 - Michigan Drive	97	24	872	1126	0.086	97	280	0.1	0.1	3.497	A
4 - Willen Road North	1665	416	306	1736	0.959	1654	663	13.1	15.9	36.469	E

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tongwell Street	1256	314	1041	1424	0.882	1255	924	6.7	7.0	20.887	C
2 - Dansteed Way	530	132	623	1505	0.352	530	1673	0.5	0.5	3.692	A
3 - Michigan Drive	97	24	873	1126	0.086	97	281	0.1	0.1	3.498	A
4 - Willen Road North	1665	416	306	1736	0.959	1659	664	15.9	17.5	40.091	E

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tongwell Street	1256	314	1043	1423	0.883	1255	924	7.0	7.1	21.165	C
2 - Dansteed Way	530	132	624	1505	0.352	530	1674	0.5	0.5	3.692	A
3 - Michigan Drive	97	24	873	1126	0.086	97	281	0.1	0.1	3.498	A
4 - Willen Road North	1665	416	306	1736	0.959	1661	664	17.5	18.5	42.173	E

2033 Base + Committed, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout	1, 2, 3, 4	4.50	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 period length (min)	Time segment length (min)	Run automatically
D10	2033 Base + Committed	PM	FLAT	17:00	18:00	60	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Tongwell Street		FLAT	✓	720	100.000
2 - Dansteed Way		FLAT	✓	775	100.000
3 - Michigan Drive		FLAT	✓	512	100.000
4 - Willen Road North		FLAT	✓	726	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1 - Tongwell Street	2 - Dansteed Way	3 - Michigan Drive	4 - Willen Road North
From	1 - Tongwell Street	1	264	30	425
	2 - Dansteed Way	325	3	14	433
	3 - Michigan Drive	269	95	1	147
	4 - Willen Road North	319	393	13	1

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1 - Tongwell Street	2 - Dansteed Way	3 - Michigan Drive	4 - Willen Road North
From	1 - Tongwell Street	0	4	0	3
	2 - Dansteed Way	2	0	8	1
	3 - Michigan Drive	0	0	0	1

4 - Willen Road North	3	2	0	0
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Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - Tongwell Street	0.41	3.52	0.7	A	720	720
2 - Dansteed Way	0.47	4.12	0.9	A	775	775
3 - Michigan Drive	0.48	6.52	0.9	A	512	512
4 - Willen Road North	0.47	4.47	0.9	A	726	726

Main Results for each time segment

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tongwell Street	720	180	503	1744	0.413	717	909	0.0	0.7	3.498	A
2 - Dansteed Way	775	194	469	1651	0.470	771	751	0.0	0.9	4.078	A
3 - Michigan Drive	512	128	1183	1067	0.480	508	58	0.0	0.9	6.406	A
4 - Willen Road North	726	181	690	1533	0.474	722	1001	0.0	0.9	4.424	A

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tongwell Street	720	180	506	1742	0.413	720	914	0.7	0.7	3.520	A
2 - Dansteed Way	775	194	471	1650	0.470	775	755	0.9	0.9	4.115	A
3 - Michigan Drive	512	128	1188	1064	0.481	512	58	0.9	0.9	6.520	A
4 - Willen Road North	726	181	694	1530	0.474	726	1006	0.9	0.9	4.475	A

17:30 - 17:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tongwell Street	720	180	506	1742	0.413	720	914	0.7	0.7	3.520	A
2 - Dansteed Way	775	194	471	1650	0.470	775	755	0.9	0.9	4.115	A
3 - Michigan Drive	512	128	1188	1064	0.481	512	58	0.9	0.9	6.520	A
4 - Willen Road North	726	181	694	1530	0.474	726	1006	0.9	0.9	4.475	A

17:45 - 18:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tongwell Street	720	180	506	1742	0.413	720	914	0.7	0.7	3.520	A
2 - Dansteed Way	775	194	471	1650	0.470	775	755	0.9	0.9	4.115	A
3 - Michigan Drive	512	128	1188	1064	0.481	512	58	0.9	0.9	6.520	A
4 - Willen Road North	726	181	694	1530	0.474	726	1006	0.9	0.9	4.475	A

2031 Base + Committed + Proposed Dev, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout	1, 2, 3, 4	57.08	F

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D11	2031 Base + Committed + Proposed Dev	AM	FLAT	08:00	09:00	60	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Tongwell Street		FLAT	✓	1250	100.000
2 - Dansteed Way		FLAT	✓	541	100.000
3 - Michigan Drive		FLAT	✓	99	100.000
4 - Willen Road North		FLAT	✓	1754	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1 - Tongwell Street	2 - Dansteed Way	3 - Michigan Drive	4 - Willen Road North
From	1 - Tongwell Street	1	703	158	388
	2 - Dansteed Way	225	5	39	272
	3 - Michigan Drive	50	20	0	29
	4 - Willen Road North	681	981	89	3

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1 - Tongwell Street	2 - Dansteed Way	3 - Michigan Drive	4 - Willen Road North

From	1 - Tongwell Street	0	2	2	5
	2 - Dansteed Way	8	0	0	2
	3 - Michigan Drive	12	6	0	4
	4 - Willen Road North	3	2	6	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - Tongwell Street	0.89	23.23	7.7	C	1250	1250
2 - Dansteed Way	0.36	3.73	0.6	A	541	541
3 - Michigan Drive	0.09	3.52	0.1	A	99	99
4 - Willen Road North	1.01	101.22	49.3	F	1754	1754

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tongwell Street	1250	312	1043	1422	0.879	1225	921	0.0	6.2	16.610	C
2 - Dansteed Way	541	135	623	1513	0.358	539	1645	0.0	0.6	3.687	A
3 - Michigan Drive	99	25	884	1126	0.088	99	278	0.0	0.1	3.504	A
4 - Willen Road North	1754	438	300	1740	1.008	1665	683	0.0	22.2	33.499	D

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tongwell Street	1250	312	1072	1405	0.890	1246	940	6.2	7.1	21.761	C
2 - Dansteed Way	541	135	635	1506	0.359	541	1683	0.6	0.6	3.727	A
3 - Michigan Drive	99	25	893	1121	0.088	99	283	0.1	0.1	3.520	A
4 - Willen Road North	1754	438	301	1739	1.009	1711	691	22.2	32.9	66.031	F

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tongwell Street	1250	312	1077	1402	0.891	1248	943	7.1	7.5	22.764	C
2 - Dansteed Way	541	135	637	1506	0.359	541	1689	0.6	0.6	3.730	A
3 - Michigan Drive	99	25	893	1121	0.088	99	284	0.1	0.1	3.521	A
4 - Willen Road North	1754	438	301	1739	1.009	1719	691	32.9	41.6	84.987	F

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tongwell Street	1250	312	1079	1401	0.892	1249	945	7.5	7.7	23.229	C
2 - Dansteed Way	541	135	637	1505	0.359	541	1691	0.6	0.6	3.732	A
3 - Michigan Drive	99	25	894	1121	0.088	99	284	0.1	0.1	3.521	A
4 - Willen Road North	1754	438	301	1739	1.009	1723	692	41.6	49.3	101.224	F

2031 Base + Committed + Proposed Dev, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout	1, 2, 3, 4	4.75	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 period length (min)	Time segment length (min)	Run automatically
D12	2031 Base + Committed + Proposed Dev	PM	FLAT	17:00	18:00	60	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Tongwell Street		FLAT	✓	748	100.000
2 - Dansteed Way		FLAT	✓	815	100.000
3 - Michigan Drive		FLAT	✓	511	100.000
4 - Willen Road North		FLAT	✓	775	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1 - Tongwell Street	2 - Dansteed Way	3 - Michigan Drive	4 - Willen Road North
From	1 - Tongwell Street	1	259	29	459
	2 - Dansteed Way	319	3	14	479
	3 - Michigan Drive	264	93	1	153
	4 - Willen Road North	338	418	18	1

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1 - Tongwell Street	2 - Dansteed Way	3 - Michigan Drive	4 - Willen Road North

From	1 - Tongwell Street	0	4	0	2
	2 - Dansteed Way	2	0	8	1
	3 - Michigan Drive	0	0	0	1
	4 - Willen Road North	3	2	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - Tongwell Street	0.43	3.64	0.8	A	748	748
2 - Dansteed Way	0.50	4.41	1.0	A	815	815
3 - Michigan Drive	0.50	6.99	1.0	A	511	511
4 - Willen Road North	0.50	4.72	1.0	A	775	775

Main Results for each time segment

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tongwell Street	748	187	531	1738	0.430	745	917	0.0	0.8	3.615	A
2 - Dansteed Way	815	204	507	1632	0.499	811	769	0.0	1.0	4.365	A
3 - Michigan Drive	511	128	1256	1029	0.497	507	62	0.0	1.0	6.849	A
4 - Willen Road North	775	194	677	1540	0.503	771	1087	0.0	1.0	4.655	A

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tongwell Street	748	187	534	1736	0.431	748	922	0.8	0.8	3.641	A
2 - Dansteed Way	815	204	509	1631	0.500	815	773	1.0	1.0	4.413	A
3 - Michigan Drive	511	128	1262	1026	0.498	511	62	1.0	1.0	6.992	A
4 - Willen Road North	775	194	681	1538	0.504	775	1092	1.0	1.0	4.717	A

17:30 - 17:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tongwell Street	748	187	534	1736	0.431	748	922	0.8	0.8	3.641	A
2 - Dansteed Way	815	204	509	1631	0.500	815	773	1.0	1.0	4.413	A
3 - Michigan Drive	511	128	1262	1026	0.498	511	62	1.0	1.0	6.992	A
4 - Willen Road North	775	194	681	1538	0.504	775	1092	1.0	1.0	4.718	A

17:45 - 18:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tongwell Street	748	187	534	1736	0.431	748	922	0.8	0.8	3.641	A
2 - Dansteed Way	815	204	509	1631	0.500	815	773	1.0	1.0	4.413	A
3 - Michigan Drive	511	128	1262	1026	0.498	511	62	1.0	1.0	6.992	A
4 - Willen Road North	775	194	681	1538	0.504	775	1092	1.0	1.0	4.718	A

2033 Base + Committed + Proposed Dev, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout	1, 2, 3, 4	93.07	F

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D13	2033 Base + Committed + Proposed Dev	AM	FLAT	08:00	09:00	60	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Tongwell Street		FLAT	✓	1276	100.000
2 - Dansteed Way		FLAT	✓	555	100.000
3 - Michigan Drive		FLAT	✓	101	100.000
4 - Willen Road North		FLAT	✓	1813	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1 - Tongwell Street	2 - Dansteed Way	3 - Michigan Drive	4 - Willen Road North
From	1 - Tongwell Street	1	716	161	398
	2 - Dansteed Way	229	5	40	281
	3 - Michigan Drive	51	20	0	30
	4 - Willen Road North	704	1012	93	4

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1 - Tongwell Street	2 - Dansteed Way	3 - Michigan Drive	4 - Willen Road North

From	1 - Tongwell Street	0	2	2	5
	2 - Dansteed Way	8	0	0	2
	3 - Michigan Drive	12	6	0	4
	4 - Willen Road North	2	2	6	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - Tongwell Street	0.91	28.72	9.7	D	1276	1276
2 - Dansteed Way	0.37	3.82	0.6	A	555	555
3 - Michigan Drive	0.09	3.57	0.1	A	101	101
4 - Willen Road North	1.04	171.87	89.4	F	1813	1813

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tongwell Street	1276	319	1058	1413	0.903	1246	936	0.0	7.5	19.029	C
2 - Dansteed Way	555	139	637	1505	0.369	553	1667	0.0	0.6	3.768	A
3 - Michigan Drive	101	25	906	1115	0.091	101	284	0.0	0.1	3.551	A
4 - Willen Road North	1813	453	305	1743	1.040	1689	702	0.0	31.0	42.088	E

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tongwell Street	1276	319	1084	1398	0.913	1271	953	7.5	8.8	26.390	D
2 - Dansteed Way	555	139	650	1498	0.370	555	1704	0.6	0.6	3.816	A
3 - Michigan Drive	101	25	916	1109	0.091	101	289	0.1	0.1	3.569	A
4 - Willen Road North	1813	453	306	1743	1.040	1731	711	31.0	51.6	94.136	F

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tongwell Street	1276	319	1087	1396	0.914	1274	955	8.8	9.4	27.990	D
2 - Dansteed Way	555	139	652	1497	0.371	555	1709	0.6	0.6	3.820	A
3 - Michigan Drive	101	25	917	1109	0.091	101	290	0.1	0.1	3.570	A
4 - Willen Road North	1813	453	306	1743	1.040	1736	712	51.6	70.8	133.704	F

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tongwell Street	1276	319	1088	1395	0.915	1275	956	9.4	9.7	28.719	D
2 - Dansteed Way	555	139	652	1497	0.371	555	1711	0.6	0.6	3.821	A
3 - Michigan Drive	101	25	917	1109	0.091	101	290	0.1	0.1	3.571	A
4 - Willen Road North	1813	453	306	1743	1.040	1738	712	70.8	89.4	171.868	F

2033 Base + Committed + Proposed Dev, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout	1, 2, 3, 4	5.00	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 period length (min)	Time segment length (min)	Run automatically
D14	2033 Base + Committed + Proposed Dev	PM	FLAT	17:00	18:00	60	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Tongwell Street		FLAT	✓	772	100.000
2 - Dansteed Way		FLAT	✓	843	100.000
3 - Michigan Drive		FLAT	✓	523	100.000
4 - Willen Road North		FLAT	✓	803	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1 - Tongwell Street	2 - Dansteed Way	3 - Michigan Drive	4 - Willen Road North
From	1 - Tongwell Street	1	264	30	477
	2 - Dansteed Way	325	4	14	500
	3 - Michigan Drive	269	95	1	158
	4 - Willen Road North	349	433	20	1

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1 - Tongwell Street	2 - Dansteed Way	3 - Michigan Drive	4 - Willen Road North

From	1 - Tongwell Street	0	4	0	2
	2 - Dansteed Way	2	0	8	1
	3 - Michigan Drive	0	0	0	1
	4 - Willen Road North	3	2	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - Tongwell Street	0.45	3.78	0.8	A	772	772
2 - Dansteed Way	0.52	4.64	1.1	A	843	843
3 - Michigan Drive	0.52	7.54	1.1	A	523	523
4 - Willen Road North	0.52	4.95	1.1	A	803	803

Main Results for each time segment

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tongwell Street	772	193	551	1726	0.447	769	938	0.0	0.8	3.747	A
2 - Dansteed Way	843	211	528	1620	0.520	839	792	0.0	1.1	4.584	A
3 - Michigan Drive	523	131	1302	1004	0.521	519	65	0.0	1.1	7.361	A
4 - Willen Road North	803	201	690	1533	0.524	799	1130	0.0	1.1	4.877	A

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tongwell Street	772	193	554	1724	0.448	772	944	0.8	0.8	3.778	A
2 - Dansteed Way	843	211	530	1619	0.521	843	796	1.1	1.1	4.640	A
3 - Michigan Drive	523	131	1308	1001	0.523	523	65	1.1	1.1	7.533	A
4 - Willen Road North	803	201	695	1530	0.525	803	1136	1.1	1.1	4.951	A

17:30 - 17:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tongwell Street	772	193	554	1724	0.448	772	944	0.8	0.8	3.778	A
2 - Dansteed Way	843	211	530	1619	0.521	843	796	1.1	1.1	4.640	A
3 - Michigan Drive	523	131	1308	1001	0.523	523	65	1.1	1.1	7.536	A
4 - Willen Road North	803	201	695	1530	0.525	803	1136	1.1	1.1	4.951	A

17:45 - 18:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tongwell Street	772	193	554	1724	0.448	772	944	0.8	0.8	3.778	A
2 - Dansteed Way	843	211	530	1619	0.521	843	796	1.1	1.1	4.640	A
3 - Michigan Drive	523	131	1308	1001	0.523	523	65	1.1	1.1	7.536	A
4 - Willen Road North	803	201	695	1530	0.525	803	1136	1.1	1.1	4.951	A

2033 Base + Committed + Proposed Dev (MKE Trip Rates), AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout	1, 2, 3, 4	66.14	F

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D15	2033 Base + Committed + Proposed Dev (MKE Trip Rates)	AM	FLAT	08:00	09:00	60	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Tongwell Street		FLAT	✓	1268	100.000
2 - Dansteed Way		FLAT	✓	545	100.000
3 - Michigan Drive		FLAT	✓	99	100.000
4 - Willen Road North		FLAT	✓	1765	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1 - Tongwell Street	2 - Dansteed Way	3 - Michigan Drive	4 - Willen Road North
From	1 - Tongwell Street	1	716	161	390
	2 - Dansteed Way	229	5	40	271
	3 - Michigan Drive	51	20	0	28
	4 - Willen Road North	685	987	89	4

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1 - Tongwell Street	2 - Dansteed Way	3 - Michigan Drive	4 - Willen Road North

From	1 - Tongwell Street	0	2	2	5
	2 - Dansteed Way	8	0	0	2
	3 - Michigan Drive	12	6	0	5
	4 - Willen Road North	3	2	7	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - Tongwell Street	0.91	26.22	8.8	D	1268	1268
2 - Dansteed Way	0.36	3.76	0.6	A	545	545
3 - Michigan Drive	0.09	3.55	0.1	A	99	99
4 - Willen Road North	1.02	118.20	58.7	F	1765	1765

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tongwell Street	1268	317	1045	1421	0.892	1240	927	0.0	6.9	17.885	C
2 - Dansteed Way	545	136	628	1510	0.361	543	1658	0.0	0.6	3.715	A
3 - Michigan Drive	99	25	889	1119	0.088	99	281	0.0	0.1	3.526	A
4 - Willen Road North	1765	441	305	1736	1.017	1668	683	0.0	24.4	35.706	E

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tongwell Street	1268	317	1073	1404	0.903	1263	946	6.9	8.0	24.229	C
2 - Dansteed Way	545	136	640	1503	0.363	545	1696	0.6	0.6	3.757	A
3 - Michigan Drive	99	25	898	1115	0.089	99	287	0.1	0.1	3.543	A
4 - Willen Road North	1765	441	306	1735	1.017	1713	691	24.4	37.3	73.068	F

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tongwell Street	1268	317	1078	1401	0.905	1266	949	8.0	8.5	25.584	D
2 - Dansteed Way	545	136	642	1502	0.363	545	1702	0.6	0.6	3.761	A
3 - Michigan Drive	99	25	899	1114	0.089	99	288	0.1	0.1	3.545	A
4 - Willen Road North	1765	441	306	1735	1.017	1721	692	37.3	48.5	96.869	F

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tongwell Street	1268	317	1080	1400	0.906	1267	950	8.5	8.8	26.222	D
2 - Dansteed Way	545	136	642	1502	0.363	545	1705	0.6	0.6	3.762	A
3 - Michigan Drive	99	25	900	1114	0.089	99	288	0.1	0.1	3.545	A
4 - Willen Road North	1765	441	306	1735	1.017	1724	693	48.5	58.7	118.203	F

2033 Base + Committed + Proposed Dev (MKE Trip Rates), PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout	1, 2, 3, 4	4.85	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 period length (min)	Time segment length (min)	Run automatically
D16	2033 Base + Committed + Proposed Dev (MKE Trip Rates)	PM	FLAT	17:00	18:00	60	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Tongwell Street		FLAT	✓	756	100.000
2 - Dansteed Way		FLAT	✓	823	100.000
3 - Michigan Drive		FLAT	✓	520	100.000
4 - Willen Road North		FLAT	✓	776	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1 - Tongwell Street	2 - Dansteed Way	3 - Michigan Drive	4 - Willen Road North
From	1 - Tongwell Street	1	264	30	461
	2 - Dansteed Way	325	4	14	480
	3 - Michigan Drive	269	95	1	155
	4 - Willen Road North	339	419	17	1

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1 - Tongwell Street	2 - Dansteed Way	3 - Michigan Drive	4 - Willen Road North

From	1 - Tongwell Street	0	4	0	3
	2 - Dansteed Way	2	0	8	1
	3 - Michigan Drive	0	0	0	1
	4 - Willen Road North	3	2	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - Tongwell Street	0.44	3.72	0.8	A	756	756
2 - Dansteed Way	0.51	4.48	1.0	A	823	823
3 - Michigan Drive	0.51	7.23	1.0	A	520	520
4 - Willen Road North	0.51	4.77	1.0	A	776	776

Main Results for each time segment

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tongwell Street	756	189	534	1726	0.438	753	929	0.0	0.8	3.687	A
2 - Dansteed Way	823	206	509	1628	0.506	819	778	0.0	1.0	4.427	A
3 - Michigan Drive	520	130	1266	1021	0.509	516	62	0.0	1.0	7.071	A
4 - Willen Road North	776	194	691	1532	0.506	772	1092	0.0	1.0	4.710	A

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tongwell Street	756	189	537	1724	0.438	756	934	0.8	0.8	3.717	A
2 - Dansteed Way	823	206	511	1627	0.506	823	782	1.0	1.0	4.478	A
3 - Michigan Drive	520	130	1272	1018	0.511	520	62	1.0	1.0	7.230	A
4 - Willen Road North	776	194	695	1530	0.507	776	1097	1.0	1.0	4.774	A

17:30 - 17:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tongwell Street	756	189	537	1724	0.438	756	934	0.8	0.8	3.717	A
2 - Dansteed Way	823	206	511	1627	0.506	823	782	1.0	1.0	4.478	A
3 - Michigan Drive	520	130	1272	1018	0.511	520	62	1.0	1.0	7.230	A
4 - Willen Road North	776	194	695	1530	0.507	776	1097	1.0	1.0	4.774	A

17:45 - 18:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tongwell Street	756	189	537	1724	0.438	756	934	0.8	0.8	3.717	A
2 - Dansteed Way	823	206	511	1627	0.506	823	782	1.0	1.0	4.478	A
3 - Michigan Drive	520	130	1272	1018	0.511	520	62	1.0	1.0	7.230	A
4 - Willen Road North	776	194	695	1530	0.507	776	1097	1.0	1.0	4.774	A

2033 Base + Committed + Proposed Dev (10% Modal Shift), AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout	1, 2, 3, 4	87.83	F

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D17	2033 Base + Committed + Proposed Dev (10% Modal Shift)	AM	FLAT	08:00	09:00	60	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Tongwell Street		FLAT	✓	1274	100.000
2 - Dansteed Way		FLAT	✓	553	100.000
3 - Michigan Drive		FLAT	✓	101	100.000
4 - Willen Road North		FLAT	✓	1799	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1 - Tongwell Street	2 - Dansteed Way	3 - Michigan Drive	4 - Willen Road North
From	1 - Tongwell Street	1	716	161	396
	2 - Dansteed Way	229	5	40	279
	3 - Michigan Drive	51	20	0	30
	4 - Willen Road North	698	1005	92	4

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1 - Tongwell Street	2 - Dansteed Way	3 - Michigan Drive	4 - Willen Road North

From	1 - Tongwell Street	0	2	2	5
	2 - Dansteed Way	8	0	0	2
	3 - Michigan Drive	12	6	0	4
	4 - Willen Road North	3	2	6	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - Tongwell Street	0.91	27.81	9.4	D	1274	1274
2 - Dansteed Way	0.37	3.81	0.6	A	553	553
3 - Michigan Drive	0.09	3.56	0.1	A	101	101
4 - Willen Road North	1.04	161.74	83.3	F	1799	1799

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tongwell Street	1274	318	1053	1416	0.899	1245	932	0.0	7.3	18.649	C
2 - Dansteed Way	553	138	635	1507	0.367	551	1663	0.0	0.6	3.755	A
3 - Michigan Drive	101	25	903	1116	0.090	101	283	0.0	0.1	3.544	A
4 - Willen Road North	1799	450	305	1737	1.036	1680	698	0.0	29.7	40.945	E

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tongwell Street	1274	318	1079	1401	0.910	1269	949	7.3	8.5	25.642	D
2 - Dansteed Way	553	138	648	1499	0.369	553	1701	0.6	0.6	3.803	A
3 - Michigan Drive	101	25	912	1111	0.091	101	288	0.1	0.1	3.562	A
4 - Willen Road North	1799	450	306	1736	1.036	1723	707	29.7	48.7	90.257	F

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tongwell Street	1274	318	1083	1399	0.911	1272	952	8.5	9.1	27.135	D
2 - Dansteed Way	553	138	649	1498	0.369	553	1705	0.6	0.6	3.806	A
3 - Michigan Drive	101	25	913	1111	0.091	101	289	0.1	0.1	3.563	A
4 - Willen Road North	1799	450	306	1736	1.036	1729	708	48.7	66.4	126.800	F

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tongwell Street	1274	318	1084	1398	0.912	1273	953	9.1	9.4	27.811	D
2 - Dansteed Way	553	138	650	1498	0.369	553	1707	0.6	0.6	3.807	A
3 - Michigan Drive	101	25	913	1111	0.091	101	289	0.1	0.1	3.564	A
4 - Willen Road North	1799	450	306	1736	1.036	1731	708	66.4	83.3	161.737	F

2033 Base + Committed + Proposed Dev (10% Modal Shift), PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout	1, 2, 3, 4	4.90	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 period length (min)	Time segment length (min)	Run automatically
D18	2033 Base + Committed + Proposed Dev (10% Modal Shift)	PM	FLAT	17:00	18:00	60	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Tongwell Street		FLAT	✓	767	100.000
2 - Dansteed Way		FLAT	✓	836	100.000
3 - Michigan Drive		FLAT	✓	522	100.000
4 - Willen Road North		FLAT	✓	777	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1 - Tongwell Street	2 - Dansteed Way	3 - Michigan Drive	4 - Willen Road North
From	1 - Tongwell Street	1	264	30	472
	2 - Dansteed Way	325	4	14	493
	3 - Michigan Drive	269	95	1	157
	4 - Willen Road North	346	411	19	1

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1 - Tongwell Street	2 - Dansteed Way	3 - Michigan Drive	4 - Willen Road North

From	1 - Tongwell Street	0	4	0	2
	2 - Dansteed Way	2	0	8	1
	3 - Michigan Drive	0	0	0	1
	4 - Willen Road North	3	2	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - Tongwell Street	0.44	3.71	0.8	A	767	767
2 - Dansteed Way	0.52	4.58	1.1	A	836	836
3 - Michigan Drive	0.52	7.42	1.1	A	522	522
4 - Willen Road North	0.51	4.78	1.0	A	777	777

Main Results for each time segment

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tongwell Street	767	192	528	1740	0.441	764	935	0.0	0.8	3.675	A
2 - Dansteed Way	836	209	522	1623	0.515	832	770	0.0	1.1	4.525	A
3 - Michigan Drive	522	130	1290	1011	0.517	518	64	0.0	1.1	7.247	A
4 - Willen Road North	777	194	690	1532	0.507	773	1117	0.0	1.0	4.714	A

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tongwell Street	767	192	531	1738	0.441	767	941	0.8	0.8	3.705	A
2 - Dansteed Way	836	209	524	1622	0.515	836	774	1.1	1.1	4.579	A
3 - Michigan Drive	522	130	1296	1007	0.518	522	64	1.1	1.1	7.415	A
4 - Willen Road North	777	194	695	1530	0.508	777	1123	1.0	1.0	4.781	A

17:30 - 17:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tongwell Street	767	192	531	1738	0.441	767	941	0.8	0.8	3.705	A
2 - Dansteed Way	836	209	524	1622	0.515	836	774	1.1	1.1	4.579	A
3 - Michigan Drive	522	130	1296	1007	0.518	522	64	1.1	1.1	7.418	A
4 - Willen Road North	777	194	695	1530	0.508	777	1123	1.0	1.0	4.781	A

17:45 - 18:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tongwell Street	767	192	531	1738	0.441	767	941	0.8	0.8	3.705	A
2 - Dansteed Way	836	209	524	1622	0.515	836	774	1.1	1.1	4.579	A
3 - Michigan Drive	522	130	1296	1007	0.518	522	64	1.1	1.1	7.418	A
4 - Willen Road North	777	194	695	1530	0.508	777	1123	1.0	1.0	4.781	A

Junctions 9

ARCADY 9 - Roundabout Module

Version: 9.0.2.5947
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Filename: 2021 10 06 Tongwell Roundabout (mitigation).j9

Path: P:\JNY10094 - Newport Pagnell\Transport\Arcady\2021 07 20 BD Updates

Report generation date: 15/10/2021 17:06:10

- »2021 Base, AM
- »2021 Base, PM
- »2031 Base + Committed, AM
- »2031 Base + Committed, PM
- »2033 Base + Committed, AM
- »2033 Base + Committed, PM
- »2031 Base + Committed + Proposed Dev, AM
- »2031 Base + Committed + Proposed Dev, PM
- »2033 Base + Committed + Proposed Dev, AM
- »2033 Base + Committed + Proposed Dev, PM
- »2033 Base + Committed + Proposed Dev (MKE Trip Rates), AM
- »2033 Base + Committed + Proposed Dev (MKE Trip Rates), PM
- »2033 Base + Committed + Proposed Dev (10% Modal Shift), AM
- »2033 Base + Committed + Proposed Dev (10% Modal Shift), PM

Summary of junction performance

	AM				PM			
	Queue (Veh)	Delay (s)	RFC	LOS	Queue (Veh)	Delay (s)	RFC	LOS
2021 Base								
1 - Tongwell Street	2.4	8.21	0.71	A	0.5	3.00	0.34	A
2 - Danstead Way	0.4	3.20	0.28	A	0.6	3.50	0.39	A
3 - Michigan Drive	0.1	3.20	0.07	A	0.6	5.02	0.38	A
4 - Willen Road North	3.7	9.36	0.79	A	0.5	3.35	0.35	A
2031 Base + Committed								
1 - Tongwell Street	6.0	17.91	0.86	C	0.7	3.46	0.40	A
2 - Danstead Way	0.5	3.64	0.34	A	0.9	4.03	0.46	A
3 - Michigan Drive	0.1	3.47	0.08	A	0.9	6.28	0.47	A
4 - Willen Road North	9.3	21.36	0.91	C	0.8	4.09	0.45	A
2033 Base + Committed								
1 - Tongwell Street	7.2	21.32	0.88	C	0.7	3.52	0.41	A
2 - Danstead Way	0.5	3.69	0.35	A	0.9	4.12	0.47	A
3 - Michigan Drive	0.1	3.50	0.09	A	0.9	6.52	0.48	A
4 - Willen Road North	11.6	26.31	0.93	D	0.8	4.19	0.46	A
2031 Base + Committed + Proposed Dev								
1 - Tongwell Street	8.1	24.51	0.90	C	0.8	3.64	0.43	A
2 - Danstead Way	0.6	3.73	0.36	A	1.0	4.41	0.50	A
3 - Michigan Drive	0.1	3.52	0.09	A	1.0	6.99	0.50	A
4 - Willen Road North	24.7	53.18	0.97	F	0.9	4.40	0.49	A
2033 Base + Committed + Proposed Dev								
1 - Tongwell Street	10.9	32.60	0.93	D	0.8	3.78	0.45	A
2 - Danstead Way	0.6	3.83	0.37	A	1.1	4.64	0.52	A
3 - Michigan Drive	0.1	3.57	0.09	A	1.1	7.54	0.52	A

4 - Willen Road North	47.3	94.42	1.01	F	1.0	4.60	0.51	A
2033 Base + Committed + Proposed Dev (MKE Trip Rates)								
1 - Tongwell Street	9.5	28.30	0.91	D	0.8	3.72	0.44	A
2 - Dansteed Way	0.6	3.77	0.36	A	1.0	4.48	0.51	A
3 - Michigan Drive	0.1	3.55	0.09	A	1.0	7.23	0.51	A
4 - Willen Road North	29.2	61.92	0.98	F	1.0	4.45	0.49	A
2033 Base + Committed + Proposed Dev (10% Modal Shift)								
1 - Tongwell Street	10.5	31.25	0.92	D	0.8	3.71	0.44	A
2 - Dansteed Way	0.6	3.81	0.37	A	1.1	4.58	0.52	A
3 - Michigan Drive	0.1	3.56	0.09	A	1.1	7.42	0.52	A
4 - Willen Road North	43.3	87.74	1.00	F	1.0	4.45	0.49	A

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

File summary

File Description

Title	
Location	
Site number	
Date	20/05/2020
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	EUR\Danesh.Aryan
Description	

Units

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

Analysis Options

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

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D1	2021 Base	AM	FLAT	08:00	09:00	60	15	✓
D2	2021 Base	PM	FLAT	17:00	18:00	60	15	✓
D7	2031 Base + Committed	AM	FLAT	08:00	09:00	60	15	✓
D8	2031 Base + Committed	PM	FLAT	17:00	18:00	60	15	✓
D9	2033 Base + Committed	AM	FLAT	08:00	09:00	60	15	✓
D10	2033 Base + Committed	PM	FLAT	17:00	18:00	60	15	✓
D11	2031 Base + Committed + Proposed Dev	AM	FLAT	08:00	09:00	60	15	✓
D12	2031 Base + Committed + Proposed Dev	PM	FLAT	17:00	18:00	60	15	✓
D13	2033 Base + Committed + Proposed Dev	AM	FLAT	08:00	09:00	60	15	✓
D14	2033 Base + Committed + Proposed Dev	PM	FLAT	17:00	18:00	60	15	✓
D15	2033 Base + Committed + Proposed Dev (MKE Trip Rates)	AM	FLAT	08:00	09:00	60	15	✓
D16	2033 Base + Committed + Proposed Dev (MKE Trip Rates)	PM	FLAT	17:00	18:00	60	15	✓
D17	2033 Base + Committed + Proposed Dev (10% Modal Shift)	AM	FLAT	08:00	09:00	60	15	✓
D18	2033 Base + Committed + Proposed Dev (10% Modal Shift)	PM	FLAT	17:00	18:00	60	15	✓

Analysis Set Details

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

2021 Base, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout	1, 2, 3, 4	7.86	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description
1	Tongwell Street	
2	Dansteed Way	
3	Michigan Drive	
4	Willen Road North	

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 - Tongwell Street	3.80	8.80	21.0	55.7	65.9	25.0	
2 - Dansteed Way	3.90	8.50	14.6	40.0	65.9	25.0	
3 - Michigan Drive	3.70	7.29	10.7	31.8	65.9	22.0	
4 - Willen Road North	3.90	8.20	18.9	50.0	65.9	23.0	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
1 - Tongwell Street	0.604	2109
2 - Dansteed Way	0.577	1954
3 - Michigan Drive	0.540	1721
4 - Willen Road North	0.594	2039

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 period length (min)	Time segment length (min)	Run automatically
D1	2021 Base	AM	FLAT	08:00	09:00	60	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Tongwell Street		FLAT	✓	1071	100.000
2 - Dansteed Way		FLAT	✓	445	100.000
3 - Michigan Drive		FLAT	✓	85	100.000
4 - Willen Road North		FLAT	✓	1449	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1 - Tongwell Street	2 - Dansteed Way	3 - Michigan Drive	4 - Willen Road North
From	1 - Tongwell Street	1	628	141	301
	2 - Dansteed Way	201	4	35	205
	3 - Michigan Drive	44	18	0	23
	4 - Willen Road North	557	819	70	3

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1 - Tongwell Street	2 - Dansteed Way	3 - Michigan Drive	4 - Willen Road North
From	1 - Tongwell Street	0	2	2	3
	2 - Dansteed Way	8	0	0	3
	3 - Michigan Drive	12	6	0	5
	4 - Willen Road North	1	2	7	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - Tongwell Street	0.71	8.21	2.4	A	1071	1071
2 - Dansteed Way	0.28	3.20	0.4	A	445	445
3 - Michigan Drive	0.07	3.20	0.1	A	85	85
4 - Willen Road North	0.79	9.36	3.7	A	1449	1449

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tongwell Street	1071	268	905	1515	0.707	1062	797	0.0	2.3	7.794	A
2 - Dansteed Way	445	111	511	1571	0.283	443	1455	0.0	0.4	3.188	A
3 - Michigan Drive	85	21	711	1213	0.070	85	244	0.0	0.1	3.189	A
4 - Willen Road North	1449	362	267	1834	0.790	1435	529	0.0	3.6	8.733	A

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tongwell Street	1071	268	914	1509	0.710	1071	803	2.3	2.4	8.199	A
2 - Dansteed Way	445	111	516	1568	0.284	445	1469	0.4	0.4	3.203	A
3 - Michigan Drive	85	21	715	1211	0.070	85	246	0.1	0.1	3.195	A

4 - Willen Road North	1449	362	268	1833	0.790	1449	532	3.6	3.7	9.342	A
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08:30 - 08:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tongwell Street	1071	268	914	1509	0.710	1071	803	2.4	2.4	8.208	A
2 - Danstead Way	445	111	516	1568	0.284	445	1469	0.4	0.4	3.203	A
3 - Michigan Drive	85	21	715	1211	0.070	85	246	0.1	0.1	3.195	A
4 - Willen Road North	1449	362	268	1833	0.790	1449	532	3.7	3.7	9.358	A

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tongwell Street	1071	268	914	1509	0.710	1071	803	2.4	2.4	8.210	A
2 - Danstead Way	445	111	516	1568	0.284	445	1469	0.4	0.4	3.203	A
3 - Michigan Drive	85	21	715	1211	0.070	85	246	0.1	0.1	3.195	A
4 - Willen Road North	1449	362	268	1833	0.790	1449	532	3.7	3.7	9.364	A

2021 Base, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout	1, 2, 3, 4	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 period length (min)	Time segment length (min)	Run automatically
D2	2021 Base	PM	FLAT	17:00	18:00	60	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Tongwell Street		FLAT	✓	614	100.000
2 - Dansteed Way		FLAT	✓	669	100.000
3 - Michigan Drive		FLAT	✓	445	100.000
4 - Willen Road North		FLAT	✓	577	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1 - Tongwell Street	2 - Dansteed Way	3 - Michigan Drive	4 - Willen Road North
From	1 - Tongwell Street	1	230	26	357
	2 - Dansteed Way	283	3	12	371
	3 - Michigan Drive	234	82	1	128
	4 - Willen Road North	245	320	11	1

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1 - Tongwell Street	2 - Dansteed Way	3 - Michigan Drive	4 - Willen Road North
From	1 - Tongwell Street	0	4	0	1
	2 - Dansteed Way	2	0	8	1
	3 - Michigan Drive	0	0	0	1
	4 - Willen Road North	1	2	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - Tongwell Street	0.34	3.00	0.5	A	614	614
2 - Dansteed Way	0.39	3.50	0.6	A	669	669
3 - Michigan Drive	0.38	5.02	0.6	A	445	445
4 - Willen Road North	0.35	3.35	0.5	A	577	577

Main Results for each time segment

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tongwell Street	614	153	416	1816	0.338	612	760	0.0	0.5	2.984	A
2 - Dansteed Way	669	167	396	1698	0.394	666	633	0.0	0.6	3.482	A
3 - Michigan Drive	445	111	1012	1164	0.382	443	50	0.0	0.6	4.970	A
4 - Willen Road North	577	144	601	1654	0.349	575	854	0.0	0.5	3.329	A

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tongwell Street	614	153	418	1815	0.338	614	763	0.5	0.5	2.996	A
2 - Dansteed Way	669	167	397	1697	0.394	669	635	0.6	0.6	3.501	A
3 - Michigan Drive	445	111	1016	1162	0.383	445	50	0.6	0.6	5.017	A
4 - Willen Road North	577	144	604	1652	0.349	577	857	0.5	0.5	3.347	A

17:30 - 17:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tongwell Street	614	153	418	1815	0.338	614	763	0.5	0.5	2.996	A
2 - Dansteed Way	669	167	397	1697	0.394	669	635	0.6	0.6	3.501	A
3 - Michigan Drive	445	111	1016	1162	0.383	445	50	0.6	0.6	5.018	A
4 - Willen Road North	577	144	604	1652	0.349	577	857	0.5	0.5	3.347	A

17:45 - 18:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tongwell Street	614	153	418	1815	0.338	614	763	0.5	0.5	2.996	A
2 - Dansteed Way	669	167	397	1697	0.394	669	635	0.6	0.6	3.501	A
3 - Michigan Drive	445	111	1016	1162	0.383	445	50	0.6	0.6	5.018	A
4 - Willen Road North	577	144	604	1652	0.349	577	857	0.5	0.5	3.347	A

2031 Base + Committed, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout	1, 2, 3, 4	16.93	C

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D7	2031 Base + Committed	AM	FLAT	08:00	09:00	60	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Tongwell Street		FLAT	✓	1234	100.000
2 - Dansteed Way		FLAT	✓	521	100.000
3 - Michigan Drive		FLAT	✓	95	100.000
4 - Willen Road North		FLAT	✓	1634	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1 - Tongwell Street	2 - Dansteed Way	3 - Michigan Drive	4 - Willen Road North
From	1 - Tongwell Street	1	703	158	372
	2 - Dansteed Way	225	5	39	252
	3 - Michigan Drive	50	20	0	25
	4 - Willen Road North	633	919	79	3

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1 - Tongwell Street	2 - Dansteed Way	3 - Michigan Drive	4 - Willen Road North
From	1 - Tongwell Street	0	2	2	5
	2 - Dansteed Way	8	0	0	3
	3 - Michigan Drive	12	6	0	5

4 - Willen Road North	3	2	7	0
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Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - Tongwell Street	0.86	17.91	6.0	C	1234	1234
2 - Dansteed Way	0.34	3.64	0.5	A	521	521
3 - Michigan Drive	0.08	3.47	0.1	A	95	95
4 - Willen Road North	0.91	21.36	9.3	C	1634	1634

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tongwell Street	1234	308	1006	1445	0.854	1213	895	0.0	5.2	14.450	B
2 - Dansteed Way	521	130	602	1517	0.344	519	1617	0.0	0.5	3.600	A
3 - Michigan Drive	95	24	850	1138	0.084	95	272	0.0	0.1	3.451	A
4 - Willen Road North	1634	409	300	1799	0.908	1602	645	0.0	8.1	16.208	C

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tongwell Street	1234	308	1024	1434	0.861	1232	908	5.2	5.7	17.498	C
2 - Dansteed Way	521	130	612	1511	0.345	521	1644	0.5	0.5	3.634	A
3 - Michigan Drive	95	24	857	1134	0.084	95	276	0.1	0.1	3.465	A
4 - Willen Road North	1634	409	301	1799	0.909	1631	651	8.1	8.9	20.653	C

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tongwell Street	1234	308	1025	1433	0.861	1233	909	5.7	5.9	17.808	C
2 - Dansteed Way	521	130	613	1511	0.345	521	1646	0.5	0.5	3.636	A
3 - Michigan Drive	95	24	858	1133	0.084	95	276	0.1	0.1	3.465	A
4 - Willen Road North	1634	409	301	1799	0.909	1633	652	8.9	9.2	21.149	C

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tongwell Street	1234	308	1026	1433	0.861	1234	909	5.9	6.0	17.913	C
2 - Dansteed Way	521	130	613	1511	0.345	521	1646	0.5	0.5	3.636	A
3 - Michigan Drive	95	24	858	1133	0.084	95	276	0.1	0.1	3.466	A
4 - Willen Road North	1634	409	301	1799	0.909	1633	652	9.2	9.3	21.357	C

2031 Base + Committed, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout	1, 2, 3, 4	4.31	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 period length (min)	Time segment length (min)	Run automatically
D8	2031 Base + Committed	PM	FLAT	17:00	18:00	60	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Tongwell Street		FLAT	✓	707	100.000
2 - Dansteed Way		FLAT	✓	761	100.000
3 - Michigan Drive		FLAT	✓	502	100.000
4 - Willen Road North		FLAT	✓	713	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1 - Tongwell Street	2 - Dansteed Way	3 - Michigan Drive	4 - Willen Road North
From	1 - Tongwell Street	1	259	29	418
	2 - Dansteed Way	319	3	14	425
	3 - Michigan Drive	264	93	1	144
	4 - Willen Road North	313	386	13	1

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1 - Tongwell Street	2 - Dansteed Way	3 - Michigan Drive	4 - Willen Road North
From	1 - Tongwell Street	0	4	0	3
	2 - Dansteed Way	2	0	8	1
	3 - Michigan Drive	0	0	0	1

4 - Willen Road North	3	2	0	0
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Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - Tongwell Street	0.40	3.46	0.7	A	707	707
2 - Dansteed Way	0.46	4.03	0.9	A	761	761
3 - Michigan Drive	0.47	6.28	0.9	A	502	502
4 - Willen Road North	0.45	4.09	0.8	A	713	713

Main Results for each time segment

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tongwell Street	707	177	495	1749	0.404	704	892	0.0	0.7	3.437	A
2 - Dansteed Way	761	190	461	1655	0.460	758	738	0.0	0.8	3.995	A
3 - Michigan Drive	502	125	1162	1078	0.466	499	57	0.0	0.9	6.175	A
4 - Willen Road North	713	178	677	1595	0.447	710	984	0.0	0.8	4.051	A

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tongwell Street	707	177	497	1748	0.405	707	897	0.7	0.7	3.458	A
2 - Dansteed Way	761	190	463	1654	0.460	761	741	0.8	0.8	4.029	A
3 - Michigan Drive	502	125	1167	1076	0.467	502	57	0.9	0.9	6.275	A
4 - Willen Road North	713	178	681	1593	0.448	713	988	0.8	0.8	4.090	A

17:30 - 17:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tongwell Street	707	177	497	1748	0.405	707	897	0.7	0.7	3.458	A
2 - Dansteed Way	761	190	463	1654	0.460	761	741	0.8	0.8	4.029	A
3 - Michigan Drive	502	125	1167	1076	0.467	502	57	0.9	0.9	6.275	A
4 - Willen Road North	713	178	681	1593	0.448	713	988	0.8	0.8	4.090	A

17:45 - 18:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tongwell Street	707	177	497	1748	0.405	707	897	0.7	0.7	3.458	A
2 - Dansteed Way	761	190	463	1654	0.460	761	741	0.8	0.9	4.029	A
3 - Michigan Drive	502	125	1167	1076	0.467	502	57	0.9	0.9	6.276	A
4 - Willen Road North	713	178	681	1593	0.448	713	988	0.8	0.8	4.090	A

2033 Base + Committed, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout	1, 2, 3, 4	20.46	C

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D9	2033 Base + Committed	AM	FLAT	08:00	09:00	60	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Tongwell Street		FLAT	✓	1256	100.000
2 - Dansteed Way		FLAT	✓	530	100.000
3 - Michigan Drive		FLAT	✓	97	100.000
4 - Willen Road North		FLAT	✓	1665	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1 - Tongwell Street	2 - Dansteed Way	3 - Michigan Drive	4 - Willen Road North
From	1 - Tongwell Street	1	716	161	378
	2 - Dansteed Way	229	5	40	256
	3 - Michigan Drive	51	20	0	26
	4 - Willen Road North	645	936	80	4

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1 - Tongwell Street	2 - Dansteed Way	3 - Michigan Drive	4 - Willen Road North
From	1 - Tongwell Street	0	2	2	5
	2 - Dansteed Way	8	0	0	3
	3 - Michigan Drive	12	6	0	5

4 - Willen Road North	3	2	7	0
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Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - Tongwell Street	0.88	21.32	7.2	C	1256	1256
2 - Dansteed Way	0.35	3.69	0.5	A	530	530
3 - Michigan Drive	0.09	3.50	0.1	A	97	97
4 - Willen Road North	0.93	26.31	11.6	D	1665	1665

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tongwell Street	1256	314	1021	1436	0.875	1232	910	0.0	6.0	16.140	C
2 - Dansteed Way	530	132	612	1511	0.351	528	1642	0.0	0.5	3.652	A
3 - Michigan Drive	97	24	864	1130	0.086	97	276	0.0	0.1	3.482	A
4 - Willen Road North	1665	416	305	1796	0.927	1627	655	0.0	9.6	18.331	C

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tongwell Street	1256	314	1042	1423	0.883	1253	924	6.0	6.8	20.500	C
2 - Dansteed Way	530	132	623	1505	0.352	530	1673	0.5	0.5	3.690	A
3 - Michigan Drive	97	24	872	1126	0.086	97	280	0.1	0.1	3.497	A
4 - Willen Road North	1665	416	306	1795	0.927	1660	663	9.6	10.8	24.850	C

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tongwell Street	1256	314	1044	1422	0.883	1255	925	6.8	7.0	21.096	C
2 - Dansteed Way	530	132	623	1505	0.352	530	1675	0.5	0.5	3.692	A
3 - Michigan Drive	97	24	873	1126	0.086	97	281	0.1	0.1	3.498	A
4 - Willen Road North	1665	416	306	1795	0.927	1663	664	10.8	11.3	25.850	D

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tongwell Street	1256	314	1044	1422	0.883	1255	926	7.0	7.2	21.317	C
2 - Dansteed Way	530	132	624	1505	0.352	530	1676	0.5	0.5	3.693	A
3 - Michigan Drive	97	24	873	1126	0.086	97	281	0.1	0.1	3.498	A
4 - Willen Road North	1665	416	306	1795	0.927	1664	664	11.3	11.6	26.311	D

2033 Base + Committed, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout	1, 2, 3, 4	4.42	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 period length (min)	Time segment length (min)	Run automatically
D10	2033 Base + Committed	PM	FLAT	17:00	18:00	60	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Tongwell Street		FLAT	✓	720	100.000
2 - Dansteed Way		FLAT	✓	775	100.000
3 - Michigan Drive		FLAT	✓	512	100.000
4 - Willen Road North		FLAT	✓	726	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1 - Tongwell Street	2 - Dansteed Way	3 - Michigan Drive	4 - Willen Road North
From	1 - Tongwell Street	1	264	30	425
	2 - Dansteed Way	325	3	14	433
	3 - Michigan Drive	269	95	1	147
	4 - Willen Road North	319	393	13	1

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1 - Tongwell Street	2 - Dansteed Way	3 - Michigan Drive	4 - Willen Road North
From	1 - Tongwell Street	0	4	0	3
	2 - Dansteed Way	2	0	8	1
	3 - Michigan Drive	0	0	0	1

4 - Willen Road North	3	2	0	0
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Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - Tongwell Street	0.41	3.52	0.7	A	720	720
2 - Dansteed Way	0.47	4.12	0.9	A	775	775
3 - Michigan Drive	0.48	6.52	0.9	A	512	512
4 - Willen Road North	0.46	4.19	0.8	A	726	726

Main Results for each time segment

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tongwell Street	720	180	503	1744	0.413	717	909	0.0	0.7	3.498	A
2 - Dansteed Way	775	194	469	1651	0.470	771	751	0.0	0.9	4.078	A
3 - Michigan Drive	512	128	1183	1067	0.480	508	58	0.0	0.9	6.406	A
4 - Willen Road North	726	181	690	1588	0.457	723	1001	0.0	0.8	4.145	A

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tongwell Street	720	180	506	1742	0.413	720	914	0.7	0.7	3.520	A
2 - Dansteed Way	775	194	471	1650	0.470	775	755	0.9	0.9	4.115	A
3 - Michigan Drive	512	128	1188	1064	0.481	512	58	0.9	0.9	6.520	A
4 - Willen Road North	726	181	694	1585	0.458	726	1006	0.8	0.8	4.188	A

17:30 - 17:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tongwell Street	720	180	506	1742	0.413	720	914	0.7	0.7	3.520	A
2 - Dansteed Way	775	194	471	1650	0.470	775	755	0.9	0.9	4.115	A
3 - Michigan Drive	512	128	1188	1064	0.481	512	58	0.9	0.9	6.520	A
4 - Willen Road North	726	181	694	1585	0.458	726	1006	0.8	0.8	4.188	A

17:45 - 18:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tongwell Street	720	180	506	1742	0.413	720	914	0.7	0.7	3.520	A
2 - Dansteed Way	775	194	471	1650	0.470	775	755	0.9	0.9	4.115	A
3 - Michigan Drive	512	128	1188	1064	0.481	512	58	0.9	0.9	6.520	A
4 - Willen Road North	726	181	694	1585	0.458	726	1006	0.8	0.8	4.188	A

2031 Base + Committed + Proposed Dev, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout	1, 2, 3, 4	34.52	D

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D11	2031 Base + Committed + Proposed Dev	AM	FLAT	08:00	09:00	60	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Tongwell Street		FLAT	✓	1250	100.000
2 - Dansteed Way		FLAT	✓	541	100.000
3 - Michigan Drive		FLAT	✓	99	100.000
4 - Willen Road North		FLAT	✓	1754	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1 - Tongwell Street	2 - Dansteed Way	3 - Michigan Drive	4 - Willen Road North
From	1 - Tongwell Street	1	703	158	388
	2 - Dansteed Way	225	5	39	272
	3 - Michigan Drive	50	20	0	29
	4 - Willen Road North	681	981	89	3

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1 - Tongwell Street	2 - Dansteed Way	3 - Michigan Drive	4 - Willen Road North

From	1 - Tongwell Street	0	2	2	5
	2 - Dansteed Way	8	0	0	2
	3 - Michigan Drive	12	6	0	4
	4 - Willen Road North	3	2	6	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - Tongwell Street	0.90	24.51	8.1	C	1250	1250
2 - Dansteed Way	0.36	3.73	0.6	A	541	541
3 - Michigan Drive	0.09	3.52	0.1	A	99	99
4 - Willen Road North	0.97	53.18	24.7	F	1754	1754

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tongwell Street	1250	312	1060	1412	0.885	1224	932	0.0	6.5	17.253	C
2 - Dansteed Way	541	135	624	1513	0.358	539	1659	0.0	0.6	3.689	A
3 - Michigan Drive	99	25	884	1126	0.088	99	279	0.0	0.1	3.504	A
4 - Willen Road North	1754	438	300	1800	0.974	1692	683	0.0	15.6	25.625	D

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tongwell Street	1250	312	1087	1396	0.895	1246	950	6.5	7.5	22.910	C
2 - Dansteed Way	541	135	636	1506	0.359	541	1697	0.6	0.6	3.730	A
3 - Michigan Drive	99	25	893	1121	0.088	99	285	0.1	0.1	3.520	A
4 - Willen Road North	1754	438	301	1799	0.975	1736	691	15.6	20.0	42.900	E

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tongwell Street	1250	312	1091	1394	0.897	1248	953	7.5	7.9	24.016	C
2 - Dansteed Way	541	135	638	1505	0.359	541	1702	0.6	0.6	3.733	A
3 - Michigan Drive	99	25	893	1121	0.088	99	285	0.1	0.1	3.521	A
4 - Willen Road North	1754	438	301	1799	0.975	1743	691	20.0	22.8	49.114	E

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tongwell Street	1250	312	1093	1392	0.898	1249	954	7.9	8.1	24.510	C
2 - Dansteed Way	541	135	638	1505	0.360	541	1704	0.6	0.6	3.734	A
3 - Michigan Drive	99	25	894	1121	0.088	99	285	0.1	0.1	3.521	A
4 - Willen Road North	1754	438	301	1799	0.975	1746	692	22.8	24.7	53.180	F

2031 Base + Committed + Proposed Dev, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout	1, 2, 3, 4	4.66	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 period length (min)	Time segment length (min)	Run automatically
D12	2031 Base + Committed + Proposed Dev	PM	FLAT	17:00	18:00	60	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Tongwell Street		FLAT	✓	748	100.000
2 - Dansteed Way		FLAT	✓	815	100.000
3 - Michigan Drive		FLAT	✓	511	100.000
4 - Willen Road North		FLAT	✓	775	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1 - Tongwell Street	2 - Dansteed Way	3 - Michigan Drive	4 - Willen Road North
From	1 - Tongwell Street	1	259	29	459
	2 - Dansteed Way	319	3	14	479
	3 - Michigan Drive	264	93	1	153
	4 - Willen Road North	338	418	18	1

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1 - Tongwell Street	2 - Dansteed Way	3 - Michigan Drive	4 - Willen Road North

From	1 - Tongwell Street	0	4	0	2
	2 - Dansteed Way	2	0	8	1
	3 - Michigan Drive	0	0	0	1
	4 - Willen Road North	3	2	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - Tongwell Street	0.43	3.64	0.8	A	748	748
2 - Dansteed Way	0.50	4.41	1.0	A	815	815
3 - Michigan Drive	0.50	6.99	1.0	A	511	511
4 - Willen Road North	0.49	4.40	0.9	A	775	775

Main Results for each time segment

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tongwell Street	748	187	531	1738	0.430	745	917	0.0	0.8	3.615	A
2 - Dansteed Way	815	204	507	1632	0.499	811	769	0.0	1.0	4.365	A
3 - Michigan Drive	511	128	1256	1029	0.497	507	62	0.0	1.0	6.849	A
4 - Willen Road North	775	194	677	1596	0.486	771	1087	0.0	0.9	4.348	A

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tongwell Street	748	187	534	1736	0.431	748	922	0.8	0.8	3.641	A
2 - Dansteed Way	815	204	509	1631	0.500	815	773	1.0	1.0	4.413	A
3 - Michigan Drive	511	128	1262	1026	0.498	511	62	1.0	1.0	6.992	A
4 - Willen Road North	775	194	681	1593	0.486	775	1092	0.9	0.9	4.399	A

17:30 - 17:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tongwell Street	748	187	534	1736	0.431	748	922	0.8	0.8	3.641	A
2 - Dansteed Way	815	204	509	1631	0.500	815	773	1.0	1.0	4.413	A
3 - Michigan Drive	511	128	1262	1026	0.498	511	62	1.0	1.0	6.992	A
4 - Willen Road North	775	194	681	1593	0.486	775	1092	0.9	0.9	4.399	A

17:45 - 18:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tongwell Street	748	187	534	1736	0.431	748	922	0.8	0.8	3.641	A
2 - Dansteed Way	815	204	509	1631	0.500	815	773	1.0	1.0	4.413	A
3 - Michigan Drive	511	128	1262	1026	0.498	511	62	1.0	1.0	6.992	A
4 - Willen Road North	775	194	681	1593	0.486	775	1092	0.9	0.9	4.399	A

2033 Base + Committed + Proposed Dev, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout	1, 2, 3, 4	57.17	F

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D13	2033 Base + Committed + Proposed Dev	AM	FLAT	08:00	09:00	60	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Tongwell Street		FLAT	✓	1276	100.000
2 - Dansteed Way		FLAT	✓	555	100.000
3 - Michigan Drive		FLAT	✓	101	100.000
4 - Willen Road North		FLAT	✓	1813	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1 - Tongwell Street	2 - Dansteed Way	3 - Michigan Drive	4 - Willen Road North
From	1 - Tongwell Street	1	716	161	398
	2 - Dansteed Way	229	5	40	281
	3 - Michigan Drive	51	20	0	30
	4 - Willen Road North	704	1012	93	4

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1 - Tongwell Street	2 - Dansteed Way	3 - Michigan Drive	4 - Willen Road North

From	1 - Tongwell Street	0	2	2	5
	2 - Dansteed Way	8	0	0	2
	3 - Michigan Drive	12	6	0	4
	4 - Willen Road North	2	2	6	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - Tongwell Street	0.93	32.60	10.9	D	1276	1276
2 - Dansteed Way	0.37	3.83	0.6	A	555	555
3 - Michigan Drive	0.09	3.57	0.1	A	101	101
4 - Willen Road North	1.01	94.42	47.3	F	1813	1813

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tongwell Street	1276	319	1080	1400	0.911	1244	950	0.0	8.0	20.135	C
2 - Dansteed Way	555	139	638	1505	0.369	553	1686	0.0	0.6	3.771	A
3 - Michigan Drive	101	25	906	1115	0.091	101	285	0.0	0.1	3.549	A
4 - Willen Road North	1813	453	305	1804	1.005	1725	702	0.0	22.0	32.209	D

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tongwell Street	1276	319	1109	1383	0.923	1269	969	8.0	9.7	29.008	D
2 - Dansteed Way	555	139	652	1497	0.371	555	1727	0.6	0.6	3.820	A
3 - Michigan Drive	101	25	916	1110	0.091	101	291	0.1	0.1	3.568	A
4 - Willen Road North	1813	453	306	1803	1.006	1772	711	22.0	32.1	62.713	F

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tongwell Street	1276	319	1114	1380	0.925	1273	972	9.7	10.5	31.375	D
2 - Dansteed Way	555	139	654	1496	0.371	555	1733	0.6	0.6	3.825	A
3 - Michigan Drive	101	25	917	1109	0.091	101	292	0.1	0.1	3.570	A
4 - Willen Road North	1813	453	306	1803	1.006	1781	712	32.1	40.3	79.926	F

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tongwell Street	1276	319	1117	1378	0.926	1274	974	10.5	10.9	32.598	D
2 - Dansteed Way	555	139	655	1495	0.371	555	1736	0.6	0.6	3.826	A
3 - Michigan Drive	101	25	917	1109	0.091	101	292	0.1	0.1	3.571	A
4 - Willen Road North	1813	453	306	1803	1.006	1785	712	40.3	47.3	94.421	F

2033 Base + Committed + Proposed Dev, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout	1, 2, 3, 4	4.91	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 period length (min)	Time segment length (min)	Run automatically
D14	2033 Base + Committed + Proposed Dev	PM	FLAT	17:00	18:00	60	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Tongwell Street		FLAT	✓	772	100.000
2 - Dansteed Way		FLAT	✓	843	100.000
3 - Michigan Drive		FLAT	✓	523	100.000
4 - Willen Road North		FLAT	✓	803	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1 - Tongwell Street	2 - Dansteed Way	3 - Michigan Drive	4 - Willen Road North
From	1 - Tongwell Street	1	264	30	477
	2 - Dansteed Way	325	4	14	500
	3 - Michigan Drive	269	95	1	158
	4 - Willen Road North	349	433	20	1

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1 - Tongwell Street	2 - Dansteed Way	3 - Michigan Drive	4 - Willen Road North

From	1 - Tongwell Street	0	4	0	2
	2 - Dansteed Way	2	0	8	1
	3 - Michigan Drive	0	0	0	1
	4 - Willen Road North	3	2	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - Tongwell Street	0.45	3.78	0.8	A	772	772
2 - Dansteed Way	0.52	4.64	1.1	A	843	843
3 - Michigan Drive	0.52	7.54	1.1	A	523	523
4 - Willen Road North	0.51	4.60	1.0	A	803	803

Main Results for each time segment

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tongwell Street	772	193	551	1726	0.447	769	938	0.0	0.8	3.747	A
2 - Dansteed Way	843	211	528	1620	0.520	839	792	0.0	1.1	4.584	A
3 - Michigan Drive	523	131	1302	1004	0.521	519	65	0.0	1.1	7.361	A
4 - Willen Road North	803	201	690	1588	0.506	799	1130	0.0	1.0	4.541	A

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tongwell Street	772	193	554	1724	0.448	772	944	0.8	0.8	3.778	A
2 - Dansteed Way	843	211	530	1619	0.521	843	796	1.1	1.1	4.640	A
3 - Michigan Drive	523	131	1308	1001	0.523	523	65	1.1	1.1	7.533	A
4 - Willen Road North	803	201	695	1585	0.507	803	1136	1.0	1.0	4.602	A

17:30 - 17:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tongwell Street	772	193	554	1724	0.448	772	944	0.8	0.8	3.778	A
2 - Dansteed Way	843	211	530	1619	0.521	843	796	1.1	1.1	4.640	A
3 - Michigan Drive	523	131	1308	1001	0.523	523	65	1.1	1.1	7.536	A
4 - Willen Road North	803	201	695	1585	0.507	803	1136	1.0	1.0	4.602	A

17:45 - 18:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tongwell Street	772	193	554	1724	0.448	772	944	0.8	0.8	3.778	A
2 - Dansteed Way	843	211	530	1619	0.521	843	796	1.1	1.1	4.640	A
3 - Michigan Drive	523	131	1308	1001	0.523	523	65	1.1	1.1	7.536	A
4 - Willen Road North	803	201	695	1585	0.507	803	1136	1.0	1.0	4.602	A

2033 Base + Committed + Proposed Dev (MKE Trip Rates), AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout	1, 2, 3, 4	39.97	E

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D15	2033 Base + Committed + Proposed Dev (MKE Trip Rates)	AM	FLAT	08:00	09:00	60	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Tongwell Street		FLAT	✓	1268	100.000
2 - Dansteed Way		FLAT	✓	545	100.000
3 - Michigan Drive		FLAT	✓	99	100.000
4 - Willen Road North		FLAT	✓	1765	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1 - Tongwell Street	2 - Dansteed Way	3 - Michigan Drive	4 - Willen Road North
From	1 - Tongwell Street	1	716	161	390
	2 - Dansteed Way	229	5	40	271
	3 - Michigan Drive	51	20	0	28
	4 - Willen Road North	685	987	89	4

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1 - Tongwell Street	2 - Dansteed Way	3 - Michigan Drive	4 - Willen Road North

From	1 - Tongwell Street	0	2	2	5
	2 - Dansteed Way	8	0	0	2
	3 - Michigan Drive	12	6	0	5
	4 - Willen Road North	3	2	7	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - Tongwell Street	0.91	28.30	9.5	D	1268	1268
2 - Dansteed Way	0.36	3.77	0.6	A	545	545
3 - Michigan Drive	0.09	3.55	0.1	A	99	99
4 - Willen Road North	0.98	61.92	29.2	F	1765	1765

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tongwell Street	1268	317	1063	1410	0.899	1239	938	0.0	7.2	18.687	C
2 - Dansteed Way	545	136	629	1509	0.361	543	1673	0.0	0.6	3.717	A
3 - Michigan Drive	99	25	889	1120	0.088	99	283	0.0	0.1	3.526	A
4 - Willen Road North	1765	441	305	1796	0.983	1697	683	0.0	17.1	27.288	D

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tongwell Street	1268	317	1091	1393	0.910	1263	957	7.2	8.6	25.854	D
2 - Dansteed Way	545	136	642	1502	0.363	545	1713	0.6	0.6	3.760	A
3 - Michigan Drive	99	25	898	1115	0.089	99	288	0.1	0.1	3.543	A
4 - Willen Road North	1765	441	306	1795	0.983	1743	691	17.1	22.7	47.624	E

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tongwell Street	1268	317	1096	1390	0.912	1266	960	8.6	9.1	27.501	D
2 - Dansteed Way	545	136	643	1501	0.363	545	1718	0.6	0.6	3.764	A
3 - Michigan Drive	99	25	899	1114	0.089	99	289	0.1	0.1	3.545	A
4 - Willen Road North	1765	441	306	1795	0.983	1750	692	22.7	26.4	56.008	F

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tongwell Street	1268	317	1098	1389	0.913	1267	962	9.1	9.5	28.295	D
2 - Dansteed Way	545	136	644	1501	0.363	545	1721	0.6	0.6	3.766	A
3 - Michigan Drive	99	25	900	1114	0.089	99	289	0.1	0.1	3.545	A
4 - Willen Road North	1765	441	306	1795	0.983	1754	693	26.4	29.2	61.920	F

2033 Base + Committed + Proposed Dev (MKE Trip Rates), PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout	1, 2, 3, 4	4.76	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 period length (min)	Time segment length (min)	Run automatically
D16	2033 Base + Committed + Proposed Dev (MKE Trip Rates)	PM	FLAT	17:00	18:00	60	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Tongwell Street		FLAT	✓	756	100.000
2 - Dansteed Way		FLAT	✓	823	100.000
3 - Michigan Drive		FLAT	✓	520	100.000
4 - Willen Road North		FLAT	✓	776	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1 - Tongwell Street	2 - Dansteed Way	3 - Michigan Drive	4 - Willen Road North
From	1 - Tongwell Street	1	264	30	461
	2 - Dansteed Way	325	4	14	480
	3 - Michigan Drive	269	95	1	155
	4 - Willen Road North	339	419	17	1

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1 - Tongwell Street	2 - Dansteed Way	3 - Michigan Drive	4 - Willen Road North

From	1 - Tongwell Street	0	4	0	3
	2 - Dansteed Way	2	0	8	1
	3 - Michigan Drive	0	0	0	1
	4 - Willen Road North	3	2	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - Tongwell Street	0.44	3.72	0.8	A	756	756
2 - Dansteed Way	0.51	4.48	1.0	A	823	823
3 - Michigan Drive	0.51	7.23	1.0	A	520	520
4 - Willen Road North	0.49	4.45	1.0	A	776	776

Main Results for each time segment

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tongwell Street	756	189	534	1726	0.438	753	929	0.0	0.8	3.687	A
2 - Dansteed Way	823	206	509	1628	0.506	819	778	0.0	1.0	4.427	A
3 - Michigan Drive	520	130	1266	1021	0.509	516	62	0.0	1.0	7.071	A
4 - Willen Road North	776	194	691	1588	0.489	772	1092	0.0	0.9	4.395	A

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tongwell Street	756	189	537	1724	0.438	756	934	0.8	0.8	3.717	A
2 - Dansteed Way	823	206	511	1627	0.506	823	782	1.0	1.0	4.478	A
3 - Michigan Drive	520	130	1272	1018	0.511	520	62	1.0	1.0	7.230	A
4 - Willen Road North	776	194	695	1585	0.490	776	1097	0.9	1.0	4.449	A

17:30 - 17:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tongwell Street	756	189	537	1724	0.438	756	934	0.8	0.8	3.717	A
2 - Dansteed Way	823	206	511	1627	0.506	823	782	1.0	1.0	4.478	A
3 - Michigan Drive	520	130	1272	1018	0.511	520	62	1.0	1.0	7.230	A
4 - Willen Road North	776	194	695	1585	0.490	776	1097	1.0	1.0	4.449	A

17:45 - 18:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tongwell Street	756	189	537	1724	0.438	756	934	0.8	0.8	3.717	A
2 - Dansteed Way	823	206	511	1627	0.506	823	782	1.0	1.0	4.478	A
3 - Michigan Drive	520	130	1272	1018	0.511	520	62	1.0	1.0	7.230	A
4 - Willen Road North	776	194	695	1585	0.490	776	1097	1.0	1.0	4.449	A

2033 Base + Committed + Proposed Dev (10% Modal Shift), AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout	1, 2, 3, 4	53.47	F

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D17	2033 Base + Committed + Proposed Dev (10% Modal Shift)	AM	FLAT	08:00	09:00	60	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Tongwell Street		FLAT	✓	1274	100.000
2 - Dansteed Way		FLAT	✓	553	100.000
3 - Michigan Drive		FLAT	✓	101	100.000
4 - Willen Road North		FLAT	✓	1799	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1 - Tongwell Street	2 - Dansteed Way	3 - Michigan Drive	4 - Willen Road North
From	1 - Tongwell Street	1	716	161	396
	2 - Dansteed Way	229	5	40	279
	3 - Michigan Drive	51	20	0	30
	4 - Willen Road North	698	1005	92	4

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1 - Tongwell Street	2 - Dansteed Way	3 - Michigan Drive	4 - Willen Road North

From	1 - Tongwell Street	0	2	2	5
	2 - Dansteed Way	8	0	0	2
	3 - Michigan Drive	12	6	0	4
	4 - Willen Road North	3	2	6	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - Tongwell Street	0.92	31.25	10.5	D	1274	1274
2 - Dansteed Way	0.37	3.81	0.6	A	553	553
3 - Michigan Drive	0.09	3.56	0.1	A	101	101
4 - Willen Road North	1.00	87.74	43.3	F	1799	1799

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tongwell Street	1274	318	1075	1404	0.908	1243	945	0.0	7.7	19.679	C
2 - Dansteed Way	553	138	636	1506	0.367	551	1682	0.0	0.6	3.758	A
3 - Michigan Drive	101	25	902	1117	0.090	101	285	0.0	0.1	3.543	A
4 - Willen Road North	1799	450	305	1797	1.001	1715	698	0.0	21.0	31.323	D

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tongwell Street	1274	318	1104	1386	0.919	1268	965	7.7	9.3	28.012	D
2 - Dansteed Way	553	138	649	1498	0.369	553	1722	0.6	0.6	3.806	A
3 - Michigan Drive	101	25	912	1112	0.091	101	290	0.1	0.1	3.561	A
4 - Willen Road North	1799	450	306	1796	1.002	1762	707	21.0	30.2	59.852	F

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tongwell Street	1274	318	1109	1383	0.921	1271	968	9.3	10.0	30.157	D
2 - Dansteed Way	553	138	651	1497	0.369	553	1728	0.6	0.6	3.811	A
3 - Michigan Drive	101	25	913	1111	0.091	101	291	0.1	0.1	3.563	A
4 - Willen Road North	1799	450	306	1796	1.002	1771	708	30.2	37.3	75.178	F

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tongwell Street	1274	318	1111	1382	0.922	1272	970	10.0	10.5	31.247	D
2 - Dansteed Way	553	138	652	1497	0.369	553	1731	0.6	0.6	3.812	A
3 - Michigan Drive	101	25	913	1111	0.091	101	292	0.1	0.1	3.564	A
4 - Willen Road North	1799	450	306	1796	1.002	1775	708	37.3	43.3	87.740	F

2033 Base + Committed + Proposed Dev (10% Modal Shift), PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout	1, 2, 3, 4	4.82	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 period length (min)	Time segment length (min)	Run automatically
D18	2033 Base + Committed + Proposed Dev (10% Modal Shift)	PM	FLAT	17:00	18:00	60	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1 - Tongwell Street		FLAT	✓	767	100.000
2 - Dansteed Way		FLAT	✓	836	100.000
3 - Michigan Drive		FLAT	✓	522	100.000
4 - Willen Road North		FLAT	✓	777	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1 - Tongwell Street	2 - Dansteed Way	3 - Michigan Drive	4 - Willen Road North
From	1 - Tongwell Street	1	264	30	472
	2 - Dansteed Way	325	4	14	493
	3 - Michigan Drive	269	95	1	157
	4 - Willen Road North	346	411	19	1

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1 - Tongwell Street	2 - Dansteed Way	3 - Michigan Drive	4 - Willen Road North

From	1 - Tongwell Street	0	4	0	2
	2 - Dansteed Way	2	0	8	1
	3 - Michigan Drive	0	0	0	1
	4 - Willen Road North	3	2	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1 - Tongwell Street	0.44	3.71	0.8	A	767	767
2 - Dansteed Way	0.52	4.58	1.1	A	836	836
3 - Michigan Drive	0.52	7.42	1.1	A	522	522
4 - Willen Road North	0.49	4.45	1.0	A	777	777

Main Results for each time segment

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tongwell Street	767	192	528	1740	0.441	764	936	0.0	0.8	3.676	A
2 - Dansteed Way	836	209	522	1623	0.515	832	770	0.0	1.1	4.525	A
3 - Michigan Drive	522	130	1290	1011	0.517	518	64	0.0	1.1	7.247	A
4 - Willen Road North	777	194	690	1588	0.489	773	1117	0.0	0.9	4.400	A

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tongwell Street	767	192	531	1738	0.441	767	941	0.8	0.8	3.705	A
2 - Dansteed Way	836	209	524	1622	0.515	836	774	1.1	1.1	4.579	A
3 - Michigan Drive	522	130	1296	1007	0.518	522	64	1.1	1.1	7.415	A
4 - Willen Road North	777	194	695	1585	0.490	777	1123	0.9	1.0	4.455	A

17:30 - 17:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tongwell Street	767	192	531	1738	0.441	767	941	0.8	0.8	3.705	A
2 - Dansteed Way	836	209	524	1622	0.515	836	774	1.1	1.1	4.579	A
3 - Michigan Drive	522	130	1296	1007	0.518	522	64	1.1	1.1	7.418	A
4 - Willen Road North	777	194	695	1585	0.490	777	1123	1.0	1.0	4.455	A

17:45 - 18:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1 - Tongwell Street	767	192	531	1738	0.441	767	941	0.8	0.8	3.705	A
2 - Dansteed Way	836	209	524	1622	0.515	836	774	1.1	1.1	4.579	A
3 - Michigan Drive	522	130	1296	1007	0.518	522	64	1.1	1.1	7.418	A
4 - Willen Road North	777	194	695	1585	0.490	777	1123	1.0	1.0	4.455	A

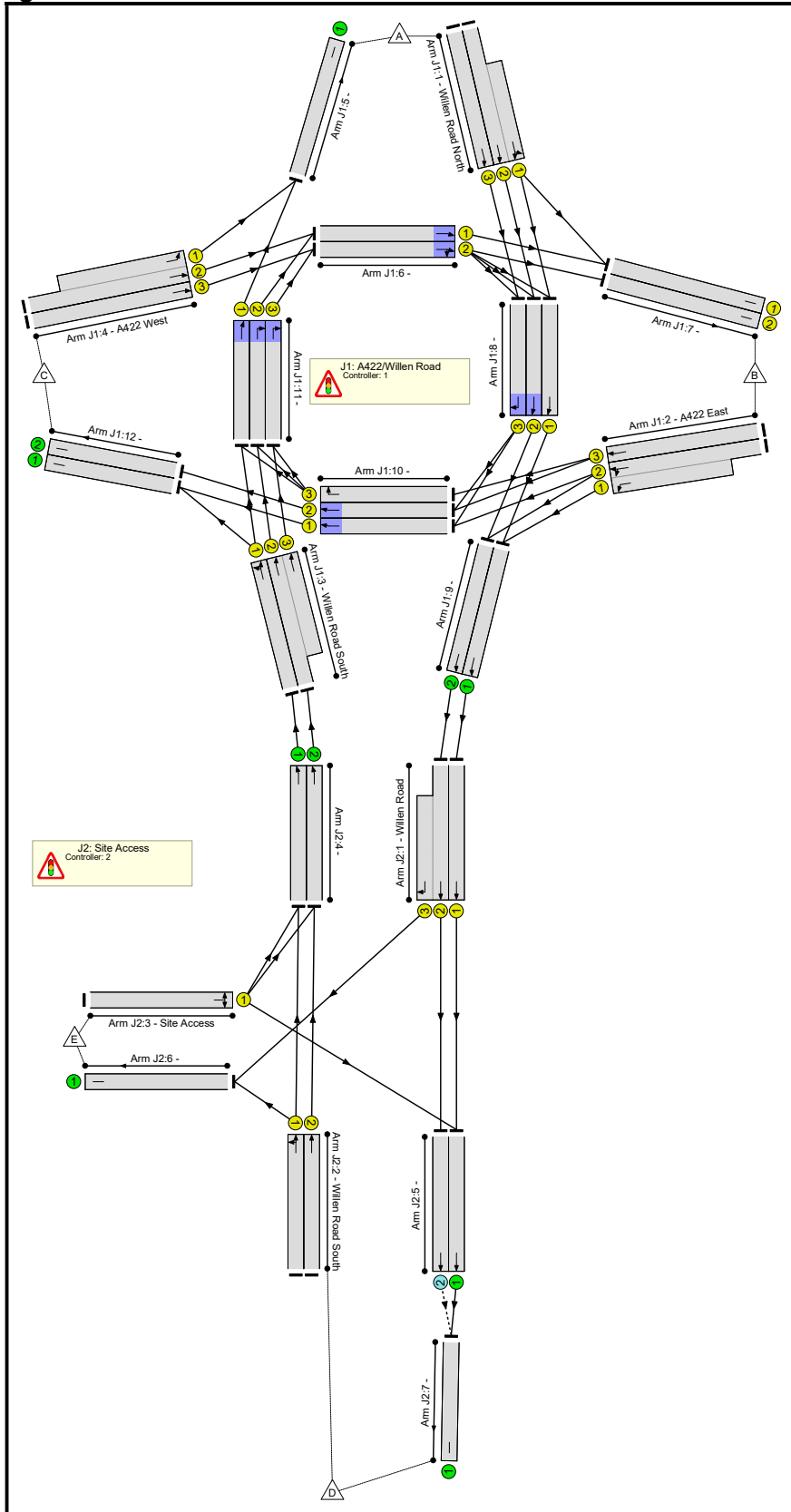
**Appendix 17 – Marsh End Roundabout (including
Proposed Northern Access / Southern Access) LinSig
Model Output Reports**

Full Input Data And Results

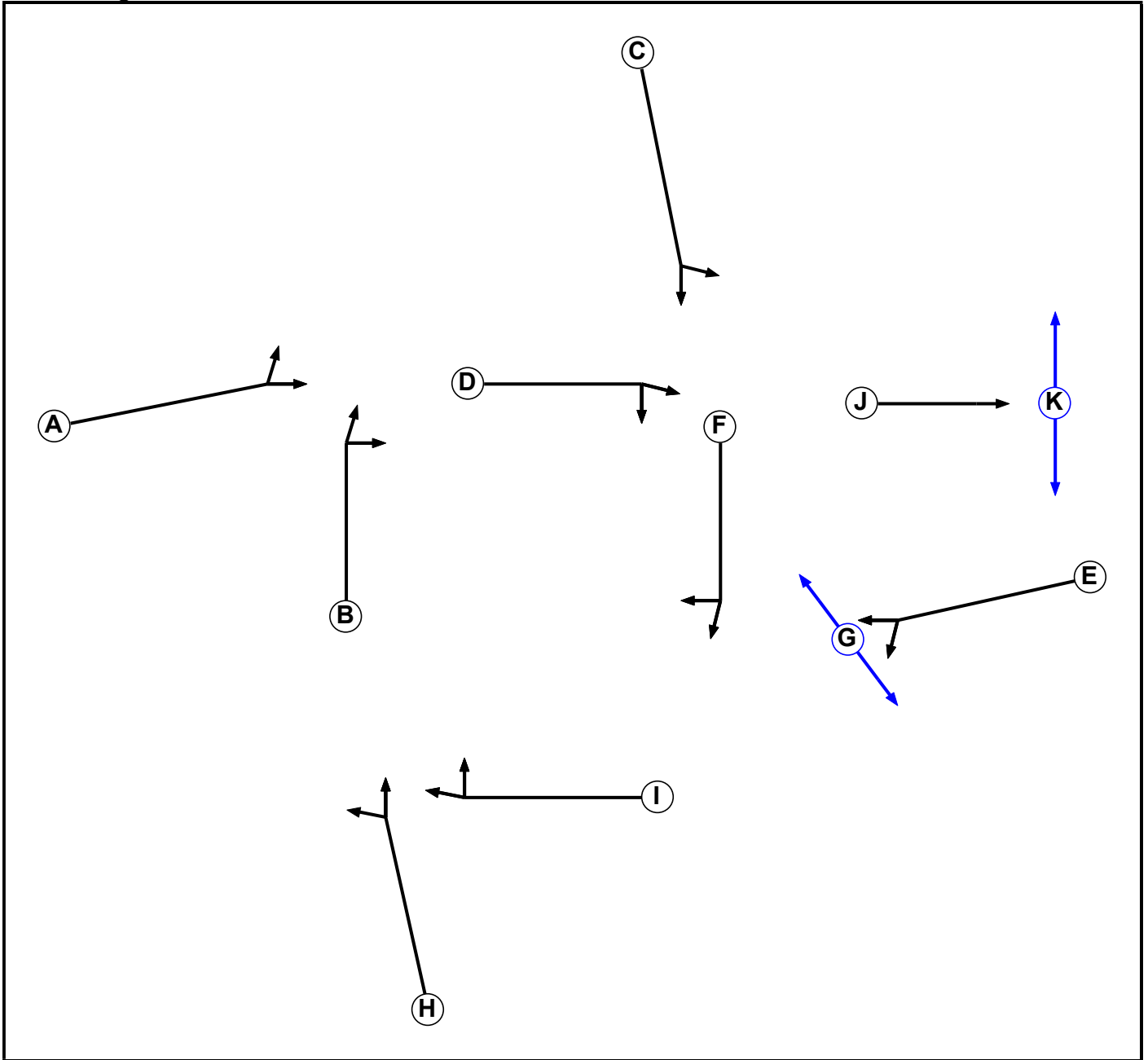
User and Project Details

Project:	Newport Pagnell
Title:	A422 Marsh End / Willen Road / Site Access
Location:	
Additional detail:	
File name:	210902_Marsh End RAB+Committed Scheme v2.lsg3x
Author:	
Company:	
Address:	

Network Layout Diagram



C1
Phase Diagram



Full Input Data And Results

Phase Input Data

Phase Name	Phase Type	Stage Stream	Assoc. Phase	Street Min	Cont Min
A	Traffic	1		7	7
B	Traffic	1		7	7
C	Traffic	2		7	7
D	Traffic	2		7	7
E	Traffic	3		7	7
F	Traffic	3		7	4
G	Pedestrian	3		5	5
H	Traffic	4		7	7
I	Traffic	4		7	7
J	Traffic	5		7	7
K	Pedestrian	5		7	7

Phase Intergreens Matrix

		Starting Phase										
		A	B	C	D	E	F	G	H	I	J	K
Terminating Phase	A		5	-	-	-	-	-	-	-	-	-
	B	5		-	-	-	-	-	-	-	-	-
	C	-	-		5	-	-	-	-	-	-	-
	D	-	-	5		-	-	-	-	-	-	-
	E	-	-	-	-		5	5	-	-	-	-
	F	-	-	-	-	5		-	-	-	-	-
	G	-	-	-	-	8	-		-	-	-	-
	H	-	-	-	-	-	-	-		5	-	-
	I	-	-	-	-	-	-	-	5		-	-
	J	-	-	-	-	-	-	-	-	-		5
	K	-	-	-	-	-	-	-	-	-	7	

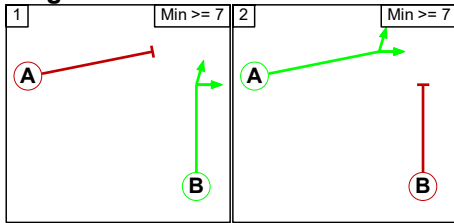
Phases in Stage

Stream	Stage No.	Phases in Stage
1	1	B
1	2	A
2	1	D
2	2	C
3	1	F G
3	2	E
4	1	I
4	2	H
5	1	J
5	2	K

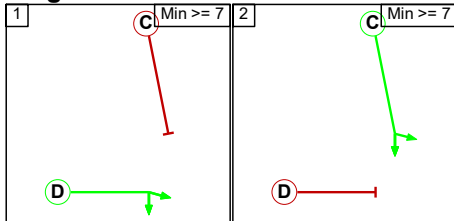
Full Input Data And Results

Stage Diagram

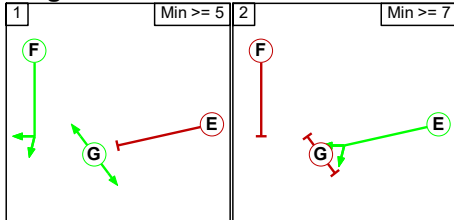
Stage Stream: 1



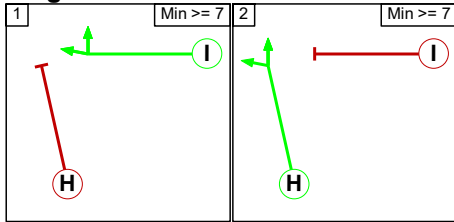
Stage Stream: 2



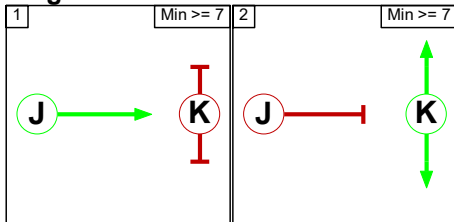
Stage Stream: 3



Stage Stream: 4



Stage Stream: 5



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					

Stage Stream: 3

Term. Stage	Start Stage	Phase	Type	Value	Cont value
1	2	F	Losing	3	3

Full Input Data And Results

Stage Stream: 4

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

Stage Stream: 5

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

Prohibited Stage Change

Stage Stream: 1

		To Stage	
		1	2
From Stage	1		5
	2	5	

Stage Stream: 2

		To Stage	
		1	2
From Stage	1		5
	2	5	

Stage Stream: 3

		To Stage	
		1	2
From Stage	1		8
	2	5	

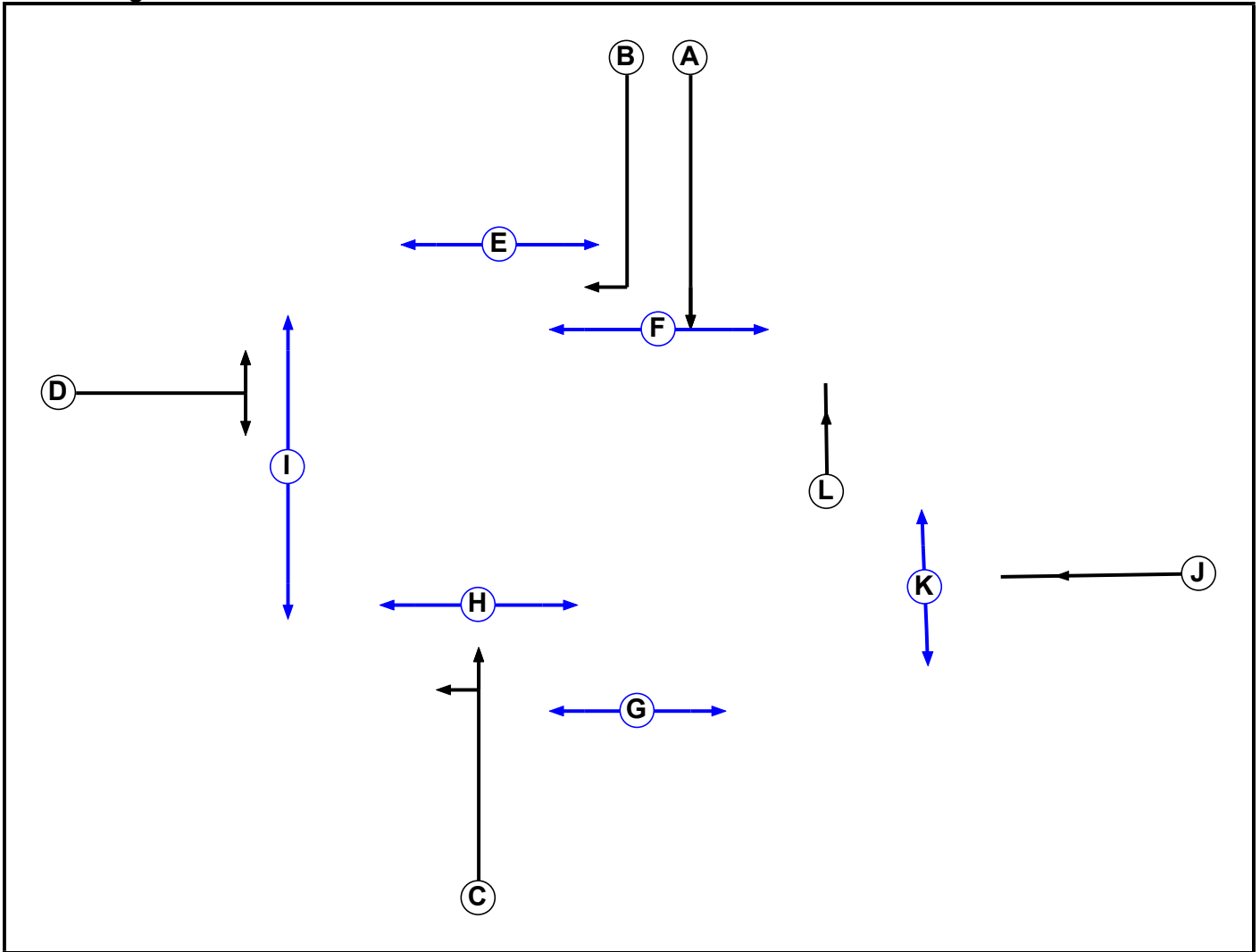
Stage Stream: 4

		To Stage	
		1	2
From Stage	1		5
	2	5	

Stage Stream: 5

		To Stage	
		1	2
From Stage	1		5
	2	7	

C2
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
I	Pedestrian		5	5
J	Traffic		7	7
K	Pedestrian		7	7
L	Traffic		7	7

Full Input Data And Results

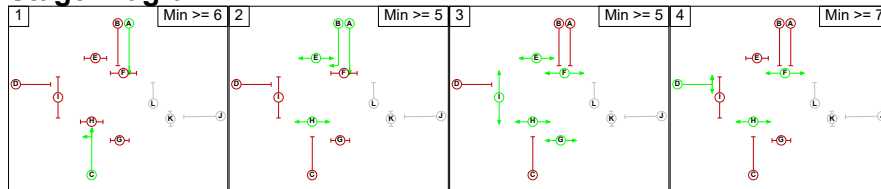
Phase Intergrens Matrix

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

Phases in Stage

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

Stage Diagram



Phase Delays

Term. Stage	Start Stage	Phase	Type	Value	Cont value
1	4	A	Losing	1	1

Prohibited Stage Change

		To Stage			
		1	2	3	4
From Stage	1	-	8	8	7
	2	6	-	8	6
	3	9	9	-	9
	4	7	8	8	-

Full Input Data And Results

Give-Way Lane Input Data

Junction: J1: A422/Willen Road
There are no Opposed Lanes in this Junction

Junction: J2: Site Access											
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)
J2:5/2	J2:7/1 (Ahead)	1000	0	J2:7/1	0.33	All	-	-	-	-	-

Full Input Data And Results

Lane Input Data

Junction: J1: A422/Willen Road												
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)
J1:1/1 (Willen Road North)	U	C	2	3	9.5	Geom	-	3.40	0.00	Y	Arm J1:7 Left	23.00
											Arm J1:8 Ahead	Inf
J1:1/2 (Willen Road North)	U	C	2	3	2.3	Geom	-	3.40	0.00	Y	Arm J1:8 Ahead	Inf
J1:1/3 (Willen Road North)	U	C	2	3	60.0	Geom	-	3.40	0.00	Y	Arm J1:8 Ahead	Inf
J1:2/1 (A422 East)	U	E	2	3	20.7	Geom	-	3.65	0.00	Y	Arm J1:9 Left	84.00
J1:2/2 (A422 East)	U	E	2	3	60.0	Geom	-	3.65	0.00	Y	Arm J1:9 Left	84.00
											Arm J1:10 Ahead	Inf
J1:2/3 (A422 East)	U	E	2	3	60.0	Geom	-	3.65	0.00	Y	Arm J1:10 Ahead	Inf
J1:3/1 (Willen Road South)	U	H	2	3	28.7	Geom	-	3.65	0.00	Y	Arm J1:11 Ahead	Inf
											Arm J1:12 Left	28.50
J1:3/2 (Willen Road South)	U	H	2	3	28.7	Geom	-	3.65	0.00	Y	Arm J1:11 Ahead	Inf
J1:3/3 (Willen Road South)	U	H	2	3	10.9	Geom	-	3.65	0.00	Y	Arm J1:11 Ahead	Inf
J1:4/1 (A422 West)	U	A	2	3	14.9	Geom	-	3.65	0.00	Y	Arm J1:5 Left	30.90
J1:4/2 (A422 West)	U	A	2	3	60.0	Geom	-	3.65	0.00	Y	Arm J1:6 Ahead	Inf
J1:4/3 (A422 West)	U	A	2	3	60.0	Geom	-	3.65	0.00	Y	Arm J1:6 Ahead	Inf
J1:5/1	U		2	3	5.0	Inf	-	-	-	-	-	-
J1:6/1	U	D	2	3	7.0	User	1900	-	-	-	-	-
J1:6/2	U	D	2	3	7.0	User	1900	-	-	-	-	-
J1:7/1	U	J	2	3	8.7	Geom	-	3.50	0.00	Y		
J1:7/2	U	J	2	3	8.7	Geom	-	3.50	0.00	Y		
J1:8/1	U	F	2	3	10.2	User	1900	-	-	-	-	-
J1:8/2	U	F	2	3	9.7	User	1900	-	-	-	-	-

Full Input Data And Results

J1:8/3	U	F	2	3	9.0	User	1900	-	-	-	-	-
J1:9/1	U		2	3	7.0	Inf	-	-	-	-	-	-
J1:9/2	U		2	3	7.0	Inf	-	-	-	-	-	-
J1:10/1	U	I	2	3	10.4	User	1900	-	-	-	-	-
J1:10/2	U	I	2	3	9.7	User	1900	-	-	-	-	-
J1:10/3	U	I	2	3	92.2	User	1900	-	-	-	-	-
J1:11/1	U	B	2	3	8.3	User	1900	-	-	-	-	-
J1:11/2	U	B	2	3	8.0	User	1900	-	-	-	-	-
J1:11/3	U	B	2	3	7.6	User	1900	-	-	-	-	-
J1:12/1	U		2	3	5.0	Inf	-	-	-	-	-	-
J1:12/2	U		2	3	5.0	Inf	-	-	-	-	-	-

Junction: J2: Site Access												
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)
J2:1/1 (Willen Road)	U	A	2	3	27.8	Geom	-	3.65	0.00	Y	Arm J2:5 Ahead	Inf
J2:1/2 (Willen Road)	U	A	2	3	27.8	Geom	-	3.65	0.00	Y	Arm J2:5 Ahead	Inf
J2:1/3 (Willen Road)	U	B	2	3	9.9	Geom	-	3.65	0.00	N	Arm J2:6 Right	20.00
J2:2/1 (Willen Road South)	U	C	2	3	30.4	Geom	-	3.65	0.00	Y	Arm J2:4 Ahead	Inf
											Arm J2:6 Left	15.00
J2:2/2 (Willen Road South)	U	C	2	3	15.0	Geom	-	3.65	0.00	Y	Arm J2:4 Ahead	Inf
J2:3/1 (Site Access)	U	D	2	3	60.0	Geom	-	3.50	0.00	Y	Arm J2:4 Left	12.00
											Arm J2:5 Right	20.00
J2:4/1	U		2	3	8.7	Inf	-	-	-	-	-	-
J2:4/2	U		2	3	8.7	Inf	-	-	-	-	-	-
J2:5/1	U		2	3	60.0	Inf	-	-	-	-	-	-
J2:5/2	O		2	3	60.0	Inf	-	-	-	-	-	-
J2:6/1	U		2	3	60.0	Inf	-	-	-	-	-	-
J2:7/1	U		2	3	60.0	Inf	-	-	-	-	-	-

Full Input Data And Results

Traffic Flow Groups

Flow Group	Start Time	End Time	Duration	Formula
1: '2031 Base + Committed AM'	08:00	09:00	01:00	
2: '2031 Base + Committed PM'	17:00	18:00	01:00	
3: '2033 Base + Committed AM'	08:00	09:00	01:00	
4: '2033 Base + Committed PM'	17:00	18:00	01:00	

Scenario 1: '2031 Base + Committed AM' (FG1: '2031 Base + Committed AM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination					
		A	B	C	D	E	Tot.
Origin	A	0	108	321	705	25	1159
	B	74	0	1199	856	31	2160
	C	251	732	0	50	2	1035
	D	275	291	35	0	57	658
	E	7	7	1	12	0	27
	Tot.	607	1138	1556	1623	115	5039

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 1: 2031 Base + Committed AM
Junction: J1: A422/Willen Road	
J1:1/1 (short)	419
J1:1/2 (with short)	838(In) 419(Out)
J1:1/3	321
J1:2/1 (short)	720
J1:2/2 (with short)	1440(In) 720(Out)
J1:2/3	720
J1:3/1	318
J1:3/2 (with short)	298(In) 148(Out)
J1:3/3 (short)	150
J1:4/1 (short)	251
J1:4/2 (with short)	643(In) 392(Out)
J1:4/3	392
J1:5/1	607
J1:6/1	540
J1:6/2	542
J1:7/1	648
J1:7/2	490
J1:8/1	336
J1:8/2	446
J1:8/3	321
J1:9/1	1056
J1:9/2	613
J1:10/1	713
J1:10/2	807
J1:10/3	74
J1:11/1	356
J1:11/2	148
J1:11/3	150
J1:12/1	749
J1:12/2	807
Junction: J2: Site Access	
J2:1/1	1056
J2:1/2 (with short)	613(In) 555(Out)
J2:1/3 (short)	58

Full Input Data And Results

J2:2/1	367
J2:2/2	291
J2:3/1	27
J2:4/1	318
J2:4/2	298
J2:5/1	1068
J2:5/2	555
J2:6/1	115
J2:7/1	1623

Full Input Data And Results

Lane Saturation Flows

Junction: J1: A422/Willen Road								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
J1:1/1 (Willen Road North)	3.40	0.00	Y	Arm J1:7 Left	23.00	25.8 %	1923	1923
				Arm J1:8 Ahead	Inf	74.2 %		
J1:1/2 (Willen Road North)	3.40	0.00	Y	Arm J1:8 Ahead	Inf	100.0 %	1955	1955
J1:1/3 (Willen Road North)	3.40	0.00	Y	Arm J1:8 Ahead	Inf	100.0 %	1955	1955
J1:2/1 (A422 East)	3.65	0.00	Y	Arm J1:9 Left	84.00	100.0 %	1945	1945
J1:2/2 (A422 East)	3.65	0.00	Y	Arm J1:9 Left	84.00	23.2 %	1972	1972
				Arm J1:10 Ahead	Inf	76.8 %		
J1:2/3 (A422 East)	3.65	0.00	Y	Arm J1:10 Ahead	Inf	100.0 %	1980	1980
J1:3/1 (Willen Road South)	3.65	0.00	Y	Arm J1:11 Ahead	Inf	88.7 %	1968	1968
				Arm J1:12 Left	28.50	11.3 %		
J1:3/2 (Willen Road South)	3.65	0.00	Y	Arm J1:11 Ahead	Inf	100.0 %	1980	1980
J1:3/3 (Willen Road South)	3.65	0.00	Y	Arm J1:11 Ahead	Inf	100.0 %	1980	1980
J1:4/1 (A422 West)	3.65	0.00	Y	Arm J1:5 Left	30.90	100.0 %	1888	1888
J1:4/2 (A422 West)	3.65	0.00	Y	Arm J1:6 Ahead	Inf	100.0 %	1980	1980
J1:4/3 (A422 West)	3.65	0.00	Y	Arm J1:6 Ahead	Inf	100.0 %	1980	1980
J1:5/1	Infinite Saturation Flow						Inf	Inf
J1:6/1	This lane uses a directly entered Saturation Flow						1900	1900
J1:6/2	This lane uses a directly entered Saturation Flow						1900	1900
J1:7/1	3.50	0.00	Y				1965	1965
J1:7/2	3.50	0.00	Y				1965	1965
J1:8/1	This lane uses a directly entered Saturation Flow						1900	1900
J1:8/2	This lane uses a directly entered Saturation Flow						1900	1900
J1:8/3	This lane uses a directly entered Saturation Flow						1900	1900
J1:9/1	Infinite Saturation Flow						Inf	Inf
J1:9/2	Infinite Saturation Flow						Inf	Inf
J1:10/1	This lane uses a directly entered Saturation Flow						1900	1900
J1:10/2	This lane uses a directly entered Saturation Flow						1900	1900
J1:10/3	This lane uses a directly entered Saturation Flow						1900	1900
J1:11/1	This lane uses a directly entered Saturation Flow						1900	1900
J1:11/2	This lane uses a directly entered Saturation Flow						1900	1900
J1:11/3	This lane uses a directly entered Saturation Flow						1900	1900
J1:12/1	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

J1:12/2	Infinite Saturation Flow	Inf	Inf
---------	--------------------------	-----	-----

Junction: J2: Site Access								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
J2:1/1 (Willen Road)	3.65	0.00	Y	Arm J2:5 Ahead	Inf	100.0 %	1980	1980
J2:1/2 (Willen Road)	3.65	0.00	Y	Arm J2:5 Ahead	Inf	100.0 %	1980	1980
J2:1/3 (Willen Road)	3.65	0.00	N	Arm J2:6 Right	20.00	100.0 %	1972	1972
J2:2/1 (Willen Road South)	3.65	0.00	Y	Arm J2:4 Ahead	Inf	84.5 %	1950	1950
				Arm J2:6 Left	15.00	15.5 %		
J2:2/2 (Willen Road South)	3.65	0.00	Y	Arm J2:4 Ahead	Inf	100.0 %	1980	1980
J2:3/1 (Site Access)	3.50	0.00	Y	Arm J2:4 Left	12.00	55.6 %	1782	1782
				Arm J2:5 Right	20.00	44.4 %		
J2:4/1	Infinite Saturation Flow						Inf	Inf
J2:4/2	Infinite Saturation Flow						Inf	Inf
J2:5/1	Infinite Saturation Flow						Inf	Inf
J2:5/2	Infinite Saturation Flow						Inf	Inf
J2:6/1	Infinite Saturation Flow						Inf	Inf
J2:7/1	Infinite Saturation Flow						Inf	Inf

Scenario 2: '2031 Base + Committed PM' (FG2: '2031 Base + Committed PM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

Origin	Destination						
	A	B	C	D	E	Tot.	
A	0	150	222	300	12	684	
B	243	0	867	323	13	1446	
C	490	1557	0	21	1	2069	
D	481	460	35	0	23	999	
E	31	30	2	63	0	126	
Tot.	1245	2197	1126	707	49	5324	

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 2: 2031 Base + Committed PM
Junction: J1: A422/Willen Road	
J1:1/1 (short)	231
J1:1/2 (with short)	462(In) 231(Out)
J1:1/3	222
J1:2/1 (short)	323
J1:2/2 (with short)	885(In) 562(Out)
J1:2/3	561
J1:3/1	549
J1:3/2 (with short)	490(In) 245(Out)
J1:3/3 (short)	245
J1:4/1 (short)	490
J1:4/2 (with short)	1279(In) 789(Out)
J1:4/3	790
J1:5/1	1245
J1:6/1	1034
J1:6/2	1035
J1:7/1	1184
J1:7/2	1013
J1:8/1	91
J1:8/2	243
J1:8/3	222
J1:9/1	414
J1:9/2	256
J1:10/1	660
J1:10/2	429
J1:10/3	243
J1:11/1	755
J1:11/2	245
J1:11/3	245
J1:12/1	697
J1:12/2	429
Junction: J2: Site Access	
J2:1/1	414
J2:1/2 (with short)	256(In) 230(Out)
J2:1/3 (short)	26

Full Input Data And Results

J2:2/1	539
J2:2/2	460
J2:3/1	126
J2:4/1	549
J2:4/2	490
J2:5/1	477
J2:5/2	230
J2:6/1	49
J2:7/1	707

Full Input Data And Results

Lane Saturation Flows

Junction: J1: A422/Willen Road								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
J1:1/1 (Willen Road North)	3.40	0.00	Y	Arm J1:7 Left	23.00	64.9 %	1876	1876
				Arm J1:8 Ahead	Inf	35.1 %		
J1:1/2 (Willen Road North)	3.40	0.00	Y	Arm J1:8 Ahead	Inf	100.0 %	1955	1955
J1:1/3 (Willen Road North)	3.40	0.00	Y	Arm J1:8 Ahead	Inf	100.0 %	1955	1955
J1:2/1 (A422 East)	3.65	0.00	Y	Arm J1:9 Left	84.00	100.0 %	1945	1945
J1:2/2 (A422 East)	3.65	0.00	Y	Arm J1:9 Left	84.00	2.3 %	1979	1979
				Arm J1:10 Ahead	Inf	97.7 %		
J1:2/3 (A422 East)	3.65	0.00	Y	Arm J1:10 Ahead	Inf	100.0 %	1980	1980
J1:3/1 (Willen Road South)	3.65	0.00	Y	Arm J1:11 Ahead	Inf	93.3 %	1973	1973
				Arm J1:12 Left	28.50	6.7 %		
J1:3/2 (Willen Road South)	3.65	0.00	Y	Arm J1:11 Ahead	Inf	100.0 %	1980	1980
J1:3/3 (Willen Road South)	3.65	0.00	Y	Arm J1:11 Ahead	Inf	100.0 %	1980	1980
J1:4/1 (A422 West)	3.65	0.00	Y	Arm J1:5 Left	30.90	100.0 %	1888	1888
J1:4/2 (A422 West)	3.65	0.00	Y	Arm J1:6 Ahead	Inf	100.0 %	1980	1980
J1:4/3 (A422 West)	3.65	0.00	Y	Arm J1:6 Ahead	Inf	100.0 %	1980	1980
J1:5/1	Infinite Saturation Flow						Inf	Inf
J1:6/1	This lane uses a directly entered Saturation Flow						1900	1900
J1:6/2	This lane uses a directly entered Saturation Flow						1900	1900
J1:7/1	3.50	0.00	Y				1965	1965
J1:7/2	3.50	0.00	Y				1965	1965
J1:8/1	This lane uses a directly entered Saturation Flow						1900	1900
J1:8/2	This lane uses a directly entered Saturation Flow						1900	1900
J1:8/3	This lane uses a directly entered Saturation Flow						1900	1900
J1:9/1	Infinite Saturation Flow						Inf	Inf
J1:9/2	Infinite Saturation Flow						Inf	Inf
J1:10/1	This lane uses a directly entered Saturation Flow						1900	1900
J1:10/2	This lane uses a directly entered Saturation Flow						1900	1900
J1:10/3	This lane uses a directly entered Saturation Flow						1900	1900
J1:11/1	This lane uses a directly entered Saturation Flow						1900	1900
J1:11/2	This lane uses a directly entered Saturation Flow						1900	1900
J1:11/3	This lane uses a directly entered Saturation Flow						1900	1900
J1:12/1	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

J1:12/2	Infinite Saturation Flow	Inf	Inf
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Junction: J2: Site Access								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
J2:1/1 (Willen Road)	3.65	0.00	Y	Arm J2:5 Ahead	Inf	100.0 %	1980	1980
J2:1/2 (Willen Road)	3.65	0.00	Y	Arm J2:5 Ahead	Inf	100.0 %	1980	1980
J2:1/3 (Willen Road)	3.65	0.00	N	Arm J2:6 Right	20.00	100.0 %	1972	1972
J2:2/1 (Willen Road South)	3.65	0.00	Y	Arm J2:4 Ahead	Inf	95.7 %	1972	1972
				Arm J2:6 Left	15.00	4.3 %		
J2:2/2 (Willen Road South)	3.65	0.00	Y	Arm J2:4 Ahead	Inf	100.0 %	1980	1980
J2:3/1 (Site Access)	3.50	0.00	Y	Arm J2:4 Left	12.00	50.0 %	1786	1786
				Arm J2:5 Right	20.00	50.0 %		
J2:4/1	Infinite Saturation Flow						Inf	Inf
J2:4/2	Infinite Saturation Flow						Inf	Inf
J2:5/1	Infinite Saturation Flow						Inf	Inf
J2:5/2	Infinite Saturation Flow						Inf	Inf
J2:6/1	Infinite Saturation Flow						Inf	Inf
J2:7/1	Infinite Saturation Flow						Inf	Inf

Scenario 3: '2033 Base + Committed AM' (FG3: '2033 Base + Committed AM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

	Destination						
	A	B	C	D	E	Tot.	
Origin	A	0	110	327	718	25	1180
	B	75	0	1220	871	31	2197
	C	255	745	0	51	2	1053
	D	281	297	35	0	57	670
	E	7	7	1	12	0	27
	Tot.	618	1159	1583	1652	115	5127

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 3: 2033 Base + Committed AM
Junction: J1: A422/Willen Road	
J1:1/1 (short)	427
J1:1/2 (with short)	853(In) 426(Out)
J1:1/3	327
J1:2/1 (short)	732
J1:2/2 (with short)	1465(In) 733(Out)
J1:2/3	732
J1:3/1	324
J1:3/2 (with short)	304(In) 151(Out)
J1:3/3 (short)	153
J1:4/1 (short)	255
J1:4/2 (with short)	654(In) 399(Out)
J1:4/3	399
J1:5/1	618
J1:6/1	550
J1:6/2	552
J1:7/1	660
J1:7/2	499
J1:8/1	342
J1:8/2	454
J1:8/3	327
J1:9/1	1074
J1:9/2	624
J1:10/1	726
J1:10/2	821
J1:10/3	75
J1:11/1	363
J1:11/2	151
J1:11/3	153
J1:12/1	762
J1:12/2	821
Junction: J2: Site Access	
J2:1/1	1074
J2:1/2 (with short)	624(In) 566(Out)
J2:1/3 (short)	58

Full Input Data And Results

J2:2/1	373
J2:2/2	297
J2:3/1	27
J2:4/1	324
J2:4/2	304
J2:5/1	1086
J2:5/2	566
J2:6/1	115
J2:7/1	1652

Full Input Data And Results

Lane Saturation Flows

Junction: J1: A422/Willen Road								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
J1:1/1 (Willen Road North)	3.40	0.00	Y	Arm J1:7 Left	23.00	25.8 %	1923	1923
				Arm J1:8 Ahead	Inf	74.2 %		
J1:1/2 (Willen Road North)	3.40	0.00	Y	Arm J1:8 Ahead	Inf	100.0 %	1955	1955
J1:1/3 (Willen Road North)	3.40	0.00	Y	Arm J1:8 Ahead	Inf	100.0 %	1955	1955
J1:2/1 (A422 East)	3.65	0.00	Y	Arm J1:9 Left	84.00	100.0 %	1945	1945
J1:2/2 (A422 East)	3.65	0.00	Y	Arm J1:9 Left	84.00	23.2 %	1972	1972
				Arm J1:10 Ahead	Inf	76.8 %		
J1:2/3 (A422 East)	3.65	0.00	Y	Arm J1:10 Ahead	Inf	100.0 %	1980	1980
J1:3/1 (Willen Road South)	3.65	0.00	Y	Arm J1:11 Ahead	Inf	88.9 %	1968	1968
				Arm J1:12 Left	28.50	11.1 %		
J1:3/2 (Willen Road South)	3.65	0.00	Y	Arm J1:11 Ahead	Inf	100.0 %	1980	1980
J1:3/3 (Willen Road South)	3.65	0.00	Y	Arm J1:11 Ahead	Inf	100.0 %	1980	1980
J1:4/1 (A422 West)	3.65	0.00	Y	Arm J1:5 Left	30.90	100.0 %	1888	1888
J1:4/2 (A422 West)	3.65	0.00	Y	Arm J1:6 Ahead	Inf	100.0 %	1980	1980
J1:4/3 (A422 West)	3.65	0.00	Y	Arm J1:6 Ahead	Inf	100.0 %	1980	1980
J1:5/1	Infinite Saturation Flow						Inf	Inf
J1:6/1	This lane uses a directly entered Saturation Flow						1900	1900
J1:6/2	This lane uses a directly entered Saturation Flow						1900	1900
J1:7/1	3.50	0.00	Y				1965	1965
J1:7/2	3.50	0.00	Y				1965	1965
J1:8/1	This lane uses a directly entered Saturation Flow						1900	1900
J1:8/2	This lane uses a directly entered Saturation Flow						1900	1900
J1:8/3	This lane uses a directly entered Saturation Flow						1900	1900
J1:9/1	Infinite Saturation Flow						Inf	Inf
J1:9/2	Infinite Saturation Flow						Inf	Inf
J1:10/1	This lane uses a directly entered Saturation Flow						1900	1900
J1:10/2	This lane uses a directly entered Saturation Flow						1900	1900
J1:10/3	This lane uses a directly entered Saturation Flow						1900	1900
J1:11/1	This lane uses a directly entered Saturation Flow						1900	1900
J1:11/2	This lane uses a directly entered Saturation Flow						1900	1900
J1:11/3	This lane uses a directly entered Saturation Flow						1900	1900
J1:12/1	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

J1:12/2	Infinite Saturation Flow	Inf	Inf
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Junction: J2: Site Access								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
J2:1/1 (Willen Road)	3.65	0.00	Y	Arm J2:5 Ahead	Inf	100.0 %	1980	1980
J2:1/2 (Willen Road)	3.65	0.00	Y	Arm J2:5 Ahead	Inf	100.0 %	1980	1980
J2:1/3 (Willen Road)	3.65	0.00	N	Arm J2:6 Right	20.00	100.0 %	1972	1972
J2:2/1 (Willen Road South)	3.65	0.00	Y	Arm J2:4 Ahead	Inf	84.7 %	1950	1950
				Arm J2:6 Left	15.00	15.3 %		
J2:2/2 (Willen Road South)	3.65	0.00	Y	Arm J2:4 Ahead	Inf	100.0 %	1980	1980
J2:3/1 (Site Access)	3.50	0.00	Y	Arm J2:4 Left	12.00	55.6 %	1782	1782
				Arm J2:5 Right	20.00	44.4 %		
J2:4/1	Infinite Saturation Flow						Inf	Inf
J2:4/2	Infinite Saturation Flow						Inf	Inf
J2:5/1	Infinite Saturation Flow						Inf	Inf
J2:5/2	Infinite Saturation Flow						Inf	Inf
J2:6/1	Infinite Saturation Flow						Inf	Inf
J2:7/1	Infinite Saturation Flow						Inf	Inf

Scenario 4: '2033 Base + Committed PM' (FG4: '2033 Base + Committed PM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

	Destination						
	A	B	C	D	E	Tot.	
Origin	A	0	153	226	306	12	697
	B	247	0	884	329	13	1473
	C	499	1585	0	21	1	2106
	D	491	469	35	0	23	1018
	E	31	30	2	63	0	126
	Tot.	1268	2237	1147	719	49	5420

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 4: 2033 Base + Committed PM
Junction: J1: A422/Willen Road	
J1:1/1 (short)	236
J1:1/2 (with short)	471(In) 235(Out)
J1:1/3	226
J1:2/1 (short)	329
J1:2/2 (with short)	901(In) 572(Out)
J1:2/3	572
J1:3/1	559
J1:3/2 (with short)	499(In) 249(Out)
J1:3/3 (short)	250
J1:4/1 (short)	499
J1:4/2 (with short)	1302(In) 803(Out)
J1:4/3	804
J1:5/1	1268
J1:6/1	1052
J1:6/2	1054
J1:7/1	1205
J1:7/2	1032
J1:8/1	93
J1:8/2	247
J1:8/3	226
J1:9/1	422
J1:9/2	260
J1:10/1	672
J1:10/2	438
J1:10/3	247
J1:11/1	769
J1:11/2	249
J1:11/3	250
J1:12/1	709
J1:12/2	438
Junction: J2: Site Access	
J2:1/1	422
J2:1/2 (with short)	260(In) 234(Out)
J2:1/3 (short)	26

Full Input Data And Results

J2:2/1	549
J2:2/2	469
J2:3/1	126
J2:4/1	559
J2:4/2	499
J2:5/1	485
J2:5/2	234
J2:6/1	49
J2:7/1	719

Full Input Data And Results

Lane Saturation Flows

Junction: J1: A422/Willen Road								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
J1:1/1 (Willen Road North)	3.40	0.00	Y	Arm J1:7 Left	23.00	64.8 %	1876	1876
				Arm J1:8 Ahead	Inf	35.2 %		
J1:1/2 (Willen Road North)	3.40	0.00	Y	Arm J1:8 Ahead	Inf	100.0 %	1955	1955
J1:1/3 (Willen Road North)	3.40	0.00	Y	Arm J1:8 Ahead	Inf	100.0 %	1955	1955
J1:2/1 (A422 East)	3.65	0.00	Y	Arm J1:9 Left	84.00	100.0 %	1945	1945
J1:2/2 (A422 East)	3.65	0.00	Y	Arm J1:9 Left	84.00	2.3 %	1979	1979
				Arm J1:10 Ahead	Inf	97.7 %		
J1:2/3 (A422 East)	3.65	0.00	Y	Arm J1:10 Ahead	Inf	100.0 %	1980	1980
J1:3/1 (Willen Road South)	3.65	0.00	Y	Arm J1:11 Ahead	Inf	93.4 %	1973	1973
				Arm J1:12 Left	28.50	6.6 %		
J1:3/2 (Willen Road South)	3.65	0.00	Y	Arm J1:11 Ahead	Inf	100.0 %	1980	1980
J1:3/3 (Willen Road South)	3.65	0.00	Y	Arm J1:11 Ahead	Inf	100.0 %	1980	1980
J1:4/1 (A422 West)	3.65	0.00	Y	Arm J1:5 Left	30.90	100.0 %	1888	1888
J1:4/2 (A422 West)	3.65	0.00	Y	Arm J1:6 Ahead	Inf	100.0 %	1980	1980
J1:4/3 (A422 West)	3.65	0.00	Y	Arm J1:6 Ahead	Inf	100.0 %	1980	1980
J1:5/1	Infinite Saturation Flow						Inf	Inf
J1:6/1	This lane uses a directly entered Saturation Flow						1900	1900
J1:6/2	This lane uses a directly entered Saturation Flow						1900	1900
J1:7/1	3.50	0.00	Y				1965	1965
J1:7/2	3.50	0.00	Y				1965	1965
J1:8/1	This lane uses a directly entered Saturation Flow						1900	1900
J1:8/2	This lane uses a directly entered Saturation Flow						1900	1900
J1:8/3	This lane uses a directly entered Saturation Flow						1900	1900
J1:9/1	Infinite Saturation Flow						Inf	Inf
J1:9/2	Infinite Saturation Flow						Inf	Inf
J1:10/1	This lane uses a directly entered Saturation Flow						1900	1900
J1:10/2	This lane uses a directly entered Saturation Flow						1900	1900
J1:10/3	This lane uses a directly entered Saturation Flow						1900	1900
J1:11/1	This lane uses a directly entered Saturation Flow						1900	1900
J1:11/2	This lane uses a directly entered Saturation Flow						1900	1900
J1:11/3	This lane uses a directly entered Saturation Flow						1900	1900
J1:12/1	Infinite Saturation Flow						Inf	Inf

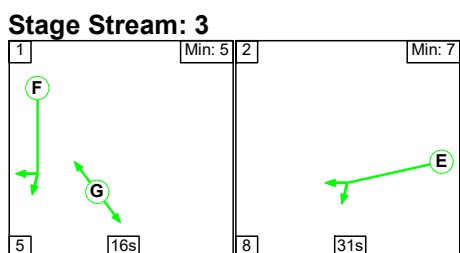
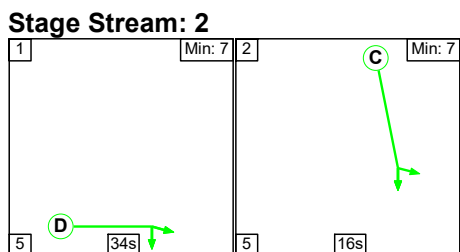
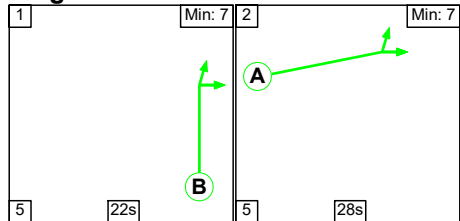
Full Input Data And Results

J1:12/2	Infinite Saturation Flow	Inf	Inf
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Junction: J2: Site Access								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
J2:1/1 (Willen Road)	3.65	0.00	Y	Arm J2:5 Ahead	Inf	100.0 %	1980	1980
J2:1/2 (Willen Road)	3.65	0.00	Y	Arm J2:5 Ahead	Inf	100.0 %	1980	1980
J2:1/3 (Willen Road)	3.65	0.00	N	Arm J2:6 Right	20.00	100.0 %	1972	1972
J2:2/1 (Willen Road South)	3.65	0.00	Y	Arm J2:4 Ahead	Inf	95.8 %	1972	1972
				Arm J2:6 Left	15.00	4.2 %		
J2:2/2 (Willen Road South)	3.65	0.00	Y	Arm J2:4 Ahead	Inf	100.0 %	1980	1980
J2:3/1 (Site Access)	3.50	0.00	Y	Arm J2:4 Left	12.00	50.0 %	1786	1786
				Arm J2:5 Right	20.00	50.0 %		
J2:4/1	Infinite Saturation Flow						Inf	Inf
J2:4/2	Infinite Saturation Flow						Inf	Inf
J2:5/1	Infinite Saturation Flow						Inf	Inf
J2:5/2	Infinite Saturation Flow						Inf	Inf
J2:6/1	Infinite Saturation Flow						Inf	Inf
J2:7/1	Infinite Saturation Flow						Inf	Inf

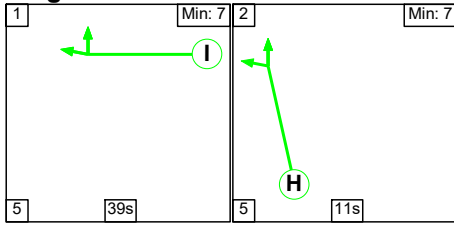
Scenario 1: '2031 Base + Committed AM' (FG1: '2031 Base + Committed AM', Plan 1: 'Network Control Plan 1')

C1
Stage Sequence Diagram

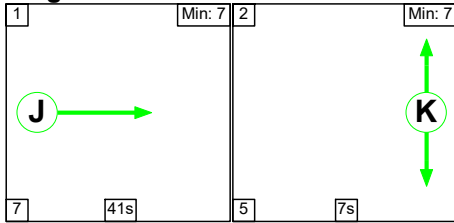


Full Input Data And Results

Stage Stream: 4



Stage Stream: 5



Stage Timings

Stage Stream: 1

Stage	1	2
Duration	22	28
Change Point	0	27

Stage Stream: 2

Stage	1	2
Duration	34	16
Change Point	24	3

Stage Stream: 3

Stage	1	2
Duration	16	31
Change Point	0	21

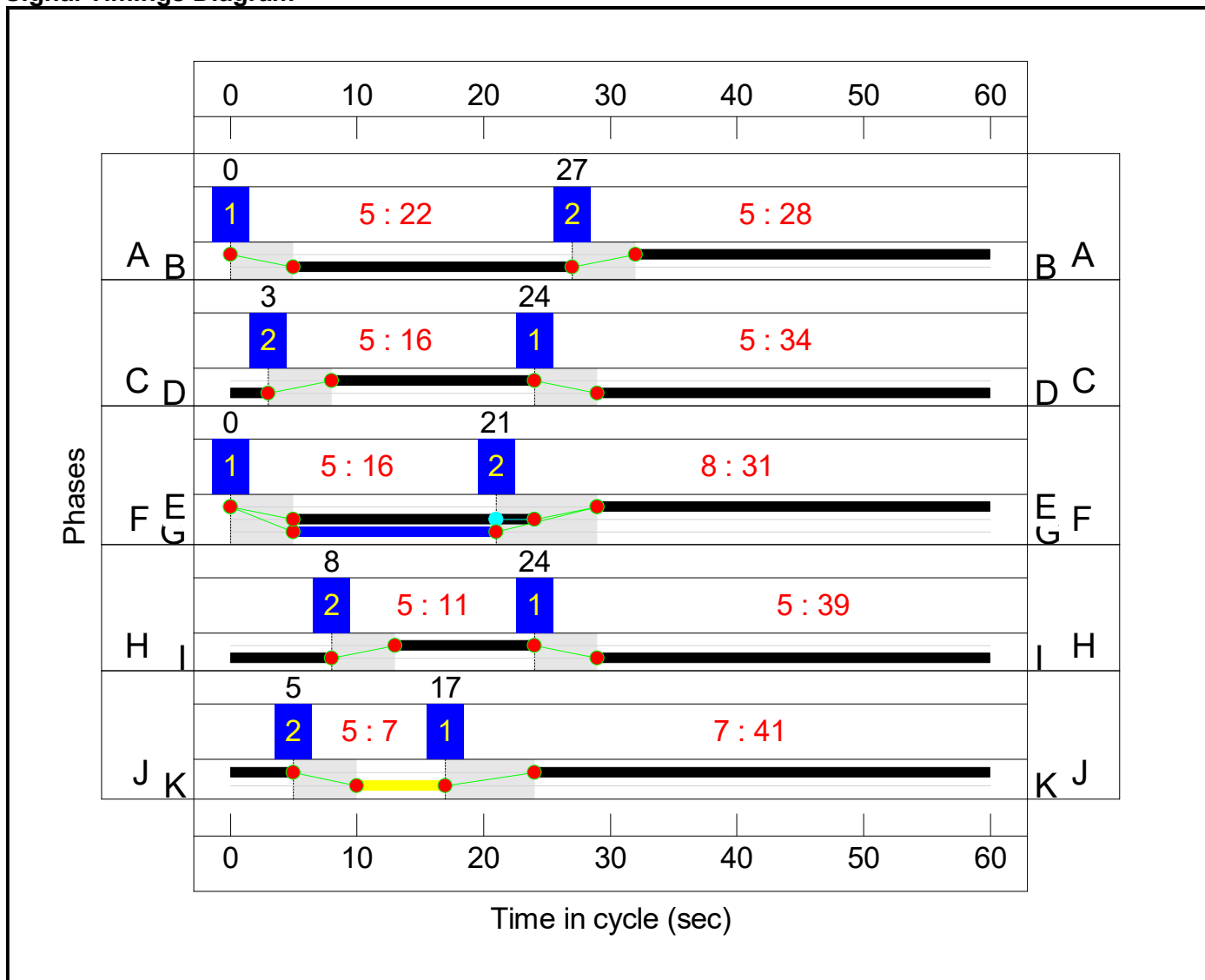
Stage Stream: 4

Stage	1	2
Duration	39	11
Change Point	24	8

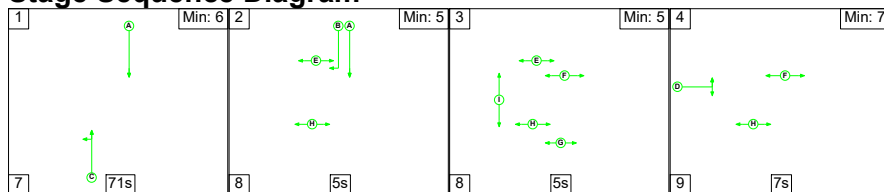
Stage Stream: 5

Stage	1	2
Duration	41	7
Change Point	17	5

Signal Timings Diagram



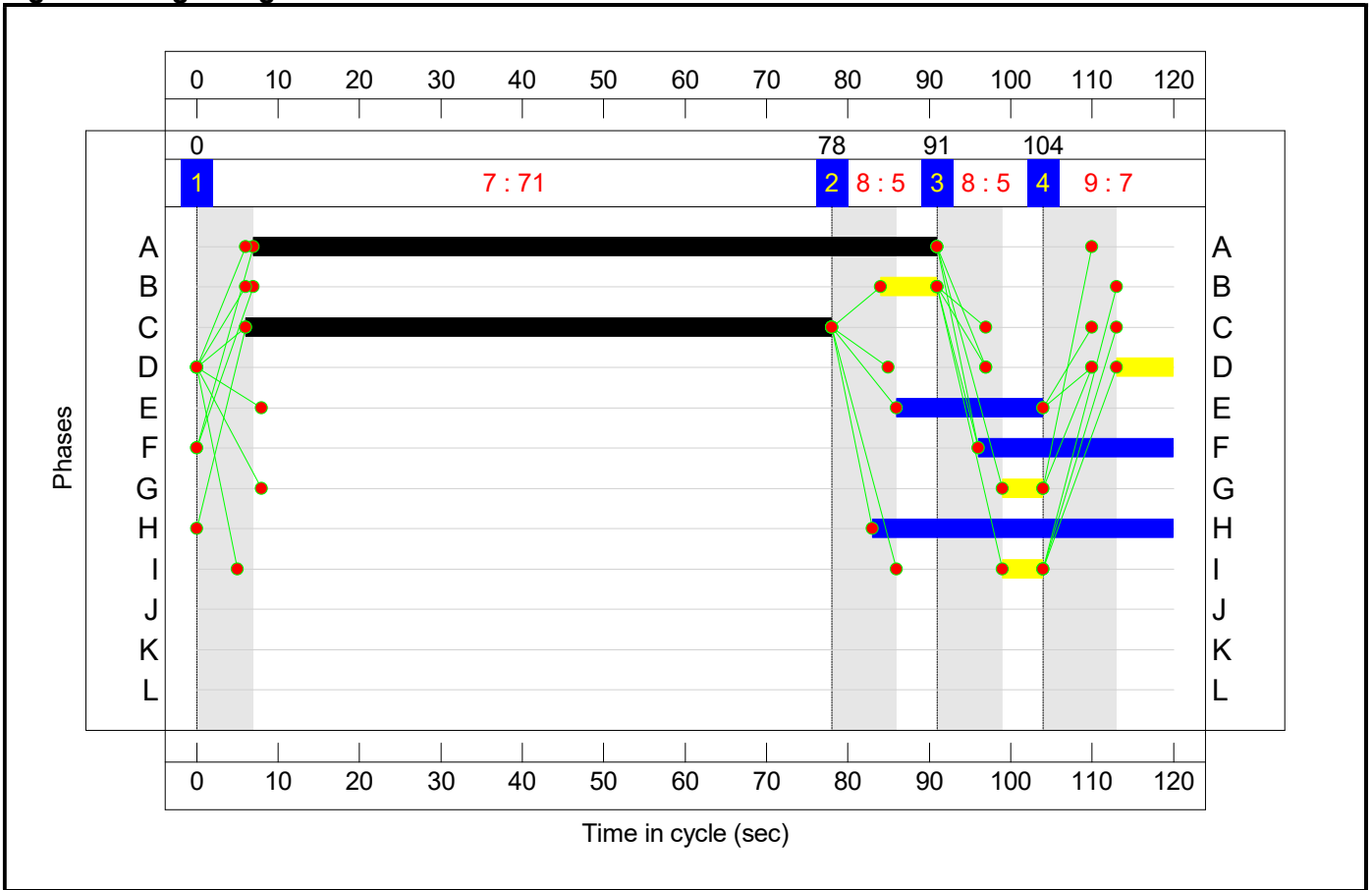
C2 Stage Sequence Diagram



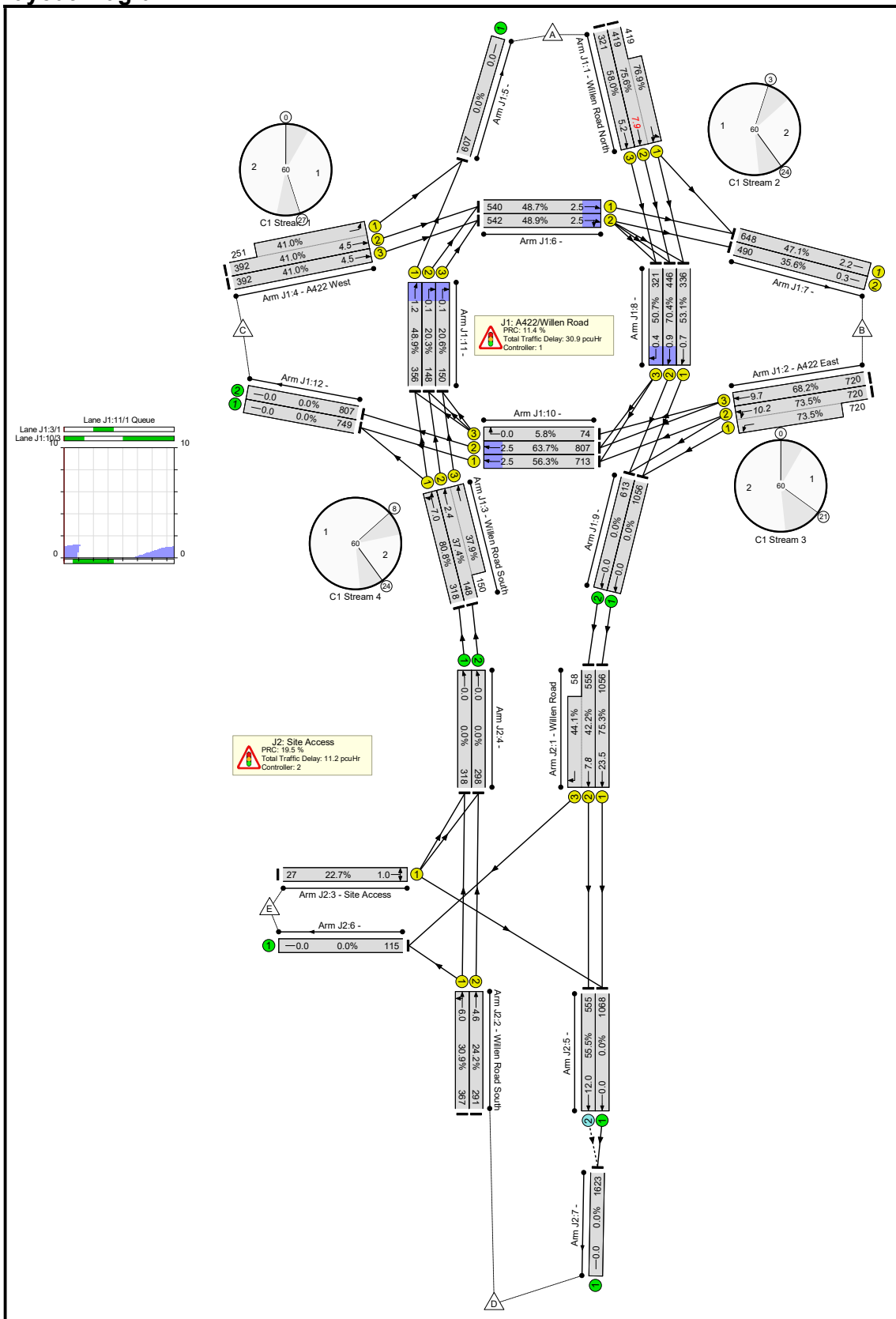
Stage Timings

Stage	1	2	3	4
Duration	71	5	5	7
Change Point	0	78	91	104

Signal Timings Diagram



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: A422 Marsh End / Willen Road / Site Access	-	-	N/A	-	-		-	-	-	-	-	-	80.8%
J1: A422/Willen Road	-	-	N/A	-	-		-	-	-	-	-	-	80.8%
1/2+1/1	Willen Road North Left Ahead	U	1:2	N/A	C1:C		1	16	-	838	1955:1923	554+545	75.6 : 76.9%
1/3	Willen Road North Ahead	U	1:2	N/A	C1:C		1	16	-	321	1955	554	58.0%
2/2+2/1	A422 East Left Ahead	U	1:3	N/A	C1:E		1	31	-	1440	1972:1945	979+979	73.5 : 73.5%
2/3	A422 East Ahead	U	1:3	N/A	C1:E		1	31	-	720	1980	1056	68.2%
3/1	Willen Road South Ahead Left	U	1:4	N/A	C1:H		1	11	-	318	1968	394	80.8%
3/2+3/3	Willen Road South Ahead	U	1:4	N/A	C1:H		1	11	-	298	1980:1980	396+396	37.4 : 37.9%
4/2+4/1	A422 West Left Ahead	U	1:1	N/A	C1:A		1	28	-	643	1980:1888	956+612	41.0 : 41.0%
4/3	A422 West Ahead	U	1:1	N/A	C1:A		1	28	-	392	1980	957	41.0%
5/1		U	N/A	N/A	-		-	-	-	607	Inf	Inf	0.0%
6/1	Ahead	U	1:2	N/A	C1:D		1	34	-	540	1900	1108	48.7%
6/2	Ahead Right	U	1:2	N/A	C1:D		1	34	-	542	1900	1108	48.9%
7/1		U	1:5	N/A	C1:J		1	41	-	648	1965	1375	47.1%
7/2		U	1:5	N/A	C1:J		1	41	-	490	1965	1375	35.6%
8/1	Ahead	U	1:3	N/A	C1:F		1	19	-	336	1900	633	53.1%
8/2	Ahead	U	1:3	N/A	C1:F		1	19	-	446	1900	633	70.4%
8/3	Right	U	1:3	N/A	C1:F		1	19	-	321	1900	633	50.7%
9/1	Ahead	U	N/A	N/A	-		-	-	-	1056	Inf	Inf	0.0%
9/2	Ahead	U	N/A	N/A	-		-	-	-	613	Inf	Inf	0.0%

Full Input Data And Results

10/1	Ahead	U	1:4	N/A	C1:I		1	39	-	713	1900	1267	56.3%
10/2	Ahead	U	1:4	N/A	C1:I		1	39	-	807	1900	1267	63.7%
10/3	Right	U	1:4	N/A	C1:I		1	39	-	74	1900	1267	5.8%
11/1	Ahead	U	1:1	N/A	C1:B		1	22	-	356	1900	728	48.9%
11/2	Right	U	1:1	N/A	C1:B		1	22	-	148	1900	728	20.3%
11/3	Right	U	1:1	N/A	C1:B		1	22	-	150	1900	728	20.6%
12/1		U	N/A	N/A	-		-	-	-	749	Inf	Inf	0.0%
12/2		U	N/A	N/A	-		-	-	-	807	Inf	Inf	0.0%
J2: Site Access	-	-	N/A	-	-		-	-	-	-	-	-	75.3%
1/1	Willen Road Ahead	U	N/A	N/A	C2:A		1	84	-	1056	1980	1402	75.3%
1/2+1/3	Willen Road Ahead Right	U	N/A	N/A	C2:A C2:B		1	84:7	-	613	1980:1972	1314+131	42.2 : 44.1%
2/1	Willen Road South Ahead Left	U	N/A	N/A	C2:C		1	72	-	367	1950	1186	30.9%
2/2	Willen Road South Ahead	U	N/A	N/A	C2:C		1	72	-	291	1980	1204	24.2%
3/1	Site Access Left Right	U	N/A	N/A	C2:D		1	7	-	27	1782	119	22.7%
4/1	Ahead	U	N/A	N/A	-		-	-	-	318	Inf	Inf	0.0%
4/2	Ahead	U	N/A	N/A	-		-	-	-	298	Inf	Inf	0.0%
5/1	Ahead	U	N/A	N/A	-		-	-	-	1068	Inf	Inf	0.0%
5/2	Ahead	O	N/A	N/A	-		-	-	-	555	Inf	1000	55.5%
6/1		U	N/A	N/A	-		-	-	-	115	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	1623	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: A422 Marsh End / Willen Road / Site Access	-	-	0	555	0	30.6	11.5	0.0	42.1	-	-	-	-
J1: A422/Willen Road	-	-	0	0	0	22.5	8.4	0.0	30.9	-	-	-	-
1/2+1/1	838	838	-	-	-	4.6	1.6	-	6.2 (3.1+3.1)	26.5 (26.4:26.5)	6.3	1.6	7.9
1/3	321	321	-	-	-	1.6	0.7	-	2.3	26.1	4.5	0.7	5.2
2/2+2/1	1440	1440	-	-	-	4.1	1.4	-	5.5 (2.7+2.8)	13.8 (13.7:13.8)	8.8	1.4	10.2
2/3	720	720	-	-	-	2.1	1.1	-	3.1	15.6	8.6	1.1	9.7
3/1	318	318	-	-	-	2.0	2.0	-	4.0	45.5	5.0	2.0	7.0
3/2+3/3	298	298	-	-	-	1.7	0.3	-	2.0 (1.0+1.0)	24.4 (24.4:24.4)	2.1	0.3	2.4
4/2+4/1	643	643	-	-	-	1.7	0.3	-	2.1 (1.3+0.8)	11.6 (11.9:11.2)	4.1	0.3	4.5
4/3	392	392	-	-	-	1.1	0.3	-	1.4	13.2	4.1	0.3	4.5
5/1	607	607	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	540	540	-	-	-	0.4	0.0	-	0.4	2.7	2.5	0.0	2.5
6/2	542	542	-	-	-	0.4	0.0	-	0.4	2.7	2.5	0.0	2.5
7/1	648	648	-	-	-	0.3	0.4	-	0.7	4.0	1.8	0.4	2.2
7/2	490	490	-	-	-	0.0	0.3	-	0.3	2.0	0.0	0.3	0.3
8/1	336	336	-	-	-	0.3	0.0	-	0.3	3.7	0.7	0.0	0.7
8/2	446	446	-	-	-	0.5	0.0	-	0.5	3.7	0.9	0.0	0.9
8/3	321	321	-	-	-	0.2	0.0	-	0.2	2.7	0.4	0.0	0.4
9/1	1056	1056	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
9/2	613	613	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
10/1	713	713	-	-	-	0.5	0.0	-	0.5	2.5	2.5	0.0	2.5
10/2	807	807	-	-	-	0.5	0.0	-	0.5	2.3	2.5	0.0	2.5

Full Input Data And Results

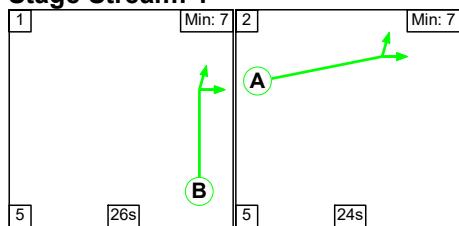
10/3	74	74	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0																																																	
11/1	356	356	-	-	-	0.4	0.0	-	0.4	3.7	1.2	0.0	1.2																																																	
11/2	148	148	-	-	-	0.0	0.0	-	0.0	0.1	0.1	0.0	0.1																																																	
11/3	150	150	-	-	-	0.0	0.0	-	0.0	0.1	0.1	0.0	0.1																																																	
12/1	749	749	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0																																																	
12/2	807	807	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0																																																	
J2: Site Access	-	-	0	555	0	8.2	3.0	0.0	11.2	-	-	-	-																																																	
1/1	1056	1056	-	-	-	3.2	1.5	-	4.7	16.1	22.0	1.5	23.5																																																	
1/2+1/3	613	613	-	-	-	2.0	0.4	-	2.3 (1.4+0.9)	13.7 (9.3:56.0)	7.4	0.4	7.8																																																	
2/1	367	367	-	-	-	1.2	0.2	-	1.4	13.5	5.8	0.2	6.0																																																	
2/2	291	291	-	-	-	0.9	0.2	-	1.0	12.8	4.4	0.2	4.6																																																	
3/1	27	27	-	-	-	0.4	0.1	-	0.5	72.7	0.8	0.1	1.0																																																	
4/1	318	318	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0																																																	
4/2	298	298	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0																																																	
5/1	1068	1068	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0																																																	
5/2	555	555	0	555	0	0.6	0.6	-	1.2	7.6	11.4	0.6	12.0																																																	
6/1	115	115	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0																																																	
7/1	1623	1623	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0																																																	
<table> <tbody> <tr> <td>C1</td> <td>Stream: 1 PRC for Signalled Lanes (%)</td> <td>84.1</td> <td>Total Delay for Signalled Lanes (pcuHr):</td> <td>3.89</td> <td>Cycle Time (s):</td> <td>60</td> </tr> <tr> <td>C1</td> <td>Stream: 2 PRC for Signalled Lanes (%)</td> <td>17.0</td> <td>Total Delay for Signalled Lanes (pcuHr):</td> <td>9.30</td> <td>Cycle Time (s):</td> <td>60</td> </tr> <tr> <td>C1</td> <td>Stream: 3 PRC for Signalled Lanes (%)</td> <td>22.4</td> <td>Total Delay for Signalled Lanes (pcuHr):</td> <td>9.67</td> <td>Cycle Time (s):</td> <td>60</td> </tr> <tr> <td>C1</td> <td>Stream: 4 PRC for Signalled Lanes (%)</td> <td>11.4</td> <td>Total Delay for Signalled Lanes (pcuHr):</td> <td>7.04</td> <td>Cycle Time (s):</td> <td>60</td> </tr> <tr> <td>C1</td> <td>Stream: 5 PRC for Signalled Lanes (%)</td> <td>91.0</td> <td>Total Delay for Signalled Lanes (pcuHr):</td> <td>0.99</td> <td>Cycle Time (s):</td> <td>60</td> </tr> <tr> <td>C2</td> <td>PRC for Signalled Lanes (%)</td> <td>19.5</td> <td>Total Delay for Signalled Lanes (pcuHr):</td> <td>10.01</td> <td>Cycle Time (s):</td> <td>120</td> </tr> <tr> <td></td> <td>PRC Over All Lanes (%)</td> <td>11.4</td> <td>Total Delay Over All Lanes (pcuHr):</td> <td>42.08</td> <td></td> <td></td> </tr> </tbody> </table>														C1	Stream: 1 PRC for Signalled Lanes (%)	84.1	Total Delay for Signalled Lanes (pcuHr):	3.89	Cycle Time (s):	60	C1	Stream: 2 PRC for Signalled Lanes (%)	17.0	Total Delay for Signalled Lanes (pcuHr):	9.30	Cycle Time (s):	60	C1	Stream: 3 PRC for Signalled Lanes (%)	22.4	Total Delay for Signalled Lanes (pcuHr):	9.67	Cycle Time (s):	60	C1	Stream: 4 PRC for Signalled Lanes (%)	11.4	Total Delay for Signalled Lanes (pcuHr):	7.04	Cycle Time (s):	60	C1	Stream: 5 PRC for Signalled Lanes (%)	91.0	Total Delay for Signalled Lanes (pcuHr):	0.99	Cycle Time (s):	60	C2	PRC for Signalled Lanes (%)	19.5	Total Delay for Signalled Lanes (pcuHr):	10.01	Cycle Time (s):	120		PRC Over All Lanes (%)	11.4	Total Delay Over All Lanes (pcuHr):	42.08		
C1	Stream: 1 PRC for Signalled Lanes (%)	84.1	Total Delay for Signalled Lanes (pcuHr):	3.89	Cycle Time (s):	60																																																								
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C1	Stream: 5 PRC for Signalled Lanes (%)	91.0	Total Delay for Signalled Lanes (pcuHr):	0.99	Cycle Time (s):	60																																																								
C2	PRC for Signalled Lanes (%)	19.5	Total Delay for Signalled Lanes (pcuHr):	10.01	Cycle Time (s):	120																																																								
	PRC Over All Lanes (%)	11.4	Total Delay Over All Lanes (pcuHr):	42.08																																																										

Full Input Data And Results

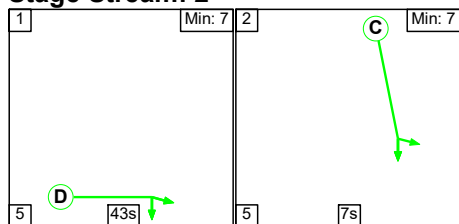
Scenario 2: '2031 Base + Committed PM' (FG2: '2031 Base + Committed PM', Plan 1: 'Network Control Plan 1')
C1

Stage Sequence Diagram

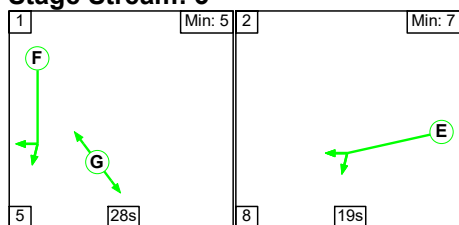
Stage Stream: 1



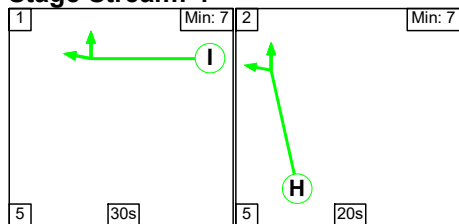
Stage Stream: 2



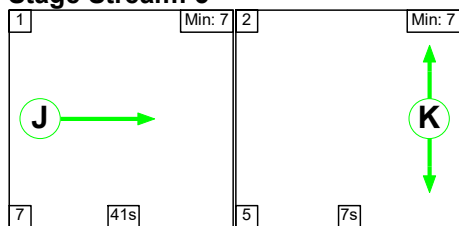
Stage Stream: 3



Stage Stream: 4



Stage Stream: 5



Stage Timings

Stage Stream: 1

Stage	1	2
Duration	26	24
Change Point	36	7

Stage Stream: 2

Stage	1	2
Duration	43	7
Change Point	0	48

Full Input Data And Results

Stage Stream: 3

Stage	1	2
Duration	28	19
Change Point	47	20

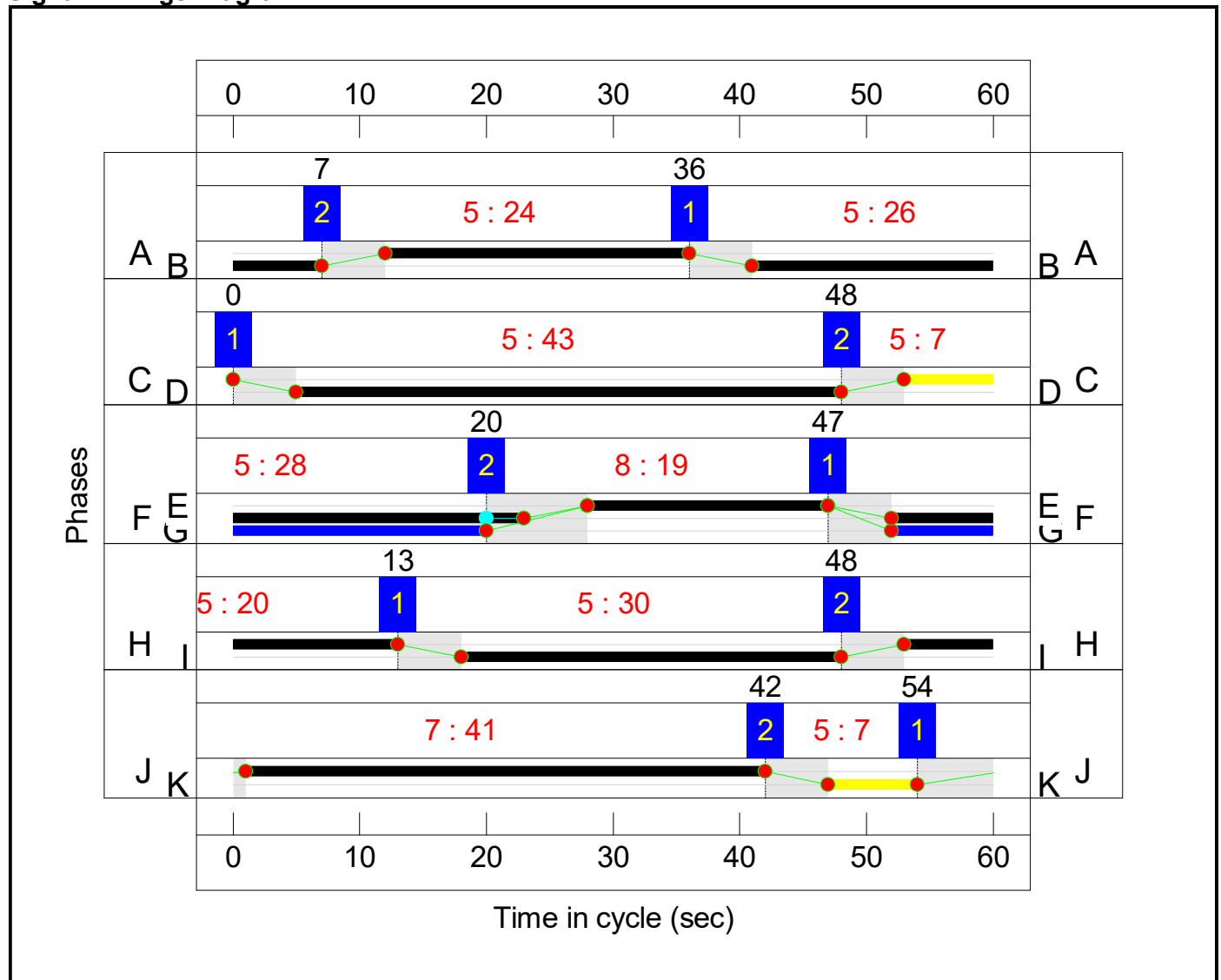
Stage Stream: 4

Stage	1	2
Duration	30	20
Change Point	13	48

Stage Stream: 5

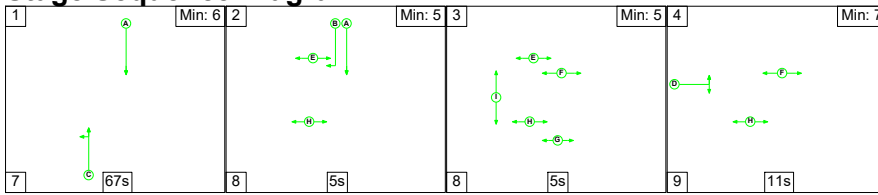
Stage	1	2
Duration	41	7
Change Point	54	42

Signal Timings Diagram



Full Input Data And Results

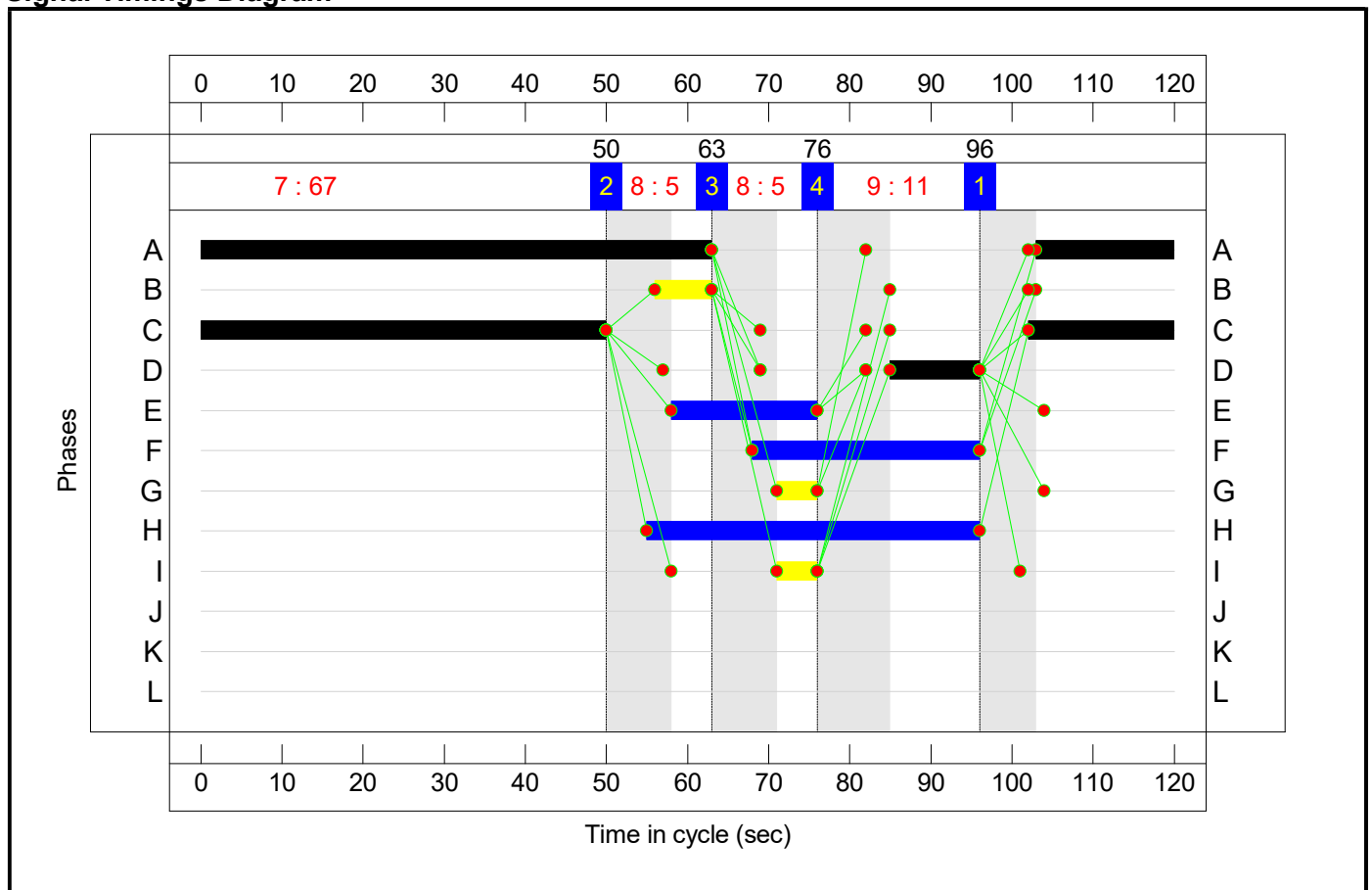
C2 Stage Sequence Diagram



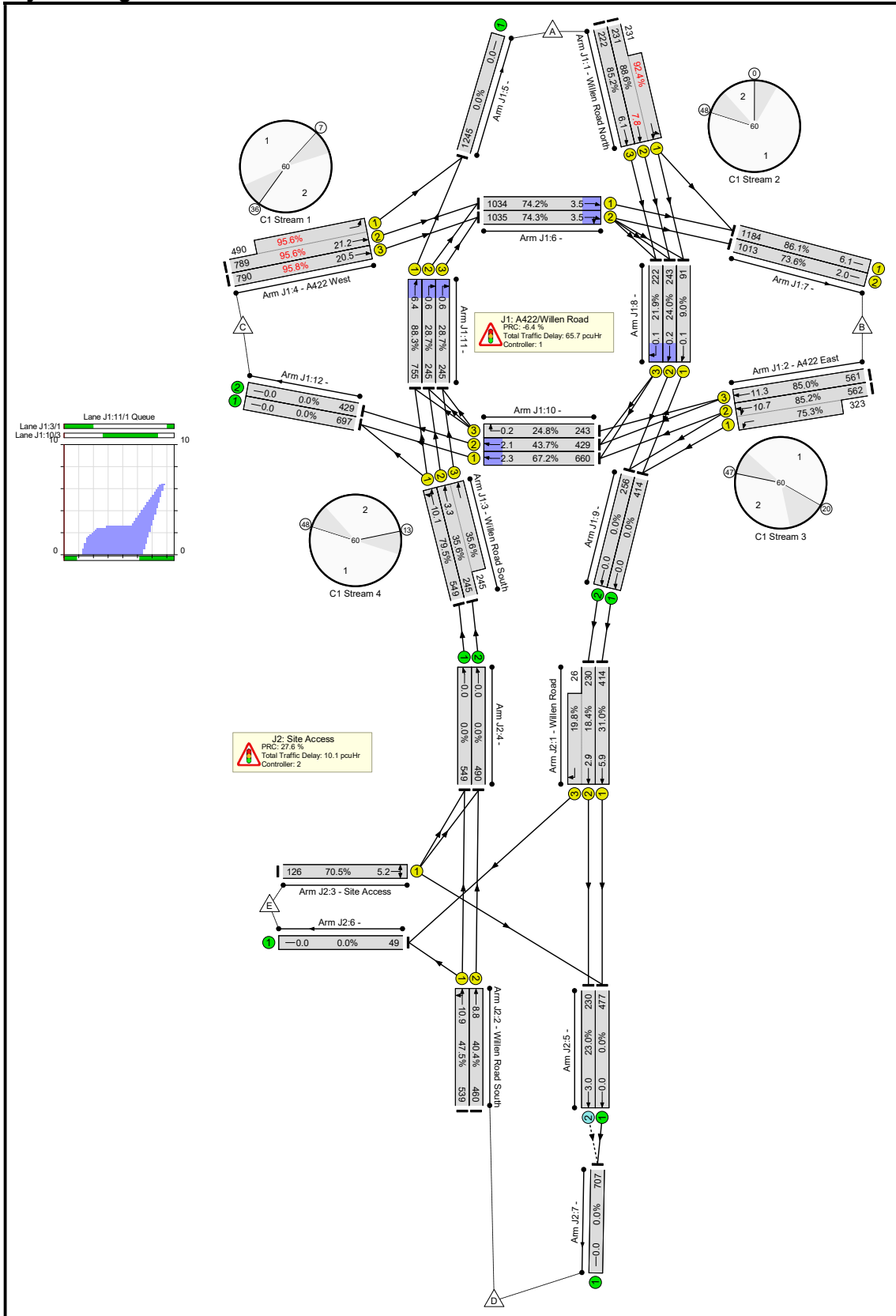
Stage Timings

Stage	1	2	3	4
Duration	67	5	5	11
Change Point	96	50	63	76

Signal Timings Diagram



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: A422 Marsh End / Willen Road / Site Access	-	-	N/A	-	-		-	-	-	-	-	-	95.8%
J1: A422/Willen Road	-	-	N/A	-	-		-	-	-	-	-	-	95.8%
1/2+1/1	Willen Road North Left Ahead	U	1:2	N/A	C1:C		1	7	-	462	1955:1876	261+250	88.6 : 92.4%
1/3	Willen Road North Ahead	U	1:2	N/A	C1:C		1	7	-	222	1955	261	85.2%
2/2+2/1	A422 East Left Ahead	U	1:3	N/A	C1:E		1	19	-	885	1979:1945	660+429	85.2 : 75.3%
2/3	A422 East Ahead	U	1:3	N/A	C1:E		1	19	-	561	1980	660	85.0%
3/1	Willen Road South Ahead Left	U	1:4	N/A	C1:H		1	20	-	549	1973	691	79.5%
3/2+3/3	Willen Road South Ahead	U	1:4	N/A	C1:H		1	20	-	490	1980:1980	689+689	35.6 : 35.6%
4/2+4/1	A422 West Left Ahead	U	1:1	N/A	C1:A		1	24	-	1279	1980:1888	825+512	95.6 : 95.6%
4/3	A422 West Ahead	U	1:1	N/A	C1:A		1	24	-	790	1980	825	95.8%
5/1		U	N/A	N/A	-		-	-	-	1245	Inf	Inf	0.0%
6/1	Ahead	U	1:2	N/A	C1:D		1	43	-	1034	1900	1393	74.2%
6/2	Ahead Right	U	1:2	N/A	C1:D		1	43	-	1035	1900	1393	74.3%
7/1		U	1:5	N/A	C1:J		1	41	-	1184	1965	1375	86.1%
7/2		U	1:5	N/A	C1:J		1	41	-	1013	1965	1375	73.6%
8/1	Ahead	U	1:3	N/A	C1:F		1	31	-	91	1900	1013	9.0%
8/2	Ahead	U	1:3	N/A	C1:F		1	31	-	243	1900	1013	24.0%
8/3	Right	U	1:3	N/A	C1:F		1	31	-	222	1900	1013	21.9%
9/1	Ahead	U	N/A	N/A	-		-	-	-	414	Inf	Inf	0.0%
9/2	Ahead	U	N/A	N/A	-		-	-	-	256	Inf	Inf	0.0%

Full Input Data And Results

10/1	Ahead	U	1:4	N/A	C1:I		1	30	-	660	1900	982	67.2%
10/2	Ahead	U	1:4	N/A	C1:I		1	30	-	429	1900	982	43.7%
10/3	Right	U	1:4	N/A	C1:I		1	30	-	243	1900	982	24.8%
11/1	Ahead	U	1:1	N/A	C1:B		1	26	-	755	1900	855	88.3%
11/2	Right	U	1:1	N/A	C1:B		1	26	-	245	1900	855	28.7%
11/3	Right	U	1:1	N/A	C1:B		1	26	-	245	1900	855	28.7%
12/1		U	N/A	N/A	-		-	-	-	697	Inf	Inf	0.0%
12/2		U	N/A	N/A	-		-	-	-	429	Inf	Inf	0.0%
J2: Site Access	-	-	N/A	-	-		-	-	-	-	-	-	70.5%
1/1	Willen Road Ahead	U	N/A	N/A	C2:A		1	80	-	414	1980	1337	31.0%
1/2+1/3	Willen Road Ahead Right	U	N/A	N/A	C2:A C2:B		1	80:7	-	256	1980:1972	1247+131	18.4 : 19.8%
2/1	Willen Road South Ahead Left	U	N/A	N/A	C2:C		1	68	-	539	1972	1134	47.5%
2/2	Willen Road South Ahead	U	N/A	N/A	C2:C		1	68	-	460	1980	1139	40.4%
3/1	Site Access Left Right	U	N/A	N/A	C2:D		1	11	-	126	1786	179	70.5%
4/1	Ahead	U	N/A	N/A	-		-	-	-	549	Inf	Inf	0.0%
4/2	Ahead	U	N/A	N/A	-		-	-	-	490	Inf	Inf	0.0%
5/1	Ahead	U	N/A	N/A	-		-	-	-	477	Inf	Inf	0.0%
5/2	Ahead	O	N/A	N/A	-		-	-	-	230	Inf	1000	23.0%
6/1		U	N/A	N/A	-		-	-	-	49	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	707	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: A422 Marsh End / Willen Road / Site Access	-	-	0	230	0	39.1	36.7	0.0	75.8	-	-	-	-
J1: A422/Willen Road	-	-	0	0	0	31.5	34.3	0.0	65.7	-	-	-	-
1/2+1/1	462	462	-	-	-	3.3	4.1	-	7.3 (3.7+3.7)	57.3 (57.2:57.3)	3.8	4.1	7.8
1/3	222	222	-	-	-	1.6	2.5	-	4.1	66.6	3.6	2.5	6.1
2/2+2/1	885	885	-	-	-	4.3	2.1	-	6.5 (4.3+2.2)	26.3 (27.3:24.6)	8.6	2.1	10.7
2/3	561	561	-	-	-	2.9	2.7	-	5.6	35.9	8.6	2.7	11.3
3/1	549	549	-	-	-	2.7	1.9	-	4.6	29.9	8.2	1.9	10.1
3/2+3/3	490	490	-	-	-	2.0	0.3	-	2.2 (1.1+1.1)	16.5 (16.5:16.5)	3.0	0.3	3.3
4/2+4/1	1279	1279	-	-	-	5.6	8.5	-	14.1 (9.0+5.1)	39.6 (40.9:37.7)	12.7	8.5	21.2
4/3	790	790	-	-	-	3.7	7.8	-	11.5	52.6	12.7	7.8	20.5
5/1	1245	1245	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	1034	1034	-	-	-	0.4	0.0	-	0.4	1.5	3.5	0.0	3.5
6/2	1035	1035	-	-	-	0.4	0.0	-	0.4	1.5	3.5	0.0	3.5
7/1	1184	1184	-	-	-	0.4	3.0	-	3.4	10.3	3.1	3.0	6.1
7/2	1013	1013	-	-	-	0.2	1.4	-	1.5	5.5	0.6	1.4	2.0
8/1	91	91	-	-	-	0.0	0.0	-	0.0	1.6	0.1	0.0	0.1
8/2	243	243	-	-	-	0.1	0.0	-	0.1	0.8	0.2	0.0	0.2
8/3	222	222	-	-	-	0.0	0.0	-	0.0	0.1	0.1	0.0	0.1
9/1	414	414	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
9/2	256	256	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
10/1	660	660	-	-	-	0.8	0.0	-	0.8	4.2	2.3	0.0	2.3
10/2	429	429	-	-	-	0.6	0.0	-	0.6	5.4	2.1	0.0	2.1

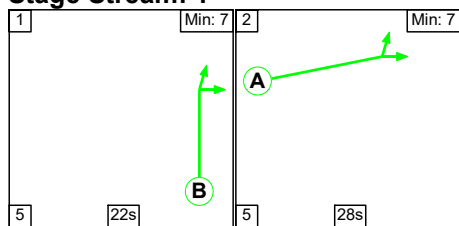
Full Input Data And Results

Scenario 3: '2033 Base + Committed AM' (FG3: '2033 Base + Committed AM', Plan 1: 'Network Control Plan 1')

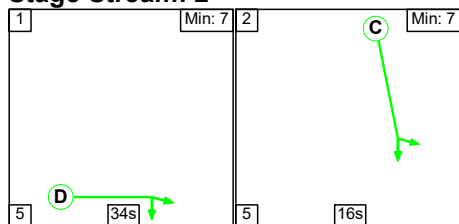
C1

Stage Sequence Diagram

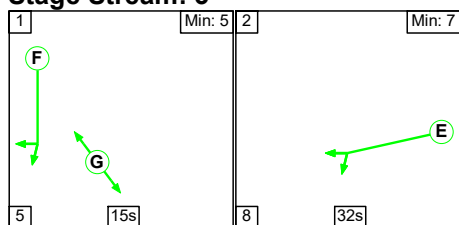
Stage Stream: 1



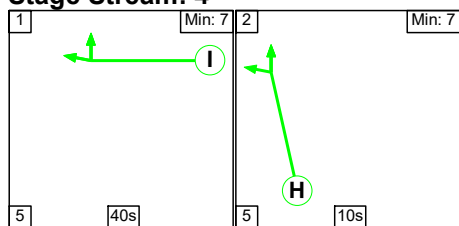
Stage Stream: 2



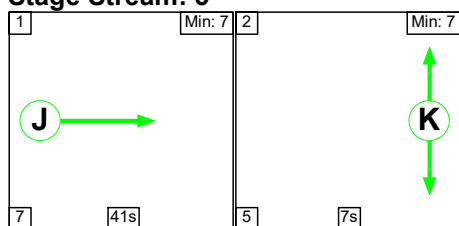
Stage Stream: 3



Stage Stream: 4



Stage Stream: 5



Stage Timings

Stage Stream: 1

Stage	1	2
Duration	22	28
Change Point	0	27

Stage Stream: 2

Stage	1	2
Duration	34	16
Change Point	24	3

Full Input Data And Results

Stage Stream: 3

Stage	1	2
Duration	15	32
Change Point	1	21

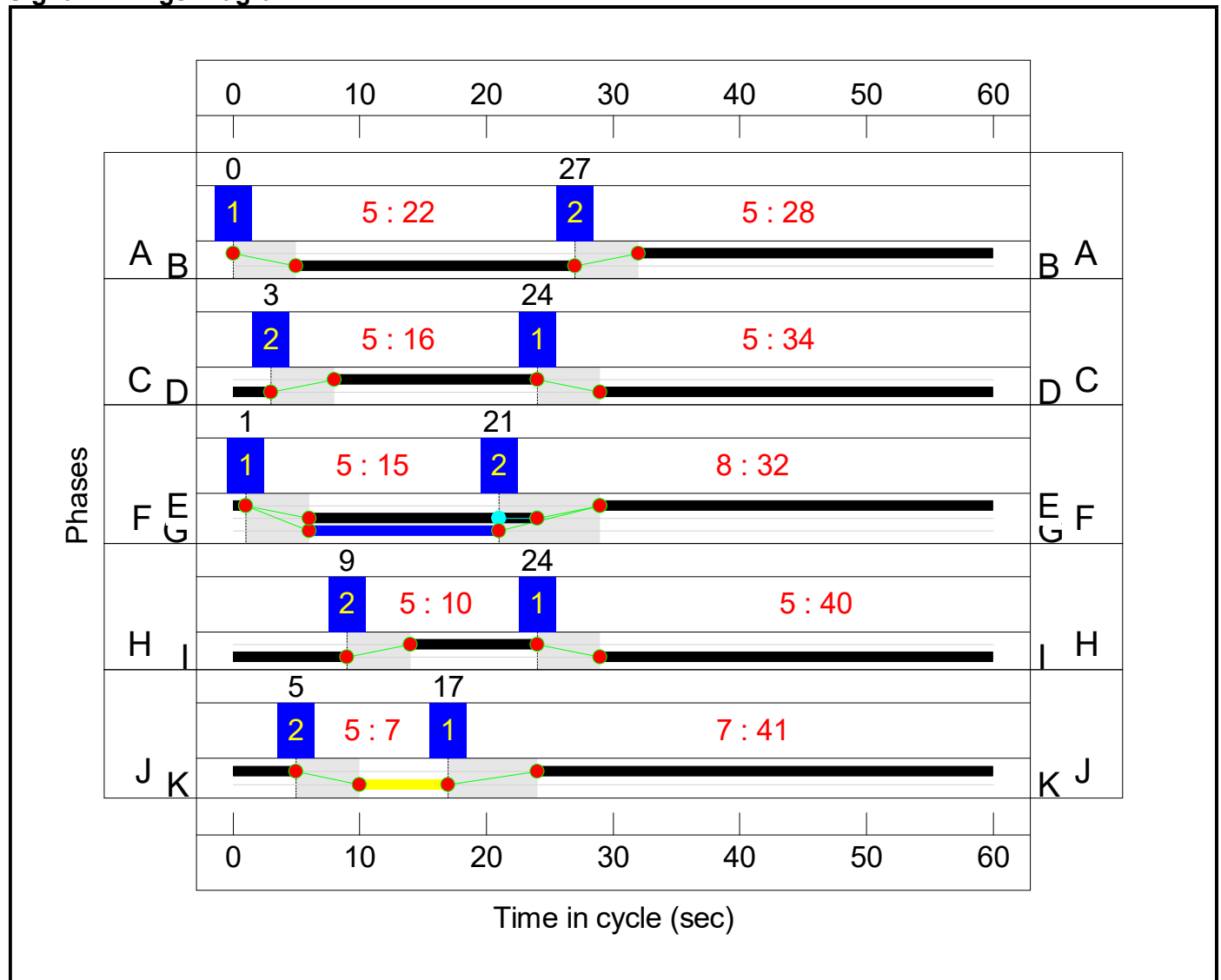
Stage Stream: 4

Stage	1	2
Duration	40	10
Change Point	24	9

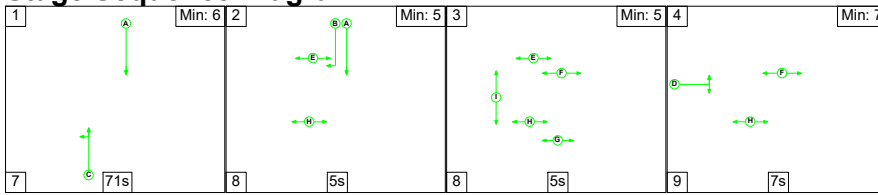
Stage Stream: 5

Stage	1	2
Duration	41	7
Change Point	17	5

Signal Timings Diagram



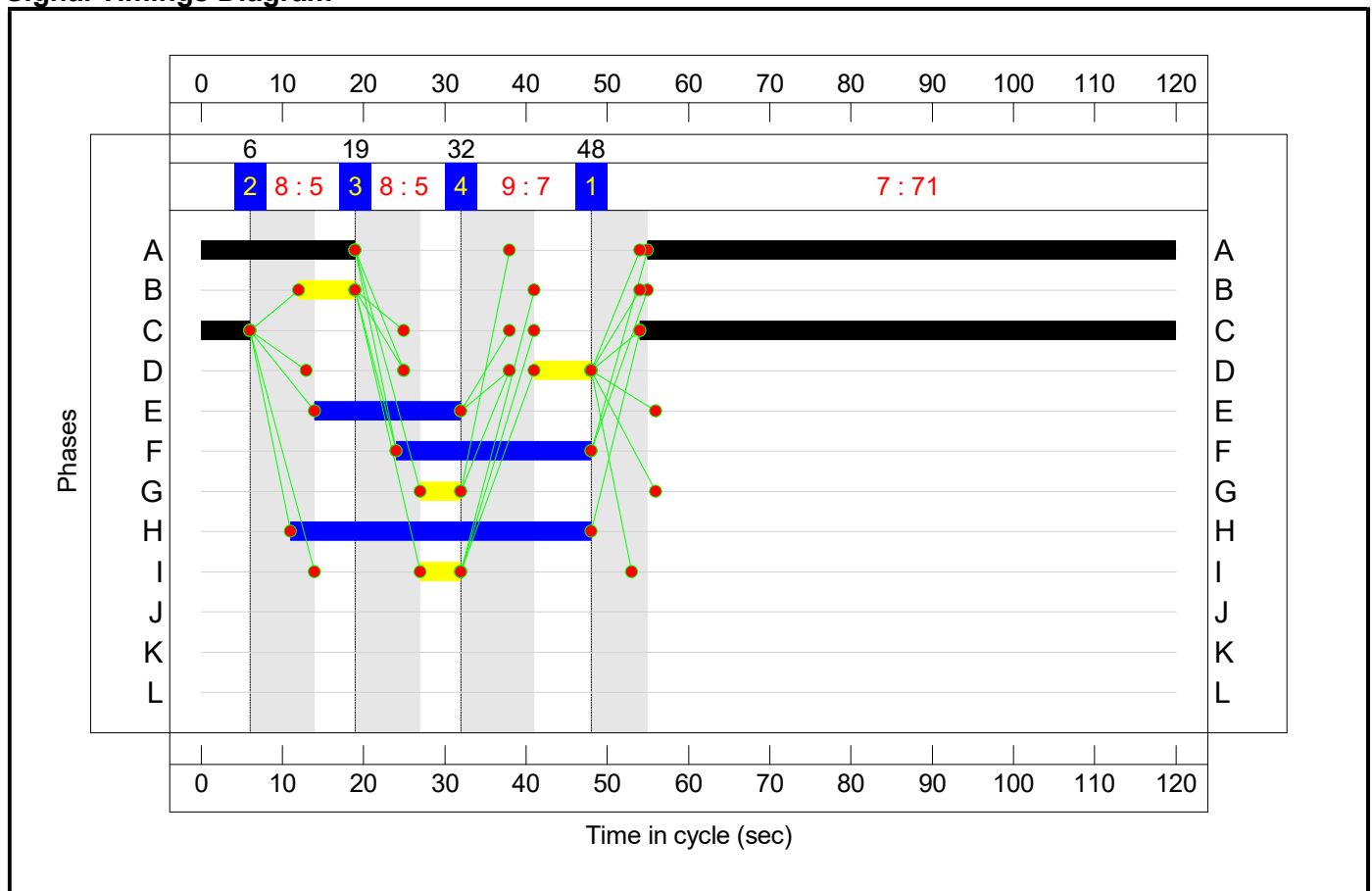
C2 Stage Sequence Diagram



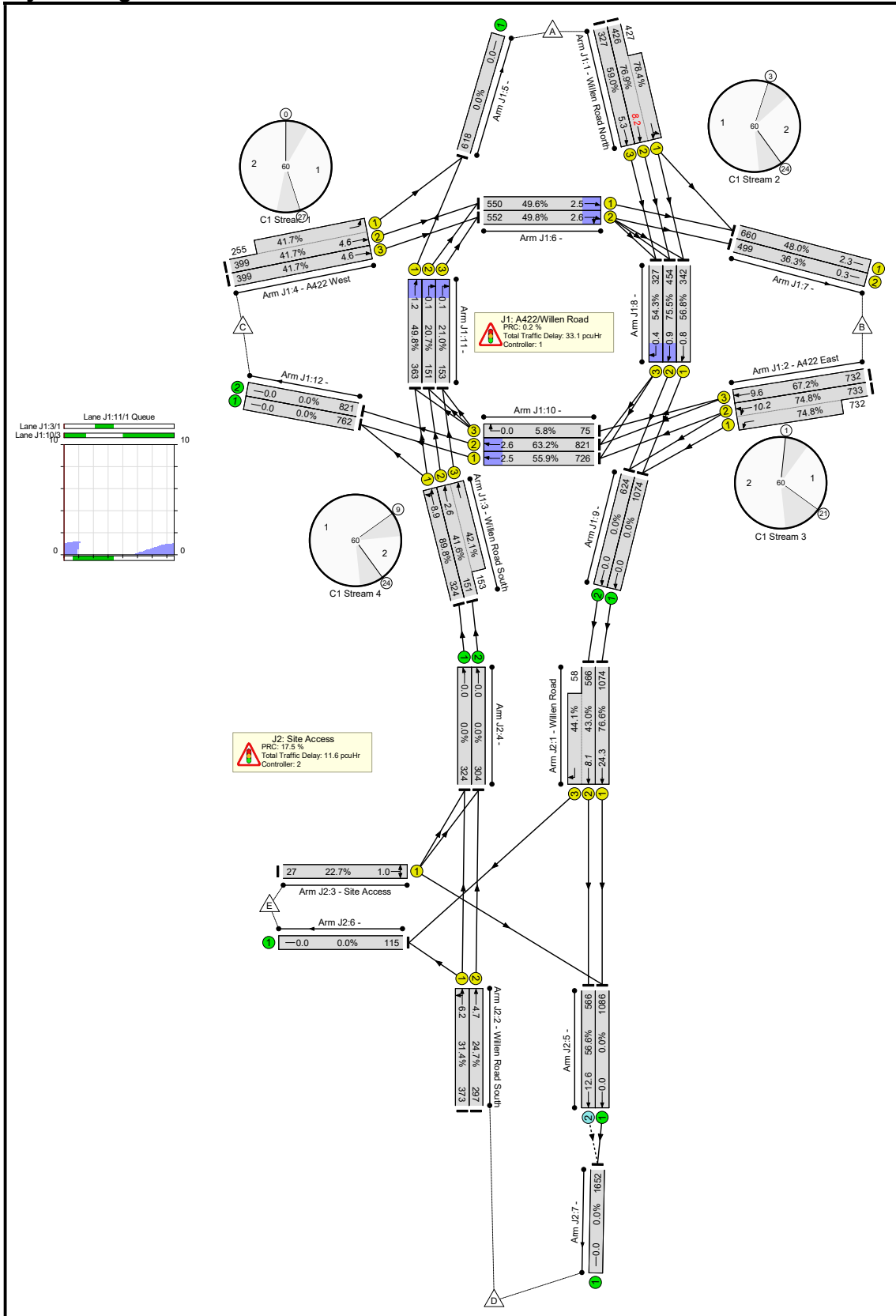
Stage Timings

Stage	1	2	3	4
Duration	71	5	5	7
Change Point	48	6	19	32

Signal Timings Diagram



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: A422 Marsh End / Willen Road / Site Access	-	-	N/A	-	-		-	-	-	-	-	-	89.8%
J1: A422/Willen Road	-	-	N/A	-	-		-	-	-	-	-	-	89.8%
1/2+1/1	Willen Road North Left Ahead	U	1:2	N/A	C1:C		1	16	-	853	1955:1923	554+545	76.9 : 78.4%
1/3	Willen Road North Ahead	U	1:2	N/A	C1:C		1	16	-	327	1955	554	59.0%
2/2+2/1	A422 East Left Ahead	U	1:3	N/A	C1:E		1	32	-	1465	1972:1945	980+979	74.8 : 74.8%
2/3	A422 East Ahead	U	1:3	N/A	C1:E		1	32	-	732	1980	1089	67.2%
3/1	Willen Road South Ahead Left	U	1:4	N/A	C1:H		1	10	-	324	1968	361	89.8%
3/2+3/3	Willen Road South Ahead	U	1:4	N/A	C1:H		1	10	-	304	1980:1980	363+363	41.6 : 42.1%
4/2+4/1	A422 West Left Ahead	U	1:1	N/A	C1:A		1	28	-	654	1980:1888	956+611	41.7 : 41.7%
4/3	A422 West Ahead	U	1:1	N/A	C1:A		1	28	-	399	1980	957	41.7%
5/1		U	N/A	N/A	-		-	-	-	618	Inf	Inf	0.0%
6/1	Ahead	U	1:2	N/A	C1:D		1	34	-	550	1900	1108	49.6%
6/2	Ahead Right	U	1:2	N/A	C1:D		1	34	-	552	1900	1108	49.8%
7/1		U	1:5	N/A	C1:J		1	41	-	660	1965	1375	48.0%
7/2		U	1:5	N/A	C1:J		1	41	-	499	1965	1375	36.3%
8/1	Ahead	U	1:3	N/A	C1:F		1	18	-	342	1900	602	56.8%
8/2	Ahead	U	1:3	N/A	C1:F		1	18	-	454	1900	602	75.5%
8/3	Right	U	1:3	N/A	C1:F		1	18	-	327	1900	602	54.3%
9/1	Ahead	U	N/A	N/A	-		-	-	-	1074	Inf	Inf	0.0%
9/2	Ahead	U	N/A	N/A	-		-	-	-	624	Inf	Inf	0.0%

Full Input Data And Results

10/1	Ahead	U	1:4	N/A	C1:I		1	40	-	726	1900	1298	55.9%
10/2	Ahead	U	1:4	N/A	C1:I		1	40	-	821	1900	1298	63.2%
10/3	Right	U	1:4	N/A	C1:I		1	40	-	75	1900	1298	5.8%
11/1	Ahead	U	1:1	N/A	C1:B		1	22	-	363	1900	728	49.8%
11/2	Right	U	1:1	N/A	C1:B		1	22	-	151	1900	728	20.7%
11/3	Right	U	1:1	N/A	C1:B		1	22	-	153	1900	728	21.0%
12/1		U	N/A	N/A	-		-	-	-	762	Inf	Inf	0.0%
12/2		U	N/A	N/A	-		-	-	-	821	Inf	Inf	0.0%
J2: Site Access	-	-	N/A	-	-		-	-	-	-	-	-	76.6%
1/1	Willen Road Ahead	U	N/A	N/A	C2:A		1	84	-	1074	1980	1402	76.6%
1/2+1/3	Willen Road Ahead Right	U	N/A	N/A	C2:A C2:B		1	84:7	-	624	1980:1972	1316+131	43.0 : 44.1%
2/1	Willen Road South Ahead Left	U	N/A	N/A	C2:C		1	72	-	373	1950	1186	31.4%
2/2	Willen Road South Ahead	U	N/A	N/A	C2:C		1	72	-	297	1980	1204	24.7%
3/1	Site Access Left Right	U	N/A	N/A	C2:D		1	7	-	27	1782	119	22.7%
4/1	Ahead	U	N/A	N/A	-		-	-	-	324	Inf	Inf	0.0%
4/2	Ahead	U	N/A	N/A	-		-	-	-	304	Inf	Inf	0.0%
5/1	Ahead	U	N/A	N/A	-		-	-	-	1086	Inf	Inf	0.0%
5/2	Ahead	O	N/A	N/A	-		-	-	-	566	Inf	1000	56.6%
6/1		U	N/A	N/A	-		-	-	-	115	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	1652	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: A422 Marsh End / Willen Road / Site Access	-	-	0	566	0	31.1	13.6	0.0	44.7	-	-	-	-
J1: A422/Willen Road	-	-	0	0	0	22.7	10.4	0.0	33.1	-	-	-	-
1/2+1/1	853	853	-	-	-	4.7	1.7	-	6.4 (3.2+3.2)	27.0 (26.9:27.0)	6.5	1.7	8.2
1/3	327	327	-	-	-	1.7	0.7	-	2.4	26.4	4.6	0.7	5.3
2/2+2/1	1465	1465	-	-	-	4.0	1.5	-	5.4 (2.7+2.7)	13.3 (13.3:13.4)	8.7	1.5	10.2
2/3	732	732	-	-	-	2.0	1.0	-	3.0	14.7	8.5	1.0	9.6
3/1	324	324	-	-	-	2.2	3.7	-	5.8	64.7	5.2	3.7	8.9
3/2+3/3	304	304	-	-	-	1.8	0.4	-	2.2 (1.1+1.1)	25.9 (25.9:26.0)	2.3	0.4	2.6
4/2+4/1	654	654	-	-	-	1.8	0.4	-	2.1 (1.3+0.8)	11.7 (12.0:11.2)	4.2	0.4	4.6
4/3	399	399	-	-	-	1.1	0.4	-	1.5	13.3	4.2	0.4	4.6
5/1	618	618	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	550	550	-	-	-	0.4	0.0	-	0.4	2.5	2.5	0.0	2.5
6/2	552	552	-	-	-	0.4	0.0	-	0.4	2.5	2.6	0.0	2.6
7/1	660	660	-	-	-	0.3	0.5	-	0.7	4.0	1.8	0.5	2.3
7/2	499	499	-	-	-	0.0	0.3	-	0.3	2.1	0.0	0.3	0.3
8/1	342	342	-	-	-	0.4	0.0	-	0.4	3.8	0.8	0.0	0.8
8/2	454	454	-	-	-	0.5	0.0	-	0.5	3.8	0.9	0.0	0.9
8/3	327	327	-	-	-	0.2	0.0	-	0.2	2.7	0.4	0.0	0.4
9/1	1074	1074	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
9/2	624	624	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
10/1	726	726	-	-	-	0.5	0.0	-	0.5	2.5	2.5	0.0	2.5
10/2	821	821	-	-	-	0.5	0.0	-	0.5	2.3	2.6	0.0	2.6

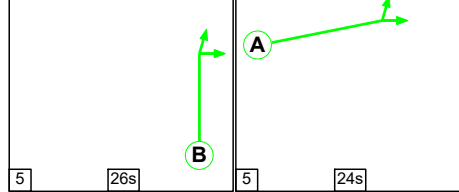
Full Input Data And Results

10/3	75	75	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0																																																	
11/1	363	363	-	-	-	0.4	0.0	-	0.4	3.6	1.2	0.0	1.2																																																	
11/2	151	151	-	-	-	0.0	0.0	-	0.0	0.1	0.1	0.0	0.1																																																	
11/3	153	153	-	-	-	0.0	0.0	-	0.0	0.1	0.1	0.0	0.1																																																	
12/1	762	762	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0																																																	
12/2	821	821	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0																																																	
J2: Site Access	-	-	0	566	0	8.4	3.2	0.0	11.6	-	-	-	-																																																	
1/1	1074	1074	-	-	-	3.3	1.6	-	4.9	16.6	22.7	1.6	24.3																																																	
1/2+1/3	624	624	-	-	-	2.0	0.4	-	2.4 (1.5+0.9)	13.7 (9.3:56.1)	7.7	0.4	8.1																																																	
2/1	373	373	-	-	-	1.2	0.2	-	1.4	13.6	6.0	0.2	6.2																																																	
2/2	297	297	-	-	-	0.9	0.2	-	1.1	12.8	4.5	0.2	4.7																																																	
3/1	27	27	-	-	-	0.4	0.1	-	0.5	72.7	0.8	0.1	1.0																																																	
4/1	324	324	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0																																																	
4/2	304	304	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0																																																	
5/1	1086	1086	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0																																																	
5/2	566	566	0	566	0	0.6	0.7	-	1.3	8.0	12.0	0.7	12.6																																																	
6/1	115	115	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0																																																	
7/1	1652	1652	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0																																																	
<table> <tbody> <tr> <td>C1</td> <td>Stream: 1 PRC for Signalled Lanes (%)</td> <td>80.6</td> <td>Total Delay for Signalled Lanes (pcuHr):</td> <td>3.97</td> <td>Cycle Time (s):</td> <td>60</td> </tr> <tr> <td>C1</td> <td>Stream: 2 PRC for Signalled Lanes (%)</td> <td>14.8</td> <td>Total Delay for Signalled Lanes (pcuHr):</td> <td>9.54</td> <td>Cycle Time (s):</td> <td>60</td> </tr> <tr> <td>C1</td> <td>Stream: 3 PRC for Signalled Lanes (%)</td> <td>19.3</td> <td>Total Delay for Signalled Lanes (pcuHr):</td> <td>9.50</td> <td>Cycle Time (s):</td> <td>60</td> </tr> <tr> <td>C1</td> <td>Stream: 4 PRC for Signalled Lanes (%)</td> <td>0.2</td> <td>Total Delay for Signalled Lanes (pcuHr):</td> <td>9.04</td> <td>Cycle Time (s):</td> <td>60</td> </tr> <tr> <td>C1</td> <td>Stream: 5 PRC for Signalled Lanes (%)</td> <td>87.6</td> <td>Total Delay for Signalled Lanes (pcuHr):</td> <td>1.02</td> <td>Cycle Time (s):</td> <td>60</td> </tr> <tr> <td>C2</td> <td>PRC for Signalled Lanes (%)</td> <td>17.5</td> <td>Total Delay for Signalled Lanes (pcuHr):</td> <td>10.33</td> <td>Cycle Time (s):</td> <td>120</td> </tr> <tr> <td></td> <td>PRC Over All Lanes (%)</td> <td>0.2</td> <td>Total Delay Over All Lanes(pcuHr):</td> <td>44.65</td> <td></td> <td></td> </tr> </tbody> </table>														C1	Stream: 1 PRC for Signalled Lanes (%)	80.6	Total Delay for Signalled Lanes (pcuHr):	3.97	Cycle Time (s):	60	C1	Stream: 2 PRC for Signalled Lanes (%)	14.8	Total Delay for Signalled Lanes (pcuHr):	9.54	Cycle Time (s):	60	C1	Stream: 3 PRC for Signalled Lanes (%)	19.3	Total Delay for Signalled Lanes (pcuHr):	9.50	Cycle Time (s):	60	C1	Stream: 4 PRC for Signalled Lanes (%)	0.2	Total Delay for Signalled Lanes (pcuHr):	9.04	Cycle Time (s):	60	C1	Stream: 5 PRC for Signalled Lanes (%)	87.6	Total Delay for Signalled Lanes (pcuHr):	1.02	Cycle Time (s):	60	C2	PRC for Signalled Lanes (%)	17.5	Total Delay for Signalled Lanes (pcuHr):	10.33	Cycle Time (s):	120		PRC Over All Lanes (%)	0.2	Total Delay Over All Lanes(pcuHr):	44.65		
C1	Stream: 1 PRC for Signalled Lanes (%)	80.6	Total Delay for Signalled Lanes (pcuHr):	3.97	Cycle Time (s):	60																																																								
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	PRC Over All Lanes (%)	0.2	Total Delay Over All Lanes(pcuHr):	44.65																																																										

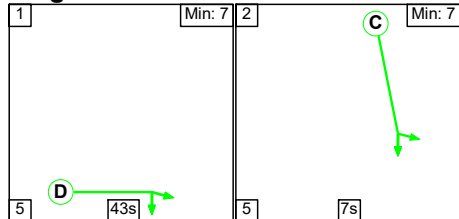
C1

Stage Sequence Diagram

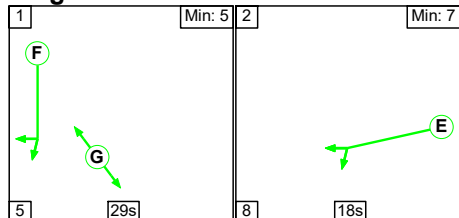
Stage Stream: 1



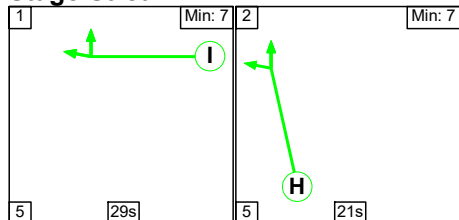
Stage Stream: 2



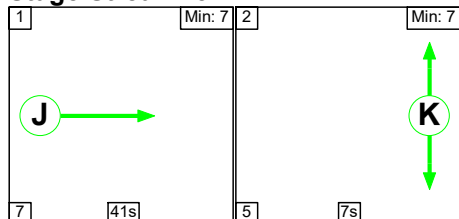
Stage Stream: 3



Stage Stream: 4



Stage Stream: 5



Stage Timings

Stage Stream: 1

Stage	1	2
Duration	26	24
Change Point	36	7

Stage Stream: 2

Stage	1	2
Duration	43	7
Change Point	1	49

Full Input Data And Results

Stage Stream: 3

Stage	1	2
Duration	29	18
Change Point	44	18

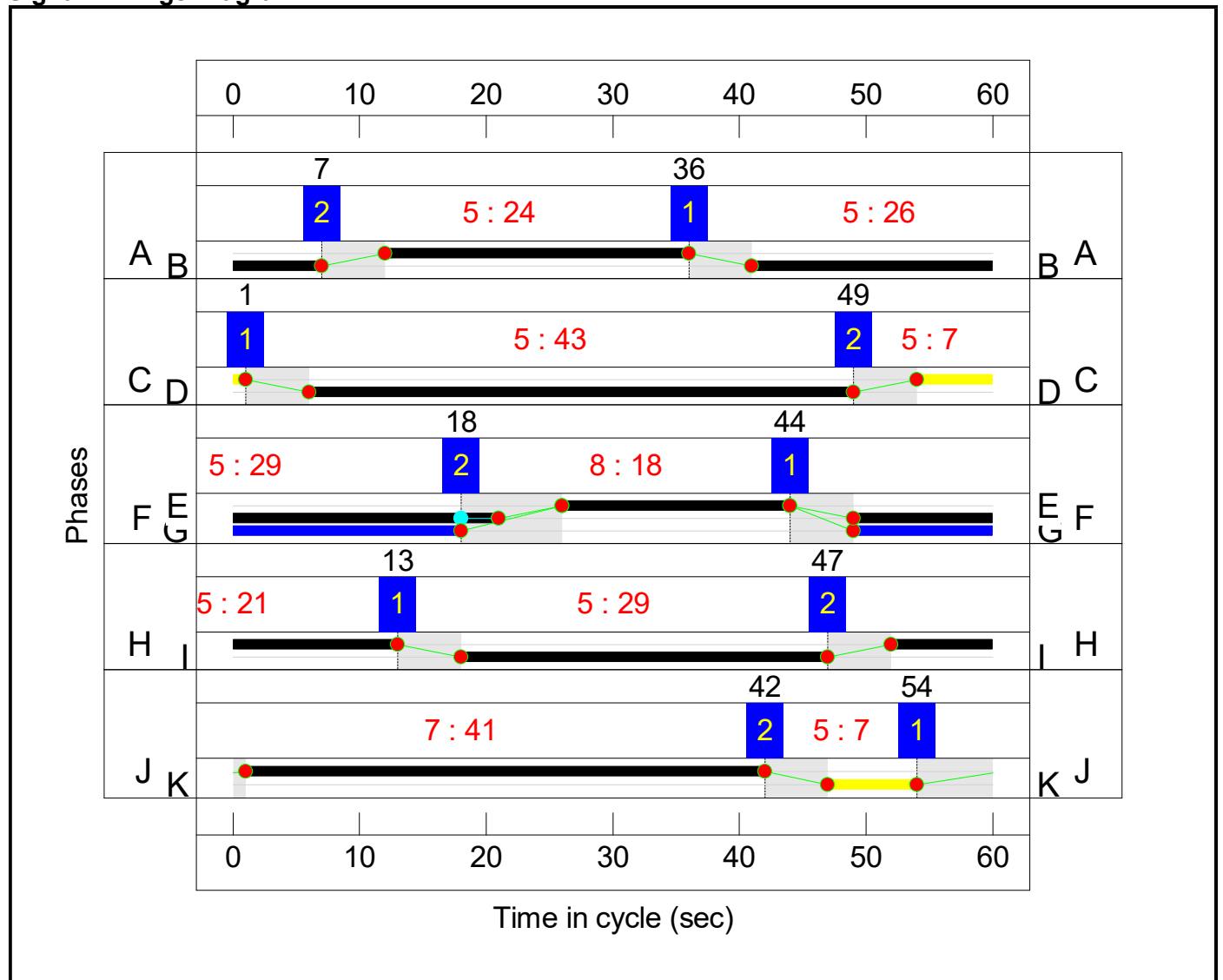
Stage Stream: 4

Stage	1	2
Duration	29	21
Change Point	13	47

Stage Stream: 5

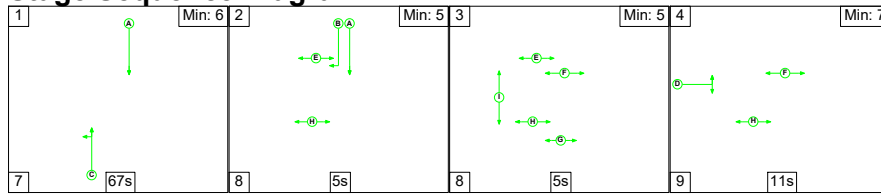
Stage	1	2
Duration	41	7
Change Point	54	42

Signal Timings Diagram



Full Input Data And Results

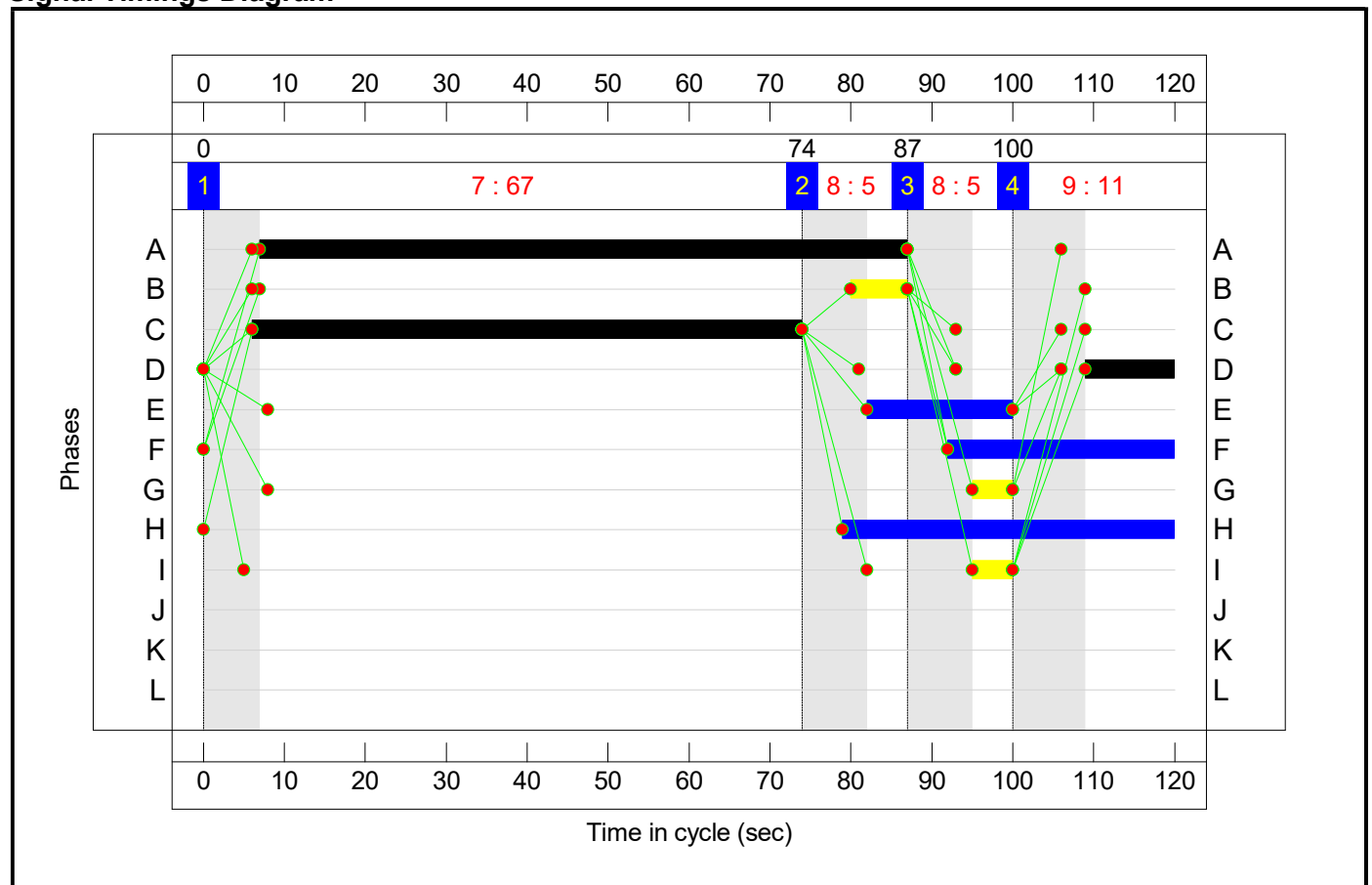
C2 Stage Sequence Diagram



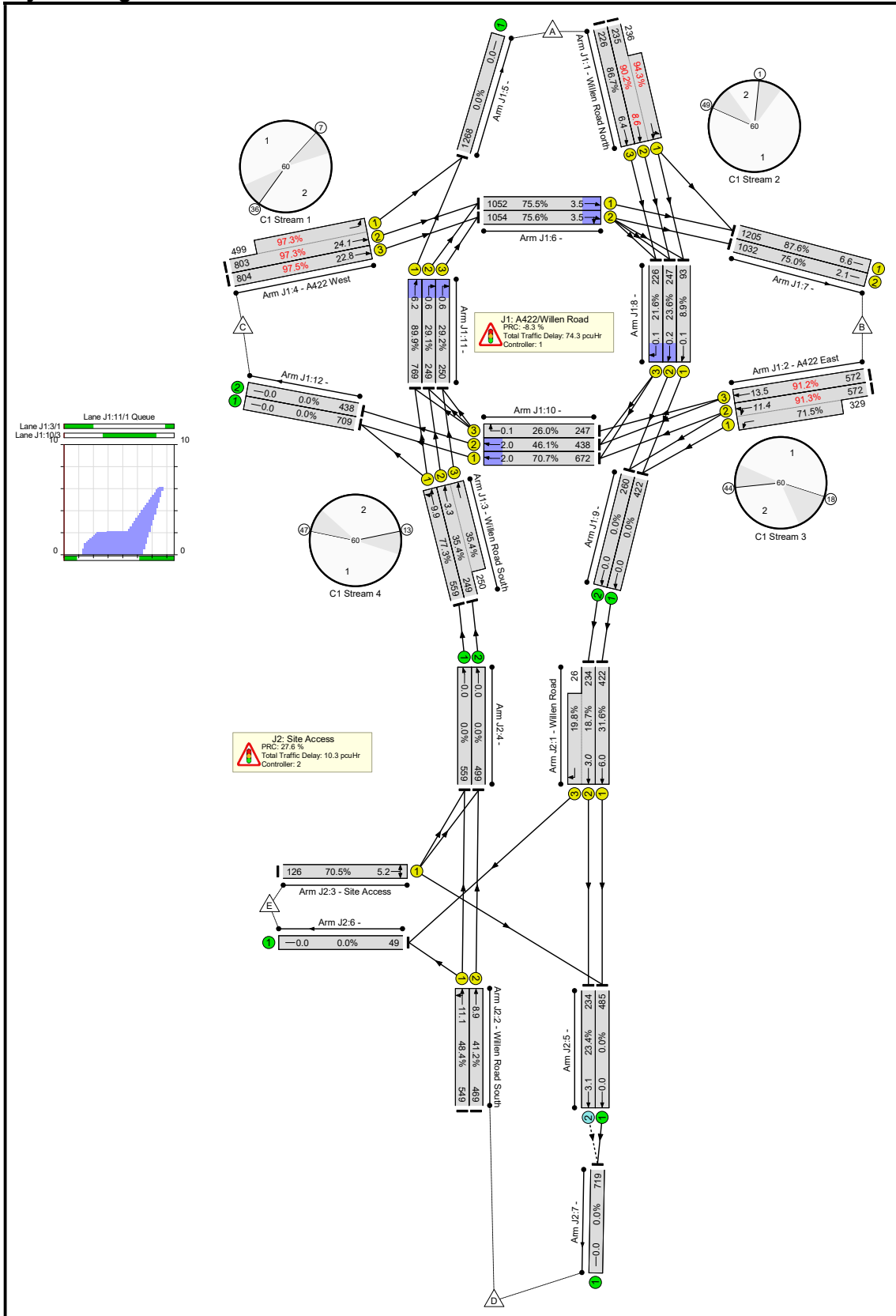
Stage Timings

Stage	1	2	3	4
Duration	67	5	5	11
Change Point	0	74	87	100

Signal Timings Diagram



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: A422 Marsh End / Willen Road / Site Access	-	-	N/A	-	-		-	-	-	-	-	-	97.5%
J1: A422/Willen Road	-	-	N/A	-	-		-	-	-	-	-	-	97.5%
1/2+1/1	Willen Road North Left Ahead	U	1:2	N/A	C1:C		1	7	-	471	1955:1876	261+250	90.2 : 94.3%
1/3	Willen Road North Ahead	U	1:2	N/A	C1:C		1	7	-	226	1955	261	86.7%
2/2+2/1	A422 East Left Ahead	U	1:3	N/A	C1:E		1	18	-	901	1979:1945	627+460	91.3 : 71.5%
2/3	A422 East Ahead	U	1:3	N/A	C1:E		1	18	-	572	1980	627	91.2%
3/1	Willen Road South Ahead Left	U	1:4	N/A	C1:H		1	21	-	559	1973	723	77.3%
3/2+3/3	Willen Road South Ahead	U	1:4	N/A	C1:H		1	21	-	499	1980:1980	703+706	35.4 : 35.4%
4/2+4/1	A422 West Left Ahead	U	1:1	N/A	C1:A		1	24	-	1302	1980:1888	825+513	97.3 : 97.3%
4/3	A422 West Ahead	U	1:1	N/A	C1:A		1	24	-	804	1980	825	97.5%
5/1		U	N/A	N/A	-		-	-	-	1268	Inf	Inf	0.0%
6/1	Ahead	U	1:2	N/A	C1:D		1	43	-	1052	1900	1393	75.5%
6/2	Ahead Right	U	1:2	N/A	C1:D		1	43	-	1054	1900	1393	75.6%
7/1		U	1:5	N/A	C1:J		1	41	-	1205	1965	1375	87.6%
7/2		U	1:5	N/A	C1:J		1	41	-	1032	1965	1375	75.0%
8/1	Ahead	U	1:3	N/A	C1:F		1	32	-	93	1900	1045	8.9%
8/2	Ahead	U	1:3	N/A	C1:F		1	32	-	247	1900	1045	23.6%
8/3	Right	U	1:3	N/A	C1:F		1	32	-	226	1900	1045	21.6%
9/1	Ahead	U	N/A	N/A	-		-	-	-	422	Inf	Inf	0.0%
9/2	Ahead	U	N/A	N/A	-		-	-	-	260	Inf	Inf	0.0%

Full Input Data And Results

10/1	Ahead	U	1:4	N/A	C1:I		1	29	-	672	1900	950	70.7%
10/2	Ahead	U	1:4	N/A	C1:I		1	29	-	438	1900	950	46.1%
10/3	Right	U	1:4	N/A	C1:I		1	29	-	247	1900	950	26.0%
11/1	Ahead	U	1:1	N/A	C1:B		1	26	-	769	1900	855	89.9%
11/2	Right	U	1:1	N/A	C1:B		1	26	-	249	1900	855	29.1%
11/3	Right	U	1:1	N/A	C1:B		1	26	-	250	1900	855	29.2%
12/1		U	N/A	N/A	-		-	-	-	709	Inf	Inf	0.0%
12/2		U	N/A	N/A	-		-	-	-	438	Inf	Inf	0.0%
J2: Site Access	-	-	N/A	-	-		-	-	-	-	-	-	70.5%
1/1	Willen Road Ahead	U	N/A	N/A	C2:A		1	80	-	422	1980	1337	31.6%
1/2+1/3	Willen Road Ahead Right	U	N/A	N/A	C2:A C2:B		1	80:7	-	260	1980:1972	1249+131	18.7 : 19.8%
2/1	Willen Road South Ahead Left	U	N/A	N/A	C2:C		1	68	-	549	1972	1134	48.4%
2/2	Willen Road South Ahead	U	N/A	N/A	C2:C		1	68	-	469	1980	1139	41.2%
3/1	Site Access Left Right	U	N/A	N/A	C2:D		1	11	-	126	1786	179	70.5%
4/1	Ahead	U	N/A	N/A	-		-	-	-	559	Inf	Inf	0.0%
4/2	Ahead	U	N/A	N/A	-		-	-	-	499	Inf	Inf	0.0%
5/1	Ahead	U	N/A	N/A	-		-	-	-	485	Inf	Inf	0.0%
5/2	Ahead	O	N/A	N/A	-		-	-	-	234	Inf	1000	23.4%
6/1		U	N/A	N/A	-		-	-	-	49	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	719	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: A422 Marsh End / Willen Road / Site Access	-	-	0	234	0	39.8	44.8	0.0	84.6	-	-	-	-
J1: A422/Willen Road	-	-	0	0	0	32.0	42.3	0.0	74.3	-	-	-	-
1/2+1/1	471	471	-	-	-	3.4	4.8	-	8.1 (4.1+4.1)	62.2 (62.1:62.3)	3.9	4.8	8.6
1/3	226	226	-	-	-	1.6	2.8	-	4.4	70.2	3.6	2.8	6.4
2/2+2/1	901	901	-	-	-	4.7	2.4	-	7.0 (4.6+2.4)	28.1 (29.1:26.3)	9.1	2.4	11.4
2/3	572	572	-	-	-	3.1	4.5	-	7.6	47.9	9.1	4.5	13.5
3/1	559	559	-	-	-	2.6	1.7	-	4.3	27.5	8.2	1.7	9.9
3/2+3/3	499	499	-	-	-	1.9	0.3	-	2.2 (1.1+1.1)	15.8 (15.8:15.8)	3.0	0.3	3.3
4/2+4/1	1302	1302	-	-	-	5.8	11.2	-	17.0 (10.7+6.2)	46.9 (48.2:44.9)	12.9	11.2	24.1
4/3	804	804	-	-	-	3.8	9.9	-	13.7	61.4	13.0	9.9	22.8
5/1	1268	1268	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	1052	1052	-	-	-	0.6	0.0	-	0.6	1.9	3.5	0.0	3.5
6/2	1054	1054	-	-	-	0.6	0.0	-	0.6	1.9	3.5	0.0	3.5
7/1	1205	1205	-	-	-	0.4	3.4	-	3.8	11.2	3.2	3.4	6.6
7/2	1032	1032	-	-	-	0.2	1.5	-	1.6	5.7	0.6	1.5	2.1
8/1	93	93	-	-	-	0.0	0.0	-	0.0	1.5	0.1	0.0	0.1
8/2	247	247	-	-	-	0.1	0.0	-	0.1	0.8	0.2	0.0	0.2
8/3	226	226	-	-	-	0.0	0.0	-	0.0	0.1	0.1	0.0	0.1
9/1	422	422	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
9/2	260	260	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
10/1	672	672	-	-	-	0.6	0.0	-	0.6	3.1	2.0	0.0	2.0
10/2	438	438	-	-	-	0.5	0.0	-	0.5	4.3	2.0	0.0	2.0

Full Input Data And Results

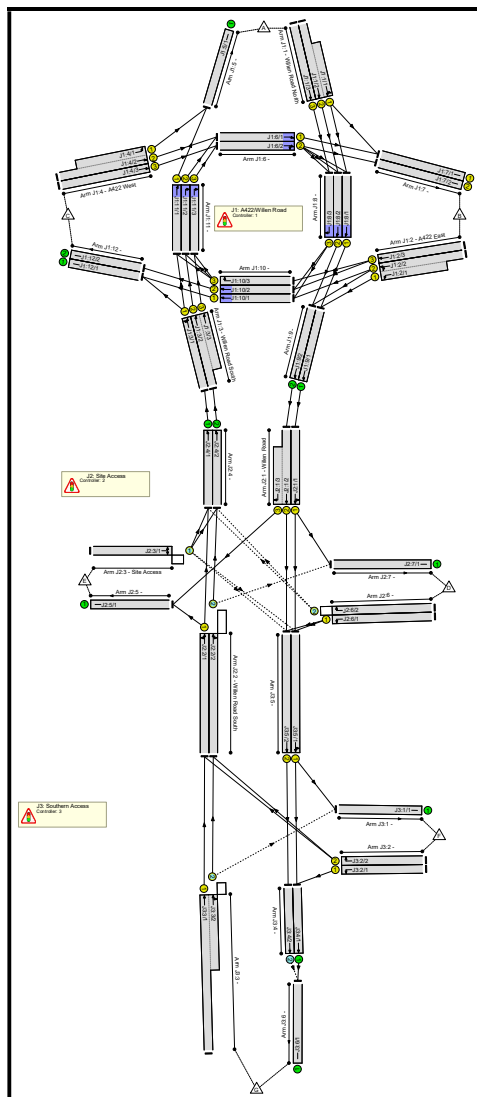
10/3	247	247	-	-	-	0.0	0.0	-	0.0	0.5	0.1	0.0	0.1
11/1	769	769	-	-	-	1.6	0.0	-	1.6	7.5	6.2	0.0	6.2
11/2	249	249	-	-	-	0.3	0.0	-	0.3	4.5	0.6	0.0	0.6
11/3	250	250	-	-	-	0.3	0.0	-	0.3	4.5	0.6	0.0	0.6
12/1	709	709	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
12/2	438	438	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
J2: Site Access	-	-	0	234	0	7.8	2.5	0.0	10.3	-	-	-	-
1/1	422	422	-	-	-	0.9	0.2	-	1.2	10.0	5.7	0.2	6.0
1/2+1/3	260	260	-	-	-	0.9	0.1	-	1.0 (0.6+0.4)	13.4 (8.8:54.6)	2.9	0.1	3.0
2/1	549	549	-	-	-	2.3	0.5	-	2.8	18.1	10.7	0.5	11.1
2/2	469	469	-	-	-	1.9	0.3	-	2.2	16.9	8.6	0.3	8.9
3/1	126	126	-	-	-	1.8	1.1	-	3.0	85.1	4.1	1.1	5.2
4/1	559	559	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/2	499	499	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	485	485	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/2	234	234	0	234	0	0.0	0.2	-	0.2	2.9	2.9	0.2	3.1
6/1	49	49	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	719	719	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
			C1	Stream: 1 PRC for Signalled Lanes (%)	-8.3	Total Delay for Signalled Lanes (pcuHr):	32.89	Cycle Time (s):	60				
			C1	Stream: 2 PRC for Signalled Lanes (%)	-4.8	Total Delay for Signalled Lanes (pcuHr):	13.66	Cycle Time (s):	60				
			C1	Stream: 3 PRC for Signalled Lanes (%)	-1.4	Total Delay for Signalled Lanes (pcuHr):	14.74	Cycle Time (s):	60				
			C1	Stream: 4 PRC for Signalled Lanes (%)	16.5	Total Delay for Signalled Lanes (pcuHr):	7.61	Cycle Time (s):	60				
			C1	Stream: 5 PRC for Signalled Lanes (%)	2.7	Total Delay for Signalled Lanes (pcuHr):	5.40	Cycle Time (s):	60				
			C2	PRC for Signalled Lanes (%)	27.6	Total Delay for Signalled Lanes (pcuHr):	10.08	Cycle Time (s):	120				
				PRC Over All Lanes (%)	-8.3	Total Delay Over All Lanes(pcuHr):	84.56						

Full Input Data And Results
Full Input Data And Results

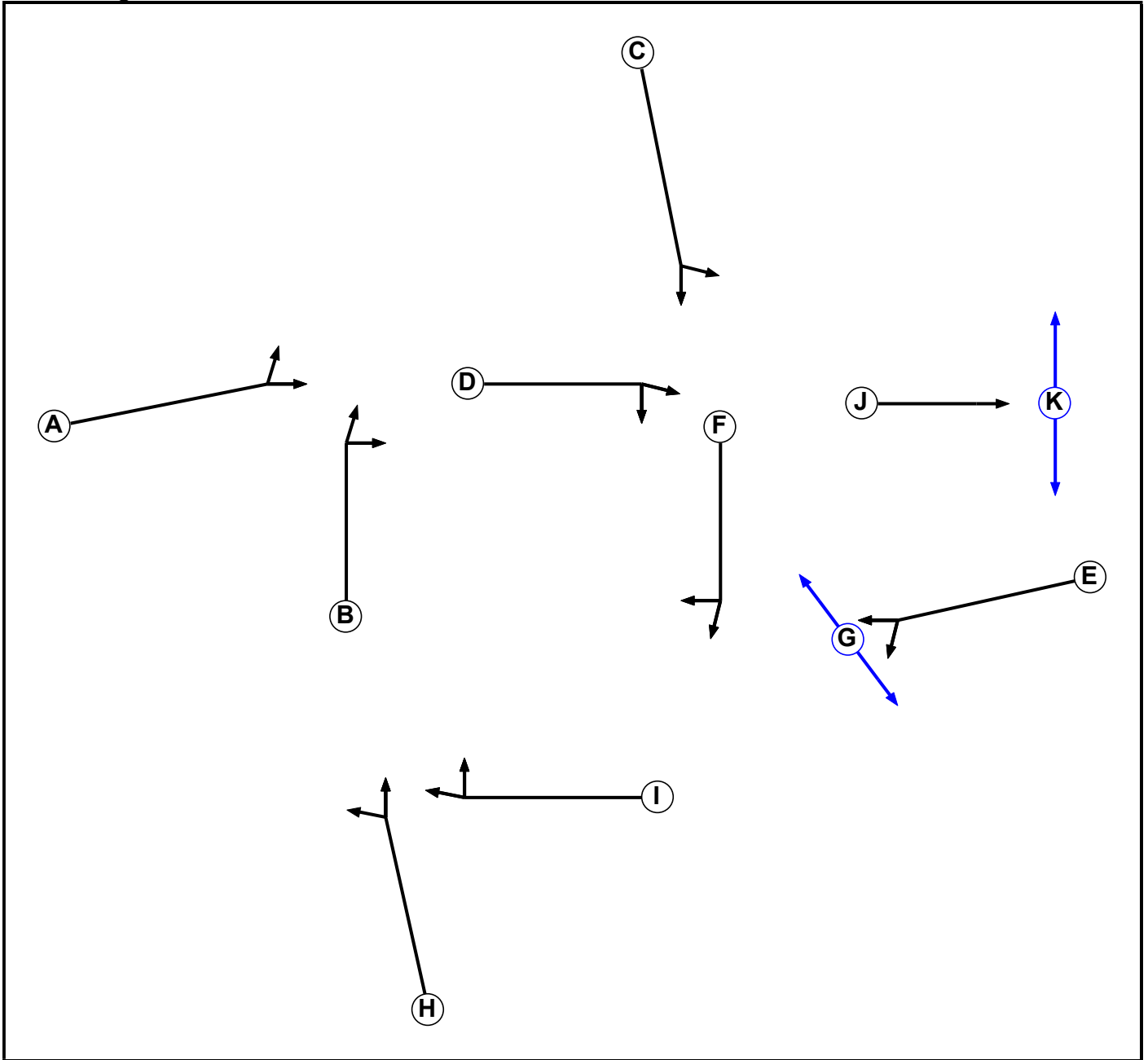
User and Project Details

Project:	Newport Pagnell
Title:	A422 Marsh End / Willen Road / Site Access Proposed Layout
Location:	
Additional detail:	
File name:	211019_Marsh End RAB+Committed Scheme+Dev v6.lsg3x
Author:	
Company:	
Address:	

Network Layout Diagram



C1
Phase Diagram



Full Input Data And Results

Phase Input Data

Phase Name	Phase Type	Stage Stream	Assoc. Phase	Street Min	Cont Min
A	Traffic	1		7	7
B	Traffic	1		7	7
C	Traffic	2		7	7
D	Traffic	2		7	7
E	Traffic	3		7	7
F	Traffic	3		7	4
G	Pedestrian	3		5	5
H	Traffic	4		7	7
I	Traffic	4		7	7
J	Traffic	5		7	7
K	Pedestrian	5		7	7

Phase Intergreens Matrix

		Starting Phase										
		A	B	C	D	E	F	G	H	I	J	K
Terminating Phase	A		5	-	-	-	-	-	-	-	-	-
	B	5		-	-	-	-	-	-	-	-	-
	C	-	-		5	-	-	-	-	-	-	-
	D	-	-	5		-	-	-	-	-	-	-
	E	-	-	-	-		5	5	-	-	-	-
	F	-	-	-	-	5		-	-	-	-	-
	G	-	-	-	-	8	-		-	-	-	-
	H	-	-	-	-	-	-	-		5	-	-
	I	-	-	-	-	-	-	-	5		-	-
	J	-	-	-	-	-	-	-	-	-		5
	K	-	-	-	-	-	-	-	-	-	7	

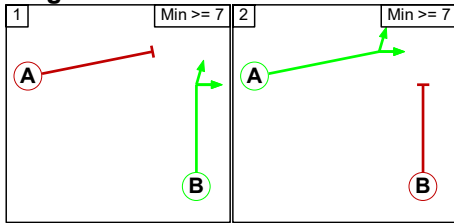
Phases in Stage

Stream	Stage No.	Phases in Stage
1	1	B
1	2	A
2	1	D
2	2	C
3	1	F G
3	2	E
4	1	I
4	2	H
5	1	J
5	2	K

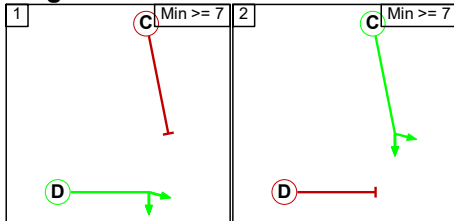
Full Input Data And Results

Stage Diagram

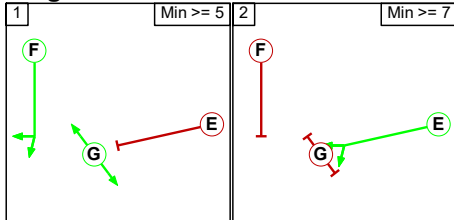
Stage Stream: 1



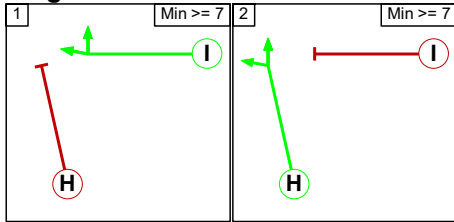
Stage Stream: 2



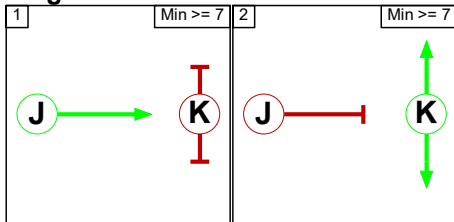
Stage Stream: 3



Stage Stream: 4



Stage Stream: 5



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					

Stage Stream: 3

Term. Stage	Start Stage	Phase	Type	Value	Cont value
1	2	F	Losing	3	3

Full Input Data And Results

Stage Stream: 4

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

Stage Stream: 5

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

Prohibited Stage Change

Stage Stream: 1

		To Stage	
		1	2
From Stage	1		5
	2	5	

Stage Stream: 2

		To Stage	
		1	2
From Stage	1		5
	2	5	

Stage Stream: 3

		To Stage	
		1	2
From Stage	1		8
	2	5	

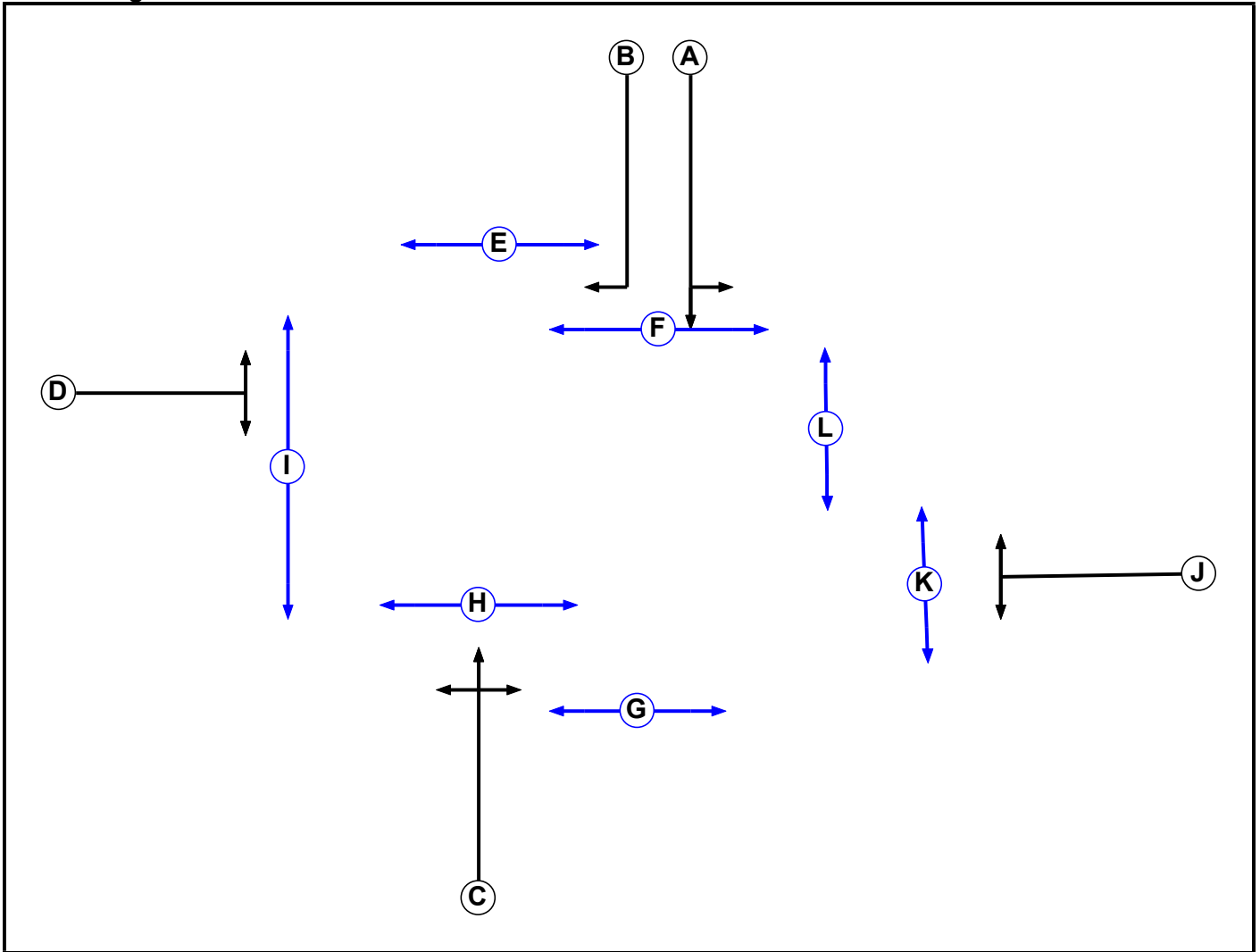
Stage Stream: 4

		To Stage	
		1	2
From Stage	1		5
	2	5	

Stage Stream: 5

		To Stage	
		1	2
From Stage	1		5
	2	7	

C2
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
I	Pedestrian		5	5
J	Traffic		7	7
K	Pedestrian		5	5
L	Pedestrian		5	5

Full Input Data And Results

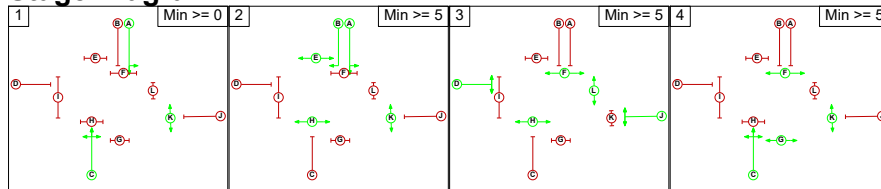
Phase Intergrens Matrix

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

Phases in Stage

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

Stage Diagram



Phase Delays

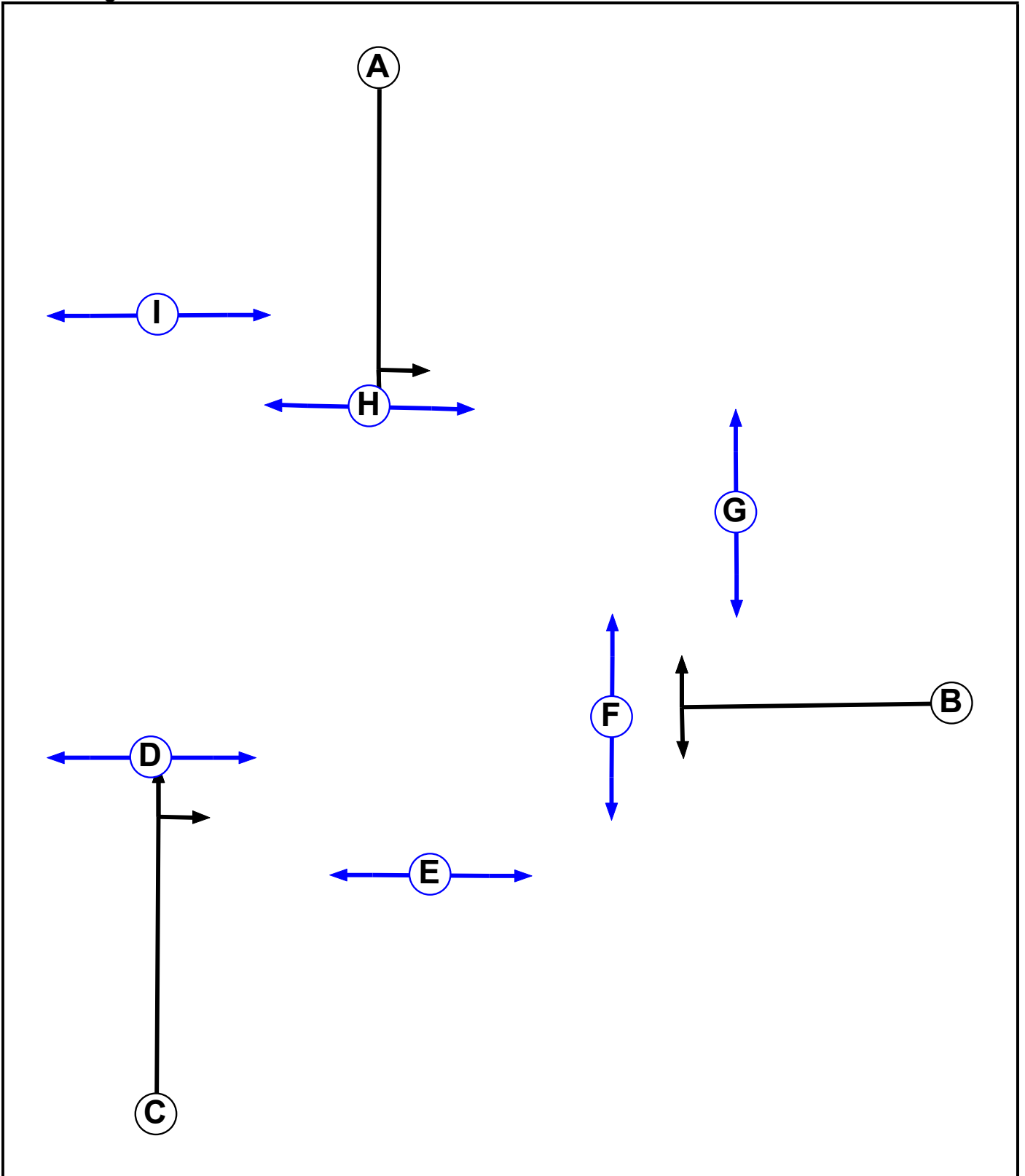
Term. Stage	Start Stage	Phase	Type	Value	Cont value
1	3	A	Losing	1	1

Prohibited Stage Change

		To Stage			
		1	2	3	4
From Stage	1	-	8	10	8
	2	6	-	8	8
	3	7	8	-	8
	4	7	8	10	-

C3

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	Pedestrian		5	5
E	Pedestrian		5	5
F	Pedestrian		5	5
G	Pedestrian		5	5
H	Pedestrian		5	5
I	Pedestrian		7	7

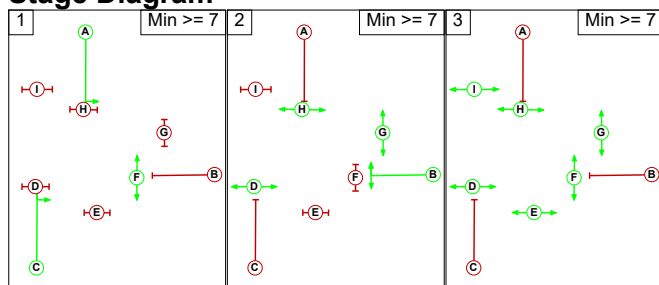
Phase Intergreens Matrix

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

Phases in Stage

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

Stage Diagram



Phase Delays

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

Full Input Data And Results

Prohibited Stage Change

		To Stage		
		1	2	3
From Stage	1		8	8
	2	8		8
	3	8	8	

Full Input Data And Results

Give-Way Lane Input Data

Junction: J1: A422/Willen Road
There are no Opposed Lanes in this Junction

Junction: J2: Site Access											
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)
J2:2/2 (Willen Road South)	J2:7/1 (Right)	1439	0	J2:1/1	1.09	All	4.00	4.00	0.50	4	2.00
				J2:1/2	1.09	All					
J2:3/1 (Site Access)	J3:5/1 (Right)	715	0	J2:6/1	1.09	All	2.00	2.00	0.50	2	2.00
	J3:5/2 (Right)	715	0	J2:6/1	1.09	All					
J2:6/2	J2:4/1 (Right)	715	0	J2:3/1	0.22	To J2:4/1 (Left) To J2:4/2 (Left)	2.00	-	0.50	2	2.00
	J2:4/2 (Right)	715	0	J2:3/1	0.22	To J2:4/1 (Left) To J2:4/2 (Left)					

Junction: J3: Southern Access											
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)
J3:3/2	J3:1/1 (Right)	1439	0	J3:5/1	1.09	All	2.00	2.00	0.50	2	2.00
				J3:5/2	1.09	All					
J3:4/2	J3:6/1 (Ahead)	1000	0	J3:4/1	0.33	All	-	-	-	-	-

Full Input Data And Results

Lane Input Data

Junction: J1: A422/Willen Road												
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)
J1:1/1 (Willen Road North)	U	C	2	3	9.5	Geom	-	3.40	0.00	Y	Arm J1:7 Left	23.00
											Arm J1:8 Ahead	Inf
J1:1/2 (Willen Road North)	U	C	2	3	2.3	Geom	-	3.40	0.00	Y	Arm J1:8 Ahead	Inf
J1:1/3 (Willen Road North)	U	C	2	3	60.0	Geom	-	3.40	0.00	Y	Arm J1:8 Ahead	Inf
J1:2/1 (A422 East)	U	E	2	3	20.7	Geom	-	3.65	0.00	Y	Arm J1:9 Left	84.00
J1:2/2 (A422 East)	U	E	2	3	60.0	Geom	-	3.65	0.00	Y	Arm J1:9 Left	84.00
											Arm J1:10 Ahead	Inf
J1:2/3 (A422 East)	U	E	2	3	60.0	Geom	-	3.65	0.00	Y	Arm J1:10 Ahead	Inf
J1:3/1 (Willen Road South)	U	H	2	3	28.7	Geom	-	3.65	0.00	Y	Arm J1:11 Ahead	Inf
											Arm J1:12 Left	28.50
J1:3/2 (Willen Road South)	U	H	2	3	28.7	Geom	-	3.65	0.00	Y	Arm J1:11 Ahead	Inf
J1:3/3 (Willen Road South)	U	H	2	3	10.9	Geom	-	3.65	0.00	Y	Arm J1:11 Ahead	Inf
J1:4/1 (A422 West)	U	A	2	3	14.9	Geom	-	3.65	0.00	Y	Arm J1:5 Left	30.90
J1:4/2 (A422 West)	U	A	2	3	60.0	Geom	-	3.65	0.00	Y	Arm J1:6 Ahead	Inf
J1:4/3 (A422 West)	U	A	2	3	60.0	Geom	-	3.65	0.00	Y	Arm J1:6 Ahead	Inf
J1:5/1	U		2	3	5.0	Inf	-	-	-	-	-	-
J1:6/1	U	D	2	3	7.0	User	1900	-	-	-	-	-
J1:6/2	U	D	2	3	7.0	User	1900	-	-	-	-	-
J1:7/1	U	J	2	3	8.7	Geom	-	3.50	0.00	Y		
J1:7/2	U	J	2	3	8.7	Geom	-	3.50	0.00	Y		
J1:8/1	U	F	2	3	10.2	User	1900	-	-	-	-	-
J1:8/2	U	F	2	3	9.7	User	1900	-	-	-	-	-

Full Input Data And Results

J1:8/3	U	F	2	3	9.0	User	1900	-	-	-	-	-
J1:9/1	U		2	3	7.0	Inf	-	-	-	-	-	-
J1:9/2	U		2	3	7.0	Inf	-	-	-	-	-	-
J1:10/1	U	I	2	3	10.4	User	1900	-	-	-	-	-
J1:10/2	U	I	2	3	9.7	User	1900	-	-	-	-	-
J1:10/3	U	I	2	3	92.2	User	1900	-	-	-	-	-
J1:11/1	U	B	2	3	8.3	User	1900	-	-	-	-	-
J1:11/2	U	B	2	3	8.0	User	1900	-	-	-	-	-
J1:11/3	U	B	2	3	7.6	User	1900	-	-	-	-	-
J1:12/1	U		2	3	5.0	Inf	-	-	-	-	-	-
J1:12/2	U		2	3	5.0	Inf	-	-	-	-	-	-

Junction: J2: Site Access												
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)
J2:1/1 (Willen Road)	U	A	2	3	27.8	Geom	-	3.65	0.00	Y	Arm J2:7 Left	Inf
											Arm J3:5 Ahead	Inf
J2:1/2 (Willen Road)	U	A	2	3	27.8	Geom	-	3.65	0.00	Y	Arm J3:5 Ahead	Inf
J2:1/3 (Willen Road)	U	B	2	3	9.9	Geom	-	3.65	0.00	N	Arm J2:5 Right	20.00
J2:2/1 (Willen Road South)	U	C	2	3	25.4	Geom	-	3.65	0.00	Y	Arm J2:4 Ahead	Inf
											Arm J2:5 Left	15.00
J2:2/2 (Willen Road South)	O	C	2	3	25.4	Geom	-	3.65	0.00	Y	Arm J2:4 Ahead	Inf
											Arm J2:7 Right	Inf
J2:3/1 (Site Access)	O	D	2	3	60.0	Geom	-	3.50	0.00	Y	Arm J2:4 Left	12.00
											Arm J3:5 Right	20.00
J2:4/1	U		2	3	8.7	Inf	-	-	-	-	-	-
J2:4/2	U		2	3	8.7	Inf	-	-	-	-	-	-
J2:5/1	U		2	3	60.0	Inf	-	-	-	-	-	-
J2:6/1	U	J	2	3	60.0	Geom	-	3.25	0.00	Y	Arm J3:5 Left	Inf
J2:6/2	O	J	2	3	60.0	Geom	-	3.25	0.00	Y	Arm J2:4 Right	Inf
J2:7/1	U		2	3	60.0	Inf	-	-	-	-	-	-

Full Input Data And Results

Junction: J3: Southern Access												
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)
J3:1/1	U		2	3	60.0	Inf	-	-	-	-	-	-
J3:2/1	U	B	2	3	60.0	Geom	-	3.30	0.00	Y	Arm J3:4 Left	20.00
J3:2/2	U	B	2	3	60.0	Geom	-	3.30	0.00	Y	Arm J2:2 Right	20.00
J3:3/1	U	C	2	3	60.0	Geom	-	3.50	0.00	Y	Arm J2:2 Ahead	Inf
J3:3/2	O	C	2	3	13.0	Geom	-	3.50	0.00	Y	Arm J2:2 Ahead	Inf
											Arm J3:1 Right	20.00
J3:4/1	U		2	3	60.0	Inf	-	-	-	-	-	-
J3:4/2	O		2	3	60.0	Inf	-	-	-	-	-	-
J3:5/1	U	A	2	3	25.4	Geom	-	3.50	0.00	Y	Arm J3:1 Left	20.00
											Arm J3:4 Ahead	Inf
J3:5/2	U	A	2	3	25.4	Geom	-	3.50	0.00	Y	Arm J3:4 Ahead	Inf
J3:6/1	U		2	3	60.0	Inf	-	-	-	-	-	-

Traffic Flow Groups

Flow Group	Start Time	End Time	Duration	Formula
1: '2031 Base + Committed + Dev AM'	08:00	09:00	01:00	
2: '2031 Base + Committed + Dev PM'	17:00	18:00	01:00	
3: '2033 Base + Committed + Dev AM'	08:00	09:00	01:00	
4: '2033 Base + Committed + Dev PM'	17:00	18:00	01:00	
5: '2033 Base + Committed + Dev (10%) AM'	08:00	09:00	01:00	
6: '2033 Base + Committed + Dev (10%) PM'	17:00	18:00	01:00	
7: '2033 Base + Committed + Dev (MKE) AM'	08:00	09:00	01:00	
8: '2033 Base + Committed + Dev (MKE) PM'	17:00	18:00	01:00	

Full Input Data And Results

Scenario 1: '2031 Base + Committed + Dev AM' (FG1: '2031 Base + Committed + Dev AM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination							
		A	B	C	D	E	F	G	Tot.
Origin	A	0	108	321	11	25	4	696	1165
	B	74	0	1199	14	31	5	851	2174
	C	251	732	0	1	2	0	65	1051
	D	33	38	8	0	0	0	69	148
	E	6	7	1	0	0	0	12	26
	F	13	14	3	0	0	0	52	82
	G	255	287	60	23	57	17	0	699
	Tot.	632	1186	1592	49	115	26	1745	5345

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 1: 2031 Base + Committed + Dev AM
Junction: J1: A422/Willen Road	
J1:1/1 (short)	449
J1:1/2 (with short)	844(In) 395(Out)
J1:1/3	321
J1:2/1 (short)	844
J1:2/2 (with short)	1510(In) 666(Out)
J1:2/3	664
J1:3/1	353
J1:3/2 (with short)	372(In) 181(Out)
J1:3/3 (short)	191
J1:4/1 (short)	251
J1:4/2 (with short)	673(In) 422(Out)
J1:4/3	378
J1:5/1	632
J1:6/1	603
J1:6/2	569
J1:7/1	711
J1:7/2	475
J1:8/1	400
J1:8/2	404
J1:8/3	347
J1:9/1	1244
J1:9/2	461
J1:10/1	881
J1:10/2	665
J1:10/3	74
J1:11/1	381
J1:11/2	181
J1:11/3	191
J1:12/1	927
J1:12/2	665
Junction: J2: Site Access	
J2:1/1	1244
J2:1/2 (with short)	461(In) 403(Out)

Full Input Data And Results

J2:1/3 (short)	58
J2:2/1	362
J2:2/2	350
J2:3/1	26
J2:4/1	353
J2:4/2	372
J2:5/1	115
J2:6/1	69
J2:6/2	79
J2:7/1	49
Junction: J3: Southern Access	
J3:1/1	26
J3:2/1	52
J3:2/2	30
J3:3/1 (with short)	699(In) 347(Out)
J3:3/2 (short)	352
J3:4/1	1320
J3:4/2	425
J3:5/1	1277
J3:5/2	425
J3:6/1	1745

Full Input Data And Results

Lane Saturation Flows

Junction: J1: A422/Willen Road								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
J1:1/1 (Willen Road North)	3.40	0.00	Y	Arm J1:7 Left	23.00	24.1 %	1925	1925
				Arm J1:8 Ahead	Inf	75.9 %		
J1:1/2 (Willen Road North)	3.40	0.00	Y	Arm J1:8 Ahead	Inf	100.0 %	1955	1955
J1:1/3 (Willen Road North)	3.40	0.00	Y	Arm J1:8 Ahead	Inf	100.0 %	1955	1955
J1:2/1 (A422 East)	3.65	0.00	Y	Arm J1:9 Left	84.00	100.0 %	1945	1945
J1:2/2 (A422 East)	3.65	0.00	Y	Arm J1:9 Left	84.00	8.6 %	1977	1977
				Arm J1:10 Ahead	Inf	91.4 %		
J1:2/3 (A422 East)	3.65	0.00	Y	Arm J1:10 Ahead	Inf	100.0 %	1980	1980
J1:3/1 (Willen Road South)	3.65	0.00	Y	Arm J1:11 Ahead	Inf	87.0 %	1967	1967
				Arm J1:12 Left	28.50	13.0 %		
J1:3/2 (Willen Road South)	3.65	0.00	Y	Arm J1:11 Ahead	Inf	100.0 %	1980	1980
J1:3/3 (Willen Road South)	3.65	0.00	Y	Arm J1:11 Ahead	Inf	100.0 %	1980	1980
J1:4/1 (A422 West)	3.65	0.00	Y	Arm J1:5 Left	30.90	100.0 %	1888	1888
J1:4/2 (A422 West)	3.65	0.00	Y	Arm J1:6 Ahead	Inf	100.0 %	1980	1980
J1:4/3 (A422 West)	3.65	0.00	Y	Arm J1:6 Ahead	Inf	100.0 %	1980	1980
J1:5/1	Infinite Saturation Flow						Inf	Inf
J1:6/1	This lane uses a directly entered Saturation Flow						1900	1900
J1:6/2	This lane uses a directly entered Saturation Flow						1900	1900
J1:7/1	3.50	0.00	Y				1965	1965
J1:7/2	3.50	0.00	Y				1965	1965
J1:8/1	This lane uses a directly entered Saturation Flow						1900	1900
J1:8/2	This lane uses a directly entered Saturation Flow						1900	1900
J1:8/3	This lane uses a directly entered Saturation Flow						1900	1900
J1:9/1	Infinite Saturation Flow						Inf	Inf
J1:9/2	Infinite Saturation Flow						Inf	Inf
J1:10/1	This lane uses a directly entered Saturation Flow						1900	1900
J1:10/2	This lane uses a directly entered Saturation Flow						1900	1900
J1:10/3	This lane uses a directly entered Saturation Flow						1900	1900
J1:11/1	This lane uses a directly entered Saturation Flow						1900	1900
J1:11/2	This lane uses a directly entered Saturation Flow						1900	1900
J1:11/3	This lane uses a directly entered Saturation Flow						1900	1900
J1:12/1	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

J1:12/2	Infinite Saturation Flow	Inf	Inf
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Junction: J2: Site Access								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
J2:1/1 (Willen Road)	3.65	0.00	Y	Arm J2:7 Left	Inf	2.1 %	1980	1980
				Arm J3:5 Ahead	Inf	97.9 %		
J2:1/2 (Willen Road)	3.65	0.00	Y	Arm J3:5 Ahead	Inf	100.0 %	1980	1980
J2:1/3 (Willen Road)	3.65	0.00	N	Arm J2:5 Right	20.00	100.0 %	1972	1972
J2:2/1 (Willen Road South)	3.65	0.00	Y	Arm J2:4 Ahead	Inf	84.3 %	1949	1949
				Arm J2:5 Left	15.00	15.7 %		
J2:2/2 (Willen Road South)	3.65	0.00	Y	Arm J2:4 Ahead	Inf	93.4 %	1980	1980
				Arm J2:7 Right	Inf	6.6 %		
J2:3/1 (Site Access)	3.50	0.00	Y	Arm J2:4 Left	12.00	53.8 %	1783	1783
				Arm J3:5 Right	20.00	46.2 %		
J2:4/1	Infinite Saturation Flow						Inf	Inf
J2:4/2	Infinite Saturation Flow						Inf	Inf
J2:5/1	Infinite Saturation Flow						Inf	Inf
J2:6/1	3.25	0.00	Y	Arm J3:5 Left	Inf	100.0 %	1940	1940
J2:6/2	3.25	0.00	Y	Arm J2:4 Right	Inf	100.0 %	1940	1940
J2:7/1	Infinite Saturation Flow						Inf	Inf

Junction: J3: Southern Access								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
J3:1/1	Infinite Saturation Flow						Inf	Inf
J3:2/1	3.30	0.00	Y	Arm J3:4 Left	20.00	100.0 %	1809	1809
J3:2/2	3.30	0.00	Y	Arm J2:2 Right	20.00	100.0 %	1809	1809
J3:3/1	3.50	0.00	Y	Arm J2:2 Ahead	Inf	100.0 %	1965	1965
J3:3/2	3.50	0.00	Y	Arm J2:2 Ahead	Inf	95.2 %	1958	1958
				Arm J3:1 Right	20.00	4.8 %		
J3:4/1	Infinite Saturation Flow						Inf	Inf
J3:4/2	Infinite Saturation Flow						Inf	Inf
J3:5/1	3.50	0.00	Y	Arm J3:1 Left	20.00	0.7 %	1964	1964
				Arm J3:4 Ahead	Inf	99.3 %		
J3:5/2	3.50	0.00	Y	Arm J3:4 Ahead	Inf	100.0 %	1965	1965
J3:6/1	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

Scenario 2: '2031 Base + Committed + Dev PM' (FG2: '2031 Base + Committed + Dev PM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination							
		A	B	C	D	E	F	G	Tot.
Origin	A	0	150	222	30	11	10	278	701
	B	243	0	867	34	12	11	315	1482
	C	490	1557	0	6	2	2	55	2112
	D	20	19	2	0	0	0	36	77
	E	30	29	4	0	0	0	63	126
	F	7	7	1	0	0	0	27	42
	G	466	456	55	60	23	46	0	1106
	Tot.	1256	2218	1151	130	48	69	774	5646

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 2: 2031 Base + Committed + Dev PM
Junction: J1: A422/Willen Road	
J1:1/1 (short)	280
J1:1/2 (with short)	479(In) 199(Out)
J1:1/3	222
J1:2/1 (short)	357
J1:2/2 (with short)	961(In) 604(Out)
J1:2/3	521
J1:3/1	585
J1:3/2 (with short)	511(In) 137(Out)
J1:3/3 (short)	374
J1:4/1 (short)	490
J1:4/2 (with short)	1313(In) 823(Out)
J1:4/3	799
J1:5/1	1256
J1:6/1	960
J1:6/2	1173
J1:7/1	1110
J1:7/2	1108
J1:8/1	170
J1:8/2	224
J1:8/3	222
J1:9/1	527
J1:9/2	239
J1:10/1	665
J1:10/2	424
J1:10/3	243
J1:11/1	766
J1:11/2	137
J1:11/3	374
J1:12/1	727
J1:12/2	424
Junction: J2: Site Access	
J2:1/1	527
J2:1/2 (with short)	239(In) 214(Out)

Full Input Data And Results

J2:1/3 (short)	25
J2:2/1	552
J2:2/2	523
J2:3/1	126
J2:4/1	585
J2:4/2	511
J2:5/1	48
J2:6/1	36
J2:6/2	41
J2:7/1	130
Junction: J3: Southern Access	
J3:1/1	69
J3:2/1	27
J3:2/2	15
J3:3/1 (with short)	1106(In) 544(Out)
J3:3/2 (short)	562
J3:4/1	559
J3:4/2	215
J3:5/1	555
J3:5/2	215
J3:6/1	774

Full Input Data And Results

Lane Saturation Flows

Junction: J1: A422/Willen Road								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
J1:1/1 (Willen Road North)	3.40	0.00	Y	Arm J1:7 Left	23.00	53.6 %	1889	1889
				Arm J1:8 Ahead	Inf	46.4 %		
J1:1/2 (Willen Road North)	3.40	0.00	Y	Arm J1:8 Ahead	Inf	100.0 %	1955	1955
J1:1/3 (Willen Road North)	3.40	0.00	Y	Arm J1:8 Ahead	Inf	100.0 %	1955	1955
J1:2/1 (A422 East)	3.65	0.00	Y	Arm J1:9 Left	84.00	100.0 %	1945	1945
J1:2/2 (A422 East)	3.65	0.00	Y	Arm J1:9 Left	84.00	2.5 %	1979	1979
				Arm J1:10 Ahead	Inf	97.5 %		
J1:2/3 (A422 East)	3.65	0.00	Y	Arm J1:10 Ahead	Inf	100.0 %	1980	1980
J1:3/1 (Willen Road South)	3.65	0.00	Y	Arm J1:11 Ahead	Inf	89.4 %	1969	1969
				Arm J1:12 Left	28.50	10.6 %		
J1:3/2 (Willen Road South)	3.65	0.00	Y	Arm J1:11 Ahead	Inf	100.0 %	1980	1980
J1:3/3 (Willen Road South)	3.65	0.00	Y	Arm J1:11 Ahead	Inf	100.0 %	1980	1980
J1:4/1 (A422 West)	3.65	0.00	Y	Arm J1:5 Left	30.90	100.0 %	1888	1888
J1:4/2 (A422 West)	3.65	0.00	Y	Arm J1:6 Ahead	Inf	100.0 %	1980	1980
J1:4/3 (A422 West)	3.65	0.00	Y	Arm J1:6 Ahead	Inf	100.0 %	1980	1980
J1:5/1	Infinite Saturation Flow						Inf	Inf
J1:6/1	This lane uses a directly entered Saturation Flow						1900	1900
J1:6/2	This lane uses a directly entered Saturation Flow						1900	1900
J1:7/1	3.50	0.00	Y				1965	1965
J1:7/2	3.50	0.00	Y				1965	1965
J1:8/1	This lane uses a directly entered Saturation Flow						1900	1900
J1:8/2	This lane uses a directly entered Saturation Flow						1900	1900
J1:8/3	This lane uses a directly entered Saturation Flow						1900	1900
J1:9/1	Infinite Saturation Flow						Inf	Inf
J1:9/2	Infinite Saturation Flow						Inf	Inf
J1:10/1	This lane uses a directly entered Saturation Flow						1900	1900
J1:10/2	This lane uses a directly entered Saturation Flow						1900	1900
J1:10/3	This lane uses a directly entered Saturation Flow						1900	1900
J1:11/1	This lane uses a directly entered Saturation Flow						1900	1900
J1:11/2	This lane uses a directly entered Saturation Flow						1900	1900
J1:11/3	This lane uses a directly entered Saturation Flow						1900	1900
J1:12/1	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

J1:12/2	Infinite Saturation Flow	Inf	Inf
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Junction: J2: Site Access								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
J2:1/1 (Willen Road)	3.65	0.00	Y	Arm J2:7 Left	Inf	13.3 %	1980	1980
				Arm J3:5 Ahead	Inf	86.7 %		
J2:1/2 (Willen Road)	3.65	0.00	Y	Arm J3:5 Ahead	Inf	100.0 %	1980	1980
J2:1/3 (Willen Road)	3.65	0.00	N	Arm J2:5 Right	20.00	100.0 %	1972	1972
J2:2/1 (Willen Road South)	3.65	0.00	Y	Arm J2:4 Ahead	Inf	95.8 %	1972	1972
				Arm J2:5 Left	15.00	4.2 %		
J2:2/2 (Willen Road South)	3.65	0.00	Y	Arm J2:4 Ahead	Inf	88.5 %	1980	1980
				Arm J2:7 Right	Inf	11.5 %		
J2:3/1 (Site Access)	3.50	0.00	Y	Arm J2:4 Left	12.00	50.0 %	1786	1786
				Arm J3:5 Right	20.00	50.0 %		
J2:4/1	Infinite Saturation Flow						Inf	Inf
J2:4/2	Infinite Saturation Flow						Inf	Inf
J2:5/1	Infinite Saturation Flow						Inf	Inf
J2:6/1	3.25	0.00	Y	Arm J3:5 Left	Inf	100.0 %	1940	1940
J2:6/2	3.25	0.00	Y	Arm J2:4 Right	Inf	100.0 %	1940	1940
J2:7/1	Infinite Saturation Flow						Inf	Inf

Junction: J3: Southern Access								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
J3:1/1	Infinite Saturation Flow						Inf	Inf
J3:2/1	3.30	0.00	Y	Arm J3:4 Left	20.00	100.0 %	1809	1809
J3:2/2	3.30	0.00	Y	Arm J2:2 Right	20.00	100.0 %	1809	1809
J3:3/1	3.50	0.00	Y	Arm J2:2 Ahead	Inf	100.0 %	1965	1965
J3:3/2	3.50	0.00	Y	Arm J2:2 Ahead	Inf	91.8 %	1953	1953
				Arm J3:1 Right	20.00	8.2 %		
J3:4/1	Infinite Saturation Flow						Inf	Inf
J3:4/2	Infinite Saturation Flow						Inf	Inf
J3:5/1	3.50	0.00	Y	Arm J3:1 Left	20.00	4.1 %	1959	1959
				Arm J3:4 Ahead	Inf	95.9 %		
J3:5/2	3.50	0.00	Y	Arm J3:4 Ahead	Inf	100.0 %	1965	1965
J3:6/1	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

Scenario 3: '2033 Base + Committed + Dev AM' (FG3: '2033 Base + Committed + Dev AM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination							
Origin		A	B	C	D	E	F	G	Tot.
	A	0	110	327	14	25	5	707	1188
	B	75	0	1220	17	31	6	866	2215
	C	255	745	0	1	2	0	68	1071
	D	40	46	11	0	0	0	85	182
	E	6	7	2	0	0	0	12	27
	F	15	17	4	0	0	0	64	100
	G	255	291	67	28	57	21	0	719
	Tot.	646	1216	1631	60	115	32	1802	5502

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 3: 2033 Base + Committed + Dev AM
Junction: J1: A422/Willen Road	
J1:1/1 (short)	428
J1:1/2 (with short)	861(In) 433(Out)
J1:1/3	327
J1:2/1 (short)	846
J1:2/2 (with short)	1401(In) 555(Out)
J1:2/3	814
J1:3/1	399
J1:3/2 (with short)	362(In) 173(Out)
J1:3/3 (short)	189
J1:4/1 (short)	255
J1:4/2 (with short)	687(In) 432(Out)
J1:4/3	384
J1:5/1	646
J1:6/1	605
J1:6/2	573
J1:7/1	715
J1:7/2	501
J1:8/1	387
J1:8/2	435
J1:8/3	328
J1:9/1	1233
J1:9/2	509
J1:10/1	773
J1:10/2	775
J1:10/3	75
J1:11/1	391
J1:11/2	173
J1:11/3	189
J1:12/1	856
J1:12/2	775
Junction: J2: Site Access	
J2:1/1	1233
J2:1/2 (with short)	509(In) 451(Out)

Full Input Data And Results

J2:1/3 (short)	58
J2:2/1	397
J2:2/2	337
J2:3/1	27
J2:4/1	399
J2:4/2	362
J2:5/1	115
J2:6/1	85
J2:6/2	97
J2:7/1	60
Junction: J3: Southern Access	
J3:1/1	32
J3:2/1	64
J3:2/2	36
J3:3/1 (with short)	719(In) 378(Out)
J3:3/2 (short)	341
J3:4/1	1346
J3:4/2	456
J3:5/1	1293
J3:5/2	456
J3:6/1	1802

Full Input Data And Results

Lane Saturation Flows

Junction: J1: A422/Willen Road								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
J1:1/1 (Willen Road North)	3.40	0.00	Y	Arm J1:7 Left	23.00	25.7 %	1923	1923
				Arm J1:8 Ahead	Inf	74.3 %		
J1:1/2 (Willen Road North)	3.40	0.00	Y	Arm J1:8 Ahead	Inf	100.0 %	1955	1955
J1:1/3 (Willen Road North)	3.40	0.00	Y	Arm J1:8 Ahead	Inf	100.0 %	1955	1955
J1:2/1 (A422 East)	3.65	0.00	Y	Arm J1:9 Left	84.00	100.0 %	1945	1945
J1:2/2 (A422 East)	3.65	0.00	Y	Arm J1:9 Left	84.00	13.3 %	1975	1975
				Arm J1:10 Ahead	Inf	86.7 %		
J1:2/3 (A422 East)	3.65	0.00	Y	Arm J1:10 Ahead	Inf	100.0 %	1980	1980
J1:3/1 (Willen Road South)	3.65	0.00	Y	Arm J1:11 Ahead	Inf	79.2 %	1959	1959
				Arm J1:12 Left	28.50	20.8 %		
J1:3/2 (Willen Road South)	3.65	0.00	Y	Arm J1:11 Ahead	Inf	100.0 %	1980	1980
J1:3/3 (Willen Road South)	3.65	0.00	Y	Arm J1:11 Ahead	Inf	100.0 %	1980	1980
J1:4/1 (A422 West)	3.65	0.00	Y	Arm J1:5 Left	30.90	100.0 %	1888	1888
J1:4/2 (A422 West)	3.65	0.00	Y	Arm J1:6 Ahead	Inf	100.0 %	1980	1980
J1:4/3 (A422 West)	3.65	0.00	Y	Arm J1:6 Ahead	Inf	100.0 %	1980	1980
J1:5/1	Infinite Saturation Flow						Inf	Inf
J1:6/1	This lane uses a directly entered Saturation Flow						1900	1900
J1:6/2	This lane uses a directly entered Saturation Flow						1900	1900
J1:7/1	3.50	0.00	Y				1965	1965
J1:7/2	3.50	0.00	Y				1965	1965
J1:8/1	This lane uses a directly entered Saturation Flow						1900	1900
J1:8/2	This lane uses a directly entered Saturation Flow						1900	1900
J1:8/3	This lane uses a directly entered Saturation Flow						1900	1900
J1:9/1	Infinite Saturation Flow						Inf	Inf
J1:9/2	Infinite Saturation Flow						Inf	Inf
J1:10/1	This lane uses a directly entered Saturation Flow						1900	1900
J1:10/2	This lane uses a directly entered Saturation Flow						1900	1900
J1:10/3	This lane uses a directly entered Saturation Flow						1900	1900
J1:11/1	This lane uses a directly entered Saturation Flow						1900	1900
J1:11/2	This lane uses a directly entered Saturation Flow						1900	1900
J1:11/3	This lane uses a directly entered Saturation Flow						1900	1900
J1:12/1	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

J1:12/2	Infinite Saturation Flow	Inf	Inf
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Junction: J2: Site Access								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
J2:1/1 (Willen Road)	3.65	0.00	Y	Arm J2:7 Left	Inf	2.6 %	1980	1980
				Arm J3:5 Ahead	Inf	97.4 %		
J2:1/2 (Willen Road)	3.65	0.00	Y	Arm J3:5 Ahead	Inf	100.0 %	1980	1980
J2:1/3 (Willen Road)	3.65	0.00	N	Arm J2:5 Right	20.00	100.0 %	1972	1972
J2:2/1 (Willen Road South)	3.65	0.00	Y	Arm J2:4 Ahead	Inf	85.6 %	1952	1952
				Arm J2:5 Left	15.00	14.4 %		
J2:2/2 (Willen Road South)	3.65	0.00	Y	Arm J2:4 Ahead	Inf	91.7 %	1980	1980
				Arm J2:7 Right	Inf	8.3 %		
J2:3/1 (Site Access)	3.50	0.00	Y	Arm J2:4 Left	12.00	55.6 %	1782	1782
				Arm J3:5 Right	20.00	44.4 %		
J2:4/1	Infinite Saturation Flow						Inf	Inf
J2:4/2	Infinite Saturation Flow						Inf	Inf
J2:5/1	Infinite Saturation Flow						Inf	Inf
J2:6/1	3.25	0.00	Y	Arm J3:5 Left	Inf	100.0 %	1940	1940
J2:6/2	3.25	0.00	Y	Arm J2:4 Right	Inf	100.0 %	1940	1940
J2:7/1	Infinite Saturation Flow						Inf	Inf

Junction: J3: Southern Access								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
J3:1/1	Infinite Saturation Flow						Inf	Inf
J3:2/1	3.30	0.00	Y	Arm J3:4 Left	20.00	100.0 %	1809	1809
J3:2/2	3.30	0.00	Y	Arm J2:2 Right	20.00	100.0 %	1809	1809
J3:3/1	3.50	0.00	Y	Arm J2:2 Ahead	Inf	100.0 %	1965	1965
J3:3/2	3.50	0.00	Y	Arm J2:2 Ahead	Inf	93.8 %	1956	1956
				Arm J3:1 Right	20.00	6.2 %		
J3:4/1	Infinite Saturation Flow						Inf	Inf
J3:4/2	Infinite Saturation Flow						Inf	Inf
J3:5/1	3.50	0.00	Y	Arm J3:1 Left	20.00	0.9 %	1964	1964
				Arm J3:4 Ahead	Inf	99.1 %		
J3:5/2	3.50	0.00	Y	Arm J3:4 Ahead	Inf	100.0 %	1965	1965
J3:6/1	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

Scenario 4: '2033 Base + Committed + Dev PM' (FG4: '2033 Base + Committed + Dev PM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination							
Origin		A	B	C	D	E	F	G	Tot.
	A	0	153	226	36	11	12	280	718
	B	247	0	884	41	12	13	320	1517
	C	499	1585	0	8	2	3	62	2159
	D	24	23	3	0	0	0	44	94
	E	30	29	4	0	0	0	63	126
	F	9	9	1	0	0	0	33	52
	G	472	464	60	74	23	56	0	1149
	Tot.	1281	2263	1178	159	48	84	802	5815

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 4: 2033 Base + Committed + Dev PM
Junction: J1: A422/Willen Road	
J1:1/1 (short)	251
J1:1/2 (with short)	492(In) 241(Out)
J1:1/3	226
J1:2/1 (short)	352
J1:2/2 (with short)	967(In) 615(Out)
J1:2/3	550
J1:3/1	602
J1:3/2 (with short)	526(In) 160(Out)
J1:3/3 (short)	366
J1:4/1 (short)	499
J1:4/2 (with short)	1341(In) 842(Out)
J1:4/3	818
J1:5/1	1281
J1:6/1	1002
J1:6/2	1186
J1:7/1	1155
J1:7/2	1108
J1:8/1	165
J1:8/2	251
J1:8/3	227
J1:9/1	517
J1:9/2	283
J1:10/1	693
J1:10/2	418
J1:10/3	249
J1:11/1	782
J1:11/2	160
J1:11/3	368
J1:12/1	760
J1:12/2	418
Junction: J2: Site Access	
J2:1/1	517
J2:1/2 (with short)	283(In) 258(Out)

Full Input Data And Results

J2:1/3 (short)	25
J2:2/1	564
J2:2/2	548
J2:3/1	126
J2:4/1	602
J2:4/2	526
J2:5/1	48
J2:6/1	44
J2:6/2	50
J2:7/1	159
Junction: J3: Southern Access	
J3:1/1	84
J3:2/1	33
J3:2/2	19
J3:3/1 (with short)	1149(In) 554(Out)
J3:3/2 (short)	595
J3:4/1	544
J3:4/2	258
J3:5/1	539
J3:5/2	258
J3:6/1	802

Full Input Data And Results

Lane Saturation Flows

Junction: J1: A422/Willen Road								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
J1:1/1 (Willen Road North)	3.40	0.00	Y	Arm J1:7 Left	23.00	61.0 %	1880	1880
				Arm J1:8 Ahead	Inf	39.0 %		
J1:1/2 (Willen Road North)	3.40	0.00	Y	Arm J1:8 Ahead	Inf	100.0 %	1955	1955
J1:1/3 (Willen Road North)	3.40	0.00	Y	Arm J1:8 Ahead	Inf	100.0 %	1955	1955
J1:2/1 (A422 East)	3.65	0.00	Y	Arm J1:9 Left	84.00	100.0 %	1945	1945
J1:2/2 (A422 East)	3.65	0.00	Y	Arm J1:9 Left	84.00	5.2 %	1978	1978
				Arm J1:10 Ahead	Inf	94.8 %		
J1:2/3 (A422 East)	3.65	0.00	Y	Arm J1:10 Ahead	Inf	100.0 %	1980	1980
J1:3/1 (Willen Road South)	3.65	0.00	Y	Arm J1:11 Ahead	Inf	88.9 %	1968	1968
				Arm J1:12 Left	28.50	11.1 %		
J1:3/2 (Willen Road South)	3.65	0.00	Y	Arm J1:11 Ahead	Inf	100.0 %	1980	1980
J1:3/3 (Willen Road South)	3.65	0.00	Y	Arm J1:11 Ahead	Inf	100.0 %	1980	1980
J1:4/1 (A422 West)	3.65	0.00	Y	Arm J1:5 Left	30.90	100.0 %	1888	1888
J1:4/2 (A422 West)	3.65	0.00	Y	Arm J1:6 Ahead	Inf	100.0 %	1980	1980
J1:4/3 (A422 West)	3.65	0.00	Y	Arm J1:6 Ahead	Inf	100.0 %	1980	1980
J1:5/1	Infinite Saturation Flow						Inf	Inf
J1:6/1	This lane uses a directly entered Saturation Flow						1900	1900
J1:6/2	This lane uses a directly entered Saturation Flow						1900	1900
J1:7/1	3.50	0.00	Y				1965	1965
J1:7/2	3.50	0.00	Y				1965	1965
J1:8/1	This lane uses a directly entered Saturation Flow						1900	1900
J1:8/2	This lane uses a directly entered Saturation Flow						1900	1900
J1:8/3	This lane uses a directly entered Saturation Flow						1900	1900
J1:9/1	Infinite Saturation Flow						Inf	Inf
J1:9/2	Infinite Saturation Flow						Inf	Inf
J1:10/1	This lane uses a directly entered Saturation Flow						1900	1900
J1:10/2	This lane uses a directly entered Saturation Flow						1900	1900
J1:10/3	This lane uses a directly entered Saturation Flow						1900	1900
J1:11/1	This lane uses a directly entered Saturation Flow						1900	1900
J1:11/2	This lane uses a directly entered Saturation Flow						1900	1900
J1:11/3	This lane uses a directly entered Saturation Flow						1900	1900
J1:12/1	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

J1:12/2	Infinite Saturation Flow	Inf	Inf
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Junction: J2: Site Access								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
J2:1/1 (Willen Road)	3.65	0.00	Y	Arm J2:7 Left	Inf	16.4 %	1980	1980
				Arm J3:5 Ahead	Inf	83.6 %		
J2:1/2 (Willen Road)	3.65	0.00	Y	Arm J3:5 Ahead	Inf	100.0 %	1980	1980
J2:1/3 (Willen Road)	3.65	0.00	N	Arm J2:5 Right	20.00	100.0 %	1972	1972
J2:2/1 (Willen Road South)	3.65	0.00	Y	Arm J2:4 Ahead	Inf	95.9 %	1972	1972
				Arm J2:5 Left	15.00	4.1 %		
J2:2/2 (Willen Road South)	3.65	0.00	Y	Arm J2:4 Ahead	Inf	86.5 %	1980	1980
				Arm J2:7 Right	Inf	13.5 %		
J2:3/1 (Site Access)	3.50	0.00	Y	Arm J2:4 Left	12.00	50.0 %	1786	1786
				Arm J3:5 Right	20.00	50.0 %		
J2:4/1	Infinite Saturation Flow						Inf	Inf
J2:4/2	Infinite Saturation Flow						Inf	Inf
J2:5/1	Infinite Saturation Flow						Inf	Inf
J2:6/1	3.25	0.00	Y	Arm J3:5 Left	Inf	100.0 %	1940	1940
J2:6/2	3.25	0.00	Y	Arm J2:4 Right	Inf	100.0 %	1940	1940
J2:7/1	Infinite Saturation Flow						Inf	Inf

Junction: J3: Southern Access								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
J3:1/1	Infinite Saturation Flow						Inf	Inf
J3:2/1	3.30	0.00	Y	Arm J3:4 Left	20.00	100.0 %	1809	1809
J3:2/2	3.30	0.00	Y	Arm J2:2 Right	20.00	100.0 %	1809	1809
J3:3/1	3.50	0.00	Y	Arm J2:2 Ahead	Inf	100.0 %	1965	1965
J3:3/2	3.50	0.00	Y	Arm J2:2 Ahead	Inf	90.6 %	1951	1951
				Arm J3:1 Right	20.00	9.4 %		
J3:4/1	Infinite Saturation Flow						Inf	Inf
J3:4/2	Infinite Saturation Flow						Inf	Inf
J3:5/1	3.50	0.00	Y	Arm J3:1 Left	20.00	5.2 %	1957	1957
				Arm J3:4 Ahead	Inf	94.8 %		
J3:5/2	3.50	0.00	Y	Arm J3:4 Ahead	Inf	100.0 %	1965	1965
J3:6/1	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

Scenario 5: '2033 Base + Committed + Dev (10%) AM' (FG5: '2033 Base + Committed + Dev (10%) AM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination							
		A	B	C	D	E	F	G	Tot.
Origin	A	0	110	327	13	25	4	708	1187
	B	75	4	1220	15	31	5	866	2216
	C	255	745	7	1	2	0	67	1077
	D	37	42	9	0	0	0	76	164
	E	6	7	2	0	0	0	12	27
	F	14	16	3	0	0	0	58	91
	G	257	292	64	25	57	19	0	714
	Tot.	644	1216	1632	54	115	28	1787	5476

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 5: 2033 Base + Committed + Dev (10%) AM
Junction: J1: A422/Willen Road	
J1:1/1 (short)	422
J1:1/2 (with short)	860(In) 438(Out)
J1:1/3	327
J1:2/1 (short)	837
J1:2/2 (with short)	1561(In) 724(Out)
J1:2/3	655
J1:3/1	392
J1:3/2 (with short)	357(In) 153(Out)
J1:3/3 (short)	204
J1:4/1 (short)	255
J1:4/2 (with short)	696(In) 441(Out)
J1:4/3	381
J1:5/1	644
J1:6/1	596
J1:6/2	587
J1:7/1	706
J1:7/2	510
J1:8/1	361
J1:8/2	459
J1:8/3	334
J1:9/1	1198
J1:9/2	539
J1:10/1	944
J1:10/2	610
J1:10/3	79
J1:11/1	389
J1:11/2	155
J1:11/3	206
J1:12/1	1022
J1:12/2	610
Junction: J2: Site Access	
J2:1/1	1198
J2:1/2 (with short)	539(In) 481(Out)

Full Input Data And Results

J2:1/3 (short)	58
J2:2/1	395
J2:2/2	333
J2:3/1	27
J2:4/1	392
J2:4/2	357
J2:5/1	115
J2:6/1	76
J2:6/2	88
J2:7/1	54
Junction: J3: Southern Access	
J3:1/1	28
J3:2/1	58
J3:2/2	33
J3:3/1 (with short)	714(In) 378(Out)
J3:3/2 (short)	336
J3:4/1	1290
J3:4/2	497
J3:5/1	1241
J3:5/2	497
J3:6/1	1787

Full Input Data And Results

Lane Saturation Flows

Junction: J1: A422/Willen Road								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
J1:1/1 (Willen Road North)	3.40	0.00	Y	Arm J1:7 Left	23.00	26.1 %	1922	1922
				Arm J1:8 Ahead	Inf	73.9 %		
J1:1/2 (Willen Road North)	3.40	0.00	Y	Arm J1:8 Ahead	Inf	100.0 %	1955	1955
J1:1/3 (Willen Road North)	3.40	0.00	Y	Arm J1:8 Ahead	Inf	100.0 %	1955	1955
J1:2/1 (A422 East)	3.65	0.00	Y	Arm J1:9 Left	84.00	100.0 %	1945	1945
J1:2/2 (A422 East)	3.65	0.00	Y	Arm J1:9 Left	84.00	11.0 %	1976	1976
				Arm J1:10 Ahead	Inf	89.0 %		
J1:2/3 (A422 East)	3.65	0.00	Y	Arm J1:10 Ahead	Inf	100.0 %	1980	1980
J1:3/1 (Willen Road South)	3.65	0.00	Y	Arm J1:11 Ahead	Inf	80.1 %	1959	1959
				Arm J1:12 Left	28.50	19.9 %		
J1:3/2 (Willen Road South)	3.65	0.00	Y	Arm J1:11 Ahead	Inf	100.0 %	1980	1980
J1:3/3 (Willen Road South)	3.65	0.00	Y	Arm J1:11 Ahead	Inf	100.0 %	1980	1980
J1:4/1 (A422 West)	3.65	0.00	Y	Arm J1:5 Left	30.90	100.0 %	1888	1888
J1:4/2 (A422 West)	3.65	0.00	Y	Arm J1:6 Ahead	Inf	100.0 %	1980	1980
J1:4/3 (A422 West)	3.65	0.00	Y	Arm J1:6 Ahead	Inf	100.0 %	1980	1980
J1:5/1	Infinite Saturation Flow						Inf	Inf
J1:6/1	This lane uses a directly entered Saturation Flow						1900	1900
J1:6/2	This lane uses a directly entered Saturation Flow						1900	1900
J1:7/1	3.50	0.00	Y				1965	1965
J1:7/2	3.50	0.00	Y				1965	1965
J1:8/1	This lane uses a directly entered Saturation Flow						1900	1900
J1:8/2	This lane uses a directly entered Saturation Flow						1900	1900
J1:8/3	This lane uses a directly entered Saturation Flow						1900	1900
J1:9/1	Infinite Saturation Flow						Inf	Inf
J1:9/2	Infinite Saturation Flow						Inf	Inf
J1:10/1	This lane uses a directly entered Saturation Flow						1900	1900
J1:10/2	This lane uses a directly entered Saturation Flow						1900	1900
J1:10/3	This lane uses a directly entered Saturation Flow						1900	1900
J1:11/1	This lane uses a directly entered Saturation Flow						1900	1900
J1:11/2	This lane uses a directly entered Saturation Flow						1900	1900
J1:11/3	This lane uses a directly entered Saturation Flow						1900	1900
J1:12/1	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

J1:12/2	Infinite Saturation Flow	Inf	Inf
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Junction: J2: Site Access								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
J2:1/1 (Willen Road)	3.65	0.00	Y	Arm J2:7 Left	Inf	2.4 %	1980	1980
				Arm J3:5 Ahead	Inf	97.6 %		
J2:1/2 (Willen Road)	3.65	0.00	Y	Arm J3:5 Ahead	Inf	100.0 %	1980	1980
J2:1/3 (Willen Road)	3.65	0.00	N	Arm J2:5 Right	20.00	100.0 %	1972	1972
J2:2/1 (Willen Road South)	3.65	0.00	Y	Arm J2:4 Ahead	Inf	85.6 %	1952	1952
				Arm J2:5 Left	15.00	14.4 %		
J2:2/2 (Willen Road South)	3.65	0.00	Y	Arm J2:4 Ahead	Inf	92.5 %	1980	1980
				Arm J2:7 Right	Inf	7.5 %		
J2:3/1 (Site Access)	3.50	0.00	Y	Arm J2:4 Left	12.00	55.6 %	1782	1782
				Arm J3:5 Right	20.00	44.4 %		
J2:4/1	Infinite Saturation Flow						Inf	Inf
J2:4/2	Infinite Saturation Flow						Inf	Inf
J2:5/1	Infinite Saturation Flow						Inf	Inf
J2:6/1	3.25	0.00	Y	Arm J3:5 Left	Inf	100.0 %	1940	1940
J2:6/2	3.25	0.00	Y	Arm J2:4 Right	Inf	100.0 %	1940	1940
J2:7/1	Infinite Saturation Flow						Inf	Inf

Junction: J3: Southern Access								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
J3:1/1	Infinite Saturation Flow						Inf	Inf
J3:2/1	3.30	0.00	Y	Arm J3:4 Left	20.00	100.0 %	1809	1809
J3:2/2	3.30	0.00	Y	Arm J2:2 Right	20.00	100.0 %	1809	1809
J3:3/1	3.50	0.00	Y	Arm J2:2 Ahead	Inf	100.0 %	1965	1965
J3:3/2	3.50	0.00	Y	Arm J2:2 Ahead	Inf	94.3 %	1957	1957
				Arm J3:1 Right	20.00	5.7 %		
J3:4/1	Infinite Saturation Flow						Inf	Inf
J3:4/2	Infinite Saturation Flow						Inf	Inf
J3:5/1	3.50	0.00	Y	Arm J3:1 Left	20.00	0.7 %	1964	1964
				Arm J3:4 Ahead	Inf	99.3 %		
J3:5/2	3.50	0.00	Y	Arm J3:4 Ahead	Inf	100.0 %	1965	1965
J3:6/1	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

Scenario 6: '2033 Base + Committed + Dev (10%) PM' (FG6: '2033 Base + Committed + Dev (10%) PM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination							
		A	B	C	D	E	F	G	Tot.
Origin	A	0	153	226	33	11	11	282	716
	B	247	1	884	37	12	12	320	1513
	C	499	1585	8	7	2	2	58	2161
	D	22	21	3	0	0	0	39	85
	E	30	29	4	0	0	0	63	126
	F	8	8	1	0	0	0	30	47
	G	474	464	57	67	23	50	0	1135
	Tot.	1280	2261	1183	144	48	75	792	5783

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 6: 2033 Base + Committed + Dev (10%) PM
Junction: J1: A422/Willen Road	
J1:1/1 (short)	268
J1:1/2 (with short)	490(In) 222(Out)
J1:1/3	226
J1:2/1 (short)	367
J1:2/2 (with short)	973(In) 606(Out)
J1:2/3	540
J1:3/1	587
J1:3/2 (with short)	534(In) 179(Out)
J1:3/3 (short)	355
J1:4/1 (short)	499
J1:4/2 (with short)	1343(In) 844(Out)
J1:4/3	818
J1:5/1	1280
J1:6/1	1023
J1:6/2	1174
J1:7/1	1176
J1:7/2	1085
J1:8/1	161
J1:8/2	245
J1:8/3	246
J1:9/1	528
J1:9/2	259
J1:10/1	715
J1:10/2	415
J1:10/3	248
J1:11/1	781
J1:11/2	179
J1:11/3	356
J1:12/1	768
J1:12/2	415
Junction: J2: Site Access	
J2:1/1	528
J2:1/2 (with short)	259(In) 234(Out)

Full Input Data And Results

J2:1/3 (short)	25
J2:2/1	551
J2:2/2	551
J2:3/1	126
J2:4/1	587
J2:4/2	534
J2:5/1	48
J2:6/1	39
J2:6/2	46
J2:7/1	144
Junction: J3: Southern Access	
J3:1/1	75
J3:2/1	30
J3:2/2	17
J3:3/1 (with short)	1135(In) 542(Out)
J3:3/2 (short)	593
J3:4/1	557
J3:4/2	235
J3:5/1	552
J3:5/2	235
J3:6/1	792

Full Input Data And Results

Lane Saturation Flows

Junction: J1: A422/Willen Road								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
J1:1/1 (Willen Road North)	3.40	0.00	Y	Arm J1:7 Left	23.00	57.1 %	1885	1885
				Arm J1:8 Ahead	Inf	42.9 %		
J1:1/2 (Willen Road North)	3.40	0.00	Y	Arm J1:8 Ahead	Inf	100.0 %	1955	1955
J1:1/3 (Willen Road North)	3.40	0.00	Y	Arm J1:8 Ahead	Inf	100.0 %	1955	1955
J1:2/1 (A422 East)	3.65	0.00	Y	Arm J1:9 Left	84.00	100.0 %	1945	1945
J1:2/2 (A422 East)	3.65	0.00	Y	Arm J1:9 Left	84.00	2.3 %	1979	1979
				Arm J1:10 Ahead	Inf	97.7 %		
J1:2/3 (A422 East)	3.65	0.00	Y	Arm J1:10 Ahead	Inf	100.0 %	1980	1980
J1:3/1 (Willen Road South)	3.65	0.00	Y	Arm J1:11 Ahead	Inf	91.0 %	1971	1971
				Arm J1:12 Left	28.50	9.0 %		
J1:3/2 (Willen Road South)	3.65	0.00	Y	Arm J1:11 Ahead	Inf	100.0 %	1980	1980
J1:3/3 (Willen Road South)	3.65	0.00	Y	Arm J1:11 Ahead	Inf	100.0 %	1980	1980
J1:4/1 (A422 West)	3.65	0.00	Y	Arm J1:5 Left	30.90	100.0 %	1888	1888
J1:4/2 (A422 West)	3.65	0.00	Y	Arm J1:6 Ahead	Inf	100.0 %	1980	1980
J1:4/3 (A422 West)	3.65	0.00	Y	Arm J1:6 Ahead	Inf	100.0 %	1980	1980
J1:5/1	Infinite Saturation Flow						Inf	Inf
J1:6/1	This lane uses a directly entered Saturation Flow						1900	1900
J1:6/2	This lane uses a directly entered Saturation Flow						1900	1900
J1:7/1	3.50	0.00	Y				1965	1965
J1:7/2	3.50	0.00	Y				1965	1965
J1:8/1	This lane uses a directly entered Saturation Flow						1900	1900
J1:8/2	This lane uses a directly entered Saturation Flow						1900	1900
J1:8/3	This lane uses a directly entered Saturation Flow						1900	1900
J1:9/1	Infinite Saturation Flow						Inf	Inf
J1:9/2	Infinite Saturation Flow						Inf	Inf
J1:10/1	This lane uses a directly entered Saturation Flow						1900	1900
J1:10/2	This lane uses a directly entered Saturation Flow						1900	1900
J1:10/3	This lane uses a directly entered Saturation Flow						1900	1900
J1:11/1	This lane uses a directly entered Saturation Flow						1900	1900
J1:11/2	This lane uses a directly entered Saturation Flow						1900	1900
J1:11/3	This lane uses a directly entered Saturation Flow						1900	1900
J1:12/1	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

J1:12/2	Infinite Saturation Flow	Inf	Inf
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Junction: J2: Site Access								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
J2:1/1 (Willen Road)	3.65	0.00	Y	Arm J2:7 Left	Inf	14.6 %	1980	1980
				Arm J3:5 Ahead	Inf	85.4 %		
J2:1/2 (Willen Road)	3.65	0.00	Y	Arm J3:5 Ahead	Inf	100.0 %	1980	1980
J2:1/3 (Willen Road)	3.65	0.00	N	Arm J2:5 Right	20.00	100.0 %	1972	1972
J2:2/1 (Willen Road South)	3.65	0.00	Y	Arm J2:4 Ahead	Inf	95.8 %	1972	1972
				Arm J2:5 Left	15.00	4.2 %		
J2:2/2 (Willen Road South)	3.65	0.00	Y	Arm J2:4 Ahead	Inf	87.8 %	1980	1980
				Arm J2:7 Right	Inf	12.2 %		
J2:3/1 (Site Access)	3.50	0.00	Y	Arm J2:4 Left	12.00	50.0 %	1786	1786
				Arm J3:5 Right	20.00	50.0 %		
J2:4/1	Infinite Saturation Flow						Inf	Inf
J2:4/2	Infinite Saturation Flow						Inf	Inf
J2:5/1	Infinite Saturation Flow						Inf	Inf
J2:6/1	3.25	0.00	Y	Arm J3:5 Left	Inf	100.0 %	1940	1940
J2:6/2	3.25	0.00	Y	Arm J2:4 Right	Inf	100.0 %	1940	1940
J2:7/1	Infinite Saturation Flow						Inf	Inf

Junction: J3: Southern Access								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
J3:1/1	Infinite Saturation Flow						Inf	Inf
J3:2/1	3.30	0.00	Y	Arm J3:4 Left	20.00	100.0 %	1809	1809
J3:2/2	3.30	0.00	Y	Arm J2:2 Right	20.00	100.0 %	1809	1809
J3:3/1	3.50	0.00	Y	Arm J2:2 Ahead	Inf	100.0 %	1965	1965
J3:3/2	3.50	0.00	Y	Arm J2:2 Ahead	Inf	91.6 %	1953	1953
				Arm J3:1 Right	20.00	8.4 %		
J3:4/1	Infinite Saturation Flow						Inf	Inf
J3:4/2	Infinite Saturation Flow						Inf	Inf
J3:5/1	3.50	0.00	Y	Arm J3:1 Left	20.00	4.5 %	1958	1958
				Arm J3:4 Ahead	Inf	95.5 %		
J3:5/2	3.50	0.00	Y	Arm J3:4 Ahead	Inf	100.0 %	1965	1965
J3:6/1	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

Scenario 7: '2033 Base + Committed + Dev (MKE) AM' (FG7: '2033 Base + Committed + Dev (MKE) AM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination							
Origin		A	B	C	D	E	F	G	Tot.
	A	0	110	327	8	25	3	704	1177
	B	75	0	1220	10	31	4	868	2208
	C	255	745	0	1	2	0	61	1064
	D	28	31	6	0	0	0	57	122
	E	6	7	1	0	0	0	12	26
	F	11	12	2	0	0	0	43	68
	G	264	294	55	16	57	12	0	698
	Tot.	639	1199	1611	35	115	19	1745	5363

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 7: 2033 Base + Committed + Dev (MKE) AM
Junction: J1: A422/Willen Road	
J1:1/1 (short)	544
J1:1/2 (with short)	850(In) 306(Out)
J1:1/3	327
J1:2/1 (short)	794
J1:2/2 (with short)	1547(In) 753(Out)
J1:2/3	661
J1:3/1	369
J1:3/2 (with short)	348(In) 155(Out)
J1:3/3 (short)	193
J1:4/1 (short)	255
J1:4/2 (with short)	686(In) 431(Out)
J1:4/3	378
J1:5/1	639
J1:6/1	586
J1:6/2	571
J1:7/1	696
J1:7/2	503
J1:8/1	484
J1:8/2	320
J1:8/3	331
J1:9/1	1278
J1:9/2	439
J1:10/1	799
J1:10/2	752
J1:10/3	75
J1:11/1	384
J1:11/2	155
J1:11/3	193
J1:12/1	859
J1:12/2	752
Junction: J2: Site Access	
J2:1/1	1278
J2:1/2 (with short)	439(In) 381(Out)

Full Input Data And Results

J2:1/3 (short)	58
J2:2/1	385
J2:2/2	326
J2:3/1	26
J2:4/1	369
J2:4/2	348
J2:5/1	115
J2:6/1	57
J2:6/2	65
J2:7/1	35
Junction: J3: Southern Access	
J3:1/1	19
J3:2/1	43
J3:2/2	25
J3:3/1 (with short)	698(In) 372(Out)
J3:3/2 (short)	326
J3:4/1	1352
J3:4/2	393
J3:5/1	1316
J3:5/2	393
J3:6/1	1745

Full Input Data And Results

Lane Saturation Flows

Junction: J1: A422/Willen Road								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
J1:1/1 (Willen Road North)	3.40	0.00	Y	Arm J1:7 Left	23.00	20.2 %	1930	1930
				Arm J1:8 Ahead	Inf	79.8 %		
J1:1/2 (Willen Road North)	3.40	0.00	Y	Arm J1:8 Ahead	Inf	100.0 %	1955	1955
J1:1/3 (Willen Road North)	3.40	0.00	Y	Arm J1:8 Ahead	Inf	100.0 %	1955	1955
J1:2/1 (A422 East)	3.65	0.00	Y	Arm J1:9 Left	84.00	100.0 %	1945	1945
J1:2/2 (A422 East)	3.65	0.00	Y	Arm J1:9 Left	84.00	15.8 %	1974	1974
				Arm J1:10 Ahead	Inf	84.2 %		
J1:2/3 (A422 East)	3.65	0.00	Y	Arm J1:10 Ahead	Inf	100.0 %	1980	1980
J1:3/1 (Willen Road South)	3.65	0.00	Y	Arm J1:11 Ahead	Inf	83.7 %	1963	1963
				Arm J1:12 Left	28.50	16.3 %		
J1:3/2 (Willen Road South)	3.65	0.00	Y	Arm J1:11 Ahead	Inf	100.0 %	1980	1980
J1:3/3 (Willen Road South)	3.65	0.00	Y	Arm J1:11 Ahead	Inf	100.0 %	1980	1980
J1:4/1 (A422 West)	3.65	0.00	Y	Arm J1:5 Left	30.90	100.0 %	1888	1888
J1:4/2 (A422 West)	3.65	0.00	Y	Arm J1:6 Ahead	Inf	100.0 %	1980	1980
J1:4/3 (A422 West)	3.65	0.00	Y	Arm J1:6 Ahead	Inf	100.0 %	1980	1980
J1:5/1	Infinite Saturation Flow						Inf	Inf
J1:6/1	This lane uses a directly entered Saturation Flow						1900	1900
J1:6/2	This lane uses a directly entered Saturation Flow						1900	1900
J1:7/1	3.50	0.00	Y				1965	1965
J1:7/2	3.50	0.00	Y				1965	1965
J1:8/1	This lane uses a directly entered Saturation Flow						1900	1900
J1:8/2	This lane uses a directly entered Saturation Flow						1900	1900
J1:8/3	This lane uses a directly entered Saturation Flow						1900	1900
J1:9/1	Infinite Saturation Flow						Inf	Inf
J1:9/2	Infinite Saturation Flow						Inf	Inf
J1:10/1	This lane uses a directly entered Saturation Flow						1900	1900
J1:10/2	This lane uses a directly entered Saturation Flow						1900	1900
J1:10/3	This lane uses a directly entered Saturation Flow						1900	1900
J1:11/1	This lane uses a directly entered Saturation Flow						1900	1900
J1:11/2	This lane uses a directly entered Saturation Flow						1900	1900
J1:11/3	This lane uses a directly entered Saturation Flow						1900	1900
J1:12/1	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

J1:12/2	Infinite Saturation Flow	Inf	Inf
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Junction: J2: Site Access								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
J2:1/1 (Willen Road)	3.65	0.00	Y	Arm J2:7 Left	Inf	1.5 %	1980	1980
				Arm J3:5 Ahead	Inf	98.5 %		
J2:1/2 (Willen Road)	3.65	0.00	Y	Arm J3:5 Ahead	Inf	100.0 %	1980	1980
J2:1/3 (Willen Road)	3.65	0.00	N	Arm J2:5 Right	20.00	100.0 %	1972	1972
J2:2/1 (Willen Road South)	3.65	0.00	Y	Arm J2:4 Ahead	Inf	85.2 %	1951	1951
				Arm J2:5 Left	15.00	14.8 %		
J2:2/2 (Willen Road South)	3.65	0.00	Y	Arm J2:4 Ahead	Inf	95.1 %	1980	1980
				Arm J2:7 Right	Inf	4.9 %		
J2:3/1 (Site Access)	3.50	0.00	Y	Arm J2:4 Left	12.00	53.8 %	1783	1783
				Arm J3:5 Right	20.00	46.2 %		
J2:4/1	Infinite Saturation Flow						Inf	Inf
J2:4/2	Infinite Saturation Flow						Inf	Inf
J2:5/1	Infinite Saturation Flow						Inf	Inf
J2:6/1	3.25	0.00	Y	Arm J3:5 Left	Inf	100.0 %	1940	1940
J2:6/2	3.25	0.00	Y	Arm J2:4 Right	Inf	100.0 %	1940	1940
J2:7/1	Infinite Saturation Flow						Inf	Inf

Junction: J3: Southern Access								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
J3:1/1	Infinite Saturation Flow						Inf	Inf
J3:2/1	3.30	0.00	Y	Arm J3:4 Left	20.00	100.0 %	1809	1809
J3:2/2	3.30	0.00	Y	Arm J2:2 Right	20.00	100.0 %	1809	1809
J3:3/1	3.50	0.00	Y	Arm J2:2 Ahead	Inf	100.0 %	1965	1965
J3:3/2	3.50	0.00	Y	Arm J2:2 Ahead	Inf	96.3 %	1960	1960
				Arm J3:1 Right	20.00	3.7 %		
J3:4/1	Infinite Saturation Flow						Inf	Inf
J3:4/2	Infinite Saturation Flow						Inf	Inf
J3:5/1	3.50	0.00	Y	Arm J3:1 Left	20.00	0.5 %	1964	1964
				Arm J3:4 Ahead	Inf	99.5 %		
J3:5/2	3.50	0.00	Y	Arm J3:4 Ahead	Inf	100.0 %	1965	1965
J3:6/1	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

Scenario 8: '2033 Base + Committed + Dev (MKE) PM' (FG8: '2033 Base + Committed + Dev (MKE) PM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination							
Origin		A	B	C	D	E	F	G	Tot.
	A	0	153	226	26	11	9	287	712
	B	247	0	884	29	12	10	322	1504
	C	499	1585	0	5	2	2	51	2144
	D	16	15	2	0	0	0	29	62
	E	30	29	3	0	0	0	63	125
	F	6	6	1	0	0	0	22	35
	G	478	466	51	52	23	39	0	1109
	Tot.	1276	2254	1167	112	48	60	774	5691

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 8: 2033 Base + Committed + Dev (MKE) PM
Junction: J1: A422/Willen Road	
J1:1/1 (short)	269
J1:1/2 (with short)	486(In) 217(Out)
J1:1/3	226
J1:2/1 (short)	358
J1:2/2 (with short)	972(In) 614(Out)
J1:2/3	532
J1:3/1	587
J1:3/2 (with short)	516(In) 183(Out)
J1:3/3 (short)	333
J1:4/1 (short)	499
J1:4/2 (with short)	1328(In) 829(Out)
J1:4/3	816
J1:5/1	1276
J1:6/1	1012
J1:6/2	1149
J1:7/1	1165
J1:7/2	1089
J1:8/1	158
J1:8/2	235
J1:8/3	226
J1:9/1	516
J1:9/2	250
J1:10/1	707
J1:10/2	403
J1:10/3	247
J1:11/1	777
J1:11/2	183
J1:11/3	333
J1:12/1	764
J1:12/2	403
Junction: J2: Site Access	
J2:1/1	516
J2:1/2 (with short)	250(In) 225(Out)

Full Input Data And Results

J2:1/3 (short)	25
J2:2/1	559
J2:2/2	524
J2:3/1	125
J2:4/1	587
J2:4/2	516
J2:5/1	48
J2:6/1	29
J2:6/2	33
J2:7/1	112
Junction: J3: Southern Access	
J3:1/1	60
J3:2/1	22
J3:2/2	13
J3:3/1 (with short)	1109(In) 552(Out)
J3:3/2 (short)	557
J3:4/1	549
J3:4/2	225
J3:5/1	548
J3:5/2	225
J3:6/1	774

Full Input Data And Results

Lane Saturation Flows

Junction: J1: A422/Willen Road								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
J1:1/1 (Willen Road North)	3.40	0.00	Y	Arm J1:7 Left	23.00	56.9 %	1885	1885
				Arm J1:8 Ahead	Inf	43.1 %		
J1:1/2 (Willen Road North)	3.40	0.00	Y	Arm J1:8 Ahead	Inf	100.0 %	1955	1955
J1:1/3 (Willen Road North)	3.40	0.00	Y	Arm J1:8 Ahead	Inf	100.0 %	1955	1955
J1:2/1 (A422 East)	3.65	0.00	Y	Arm J1:9 Left	84.00	100.0 %	1945	1945
J1:2/2 (A422 East)	3.65	0.00	Y	Arm J1:9 Left	84.00	2.4 %	1979	1979
				Arm J1:10 Ahead	Inf	97.6 %		
J1:2/3 (A422 East)	3.65	0.00	Y	Arm J1:10 Ahead	Inf	100.0 %	1980	1980
J1:3/1 (Willen Road South)	3.65	0.00	Y	Arm J1:11 Ahead	Inf	90.3 %	1970	1970
				Arm J1:12 Left	28.50	9.7 %		
J1:3/2 (Willen Road South)	3.65	0.00	Y	Arm J1:11 Ahead	Inf	100.0 %	1980	1980
J1:3/3 (Willen Road South)	3.65	0.00	Y	Arm J1:11 Ahead	Inf	100.0 %	1980	1980
J1:4/1 (A422 West)	3.65	0.00	Y	Arm J1:5 Left	30.90	100.0 %	1888	1888
J1:4/2 (A422 West)	3.65	0.00	Y	Arm J1:6 Ahead	Inf	100.0 %	1980	1980
J1:4/3 (A422 West)	3.65	0.00	Y	Arm J1:6 Ahead	Inf	100.0 %	1980	1980
J1:5/1	Infinite Saturation Flow						Inf	Inf
J1:6/1	This lane uses a directly entered Saturation Flow						1900	1900
J1:6/2	This lane uses a directly entered Saturation Flow						1900	1900
J1:7/1	3.50	0.00	Y				1965	1965
J1:7/2	3.50	0.00	Y				1965	1965
J1:8/1	This lane uses a directly entered Saturation Flow						1900	1900
J1:8/2	This lane uses a directly entered Saturation Flow						1900	1900
J1:8/3	This lane uses a directly entered Saturation Flow						1900	1900
J1:9/1	Infinite Saturation Flow						Inf	Inf
J1:9/2	Infinite Saturation Flow						Inf	Inf
J1:10/1	This lane uses a directly entered Saturation Flow						1900	1900
J1:10/2	This lane uses a directly entered Saturation Flow						1900	1900
J1:10/3	This lane uses a directly entered Saturation Flow						1900	1900
J1:11/1	This lane uses a directly entered Saturation Flow						1900	1900
J1:11/2	This lane uses a directly entered Saturation Flow						1900	1900
J1:11/3	This lane uses a directly entered Saturation Flow						1900	1900
J1:12/1	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

J1:12/2	Infinite Saturation Flow	Inf	Inf
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Junction: J2: Site Access								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
J2:1/1 (Willen Road)	3.65	0.00	Y	Arm J2:7 Left	Inf	11.6 %	1980	1980
				Arm J3:5 Ahead	Inf	88.4 %		
J2:1/2 (Willen Road)	3.65	0.00	Y	Arm J3:5 Ahead	Inf	100.0 %	1980	1980
J2:1/3 (Willen Road)	3.65	0.00	N	Arm J2:5 Right	20.00	100.0 %	1972	1972
J2:2/1 (Willen Road South)	3.65	0.00	Y	Arm J2:4 Ahead	Inf	95.9 %	1972	1972
				Arm J2:5 Left	15.00	4.1 %		
J2:2/2 (Willen Road South)	3.65	0.00	Y	Arm J2:4 Ahead	Inf	90.1 %	1980	1980
				Arm J2:7 Right	Inf	9.9 %		
J2:3/1 (Site Access)	3.50	0.00	Y	Arm J2:4 Left	12.00	49.6 %	1787	1787
				Arm J3:5 Right	20.00	50.4 %		
J2:4/1	Infinite Saturation Flow						Inf	Inf
J2:4/2	Infinite Saturation Flow						Inf	Inf
J2:5/1	Infinite Saturation Flow						Inf	Inf
J2:6/1	3.25	0.00	Y	Arm J3:5 Left	Inf	100.0 %	1940	1940
J2:6/2	3.25	0.00	Y	Arm J2:4 Right	Inf	100.0 %	1940	1940
J2:7/1	Infinite Saturation Flow						Inf	Inf

Junction: J3: Southern Access								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
J3:1/1	Infinite Saturation Flow						Inf	Inf
J3:2/1	3.30	0.00	Y	Arm J3:4 Left	20.00	100.0 %	1809	1809
J3:2/2	3.30	0.00	Y	Arm J2:2 Right	20.00	100.0 %	1809	1809
J3:3/1	3.50	0.00	Y	Arm J2:2 Ahead	Inf	100.0 %	1965	1965
J3:3/2	3.50	0.00	Y	Arm J2:2 Ahead	Inf	93.0 %	1955	1955
				Arm J3:1 Right	20.00	7.0 %		
J3:4/1	Infinite Saturation Flow						Inf	Inf
J3:4/2	Infinite Saturation Flow						Inf	Inf
J3:5/1	3.50	0.00	Y	Arm J3:1 Left	20.00	3.8 %	1959	1959
				Arm J3:4 Ahead	Inf	96.2 %		
J3:5/2	3.50	0.00	Y	Arm J3:4 Ahead	Inf	100.0 %	1965	1965
J3:6/1	Infinite Saturation Flow						Inf	Inf

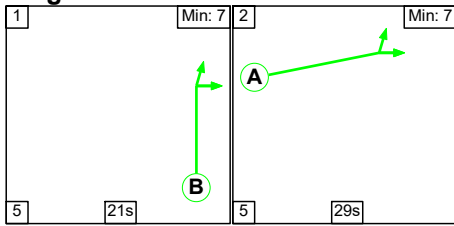
Full Input Data And Results

Scenario 1: '2031 Base + Committed + Dev AM' (FG1: '2031 Base + Committed + Dev AM', Plan 1: 'Network Control Plan 1')

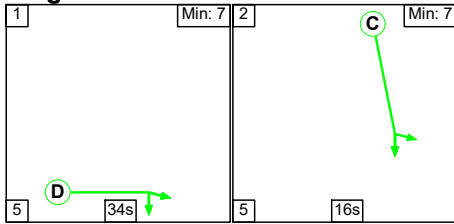
C1

Stage Sequence Diagram

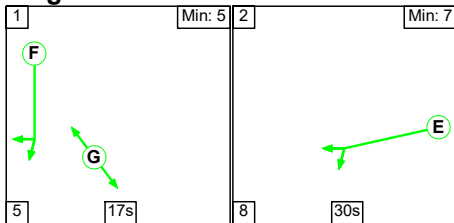
Stage Stream: 1



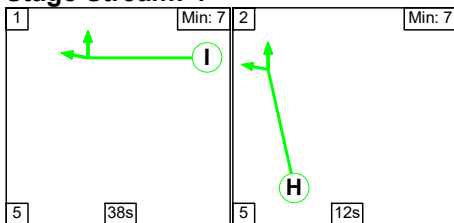
Stage Stream: 2



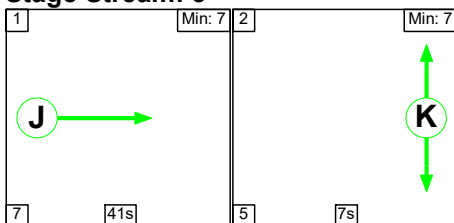
Stage Stream: 3



Stage Stream: 4



Stage Stream: 5



Stage Timings

Stage Stream: 1

Stage	1	2
Duration	21	29
Change Point	4	30

Full Input Data And Results

Stage Stream: 2

Stage	1	2
Duration	34	16
Change Point	34	13

Stage Stream: 3

Stage	1	2
Duration	17	30
Change Point	9	31

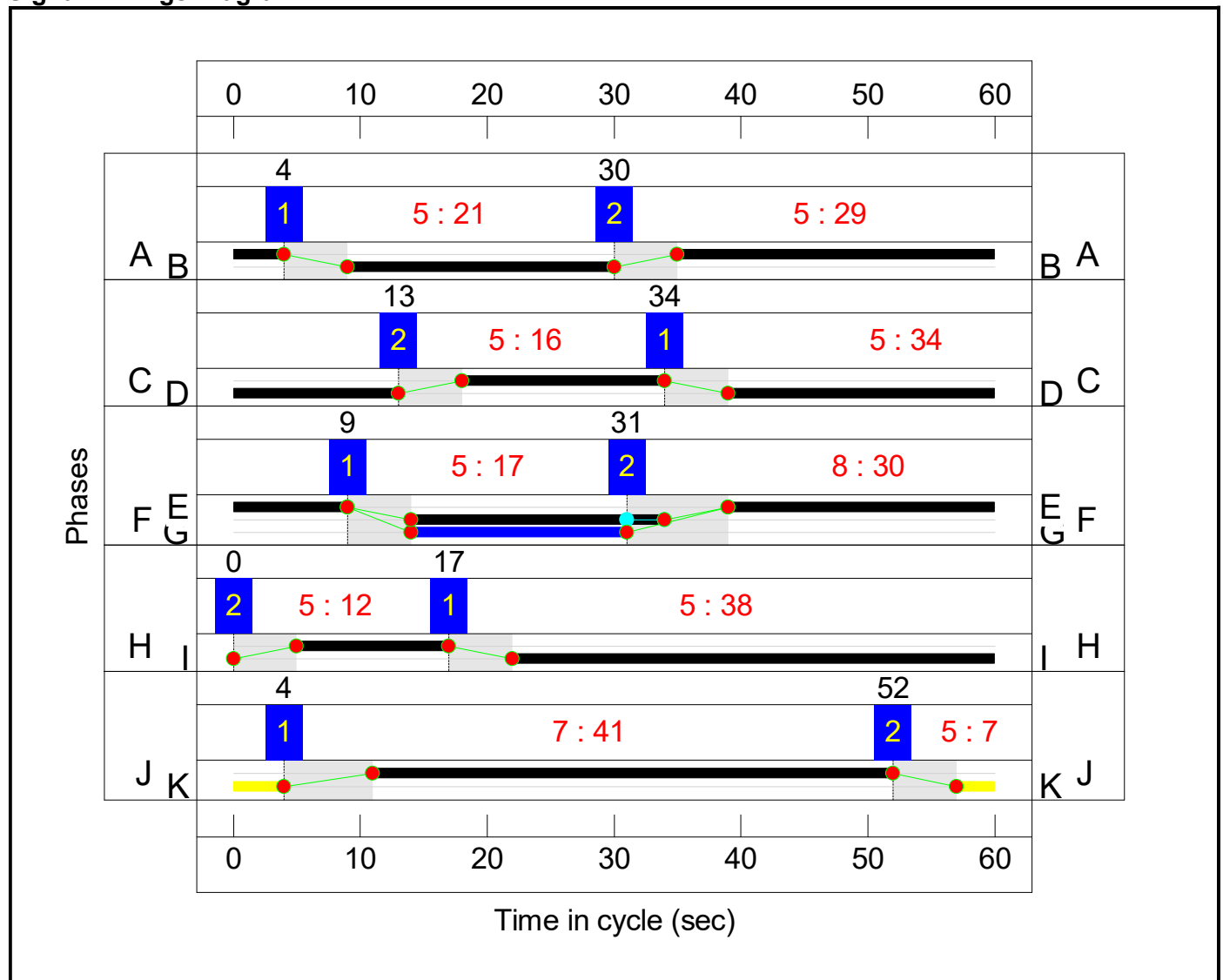
Stage Stream: 4

Stage	1	2
Duration	38	12
Change Point	17	0

Stage Stream: 5

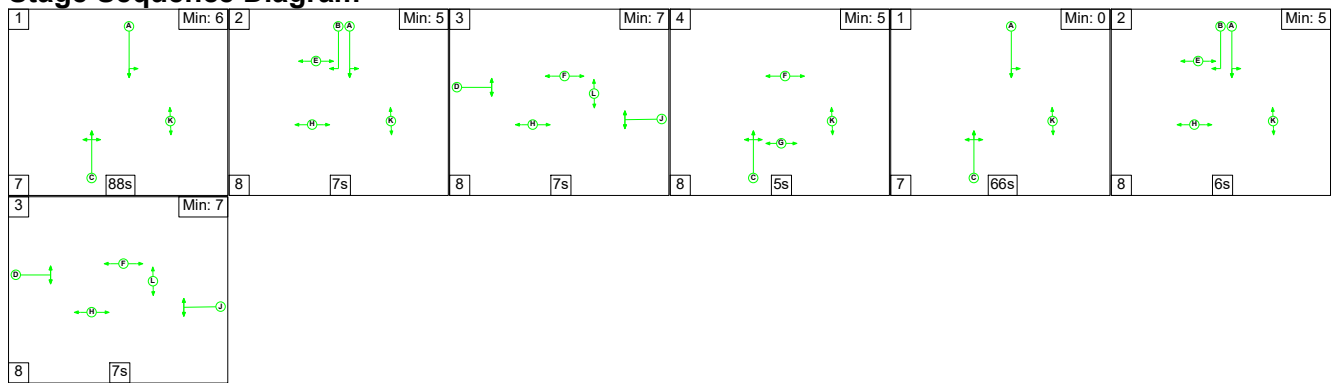
Stage	1	2
Duration	41	7
Change Point	4	52

Signal Timings Diagram



Full Input Data And Results

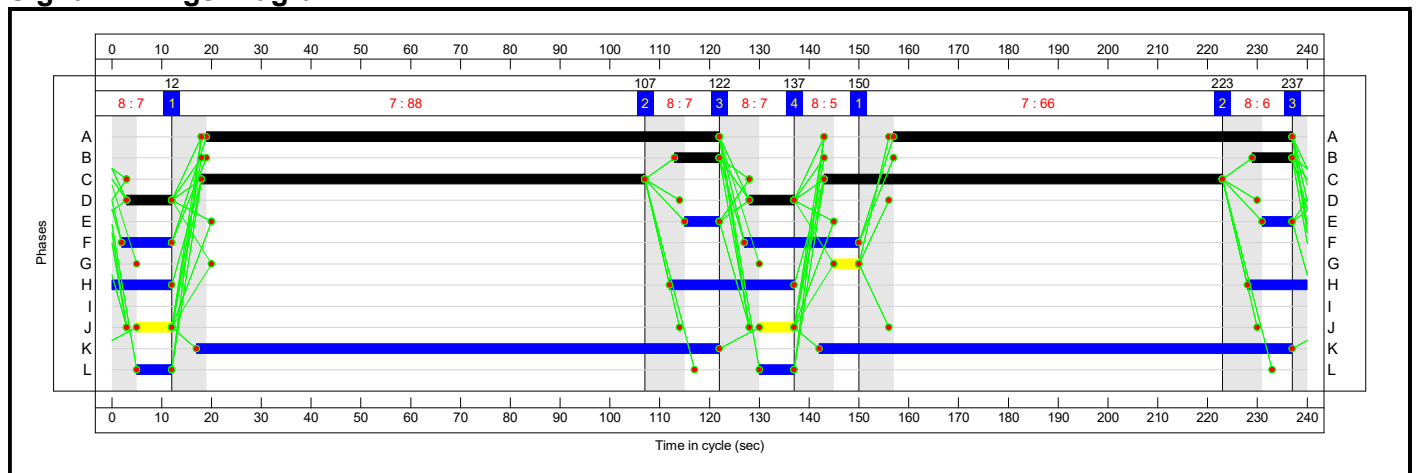
C2 Stage Sequence Diagram



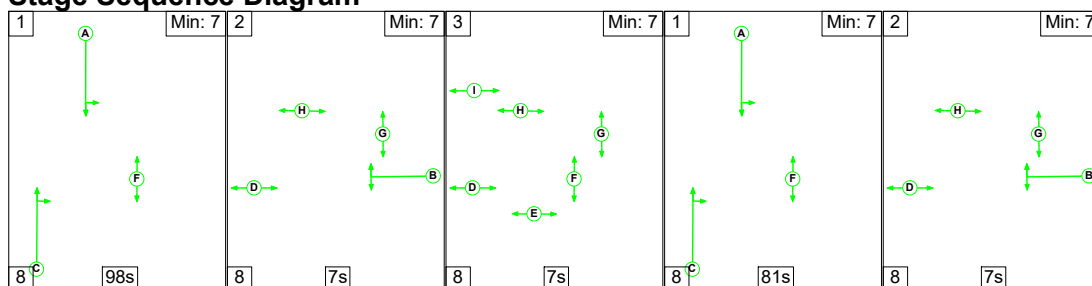
Stage Timings

Stage	1	2	3	4	1	2	3
Duration	88	7	7	5	66	6	7
Change Point	12	107	122	137	150	223	237

Signal Timings Diagram



C3 Stage Sequence Diagram

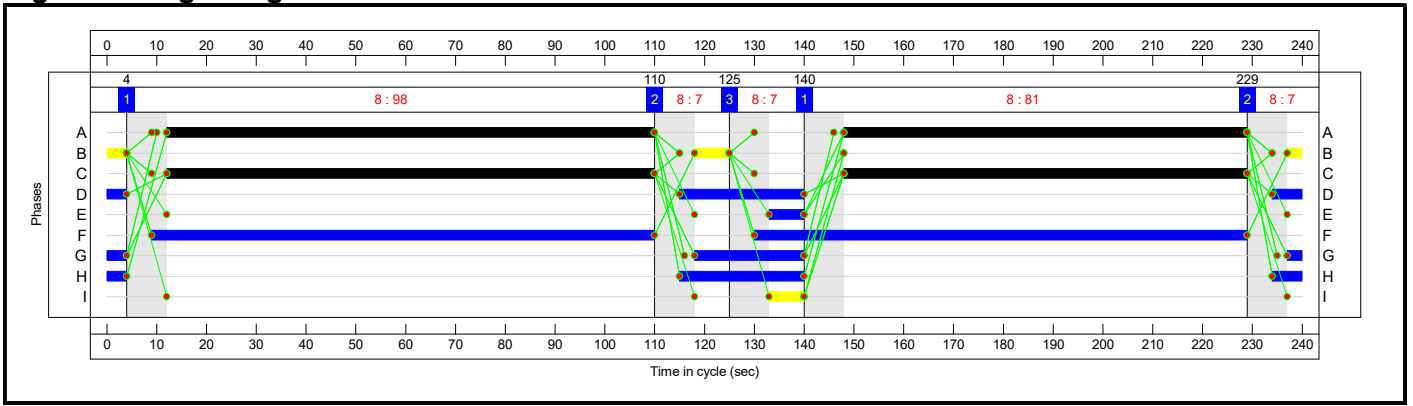


Stage Timings

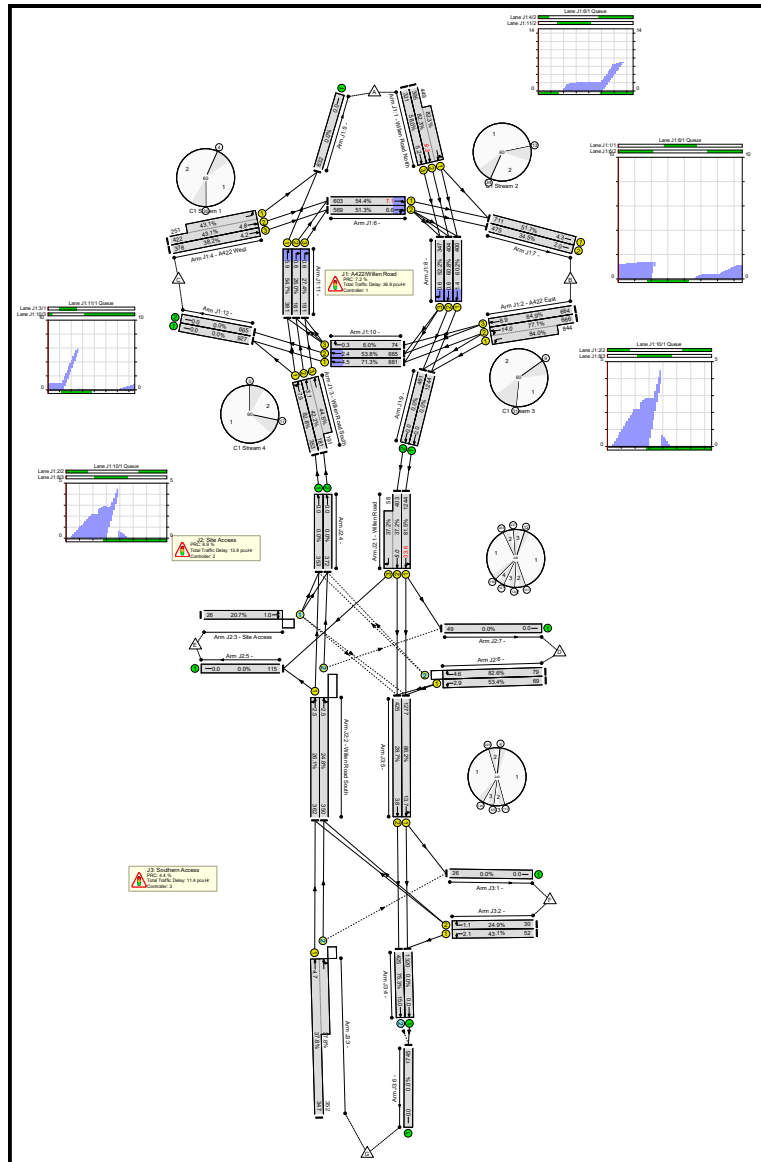
Stage	1	2	3	1	2
Duration	98	7	7	81	7
Change Point	4	110	125	140	229

Full Input Data And Results

Signal Timings Diagram



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: A422 Marsh End / Willen Road / Site Access Proposed Layout	-	-	N/A	-	-		-	-	-	-	-	-	86.2%
J1: A422/Willen Road	-	-	N/A	-	-		-	-	-	-	-	-	84.0%
1/2+1/1	Willen Road North Left Ahead	U	1:2	N/A	C1:C		1	16	-	844	1955:1925	480+545	82.3 : 82.3%
1/3	Willen Road North Ahead	U	1:2	N/A	C1:C		1	16	-	321	1955	554	58.0%
2/2+2/1	A422 East Left Ahead	U	1:3	N/A	C1:E		1	30	-	1510	1977:1945	864+1005	77.1 : 84.0%
2/3	A422 East Ahead	U	1:3	N/A	C1:E		1	30	-	664	1980	1023	64.9%
3/1	Willen Road South Ahead Left	U	1:4	N/A	C1:H		1	12	-	353	1967	426	82.8%
3/2+3/3	Willen Road South Ahead	U	1:4	N/A	C1:H		1	12	-	372	1980:1980	429+429	42.2 : 44.5%
4/2+4/1	A422 West Left Ahead	U	1:1	N/A	C1:A		1	29	-	673	1980:1888	978+582	43.1 : 43.1%
4/3	A422 West Ahead	U	1:1	N/A	C1:A		1	29	-	378	1980	990	38.2%
5/1		U	N/A	N/A	-		-	-	-	632	Inf	Inf	0.0%
6/1	Ahead	U	1:2	N/A	C1:D		1	34	-	603	1900	1108	54.4%
6/2	Ahead Right	U	1:2	N/A	C1:D		1	34	-	569	1900	1108	51.3%
7/1		U	1:5	N/A	C1:J		1	41	-	711	1965	1375	51.7%
7/2		U	1:5	N/A	C1:J		1	41	-	475	1965	1375	34.5%
8/1	Ahead	U	1:3	N/A	C1:F		1	20	-	400	1900	665	60.2%
8/2	Ahead	U	1:3	N/A	C1:F		1	20	-	404	1900	665	60.8%
8/3	Right	U	1:3	N/A	C1:F		1	20	-	347	1900	665	52.2%
9/1	Ahead	U	N/A	N/A	-		-	-	-	1244	Inf	Inf	0.0%
9/2	Ahead	U	N/A	N/A	-		-	-	-	461	Inf	Inf	0.0%

Full Input Data And Results

10/1	Ahead	U	1:4	N/A	C1:I		1	38	-	881	1900	1235	71.3%
10/2	Ahead	U	1:4	N/A	C1:I		1	38	-	665	1900	1235	53.8%
10/3	Right	U	1:4	N/A	C1:I		1	38	-	74	1900	1235	6.0%
11/1	Ahead	U	1:1	N/A	C1:B		1	21	-	381	1900	697	54.7%
11/2	Right	U	1:1	N/A	C1:B		1	21	-	181	1900	697	26.0%
11/3	Right	U	1:1	N/A	C1:B		1	21	-	191	1900	697	27.4%
12/1		U	N/A	N/A	-		-	-	-	927	Inf	Inf	0.0%
12/2		U	N/A	N/A	-		-	-	-	665	Inf	Inf	0.0%
J2: Site Access	-	-	N/A	-	-		-	-	-	-	-	-	82.6%
1/1	Willen Road Left Ahead	U	N/A	N/A	C2:A		2	183	-	1244	1980	1526	81.5%
1/2+1/3	Willen Road Right Ahead	U	N/A	N/A	C2:A C2:B		2	183:17	-	461	1980:1972	1085+156	37.2 : 37.2%
2/1	Willen Road South Ahead Left	U	N/A	N/A	C2:C		2	169	-	362	1949	1389	26.1%
2/2	Willen Road South Ahead Right	O	N/A	N/A	C2:C		2	169	-	350	1980	1411	24.8%
3/1	Site Access Left Right	O	N/A	N/A	C2:D		2	18	-	26	1783	126	20.7%
4/1	Ahead	U	N/A	N/A	-		-	-	-	353	Inf	Inf	0.0%
4/2	Ahead	U	N/A	N/A	-		-	-	-	372	Inf	Inf	0.0%
5/1		U	N/A	N/A	-		-	-	-	115	Inf	Inf	0.0%
6/1	Left	U	N/A	N/A	C2:J		2	14	-	69	1940	129	53.4%
6/2	Right	O	N/A	N/A	C2:J		2	14	-	79	1940	96	82.6%
7/1		U	N/A	N/A	-		-	-	-	49	Inf	Inf	0.0%
J3: Southern Access	-	-	N/A	-	-		-	-	-	-	-	-	86.2%
1/1		U	N/A	N/A	-		-	-	-	26	Inf	Inf	0.0%
2/1	Left	U	N/A	N/A	C3:B		2	14	-	52	1809	121	43.1%
2/2	Right	U	N/A	N/A	C3:B		2	14	-	30	1809	121	24.9%
3/1+3/2	Ahead Right	U+O	N/A	N/A	C3:C		2	179	-	699	1965:1958	918+932	37.8 : 37.8%

Full Input Data And Results

4/1	Ahead	U	N/A	N/A	-	-	-	-	1320	Inf	Inf	0.0%
4/2	Ahead	O	N/A	N/A	-	-	-	-	425	Inf	564	75.3%
5/1	Left Ahead	U	N/A	N/A	C3:A	2	179	-	1277	1964	1481	86.2%
5/2	Ahead	U	N/A	N/A	C3:A	2	179	-	425	1965	1482	28.7%
6/1		U	N/A	N/A	-	-	-	-	1745	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: A422 Marsh End / Willen Road / Site Access Proposed Layout	-	-	486	2	69	40.3	21.1	0.7	62.1	-	-	-	-
J1: A422/Willen Road	-	-	0	0	0	26.8	10.1	0.0	36.9	-	-	-	-
1/2+1/1	844	844	-	-	-	4.6	2.3	-	6.9 (3.2+3.7)	29.4 (29.0:29.8)	7.0	2.3	9.3
1/3	321	321	-	-	-	1.6	0.7	-	2.3	26.1	4.5	0.7	5.2
2/2+2/1	1510	1510	-	-	-	4.9	2.1	-	6.9 (2.9+4.1)	16.5 (15.5:17.3)	12.0	2.1	14.0
2/3	664	664	-	-	-	1.9	0.9	-	2.9	15.5	7.9	0.9	8.9
3/1	353	353	-	-	-	2.2	2.3	-	4.5	45.6	5.6	2.3	7.9
3/2+3/3	372	372	-	-	-	2.1	0.4	-	2.5 (1.2+1.3)	24.0 (24.0:24.1)	2.8	0.4	3.1
4/2+4/1	673	673	-	-	-	1.7	0.4	-	2.1 (1.4+0.7)	11.2 (11.6:10.7)	4.5	0.4	4.8
4/3	378	378	-	-	-	1.0	0.3	-	1.3	12.2	3.9	0.3	4.2
5/1	632	632	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	603	603	-	-	-	1.2	0.0	-	1.2	7.1	7.1	0.0	7.1
6/2	569	569	-	-	-	1.2	0.0	-	1.2	7.8	6.6	0.0	6.6
7/1	711	711	-	-	-	0.6	0.5	-	1.2	6.0	3.7	0.5	4.3
7/2	475	475	-	-	-	0.4	0.3	-	0.6	4.7	1.7	0.3	2.0
8/1	400	400	-	-	-	0.6	0.0	-	0.6	5.4	1.4	0.0	1.4
8/2	404	404	-	-	-	0.3	0.0	-	0.3	3.0	0.6	0.0	0.6
8/3	347	347	-	-	-	0.4	0.0	-	0.4	3.9	0.6	0.0	0.6
9/1	1244	1244	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
9/2	461	461	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
10/1	881	881	-	-	-	0.8	0.0	-	0.8	3.2	4.5	0.0	4.5
10/2	665	665	-	-	-	0.6	0.0	-	0.6	3.3	2.4	0.0	2.4

Full Input Data And Results

10/3	74	74	-	-	-	0.1	0.0	-	0.1	3.3	0.3	0.0	0.3
11/1	381	381	-	-	-	0.4	0.0	-	0.4	4.2	5.9	0.0	5.9
11/2	181	181	-	-	-	0.0	0.0	-	0.0	0.9	0.6	0.0	0.6
11/3	191	191	-	-	-	0.1	0.0	-	0.1	1.0	0.6	0.0	0.6
12/1	927	927	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
12/2	665	665	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
J2: Site Access	-	-	59	2	53	7.9	5.4	0.5	13.8	-	-	-	-
1/1	1244	1244	-	-	-	3.1	2.2	-	5.3	15.2	31.4	2.2	33.6
1/2+1/3	461	461	-	-	-	1.3	0.3	-	1.6 (0.7+0.9)	12.6 (6.5:54.8)	4.7	0.3	5.0
2/1	362	362	-	-	-	0.4	0.2	-	0.6	6.1	2.4	0.2	2.5
2/2	350	350	0	2	21	0.4	0.2	0.4	1.0	9.8	2.3	0.2	2.5
3/1	26	26	12	0	0	0.4	0.1	0.0	0.5	72.4	0.8	0.1	1.0
4/1	353	353	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/2	372	372	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	115	115	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	69	69	-	-	-	1.0	0.6	-	1.6	83.6	2.3	0.6	2.9
6/2	79	79	47	0	32	1.2	1.9	0.1	3.2	146.8	2.7	1.9	4.6
7/1	49	49	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
J3: Southern Access	-	-	426	0	16	5.6	5.6	0.2	11.4	-	-	-	-
1/1	26	26	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
2/1	52	52	-	-	-	0.8	0.4	-	1.2	79.8	1.7	0.4	2.1
2/2	30	30	-	-	-	0.4	0.2	-	0.6	73.0	0.9	0.2	1.1
3/1+3/2	699	699	1	0	16	0.9	0.3	0.2	1.4 (0.6+0.8)	7.5 (6.3:8.6)	4.4	0.3	4.7
4/1	1320	1320	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/2	425	425	425	0	0	1.1	1.5	-	2.6	21.6	13.5	1.5	15.0
5/1	1277	1277	-	-	-	1.9	3.0	-	4.9	13.9	10.7	3.0	13.7
5/2	425	425	-	-	-	0.5	0.2	-	0.7	5.7	3.6	0.2	3.8
6/1	1745	1745	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

Full Input Data And Results

C1	Stream: 1	PRC for Signalled Lanes (%)	64.6	Total Delay for Signalled Lanes (pcuHr)	3.93	Cycle Time (s)	60
C1	Stream: 2	PRC for Signalled Lanes (%)	9.3	Total Delay for Signalled Lanes (pcuHr)	11.66	Cycle Time (s)	60
C1	Stream: 3	PRC for Signalled Lanes (%)	7.2	Total Delay for Signalled Lanes (pcuHr)	11.12	Cycle Time (s)	60
C1	Stream: 4	PRC for Signalled Lanes (%)	8.7	Total Delay for Signalled Lanes (pcuHr)	8.42	Cycle Time (s)	60
C1	Stream: 5	PRC for Signalled Lanes (%)	74.1	Total Delay for Signalled Lanes (pcuHr)	1.80	Cycle Time (s)	60
C2		PRC for Signalled Lanes (%)	8.9	Total Delay for Signalled Lanes (pcuHr)	13.79	Cycle Time (s)	240
C3		PRC for Signalled Lanes (%)	4.4	Total Delay for Signalled Lanes (pcuHr)	8.83	Cycle Time (s)	240
		PRC Over All Lanes (%)	4.4	Total Delay Over All Lanes(pcuHr)	62.09		

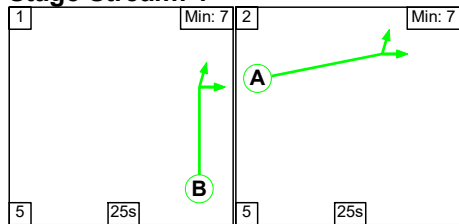
Full Input Data And Results

Scenario 2: '2031 Base + Committed + Dev PM' (FG2: '2031 Base + Committed + Dev PM', Plan 1: 'Network Control Plan 1')

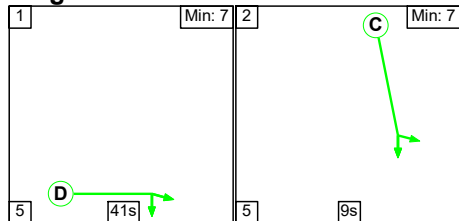
C1

Stage Sequence Diagram

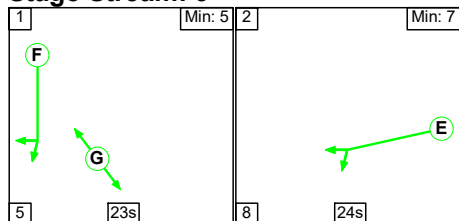
Stage Stream: 1



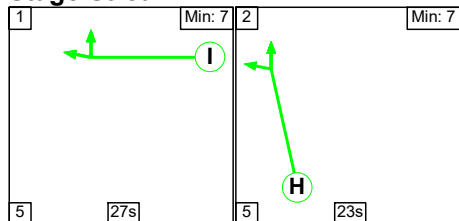
Stage Stream: 2



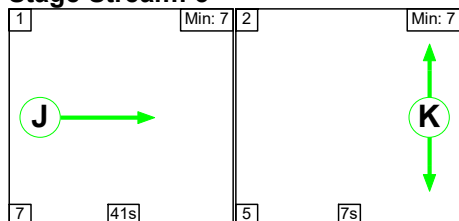
Stage Stream: 3



Stage Stream: 4



Stage Stream: 5



Stage Timings

Stage Stream: 1

Stage	1	2
Duration	25	25
Change Point	40	10

Stage Stream: 2

Stage	1	2
Duration	41	9
Change Point	59	45

Full Input Data And Results

Stage Stream: 3

Stage	1	2
Duration	23	24
Change Point	49	17

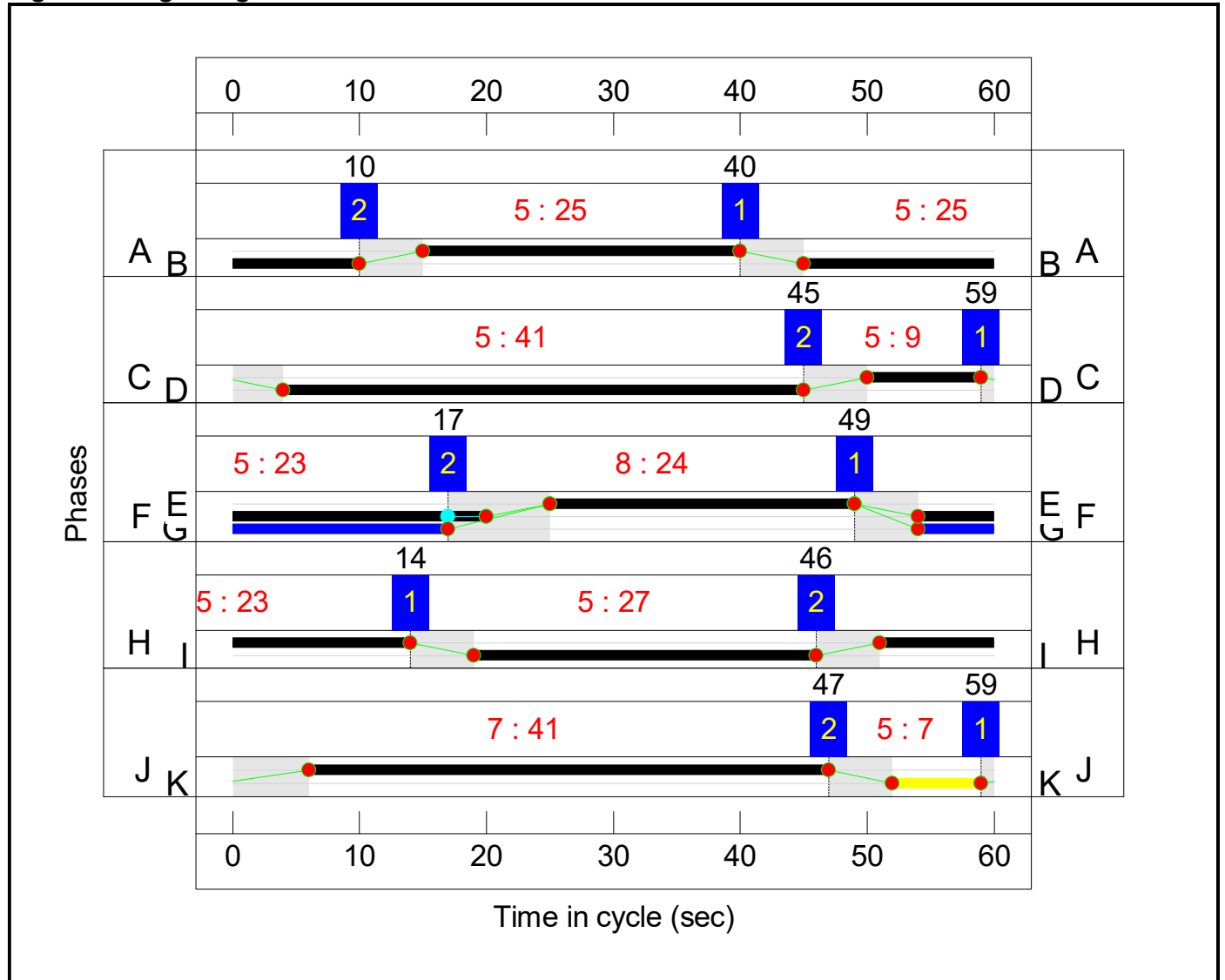
Stage Stream: 4

Stage	1	2
Duration	27	23
Change Point	14	46

Stage Stream: 5

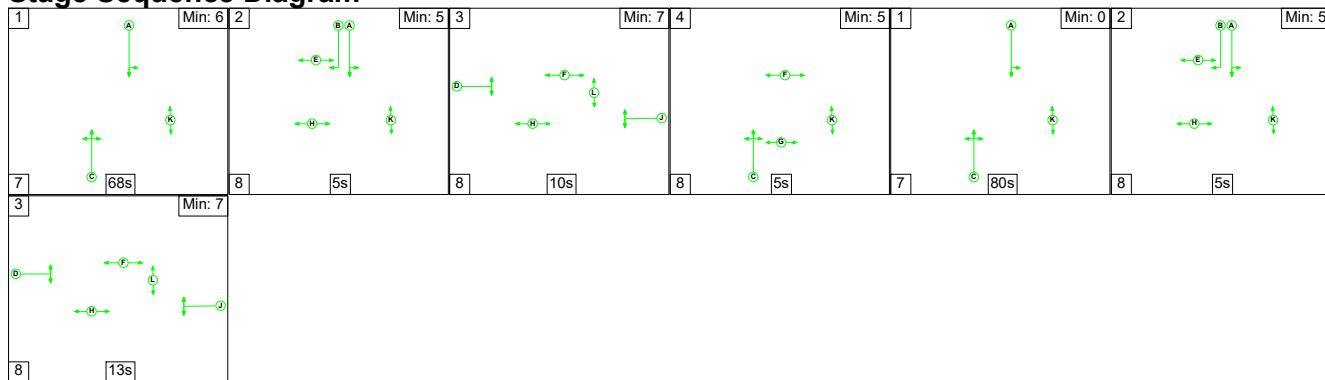
Stage	1	2
Duration	41	7
Change Point	59	47

Signal Timings Diagram



Full Input Data And Results

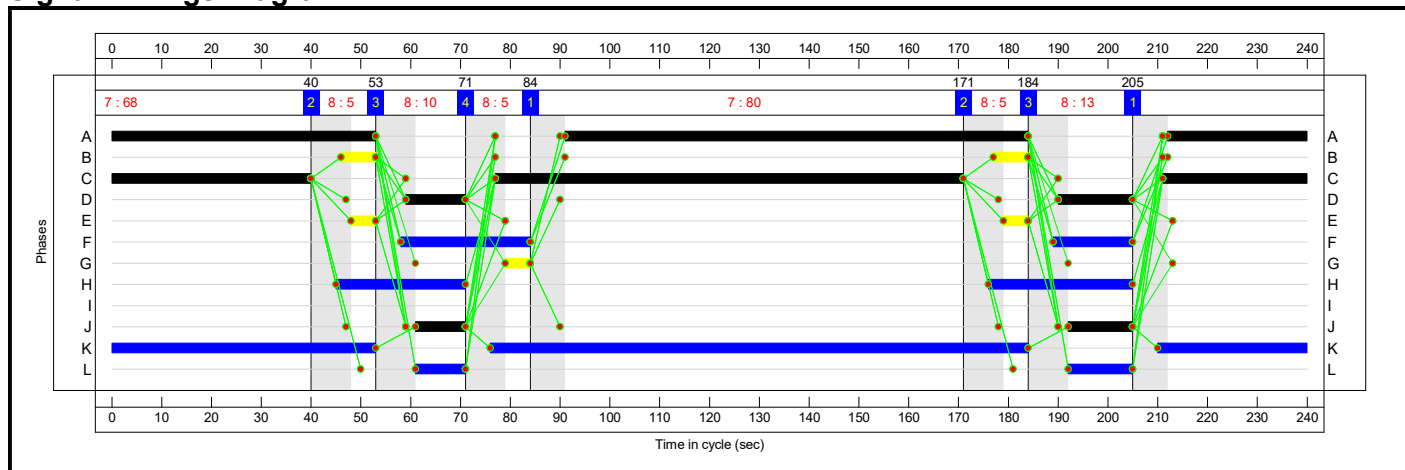
C2
Stage Sequence Diagram



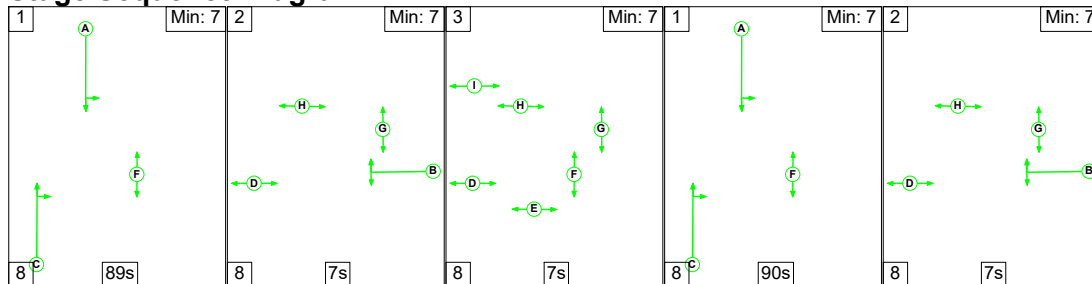
Stage Timings

Stage	1	2	3	4	1	2	3
Duration	68	5	10	5	80	5	13
Change Point	205	40	53	71	84	171	184

Signal Timings Diagram



C3
Stage Sequence Diagram

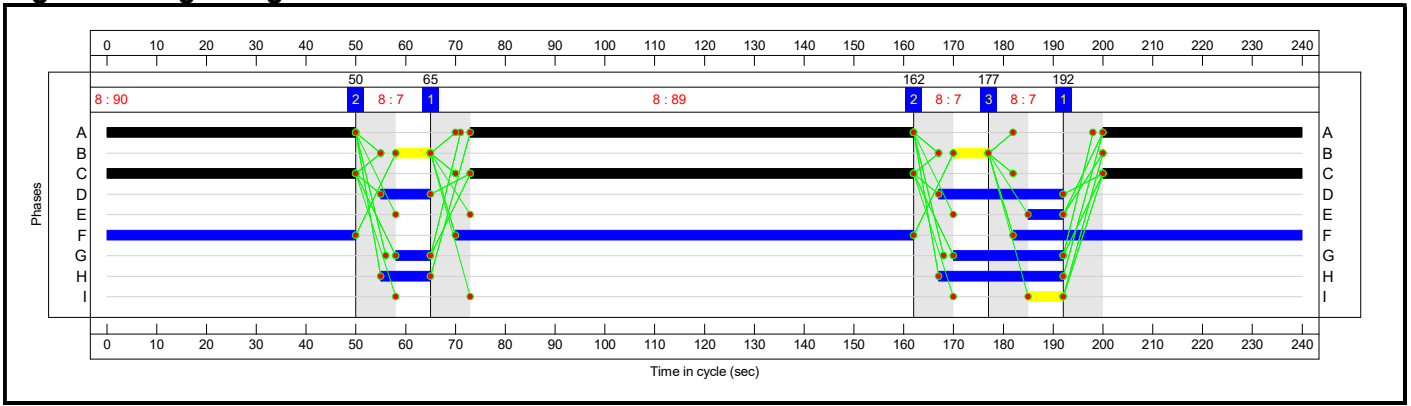


Stage Timings

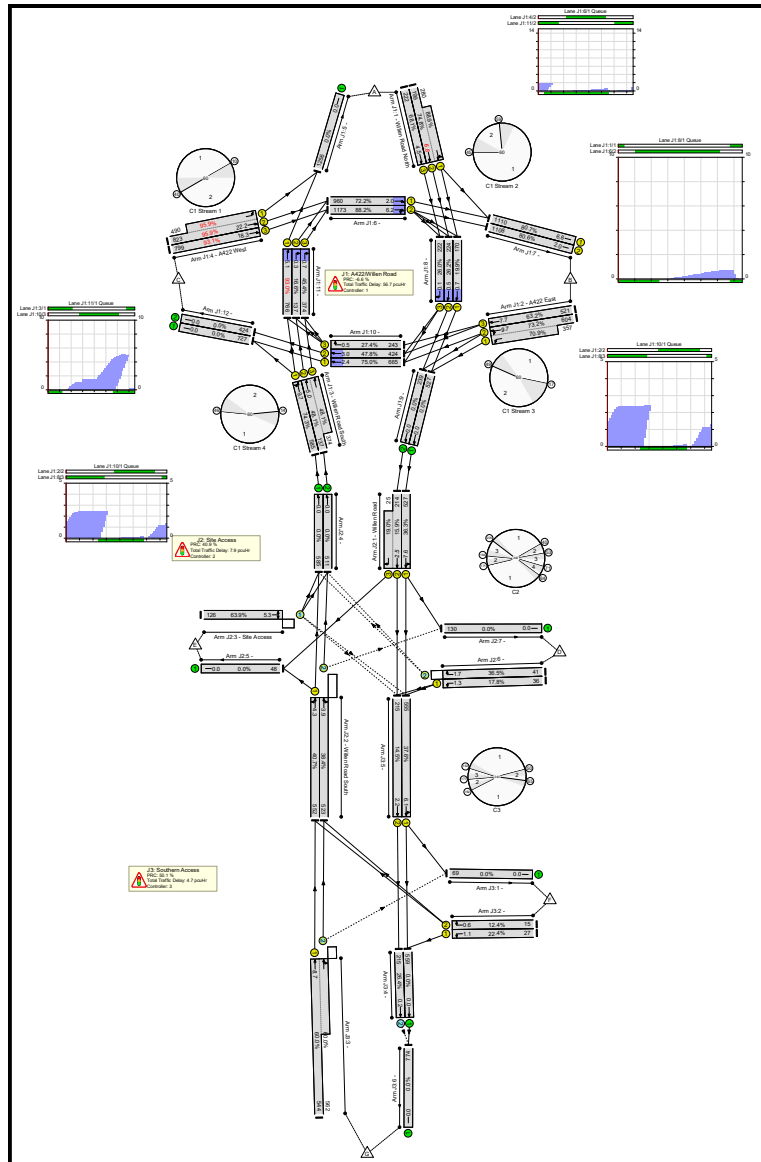
Stage	1	2	3	1	2
Duration	89	7	7	90	7
Change Point	65	162	177	192	50

Full Input Data And Results

Signal Timings Diagram



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: A422 Marsh End / Willen Road / Site Access Proposed Layout	-	-	N/A	-	-		-	-	-	-	-	-	95.9%
J1: A422/Willen Road	-	-	N/A	-	-		-	-	-	-	-	-	95.9%
1/2+1/1	Willen Road North Left Ahead	U	1:2	N/A	C1:C		1	9	-	479	1955:1889	266+315	74.8 : 88.9%
1/3	Willen Road North Ahead	U	1:2	N/A	C1:C		1	9	-	222	1955	326	68.1%
2/2+2/1	A422 East Left Ahead	U	1:3	N/A	C1:E		1	24	-	961	1979:1945	825+503	73.2 : 70.9%
2/3	A422 East Ahead	U	1:3	N/A	C1:E		1	24	-	521	1980	825	63.2%
3/1	Willen Road South Ahead Left	U	1:4	N/A	C1:H		1	23	-	585	1969	788	74.3%
3/2+3/3	Willen Road South Ahead	U	1:4	N/A	C1:H		1	23	-	511	1980:1980	285+778	48.1 : 48.1%
4/2+4/1	A422 West Left Ahead	U	1:1	N/A	C1:A		1	25	-	1313	1980:1888	858+511	95.9 : 95.9%
4/3	A422 West Ahead	U	1:1	N/A	C1:A		1	25	-	799	1980	858	93.1%
5/1		U	N/A	N/A	-		-	-	-	1256	Inf	Inf	0.0%
6/1	Ahead	U	1:2	N/A	C1:D		1	41	-	960	1900	1330	72.2%
6/2	Ahead Right	U	1:2	N/A	C1:D		1	41	-	1173	1900	1330	88.2%
7/1		U	1:5	N/A	C1:J		1	41	-	1110	1965	1375	80.7%
7/2		U	1:5	N/A	C1:J		1	41	-	1108	1965	1375	80.6%
8/1	Ahead	U	1:3	N/A	C1:F		1	26	-	170	1900	855	19.9%
8/2	Ahead	U	1:3	N/A	C1:F		1	26	-	224	1900	855	26.2%
8/3	Right	U	1:3	N/A	C1:F		1	26	-	222	1900	855	26.0%
9/1	Ahead	U	N/A	N/A	-		-	-	-	527	Inf	Inf	0.0%
9/2	Ahead	U	N/A	N/A	-		-	-	-	239	Inf	Inf	0.0%

Full Input Data And Results

10/1	Ahead	U	1:4	N/A	C1:I		1	27	-	665	1900	887	75.0%
10/2	Ahead	U	1:4	N/A	C1:I		1	27	-	424	1900	887	47.8%
10/3	Right	U	1:4	N/A	C1:I		1	27	-	243	1900	887	27.4%
11/1	Ahead	U	1:1	N/A	C1:B		1	25	-	766	1900	823	93.0%
11/2	Right	U	1:1	N/A	C1:B		1	25	-	137	1900	823	16.6%
11/3	Right	U	1:1	N/A	C1:B		1	25	-	374	1900	823	45.4%
12/1		U	N/A	N/A	-		-	-	-	727	Inf	Inf	0.0%
12/2		U	N/A	N/A	-		-	-	-	424	Inf	Inf	0.0%
J2: Site Access	-	-	N/A	-	-		-	-	-	-	-	-	63.9%
1/1	Willen Road Left Ahead	U	N/A	N/A	C2:A		2	174	-	527	1980	1452	36.3%
1/2+1/3	Willen Road Right Ahead	U	N/A	N/A	C2:A C2:B		2	174:14	-	239	1980:1972	1347+131	15.9 : 19.0%
2/1	Willen Road South Ahead Left	U	N/A	N/A	C2:C		2	163	-	552	1972	1356	40.7%
2/2	Willen Road South Ahead Right	O	N/A	N/A	C2:C		2	163	-	523	1980	1361	38.4%
3/1	Site Access Left Right	O	N/A	N/A	C2:D		2	27	-	126	1786	197	63.9%
4/1	Ahead	U	N/A	N/A	-		-	-	-	585	Inf	Inf	0.0%
4/2	Ahead	U	N/A	N/A	-		-	-	-	511	Inf	Inf	0.0%
5/1		U	N/A	N/A	-		-	-	-	48	Inf	Inf	0.0%
6/1	Left	U	N/A	N/A	C2:J		2	23	-	36	1940	202	17.8%
6/2	Right	O	N/A	N/A	C2:J		2	23	-	41	1940	112	36.5%
7/1		U	N/A	N/A	-		-	-	-	130	Inf	Inf	0.0%
J3: Southern Access	-	-	N/A	-	-		-	-	-	-	-	-	60.0%
1/1		U	N/A	N/A	-		-	-	-	69	Inf	Inf	0.0%
2/1	Left	U	N/A	N/A	C3:B		2	14	-	27	1809	121	22.4%
2/2	Right	U	N/A	N/A	C3:B		2	14	-	15	1809	121	12.4%
3/1+3/2	Ahead Right	U+O	N/A	N/A	C3:C		2	179	-	1106	1965:1953	907+937	60.0 : 60.0%

Full Input Data And Results

4/1	Ahead	U	N/A	N/A	-	-	-	-	559	Inf	Inf	0.0%
4/2	Ahead	O	N/A	N/A	-	-	-	-	215	Inf	815	26.4%
5/1	Left Ahead	U	N/A	N/A	C3:A	2	179	-	555	1959	1477	37.6%
5/2	Ahead	U	N/A	N/A	C3:A	2	179	-	215	1965	1482	14.5%
6/1		U	N/A	N/A	-	-	-	-	774	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: A422 Marsh End / Willen Road / Site Access Proposed Layout	-	-	411	7	6	39.3	29.8	0.2	69.3	-	-	-	-
J1: A422/Willen Road	-	-	0	0	0	30.7	26.0	0.0	56.7	-	-	-	-
1/2+1/1	479	479	-	-	-	3.2	2.2	-	5.4 (2.2+3.2)	40.9 (40.1:41.4)	4.5	2.2	6.8
1/3	222	222	-	-	-	1.5	1.0	-	2.5	40.5	3.5	1.0	4.5
2/2+2/1	961	961	-	-	-	3.7	1.3	-	5.0 (3.3+1.7)	18.8 (19.6:17.4)	8.4	1.3	9.7
2/3	521	521	-	-	-	2.0	0.9	-	2.9	19.7	6.8	0.9	7.7
3/1	585	585	-	-	-	2.5	1.4	-	3.9	24.1	8.3	1.4	9.7
3/2+3/3	511	511	-	-	-	1.8	0.5	-	2.3 (0.6+1.7)	16.1 (14.9:16.6)	4.6	0.5	5.0
4/2+4/1	1313	1313	-	-	-	5.5	8.9	-	14.5 (9.4+5.1)	39.6 (40.9:37.4)	13.3	8.9	22.2
4/3	799	799	-	-	-	3.6	5.7	-	9.3	41.7	12.7	5.7	18.3
5/1	1256	1256	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	960	960	-	-	-	0.4	0.0	-	0.4	1.5	2.0	0.0	2.0
6/2	1173	1173	-	-	-	1.0	0.0	-	1.0	3.1	6.2	0.0	6.2
7/1	1110	1110	-	-	-	0.7	2.1	-	2.7	8.8	4.7	2.1	6.8
7/2	1108	1108	-	-	-	0.0	2.0	-	2.0	6.6	0.0	2.0	2.0
8/1	170	170	-	-	-	0.2	0.0	-	0.2	4.8	0.7	0.0	0.7
8/2	224	224	-	-	-	0.2	0.0	-	0.2	2.9	0.5	0.0	0.5
8/3	222	222	-	-	-	0.0	0.0	-	0.0	0.1	0.1	0.0	0.1
9/1	527	527	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
9/2	239	239	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
10/1	665	665	-	-	-	1.0	0.0	-	1.0	5.6	2.4	0.0	2.4
10/2	424	424	-	-	-	1.1	0.0	-	1.1	9.7	3.0	0.0	3.0

Full Input Data And Results

10/3	243	243	-	-	-	0.2	0.0	-	0.2	3.4	0.5	0.0	0.5
11/1	766	766	-	-	-	1.5	0.0	-	1.5	6.9	5.1	0.0	5.1
11/2	137	137	-	-	-	0.1	0.0	-	0.1	3.6	0.3	0.0	0.3
11/3	374	374	-	-	-	0.4	0.0	-	0.4	3.8	0.7	0.0	0.7
12/1	727	727	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
12/2	424	424	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
J2: Site Access	-	-	150	7	6	5.4	2.3	0.2	7.9	-	-	-	-
1/1	527	527	-	-	-	0.9	0.3	-	1.2	7.9	7.3	0.3	7.6
1/2+1/3	239	239	-	-	-	0.7	0.1	-	0.8 (0.4+0.4)	11.4 (6.4:55.0)	2.4	0.1	2.5
2/1	552	552	-	-	-	0.6	0.3	-	0.9	5.8	3.9	0.3	4.3
2/2	523	523	53	7	0	0.5	0.3	0.0	0.9	6.0	3.6	0.3	3.9
3/1	126	126	57	0	6	1.8	0.9	0.1	2.7	78.2	4.4	0.9	5.3
4/1	585	585	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/2	511	511	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	48	48	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	36	36	-	-	-	0.5	0.1	-	0.6	60.6	1.2	0.1	1.3
6/2	41	41	41	0	0	0.6	0.3	0.0	0.9	77.9	1.4	0.3	1.7
7/1	130	130	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
J3: Southern Access	-	-	261	0	0	3.1	1.5	0.0	4.7	-	-	-	-
1/1	69	69	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
2/1	27	27	-	-	-	0.4	0.1	-	0.5	72.6	0.9	0.1	1.1
2/2	15	15	-	-	-	0.2	0.1	-	0.3	70.0	0.5	0.1	0.6
3/1+3/2	1106	1106	46	0	0	1.7	0.7	0.0	2.4 (1.2+1.3)	7.9 (7.8:8.1)	8.0	0.7	8.7
4/1	559	559	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/2	215	215	215	0	0	0.0	0.2	-	0.2	3.0	0.0	0.2	0.2
5/1	555	555	-	-	-	0.6	0.3	-	0.9	5.8	5.8	0.3	6.1
5/2	215	215	-	-	-	0.2	0.1	-	0.3	5.5	2.1	0.1	2.2
6/1	774	774	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

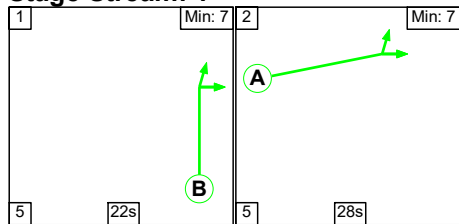
Full Input Data And Results

C1	Stream: 1	PRC for Signalled Lanes (%)	-6.6	Total Delay for Signalled Lanes (pcuHr)	25.71	Cycle Time (s)	60
C1	Stream: 2	PRC for Signalled Lanes (%)	1.2	Total Delay for Signalled Lanes (pcuHr)	9.34	Cycle Time (s)	60
C1	Stream: 3	PRC for Signalled Lanes (%)	22.9	Total Delay for Signalled Lanes (pcuHr)	8.28	Cycle Time (s)	60
C1	Stream: 4	PRC for Signalled Lanes (%)	20.0	Total Delay for Signalled Lanes (pcuHr)	8.62	Cycle Time (s)	60
C1	Stream: 5	PRC for Signalled Lanes (%)	11.5	Total Delay for Signalled Lanes (pcuHr)	4.75	Cycle Time (s)	60
C2		PRC for Signalled Lanes (%)	40.9	Total Delay for Signalled Lanes (pcuHr)	7.91	Cycle Time (s)	240
C3		PRC for Signalled Lanes (%)	50.1	Total Delay for Signalled Lanes (pcuHr)	4.50	Cycle Time (s)	240
		PRC Over All Lanes (%)	-6.6	Total Delay Over All Lanes(pcuHr)	69.30		

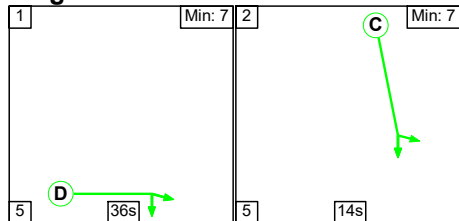
C1

Stage Sequence Diagram

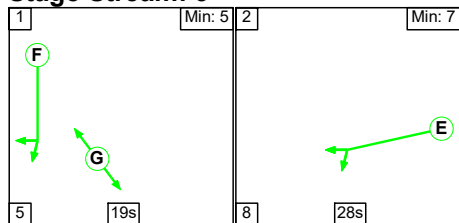
Stage Stream: 1



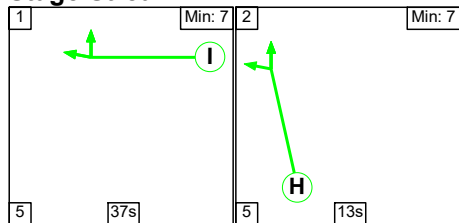
Stage Stream: 2



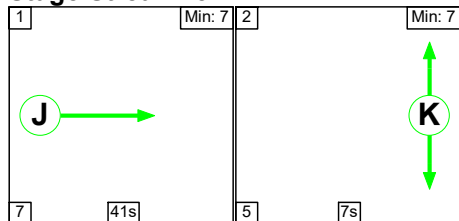
Stage Stream: 3



Stage Stream: 4



Stage Stream: 5



Stage Timings

Stage Stream: 1

Stage	1	2
Duration	22	28
Change Point	29	56

Stage Stream: 2

Stage	1	2
Duration	36	14
Change Point	3	44

Full Input Data And Results

Stage Stream: 3

Stage	1	2
Duration	19	28
Change Point	31	55

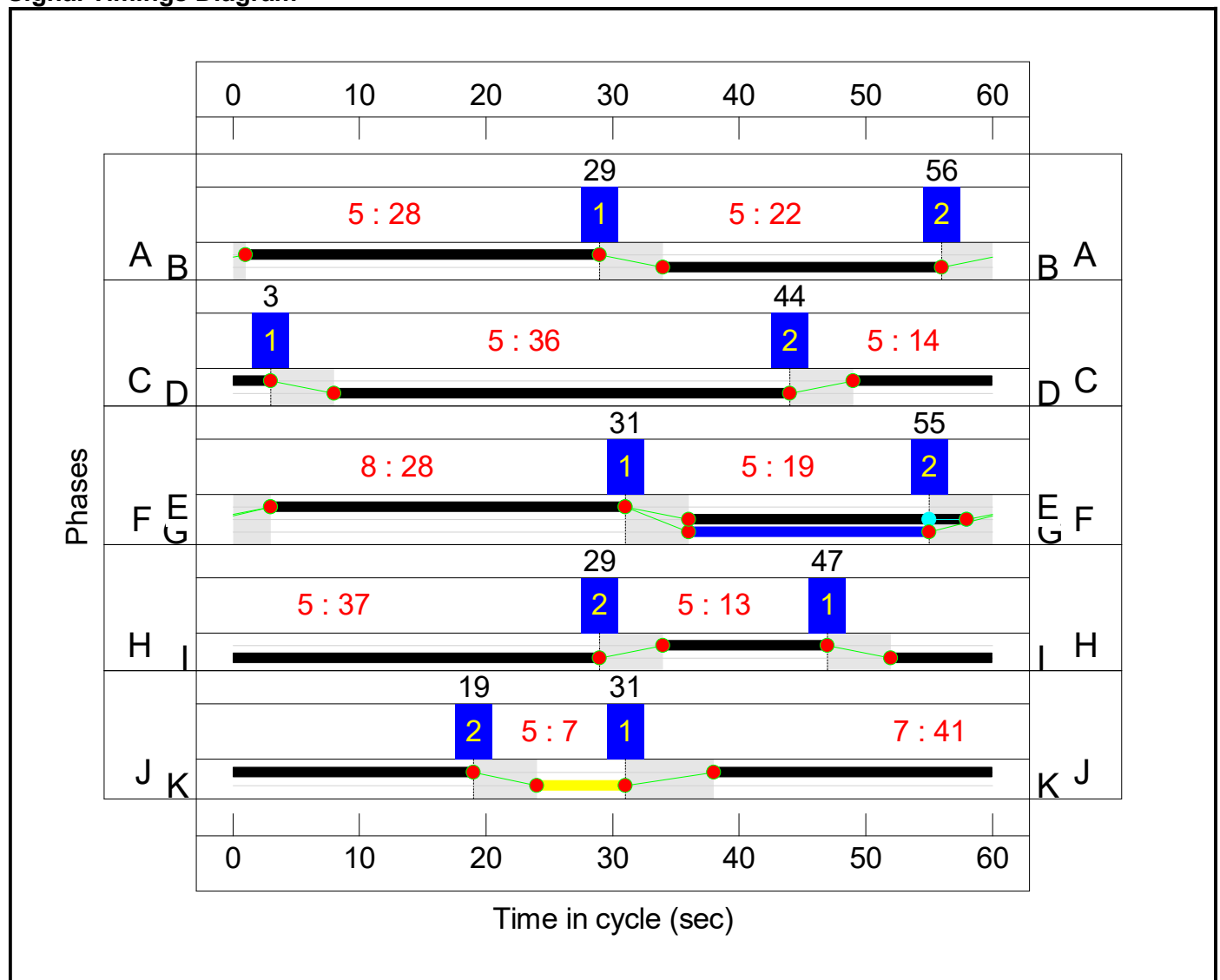
Stage Stream: 4

Stage	1	2
Duration	37	13
Change Point	47	29

Stage Stream: 5

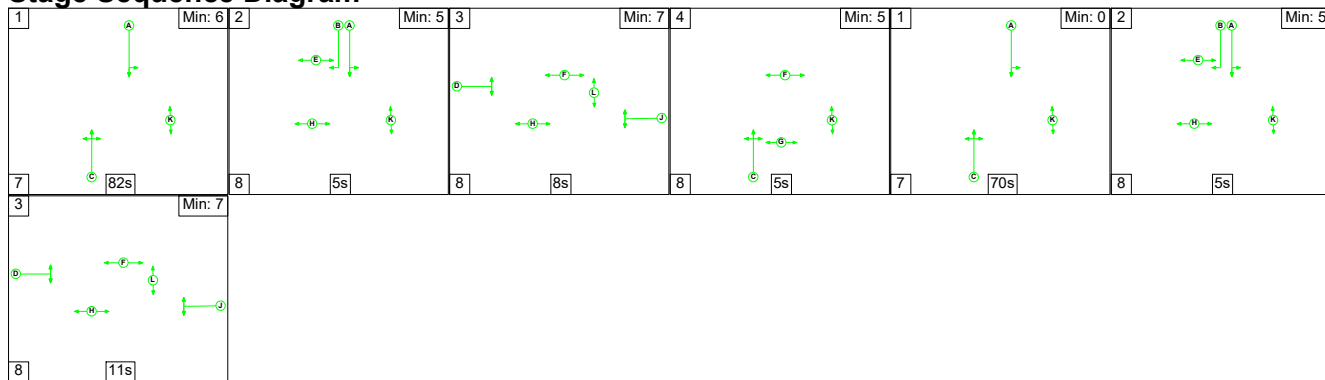
Stage	1	2
Duration	41	7
Change Point	31	19

Signal Timings Diagram



Full Input Data And Results

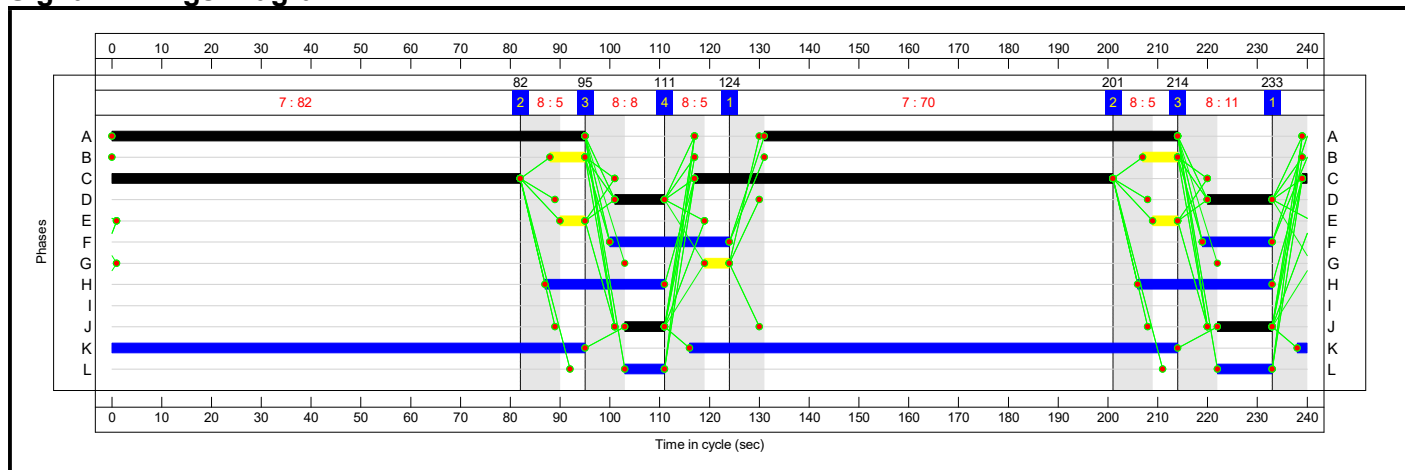
C2
Stage Sequence Diagram



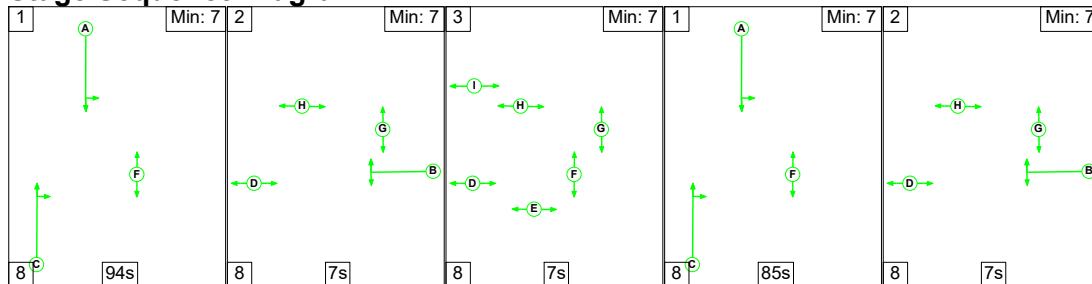
Stage Timings

Stage	1	2	3	4	1	2	3
Duration	82	5	8	5	70	5	11
Change Point	233	82	95	111	124	201	214

Signal Timings Diagram



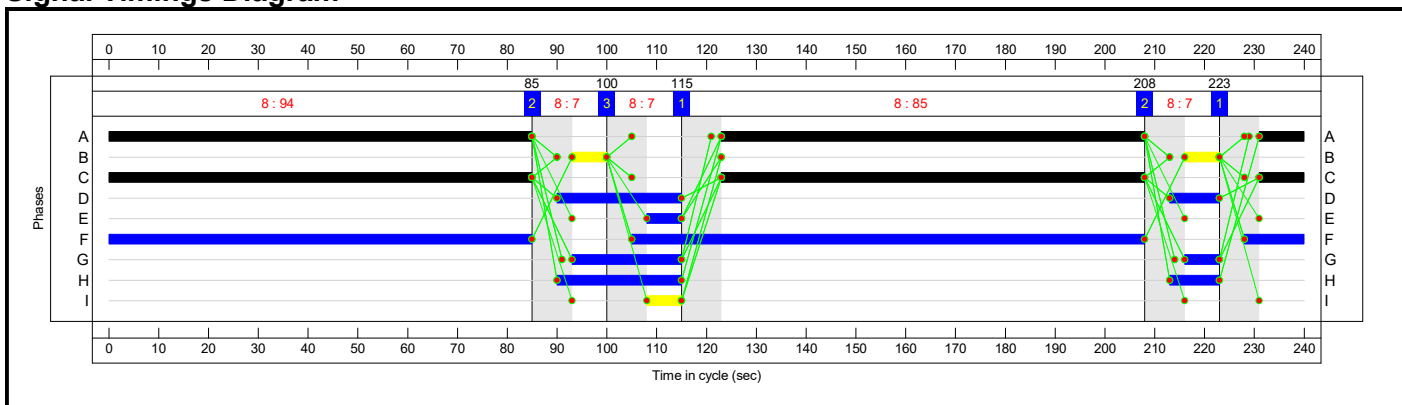
C3
Stage Sequence Diagram



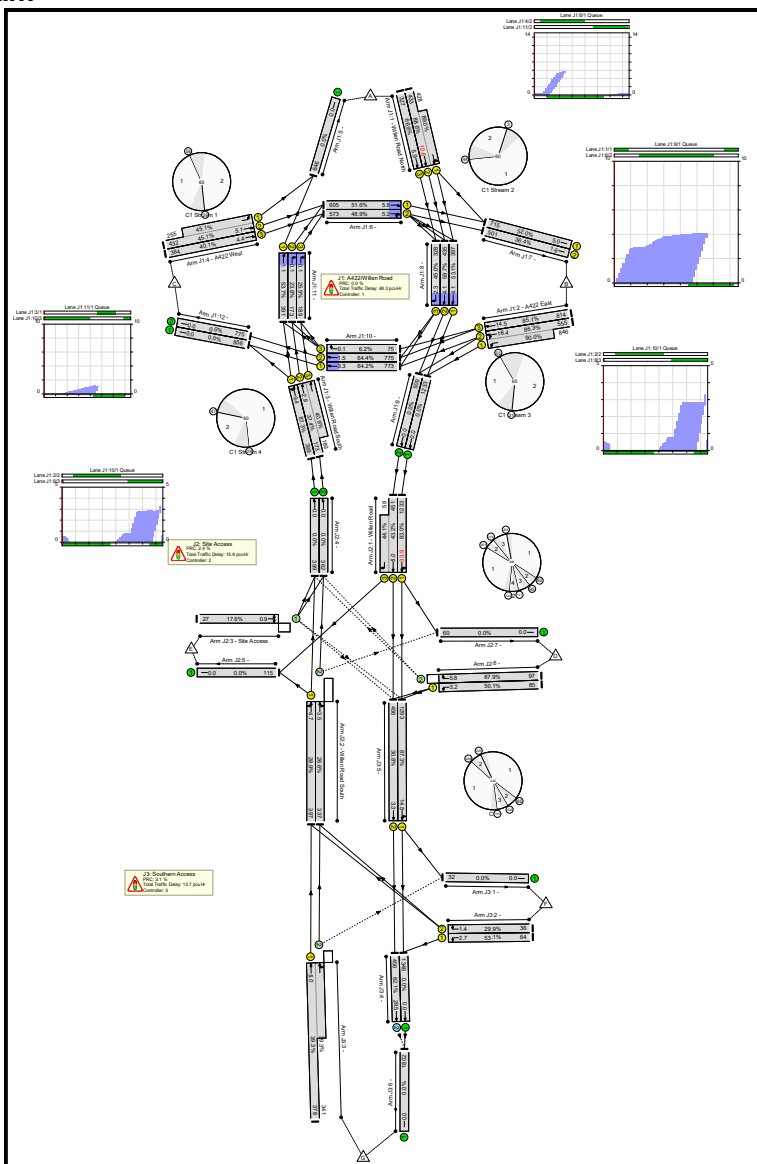
Stage Timings

Stage	1	2	3	1	2
Duration	94	7	7	85	7
Change Point	223	85	100	115	208

Signal Timings Diagram



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: A422 Marsh End / Willen Road / Site Access Proposed Layout	-	-	N/A	-	-		-	-	-	-	-	-	90.0%
J1: A422/Willen Road	-	-	N/A	-	-		-	-	-	-	-	-	90.0%
1/2+1/1	Willen Road North Left Ahead	U	1:2	N/A	C1:C		1	14	-	861	1955:1923	489+481	88.6 : 89.0%
1/3	Willen Road North Ahead	U	1:2	N/A	C1:C		1	14	-	327	1955	489	66.9%
2/2+2/1	A422 East Left Ahead	U	1:3	N/A	C1:E		1	28	-	1401	1975:1945	643+940	86.3 : 90.0%
2/3	A422 East Ahead	U	1:3	N/A	C1:E		1	28	-	814	1980	957	85.1%
3/1	Willen Road South Ahead Left	U	1:4	N/A	C1:H		1	13	-	399	1959	457	87.3%
3/2+3/3	Willen Road South Ahead	U	1:4	N/A	C1:H		1	13	-	362	1980:1980	462+462	37.4 : 40.9%
4/2+4/1	A422 West Left Ahead	U	1:1	N/A	C1:A		1	28	-	687	1980:1888	957+565	45.1 : 45.1%
4/3	A422 West Ahead	U	1:1	N/A	C1:A		1	28	-	384	1980	957	40.1%
5/1		U	N/A	N/A	-		-	-	-	646	Inf	Inf	0.0%
6/1	Ahead	U	1:2	N/A	C1:D		1	36	-	605	1900	1172	51.6%
6/2	Ahead Right	U	1:2	N/A	C1:D		1	36	-	573	1900	1172	48.9%
7/1		U	1:5	N/A	C1:J		1	41	-	715	1965	1375	52.0%
7/2		U	1:5	N/A	C1:J		1	41	-	501	1965	1375	36.4%
8/1	Ahead	U	1:3	N/A	C1:F		1	22	-	387	1900	728	53.1%
8/2	Ahead	U	1:3	N/A	C1:F		1	22	-	435	1900	728	59.7%
8/3	Right	U	1:3	N/A	C1:F		1	22	-	328	1900	728	45.0%
9/1	Ahead	U	N/A	N/A	-		-	-	-	1233	Inf	Inf	0.0%
9/2	Ahead	U	N/A	N/A	-		-	-	-	509	Inf	Inf	0.0%

Full Input Data And Results

10/1	Ahead	U	1:4	N/A	C1:I		1	37	-	773	1900	1203	64.2%
10/2	Ahead	U	1:4	N/A	C1:I		1	37	-	775	1900	1203	64.4%
10/3	Right	U	1:4	N/A	C1:I		1	37	-	75	1900	1203	6.2%
11/1	Ahead	U	1:1	N/A	C1:B		1	22	-	391	1900	728	53.7%
11/2	Right	U	1:1	N/A	C1:B		1	22	-	173	1900	728	23.8%
11/3	Right	U	1:1	N/A	C1:B		1	22	-	189	1900	728	25.9%
12/1		U	N/A	N/A	-		-	-	-	856	Inf	Inf	0.0%
12/2		U	N/A	N/A	-		-	-	-	775	Inf	Inf	0.0%
J2: Site Access	-	-	N/A	-	-		-	-	-	-	-	-	87.9%
1/1	Willen Road Left Ahead	U	N/A	N/A	C2:A		2	178	-	1233	1980	1485	83.0%
1/2+1/3	Willen Road Right Ahead	U	N/A	N/A	C2:A C2:B		2	178:14	-	509	1980:1972	1044+131	43.2 : 44.1%
2/1	Willen Road South Ahead Left	U	N/A	N/A	C2:C		2	167	-	397	1952	1375	28.9%
2/2	Willen Road South Ahead Right	O	N/A	N/A	C2:C		2	167	-	337	1980	1265	26.6%
3/1	Site Access Left Right	O	N/A	N/A	C2:D		2	23	-	27	1782	153	17.6%
4/1	Ahead	U	N/A	N/A	-		-	-	-	399	Inf	Inf	0.0%
4/2	Ahead	U	N/A	N/A	-		-	-	-	362	Inf	Inf	0.0%
5/1		U	N/A	N/A	-		-	-	-	115	Inf	Inf	0.0%
6/1	Left	U	N/A	N/A	C2:J		2	19	-	85	1940	170	50.1%
6/2	Right	O	N/A	N/A	C2:J		2	19	-	97	1940	110	87.9%
7/1		U	N/A	N/A	-		-	-	-	60	Inf	Inf	0.0%
J3: Southern Access	-	-	N/A	-	-		-	-	-	-	-	-	87.3%
1/1		U	N/A	N/A	-		-	-	-	32	Inf	Inf	0.0%
2/1	Left	U	N/A	N/A	C3:B		2	14	-	64	1809	121	53.1%
2/2	Right	U	N/A	N/A	C3:B		2	14	-	36	1809	121	29.9%
3/1+3/2	Ahead Right	U+O	N/A	N/A	C3:C		2	179	-	719	1965:1956	961+867	39.3 : 39.3%

Full Input Data And Results

4/1	Ahead	U	N/A	N/A	-	-	-	-	1346	Inf	Inf	0.0%
4/2	Ahead	O	N/A	N/A	-	-	-	-	456	Inf	556	82.1%
5/1	Left Ahead	U	N/A	N/A	C3:A	2	179	-	1293	1964	1481	87.3%
5/2	Ahead	U	N/A	N/A	C3:A	2	179	-	456	1965	1482	30.8%
6/1		U	N/A	N/A	-	-	-	-	1802	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: A422 Marsh End / Willen Road / Site Access Proposed Layout	-	-	534	2	78	47.7	29.3	0.8	77.9	-	-	-	-
J1: A422/Willen Road	-	-	0	0	0	32.1	16.1	0.0	48.3	-	-	-	-
1/2+1/1	861	861	-	-	-	5.2	3.7	-	8.9 (4.5+4.4)	37.2 (37.2:37.2)	6.9	3.7	10.6
1/3	327	327	-	-	-	1.8	1.0	-	2.8	31.3	4.9	1.0	5.9
2/2+2/1	1401	1401	-	-	-	5.0	3.7	-	8.7 (3.2+5.6)	22.5 (20.6:23.7)	12.7	3.7	16.4
2/3	814	814	-	-	-	3.1	2.7	-	5.8	25.7	11.8	2.7	14.5
3/1	399	399	-	-	-	2.5	3.1	-	5.6	50.1	6.3	3.1	9.4
3/2+3/3	362	362	-	-	-	2.0	0.3	-	2.3 (1.1+1.2)	22.6 (22.5:22.7)	2.6	0.3	2.9
4/2+4/1	687	687	-	-	-	1.9	0.4	-	2.3 (1.5+0.8)	12.0 (12.4:11.4)	4.7	0.4	5.1
4/3	384	384	-	-	-	1.1	0.3	-	1.4	13.1	4.1	0.3	4.4
5/1	646	646	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	605	605	-	-	-	0.6	0.0	-	0.6	3.4	5.8	0.0	5.8
6/2	573	573	-	-	-	0.5	0.0	-	0.5	3.4	5.2	0.0	5.2
7/1	715	715	-	-	-	0.6	0.5	-	1.1	5.6	4.5	0.5	5.0
7/2	501	501	-	-	-	0.3	0.3	-	0.6	4.0	1.3	0.3	1.6
8/1	387	387	-	-	-	2.2	0.0	-	2.2	20.3	4.1	0.0	4.1
8/2	435	435	-	-	-	2.5	0.0	-	2.5	20.9	4.1	0.0	4.1
8/3	328	328	-	-	-	1.4	0.0	-	1.4	15.4	2.3	0.0	2.3
9/1	1233	1233	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
9/2	509	509	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
10/1	773	773	-	-	-	0.8	0.0	-	0.8	3.7	3.3	0.0	3.3
10/2	775	775	-	-	-	0.5	0.0	-	0.5	2.2	1.5	0.0	1.5

Full Input Data And Results

10/3	75	75	-	-	-	0.0	0.0	-	0.0	1.9	0.1	0.0	0.1
11/1	391	391	-	-	-	0.3	0.0	-	0.3	2.4	1.1	0.0	1.1
11/2	173	173	-	-	-	0.0	0.0	-	0.0	0.1	0.1	0.0	0.1
11/3	189	189	-	-	-	0.0	0.0	-	0.0	0.1	0.1	0.0	0.1
12/1	856	856	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
12/2	775	775	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
J2: Site Access	-	-	74	2	61	9.0	6.4	0.6	15.9	-	-	-	-
1/1	1233	1233	-	-	-	3.5	2.4	-	5.9	17.2	31.5	2.4	33.9
1/2+1/3	509	509	-	-	-	1.5	0.4	-	1.9 (1.0+0.9)	13.3 (7.7:56.6)	5.6	0.4	6.0
2/1	397	397	-	-	-	0.5	0.2	-	0.7	6.6	4.5	0.2	4.7
2/2	337	337	0	2	26	0.4	0.2	0.4	1.1	11.3	3.3	0.2	3.5
3/1	27	27	12	0	0	0.4	0.1	0.0	0.5	66.2	0.8	0.1	0.9
4/1	399	399	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/2	362	362	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	115	115	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	85	85	-	-	-	1.2	0.5	-	1.7	73.2	2.7	0.5	3.2
6/2	97	97	62	0	35	1.4	2.6	0.1	4.2	154.3	3.2	2.6	5.8
7/1	60	60	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
J3: Southern Access	-	-	460	0	17	6.6	6.8	0.2	13.7	-	-	-	-
1/1	32	32	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
2/1	64	64	-	-	-	1.0	0.6	-	1.5	85.4	2.1	0.6	2.7
2/2	36	36	-	-	-	0.5	0.2	-	0.7	74.6	1.2	0.2	1.4
3/1+3/2	719	719	4	0	17	0.9	0.3	0.2	1.5 (0.7+0.8)	7.6 (6.4:8.9)	4.7	0.3	5.0
4/1	1346	1346	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/2	456	456	456	0	0	1.8	2.2	-	4.0	31.6	27.3	2.2	29.5
5/1	1293	1293	-	-	-	1.9	3.3	-	5.2	14.5	11.5	3.3	14.8
5/2	456	456	-	-	-	0.5	0.2	-	0.7	5.6	3.1	0.2	3.3
6/1	1802	1802	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

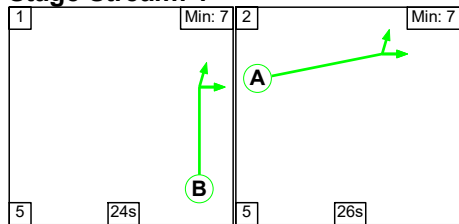
Full Input Data And Results

C1	Stream: 1 PRC for Signalled Lanes (%)	67.6	Total Delay for Signalled Lanes (pcuHr)	3.96	Cycle Time (s)	60
C1	Stream: 2 PRC for Signalled Lanes (%)	1.1	Total Delay for Signalled Lanes (pcuHr)	12.85	Cycle Time (s)	60
C1	Stream: 3 PRC for Signalled Lanes (%)	0.0	Total Delay for Signalled Lanes (pcuHr)	20.66	Cycle Time (s)	60
C1	Stream: 4 PRC for Signalled Lanes (%)	3.1	Total Delay for Signalled Lanes (pcuHr)	9.14	Cycle Time (s)	60
C1	Stream: 5 PRC for Signalled Lanes (%)	73.1	Total Delay for Signalled Lanes (pcuHr)	1.66	Cycle Time (s)	60
C2	PRC for Signalled Lanes (%)	2.4	Total Delay for Signalled Lanes (pcuHr)	15.94	Cycle Time (s)	240
C3	PRC for Signalled Lanes (%)	3.1	Total Delay for Signalled Lanes (pcuHr)	9.70	Cycle Time (s)	240
	PRC Over All Lanes (%)	0.0	Total Delay Over All Lanes(pcuHr)	77.92		

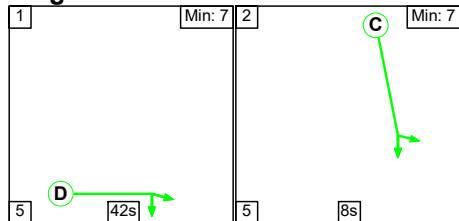
C1

Stage Sequence Diagram

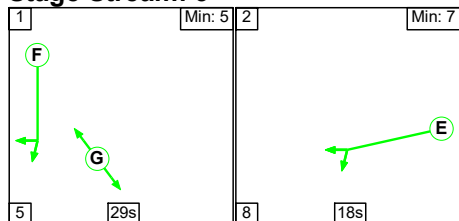
Stage Stream: 1



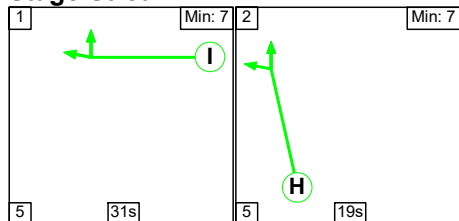
Stage Stream: 2



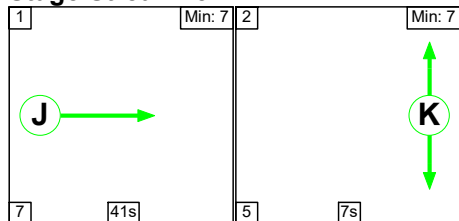
Stage Stream: 3



Stage Stream: 4



Stage Stream: 5



Stage Timings

Stage Stream: 1

Stage	1	2
Duration	24	26
Change Point	41	10

Stage Stream: 2

Stage	1	2
Duration	42	8
Change Point	1	48

Full Input Data And Results

Stage Stream: 3

Stage	1	2
Duration	29	18
Change Point	46	20

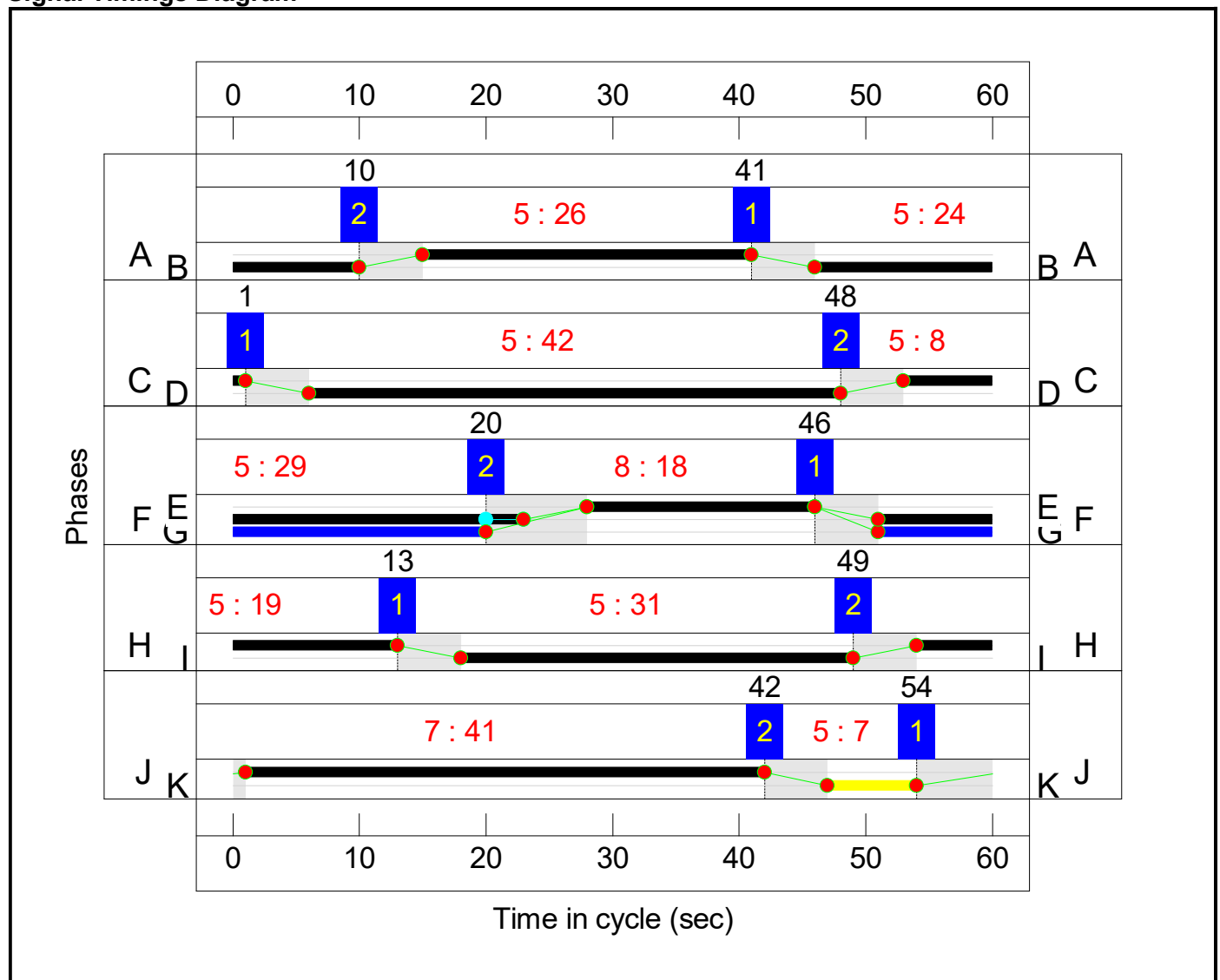
Stage Stream: 4

Stage	1	2
Duration	31	19
Change Point	13	49

Stage Stream: 5

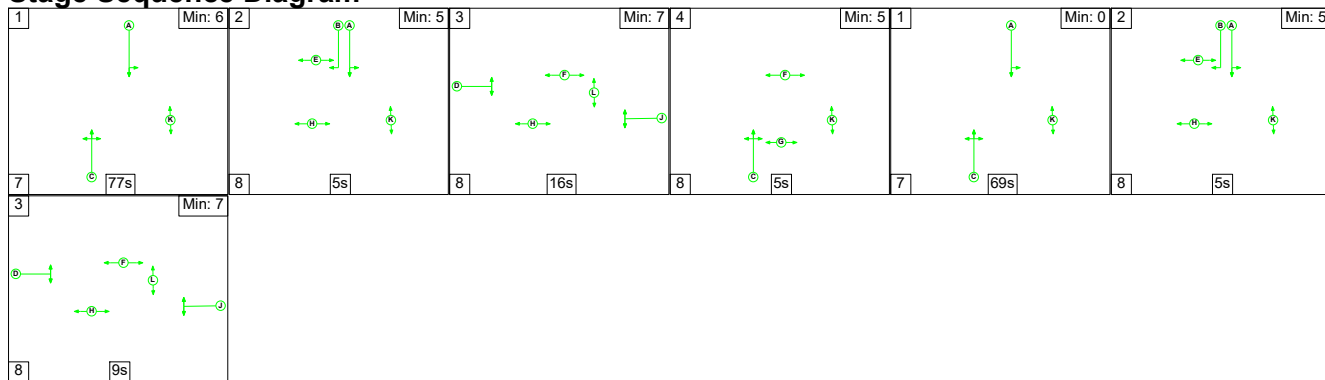
Stage	1	2
Duration	41	7
Change Point	54	42

Signal Timings Diagram



Full Input Data And Results

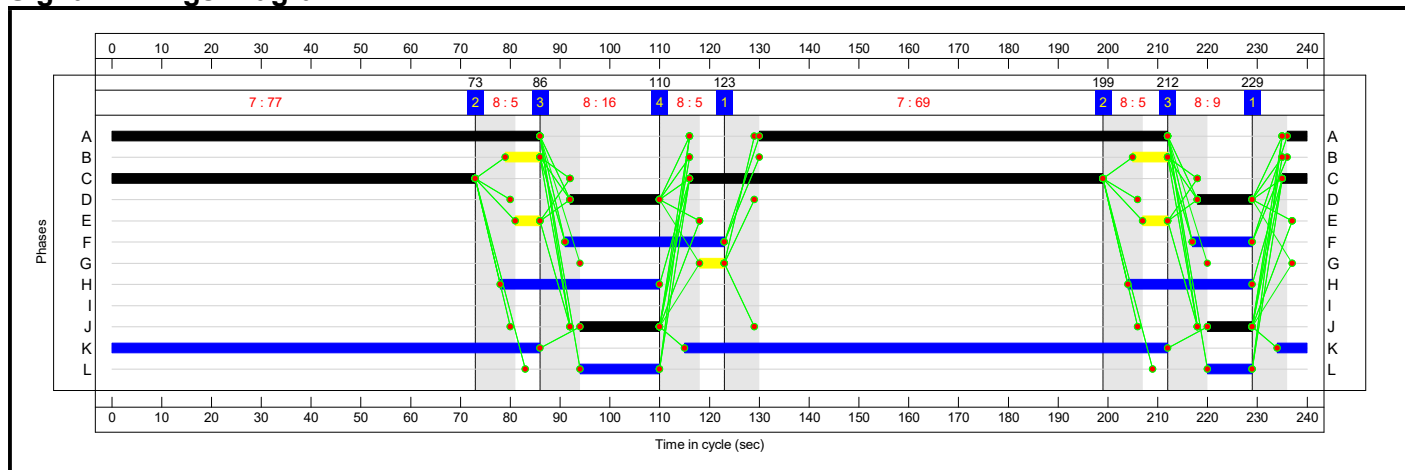
C2
Stage Sequence Diagram



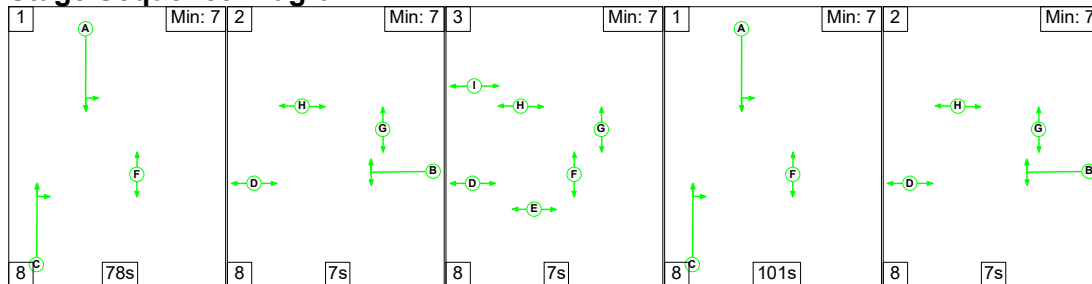
Stage Timings

Stage	1	2	3	4	1	2	3
Duration	77	5	16	5	69	5	9
Change Point	229	73	86	110	123	199	212

Signal Timings Diagram



C3
Stage Sequence Diagram

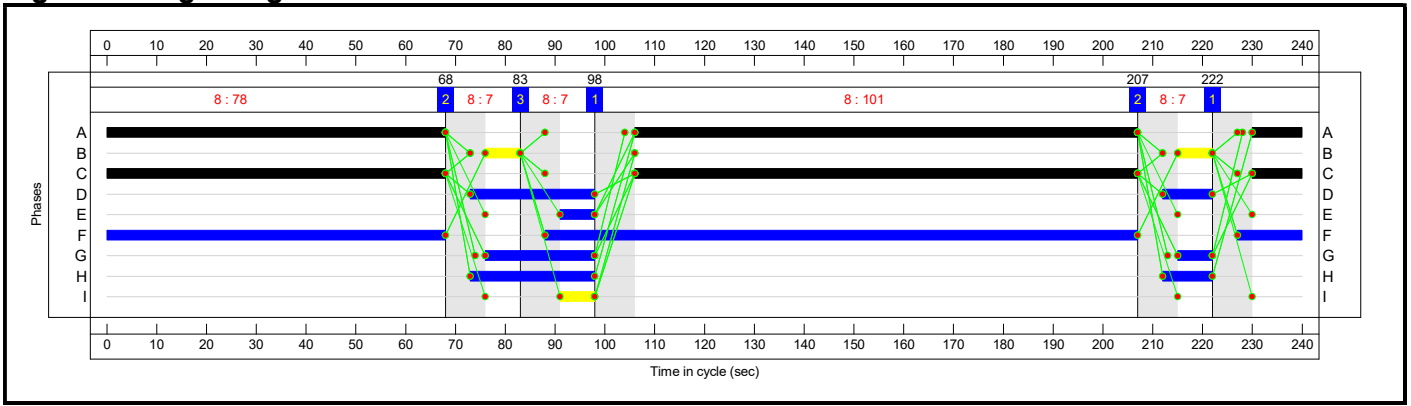


Stage Timings

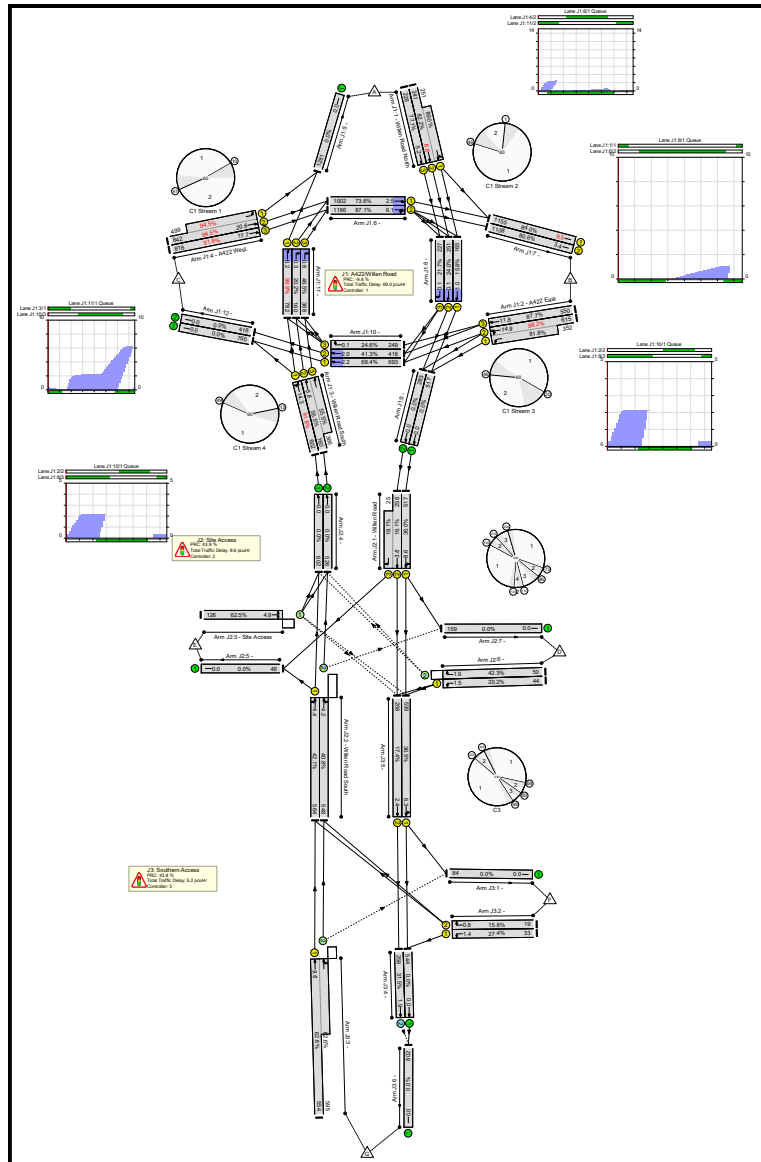
Stage	1	2	3	1	2
Duration	78	7	7	101	7
Change Point	222	68	83	98	207

Full Input Data And Results

Signal Timings Diagram



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: A422 Marsh End / Willen Road / Site Access Proposed Layout	-	-	N/A	-	-		-	-	-	-	-	-	98.8%
J1: A422/Willen Road	-	-	N/A	-	-		-	-	-	-	-	-	98.8%
1/2+1/1	Willen Road North Left Ahead	U	1:2	N/A	C1:C		1	8	-	492	1955:1880	293+282	82.2 : 89.0%
1/3	Willen Road North Ahead	U	1:2	N/A	C1:C		1	8	-	226	1955	293	77.1%
2/2+2/1	A422 East Left Ahead	U	1:3	N/A	C1:E		1	18	-	967	1978:1945	626+430	98.2 : 81.8%
2/3	A422 East Ahead	U	1:3	N/A	C1:E		1	18	-	550	1980	627	87.7%
3/1	Willen Road South Ahead Left	U	1:4	N/A	C1:H		1	19	-	602	1968	656	91.8%
3/2+3/3	Willen Road South Ahead	U	1:4	N/A	C1:H		1	19	-	526	1980:1980	289+660	55.5 : 55.5%
4/2+4/1	A422 West Left Ahead	U	1:1	N/A	C1:A		1	26	-	1341	1980:1888	891+528	94.5 : 94.5%
4/3	A422 West Ahead	U	1:1	N/A	C1:A		1	26	-	818	1980	891	91.8%
5/1		U	N/A	N/A	-		-	-	-	1281	Inf	Inf	0.0%
6/1	Ahead	U	1:2	N/A	C1:D		1	42	-	1002	1900	1362	73.6%
6/2	Ahead Right	U	1:2	N/A	C1:D		1	42	-	1186	1900	1362	87.1%
7/1		U	1:5	N/A	C1:J		1	41	-	1155	1965	1375	84.0%
7/2		U	1:5	N/A	C1:J		1	41	-	1108	1965	1375	80.6%
8/1	Ahead	U	1:3	N/A	C1:F		1	32	-	165	1900	1045	15.8%
8/2	Ahead	U	1:3	N/A	C1:F		1	32	-	251	1900	1045	24.0%
8/3	Right	U	1:3	N/A	C1:F		1	32	-	227	1900	1045	21.7%
9/1	Ahead	U	N/A	N/A	-		-	-	-	517	Inf	Inf	0.0%
9/2	Ahead	U	N/A	N/A	-		-	-	-	283	Inf	Inf	0.0%

Full Input Data And Results

10/1	Ahead	U	1:4	N/A	C1:I		1	31	-	693	1900	1013	68.4%
10/2	Ahead	U	1:4	N/A	C1:I		1	31	-	418	1900	1013	41.3%
10/3	Right	U	1:4	N/A	C1:I		1	31	-	249	1900	1013	24.6%
11/1	Ahead	U	1:1	N/A	C1:B		1	24	-	782	1900	792	98.8%
11/2	Right	U	1:1	N/A	C1:B		1	24	-	160	1900	792	20.2%
11/3	Right	U	1:1	N/A	C1:B		1	24	-	368	1900	792	46.5%
12/1		U	N/A	N/A	-		-	-	-	760	Inf	Inf	0.0%
12/2		U	N/A	N/A	-		-	-	-	418	Inf	Inf	0.0%
J2: Site Access	-	-	N/A	-	-		-	-	-	-	-	-	62.5%
1/1	Willen Road Left Ahead	U	N/A	N/A	C2:A		2	172	-	517	1980	1436	36.0%
1/2+1/3	Willen Road Right Ahead	U	N/A	N/A	C2:A C2:B		2	172:14	-	283	1980:1972	1351+131	19.1 : 19.1%
2/1	Willen Road South Ahead Left	U	N/A	N/A	C2:C		2	161	-	564	1972	1339	42.1%
2/2	Willen Road South Ahead Right	O	N/A	N/A	C2:C		2	161	-	548	1980	1345	40.8%
3/1	Site Access Left Right	O	N/A	N/A	C2:D		2	29	-	126	1786	201	62.5%
4/1	Ahead	U	N/A	N/A	-		-	-	-	602	Inf	Inf	0.0%
4/2	Ahead	U	N/A	N/A	-		-	-	-	526	Inf	Inf	0.0%
5/1		U	N/A	N/A	-		-	-	-	48	Inf	Inf	0.0%
6/1	Left	U	N/A	N/A	C2:J		2	25	-	44	1940	218	20.2%
6/2	Right	O	N/A	N/A	C2:J		2	25	-	50	1940	118	42.3%
7/1		U	N/A	N/A	-		-	-	-	159	Inf	Inf	0.0%
J3: Southern Access	-	-	N/A	-	-		-	-	-	-	-	-	62.6%
1/1		U	N/A	N/A	-		-	-	-	84	Inf	Inf	0.0%
2/1	Left	U	N/A	N/A	C3:B		2	14	-	33	1809	121	27.4%
2/2	Right	U	N/A	N/A	C3:B		2	14	-	19	1809	121	15.8%
3/1+3/2	Ahead Right	U+O	N/A	N/A	C3:C		2	179	-	1149	1965:1951	885+951	62.6 : 62.6%

Full Input Data And Results

4/1	Ahead	U	N/A	N/A	-	-	-	-	544	Inf	Inf	0.0%
4/2	Ahead	O	N/A	N/A	-	-	-	-	258	Inf	820	31.5%
5/1	Left Ahead	U	N/A	N/A	C3:A	2	179	-	539	1957	1476	36.5%
5/2	Ahead	U	N/A	N/A	C3:A	2	179	-	258	1965	1482	17.4%
6/1		U	N/A	N/A	-	-	-	-	802	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: A422 Marsh End / Willen Road / Site Access Proposed Layout	-	-	480	9	12	43.7	38.8	0.3	82.7	-	-	-	-
J1: A422/Willen Road	-	-	0	0	0	34.3	34.7	0.0	69.0	-	-	-	-
1/2+1/1	492	492	-	-	-	3.4	2.8	-	6.2 (3.0+3.2)	45.2 (45.0:45.3)	4.0	2.8	6.8
1/3	226	226	-	-	-	1.5	1.6	-	3.1	50.1	3.6	1.6	5.2
2/2+2/1	967	967	-	-	-	5.1	4.9	-	10.0 (6.6+3.4)	37.3 (38.4:35.2)	10.1	4.9	14.9
2/3	550	550	-	-	-	3.0	3.3	-	6.3	40.9	8.6	3.3	11.8
3/1	602	602	-	-	-	3.2	4.7	-	8.0	47.6	9.5	4.7	14.3
3/2+3/3	526	526	-	-	-	2.3	0.6	-	2.9 (0.8+2.1)	20.1 (18.8:20.6)	5.0	0.6	5.6
4/2+4/1	1341	1341	-	-	-	5.4	7.2	-	12.7 (8.2+4.4)	34.0 (35.2:31.8)	13.3	7.2	20.6
4/3	818	818	-	-	-	3.5	4.9	-	8.4	37.2	12.7	4.9	17.7
5/1	1281	1281	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	1002	1002	-	-	-	0.4	0.0	-	0.4	1.5	2.5	0.0	2.5
6/2	1186	1186	-	-	-	0.9	0.0	-	0.9	2.8	6.1	0.0	6.1
7/1	1155	1155	-	-	-	0.9	2.6	-	3.5	10.9	7.0	2.6	9.5
7/2	1108	1108	-	-	-	0.4	2.0	-	2.4	7.9	1.4	2.0	3.4
8/1	165	165	-	-	-	0.3	0.0	-	0.3	5.9	1.0	0.0	1.0
8/2	251	251	-	-	-	0.0	0.0	-	0.0	0.6	0.1	0.0	0.1
8/3	227	227	-	-	-	0.0	0.0	-	0.0	0.1	0.1	0.0	0.1
9/1	517	517	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
9/2	283	283	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
10/1	693	693	-	-	-	0.7	0.0	-	0.7	3.5	2.2	0.0	2.2
10/2	418	418	-	-	-	0.6	0.0	-	0.6	4.9	2.0	0.0	2.0

Full Input Data And Results

10/3	249	249	-	-	-	0.0	0.0	-	0.0	0.5	0.1	0.0	0.1
11/1	782	782	-	-	-	2.0	0.0	-	2.0	9.3	6.2	0.0	6.2
11/2	160	160	-	-	-	0.1	0.0	-	0.1	3.3	0.3	0.0	0.3
11/3	368	368	-	-	-	0.4	0.0	-	0.4	3.4	0.6	0.0	0.6
12/1	760	760	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
12/2	418	418	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
J2: Site Access	-	-	166	9	12	6.0	2.4	0.2	8.6	-	-	-	-
1/1	517	517	-	-	-	1.0	0.3	-	1.2	8.7	8.3	0.3	8.6
1/2+1/3	283	283	-	-	-	0.8	0.1	-	0.9 (0.5+0.4)	11.4 (7.2:54.7)	3.5	0.1	3.6
2/1	564	564	-	-	-	0.6	0.4	-	1.0	6.4	4.0	0.4	4.4
2/2	548	548	65	9	0	0.6	0.3	0.1	1.0	6.7	3.9	0.3	4.2
3/1	126	126	51	0	12	1.7	0.8	0.1	2.6	75.4	4.1	0.8	4.9
4/1	602	602	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/2	526	526	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	48	48	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	44	44	-	-	-	0.6	0.1	-	0.7	58.7	1.4	0.1	1.5
6/2	50	50	50	0	0	0.7	0.4	0.0	1.1	78.1	1.5	0.4	1.9
7/1	159	159	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
J3: Southern Access	-	-	314	0	0	3.4	1.7	0.0	5.2	-	-	-	-
1/1	84	84	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
2/1	33	33	-	-	-	0.5	0.2	-	0.7	75.3	1.2	0.2	1.4
2/2	19	19	-	-	-	0.3	0.1	-	0.4	72.1	0.7	0.1	0.8
3/1+3/2	1149	1149	56	0	0	1.7	0.8	0.0	2.6 (1.2+1.4)	8.2 (8.0:8.4)	8.8	0.8	9.6
4/1	544	544	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/2	258	258	258	0	0	0.0	0.2	-	0.2	3.2	1.7	0.2	1.9
5/1	539	539	-	-	-	0.6	0.3	-	0.9	5.7	6.0	0.3	6.3
5/2	258	258	-	-	-	0.3	0.1	-	0.4	5.6	2.2	0.1	2.4
6/1	802	802	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

Full Input Data And Results

C1	Stream: 1 PRC for Signalled Lanes (%):	-9.8	Total Delay for Signalled Lanes (pcuHr):	23.61	Cycle Time (s):	60
C1	Stream: 2 PRC for Signalled Lanes (%):	1.1	Total Delay for Signalled Lanes (pcuHr):	10.67	Cycle Time (s):	60
C1	Stream: 3 PRC for Signalled Lanes (%):	-9.1	Total Delay for Signalled Lanes (pcuHr):	16.58	Cycle Time (s):	60
C1	Stream: 4 PRC for Signalled Lanes (%):	-2.0	Total Delay for Signalled Lanes (pcuHr):	12.16	Cycle Time (s):	60
C1	Stream: 5 PRC for Signalled Lanes (%):	7.2	Total Delay for Signalled Lanes (pcuHr):	5.94	Cycle Time (s):	60
C2	PRC for Signalled Lanes (%):	43.9	Total Delay for Signalled Lanes (pcuHr):	8.60	Cycle Time (s):	240
C3	PRC for Signalled Lanes (%):	43.8	Total Delay for Signalled Lanes (pcuHr):	4.95	Cycle Time (s):	240
	PRC Over All Lanes (%):	-9.8	Total Delay Over All Lanes(pcuHr):	82.74		

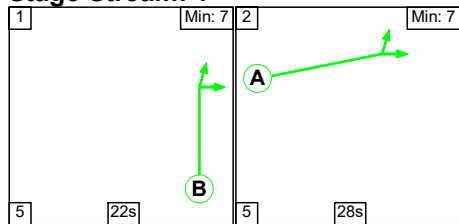
Full Input Data And Results

Scenario 5: '2033 Base + Committed + Dev (10%) AM' (FG5: '2033 Base + Committed + Dev (10%) AM', Plan 1: 'Network Control Plan 1')

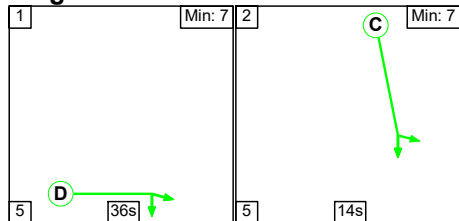
C1

Stage Sequence Diagram

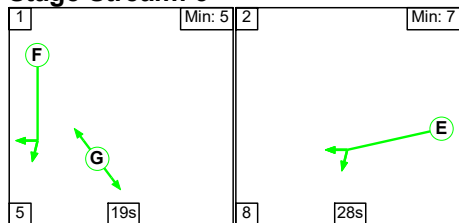
Stage Stream: 1



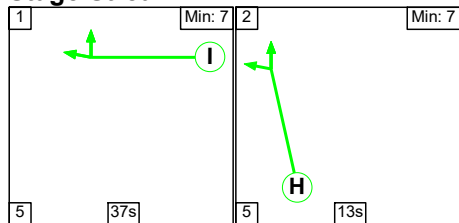
Stage Stream: 2



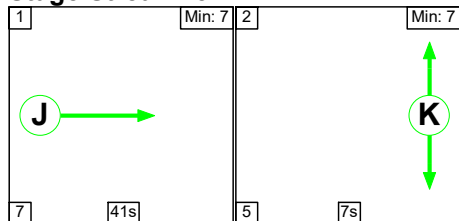
Stage Stream: 3



Stage Stream: 4



Stage Stream: 5



Stage Timings

Stage Stream: 1

Stage	1	2
Duration	22	28
Change Point	29	56

Stage Stream: 2

Stage	1	2
Duration	36	14
Change Point	3	44

Full Input Data And Results

Stage Stream: 3

Stage	1	2
Duration	19	28
Change Point	31	55

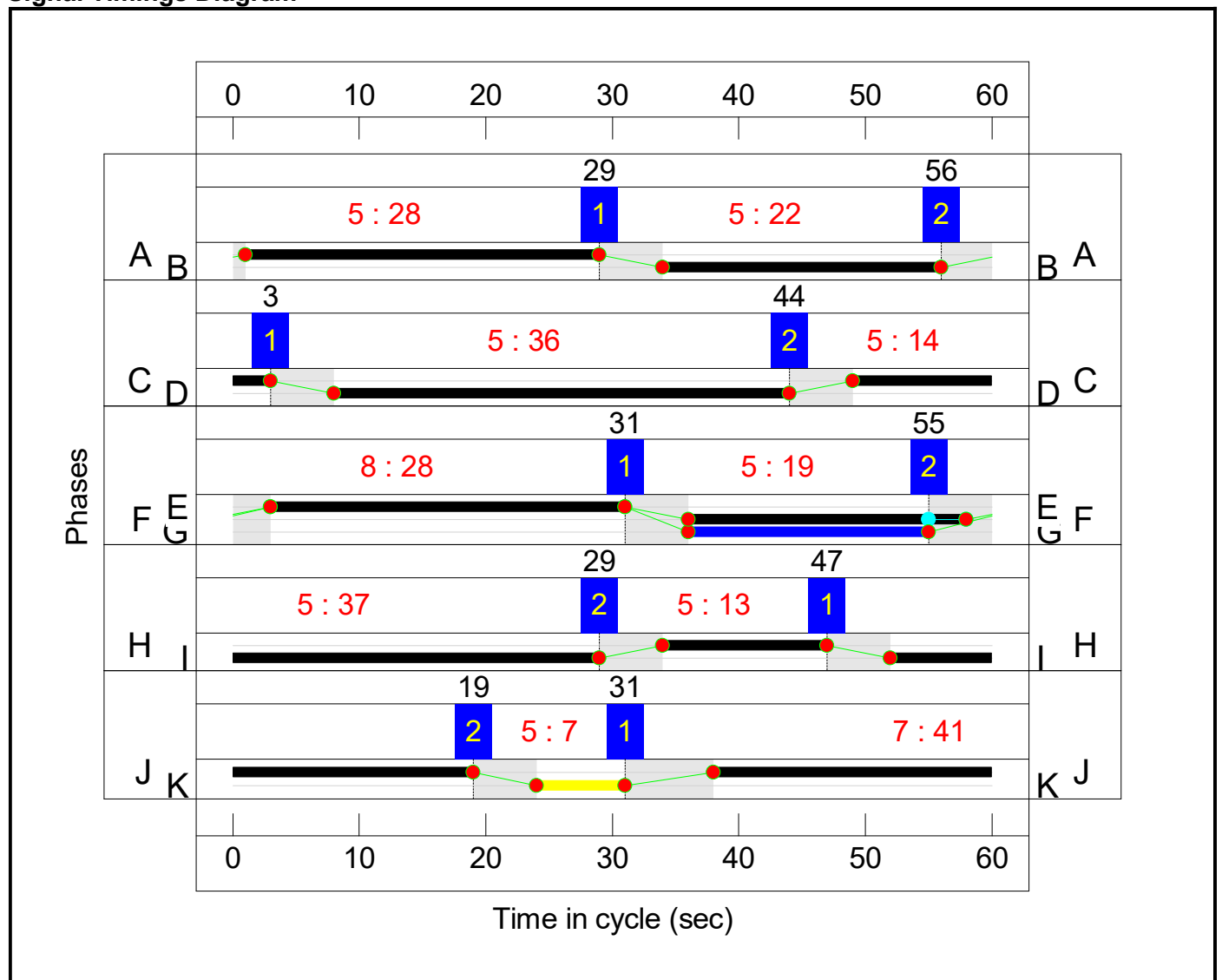
Stage Stream: 4

Stage	1	2
Duration	37	13
Change Point	47	29

Stage Stream: 5

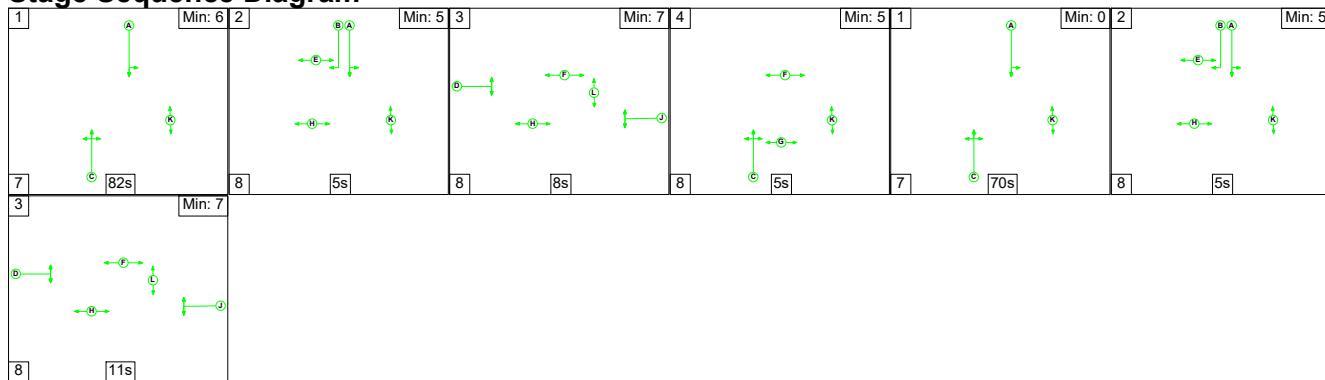
Stage	1	2
Duration	41	7
Change Point	31	19

Signal Timings Diagram



Full Input Data And Results

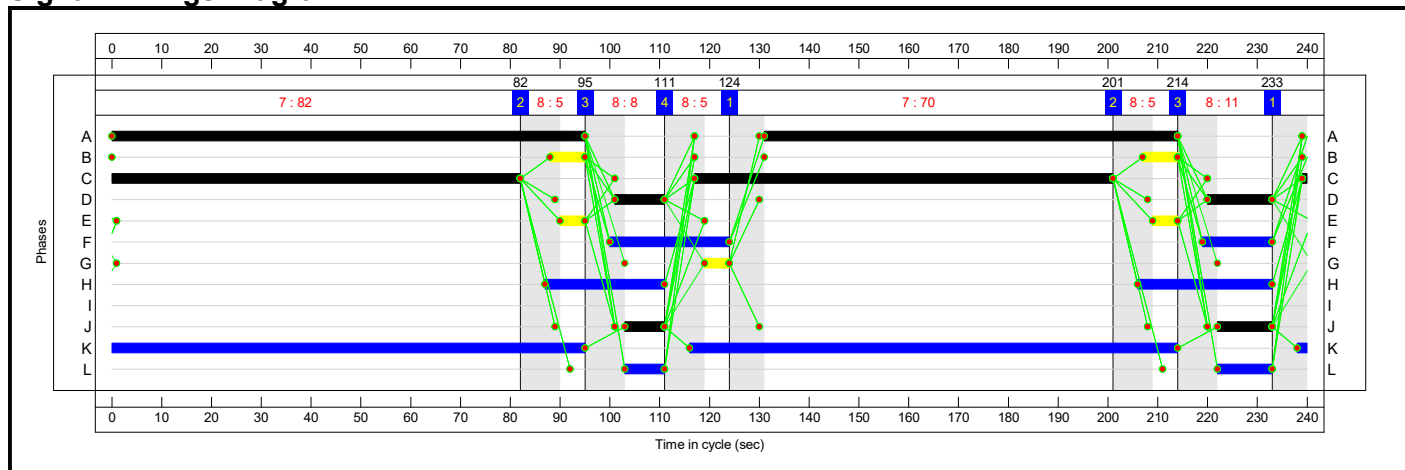
C2
Stage Sequence Diagram



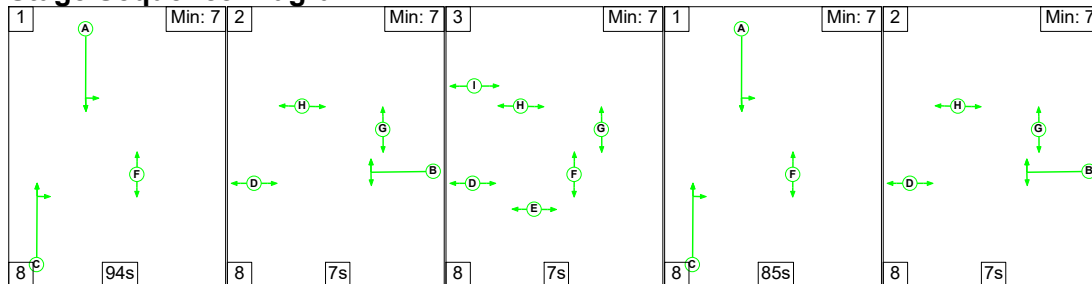
Stage Timings

Stage	1	2	3	4	1	2	3
Duration	82	5	8	5	70	5	11
Change Point	233	82	95	111	124	201	214

Signal Timings Diagram



C3
Stage Sequence Diagram

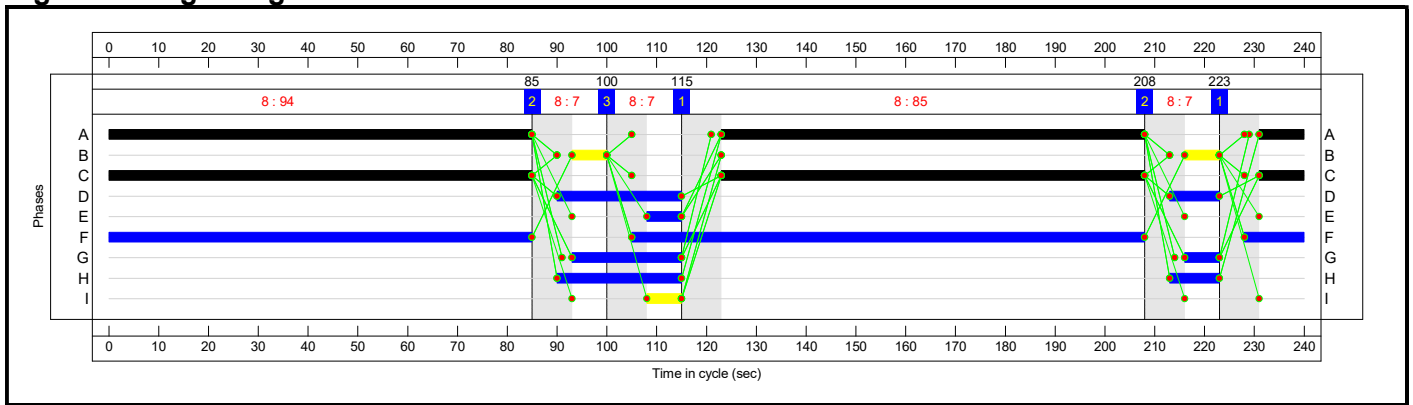


Stage Timings

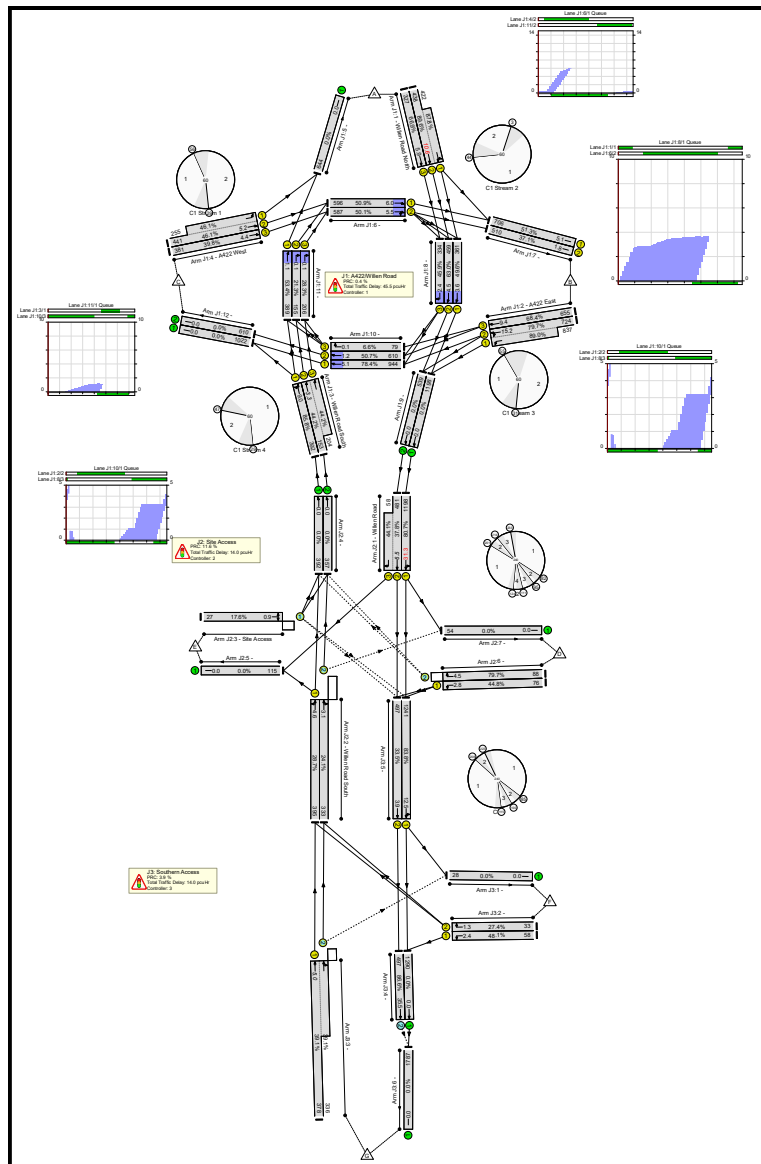
Stage	1	2	3	1	2
Duration	94	7	7	85	7
Change Point	223	85	100	115	208

Full Input Data And Results

Signal Timings Diagram



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: A422 Marsh End / Willen Road / Site Access Proposed Layout	-	-	N/A	-	-		-	-	-	-	-	-	89.6%
J1: A422/Willen Road	-	-	N/A	-	-		-	-	-	-	-	-	89.6%
1/2+1/1	Willen Road North Left Ahead	U	1:2	N/A	C1:C		1	14	-	860	1955:1922	489+480	89.6 : 87.8%
1/3	Willen Road North Ahead	U	1:2	N/A	C1:C		1	14	-	327	1955	489	66.9%
2/2+2/1	A422 East Left Ahead	U	1:3	N/A	C1:E		1	28	-	1561	1976:1945	909+940	79.7 : 89.0%
2/3	A422 East Ahead	U	1:3	N/A	C1:E		1	28	-	655	1980	957	68.4%
3/1	Willen Road South Ahead Left	U	1:4	N/A	C1:H		1	13	-	392	1959	457	85.8%
3/2+3/3	Willen Road South Ahead	U	1:4	N/A	C1:H		1	13	-	357	1980:1980	347+462	44.2 : 44.2%
4/2+4/1	A422 West Left Ahead	U	1:1	N/A	C1:A		1	28	-	696	1980:1888	957+553	46.1 : 46.1%
4/3	A422 West Ahead	U	1:1	N/A	C1:A		1	28	-	381	1980	957	39.8%
5/1		U	N/A	N/A	-		-	-	-	644	Inf	Inf	0.0%
6/1	Ahead	U	1:2	N/A	C1:D		1	36	-	596	1900	1172	50.9%
6/2	Ahead Right	U	1:2	N/A	C1:D		1	36	-	587	1900	1172	50.1%
7/1		U	1:5	N/A	C1:J		1	41	-	706	1965	1375	51.3%
7/2		U	1:5	N/A	C1:J		1	41	-	510	1965	1375	37.1%
8/1	Ahead	U	1:3	N/A	C1:F		1	22	-	361	1900	728	49.6%
8/2	Ahead	U	1:3	N/A	C1:F		1	22	-	459	1900	728	63.0%
8/3	Right	U	1:3	N/A	C1:F		1	22	-	334	1900	728	45.9%
9/1	Ahead	U	N/A	N/A	-		-	-	-	1198	Inf	Inf	0.0%
9/2	Ahead	U	N/A	N/A	-		-	-	-	539	Inf	Inf	0.0%

Full Input Data And Results

10/1	Ahead	U	1:4	N/A	C1:I		1	37	-	944	1900	1203	78.4%
10/2	Ahead	U	1:4	N/A	C1:I		1	37	-	610	1900	1203	50.7%
10/3	Right	U	1:4	N/A	C1:I		1	37	-	79	1900	1203	6.6%
11/1	Ahead	U	1:1	N/A	C1:B		1	22	-	389	1900	728	53.4%
11/2	Right	U	1:1	N/A	C1:B		1	22	-	155	1900	728	21.3%
11/3	Right	U	1:1	N/A	C1:B		1	22	-	206	1900	728	28.3%
12/1		U	N/A	N/A	-		-	-	-	1022	Inf	Inf	0.0%
12/2		U	N/A	N/A	-		-	-	-	610	Inf	Inf	0.0%
J2: Site Access	-	-	N/A	-	-		-	-	-	-	-	-	80.7%
1/1	Willen Road Left Ahead	U	N/A	N/A	C2:A		2	178	-	1198	1980	1485	80.7%
1/2+1/3	Willen Road Right Ahead	U	N/A	N/A	C2:A C2:B		2	178:14	-	539	1980:1972	1272+131	37.8 : 44.1%
2/1	Willen Road South Ahead Left	U	N/A	N/A	C2:C		2	167	-	395	1952	1375	28.7%
2/2	Willen Road South Ahead Right	O	N/A	N/A	C2:C		2	167	-	333	1980	1383	24.1%
3/1	Site Access Left Right	O	N/A	N/A	C2:D		2	23	-	27	1782	154	17.6%
4/1	Ahead	U	N/A	N/A	-		-	-	-	392	Inf	Inf	0.0%
4/2	Ahead	U	N/A	N/A	-		-	-	-	357	Inf	Inf	0.0%
5/1		U	N/A	N/A	-		-	-	-	115	Inf	Inf	0.0%
6/1	Left	U	N/A	N/A	C2:J		2	19	-	76	1940	170	44.8%
6/2	Right	O	N/A	N/A	C2:J		2	19	-	88	1940	110	79.7%
7/1		U	N/A	N/A	-		-	-	-	54	Inf	Inf	0.0%
J3: Southern Access	-	-	N/A	-	-		-	-	-	-	-	-	86.6%
1/1		U	N/A	N/A	-		-	-	-	28	Inf	Inf	0.0%
2/1	Left	U	N/A	N/A	C3:B		2	14	-	58	1809	121	48.1%
2/2	Right	U	N/A	N/A	C3:B		2	14	-	33	1809	121	27.4%
3/1+3/2	Ahead Right	U+O	N/A	N/A	C3:C		2	179	-	714	1965:1957	966+858	39.1 : 39.1%

Full Input Data And Results

4/1	Ahead	U	N/A	N/A	-	-	-	-	1290	Inf	Inf	0.0%
4/2	Ahead	O	N/A	N/A	-	-	-	-	497	Inf	574	86.6%
5/1	Left Ahead	U	N/A	N/A	C3:A	2	179	-	1241	1964	1481	83.8%
5/2	Ahead	U	N/A	N/A	C3:A	2	179	-	497	1965	1482	33.5%
6/1		U	N/A	N/A	-	-	-	-	1787	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: A422 Marsh End / Willen Road / Site Access Proposed Layout	-	-	575	2	65	47.9	24.9	0.7	73.5	-	-	-	-
J1: A422/Willen Road	-	-	0	0	0	32.3	13.2	0.0	45.5	-	-	-	-
1/2+1/1	860	860	-	-	-	5.2	3.7	-	8.9 (4.5+4.3)	37.1 (37.2:37.1)	6.9	3.7	10.6
1/3	327	327	-	-	-	1.8	1.0	-	2.8	31.3	4.9	1.0	5.9
2/2+2/1	1561	1561	-	-	-	5.8	2.7	-	8.5 (3.8+4.7)	19.5 (18.8:20.2)	12.6	2.7	15.2
2/3	655	655	-	-	-	2.2	1.1	-	3.3	17.9	8.4	1.1	9.4
3/1	392	392	-	-	-	2.4	2.8	-	5.2	47.5	6.2	2.8	9.0
3/2+3/3	357	357	-	-	-	1.9	0.4	-	2.3 (1.0+1.3)	23.4 (23.1:23.7)	2.9	0.4	3.3
4/2+4/1	696	696	-	-	-	1.9	0.4	-	2.3 (1.5+0.8)	12.1 (12.5:11.5)	4.8	0.4	5.2
4/3	381	381	-	-	-	1.1	0.3	-	1.4	13.0	4.0	0.3	4.4
5/1	644	644	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	596	596	-	-	-	0.6	0.0	-	0.6	3.4	6.0	0.0	6.0
6/2	587	587	-	-	-	0.7	0.0	-	0.7	4.2	5.5	0.0	5.5
7/1	706	706	-	-	-	0.6	0.5	-	1.1	5.8	4.6	0.5	5.1
7/2	510	510	-	-	-	0.3	0.3	-	0.6	4.3	1.5	0.3	1.8
8/1	361	361	-	-	-	2.0	0.0	-	2.0	19.8	3.6	0.0	3.6
8/2	459	459	-	-	-	2.7	0.0	-	2.7	21.2	4.5	0.0	4.5
8/3	334	334	-	-	-	1.4	0.0	-	1.4	15.5	2.4	0.0	2.4
9/1	1198	1198	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
9/2	539	539	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
10/1	944	944	-	-	-	1.0	0.0	-	1.0	3.7	5.1	0.0	5.1
10/2	610	610	-	-	-	0.4	0.0	-	0.4	2.2	1.2	0.0	1.2

Full Input Data And Results

10/3	79	79	-	-	-	0.0	0.0	-	0.0	1.9	0.1	0.0	0.1
11/1	389	389	-	-	-	0.3	0.0	-	0.3	2.7	1.1	0.0	1.1
11/2	155	155	-	-	-	0.0	0.0	-	0.0	0.2	0.1	0.0	0.1
11/3	206	206	-	-	-	0.0	0.0	-	0.0	0.2	0.1	0.0	0.1
12/1	1022	1022	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
12/2	610	610	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
J2: Site Access	-	-	74	2	49	8.5	4.9	0.5	14.0	-	-	-	-
1/1	1198	1198	-	-	-	3.2	2.1	-	5.3	15.9	29.3	2.1	31.3
1/2+1/3	539	539	-	-	-	1.5	0.3	-	1.9 (1.0+0.9)	12.4 (7.2:56.0)	6.1	0.3	6.5
2/1	395	395	-	-	-	0.5	0.2	-	0.7	6.6	4.4	0.2	4.6
2/2	333	333	0	2	23	0.4	0.2	0.4	1.0	10.6	2.9	0.2	3.1
3/1	27	27	12	0	0	0.4	0.1	0.0	0.5	66.1	0.8	0.1	0.9
4/1	392	392	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/2	357	357	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	115	115	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	76	76	-	-	-	1.1	0.4	-	1.5	71.1	2.4	0.4	2.8
6/2	88	88	62	0	26	1.3	1.7	0.1	3.1	126.6	2.8	1.7	4.5
7/1	54	54	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
J3: Southern Access	-	-	500	0	16	7.1	6.7	0.2	14.0	-	-	-	-
1/1	28	28	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
2/1	58	58	-	-	-	0.9	0.5	-	1.3	82.4	1.9	0.5	2.4
2/2	33	33	-	-	-	0.5	0.2	-	0.7	73.8	1.1	0.2	1.3
3/1+3/2	714	714	3	0	16	0.9	0.3	0.2	1.5 (0.7+0.8)	7.5 (6.4:8.7)	4.7	0.3	5.0
4/1	1290	1290	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/2	497	497	497	0	0	2.5	3.0	-	5.5	39.7	32.5	3.0	35.5
5/1	1241	1241	-	-	-	1.7	2.5	-	4.3	12.4	10.0	2.5	12.5
5/2	497	497	-	-	-	0.5	0.3	-	0.8	5.7	3.6	0.3	3.9
6/1	1787	1787	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

Full Input Data And Results

C1	Stream: 1	PRC for Signalled Lanes (%)	68.5	Total Delay for Signalled Lanes (pcuHr)	4.05	Cycle Time (s)	60
C1	Stream: 2	PRC for Signalled Lanes (%)	0.4	Total Delay for Signalled Lanes (pcuHr)	12.94	Cycle Time (s)	60
C1	Stream: 3	PRC for Signalled Lanes (%)	1.1	Total Delay for Signalled Lanes (pcuHr)	17.86	Cycle Time (s)	60
C1	Stream: 4	PRC for Signalled Lanes (%)	4.9	Total Delay for Signalled Lanes (pcuHr)	8.89	Cycle Time (s)	60
C1	Stream: 5	PRC for Signalled Lanes (%)	75.3	Total Delay for Signalled Lanes (pcuHr)	1.75	Cycle Time (s)	60
C2		PRC for Signalled Lanes (%)	11.6	Total Delay for Signalled Lanes (pcuHr)	13.95	Cycle Time (s)	240
C3		PRC for Signalled Lanes (%)	7.4	Total Delay for Signalled Lanes (pcuHr)	8.55	Cycle Time (s)	240
		PRC Over All Lanes (%)	0.4	Total Delay Over All Lanes(pcuHr)	73.46		

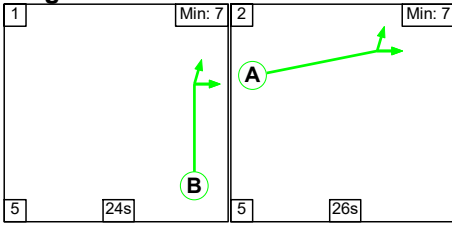
Full Input Data And Results

Scenario 6: '2033 Base + Committed + Dev (10%) PM' (FG6: '2033 Base + Committed + Dev (10%) PM', Plan 1: 'Network Control Plan 1')

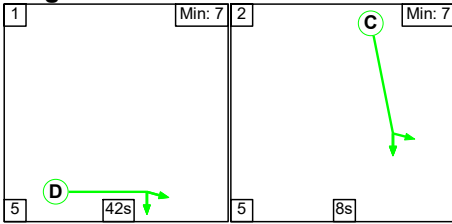
C1

Stage Sequence Diagram

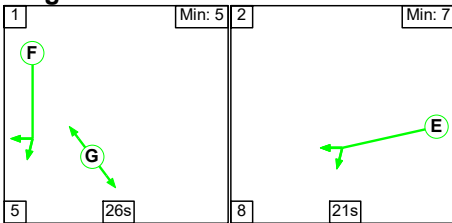
Stage Stream: 1



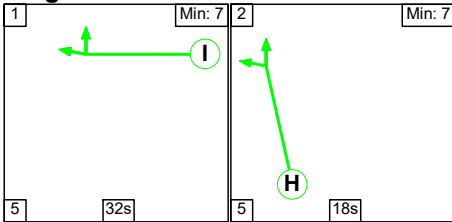
Stage Stream: 2



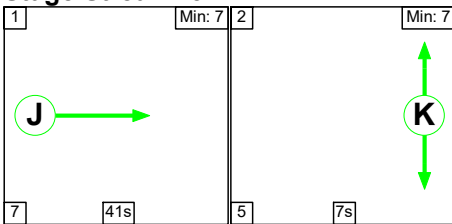
Stage Stream: 3



Stage Stream: 4



Stage Stream: 5



Stage Timings

Stage Stream: 1

Stage	1	2
Duration	24	26
Change Point	46	15

Stage Stream: 2

Stage	1	2
Duration	42	8
Change Point	10	57

Full Input Data And Results

Stage Stream: 3

Stage	1	2
Duration	26	21
Change Point	52	23

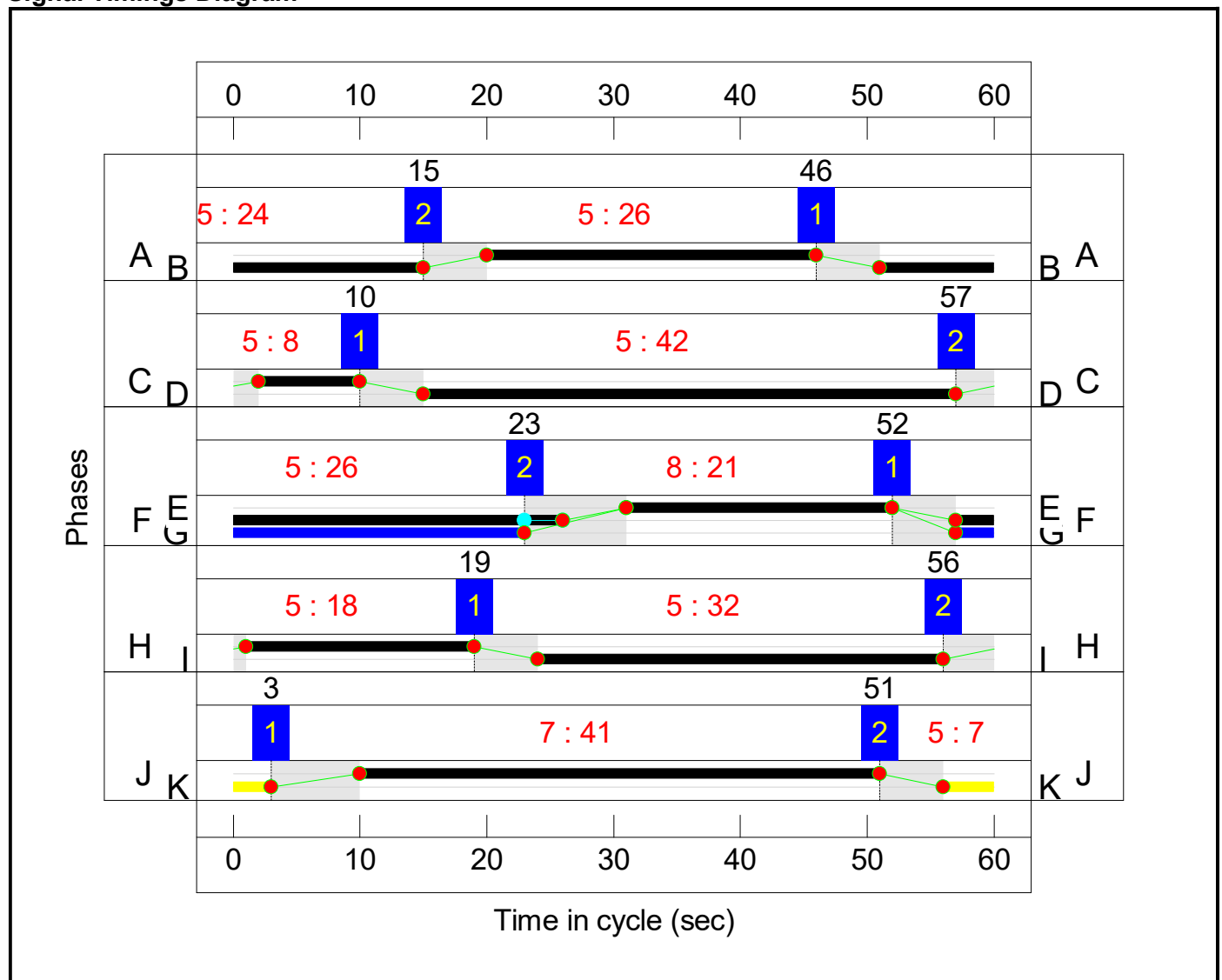
Stage Stream: 4

Stage	1	2
Duration	32	18
Change Point	19	56

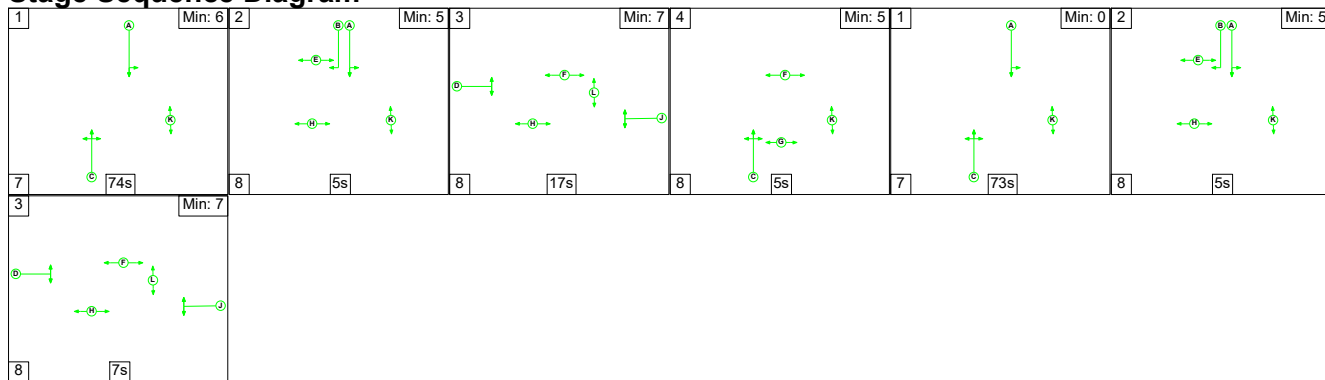
Stage Stream: 5

Stage	1	2
Duration	41	7
Change Point	3	51

Signal Timings Diagram



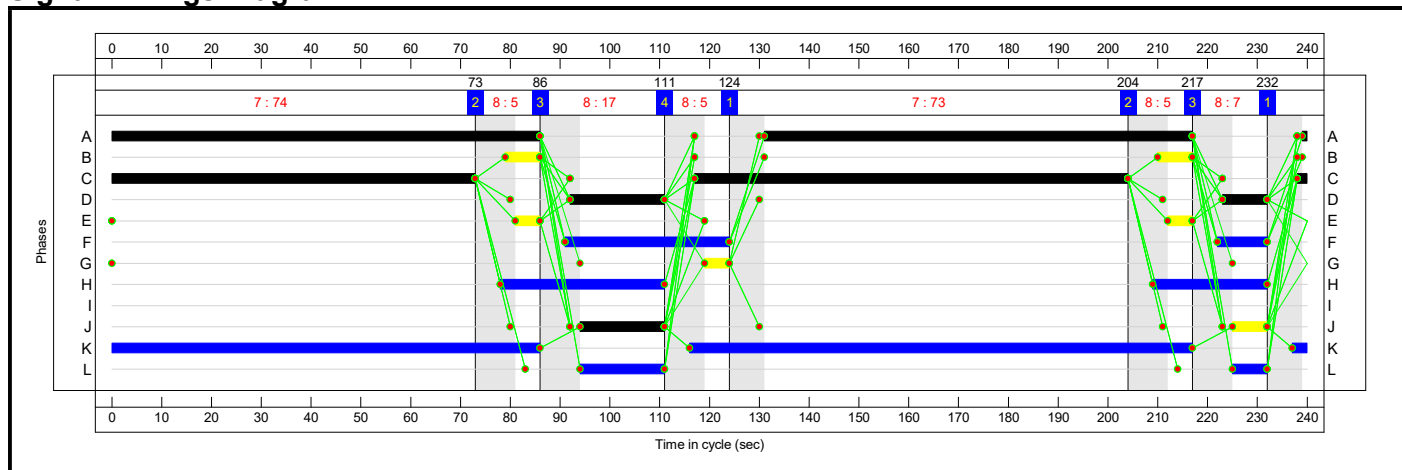
C2 Stage Sequence Diagram



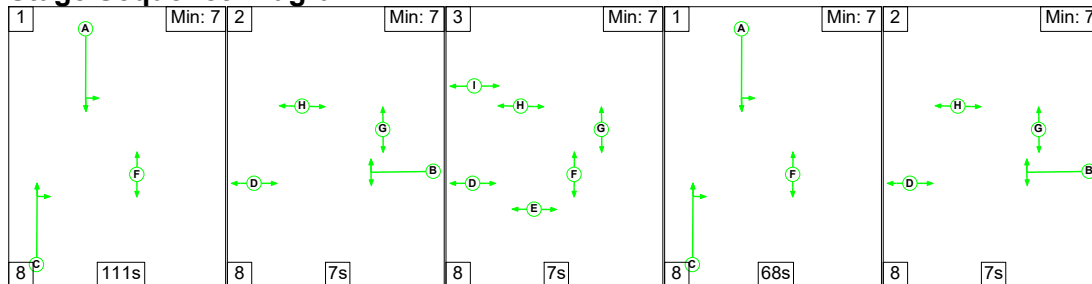
Stage Timings

Stage	1	2	3	4	1	2	3
Duration	74	5	17	5	73	5	7
Change Point	232	73	86	111	124	204	217

Signal Timings Diagram



C3 Stage Sequence Diagram

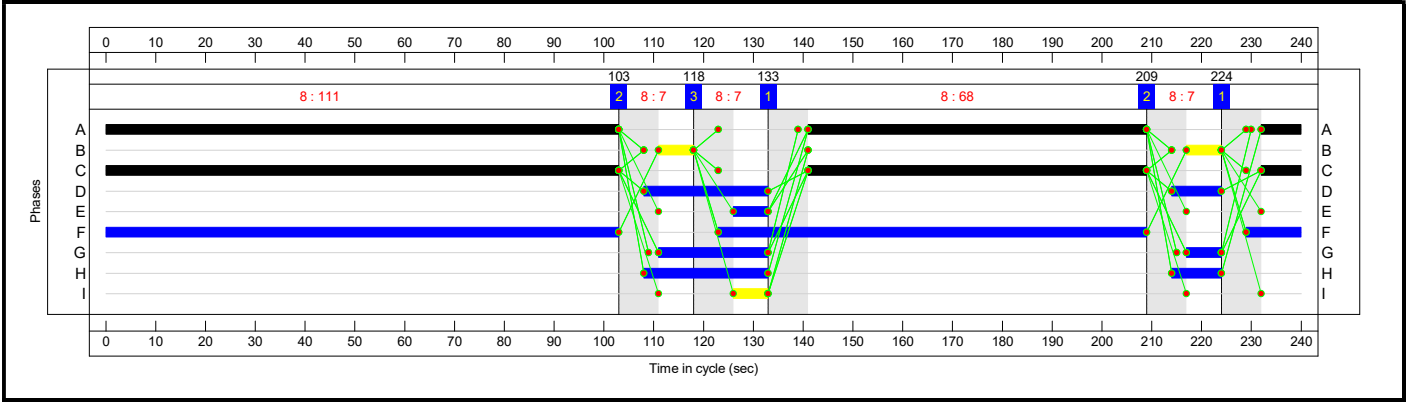


Stage Timings

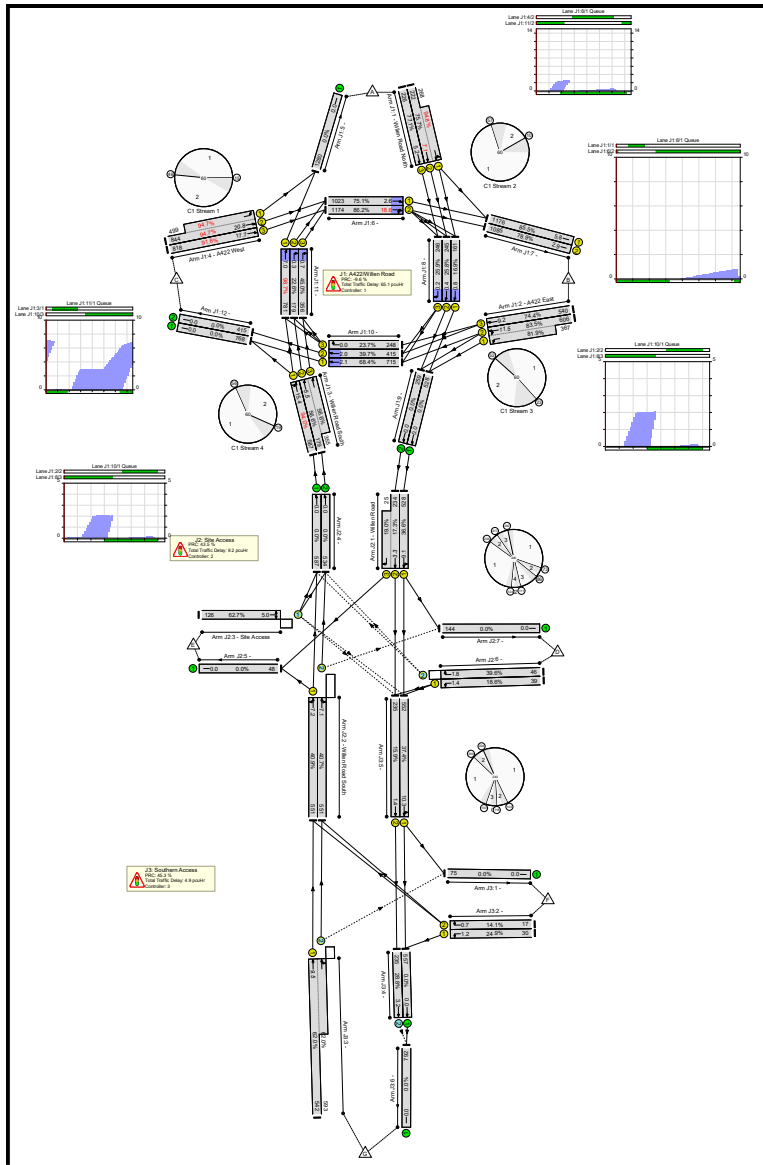
Stage	1	2	3	1	2
Duration	111	7	7	68	7
Change Point	224	103	118	133	209

Full Input Data And Results

Signal Timings Diagram



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: A422 Marsh End / Willen Road / Site Access Proposed Layout	-	-	N/A	-	-		-	-	-	-	-	-	98.7%
J1: A422/Willen Road	-	-	N/A	-	-		-	-	-	-	-	-	98.7%
1/2+1/1	Willen Road North Left Ahead	U	1:2	N/A	C1:C		1	8	-	490	1955:1885	293+283	75.7 : 94.8%
1/3	Willen Road North Ahead	U	1:2	N/A	C1:C		1	8	-	226	1955	293	77.1%
2/2+2/1	A422 East Left Ahead	U	1:3	N/A	C1:E		1	21	-	973	1979:1945	726+448	83.5 : 81.9%
2/3	A422 East Ahead	U	1:3	N/A	C1:E		1	21	-	540	1980	726	74.4%
3/1	Willen Road South Ahead Left	U	1:4	N/A	C1:H		1	18	-	587	1971	624	94.0%
3/2+3/3	Willen Road South Ahead	U	1:4	N/A	C1:H		1	18	-	534	1980:1980	316+627	56.6 : 56.6%
4/2+4/1	A422 West Left Ahead	U	1:1	N/A	C1:A		1	26	-	1343	1980:1888	891+527	94.7 : 94.7%
4/3	A422 West Ahead	U	1:1	N/A	C1:A		1	26	-	818	1980	891	91.8%
5/1		U	N/A	N/A	-		-	-	-	1280	Inf	Inf	0.0%
6/1	Ahead	U	1:2	N/A	C1:D		1	42	-	1023	1900	1362	75.1%
6/2	Ahead Right	U	1:2	N/A	C1:D		1	42	-	1174	1900	1362	86.2%
7/1		U	1:5	N/A	C1:J		1	41	-	1176	1965	1375	85.5%
7/2		U	1:5	N/A	C1:J		1	41	-	1085	1965	1375	78.9%
8/1	Ahead	U	1:3	N/A	C1:F		1	29	-	161	1900	950	16.9%
8/2	Ahead	U	1:3	N/A	C1:F		1	29	-	245	1900	950	25.8%
8/3	Right	U	1:3	N/A	C1:F		1	29	-	246	1900	950	25.9%
9/1	Ahead	U	N/A	N/A	-		-	-	-	528	Inf	Inf	0.0%
9/2	Ahead	U	N/A	N/A	-		-	-	-	259	Inf	Inf	0.0%

Full Input Data And Results

10/1	Ahead	U	1:4	N/A	C1:I		1	32	-	715	1900	1045	68.4%
10/2	Ahead	U	1:4	N/A	C1:I		1	32	-	415	1900	1045	39.7%
10/3	Right	U	1:4	N/A	C1:I		1	32	-	248	1900	1045	23.7%
11/1	Ahead	U	1:1	N/A	C1:B		1	24	-	781	1900	792	98.7%
11/2	Right	U	1:1	N/A	C1:B		1	24	-	179	1900	792	22.6%
11/3	Right	U	1:1	N/A	C1:B		1	24	-	356	1900	792	45.0%
12/1		U	N/A	N/A	-		-	-	-	768	Inf	Inf	0.0%
12/2		U	N/A	N/A	-		-	-	-	415	Inf	Inf	0.0%
J2: Site Access	-	-	N/A	-	-		-	-	-	-	-	-	62.7%
1/1	Willen Road Left Ahead	U	N/A	N/A	C2:A		2	173	-	528	1980	1444	36.6%
1/2+1/3	Willen Road Right Ahead	U	N/A	N/A	C2:A C2:B		2	173:14	-	259	1980:1972	1349+131	17.3 : 19.0%
2/1	Willen Road South Ahead Left	U	N/A	N/A	C2:C		2	162	-	551	1972	1348	40.9%
2/2	Willen Road South Ahead Right	O	N/A	N/A	C2:C		2	162	-	551	1980	1353	40.7%
3/1	Site Access Left Right	O	N/A	N/A	C2:D		2	28	-	126	1786	201	62.7%
4/1	Ahead	U	N/A	N/A	-		-	-	-	587	Inf	Inf	0.0%
4/2	Ahead	U	N/A	N/A	-		-	-	-	534	Inf	Inf	0.0%
5/1		U	N/A	N/A	-		-	-	-	48	Inf	Inf	0.0%
6/1	Left	U	N/A	N/A	C2:J		2	24	-	39	1940	210	18.6%
6/2	Right	O	N/A	N/A	C2:J		2	24	-	46	1940	116	39.6%
7/1		U	N/A	N/A	-		-	-	-	144	Inf	Inf	0.0%
J3: Southern Access	-	-	N/A	-	-		-	-	-	-	-	-	62.0%
1/1		U	N/A	N/A	-		-	-	-	75	Inf	Inf	0.0%
2/1	Left	U	N/A	N/A	C3:B		2	14	-	30	1809	121	24.9%
2/2	Right	U	N/A	N/A	C3:B		2	14	-	17	1809	121	14.1%
3/1+3/2	Ahead Right	U+O	N/A	N/A	C3:C		2	179	-	1135	1965:1953	875+957	62.0 : 62.0%

Full Input Data And Results

4/1	Ahead	U	N/A	N/A	-	-	-	-	557	Inf	Inf	0.0%
4/2	Ahead	O	N/A	N/A	-	-	-	-	235	Inf	816	28.8%
5/1	Left Ahead	U	N/A	N/A	C3:A	2	179	-	552	1958	1477	37.4%
5/2	Ahead	U	N/A	N/A	C3:A	2	179	-	235	1965	1482	15.9%
6/1		U	N/A	N/A	-	-	-	-	792	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: A422 Marsh End / Willen Road / Site Access Proposed Layout	-	-	428	10	22	43.2	35.8	0.2	79.2	-	-	-	-
J1: A422/Willen Road	-	-	0	0	0	33.3	31.8	0.0	65.1	-	-	-	-
1/2+1/1	490	490	-	-	-	3.4	2.7	-	6.1 (2.7+3.3)	44.6 (44.2:45.0)	4.4	2.7	7.1
1/3	226	226	-	-	-	1.5	1.6	-	3.1	50.1	3.6	1.6	5.2
2/2+2/1	973	973	-	-	-	4.4	2.4	-	6.8 (4.4+2.4)	25.2 (26.1:23.6)	9.1	2.4	11.5
2/3	540	540	-	-	-	2.5	1.4	-	3.9	26.1	7.8	1.4	9.2
3/1	587	587	-	-	-	3.3	6.0	-	9.2	56.6	9.5	6.0	15.4
3/2+3/3	534	534	-	-	-	2.4	0.7	-	3.1 (1.0+2.1)	20.9 (19.8:21.5)	4.8	0.7	5.5
4/2+4/1	1343	1343	-	-	-	5.4	7.5	-	12.9 (8.4+4.5)	34.6 (35.9:32.4)	13.4	7.5	20.8
4/3	818	818	-	-	-	3.5	4.9	-	8.4	37.2	12.7	4.9	17.7
5/1	1280	1280	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	1023	1023	-	-	-	0.4	0.0	-	0.4	1.6	2.6	0.0	2.6
6/2	1174	1174	-	-	-	1.2	0.0	-	1.2	3.8	18.6	0.0	18.6
7/1	1176	1176	-	-	-	0.3	2.9	-	3.1	9.6	2.9	2.9	5.8
7/2	1085	1085	-	-	-	0.3	1.8	-	2.1	7.0	1.0	1.8	2.9
8/1	161	161	-	-	-	0.2	0.0	-	0.2	4.6	0.8	0.0	0.8
8/2	245	245	-	-	-	0.1	0.0	-	0.1	1.6	0.4	0.0	0.4
8/3	246	246	-	-	-	0.1	0.0	-	0.1	0.8	0.2	0.0	0.2
9/1	528	528	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
9/2	259	259	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
10/1	715	715	-	-	-	0.5	0.0	-	0.5	2.4	2.1	0.0	2.1
10/2	415	415	-	-	-	0.5	0.0	-	0.5	4.0	2.0	0.0	2.0

Full Input Data And Results

10/3	248	248	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
11/1	781	781	-	-	-	2.7	0.0	-	2.7	12.2	7.0	0.0	7.0
11/2	179	179	-	-	-	0.2	0.0	-	0.2	3.8	0.3	0.0	0.3
11/3	356	356	-	-	-	0.4	0.0	-	0.4	3.9	0.7	0.0	0.7
12/1	768	768	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
12/2	415	415	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
J2: Site Access	-	-	143	10	22	6.7	2.3	0.2	9.2	-	-	-	-
1/1	528	528	-	-	-	1.0	0.3	-	1.3	8.7	8.8	0.3	9.1
1/2+1/3	259	259	-	-	-	0.7	0.1	-	0.8 (0.5+0.4)	11.7 (7.1:55.0)	3.2	0.1	3.3
2/1	551	551	-	-	-	1.1	0.3	-	1.4	9.2	6.8	0.3	7.2
2/2	551	551	57	10	0	1.1	0.3	0.0	1.4	9.3	6.8	0.3	7.1
3/1	126	126	45	0	18	1.7	0.8	0.1	2.7	76.0	4.2	0.8	5.0
4/1	587	587	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/2	534	534	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	48	48	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	39	39	-	-	-	0.5	0.1	-	0.6	59.4	1.2	0.1	1.4
6/2	46	46	41	0	5	0.6	0.3	0.0	1.0	77.6	1.5	0.3	1.8
7/1	144	144	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
J3: Southern Access	-	-	285	0	0	3.2	1.7	0.1	4.9	-	-	-	-
1/1	75	75	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
2/1	30	30	-	-	-	0.5	0.2	-	0.6	73.8	1.1	0.2	1.2
2/2	17	17	-	-	-	0.3	0.1	-	0.3	71.0	0.6	0.1	0.7
3/1+3/2	1135	1135	50	0	0	1.7	0.8	0.1	2.6 (1.2+1.4)	8.2 (7.9:8.5)	8.7	0.8	9.5
4/1	557	557	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/2	235	235	235	0	0	0.0	0.2	-	0.2	3.3	3.0	0.2	3.2
5/1	552	552	-	-	-	0.6	0.3	-	0.9	6.1	10.0	0.3	10.3
5/2	235	235	-	-	-	0.1	0.1	-	0.2	2.7	1.3	0.1	1.4
6/1	792	792	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

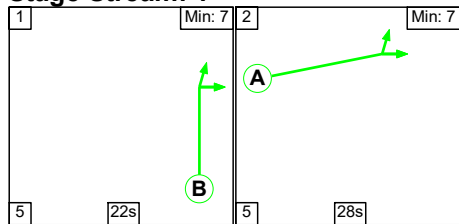
Full Input Data And Results

C1	Stream: 1	PRC for Signalled Lanes (%)	-9.6	Total Delay for Signalled Lanes (pcuHr)	24.58	Cycle Time (s)	60
C1	Stream: 2	PRC for Signalled Lanes (%)	-5.3	Total Delay for Signalled Lanes (pcuHr)	10.89	Cycle Time (s)	60
C1	Stream: 3	PRC for Signalled Lanes (%)	7.8	Total Delay for Signalled Lanes (pcuHr)	11.08	Cycle Time (s)	60
C1	Stream: 4	PRC for Signalled Lanes (%)	-4.5	Total Delay for Signalled Lanes (pcuHr)	13.27	Cycle Time (s)	60
C1	Stream: 5	PRC for Signalled Lanes (%)	5.3	Total Delay for Signalled Lanes (pcuHr)	5.26	Cycle Time (s)	60
C2		PRC for Signalled Lanes (%)	43.5	Total Delay for Signalled Lanes (pcuHr)	9.24	Cycle Time (s)	240
C3		PRC for Signalled Lanes (%)	45.3	Total Delay for Signalled Lanes (pcuHr)	4.65	Cycle Time (s)	240
		PRC Over All Lanes (%)	-9.6	Total Delay Over All Lanes(pcuHr)	79.20		

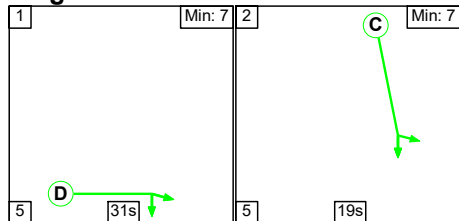
C1

Stage Sequence Diagram

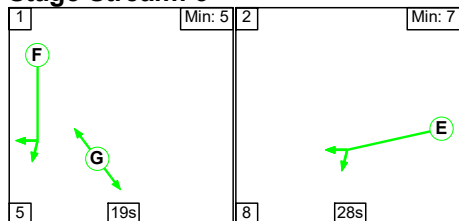
Stage Stream: 1



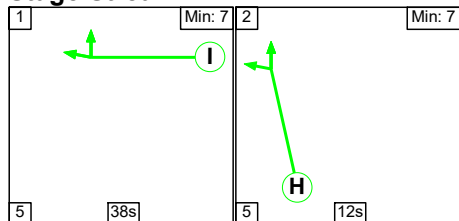
Stage Stream: 2



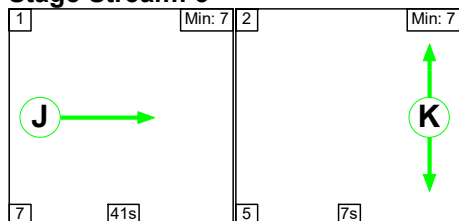
Stage Stream: 3



Stage Stream: 4



Stage Stream: 5



Stage Timings

Stage Stream: 1

Stage	1	2
Duration	22	28
Change Point	0	27

Stage Stream: 2

Stage	1	2
Duration	31	19
Change Point	19	55

Full Input Data And Results

Stage Stream: 3

Stage	1	2
Duration	19	28
Change Point	0	24

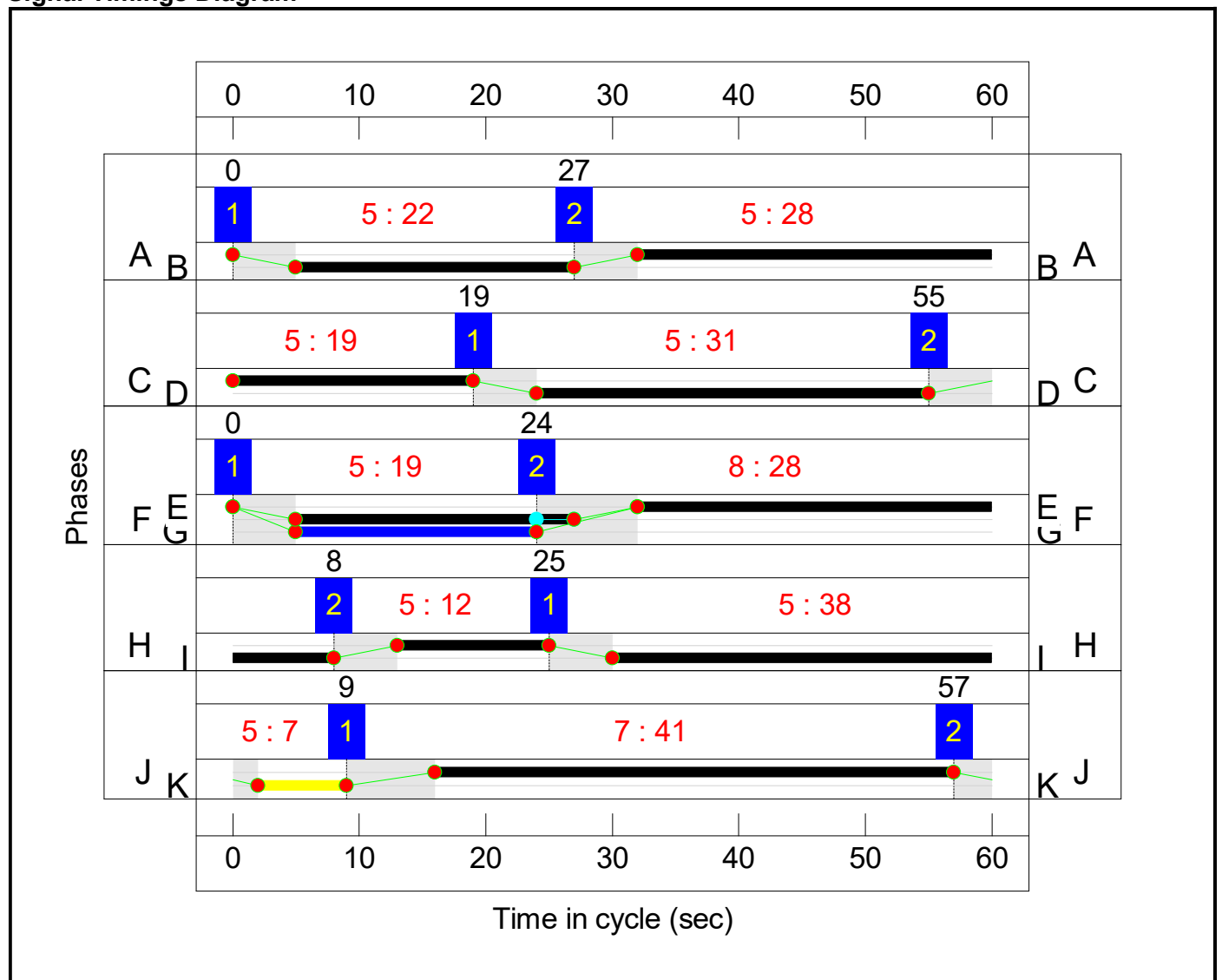
Stage Stream: 4

Stage	1	2
Duration	38	12
Change Point	25	8

Stage Stream: 5

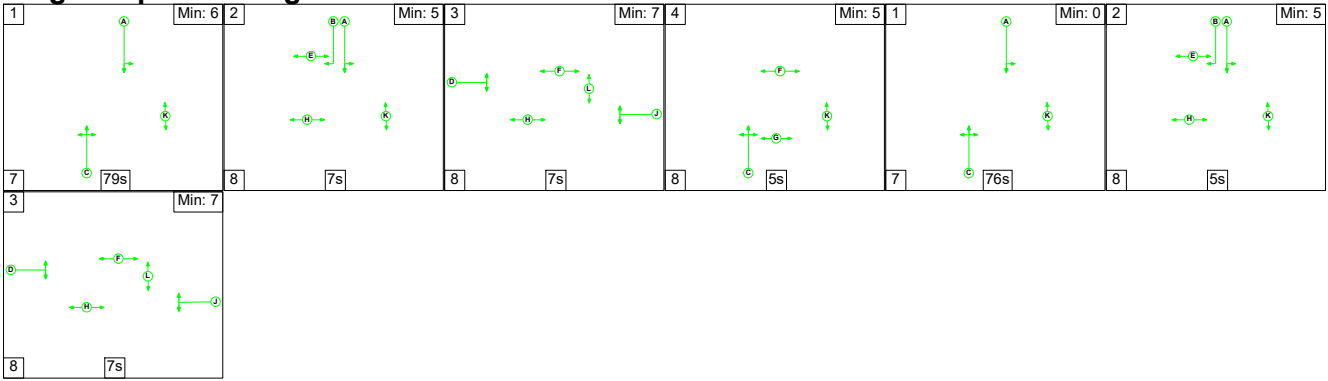
Stage	1	2
Duration	41	7
Change Point	9	57

Signal Timings Diagram



Full Input Data And Results

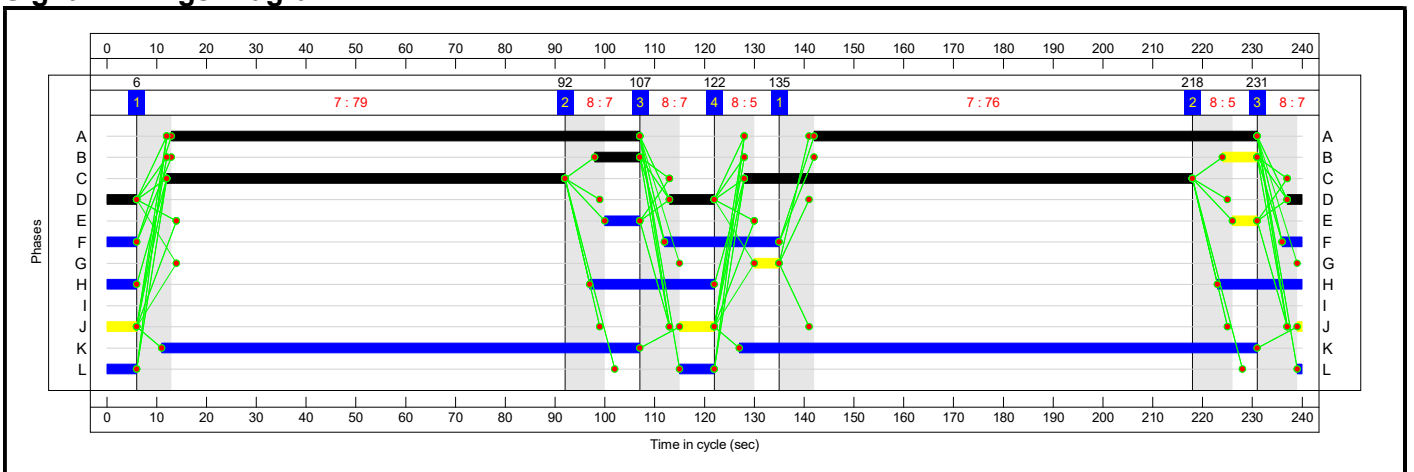
C2 Stage Sequence Diagram



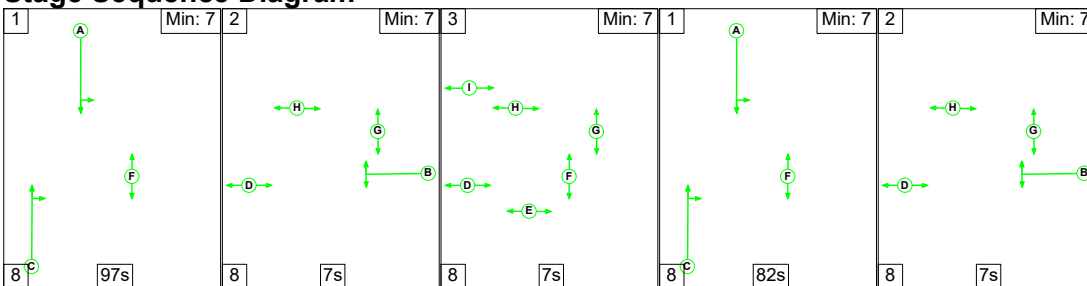
Stage Timings

Stage	1	2	3	4	1	2	3
Duration	79	7	7	5	76	5	7
Change Point	6	92	107	122	135	218	231

Signal Timings Diagram



C3 Stage Sequence Diagram

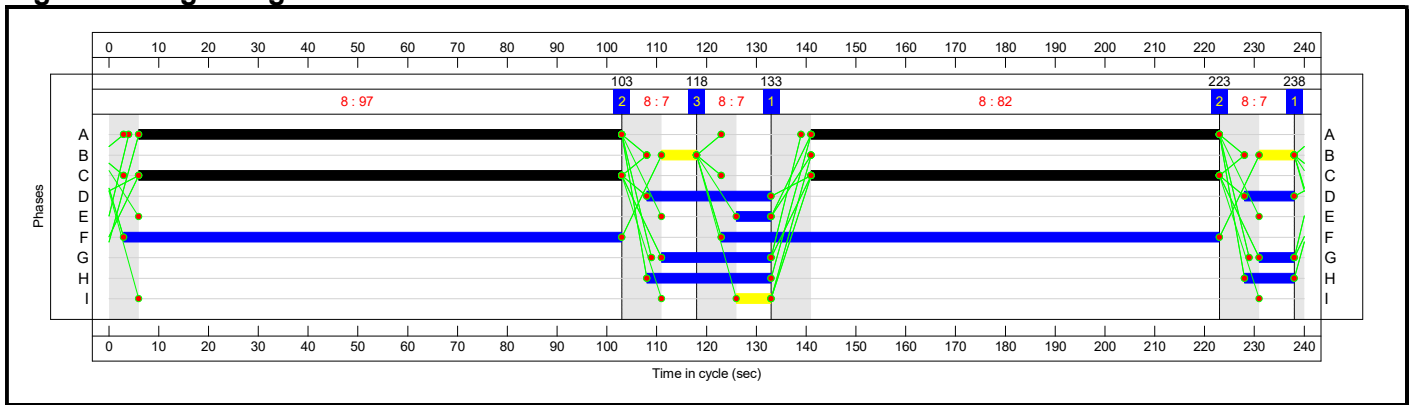


Stage Timings

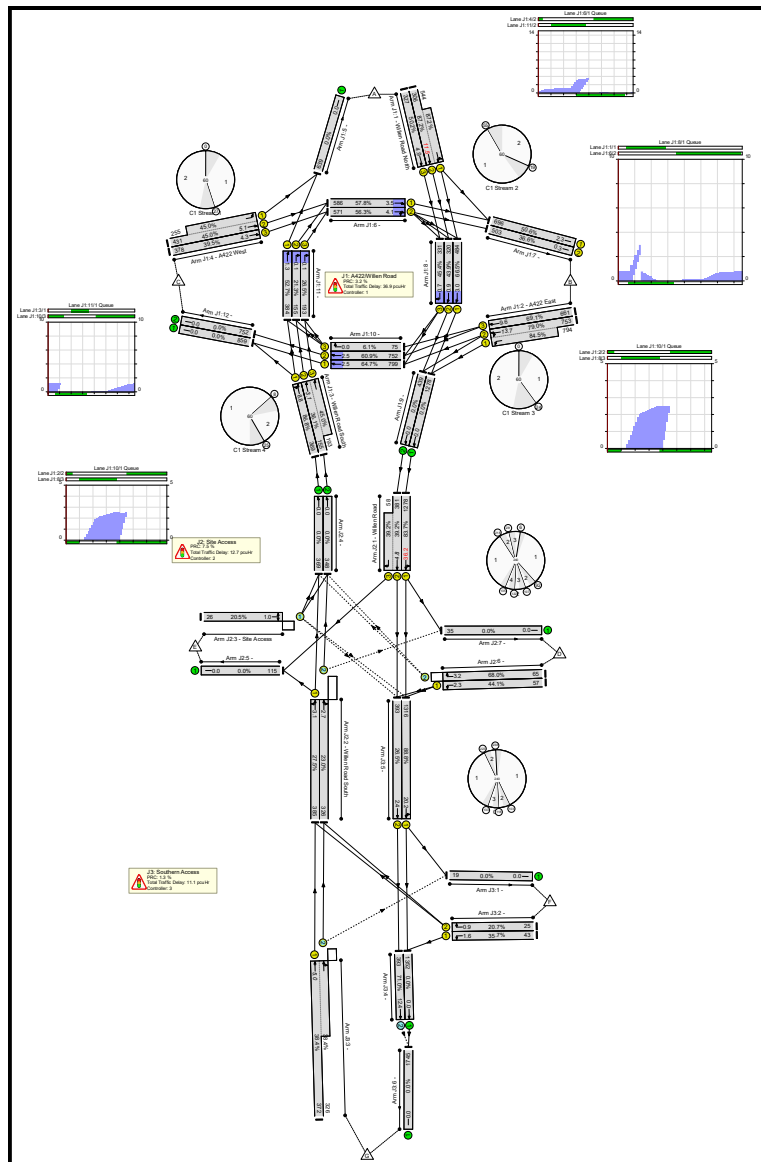
Stage	1	2	3	1	2
Duration	97	7	7	82	7
Change Point	238	103	118	133	223

Full Input Data And Results

Signal Timings Diagram



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: A422 Marsh End / Willen Road / Site Access Proposed Layout	-	-	N/A	-	-		-	-	-	-	-	-	88.8%
J1: A422/Willen Road	-	-	N/A	-	-		-	-	-	-	-	-	87.2%
1/2+1/1	Willen Road North Left Ahead	U	1:2	N/A	C1:C		1	19	-	850	1955:1930	351+624	87.2 : 87.2%
1/3	Willen Road North Ahead	U	1:2	N/A	C1:C		1	19	-	327	1955	652	50.2%
2/2+2/1	A422 East Left Ahead	U	1:3	N/A	C1:E		1	28	-	1547	1974:1945	954+940	79.0 : 84.5%
2/3	A422 East Ahead	U	1:3	N/A	C1:E		1	28	-	661	1980	957	69.1%
3/1	Willen Road South Ahead Left	U	1:4	N/A	C1:H		1	12	-	369	1963	425	86.8%
3/2+3/3	Willen Road South Ahead	U	1:4	N/A	C1:H		1	12	-	348	1980:1980	429+429	36.1 : 45.0%
4/2+4/1	A422 West Left Ahead	U	1:1	N/A	C1:A		1	28	-	686	1980:1888	957+566	45.0 : 45.0%
4/3	A422 West Ahead	U	1:1	N/A	C1:A		1	28	-	378	1980	957	39.5%
5/1		U	N/A	N/A	-		-	-	-	639	Inf	Inf	0.0%
6/1	Ahead	U	1:2	N/A	C1:D		1	31	-	586	1900	1013	57.8%
6/2	Ahead Right	U	1:2	N/A	C1:D		1	31	-	571	1900	1013	56.3%
7/1		U	1:5	N/A	C1:J		1	41	-	696	1965	1375	50.6%
7/2		U	1:5	N/A	C1:J		1	41	-	503	1965	1375	36.6%
8/1	Ahead	U	1:3	N/A	C1:F		1	22	-	484	1900	728	66.5%
8/2	Ahead	U	1:3	N/A	C1:F		1	22	-	320	1900	728	43.9%
8/3	Right	U	1:3	N/A	C1:F		1	22	-	331	1900	728	45.4%
9/1	Ahead	U	N/A	N/A	-		-	-	-	1278	Inf	Inf	0.0%
9/2	Ahead	U	N/A	N/A	-		-	-	-	439	Inf	Inf	0.0%

Full Input Data And Results

10/1	Ahead	U	1:4	N/A	C1:I		1	38	-	799	1900	1235	64.7%
10/2	Ahead	U	1:4	N/A	C1:I		1	38	-	752	1900	1235	60.9%
10/3	Right	U	1:4	N/A	C1:I		1	38	-	75	1900	1235	6.1%
11/1	Ahead	U	1:1	N/A	C1:B		1	22	-	384	1900	728	52.7%
11/2	Right	U	1:1	N/A	C1:B		1	22	-	155	1900	728	21.3%
11/3	Right	U	1:1	N/A	C1:B		1	22	-	193	1900	728	26.5%
12/1		U	N/A	N/A	-		-	-	-	859	Inf	Inf	0.0%
12/2		U	N/A	N/A	-		-	-	-	752	Inf	Inf	0.0%
J2: Site Access	-	-	N/A	-	-		-	-	-	-	-	-	83.7%
1/1	Willen Road Left Ahead	U	N/A	N/A	C2:A		2	183	-	1278	1980	1526	83.7%
1/2+1/3	Willen Road Right Ahead	U	N/A	N/A	C2:A C2:B		2	183:16	-	439	1980:1972	972+148	39.2 : 39.2%
2/1	Willen Road South Ahead Left	U	N/A	N/A	C2:C		2	170	-	385	1951	1398	27.5%
2/2	Willen Road South Ahead Right	O	N/A	N/A	C2:C		2	170	-	326	1980	1419	23.0%
3/1	Site Access Left Right	O	N/A	N/A	C2:D		2	18	-	26	1783	127	20.5%
4/1	Ahead	U	N/A	N/A	-		-	-	-	369	Inf	Inf	0.0%
4/2	Ahead	U	N/A	N/A	-		-	-	-	348	Inf	Inf	0.0%
5/1		U	N/A	N/A	-		-	-	-	115	Inf	Inf	0.0%
6/1	Left	U	N/A	N/A	C2:J		2	14	-	57	1940	129	44.1%
6/2	Right	O	N/A	N/A	C2:J		2	14	-	65	1940	96	68.0%
7/1		U	N/A	N/A	-		-	-	-	35	Inf	Inf	0.0%
J3: Southern Access	-	-	N/A	-	-		-	-	-	-	-	-	88.8%
1/1		U	N/A	N/A	-		-	-	-	19	Inf	Inf	0.0%
2/1	Left	U	N/A	N/A	C3:B		2	14	-	43	1809	121	35.7%
2/2	Right	U	N/A	N/A	C3:B		2	14	-	25	1809	121	20.7%
3/1+3/2	Ahead Right	U+O	N/A	N/A	C3:C		2	179	-	698	1965:1960	970+850	38.4 : 38.4%

Full Input Data And Results

4/1	Ahead	U	N/A	N/A	-		-	-	-	1352	Inf	Inf	0.0%
4/2	Ahead	O	N/A	N/A	-		-	-	-	393	Inf	554	71.0%
5/1	Left Ahead	U	N/A	N/A	C3:A		2	179	-	1316	1964	1481	88.8%
5/2	Ahead	U	N/A	N/A	C3:A		2	179	-	393	1965	1482	26.5%
6/1		U	N/A	N/A	-		-	-	-	1745	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: A422 Marsh End / Willen Road / Site Access Proposed Layout	-	-	452	2	44	37.8	22.5	0.5	60.8	-	-	-	-
J1: A422/Willen Road	-	-	0	0	0	25.0	11.9	0.0	36.9	-	-	-	-
1/2+1/1	850	850	-	-	-	4.2	3.2	-	7.4 (2.5+4.9)	31.3 (29.5:32.3)	8.3	3.2	11.5
1/3	327	327	-	-	-	1.5	0.5	-	2.0	21.5	4.4	0.5	4.9
2/2+2/1	1547	1547	-	-	-	5.7	2.2	-	7.9 (3.8+4.1)	18.4 (18.1:18.7)	11.5	2.2	13.7
2/3	661	661	-	-	-	2.2	1.1	-	3.3	18.1	8.4	1.1	9.6
3/1	369	369	-	-	-	2.3	3.0	-	5.3	51.6	5.8	3.0	8.8
3/2+3/3	348	348	-	-	-	2.0	0.3	-	2.3 (1.0+1.3)	23.7 (23.5:23.9)	2.8	0.3	3.1
4/2+4/1	686	686	-	-	-	1.9	0.4	-	2.3 (1.5+0.8)	12.0 (12.4:11.4)	4.7	0.4	5.1
4/3	378	378	-	-	-	1.0	0.3	-	1.4	13.0	4.0	0.3	4.3
5/1	639	639	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	586	586	-	-	-	0.7	0.0	-	0.7	4.3	3.5	0.0	3.5
6/2	571	571	-	-	-	0.7	0.0	-	0.7	4.5	4.1	0.0	4.1
7/1	696	696	-	-	-	0.2	0.5	-	0.7	3.8	1.7	0.5	2.3
7/2	503	503	-	-	-	0.0	0.3	-	0.3	2.1	0.0	0.3	0.3
8/1	484	484	-	-	-	0.4	0.0	-	0.4	3.3	3.0	0.0	3.0
8/2	320	320	-	-	-	0.2	0.0	-	0.2	2.2	0.9	0.0	0.9
8/3	331	331	-	-	-	0.1	0.0	-	0.1	1.4	0.7	0.0	0.7
9/1	1278	1278	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
9/2	439	439	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
10/1	799	799	-	-	-	0.7	0.0	-	0.7	3.3	2.5	0.0	2.5
10/2	752	752	-	-	-	0.7	0.0	-	0.7	3.6	2.5	0.0	2.5

Full Input Data And Results

10/3	75	75	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
11/1	384	384	-	-	-	0.4	0.0	-	0.4	3.7	1.3	0.0	1.3
11/2	155	155	-	-	-	0.0	0.0	-	0.0	0.7	0.1	0.0	0.1
11/3	193	193	-	-	-	0.0	0.0	-	0.0	0.7	0.1	0.0	0.1
12/1	859	859	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
12/2	752	752	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
J2: Site Access	-	-	59	2	32	7.7	4.7	0.3	12.7	-	-	-	-
1/1	1278	1278	-	-	-	3.3	2.5	-	5.9	16.5	33.7	2.5	36.2
1/2+1/3	439	439	-	-	-	1.3	0.3	-	1.6 (0.7+0.9)	13.2 (6.8:55.7)	4.4	0.3	4.8
2/1	385	385	-	-	-	0.5	0.2	-	0.7	6.4	2.9	0.2	3.1
2/2	326	326	0	2	14	0.4	0.1	0.2	0.8	8.8	2.5	0.1	2.7
3/1	26	26	12	0	0	0.4	0.1	0.0	0.5	71.8	0.8	0.1	1.0
4/1	369	369	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/2	348	348	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	115	115	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	57	57	-	-	-	0.9	0.4	-	1.2	78.6	1.9	0.4	2.3
6/2	65	65	47	0	18	1.0	1.0	0.1	2.0	112.8	2.2	1.0	3.2
7/1	35	35	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
J3: Southern Access	-	-	393	0	12	5.0	5.9	0.2	11.1	-	-	-	-
1/1	19	19	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
2/1	43	43	-	-	-	0.6	0.3	-	0.9	76.6	1.4	0.3	1.6
2/2	25	25	-	-	-	0.4	0.1	-	0.5	71.8	0.8	0.1	0.9
3/1+3/2	698	698	0	0	12	0.9	0.3	0.2	1.4 (0.7+0.8)	7.3 (6.4:8.3)	4.6	0.3	5.0
4/1	1352	1352	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/2	393	393	393	0	0	1.1	1.2	-	2.3	21.0	11.1	1.2	12.4
5/1	1316	1316	-	-	-	1.7	3.8	-	5.5	15.0	16.4	3.8	20.2
5/2	393	393	-	-	-	0.4	0.2	-	0.6	5.1	2.2	0.2	2.4
6/1	1745	1745	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

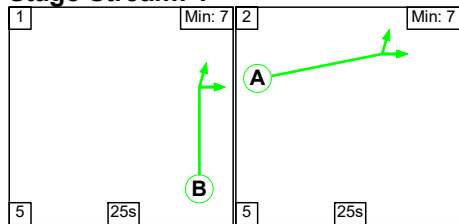
Full Input Data And Results

C1	Stream: 1	PRC for Signalled Lanes (%)	70.7	Total Delay for Signalled Lanes (pcuHr)	4.12	Cycle Time (s)	60
C1	Stream: 2	PRC for Signalled Lanes (%)	3.2	Total Delay for Signalled Lanes (pcuHr)	10.75	Cycle Time (s)	60
C1	Stream: 3	PRC for Signalled Lanes (%)	6.6	Total Delay for Signalled Lanes (pcuHr)	11.97	Cycle Time (s)	60
C1	Stream: 4	PRC for Signalled Lanes (%)	3.7	Total Delay for Signalled Lanes (pcuHr)	9.07	Cycle Time (s)	60
C1	Stream: 5	PRC for Signalled Lanes (%)	77.9	Total Delay for Signalled Lanes (pcuHr)	1.02	Cycle Time (s)	60
C2		PRC for Signalled Lanes (%)	7.5	Total Delay for Signalled Lanes (pcuHr)	12.75	Cycle Time (s)	240
C3		PRC for Signalled Lanes (%)	1.3	Total Delay for Signalled Lanes (pcuHr)	8.85	Cycle Time (s)	240
		PRC Over All Lanes (%)	1.3	Total Delay Over All Lanes(pcuHr)	60.81		

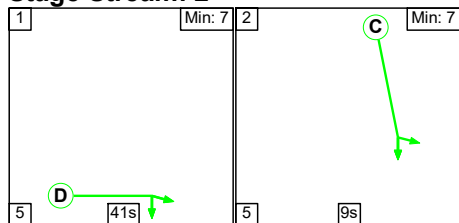
C1

Stage Sequence Diagram

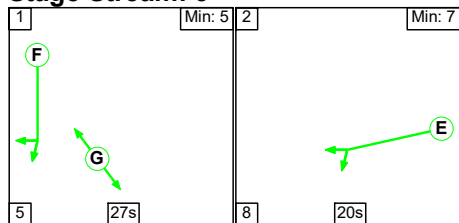
Stage Stream: 1



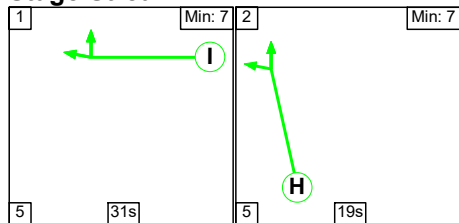
Stage Stream: 2



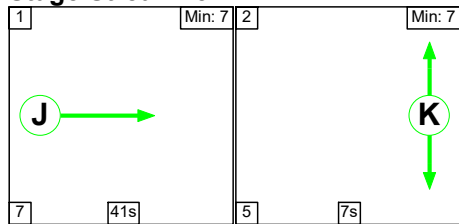
Stage Stream: 3



Stage Stream: 4



Stage Stream: 5



Stage Timings

Stage Stream: 1

Stage	1	2
Duration	25	25
Change Point	37	7

Stage Stream: 2

Stage	1	2
Duration	41	9
Change Point	2	48

Full Input Data And Results

Stage Stream: 3

Stage	1	2
Duration	27	20
Change Point	44	16

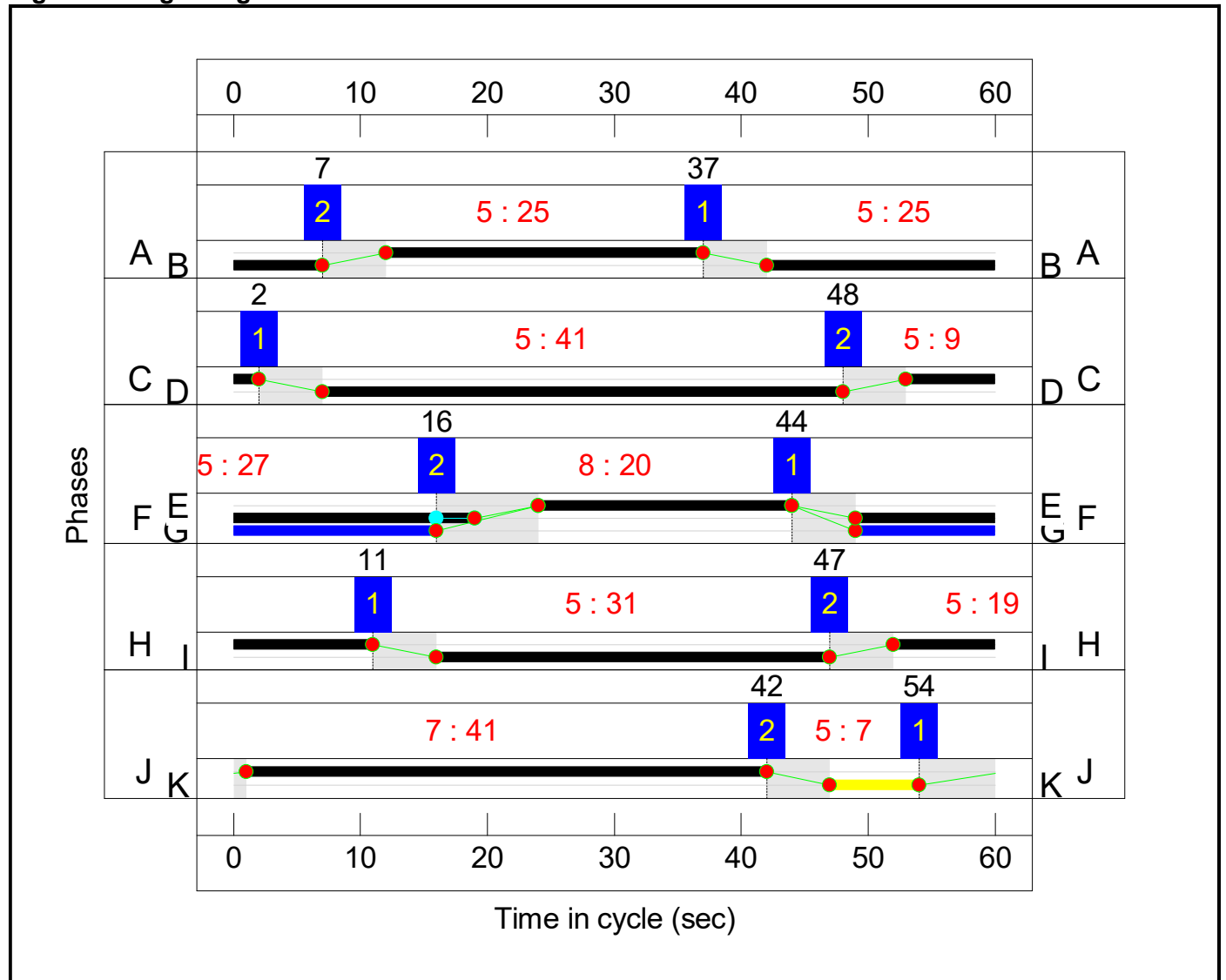
Stage Stream: 4

Stage	1	2
Duration	31	19
Change Point	11	47

Stage Stream: 5

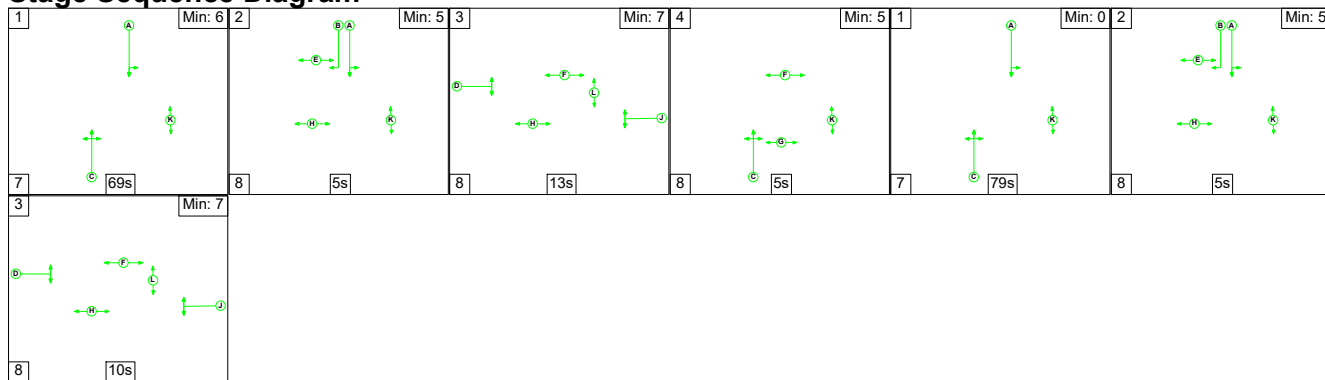
Stage	1	2
Duration	41	7
Change Point	54	42

Signal Timings Diagram



Full Input Data And Results

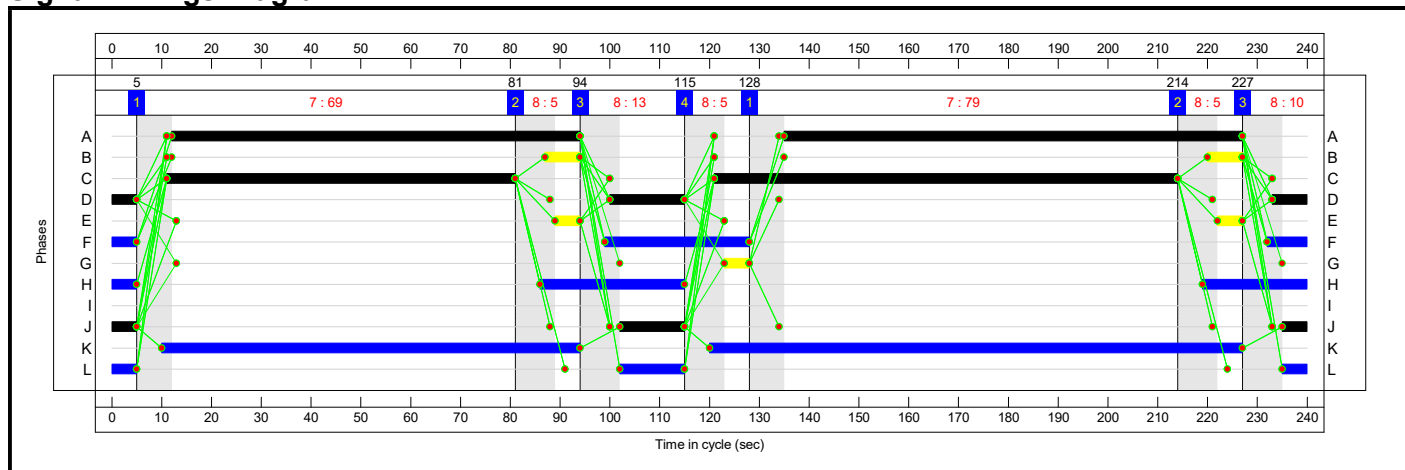
C2
Stage Sequence Diagram



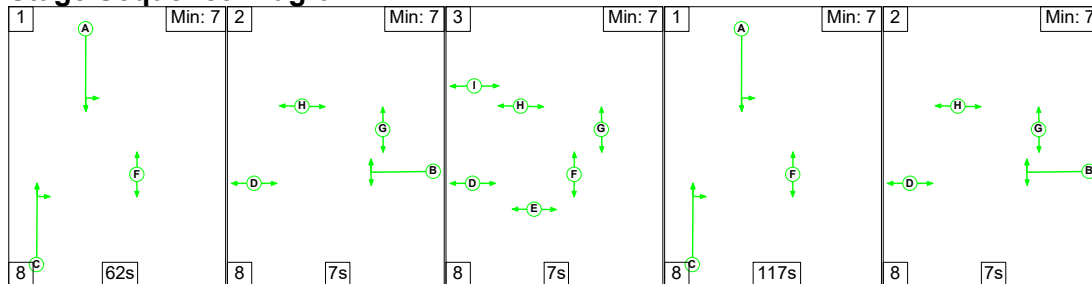
Stage Timings

Stage	1	2	3	4	1	2	3
Duration	69	5	13	5	79	5	10
Change Point	5	81	94	115	128	214	227

Signal Timings Diagram



C3
Stage Sequence Diagram

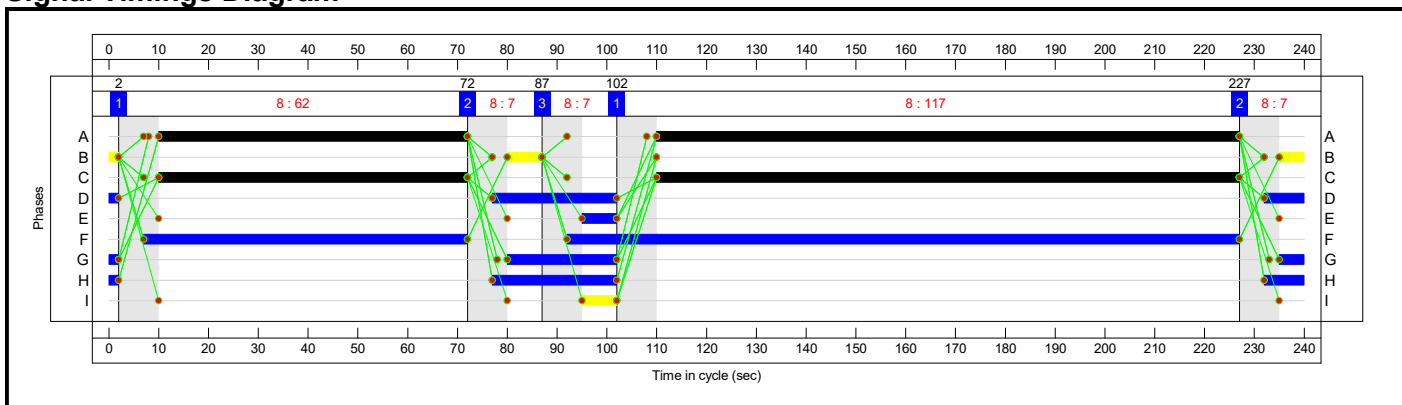


Stage Timings

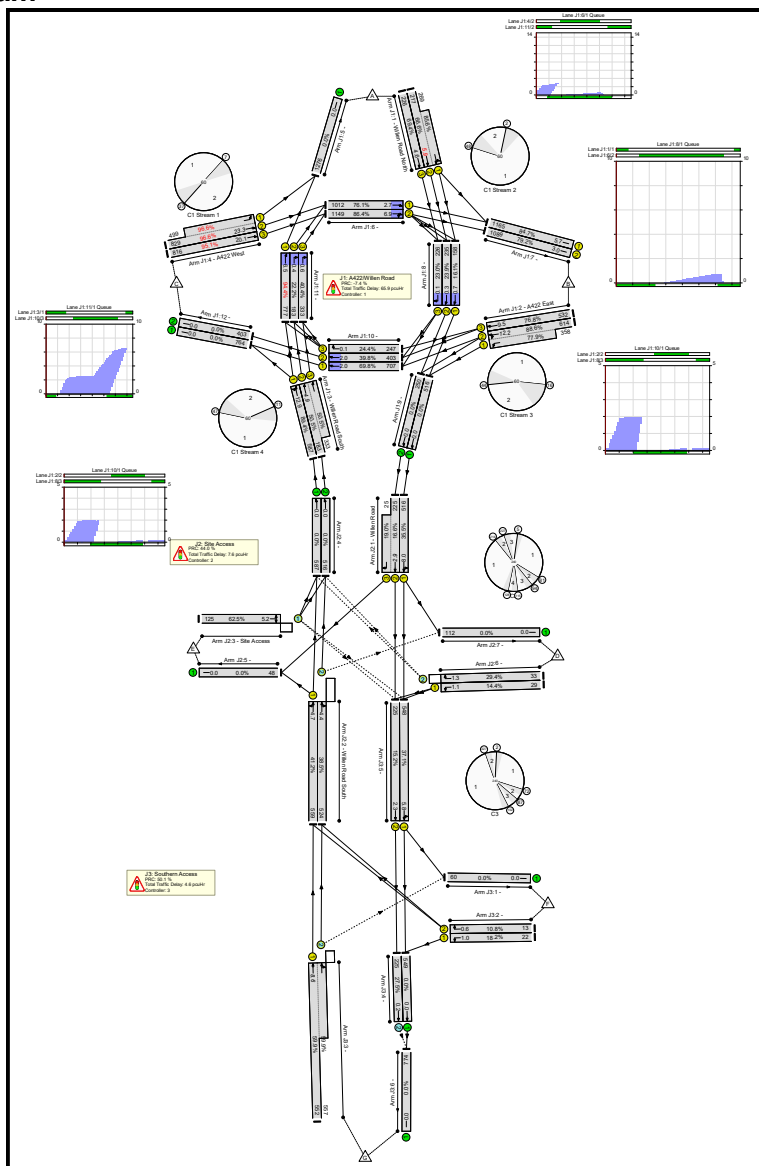
Stage	1	2	3	1	2
Duration	62	7	7	117	7
Change Point	2	72	87	102	227

Full Input Data And Results

Signal Timings Diagram



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: A422 Marsh End / Willen Road / Site Access Proposed Layout	-	-	N/A	-	-		-	-	-	-	-	-	96.6%
J1: A422/Willen Road	-	-	N/A	-	-		-	-	-	-	-	-	96.6%
1/2+1/1	Willen Road North Left Ahead	U	1:2	N/A	C1:C		1	9	-	486	1955:1885	326+314	66.6 : 85.6%
1/3	Willen Road North Ahead	U	1:2	N/A	C1:C		1	9	-	226	1955	326	69.4%
2/2+2/1	A422 East Left Ahead	U	1:3	N/A	C1:E		1	20	-	972	1979:1945	693+459	88.6 : 77.9%
2/3	A422 East Ahead	U	1:3	N/A	C1:E		1	20	-	532	1980	693	76.8%
3/1	Willen Road South Ahead Left	U	1:4	N/A	C1:H		1	19	-	587	1970	657	89.4%
3/2+3/3	Willen Road South Ahead	U	1:4	N/A	C1:H		1	19	-	516	1980:1980	363+660	50.5 : 50.5%
4/2+4/1	A422 West Left Ahead	U	1:1	N/A	C1:A		1	25	-	1328	1980:1888	858+516	96.6 : 96.6%
4/3	A422 West Ahead	U	1:1	N/A	C1:A		1	25	-	816	1980	858	95.1%
5/1		U	N/A	N/A	-		-	-	-	1276	Inf	Inf	0.0%
6/1	Ahead	U	1:2	N/A	C1:D		1	41	-	1012	1900	1330	76.1%
6/2	Ahead Right	U	1:2	N/A	C1:D		1	41	-	1149	1900	1330	86.4%
7/1		U	1:5	N/A	C1:J		1	41	-	1165	1965	1375	84.7%
7/2		U	1:5	N/A	C1:J		1	41	-	1089	1965	1375	79.2%
8/1	Ahead	U	1:3	N/A	C1:F		1	30	-	158	1900	982	16.1%
8/2	Ahead	U	1:3	N/A	C1:F		1	30	-	235	1900	982	23.9%
8/3	Right	U	1:3	N/A	C1:F		1	30	-	226	1900	982	23.0%
9/1	Ahead	U	N/A	N/A	-		-	-	-	516	Inf	Inf	0.0%
9/2	Ahead	U	N/A	N/A	-		-	-	-	250	Inf	Inf	0.0%

Full Input Data And Results

10/1	Ahead	U	1:4	N/A	C1:I		1	31	-	707	1900	1013	69.8%
10/2	Ahead	U	1:4	N/A	C1:I		1	31	-	403	1900	1013	39.8%
10/3	Right	U	1:4	N/A	C1:I		1	31	-	247	1900	1013	24.4%
11/1	Ahead	U	1:1	N/A	C1:B		1	25	-	777	1900	823	94.4%
11/2	Right	U	1:1	N/A	C1:B		1	25	-	183	1900	823	22.2%
11/3	Right	U	1:1	N/A	C1:B		1	25	-	333	1900	823	40.4%
12/1		U	N/A	N/A	-		-	-	-	764	Inf	Inf	0.0%
12/2		U	N/A	N/A	-		-	-	-	403	Inf	Inf	0.0%
J2: Site Access	-	-	N/A	-	-		-	-	-	-	-	-	62.5%
1/1	Willen Road Left Ahead	U	N/A	N/A	C2:A		2	174	-	516	1980	1452	35.5%
1/2+1/3	Willen Road Right Ahead	U	N/A	N/A	C2:A C2:B		2	174:14	-	250	1980:1972	1353+131	16.6 : 19.0%
2/1	Willen Road South Ahead Left	U	N/A	N/A	C2:C		2	163	-	559	1972	1356	41.2%
2/2	Willen Road South Ahead Right	O	N/A	N/A	C2:C		2	163	-	524	1980	1361	38.5%
3/1	Site Access Left Right	O	N/A	N/A	C2:D		2	27	-	125	1787	200	62.5%
4/1	Ahead	U	N/A	N/A	-		-	-	-	587	Inf	Inf	0.0%
4/2	Ahead	U	N/A	N/A	-		-	-	-	516	Inf	Inf	0.0%
5/1		U	N/A	N/A	-		-	-	-	48	Inf	Inf	0.0%
6/1	Left	U	N/A	N/A	C2:J		2	23	-	29	1940	202	14.4%
6/2	Right	O	N/A	N/A	C2:J		2	23	-	33	1940	112	29.4%
7/1		U	N/A	N/A	-		-	-	-	112	Inf	Inf	0.0%
J3: Southern Access	-	-	N/A	-	-		-	-	-	-	-	-	59.9%
1/1		U	N/A	N/A	-		-	-	-	60	Inf	Inf	0.0%
2/1	Left	U	N/A	N/A	C3:B		2	14	-	22	1809	121	18.2%
2/2	Right	U	N/A	N/A	C3:B		2	14	-	13	1809	121	10.8%
3/1+3/2	Ahead Right	U+O	N/A	N/A	C3:C		2	179	-	1109	1965:1955	921+929	59.9 : 59.9%

Full Input Data And Results

4/1	Ahead	U	N/A	N/A	-		-	-	-	549	Inf	Inf	0.0%
4/2	Ahead	O	N/A	N/A	-		-	-	-	225	Inf	819	27.5%
5/1	Left Ahead	U	N/A	N/A	C3:A		2	179	-	548	1959	1477	37.1%
5/2	Ahead	U	N/A	N/A	C3:A		2	179	-	225	1965	1482	15.2%
6/1		U	N/A	N/A	-		-	-	-	774	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: A422 Marsh End / Willen Road / Site Access Proposed Layout	-	-	397	7	8	41.3	36.6	0.2	78.1	-	-	-	-
J1: A422/Willen Road	-	-	0	0	0	32.9	33.0	0.0	65.9	-	-	-	-
1/2+1/1	486	486	-	-	-	3.2	1.5	-	4.8 (2.1+2.7)	35.4 (34.9:35.8)	4.3	1.5	5.9
1/3	226	226	-	-	-	1.5	1.1	-	2.6	41.2	3.5	1.1	4.6
2/2+2/1	972	972	-	-	-	4.7	2.6	-	7.3 (4.8+2.5)	27.1 (28.1:25.3)	9.6	2.6	12.2
2/3	532	532	-	-	-	2.6	1.6	-	4.2	28.3	7.8	1.6	9.5
3/1	587	587	-	-	-	3.1	3.8	-	6.9	42.3	9.1	3.8	12.9
3/2+3/3	516	516	-	-	-	2.2	0.5	-	2.7 (0.9+1.8)	19.1 (18.2:19.6)	4.4	0.5	4.9
4/2+4/1	1328	1328	-	-	-	5.6	10.0	-	15.6 (10.1+5.6)	42.4 (43.7:40.2)	13.4	10.0	23.3
4/3	816	816	-	-	-	3.7	7.2	-	10.9	48.3	12.9	7.2	20.1
5/1	1276	1276	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	1012	1012	-	-	-	0.5	0.0	-	0.5	1.8	2.7	0.0	2.7
6/2	1149	1149	-	-	-	1.1	0.0	-	1.1	3.5	6.9	0.0	6.9
7/1	1165	1165	-	-	-	0.3	2.7	-	3.0	9.3	3.0	2.7	5.7
7/2	1089	1089	-	-	-	0.3	1.9	-	2.2	7.2	1.2	1.9	3.0
8/1	158	158	-	-	-	0.2	0.0	-	0.2	4.4	0.7	0.0	0.7
8/2	235	235	-	-	-	0.1	0.0	-	0.1	1.3	0.3	0.0	0.3
8/3	226	226	-	-	-	0.0	0.0	-	0.0	0.1	0.1	0.0	0.1
9/1	516	516	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
9/2	250	250	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
10/1	707	707	-	-	-	0.5	0.0	-	0.5	2.7	2.0	0.0	2.0
10/2	403	403	-	-	-	0.5	0.0	-	0.5	4.5	2.0	0.0	2.0

Full Input Data And Results

10/3	247	247	-	-	-	0.0	0.0	-	0.0	0.5	0.1	0.0	0.1
11/1	777	777	-	-	-	2.2	0.0	-	2.2	10.0	6.5	0.0	6.5
11/2	183	183	-	-	-	0.2	0.0	-	0.2	3.7	0.4	0.0	0.4
11/3	333	333	-	-	-	0.3	0.0	-	0.3	3.8	0.6	0.0	0.6
12/1	764	764	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
12/2	403	403	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
J2: Site Access	-	-	133	7	8	5.3	2.1	0.1	7.6	-	-	-	-
1/1	516	516	-	-	-	0.9	0.3	-	1.2	8.1	7.7	0.3	8.0
1/2+1/3	250	250	-	-	-	0.7	0.1	-	0.8 (0.4+0.4)	11.4 (6.6:55.2)	2.8	0.1	2.9
2/1	559	559	-	-	-	0.6	0.4	-	0.9	6.0	4.3	0.4	4.7
2/2	524	524	45	7	0	0.5	0.3	0.0	0.9	6.1	4.1	0.3	4.4
3/1	125	125	55	0	8	1.8	0.8	0.1	2.7	76.6	4.4	0.8	5.2
4/1	587	587	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/2	516	516	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	48	48	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	29	29	-	-	-	0.4	0.1	-	0.5	59.9	1.0	0.1	1.1
6/2	33	33	33	0	0	0.5	0.2	0.0	0.7	74.5	1.1	0.2	1.3
7/1	112	112	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
J3: Southern Access	-	-	264	0	0	3.1	1.5	0.0	4.6	-	-	-	-
1/1	60	60	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
2/1	22	22	-	-	-	0.4	0.1	-	0.5	76.3	0.9	0.1	1.0
2/2	13	13	-	-	-	0.2	0.1	-	0.3	74.6	0.5	0.1	0.6
3/1+3/2	1109	1109	39	0	0	1.7	0.7	0.0	2.4 (1.2+1.2)	7.9 (7.8:8.0)	7.9	0.7	8.6
4/1	549	549	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/2	225	225	225	0	0	0.0	0.2	-	0.2	3.0	0.0	0.2	0.2
5/1	548	548	-	-	-	0.6	0.3	-	0.9	5.8	5.5	0.3	5.8
5/2	225	225	-	-	-	0.2	0.1	-	0.3	5.4	2.2	0.1	2.3
6/1	774	774	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

Full Input Data And Results

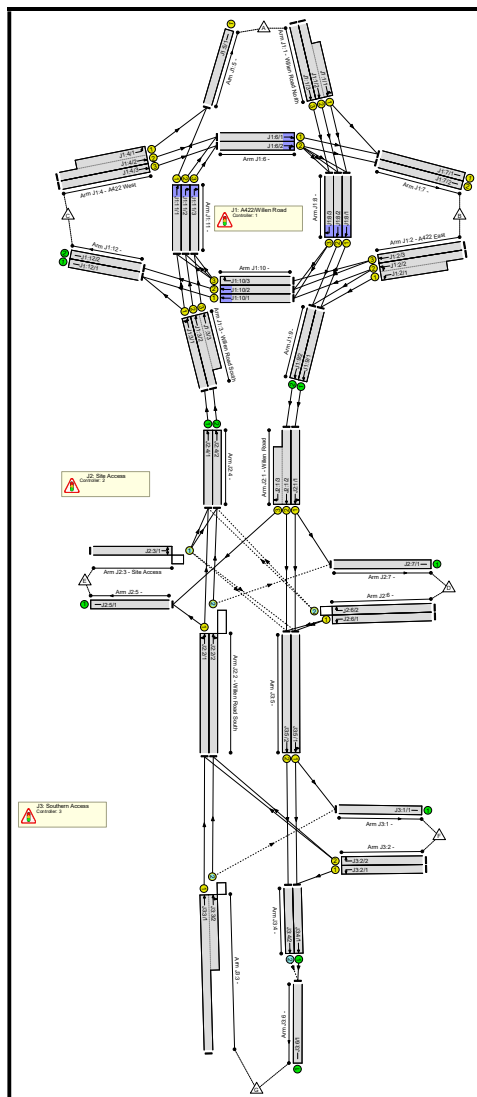
C1	Stream: 1	PRC for Signalled Lanes (%)	-7.4	Total Delay for Signalled Lanes (pcuHr)	29.26	Cycle Time (s)	60
C1	Stream: 2	PRC for Signalled Lanes (%)	4.2	Total Delay for Signalled Lanes (pcuHr)	8.98	Cycle Time (s)	60
C1	Stream: 3	PRC for Signalled Lanes (%)	1.5	Total Delay for Signalled Lanes (pcuHr)	11.77	Cycle Time (s)	60
C1	Stream: 4	PRC for Signalled Lanes (%)	0.7	Total Delay for Signalled Lanes (pcuHr)	10.70	Cycle Time (s)	60
C1	Stream: 5	PRC for Signalled Lanes (%)	6.3	Total Delay for Signalled Lanes (pcuHr)	5.21	Cycle Time (s)	60
C2		PRC for Signalled Lanes (%)	44.0	Total Delay for Signalled Lanes (pcuHr)	7.59	Cycle Time (s)	240
C3		PRC for Signalled Lanes (%)	50.1	Total Delay for Signalled Lanes (pcuHr)	4.39	Cycle Time (s)	240
		PRC Over All Lanes (%)	-7.4	Total Delay Over All Lanes(pcuHr)	78.09		

Full Input Data And Results
Full Input Data And Results

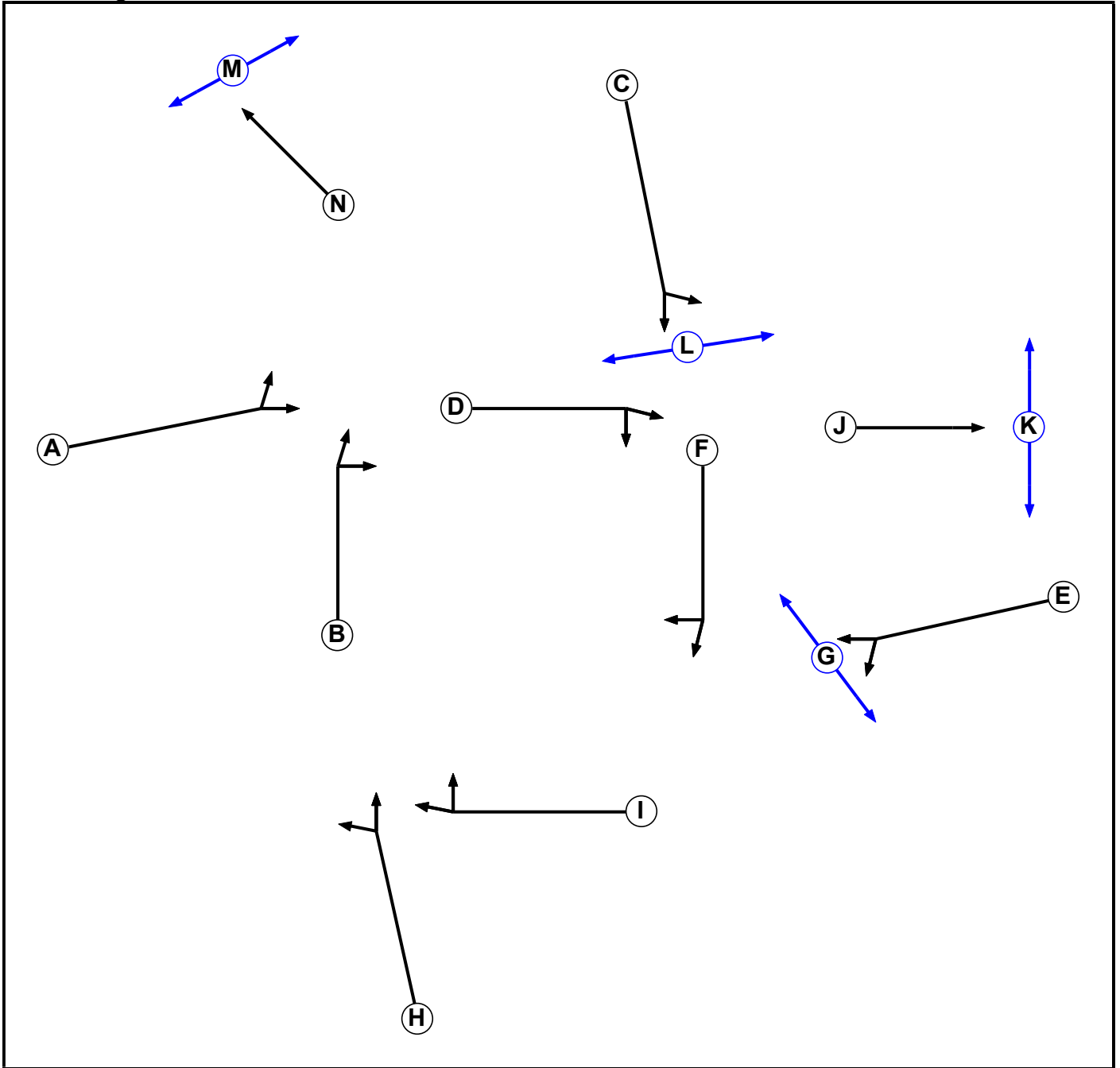
User and Project Details

Project:	Newport Pagnell
Title:	A422 Marsh End / Willen Road / Site Access Proposed Layout
Location:	
Additional detail:	
File name:	211019_Marsh End RAB+Committed Scheme+Dev+ Proposed Ped v6.lsg3x
Author:	
Company:	
Address:	

Network Layout Diagram



C1
Phase Diagram



Full Input Data And Results

Phase Input Data

Phase Name	Phase Type	Stage Stream	Assoc. Phase	Street Min	Cont Min
A	Traffic	1		7	7
B	Traffic	1		7	7
C	Traffic	2		7	7
D	Traffic	2		7	3
E	Traffic	3		7	7
F	Traffic	3		7	4
G	Pedestrian	3		5	5
H	Traffic	4		7	7
I	Traffic	4		7	7
J	Traffic	5		7	7
K	Pedestrian	5		7	7
L	Pedestrian	2		5	5
M	Pedestrian	6		5	5
N	Traffic	6		7	7

Full Input Data And Results

Phase Intergrens Matrix

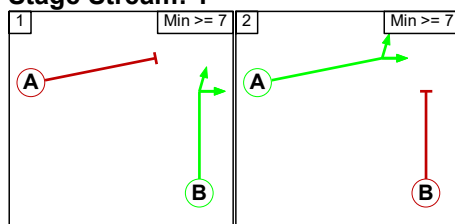
		Starting Phase													
		A	B	C	D	E	F	G	H	I	J	K	L	M	N
Terminating Phase	A		5	-	-	-	-	-	-	-	-	-	-	-	-
	B	5		-	-	-	-	-	-	-	-	-	-	-	-
	C	-	-		5	-	-	-	-	-	-	-	5	-	-
	D	-	-	5		-	-	-	-	-	-	-	-	-	-
	E	-	-	-	-		5	5	-	-	-	-	-	-	-
	F	-	-	-	-	5		-	-	-	-	-	-	-	-
	G	-	-	-	-	8	-		-	-	-	-	-	-	-
	H	-	-	-	-	-	-	-		5	-	-	-	-	-
	I	-	-	-	-	-	-	-	5		-	-	-	-	-
	J	-	-	-	-	-	-	-	-	-		5	-	-	-
	K	-	-	-	-	-	-	-	-	-	7		-	-	-
	L	-	-	9	-	-	-	-	-	-	-	-		-	-
	M	-	-	-	-	-	-	-	-	-	-	-	-		5
	N	-	-	-	-	-	-	-	-	-	-	-	-	7	

Phases in Stage

Stream	Stage No.	Phases in Stage
1	1	B
1	2	A
2	1	D L
2	2	C
3	1	F G
3	2	E
4	1	I
4	2	H
5	1	J
5	2	K
6	1	N
6	2	M

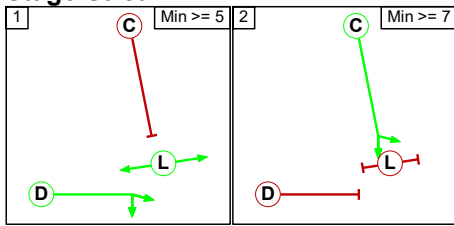
Stage Diagram

Stage Stream: 1

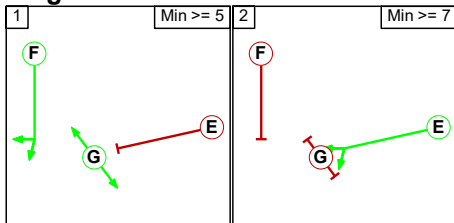


Full Input Data And Results

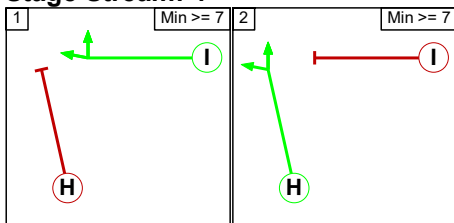
Stage Stream: 2



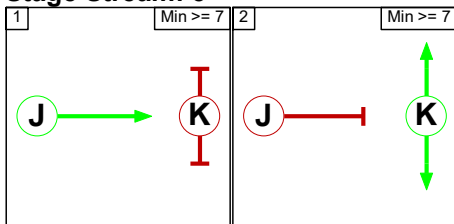
Stage Stream: 3



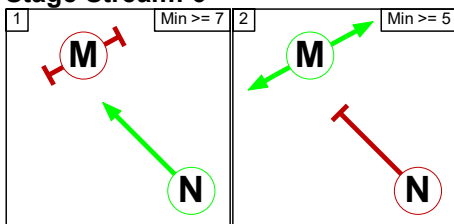
Stage Stream: 4



Stage Stream: 5



Stage Stream: 6



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
1	2	D	Losing	4	4

Stage Stream: 3

Term. Stage	Start Stage	Phase	Type	Value	Cont value
1	2	F	Losing	3	3

Full Input Data And Results

Stage Stream: 4

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

Stage Stream: 5

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

Stage Stream: 6

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
	1	5
	2	5

Stage Stream: 2

	To Stage	
From Stage	1	2
	1	9
	2	5

Stage Stream: 3

	To Stage	
From Stage	1	2
	1	8
	2	5

Stage Stream: 4

	To Stage	
From Stage	1	2
	1	5
	2	5

Stage Stream: 5

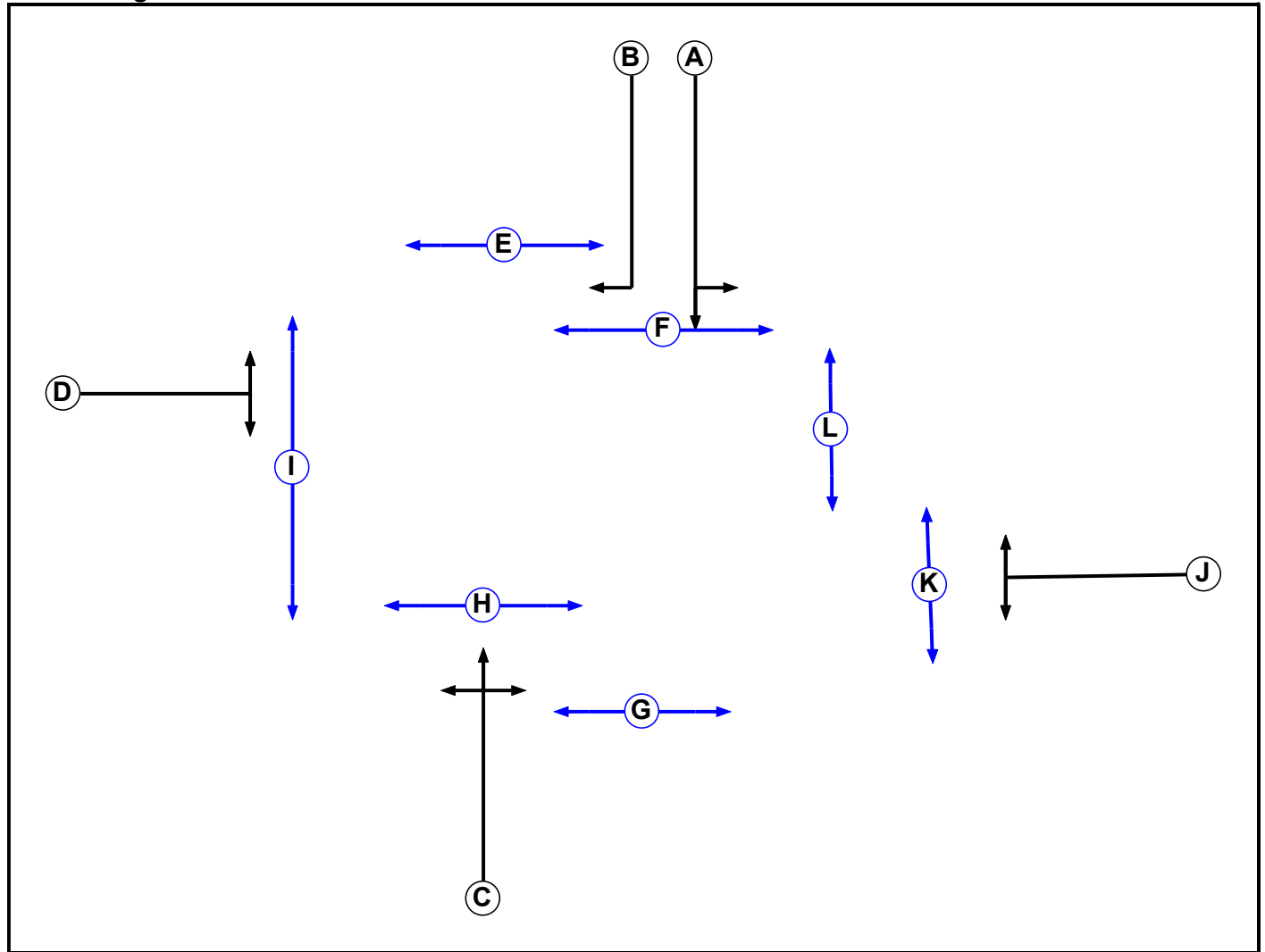
	To Stage	
From Stage	1	2
	1	5
	2	7

Full Input Data And Results

Stage Stream: 6

	To Stage	
	1	2
From Stage	1	7
	2	5

C2
Phase Diagram



Full Input Data And Results

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
I	Pedestrian		5	5
J	Traffic		7	7
K	Pedestrian		5	5
L	Pedestrian		5	5

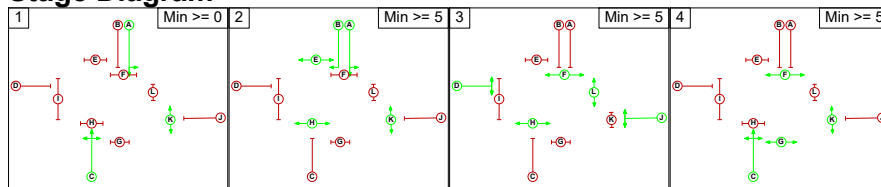
Phase Intergreens Matrix

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

Phases in Stage

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

Stage Diagram



Full Input Data And Results

Phase Delays

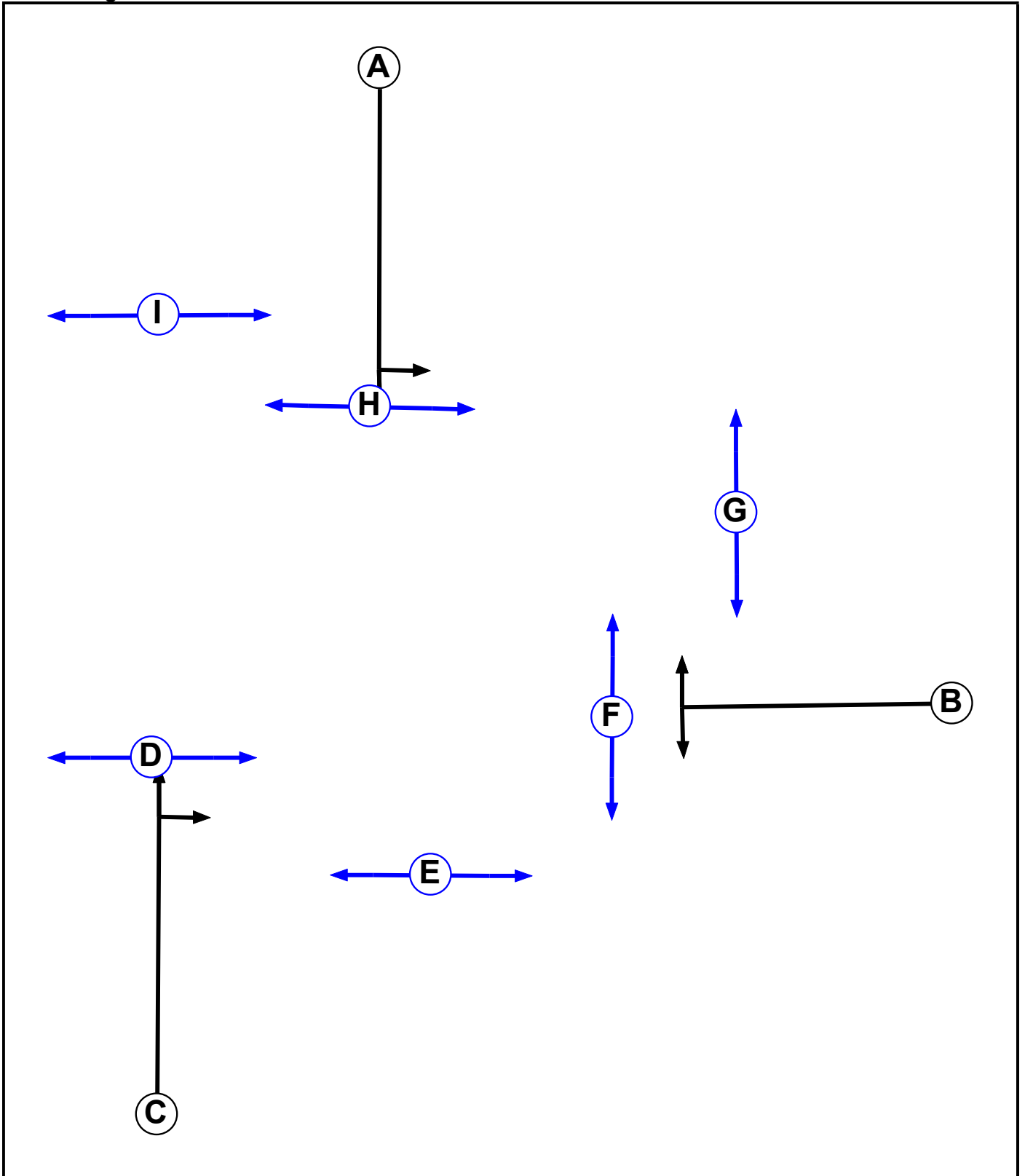
Term. Stage	Start Stage	Phase	Type	Value	Cont value
1	3	A	Losing	1	1

Prohibited Stage Change

		To Stage			
		1	2	3	4
From Stage	1	8	10	8	
	2	6	8	8	
	3	7	8	8	
	4	7	8	10	

C3

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	Pedestrian		5	5
E	Pedestrian		5	5
F	Pedestrian		5	5
G	Pedestrian		5	5
H	Pedestrian		5	5
I	Pedestrian		7	7

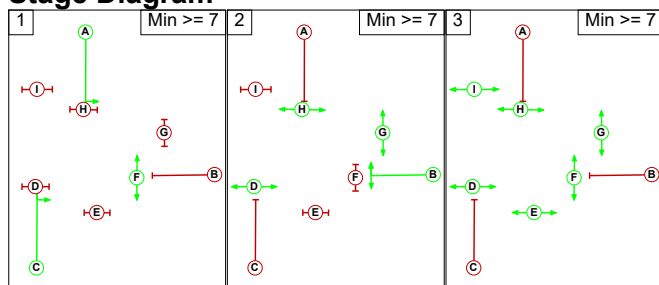
Phase Intergreens Matrix

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

Phases in Stage

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

Stage Diagram



Phase Delays

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

Full Input Data And Results

Prohibited Stage Change

		To Stage		
		1	2	3
From Stage	1		8	8
	2	8		8
	3	8	8	

Full Input Data And Results

Give-Way Lane Input Data

Junction: J1: A422/Willen Road
There are no Opposed Lanes in this Junction

Junction: J2: Site Access											
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)
J2:2/2 (Willen Road South)	J2:7/1 (Right)	1439	0	J2:1/1	1.09	All	4.00	4.00	0.50	4	2.00
				J2:1/2	1.09	All					
J2:3/1 (Site Access)	J3:5/1 (Right)	715	0	J2:6/1	1.09	All	2.00	2.00	0.50	2	2.00
	J3:5/2 (Right)	715	0	J2:6/1	1.09	All					
J2:6/2	J2:4/1 (Right)	715	0	J2:3/1	0.22	To J2:4/1 (Left) To J2:4/2 (Left)	2.00	-	0.50	2	2.00
	J2:4/2 (Right)	715	0	J2:3/1	0.22	To J2:4/1 (Left) To J2:4/2 (Left)					

Junction: J3: Southern Access											
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)
J3:3/2	J3:1/1 (Right)	1439	0	J3:5/1	1.09	All	2.00	2.00	0.50	2	2.00
				J3:5/2	1.09	All					
J3:4/2	J3:6/1 (Ahead)	1000	0	J3:4/1	0.33	All	-	-	-	-	-

Full Input Data And Results

Lane Input Data

Junction: J1: A422/Willen Road												
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)
J1:1/1 (Willen Road North)	U	C	2	3	9.5	Geom	-	3.40	0.00	Y	Arm J1:7 Left	23.00
											Arm J1:8 Ahead	Inf
J1:1/2 (Willen Road North)	U	C	2	3	2.3	Geom	-	3.40	0.00	Y	Arm J1:8 Ahead	Inf
J1:1/3 (Willen Road North)	U	C	2	3	60.0	Geom	-	3.40	0.00	Y	Arm J1:8 Ahead	Inf
J1:2/1 (A422 East)	U	E	2	3	20.7	Geom	-	3.65	0.00	Y	Arm J1:9 Left	84.00
J1:2/2 (A422 East)	U	E	2	3	60.0	Geom	-	3.65	0.00	Y	Arm J1:9 Left	84.00
											Arm J1:10 Ahead	Inf
J1:2/3 (A422 East)	U	E	2	3	60.0	Geom	-	3.65	0.00	Y	Arm J1:10 Ahead	Inf
J1:3/1 (Willen Road South)	U	H	2	3	28.7	Geom	-	3.65	0.00	Y	Arm J1:11 Ahead	Inf
											Arm J1:12 Left	28.50
J1:3/2 (Willen Road South)	U	H	2	3	28.7	Geom	-	3.65	0.00	Y	Arm J1:11 Ahead	Inf
J1:3/3 (Willen Road South)	U	H	2	3	10.9	Geom	-	3.65	0.00	Y	Arm J1:11 Ahead	Inf
J1:4/1 (A422 West)	U	A	2	3	14.9	Geom	-	3.65	0.00	Y	Arm J1:5 Left	30.90
J1:4/2 (A422 West)	U	A	2	3	60.0	Geom	-	3.65	0.00	Y	Arm J1:6 Ahead	Inf
J1:4/3 (A422 West)	U	A	2	3	60.0	Geom	-	3.65	0.00	Y	Arm J1:6 Ahead	Inf
J1:5/1	U	N	2	3	5.0	Geom	-	3.25	0.00	Y		
J1:6/1	U	D	2	3	7.0	User	1900	-	-	-	-	-
J1:6/2	U	D	2	3	7.0	User	1900	-	-	-	-	-
J1:7/1	U	J	2	3	8.7	Geom	-	3.50	0.00	Y		
J1:7/2	U	J	2	3	8.7	Geom	-	3.50	0.00	Y		
J1:8/1	U	F	2	3	10.2	User	1900	-	-	-	-	-
J1:8/2	U	F	2	3	9.7	User	1900	-	-	-	-	-

Full Input Data And Results

J1:8/3	U	F	2	3	9.0	User	1900	-	-	-	-	-
J1:9/1	U		2	3	7.0	Inf	-	-	-	-	-	-
J1:9/2	U		2	3	7.0	Inf	-	-	-	-	-	-
J1:10/1	U	I	2	3	10.4	User	1900	-	-	-	-	-
J1:10/2	U	I	2	3	9.7	User	1900	-	-	-	-	-
J1:10/3	U	I	2	3	92.2	User	1900	-	-	-	-	-
J1:11/1	U	B	2	3	8.3	User	1900	-	-	-	-	-
J1:11/2	U	B	2	3	8.0	User	1900	-	-	-	-	-
J1:11/3	U	B	2	3	7.6	User	1900	-	-	-	-	-
J1:12/1	U		2	3	5.0	Inf	-	-	-	-	-	-
J1:12/2	U		2	3	5.0	Inf	-	-	-	-	-	-

Junction: J2: Site Access												
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)
J2:1/1 (Willen Road)	U	A	2	3	27.8	Geom	-	3.65	0.00	Y	Arm J2:7 Left	Inf
											Arm J3:5 Ahead	Inf
J2:1/2 (Willen Road)	U	A	2	3	27.8	Geom	-	3.65	0.00	Y	Arm J3:5 Ahead	Inf
J2:1/3 (Willen Road)	U	B	2	3	9.9	Geom	-	3.65	0.00	N	Arm J2:5 Right	20.00
J2:2/1 (Willen Road South)	U	C	2	3	25.4	Geom	-	3.65	0.00	Y	Arm J2:4 Ahead	Inf
											Arm J2:5 Left	15.00
J2:2/2 (Willen Road South)	O	C	2	3	25.4	Geom	-	3.65	0.00	Y	Arm J2:4 Ahead	Inf
											Arm J2:7 Right	Inf
J2:3/1 (Site Access)	O	D	2	3	60.0	Geom	-	3.50	0.00	Y	Arm J2:4 Left	12.00
											Arm J3:5 Right	20.00
J2:4/1	U		2	3	8.7	Inf	-	-	-	-	-	-
J2:4/2	U		2	3	8.7	Inf	-	-	-	-	-	-
J2:5/1	U		2	3	60.0	Inf	-	-	-	-	-	-
J2:6/1	U	J	2	3	60.0	Geom	-	3.25	0.00	Y	Arm J3:5 Left	Inf
J2:6/2	O	J	2	3	60.0	Geom	-	3.25	0.00	Y	Arm J2:4 Right	Inf
J2:7/1	U		2	3	60.0	Inf	-	-	-	-	-	-

Full Input Data And Results

Junction: J3: Southern Access												
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)
J3:1/1	U		2	3	60.0	Inf	-	-	-	-	-	-
J3:2/1	U	B	2	3	60.0	Geom	-	3.30	0.00	Y	Arm J3:4 Left	20.00
J3:2/2	U	B	2	3	60.0	Geom	-	3.30	0.00	Y	Arm J2:2 Right	20.00
J3:3/1	U	C	2	3	60.0	Geom	-	3.50	0.00	Y	Arm J2:2 Ahead	Inf
J3:3/2	O	C	2	3	13.0	Geom	-	3.50	0.00	Y	Arm J2:2 Ahead	Inf
											Arm J3:1 Right	20.00
J3:4/1	U		2	3	60.0	Inf	-	-	-	-	-	-
J3:4/2	O		2	3	60.0	Inf	-	-	-	-	-	-
J3:5/1	U	A	2	3	25.4	Geom	-	3.50	0.00	Y	Arm J3:1 Left	20.00
											Arm J3:4 Ahead	Inf
J3:5/2	U	A	2	3	25.4	Geom	-	3.50	0.00	Y	Arm J3:4 Ahead	Inf
J3:6/1	U		2	3	60.0	Inf	-	-	-	-	-	-

Traffic Flow Groups

Flow Group	Start Time	End Time	Duration	Formula
1: '2031 Base + Committed + Dev AM'	08:00	09:00	01:00	
2: '2031 Base + Committed + Dev PM'	17:00	18:00	01:00	
3: '2033 Base + Committed + Dev AM'	08:00	09:00	01:00	
4: '2033 Base + Committed + Dev PM'	17:00	18:00	01:00	
5: '2033 Base + Committed + Dev (10%) AM'	08:00	09:00	01:00	
6: '2033 Base + Committed + Dev (10%) PM'	17:00	18:00	01:00	
7: '2033 Base + Committed + Dev (MKE) AM'	08:00	09:00	01:00	
8: '2033 Base + Committed + Dev (MKE) PM'	17:00	18:00	01:00	

Full Input Data And Results

Scenario 1: '2031 Base + Committed + Dev AM' (FG1: '2031 Base + Committed + Dev AM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination							
		A	B	C	D	E	F	G	Tot.
Origin	A	0	108	321	11	25	4	696	1165
	B	74	0	1199	14	31	5	851	2174
	C	251	732	0	1	2	0	65	1051
	D	33	38	8	0	0	0	69	148
	E	6	7	1	0	0	0	12	26
	F	13	14	3	0	0	0	52	82
	G	255	287	60	23	57	17	0	699
	Tot.	632	1186	1592	49	115	26	1745	5345

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 1: 2031 Base + Committed + Dev AM
Junction: J1: A422/Willen Road	
J1:1/1 (short)	449
J1:1/2 (with short)	844(In) 395(Out)
J1:1/3	321
J1:2/1 (short)	844
J1:2/2 (with short)	1510(In) 666(Out)
J1:2/3	664
J1:3/1	353
J1:3/2 (with short)	372(In) 181(Out)
J1:3/3 (short)	191
J1:4/1 (short)	251
J1:4/2 (with short)	673(In) 422(Out)
J1:4/3	378
J1:5/1	632
J1:6/1	603
J1:6/2	569
J1:7/1	711
J1:7/2	475
J1:8/1	400
J1:8/2	404
J1:8/3	347
J1:9/1	1244
J1:9/2	461
J1:10/1	881
J1:10/2	665
J1:10/3	74
J1:11/1	381
J1:11/2	181
J1:11/3	191
J1:12/1	927
J1:12/2	665
Junction: J2: Site Access	
J2:1/1	1244
J2:1/2 (with short)	461(In) 403(Out)

Full Input Data And Results

J2:1/3 (short)	58
J2:2/1	362
J2:2/2	350
J2:3/1	26
J2:4/1	353
J2:4/2	372
J2:5/1	115
J2:6/1	69
J2:6/2	79
J2:7/1	49
Junction: J3: Southern Access	
J3:1/1	26
J3:2/1	52
J3:2/2	30
J3:3/1 (with short)	699(In) 347(Out)
J3:3/2 (short)	352
J3:4/1	1320
J3:4/2	425
J3:5/1	1277
J3:5/2	425
J3:6/1	1745

Full Input Data And Results

Lane Saturation Flows

Junction: J1: A422/Willen Road									
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)	
J1:1/1 (Willen Road North)	3.40	0.00	Y	Arm J1:7 Left	23.00	24.1 %	1925	1925	
				Arm J1:8 Ahead	Inf	75.9 %			
J1:1/2 (Willen Road North)	3.40	0.00	Y	Arm J1:8 Ahead	Inf	100.0 %	1955	1955	
J1:1/3 (Willen Road North)	3.40	0.00	Y	Arm J1:8 Ahead	Inf	100.0 %	1955	1955	
J1:2/1 (A422 East)	3.65	0.00	Y	Arm J1:9 Left	84.00	100.0 %	1945	1945	
J1:2/2 (A422 East)	3.65	0.00	Y	Arm J1:9 Left	84.00	8.6 %	1977	1977	
				Arm J1:10 Ahead	Inf	91.4 %			
J1:2/3 (A422 East)	3.65	0.00	Y	Arm J1:10 Ahead	Inf	100.0 %	1980	1980	
J1:3/1 (Willen Road South)	3.65	0.00	Y	Arm J1:11 Ahead	Inf	87.0 %	1967	1967	
				Arm J1:12 Left	28.50	13.0 %			
J1:3/2 (Willen Road South)	3.65	0.00	Y	Arm J1:11 Ahead	Inf	100.0 %	1980	1980	
J1:3/3 (Willen Road South)	3.65	0.00	Y	Arm J1:11 Ahead	Inf	100.0 %	1980	1980	
J1:4/1 (A422 West)	3.65	0.00	Y	Arm J1:5 Left	30.90	100.0 %	1888	1888	
J1:4/2 (A422 West)	3.65	0.00	Y	Arm J1:6 Ahead	Inf	100.0 %	1980	1980	
J1:4/3 (A422 West)	3.65	0.00	Y	Arm J1:6 Ahead	Inf	100.0 %	1980	1980	
J1:5/1	3.25	0.00	Y				1940	1940	
J1:6/1	This lane uses a directly entered Saturation Flow							1900	1900
J1:6/2	This lane uses a directly entered Saturation Flow							1900	1900
J1:7/1	3.50	0.00	Y				1965	1965	
J1:7/2	3.50	0.00	Y				1965	1965	
J1:8/1	This lane uses a directly entered Saturation Flow							1900	1900
J1:8/2	This lane uses a directly entered Saturation Flow							1900	1900
J1:8/3	This lane uses a directly entered Saturation Flow							1900	1900
J1:9/1	Infinite Saturation Flow							Inf	Inf
J1:9/2	Infinite Saturation Flow							Inf	Inf
J1:10/1	This lane uses a directly entered Saturation Flow							1900	1900
J1:10/2	This lane uses a directly entered Saturation Flow							1900	1900
J1:10/3	This lane uses a directly entered Saturation Flow							1900	1900
J1:11/1	This lane uses a directly entered Saturation Flow							1900	1900
J1:11/2	This lane uses a directly entered Saturation Flow							1900	1900
J1:11/3	This lane uses a directly entered Saturation Flow							1900	1900
J1:12/1	Infinite Saturation Flow							Inf	Inf

Full Input Data And Results

J1:12/2	Infinite Saturation Flow	Inf	Inf
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Junction: J2: Site Access								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
J2:1/1 (Willen Road)	3.65	0.00	Y	Arm J2:7 Left	Inf	2.1 %	1980	1980
				Arm J3:5 Ahead	Inf	97.9 %		
J2:1/2 (Willen Road)	3.65	0.00	Y	Arm J3:5 Ahead	Inf	100.0 %	1980	1980
J2:1/3 (Willen Road)	3.65	0.00	N	Arm J2:5 Right	20.00	100.0 %	1972	1972
J2:2/1 (Willen Road South)	3.65	0.00	Y	Arm J2:4 Ahead	Inf	84.3 %	1949	1949
				Arm J2:5 Left	15.00	15.7 %		
J2:2/2 (Willen Road South)	3.65	0.00	Y	Arm J2:4 Ahead	Inf	93.4 %	1980	1980
				Arm J2:7 Right	Inf	6.6 %		
J2:3/1 (Site Access)	3.50	0.00	Y	Arm J2:4 Left	12.00	53.8 %	1783	1783
				Arm J3:5 Right	20.00	46.2 %		
J2:4/1	Infinite Saturation Flow						Inf	Inf
J2:4/2	Infinite Saturation Flow						Inf	Inf
J2:5/1	Infinite Saturation Flow						Inf	Inf
J2:6/1	3.25	0.00	Y	Arm J3:5 Left	Inf	100.0 %	1940	1940
J2:6/2	3.25	0.00	Y	Arm J2:4 Right	Inf	100.0 %	1940	1940
J2:7/1	Infinite Saturation Flow						Inf	Inf

Junction: J3: Southern Access								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
J3:1/1	Infinite Saturation Flow						Inf	Inf
J3:2/1	3.30	0.00	Y	Arm J3:4 Left	20.00	100.0 %	1809	1809
J3:2/2	3.30	0.00	Y	Arm J2:2 Right	20.00	100.0 %	1809	1809
J3:3/1	3.50	0.00	Y	Arm J2:2 Ahead	Inf	100.0 %	1965	1965
J3:3/2	3.50	0.00	Y	Arm J2:2 Ahead	Inf	95.2 %	1958	1958
				Arm J3:1 Right	20.00	4.8 %		
J3:4/1	Infinite Saturation Flow						Inf	Inf
J3:4/2	Infinite Saturation Flow						Inf	Inf
J3:5/1	3.50	0.00	Y	Arm J3:1 Left	20.00	0.7 %	1964	1964
				Arm J3:4 Ahead	Inf	99.3 %		
J3:5/2	3.50	0.00	Y	Arm J3:4 Ahead	Inf	100.0 %	1965	1965
J3:6/1	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

Scenario 2: '2031 Base + Committed + Dev PM' (FG2: '2031 Base + Committed + Dev PM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination							
		A	B	C	D	E	F	G	Tot.
Origin	A	0	150	222	30	11	10	278	701
	B	243	0	867	34	12	11	315	1482
	C	490	1557	0	6	2	2	55	2112
	D	20	19	2	0	0	0	36	77
	E	30	29	4	0	0	0	63	126
	F	7	7	1	0	0	0	27	42
	G	466	456	55	60	23	46	0	1106
	Tot.	1256	2218	1151	130	48	69	774	5646

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 2: 2031 Base + Committed + Dev PM
Junction: J1: A422/Willen Road	
J1:1/1 (short)	280
J1:1/2 (with short)	479(In) 199(Out)
J1:1/3	222
J1:2/1 (short)	357
J1:2/2 (with short)	961(In) 604(Out)
J1:2/3	521
J1:3/1	585
J1:3/2 (with short)	511(In) 137(Out)
J1:3/3 (short)	374
J1:4/1 (short)	490
J1:4/2 (with short)	1313(In) 823(Out)
J1:4/3	799
J1:5/1	1256
J1:6/1	960
J1:6/2	1173
J1:7/1	1110
J1:7/2	1108
J1:8/1	170
J1:8/2	224
J1:8/3	222
J1:9/1	527
J1:9/2	239
J1:10/1	665
J1:10/2	424
J1:10/3	243
J1:11/1	766
J1:11/2	137
J1:11/3	374
J1:12/1	727
J1:12/2	424
Junction: J2: Site Access	
J2:1/1	527
J2:1/2 (with short)	239(In) 214(Out)

Full Input Data And Results

J2:1/3 (short)	25
J2:2/1	552
J2:2/2	523
J2:3/1	126
J2:4/1	585
J2:4/2	511
J2:5/1	48
J2:6/1	36
J2:6/2	41
J2:7/1	130
Junction: J3: Southern Access	
J3:1/1	69
J3:2/1	27
J3:2/2	15
J3:3/1 (with short)	1106(In) 544(Out)
J3:3/2 (short)	562
J3:4/1	559
J3:4/2	215
J3:5/1	555
J3:5/2	215
J3:6/1	774

Full Input Data And Results

Lane Saturation Flows

Junction: J1: A422/Willen Road									
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)	
J1:1/1 (Willen Road North)	3.40	0.00	Y	Arm J1:7 Left	23.00	53.6 %	1889	1889	
				Arm J1:8 Ahead	Inf	46.4 %			
J1:1/2 (Willen Road North)	3.40	0.00	Y	Arm J1:8 Ahead	Inf	100.0 %	1955	1955	
J1:1/3 (Willen Road North)	3.40	0.00	Y	Arm J1:8 Ahead	Inf	100.0 %	1955	1955	
J1:2/1 (A422 East)	3.65	0.00	Y	Arm J1:9 Left	84.00	100.0 %	1945	1945	
J1:2/2 (A422 East)	3.65	0.00	Y	Arm J1:9 Left	84.00	2.5 %	1979	1979	
				Arm J1:10 Ahead	Inf	97.5 %			
J1:2/3 (A422 East)	3.65	0.00	Y	Arm J1:10 Ahead	Inf	100.0 %	1980	1980	
J1:3/1 (Willen Road South)	3.65	0.00	Y	Arm J1:11 Ahead	Inf	89.4 %	1969	1969	
				Arm J1:12 Left	28.50	10.6 %			
J1:3/2 (Willen Road South)	3.65	0.00	Y	Arm J1:11 Ahead	Inf	100.0 %	1980	1980	
J1:3/3 (Willen Road South)	3.65	0.00	Y	Arm J1:11 Ahead	Inf	100.0 %	1980	1980	
J1:4/1 (A422 West)	3.65	0.00	Y	Arm J1:5 Left	30.90	100.0 %	1888	1888	
J1:4/2 (A422 West)	3.65	0.00	Y	Arm J1:6 Ahead	Inf	100.0 %	1980	1980	
J1:4/3 (A422 West)	3.65	0.00	Y	Arm J1:6 Ahead	Inf	100.0 %	1980	1980	
J1:5/1	3.25	0.00	Y				1940	1940	
J1:6/1	This lane uses a directly entered Saturation Flow							1900	1900
J1:6/2	This lane uses a directly entered Saturation Flow							1900	1900
J1:7/1	3.50	0.00	Y				1965	1965	
J1:7/2	3.50	0.00	Y				1965	1965	
J1:8/1	This lane uses a directly entered Saturation Flow							1900	1900
J1:8/2	This lane uses a directly entered Saturation Flow							1900	1900
J1:8/3	This lane uses a directly entered Saturation Flow							1900	1900
J1:9/1	Infinite Saturation Flow							Inf	Inf
J1:9/2	Infinite Saturation Flow							Inf	Inf
J1:10/1	This lane uses a directly entered Saturation Flow							1900	1900
J1:10/2	This lane uses a directly entered Saturation Flow							1900	1900
J1:10/3	This lane uses a directly entered Saturation Flow							1900	1900
J1:11/1	This lane uses a directly entered Saturation Flow							1900	1900
J1:11/2	This lane uses a directly entered Saturation Flow							1900	1900
J1:11/3	This lane uses a directly entered Saturation Flow							1900	1900
J1:12/1	Infinite Saturation Flow							Inf	Inf

Full Input Data And Results

J1:12/2	Infinite Saturation Flow	Inf	Inf
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Junction: J2: Site Access								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
J2:1/1 (Willen Road)	3.65	0.00	Y	Arm J2:7 Left	Inf	13.3 %	1980	1980
				Arm J3:5 Ahead	Inf	86.7 %		
J2:1/2 (Willen Road)	3.65	0.00	Y	Arm J3:5 Ahead	Inf	100.0 %	1980	1980
J2:1/3 (Willen Road)	3.65	0.00	N	Arm J2:5 Right	20.00	100.0 %	1972	1972
J2:2/1 (Willen Road South)	3.65	0.00	Y	Arm J2:4 Ahead	Inf	95.8 %	1972	1972
				Arm J2:5 Left	15.00	4.2 %		
J2:2/2 (Willen Road South)	3.65	0.00	Y	Arm J2:4 Ahead	Inf	88.5 %	1980	1980
				Arm J2:7 Right	Inf	11.5 %		
J2:3/1 (Site Access)	3.50	0.00	Y	Arm J2:4 Left	12.00	50.0 %	1786	1786
				Arm J3:5 Right	20.00	50.0 %		
J2:4/1	Infinite Saturation Flow						Inf	Inf
J2:4/2	Infinite Saturation Flow						Inf	Inf
J2:5/1	Infinite Saturation Flow						Inf	Inf
J2:6/1	3.25	0.00	Y	Arm J3:5 Left	Inf	100.0 %	1940	1940
J2:6/2	3.25	0.00	Y	Arm J2:4 Right	Inf	100.0 %	1940	1940
J2:7/1	Infinite Saturation Flow						Inf	Inf

Junction: J3: Southern Access								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
J3:1/1	Infinite Saturation Flow						Inf	Inf
J3:2/1	3.30	0.00	Y	Arm J3:4 Left	20.00	100.0 %	1809	1809
J3:2/2	3.30	0.00	Y	Arm J2:2 Right	20.00	100.0 %	1809	1809
J3:3/1	3.50	0.00	Y	Arm J2:2 Ahead	Inf	100.0 %	1965	1965
J3:3/2	3.50	0.00	Y	Arm J2:2 Ahead	Inf	91.8 %	1953	1953
				Arm J3:1 Right	20.00	8.2 %		
J3:4/1	Infinite Saturation Flow						Inf	Inf
J3:4/2	Infinite Saturation Flow						Inf	Inf
J3:5/1	3.50	0.00	Y	Arm J3:1 Left	20.00	4.1 %	1959	1959
				Arm J3:4 Ahead	Inf	95.9 %		
J3:5/2	3.50	0.00	Y	Arm J3:4 Ahead	Inf	100.0 %	1965	1965
J3:6/1	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

Scenario 3: '2033 Base + Committed + Dev AM' (FG3: '2033 Base + Committed + Dev AM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination							
		A	B	C	D	E	F	G	Tot.
Origin	A	0	110	327	14	25	5	707	1188
	B	75	0	1220	17	31	6	866	2215
	C	255	745	0	1	2	0	68	1071
	D	40	46	11	0	0	0	85	182
	E	6	7	2	0	0	0	12	27
	F	15	17	4	0	0	0	64	100
	G	255	291	67	28	57	21	0	719
	Tot.	646	1216	1631	60	115	32	1802	5502

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 3: 2033 Base + Committed + Dev AM
Junction: J1: A422/Willen Road	
J1:1/1 (short)	428
J1:1/2 (with short)	861(In) 433(Out)
J1:1/3	327
J1:2/1 (short)	846
J1:2/2 (with short)	1401(In) 555(Out)
J1:2/3	814
J1:3/1	399
J1:3/2 (with short)	362(In) 173(Out)
J1:3/3 (short)	189
J1:4/1 (short)	255
J1:4/2 (with short)	687(In) 432(Out)
J1:4/3	384
J1:5/1	646
J1:6/1	605
J1:6/2	573
J1:7/1	715
J1:7/2	501
J1:8/1	387
J1:8/2	435
J1:8/3	328
J1:9/1	1233
J1:9/2	509
J1:10/1	773
J1:10/2	775
J1:10/3	75
J1:11/1	391
J1:11/2	173
J1:11/3	189
J1:12/1	856
J1:12/2	775
Junction: J2: Site Access	
J2:1/1	1233
J2:1/2 (with short)	509(In) 451(Out)

Full Input Data And Results

J2:1/3 (short)	58
J2:2/1	397
J2:2/2	337
J2:3/1	27
J2:4/1	399
J2:4/2	362
J2:5/1	115
J2:6/1	85
J2:6/2	97
J2:7/1	60
Junction: J3: Southern Access	
J3:1/1	32
J3:2/1	64
J3:2/2	36
J3:3/1 (with short)	719(In) 378(Out)
J3:3/2 (short)	341
J3:4/1	1346
J3:4/2	456
J3:5/1	1293
J3:5/2	456
J3:6/1	1802

Full Input Data And Results

Lane Saturation Flows

Junction: J1: A422/Willen Road									
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)	
J1:1/1 (Willen Road North)	3.40	0.00	Y	Arm J1:7 Left	23.00	25.7 %	1923	1923	
				Arm J1:8 Ahead	Inf	74.3 %			
J1:1/2 (Willen Road North)	3.40	0.00	Y	Arm J1:8 Ahead	Inf	100.0 %	1955	1955	
J1:1/3 (Willen Road North)	3.40	0.00	Y	Arm J1:8 Ahead	Inf	100.0 %	1955	1955	
J1:2/1 (A422 East)	3.65	0.00	Y	Arm J1:9 Left	84.00	100.0 %	1945	1945	
J1:2/2 (A422 East)	3.65	0.00	Y	Arm J1:9 Left	84.00	13.3 %	1975	1975	
				Arm J1:10 Ahead	Inf	86.7 %			
J1:2/3 (A422 East)	3.65	0.00	Y	Arm J1:10 Ahead	Inf	100.0 %	1980	1980	
J1:3/1 (Willen Road South)	3.65	0.00	Y	Arm J1:11 Ahead	Inf	79.2 %	1959	1959	
				Arm J1:12 Left	28.50	20.8 %			
J1:3/2 (Willen Road South)	3.65	0.00	Y	Arm J1:11 Ahead	Inf	100.0 %	1980	1980	
J1:3/3 (Willen Road South)	3.65	0.00	Y	Arm J1:11 Ahead	Inf	100.0 %	1980	1980	
J1:4/1 (A422 West)	3.65	0.00	Y	Arm J1:5 Left	30.90	100.0 %	1888	1888	
J1:4/2 (A422 West)	3.65	0.00	Y	Arm J1:6 Ahead	Inf	100.0 %	1980	1980	
J1:4/3 (A422 West)	3.65	0.00	Y	Arm J1:6 Ahead	Inf	100.0 %	1980	1980	
J1:5/1	3.25	0.00	Y				1940	1940	
J1:6/1	This lane uses a directly entered Saturation Flow							1900	1900
J1:6/2	This lane uses a directly entered Saturation Flow							1900	1900
J1:7/1	3.50	0.00	Y				1965	1965	
J1:7/2	3.50	0.00	Y				1965	1965	
J1:8/1	This lane uses a directly entered Saturation Flow							1900	1900
J1:8/2	This lane uses a directly entered Saturation Flow							1900	1900
J1:8/3	This lane uses a directly entered Saturation Flow							1900	1900
J1:9/1	Infinite Saturation Flow							Inf	Inf
J1:9/2	Infinite Saturation Flow							Inf	Inf
J1:10/1	This lane uses a directly entered Saturation Flow							1900	1900
J1:10/2	This lane uses a directly entered Saturation Flow							1900	1900
J1:10/3	This lane uses a directly entered Saturation Flow							1900	1900
J1:11/1	This lane uses a directly entered Saturation Flow							1900	1900
J1:11/2	This lane uses a directly entered Saturation Flow							1900	1900
J1:11/3	This lane uses a directly entered Saturation Flow							1900	1900
J1:12/1	Infinite Saturation Flow							Inf	Inf

Full Input Data And Results

J1:12/2	Infinite Saturation Flow	Inf	Inf
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Junction: J2: Site Access								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
J2:1/1 (Willen Road)	3.65	0.00	Y	Arm J2:7 Left	Inf	2.6 %	1980	1980
				Arm J3:5 Ahead	Inf	97.4 %		
J2:1/2 (Willen Road)	3.65	0.00	Y	Arm J3:5 Ahead	Inf	100.0 %	1980	1980
J2:1/3 (Willen Road)	3.65	0.00	N	Arm J2:5 Right	20.00	100.0 %	1972	1972
J2:2/1 (Willen Road South)	3.65	0.00	Y	Arm J2:4 Ahead	Inf	85.6 %	1952	1952
				Arm J2:5 Left	15.00	14.4 %		
J2:2/2 (Willen Road South)	3.65	0.00	Y	Arm J2:4 Ahead	Inf	91.7 %	1980	1980
				Arm J2:7 Right	Inf	8.3 %		
J2:3/1 (Site Access)	3.50	0.00	Y	Arm J2:4 Left	12.00	55.6 %	1782	1782
				Arm J3:5 Right	20.00	44.4 %		
J2:4/1	Infinite Saturation Flow						Inf	Inf
J2:4/2	Infinite Saturation Flow						Inf	Inf
J2:5/1	Infinite Saturation Flow						Inf	Inf
J2:6/1	3.25	0.00	Y	Arm J3:5 Left	Inf	100.0 %	1940	1940
J2:6/2	3.25	0.00	Y	Arm J2:4 Right	Inf	100.0 %	1940	1940
J2:7/1	Infinite Saturation Flow						Inf	Inf

Junction: J3: Southern Access								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
J3:1/1	Infinite Saturation Flow						Inf	Inf
J3:2/1	3.30	0.00	Y	Arm J3:4 Left	20.00	100.0 %	1809	1809
J3:2/2	3.30	0.00	Y	Arm J2:2 Right	20.00	100.0 %	1809	1809
J3:3/1	3.50	0.00	Y	Arm J2:2 Ahead	Inf	100.0 %	1965	1965
J3:3/2	3.50	0.00	Y	Arm J2:2 Ahead	Inf	93.8 %	1956	1956
				Arm J3:1 Right	20.00	6.2 %		
J3:4/1	Infinite Saturation Flow						Inf	Inf
J3:4/2	Infinite Saturation Flow						Inf	Inf
J3:5/1	3.50	0.00	Y	Arm J3:1 Left	20.00	0.9 %	1964	1964
				Arm J3:4 Ahead	Inf	99.1 %		
J3:5/2	3.50	0.00	Y	Arm J3:4 Ahead	Inf	100.0 %	1965	1965
J3:6/1	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

Scenario 4: '2033 Base + Committed + Dev PM' (FG4: '2033 Base + Committed + Dev PM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination							
Origin		A	B	C	D	E	F	G	Tot.
	A	0	153	226	36	11	12	280	718
	B	247	0	884	41	12	13	320	1517
	C	499	1585	0	8	2	3	62	2159
	D	24	23	3	0	0	0	44	94
	E	30	29	4	0	0	0	63	126
	F	9	9	1	0	0	0	33	52
	G	472	464	60	74	23	56	0	1149
	Tot.	1281	2263	1178	159	48	84	802	5815

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 4: 2033 Base + Committed + Dev PM
Junction: J1: A422/Willen Road	
J1:1/1 (short)	251
J1:1/2 (with short)	492(In) 241(Out)
J1:1/3	226
J1:2/1 (short)	352
J1:2/2 (with short)	967(In) 615(Out)
J1:2/3	550
J1:3/1	602
J1:3/2 (with short)	526(In) 160(Out)
J1:3/3 (short)	366
J1:4/1 (short)	499
J1:4/2 (with short)	1341(In) 842(Out)
J1:4/3	818
J1:5/1	1281
J1:6/1	1002
J1:6/2	1186
J1:7/1	1155
J1:7/2	1108
J1:8/1	165
J1:8/2	251
J1:8/3	227
J1:9/1	517
J1:9/2	283
J1:10/1	693
J1:10/2	418
J1:10/3	249
J1:11/1	782
J1:11/2	160
J1:11/3	368
J1:12/1	760
J1:12/2	418
Junction: J2: Site Access	
J2:1/1	517
J2:1/2 (with short)	283(In) 258(Out)

Full Input Data And Results

J2:1/3 (short)	25
J2:2/1	564
J2:2/2	548
J2:3/1	126
J2:4/1	602
J2:4/2	526
J2:5/1	48
J2:6/1	44
J2:6/2	50
J2:7/1	159
Junction: J3: Southern Access	
J3:1/1	84
J3:2/1	33
J3:2/2	19
J3:3/1 (with short)	1149(In) 554(Out)
J3:3/2 (short)	595
J3:4/1	544
J3:4/2	258
J3:5/1	539
J3:5/2	258
J3:6/1	802

Full Input Data And Results

Lane Saturation Flows

Junction: J1: A422/Willen Road									
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)	
J1:1/1 (Willen Road North)	3.40	0.00	Y	Arm J1:7 Left	23.00	61.0 %	1880	1880	
				Arm J1:8 Ahead	Inf	39.0 %			
J1:1/2 (Willen Road North)	3.40	0.00	Y	Arm J1:8 Ahead	Inf	100.0 %	1955	1955	
J1:1/3 (Willen Road North)	3.40	0.00	Y	Arm J1:8 Ahead	Inf	100.0 %	1955	1955	
J1:2/1 (A422 East)	3.65	0.00	Y	Arm J1:9 Left	84.00	100.0 %	1945	1945	
J1:2/2 (A422 East)	3.65	0.00	Y	Arm J1:9 Left	84.00	5.2 %	1978	1978	
				Arm J1:10 Ahead	Inf	94.8 %			
J1:2/3 (A422 East)	3.65	0.00	Y	Arm J1:10 Ahead	Inf	100.0 %	1980	1980	
J1:3/1 (Willen Road South)	3.65	0.00	Y	Arm J1:11 Ahead	Inf	88.9 %	1968	1968	
				Arm J1:12 Left	28.50	11.1 %			
J1:3/2 (Willen Road South)	3.65	0.00	Y	Arm J1:11 Ahead	Inf	100.0 %	1980	1980	
J1:3/3 (Willen Road South)	3.65	0.00	Y	Arm J1:11 Ahead	Inf	100.0 %	1980	1980	
J1:4/1 (A422 West)	3.65	0.00	Y	Arm J1:5 Left	30.90	100.0 %	1888	1888	
J1:4/2 (A422 West)	3.65	0.00	Y	Arm J1:6 Ahead	Inf	100.0 %	1980	1980	
J1:4/3 (A422 West)	3.65	0.00	Y	Arm J1:6 Ahead	Inf	100.0 %	1980	1980	
J1:5/1	3.25	0.00	Y				1940	1940	
J1:6/1	This lane uses a directly entered Saturation Flow							1900	1900
J1:6/2	This lane uses a directly entered Saturation Flow							1900	1900
J1:7/1	3.50	0.00	Y				1965	1965	
J1:7/2	3.50	0.00	Y				1965	1965	
J1:8/1	This lane uses a directly entered Saturation Flow							1900	1900
J1:8/2	This lane uses a directly entered Saturation Flow							1900	1900
J1:8/3	This lane uses a directly entered Saturation Flow							1900	1900
J1:9/1	Infinite Saturation Flow							Inf	Inf
J1:9/2	Infinite Saturation Flow							Inf	Inf
J1:10/1	This lane uses a directly entered Saturation Flow							1900	1900
J1:10/2	This lane uses a directly entered Saturation Flow							1900	1900
J1:10/3	This lane uses a directly entered Saturation Flow							1900	1900
J1:11/1	This lane uses a directly entered Saturation Flow							1900	1900
J1:11/2	This lane uses a directly entered Saturation Flow							1900	1900
J1:11/3	This lane uses a directly entered Saturation Flow							1900	1900
J1:12/1	Infinite Saturation Flow							Inf	Inf

Full Input Data And Results

J1:12/2	Infinite Saturation Flow	Inf	Inf
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Junction: J2: Site Access								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
J2:1/1 (Willen Road)	3.65	0.00	Y	Arm J2:7 Left	Inf	16.4 %	1980	1980
				Arm J3:5 Ahead	Inf	83.6 %		
J2:1/2 (Willen Road)	3.65	0.00	Y	Arm J3:5 Ahead	Inf	100.0 %	1980	1980
J2:1/3 (Willen Road)	3.65	0.00	N	Arm J2:5 Right	20.00	100.0 %	1972	1972
J2:2/1 (Willen Road South)	3.65	0.00	Y	Arm J2:4 Ahead	Inf	95.9 %	1972	1972
				Arm J2:5 Left	15.00	4.1 %		
J2:2/2 (Willen Road South)	3.65	0.00	Y	Arm J2:4 Ahead	Inf	86.5 %	1980	1980
				Arm J2:7 Right	Inf	13.5 %		
J2:3/1 (Site Access)	3.50	0.00	Y	Arm J2:4 Left	12.00	50.0 %	1786	1786
				Arm J3:5 Right	20.00	50.0 %		
J2:4/1	Infinite Saturation Flow						Inf	Inf
J2:4/2	Infinite Saturation Flow						Inf	Inf
J2:5/1	Infinite Saturation Flow						Inf	Inf
J2:6/1	3.25	0.00	Y	Arm J3:5 Left	Inf	100.0 %	1940	1940
J2:6/2	3.25	0.00	Y	Arm J2:4 Right	Inf	100.0 %	1940	1940
J2:7/1	Infinite Saturation Flow						Inf	Inf

Junction: J3: Southern Access								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
J3:1/1	Infinite Saturation Flow						Inf	Inf
J3:2/1	3.30	0.00	Y	Arm J3:4 Left	20.00	100.0 %	1809	1809
J3:2/2	3.30	0.00	Y	Arm J2:2 Right	20.00	100.0 %	1809	1809
J3:3/1	3.50	0.00	Y	Arm J2:2 Ahead	Inf	100.0 %	1965	1965
J3:3/2	3.50	0.00	Y	Arm J2:2 Ahead	Inf	90.6 %	1951	1951
				Arm J3:1 Right	20.00	9.4 %		
J3:4/1	Infinite Saturation Flow						Inf	Inf
J3:4/2	Infinite Saturation Flow						Inf	Inf
J3:5/1	3.50	0.00	Y	Arm J3:1 Left	20.00	5.2 %	1957	1957
				Arm J3:4 Ahead	Inf	94.8 %		
J3:5/2	3.50	0.00	Y	Arm J3:4 Ahead	Inf	100.0 %	1965	1965
J3:6/1	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

Scenario 5: '2033 Base + Committed + Dev (10%) AM' (FG5: '2033 Base + Committed + Dev (10%) AM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination							
Origin		A	B	C	D	E	F	G	Tot.
	A	0	110	327	13	25	4	708	1187
	B	75	4	1220	15	31	5	866	2216
	C	255	745	7	1	2	0	67	1077
	D	37	42	9	0	0	0	76	164
	E	6	7	2	0	0	0	12	27
	F	14	16	3	0	0	0	58	91
	G	257	292	64	25	57	19	0	714
	Tot.	644	1216	1632	54	115	28	1787	5476

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 5: 2033 Base + Committed + Dev (10%) AM
Junction: J1: A422/Willen Road	
J1:1/1 (short)	422
J1:1/2 (with short)	860(In) 438(Out)
J1:1/3	327
J1:2/1 (short)	837
J1:2/2 (with short)	1561(In) 724(Out)
J1:2/3	655
J1:3/1	392
J1:3/2 (with short)	357(In) 153(Out)
J1:3/3 (short)	204
J1:4/1 (short)	255
J1:4/2 (with short)	696(In) 441(Out)
J1:4/3	381
J1:5/1	644
J1:6/1	596
J1:6/2	587
J1:7/1	706
J1:7/2	510
J1:8/1	361
J1:8/2	459
J1:8/3	334
J1:9/1	1198
J1:9/2	539
J1:10/1	944
J1:10/2	610
J1:10/3	79
J1:11/1	389
J1:11/2	155
J1:11/3	206
J1:12/1	1022
J1:12/2	610
Junction: J2: Site Access	
J2:1/1	1198
J2:1/2 (with short)	539(In) 481(Out)

Full Input Data And Results

J2:1/3 (short)	58
J2:2/1	395
J2:2/2	333
J2:3/1	27
J2:4/1	392
J2:4/2	357
J2:5/1	115
J2:6/1	76
J2:6/2	88
J2:7/1	54
Junction: J3: Southern Access	
J3:1/1	28
J3:2/1	58
J3:2/2	33
J3:3/1 (with short)	714(In) 378(Out)
J3:3/2 (short)	336
J3:4/1	1290
J3:4/2	497
J3:5/1	1241
J3:5/2	497
J3:6/1	1787

Full Input Data And Results

Lane Saturation Flows

Junction: J1: A422/Willen Road									
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)	
J1:1/1 (Willen Road North)	3.40	0.00	Y	Arm J1:7 Left	23.00	26.1 %	1922	1922	
				Arm J1:8 Ahead	Inf	73.9 %			
J1:1/2 (Willen Road North)	3.40	0.00	Y	Arm J1:8 Ahead	Inf	100.0 %	1955	1955	
J1:1/3 (Willen Road North)	3.40	0.00	Y	Arm J1:8 Ahead	Inf	100.0 %	1955	1955	
J1:2/1 (A422 East)	3.65	0.00	Y	Arm J1:9 Left	84.00	100.0 %	1945	1945	
J1:2/2 (A422 East)	3.65	0.00	Y	Arm J1:9 Left	84.00	11.0 %	1976	1976	
				Arm J1:10 Ahead	Inf	89.0 %			
J1:2/3 (A422 East)	3.65	0.00	Y	Arm J1:10 Ahead	Inf	100.0 %	1980	1980	
J1:3/1 (Willen Road South)	3.65	0.00	Y	Arm J1:11 Ahead	Inf	80.1 %	1959	1959	
				Arm J1:12 Left	28.50	19.9 %			
J1:3/2 (Willen Road South)	3.65	0.00	Y	Arm J1:11 Ahead	Inf	100.0 %	1980	1980	
J1:3/3 (Willen Road South)	3.65	0.00	Y	Arm J1:11 Ahead	Inf	100.0 %	1980	1980	
J1:4/1 (A422 West)	3.65	0.00	Y	Arm J1:5 Left	30.90	100.0 %	1888	1888	
J1:4/2 (A422 West)	3.65	0.00	Y	Arm J1:6 Ahead	Inf	100.0 %	1980	1980	
J1:4/3 (A422 West)	3.65	0.00	Y	Arm J1:6 Ahead	Inf	100.0 %	1980	1980	
J1:5/1	3.25	0.00	Y				1940	1940	
J1:6/1	This lane uses a directly entered Saturation Flow							1900	1900
J1:6/2	This lane uses a directly entered Saturation Flow							1900	1900
J1:7/1	3.50	0.00	Y				1965	1965	
J1:7/2	3.50	0.00	Y				1965	1965	
J1:8/1	This lane uses a directly entered Saturation Flow							1900	1900
J1:8/2	This lane uses a directly entered Saturation Flow							1900	1900
J1:8/3	This lane uses a directly entered Saturation Flow							1900	1900
J1:9/1	Infinite Saturation Flow							Inf	Inf
J1:9/2	Infinite Saturation Flow							Inf	Inf
J1:10/1	This lane uses a directly entered Saturation Flow							1900	1900
J1:10/2	This lane uses a directly entered Saturation Flow							1900	1900
J1:10/3	This lane uses a directly entered Saturation Flow							1900	1900
J1:11/1	This lane uses a directly entered Saturation Flow							1900	1900
J1:11/2	This lane uses a directly entered Saturation Flow							1900	1900
J1:11/3	This lane uses a directly entered Saturation Flow							1900	1900
J1:12/1	Infinite Saturation Flow							Inf	Inf

Full Input Data And Results

J1:12/2	Infinite Saturation Flow	Inf	Inf
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Junction: J2: Site Access								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
J2:1/1 (Willen Road)	3.65	0.00	Y	Arm J2:7 Left	Inf	2.4 %	1980	1980
				Arm J3:5 Ahead	Inf	97.6 %		
J2:1/2 (Willen Road)	3.65	0.00	Y	Arm J3:5 Ahead	Inf	100.0 %	1980	1980
J2:1/3 (Willen Road)	3.65	0.00	N	Arm J2:5 Right	20.00	100.0 %	1972	1972
J2:2/1 (Willen Road South)	3.65	0.00	Y	Arm J2:4 Ahead	Inf	85.6 %	1952	1952
				Arm J2:5 Left	15.00	14.4 %		
J2:2/2 (Willen Road South)	3.65	0.00	Y	Arm J2:4 Ahead	Inf	92.5 %	1980	1980
				Arm J2:7 Right	Inf	7.5 %		
J2:3/1 (Site Access)	3.50	0.00	Y	Arm J2:4 Left	12.00	55.6 %	1782	1782
				Arm J3:5 Right	20.00	44.4 %		
J2:4/1	Infinite Saturation Flow						Inf	Inf
J2:4/2	Infinite Saturation Flow						Inf	Inf
J2:5/1	Infinite Saturation Flow						Inf	Inf
J2:6/1	3.25	0.00	Y	Arm J3:5 Left	Inf	100.0 %	1940	1940
J2:6/2	3.25	0.00	Y	Arm J2:4 Right	Inf	100.0 %	1940	1940
J2:7/1	Infinite Saturation Flow						Inf	Inf

Junction: J3: Southern Access								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
J3:1/1	Infinite Saturation Flow						Inf	Inf
J3:2/1	3.30	0.00	Y	Arm J3:4 Left	20.00	100.0 %	1809	1809
J3:2/2	3.30	0.00	Y	Arm J2:2 Right	20.00	100.0 %	1809	1809
J3:3/1	3.50	0.00	Y	Arm J2:2 Ahead	Inf	100.0 %	1965	1965
J3:3/2	3.50	0.00	Y	Arm J2:2 Ahead	Inf	94.3 %	1957	1957
				Arm J3:1 Right	20.00	5.7 %		
J3:4/1	Infinite Saturation Flow						Inf	Inf
J3:4/2	Infinite Saturation Flow						Inf	Inf
J3:5/1	3.50	0.00	Y	Arm J3:1 Left	20.00	0.7 %	1964	1964
				Arm J3:4 Ahead	Inf	99.3 %		
J3:5/2	3.50	0.00	Y	Arm J3:4 Ahead	Inf	100.0 %	1965	1965
J3:6/1	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

Scenario 6: '2033 Base + Committed + Dev (10%) PM' (FG6: '2033 Base + Committed + Dev (10%) PM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination							
		A	B	C	D	E	F	G	Tot.
Origin	A	0	153	226	33	11	11	282	716
	B	247	1	884	37	12	12	320	1513
	C	499	1585	8	7	2	2	58	2161
	D	22	21	3	0	0	0	39	85
	E	30	29	4	0	0	0	63	126
	F	8	8	1	0	0	0	30	47
	G	474	464	57	67	23	50	0	1135
	Tot.	1280	2261	1183	144	48	75	792	5783

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 6: 2033 Base + Committed + Dev (10%) PM
Junction: J1: A422/Willen Road	
J1:1/1 (short)	268
J1:1/2 (with short)	490(In) 222(Out)
J1:1/3	226
J1:2/1 (short)	367
J1:2/2 (with short)	973(In) 606(Out)
J1:2/3	540
J1:3/1	587
J1:3/2 (with short)	534(In) 179(Out)
J1:3/3 (short)	355
J1:4/1 (short)	499
J1:4/2 (with short)	1343(In) 844(Out)
J1:4/3	818
J1:5/1	1280
J1:6/1	1023
J1:6/2	1174
J1:7/1	1176
J1:7/2	1085
J1:8/1	161
J1:8/2	245
J1:8/3	246
J1:9/1	528
J1:9/2	259
J1:10/1	715
J1:10/2	415
J1:10/3	248
J1:11/1	781
J1:11/2	179
J1:11/3	356
J1:12/1	768
J1:12/2	415
Junction: J2: Site Access	
J2:1/1	528
J2:1/2 (with short)	259(In) 234(Out)

Full Input Data And Results

J2:1/3 (short)	25
J2:2/1	551
J2:2/2	551
J2:3/1	126
J2:4/1	587
J2:4/2	534
J2:5/1	48
J2:6/1	39
J2:6/2	46
J2:7/1	144
Junction: J3: Southern Access	
J3:1/1	75
J3:2/1	30
J3:2/2	17
J3:3/1 (with short)	1135(In) 542(Out)
J3:3/2 (short)	593
J3:4/1	557
J3:4/2	235
J3:5/1	552
J3:5/2	235
J3:6/1	792

Full Input Data And Results

Lane Saturation Flows

Junction: J1: A422/Willen Road									
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)	
J1:1/1 (Willen Road North)	3.40	0.00	Y	Arm J1:7 Left	23.00	57.1 %	1885	1885	
				Arm J1:8 Ahead	Inf	42.9 %			
J1:1/2 (Willen Road North)	3.40	0.00	Y	Arm J1:8 Ahead	Inf	100.0 %	1955	1955	
J1:1/3 (Willen Road North)	3.40	0.00	Y	Arm J1:8 Ahead	Inf	100.0 %	1955	1955	
J1:2/1 (A422 East)	3.65	0.00	Y	Arm J1:9 Left	84.00	100.0 %	1945	1945	
J1:2/2 (A422 East)	3.65	0.00	Y	Arm J1:9 Left	84.00	2.3 %	1979	1979	
				Arm J1:10 Ahead	Inf	97.7 %			
J1:2/3 (A422 East)	3.65	0.00	Y	Arm J1:10 Ahead	Inf	100.0 %	1980	1980	
J1:3/1 (Willen Road South)	3.65	0.00	Y	Arm J1:11 Ahead	Inf	91.0 %	1971	1971	
				Arm J1:12 Left	28.50	9.0 %			
J1:3/2 (Willen Road South)	3.65	0.00	Y	Arm J1:11 Ahead	Inf	100.0 %	1980	1980	
J1:3/3 (Willen Road South)	3.65	0.00	Y	Arm J1:11 Ahead	Inf	100.0 %	1980	1980	
J1:4/1 (A422 West)	3.65	0.00	Y	Arm J1:5 Left	30.90	100.0 %	1888	1888	
J1:4/2 (A422 West)	3.65	0.00	Y	Arm J1:6 Ahead	Inf	100.0 %	1980	1980	
J1:4/3 (A422 West)	3.65	0.00	Y	Arm J1:6 Ahead	Inf	100.0 %	1980	1980	
J1:5/1	3.25	0.00	Y				1940	1940	
J1:6/1	This lane uses a directly entered Saturation Flow							1900	1900
J1:6/2	This lane uses a directly entered Saturation Flow							1900	1900
J1:7/1	3.50	0.00	Y				1965	1965	
J1:7/2	3.50	0.00	Y				1965	1965	
J1:8/1	This lane uses a directly entered Saturation Flow							1900	1900
J1:8/2	This lane uses a directly entered Saturation Flow							1900	1900
J1:8/3	This lane uses a directly entered Saturation Flow							1900	1900
J1:9/1	Infinite Saturation Flow							Inf	Inf
J1:9/2	Infinite Saturation Flow							Inf	Inf
J1:10/1	This lane uses a directly entered Saturation Flow							1900	1900
J1:10/2	This lane uses a directly entered Saturation Flow							1900	1900
J1:10/3	This lane uses a directly entered Saturation Flow							1900	1900
J1:11/1	This lane uses a directly entered Saturation Flow							1900	1900
J1:11/2	This lane uses a directly entered Saturation Flow							1900	1900
J1:11/3	This lane uses a directly entered Saturation Flow							1900	1900
J1:12/1	Infinite Saturation Flow							Inf	Inf

Full Input Data And Results

J1:12/2	Infinite Saturation Flow	Inf	Inf
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Junction: J2: Site Access								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
J2:1/1 (Willen Road)	3.65	0.00	Y	Arm J2:7 Left	Inf	14.6 %	1980	1980
				Arm J3:5 Ahead	Inf	85.4 %		
J2:1/2 (Willen Road)	3.65	0.00	Y	Arm J3:5 Ahead	Inf	100.0 %	1980	1980
J2:1/3 (Willen Road)	3.65	0.00	N	Arm J2:5 Right	20.00	100.0 %	1972	1972
J2:2/1 (Willen Road South)	3.65	0.00	Y	Arm J2:4 Ahead	Inf	95.8 %	1972	1972
				Arm J2:5 Left	15.00	4.2 %		
J2:2/2 (Willen Road South)	3.65	0.00	Y	Arm J2:4 Ahead	Inf	87.8 %	1980	1980
				Arm J2:7 Right	Inf	12.2 %		
J2:3/1 (Site Access)	3.50	0.00	Y	Arm J2:4 Left	12.00	50.0 %	1786	1786
				Arm J3:5 Right	20.00	50.0 %		
J2:4/1	Infinite Saturation Flow						Inf	Inf
J2:4/2	Infinite Saturation Flow						Inf	Inf
J2:5/1	Infinite Saturation Flow						Inf	Inf
J2:6/1	3.25	0.00	Y	Arm J3:5 Left	Inf	100.0 %	1940	1940
J2:6/2	3.25	0.00	Y	Arm J2:4 Right	Inf	100.0 %	1940	1940
J2:7/1	Infinite Saturation Flow						Inf	Inf

Junction: J3: Southern Access								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
J3:1/1	Infinite Saturation Flow						Inf	Inf
J3:2/1	3.30	0.00	Y	Arm J3:4 Left	20.00	100.0 %	1809	1809
J3:2/2	3.30	0.00	Y	Arm J2:2 Right	20.00	100.0 %	1809	1809
J3:3/1	3.50	0.00	Y	Arm J2:2 Ahead	Inf	100.0 %	1965	1965
J3:3/2	3.50	0.00	Y	Arm J2:2 Ahead	Inf	91.6 %	1953	1953
				Arm J3:1 Right	20.00	8.4 %		
J3:4/1	Infinite Saturation Flow						Inf	Inf
J3:4/2	Infinite Saturation Flow						Inf	Inf
J3:5/1	3.50	0.00	Y	Arm J3:1 Left	20.00	4.5 %	1958	1958
				Arm J3:4 Ahead	Inf	95.5 %		
J3:5/2	3.50	0.00	Y	Arm J3:4 Ahead	Inf	100.0 %	1965	1965
J3:6/1	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

Scenario 7: '2033 Base + Committed + Dev (MKE) AM' (FG7: '2033 Base + Committed + Dev (MKE) AM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination							
Origin		A	B	C	D	E	F	G	Tot.
	A	0	110	327	8	25	3	704	1177
	B	75	0	1220	10	31	4	868	2208
	C	255	745	0	1	2	0	61	1064
	D	28	31	6	0	0	0	57	122
	E	6	7	1	0	0	0	12	26
	F	11	12	2	0	0	0	43	68
	G	264	294	55	16	57	12	0	698
	Tot.	639	1199	1611	35	115	19	1745	5363

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 7: 2033 Base + Committed + Dev (MKE) AM
Junction: J1: A422/Willen Road	
J1:1/1 (short)	544
J1:1/2 (with short)	850(In) 306(Out)
J1:1/3	327
J1:2/1 (short)	794
J1:2/2 (with short)	1547(In) 753(Out)
J1:2/3	661
J1:3/1	369
J1:3/2 (with short)	348(In) 155(Out)
J1:3/3 (short)	193
J1:4/1 (short)	255
J1:4/2 (with short)	686(In) 431(Out)
J1:4/3	378
J1:5/1	639
J1:6/1	586
J1:6/2	571
J1:7/1	696
J1:7/2	503
J1:8/1	484
J1:8/2	320
J1:8/3	331
J1:9/1	1278
J1:9/2	439
J1:10/1	799
J1:10/2	752
J1:10/3	75
J1:11/1	384
J1:11/2	155
J1:11/3	193
J1:12/1	859
J1:12/2	752
Junction: J2: Site Access	
J2:1/1	1278
J2:1/2 (with short)	439(In) 381(Out)

Full Input Data And Results

J2:1/3 (short)	58
J2:2/1	385
J2:2/2	326
J2:3/1	26
J2:4/1	369
J2:4/2	348
J2:5/1	115
J2:6/1	57
J2:6/2	65
J2:7/1	35
Junction: J3: Southern Access	
J3:1/1	19
J3:2/1	43
J3:2/2	25
J3:3/1 (with short)	698(In) 372(Out)
J3:3/2 (short)	326
J3:4/1	1352
J3:4/2	393
J3:5/1	1316
J3:5/2	393
J3:6/1	1745

Full Input Data And Results

Lane Saturation Flows

Junction: J1: A422/Willen Road									
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)	
J1:1/1 (Willen Road North)	3.40	0.00	Y	Arm J1:7 Left	23.00	20.2 %	1930	1930	
				Arm J1:8 Ahead	Inf	79.8 %			
J1:1/2 (Willen Road North)	3.40	0.00	Y	Arm J1:8 Ahead	Inf	100.0 %	1955	1955	
J1:1/3 (Willen Road North)	3.40	0.00	Y	Arm J1:8 Ahead	Inf	100.0 %	1955	1955	
J1:2/1 (A422 East)	3.65	0.00	Y	Arm J1:9 Left	84.00	100.0 %	1945	1945	
J1:2/2 (A422 East)	3.65	0.00	Y	Arm J1:9 Left	84.00	15.8 %	1974	1974	
				Arm J1:10 Ahead	Inf	84.2 %			
J1:2/3 (A422 East)	3.65	0.00	Y	Arm J1:10 Ahead	Inf	100.0 %	1980	1980	
J1:3/1 (Willen Road South)	3.65	0.00	Y	Arm J1:11 Ahead	Inf	83.7 %	1963	1963	
				Arm J1:12 Left	28.50	16.3 %			
J1:3/2 (Willen Road South)	3.65	0.00	Y	Arm J1:11 Ahead	Inf	100.0 %	1980	1980	
J1:3/3 (Willen Road South)	3.65	0.00	Y	Arm J1:11 Ahead	Inf	100.0 %	1980	1980	
J1:4/1 (A422 West)	3.65	0.00	Y	Arm J1:5 Left	30.90	100.0 %	1888	1888	
J1:4/2 (A422 West)	3.65	0.00	Y	Arm J1:6 Ahead	Inf	100.0 %	1980	1980	
J1:4/3 (A422 West)	3.65	0.00	Y	Arm J1:6 Ahead	Inf	100.0 %	1980	1980	
J1:5/1	3.25	0.00	Y				1940	1940	
J1:6/1	This lane uses a directly entered Saturation Flow							1900	1900
J1:6/2	This lane uses a directly entered Saturation Flow							1900	1900
J1:7/1	3.50	0.00	Y				1965	1965	
J1:7/2	3.50	0.00	Y				1965	1965	
J1:8/1	This lane uses a directly entered Saturation Flow							1900	1900
J1:8/2	This lane uses a directly entered Saturation Flow							1900	1900
J1:8/3	This lane uses a directly entered Saturation Flow							1900	1900
J1:9/1	Infinite Saturation Flow							Inf	Inf
J1:9/2	Infinite Saturation Flow							Inf	Inf
J1:10/1	This lane uses a directly entered Saturation Flow							1900	1900
J1:10/2	This lane uses a directly entered Saturation Flow							1900	1900
J1:10/3	This lane uses a directly entered Saturation Flow							1900	1900
J1:11/1	This lane uses a directly entered Saturation Flow							1900	1900
J1:11/2	This lane uses a directly entered Saturation Flow							1900	1900
J1:11/3	This lane uses a directly entered Saturation Flow							1900	1900
J1:12/1	Infinite Saturation Flow							Inf	Inf

Full Input Data And Results

J1:12/2	Infinite Saturation Flow	Inf	Inf
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Junction: J2: Site Access								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
J2:1/1 (Willen Road)	3.65	0.00	Y	Arm J2:7 Left	Inf	1.5 %	1980	1980
				Arm J3:5 Ahead	Inf	98.5 %		
J2:1/2 (Willen Road)	3.65	0.00	Y	Arm J3:5 Ahead	Inf	100.0 %	1980	1980
J2:1/3 (Willen Road)	3.65	0.00	N	Arm J2:5 Right	20.00	100.0 %	1972	1972
J2:2/1 (Willen Road South)	3.65	0.00	Y	Arm J2:4 Ahead	Inf	85.2 %	1951	1951
				Arm J2:5 Left	15.00	14.8 %		
J2:2/2 (Willen Road South)	3.65	0.00	Y	Arm J2:4 Ahead	Inf	95.1 %	1980	1980
				Arm J2:7 Right	Inf	4.9 %		
J2:3/1 (Site Access)	3.50	0.00	Y	Arm J2:4 Left	12.00	53.8 %	1783	1783
				Arm J3:5 Right	20.00	46.2 %		
J2:4/1	Infinite Saturation Flow						Inf	Inf
J2:4/2	Infinite Saturation Flow						Inf	Inf
J2:5/1	Infinite Saturation Flow						Inf	Inf
J2:6/1	3.25	0.00	Y	Arm J3:5 Left	Inf	100.0 %	1940	1940
J2:6/2	3.25	0.00	Y	Arm J2:4 Right	Inf	100.0 %	1940	1940
J2:7/1	Infinite Saturation Flow						Inf	Inf

Junction: J3: Southern Access								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
J3:1/1	Infinite Saturation Flow						Inf	Inf
J3:2/1	3.30	0.00	Y	Arm J3:4 Left	20.00	100.0 %	1809	1809
J3:2/2	3.30	0.00	Y	Arm J2:2 Right	20.00	100.0 %	1809	1809
J3:3/1	3.50	0.00	Y	Arm J2:2 Ahead	Inf	100.0 %	1965	1965
J3:3/2	3.50	0.00	Y	Arm J2:2 Ahead	Inf	96.3 %	1960	1960
				Arm J3:1 Right	20.00	3.7 %		
J3:4/1	Infinite Saturation Flow						Inf	Inf
J3:4/2	Infinite Saturation Flow						Inf	Inf
J3:5/1	3.50	0.00	Y	Arm J3:1 Left	20.00	0.5 %	1964	1964
				Arm J3:4 Ahead	Inf	99.5 %		
J3:5/2	3.50	0.00	Y	Arm J3:4 Ahead	Inf	100.0 %	1965	1965
J3:6/1	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

Scenario 8: '2033 Base + Committed + Dev (MKE) PM' (FG8: '2033 Base + Committed + Dev (MKE) PM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination							
		A	B	C	D	E	F	G	Tot.
Origin	A	0	153	226	26	11	9	287	712
	B	247	0	884	29	12	10	322	1504
	C	499	1585	0	5	2	2	51	2144
	D	16	15	2	0	0	0	29	62
	E	30	29	3	0	0	0	63	125
	F	6	6	1	0	0	0	22	35
	G	478	466	51	52	23	39	0	1109
	Tot.	1276	2254	1167	112	48	60	774	5691

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 8: 2033 Base + Committed + Dev (MKE) PM
Junction: J1: A422/Willen Road	
J1:1/1 (short)	269
J1:1/2 (with short)	486(In) 217(Out)
J1:1/3	226
J1:2/1 (short)	358
J1:2/2 (with short)	972(In) 614(Out)
J1:2/3	532
J1:3/1	587
J1:3/2 (with short)	516(In) 183(Out)
J1:3/3 (short)	333
J1:4/1 (short)	499
J1:4/2 (with short)	1328(In) 829(Out)
J1:4/3	816
J1:5/1	1276
J1:6/1	1012
J1:6/2	1149
J1:7/1	1165
J1:7/2	1089
J1:8/1	158
J1:8/2	235
J1:8/3	226
J1:9/1	516
J1:9/2	250
J1:10/1	707
J1:10/2	403
J1:10/3	247
J1:11/1	777
J1:11/2	183
J1:11/3	333
J1:12/1	764
J1:12/2	403
Junction: J2: Site Access	
J2:1/1	516
J2:1/2 (with short)	250(In) 225(Out)

Full Input Data And Results

J2:1/3 (short)	25
J2:2/1	559
J2:2/2	524
J2:3/1	125
J2:4/1	587
J2:4/2	516
J2:5/1	48
J2:6/1	29
J2:6/2	33
J2:7/1	112
Junction: J3: Southern Access	
J3:1/1	60
J3:2/1	22
J3:2/2	13
J3:3/1 (with short)	1109(In) 552(Out)
J3:3/2 (short)	557
J3:4/1	549
J3:4/2	225
J3:5/1	548
J3:5/2	225
J3:6/1	774

Full Input Data And Results

Lane Saturation Flows

Junction: J1: A422/Willen Road									
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)	
J1:1/1 (Willen Road North)	3.40	0.00	Y	Arm J1:7 Left	23.00	56.9 %	1885	1885	
				Arm J1:8 Ahead	Inf	43.1 %			
J1:1/2 (Willen Road North)	3.40	0.00	Y	Arm J1:8 Ahead	Inf	100.0 %	1955	1955	
J1:1/3 (Willen Road North)	3.40	0.00	Y	Arm J1:8 Ahead	Inf	100.0 %	1955	1955	
J1:2/1 (A422 East)	3.65	0.00	Y	Arm J1:9 Left	84.00	100.0 %	1945	1945	
J1:2/2 (A422 East)	3.65	0.00	Y	Arm J1:9 Left	84.00	2.4 %	1979	1979	
				Arm J1:10 Ahead	Inf	97.6 %			
J1:2/3 (A422 East)	3.65	0.00	Y	Arm J1:10 Ahead	Inf	100.0 %	1980	1980	
J1:3/1 (Willen Road South)	3.65	0.00	Y	Arm J1:11 Ahead	Inf	90.3 %	1970	1970	
				Arm J1:12 Left	28.50	9.7 %			
J1:3/2 (Willen Road South)	3.65	0.00	Y	Arm J1:11 Ahead	Inf	100.0 %	1980	1980	
J1:3/3 (Willen Road South)	3.65	0.00	Y	Arm J1:11 Ahead	Inf	100.0 %	1980	1980	
J1:4/1 (A422 West)	3.65	0.00	Y	Arm J1:5 Left	30.90	100.0 %	1888	1888	
J1:4/2 (A422 West)	3.65	0.00	Y	Arm J1:6 Ahead	Inf	100.0 %	1980	1980	
J1:4/3 (A422 West)	3.65	0.00	Y	Arm J1:6 Ahead	Inf	100.0 %	1980	1980	
J1:5/1	3.25	0.00	Y				1940	1940	
J1:6/1	This lane uses a directly entered Saturation Flow							1900	1900
J1:6/2	This lane uses a directly entered Saturation Flow							1900	1900
J1:7/1	3.50	0.00	Y				1965	1965	
J1:7/2	3.50	0.00	Y				1965	1965	
J1:8/1	This lane uses a directly entered Saturation Flow							1900	1900
J1:8/2	This lane uses a directly entered Saturation Flow							1900	1900
J1:8/3	This lane uses a directly entered Saturation Flow							1900	1900
J1:9/1	Infinite Saturation Flow							Inf	Inf
J1:9/2	Infinite Saturation Flow							Inf	Inf
J1:10/1	This lane uses a directly entered Saturation Flow							1900	1900
J1:10/2	This lane uses a directly entered Saturation Flow							1900	1900
J1:10/3	This lane uses a directly entered Saturation Flow							1900	1900
J1:11/1	This lane uses a directly entered Saturation Flow							1900	1900
J1:11/2	This lane uses a directly entered Saturation Flow							1900	1900
J1:11/3	This lane uses a directly entered Saturation Flow							1900	1900
J1:12/1	Infinite Saturation Flow							Inf	Inf

Full Input Data And Results

J1:12/2	Infinite Saturation Flow	Inf	Inf
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Junction: J2: Site Access								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
J2:1/1 (Willen Road)	3.65	0.00	Y	Arm J2:7 Left	Inf	11.6 %	1980	1980
				Arm J3:5 Ahead	Inf	88.4 %		
J2:1/2 (Willen Road)	3.65	0.00	Y	Arm J3:5 Ahead	Inf	100.0 %	1980	1980
J2:1/3 (Willen Road)	3.65	0.00	N	Arm J2:5 Right	20.00	100.0 %	1972	1972
J2:2/1 (Willen Road South)	3.65	0.00	Y	Arm J2:4 Ahead	Inf	95.9 %	1972	1972
				Arm J2:5 Left	15.00	4.1 %		
J2:2/2 (Willen Road South)	3.65	0.00	Y	Arm J2:4 Ahead	Inf	90.1 %	1980	1980
				Arm J2:7 Right	Inf	9.9 %		
J2:3/1 (Site Access)	3.50	0.00	Y	Arm J2:4 Left	12.00	49.6 %	1787	1787
				Arm J3:5 Right	20.00	50.4 %		
J2:4/1	Infinite Saturation Flow						Inf	Inf
J2:4/2	Infinite Saturation Flow						Inf	Inf
J2:5/1	Infinite Saturation Flow						Inf	Inf
J2:6/1	3.25	0.00	Y	Arm J3:5 Left	Inf	100.0 %	1940	1940
J2:6/2	3.25	0.00	Y	Arm J2:4 Right	Inf	100.0 %	1940	1940
J2:7/1	Infinite Saturation Flow						Inf	Inf

Junction: J3: Southern Access								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
J3:1/1	Infinite Saturation Flow						Inf	Inf
J3:2/1	3.30	0.00	Y	Arm J3:4 Left	20.00	100.0 %	1809	1809
J3:2/2	3.30	0.00	Y	Arm J2:2 Right	20.00	100.0 %	1809	1809
J3:3/1	3.50	0.00	Y	Arm J2:2 Ahead	Inf	100.0 %	1965	1965
J3:3/2	3.50	0.00	Y	Arm J2:2 Ahead	Inf	93.0 %	1955	1955
				Arm J3:1 Right	20.00	7.0 %		
J3:4/1	Infinite Saturation Flow						Inf	Inf
J3:4/2	Infinite Saturation Flow						Inf	Inf
J3:5/1	3.50	0.00	Y	Arm J3:1 Left	20.00	3.8 %	1959	1959
				Arm J3:4 Ahead	Inf	96.2 %		
J3:5/2	3.50	0.00	Y	Arm J3:4 Ahead	Inf	100.0 %	1965	1965
J3:6/1	Infinite Saturation Flow						Inf	Inf

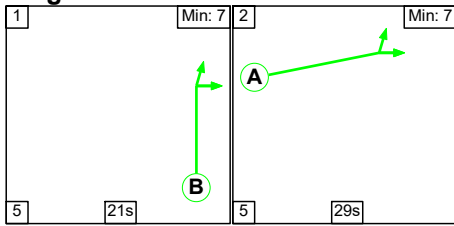
Full Input Data And Results

Scenario 1: '2031 Base + Committed + Dev AM' (FG1: '2031 Base + Committed + Dev AM', Plan 1: 'Network Control Plan 1')

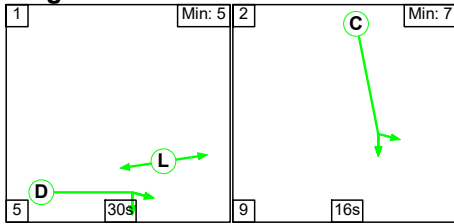
C1

Stage Sequence Diagram

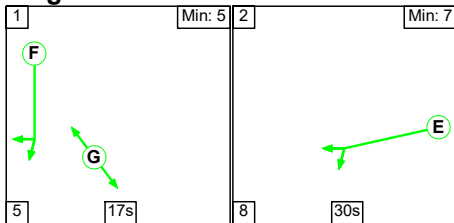
Stage Stream: 1



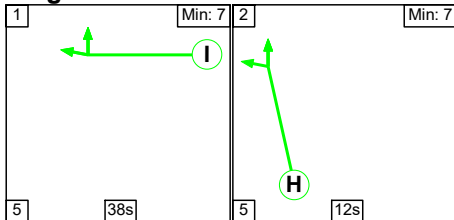
Stage Stream: 2



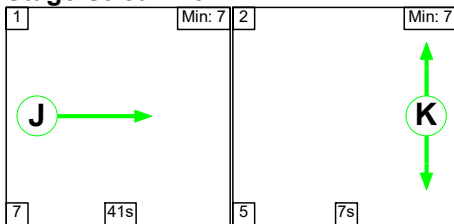
Stage Stream: 3



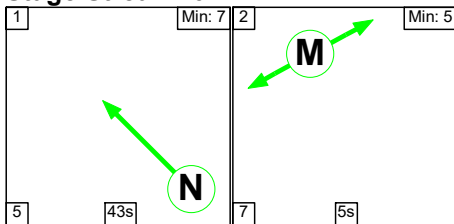
Stage Stream: 4



Stage Stream: 5



Stage Stream: 6



Full Input Data And Results

Stage Timings

Stage Stream: 1

Stage	1	2
Duration	21	29
Change Point	4	30

Stage Stream: 2

Stage	1	2
Duration	30	16
Change Point	34	9

Stage Stream: 3

Stage	1	2
Duration	17	30
Change Point	9	31

Stage Stream: 4

Stage	1	2
Duration	38	12
Change Point	17	0

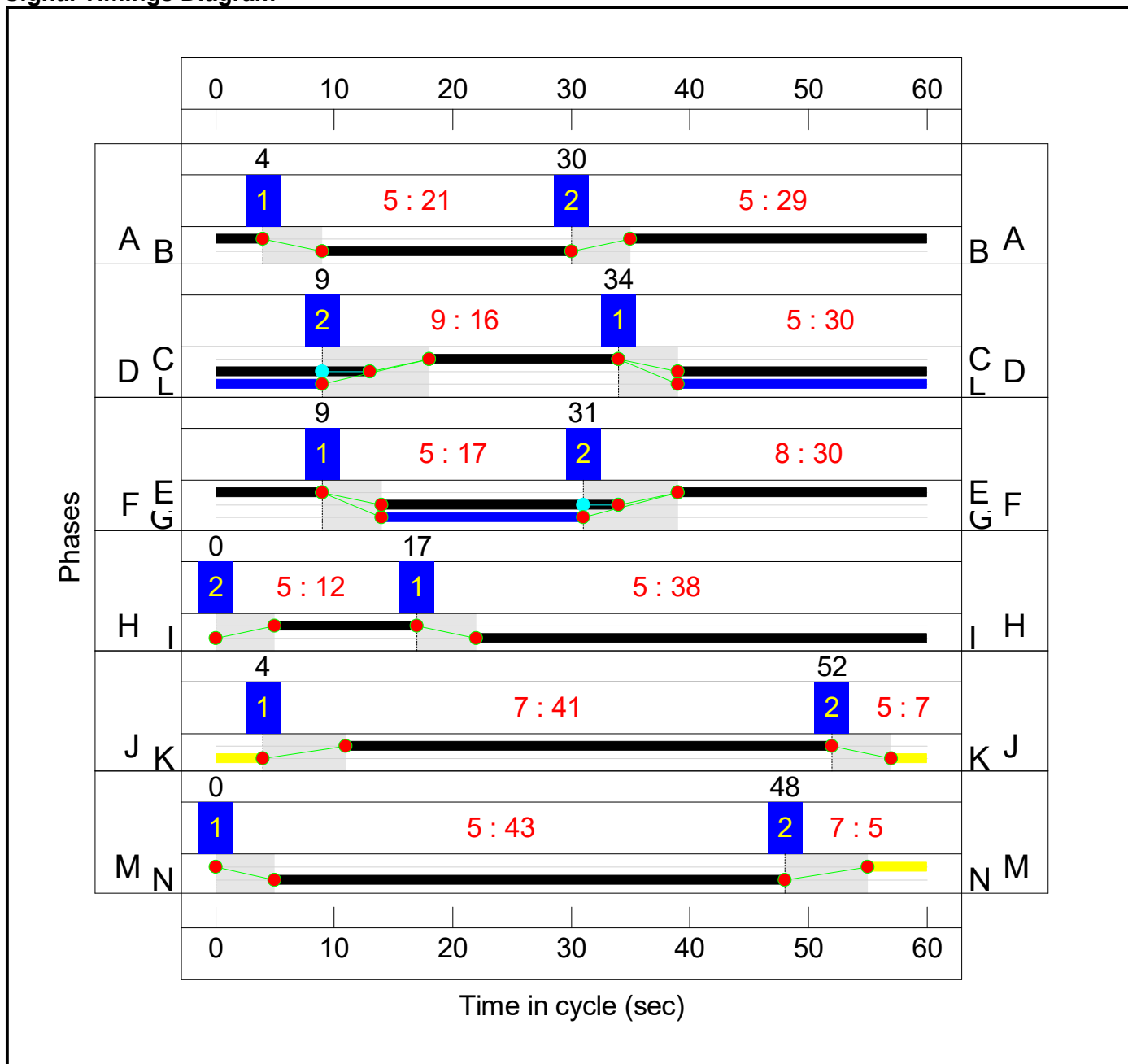
Stage Stream: 5

Stage	1	2
Duration	41	7
Change Point	4	52

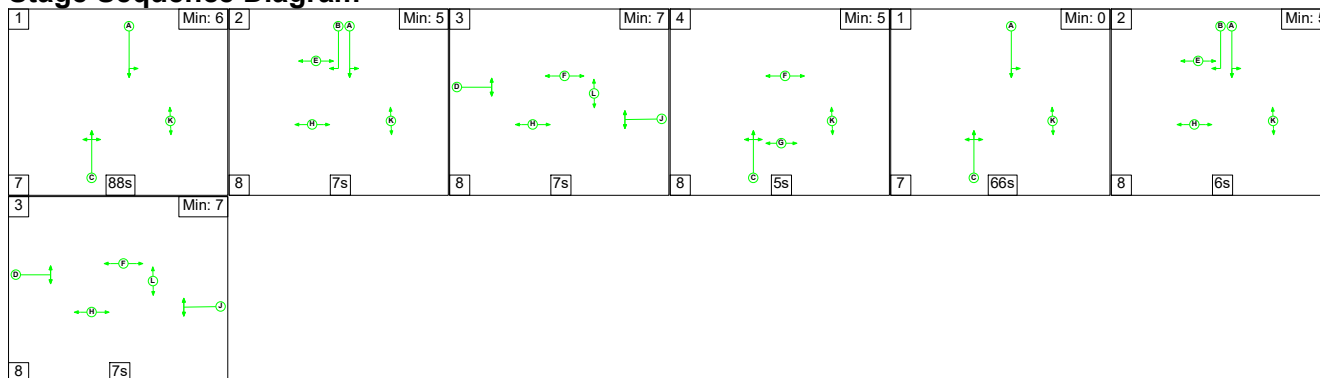
Stage Stream: 6

Stage	1	2
Duration	43	5
Change Point	0	48

Signal Timings Diagram



C2 Stage Sequence Diagram

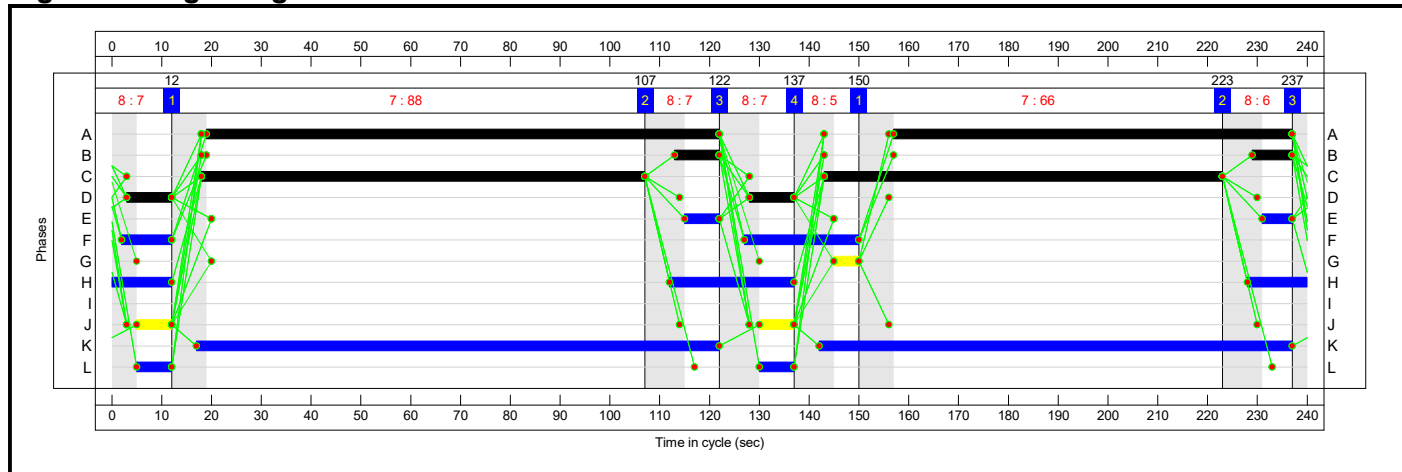


Full Input Data And Results

Stage Timings

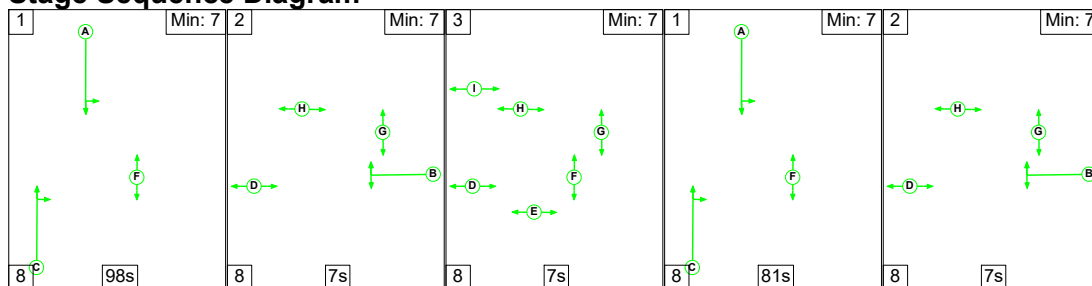
Stage	1	2	3	4	1	2	3
Duration	88	7	7	5	66	6	7
Change Point	12	107	122	137	150	223	237

Signal Timings Diagram



C3

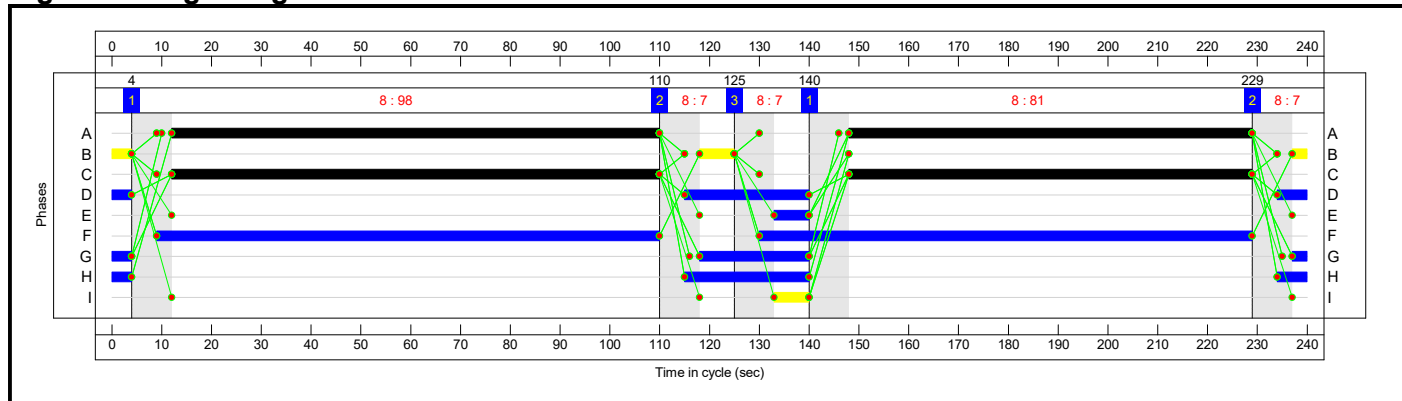
Stage Sequence Diagram



Stage Timings

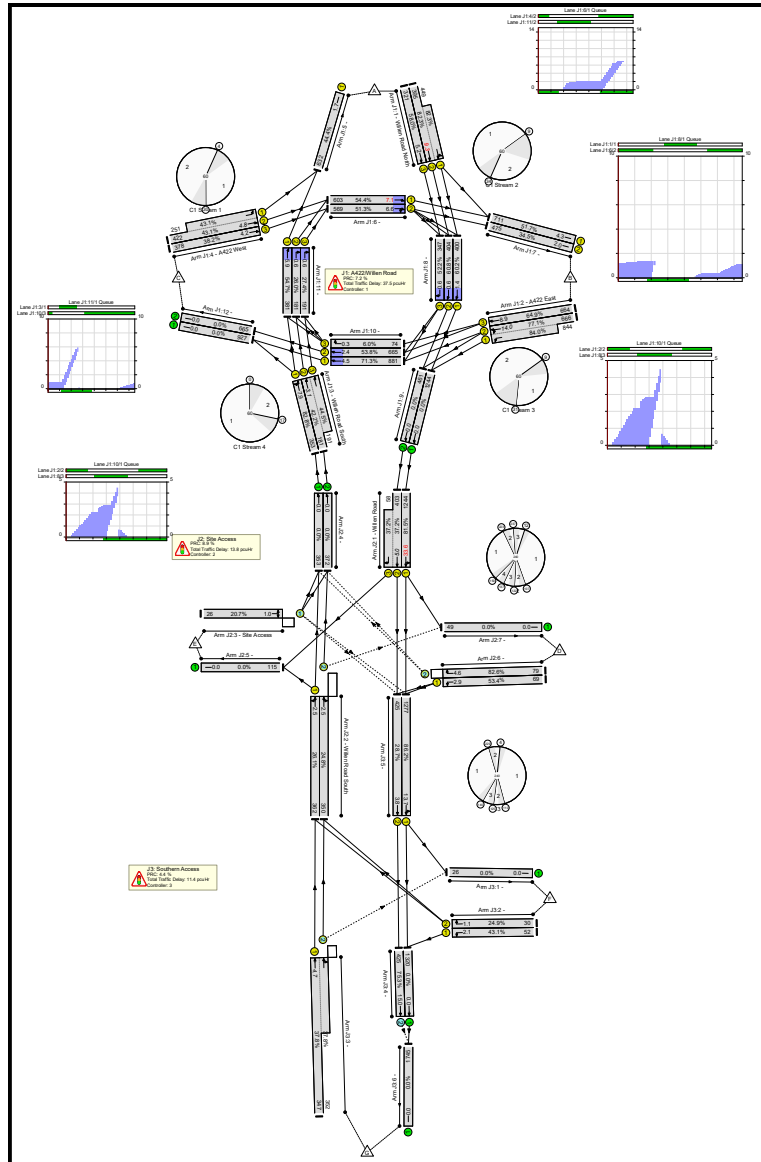
Stage	1	2	3	1	2
Duration	98	7	7	81	7
Change Point	4	110	125	140	229

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: A422 Marsh End / Willen Road / Site Access Proposed Layout	-	-	N/A	-	-		-	-	-	-	-	-	86.2%
J1: A422/Willen Road	-	-	N/A	-	-		-	-	-	-	-	-	84.0%
1/2+1/1	Willen Road North Left Ahead	U	1:2	N/A	C1:C		1	16	-	844	1955:1925	480+545	82.3 : 82.3%
1/3	Willen Road North Ahead	U	1:2	N/A	C1:C		1	16	-	321	1955	554	58.0%
2/2+2/1	A422 East Left Ahead	U	1:3	N/A	C1:E		1	30	-	1510	1977:1945	864+1005	77.1 : 84.0%
2/3	A422 East Ahead	U	1:3	N/A	C1:E		1	30	-	664	1980	1023	64.9%
3/1	Willen Road South Ahead Left	U	1:4	N/A	C1:H		1	12	-	353	1967	426	82.8%
3/2+3/3	Willen Road South Ahead	U	1:4	N/A	C1:H		1	12	-	372	1980:1980	429+429	42.2 : 44.5%
4/2+4/1	A422 West Left Ahead	U	1:1	N/A	C1:A		1	29	-	673	1980:1888	978+582	43.1 : 43.1%
4/3	A422 West Ahead	U	1:1	N/A	C1:A		1	29	-	378	1980	990	38.2%
5/1		U	1:6	N/A	C1:N		1	43	-	632	1940	1423	44.4%
6/1	Ahead	U	1:2	N/A	C1:D		1	34	-	603	1900	1108	54.4%
6/2	Ahead Right	U	1:2	N/A	C1:D		1	34	-	569	1900	1108	51.3%
7/1		U	1:5	N/A	C1:J		1	41	-	711	1965	1375	51.7%
7/2		U	1:5	N/A	C1:J		1	41	-	475	1965	1375	34.5%
8/1	Ahead	U	1:3	N/A	C1:F		1	20	-	400	1900	665	60.2%
8/2	Ahead	U	1:3	N/A	C1:F		1	20	-	404	1900	665	60.8%
8/3	Right	U	1:3	N/A	C1:F		1	20	-	347	1900	665	52.2%
9/1	Ahead	U	N/A	N/A	-		-	-	-	1244	Inf	Inf	0.0%
9/2	Ahead	U	N/A	N/A	-		-	-	-	461	Inf	Inf	0.0%

Full Input Data And Results

10/1	Ahead	U	1:4	N/A	C1:I		1	38	-	881	1900	1235	71.3%
10/2	Ahead	U	1:4	N/A	C1:I		1	38	-	665	1900	1235	53.8%
10/3	Right	U	1:4	N/A	C1:I		1	38	-	74	1900	1235	6.0%
11/1	Ahead	U	1:1	N/A	C1:B		1	21	-	381	1900	697	54.7%
11/2	Right	U	1:1	N/A	C1:B		1	21	-	181	1900	697	26.0%
11/3	Right	U	1:1	N/A	C1:B		1	21	-	191	1900	697	27.4%
12/1		U	N/A	N/A	-		-	-	-	927	Inf	Inf	0.0%
12/2		U	N/A	N/A	-		-	-	-	665	Inf	Inf	0.0%
J2: Site Access	-	-	N/A	-	-		-	-	-	-	-	-	82.6%
1/1	Willen Road Left Ahead	U	N/A	N/A	C2:A		2	183	-	1244	1980	1526	81.5%
1/2+1/3	Willen Road Right Ahead	U	N/A	N/A	C2:A C2:B		2	183:17	-	461	1980:1972	1085+156	37.2 : 37.2%
2/1	Willen Road South Ahead Left	U	N/A	N/A	C2:C		2	169	-	362	1949	1389	26.1%
2/2	Willen Road South Ahead Right	O	N/A	N/A	C2:C		2	169	-	350	1980	1411	24.8%
3/1	Site Access Left Right	O	N/A	N/A	C2:D		2	18	-	26	1783	126	20.7%
4/1	Ahead	U	N/A	N/A	-		-	-	-	353	Inf	Inf	0.0%
4/2	Ahead	U	N/A	N/A	-		-	-	-	372	Inf	Inf	0.0%
5/1		U	N/A	N/A	-		-	-	-	115	Inf	Inf	0.0%
6/1	Left	U	N/A	N/A	C2:J		2	14	-	69	1940	129	53.4%
6/2	Right	O	N/A	N/A	C2:J		2	14	-	79	1940	96	82.6%
7/1		U	N/A	N/A	-		-	-	-	49	Inf	Inf	0.0%
J3: Southern Access	-	-	N/A	-	-		-	-	-	-	-	-	86.2%
1/1		U	N/A	N/A	-		-	-	-	26	Inf	Inf	0.0%
2/1	Left	U	N/A	N/A	C3:B		2	14	-	52	1809	121	43.1%
2/2	Right	U	N/A	N/A	C3:B		2	14	-	30	1809	121	24.9%
3/1+3/2	Ahead Right	U+O	N/A	N/A	C3:C		2	179	-	699	1965:1958	918+932	37.8 : 37.8%

Full Input Data And Results

4/1	Ahead	U	N/A	N/A	-	-	-	-	1320	Inf	Inf	0.0%
4/2	Ahead	O	N/A	N/A	-	-	-	-	425	Inf	564	75.3%
5/1	Left Ahead	U	N/A	N/A	C3:A	2	179	-	1277	1964	1481	86.2%
5/2	Ahead	U	N/A	N/A	C3:A	2	179	-	425	1965	1482	28.7%
6/1		U	N/A	N/A	-	-	-	-	1745	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: A422 Marsh End / Willen Road / Site Access Proposed Layout	-	-	486	2	69	40.4	21.5	0.7	62.7	-	-	-	-
J1: A422/Willen Road	-	-	0	0	0	27.0	10.5	0.0	37.5	-	-	-	-
1/2+1/1	844	844	-	-	-	4.6	2.3	-	6.9 (3.2+3.7)	29.4 (29.0:29.8)	7.0	2.3	9.3
1/3	321	321	-	-	-	1.6	0.7	-	2.3	26.1	4.5	0.7	5.2
2/2+2/1	1510	1510	-	-	-	4.9	2.1	-	6.9 (2.9+4.1)	16.5 (15.5:17.3)	12.0	2.1	14.0
2/3	664	664	-	-	-	1.9	0.9	-	2.9	15.5	7.9	0.9	8.9
3/1	353	353	-	-	-	2.2	2.3	-	4.5	45.6	5.6	2.3	7.9
3/2+3/3	372	372	-	-	-	2.1	0.4	-	2.5 (1.2+1.3)	24.0 (24.0:24.1)	2.8	0.4	3.1
4/2+4/1	673	673	-	-	-	1.7	0.4	-	2.1 (1.4+0.7)	11.2 (11.6:10.7)	4.5	0.4	4.8
4/3	378	378	-	-	-	1.0	0.3	-	1.3	12.2	3.9	0.3	4.2
5/1	632	632	-	-	-	0.2	0.4	-	0.6	3.3	1.3	0.4	1.7
6/1	603	603	-	-	-	1.2	0.0	-	1.2	7.1	7.1	0.0	7.1
6/2	569	569	-	-	-	1.2	0.0	-	1.2	7.8	6.6	0.0	6.6
7/1	711	711	-	-	-	0.6	0.5	-	1.2	6.0	3.7	0.5	4.3
7/2	475	475	-	-	-	0.4	0.3	-	0.6	4.7	1.7	0.3	2.0
8/1	400	400	-	-	-	0.6	0.0	-	0.6	5.4	1.4	0.0	1.4
8/2	404	404	-	-	-	0.3	0.0	-	0.3	3.0	0.6	0.0	0.6
8/3	347	347	-	-	-	0.4	0.0	-	0.4	3.9	0.6	0.0	0.6
9/1	1244	1244	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
9/2	461	461	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
10/1	881	881	-	-	-	0.8	0.0	-	0.8	3.2	4.5	0.0	4.5
10/2	665	665	-	-	-	0.6	0.0	-	0.6	3.3	2.4	0.0	2.4

Full Input Data And Results

10/3	74	74	-	-	-	0.1	0.0	-	0.1	3.3	0.3	0.0	0.3
11/1	381	381	-	-	-	0.4	0.0	-	0.4	4.2	5.9	0.0	5.9
11/2	181	181	-	-	-	0.0	0.0	-	0.0	0.9	0.6	0.0	0.6
11/3	191	191	-	-	-	0.1	0.0	-	0.1	1.0	0.6	0.0	0.6
12/1	927	927	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
12/2	665	665	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
J2: Site Access	-	-	59	2	53	7.9	5.4	0.5	13.8	-	-	-	-
1/1	1244	1244	-	-	-	3.1	2.2	-	5.3	15.2	31.4	2.2	33.6
1/2+1/3	461	461	-	-	-	1.3	0.3	-	1.6 (0.7+0.9)	12.6 (6.5:54.8)	4.7	0.3	5.0
2/1	362	362	-	-	-	0.4	0.2	-	0.6	6.1	2.4	0.2	2.5
2/2	350	350	0	2	21	0.4	0.2	0.4	1.0	9.8	2.3	0.2	2.5
3/1	26	26	12	0	0	0.4	0.1	0.0	0.5	72.4	0.8	0.1	1.0
4/1	353	353	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/2	372	372	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	115	115	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	69	69	-	-	-	1.0	0.6	-	1.6	83.6	2.3	0.6	2.9
6/2	79	79	47	0	32	1.2	1.9	0.1	3.2	146.8	2.7	1.9	4.6
7/1	49	49	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
J3: Southern Access	-	-	426	0	16	5.6	5.6	0.2	11.4	-	-	-	-
1/1	26	26	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
2/1	52	52	-	-	-	0.8	0.4	-	1.2	79.8	1.7	0.4	2.1
2/2	30	30	-	-	-	0.4	0.2	-	0.6	73.0	0.9	0.2	1.1
3/1+3/2	699	699	1	0	16	0.9	0.3	0.2	1.4 (0.6+0.8)	7.5 (6.3:8.6)	4.4	0.3	4.7
4/1	1320	1320	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/2	425	425	425	0	0	1.1	1.5	-	2.6	21.6	13.5	1.5	15.0
5/1	1277	1277	-	-	-	1.9	3.0	-	4.9	13.9	10.7	3.0	13.7
5/2	425	425	-	-	-	0.5	0.2	-	0.7	5.7	3.6	0.2	3.8
6/1	1745	1745	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

Full Input Data And Results

C1	Stream: 1	PRC for Signalled Lanes (%)	64.6	Total Delay for Signalled Lanes (pcuHr)	3.93	Cycle Time (s)	60
C1	Stream: 2	PRC for Signalled Lanes (%)	9.3	Total Delay for Signalled Lanes (pcuHr)	11.66	Cycle Time (s)	60
C1	Stream: 3	PRC for Signalled Lanes (%)	7.2	Total Delay for Signalled Lanes (pcuHr)	11.12	Cycle Time (s)	60
C1	Stream: 4	PRC for Signalled Lanes (%)	8.7	Total Delay for Signalled Lanes (pcuHr)	8.42	Cycle Time (s)	60
C1	Stream: 5	PRC for Signalled Lanes (%)	74.1	Total Delay for Signalled Lanes (pcuHr)	1.80	Cycle Time (s)	60
C1	Stream: 6	PRC for Signalled Lanes (%)	102.6	Total Delay for Signalled Lanes (pcuHr)	0.57	Cycle Time (s)	60
C2		PRC for Signalled Lanes (%)	8.9	Total Delay for Signalled Lanes (pcuHr)	13.79	Cycle Time (s)	240
C3		PRC for Signalled Lanes (%)	4.4	Total Delay for Signalled Lanes (pcuHr)	8.83	Cycle Time (s)	240
		PRC Over All Lanes (%)	4.4	Total Delay Over All Lanes(pcuHr)	62.66		

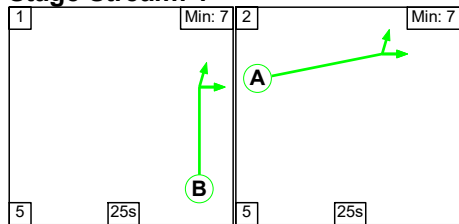
Full Input Data And Results

Scenario 2: '2031 Base + Committed + Dev PM' (FG2: '2031 Base + Committed + Dev PM', Plan 1: 'Network Control Plan 1')

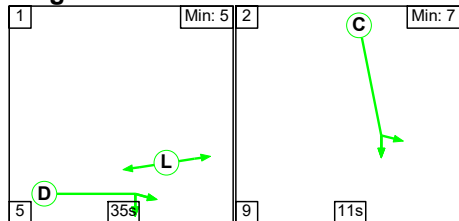
C1

Stage Sequence Diagram

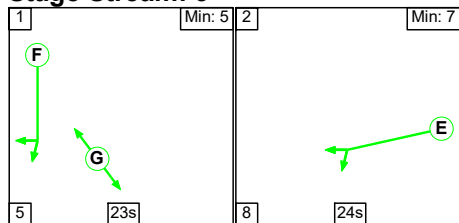
Stage Stream: 1



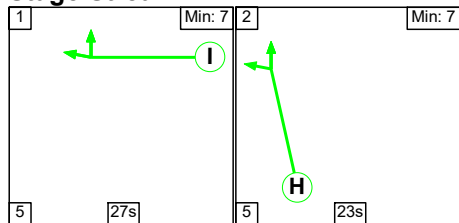
Stage Stream: 2



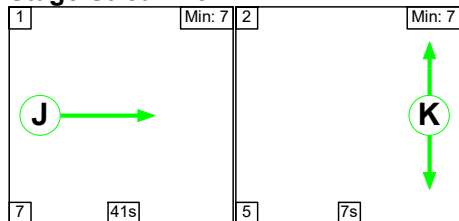
Stage Stream: 3



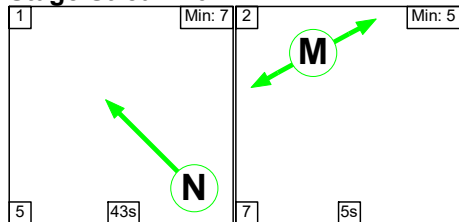
Stage Stream: 4



Stage Stream: 5



Stage Stream: 6



Full Input Data And Results

Stage Timings

Stage Stream: 1

Stage	1	2
Duration	25	25
Change Point	40	10

Stage Stream: 2

Stage	1	2
Duration	35	11
Change Point	59	39

Stage Stream: 3

Stage	1	2
Duration	23	24
Change Point	49	17

Stage Stream: 4

Stage	1	2
Duration	27	23
Change Point	14	46

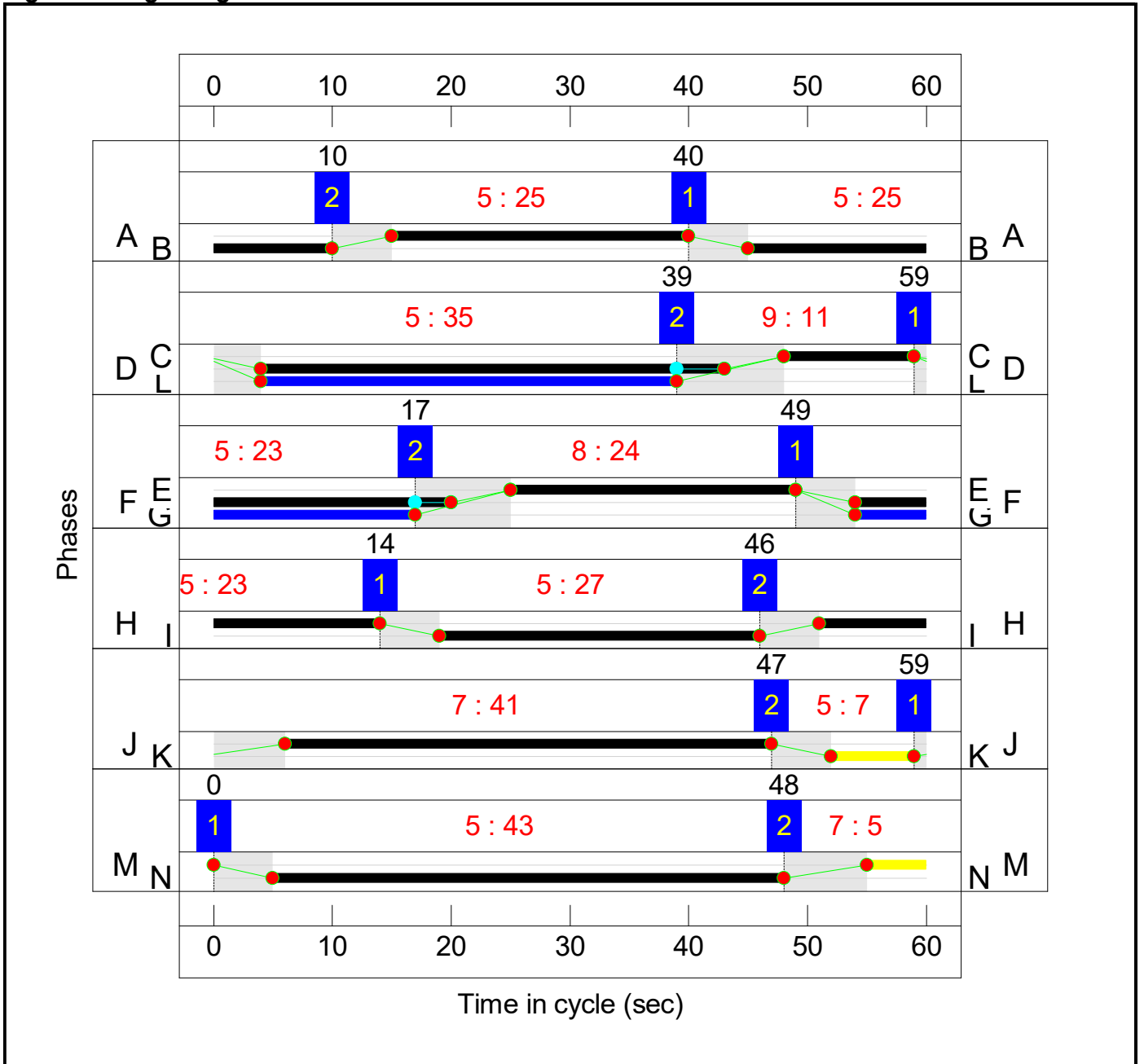
Stage Stream: 5

Stage	1	2
Duration	41	7
Change Point	59	47

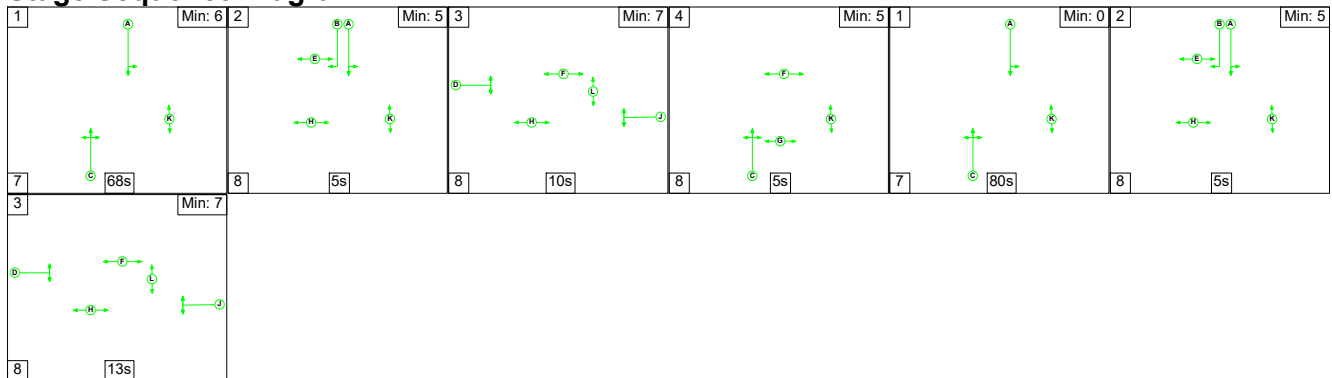
Stage Stream: 6

Stage	1	2
Duration	43	5
Change Point	0	48

Signal Timings Diagram



C2 Stage Sequence Diagram

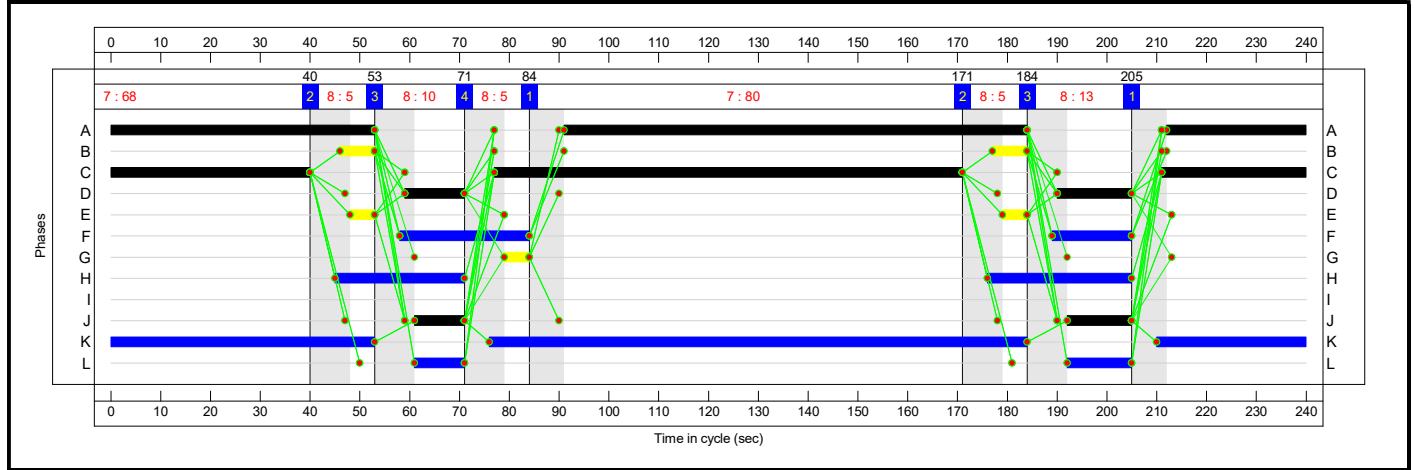


Full Input Data And Results

Stage Timings

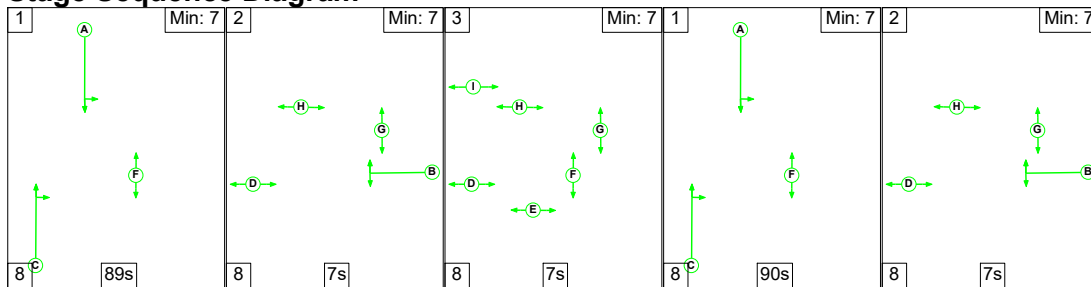
Stage	1	2	3	4	1	2	3
Duration	68	5	10	5	80	5	13
Change Point	205	40	53	71	84	171	184

Signal Timings Diagram



C3

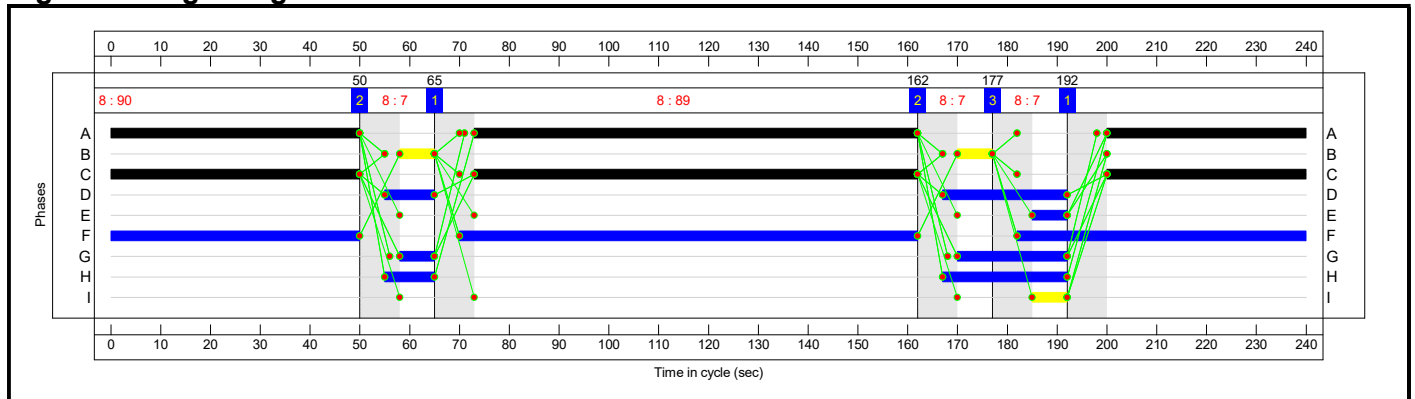
Stage Sequence Diagram



Stage Timings

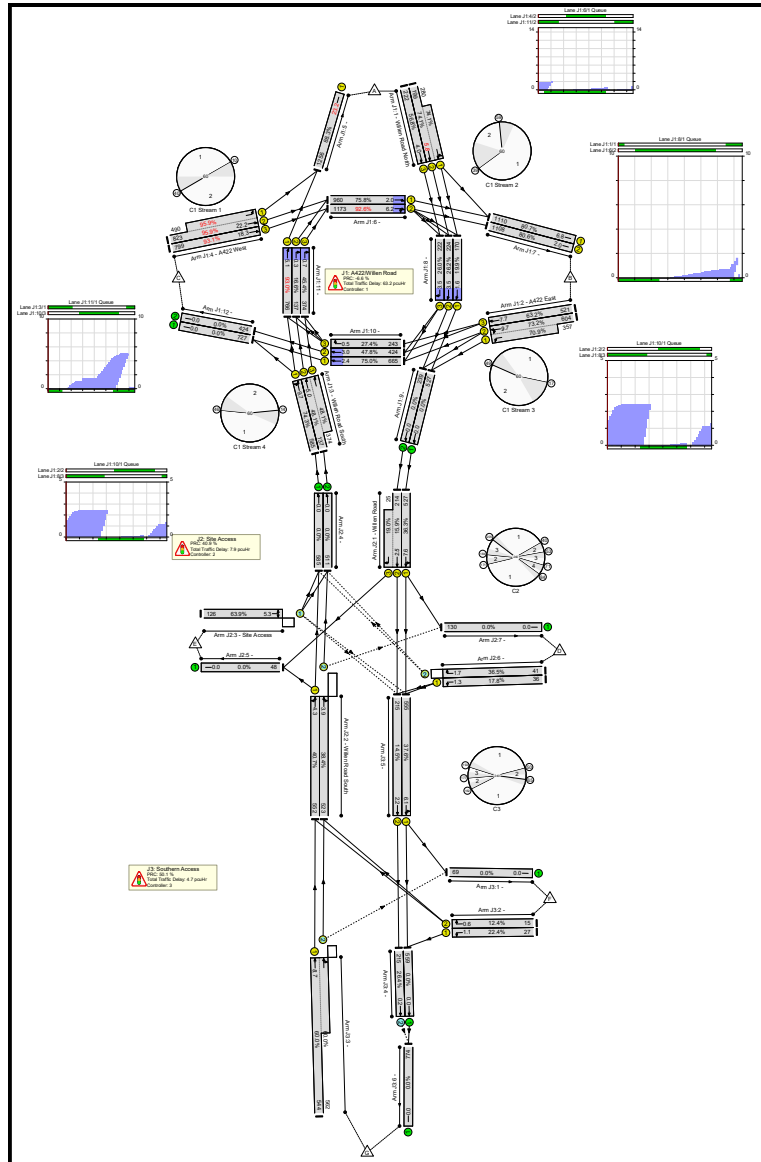
Stage	1	2	3	1	2
Duration	89	7	7	90	7
Change Point	65	162	177	192	50

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: A422 Marsh End / Willen Road / Site Access Proposed Layout	-	-	N/A	-	-		-	-	-	-	-	-	95.9%
J1: A422/Willen Road	-	-	N/A	-	-		-	-	-	-	-	-	95.9%
1/2+1/1	Willen Road North Left Ahead	U	1:2	N/A	C1:C		1	11	-	479	1955:1889	269+378	74.1 : 74.1%
1/3	Willen Road North Ahead	U	1:2	N/A	C1:C		1	11	-	222	1955	391	56.8%
2/2+2/1	A422 East Left Ahead	U	1:3	N/A	C1:E		1	24	-	961	1979:1945	825+503	73.2 : 70.9%
2/3	A422 East Ahead	U	1:3	N/A	C1:E		1	24	-	521	1980	825	63.2%
3/1	Willen Road South Ahead Left	U	1:4	N/A	C1:H		1	23	-	585	1969	788	74.3%
3/2+3/3	Willen Road South Ahead	U	1:4	N/A	C1:H		1	23	-	511	1980:1980	285+778	48.1 : 48.1%
4/2+4/1	A422 West Left Ahead	U	1:1	N/A	C1:A		1	25	-	1313	1980:1888	858+511	95.9 : 95.9%
4/3	A422 West Ahead	U	1:1	N/A	C1:A		1	25	-	799	1980	858	93.1%
5/1		U	1:6	N/A	C1:N		1	43	-	1256	1940	1423	88.3%
6/1	Ahead	U	1:2	N/A	C1:D		1	39	-	960	1900	1267	75.8%
6/2	Ahead Right	U	1:2	N/A	C1:D		1	39	-	1173	1900	1267	92.6%
7/1		U	1:5	N/A	C1:J		1	41	-	1110	1965	1375	80.7%
7/2		U	1:5	N/A	C1:J		1	41	-	1108	1965	1375	80.6%
8/1	Ahead	U	1:3	N/A	C1:F		1	26	-	170	1900	855	19.9%
8/2	Ahead	U	1:3	N/A	C1:F		1	26	-	224	1900	855	26.2%
8/3	Right	U	1:3	N/A	C1:F		1	26	-	222	1900	855	26.0%
9/1	Ahead	U	N/A	N/A	-		-	-	-	527	Inf	Inf	0.0%
9/2	Ahead	U	N/A	N/A	-		-	-	-	239	Inf	Inf	0.0%

Full Input Data And Results

10/1	Ahead	U	1:4	N/A	C1:I		1	27	-	665	1900	887	75.0%
10/2	Ahead	U	1:4	N/A	C1:I		1	27	-	424	1900	887	47.8%
10/3	Right	U	1:4	N/A	C1:I		1	27	-	243	1900	887	27.4%
11/1	Ahead	U	1:1	N/A	C1:B		1	25	-	766	1900	823	93.0%
11/2	Right	U	1:1	N/A	C1:B		1	25	-	137	1900	823	16.6%
11/3	Right	U	1:1	N/A	C1:B		1	25	-	374	1900	823	45.4%
12/1		U	N/A	N/A	-		-	-	-	727	Inf	Inf	0.0%
12/2		U	N/A	N/A	-		-	-	-	424	Inf	Inf	0.0%
J2: Site Access	-	-	N/A	-	-		-	-	-	-	-	-	63.9%
1/1	Willen Road Left Ahead	U	N/A	N/A	C2:A		2	174	-	527	1980	1452	36.3%
1/2+1/3	Willen Road Right Ahead	U	N/A	N/A	C2:A C2:B		2	174:14	-	239	1980:1972	1347+131	15.9 : 19.0%
2/1	Willen Road South Ahead Left	U	N/A	N/A	C2:C		2	163	-	552	1972	1356	40.7%
2/2	Willen Road South Ahead Right	O	N/A	N/A	C2:C		2	163	-	523	1980	1361	38.4%
3/1	Site Access Left Right	O	N/A	N/A	C2:D		2	27	-	126	1786	197	63.9%
4/1	Ahead	U	N/A	N/A	-		-	-	-	585	Inf	Inf	0.0%
4/2	Ahead	U	N/A	N/A	-		-	-	-	511	Inf	Inf	0.0%
5/1		U	N/A	N/A	-		-	-	-	48	Inf	Inf	0.0%
6/1	Left	U	N/A	N/A	C2:J		2	23	-	36	1940	202	17.8%
6/2	Right	O	N/A	N/A	C2:J		2	23	-	41	1940	112	36.5%
7/1		U	N/A	N/A	-		-	-	-	130	Inf	Inf	0.0%
J3: Southern Access	-	-	N/A	-	-		-	-	-	-	-	-	60.0%
1/1		U	N/A	N/A	-		-	-	-	69	Inf	Inf	0.0%
2/1	Left	U	N/A	N/A	C3:B		2	14	-	27	1809	121	22.4%
2/2	Right	U	N/A	N/A	C3:B		2	14	-	15	1809	121	12.4%
3/1+3/2	Ahead Right	U+O	N/A	N/A	C3:C		2	179	-	1106	1965:1953	907+937	60.0 : 60.0%

Full Input Data And Results

4/1	Ahead	U	N/A	N/A	-	-	-	-	559	Inf	Inf	0.0%
4/2	Ahead	O	N/A	N/A	-	-	-	-	215	Inf	815	26.4%
5/1	Left Ahead	U	N/A	N/A	C3:A	2	179	-	555	1959	1477	37.6%
5/2	Ahead	U	N/A	N/A	C3:A	2	179	-	215	1965	1482	14.5%
6/1		U	N/A	N/A	-	-	-	-	774	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: A422 Marsh End / Willen Road / Site Access Proposed Layout	-	-	411	7	6	43.4	32.2	0.2	75.8	-	-	-	-
J1: A422/Willen Road	-	-	0	0	0	34.8	28.4	0.0	63.2	-	-	-	-
1/2+1/1	479	479	-	-	-	2.9	1.4	-	4.3 (1.8+2.6)	32.7 (32.0:33.1)	4.4	1.4	5.8
1/3	222	222	-	-	-	1.3	0.7	-	2.0	32.2	3.3	0.7	4.0
2/2+2/1	961	961	-	-	-	3.7	1.3	-	5.0 (3.3+1.7)	18.8 (19.6:17.4)	8.4	1.3	9.7
2/3	521	521	-	-	-	2.0	0.9	-	2.9	19.7	6.8	0.9	7.7
3/1	585	585	-	-	-	2.5	1.4	-	3.9	24.1	8.3	1.4	9.7
3/2+3/3	511	511	-	-	-	1.8	0.5	-	2.3 (0.6+1.7)	16.1 (14.9:16.6)	4.6	0.5	5.0
4/2+4/1	1313	1313	-	-	-	5.5	8.9	-	14.5 (9.4+5.1)	39.6 (40.9:37.4)	13.3	8.9	22.2
4/3	799	799	-	-	-	3.6	5.7	-	9.3	41.7	12.7	5.7	18.3
5/1	1256	1256	-	-	-	4.2	3.6	-	7.8	22.4	19.6	3.6	23.2
6/1	960	960	-	-	-	0.4	0.0	-	0.4	1.5	2.0	0.0	2.0
6/2	1173	1173	-	-	-	1.0	0.0	-	1.0	3.1	6.2	0.0	6.2
7/1	1110	1110	-	-	-	0.7	2.1	-	2.8	9.1	4.7	2.1	6.8
7/2	1108	1108	-	-	-	0.0	2.0	-	2.0	6.6	0.0	2.0	2.0
8/1	170	170	-	-	-	0.3	0.0	-	0.3	5.6	1.6	0.0	1.6
8/2	224	224	-	-	-	0.3	0.0	-	0.3	4.5	3.5	0.0	3.5
8/3	222	222	-	-	-	0.1	0.0	-	0.1	1.9	3.5	0.0	3.5
9/1	527	527	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
9/2	239	239	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
10/1	665	665	-	-	-	1.0	0.0	-	1.0	5.6	2.4	0.0	2.4
10/2	424	424	-	-	-	1.1	0.0	-	1.1	9.7	3.0	0.0	3.0

Full Input Data And Results

10/3	243	243	-	-	-	0.2	0.0	-	0.2	3.4	0.5	0.0	0.5
11/1	766	766	-	-	-	1.5	0.0	-	1.5	6.9	5.1	0.0	5.1
11/2	137	137	-	-	-	0.1	0.0	-	0.1	3.6	0.3	0.0	0.3
11/3	374	374	-	-	-	0.4	0.0	-	0.4	3.8	0.7	0.0	0.7
12/1	727	727	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
12/2	424	424	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
J2: Site Access	-	-	150	7	6	5.4	2.3	0.2	7.9	-	-	-	-
1/1	527	527	-	-	-	0.9	0.3	-	1.2	7.9	7.3	0.3	7.6
1/2+1/3	239	239	-	-	-	0.7	0.1	-	0.8 (0.4+0.4)	11.4 (6.4:55.0)	2.4	0.1	2.5
2/1	552	552	-	-	-	0.6	0.3	-	0.9	5.8	3.9	0.3	4.3
2/2	523	523	53	7	0	0.5	0.3	0.0	0.9	6.0	3.6	0.3	3.9
3/1	126	126	57	0	6	1.8	0.9	0.1	2.7	78.2	4.4	0.9	5.3
4/1	585	585	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/2	511	511	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	48	48	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	36	36	-	-	-	0.5	0.1	-	0.6	60.6	1.2	0.1	1.3
6/2	41	41	41	0	0	0.6	0.3	0.0	0.9	77.9	1.4	0.3	1.7
7/1	130	130	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
J3: Southern Access	-	-	261	0	0	3.1	1.5	0.0	4.7	-	-	-	-
1/1	69	69	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
2/1	27	27	-	-	-	0.4	0.1	-	0.5	72.6	0.9	0.1	1.1
2/2	15	15	-	-	-	0.2	0.1	-	0.3	70.0	0.5	0.1	0.6
3/1+3/2	1106	1106	46	0	0	1.7	0.7	0.0	2.4 (1.2+1.3)	7.9 (7.8:8.1)	8.0	0.7	8.7
4/1	559	559	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/2	215	215	215	0	0	0.0	0.2	-	0.2	3.0	0.0	0.2	0.2
5/1	555	555	-	-	-	0.6	0.3	-	0.9	5.8	5.8	0.3	6.1
5/2	215	215	-	-	-	0.2	0.1	-	0.3	5.5	2.1	0.1	2.2
6/1	774	774	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

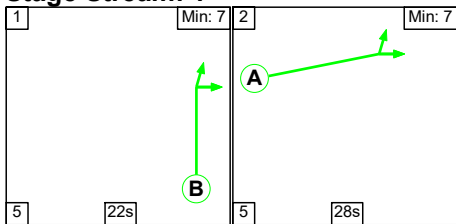
Full Input Data And Results

C1	Stream: 1	PRC for Signalled Lanes (%)	-6.6	Total Delay for Signalled Lanes (pcuHr)	25.71	Cycle Time (s)	60
C1	Stream: 2	PRC for Signalled Lanes (%)	-2.9	Total Delay for Signalled Lanes (pcuHr)	7.74	Cycle Time (s)	60
C1	Stream: 3	PRC for Signalled Lanes (%)	22.9	Total Delay for Signalled Lanes (pcuHr)	8.53	Cycle Time (s)	60
C1	Stream: 4	PRC for Signalled Lanes (%)	20.0	Total Delay for Signalled Lanes (pcuHr)	8.62	Cycle Time (s)	60
C1	Stream: 5	PRC for Signalled Lanes (%)	11.5	Total Delay for Signalled Lanes (pcuHr)	4.83	Cycle Time (s)	60
C1	Stream: 6	PRC for Signalled Lanes (%)	1.9	Total Delay for Signalled Lanes (pcuHr)	7.80	Cycle Time (s)	60
C2		PRC for Signalled Lanes (%)	40.9	Total Delay for Signalled Lanes (pcuHr)	7.91	Cycle Time (s)	240
C3		PRC for Signalled Lanes (%)	50.1	Total Delay for Signalled Lanes (pcuHr)	4.50	Cycle Time (s)	240
		PRC Over All Lanes (%)	-6.6	Total Delay Over All Lanes(pcuHr)	75.82		

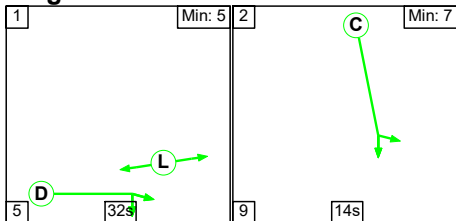
C1

Stage Sequence Diagram

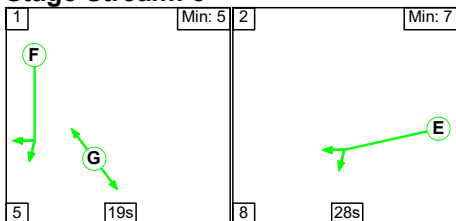
Stage Stream: 1



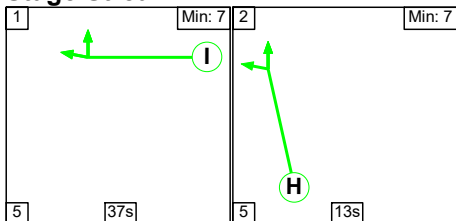
Stage Stream: 2



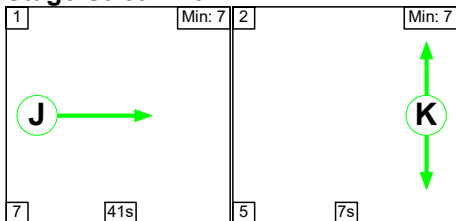
Stage Stream: 3



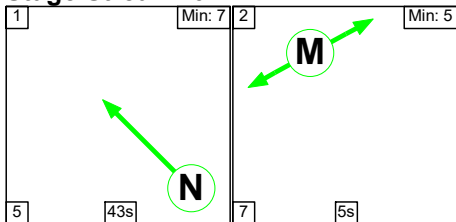
Stage Stream: 4



Stage Stream: 5



Stage Stream: 6



Full Input Data And Results

Stage Timings

Stage Stream: 1

Stage	1	2
Duration	22	28
Change Point	29	56

Stage Stream: 2

Stage	1	2
Duration	32	14
Change Point	3	40

Stage Stream: 3

Stage	1	2
Duration	19	28
Change Point	31	55

Stage Stream: 4

Stage	1	2
Duration	37	13
Change Point	47	29

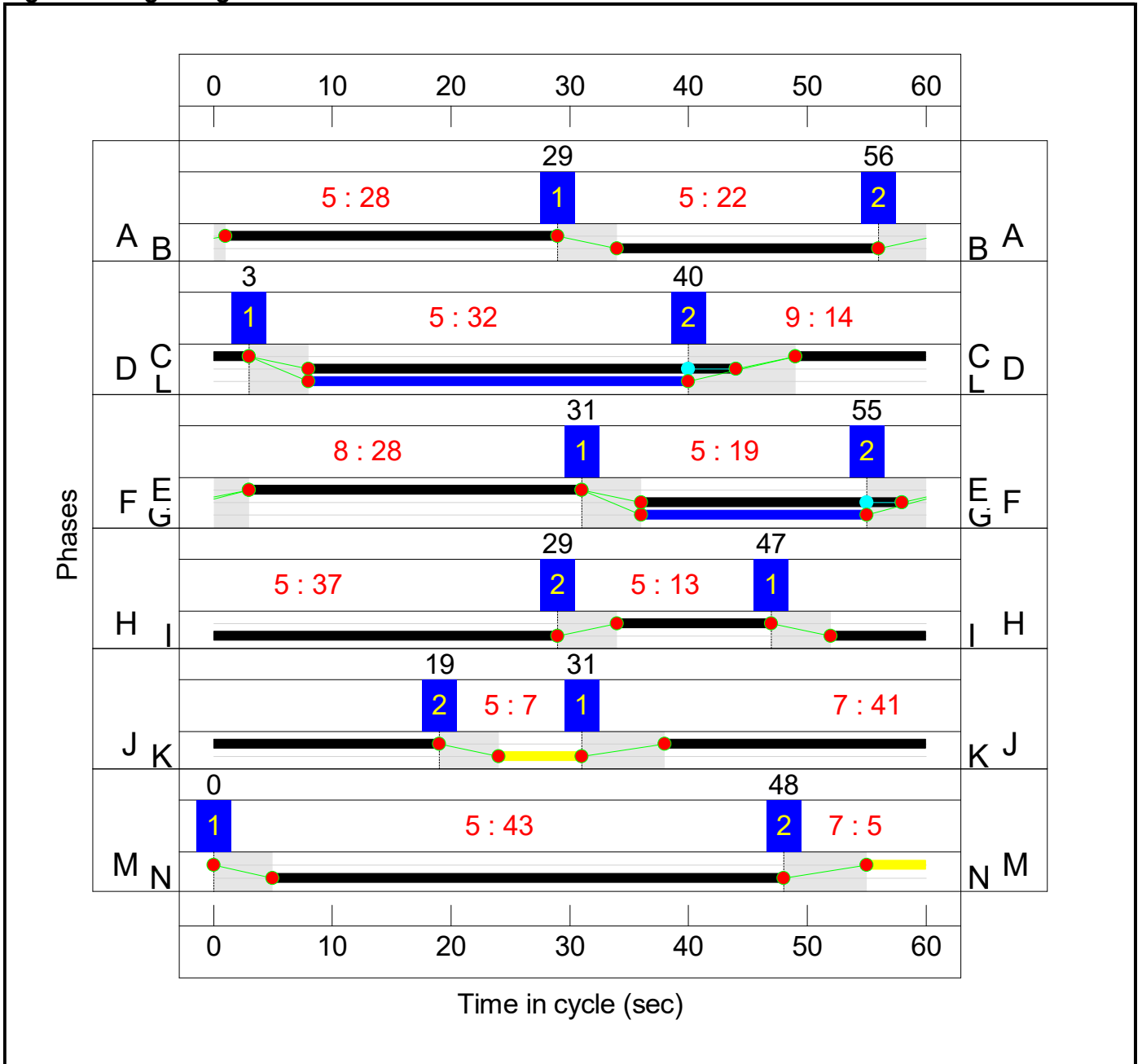
Stage Stream: 5

Stage	1	2
Duration	41	7
Change Point	31	19

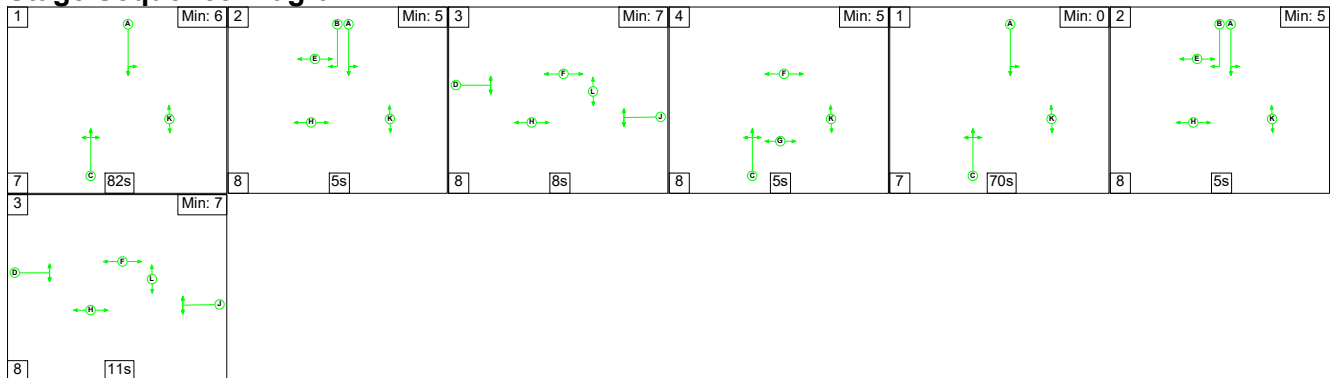
Stage Stream: 6

Stage	1	2
Duration	43	5
Change Point	0	48

Signal Timings Diagram



C2 Stage Sequence Diagram

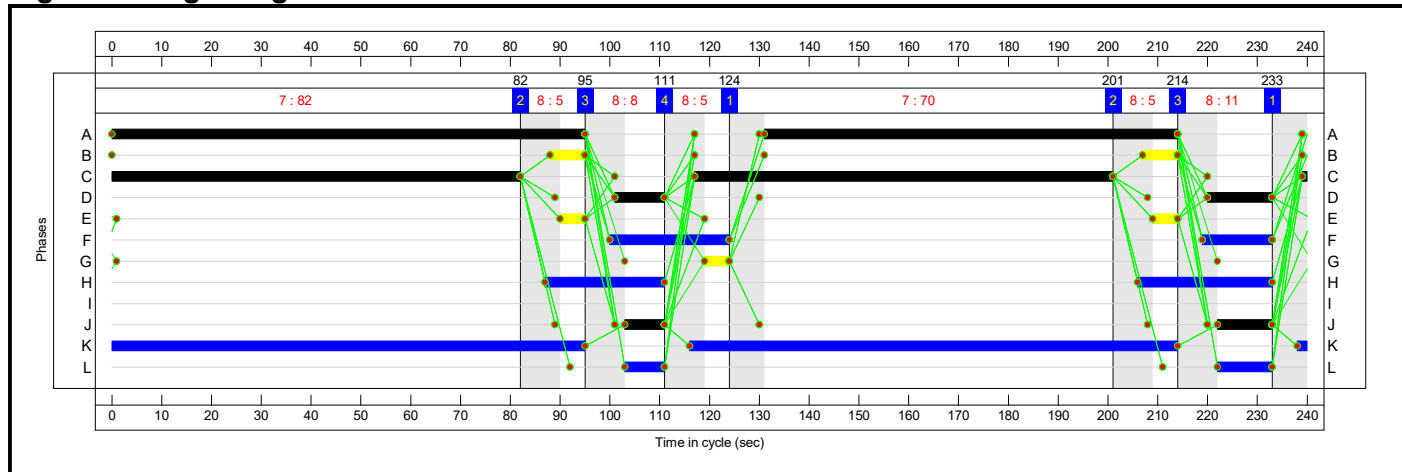


Full Input Data And Results

Stage Timings

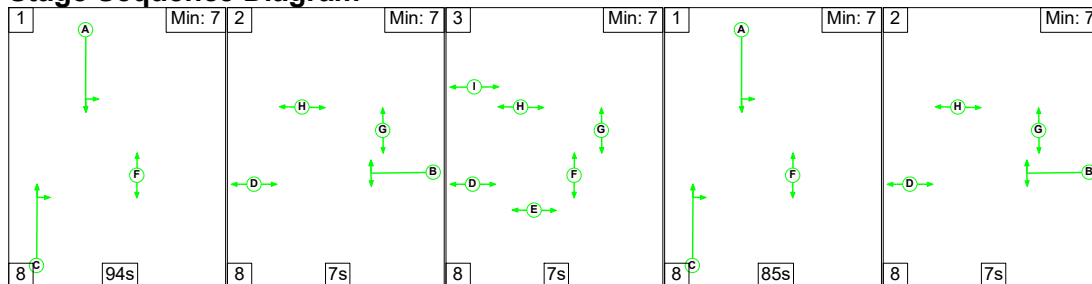
Stage	1	2	3	4	1	2	3
Duration	82	5	8	5	70	5	11
Change Point	233	82	95	111	124	201	214

Signal Timings Diagram



C3

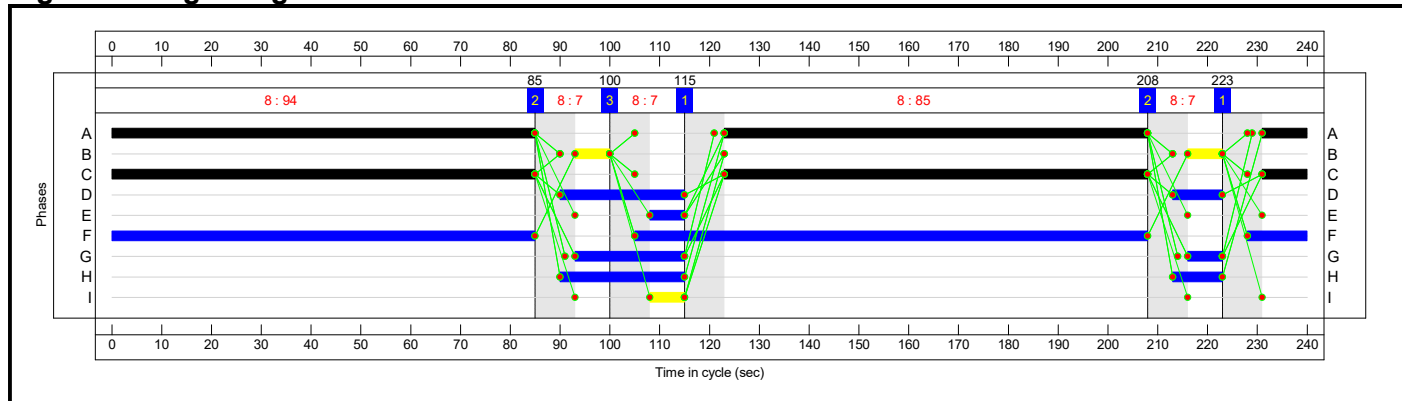
Stage Sequence Diagram



Stage Timings

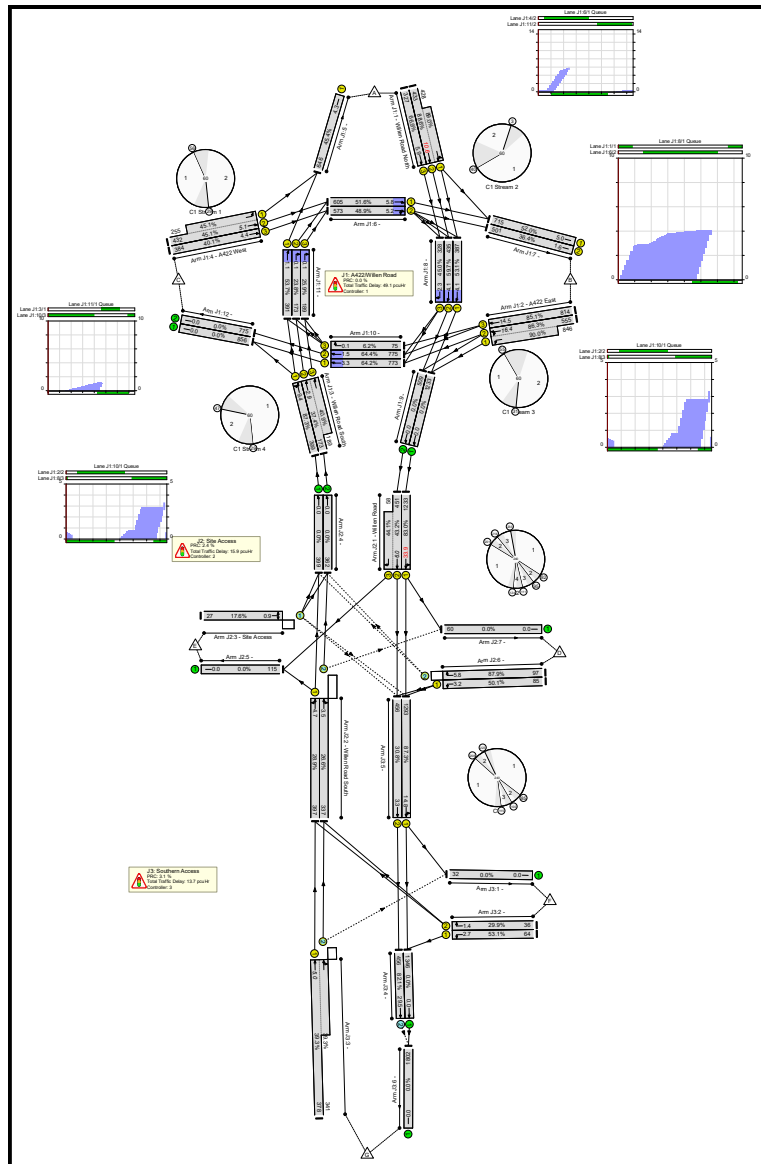
Stage	1	2	3	1	2
Duration	94	7	7	85	7
Change Point	223	85	100	115	208

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: A422 Marsh End / Willen Road / Site Access Proposed Layout	-	-	N/A	-	-		-	-	-	-	-	-	90.0%
J1: A422/Willen Road	-	-	N/A	-	-		-	-	-	-	-	-	90.0%
1/2+1/1	Willen Road North Left Ahead	U	1:2	N/A	C1:C		1	14	-	861	1955:1923	489+481	88.6 : 89.0%
1/3	Willen Road North Ahead	U	1:2	N/A	C1:C		1	14	-	327	1955	489	66.9%
2/2+2/1	A422 East Left Ahead	U	1:3	N/A	C1:E		1	28	-	1401	1975:1945	643+940	86.3 : 90.0%
2/3	A422 East Ahead	U	1:3	N/A	C1:E		1	28	-	814	1980	957	85.1%
3/1	Willen Road South Ahead Left	U	1:4	N/A	C1:H		1	13	-	399	1959	457	87.3%
3/2+3/3	Willen Road South Ahead	U	1:4	N/A	C1:H		1	13	-	362	1980:1980	462+462	37.4 : 40.9%
4/2+4/1	A422 West Left Ahead	U	1:1	N/A	C1:A		1	28	-	687	1980:1888	957+565	45.1 : 45.1%
4/3	A422 West Ahead	U	1:1	N/A	C1:A		1	28	-	384	1980	957	40.1%
5/1		U	1:6	N/A	C1:N		1	43	-	646	1940	1423	45.4%
6/1	Ahead	U	1:2	N/A	C1:D		1	36	-	605	1900	1172	51.6%
6/2	Ahead Right	U	1:2	N/A	C1:D		1	36	-	573	1900	1172	48.9%
7/1		U	1:5	N/A	C1:J		1	41	-	715	1965	1375	52.0%
7/2		U	1:5	N/A	C1:J		1	41	-	501	1965	1375	36.4%
8/1	Ahead	U	1:3	N/A	C1:F		1	22	-	387	1900	728	53.1%
8/2	Ahead	U	1:3	N/A	C1:F		1	22	-	435	1900	728	59.7%
8/3	Right	U	1:3	N/A	C1:F		1	22	-	328	1900	728	45.0%
9/1	Ahead	U	N/A	N/A	-		-	-	-	1233	Inf	Inf	0.0%
9/2	Ahead	U	N/A	N/A	-		-	-	-	509	Inf	Inf	0.0%

Full Input Data And Results

10/1	Ahead	U	1:4	N/A	C1:I		1	37	-	773	1900	1203	64.2%
10/2	Ahead	U	1:4	N/A	C1:I		1	37	-	775	1900	1203	64.4%
10/3	Right	U	1:4	N/A	C1:I		1	37	-	75	1900	1203	6.2%
11/1	Ahead	U	1:1	N/A	C1:B		1	22	-	391	1900	728	53.7%
11/2	Right	U	1:1	N/A	C1:B		1	22	-	173	1900	728	23.8%
11/3	Right	U	1:1	N/A	C1:B		1	22	-	189	1900	728	25.9%
12/1		U	N/A	N/A	-		-	-	-	856	Inf	Inf	0.0%
12/2		U	N/A	N/A	-		-	-	-	775	Inf	Inf	0.0%
J2: Site Access	-	-	N/A	-	-		-	-	-	-	-	-	87.9%
1/1	Willen Road Left Ahead	U	N/A	N/A	C2:A		2	178	-	1233	1980	1485	83.0%
1/2+1/3	Willen Road Right Ahead	U	N/A	N/A	C2:A C2:B		2	178:14	-	509	1980:1972	1044+131	43.2 : 44.1%
2/1	Willen Road South Ahead Left	U	N/A	N/A	C2:C		2	167	-	397	1952	1375	28.9%
2/2	Willen Road South Ahead Right	O	N/A	N/A	C2:C		2	167	-	337	1980	1265	26.6%
3/1	Site Access Left Right	O	N/A	N/A	C2:D		2	23	-	27	1782	153	17.6%
4/1	Ahead	U	N/A	N/A	-		-	-	-	399	Inf	Inf	0.0%
4/2	Ahead	U	N/A	N/A	-		-	-	-	362	Inf	Inf	0.0%
5/1		U	N/A	N/A	-		-	-	-	115	Inf	Inf	0.0%
6/1	Left	U	N/A	N/A	C2:J		2	19	-	85	1940	170	50.1%
6/2	Right	O	N/A	N/A	C2:J		2	19	-	97	1940	110	87.9%
7/1		U	N/A	N/A	-		-	-	-	60	Inf	Inf	0.0%
J3: Southern Access	-	-	N/A	-	-		-	-	-	-	-	-	87.3%
1/1		U	N/A	N/A	-		-	-	-	32	Inf	Inf	0.0%
2/1	Left	U	N/A	N/A	C3:B		2	14	-	64	1809	121	53.1%
2/2	Right	U	N/A	N/A	C3:B		2	14	-	36	1809	121	29.9%
3/1+3/2	Ahead Right	U+O	N/A	N/A	C3:C		2	179	-	719	1965:1956	961+867	39.3 : 39.3%

Full Input Data And Results

4/1	Ahead	U	N/A	N/A	-	-	-	-	1346	Inf	Inf	0.0%
4/2	Ahead	O	N/A	N/A	-	-	-	-	456	Inf	556	82.1%
5/1	Left Ahead	U	N/A	N/A	C3:A	2	179	-	1293	1964	1481	87.3%
5/2	Ahead	U	N/A	N/A	C3:A	2	179	-	456	1965	1482	30.8%
6/1		U	N/A	N/A	-	-	-	-	1802	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: A422 Marsh End / Willen Road / Site Access Proposed Layout	-	-	534	2	78	48.2	29.8	0.8	78.8	-	-	-	-
J1: A422/Willen Road	-	-	0	0	0	32.6	16.6	0.0	49.1	-	-	-	-
1/2+1/1	861	861	-	-	-	5.2	3.7	-	8.9 (4.5+4.4)	37.2 (37.2:37.2)	6.9	3.7	10.6
1/3	327	327	-	-	-	1.8	1.0	-	2.8	31.3	4.9	1.0	5.9
2/2+2/1	1401	1401	-	-	-	5.0	3.7	-	8.7 (3.2+5.6)	22.5 (20.6:23.7)	12.7	3.7	16.4
2/3	814	814	-	-	-	3.1	2.7	-	5.8	25.7	11.8	2.7	14.5
3/1	399	399	-	-	-	2.5	3.1	-	5.6	50.1	6.3	3.1	9.4
3/2+3/3	362	362	-	-	-	2.0	0.3	-	2.3 (1.1+1.2)	22.6 (22.5:22.7)	2.6	0.3	2.9
4/2+4/1	687	687	-	-	-	1.9	0.4	-	2.3 (1.5+0.8)	12.0 (12.4:11.4)	4.7	0.4	5.1
4/3	384	384	-	-	-	1.1	0.3	-	1.4	13.1	4.1	0.3	4.4
5/1	646	646	-	-	-	0.4	0.4	-	0.9	4.8	3.9	0.4	4.3
6/1	605	605	-	-	-	0.6	0.0	-	0.6	3.4	5.8	0.0	5.8
6/2	573	573	-	-	-	0.5	0.0	-	0.5	3.4	5.2	0.0	5.2
7/1	715	715	-	-	-	0.6	0.5	-	1.1	5.6	4.5	0.5	5.0
7/2	501	501	-	-	-	0.3	0.3	-	0.6	4.0	1.3	0.3	1.6
8/1	387	387	-	-	-	2.2	0.0	-	2.2	20.3	4.1	0.0	4.1
8/2	435	435	-	-	-	2.5	0.0	-	2.5	20.9	4.1	0.0	4.1
8/3	328	328	-	-	-	1.4	0.0	-	1.4	15.4	2.3	0.0	2.3
9/1	1233	1233	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
9/2	509	509	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
10/1	773	773	-	-	-	0.8	0.0	-	0.8	3.7	3.3	0.0	3.3
10/2	775	775	-	-	-	0.5	0.0	-	0.5	2.2	1.5	0.0	1.5

Full Input Data And Results

10/3	75	75	-	-	-	0.0	0.0	-	0.0	1.9	0.1	0.0	0.1
11/1	391	391	-	-	-	0.3	0.0	-	0.3	2.4	1.1	0.0	1.1
11/2	173	173	-	-	-	0.0	0.0	-	0.0	0.1	0.1	0.0	0.1
11/3	189	189	-	-	-	0.0	0.0	-	0.0	0.1	0.1	0.0	0.1
12/1	856	856	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
12/2	775	775	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
J2: Site Access	-	-	74	2	61	9.0	6.4	0.6	15.9	-	-	-	-
1/1	1233	1233	-	-	-	3.5	2.4	-	5.9	17.2	31.5	2.4	33.9
1/2+1/3	509	509	-	-	-	1.5	0.4	-	1.9 (1.0+0.9)	13.3 (7.7:56.6)	5.6	0.4	6.0
2/1	397	397	-	-	-	0.5	0.2	-	0.7	6.6	4.5	0.2	4.7
2/2	337	337	0	2	26	0.4	0.2	0.4	1.1	11.3	3.3	0.2	3.5
3/1	27	27	12	0	0	0.4	0.1	0.0	0.5	66.2	0.8	0.1	0.9
4/1	399	399	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/2	362	362	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	115	115	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	85	85	-	-	-	1.2	0.5	-	1.7	73.2	2.7	0.5	3.2
6/2	97	97	62	0	35	1.4	2.6	0.1	4.2	154.3	3.2	2.6	5.8
7/1	60	60	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
J3: Southern Access	-	-	460	0	17	6.6	6.8	0.2	13.7	-	-	-	-
1/1	32	32	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
2/1	64	64	-	-	-	1.0	0.6	-	1.5	85.4	2.1	0.6	2.7
2/2	36	36	-	-	-	0.5	0.2	-	0.7	74.6	1.2	0.2	1.4
3/1+3/2	719	719	4	0	17	0.9	0.3	0.2	1.5 (0.7+0.8)	7.6 (6.4:8.9)	4.7	0.3	5.0
4/1	1346	1346	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/2	456	456	456	0	0	1.8	2.2	-	4.0	31.6	27.3	2.2	29.5
5/1	1293	1293	-	-	-	1.9	3.3	-	5.2	14.5	11.5	3.3	14.8
5/2	456	456	-	-	-	0.5	0.2	-	0.7	5.6	3.1	0.2	3.3
6/1	1802	1802	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

Full Input Data And Results

C1	Stream: 1	PRC for Signalled Lanes (%)	67.6	Total Delay for Signalled Lanes (pcuHr)	3.96	Cycle Time (s)	60
C1	Stream: 2	PRC for Signalled Lanes (%)	1.1	Total Delay for Signalled Lanes (pcuHr)	12.85	Cycle Time (s)	60
C1	Stream: 3	PRC for Signalled Lanes (%)	0.0	Total Delay for Signalled Lanes (pcuHr)	20.66	Cycle Time (s)	60
C1	Stream: 4	PRC for Signalled Lanes (%)	3.1	Total Delay for Signalled Lanes (pcuHr)	9.14	Cycle Time (s)	60
C1	Stream: 5	PRC for Signalled Lanes (%)	73.1	Total Delay for Signalled Lanes (pcuHr)	1.66	Cycle Time (s)	60
C1	Stream: 6	PRC for Signalled Lanes (%)	98.2	Total Delay for Signalled Lanes (pcuHr)	0.86	Cycle Time (s)	60
C2		PRC for Signalled Lanes (%)	2.4	Total Delay for Signalled Lanes (pcuHr)	15.94	Cycle Time (s)	240
C3		PRC for Signalled Lanes (%)	3.1	Total Delay for Signalled Lanes (pcuHr)	9.70	Cycle Time (s)	240
		PRC Over All Lanes (%)	0.0	Total Delay Over All Lanes(pcuHr)	78.78		

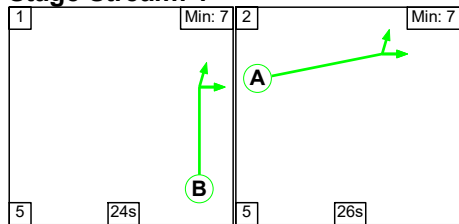
Full Input Data And Results

Scenario 4: '2033 Base + Committed + Dev PM' (FG4: '2033 Base + Committed + Dev PM', Plan 1: 'Network Control Plan 1')

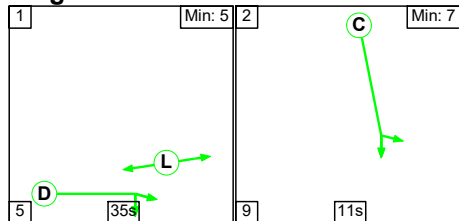
C1

Stage Sequence Diagram

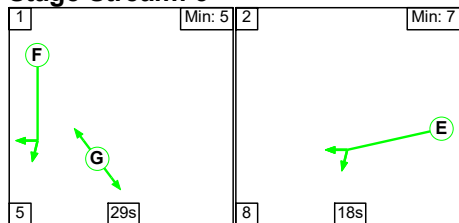
Stage Stream: 1



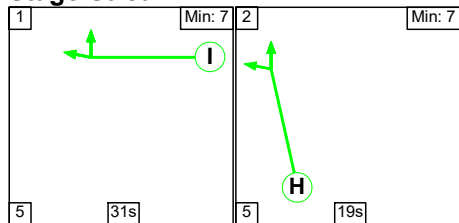
Stage Stream: 2



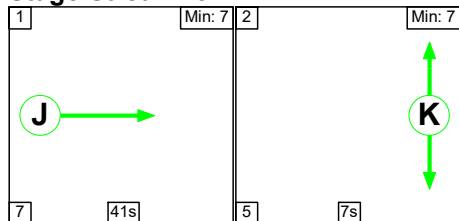
Stage Stream: 3



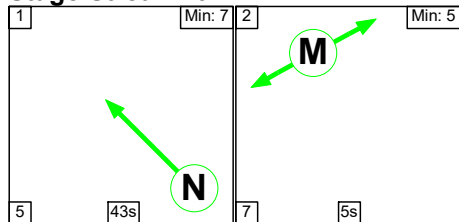
Stage Stream: 4



Stage Stream: 5



Stage Stream: 6



Full Input Data And Results

Stage Timings

Stage Stream: 1

Stage	1	2
Duration	24	26
Change Point	41	10

Stage Stream: 2

Stage	1	2
Duration	35	11
Change Point	1	41

Stage Stream: 3

Stage	1	2
Duration	29	18
Change Point	46	20

Stage Stream: 4

Stage	1	2
Duration	31	19
Change Point	13	49

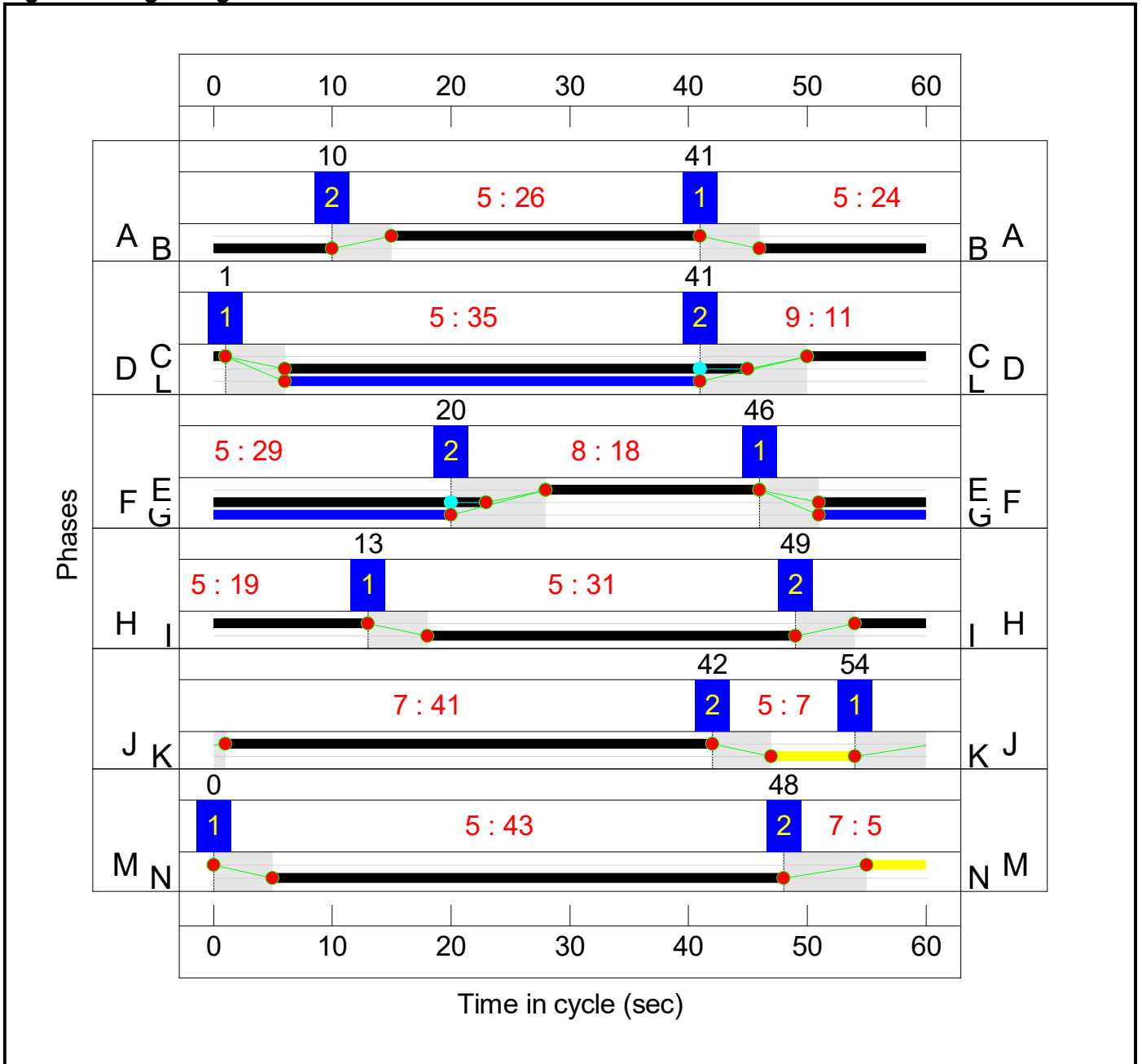
Stage Stream: 5

Stage	1	2
Duration	41	7
Change Point	54	42

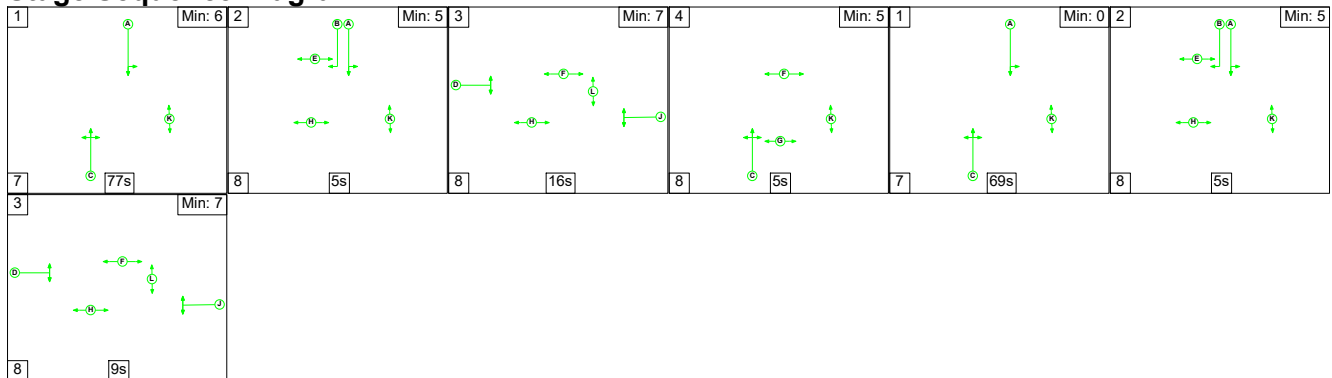
Stage Stream: 6

Stage	1	2
Duration	43	5
Change Point	0	48

Signal Timings Diagram



C2 Stage Sequence Diagram

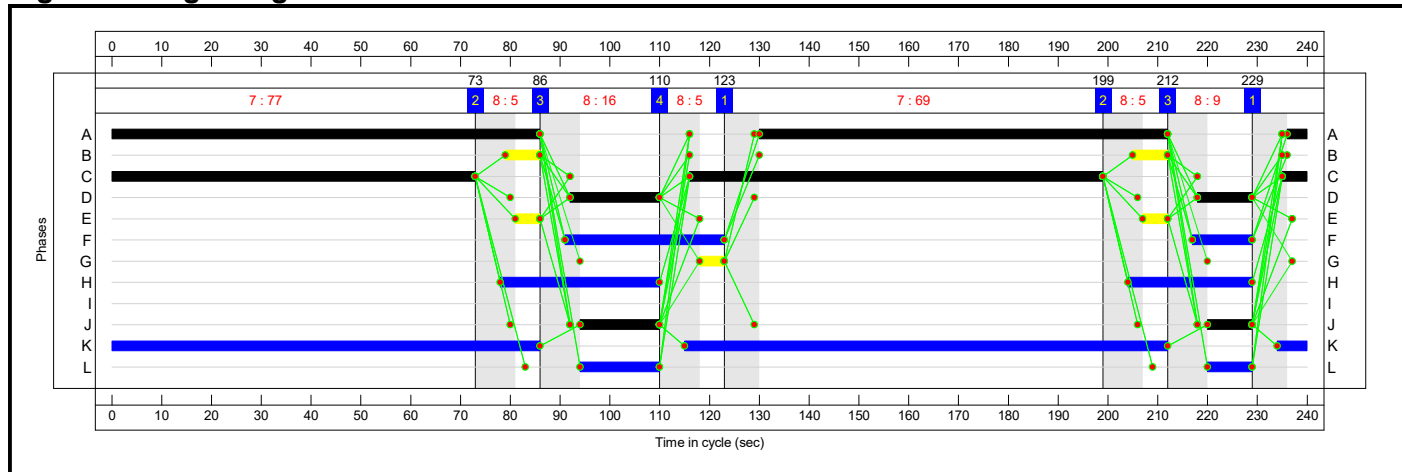


Full Input Data And Results

Stage Timings

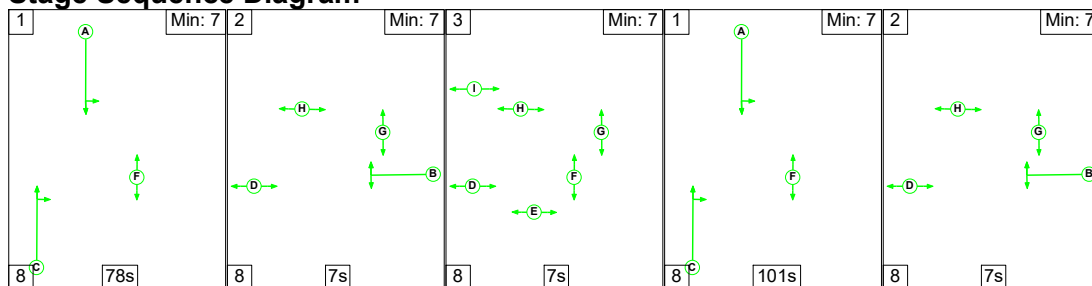
Stage	1	2	3	4	1	2	3
Duration	77	5	16	5	69	5	9
Change Point	229	73	86	110	123	199	212

Signal Timings Diagram



C3

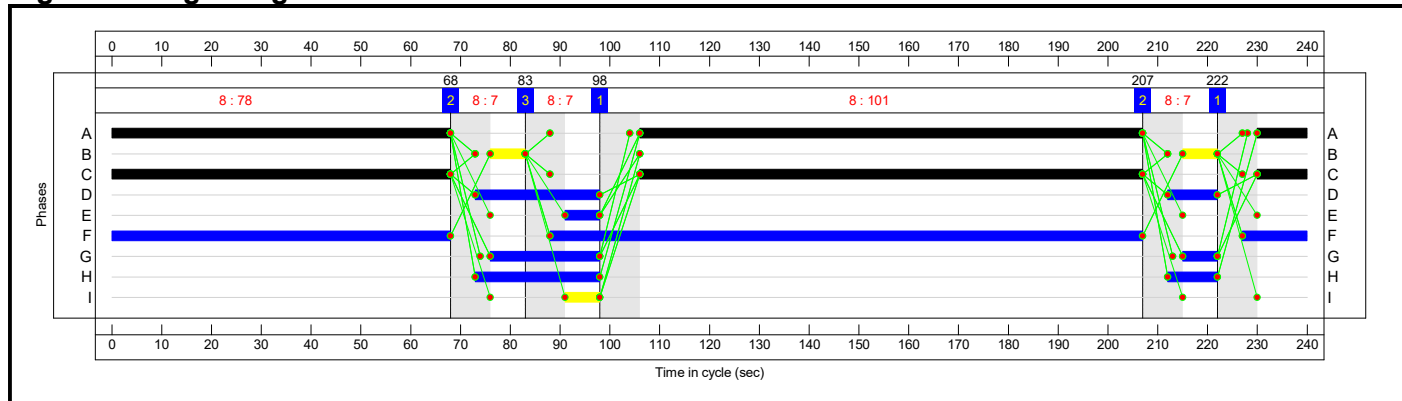
Stage Sequence Diagram



Stage Timings

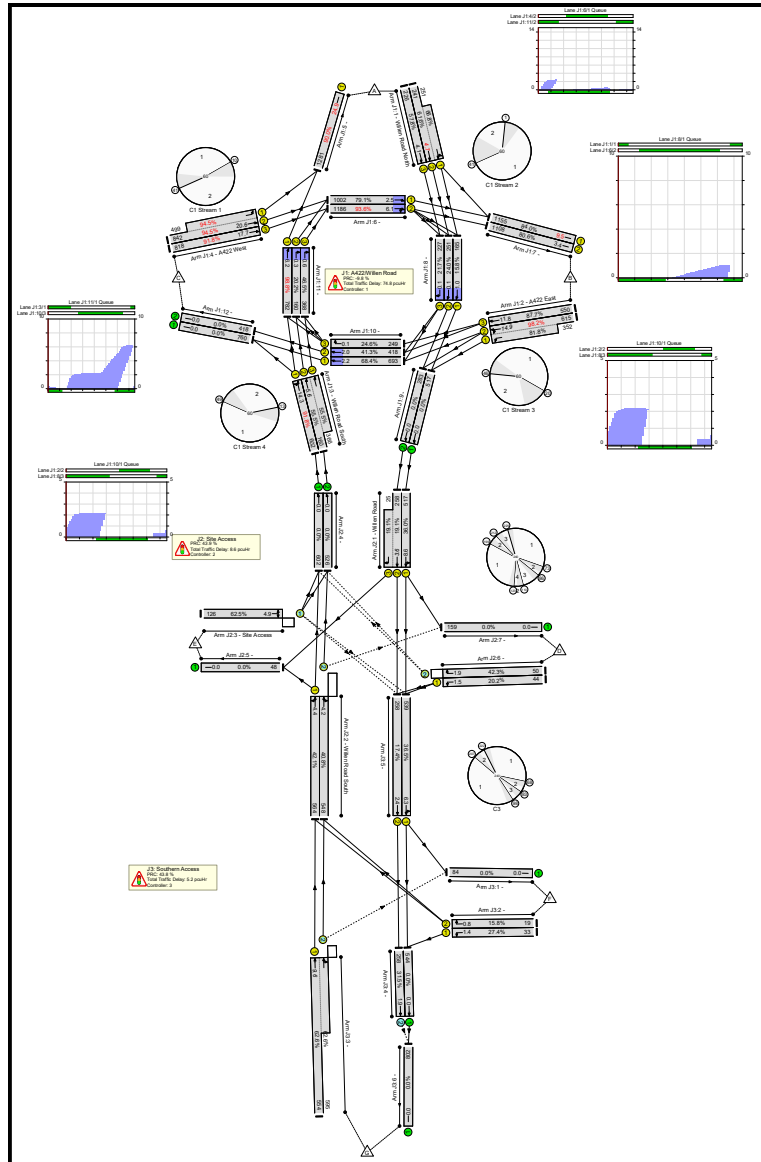
Stage	1	2	3	1	2
Duration	78	7	7	101	7
Change Point	222	68	83	98	207

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: A422 Marsh End / Willen Road / Site Access Proposed Layout	-	-	N/A	-	-		-	-	-	-	-	-	98.8%
J1: A422/Willen Road	-	-	N/A	-	-		-	-	-	-	-	-	98.8%
1/2+1/1	Willen Road North Left Ahead	U	1:2	N/A	C1:C		1	11	-	492	1955:1880	391+376	61.6 : 66.8%
1/3	Willen Road North Ahead	U	1:2	N/A	C1:C		1	11	-	226	1955	391	57.8%
2/2+2/1	A422 East Left Ahead	U	1:3	N/A	C1:E		1	18	-	967	1978:1945	626+430	98.2 : 81.8%
2/3	A422 East Ahead	U	1:3	N/A	C1:E		1	18	-	550	1980	627	87.7%
3/1	Willen Road South Ahead Left	U	1:4	N/A	C1:H		1	19	-	602	1968	656	91.8%
3/2+3/3	Willen Road South Ahead	U	1:4	N/A	C1:H		1	19	-	526	1980:1980	289+660	55.5 : 55.5%
4/2+4/1	A422 West Left Ahead	U	1:1	N/A	C1:A		1	26	-	1341	1980:1888	891+528	94.5 : 94.5%
4/3	A422 West Ahead	U	1:1	N/A	C1:A		1	26	-	818	1980	891	91.8%
5/1		U	1:6	N/A	C1:N		1	43	-	1281	1940	1423	90.0%
6/1	Ahead	U	1:2	N/A	C1:D		1	39	-	1002	1900	1267	79.1%
6/2	Ahead Right	U	1:2	N/A	C1:D		1	39	-	1186	1900	1267	93.6%
7/1		U	1:5	N/A	C1:J		1	41	-	1155	1965	1375	84.0%
7/2		U	1:5	N/A	C1:J		1	41	-	1108	1965	1375	80.6%
8/1	Ahead	U	1:3	N/A	C1:F		1	32	-	165	1900	1045	15.8%
8/2	Ahead	U	1:3	N/A	C1:F		1	32	-	251	1900	1045	24.0%
8/3	Right	U	1:3	N/A	C1:F		1	32	-	227	1900	1045	21.7%
9/1	Ahead	U	N/A	N/A	-		-	-	-	517	Inf	Inf	0.0%
9/2	Ahead	U	N/A	N/A	-		-	-	-	283	Inf	Inf	0.0%

Full Input Data And Results

10/1	Ahead	U	1:4	N/A	C1:I		1	31	-	693	1900	1013	68.4%
10/2	Ahead	U	1:4	N/A	C1:I		1	31	-	418	1900	1013	41.3%
10/3	Right	U	1:4	N/A	C1:I		1	31	-	249	1900	1013	24.6%
11/1	Ahead	U	1:1	N/A	C1:B		1	24	-	782	1900	792	98.8%
11/2	Right	U	1:1	N/A	C1:B		1	24	-	160	1900	792	20.2%
11/3	Right	U	1:1	N/A	C1:B		1	24	-	368	1900	792	46.5%
12/1		U	N/A	N/A	-		-	-	-	760	Inf	Inf	0.0%
12/2		U	N/A	N/A	-		-	-	-	418	Inf	Inf	0.0%
J2: Site Access	-	-	N/A	-	-		-	-	-	-	-	-	62.5%
1/1	Willen Road Left Ahead	U	N/A	N/A	C2:A		2	172	-	517	1980	1436	36.0%
1/2+1/3	Willen Road Right Ahead	U	N/A	N/A	C2:A C2:B		2	172:14	-	283	1980:1972	1351+131	19.1 : 19.1%
2/1	Willen Road South Ahead Left	U	N/A	N/A	C2:C		2	161	-	564	1972	1339	42.1%
2/2	Willen Road South Ahead Right	O	N/A	N/A	C2:C		2	161	-	548	1980	1345	40.8%
3/1	Site Access Left Right	O	N/A	N/A	C2:D		2	29	-	126	1786	201	62.5%
4/1	Ahead	U	N/A	N/A	-		-	-	-	602	Inf	Inf	0.0%
4/2	Ahead	U	N/A	N/A	-		-	-	-	526	Inf	Inf	0.0%
5/1		U	N/A	N/A	-		-	-	-	48	Inf	Inf	0.0%
6/1	Left	U	N/A	N/A	C2:J		2	25	-	44	1940	218	20.2%
6/2	Right	O	N/A	N/A	C2:J		2	25	-	50	1940	118	42.3%
7/1		U	N/A	N/A	-		-	-	-	159	Inf	Inf	0.0%
J3: Southern Access	-	-	N/A	-	-		-	-	-	-	-	-	62.6%
1/1		U	N/A	N/A	-		-	-	-	84	Inf	Inf	0.0%
2/1	Left	U	N/A	N/A	C3:B		2	14	-	33	1809	121	27.4%
2/2	Right	U	N/A	N/A	C3:B		2	14	-	19	1809	121	15.8%
3/1+3/2	Ahead Right	U+O	N/A	N/A	C3:C		2	179	-	1149	1965:1951	885+951	62.6 : 62.6%

Full Input Data And Results

4/1	Ahead	U	N/A	N/A	-	-	-	-	544	Inf	Inf	0.0%
4/2	Ahead	O	N/A	N/A	-	-	-	-	258	Inf	820	31.5%
5/1	Left Ahead	U	N/A	N/A	C3:A	2	179	-	539	1957	1476	36.5%
5/2	Ahead	U	N/A	N/A	C3:A	2	179	-	258	1965	1482	17.4%
6/1		U	N/A	N/A	-	-	-	-	802	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: A422 Marsh End / Willen Road / Site Access Proposed Layout	-	-	480	9	12	48.0	40.3	0.3	88.5	-	-	-	-
J1: A422/Willen Road	-	-	0	0	0	38.6	36.1	0.0	74.8	-	-	-	-
1/2+1/1	492	492	-	-	-	3.0	0.9	-	3.9 (1.9+2.0)	28.5 (28.4:28.7)	3.8	0.9	4.7
1/3	226	226	-	-	-	1.4	0.7	-	2.0	32.5	3.4	0.7	4.1
2/2+2/1	967	967	-	-	-	5.1	4.9	-	10.0 (6.6+3.4)	37.3 (38.4:35.2)	10.1	4.9	14.9
2/3	550	550	-	-	-	3.0	3.3	-	6.3	40.9	8.6	3.3	11.8
3/1	602	602	-	-	-	3.2	4.7	-	8.0	47.6	9.5	4.7	14.3
3/2+3/3	526	526	-	-	-	2.3	0.6	-	2.9 (0.8+2.1)	20.1 (18.8:20.6)	5.0	0.6	5.6
4/2+4/1	1341	1341	-	-	-	5.4	7.2	-	12.7 (8.2+4.4)	34.0 (35.2:31.8)	13.3	7.2	20.6
4/3	818	818	-	-	-	3.5	4.9	-	8.4	37.2	12.7	4.9	17.7
5/1	1281	1281	-	-	-	4.6	4.3	-	8.9	24.9	20.7	4.3	24.9
6/1	1002	1002	-	-	-	0.4	0.0	-	0.4	1.5	2.5	0.0	2.5
6/2	1186	1186	-	-	-	0.9	0.0	-	0.9	2.8	6.1	0.0	6.1
7/1	1155	1155	-	-	-	1.1	2.6	-	3.6	11.3	7.0	2.6	9.5
7/2	1108	1108	-	-	-	0.4	2.0	-	2.4	7.9	1.4	2.0	3.4
8/1	165	165	-	-	-	0.3	0.0	-	0.3	5.9	1.0	0.0	1.0
8/2	251	251	-	-	-	0.0	0.0	-	0.0	0.6	0.1	0.0	0.1
8/3	227	227	-	-	-	0.0	0.0	-	0.0	0.1	0.1	0.0	0.1
9/1	517	517	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
9/2	283	283	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
10/1	693	693	-	-	-	0.8	0.0	-	0.8	3.9	2.2	0.0	2.2
10/2	418	418	-	-	-	0.7	0.0	-	0.7	5.7	2.0	0.0	2.0

Full Input Data And Results

10/3	249	249	-	-	-	0.0	0.0	-	0.0	0.5	0.1	0.0	0.1
11/1	782	782	-	-	-	2.0	0.0	-	2.0	9.3	6.2	0.0	6.2
11/2	160	160	-	-	-	0.1	0.0	-	0.1	3.3	0.3	0.0	0.3
11/3	368	368	-	-	-	0.4	0.0	-	0.4	3.4	0.6	0.0	0.6
12/1	760	760	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
12/2	418	418	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
J2: Site Access	-	-	166	9	12	6.0	2.4	0.2	8.6	-	-	-	-
1/1	517	517	-	-	-	1.0	0.3	-	1.2	8.7	8.3	0.3	8.6
1/2+1/3	283	283	-	-	-	0.8	0.1	-	0.9 (0.5+0.4)	11.4 (7.2:54.7)	3.5	0.1	3.6
2/1	564	564	-	-	-	0.6	0.4	-	1.0	6.4	4.0	0.4	4.4
2/2	548	548	65	9	0	0.6	0.3	0.1	1.0	6.7	3.9	0.3	4.2
3/1	126	126	51	0	12	1.7	0.8	0.1	2.6	75.4	4.1	0.8	4.9
4/1	602	602	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/2	526	526	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	48	48	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	44	44	-	-	-	0.6	0.1	-	0.7	58.7	1.4	0.1	1.5
6/2	50	50	50	0	0	0.7	0.4	0.0	1.1	78.1	1.5	0.4	1.9
7/1	159	159	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
J3: Southern Access	-	-	314	0	0	3.4	1.7	0.0	5.2	-	-	-	-
1/1	84	84	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
2/1	33	33	-	-	-	0.5	0.2	-	0.7	75.3	1.2	0.2	1.4
2/2	19	19	-	-	-	0.3	0.1	-	0.4	72.1	0.7	0.1	0.8
3/1+3/2	1149	1149	56	0	0	1.7	0.8	0.0	2.6 (1.2+1.4)	8.2 (8.0:8.4)	8.8	0.8	9.6
4/1	544	544	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/2	258	258	258	0	0	0.0	0.2	-	0.2	3.2	1.7	0.2	1.9
5/1	539	539	-	-	-	0.6	0.3	-	0.9	5.7	6.0	0.3	6.3
5/2	258	258	-	-	-	0.3	0.1	-	0.4	5.6	2.2	0.1	2.4
6/1	802	802	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

Full Input Data And Results

C1	Stream: 1	PRC for Signalled Lanes (%)	-9.8	Total Delay for Signalled Lanes (pcuHr)	23.61	Cycle Time (s)	60
C1	Stream: 2	PRC for Signalled Lanes (%)	-4.0	Total Delay for Signalled Lanes (pcuHr)	7.30	Cycle Time (s)	60
C1	Stream: 3	PRC for Signalled Lanes (%)	-9.1	Total Delay for Signalled Lanes (pcuHr)	16.58	Cycle Time (s)	60
C1	Stream: 4	PRC for Signalled Lanes (%)	-2.0	Total Delay for Signalled Lanes (pcuHr)	12.33	Cycle Time (s)	60
C1	Stream: 5	PRC for Signalled Lanes (%)	7.2	Total Delay for Signalled Lanes (pcuHr)	6.06	Cycle Time (s)	60
C1	Stream: 6	PRC for Signalled Lanes (%)	-0.0	Total Delay for Signalled Lanes (pcuHr)	8.87	Cycle Time (s)	60
C2		PRC for Signalled Lanes (%)	43.9	Total Delay for Signalled Lanes (pcuHr)	8.60	Cycle Time (s)	240
C3		PRC for Signalled Lanes (%)	43.8	Total Delay for Signalled Lanes (pcuHr)	4.95	Cycle Time (s)	240
		PRC Over All Lanes (%)	-9.8	Total Delay Over All Lanes(pcuHr)	88.53		

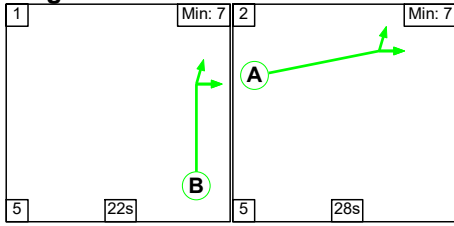
Full Input Data And Results

Scenario 5: '2033 Base + Committed + Dev (10%) AM' (FG5: '2033 Base + Committed + Dev (10%) AM', Plan 1: 'Network Control Plan 1')

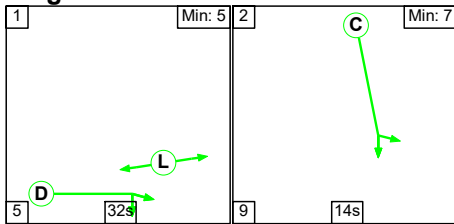
C1

Stage Sequence Diagram

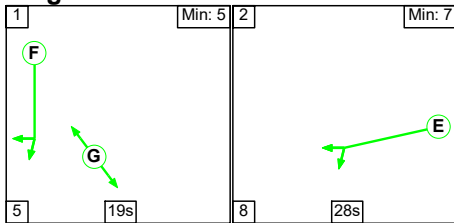
Stage Stream: 1



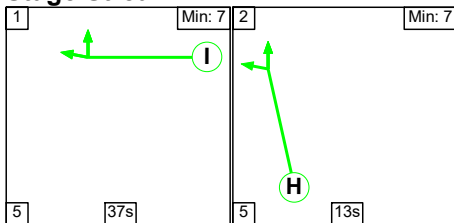
Stage Stream: 2



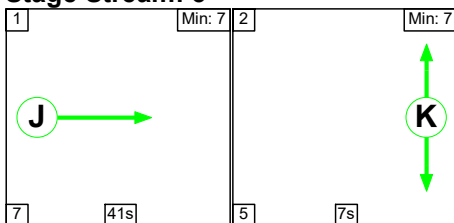
Stage Stream: 3



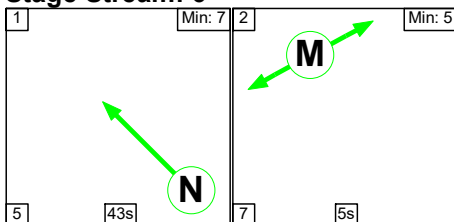
Stage Stream: 4



Stage Stream: 5



Stage Stream: 6



Full Input Data And Results

Stage Timings

Stage Stream: 1

Stage	1	2
Duration	22	28
Change Point	29	56

Stage Stream: 2

Stage	1	2
Duration	32	14
Change Point	3	40

Stage Stream: 3

Stage	1	2
Duration	19	28
Change Point	31	55

Stage Stream: 4

Stage	1	2
Duration	37	13
Change Point	47	29

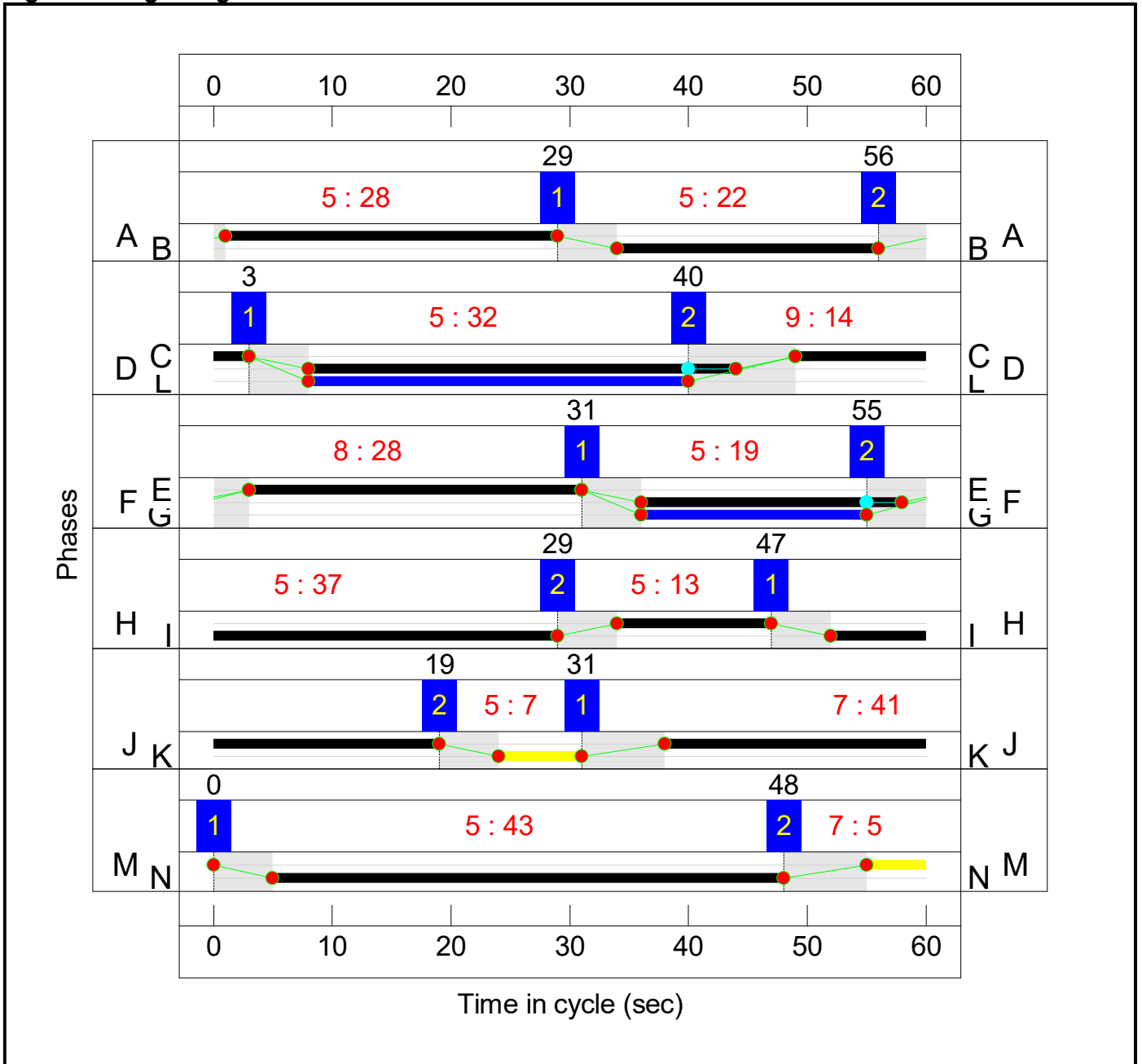
Stage Stream: 5

Stage	1	2
Duration	41	7
Change Point	31	19

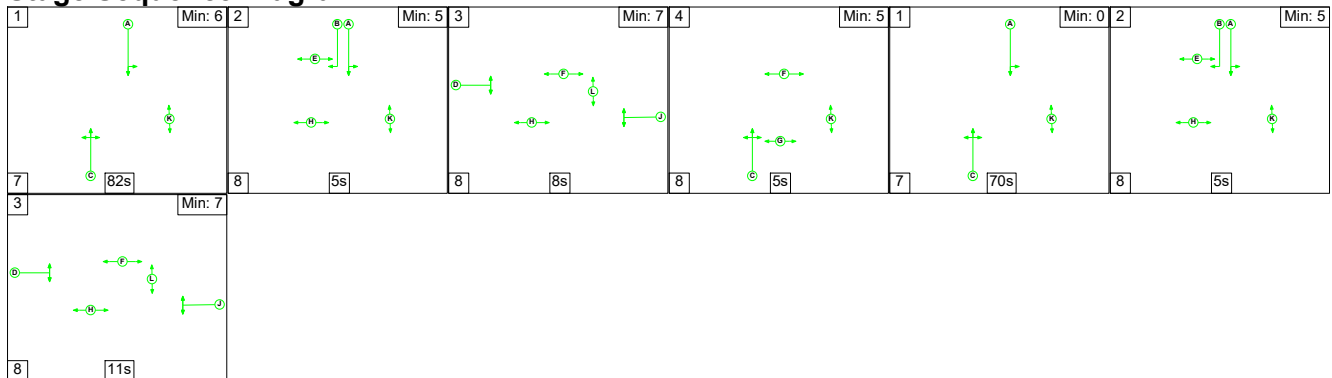
Stage Stream: 6

Stage	1	2
Duration	43	5
Change Point	0	48

Signal Timings Diagram



C2 Stage Sequence Diagram

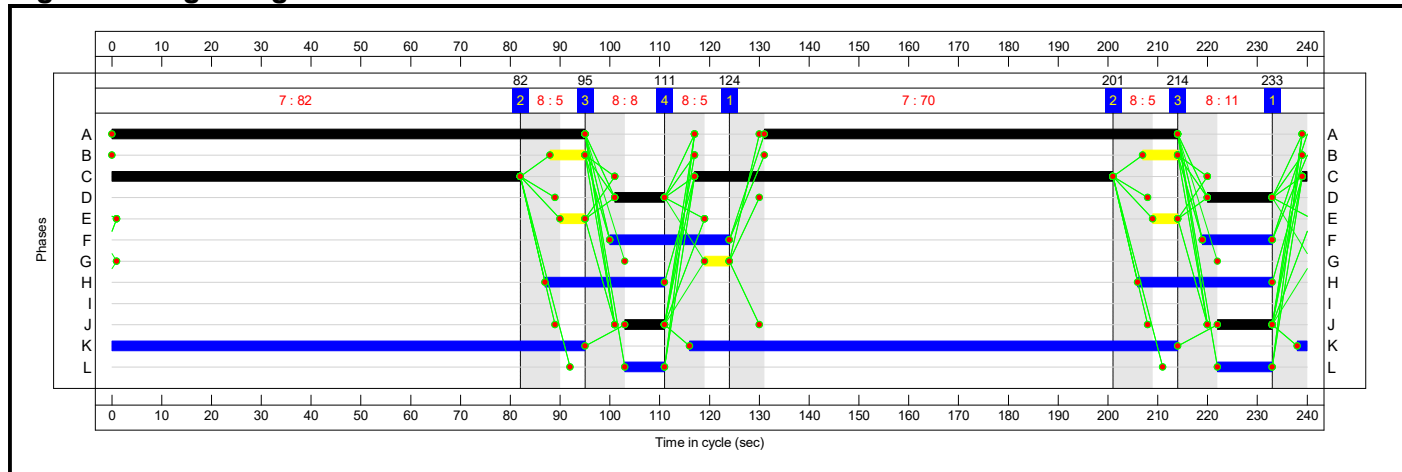


Full Input Data And Results

Stage Timings

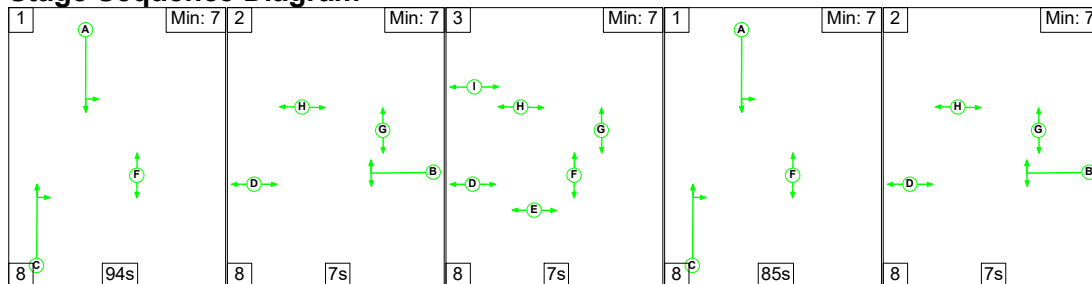
Stage	1	2	3	4	1	2	3
Duration	82	5	8	5	70	5	11
Change Point	233	82	95	111	124	201	214

Signal Timings Diagram



C3

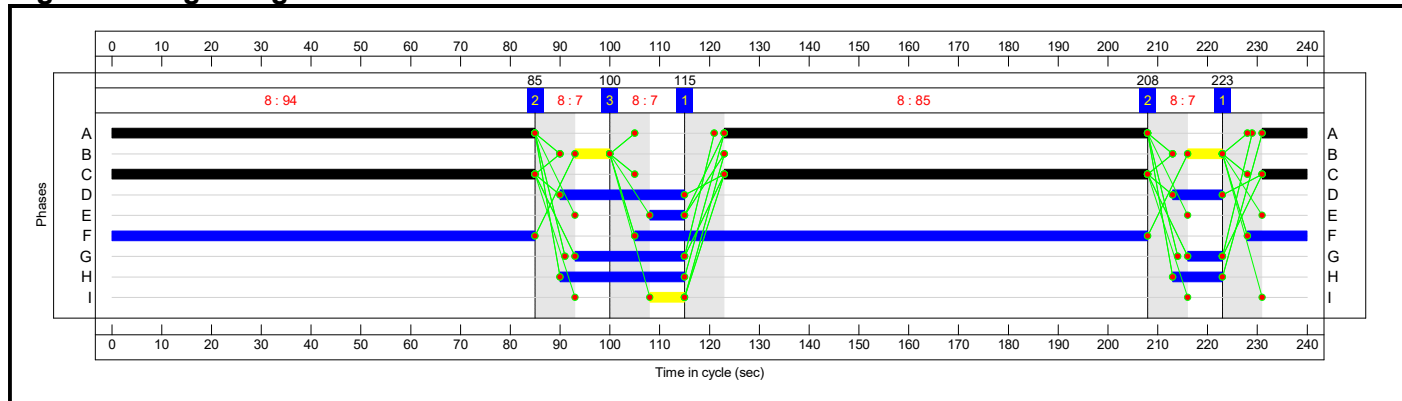
Stage Sequence Diagram



Stage Timings

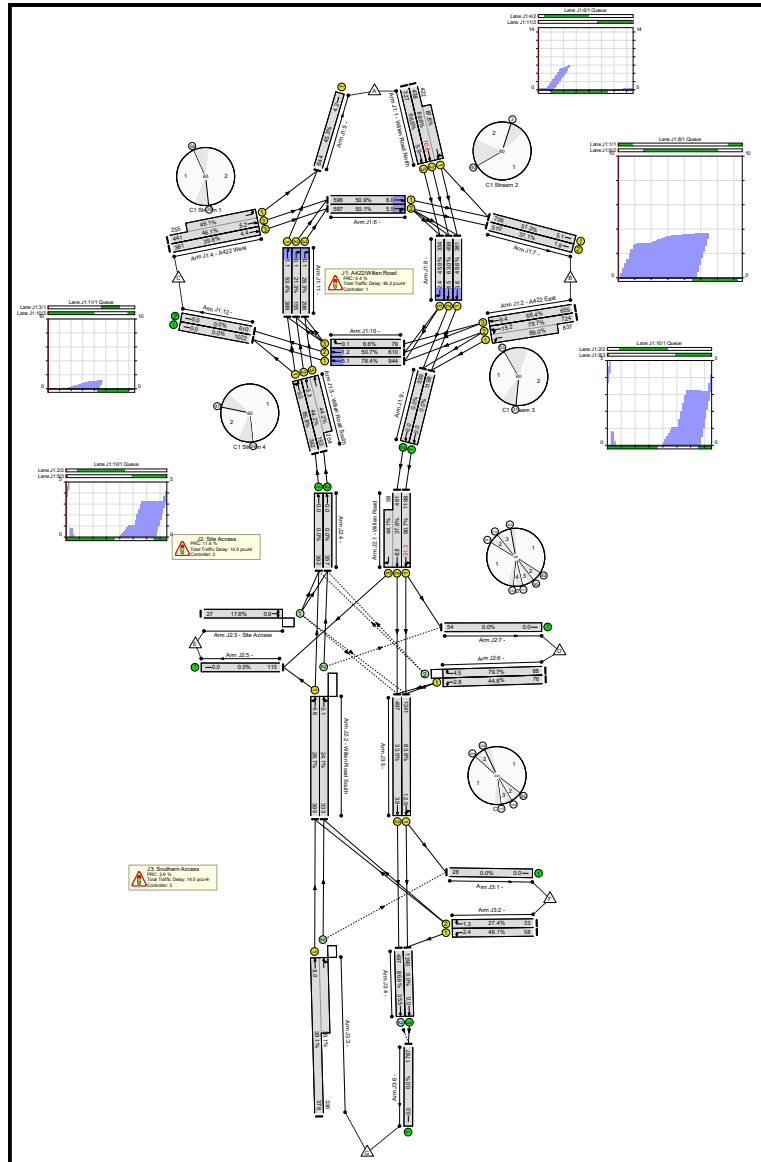
Stage	1	2	3	1	2
Duration	94	7	7	85	7
Change Point	223	85	100	115	208

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: A422 Marsh End / Willen Road / Site Access Proposed Layout	-	-	N/A	-	-		-	-	-	-	-	-	89.6%
J1: A422/Willen Road	-	-	N/A	-	-		-	-	-	-	-	-	89.6%
1/2+1/1	Willen Road North Left Ahead	U	1:2	N/A	C1:C		1	14	-	860	1955:1922	489+480	89.6 : 87.8%
1/3	Willen Road North Ahead	U	1:2	N/A	C1:C		1	14	-	327	1955	489	66.9%
2/2+2/1	A422 East Left Ahead	U	1:3	N/A	C1:E		1	28	-	1561	1976:1945	909+940	79.7 : 89.0%
2/3	A422 East Ahead	U	1:3	N/A	C1:E		1	28	-	655	1980	957	68.4%
3/1	Willen Road South Ahead Left	U	1:4	N/A	C1:H		1	13	-	392	1959	457	85.8%
3/2+3/3	Willen Road South Ahead	U	1:4	N/A	C1:H		1	13	-	357	1980:1980	347+462	44.2 : 44.2%
4/2+4/1	A422 West Left Ahead	U	1:1	N/A	C1:A		1	28	-	696	1980:1888	957+553	46.1 : 46.1%
4/3	A422 West Ahead	U	1:1	N/A	C1:A		1	28	-	381	1980	957	39.8%
5/1		U	1:6	N/A	C1:N		1	43	-	644	1940	1423	45.3%
6/1	Ahead	U	1:2	N/A	C1:D		1	36	-	596	1900	1172	50.9%
6/2	Ahead Right	U	1:2	N/A	C1:D		1	36	-	587	1900	1172	50.1%
7/1		U	1:5	N/A	C1:J		1	41	-	706	1965	1375	51.3%
7/2		U	1:5	N/A	C1:J		1	41	-	510	1965	1375	37.1%
8/1	Ahead	U	1:3	N/A	C1:F		1	22	-	361	1900	728	49.6%
8/2	Ahead	U	1:3	N/A	C1:F		1	22	-	459	1900	728	63.0%
8/3	Right	U	1:3	N/A	C1:F		1	22	-	334	1900	728	45.9%
9/1	Ahead	U	N/A	N/A	-		-	-	-	1198	Inf	Inf	0.0%
9/2	Ahead	U	N/A	N/A	-		-	-	-	539	Inf	Inf	0.0%

Full Input Data And Results

10/1	Ahead	U	1:4	N/A	C1:I		1	37	-	944	1900	1203	78.4%
10/2	Ahead	U	1:4	N/A	C1:I		1	37	-	610	1900	1203	50.7%
10/3	Right	U	1:4	N/A	C1:I		1	37	-	79	1900	1203	6.6%
11/1	Ahead	U	1:1	N/A	C1:B		1	22	-	389	1900	728	53.4%
11/2	Right	U	1:1	N/A	C1:B		1	22	-	155	1900	728	21.3%
11/3	Right	U	1:1	N/A	C1:B		1	22	-	206	1900	728	28.3%
12/1		U	N/A	N/A	-		-	-	-	1022	Inf	Inf	0.0%
12/2		U	N/A	N/A	-		-	-	-	610	Inf	Inf	0.0%
J2: Site Access	-	-	N/A	-	-		-	-	-	-	-	-	80.7%
1/1	Willen Road Left Ahead	U	N/A	N/A	C2:A		2	178	-	1198	1980	1485	80.7%
1/2+1/3	Willen Road Right Ahead	U	N/A	N/A	C2:A C2:B		2	178:14	-	539	1980:1972	1272+131	37.8 : 44.1%
2/1	Willen Road South Ahead Left	U	N/A	N/A	C2:C		2	167	-	395	1952	1375	28.7%
2/2	Willen Road South Ahead Right	O	N/A	N/A	C2:C		2	167	-	333	1980	1383	24.1%
3/1	Site Access Left Right	O	N/A	N/A	C2:D		2	23	-	27	1782	154	17.6%
4/1	Ahead	U	N/A	N/A	-		-	-	-	392	Inf	Inf	0.0%
4/2	Ahead	U	N/A	N/A	-		-	-	-	357	Inf	Inf	0.0%
5/1		U	N/A	N/A	-		-	-	-	115	Inf	Inf	0.0%
6/1	Left	U	N/A	N/A	C2:J		2	19	-	76	1940	170	44.8%
6/2	Right	O	N/A	N/A	C2:J		2	19	-	88	1940	110	79.7%
7/1		U	N/A	N/A	-		-	-	-	54	Inf	Inf	0.0%
J3: Southern Access	-	-	N/A	-	-		-	-	-	-	-	-	86.6%
1/1		U	N/A	N/A	-		-	-	-	28	Inf	Inf	0.0%
2/1	Left	U	N/A	N/A	C3:B		2	14	-	58	1809	121	48.1%
2/2	Right	U	N/A	N/A	C3:B		2	14	-	33	1809	121	27.4%
3/1+3/2	Ahead Right	U+O	N/A	N/A	C3:C		2	179	-	714	1965:1957	966+858	39.1 : 39.1%

Full Input Data And Results

4/1	Ahead	U	N/A	N/A	-	-	-	-	1290	Inf	Inf	0.0%
4/2	Ahead	O	N/A	N/A	-	-	-	-	497	Inf	574	86.6%
5/1	Left Ahead	U	N/A	N/A	C3:A	2	179	-	1241	1964	1481	83.8%
5/2	Ahead	U	N/A	N/A	C3:A	2	179	-	497	1965	1482	33.5%
6/1		U	N/A	N/A	-	-	-	-	1787	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: A422 Marsh End / Willen Road / Site Access Proposed Layout	-	-	575	2	65	48.3	25.3	0.7	74.3	-	-	-	-
J1: A422/Willen Road	-	-	0	0	0	32.7	13.6	0.0	46.3	-	-	-	-
1/2+1/1	860	860	-	-	-	5.2	3.7	-	8.9 (4.5+4.3)	37.1 (37.2:37.1)	6.9	3.7	10.6
1/3	327	327	-	-	-	1.8	1.0	-	2.8	31.3	4.9	1.0	5.9
2/2+2/1	1561	1561	-	-	-	5.8	2.7	-	8.5 (3.8+4.7)	19.5 (18.8:20.2)	12.6	2.7	15.2
2/3	655	655	-	-	-	2.2	1.1	-	3.3	17.9	8.4	1.1	9.4
3/1	392	392	-	-	-	2.4	2.8	-	5.2	47.5	6.2	2.8	9.0
3/2+3/3	357	357	-	-	-	1.9	0.4	-	2.3 (1.0+1.3)	23.4 (23.1:23.7)	2.9	0.4	3.3
4/2+4/1	696	696	-	-	-	1.9	0.4	-	2.3 (1.5+0.8)	12.1 (12.5:11.5)	4.8	0.4	5.2
4/3	381	381	-	-	-	1.1	0.3	-	1.4	13.0	4.0	0.3	4.4
5/1	644	644	-	-	-	0.4	0.4	-	0.8	4.6	3.8	0.4	4.2
6/1	596	596	-	-	-	0.6	0.0	-	0.6	3.4	6.0	0.0	6.0
6/2	587	587	-	-	-	0.7	0.0	-	0.7	4.2	5.5	0.0	5.5
7/1	706	706	-	-	-	0.6	0.5	-	1.1	5.8	4.6	0.5	5.1
7/2	510	510	-	-	-	0.3	0.3	-	0.6	4.3	1.5	0.3	1.8
8/1	361	361	-	-	-	2.0	0.0	-	2.0	19.8	3.6	0.0	3.6
8/2	459	459	-	-	-	2.7	0.0	-	2.7	21.2	4.5	0.0	4.5
8/3	334	334	-	-	-	1.4	0.0	-	1.4	15.5	2.4	0.0	2.4
9/1	1198	1198	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
9/2	539	539	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
10/1	944	944	-	-	-	1.0	0.0	-	1.0	3.7	5.1	0.0	5.1
10/2	610	610	-	-	-	0.4	0.0	-	0.4	2.2	1.2	0.0	1.2

Full Input Data And Results

10/3	79	79	-	-	-	0.0	0.0	-	0.0	1.9	0.1	0.0	0.1
11/1	389	389	-	-	-	0.3	0.0	-	0.3	2.7	1.1	0.0	1.1
11/2	155	155	-	-	-	0.0	0.0	-	0.0	0.2	0.1	0.0	0.1
11/3	206	206	-	-	-	0.0	0.0	-	0.0	0.2	0.1	0.0	0.1
12/1	1022	1022	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
12/2	610	610	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
J2: Site Access	-	-	74	2	49	8.5	4.9	0.5	14.0	-	-	-	-
1/1	1198	1198	-	-	-	3.2	2.1	-	5.3	15.9	29.3	2.1	31.3
1/2+1/3	539	539	-	-	-	1.5	0.3	-	1.9 (1.0+0.9)	12.4 (7.2:56.0)	6.1	0.3	6.5
2/1	395	395	-	-	-	0.5	0.2	-	0.7	6.6	4.4	0.2	4.6
2/2	333	333	0	2	23	0.4	0.2	0.4	1.0	10.6	2.9	0.2	3.1
3/1	27	27	12	0	0	0.4	0.1	0.0	0.5	66.1	0.8	0.1	0.9
4/1	392	392	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/2	357	357	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	115	115	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	76	76	-	-	-	1.1	0.4	-	1.5	71.1	2.4	0.4	2.8
6/2	88	88	62	0	26	1.3	1.7	0.1	3.1	126.6	2.8	1.7	4.5
7/1	54	54	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
J3: Southern Access	-	-	500	0	16	7.1	6.7	0.2	14.0	-	-	-	-
1/1	28	28	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
2/1	58	58	-	-	-	0.9	0.5	-	1.3	82.4	1.9	0.5	2.4
2/2	33	33	-	-	-	0.5	0.2	-	0.7	73.8	1.1	0.2	1.3
3/1+3/2	714	714	3	0	16	0.9	0.3	0.2	1.5 (0.7+0.8)	7.5 (6.4:8.7)	4.7	0.3	5.0
4/1	1290	1290	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/2	497	497	497	0	0	2.5	3.0	-	5.5	39.7	32.5	3.0	35.5
5/1	1241	1241	-	-	-	1.7	2.5	-	4.3	12.4	10.0	2.5	12.5
5/2	497	497	-	-	-	0.5	0.3	-	0.8	5.7	3.6	0.3	3.9
6/1	1787	1787	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

Full Input Data And Results

C1	Stream: 1 PRC for Signalled Lanes (%):	68.5	Total Delay for Signalled Lanes (pcuHr):	4.05	Cycle Time (s):	60
C1	Stream: 2 PRC for Signalled Lanes (%):	0.4	Total Delay for Signalled Lanes (pcuHr):	12.94	Cycle Time (s):	60
C1	Stream: 3 PRC for Signalled Lanes (%):	1.1	Total Delay for Signalled Lanes (pcuHr):	17.86	Cycle Time (s):	60
C1	Stream: 4 PRC for Signalled Lanes (%):	4.9	Total Delay for Signalled Lanes (pcuHr):	8.89	Cycle Time (s):	60
C1	Stream: 5 PRC for Signalled Lanes (%):	75.3	Total Delay for Signalled Lanes (pcuHr):	1.75	Cycle Time (s):	60
C1	Stream: 6 PRC for Signalled Lanes (%):	98.8	Total Delay for Signalled Lanes (pcuHr):	0.83	Cycle Time (s):	60
C2	PRC for Signalled Lanes (%):	11.6	Total Delay for Signalled Lanes (pcuHr):	13.95	Cycle Time (s):	240
C3	PRC for Signalled Lanes (%):	7.4	Total Delay for Signalled Lanes (pcuHr):	8.55	Cycle Time (s):	240
	PRC Over All Lanes (%):	0.4	Total Delay Over All Lanes(pcuHr):	74.29		

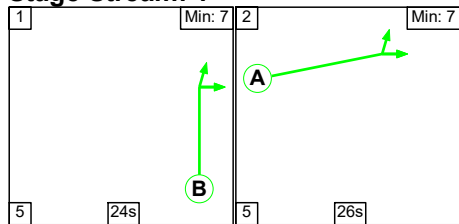
Full Input Data And Results

Scenario 6: '2033 Base + Committed + Dev (10%) PM' (FG6: '2033 Base + Committed + Dev (10%) PM', Plan 1: 'Network Control Plan 1')

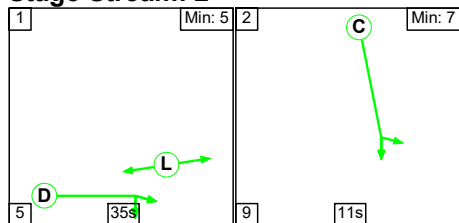
C1

Stage Sequence Diagram

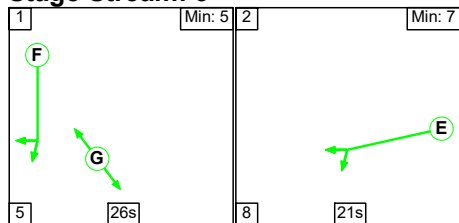
Stage Stream: 1



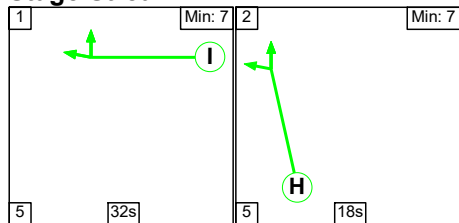
Stage Stream: 2



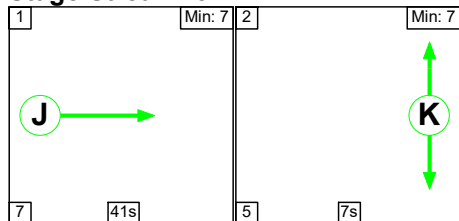
Stage Stream: 3



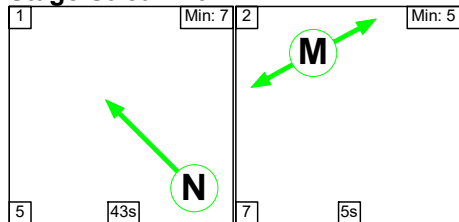
Stage Stream: 4



Stage Stream: 5



Stage Stream: 6



Full Input Data And Results

Stage Timings

Stage Stream: 1

Stage	1	2
Duration	24	26
Change Point	46	15

Stage Stream: 2

Stage	1	2
Duration	35	11
Change Point	10	50

Stage Stream: 3

Stage	1	2
Duration	26	21
Change Point	52	23

Stage Stream: 4

Stage	1	2
Duration	32	18
Change Point	19	56

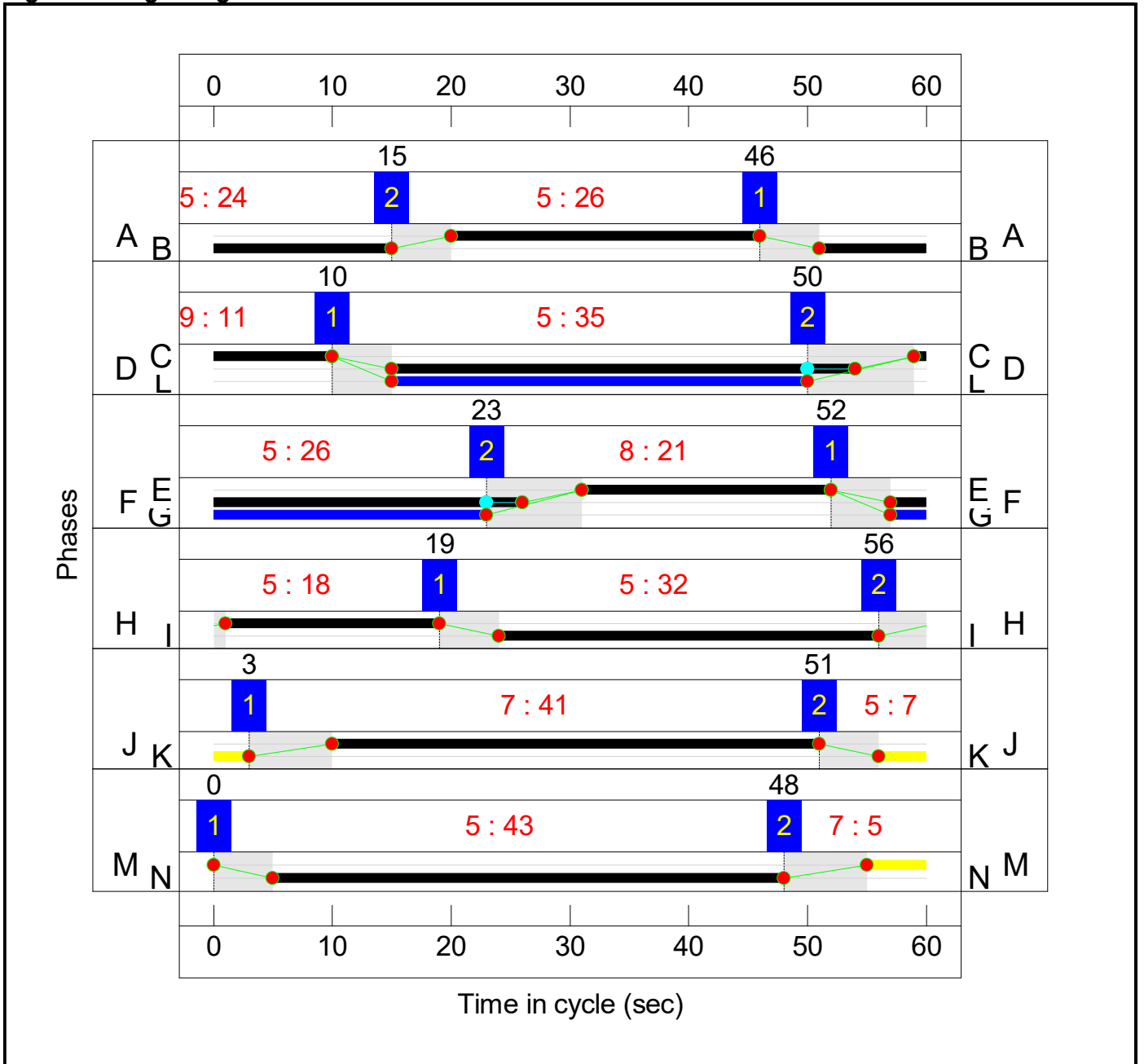
Stage Stream: 5

Stage	1	2
Duration	41	7
Change Point	3	51

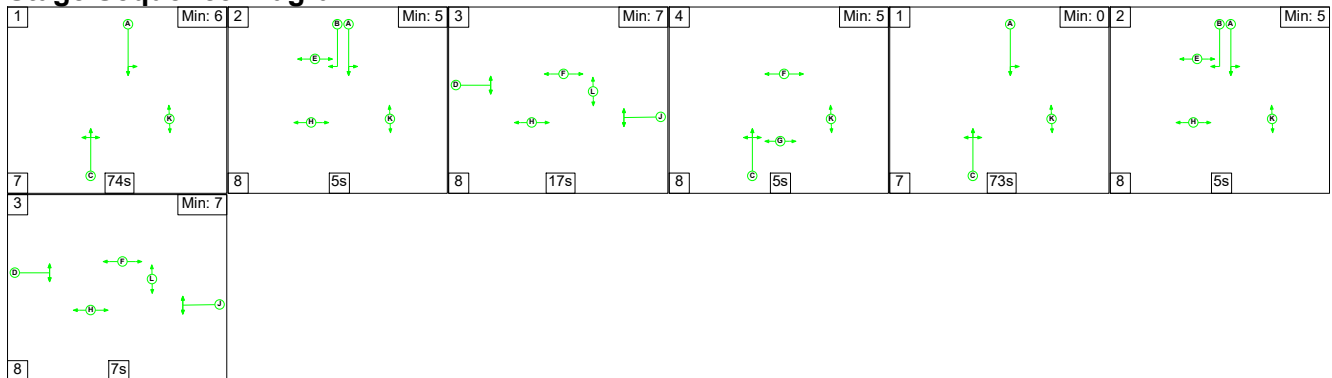
Stage Stream: 6

Stage	1	2
Duration	43	5
Change Point	0	48

Signal Timings Diagram



C2 Stage Sequence Diagram

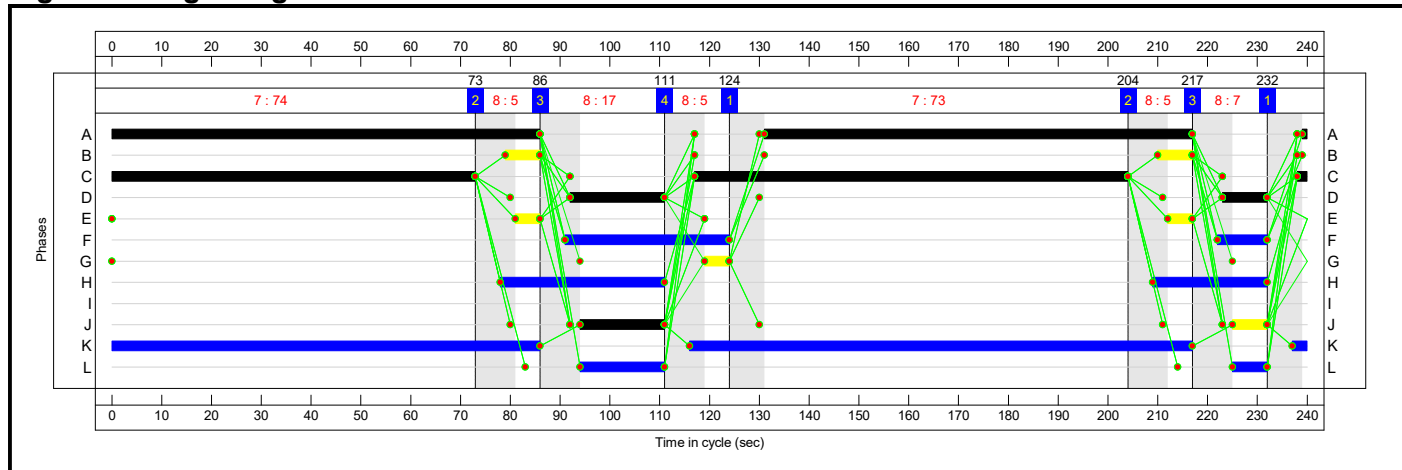


Full Input Data And Results

Stage Timings

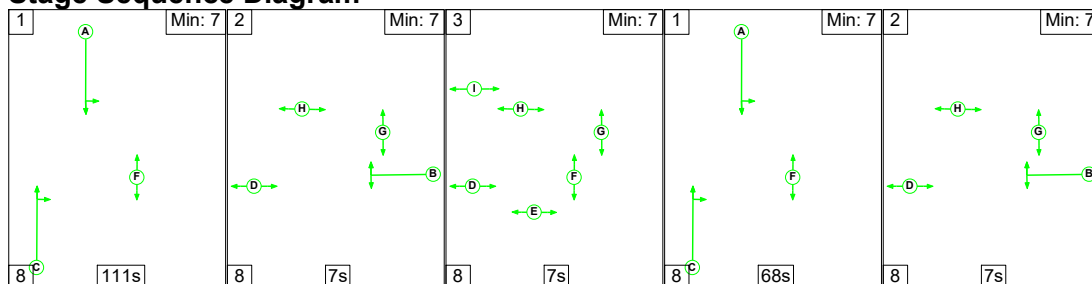
Stage	1	2	3	4	1	2	3
Duration	74	5	17	5	73	5	7
Change Point	232	73	86	111	124	204	217

Signal Timings Diagram



C3

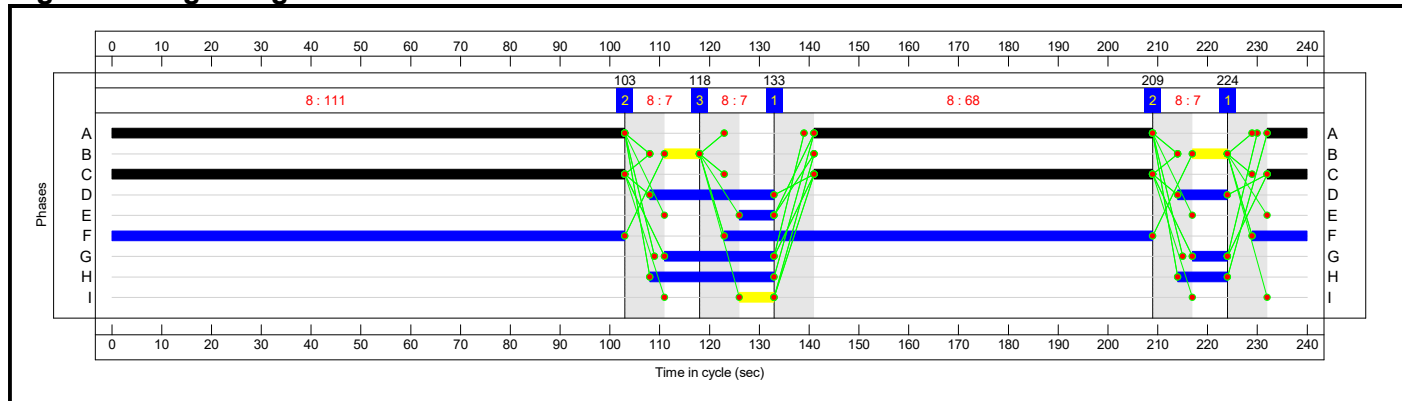
Stage Sequence Diagram



Stage Timings

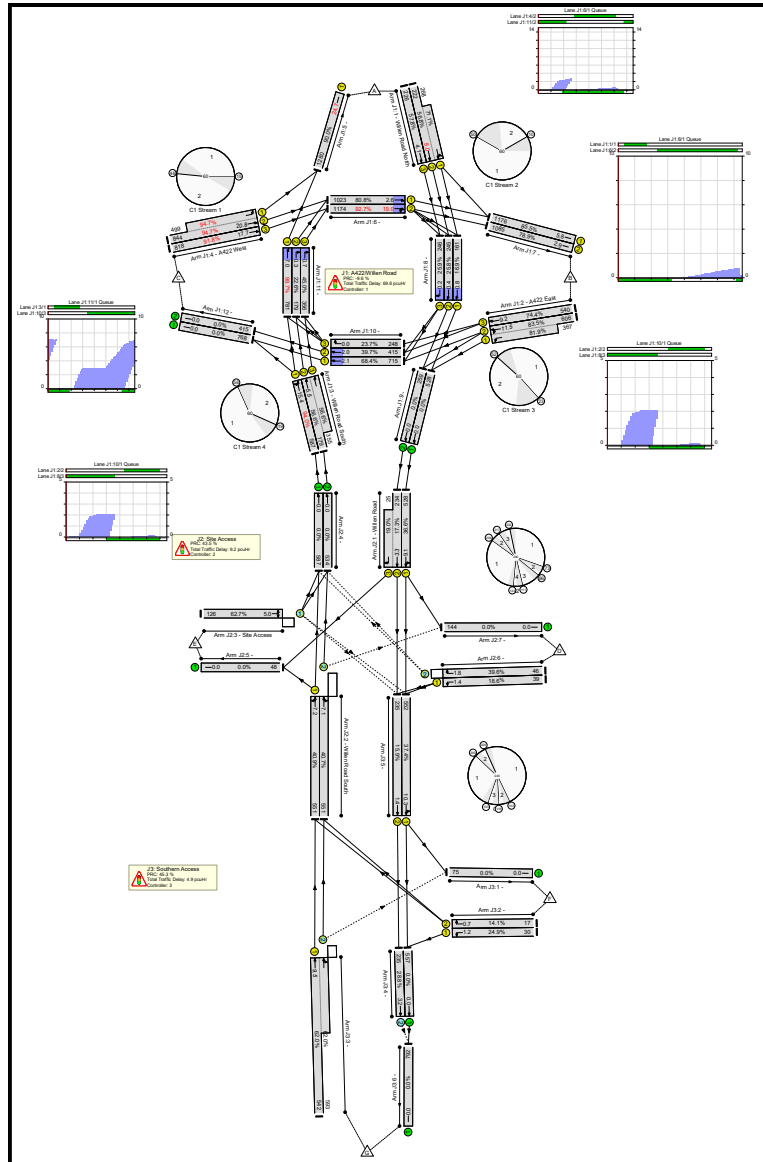
Stage	1	2	3	1	2
Duration	111	7	7	68	7
Change Point	224	103	118	133	209

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: A422 Marsh End / Willen Road / Site Access Proposed Layout	-	-	N/A	-	-		-	-	-	-	-	-	98.7%
J1: A422/Willen Road	-	-	N/A	-	-		-	-	-	-	-	-	98.7%
1/2+1/1	Willen Road North Left Ahead	U	1:2	N/A	C1:C		1	11	-	490	1955:1885	391+377	56.8 : 71.1%
1/3	Willen Road North Ahead	U	1:2	N/A	C1:C		1	11	-	226	1955	391	57.8%
2/2+2/1	A422 East Left Ahead	U	1:3	N/A	C1:E		1	21	-	973	1979:1945	726+448	83.5 : 81.9%
2/3	A422 East Ahead	U	1:3	N/A	C1:E		1	21	-	540	1980	726	74.4%
3/1	Willen Road South Ahead Left	U	1:4	N/A	C1:H		1	18	-	587	1971	624	94.0%
3/2+3/3	Willen Road South Ahead	U	1:4	N/A	C1:H		1	18	-	534	1980:1980	316+627	56.6 : 56.6%
4/2+4/1	A422 West Left Ahead	U	1:1	N/A	C1:A		1	26	-	1343	1980:1888	891+527	94.7 : 94.7%
4/3	A422 West Ahead	U	1:1	N/A	C1:A		1	26	-	818	1980	891	91.8%
5/1		U	1:6	N/A	C1:N		1	43	-	1280	1940	1423	90.0%
6/1	Ahead	U	1:2	N/A	C1:D		1	39	-	1023	1900	1267	80.8%
6/2	Ahead Right	U	1:2	N/A	C1:D		1	39	-	1174	1900	1267	92.7%
7/1		U	1:5	N/A	C1:J		1	41	-	1176	1965	1375	85.5%
7/2		U	1:5	N/A	C1:J		1	41	-	1085	1965	1375	78.9%
8/1	Ahead	U	1:3	N/A	C1:F		1	29	-	161	1900	950	16.9%
8/2	Ahead	U	1:3	N/A	C1:F		1	29	-	245	1900	950	25.8%
8/3	Right	U	1:3	N/A	C1:F		1	29	-	246	1900	950	25.9%
9/1	Ahead	U	N/A	N/A	-		-	-	-	528	Inf	Inf	0.0%
9/2	Ahead	U	N/A	N/A	-		-	-	-	259	Inf	Inf	0.0%

Full Input Data And Results

10/1	Ahead	U	1:4	N/A	C1:I		1	32	-	715	1900	1045	68.4%
10/2	Ahead	U	1:4	N/A	C1:I		1	32	-	415	1900	1045	39.7%
10/3	Right	U	1:4	N/A	C1:I		1	32	-	248	1900	1045	23.7%
11/1	Ahead	U	1:1	N/A	C1:B		1	24	-	781	1900	792	98.7%
11/2	Right	U	1:1	N/A	C1:B		1	24	-	179	1900	792	22.6%
11/3	Right	U	1:1	N/A	C1:B		1	24	-	356	1900	792	45.0%
12/1		U	N/A	N/A	-		-	-	-	768	Inf	Inf	0.0%
12/2		U	N/A	N/A	-		-	-	-	415	Inf	Inf	0.0%
J2: Site Access	-	-	N/A	-	-		-	-	-	-	-	-	62.7%
1/1	Willen Road Left Ahead	U	N/A	N/A	C2:A		2	173	-	528	1980	1444	36.6%
1/2+1/3	Willen Road Right Ahead	U	N/A	N/A	C2:A C2:B		2	173:14	-	259	1980:1972	1349+131	17.3 : 19.0%
2/1	Willen Road South Ahead Left	U	N/A	N/A	C2:C		2	162	-	551	1972	1348	40.9%
2/2	Willen Road South Ahead Right	O	N/A	N/A	C2:C		2	162	-	551	1980	1353	40.7%
3/1	Site Access Left Right	O	N/A	N/A	C2:D		2	28	-	126	1786	201	62.7%
4/1	Ahead	U	N/A	N/A	-		-	-	-	587	Inf	Inf	0.0%
4/2	Ahead	U	N/A	N/A	-		-	-	-	534	Inf	Inf	0.0%
5/1		U	N/A	N/A	-		-	-	-	48	Inf	Inf	0.0%
6/1	Left	U	N/A	N/A	C2:J		2	24	-	39	1940	210	18.6%
6/2	Right	O	N/A	N/A	C2:J		2	24	-	46	1940	116	39.6%
7/1		U	N/A	N/A	-		-	-	-	144	Inf	Inf	0.0%
J3: Southern Access	-	-	N/A	-	-		-	-	-	-	-	-	62.0%
1/1		U	N/A	N/A	-		-	-	-	75	Inf	Inf	0.0%
2/1	Left	U	N/A	N/A	C3:B		2	14	-	30	1809	121	24.9%
2/2	Right	U	N/A	N/A	C3:B		2	14	-	17	1809	121	14.1%
3/1+3/2	Ahead Right	U+O	N/A	N/A	C3:C		2	179	-	1135	1965:1953	875+957	62.0 : 62.0%

Full Input Data And Results

4/1	Ahead	U	N/A	N/A	-	-	-	-	557	Inf	Inf	0.0%
4/2	Ahead	O	N/A	N/A	-	-	-	-	235	Inf	816	28.8%
5/1	Left Ahead	U	N/A	N/A	C3:A	2	179	-	552	1958	1477	37.4%
5/2	Ahead	U	N/A	N/A	C3:A	2	179	-	235	1965	1482	15.9%
6/1		U	N/A	N/A	-	-	-	-	792	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: A422 Marsh End / Willen Road / Site Access Proposed Layout	-	-	428	10	22	46.4	37.3	0.2	83.9	-	-	-	-
J1: A422/Willen Road	-	-	0	0	0	36.5	33.3	0.0	69.8	-	-	-	-
1/2+1/1	490	490	-	-	-	3.0	0.9	-	3.9 (1.7+2.1)	28.5 (28.1:28.8)	4.1	0.9	5.0
1/3	226	226	-	-	-	1.4	0.7	-	2.0	32.5	3.4	0.7	4.1
2/2+2/1	973	973	-	-	-	4.4	2.4	-	6.8 (4.4+2.4)	25.2 (26.1:23.6)	9.1	2.4	11.5
2/3	540	540	-	-	-	2.5	1.4	-	3.9	26.1	7.8	1.4	9.2
3/1	587	587	-	-	-	3.3	6.0	-	9.2	56.6	9.5	6.0	15.4
3/2+3/3	534	534	-	-	-	2.4	0.7	-	3.1 (1.0+2.1)	20.9 (19.8:21.5)	4.8	0.7	5.5
4/2+4/1	1343	1343	-	-	-	5.4	7.5	-	12.9 (8.4+4.5)	34.6 (35.9:32.4)	13.4	7.5	20.8
4/3	818	818	-	-	-	3.5	4.9	-	8.4	37.2	12.7	4.9	17.7
5/1	1280	1280	-	-	-	3.3	4.2	-	7.6	21.3	20.5	4.2	24.7
6/1	1023	1023	-	-	-	0.4	0.0	-	0.4	1.6	2.6	0.0	2.6
6/2	1174	1174	-	-	-	1.4	0.0	-	1.4	4.3	19.0	0.0	19.0
7/1	1176	1176	-	-	-	0.4	2.9	-	3.3	10.0	2.9	2.9	5.8
7/2	1085	1085	-	-	-	0.3	1.8	-	2.1	7.0	1.0	1.8	2.9
8/1	161	161	-	-	-	0.2	0.0	-	0.2	4.5	0.8	0.0	0.8
8/2	245	245	-	-	-	0.1	0.0	-	0.1	1.5	0.4	0.0	0.4
8/3	246	246	-	-	-	0.1	0.0	-	0.1	0.9	0.2	0.0	0.2
9/1	528	528	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
9/2	259	259	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
10/1	715	715	-	-	-	0.6	0.0	-	0.6	2.9	2.1	0.0	2.1
10/2	415	415	-	-	-	0.5	0.0	-	0.5	4.7	2.0	0.0	2.0

Full Input Data And Results

10/3	248	248	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
11/1	781	781	-	-	-	2.7	0.0	-	2.7	12.2	7.0	0.0	7.0
11/2	179	179	-	-	-	0.2	0.0	-	0.2	3.8	0.3	0.0	0.3
11/3	356	356	-	-	-	0.4	0.0	-	0.4	3.9	0.7	0.0	0.7
12/1	768	768	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
12/2	415	415	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
J2: Site Access	-	-	143	10	22	6.7	2.3	0.2	9.2	-	-	-	-
1/1	528	528	-	-	-	1.0	0.3	-	1.3	8.7	8.8	0.3	9.1
1/2+1/3	259	259	-	-	-	0.7	0.1	-	0.8 (0.5+0.4)	11.7 (7.1:55.0)	3.2	0.1	3.3
2/1	551	551	-	-	-	1.1	0.3	-	1.4	9.2	6.8	0.3	7.2
2/2	551	551	57	10	0	1.1	0.3	0.0	1.4	9.3	6.8	0.3	7.1
3/1	126	126	45	0	18	1.7	0.8	0.1	2.7	76.0	4.2	0.8	5.0
4/1	587	587	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/2	534	534	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	48	48	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	39	39	-	-	-	0.5	0.1	-	0.6	59.4	1.2	0.1	1.4
6/2	46	46	41	0	5	0.6	0.3	0.0	1.0	77.6	1.5	0.3	1.8
7/1	144	144	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
J3: Southern Access	-	-	285	0	0	3.2	1.7	0.1	4.9	-	-	-	-
1/1	75	75	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
2/1	30	30	-	-	-	0.5	0.2	-	0.6	73.8	1.1	0.2	1.2
2/2	17	17	-	-	-	0.3	0.1	-	0.3	71.0	0.6	0.1	0.7
3/1+3/2	1135	1135	50	0	0	1.7	0.8	0.1	2.6 (1.2+1.4)	8.2 (7.9:8.5)	8.7	0.8	9.5
4/1	557	557	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/2	235	235	235	0	0	0.0	0.2	-	0.2	3.3	3.0	0.2	3.2
5/1	552	552	-	-	-	0.6	0.3	-	0.9	6.1	10.0	0.3	10.3
5/2	235	235	-	-	-	0.1	0.1	-	0.2	2.7	1.3	0.1	1.4
6/1	792	792	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

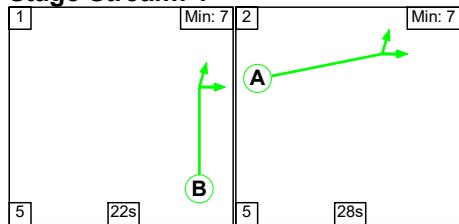
Full Input Data And Results

C1	Stream: 1	PRC for Signalled Lanes (%)	-9.6	Total Delay for Signalled Lanes (pcuHr)	24.58	Cycle Time (s)	60
C1	Stream: 2	PRC for Signalled Lanes (%)	-3.0	Total Delay for Signalled Lanes (pcuHr)	7.76	Cycle Time (s)	60
C1	Stream: 3	PRC for Signalled Lanes (%)	7.8	Total Delay for Signalled Lanes (pcuHr)	11.07	Cycle Time (s)	60
C1	Stream: 4	PRC for Signalled Lanes (%)	-4.5	Total Delay for Signalled Lanes (pcuHr)	13.45	Cycle Time (s)	60
C1	Stream: 5	PRC for Signalled Lanes (%)	5.3	Total Delay for Signalled Lanes (pcuHr)	5.39	Cycle Time (s)	60
C1	Stream: 6	PRC for Signalled Lanes (%)	0.0	Total Delay for Signalled Lanes (pcuHr)	7.57	Cycle Time (s)	60
C2		PRC for Signalled Lanes (%)	43.5	Total Delay for Signalled Lanes (pcuHr)	9.24	Cycle Time (s)	240
C3		PRC for Signalled Lanes (%)	45.3	Total Delay for Signalled Lanes (pcuHr)	4.65	Cycle Time (s)	240
		PRC Over All Lanes (%)	-9.6	Total Delay Over All Lanes(pcuHr)	83.94		

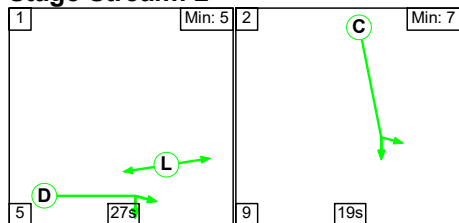
C1

Stage Sequence Diagram

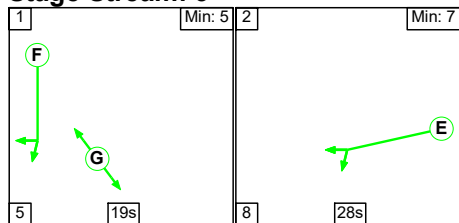
Stage Stream: 1



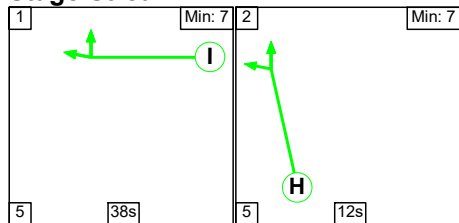
Stage Stream: 2



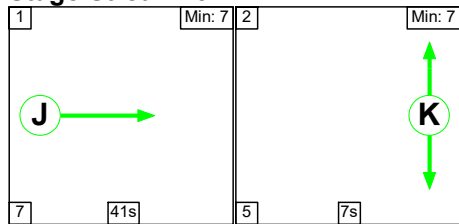
Stage Stream: 3



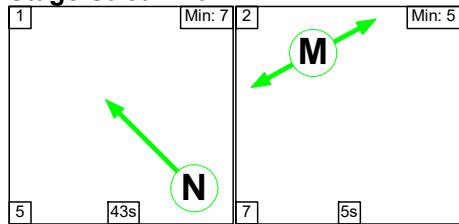
Stage Stream: 4



Stage Stream: 5



Stage Stream: 6



Full Input Data And Results

Stage Timings

Stage Stream: 1

Stage	1	2
Duration	22	28
Change Point	0	27

Stage Stream: 2

Stage	1	2
Duration	27	19
Change Point	19	51

Stage Stream: 3

Stage	1	2
Duration	19	28
Change Point	0	24

Stage Stream: 4

Stage	1	2
Duration	38	12
Change Point	25	8

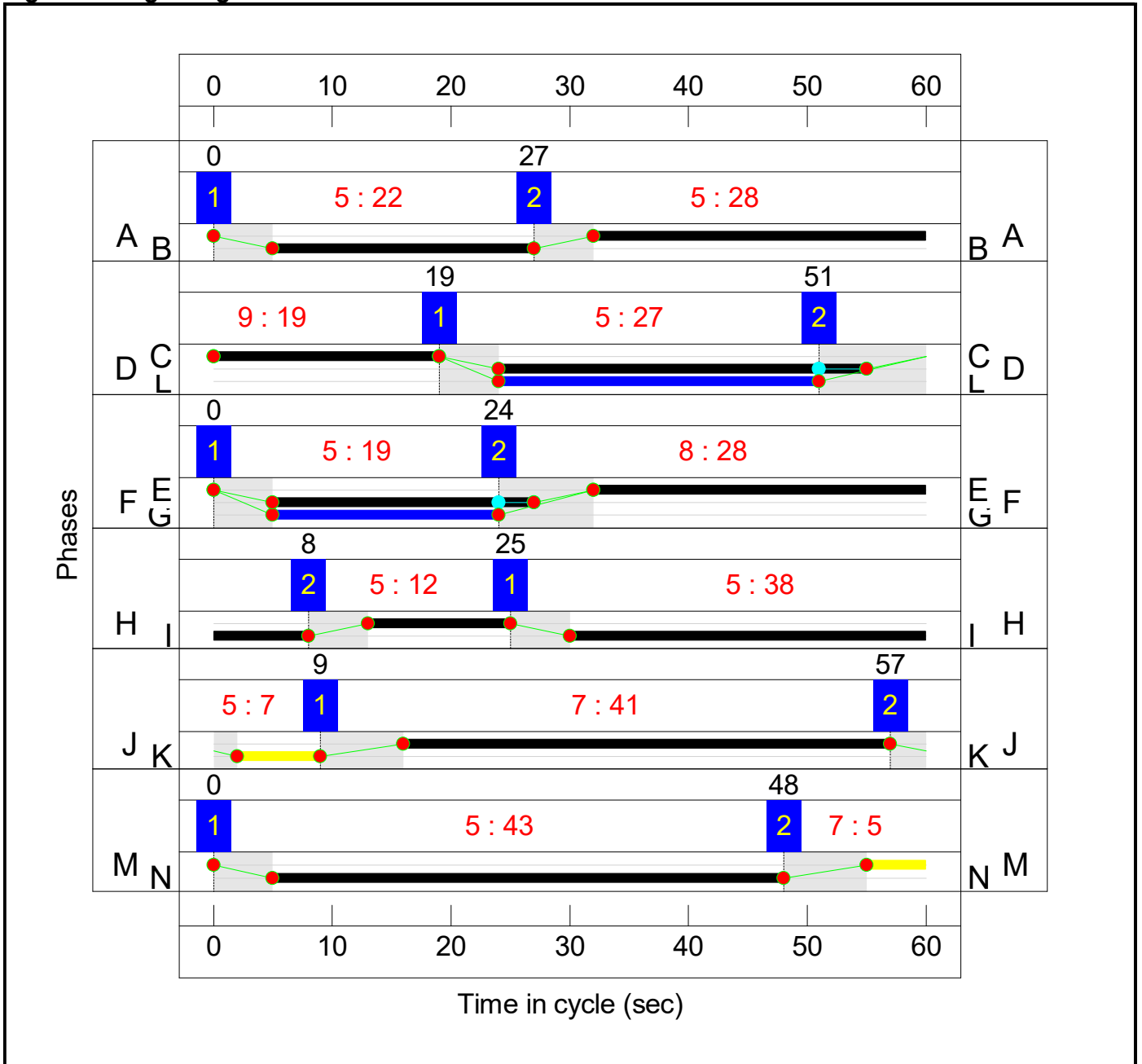
Stage Stream: 5

Stage	1	2
Duration	41	7
Change Point	9	57

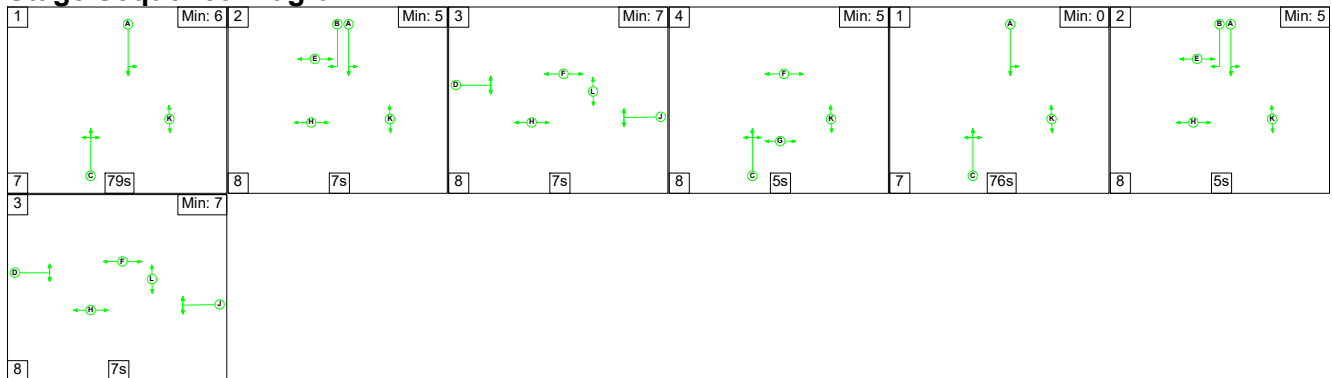
Stage Stream: 6

Stage	1	2
Duration	43	5
Change Point	0	48

Signal Timings Diagram



C2 Stage Sequence Diagram

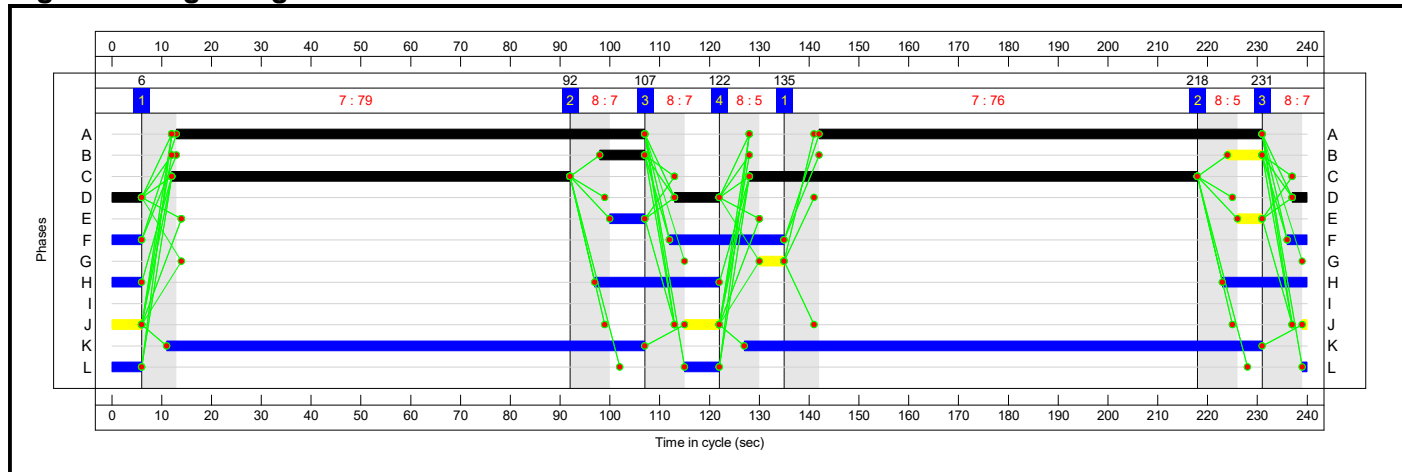


Full Input Data And Results

Stage Timings

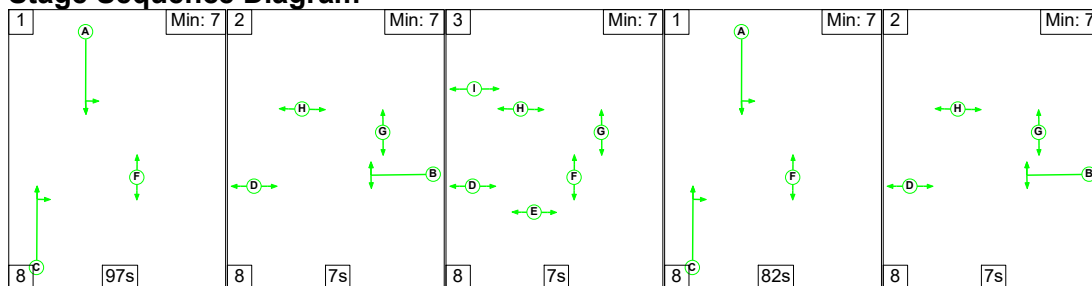
Stage	1	2	3	4	1	2	3
Duration	79	7	7	5	76	5	7
Change Point	6	92	107	122	135	218	231

Signal Timings Diagram



C3

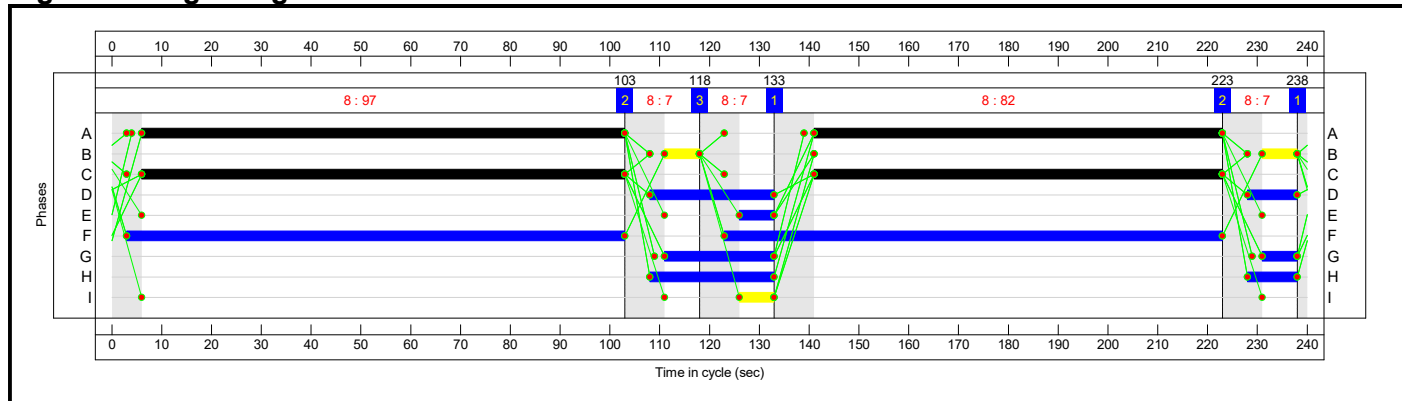
Stage Sequence Diagram



Stage Timings

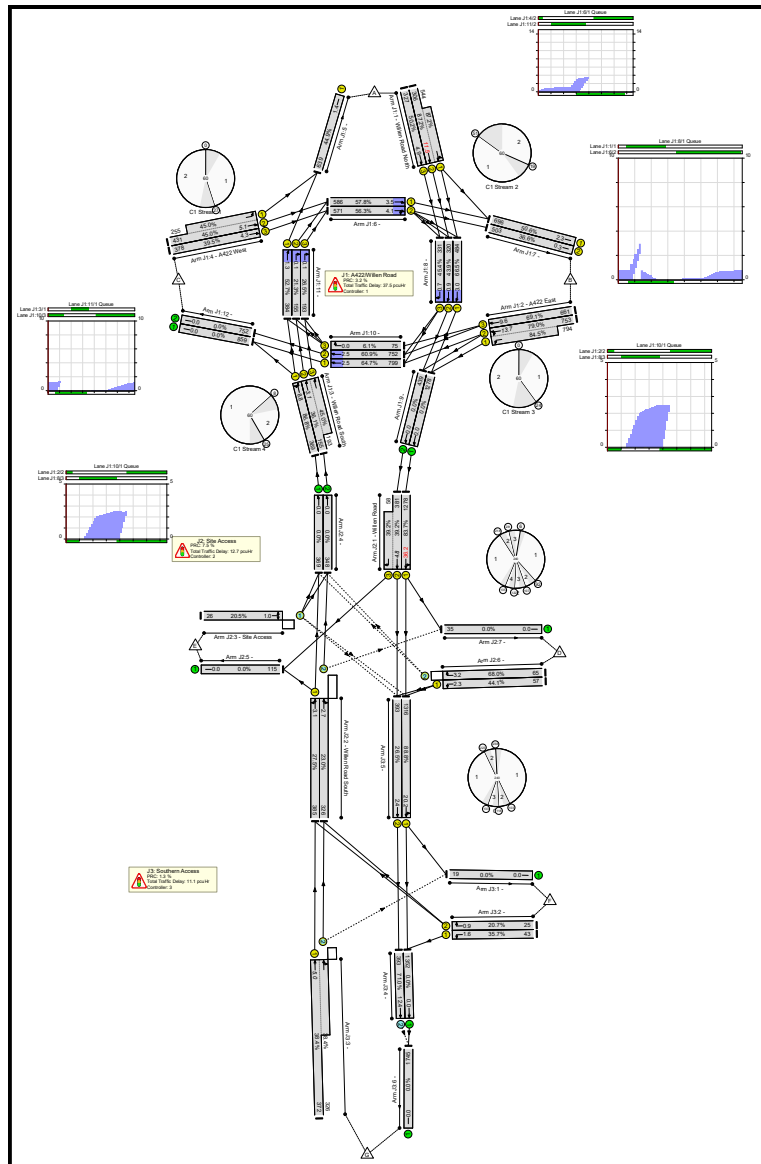
Stage	1	2	3	1	2
Duration	97	7	7	82	7
Change Point	238	103	118	133	223

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: A422 Marsh End / Willen Road / Site Access Proposed Layout	-	-	N/A	-	-		-	-	-	-	-	-	88.8%
J1: A422/Willen Road	-	-	N/A	-	-		-	-	-	-	-	-	87.2%
1/2+1/1	Willen Road North Left Ahead	U	1:2	N/A	C1:C		1	19	-	850	1955:1930	351+624	87.2 : 87.2%
1/3	Willen Road North Ahead	U	1:2	N/A	C1:C		1	19	-	327	1955	652	50.2%
2/2+2/1	A422 East Left Ahead	U	1:3	N/A	C1:E		1	28	-	1547	1974:1945	954+940	79.0 : 84.5%
2/3	A422 East Ahead	U	1:3	N/A	C1:E		1	28	-	661	1980	957	69.1%
3/1	Willen Road South Ahead Left	U	1:4	N/A	C1:H		1	12	-	369	1963	425	86.8%
3/2+3/3	Willen Road South Ahead	U	1:4	N/A	C1:H		1	12	-	348	1980:1980	429+429	36.1 : 45.0%
4/2+4/1	A422 West Left Ahead	U	1:1	N/A	C1:A		1	28	-	686	1980:1888	957+566	45.0 : 45.0%
4/3	A422 West Ahead	U	1:1	N/A	C1:A		1	28	-	378	1980	957	39.5%
5/1		U	1:6	N/A	C1:N		1	43	-	639	1940	1423	44.9%
6/1	Ahead	U	1:2	N/A	C1:D		1	31	-	586	1900	1013	57.8%
6/2	Ahead Right	U	1:2	N/A	C1:D		1	31	-	571	1900	1013	56.3%
7/1		U	1:5	N/A	C1:J		1	41	-	696	1965	1375	50.6%
7/2		U	1:5	N/A	C1:J		1	41	-	503	1965	1375	36.6%
8/1	Ahead	U	1:3	N/A	C1:F		1	22	-	484	1900	728	66.5%
8/2	Ahead	U	1:3	N/A	C1:F		1	22	-	320	1900	728	43.9%
8/3	Right	U	1:3	N/A	C1:F		1	22	-	331	1900	728	45.4%
9/1	Ahead	U	N/A	N/A	-		-	-	-	1278	Inf	Inf	0.0%
9/2	Ahead	U	N/A	N/A	-		-	-	-	439	Inf	Inf	0.0%

Full Input Data And Results

10/1	Ahead	U	1:4	N/A	C1:I		1	38	-	799	1900	1235	64.7%
10/2	Ahead	U	1:4	N/A	C1:I		1	38	-	752	1900	1235	60.9%
10/3	Right	U	1:4	N/A	C1:I		1	38	-	75	1900	1235	6.1%
11/1	Ahead	U	1:1	N/A	C1:B		1	22	-	384	1900	728	52.7%
11/2	Right	U	1:1	N/A	C1:B		1	22	-	155	1900	728	21.3%
11/3	Right	U	1:1	N/A	C1:B		1	22	-	193	1900	728	26.5%
12/1		U	N/A	N/A	-		-	-	-	859	Inf	Inf	0.0%
12/2		U	N/A	N/A	-		-	-	-	752	Inf	Inf	0.0%
J2: Site Access	-	-	N/A	-	-		-	-	-	-	-	-	83.7%
1/1	Willen Road Left Ahead	U	N/A	N/A	C2:A		2	183	-	1278	1980	1526	83.7%
1/2+1/3	Willen Road Right Ahead	U	N/A	N/A	C2:A C2:B		2	183:16	-	439	1980:1972	972+148	39.2 : 39.2%
2/1	Willen Road South Ahead Left	U	N/A	N/A	C2:C		2	170	-	385	1951	1398	27.5%
2/2	Willen Road South Ahead Right	O	N/A	N/A	C2:C		2	170	-	326	1980	1419	23.0%
3/1	Site Access Left Right	O	N/A	N/A	C2:D		2	18	-	26	1783	127	20.5%
4/1	Ahead	U	N/A	N/A	-		-	-	-	369	Inf	Inf	0.0%
4/2	Ahead	U	N/A	N/A	-		-	-	-	348	Inf	Inf	0.0%
5/1		U	N/A	N/A	-		-	-	-	115	Inf	Inf	0.0%
6/1	Left	U	N/A	N/A	C2:J		2	14	-	57	1940	129	44.1%
6/2	Right	O	N/A	N/A	C2:J		2	14	-	65	1940	96	68.0%
7/1		U	N/A	N/A	-		-	-	-	35	Inf	Inf	0.0%
J3: Southern Access	-	-	N/A	-	-		-	-	-	-	-	-	88.8%
1/1		U	N/A	N/A	-		-	-	-	19	Inf	Inf	0.0%
2/1	Left	U	N/A	N/A	C3:B		2	14	-	43	1809	121	35.7%
2/2	Right	U	N/A	N/A	C3:B		2	14	-	25	1809	121	20.7%
3/1+3/2	Ahead Right	U+O	N/A	N/A	C3:C		2	179	-	698	1965:1960	970+850	38.4 : 38.4%

Full Input Data And Results

4/1	Ahead	U	N/A	N/A	-		-	-	-	1352	Inf	Inf	0.0%
4/2	Ahead	O	N/A	N/A	-		-	-	-	393	Inf	554	71.0%
5/1	Left Ahead	U	N/A	N/A	C3:A		2	179	-	1316	1964	1481	88.8%
5/2	Ahead	U	N/A	N/A	C3:A		2	179	-	393	1965	1482	26.5%
6/1		U	N/A	N/A	-		-	-	-	1745	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: A422 Marsh End / Willen Road / Site Access Proposed Layout	-	-	452	2	44	38.0	22.9	0.5	61.4	-	-	-	-
J1: A422/Willen Road	-	-	0	0	0	25.2	12.3	0.0	37.5	-	-	-	-
1/2+1/1	850	850	-	-	-	4.2	3.2	-	7.4 (2.5+4.9)	31.3 (29.5:32.3)	8.3	3.2	11.5
1/3	327	327	-	-	-	1.5	0.5	-	2.0	21.5	4.4	0.5	4.9
2/2+2/1	1547	1547	-	-	-	5.7	2.2	-	7.9 (3.8+4.1)	18.4 (18.1:18.7)	11.5	2.2	13.7
2/3	661	661	-	-	-	2.2	1.1	-	3.3	18.1	8.4	1.1	9.6
3/1	369	369	-	-	-	2.3	3.0	-	5.3	51.6	5.8	3.0	8.8
3/2+3/3	348	348	-	-	-	2.0	0.3	-	2.3 (1.0+1.3)	23.7 (23.5:23.9)	2.8	0.3	3.1
4/2+4/1	686	686	-	-	-	1.9	0.4	-	2.3 (1.5+0.8)	12.0 (12.4:11.4)	4.7	0.4	5.1
4/3	378	378	-	-	-	1.0	0.3	-	1.4	13.0	4.0	0.3	4.3
5/1	639	639	-	-	-	0.2	0.4	-	0.6	3.2	1.0	0.4	1.4
6/1	586	586	-	-	-	0.7	0.0	-	0.7	4.3	3.5	0.0	3.5
6/2	571	571	-	-	-	0.7	0.0	-	0.7	4.5	4.1	0.0	4.1
7/1	696	696	-	-	-	0.2	0.5	-	0.7	3.8	1.7	0.5	2.3
7/2	503	503	-	-	-	0.0	0.3	-	0.3	2.1	0.0	0.3	0.3
8/1	484	484	-	-	-	0.4	0.0	-	0.4	3.3	3.0	0.0	3.0
8/2	320	320	-	-	-	0.2	0.0	-	0.2	2.2	0.9	0.0	0.9
8/3	331	331	-	-	-	0.1	0.0	-	0.1	1.4	0.7	0.0	0.7
9/1	1278	1278	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
9/2	439	439	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
10/1	799	799	-	-	-	0.7	0.0	-	0.7	3.3	2.5	0.0	2.5
10/2	752	752	-	-	-	0.7	0.0	-	0.7	3.6	2.5	0.0	2.5

Full Input Data And Results

10/3	75	75	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
11/1	384	384	-	-	-	0.4	0.0	-	0.4	3.7	1.3	0.0	1.3
11/2	155	155	-	-	-	0.0	0.0	-	0.0	0.7	0.1	0.0	0.1
11/3	193	193	-	-	-	0.0	0.0	-	0.0	0.7	0.1	0.0	0.1
12/1	859	859	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
12/2	752	752	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
J2: Site Access	-	-	59	2	32	7.7	4.7	0.3	12.7	-	-	-	-
1/1	1278	1278	-	-	-	3.3	2.5	-	5.9	16.5	33.7	2.5	36.2
1/2+1/3	439	439	-	-	-	1.3	0.3	-	1.6 (0.7+0.9)	13.2 (6.8:55.7)	4.4	0.3	4.8
2/1	385	385	-	-	-	0.5	0.2	-	0.7	6.4	2.9	0.2	3.1
2/2	326	326	0	2	14	0.4	0.1	0.2	0.8	8.8	2.5	0.1	2.7
3/1	26	26	12	0	0	0.4	0.1	0.0	0.5	71.8	0.8	0.1	1.0
4/1	369	369	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/2	348	348	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	115	115	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	57	57	-	-	-	0.9	0.4	-	1.2	78.6	1.9	0.4	2.3
6/2	65	65	47	0	18	1.0	1.0	0.1	2.0	112.8	2.2	1.0	3.2
7/1	35	35	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
J3: Southern Access	-	-	393	0	12	5.0	5.9	0.2	11.1	-	-	-	-
1/1	19	19	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
2/1	43	43	-	-	-	0.6	0.3	-	0.9	76.6	1.4	0.3	1.6
2/2	25	25	-	-	-	0.4	0.1	-	0.5	71.8	0.8	0.1	0.9
3/1+3/2	698	698	0	0	12	0.9	0.3	0.2	1.4 (0.7+0.8)	7.3 (6.4:8.3)	4.6	0.3	5.0
4/1	1352	1352	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/2	393	393	393	0	0	1.1	1.2	-	2.3	21.0	11.1	1.2	12.4
5/1	1316	1316	-	-	-	1.7	3.8	-	5.5	15.0	16.4	3.8	20.2
5/2	393	393	-	-	-	0.4	0.2	-	0.6	5.1	2.2	0.2	2.4
6/1	1745	1745	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

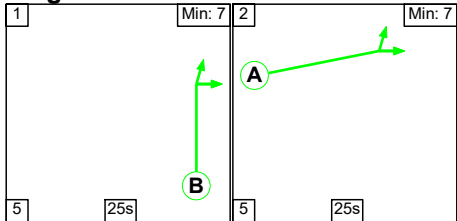
Full Input Data And Results

C1	Stream: 1	PRC for Signalled Lanes (%)	70.7	Total Delay for Signalled Lanes (pcuHr):	4.12	Cycle Time (s):	60
C1	Stream: 2	PRC for Signalled Lanes (%)	3.2	Total Delay for Signalled Lanes (pcuHr):	10.75	Cycle Time (s):	60
C1	Stream: 3	PRC for Signalled Lanes (%)	6.6	Total Delay for Signalled Lanes (pcuHr):	11.97	Cycle Time (s):	60
C1	Stream: 4	PRC for Signalled Lanes (%)	3.7	Total Delay for Signalled Lanes (pcuHr):	9.07	Cycle Time (s):	60
C1	Stream: 5	PRC for Signalled Lanes (%)	77.9	Total Delay for Signalled Lanes (pcuHr):	1.02	Cycle Time (s):	60
C1	Stream: 6	PRC for Signalled Lanes (%)	100.4	Total Delay for Signalled Lanes (pcuHr):	0.57	Cycle Time (s):	60
C2		PRC for Signalled Lanes (%)	7.5	Total Delay for Signalled Lanes (pcuHr):	12.75	Cycle Time (s):	240
C3		PRC for Signalled Lanes (%)	1.3	Total Delay for Signalled Lanes (pcuHr):	8.85	Cycle Time (s):	240
		PRC Over All Lanes (%)	1.3	Total Delay Over All Lanes(pcuHr):	61.38		

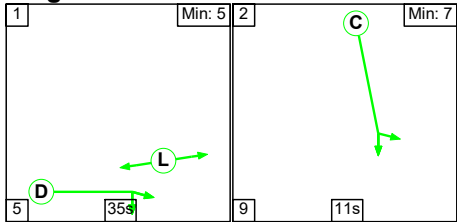
C1

Stage Sequence Diagram

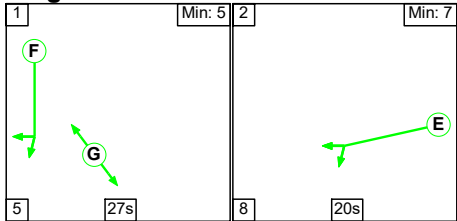
Stage Stream: 1



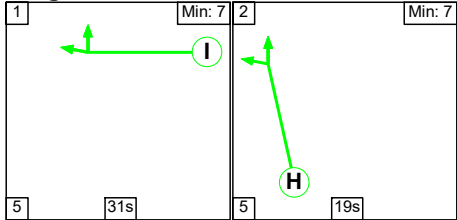
Stage Stream: 2



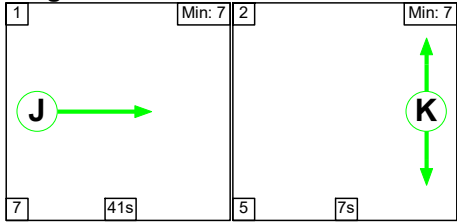
Stage Stream: 3



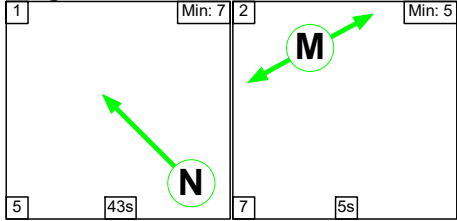
Stage Stream: 4



Stage Stream: 5



Stage Stream: 6



Full Input Data And Results

Stage Timings

Stage Stream: 1

Stage	1	2
Duration	25	25
Change Point	37	7

Stage Stream: 2

Stage	1	2
Duration	35	11
Change Point	2	42

Stage Stream: 3

Stage	1	2
Duration	27	20
Change Point	44	16

Stage Stream: 4

Stage	1	2
Duration	31	19
Change Point	11	47

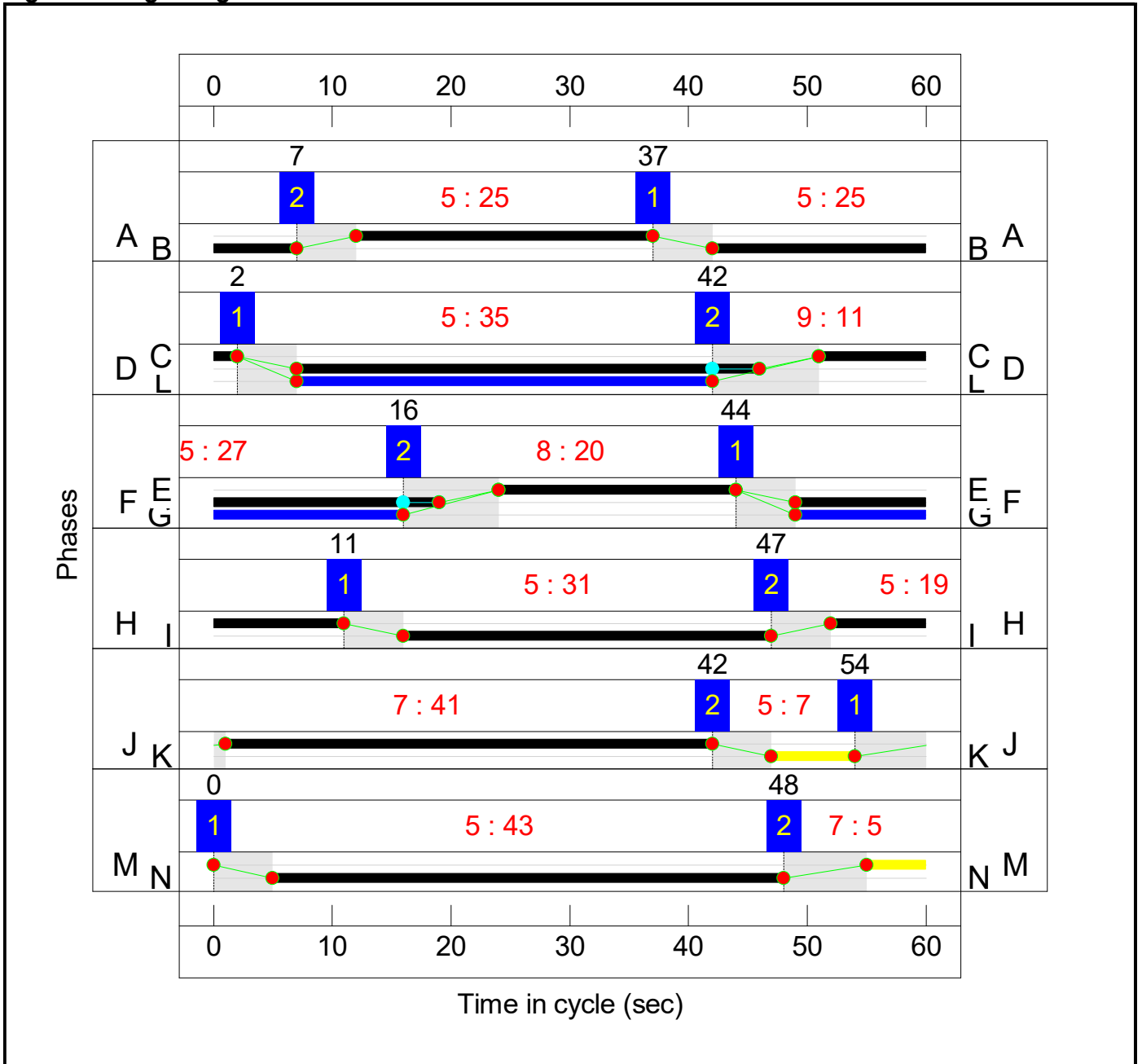
Stage Stream: 5

Stage	1	2
Duration	41	7
Change Point	54	42

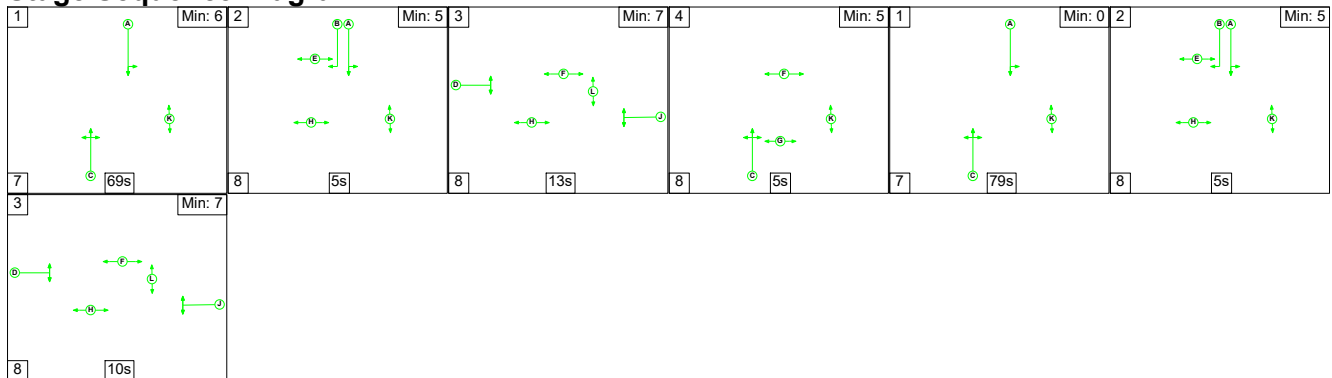
Stage Stream: 6

Stage	1	2
Duration	43	5
Change Point	0	48

Signal Timings Diagram



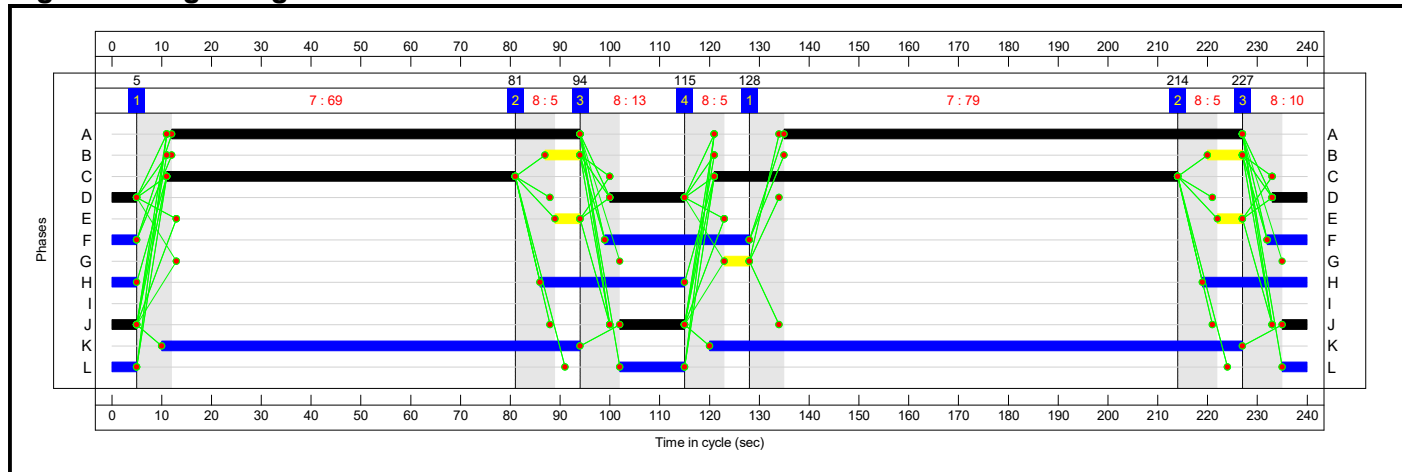
C2 Stage Sequence Diagram



Stage Timings

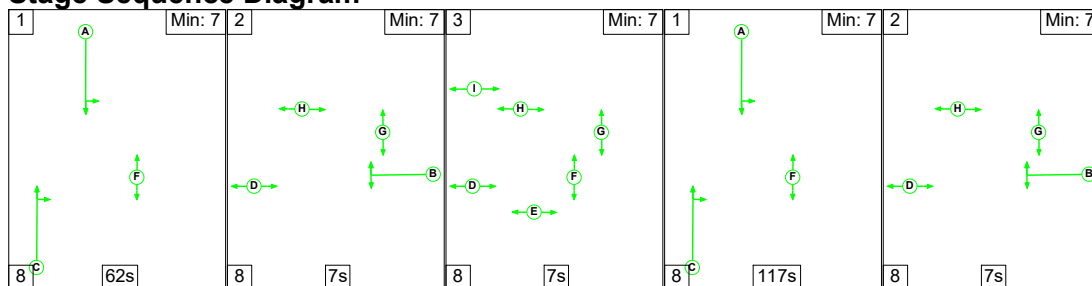
Stage	1	2	3	4	1	2	3
Duration	69	5	13	5	79	5	10
Change Point	5	81	94	115	128	214	227

Signal Timings Diagram



C3

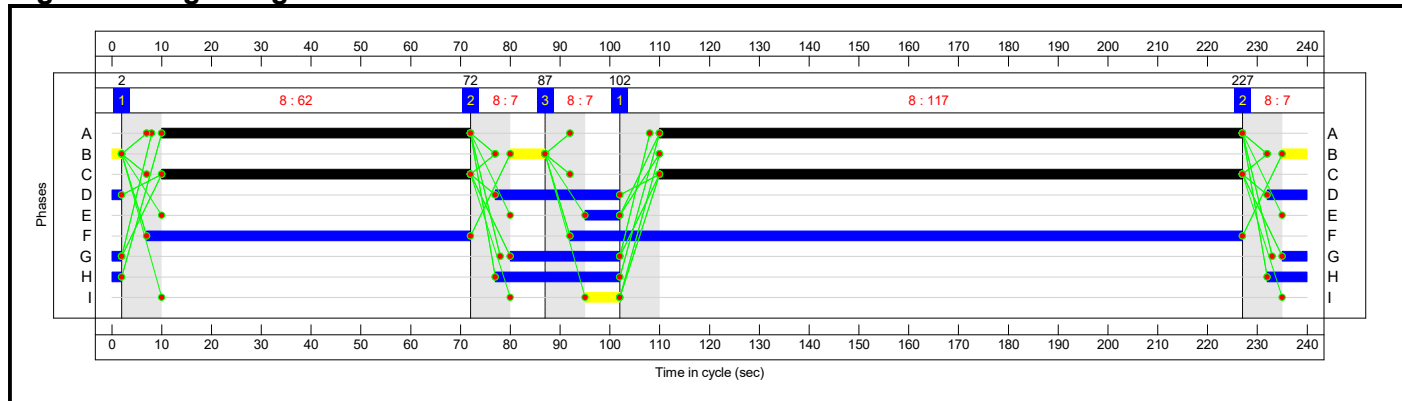
Stage Sequence Diagram



Stage Timings

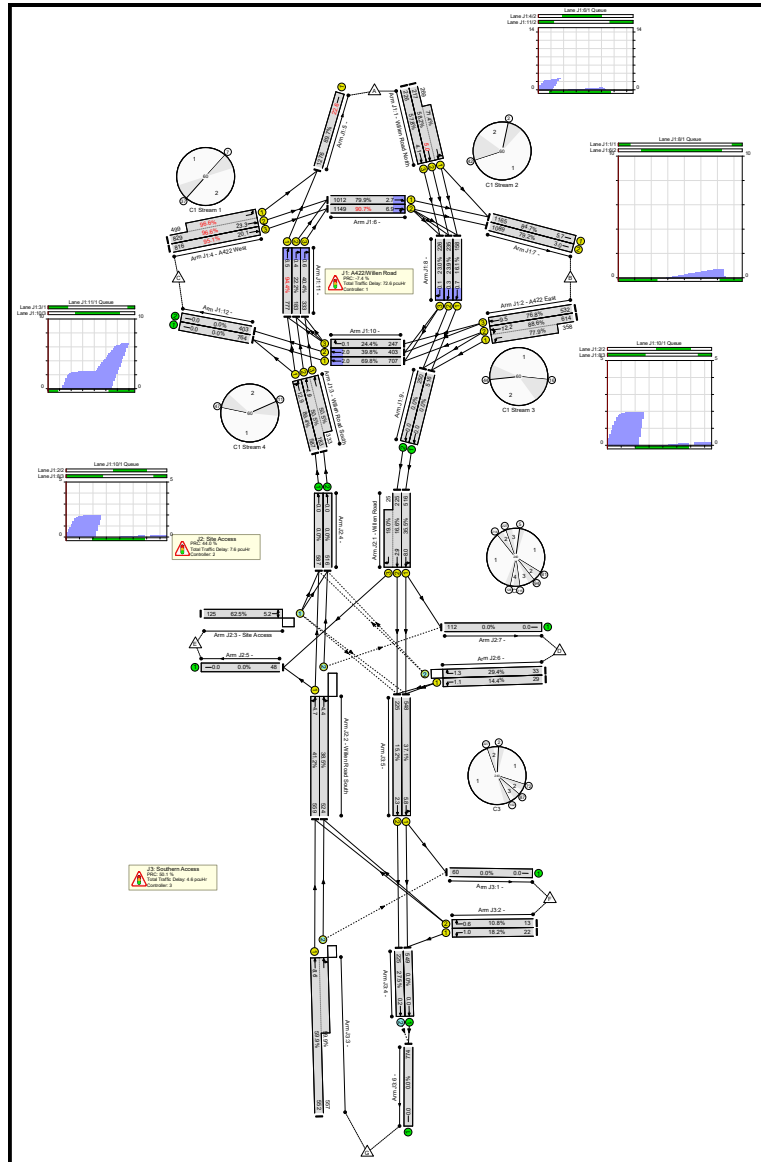
Stage	1	2	3	1	2
Duration	62	7	7	117	7
Change Point	2	72	87	102	227

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: A422 Marsh End / Willen Road / Site Access Proposed Layout	-	-	N/A	-	-		-	-	-	-	-	-	96.6%
J1: A422/Willen Road	-	-	N/A	-	-		-	-	-	-	-	-	96.6%
1/2+1/1	Willen Road North Left Ahead	U	1:2	N/A	C1:C		1	11	-	486	1955:1885	373+377	58.2 : 71.4%
1/3	Willen Road North Ahead	U	1:2	N/A	C1:C		1	11	-	226	1955	391	57.8%
2/2+2/1	A422 East Left Ahead	U	1:3	N/A	C1:E		1	20	-	972	1979:1945	693+459	88.6 : 77.9%
2/3	A422 East Ahead	U	1:3	N/A	C1:E		1	20	-	532	1980	693	76.8%
3/1	Willen Road South Ahead Left	U	1:4	N/A	C1:H		1	19	-	587	1970	657	89.4%
3/2+3/3	Willen Road South Ahead	U	1:4	N/A	C1:H		1	19	-	516	1980:1980	363+660	50.5 : 50.5%
4/2+4/1	A422 West Left Ahead	U	1:1	N/A	C1:A		1	25	-	1328	1980:1888	858+516	96.6 : 96.6%
4/3	A422 West Ahead	U	1:1	N/A	C1:A		1	25	-	816	1980	858	95.1%
5/1		U	1:6	N/A	C1:N		1	43	-	1276	1940	1423	89.7%
6/1	Ahead	U	1:2	N/A	C1:D		1	39	-	1012	1900	1267	79.9%
6/2	Ahead Right	U	1:2	N/A	C1:D		1	39	-	1149	1900	1267	90.7%
7/1		U	1:5	N/A	C1:J		1	41	-	1165	1965	1375	84.7%
7/2		U	1:5	N/A	C1:J		1	41	-	1089	1965	1375	79.2%
8/1	Ahead	U	1:3	N/A	C1:F		1	30	-	158	1900	982	16.1%
8/2	Ahead	U	1:3	N/A	C1:F		1	30	-	235	1900	982	23.9%
8/3	Right	U	1:3	N/A	C1:F		1	30	-	226	1900	982	23.0%
9/1	Ahead	U	N/A	N/A	-		-	-	-	516	Inf	Inf	0.0%
9/2	Ahead	U	N/A	N/A	-		-	-	-	250	Inf	Inf	0.0%

Full Input Data And Results

10/1	Ahead	U	1:4	N/A	C1:I		1	31	-	707	1900	1013	69.8%
10/2	Ahead	U	1:4	N/A	C1:I		1	31	-	403	1900	1013	39.8%
10/3	Right	U	1:4	N/A	C1:I		1	31	-	247	1900	1013	24.4%
11/1	Ahead	U	1:1	N/A	C1:B		1	25	-	777	1900	823	94.4%
11/2	Right	U	1:1	N/A	C1:B		1	25	-	183	1900	823	22.2%
11/3	Right	U	1:1	N/A	C1:B		1	25	-	333	1900	823	40.4%
12/1		U	N/A	N/A	-		-	-	-	764	Inf	Inf	0.0%
12/2		U	N/A	N/A	-		-	-	-	403	Inf	Inf	0.0%
J2: Site Access	-	-	N/A	-	-		-	-	-	-	-	-	62.5%
1/1	Willen Road Left Ahead	U	N/A	N/A	C2:A		2	174	-	516	1980	1452	35.5%
1/2+1/3	Willen Road Right Ahead	U	N/A	N/A	C2:A C2:B		2	174:14	-	250	1980:1972	1353+131	16.6 : 19.0%
2/1	Willen Road South Ahead Left	U	N/A	N/A	C2:C		2	163	-	559	1972	1356	41.2%
2/2	Willen Road South Ahead Right	O	N/A	N/A	C2:C		2	163	-	524	1980	1361	38.5%
3/1	Site Access Left Right	O	N/A	N/A	C2:D		2	27	-	125	1787	200	62.5%
4/1	Ahead	U	N/A	N/A	-		-	-	-	587	Inf	Inf	0.0%
4/2	Ahead	U	N/A	N/A	-		-	-	-	516	Inf	Inf	0.0%
5/1		U	N/A	N/A	-		-	-	-	48	Inf	Inf	0.0%
6/1	Left	U	N/A	N/A	C2:J		2	23	-	29	1940	202	14.4%
6/2	Right	O	N/A	N/A	C2:J		2	23	-	33	1940	112	29.4%
7/1		U	N/A	N/A	-		-	-	-	112	Inf	Inf	0.0%
J3: Southern Access	-	-	N/A	-	-		-	-	-	-	-	-	59.9%
1/1		U	N/A	N/A	-		-	-	-	60	Inf	Inf	0.0%
2/1	Left	U	N/A	N/A	C3:B		2	14	-	22	1809	121	18.2%
2/2	Right	U	N/A	N/A	C3:B		2	14	-	13	1809	121	10.8%
3/1+3/2	Ahead Right	U+O	N/A	N/A	C3:C		2	179	-	1109	1965:1955	921+929	59.9 : 59.9%

Full Input Data And Results

4/1	Ahead	U	N/A	N/A	-	-	-	-	549	Inf	Inf	0.0%
4/2	Ahead	O	N/A	N/A	-	-	-	-	225	Inf	819	27.5%
5/1	Left Ahead	U	N/A	N/A	C3:A	2	179	-	548	1959	1477	37.1%
5/2	Ahead	U	N/A	N/A	C3:A	2	179	-	225	1965	1482	15.2%
6/1		U	N/A	N/A	-	-	-	-	774	Inf	Inf	0.0%