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Date 17th November 2023

[www.havering.gov.uk](http://www.havering.gov.uk)

**London Borough of Havering (20035775) – Response to Applicant’s comments on Interested Party (IP) submissions at Deadline 1 to 3 (REP5-088)**

Dear Sir,

At Deadline 5 the Applicant provided some comments (Section 2.2 REP5-088) on the local junction modelling undertaken for LB Havering and Transport for London, which was submitted to the ExA as Appendix 2 of Havering’s Local Impact Report (REP1-247).

Paragraphs 2.2.7 and 2.2.8 of the Applicant’s response highlighted a discrepancy within the Executive Summary of REP1-247 and Table 4.6 and paragraph 4.14 of the same document.

An amendment has been made to the Executive Summary in tracked changes to address this issue, and an updated version of Appendix 2 of the Local Impact Report can be found attached.

Yours faithfully,

Daniel Douglas

Team Leader Transport Planning

**The Havering you want to be part of**

 TRANSPORT APPRAISAL

Lower Thames Crossing – Local Junction Impact  
Assessment Modelling Report on Behalf of the London  
Borough of Havering

Date: November 2023  
Issue No. 4



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## CONTENTS

SECTION	HEADING	PAGE NO.
	EXECUTIVE SUMMARY	1
1.0	INTRODUCTION	3
2.0	HEALTHY STREETS ASSESSMENT	7
3.0	ACCIDENT ANALYSIS	17
4.0	JUNCTION MODELLING	28
5.0	SUMMARY AND CONCLUSIONS	53

### List of Figures

Figure 1.1	Route of the Lower Thames Crossing
Figure 3.1	Collision Study Area – A12 / North Street
Figure 3.2	Collision Study Area – A12 / Petits Lane
Figure 3.3	Collision Study Area – A12 / Harold Court Road
Figure 3.4	Collision Study Area – A12 / Gubbins Lane
Figure 3.5	Collision Study Area – A127 / Ardleigh Green Road
Figure 3.6	Collision Study Area – A127 / Wingletye Lane
Figure 3.7	Collision Study Area – A127 / Hall Lane
Figure 3.8	Collision Study Area – A127 / Front Lane
Figure 3.9	Collision Study Area – A13 / Mash Way
Figure 3.10	Collision Study Area – A13 / A1306
Figure 3.11	Collision Study Area – St Mary's Lane / Station Road

### List of Tables

Table 3.1	Personal Injury Accident Study Area
Table 3.2	Personal Injury Accidents by Year
Table 3.3	Personal Injury Accidents by Severity
Table 3.4	Personal Injury Accidents by Type
Table 4.1	Surveyed Peak Hours
Table 4.2	2023 to 2030 Tempro Growth Factors
Table 4.3	A12 / North Street Traffic Flows



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**CONTENTS**  
**(CONTD.)**

Table 4.4	Linsig Modelling results of the A12/North Street/Haverling Road signalised Junction
Table 4.5	A12 / Pettits Lane Traffic Flows
Table 4.6	Linsig Modelling results of the A12/Pettis Lane signalised Junction
Table 4.7	A12 / Harold Court Road Traffic Flows
Table 4.8	Linsig Modelling results of the A12/Harold Court Road signalised Junction
Table 4.9	A12 / Gubbins Lane Traffic Flows
Table 4.10	Linsig Modelling results of the A12/Gubbins Lane signalised Junction
Table 4.11	A127 / Squirrels Heath Road Traffic Flows
Table 4.12	Linsig Modelling results of the A127/Squirrels Heath signalised Junction
Table 4.13	A127 / Wingletye Lane Traffic Flows
Table 4.14	Linsig Modelling results of the A127/Wingletye Lane Junction
Table 4.15	A127 / Hall Lane (northern section) Traffic Flows
Table 4.16	Junctions 10 Modelling results of the A127 / Hall Lane Junction (northern section)
Table 4.17	A127 / Hall Lane (southern section) Traffic Flows
Table 4.18	Junctions 10 Modelling results of the A127 / Hall Lane Junction (southern section)
Table 4.19	A127 / Front Lane Traffic Flows
Table 4.20	Linsig Modelling results of the A127 Southend Arterial Road/Front Lane Junction
Table 4.21	A13 / Marsh Way Traffic Flows
Table 4.22	Linsig Modelling results of the A13 / Marsh Way Junction
Table 4.23	A13 / Wennington Road (northern roundabout) Traffic Flows
Table 4.24	Linsig Modelling results of the A13 / Wennington Road Junction
Table 4.25	St Mary's Lane / Station Road Junction Traffic Flows
Table 4.26	Linsig Modelling results of the St Mary's Lane / Station Road (Bell Corner) junction
Table 5.1	Summary of Findings and Recommendations at Each junction

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## APPENDICES

### Appendix 1 – CE Plans

CE Plan 9190/201

Junction Locations

### Appendix 2 – Junction Modelling Results

## EXECUTIVE SUMMARY

This Report was prepared on behalf of both the London Borough of Havering (LBH) and Transport for London to understand the impacts of the proposed Lower Thames Crossing (LTC) on eleven junctions within LBH. The Report also assessed each junction in relation to Transport for London's Healthy Streets criteria to identify opportunities for interventions with regard to public transport, walking and cycling. Accident data for all eleven junctions was also analysed.

The Healthy Streets assessment identified that most of the junctions would benefit from improved pedestrian/cycle crossing points whilst in others in addition would also benefit from the banning of U-turn manoeuvres, provision of bus priority measures, and Advanced Stop Lines for cyclists.

The accident data analysis found that the A12/North Street and A12/Pettits Lane had relatively high numbers of accidents in the 5 year period analysed (some 38 and 25 accidents respectively), whilst the A12/Gubbins Lane, A127/Squirrels Heath Road and A127/Hall Lane junctions had experienced 19 accidents. All five junctions are recommended for further investigation with regard to road safety.

With respect to the junction modelling, this was informed by new traffic surveys carried out at each junction in May 2023. The changes in flows caused by the LTC are taken from the National Highways 2030 LTAM. These flows were incorporated into the local models to create a 2030 "with LTC" scenario at each of the 11 modelled junctions. The findings of the modelling were as follows:

The following junctions operate within capacity and will continue to do so in the year 2030 with or without the Lower Thames Crossing scheme:

- A12 Colchester Road/Harold Court Road;
- A127 Southend Arterial Road/Wingletye Lane; \*
- A13/Marsh Way;
- A127/Front Lane;
- A13/A1306 Wennington Road (Wennington Interchange); and
- A124 St Mary's Lane/Station Road/B1421 Corbetts Tey Road (Bell Corner).

The following junctions will operate over capacity in 2030, with or without the LTC, however, there may be scope to improve the these junctions:

- A12 Colchester Road/Gubbins Lane/Gooshays Drive;
- A12 Eastern Avenue/Pettits Lane/Pettits Lane North.

The LTC causes the following junction to operate over capacity (i.e. without the LTC, ~~this~~ ~~ese~~ junctions would operate with reserve capacity in 2030):

- A127 Southend Arterial Road/Hall Lane.
- ~~A12 Eastern Avenue/Pettits Lane/Pettits Lane North.~~

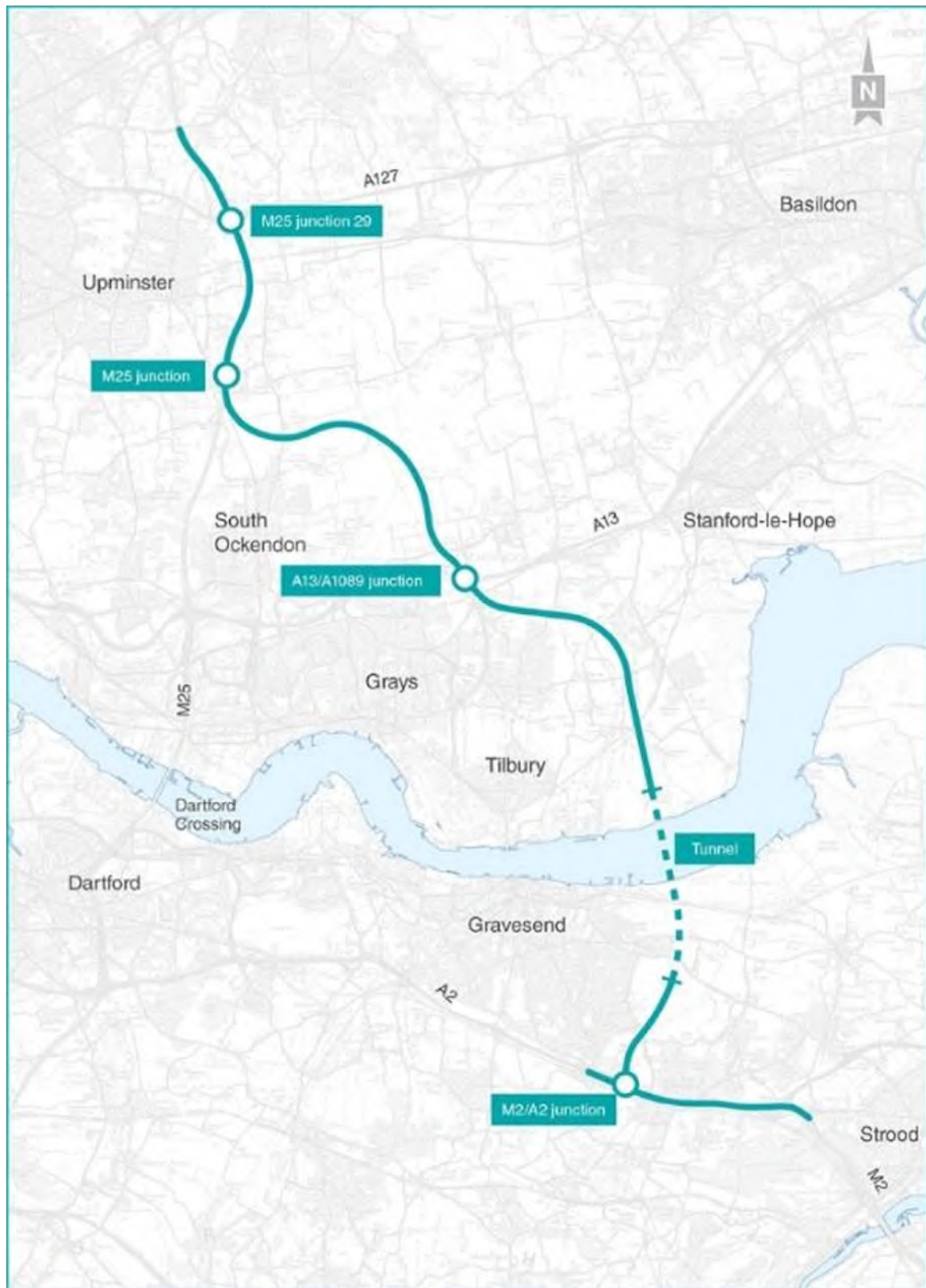
The following junctions are severely over-capacity, both now and in the 2030 Do Something scenario. As such these junctions will likely require amendments to the strategic network to alleviate the strain on these junctions:

- A12/North Street/B175 Havering Road;
- A127 Southend Arterial Road/Ardleigh Green Road/Squirrels Heath Road.

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## 1.0 INTRODUCTION

- 1.1 Cole Easdon (CE) has been instructed jointly by the London Borough of Havering (LBH) and Transport for London (TfL) to prepare a Report to consider the impacts of the proposed Lower Thames Crossing (LTC) on the operation of 11 junctions within the borough.
- 1.2 The LTC is a proposed new road scheme being promoted by National Highways that will deliver a new river crossing east of the existing Queen Elizabeth Bridge. The scheme will provide a new connection between the A2/M2 in Kent via a twin-bored tunnel underneath the Thames to the A13. A new three lane northbound and two-lane southbound road will then connect through to the M25 between junctions 29 and 30 within Havering.
- 1.3 The road would be approximately 23km long, 4.25km of which would be in tunnel. The tunnel entrances would be located to the east of the village of Chalk on the south of the River Thames and to the west of East Tilbury on the north side. A Plan indicating the proposed scheme is shown within Figure 1.1 below.



**Figure 1.1: Route of the Lower Thames Crossing**

- 1.4 The scheme is classified as a Nationally Significant Infrastructure Project (“NSIP”) under Part 5 of the Planning Act 2008 as amended by the Localism Act 2011.
- 1.5 LB Havering has responded to several public consultations on the Lower Thames Crossing scheme in recent years. A statutory (section 42) consultation took place towards the end of 2018. A Supplementary Consultation was undertaken in early 2020 and a further Design Refinement Consultation took place during the early summer 2020. The last public consultation that LB Havering responded to was the Local Refinement Consultation in June 2022.
- 1.6 To obtain consent, the scheme promoter is required to progress the scheme through the Planning Act 2008 Development Consent Order (DCO) process.
- 1.7 At the end of October 2022, National Highways submitted their application to the Planning Inspectorate (PINS). PINS decided to formally accept the application for Examination on 28th November. The project has now entered the pre-Examination period, and this is expected to last between 3 – 5 months. This will then be followed by a six month Examination by the Planning Inspectorate.
- 1.8 As part of their planning submission, National Highways has undertaken a review of potential impacts on twelve of Havering’s local junctions but has not undertaken local junction surveys that would provide a reliable baseline. Instead, their modelling has been based on a wide area strategic SATURN model covering large parts of the South East of England.
- 1.9 This study has been commissioned to enable the LB Havering to understand the impact on 11 key junctions within Havering of the additional traffic forecast to be generated by the LTC scheme. The following junctions have been considered:
- A12/North Street/B175 Havering Road;
  - A12 Eastern Avenue/Pettits Lane/Pettits Lane North;
  - A12 Colchester Road/Harold Court Road;
  - A12 Colchester Road/Gubbins Lane/Gooshays Drive;
  - A127 Southend Arterial Road/Ardleigh Green Road/Squirrels Heath Road;
  - A127 Southend Arterial Road/Wingletye Lane;
  - A127 Southend Arterial Road/Hall Lane;
  - A127 Southend Arterial Road/Front Lane;
  - A13/Marsh Way;
  - A13/A1306 Wennington Road (Wennington Interchange); and
  - A124 St Mary’s Lane/Station Road/B1421 Corbetts Tey Road (Bell Corner)

- 1.10 The location of the above junctions is shown on CE Plan 9190/201 [*Junction Locations*] included within Appendix 1.
- 1.11 In order to obtain up-to-date baseline survey data, traffic surveys at these junctions were carried out by Advanced Transport Research between 0700-1900 on 10<sup>th</sup>, 11<sup>th</sup> and 12<sup>th</sup> May 2023 via CCTV. Each of the junctions has been analysed using either Linsig V3 or Junctions 10 as appropriate. Further detail regarding the scope of the junction modelling and methodology, together with the modelling results is provided within Section 4 of this Report.
- 1.12 In addition to capacity considerations, LB Havering also wishes to consider the implications for pedestrians, cyclists and public transport. In this regard, CE have conducted an assessment of each junction in its existing layout against a number of the Mayor's 'Healthy Streets' criteria so as to highlight any deficiencies and potential areas for improvement with regard to pedestrians, cyclists and public transport. This analysis is presented within Section 2 of this Report.

### Report Structure

- 1.13 The Report is structured as follows:
- Section 2.0 considers each of the junctions in relation to certain of the Healthy Streets criteria;
  - Section 3.0 provides analysis of the most recent 5 year period of personal injury accident data for each junction;
  - Section 4.0 sets out the results of the junction modelling at each of the 11 junctions; and
  - Section 5.0 summarises and concludes the Report.



## 2.0 HEALTHY STREETS ASSESSMENT

2.1 In order to provide an assessment of each junction in terms of its current facilities/suitability for pedestrians, cyclists and public transport, CE has had regard to TfL’s Healthy Streets indicators. These are used to assess how well a street performs in terms of its attractiveness for pedestrians, cyclists and public transport users.

2.2 Owing to this study’s particular focus on individual junctions rather than streets per se, we have considered 5 of the Healthy Streets indicators as follows:

- easy to cross;
- not too noisy;
- people choose to walk, cycle and use public transport;
- people feel safe; and
- people feel relaxed.

2.3 Each of the junctions is assessed in the following Tables.

**Table 2.1 Junction 1 - A12/A125 North Street/B175 Havering Road**

Healthy Street Indicator	Comments / Observations	Suggested Areas for Improvement
Easy to cross	Lack of controlled pedestrian crossing facilities on the A12 (West), North Street and Havering Road. A high number of U-turn manoeuvres were observed with traffic travelling westbound on the A12. This is a particular concern owing to potential for conflict with pedestrian crossings. There is also a primary school located to the north of the junction on Havering Road and pupils are likely to cross this junction.	Consider installation of controlled pedestrian crossing facilities. Consider implementing a camera enforced U-turn ban
Not too noisy	The junction is heavily trafficked and therefore noisy.	Limited/no scope to improve this. Additional tree planting and landscaping would however provide a degree of noise mitigation.
People choose to walk, cycle and use public transport	The junction has limited pedestrian crossing facilities and only one cycle lane and one Advance Stop Line for cyclists, located on North Street. Footways on each arm of the junction are generally of a good width however. Bus services operate along all arms of the junction and there are 5 bus stops within 300m. There are however no bus priority measures through the junction although a northbound bus	Consider redesign of junction to accommodate controlled pedestrian / cycle crossing facilities on all arms of the junction. Consider implementing a camera enforced U-turn ban. Consider opportunities for bus priority measures to encourage modal shift.

Healthy Street Indicator	Comments / Observations	Suggested Areas for Improvement
	lane is provided on North Street, terminating approximately 100m south of the junction.	
People feel safe	The lack of controlled crossing facilities means that many people will not feel safe crossing this junction. The high number of U-turning vehicles is also a safety concern.	As above.
People feel relaxed	The traffic noise combined with the lack of controlled crossing points means that many people will not feel relaxed.	As above.

**Table 2.2 Junction 2 - A12/Pettits Lane**

Healthy Street Indicator	Comments / Observations	Suggested Areas for Improvement
Easy to cross	No controlled pedestrian crossing facilities provided on any arm. A high number of U-turn manoeuvres were observed with traffic travelling westbound on the A12. This is a particular concern owing to potential for conflict with pedestrian crossings. The traffic islands for pedestrians to wait on to cross Pettits Lane are narrow with limited space, especially for larger groups. There is also no tactile paving present on any of the pedestrian crossing points. Pedestrians crossing the Eastern Avenue (east) arm of the A12 must also negotiate crossing 7 lanes of traffic in total. A footbridge is provided on Eastern Avenue (west) allowing pedestrians to cross on the west side of the junction, however It is a lengthy detour to use the bridge and not a convenient or direct route.	Consider installation of controlled pedestrian crossing facilities on all arms. Consider implementing a camera enforced U-turn ban. Install tactile paving where required. Consider a more compact junction layout that is easier for pedestrians and cyclists to negotiate.
Not too noisy	The junction is heavily trafficked and therefore noisy.	Limited/no scope to improve this. Additional tree planting and landscaping would however provide a degree of noise mitigation.
People choose to walk cycle, and use public transport	The junction has no pedestrian crossing facilities and no facilities for cyclists (such as cycle lanes and Advanced Stop Lines). The junction is large/sprawling and not particularly conducive to safe/convenient pedestrian movement. Bus stops are located in close proximity to the junction on the A12	Consider redesign of junction to accommodate controlled pedestrian / cycle crossing facilities on all arms of the junction. Consider implementing a camera enforced U-turn ban. Consider opportunities for bus priority measures to encourage modal shift.

Healthy Street Indicator	Comments / Observations	Suggested Areas for Improvement
	Eastern Avenue and on Pettits Lane (N and S). These can be accessed via good width footways/paths. There are no bus priority facilities at the junction	
People feel safe	The lack of controlled crossing facilities means that many people will not feel safe crossing this junction. The high number of U-turning vehicles is also a safety concern.	As above.
People feel relaxed	The traffic noise combined with the lack of controlled crossing points means that many people will not feel relaxed.	As above.

**Table 2.3 Junction 3 - A12/Harold Court Road**

Healthy Street Indicator	Comments / Observations	Suggested Areas for Improvement
Easy to cross	No controlled pedestrian crossing facilities on any arm. The pedestrian refuge island on Harold Court Road is narrow with limited space for pedestrians to wait, particular with pushchairs. A subway is however provided to the west of the junction to allow pedestrians across the A12.	Consider installation of controlled pedestrian crossing on Harold Court Road.
Not too noisy	The A12 is heavily trafficked and therefore noisy.	Limited/no scope to improve this. Additional tree planting and landscaping would however provide a degree of noise mitigation.
People choose to walk, cycle, and use public transport	The junction has no controlled pedestrian crossing facilities and no facilities for cyclists (such as cycle lanes and Advanced Stop Lines). An offroad cycle route provided on the south side of the A12. Access to it requires the crossing Harold Court Road for which there is no formal means to do so.  There are bus stops situated in close proximity to the junction on the A12 and on Harold Court Road albeit there are no bus priority facilities provided. However, the frequency of the bus service along these roads is only 3-4 per hour therefore such measures may not be justified.	Consider provision of a controlled crossing facility on Harold Court Road as part of the junction layout.

Healthy Street Indicator	Comments / Observations	Suggested Areas for Improvement
People feel safe	The lack of controlled crossing facilities means that many people will not feel safe crossing this junction.	As above.
People feel relaxed	The traffic noise combined with the lack of controlled crossing points means that people may not feel relaxed.	As above.

**Table 2.4 Junction 4 - A12/Gubbins Lane**

Healthy Street Indicator	Comments / Observations	Suggested Areas for Improvement
Easy to cross	There are no controlled pedestrian crossing facilities on Gooshays Drive or Gubbins Lane, and no crossing at all on the A12(w). A signalised pedestrian crossing facility is provided on the A12 (east).	Consider installation of controlled crossing facilities.
Not too noisy	The A12 is heavily trafficked and therefore the area is noisy.	Limited/no scope to address this. Additional tree planting and landscaping would however provide a degree of noise mitigation.
People choose to walk, cycle and use public transport.	The lack of pedestrian and cycle facilities at this junction and along the A12 generally mean that very few people are likely to choose to walk and cycle. There are bus stops on Gooshays Drive, Gubbins Lane and on the A12 in close proximity to the junction although there are no bus priority facilities.	Consider redesign of junction to incorporate improved pedestrian and cycle crossing facilities. Consider opportunities for bus priority measures to encourage modal shift.
People feel safe	The lack of controlled crossing facilities and high traffic volumes means that few people are likely to feel safe. A high number of U-turn manoeuvres were observed by vehicles heading westbound on the A12 which further compromises the safety of the junction for pedestrians, who may not be expecting U-turning vehicles when making their decision to cross.	As above as well as consider a formal camera enforced U-turn ban.
People feel relaxed	The high traffic volumes, noise and lack of controlled crossing facilities is likely to mean that people do not feel relaxed.	

**Table 2.5 Junction 5 - A127/Ardleigh Green Road/Squirrels Heath**

Healthy Street Indicator	Comments / Observations	Suggested Areas for Improvement
Easy to cross	There are no controlled pedestrian crossing facilities provided at the junction. There are no pedestrian crossing facilities at all on the A127 (S). A footbridge is provided over the A127(N). There is no tactile paving present on Ardleigh Green Road and the pedestrian 'island' on this road doesn't line up with the dropped kerbs. There is also no tactile paving present at the informal crossing point on Squirrels Heath Road. The pedestrian islands on both Ardleigh Green Road and Squirrels Heath Road are both very narrow and of an inadequate width for people with pushchairs or in wheelchairs.	Consider installation of controlled crossing facilities, together with tactile paving.
Not too noisy	The A12 is heavily trafficked and therefore the area is noisy.	Limited/no scope to address this. Additional tree planting and landscaping would however provide a degree of noise mitigation.
People choose to walk, cycle and use public transport	The lack of pedestrian and cycle facilities at this junction and along the A127 generally mean that very few people are likely to choose to walk and cycle. The footway on Ardleigh Green Road is somewhat narrow and on its northern side its usable width is impacted by trees. There are bus stops in close proximity to the junction on Ardleigh Green Road and Squirrels Heath Road.	Consider redesign of junction to incorporate improved pedestrian and cycle crossing facilities. Consider opportunities to install bus priority measures to encourage modal shift to bus services, thereby helping to alleviate some of the pressure on this junction.
People feel safe	The lack of controlled crossing facilities and high traffic volumes means that few people are likely to feel safe. A high number of U-turn manoeuvres were observed by vehicles heading northbound on the A127 which further compromises the safety of the junction for pedestrians, who may not be expecting U-turning vehicles when making their decision to cross.	As above as well as consider a formal camera enforced U-turn ban.
People feel relaxed	The high traffic volumes, noise and lack of controlled crossing facilities is likely to mean that people do not feel relaxed.	Improved crossing facilities would assist with making people feel more relaxed.

**Table 2.6 Junction 6 - A127/Wingletye Lane**

Healthy Street Indicator	Comments / Observations	Suggested Areas for Improvement
Easy to cross	There are no pedestrian crossing facilities across Wingletye Lane or the A127 in this location. The A127 constitutes major severance between the development north and south of this road.	Consider feasibility of signalling this junction to introduce pedestrian crossing facilities.
Not too noisy	In the vicinity of the junction, the A127 is heavily trafficked and also subject to a 50mph speed limit and is therefore noisy.	Limited/no scope to improve this. Additional tree planting and landscaping would however provide a degree of noise mitigation.
People choose to walk, cycle and use public transport	In the vicinity of the junction, the A127 is subject to a 50mph speed limit and is heavily trafficked therefore people are unlikely to choose to walk and cycle through this junction. There are no bus stops in the vicinity of the junction	As above, consider feasibility of signalling the junction to introduce pedestrian crossing facilities.
People feel safe	The speed and volume of traffic along the A127 means that people are unlikely to feel safe. The junction is also fairly remote and lacks natural surveillance.	Signalisation of the junction would reduce vehicle speeds and provide an opportunity for pedestrian crossing facilities.
People feel relaxed	For the same reasons as given above for 'people feel safe', people are unlikely to feel relaxed.	As above.

**Table 2.7 Junction 7 - A127/Hall Lane**

Healthy Street Indicator	Comments / Observations	Suggested Areas for Improvement
Easy to cross	An uncontrolled pedestrian crossing with tactile paving and refuge island is provided where the A127 northbound offslip meets Hall Road, facilitating north-south movement along Hall Lane. There are no east-west crossings across Hall Lane although these are not considered to be necessary owing to the lack of development on either side of Hall Lane.	No interventions considered necessary
Not too noisy	The junctions are relatively lightly trafficked and not too noisy.	No interventions considered necessary
People choose to walk, cycle and use public transport	There is a shared foot/cycle provided along Hall Lane facilitating a traffic-free connection to the northern edge of Upminster to Pages Wood. There are no bus stops in the vicinity of the junction.	No interventions considered necessary

Healthy Street Indicator	Comments / Observations	Suggested Areas for Improvement
People feel safe	Hall Lane is relatively lightly trafficked and does benefit from a shared foot/cycle way, together with street lighting. Most people would likely feel safe using Hall Lane, particularly during the hours of daylight.	No interventions considered necessary
People feel relaxed	For the reasons identified above, it is also considered that most people would feel relaxed in this location.	No interventions considered necessary

**Table 2.8 Junction 8 - A127 Front Lane**

Healthy Street Indicator	Comments / Observations	Suggested Areas for Improvement
Easy to cross	There are no pedestrian crossing facilities on Front Lane. There is a staggered informal crossing over the A127 however this is not considered to be a safe crossing owing to the speed limit of the road (50mph), absence of tactile paving and the need to cross 4 lanes of traffic. We recommend that a survey is conducted and a Report produced to assess the existing usage of this crossing so as to inform future discussions about its retention, removal, or possible alteration.	There is limited development on the north side of the A127 in this location and therefore the demand for north-south pedestrian movement across this road is likely to be low therefore no interventions are considered necessary, except for the possible removal or alteration of the existing staggered crossing if deemed appropriate following further survey work.
Not too noisy	The speed and volume of traffic along the A127 means that it is noisy.	Limited/no scope to change this.
People choose to walk, cycle and use public transport	The nature of the A127 means that people are unlikely to choose to walk and cycle. The footway provision along both Front Lane and the A127 is also very narrow.	No interventions considered necessary owing to the character of the A127 in this location.
People feel safe	The nature of the A127 means that people are unlikely to feel safe.	No interventions considered necessary owing to the character of the A127 in this location.
People feel relaxed	The nature of the A127 means that people are unlikely to feel relaxed.	No interventions considered necessary owing to the character of the A127 in this location.



**Table 2.9 Junction 9 - Marsh Way / A13 Junction**

Healthy Street Indicator	Comments / Observations	Suggested Areas for Improvement
Easy to cross	Controlled pedestrian crossing facilities are provided on Marsh Way (North and South arms), the A13 westbound offslip, the A13 eastbound onslip, and Consul Avenue. There are no crossing facilities on the A13 westbound onslip, eastbound offslip, or Courier Road.	Consider provision of pedestrian crossing facilities on those arms without them at present, and also consider provision of a foot/cycleway along the western side of Marsh Way between the two roundabouts.
Not too noisy	Whilst the junction is busy, the relatively low speed of traffic means that the area is not too noisy.	No interventions considered necessary.
People choose to walk, cycle and use public transport	There is a shared foot/cycle way along Marsh Way facilitating north-south movement through this junction. There is also a shared foot/cycle path along Consul Avenue. There are a pair of bus stops on the north side of Marsh Way in close proximity to the junction, served by a 10 minute frequency service and accessed via good width footways.	Consideration implementation of infrastructure as outlined above, as well as installation of Advanced Stop Lines for cyclists.
People feel safe	The area is well lit and generally considered to feel safe.	No interventions considered necessary
People feel relaxed	The generally good pedestrian and cycle provision through the junction means that people are likely to feel reasonably relaxed.	No interventions considered necessary.

**Table 2.10 Junction 10 - A13/A1306 Wennington Road (Wennington Interchange)**

Healthy Street Indicator	Comments / Observations	Suggested Areas for Improvement
Easy to cross	The junction incorporates uncontrolled crossing facilities for pedestrians and cyclists but due to the volume and speed of traffic it is not considered easy to cross. However, pedestrian movement in the area is low and the installation of controlled crossing facilities is unlikely to be justified.	The crossing points lack tactile paving and this should be remedied to improve safety.
Not too noisy	The volume and speed of traffic means that the junction is noisy.	Little/no scope to improve this. Additional tree planting and landscaping would however provide a degree of noise mitigation.
People choose to walk, cycle and use public transport.	The A3106 incorporates a shared foot/cycle way along both sides of the carriageway and therefore is conducive to encouraging walking and cycling. The foot/cycle way	Consider resurfacing of the foot/cycle ways through the junction and the cutting back of vegetation.



Healthy Street Indicator	Comments / Observations	Suggested Areas for Improvement
	surface is however in a poor state of repair in various locations and the usable width is also impacted by overgrown vegetation in places. There are no bus stops in the vicinity of the junction.	
People feel safe	The junction is lit and does incorporate dedicated pedestrian and cycle facilities. However, the speed and volume of traffic, and lack of controlled crossings may mean that some people do not feel safe.	Consider feasibility of introducing a controlled pedestrian / cycle crossing to enhance safety.
People feel relaxed	The volume and speed of traffic through the junction means that people are unlikely to feel relaxed.	

**Table 2.11 Junction 11 - A124/Station Road/B1421 (Bell Corner)**

Healthy Street Indicator	Comments / Observations	Suggested Areas for Improvement
Easy to cross	There are signal controlled pedestrian crossing facilities with tactile paving across every arm of the junction.	No improvements considered necessary
Not too noisy	The speed of traffic is relatively low and therefore the junction is not too noisy.	No improvements considered necessary.
People choose to walk, cycle and use public transport	The junction is situated in a high street location and therefore pedestrian activity is fairly high. The footways on all arms of the junction are of a good width to accommodate the pedestrian flow. Cycle parking is also provided at locations close to the junction indicating that people also choose to cycle. There are bus stops located on all 4 approach arms of the junction although there are no bus priority facilities. The bus stops can all be accessed via good width footways and via the abovementioned crossings.	Consider provision of cyclist Advanced Stop Lines. Consider opportunities for bus priority measures to encourage modal shift.
People feel safe	The town centre location with high footfall levels combined with the presence of signal-controlled crossing facilities means that most people will feel safe. Street lighting is also provided.	No improvements considered necessary

Healthy Street Indicator	Comments / Observations	Suggested Areas for Improvement
People feel relaxed	For the same reasons as given for 'people feel safe', people are likely to feel relaxed.	No improvements considered necessary

2.4 Table 2.12 provides a summary of the suggested interventions at each junction based on the Healthy Streets assessment.

**Table 2.12 Summary of suggested interventions based on Healthy Streets Assessment**

Junction	Suggested Interventions
A12/A125 North Street/B175 Havering Road	Consider installation of controlled pedestrian crossing facilities. Consider implementing a camera enforced U-turn ban. Consider potential for bus priority measures
A12/Pettits Lane	Consider installation of controlled pedestrian crossing facilities on all arms. Consider implementing a camera enforced U-turn ban. Install tactile paving where required. Consider a more compact junction layout that is easier for pedestrians and cyclists to negotiate. Consider potential for bus priority measures.
A12/Harold Court Road	Consider provision of a controlled crossing facility on Harold Court Road as part of the junction layout.
A12/Gubbins Lane	Consider redesign of junction to incorporate improved pedestrian and cycle crossing facilities. Consider incorporating a camera-enforced U-turn ban and opportunities for bus priority measures.
A127/Ardleigh Green Road/Squirrels Heath	Consider installation of controlled crossing facilities, together with tactile paving. Consider opportunities for bus priority measures.
A127/Wingletye Lane	Consider feasibility of signalling this junction and adding pedestrian crossing facilities to reduce the impact of the north-south severance caused by the A127.
A127/Hall Lane	No interventions identified.
A127/Front Lane	No interventions identified
A13/Marsh Way	Consider provision of pedestrian crossing facilities on those arms without them at present, and also consider provision of a foot/cycleway along the western side of Marsh Way between the two roundabouts. Consider installation of Advance Stop Lines for cyclists.
A13/A1306 Wennington Road	The crossing points lack tactile paving and this should be remedied to improve safety. Consider resurfacing of the foot/cycle ways through the junction and the cutting back of vegetation.
A124 St Mary's Lane/Station Road/B1421 (Bell Corner)	Consider provision of cyclist Advanced Stop Lines and opportunities for bus priority measures.

### 3.0 ACCIDENT ANALYSIS

3.1 Cole Easdon obtained Personal Injury Accident Data for the most recent five-year period available (1st January 2018 and 31st December 2022) from TfL for all 11 junctions within the study area.

#### Study Area

3.2 The study area for each of the junctions is summarised in Table 3.1. Figures 3.1 to 3.11 show an aerial view<sup>1</sup> of each study area together with the locations of each accident. For each of the Figures below, green dots represent a slight accident whilst blue dots represent a serious accident and red dots represent a fatal accident.

**Table 3.1: Personal Injury Accident Study Area**

Junction	Study Area
1: A12 / North Street	<ul style="list-style-type: none"> <li>▪ North Street between Eastern Avenue in the north and Romford bus garage in the south;</li> <li>▪ Havering Road between Eastern Avenue in the south and Collier Row Lane in the north; and</li> <li>▪ Eastern Avenue between the access into the Dunelm store in the west and the Texaco petrol station in the east.</li> </ul>
2: A12 / Petits Lane	<ul style="list-style-type: none"> <li>▪ Petits Lane from the junction with Heather Gardens in the north across the A12 junction to Marshalls Academy in the south; and</li> <li>▪ Eastern Avenue between Heather Avenue in the west and Rise Park Boulevard in the east.</li> </ul>
3: A12 / Harold Court Road	<ul style="list-style-type: none"> <li>▪ Harold Court Road between Colchester Road in the north and Church Road / Ingreway in the south; and</li> <li>▪ Colchester Road between Geoffrey Avenue in the west and Maylands Way in the east.</li> </ul>
4: A12 / Gubbins Lane	<ul style="list-style-type: none"> <li>▪ Gubbins Lane between Colchester Road in the north and Ridgeway in the south;</li> <li>▪ Gooshays Drive between Colchester Road in the south and Camborne Avenue in the north; and</li> <li>▪ Colchester Road between Kersey Gardens / New Hall Drive in the west and Avenue Road in the east.</li> </ul>
5: A127 / Ardleigh Green Road	<ul style="list-style-type: none"> <li>▪ Ardleigh Green Road between Southend Arterial Road in the east and Ardleigh Close in the west;</li> <li>▪ Squirrels Heath Road between Southend Arterial Road in the west and Redden Court Road in the east; and</li> <li>▪ Southend Arterial Road between Bryant Avenue in the northwest and Cecil Avenue in the southeast.</li> </ul>
6: A127 / Wingletye Lane	<ul style="list-style-type: none"> <li>▪ Wingletye Lane between Southend Arterial Road in the north and Essex Gardens in the south; and</li> <li>▪ Southend Arterial Road between Redden Court Road in the northwest and the BP petrol station in the southeast.</li> </ul>
7: A127 / Hall Lane	<ul style="list-style-type: none"> <li>▪ Hall Lane to the north and south of the Southend Arterial Road including slip roads; and</li> <li>▪ Southend Arterial Road either side of the Hall Lane interchange.</li> </ul>

<sup>1</sup> Source: Transport for London

Junction	Study Area
8: A127 / Front Lane	<ul style="list-style-type: none"> <li>Front Lane between Southend Arterial Road in the north and Oak Royal Nurseries; and</li> <li>Southend Arterial Road between Wanderers Haven Animal Sanctuary and Cranham Leisuresales.</li> </ul>
9: A13 / Marsh Lane	<ul style="list-style-type: none"> <li>Marsh Way between the C2C Railway line in the north and western access into CEME; and</li> <li>Slip roads onto the A13 to the east and west of the Marsh Way interchange.</li> </ul>
10: A13 / A1306	<ul style="list-style-type: none"> <li>Aerial Road between Redcorn in the south and the A13/A1306 interchange;</li> <li>New Road between A13/A1306 interchange in the south and Sandy Lane in the north; and</li> <li>Slip roads onto the A13 either side of the A13/A1306 interchange.</li> </ul>
11: St Mary's Lane / Station Road	<ul style="list-style-type: none"> <li>Station Road between St Mary's Lane in the south and Upminster Station in the north;</li> <li>Corbets Tey Road between St Mary's Lane in the north and the southern boundary of Upminster Park in the south; and</li> <li>St Mary's Lane between Cranbourne Gardens in the west and the Waitrose supermarket in the east.</li> </ul>



**Figure 3.1: Collision Study Area – A12 / North Street**





**Figure 3.2:** Collision Study Area – A12 / Pettits Lane



**Figure 3.3:** Collision Study Area – A12 / Harold Court Road



**Figure 3.4:** Collision Study Area – A12 / Gubbins Lane



**Figure 3.5:** Collision Study Area – A127 / Ardleigh Green Road





**Figure 3.6:** Collision Study Area – A127 / Wingletye Lane



**Figure 3.7:** Collision Study Area – A127 / Hall Lane



**Figure 3.8:** Collision Study Area – A127 / Front Lane



**Figure 3.9:** Collision Study Area – A13 / Marsh Way





**Figure 3.10:** Collision Study Area – A13 / A1306



**Figure 3.11:** Collision Study Area – St Mary's Lane / Station Road

### Accidents by Year

3.3 Table 3.2 provides a summary of the number of accidents recorded at each junction by year.

**Table 3.2: Personal Injury Accidents by Year**

Junction	2018	2019	2020	2021	2022	Total
1: A12 / North Street	8	9	7	6	8	38
2: A12 / Pettits Lane	6	5	4	6	4	25
3: A12 / Harold Court Road	5	6	2	1	2	16
4: A12 / Gubbins Lane	7	0	6	0	6	19
5: A127 / Squirrels Heath Road	4	3	3	3	6	19
6: A127 / Wingletye Lane	3	0	2	1	2	8
7: A127 / Hall Lane	5	5	3	2	4	19
8: A127 / Front Lane	1	2	1	1	2	7
9: A13 / Marsh Lane	6	3	1	5	2	17
10: A13 / A1306	1	3	3	0	1	8
11: St Mary's Lane / Station Road	2	5	0	0	2	9
<b>TOTAL</b>	<b>48</b>	<b>41</b>	<b>32</b>	<b>25</b>	<b>39</b>	<b>185</b>

3.4 From Table 3.2 it can be seen that the junction with the highest number of accidents is that of the A12 with North Street, accounting for approximately 20% of the total number of accidents across the 11 junctions analysed, whilst some 13.5% of the total number of accidents occurred at the A12 / Pettits Lane junction. These two junctions combined account for a third of all accidents recorded within the study area. The A12/North Street junction averages greater than 1 accident every 2 months over the study period (38 accidents in 60 months). The junction with the fewest number of accidents is the A127/Front Lane with just 7 over the 5 year period analysed.

3.5 It is recommended that a more detailed review is conducted in particular of the A12 / North Street, A12 / Pettits Lane, A12 Gubbins Lane, A127 Ardleigh Green Road and Hall Lane junctions with regard to possible safety improvements (including the carrying out of Road Safety Audits). This Report has already identified deficiencies with the pedestrian crossing facilities at these junctions (and others), together with the high numbers of U-turn manouevres that occur at these junctions which should also be considered as part of any future mitigation measures. Independent Road Safety Audits of the two junctions with the highest number of accidents may help to identify possible remedial measures.

#### Accidents by Severity

3.6 Table 3.3 provides a summary of the number of accidents recorded at each junction by severity.

**Table 3.3: Personal Injury Accidents by Severity**

Junction	Slight		Serious		Fatal	
	Accidents	Casualties	Accidents	Casualties	Accidents	Casualties
1: A12 / North Street	35	59	3	3	0	0
2: A12 / Petits Lane	21	36	4	4	0	0
3: A12 / Harold Court Road	15	29	1	1	0	0
4: A12 / Gubbins Lane	17	26	2	2	0	0
5: A127 / Ardleigh Green Road	16	30	2	4	1	2
6: A127 / Wingletye Lane	8	15	0	0	0	0
7: A127 / Hall Lane	17	30	1	1	1	1
8: A127 / Front Lane	5	7	1	1	1	1
9: A13 / Marsh Lane	15	18	1	1	1	1
10: A13 / A1306	7	8	0	0	1	1
11: St Mary's Lane / Station Road	9	11	0	0	0	0
<b>TOTAL</b>	<b>165</b>	<b>269</b>	<b>15</b>	<b>17</b>	<b>5</b>	<b>6</b>

3.7 Table 3.3 indicates that there have been some 20 serious and fatal accidents within the study area, accounting for approximately 11% of the total number of accidents. The largest concentration of serious accidents occurred at the A12/North Street and A12/Pettits Lane junctions, accounting for 7 out of the 15 accidents. The five fatal accidents were spread amongst 5 different junctions indicating that no one junction is especially problematic in that regard.

### Accidents by Type

3.8 Table 3.4 provides a summary of the number of accidents recorded at each junction by vehicles involved.

**Table 3.4 Personal Injury Accidents by Type**

Type	Junction 1	Junction 2	Junction 3	Junction 4	Junction 5	Junction 6	Junction 7	Junction 8	Junction 9	Junction 10	Junction 11	TOTAL
Car / Pedestrian	3		1								3	7
Car	3				1	1	1	2	2	1		11
Car / Car	13	12	5	9	5	3	12	2	7	6	1	75
X3 Car	3	3	1		3		1					11
X4 Car	1		1		2	1						5
Car / LGV	2	1	4	1	2	1	1	1	1	1		15

Type	Junction 1	Junction 2	Junction 3	Junction 4	Junction 5	Junction 6	Junction 7	Junction 8	Junction 9	Junction 10	Junction 11	TOTAL
Car / HGV			1				1		2			4
Car / Motorcycle	4	2		3		1	1	1	1			13
Car / Taxi	1	1				1						3
Car / Pedal Cycle	4	1		3							1	9
Car / Bus	1								1			2
Car / Minibus		1										1
Car / Other Vehicle											1	1
Bus Passenger	1	1		1							2	5
LGV / HGV	1		1									2
X2 Car / LGV	1		1		1		1					4
X2 Car / Minibus											1	1
X3 Car / LGV				1								1
X3 Car / HGV									1			1
X2 Car / X2 LGV		1										1
LGV / LGV					1							1
X2 LGV / Car			1									1
Motorcycle / LGV		1					1					2
Motorcycle / Taxi		1										1
Motorcycle / Other					1							1
Motorcycle / Ambulance									1			1
Motorcycle					1							1
Taxi / Wildlife				1								1
Minibus / LGV					1							1
X7 Car / LGV / X2 Pedestrian					1							1
2x Car / HGV / Other								1				1
LGV / Pedal Cycle									1			1

3.9 Table 3.4 reveals that there have been relatively few accidents involving pedestrians and cyclists across the 11 junctions, with just 8 involving pedestrians and 9 involving cyclists. A total of 7 of these occurred at the A12 / North Street junction, which also has the highest overall number of accidents. The low number of accidents involving pedestrians and cyclists generally across the study area is likely to be due to the characteristics of the junctions assessed. Pedestrian and cycle activity is likely to be relatively low owing to the high volume and speed of traffic, together with the provision of relatively poor pedestrian and cycle crossing facilities in the majority of locations.

- 3.10 The most common accident type involved two cars colliding. This is unsurprising given the high number of signalised junctions in particular, where rear shunt type accidents are common, together with accidents resulting from drivers disobeying traffic signals.

### Summary

- 3.11 The analysis in this Section has shown there to be a high number of accidents occurring at two of the junctions within the study area, these being the A12 / North Street and the A12 / Pettits Lane. The Healthy Streets analysis within Section 2.0 of the Report identified a recommendation for improved pedestrian crossing facilities at these junctions as well as consideration being given to the banning of U-turn manoeuvres, which are considered to be particularly dangerous. Other junctions including the A12 / Gubbins Lane, A127 / Ardleigh Road Green and A127 / Hall Lane also had relatively high numbers of accidents (19 each). We recommend that Road Safety Audits are carried out at the North Street, Pettits Lane, Gubbins Lane, Ardleigh Green Road and Hall Lane junctions to allow possible further remedial measures to be identified.
- 3.12 With the LTC forecast to increase traffic flows through the Ardleigh Green Road and Hall Lane junctions (as discussed within the next Section) it is recommended that specific consideration is given to safety mitigation measures that could be implemented at these junctions.
- 3.13 It should also be noted that, as explained within the next Section, that National Highways have not modelled the left turn flow from the A127 onto Wingletye Lane, where the LTC is predicted to increase this movement by 222 PCUs in the AM peak and 117 PCUs in the PM peak. Given the presence of two schools on Wingletye Lane in the vicinity of the A127 junction, we recommend that specific further work is carried out examining the potential requirements for safety improvements at this junction and more generally along Wingletye Lane.

## 4.0 JUNCTION MODELLING

- 4.1 This Section sets out the results of the capacity modelling carried out at the 11 junctions with the study area. To inform the modelling, turning counts were undertaken at the junctions between the hours of 0700-1900 on 10<sup>th</sup>, 11<sup>th</sup> and 12<sup>th</sup> May 2023.
- 4.2 The changes in flows caused by the LTC are taken from the National Highways 2030 LTAM. These flows were incorporated into the local models to create a 2030 “with LTC” scenario at each of the 11 modelled junctions.
- 4.3 The following junctions have been modelled using Linsig V3.1:
- A12/North Street/B175 Havering Road;
  - A12 Eastern Avenue/Pettits Lane/Pettits Lane North;
  - A12 Colchester Road/Harold Court Road;
  - A12 Colchester Road/Gubbins Lane/Gooshays Drive;
  - A127 Southend Arterial Road/Ardleigh Green Road/Squirrels Heath Road;
  - A127 Southend Arterial Road/Wingletye Lane;
  - A127 Southend Arterial Road/Front Lane;
  - A13/Marsh Way;
  - A124 St Mary’s Lane/Station Road/B1421 Corbetts Tey Road (Bell Corner).
- 4.4 The following junctions have been modelled using Junctions 10:
- A127 Southend Arterial Road/Hall Lane;
  - A13/A1306 Wennington Road (Wennington Interchange).
- 4.5 The junctions have been modelled for the following scenarios:
- 2023 Base utilising data from CCTV surveys conducted during May 2023;
  - 2030 (Do Minimum) through application of a TEMPRO growth factor to the 2023 surveyed flow;
  - 2030 Base + Lower Thames Crossing (Do Something).
- 4.6 In common with the modelling conducted by National Highways in support of their planning application to build the Lower Thames Crossing, the junctions have been modelled for the time periods of 0700-0800 and 1700-1800. It should be noted, however, that only 6% of the peak hours as surveyed at the various junctions matched these two modelled hour peaks. Refer to Table 4.1 below for the surveyed peak hours at the junctions considered.



**Table 4.1: Surveyed Peak Hours**

<b>Junction 1 - A12 / North Street</b>						
	Wednesday 10 <sup>th</sup> May 2023		Thursday 11 <sup>th</sup> May 2023		Friday 12 <sup>th</sup> May 2023	
	AM	PM	AM	PM	AM	PM
Surveyed peak hours	07:45 to 08:45	17:30 to 18:30	07:30 to 08:30	17:00 to 18:00	07:30 to 08:30	17:15 to 18:15
<b>Junction 2 - A12 / Pettits Lane</b>						
	Wednesday 10 <sup>th</sup> May 2023		Thursday 11 <sup>th</sup> May 2023		Friday 12 <sup>th</sup> May 2023	
	AM	PM	AM	PM	AM	PM
Surveyed peak hours	07:45 to 08:45	17:15 to 18:15	08:00 to 09:00	17:00 to 18:00	07:30 to 08:30	17:15 to 18:15
<b>Junction 3 - A12/Harold Court Road</b>						
	Wednesday 10 <sup>th</sup> May 2023		Thursday 11 <sup>th</sup> May 2023		Friday 12 <sup>th</sup> May 2023	
	AM	PM	AM	PM	AM	PM
Surveyed peak hours	07:00 to 08:00	17:15 to 18:15	07:30 to 08:30	17:00 to 18:00	07:45 to 08:45	17:00 to 18:00
<b>Junction 4 - A12/Gubbins Lane</b>						
	Wednesday 10 <sup>th</sup> May 2023		Thursday 11 <sup>th</sup> May 2023		Friday 12 <sup>th</sup> May 2023	
	AM	PM	AM	PM	AM	PM
Surveyed peak hours	07:30 to 08:30	17:15 to 18:15	07:30 to 08:30	17:00 to 18:00	07:30 to 08:30	17:00 to 18:00
<b>Junction 5 - A127/Ardleigh Green Road</b>						
	Wednesday 10 <sup>th</sup> May 2023		Thursday 11 <sup>th</sup> May 2023		Friday 12 <sup>th</sup> May 2023	
	AM	PM	AM	PM	AM	PM
Surveyed peak hours	07:15 to 08:15	16:30 to 17:30	07:15 to 08:15	16:15 to 17:15	07:15 to 08:15	17:45 to 18:45
<b>Junction 6 - A127/Wingletye Lane</b>						
	Wednesday 10 <sup>th</sup> May 2023		Thursday 11 <sup>th</sup> May 2023		Friday 12 <sup>th</sup> May 2023	
	AM	PM	AM	PM	AM	PM
Surveyed peak hours	07:00 to 08:00	17:00 to 18:00	07:15 to 08:15	16:30 to 17:30	07:15 to 08:15	17:15 to 18:15
<b>Junction7A - A127 - Hall Lane</b>						
	Wednesday 10 <sup>th</sup> May 2023		Thursday 11 <sup>th</sup> May 2023		Friday 12 <sup>th</sup> May 2023	
	AM	PM	AM	PM	AM	PM
Surveyed peak hours	07:30 to 08:30	16:45 to 17:45	07:30 to 08:30	16:30 to 17:30	07:45 to 08:45	16:00 to 17:00
<b>Junction7B - A127 - Hall Lane</b>						
	Wednesday 10 <sup>th</sup> May 2023		Thursday 11 <sup>th</sup> May 2023		Friday 12 <sup>th</sup> May 2023	
	AM	PM	AM	PM	AM	PM
Surveyed peak hours	07:30 to 08:30	17:30 to 18:30	07:45 to 08:45	16:15 to 17:15	07:45 to 08:45	16:00 to 17:00
<b>Junction 8 - A127/Front Lane</b>						
	Wednesday 10 <sup>th</sup> May 2023		Thursday 11 <sup>th</sup> May 2023		Friday 12 <sup>th</sup> May 2023	
	AM	PM	AM	PM	AM	PM
Surveyed peak hours	07:00 to 08:00	16:45 to 17:45	07:00 to 08:00	16:30 to 17:30	07:15 to 08:15	16:45 to 17:45
<b>Junction 9A - A13 - Marsh Way</b>						
	Wednesday 10 <sup>th</sup> May 2023		Thursday 11 <sup>th</sup> May 2023		Friday 12 <sup>th</sup> May 2023	
	AM	PM	AM	PM	AM	PM
Surveyed peak hours	09:30 to 10:30	16:30 to 17:30	07:45 to 08:45	16:15 to 17:15	07:30 to 08:30	16:15 to 17:15
<b>Junction 9B - A13 - Marsh Way</b>						
	Wednesday 10 <sup>th</sup> May 2023		Thursday 11 <sup>th</sup> May 2023		Friday 12 <sup>th</sup> May 2023	
	AM	PM	AM	PM	AM	PM
Surveyed peak hours	09:00 to 10:00	16:30 to 17:30	07:30 to 08:30	16:15 to 17:15	07:30 to 08:30	16:15 to 17:15
<b>Junction 10A - A13/A1306</b>						
	Wednesday 10 <sup>th</sup> May 2023		Thursday 11 <sup>th</sup> May 2023		Friday 12 <sup>th</sup> May 2023	
	AM	PM	AM	PM	AM	PM

Junction 10A - A13/A1306						
Surveyed peak hours	08:00 to 09:00	16:45 to 17:45	07:30 to 08:30	16:15 to 17:15	07:30 to 08:30	16:00 to 17:00
Junction 10B - A13/A1306						
	Wednesday 10 <sup>th</sup> May 2023		Thursday 11 <sup>th</sup> May 2023		Friday 12 <sup>th</sup> May 2023	
	AM	PM	AM	PM	AM	PM
Surveyed peak hours	08:00 to 09:00	16:15 to 17:15	07:30 to 08:30	16:15 to 17:15	07:15 to 08:15	16:00 to 17:00
Junction 11 - St Mary's Lane - Station Road						
	Wednesday 10 <sup>th</sup> May 2023		Thursday 11 <sup>th</sup> May 2023		Friday 12 <sup>th</sup> May 2023	
	AM	PM	AM	PM	AM	PM
Surveyed peak hours	07:30 to 08:30	17:15 to 18:15	07:30 to 08:30	17:00 to 18:00	08:00 to 09:00	17:00 to 18:00

- 4.7 From Table 4.1 it can be seen that the surveyed peak hours at the majority of the junctions considered do not coincide with the peak hours modelled by National Highways. It is noted that the LTAM models the network peaks (0700-0800 and 1700-1800) for the Strategic Road Network (specifically the M25). Naturally, the peak hour at local junctions will vary according to local factors such as the nearby presence of schools and colleges and large employment sites for example. However, in many cases (though not all), the flows modelled by National Highways were higher than the surveyed 2023 0700-0800 and 0800-0900 flows, and therefore the overall difference in modelling outcomes is unlikely to be significantly changed.
- 4.8 There may be some merit, as part of a future study, in conducting further modelling of the junctions to suit the 2023 surveyed peak hours so that the performance of each of the junctions during the local peak hours can be better understood. Notwithstanding this, the interventions and recommendations identified in this Report are still considered to be valid and representative in light of the fact that the differences in flows between the modelled peaks and the local peaks are unlikely to be particularly significant.
- 4.9 The following TEMPRO growth factors were derived to obtain the 2030 base flows from the 2023 surveyed flows as set out in Table 4.2.

**Table 4.2: 2023 to 2030 Tempro Growth Factors**

AM Weekday		RTF15 (Sc1 Table 1, London)	Tempro Weekday AM Peak for Local Area (ORIGIN / DESTINATION)	Tempro Average Weekday for London (ORIGIN / DESTINATION)	(A*B)/C
Year From	Year To	A	B	C	D
2023	2030	1.0591	1.0519	1.0645	1.0466
PM Weekday		RTF15 (Sc1 Table 1, London)	Tempro Weekday PM Peak for Local Area (ORIGIN / DESTINATION)	Tempro Average Weekday for London (ORIGIN / DESTINATION)	(A*B)/C



AM Weekday		RTF15 (Sc1 Table 1, London)	Tempro Weekday AM Peak for Local Area (ORIGIN / DESTINATION)	Tempro Average Weekday for London (ORIGIN / DESTINATION)	(A*B)/C
Year From	Year To	A	B	C	D
2023	2030	1.0591	1.0575	1.0645	1.0521

\* Tempro Geographical Area - E02000472 : Havering 009 (2011 super output area - middle layer)

4.10 It should be noted that the flows in the LTAM were growthed to 2030 utilising data from known/planned committed developments rather than through application of a TEMPRO growth factor. This is considered to be a conservative approach which may underestimate the flows.

4.11 The following tables set out the results of the junction performance modelling that has been undertaken at each of the 11 junctions, together with the relevant traffic flows. The following definitions apply to the various junction modelling results tables that follow:

- *Do Minimum (DM)* – the baseline case (i.e. without the LTC being built);
- *Do Something (DS)* – with the project i.e. the LTC built and operational;
- *Practical Reserve Capacity (PRC)* – the reserve (spare) capacity at a junction. A negative value indicates that the demand on the junction exceeds 100% of its capacity;
- *Mean Max Queue (MMQ)* - The Mean Maximum Queue is the sum of the Maximum Back of Uniform Queue and the Random & Oversaturation Queue. It represents the maximum queue within a typical cycle averaged over all the cycles within the modelled time period. When a Lane is oversaturated the Maximum Queue within each cycle will grow progressively over the modelled time period. This means that the Mean Maximum Queue will be approximately half the final queue at the end of the modelled time period;
- *Ratio of Flow to Capacity* - The ratio of flow to capacity provides a measure of the utilised capacity of a junction approach arm. Arms exceeding a ratio of 0.85 (i.e. 85% capacity utilised) are considered to be approaching capacity at which point, queueing and delays start to increase;
- *Delay* – the average delay incurred by each vehicle arriving at the junction;
- *Level of Service (LOS)* – This refers to the unsignalised, and equivalent signalised, level of service values for the time segment, based on the Average Delay per Arriving Vehicle. The transportation LOS system uses the letters A through F, with the definitions below being typical: A = Free flow B = Reasonably free flow C = Stable flow D = Approaching unstable flow E = Unstable flow F = Forced or breakdown flow; and
- *Passenger Car Units (PCUs)* - A Passenger Car Unit is a measure used primarily to assess highway capacity, for modelling purposes. Different vehicles are assigned different values,

according to the space they take up. A car has a value of 1; smaller vehicles will have lower values, and larger vehicles will have higher values.

A12/North Street Junction

4.12 The traffic flows associated with each of the modelled scenarios are shown in Table 4.3 whilst the junction performance results are shown in Table 4.4.

**Table 4.3: A12 / North Street Traffic Flows**

		2023 AM					2023 PM						
			A	B	C	D	Tot		A	B	C	D	Tot
Havering Road	A	0	60	423	139	622	A	0	66	382	123	571	
A12 (N)	B	152	0	168	1314	1634	B	241	0	165	1172	1578	
North Street	C	328	164	0	165	657	C	454	193	0	233	880	
A12 (S)	D	66	1128	234	0	1428	D	103	1176	266	0	1545	
	Tot	546	1352	825	1618	4341	Tot	798	1435	813	1528	4574	

		2030 AM					2030 PM						
			A	B	C	D	Tot		A	B	C	D	Tot
Havering Road	A	0	63	443	145	651	A	0	69	402	129	600	
A12 (N)	B	159	0	176	1375	1710	B	254	0	174	1233	1661	
North Street	C	343	172	0	173	688	C	478	203	0	245	926	
A12 (S)	D	69	1181	245	0	1495	D	108	1237	280	0	1625	
	Tot	571	1416	864	1693	4544	Tot	840	1509	856	1607	4812	

		2030 DS AM					2030 DS PM						
			A	B	C	D	Tot		A	B	C	D	Tot
Havering Road	A	0	66	444	151	661	A	0	69	402	138	609	
A12 (N)	B	162	0	179	1378	1719	B	257	0	165	1235	1657	
North Street	C	335	168	0	194	697	C	477	204	0	244	925	
A12 (S)	D	83	1186	232	0	1501	D	101	1251	276	0	1628	
	Tot	580	1420	855	1723	4578	Tot	835	1524	843	1617	4819	

**Table 4.4: Linsig Modelling results of the A12/North Street/Havering Road signalised Junction**

Junction 1 - A12 / North Street					
	Practical Reserve Capacity (%)	MMQ			
		A Havering Road	B A12 (NE)	C North Street	D A12 (SW)
2023 AM	-22.1	41.2 / 4.8	76.6 / 15.2	11.0/6.7	17.7 / 68.4
2023PM	-28.2	48.5 / 4.8	45.8 / 13.2	69.6 / 12.3	22.5 / 91.5
2030 AM Reference Case	-27.9	53.5 / 5.7	100.6 / 16.7	11.8 / 7.7	19.3 / 88.6
2030 PM Reference Case	-34.9	61.3 / 5.2	97.2 / 14.5	90.9 / 16.7	26.6 / 116.7
2030 Do Something AM	-28.0	55.9 / 6.3	42.0 / 29.0	11.5 / 7.2	53.2 / 44.8
2030 Do Something PM	-34.2	61.3 / 6.2	34.2 / 21.9	89.8 / 17.1	79.3 / 74.9

4.13 Table 4.4 shows that the A12 junction with Havering Road and North Street is currently over capacity. This will worsen going forward without intervention. It would appear from the National Highways predicted traffic flows that some traffic will divert from this junction as a result of the LTC, however, the junction will remain over-capacity. Given the results shown in the above table, it is considered unlikely that alterations to this junction alone will remedy the issues encountered here. It will require a strategic approach to consider options for potential traffic reassignment onto other routes, possible banned turning movements, together with modal shift (noting that bus services operate along the A12 corridor as well as along North Street and Havering Road).

[A12/Pettits Lane Junction](#)

**Table 4.5: A12 / Pettits Lane Traffic Flows**

	2023 AM						2023 PM					
		A	B	C	D	Tot		A	B	C	D	Tot
Pettits Lane (N)	A	0	303	241	51	595	A	0	253	241	65	559
A12 (E)	B	377	0	208	1546	2131	B	438	0	140	1444	2022
Pettits Lane (S)	C	190	133	0	30	353	C	315	213	0	68	596
A12 (W)	D	54	1351	96	0	1501	D	92	1328	107	0	1527
	Tot	621	1787	545	1627	4580	Tot	845	1794	488	1577	4704

2030 AM							2030 PM						
		A	B	C	D	Tot		A	B	C	D	Tot	
Pettits Lane (N)	A	0	317	252	53	622	A	0	266	254	68	588	
A12 (E)	B	395	0	218	1618	2231	B	461	0	147	1519	2127	
Pettits Lane (S)	C	199	139	0	31	369	C	331	224	0	72	627	
A12 (W)	D	57	1414	100	0	1571	D	97	1397	113	0	1607	
	Tot	651	1870	570	1702	4793	Tot	889	1887	514	1659	4949	

2030 DS AM							2030 DS PM						
		A	B	C	D	Tot		A	B	C	D	Tot	
Pettits Lane (N)	A	0	379	251	39	669	A	0	289	253	69	611	
A12 (E)	B	434	0	219	1642	2295	B	492	0	147	1511	2150	
Pettits Lane (S)	C	211	144	0	31	386	C	332	226	0	76	634	
A12 (W)	D	56	1450	85	0	1591	D	96	1418	110	0	1624	
	Tot	701	1973	555	1712	4941	Tot	920	1933	510	1656	5019	

**Table 4.6: Linsig Modelling results of the A12/Pettis Lane signalised Junction**

Junction 2 - A12 / Pettits Lane					
	PRC	MMQ			
		A Pettits Lane (N)	B A12 (NE)	C Pettits Lane (S)	D A12 (SW)
2023 AM	8.6	8.0 / 1.4	17.3 / 15.3 / 14.5	5.5 / 5.9	14.5 / 14.1 / 15.3
2023 PM	3.9	6.7 / 1.7	20.0 / 20.0 / 14.7	10.2 / 8.3	15.5 / 16.1 / 16.4
2030 AM	3.9	8.8 / 1.4	19.0 / 16.3 / 16.4	5.8 / 6.5	15.8 / 15.2 / 17.0
2030 PM	-3.6	7.3 / 1.8	21.8 / 21.9 / 16.8	11.1 / 10.8	17.7 / 18.1 / 18.6
2030 Do Something AM	7.7	8.6 / 1.0	23.6 / 23.5 / 13.9	6.1 / 5.9	15.0 / 15.6 / 15.7
2030 Do Something PM	-5.5	7.3 / 1.8	21.7 / 21.8 / 19.1	11.3 / 11.0	20.1 / 20.5 / 21.3

4.14 The A12 junction with Pettits Lane currently has spare capacity. In 2030 the junction capacity will reduce, remaining positive in the AM peak but will become slightly over-capacity in the PM. It would appear from the surveys undertaken that this junction has a significantly higher volume of traffic travel through it in the PM peak than the AM peak. The impact of the LTC as shown by the 'Do Something' results indicate only a small impact on PRC in the PM peak and a small improvement in PRC in the AM peak. There may be opportunities to improve this junction to cater for the future growth of traffic through this junction. The junction is already very large and therefore physical widening through the addition of lanes is unlikely to be justified, however possible mitigation could include refinement of the signal timings. There could also be merit in a wider study examining the impact of banning U-turn manoeuvres at this junction, where a high number of such manoeuvres were captured by the surveys.

4.15 As evidenced by Section 2.0 of this Report, this junction would benefit from significant enhancements to the pedestrian crossing facilities, where these are considered by Cole Easdon to be unsatisfactory at present. It is noted of course that the addition of new pedestrian crossing facilities would impact on the performance of the junction with regard to vehicle capacity and therefore further modelling and associated design work would be necessary to determine the extent of improvements that could be delivered.

[A12/Harold Court Road Junction](#)

**Table 4.7: A12 / Harold Court Road Traffic Flows**

2023 AM						2023 PM					
		A	B	C	Tot		A	B	C	Tot	
A12 (W)	A	0	1597	123	1720	A	0	1507	136	1643	
A12 (E)	B	2125	0	56	2181	B	1995	0	63	2058	
Harold Court Road	C	151	0	0	151	C	206	0	0	206	
	Tot	2276	1597	179	4052	Tot	2201	1507	199	3907	

2030 AM						2030 PM					
		A	B	C	Tot		A	B	C	Tot	
A12 (W)	A	0	1671	129	1800	A	0	1586	143	1729	
A12 (E)	B	2224	0	59	2283	B	2099	0	66	2165	
Harold Court Road	C	158	0	0	158	C	217	0	0	217	
	Tot	2382	1671	188	4241	Tot	2316	1586	209	4111	

2030 DS AM						2030 DS PM					
		A	B	C	Tot		A	B	C	Tot	
A12 (W)	A	0	1368	129	1497	A	0	1541	144	1685	
A12 (E)	B	2330	0	97	2427	B	2070	0	66	2136	
Harold Court Road	C	141	0	0	141	C	226	0	0	226	
	Tot	2471	1368	226	4065	Tot	2296	1541	210	4047	

**Table 4.8: Linsig Modelling results of the A12/Harold Court Road signalised Junction**

Junction 3 - A12/ Harold Court Road				
	PRC	MMQ		
		A A12 Eastbound	B A12 Westbound	C Harold Court Road
2023 AM	10.7	2.1 / 3.9	8.9 / 11.2	5.2
2023 PM	17.4	1.6 / 3.5	8.8 / 10.0	6.0
2030 AM	5.8	2.8 / 4.2	9.6 / 12.4	5.5
2030 PM	11.5	2.1 / 3.6	9.8 / 11.6	6.2
2030 Do Something AM	15.3	1.1 / 4.2	10.6 / 14.6	4.7
2030 Do Something PM	14.8	1.8 / 3.6	9.6 / 11.2	6.6

4.16 The A12 junction with Harold Court Road currently operates with reserve capacity. In 2030 the junction capacity will reduce but remain positive. It would appear from the flows predicted in the Do Something scenario that traffic will divert from this junction as a result of the LTC, with the junction experiencing increases in PRC. The junction has a very unsatisfactory pedestrian crossing on Harold Court Road (with a particularly narrow pedestrian refuge island) as shown in Photograph 4.1 and it is recommended that an improvement scheme is considered in this regard.



**Photograph 4.1: Informal crossing facility on Harold Court Road**



A12/Gubbins Lane Junction

**Table 4.9: A12 / Gubbins Lane Traffic Flows**

2023 AM							2023 PM						
		A	B	C	D	Tot		A	B	C	D	Tot	
Gooshays Lane	A	0	45	405	89	539	A	0	59	385	128	572	
A12 (E)	B	311	0	104	1464	1879	B	375	0	159	1189	1723	
Gubbins Lane	C	254	95	0	94	443	C	305	71	0	108	484	
A12 (W)	D	132	920	126	0	1178	D	218	870	247	0	1335	
	Tot	697	1060	635	1647	4039	Tot	898	1000	791	1425	4114	

2030 AM							2030 PM						
		A	B	C	D	Tot		A	B	C	D	Tot	
Gooshays Lane	A	0	47	424	93	564	A	0	62	405	135	602	
A12 (E)	B	325	0	109	1532	1966	B	395	0	167	1251	1813	
Gubbins Lane	C	266	99	0	98	463	C	321	75	0	114	510	
A12 (W)	D	138	963	132	0	1233	D	229	915	260	0	1404	
	Tot	729	1109	665	1723	4226	Tot	945	1052	832	1500	4329	

2030 DS AM							2030 DS PM						
		A	B	C	D	Tot		A	B	C	D	Tot	
Gooshays Lane	A	0	88	406	95	589	A	0	79	371	128	578	
A12 (E)	B	344	0	134	1570	2048	B	396	0	144	1253	1793	
Gubbins Lane	C	268	82	0	97	447	C	330	88	0	102	520	
A12 (W)	D	138	742	132	0	1012	D	229	830	260	0	1319	
	Tot	750	912	672	1762	4096	Tot	955	997	775	1483	4210	

**Table 4.10: Linsig Modelling results of the A12/Gubbins Lane signalised Junction**

Junction 4 - A12 / Gubbins Lane					
	PRC	MMQ			
		A Gooshays Drive	B A12 Eastbound	C Gubbins Lane	D A12 Westbound
2023 AM	-3.6	14.8	15.8 / 28.1	18.1	11.3 / 12.8 / 12.8 / 6.4
2023PM	-8.0	17.0	13.6 / 27.6	18.6	12.9 / 14.8 / 14.8 / 14.5
2030 AM	-9.1	15.8	17.1 / 35.0	20.8	12.2 / 13.7 / 13.8 / 9.5
2030 PM	-13.7	18.6	14.5 / 39.0	30.6	14.5 / 16.5 / 16.5 / 18.6
2030 Do Something AM	-9.1	18.6	17.3 / 34.9	19.6	9.2 / 10.2 / 10.0 / 9.5
2030 Do Something PM	-12.8	16.5	44.3 / 18.8	31.1	11.3 / 13.2 / 13.2 / 14.7

4.17 The A12 junction with Gubbins Lane and Gooshays Drive is currently over capacity. This will worsen going forward without intervention. It would appear from the National Highways Do Something traffic flows that some traffic will divert from this junction as a result of the LTC, however, the junction will remain over-capacity. As identified within Section 2.0, the junction would benefit from the provision of improved pedestrian crossing facilities and consideration given to the banning of U-turn manoeuvres. There appears to be public highway land available either side of Gooshays Drive where consideration could be given to alternative junction layouts.

A12/Squirrels Heath Road Junction

**Table 4.11: A127 / Squirrels Heath Road Traffic Flows**

2023 AM

		A	B	C	D	Tot
A127 (N)	A	0	170	1195	167	1532
Squirrels Heath Road	B	210	0	18	380	608
A127 (S)	C	1145	198	0	127	1470
Ardleigh Green Road	D	81	262	275	0	618
	Tot	1436	630	1488	674	4228

2030 PM

		A	B	C	D	Tot
A	A	0	171	1130	219	1520
B	B	157	0	23	424	604
C	C	1141	218	0	150	1509
D	D	81	259	275	0	615
	Tot	1379	648	1428	793	4248

2030 AM

		A	B	C	D	Tot
A127 (N)	A	0	178	1251	175	1604
Squirrels Heath Road	B	220	0	19	398	637
A127 (S)	C	1198	207	0	133	1538
Ardleigh Green Road	D	85	274	288	0	647
	Tot	1503	659	1558	706	4426

2030 PM

		A	B	C	D	Tot
A	A	0	180	1189	230	1599
B	B	165	0	24	446	635
C	C	1200	229	0	158	1587
D	D	85	272	289	0	646
	Tot	1450	681	1502	834	4467

2030 DS AM

		A	B	C	D	Tot
A127 (N)	A	0	151	1624	165	1940
Squirrels Heath Road	B	191	0	19	424	634
A127 (S)	C	1242	228	0	164	1634
Ardleigh Green Road	D	73	233	349	0	655
	Tot	1506	612	1992	753	4863

2030 DS PM

		A	B	C	D	Tot
A	A	0	169	1368	230	1767
B	B	173	0	24	439	636
C	C	1228	241	0	188	1657
D	D	54	256	348	0	658
	Tot	1455	666	1740	857	4718

**Table 4.12: Linsig Modelling results of the A127/Squirrels Heath signalised Junction**

Junction 5 - A127/ Squirrels Heath / Ardleigh Green Road					
	RFC	MMQ			
		A A127 (N)	B Squirrels Heath Road	C A127 (S)	D Ardleigh Green Road
2023 AM	-54.7	147.1/ 122.2	118.3	134.5 / 139.3	2.5 / 99.5
2023PM	-59.6	124.6 / 159.8	122.8	142.7 / 151.4	2.6 / 106.1
2030 AM	-62.3	155.3 / 155.7	135.7	153.2 / 159.1	2.7 / 114.3
2030 PM	-67.0	150.8 / 174.4	141.4	164.9 / 173.5	2.7 / 122.0
2030 Do Something AM	-81.0	214.9 / 242.1	158.5	233.2 / 155.5	2.3 / 144.1
2030 Do Something PM	-79.3	194.4 / 222.2	158.8	207.7 / 181.5	1.7 / 140.5
Distance to next junction along each link		1,000m / 174PCUs to A127/A12	664m / 115PCUs to A127/Gubbins Lane	800m / 139PCUs to Wingletye Lane	183m / 32 PCUs to Adleigh Close

Red text indicates junction causes blocking upstream

- 4.18 As can be seen from Table 4.12, the A127 junction with Squirrels Heath Road and Ardleigh Green Road is currently well over capacity, with extensive queuing during both peak hours blocking adjacent junctions in all four directions. This situation worsens in the 2030 base in line with background traffic increases between 2023 and 2030. The LTC does however cause significant worsening of the junction’s performance, with queues in particular worsening dramatically on the A127.
- 4.19 However, given the extent to which this junction is already over capacity, it is unlikely that physical alterations to this junction alone will remedy the issues encountered here. Additionally, the junction appears to be quite tightly constrained by existing buildings meaning the scope for an improvement scheme in terms of widening would be limited.
- 4.20 Instead, we suggest it will require a more strategic approach that considers possible options for re-routing traffic away from this junction together of course with modal shift. It is noted that bus services operate along the A127, Squirrels Heath Road and Ardleigh Green Road and thus there would be merit in considering bus priority measures. There is a significant amount of residential development on either side of the A127 and therefore scope to encourage greater use of bus services.

A127/Wingletye Lane Junction

**Table 4.13: A127 / Wingletye Lane Traffic Flows**

		2023 AM				2023 PM					
			A	B	C	Tot		A	B	C	Tot
A127 (W)	A	0	1665	0	1665		A	0	1599	0	1599
A127 (E)	B	1152	0	802	1954		B	1109	0	876	1985
Wingletye Lane	C	242	0	0	242		C	242	0	0	242
	Tot	1394	1665	802	3861		Tot	1351	1599	876	3826

		2030 AM				2030 PM					
			A	B	C	Tot		A	B	C	Tot
A127 (W)	A	0	1743	0	1743		A	0	1682	0	1682
A127 (E)	B	1206	0	839	2045		B	1167	0	922	2089
Wingletye Lane	C	253	0	0	253		C	255	0	0	255
	Tot	1459	1743	839	4041		Tot	1422	1682	922	4026

		2030 DS AM				2030 DS PM					
			A	B	C	Tot		A	B	C	Tot
A127 (W)	A	0	1743	0	1743		A	0	1682	0	1682
A127 (E)	B	1394	0	1061	2455		B	1300	0	1039	2339
Wingletye Lane	C	159	0	0	159		C	193	0	0	193
	Tot	1553	1743	1061	4357		Tot	1493	1682	1039	4214

**Table 4.14: Linsig Modelling results of the A127/Wingletye Lane Junction**

Junction 6 - A127 - Wingletye Lane			
	PRC (%)	MMQ	
		B A127 Westbound	C Wingletye Lane
2023 AM	22.2		0.3
2023 PM	17.4		0.3
2030 AM	16.8		0.4
2030 PM	11.6		0.4
2030 Do Something AM	10.0		0.2
2030 Do Something PM	7.1		0.3

4.21 The A127 junction with Wingletye Lane when modelled in isolation operates well within capacity for all modelled scenarios. The junction is a left-in / left-out arrangement, i.e. traffic cannot turn right from Wingletye Lane to travel east along the A127. However, as noted within Table 4.7, queuing traffic from the Ardleigh Green Road/Squirrels Heath Road junction with the A127 will block back to this junction, thus impacting on the ability for vehicles to join the A127 from Wingletye Lane. This blocking occurs at all of the scenarios that have been analysed. It is noted that in the Do Something scenario, the PRC of the junction is expected to worsen as a

result of the LTC, reducing from 16.8% in the 2030 AM Base down to 10% in the Do Something scenario, and likewise from 11.6% to 7.1% respectively in the PM peak.

- 4.22 It is to be noted that the modelling for this junction carried out by National Highways did not include the left turn flow from the A127 into Wingletye Lane, where the Do Something flows indicate that an additional 222 PCUs in the AM peak and 117 PCUs in the PM peak will make this manoeuvre along Wingletye Lane. Given the presence of two schools on Wingletye Lane and a zebra crossing some 75m south of the A127, it is considered that further consideration should be given to any impacts along Wingletye Lane resulting from the LTC.
- 4.23 The A127 is subject to a 50mph speed limit in the vicinity of Wingletye Lane and there is limited forward visibility for westbound traffic turning left onto Wingletye Lane. In the event of traffic queues extending back from the zebra crossing adjacent to the Champion School towards the A127, this could give rise to safety concerns, with left turning vehicles from the A127 into Wingletye Lane unable to react in time. A more general concern is of course the additional traffic flow that will be generated along Wingletye Lane and the impacts of this on the adjacent schools and housing along this road.
- 4.24 It was noted from the traffic surveys that a significant number of vehicles perform U-turn manoeuvres at a number of signalised junctions along the A127 including the Squirrels Heath junction to the west of the Wingletye Junction. There may be some capacity gain to be achieved at the Squirrels Heath Road junction for instance, by amending the Wingletye junction to introduce a signalised arrangement that allows right turns into the A127.
- 4.25 It is noted that there is residential development located to the north of the A127 and therefore there is likely to be demand for north-south pedestrian movement across the A127 and onwards south along Wingletye Lane. The junction would therefore benefit from a redesign that incorporates pedestrian crossing facilities, where this may also help to stagger the onward westbound flow to the Squirrels Heath Road.
- 4.26 It is suggested that further analysis is conducted of the potential impacts arising along Wingletye Lane as a result of the LTC traffic, and options explored for a junction improvement scheme.

A127/Hall Lane Northern Junction

**Table 4.15: A127 / Hall Lane (northern section) Traffic Flows**

2023 AM						2023 PM					
From \ To	A	B	C	Total		From \ To	Arm A	Arm B	Arm C	Total	
A127 off-slip W	A	0	337	378	715	Arm A	0	335	379	714	
Hall Lane (N)	B	233	0	18	251	Arm B	266	0	23	289	
Hall Lane (E)	C	317	35	0	352	Arm C	364	46	0	410	
	Total	550	372	396	1318	Total	630	381	402	1413	

2030 AM						2030 PM					
From \ To	A	B	C	Total		From \ To	A	B	C	Total	
A127 off-slip W	Arm A	0	353	396	749	Arm A	0	353	399	752	
Hall Lane (N)	Arm B	244	0	19	263	Arm B	280	0	25	305	
Hall Lane (E)	Arm C	332	37	0	369	Arm C	383	49	0	432	
	Total	576	390	415	1381	Total	663	402	424	1489	

2030 DS AM						2030 DS PM					
From \ To	A	B	C	Total		From \ To	A	B	C	Total	
A127 off-slip W	Arm A	0	353	360	713	Arm A	0	353	360	713	
Hall Lane (N)	Arm B	352	0	14	366	Arm B	280	0	27	307	
Hall Lane (E)	Arm C	568	53	0	621	Arm C	586	47	0	633	
	Total	920	406	374	1700	Total	866	400	387	1653	

**Table 4.16: Junctions 10 Modelling results of the A127 / Hall Lane Junction (northern section)**

Junction 7 - A127 - Hall Lane (Northern section)										
	AM					PM				
	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Set ID	Queue (PCU)	Delay (s)	RFC	LOS
<b>2023 Surveyed</b>										
Hall Lane Southbound, left and right turn	D1	1.5	19.92	0.61	C	D2	2.4	27.99	0.71	D
Hall Lane westbound		0.1	6.26	0.06	A		0.1	6.39	0.08	A
<b>2030 Growthed</b>										
Hall Lane Southbound, left and right turn	D3	1.8	22.80	0.65	C	D4	3.2	35.75	0.77	E
Hall Lane westbound		0.1	6.41	0.07	A		0.1	6.58	0.09	A
<b>2030 Do Something</b>										
Hall Lane Southbound, left and right turn	D5	12.9	119.14	0.99	F	D6	4.0	45.62	0.82	E
Hall Lane westbound		0.1	6.47	0.09	A		0.1	6.40	0.08	A

4.27 The A127 junction with Hall Lane (northern section) operates well within capacity for both 2023 and 2030 base scenarios. However, when the predicted traffic impact flows associated with



the Lower Thames Crossing scheme are added, the junction encounters a significant increase in queuing and delay on the southbound flow along Hall Lane, and the junction is predicted to exceed its capacity with an RFC of 0.99 (where values above 0.85 are considered to be above capacity). It is considered that there may be scope to improve this junction through redesign, where there would appear to be highway land available for this purpose.

A127/Hall Lane Southern Junction

**Table 4.17: A127 / Hall Lane (southern section) Traffic Flows**

2023 AM

	From \ To	A	B	C	D	Total
Hall Lane (N)	A	0	0	460	89	549
A127 slip-off	B	175	0	174	1	350
Hall Lane (S)	C	673	0	0	109	782
A127 on-slip	D	0	0	0	0	0
	Total	848	0	634	199	1681

2023 PM

	From \ To	A	B	C	D	Total
	A	0	0	530	108	638
	B	110	0	164	0	274
	C	604	0	0	154	758
	D	0	0	0	0	0
	Total	714	0	694	262	1670

2030 AM

	From \ To	Arm A	Arm B	Arm C	Arm D	Total
Hall Lane (N)	A	0	0	482	94	576
A127 slip-off	B	184	0	183	2	369
Hall Lane (S)	C	705	0	0	115	822
A127 on-slip	D	0	0	0	0	0
	Total	889	0	667	211	1767

2030 PM

	From \ To	A	B	C	D	Total
	A	0	0	558	114	672
	B	116	0	173	0	289
	C	636	0	0	163	799
	D	0	0	0	0	0
	Total	752	0	731	277	1760

2030 DS AM

	From \ To	A	B	C	D	Total
Hall Lane (N)	A	0	0	441	81	522
A127 slip-off	B	289	0	228	2	519
Hall Lane (S)	C	853	0	0	78	933
A127 on-slip	D	0	0	0	0	0
	Total	1142	0	671	161	1974

2030 DS PM

	From \ To	A	B	C	D	Total
	A	0	0	520	110	630
	B	192	0	200	0	392
	C	761	0	0	131	892
	D	0	0	0	0	0
	Total	953	0	720	241	1914

**Table 4.18: Junctions 10 Modelling results of the A127 / Hall Lane Junction (southern section)**

Junction 7 - A127 - Hall Lane (Southern section)										
	AM					PM				
	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Set ID	Queue (PCU)	Delay (s)	RFC	LOS
<b>2023</b>										
A127 westbound off-slip, ahead and left	D1	0.7	13.04	0.41	B	D2	0.6	11.83	0.37	B
A127 westbound off-slip, right		1.6	31.47	0.63	D		0.7	20.87	0.41	C
Hall Lane southbound		0.8	6.02	0.29	A		1.2	6.34	0.37	A
Entry to A127 westbound on-slip		0.0	0.00	0.00	A		0.0	0.00	0.00	A
Hall Lane northbound		0.0	0.00	0.00	A		0.0	0.00	0.00	A
<b>2030</b>										
A127 westbound off-slip, ahead and left	D3	0.8	14.50	0.45	B	D4	0.7	12.82	0.40	B
A127 westbound off-slip, right		2.1	39.17	0.69	E		0.8	23.86	0.46	C
Hall Lane southbound		0.9	6.21	0.32	A		1.4	6.67	0.41	A
Entry to A127 westbound on-slip		0.0	0.00	0.00	A		0.0	0.00	0.00	A
Hall Lane northbound		0.0	0.00	0.00	A		0.0	0.00	0.00	A
<b>2030 Do Something</b>										
A127 westbound off-slip, ahead and left	D5	1.5	21.35	0.60	C	D6	1.0	17.01	0.51	C
A127 westbound off-slip, right		24.5	268.69	1.13	F		3.2	59.25	0.79	F
Hall Lane southbound		0.8	6.32	0.29	A		1.4	6.98	0.41	A
Entry to A127 westbound on-slip		0.0	0.00	0.00	A		0.0	0.00	0.00	A
Hall Lane northbound		0.0	0.00	0.00	A		0.0	0.00	0.00	A

4.28 The A127 junction with Hall Lane (southern section) operates well within capacity for both 2023 and 2030 base scenarios. However, when the predicted traffic impact flows associated with the Lower Thames Crossing scheme are added, the junction encounters an increase in queuing and delay and is predicted to operate above capacity. This queuing will occur on the exit slip for the A127, with the AM peak queue extending almost back to the A127 through lane. This dangerous queuing will be generated by the LTC scheme and therefore warrants further consideration in relation to potential mitigation that might be required.

4.29 Altering the existing priority junction arrangement at the exit slip where it meets Hall Lane to a roundabout junction may minimise or remove the excessive queuing caused and we would recommend that further modelling and design work is conducted to explore the feasibility of this.

A127/Front Lane Junction

**Table 4.19: A127 / Front Lane Traffic Flows**

2023 AM						2023 PM					
		A	B	C	Tot		A	B	C	Tot	
A127 (W)	A	0	1766	0	1766	A	0	1658	0	1658	
A127 (E)	B	2143	0	198	2341	B	1891	0	318	2209	
Front Lane	C	89	0	0	89	C	93	0	0	93	
	Tot	2232	1766	198	4196	Tot	1984	1658	318	3960	

2030 AM						2030 PM					
		A	B	C	Tot		A	B	C	Tot	
A127 (W)	A	0	1848	0	1848	A	0	1744	0	1744	
A127 (E)	B	2243	0	207	2450	B	1990	0	335	2325	
Front Lane	C	93	0	0	93	C	98	0	0	98	
	Tot	2336	1848	207	4391	Tot	2088	1744	335	4167	

2030 DS AM						2030 DS PM					
		A	B	C	Tot		A	B	C	Tot	
A127 (W)	A	0	1848	0	1848	A	0	1744	0	1744	
A127 (E)	B	2793	0	328	3121	B	2322	0	358	2680	
Front Lane	C	151	0	0	151	C	161	0	0	161	
	Tot	2944	1848	328	5120	Tot	2483	1744	358	4585	

**Table 4.20: Linsig Modelling results of the A127 Southend Arterial Road/Front Lane Junction  
Junction 8 - A127 Southend Arterial Road/Front Lane Junction**

	PRC	MMQ
		Front Lane (entry to A127)
2023 AM	51.7	0.1
2023 PM	58.3	0.1
2030 AM	45.3	0.1
2030 PM	51.1	0.1
2030 Do Something AM	15.5	0.2
2030 Do Something PM	32.7	0.2

4.30 Table 4.20 indicates that the A127 Southend Arterial Road/Front Lane junction will operate with reserve capacity in all scenarios modelled. Our findings differ from those of National Highways, whose modelling predicted that this junction would operate over capacity in the Do Something scenario. We believe the differences in modelling outcomes at this junction are likely to be due to the fact that National Highways have not modelled the left turn flow from the A127 into Front Lane (whereas Cole Easdon’s modelling does).

4.31 In our model, owing to the left turn being included, Linsig has assigned more of the westbound straight through traffic to Lane 2 (to account for the fact that drivers will be wanting to avoid slowing down for the left turners), thereby allowing more traffic to merge into lane one from Front Lane. It should be noted however that the LTC does significantly reduce PRC values compared with the 2030 base scenario.

A13/Marsh Way Junction

**Table 4.21: A13 / Marsh Way Traffic Flows**

2023 AM

		A	B	C	D	E	F	Tot
Marsh Way (N)	A	0	31	315	147	8	184	685
Consul Avenue	B	0	0	68	34	2	41	145
A13 (E)	C	271	33	77	214	54	338	987
Marsh Way (S)	D	119	15	32	0	0	57	223
Courier Road	E	30	4	8	1	0	3	46
A13 (W)	F	172	47	2	43	3	53	320
	Tot	592	130	502	439	67	676	2406

2023 PM

		A	B	C	D	E	F	Tot
Marsh Way (N)	A	0	12	445	58	9	258	782
Consul Avenue	B	0	0	74	10	2	43	129
A13 (E)	C	283	27	135	67	43	6	561
Marsh Way (S)	D	207	20	98	0	0	105	430
Courier Road	E	53	5	24	1	0	18	101
A13 (W)	F	486	24	2	8	2	32	554
	Tot	1029	88	778	144	56	462	2557

2030 AM

		A	B	C	D	E	F	Tot
Marsh Way (N)	A	0	32	330	154	8	193	717
Consul Avenue	B	0	0	71	36	2	43	152
A13 (E)	C	284	35	81	224	57	354	1035
Marsh Way (S)	D	125	16	33	0	0	60	234
Courier Road	E	31	4	8	1	0	3	47
A13 (W)	F	180	49	2	45	3	55	334
	Tot	620	136	525	460	70	708	2519

**2030 PM**

		A	B	C	D	E	F	Tot
Marsh Way (N)	A	0	13	468	61	9	271	822
Consul Avenue	B	0	0	78	11	2	45	136
A13 (E)	C	298	28	142	70	45	6	589
Marsh Way (S)	D	218	21	103	0	0	110	452
Courier Road	E	56	5	25	1	0	19	106
A13 (W)	F	511	25	2	8	2	34	582
	Tot	1083	92	818	151	58	485	2687

**2030 DS AM**

		A	B	C	D	E	F	Tot
Marsh Way (N)	A	0	28	329	154	8	186	705
Consul Avenue	B	0	0	75	36	2	40	153
A13 (E)	C	275	45	81	224	57	354	1036
Marsh Way (S)	D	125	16	33	0	0	60	234
Courier Road	E	31	4	8	1	0	3	47
A13 (W)	F	177	49	2	45	3	55	331
	Tot	608	142	528	460	70	698	2506

**2030 DS PM**

		A	B	C	D	E	F	Tot
Marsh Way (N)	A	0	11	472	61	9	270	823
Consul Avenue	B	0	0	82	11	2	44	139
A13 (E)	C	304	34	142	70	45	6	601
Marsh Way (S)	D	218	21	103	0	0	110	452
Courier Road	E	56	5	25	1	0	19	106
A13 (W)	F	514	24	2	8	2	34	584
	Tot	1092	95	826	151	58	483	2705

**Table 4.22: Linsig Modelling results of the A13 / Marsh Way Junction**

Junction 9 - Marsh Way Junction							
	PRC	MMQ					
		A Marsh Way	B Consul Avenue	C A13 (East)	D Marsh Way	E Courier Road	F A13 (West)
2023 AM	71.0	0.1 / 0.1	0 / 0	5.8 / 4.3	0.0 / 0.1	0 / 0	1.7 / 2.1
2023PM	59.3	0.2 / 0.1	0 / 0	0.7 / 6.0	0.0 / 1.1	0 / 0	3.2 / 0.7
2030 AM	63.7	0.1 / 0.1	0 / 0	6.4 / 4.6	0.0 / 0.1	0 / 0	1.9 / 2.1
2030 PM	51.5	0.2 / 0.1	0 / 0	0.7 / 6.2	0.0 / 1.7	0 / 0	3.4 / 0.8
2030 Do Something AM	65.9	0.1 / 0.1	0 / 0	6.4 / 4.6	0.0 / 0.1	0 / 0	2.2 / 1.7
2030 Do Something PM	50.0	0.2 / 0.1	0 / 0	0.7 / 6.2	0.0 / 1.7	0 / 0	3.5 / 0.8

4.32 Table 4.22 indicates that the A13 Marsh Way junction will operate with reserve capacity in all scenarios modelled.

A13/Wennington Road Junction

**Table 4.23: A13 / Wennington Road (northern roundabout) Traffic Flows**

2023 AM							2023 PM						
	From \ To	Arm 2	Arm 3	Arm 4	Arm 1	Total	From \ To	Arm 2	Arm 3	Arm 4	Arm 1	Total	
A13 Eastbound on-slip	Arm 2	0	0	0	0	0	Arm 2	0	0	0	0	0	
Bridge	Arm 3	279	5	0	635	919	Arm 3	302	11	0	719	1032	
A13 Eastbound off-slip	Arm 4	1	345	0	158	504	Arm 4	1	397	0	355	753	
Wennington Road	Arm 1	449	557	0	1	1007	Arm 1	453	526	0	12	991	
	<b>Total</b>	<b>729</b>	<b>907</b>	<b>0</b>	<b>794</b>	<b>-</b>	<b>Total</b>	<b>756</b>	<b>934</b>	<b>0</b>	<b>1086</b>	<b>-</b>	

2030 AM							2030 PM						
	From \ To	Arm 2	Arm 3	Arm 4	Arm 1	Total	From \ To	Arm 2	Arm 3	Arm 4	Arm 1	Total	
A13 Eastbound on-slip	Arm 2	0	0	0	0	0	Arm 2	0	0	0	0	0	
Bridge	Arm 3	293	6	0	665	964	Arm 3	317	12	0	753	1082	
A13 Eastbound off-slip	Arm 4	2	362	0	166	530	Arm 4	2	416	0	372	790	
Wennington Road	Arm 1	470	583	0	2	1055	Arm 1	475	551	0	13	1039	
	<b>Total</b>	<b>765</b>	<b>951</b>	<b>0</b>	<b>833</b>	<b>-</b>	<b>Total</b>	<b>794</b>	<b>979</b>	<b>0</b>	<b>1138</b>	<b>-</b>	



2030 DS AM

	From \ To	Arm 2	Arm 3	Arm 4	Arm 1	Total
A13 Eastbound on-slip	Arm 2	0	0	0	0	0
Bridge	Arm 3	304	6	0	691	1001
A13 Eastbound off-slip	Arm 4	2	303	0	166	471
Wennington Road	Arm 1	470	576	0	2	1048
	Total	776	885	0	859	-

2030 DS PM

	From \ To	Arm 2	Arm 3	Arm 4	Arm 1	Total
	Arm 2	0	0	0	0	0
	Arm 3	403	12	0	773	1188
	Arm 4	2	364	0	372	738
	Arm 1	475	581	0	13	1069
	Total	880	957	0	1158	-

**Table 4.23: A13 / Wennington Road (southern roundabout) Traffic Flows**

2023 AM

	From \ To	Arm 1	Arm 2	Arm 3	Arm 4	Total
Arterial Road	Arm 1	40	525	559	0	1124
A13 Westbound on-slip	Arm 2	0	0	0	0	0
Bridge	Arm 3	644	255	3	0	902
A13 Westbound off-slip	Arm 4	280	2	366	0	648
	Total	964	782	928	0	-

2023 PM

	From \ To	Arm 1	Arm 2	Arm 3	Arm 4	Total
	Arm 1	37	466	668	0	1171
	Arm 2	0	0	0	0	0
	Arm 3	687	230	5	0	922
	Arm 4	212	4	349	0	565
	Total	936	700	1022	0	-

2030 AM

	From \ To	Arm 1	Arm 2	Arm 3	Arm 4	Total
Arterial Road	Arm 1	42	550	586	0	1178
A13 Westbound on-slip	Arm 2	0	0	0	0	0
Bridge	Arm 3	675	267	4	0	946
A13 Westbound off-slip	Arm 4	294	3	384	0	681
	Total	1011	820	974	0	-

2030 PM

	From \ To	Arm 1	Arm 2	Arm 3	Arm 4	Total
	Arm 1	39	488	700	0	1227
	Arm 2	0	0	0	0	0
	Arm 3	720	241	6	0	967
	Arm 4	222	5	366	0	593
	Total	981	734	1072	0	-

**2030 DS AM**

	From \ To	Arm 1	Arm 2	Arm 3	Arm 4	Total
Arterial Road	Arm 1	42	496	586	0	1124
A13 Westbound on-slip	Arm 2	0	0	0	0	0
Bridge	Arm 3	609	267	4	0	880
A13 Westbound off-slip	Arm 4	294	3	421	0	718
	Total	945	766	1011	0	-

**2030 DS PM**

From \ To	Arm 1	Arm 2	Arm 3	Arm 4	Total
Arm 1	39	469	700	0	1208
Arm 2	0	0	0	0	0
Arm 3	653	228	6	0	887
Arm 4	222	5	472	0	699
Total	914	702	1178	0	-

**Table 4.24: Linsig Modelling results of the A13 / Wennington Road Junction**

Junction 10 - A13 - A1306 Wennington Road										
	Set ID	AM				PM				
		Queue (PCU)	Delay (s)	RFC	LOS	Set ID	Queue (PCU)	Delay (s)	RFC	LOS
<b>2023</b>										
Northern RA – Internal Road (S)	D1	0.7	2.58	0.42	A	D2	0.9	2.80	0.47	A
Northern RA – A13 Eastbound Off-slip		0.5	3.28	0.34	A		1.1	4.84	0.53	A
Northern RA – New Road (A1306)		0.9	2.90	0.47	A		0.9	3.04	0.48	A
Southern RA - Arterial Road		1.1	3.12	0.52	A		1.1	3.18	0.53	A
Southern RA - Internal Road (N)		0.6	2.51	0.36	A		0.6	2.55	0.37	A
Southern RA - A13 Westbound Off-slip		0.5	2.49	0.33	A		0.4	2.37	0.29	A
<b>2030 Base</b>										
Northern RA - Internal Road (S)	D3	0.8	2.67	0.44	A	D4	1.0	2.93	0.49	A
Northern RA - A13 Eastbound Off-slip		0.6	3.48	0.36	A		1.3	5.42	0.57	A
Northern RA - New Road (A1306)		1.0	3.12	0.50	A		1.0	3.28	0.51	A
Southern RA- Arterial Road		1.2	3.38	0.55	A		1.3	3.45	0.56	A
Southern RA- Internal Road (N)		0.6	2.58	0.38	A		0.6	2.63	0.39	A
Southern RA- A13 Westbound Off-slip		0.5	2.62	0.35	A		0.4	2.48	0.31	A
<b>2030 Do Something</b>										
Northern RA - Internal Road (S)	D5	0.9	2.76	0.46	A	D6	1.2	3.24	0.54	A
Northern RA - A13 Eastbound Off-slip		0.5	3.36	0.33	A		1.3	5.62	0.56	A
Northern RA - New Road (A1306)		1.0	2.98	0.49	A		1.1	3.49	0.53	A
Southern RA- Arterial Road		1.2	3.37	0.54	A		1.4	3.85	0.59	A

	AM					PM				
	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Set ID	Queue (PCU)	Delay (s)	RFC	LOS
	2023									
Southern RA- Internal Road (N)		0.6	2.61	0.38	A		0.8	2.82	0.43	A
Southern RA- A13 Westbound Off-slip		0.6	2.72	0.37	A		0.6	2.86	0.38	A

4.33 Table 4.24 indicates that the A13 / Wennington Road junction will operate with reserve capacity in all scenarios modelled.

St Mary's Lane/Station Road Junction Traffic Flows

**Table 4.25: St Mary's Lane / Station Road Junction Traffic Flows**

2023 AM							2023 PM					
		A	B	C	D	Tot		A	B	C	D	Tot
Station Road	A	0	54	299	237	590	A	0	80	333	264	677
St Mary's Lane (E)	B	53	0	76	230	359	B	81	0	123	239	443
Corbets Tey Road	C	294	83	0	51	428	C	264	146	0	78	488
St Mary's Lane (W)	D	343	227	34	0	604	D	353	342	56	0	751
	Tot	690	364	409	518	1981	Tot	698	568	512	581	2359

2030 AM							2030 PM					
		A	B	C	D	Tot		A	B	C	D	Tot
Station Road	A	0	65	359	284	708	A	0	96	400	317	813
St Mary's Lane (E)	B	64	0	91	276	431	B	97	0	148	287	532
Corbets Tey Road	C	353	100	0	61	514	C	317	175	0	94	586
St Mary's Lane (W)	D	412	272	41	0	725	D	424	410	67	0	901
	Tot	829	437	491	621	2378	Tot	838	681	615	698	2832

2030 DS AM							2030 DS PM					
		A	B	C	D	Tot		A	B	C	D	Tot
Station Road	A	0	44	329	287	660	A	0	93	355	350	798
St Mary's Lane (E)	B	63	0	74	188	325	B	97	0	140	268	505
Corbets Tey Road	C	381	105	0	59	545	C	327	207	0	96	630
St Mary's Lane (W)	D	457	283	42	0	782	D	421	417	77	0	915
	Tot	901	432	445	534	2312	Tot	845	717	572	714	2848

**Table 4.26: Linsig Modelling results of the St Mary's Lane / Station Road (Bell Corner) junction**

Junction 11 - St Mary's Lane - Station Road				
PRC	MMQ			
	A Station Road	B St Mary's Lane (E)	C Corbets Tey Road	D St Mary's Lane (W)

Junction 11 - St Mary's Lane - Station Road					
2023 AM	47.6	7.9 / 6.6	7.3	6.0 / 5.3	8.5 / 5.4
2023 PM	30.5	9.3 / 8.0	9.8	6.8 / 6.0	9.0 / 9.7
2030 AM	23.3	10.0 / 8.7	9.6	7.6 / 6.9	11.1 / 6.8
2030 PM	10.2	12.3 / 10.9	13.4	9.5 / 8.4	11.6 / 12.6
2030 Do Something AM	18.6	10.0 / 8.5	5.7	8.0 / 7.4	12.3 / 6.9
2030 Do Something PM	6.6	12.6 / 11.0	12.0	10.3 / 9.2	11.5 / 13.3

4.34 Table 4.26 indicates that the St Mary's Lane / Station Road junction will operate with reserve capacity in all scenarios modelled. The LTC does impact on PRC values in the time periods modelled, however spare capacity remains in the junction.

## 5.0 SUMMARY & CONCLUSIONS

- 5.1 The Healthy Streets analysis set out within Section 2.0 of this Report has identified a number of interventions that should be considered for future implementation at each of the junctions, based on the specific consideration given to the relevant Healthy Streets criteria.
- 5.2 The Accident Analysis presented within Section 3.0 of this Report has identified particularly high concentrations of accidents at the following locations:
- A12 / North Street (38 accidents in 5 years);
  - A12 / Pettits Lane (25 accidents in 5 years);
  - A12 / Gubbins Lane (19 accidents in 5 years);
  - A127 / Squirrels Heath (19 accidents in 5 years); and
  - A127 / Hall Lane (19 accidents in 5 years).
- 5.3 A recommendation has been made within the Report that these particular junctions are given further consideration with regard to a more detailed safety review, to include Road Safety Audits.
- 5.4 The Report has also identified a requirement for a more detailed review of the impacts of the LTC on Wingletye Lane, noting the presence of two schools on this road, and the fact that National Highways omitted the left-turn flow from the A127 into Wingletye Lane from their modelling.
- 5.5 With regard to the junction modelling outcomes, the following junctions operate within capacity and will continue to do so in the year 2030 with or without the impact of the Lower Thames Crossing scheme:
- A12 Colchester Road/Harold Court Road;
  - A127 Southend Arterial Road/Wingletye Lane; \*
  - A13/Marsh Way;
  - A127/Front Lane;
  - A13/A1306 Wennington Road (Wennington Interchange); and
  - A124 St Mary's Lane/Station Road/B1421 Corbetts Tey Road (Bell Corner).
- \* As noted in Section 4 of this Report, the Wingletye Lane junction works in isolation, however, it is impacted by queuing that extends back from the A127 / Ardleigh Green Road / Squirrels Heath Road junction.*
- 5.6 The following junctions will operate over capacity in 2030, with or without the LTC, however, there may be scope to improve this junction:

- A12 Colchester Road/Gubbins Lane/Gooshays Drive.

5.7 The LTC causes the following junctions to operate over capacity (i.e. without the LTC, these junctions would operate with reserve capacity in 2030):

- A127 Southend Arterial Road/Hall Lane; and
- A12 Eastern Avenue/Pettits Lane/Pettits Lane North;

5.8 The following junctions are severely over-capacity, both now and in the 2030 Do Something scenario. As such these junctions will likely require amendments to the strategic network to alleviate the strain on these junctions:

- A12/North Street/B175 Havering Road;
- A127 Southend Arterial Road/Ardleigh Green Road/Squirrels Heath Road.

5.9 A brief summary of the overall findings and recommendations relevant to all of the topics considered for each junction is set out in Table 5.1 below.

**Table 5.1: Summary of Findings and Recommendations at Each Junction**

Junction	Recommended Healthy Streets Interventions	Accidents & Safety Findings/Interventions	Junction Performance Findings/Interventions
A12/North Street	Installation of controlled pedestrian crossing facilities and imposition of a ban on U-turns. Consider bus priority measures	38 accidents in 5 years. Recommend that a Road Safety Audit is conducted of the junction	Junction significantly over capacity in 2023 and continues to be in 2030 Do Something scenario. Strategic approach required to look at options for rerouting traffic away from this junction together with modal shift measures.
A12/Pettits Lane	Installation of controlled pedestrian crossing facilities and imposition of a ban on U-turns. Consider bus priority measures. Consider more compact junction layout that is more pedestrian / cyclist friendly.	25 accidents in 5 years. Recommend that a Road Safety Audit is conducted of the junction	Junction within capacity in 2023 base and 2030 Do Minimum scenarios. LTC causes junction to operate over capacity in Do Something scenario. Considered to be scope to improve junction performance through signal timings review and possible U-turn ban.
A12/Harold Court Road	Recommend installation of a controlled crossing on Harold Court Road – existing uncontrolled crossing considered unsatisfactory	16 accidents in 5 years. No particular safety concerns aside from the crossing on Harold Court Road.	Junction will operate with reserve capacity in all scenarios.



Junction	Recommended Healthy Streets Interventions	Accidents & Safety Findings/Interventions	Junction Performance Findings/Interventions
A12/Gubbins Lane/Gooshays Drive	Installation of controlled pedestrian crossing facilities and imposition of a ban on U-turns. Consider bus priority measures	19 accidents in 5 years. Recommend that a Road Safety Audit is conducted of the junction.	Overcapacity in all scenarios modelled, however there is likely to be scope to implement capacity improvements through measures such as signal timing reviews.
A127/Squirrels Heath Road/Ardleigh Green Road	Installation of controlled pedestrian crossing facilities and imposition of a ban on U-turns. Consider bus priority measures	19 accidents in 5 years. Recommend that a Road Safety Audit is conducted of the junction.	Significantly overcapacity in all scenarios modelled. Strategic approach needed with respect to mitigation at this junction.
A127/Wingletye Lane	Consider feasibility of signalising the junction to incorporate pedestrian crossing facilities and to allow right turn movements from Wingletye Lane onto the A127. May help to reduce capacity issues at the Squirrels Heath junction.	8 accidents in 5 years. Recommend that further work is conducted with specific regard to impact of the LTC on Wingletye Lane and the two schools located along this road.	Operates within capacity in all scenarios considered, however queueing back from the Squirrels Heath / Ardleigh Green Road impacts this junction.
A127/Hall Lane (northern and southern junctions)	No Healthy Streets interventions identified	19 accidents in 5 years. Recommend that a Road Safety Audit is conducted of the junction.	Junction within capacity in 2023 base and 2030 Do Minimum scenarios. LTC causes junction to operate over capacity in Do Something scenario, leading to dangerous queue lengths almost back to the A127 through lane. Altering the existing priority junction arrangement at the exit slip where it meets Hall Lane to a roundabout junction may minimise or remove the excessive queueing caused. This is recommended for further investigation.
A127/Front Lane	Commission survey and report of usage of the existing staggered crossing on the A127 and options for its removal, retention or alteration.	7 accidents in 5 years. Consider safety of existing staggered crossing.	Junction will operate with reserve capacity in all scenarios.

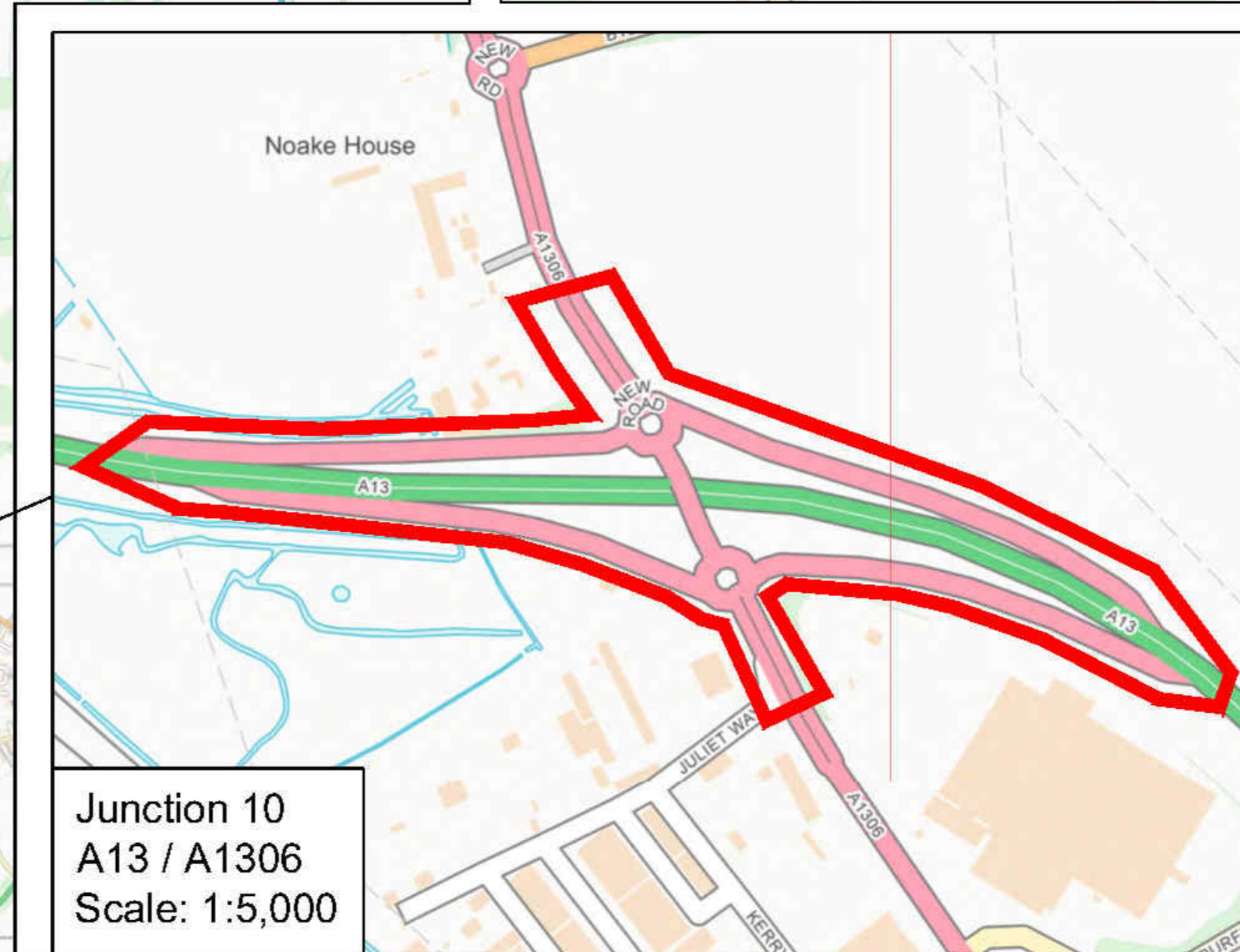
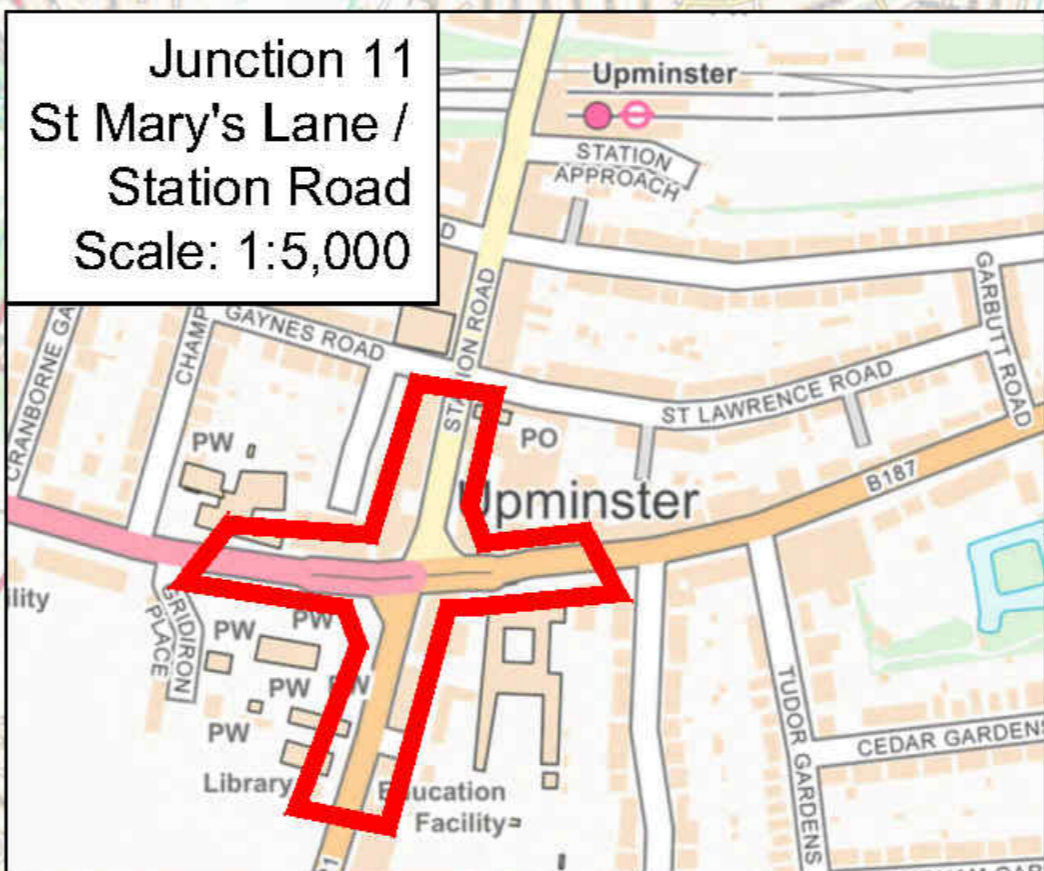
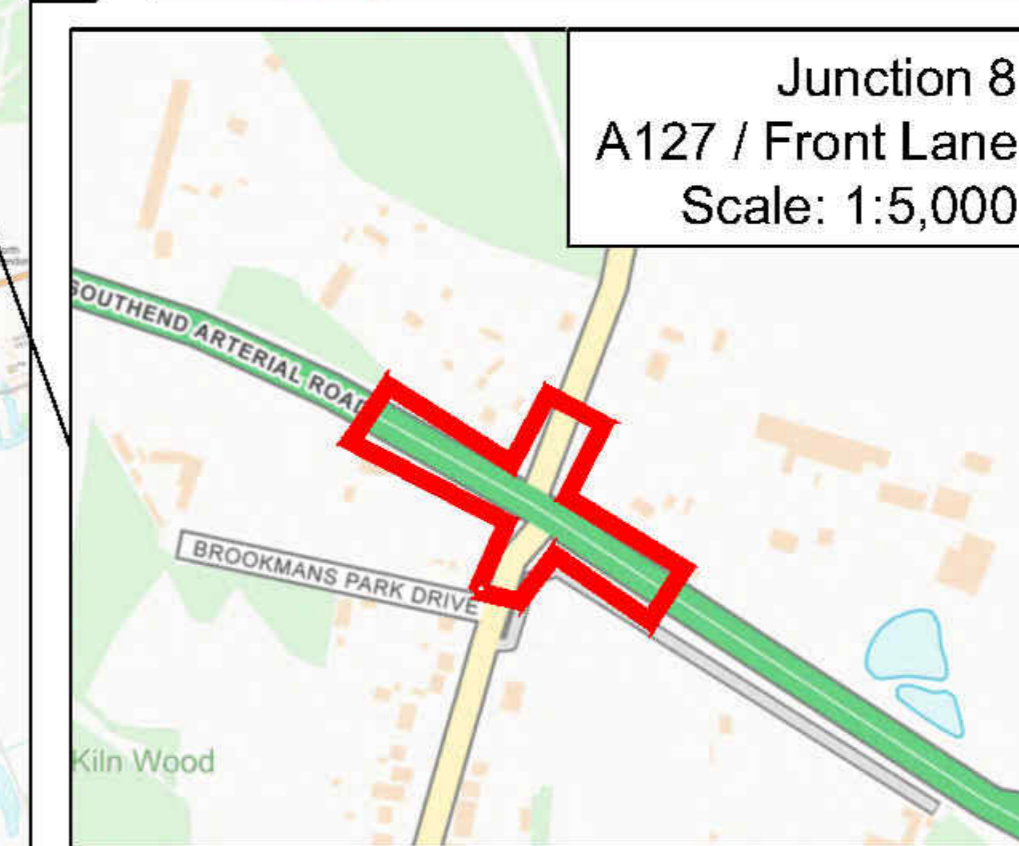
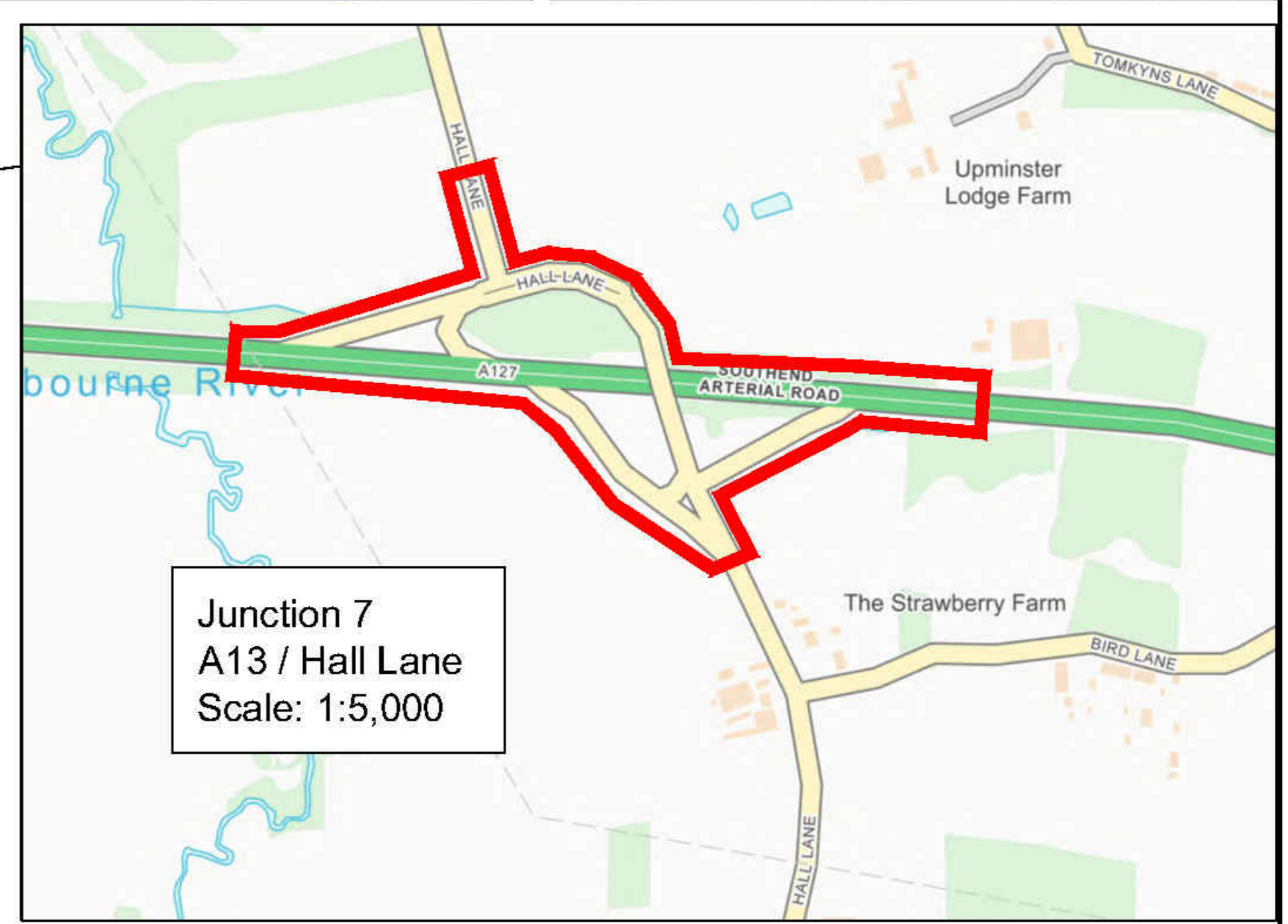
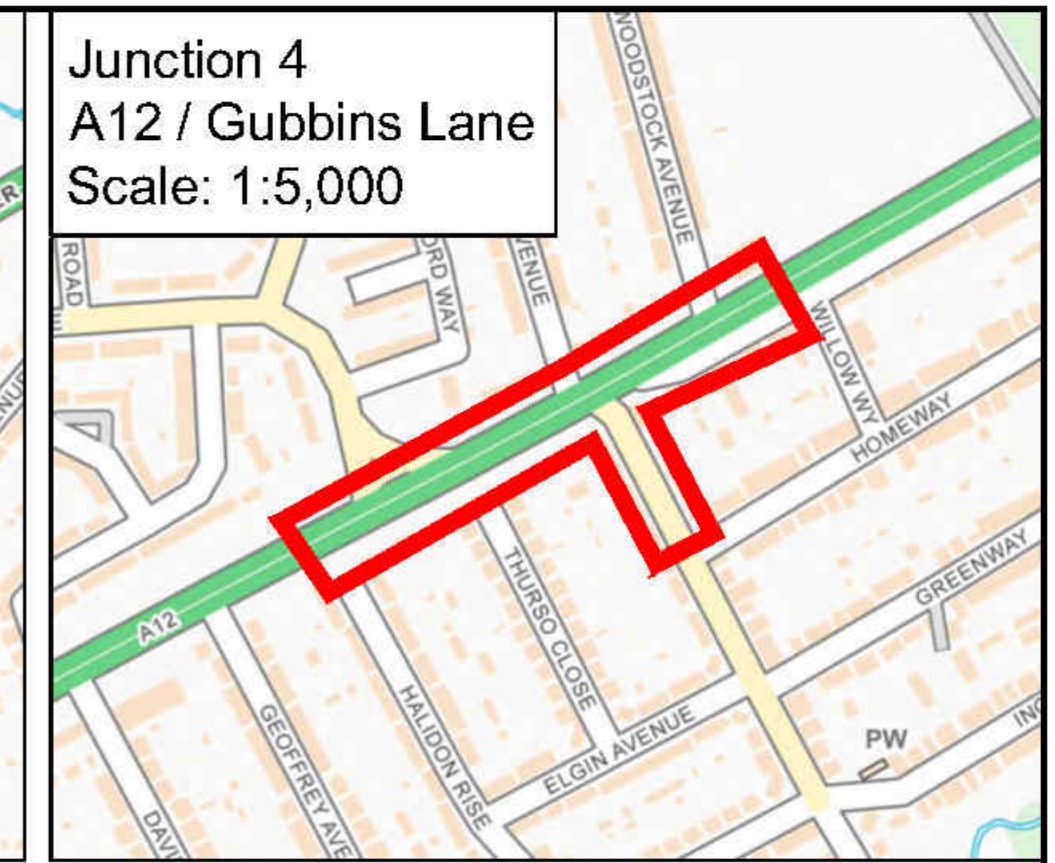
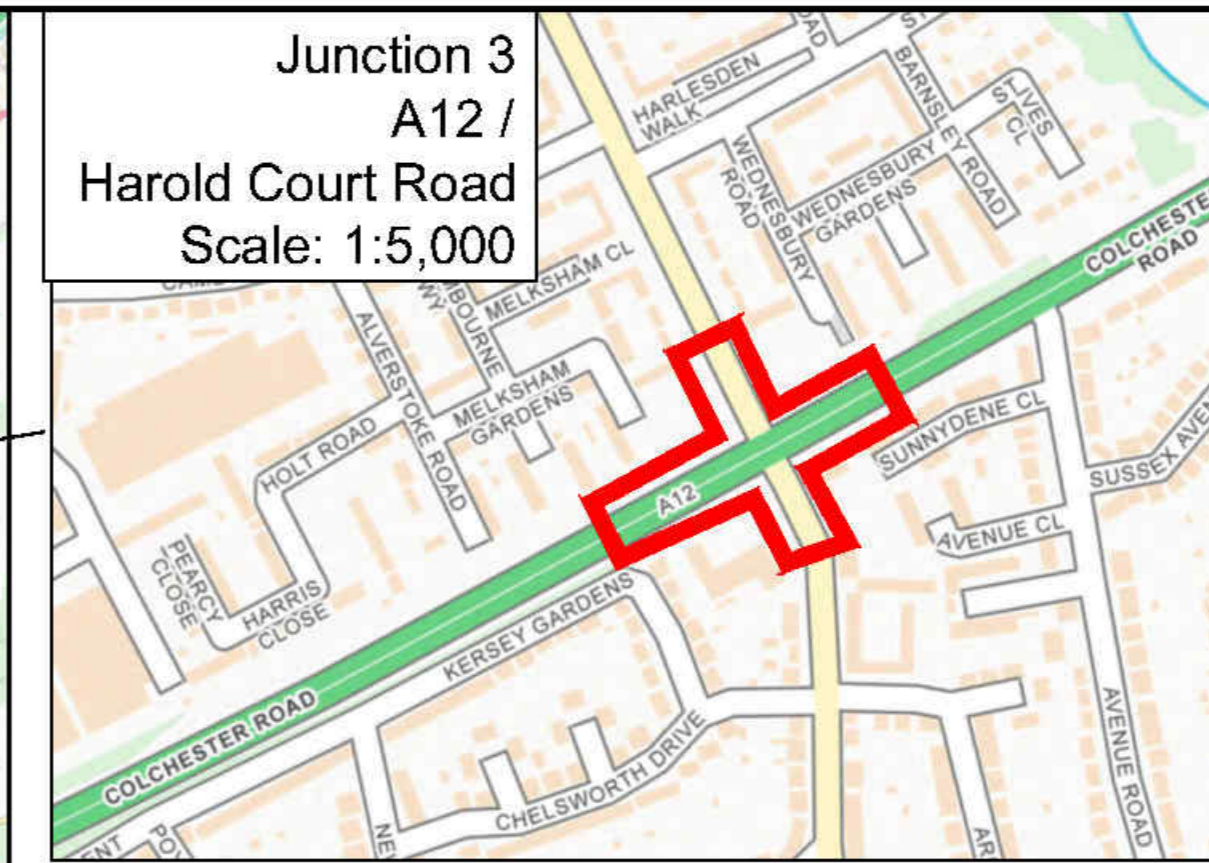
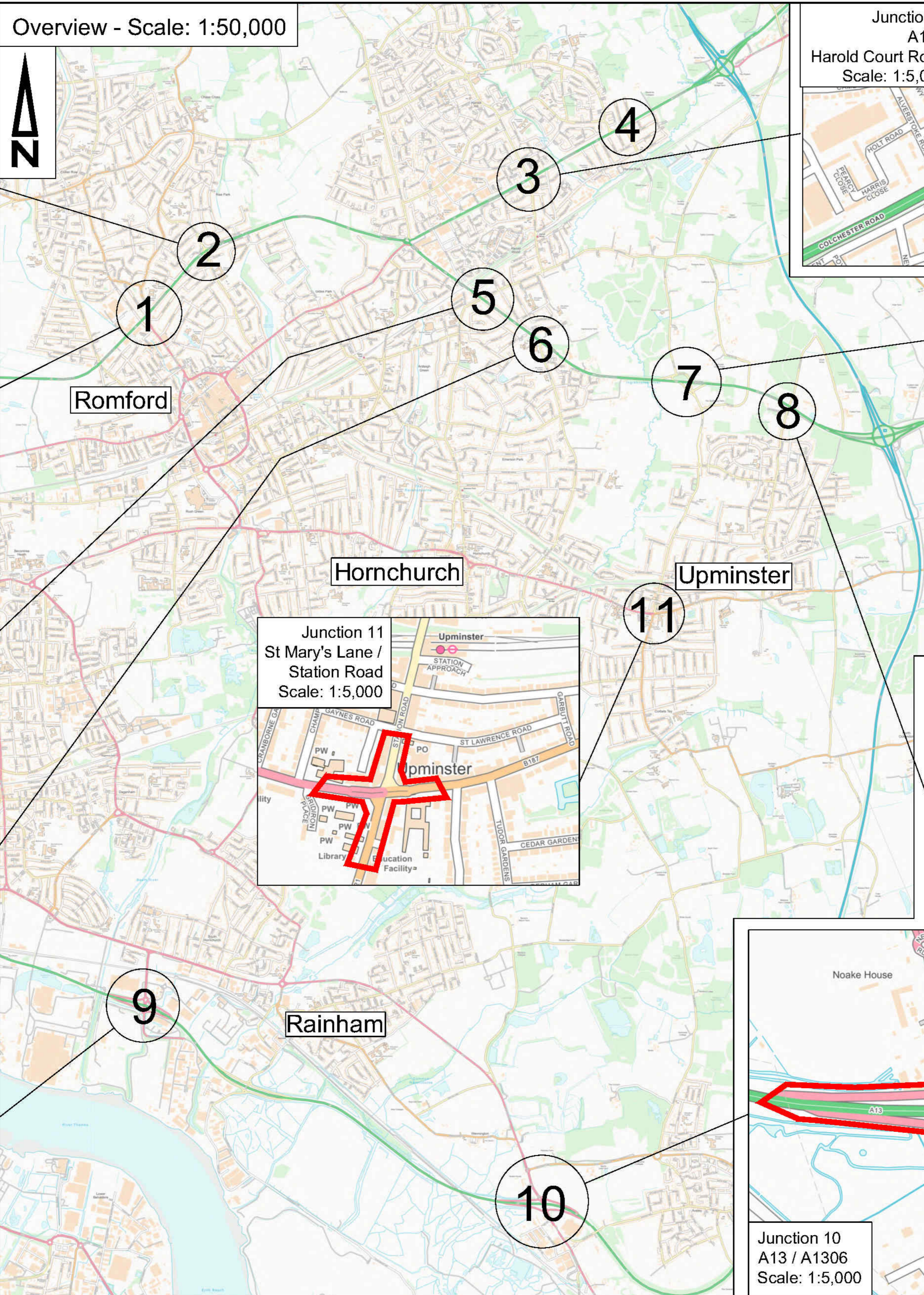
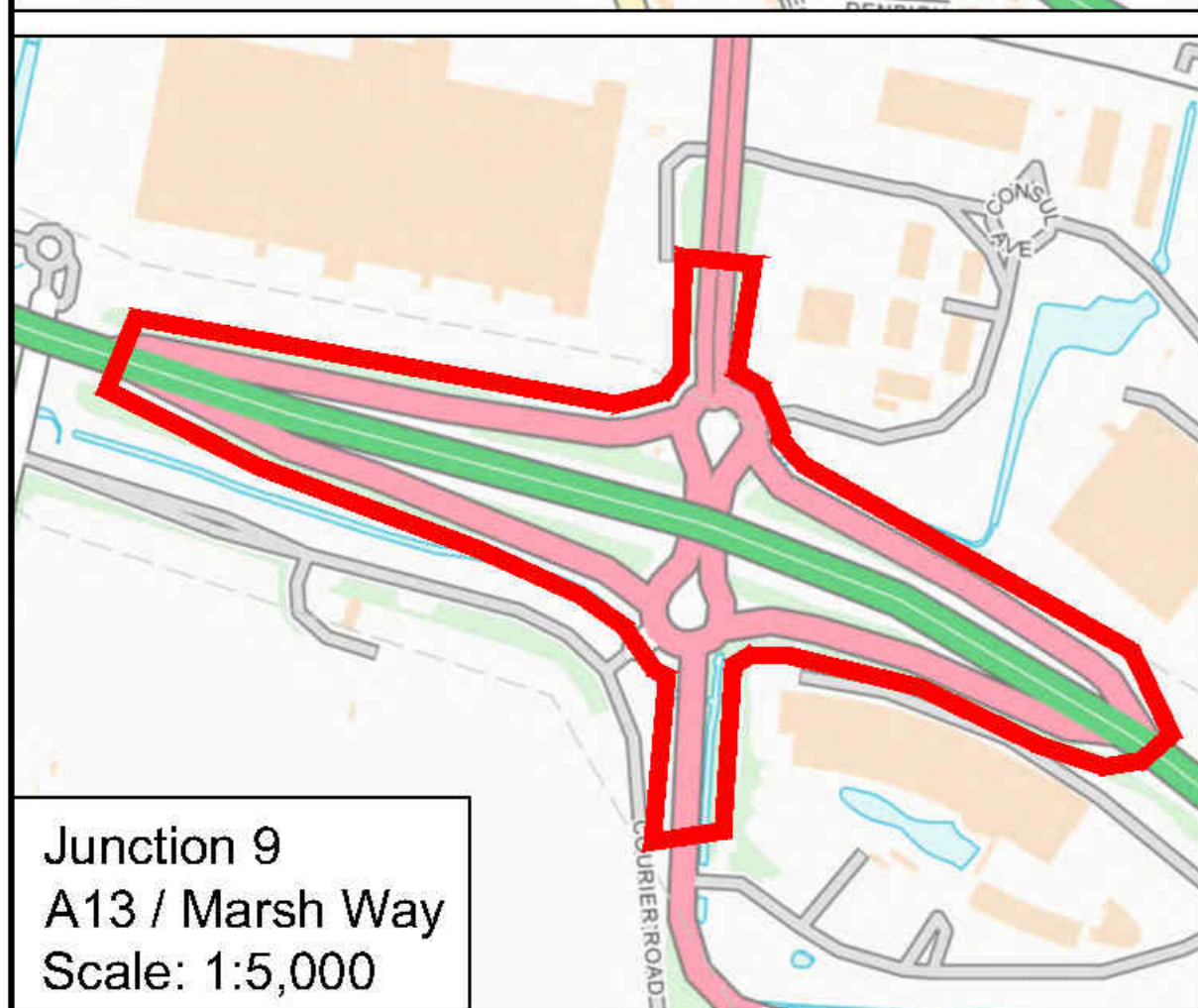
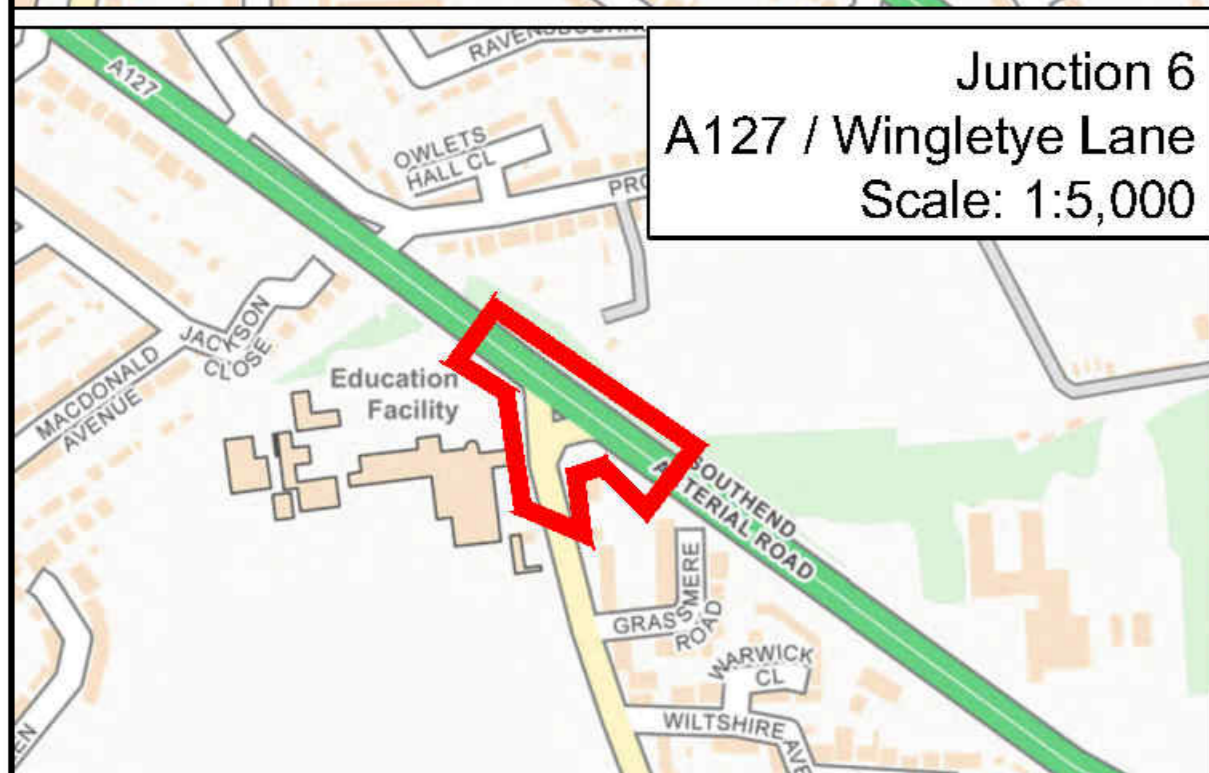
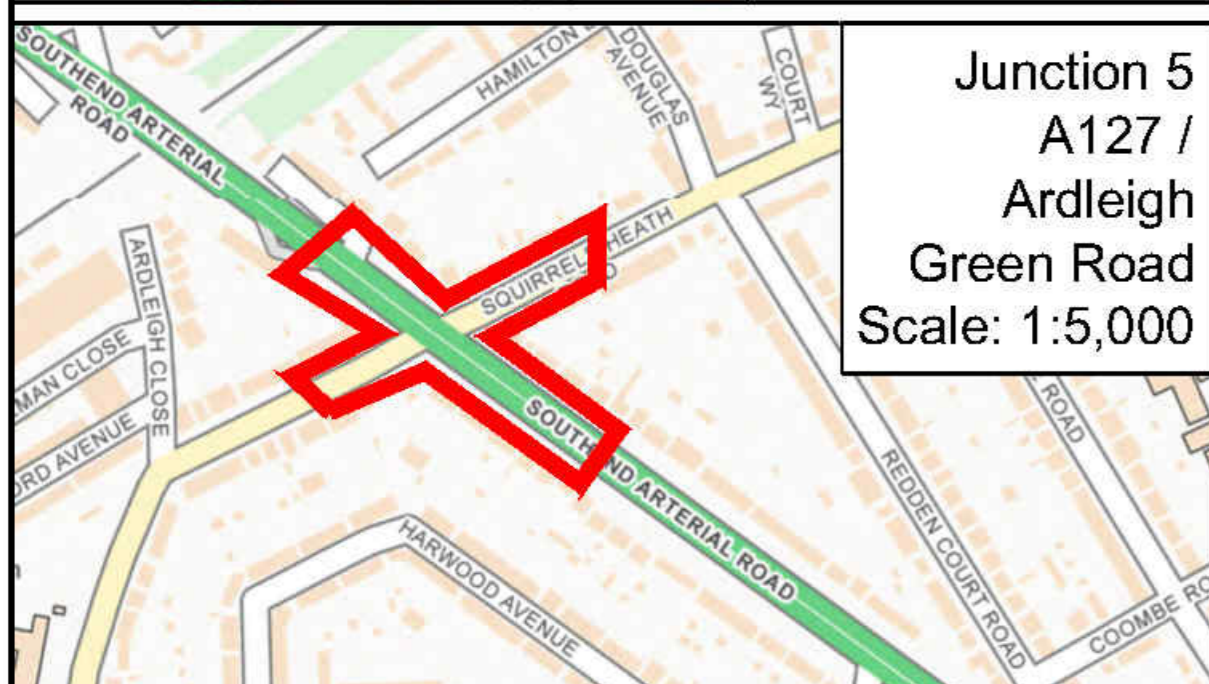
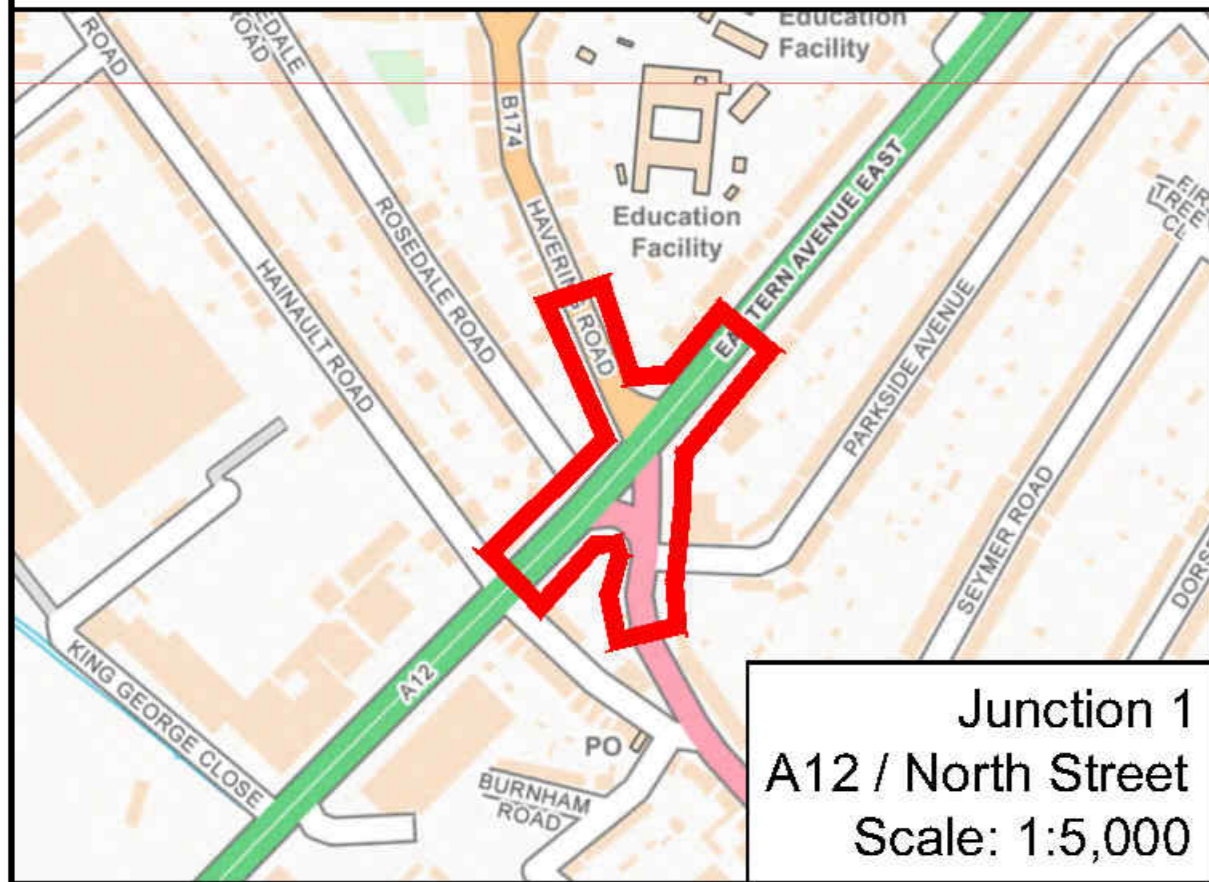
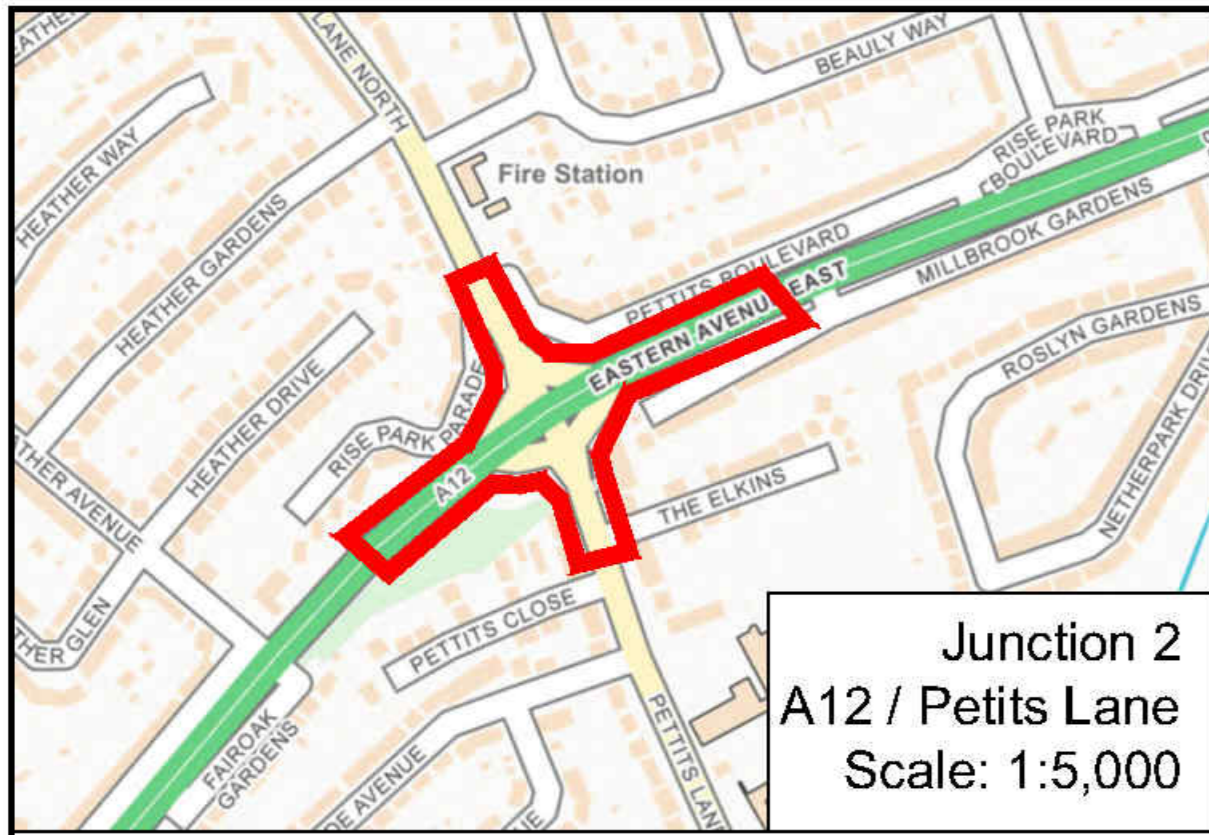
Junction	Recommended Healthy Streets Interventions	Accidents & Safety Findings/Interventions	Junction Performance Findings/Interventions
A13/Marsh Way	Consider provision of additional pedestrian crossing facilities and also consider provision of a foot/cycleway along the western side of Marsh Way between the two roundabouts. Consider addition of Advanced Stop Lines for cyclists.	17 accidents in 5 years. Additional crossing facilities would be beneficial.	Junction will operate with reserve capacity in all scenarios.
A13/Wennington Road	Crossing points require tactile paving. Foot/cycle ways require resurfacing and vegetation cutting back	8 accidents in 5 years. No specific interventions identified.	Junction will operate with reserve capacity in all scenarios.
St Mary's Lane / Station Road (Bell Corner)	Consider provision of Advanced Stop Lines for cyclists and bus priority measures	9 accidents in 5 years. No specific interventions identified.	Junction will operate with reserve capacity in all scenarios.

Cole Easdon Consultants Limited

November 2023

# Appendix 1





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Client:  
London Borough of Havering

Job Title:  
Lower Thames Crossing  
London Borough of Havering

Drawing Title: Junction Locations	
Drawing Status:	
FOR COMMENT	FOR TENDER
FOR APPROVAL	FOR CONSTRUCTION
AS BUILT	
**CONSTRUCTION AT CLIENT / CONTRACTOR RISK**	
Designed by: CGC	Checked by: DH
Date: June 2023	Scale: As Shown (A1)
Dwg. No.:	Rev.:
Plan 9190/201	-



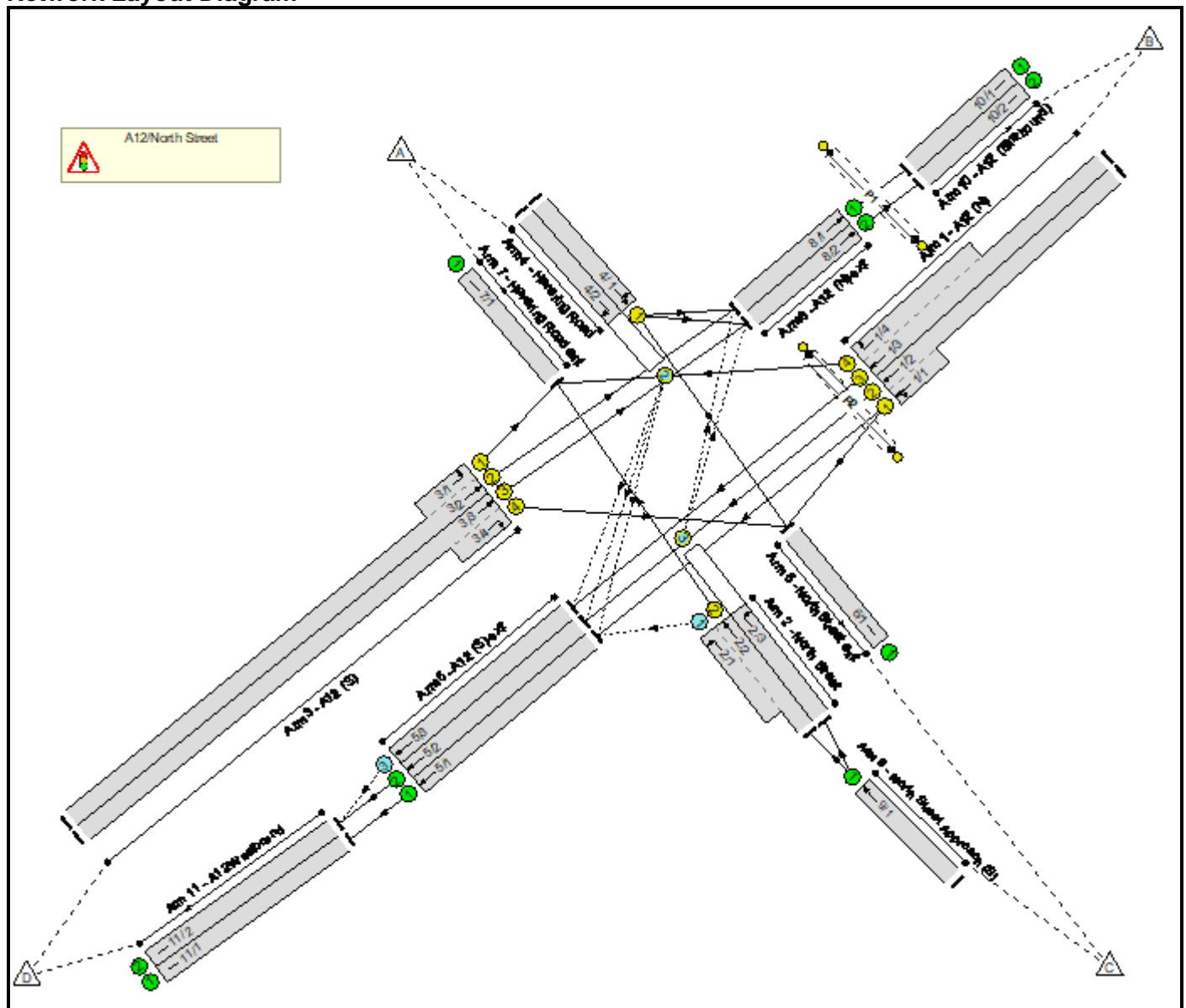
# Appendix 2

Full Input Data And Results  
Full Input Data And Results

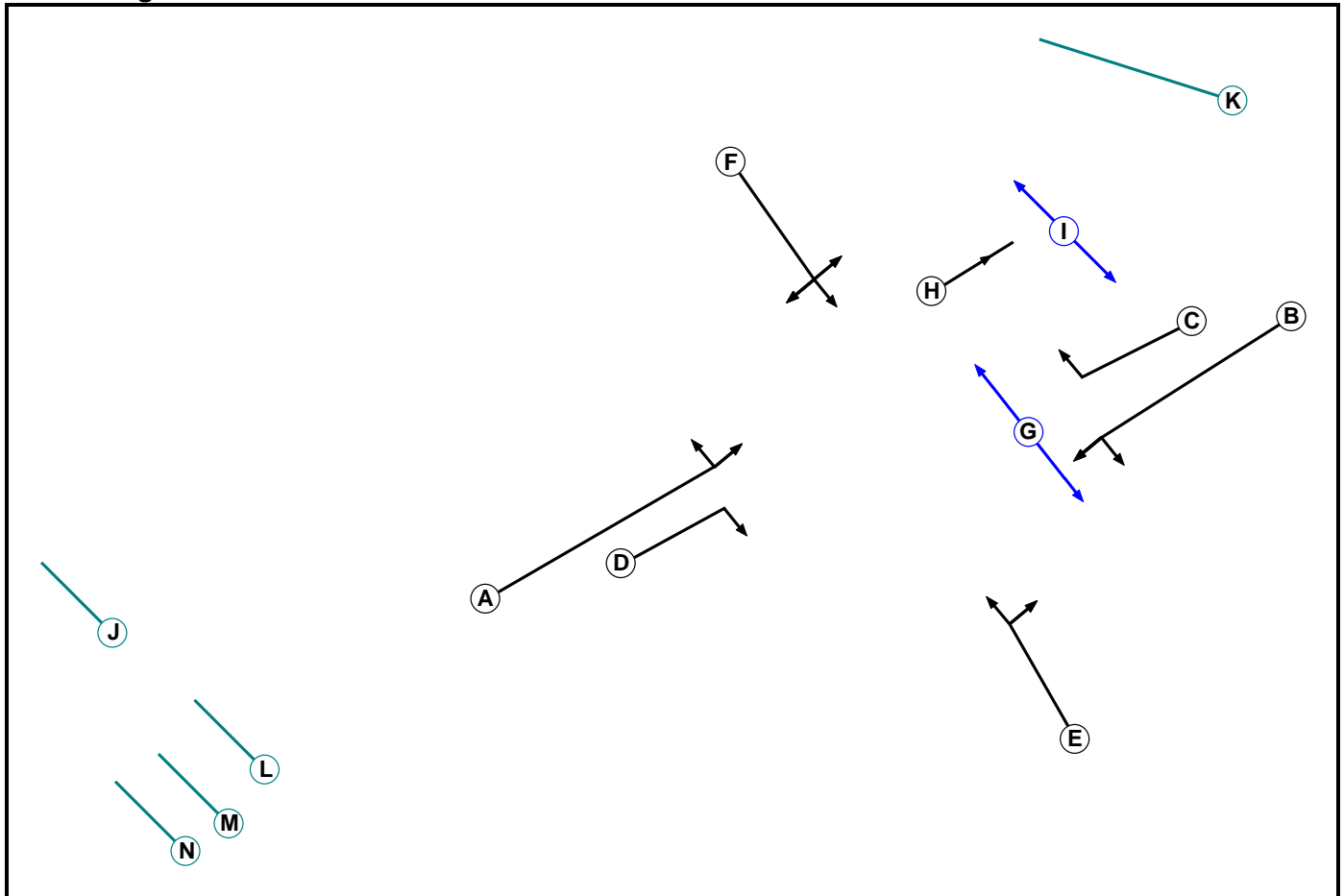
User and Project Details

Project:	
Title:	
Location:	
Additional detail:	
File name:	1 - A12 - North Street.lsg3x
Author:	
Company:	
Address:	

Network Layout Diagram



**Phase Diagram**



**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	1		7	7
D	Traffic	1		7	7
E	Traffic	1		7	7
F	Traffic	1		7	7
G	Pedestrian	1		6	6
H	Traffic	2		7	7
I	Pedestrian	2		7	7
J	Dummy	1		3	3
K	Dummy	2		3	3
L	Dummy	1		1	1
M	Dummy	1		1	1
N	Dummy	1		1	1



**Phase Intergreens Matrix**

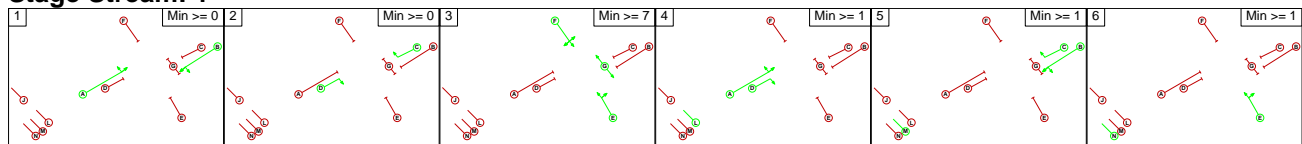
	Starting Phase													
	A	B	C	D	E	F	G	H	I	J	K	L	M	N
A	-	-	8	-	7	10	-	-	-	3	-	-	8	7
B	-	-	-	8	10	10	7	-	-	3	-	8	-	10
C	8	-	-	-	7	7	7	-	-	3	-	8	-	7
D	-	8	-	-	7	7	-	-	-	3	-	-	8	7
E	12	12	10	10	-	-	-	-	-	3	-	10	10	-
F	12	12	10	10	-	-	-	-	-	3	-	10	10	3
G	-	16	16	-	-	-	-	-	-	7	-	7	16	7
H	-	-	-	-	-	-	-	-	7	-	3	-	-	-
I	-	-	-	-	-	-	-	10	-	-	4	-	-	-
J	2	2	2	2	2	2	2	-	-	-	-	2	2	2
K	-	-	-	-	-	-	-	2	2	-	-	-	-	-
L	-	8	8	-	7	10	2	-	-	3	-	-	-	-
M	8	-	-	8	10	7	7	-	-	3	-	-	-	-
N	10	10	8	8	-	7	2	-	-	3	-	-	-	-

**Phases in Stage**

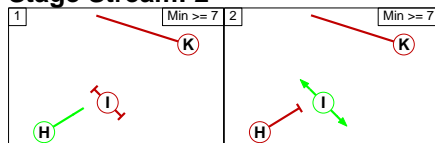
Stream	Stage No.	Phases in Stage
1	1	A B
1	2	C D
1	3	E F G
1	4	A D L
1	5	B C M
1	6	E N
2	1	H
2	2	I

**Stage Diagram**

**Stage Stream: 1**



**Stage Stream: 2**



Full Input Data And Results

**Phase Delays**

**Stage Stream: 1**

Term. Stage	Start Stage	Phase	Type	Value	Cont value
3	1	E	Losing	6	6
3	1	F	Losing	6	6
3	2	E	Losing	8	8
3	2	F	Losing	8	8

**Stage Stream: 2**

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

**Prohibited Stage Change**

**Stage Stream: 1**

		To Stage					
		1	2	3	4	5	6
From Stage	1		8	10	8	8	10
	2	8		7	8	8	7
	3	18	18		12	16	7
	4	8	8	10		8	7
	5	8	8	10	8		10
	6	12	10	7	12	12	

**Stage Stream: 2**

		To Stage	
		1	2
From Stage	1		7
	2	10	

Full Input Data And Results

**Give-Way Lane Input Data**

Junction: A12/North Street											
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)
2/1 (North Street)	5/1 (Left)	1439	0	1/1	1.09	To 5/1 (Ahead)	-	-	-	-	-
				1/2	1.09	All					
				1/3	1.09	All					
				4/2	1.09	All					
2/3 (North Street)	8/1 (Right)	1439	0	4/1	1.09	All	6.00	-	0.50	6	6.00
	8/2 (Right)	1439	0	4/1	1.09	All					
4/2 (Havering Road)	5/1 (Right)	1439	0	2/2	1.09	All	5.00	-	0.50	5	5.00
	5/2 (Right)	1439	0	2/2	1.09	All					
	5/3 (Right)	1439	0	2/2	1.09	All					
5/3 (A12 (S) exit)	11/2 (Ahead)	1439	0	5/2	1.09	All	-	-	-	-	-

Full Input Data And Results

**Lane Input Data**

Junction: A12/North Street												
Lane	Lane Type	Phases	Start Disp.	End Disp.	Physical Length (PCU)	Sat Flow Type	Def User Saturation Flow (PCU/Hr)	Lane Width (m)	Gradient	Nearside Lane	Turns	Turning Radius (m)
1/1 (A12 (N))	U	B	2	3	5.0	Geom	-	3.60	0.00	Y	Arm 5 Ahead	Inf
											Arm 6 Left	75.80
1/2 (A12 (N))	U	B	2	3	60.0	Geom	-	2.80	0.00	Y	Arm 5 Ahead	Inf
1/3 (A12 (N))	U	B	2	3	60.0	Geom	-	3.10	0.00	N	Arm 5 Ahead	Inf
1/4 (A12 (N))	U	C	2	3	12.5	Geom	-	2.90	0.00	Y	Arm 7 Right	8.00
2/1 (North Street)	O		2	3	11.3	Geom	-	5.00	0.00	Y	Arm 5 Left	17.80
2/2 (North Street)	U	E	2	3	60.0	Geom	-	3.20	0.00	Y	Arm 7 Ahead	Inf
2/3 (North Street)	O	E	2	3	60.0	Geom	-	3.35	0.00	Y	Arm 8 Right	32.00
3/1 (A12 (S))	U	A	2	3	5.0	Geom	-	4.00	0.00	Y	Arm 7 Left	24.00
3/2 (A12 (S))	U	A	2	3	60.0	Geom	-	4.00	0.00	Y	Arm 8 Ahead	Inf
3/3 (A12 (S))	U	A	2	3	60.0	Geom	-	4.30	0.00	N	Arm 8 Ahead	Inf
3/4 (A12 (S))	U	D	2	3	5.0	Geom	-	4.40	0.00	Y	Arm 6 Right	9.75
4/1 (Havering Road)	U	F	2	3	60.0	Geom	-	3.20	0.00	Y	Arm 6 Ahead	Inf
											Arm 8 Left	13.20
4/2 (Havering Road)	O	F	2	3	60.0	Geom	-	3.30	0.00	Y	Arm 5 Right	33.50
5/1 (A12 (S) exit)	U		2	3	60.0	Geom	-	3.25	0.00	Y	Arm 11 Ahead	Inf
5/2 (A12 (S) exit)	U		2	3	60.0	Geom	-	3.10	0.00	Y	Arm 11 Ahead	Inf
5/3 (A12 (S) exit)	O		2	3	12.0	Geom	-	3.10	0.00	Y	Arm 11 Ahead	Inf
6/1 (North Street exit)	U		2	3	60.0	Inf	-	-	-	-	-	-
7/1 (Havering Road exit)	U		2	3	60.0	Inf	-	-	-	-	-	-
8/1 (A12 (N) exit)	U		2	3	60.0	Inf	-	-	-	-	-	-
8/2 (A12 (N) exit)	U		2	3	60.0	Inf	-	-	-	-	-	-

**Full Input Data And Results**

9/1 (North Street Approach (S))	U		2	3	60.0	Geom	-	3.20	0.00	Y	Arm 2 Ahead	Inf
10/1 (A12 (Eastbound))	U		2	3	60.0	Inf	-	-	-	-	-	-
10/2 (A12 (Eastbound))	U		2	3	60.0	Inf	-	-	-	-	-	-
11/1 (A12 Westbound)	U		2	3	60.0	Inf	-	-	-	-	-	-
11/2 (A12 Westbound)	U		2	3	60.0	Inf	-	-	-	-	-	-

**Traffic Flow Groups**

Flow Group	Start Time	End Time	Duration	Formula
1: 'Base Year 2023 AM'	07:00	08:00	01:00	
2: 'Base Year 2023 PM'	17:00	18:00	01:00	
3: 'Reference Case 2030 AM'	07:00	08:00	01:00	F1 * 1.0466
4: 'Reference Case 2030 PM'	17:00	18:00	01:00	F2 * 1.0521
7: 'Do Something 2030 + LTC AM'	07:00	08:00	01:00	F3+F5
8: 'Do Something 2030 + LTC PM'	17:00	18:00	01:00	F4+F6

**Scenario 1: 'Base Year 2023 AM'** (FG1: 'Base Year 2023 AM', Plan 1: 'Network Control Plan 1')

**Traffic Flows, Desired**

**Desired Flow :**

	Destination					
		A	B	C	D	Tot.
Origin	A	0	60	423	139	622
	B	152	0	168	1314	1634
	C	328	164	0	165	657
	D	66	1128	234	0	1428
	Tot.	546	1352	825	1618	4341

Full Input Data And Results

**Traffic Lane Flows**

Lane	Scenario 1: Base Year 2023 AM
<b>Junction: A12/North Street</b>	
1/1 (short)	493
1/2 (with short)	969(In) 476(Out)
1/3 (with short)	665(In) 513(Out)
1/4 (short)	152
2/1 (short)	165
2/2 (with short)	493(In) 328(Out)
2/3	164
3/1 (short)	66
3/2 (with short)	607(In) 541(Out)
3/3 (with short)	821(In) 587(Out)
3/4 (short)	234
4/1	483
4/2	139
5/1	605
5/2	499
5/3	514
6/1	825
7/1	546
8/1	653
8/2	699
9/1	657
10/1	653
10/2	699
11/1	605
11/2	1013

Full Input Data And Results

**Lane Saturation Flows**

Junction: A12/North Street								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (A12 (N))	3.60	0.00	Y	Arm 5 Ahead	Inf	65.9 %	1962	1962
				Arm 6 Left	75.80	34.1 %		
1/2 (A12 (N))	2.80	0.00	Y	Arm 5 Ahead	Inf	100.0 %	1895	1895
1/3 (A12 (N))	3.10	0.00	N	Arm 5 Ahead	Inf	100.0 %	2065	2065
1/4 (A12 (N))	2.90	0.00	Y	Arm 7 Right	8.00	100.0 %	1604	1604
2/1 (North Street)	5.00	0.00	Y	Arm 5 Left	17.80	100.0 %	1951	1951
2/2 (North Street)	3.20	0.00	Y	Arm 7 Ahead	Inf	100.0 %	1935	1935
2/3 (North Street)	3.35	0.00	Y	Arm 8 Right	32.00	100.0 %	1863	1863
3/1 (A12 (S))	4.00	0.00	Y	Arm 7 Left	24.00	100.0 %	1896	1896
3/2 (A12 (S))	4.00	0.00	Y	Arm 8 Ahead	Inf	100.0 %	2015	2015
3/3 (A12 (S))	4.30	0.00	N	Arm 8 Ahead	Inf	100.0 %	2185	2185
3/4 (A12 (S))	4.40	0.00	Y	Arm 6 Right	9.75	100.0 %	1781	1781
4/1 (Havering Road)	3.20	0.00	Y	Arm 6 Ahead	Inf	87.6 %	1908	1908
				Arm 8 Left	13.20	12.4 %		
4/2 (Havering Road)	3.30	0.00	Y	Arm 5 Right	33.50	100.0 %	1862	1862
5/1 (A12 (S) exit)	3.25	0.00	Y	Arm 11 Ahead	Inf	100.0 %	1940	1940
5/2 (A12 (S) exit)	3.10	0.00	Y	Arm 11 Ahead	Inf	100.0 %	1925	1925
5/3 (A12 (S) exit)	3.10	0.00	Y	Arm 11 Ahead	Inf	100.0 %	1925	1925
6/1 (North Street exit Lane 1)	Infinite Saturation Flow						Inf	Inf
7/1 (Havering Road exit Lane 1)	Infinite Saturation Flow						Inf	Inf
8/1 (A12 (N) exit Lane 1)	Infinite Saturation Flow						Inf	Inf
8/2 (A12 (N) exit Lane 2)	Infinite Saturation Flow						Inf	Inf
9/1 (North Street Approach (S))	3.20	0.00	Y	Arm 2 Ahead	Inf	100.0 %	1935	1935
10/1 (A12 (Eastbound) Lane 1)	Infinite Saturation Flow						Inf	Inf
10/2 (A12 (Eastbound) Lane 2)	Infinite Saturation Flow						Inf	Inf



Full Input Data And Results

11/1 (A12 Westbound Lane 1)	Infinite Saturation Flow	Inf	Inf
11/2 (A12 Westbound Lane 2)	Infinite Saturation Flow	Inf	Inf

**Scenario 2: 'Base Year 2023 PM'** (FG2: 'Base Year 2023 PM', Plan 1: 'Network Control Plan 1')

**Traffic Flows, Desired**

**Desired Flow :**

		Destination				
		A	B	C	D	Tot.
Origin	A	0	66	382	123	571
	B	241	0	165	1172	1578
	C	454	193	0	233	880
	D	103	1176	266	0	1545
	Tot.	798	1435	813	1528	4574

Full Input Data And Results

**Traffic Lane Flows**

Lane	Scenario 2: Base Year 2023 PM
<b>Junction: A12/North Street</b>	
1/1 (short)	444
1/2 (with short)	873(In) 429(Out)
1/3 (with short)	705(In) 464(Out)
1/4 (short)	241
2/1 (short)	233
2/2 (with short)	687(In) 454(Out)
2/3	193
3/1 (short)	103
3/2 (with short)	667(In) 564(Out)
3/3 (with short)	878(In) 612(Out)
3/4 (short)	266
4/1	448
4/2	123
5/1	621
5/2	442
5/3	465
6/1	813
7/1	798
8/1	693
8/2	742
9/1	880
10/1	693
10/2	742
11/1	621
11/2	907

Full Input Data And Results

**Lane Saturation Flows**

Junction: A12/North Street								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (A12 (N))	3.60	0.00	Y	Arm 5 Ahead	Inf	62.8 %	1961	1961
				Arm 6 Left	75.80	37.2 %		
1/2 (A12 (N))	2.80	0.00	Y	Arm 5 Ahead	Inf	100.0 %	1895	1895
1/3 (A12 (N))	3.10	0.00	N	Arm 5 Ahead	Inf	100.0 %	2065	2065
1/4 (A12 (N))	2.90	0.00	Y	Arm 7 Right	8.00	100.0 %	1604	1604
2/1 (North Street)	5.00	0.00	Y	Arm 5 Left	17.80	100.0 %	1951	1951
2/2 (North Street)	3.20	0.00	Y	Arm 7 Ahead	Inf	100.0 %	1935	1935
2/3 (North Street)	3.35	0.00	Y	Arm 8 Right	32.00	100.0 %	1863	1863
3/1 (A12 (S))	4.00	0.00	Y	Arm 7 Left	24.00	100.0 %	1896	1896
3/2 (A12 (S))	4.00	0.00	Y	Arm 8 Ahead	Inf	100.0 %	2015	2015
3/3 (A12 (S))	4.30	0.00	N	Arm 8 Ahead	Inf	100.0 %	2185	2185
3/4 (A12 (S))	4.40	0.00	Y	Arm 6 Right	9.75	100.0 %	1781	1781
4/1 (Havering Road)	3.20	0.00	Y	Arm 6 Ahead	Inf	85.3 %	1903	1903
				Arm 8 Left	13.20	14.7 %		
4/2 (Havering Road)	3.30	0.00	Y	Arm 5 Right	33.50	100.0 %	1862	1862
5/1 (A12 (S) exit)	3.25	0.00	Y	Arm 11 Ahead	Inf	100.0 %	1940	1940
5/2 (A12 (S) exit)	3.10	0.00	Y	Arm 11 Ahead	Inf	100.0 %	1925	1925
5/3 (A12 (S) exit)	3.10	0.00	Y	Arm 11 Ahead	Inf	100.0 %	1925	1925
6/1 (North Street exit Lane 1)	Infinite Saturation Flow						Inf	Inf
7/1 (Havering Road exit Lane 1)	Infinite Saturation Flow						Inf	Inf
8/1 (A12 (N) exit Lane 1)	Infinite Saturation Flow						Inf	Inf
8/2 (A12 (N) exit Lane 2)	Infinite Saturation Flow						Inf	Inf
9/1 (North Street Approach (S))	3.20	0.00	Y	Arm 2 Ahead	Inf	100.0 %	1935	1935
10/1 (A12 (Eastbound) Lane 1)	Infinite Saturation Flow						Inf	Inf
10/2 (A12 (Eastbound) Lane 2)	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

11/1 (A12 Westbound Lane 1)	Infinite Saturation Flow	Inf	Inf
11/2 (A12 Westbound Lane 2)	Infinite Saturation Flow	Inf	Inf

**Scenario 3: 'Reference Case 2030 AM'** (FG3: 'Reference Case 2030 AM', Plan 1: 'Network Control Plan 1')

**Traffic Flows, Desired**

**Desired Flow :**

		Destination				
		A	B	C	D	Tot.
Origin	A	0	63	443	145	651
	B	159	0	176	1375	1710
	C	343	172	0	173	688
	D	69	1181	245	0	1495
	Tot.	571	1416	864	1693	4544

Full Input Data And Results

**Traffic Lane Flows**

Lane	Scenario 3: Reference Case 2030 AM
<b>Junction: A12/North Street</b>	
1/1 (short)	516
1/2 (with short)	1014(In) 498(Out)
1/3 (with short)	696(In) 537(Out)
1/4 (short)	159
2/1 (short)	173
2/2 (with short)	516(In) 343(Out)
2/3	172
3/1 (short)	69
3/2 (with short)	635(In) 566(Out)
3/3 (with short)	860(In) 615(Out)
3/4 (short)	245
4/1	506
4/2	145
5/1	636
5/2	520
5/3	537
6/1	864
7/1	571
8/1	683
8/2	733
9/1	688
10/1	683
10/2	733
11/1	636
11/2	1057

Full Input Data And Results

**Lane Saturation Flows**

Junction: A12/North Street								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (A12 (N))	3.60	0.00	Y	Arm 5 Ahead	Inf	65.9 %	1962	1962
				Arm 6 Left	75.80	34.1 %		
1/2 (A12 (N))	2.80	0.00	Y	Arm 5 Ahead	Inf	100.0 %	1895	1895
1/3 (A12 (N))	3.10	0.00	N	Arm 5 Ahead	Inf	100.0 %	2065	2065
1/4 (A12 (N))	2.90	0.00	Y	Arm 7 Right	8.00	100.0 %	1604	1604
2/1 (North Street)	5.00	0.00	Y	Arm 5 Left	17.80	100.0 %	1951	1951
2/2 (North Street)	3.20	0.00	Y	Arm 7 Ahead	Inf	100.0 %	1935	1935
2/3 (North Street)	3.35	0.00	Y	Arm 8 Right	32.00	100.0 %	1863	1863
3/1 (A12 (S))	4.00	0.00	Y	Arm 7 Left	24.00	100.0 %	1896	1896
3/2 (A12 (S))	4.00	0.00	Y	Arm 8 Ahead	Inf	100.0 %	2015	2015
3/3 (A12 (S))	4.30	0.00	N	Arm 8 Ahead	Inf	100.0 %	2185	2185
3/4 (A12 (S))	4.40	0.00	Y	Arm 6 Right	9.75	100.0 %	1781	1781
4/1 (Havering Road)	3.20	0.00	Y	Arm 6 Ahead	Inf	87.5 %	1908	1908
				Arm 8 Left	13.20	12.5 %		
4/2 (Havering Road)	3.30	0.00	Y	Arm 5 Right	33.50	100.0 %	1862	1862
5/1 (A12 (S) exit)	3.25	0.00	Y	Arm 11 Ahead	Inf	100.0 %	1940	1940
5/2 (A12 (S) exit)	3.10	0.00	Y	Arm 11 Ahead	Inf	100.0 %	1925	1925
5/3 (A12 (S) exit)	3.10	0.00	Y	Arm 11 Ahead	Inf	100.0 %	1925	1925
6/1 (North Street exit Lane 1)	Infinite Saturation Flow						Inf	Inf
7/1 (Havering Road exit Lane 1)	Infinite Saturation Flow						Inf	Inf
8/1 (A12 (N) exit Lane 1)	Infinite Saturation Flow						Inf	Inf
8/2 (A12 (N) exit Lane 2)	Infinite Saturation Flow						Inf	Inf
9/1 (North Street Approach (S))	3.20	0.00	Y	Arm 2 Ahead	Inf	100.0 %	1935	1935
10/1 (A12 (Eastbound) Lane 1)	Infinite Saturation Flow						Inf	Inf
10/2 (A12 (Eastbound) Lane 2)	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

11/1 (A12 Westbound Lane 1)	Infinite Saturation Flow	Inf	Inf
11/2 (A12 Westbound Lane 2)	Infinite Saturation Flow	Inf	Inf

**Scenario 4: 'Reference Case 2030 PM'** (FG4: 'Reference Case 2030 PM', Plan 1: 'Network Control Plan 1')

**Traffic Flows, Desired**

**Desired Flow :**

		Destination				
		A	B	C	D	Tot.
Origin	A	0	69	402	129	600
	B	254	0	174	1233	1661
	C	478	203	0	245	926
	D	108	1237	280	0	1625
	Tot.	840	1509	856	1607	4812



Full Input Data And Results

**Traffic Lane Flows**

Lane	Scenario 4: Reference Case 2030 PM
<b>Junction: A12/North Street</b>	
1/1 (short)	467
1/2 (with short)	919(In) 452(Out)
1/3 (with short)	742(In) 488(Out)
1/4 (short)	254
2/1 (short)	245
2/2 (with short)	723(In) 478(Out)
2/3	203
3/1 (short)	108
3/2 (with short)	701(In) 593(Out)
3/3 (with short)	924(In) 644(Out)
3/4 (short)	280
4/1	471
4/2	129
5/1	652
5/2	467
5/3	488
6/1	856
7/1	840
8/1	728
8/2	781
9/1	926
10/1	728
10/2	781
11/1	652
11/2	955

Full Input Data And Results

**Lane Saturation Flows**

Junction: A12/North Street								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (A12 (N))	3.60	0.00	Y	Arm 5 Ahead	Inf	62.7 %	1961	1961
				Arm 6 Left	75.80	37.3 %		
1/2 (A12 (N))	2.80	0.00	Y	Arm 5 Ahead	Inf	100.0 %	1895	1895
1/3 (A12 (N))	3.10	0.00	N	Arm 5 Ahead	Inf	100.0 %	2065	2065
1/4 (A12 (N))	2.90	0.00	Y	Arm 7 Right	8.00	100.0 %	1604	1604
2/1 (North Street)	5.00	0.00	Y	Arm 5 Left	17.80	100.0 %	1951	1951
2/2 (North Street)	3.20	0.00	Y	Arm 7 Ahead	Inf	100.0 %	1935	1935
2/3 (North Street)	3.35	0.00	Y	Arm 8 Right	32.00	100.0 %	1863	1863
3/1 (A12 (S))	4.00	0.00	Y	Arm 7 Left	24.00	100.0 %	1896	1896
3/2 (A12 (S))	4.00	0.00	Y	Arm 8 Ahead	Inf	100.0 %	2015	2015
3/3 (A12 (S))	4.30	0.00	N	Arm 8 Ahead	Inf	100.0 %	2185	2185
3/4 (A12 (S))	4.40	0.00	Y	Arm 6 Right	9.75	100.0 %	1781	1781
4/1 (Havering Road)	3.20	0.00	Y	Arm 6 Ahead	Inf	85.4 %	1903	1903
				Arm 8 Left	13.20	14.6 %		
4/2 (Havering Road)	3.30	0.00	Y	Arm 5 Right	33.50	100.0 %	1862	1862
5/1 (A12 (S) exit)	3.25	0.00	Y	Arm 11 Ahead	Inf	100.0 %	1940	1940
5/2 (A12 (S) exit)	3.10	0.00	Y	Arm 11 Ahead	Inf	100.0 %	1925	1925
5/3 (A12 (S) exit)	3.10	0.00	Y	Arm 11 Ahead	Inf	100.0 %	1925	1925
6/1 (North Street exit Lane 1)	Infinite Saturation Flow						Inf	Inf
7/1 (Havering Road exit Lane 1)	Infinite Saturation Flow						Inf	Inf
8/1 (A12 (N) exit Lane 1)	Infinite Saturation Flow						Inf	Inf
8/2 (A12 (N) exit Lane 2)	Infinite Saturation Flow						Inf	Inf
9/1 (North Street Approach (S))	3.20	0.00	Y	Arm 2 Ahead	Inf	100.0 %	1935	1935
10/1 (A12 (Eastbound) Lane 1)	Infinite Saturation Flow						Inf	Inf
10/2 (A12 (Eastbound) Lane 2)	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

11/1 (A12 Westbound Lane 1)	Infinite Saturation Flow	Inf	Inf
11/2 (A12 Westbound Lane 2)	Infinite Saturation Flow	Inf	Inf

**Scenario 5: 'Do Something 2030 + LTC AM'** (FG7: 'Do Something 2030 + LTC AM', Plan 1: 'Network Control Plan 1')

**Traffic Flows, Desired**

**Desired Flow :**

	Destination						
	A	B	C	D	Tot.		
Origin	A	0	66	444	151	661	
	B	162	0	179	1378	1719	
	C	335	168	0	194	697	
	D	83	1186	232	0	1501	
	Tot.	580	1420	855	1723	4578	

Full Input Data And Results

**Traffic Lane Flows**

Lane	Scenario 5: Do Something 2030 + LTC AM
<b>Junction: A12/North Street</b>	
1/1 (short)	452
1/2 (with short)	899(In) 447(Out)
1/3 (with short)	820(In) 658(Out)
1/4 (short)	162
2/1 (short)	194
2/2 (with short)	529(In) 335(Out)
2/3	168
3/1 (short)	83
3/2 (with short)	807(In) 724(Out)
3/3 (with short)	694(In) 462(Out)
3/4 (short)	232
4/1	510
4/2	151
5/1	578
5/2	487
5/3	658
6/1	855
7/1	580
8/1	841
8/2	579
9/1	697
10/1	841
10/2	579
11/1	578
11/2	1145

Full Input Data And Results

**Lane Saturation Flows**

Junction: A12/North Street								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (A12 (N))	3.60	0.00	Y	Arm 5 Ahead	Inf	60.4 %	1960	1960
				Arm 6 Left	75.80	39.6 %		
1/2 (A12 (N))	2.80	0.00	Y	Arm 5 Ahead	Inf	100.0 %	1895	1895
1/3 (A12 (N))	3.10	0.00	N	Arm 5 Ahead	Inf	100.0 %	2065	2065
1/4 (A12 (N))	2.90	0.00	Y	Arm 7 Right	8.00	100.0 %	1604	1604
2/1 (North Street)	5.00	0.00	Y	Arm 5 Left	17.80	100.0 %	1951	1951
2/2 (North Street)	3.20	0.00	Y	Arm 7 Ahead	Inf	100.0 %	1935	1935
2/3 (North Street)	3.35	0.00	Y	Arm 8 Right	32.00	100.0 %	1863	1863
3/1 (A12 (S))	4.00	0.00	Y	Arm 7 Left	24.00	100.0 %	1896	1896
3/2 (A12 (S))	4.00	0.00	Y	Arm 8 Ahead	Inf	100.0 %	2015	2015
3/3 (A12 (S))	4.30	0.00	N	Arm 8 Ahead	Inf	100.0 %	2185	2185
3/4 (A12 (S))	4.40	0.00	Y	Arm 6 Right	9.75	100.0 %	1781	1781
4/1 (Havering Road)	3.20	0.00	Y	Arm 6 Ahead	Inf	87.1 %	1907	1907
				Arm 8 Left	13.20	12.9 %		
4/2 (Havering Road)	3.30	0.00	Y	Arm 5 Right	33.50	100.0 %	1862	1862
5/1 (A12 (S) exit)	3.25	0.00	Y	Arm 11 Ahead	Inf	100.0 %	1940	1940
5/2 (A12 (S) exit)	3.10	0.00	Y	Arm 11 Ahead	Inf	100.0 %	1925	1925
5/3 (A12 (S) exit)	3.10	0.00	Y	Arm 11 Ahead	Inf	100.0 %	1925	1925
6/1 (North Street exit Lane 1)	Infinite Saturation Flow						Inf	Inf
7/1 (Havering Road exit Lane 1)	Infinite Saturation Flow						Inf	Inf
8/1 (A12 (N) exit Lane 1)	Infinite Saturation Flow						Inf	Inf
8/2 (A12 (N) exit Lane 2)	Infinite Saturation Flow						Inf	Inf
9/1 (North Street Approach (S))	3.20	0.00	Y	Arm 2 Ahead	Inf	100.0 %	1935	1935
10/1 (A12 (Eastbound) Lane 1)	Infinite Saturation Flow						Inf	Inf
10/2 (A12 (Eastbound) Lane 2)	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

11/1 (A12 Westbound Lane 1)	Infinite Saturation Flow	Inf	Inf
11/2 (A12 Westbound Lane 2)	Infinite Saturation Flow	Inf	Inf

**Scenario 6: 'Do Something 2030 + LTC PM'** (FG8: 'Do Something 2030 + LTC PM', Plan 1: 'Network Control Plan 1')

**Traffic Flows, Desired**

**Desired Flow :**

	Destination					
	A	B	C	D	Tot.	
Origin	A	0	69	402	138	609
	B	257	0	165	1235	1657
	C	477	204	0	244	925
	D	101	1251	276	0	1628
	Tot.	835	1524	843	1617	4819

Full Input Data And Results

**Traffic Lane Flows**

Lane	Scenario 6: Do Something 2030 + LTC PM
<b>Junction: A12/North Street</b>	
1/1 (short)	430
1/2 (with short)	842(In) 412(Out)
1/3 (with short)	815(In) 558(Out)
1/4 (short)	257
2/1 (short)	244
2/2 (with short)	721(In) 477(Out)
2/3	204
3/1 (short)	101
3/2 (with short)	829(In) 728(Out)
3/3 (with short)	799(In) 523(Out)
3/4 (short)	276
4/1	471
4/2	138
5/1	621
5/2	438
5/3	558
6/1	843
7/1	835
8/1	864
8/2	660
9/1	925
10/1	864
10/2	660
11/1	621
11/2	996



Full Input Data And Results

**Lane Saturation Flows**

Junction: A12/North Street								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (A12 (N))	3.60	0.00	Y	Arm 5 Ahead	Inf	61.6 %	1960	1960
				Arm 6 Left	75.80	38.4 %		
1/2 (A12 (N))	2.80	0.00	Y	Arm 5 Ahead	Inf	100.0 %	1895	1895
1/3 (A12 (N))	3.10	0.00	N	Arm 5 Ahead	Inf	100.0 %	2065	2065
1/4 (A12 (N))	2.90	0.00	Y	Arm 7 Right	8.00	100.0 %	1604	1604
2/1 (North Street)	5.00	0.00	Y	Arm 5 Left	17.80	100.0 %	1951	1951
2/2 (North Street)	3.20	0.00	Y	Arm 7 Ahead	Inf	100.0 %	1935	1935
2/3 (North Street)	3.35	0.00	Y	Arm 8 Right	32.00	100.0 %	1863	1863
3/1 (A12 (S))	4.00	0.00	Y	Arm 7 Left	24.00	100.0 %	1896	1896
3/2 (A12 (S))	4.00	0.00	Y	Arm 8 Ahead	Inf	100.0 %	2015	2015
3/3 (A12 (S))	4.30	0.00	N	Arm 8 Ahead	Inf	100.0 %	2185	2185
3/4 (A12 (S))	4.40	0.00	Y	Arm 6 Right	9.75	100.0 %	1781	1781
4/1 (Havering Road)	3.20	0.00	Y	Arm 6 Ahead	Inf	85.4 %	1903	1903
				Arm 8 Left	13.20	14.6 %		
4/2 (Havering Road)	3.30	0.00	Y	Arm 5 Right	33.50	100.0 %	1862	1862
5/1 (A12 (S) exit)	3.25	0.00	Y	Arm 11 Ahead	Inf	100.0 %	1940	1940
5/2 (A12 (S) exit)	3.10	0.00	Y	Arm 11 Ahead	Inf	100.0 %	1925	1925
5/3 (A12 (S) exit)	3.10	0.00	Y	Arm 11 Ahead	Inf	100.0 %	1925	1925
6/1 (North Street exit Lane 1)	Infinite Saturation Flow						Inf	Inf
7/1 (Havering Road exit Lane 1)	Infinite Saturation Flow						Inf	Inf
8/1 (A12 (N) exit Lane 1)	Infinite Saturation Flow						Inf	Inf
8/2 (A12 (N) exit Lane 2)	Infinite Saturation Flow						Inf	Inf
9/1 (North Street Approach (S))	3.20	0.00	Y	Arm 2 Ahead	Inf	100.0 %	1935	1935
10/1 (A12 (Eastbound) Lane 1)	Infinite Saturation Flow						Inf	Inf
10/2 (A12 (Eastbound) Lane 2)	Infinite Saturation Flow						Inf	Inf

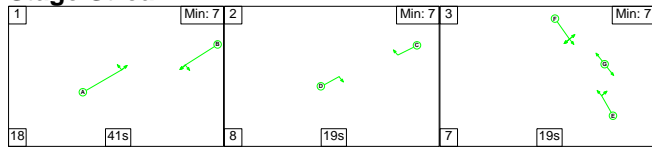
Full Input Data And Results

11/1 (A12 Westbound Lane 1)	Infinite Saturation Flow	Inf	Inf
11/2 (A12 Westbound Lane 2)	Infinite Saturation Flow	Inf	Inf

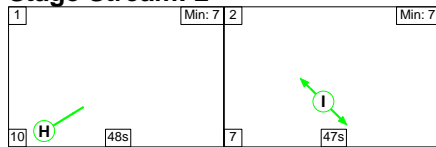
Scenario 1: 'Base Year 2023 AM' (FG1: 'Base Year 2023 AM', Plan 1: 'Network Control Plan 1')

Stage Sequence Diagram

Stage Stream: 1



Stage Stream: 2



Stage Timings

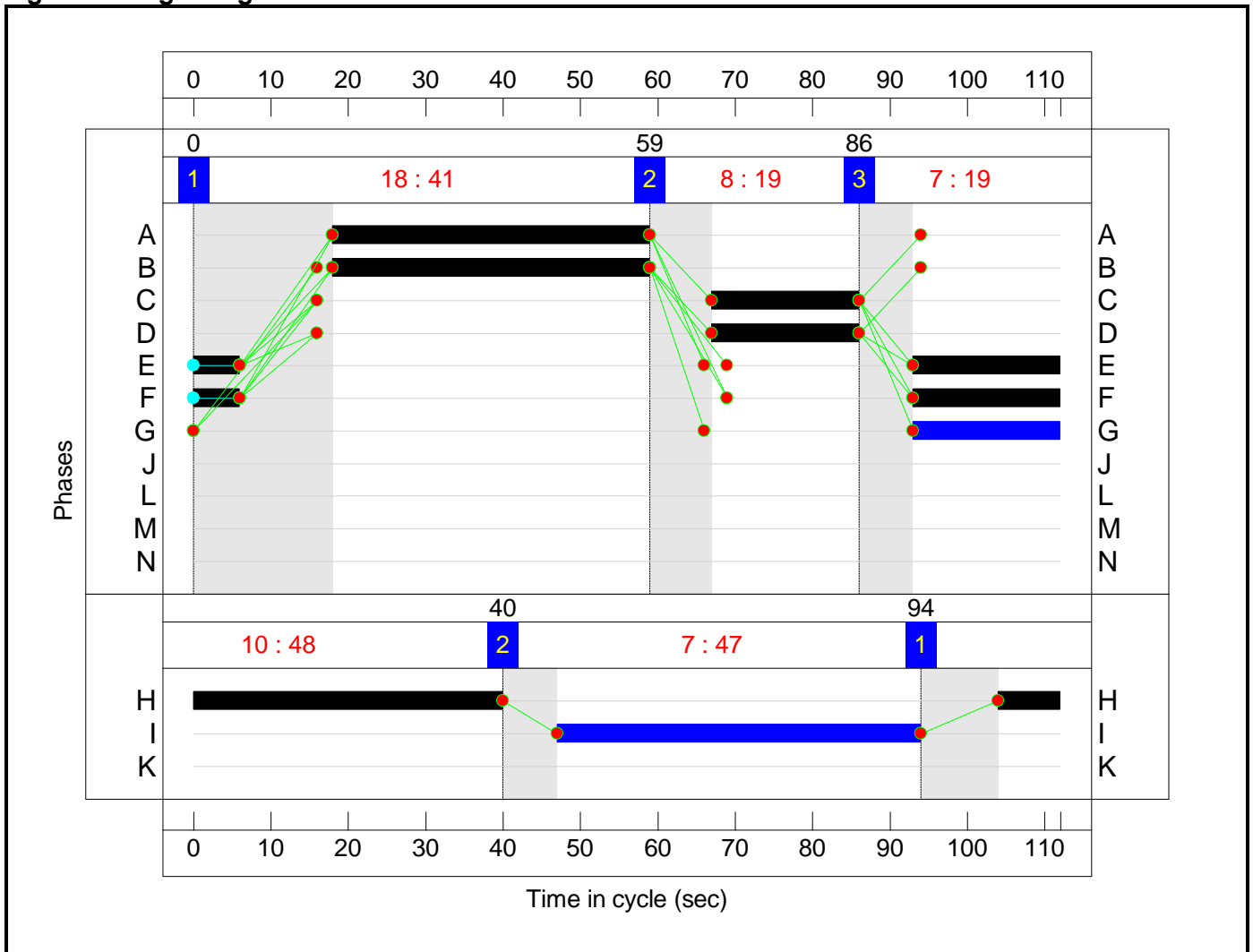
Stage Stream: 1

Stage	1	2	3
Duration	41	19	19
Change Point	0	59	86

Stage Stream: 2


Stage	1	2
Duration	48	47
Change Point	94	40

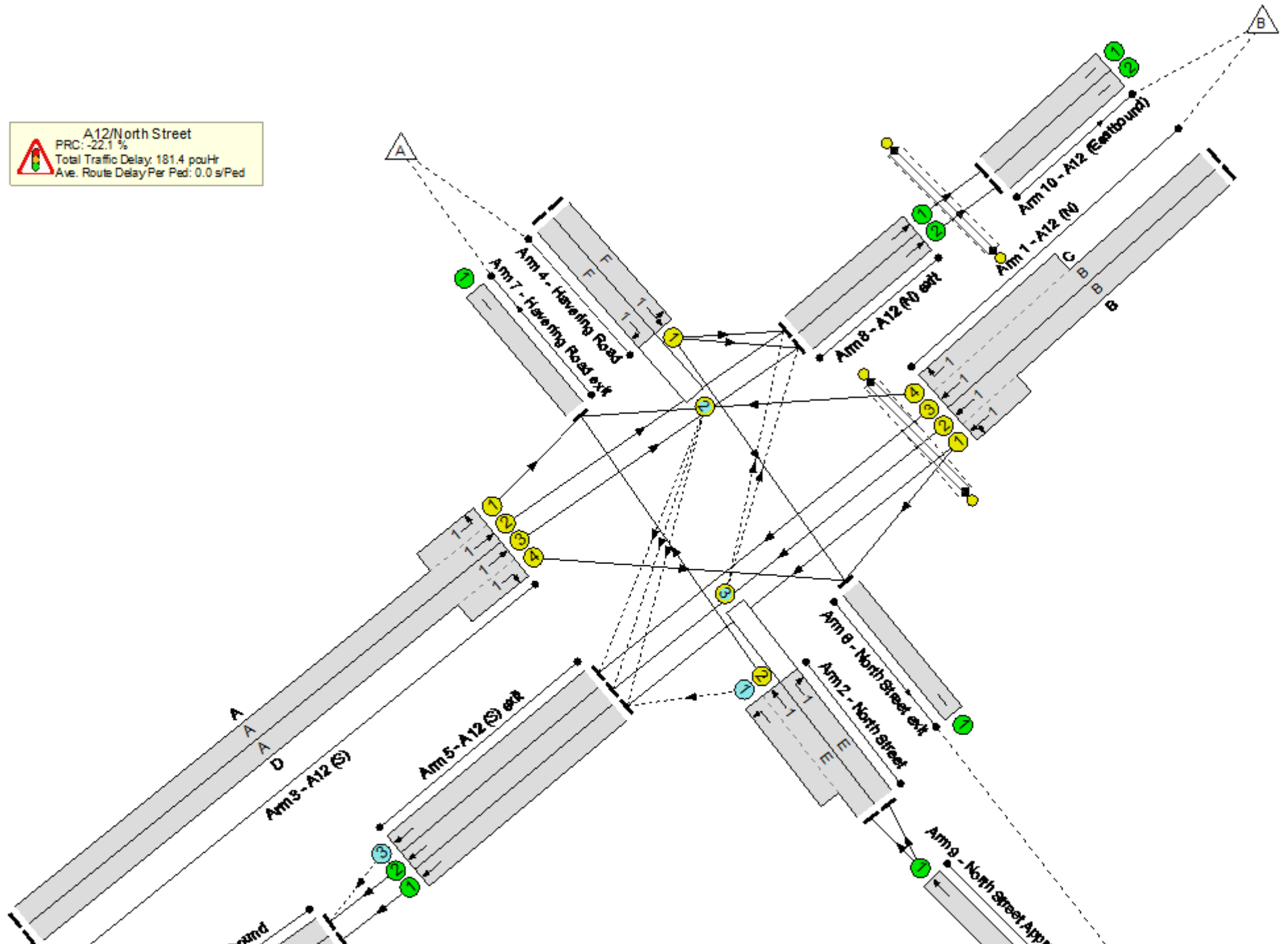
Signal Timings Diagram



Full Input Data And Results  
**Network Layout Diagram**

Full Input Data And Results

 A12/North Street  
PRC: -22.1 %  
Total Traffic Delay: 181.4 puHr  
Ave. Route Delay Per Ped: 0.0 s/Ped



## Full Input Data And Results

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 (%)
<b>Network</b>	-	-	<b>N/A</b>	-	-		-	-	-	-	-	-	<b>109.9%</b>
<b>A12/North Street</b>	-	-	<b>N/A</b>	-	-		-	-	-	-	-	-	<b>109.9%</b>
1/2+1/1	A12 (N) Ahead Left	U	1	N/A	B		1	41	-	969	1895:1962	434+450	109.6 : 109.6%
1/3+1/4	A12 (N) Ahead Right	U	1	N/A	B C		1	41:19	-	665	2065:1604	676+200	75.8 : 75.8%
2/2+2/1	North Street Left Ahead	U+O	1	N/A	E -		1	25	-	493	1935:1951	430+216	76.3 : 76.3%
2/3	North Street Right	O	1	N/A	E		1	25	-	164	1863	193	85.0%
3/2+3/1	A12 (S) Left Ahead	U	1	N/A	A		1	41	-	607	2015:1896	686+84	78.8 : 78.8%
3/3+3/4	A12 (S) Right Ahead	U	1	N/A	A D		1	41:19	-	821	2185:1781	534+213	109.9 : 109.9%
4/1	Havering Road Ahead Left	U	1	N/A	F		1	25	-	483	1908	443	109.0%
4/2	Havering Road Right	O	1	N/A	F		1	25	-	139	1862	194	71.7%
5/1	A12 (S) exit Ahead	U	N/A	N/A	-		-	-	-	605	1940	1940	29.7%
5/2	A12 (S) exit Ahead	U	N/A	N/A	-		-	-	-	499	1925	1925	23.8%
5/3	A12 (S) exit Ahead	O	N/A	N/A	-		-	-	-	514	1925	975	52.7%
6/1	North Street exit	U	N/A	N/A	-		-	-	-	825	Inf	Inf	0.0%
7/1	Havering Road exit	U	N/A	N/A	-		-	-	-	546	Inf	Inf	0.0%
8/1	A12 (N) exit Ahead	U	N/A	N/A	-		-	-	-	653	Inf	Inf	0.0%
8/2	A12 (N) exit Ahead	U	N/A	N/A	-		-	-	-	699	Inf	Inf	0.0%

Full Input Data And Results

9/1	North Street Approach (S) Ahead	U	N/A	N/A	-		-	-	-	657	1935	1935	34.0%
10/1	A12 (Eastbound)	U	N/A	N/A	-		-	-	-	653	Inf	Inf	0.0%
10/2	A12 (Eastbound)	U	N/A	N/A	-		-	-	-	699	Inf	Inf	0.0%
11/1	A12 Westbound	U	N/A	N/A	-		-	-	-	605	Inf	Inf	0.0%
11/2	A12 Westbound	U	N/A	N/A	-		-	-	-	1013	Inf	Inf	0.0%
Ped Link: P1	Unnamed Ped Link	-	2	-	I		1	47	-	0	-	0	0.0%
Ped Link: P2	Unnamed Ped Link	-	1	-	G		1	19	-	0	-	0	0.0%





## Full Input Data And Results

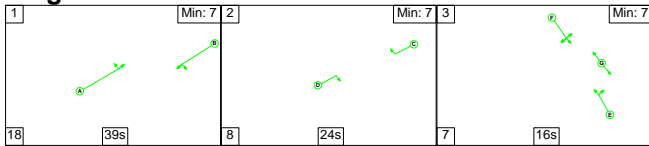
C1	Stream: 1 PRC for Signalled Lanes (%)	-22.1	Total Delay for Signalled Lanes (pcuHr)	175.40	Cycle Time (s)	112
C1	Stream: 2 PRC for Signalled Lanes (%)	0.0	Total Delay for Signalled Lanes (pcuHr)	0.00	Cycle Time (s)	112
	PRC Over All Lanes (%)	-22.1	Total Delay Over All Lanes(pcuHr)	181.43		

Full Input Data And Results

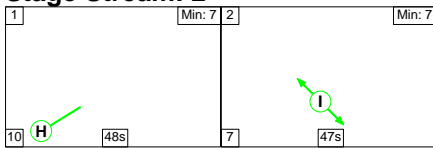
Scenario 2: 'Base Year 2023 PM' (FG2: 'Base Year 2023 PM', Plan 1: 'Network Control Plan 1')

Stage Sequence Diagram

Stage Stream: 1



Stage Stream: 2



Stage Timings

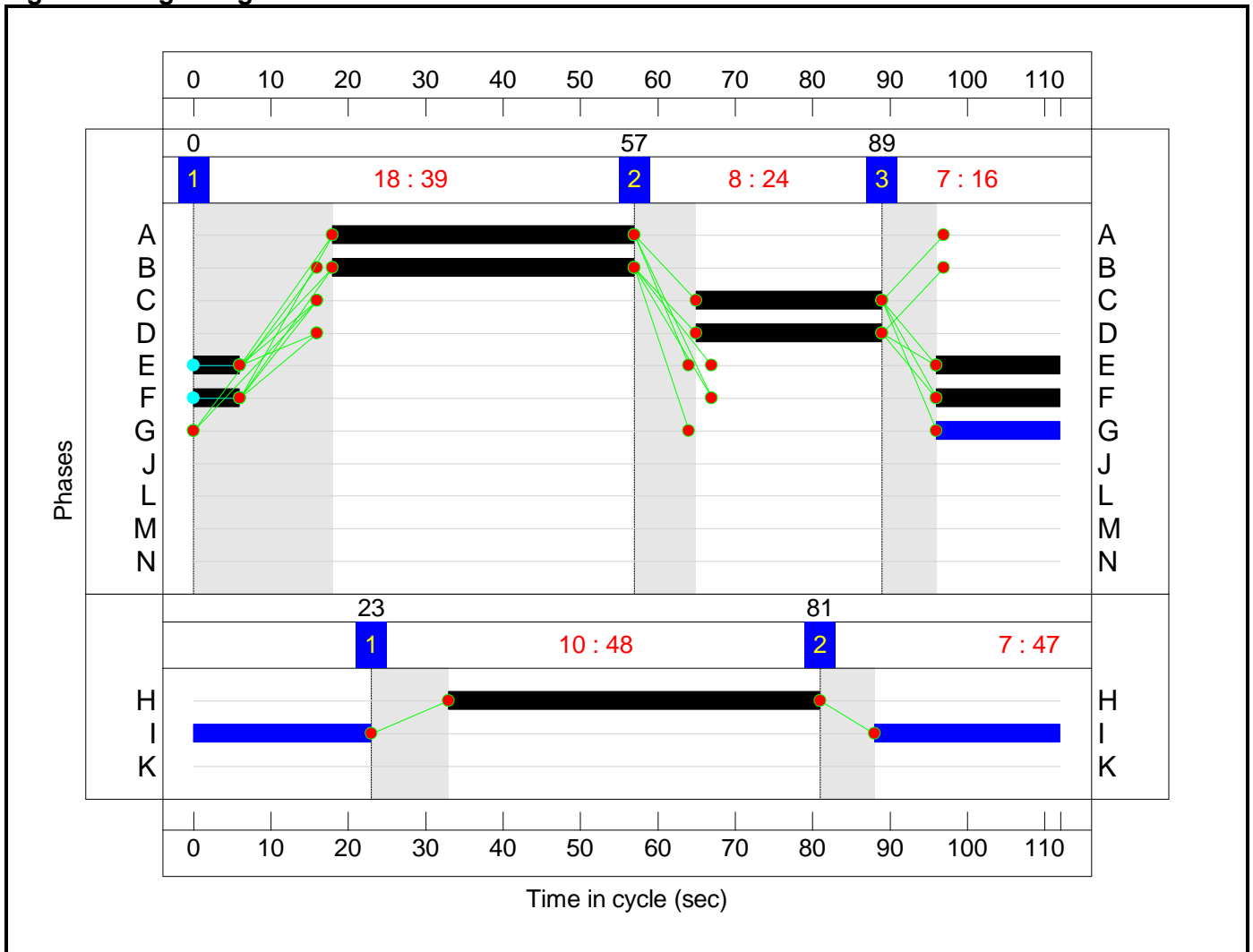
Stage Stream: 1

Stage	1	2	3
Duration	39	24	16
Change Point	0	57	89

Stage Stream: 2


Stage	1	2
Duration	48	47
Change Point	23	81

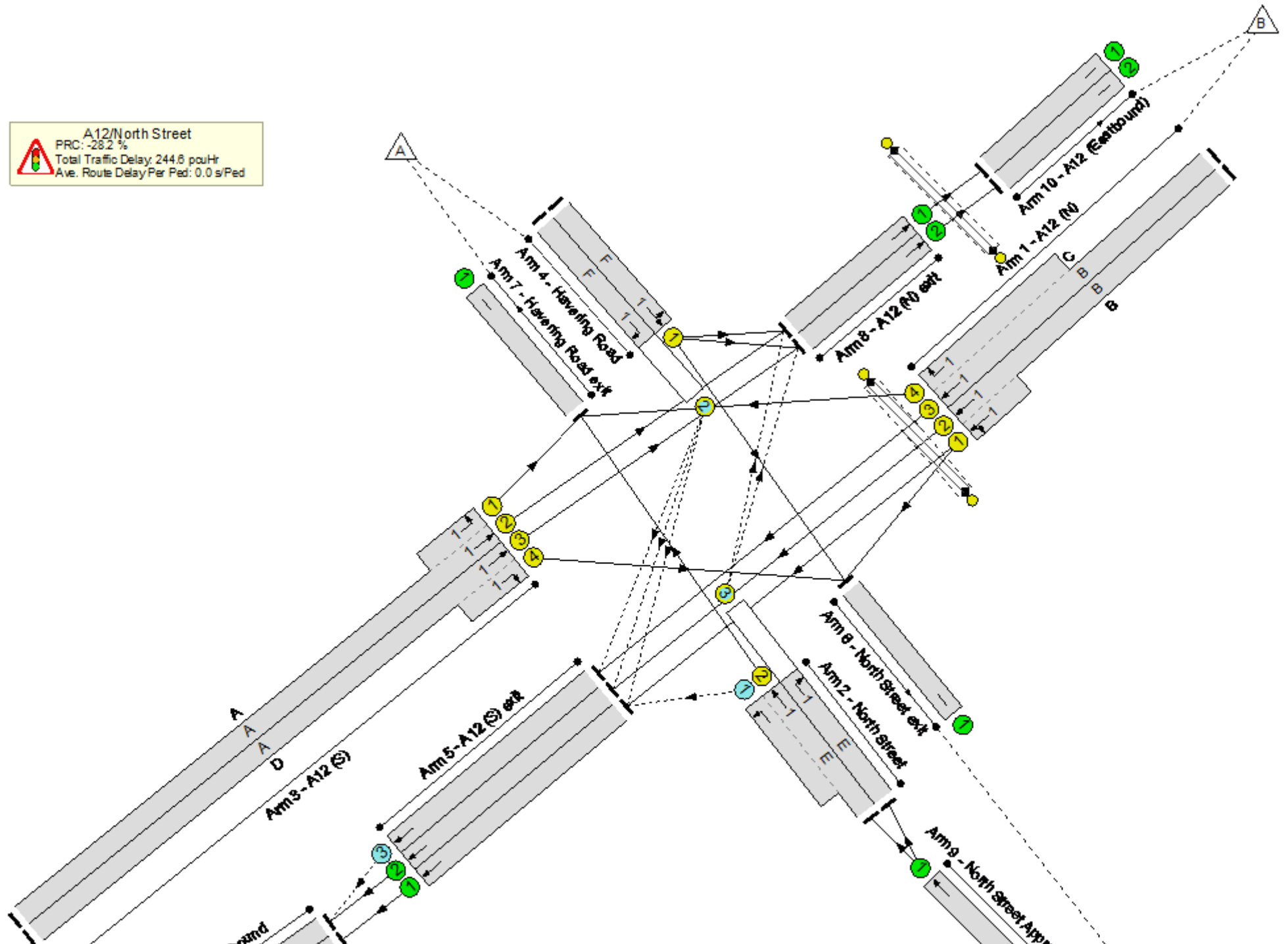
Signal Timings Diagram



Full Input Data And Results  
**Network Layout Diagram**

Full Input Data And Results

 A12/North Street  
PRC: -28.2 %  
Total Traffic Delay: 244.6 puHr  
Ave. Route Delay Per Ped: 0.0 s/Ped



## Full Input Data And Results

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 (%)
<b>Network</b>	-	-	<b>N/A</b>	-	-		-	-	-	-	-	-	<b>115.4%</b>
<b>A12/North Street</b>	-	-	<b>N/A</b>	-	-		-	-	-	-	-	-	<b>115.4%</b>
1/2+1/1	A12 (N) Ahead Left	U	1	N/A	B		1	39	-	873	1895:1961	418+432	102.7 : 102.7%
1/3+1/4	A12 (N) Ahead Right	U	1	N/A	B C		1	39:24	-	705	2065:1604	608+357	76.4 : 67.5%
2/2+2/1	North Street Left Ahead	U+O	1	N/A	E -		1	22	-	687	1935:1951	395+203	114.9 : 114.9%
2/3	North Street Right	O	1	N/A	E		1	22	-	193	1863	193	100.1%
3/2+3/1	A12 (S) Left Ahead	U	1	N/A	A		1	39	-	667	2015:1896	628+115	89.8 : 89.8%
3/3+3/4	A12 (S) Right Ahead	U	1	N/A	A D		1	39:24	-	878	2185:1781	530+231	115.4 : 115.4%
4/1	Havering Road Ahead Left	U	1	N/A	F		1	22	-	448	1903	391	114.6%
4/2	Havering Road Right	O	1	N/A	F		1	22	-	123	1862	161	76.5%
5/1	A12 (S) exit Ahead	U	N/A	N/A	-		-	-	-	621	1940	1940	30.1%
5/2	A12 (S) exit Ahead	U	N/A	N/A	-		-	-	-	442	1925	1925	22.4%
5/3	A12 (S) exit Ahead	O	N/A	N/A	-		-	-	-	465	1925	1006	46.2%
6/1	North Street exit	U	N/A	N/A	-		-	-	-	813	Inf	Inf	0.0%
7/1	Havering Road exit	U	N/A	N/A	-		-	-	-	798	Inf	Inf	0.0%
8/1	A12 (N) exit Ahead	U	N/A	N/A	-		-	-	-	693	Inf	Inf	0.0%
8/2	A12 (N) exit Ahead	U	N/A	N/A	-		-	-	-	742	Inf	Inf	0.0%



Full Input Data And Results

9/1	North Street Approach (S) Ahead	U	N/A	N/A	-		-	-	-	880	1935	1935	45.5%
10/1	A12 (Eastbound)	U	N/A	N/A	-		-	-	-	693	Inf	Inf	0.0%
10/2	A12 (Eastbound)	U	N/A	N/A	-		-	-	-	742	Inf	Inf	0.0%
11/1	A12 Westbound	U	N/A	N/A	-		-	-	-	621	Inf	Inf	0.0%
11/2	A12 Westbound	U	N/A	N/A	-		-	-	-	907	Inf	Inf	0.0%
Ped Link: P1	Unnamed Ped Link	-	2	-	I		1	47	-	0	-	0	0.0%
Ped Link: P2	Unnamed Ped Link	-	1	-	G		1	16	-	0	-	0	0.0%



## Full Input Data And Results

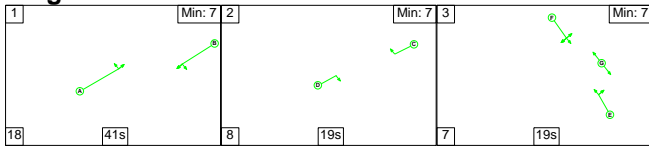
C1	Stream: 1 PRC for Signalled Lanes (%)	-28.2	Total Delay for Signalled Lanes (pcuHr)	239.21	Cycle Time (s)	112
C1	Stream: 2 PRC for Signalled Lanes (%)	0.0	Total Delay for Signalled Lanes (pcuHr)	0.00	Cycle Time (s)	112
	PRC Over All Lanes (%)	-28.2	Total Delay Over All Lanes(pcuHr)	244.58		

Full Input Data And Results

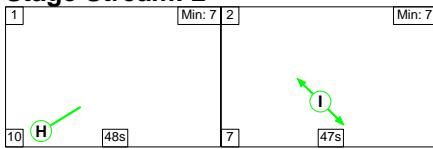
Scenario 3: 'Reference Case 2030 AM' (FG3: 'Reference Case 2030 AM', Plan 1: 'Network Control Plan 1')

Stage Sequence Diagram

Stage Stream: 1



Stage Stream: 2



Stage Timings

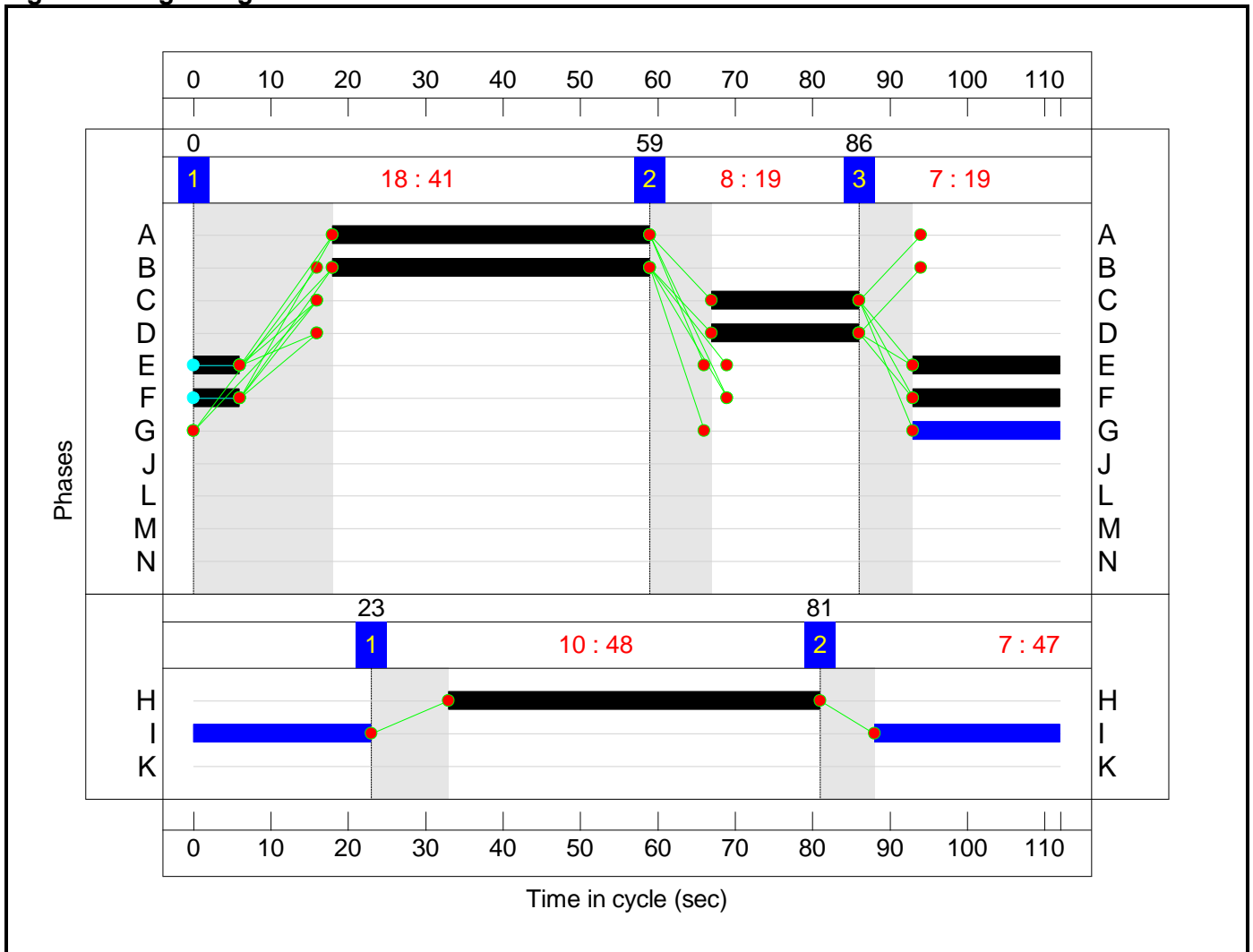
Stage Stream: 1

Stage	1	2	3
Duration	41	19	19
Change Point	0	59	86

Stage Stream: 2


Stage	1	2
Duration	48	47
Change Point	23	81

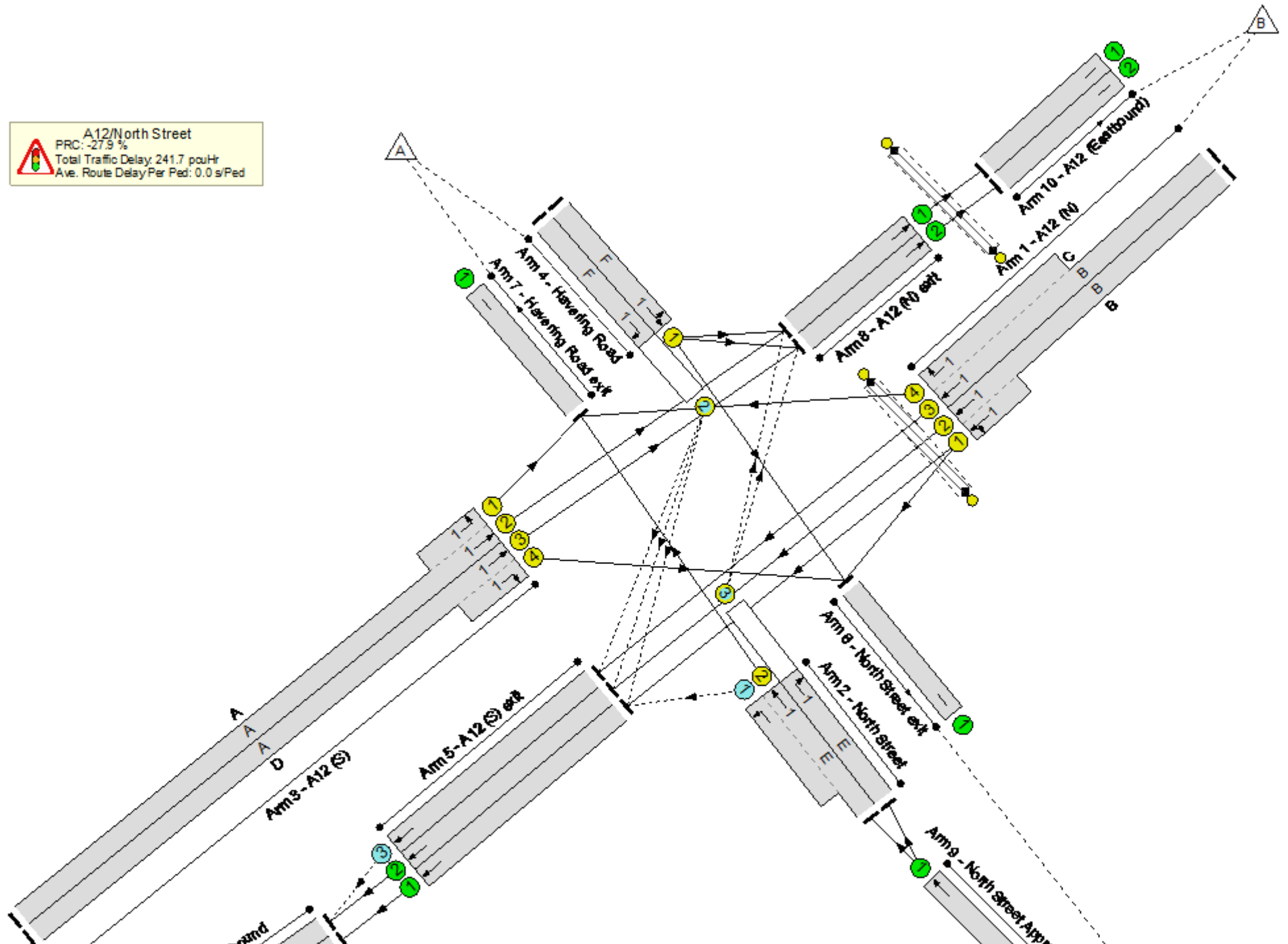
Signal Timings Diagram



Full Input Data And Results  
**Network Layout Diagram**

Full Input Data And Results

 A12/North Street  
PRC: -27.9 %  
Total Traffic Delay: 241.7 puHr  
Ave. Route Delay Per Ped: 0.0 s/Ped



## Full Input Data And Results



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 (%)
<b>Network</b>	-	-	<b>N/A</b>	-	-		-	-	-	-	-	-	<b>115.1%</b>
<b>A12/North Street</b>	-	-	<b>N/A</b>	-	-		-	-	-	-	-	-	<b>115.1%</b>
1/2+1/1	A12 (N) Ahead Left	U	1	N/A	B		1	41	-	1014	1895:1962	434+450	114.7 : 114.7%
1/3+1/4	A12 (N) Ahead Right	U	1	N/A	B C		1	41:19	-	696	2065:1604	677+200	79.4 : 79.4%
2/2+2/1	North Street Left Ahead	U+O	1	N/A	E -		1	25	-	516	1935:1951	430+217	79.8 : 79.8%
2/3	North Street Right	O	1	N/A	E		1	25	-	172	1863	193	89.2%
3/2+3/1	A12 (S) Left Ahead	U	1	N/A	A		1	41	-	635	2015:1896	686+84	82.5 : 82.5%
3/3+3/4	A12 (S) Right Ahead	U	1	N/A	A D		1	41:19	-	860	2185:1781	534+213	115.1 : 115.1%
4/1	Havering Road Ahead Left	U	1	N/A	F		1	25	-	506	1908	443	114.2%
4/2	Havering Road Right	O	1	N/A	F		1	25	-	145	1862	177	81.8%
5/1	A12 (S) exit Ahead	U	N/A	N/A	-		-	-	-	636	1940	1940	30.5%
5/2	A12 (S) exit Ahead	U	N/A	N/A	-		-	-	-	520	1925	1925	23.7%
5/3	A12 (S) exit Ahead	O	N/A	N/A	-		-	-	-	537	1925	976	55.0%
6/1	North Street exit	U	N/A	N/A	-		-	-	-	864	Inf	Inf	0.0%
7/1	Havering Road exit	U	N/A	N/A	-		-	-	-	571	Inf	Inf	0.0%
8/1	A12 (N) exit Ahead	U	N/A	N/A	-		-	-	-	683	Inf	Inf	0.0%
8/2	A12 (N) exit Ahead	U	N/A	N/A	-		-	-	-	733	Inf	Inf	0.0%

Full Input Data And Results

9/1	North Street Approach (S) Ahead	U	N/A	N/A	-		-	-	-	688	1935	1935	35.6%
10/1	A12 (Eastbound)	U	N/A	N/A	-		-	-	-	683	Inf	Inf	0.0%
10/2	A12 (Eastbound)	U	N/A	N/A	-		-	-	-	733	Inf	Inf	0.0%
11/1	A12 Westbound	U	N/A	N/A	-		-	-	-	636	Inf	Inf	0.0%
11/2	A12 Westbound	U	N/A	N/A	-		-	-	-	1057	Inf	Inf	0.0%
Ped Link: P1	Unnamed Ped Link	-	2	-	I		1	47	-	0	-	0	0.0%
Ped Link: P2	Unnamed Ped Link	-	1	-	G		1	19	-	0	-	0	0.0%



## Full Input Data And Results

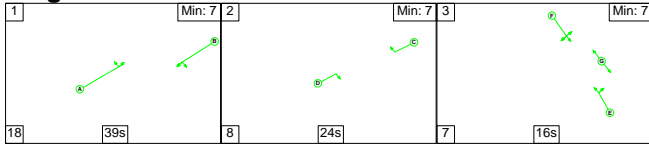
C1	Stream: 1 PRC for Signalled Lanes (%)	-27.9	Total Delay for Signalled Lanes (pcuHr)	235.23	Cycle Time (s)	112
C1	Stream: 2 PRC for Signalled Lanes (%)	0.0	Total Delay for Signalled Lanes (pcuHr)	0.00	Cycle Time (s)	112
	PRC Over All Lanes (%)	-27.9	Total Delay Over All Lanes(pcuHr)	241.67		

Full Input Data And Results

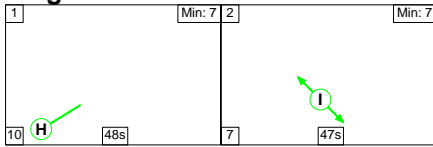
**Scenario 4: 'Reference Case 2030 PM'** (FG4: 'Reference Case 2030 PM', Plan 1: 'Network Control Plan 1')

**Stage Sequence Diagram**

**Stage Stream: 1**



**Stage Stream: 2**



**Stage Timings**

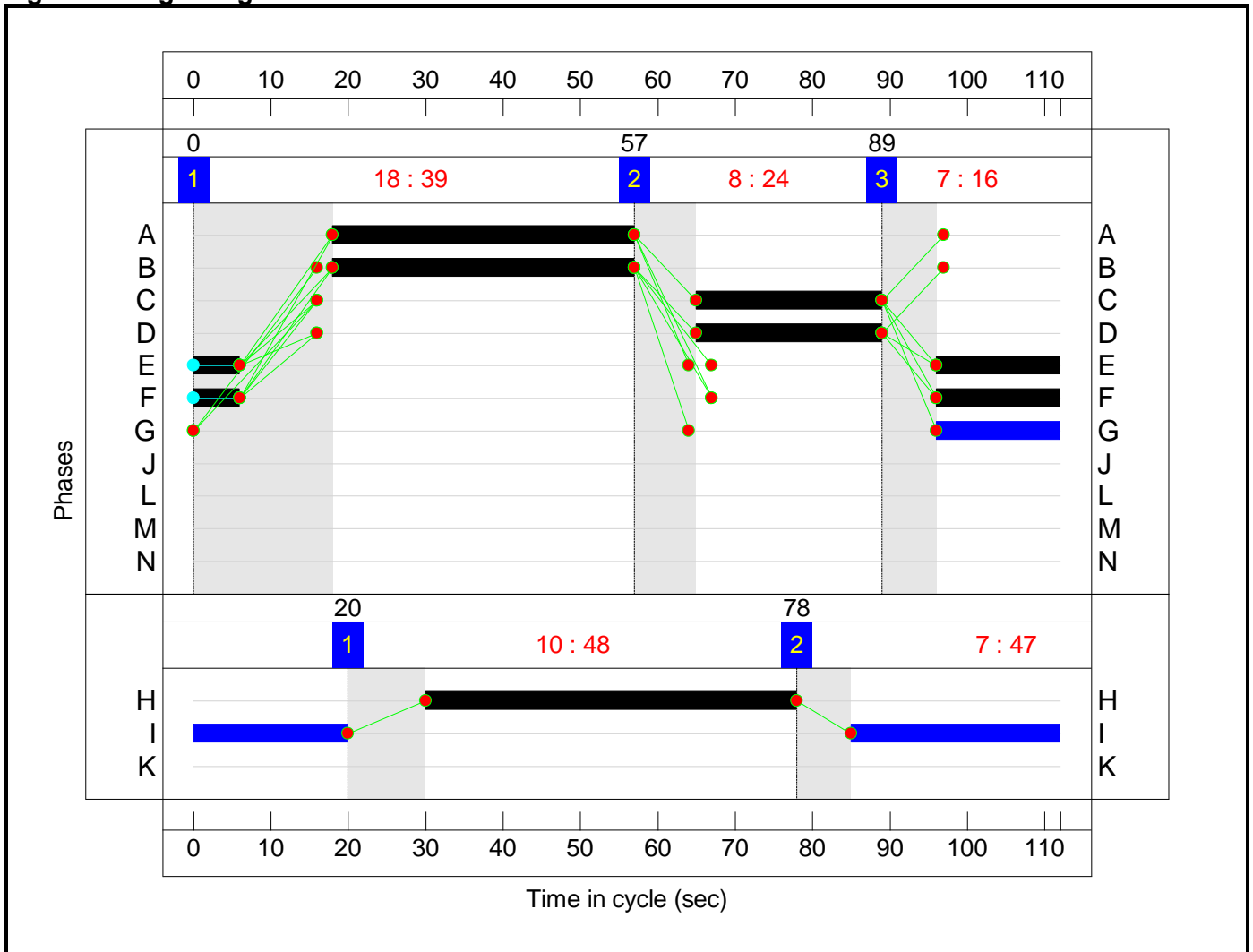
**Stage Stream: 1**

Stage	1	2	3
Duration	39	24	16
Change Point	0	57	89

**Stage Stream: 2**


Stage	1	2
Duration	48	47
Change Point	20	78

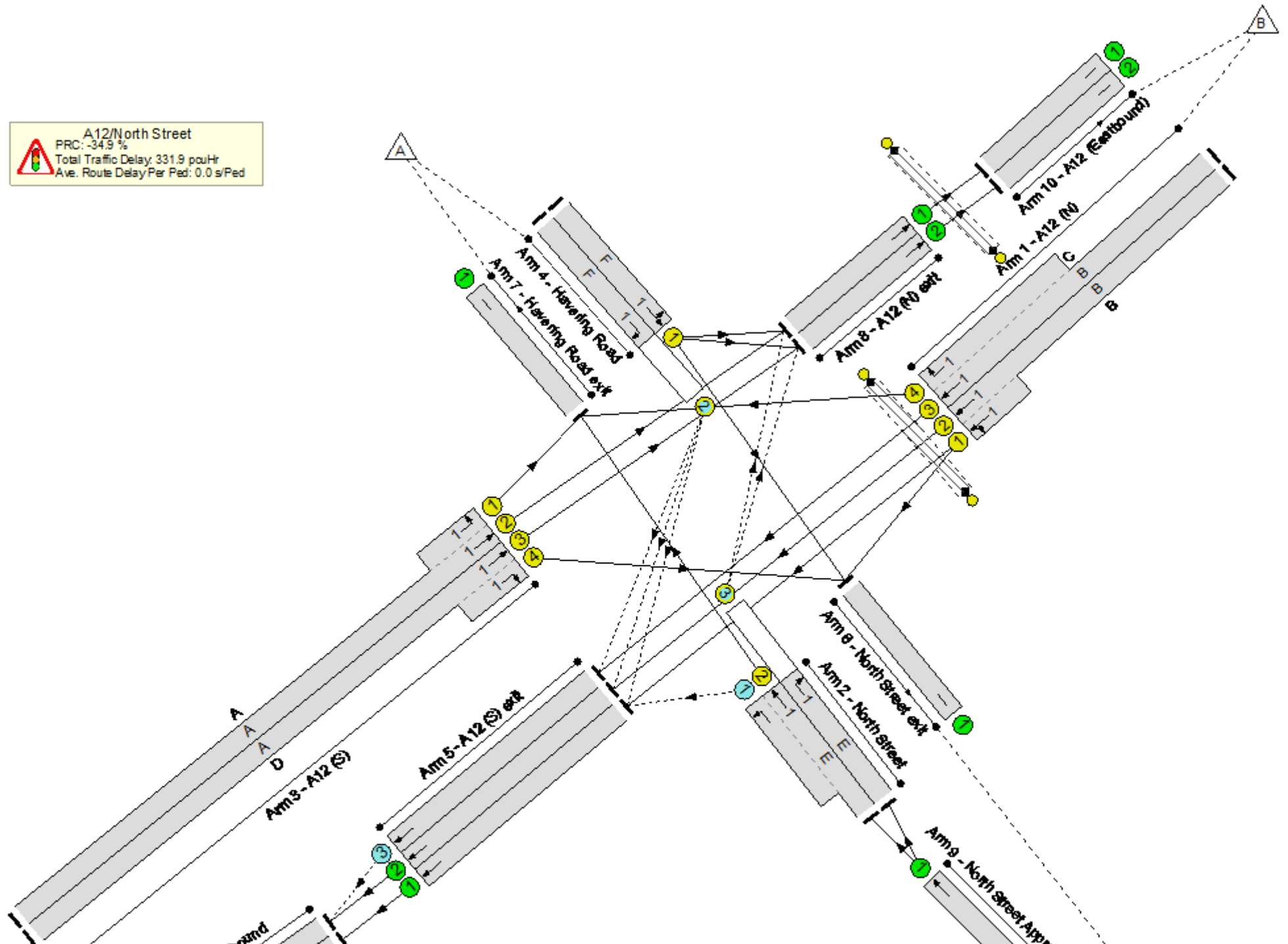
Signal Timings Diagram



Full Input Data And Results  
**Network Layout Diagram**

Full Input Data And Results

 A12/North Street  
PRC: -34.9 %  
Total Traffic Delay: 331.9 pcuHr  
Ave. Route Delay Per Ped: 0.0 s/Ped





## Full Input Data And Results

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 (%)
<b>Network</b>	-	-	<b>N/A</b>	-	-		-	-	-	-	-	-	<b>121.4%</b>
<b>A12/North Street</b>	-	-	<b>N/A</b>	-	-		-	-	-	-	-	-	<b>121.4%</b>
1/2+1/1	A12 (N) Ahead Left	U	1	N/A	B		1	39	-	919	1895:1961	418+432	108.1 : 108.1%
1/3+1/4	A12 (N) Ahead Right	U	1	N/A	B C		1	39:24	-	742	2065:1604	607+358	80.3 : 70.9%
2/2+2/1	North Street Left Ahead	U+O	1	N/A	E -		1	22	-	723	1935:1951	395+202	121.0 : 121.0%
2/3	North Street Right	O	1	N/A	E		1	22	-	203	1863	193	105.3%
3/2+3/1	A12 (S) Left Ahead	U	1	N/A	A		1	39	-	701	2015:1896	628+114	94.4 : 94.4%
3/3+3/4	A12 (S) Right Ahead	U	1	N/A	A D		1	39:24	-	924	2185:1781	530+231	121.4 : 121.4%
4/1	Havering Road Ahead Left	U	1	N/A	F		1	22	-	471	1903	391	120.5%
4/2	Havering Road Right	O	1	N/A	F		1	22	-	129	1862	161	80.3%
5/1	A12 (S) exit Ahead	U	N/A	N/A	-		-	-	-	652	1940	1940	30.3%
5/2	A12 (S) exit Ahead	U	N/A	N/A	-		-	-	-	467	1925	1925	22.5%
5/3	A12 (S) exit Ahead	O	N/A	N/A	-		-	-	-	488	1925	1005	48.6%
6/1	North Street exit	U	N/A	N/A	-		-	-	-	856	Inf	Inf	0.0%
7/1	Havering Road exit	U	N/A	N/A	-		-	-	-	840	Inf	Inf	0.0%
8/1	A12 (N) exit Ahead	U	N/A	N/A	-		-	-	-	728	Inf	Inf	0.0%
8/2	A12 (N) exit Ahead	U	N/A	N/A	-		-	-	-	781	Inf	Inf	0.0%

Full Input Data And Results

9/1	North Street Approach (S) Ahead	U	N/A	N/A	-		-	-	-	926	1935	1935	47.9%
10/1	A12 (Eastbound)	U	N/A	N/A	-		-	-	-	728	Inf	Inf	0.0%
10/2	A12 (Eastbound)	U	N/A	N/A	-		-	-	-	781	Inf	Inf	0.0%
11/1	A12 Westbound	U	N/A	N/A	-		-	-	-	652	Inf	Inf	0.0%
11/2	A12 Westbound	U	N/A	N/A	-		-	-	-	955	Inf	Inf	0.0%
Ped Link: P1	Unnamed Ped Link	-	2	-	I		1	47	-	0	-	0	0.0%
Ped Link: P2	Unnamed Ped Link	-	1	-	G		1	16	-	0	-	0	0.0%



## Full Input Data And Results

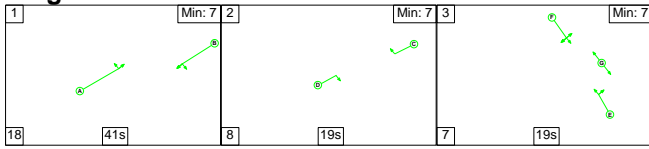
C1	Stream: 1 PRC for Signalled Lanes (%)	-34.9	Total Delay for Signalled Lanes (pcuHr)	326.10	Cycle Time (s)	112
C1	Stream: 2 PRC for Signalled Lanes (%)	0.0	Total Delay for Signalled Lanes (pcuHr)	0.00	Cycle Time (s)	112
	PRC Over All Lanes (%)	-34.9	Total Delay Over All Lanes(pcuHr)	331.87		

Full Input Data And Results

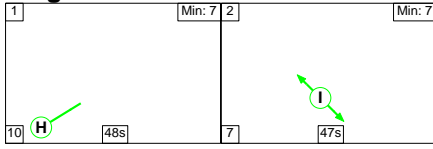
**Scenario 5: 'Do Something 2030 + LTC AM'** (FG7: 'Do Something 2030 + LTC AM', Plan 1: 'Network Control Plan 1')

**Stage Sequence Diagram**

**Stage Stream: 1**



**Stage Stream: 2**



**Stage Timings**

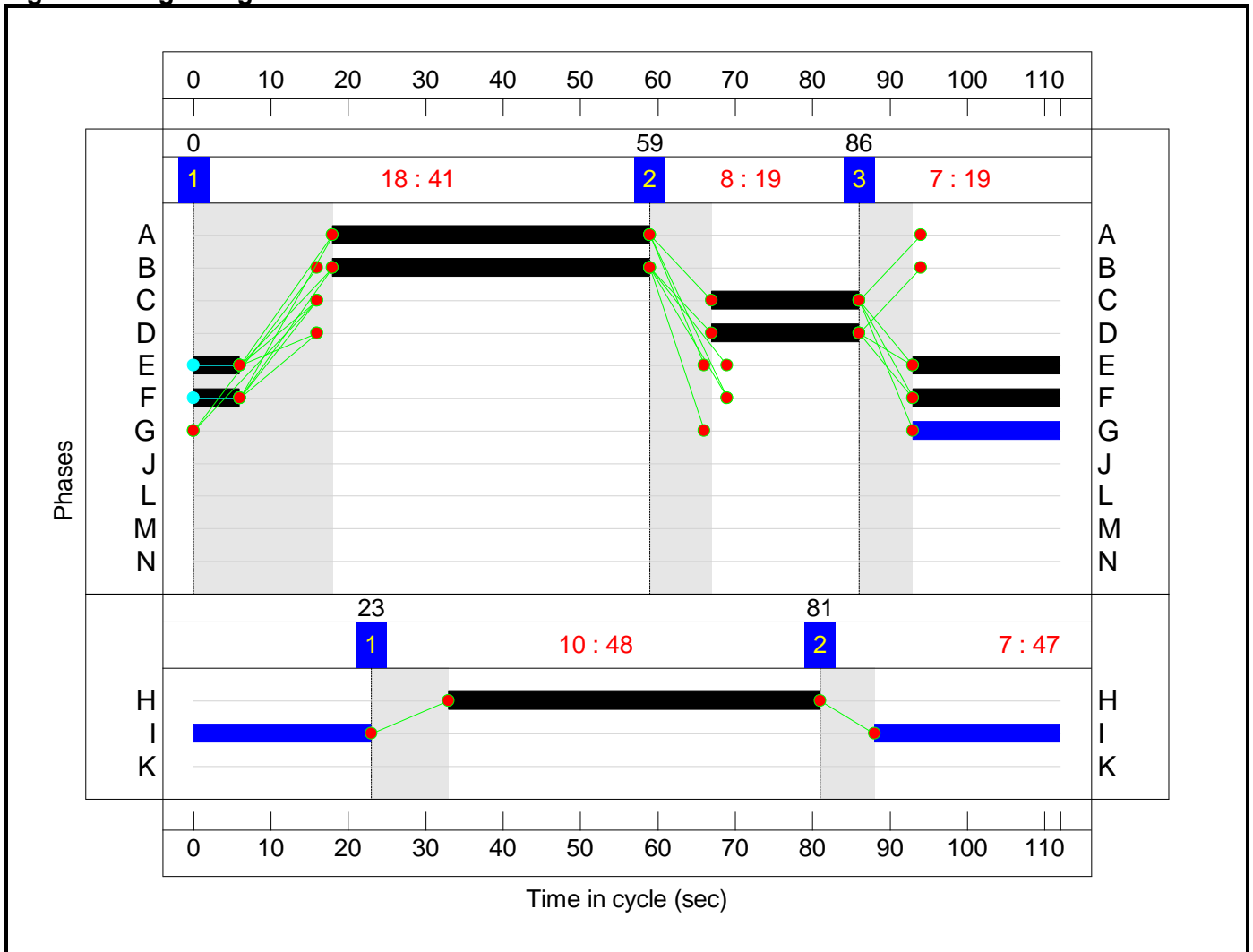
**Stage Stream: 1**

Stage	1	2	3
Duration	41	19	19
Change Point	0	59	86

**Stage Stream: 2**

Stage	1	2
Duration	48	47
Change Point	23	81


Signal Timings Diagram

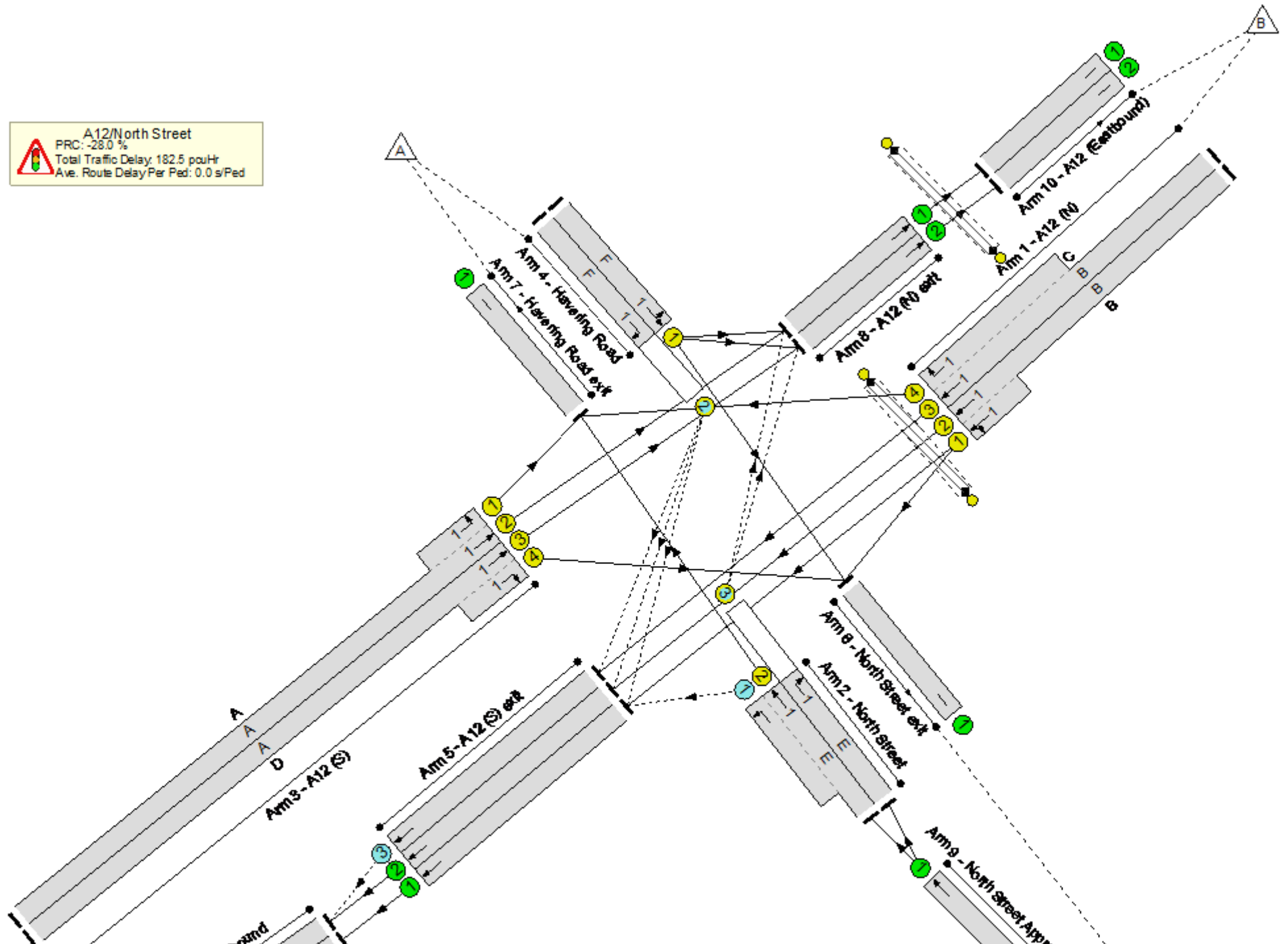


Full Input Data And Results  
**Network Layout Diagram**



Full Input Data And Results

 A12/North Street  
PRC: -28.0 %  
Total Traffic Delay: 182.5 pu/Hr  
Ave. Route Delay Per Ped: 0.0 s/Ped



## Full Input Data And Results

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 (%)
<b>Network</b>	-	-	<b>N/A</b>	-	-		-	-	-	-	-	-	<b>115.2%</b>
<b>A12/North Street</b>	-	-	<b>N/A</b>	-	-		-	-	-	-	-	-	<b>115.2%</b>
1/2+1/1	A12 (N) Ahead Left	U	1	N/A	B		1	41	-	899	1895:1960	441+446	101.3 : 101.3%
1/3+1/4	A12 (N) Ahead Right	U	1	N/A	B C		1	41:19	-	820	2065:1604	690+170	95.4 : 95.4%
2/2+2/1	North Street Left Ahead	U+O	1	N/A	E -		1	25	-	529	1935:1951	427+247	78.5 : 78.5%
2/3	North Street Right	O	1	N/A	E		1	25	-	168	1863	193	87.1%
3/2+3/1	A12 (S) Left Ahead	U	1	N/A	A		1	41	-	807	2015:1896	690+79	104.9 : 104.9%
3/3+3/4	A12 (S) Right Ahead	U	1	N/A	A D		1	41:19	-	694	2185:1781	441+221	104.8 : 104.8%
4/1	Havering Road Ahead Left	U	1	N/A	F		1	25	-	510	1907	443	115.2%
4/2	Havering Road Right	O	1	N/A	F		1	25	-	151	1862	177	85.1%
5/1	A12 (S) exit Ahead	U	N/A	N/A	-		-	-	-	578	1940	1940	29.6%
5/2	A12 (S) exit Ahead	U	N/A	N/A	-		-	-	-	487	1925	1925	25.0%
5/3	A12 (S) exit Ahead	O	N/A	N/A	-		-	-	-	658	1925	952	69.1%
6/1	North Street exit	U	N/A	N/A	-		-	-	-	855	Inf	Inf	0.0%
7/1	Havering Road exit	U	N/A	N/A	-		-	-	-	580	Inf	Inf	0.0%
8/1	A12 (N) exit Ahead	U	N/A	N/A	-		-	-	-	841	Inf	Inf	0.0%
8/2	A12 (N) exit Ahead	U	N/A	N/A	-		-	-	-	579	Inf	Inf	0.0%

Full Input Data And Results

9/1	North Street Approach (S) Ahead	U	N/A	N/A	-		-	-	-	697	1935	1935	36.0%
10/1	A12 (Eastbound)	U	N/A	N/A	-		-	-	-	841	Inf	Inf	0.0%
10/2	A12 (Eastbound)	U	N/A	N/A	-		-	-	-	579	Inf	Inf	0.0%
11/1	A12 Westbound	U	N/A	N/A	-		-	-	-	578	Inf	Inf	0.0%
11/2	A12 Westbound	U	N/A	N/A	-		-	-	-	1145	Inf	Inf	0.0%
Ped Link: P1	Unnamed Ped Link	-	2	-	I		1	47	-	0	-	0	0.0%
Ped Link: P2	Unnamed Ped Link	-	1	-	G		1	19	-	0	-	0	0.0%



## Full Input Data And Results

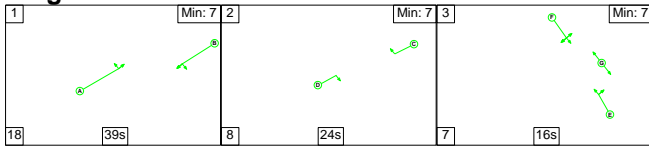
C1	Stream: 1 PRC for Signalled Lanes (%):	-28.0	Total Delay for Signalled Lanes (pcuHr):	173.80	Cycle Time (s):	112
C1	Stream: 2 PRC for Signalled Lanes (%):	0.0	Total Delay for Signalled Lanes (pcuHr):	0.00	Cycle Time (s):	112
	PRC Over All Lanes (%):	-28.0	Total Delay Over All Lanes(pcuHr):	182.47		

Full Input Data And Results

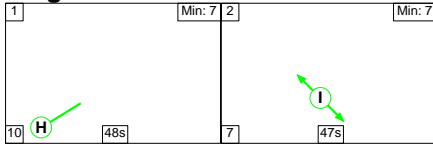
**Scenario 6: 'Do Something 2030 + LTC PM'** (FG8: 'Do Something 2030 + LTC PM', Plan 1: 'Network Control Plan 1')

**Stage Sequence Diagram**

**Stage Stream: 1**



**Stage Stream: 2**



**Stage Timings**

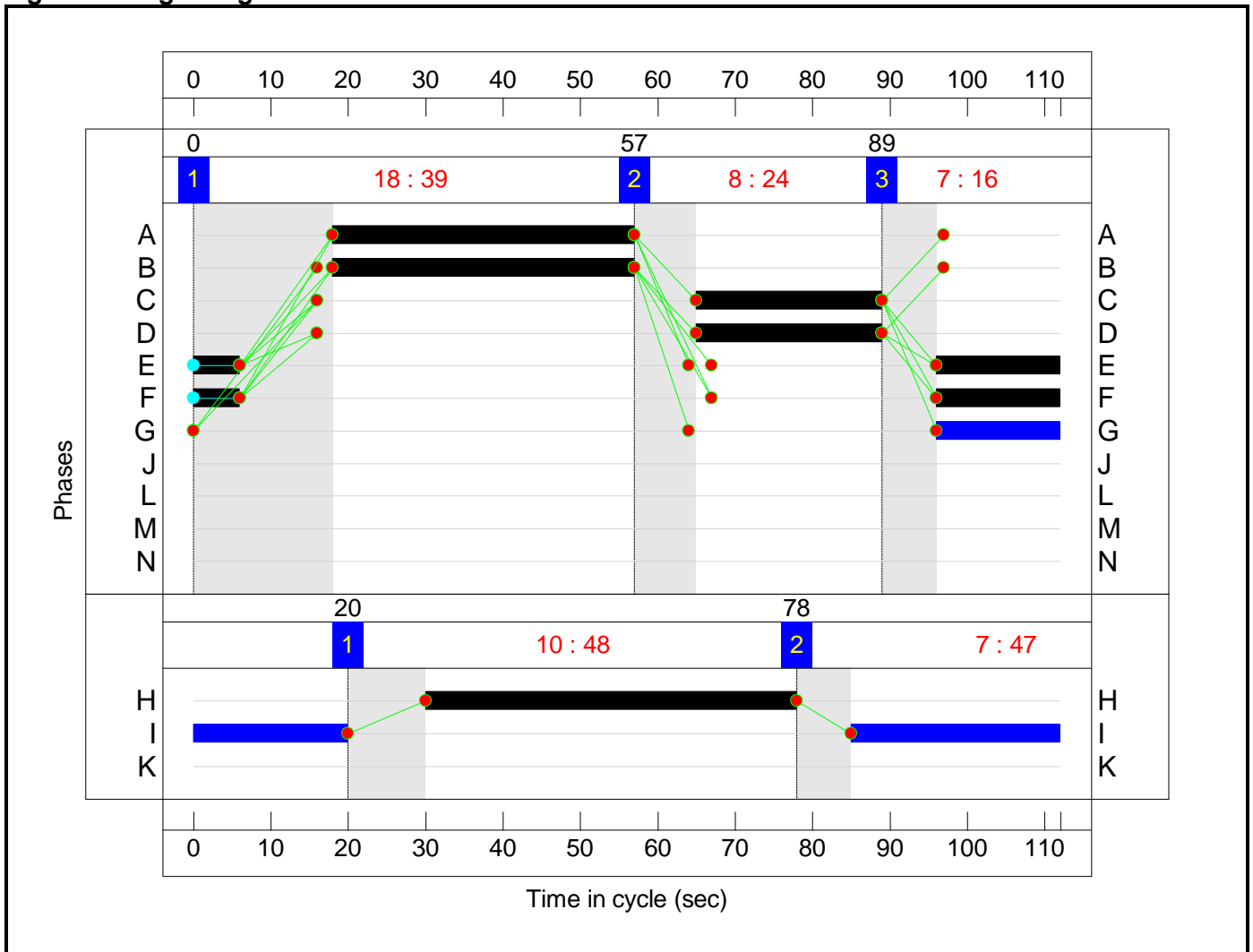
**Stage Stream: 1**

Stage	1	2	3
Duration	39	24	16
Change Point	0	57	89

**Stage Stream: 2**

Stage	1	2
Duration	48	47
Change Point	20	78


Signal Timings Diagram

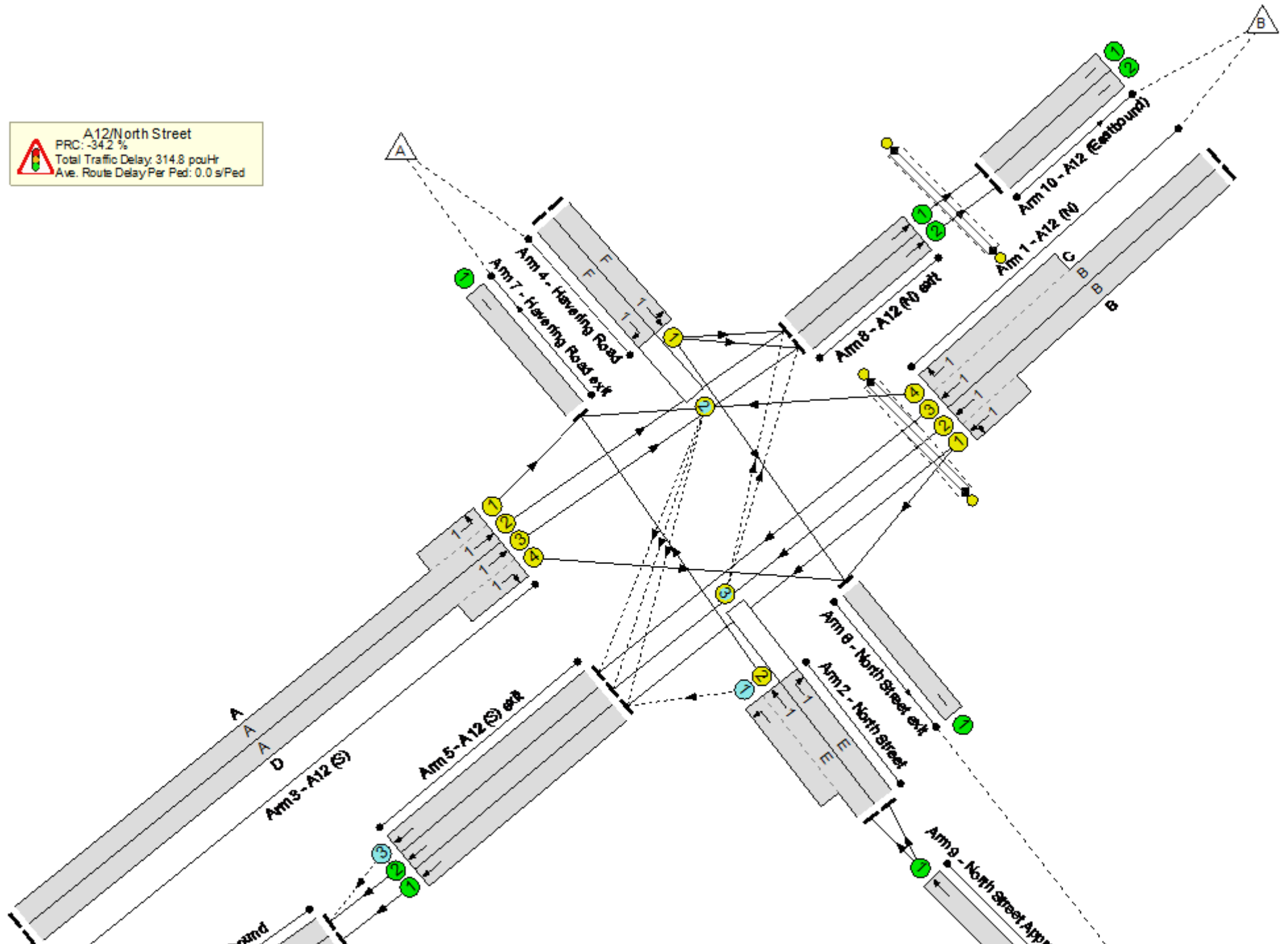




Full Input Data And Results  
**Network Layout Diagram**

Full Input Data And Results

 A12/North Street  
PRC: -34.2 %  
Total Traffic Delay: 314.8 puHr  
Ave. Route Delay Per Ped: 0.0 s/Ped



## Full Input Data And Results

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 (%)
<b>Network</b>	-	-	<b>N/A</b>	-	-		-	-	-	-	-	-	<b>120.7%</b>
<b>A12/North Street</b>	-	-	<b>N/A</b>	-	-		-	-	-	-	-	-	<b>120.7%</b>
1/2+1/1	A12 (N) Ahead Left	U	1	N/A	B		1	39	-	842	1895:1960	415+433	99.3 : 99.3%
1/3+1/4	A12 (N) Ahead Right	U	1	N/A	B C		1	39:24	-	815	2065:1604	617+284	90.4 : 90.4%
2/2+2/1	North Street Left Ahead	U+O	1	N/A	E -		1	22	-	721	1935:1951	395+202	120.7 : 120.7%
2/3	North Street Right	O	1	N/A	E		1	22	-	204	1863	193	105.8%
3/2+3/1	A12 (S) Left Ahead	U	1	N/A	A		1	39	-	829	2015:1896	647+90	112.6 : 112.6%
3/3+3/4	A12 (S) Right Ahead	U	1	N/A	A D		1	39:24	-	799	2185:1781	465+245	112.4 : 112.4%
4/1	Havering Road Ahead Left	U	1	N/A	F		1	22	-	471	1903	391	120.5%
4/2	Havering Road Right	O	1	N/A	F		1	22	-	138	1862	161	85.9%
5/1	A12 (S) exit Ahead	U	N/A	N/A	-		-	-	-	621	1940	1940	29.8%
5/2	A12 (S) exit Ahead	U	N/A	N/A	-		-	-	-	438	1925	1925	22.8%
5/3	A12 (S) exit Ahead	O	N/A	N/A	-		-	-	-	558	1925	1003	55.6%
6/1	North Street exit	U	N/A	N/A	-		-	-	-	843	Inf	Inf	0.0%
7/1	Havering Road exit	U	N/A	N/A	-		-	-	-	835	Inf	Inf	0.0%
8/1	A12 (N) exit Ahead	U	N/A	N/A	-		-	-	-	864	Inf	Inf	0.0%
8/2	A12 (N) exit Ahead	U	N/A	N/A	-		-	-	-	660	Inf	Inf	0.0%

Full Input Data And Results

9/1	North Street Approach (S) Ahead	U	N/A	N/A	-		-	-	-	925	1935	1935	47.8%
10/1	A12 (Eastbound)	U	N/A	N/A	-		-	-	-	864	Inf	Inf	0.0%
10/2	A12 (Eastbound)	U	N/A	N/A	-		-	-	-	660	Inf	Inf	0.0%
11/1	A12 Westbound	U	N/A	N/A	-		-	-	-	621	Inf	Inf	0.0%
11/2	A12 Westbound	U	N/A	N/A	-		-	-	-	996	Inf	Inf	0.0%
Ped Link: P1	Unnamed Ped Link	-	2	-	I		1	47	-	0	-	0	0.0%
Ped Link: P2	Unnamed Ped Link	-	1	-	G		1	16	-	0	-	0	0.0%



## Full Input Data And Results

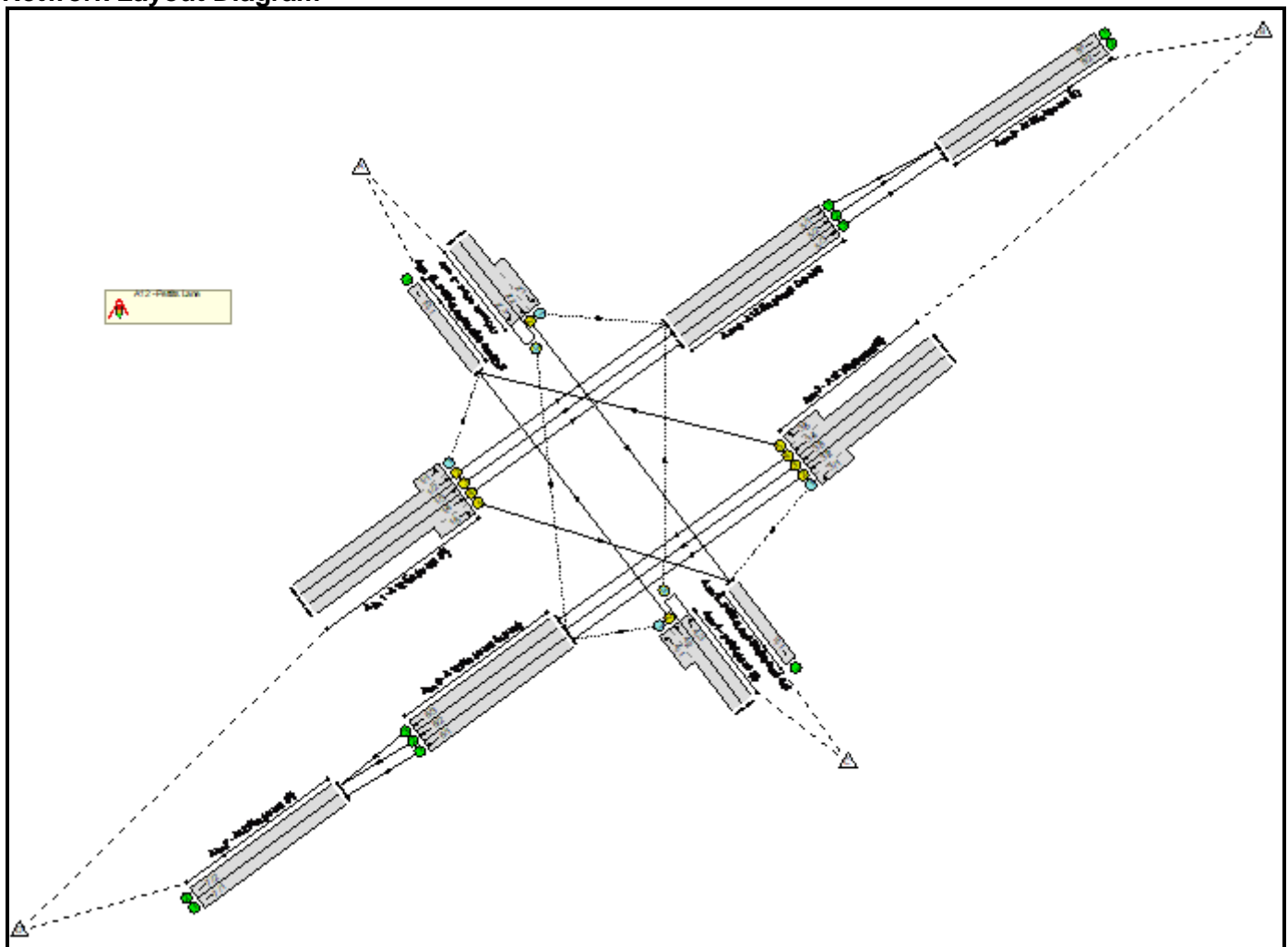
C1	Stream: 1 PRC for Signalled Lanes (%)	-34.2	Total Delay for Signalled Lanes (pcuHr)	308.04	Cycle Time (s)	112
C1	Stream: 2 PRC for Signalled Lanes (%)	0.0	Total Delay for Signalled Lanes (pcuHr)	0.00	Cycle Time (s)	112
	PRC Over All Lanes (%)	-34.2	Total Delay Over All Lanes(pcuHr)	314.83		

Full Input Data And Results  
**Full Input Data And Results**

**User and Project Details**

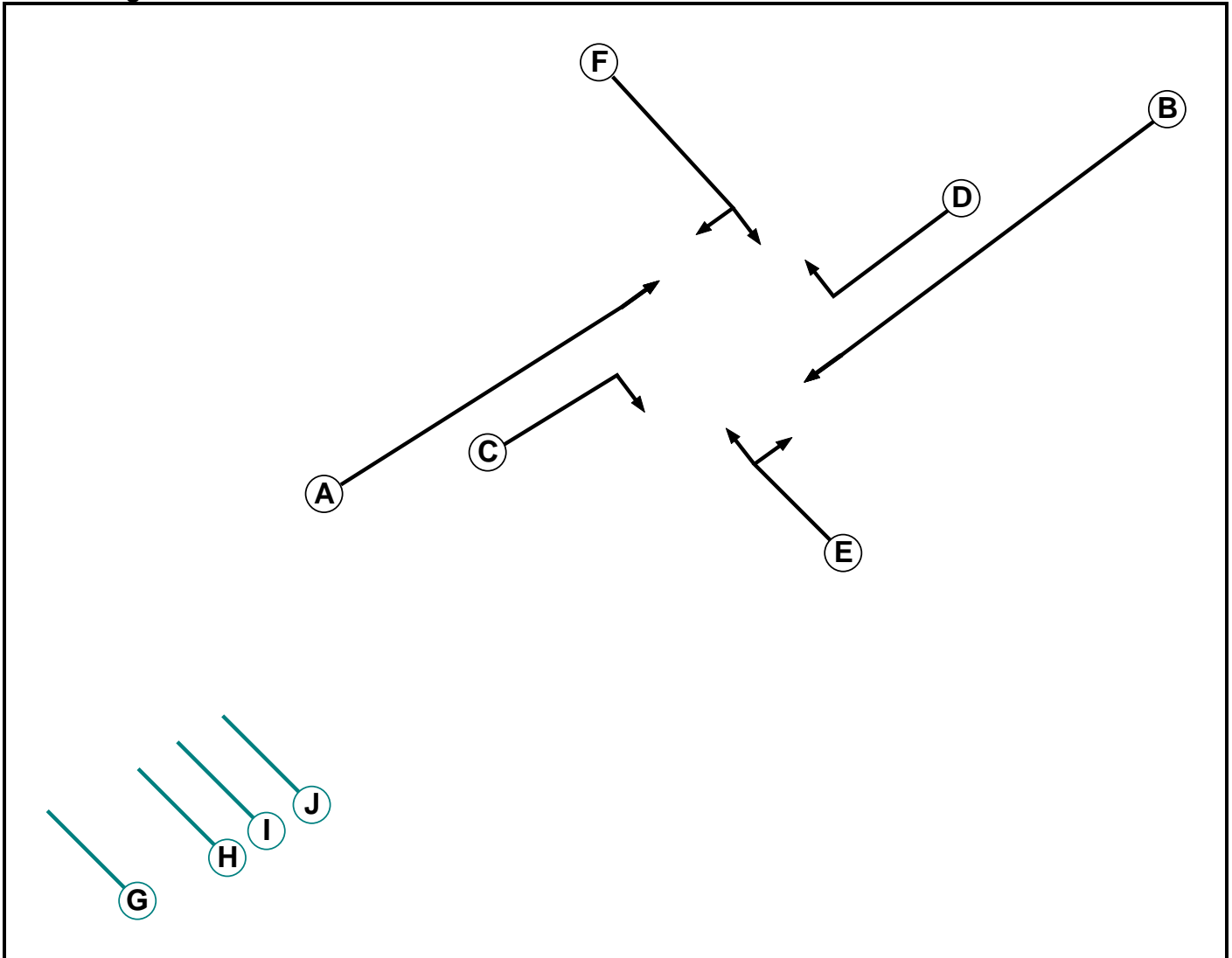
Project:	
Title:	
Location:	
Additional detail:	
File name:	2 A12 - Pettits Lane.lsg3x
Author:	
Company:	
Address:	

**Network Layout Diagram**





**Phase Diagram**



**Phase Input Data**

Phase Name	Phase Type	Assoc. Phase	Street Min	Cont Min
A	Traffic		7	7
B	Traffic		7	7
C	Traffic		7	7
D	Traffic		7	7
E	Traffic		7	7
F	Traffic		7	7
G	Dummy		7	7
H	Dummy		7	7
I	Dummy		7	7
J	Dummy		7	7

# Full Input Data And Results

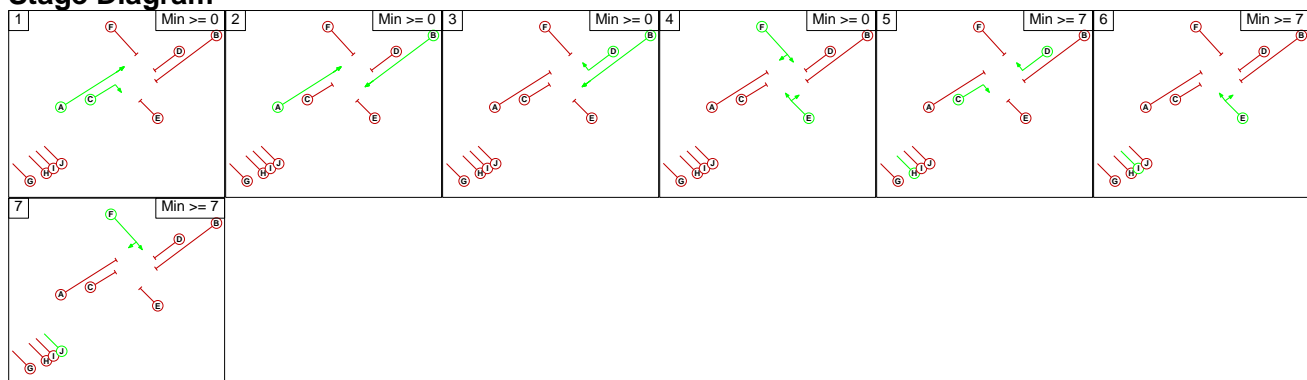
## Phase Intergrens Matrix

Terminating Phase	Starting Phase									
	A	B	C	D	E	F	G	H	I	J
A	-	-	7	7	8	3	7	7	8	
B	-	-	7	-	8	7	3	7	8	7
C	-	7	-	-	7	7	3	-	7	7
D	8	-	-	-	7	7	3	-	7	7
E	7	5	7	7	-	3	7	-	3	
F	5	6	6	5	-	3	6	3	-	
G	2	2	2	2	2	-	2	2	2	
H	8	7	-	-	7	7	3	-	7	7
I	7	5	7	7	-	2	3	7	-	8
J	5	6	6	5	2	-	3	6	8	-

## Phases in Stage

Stage No.	Phases in Stage
1	A C
2	A B
3	B D
4	E F
5	C D H
6	E I
7	F J

## Stage Diagram



Full Input Data And Results

**Phase Delays**

Term. Stage	Start Stage	Phase	Type	Value	Cont value
1	4	C	Losing	1	1
2	6	A	Losing	1	1
2	7	B	Losing	1	1
3	1	B	Losing	1	1
3	4	D	Losing	1	1
3	6	D	Losing	1	1
4	1	F	Losing	1	1

**Prohibited Stage Change**

		To Stage						
		1	2	3	4	5	6	7
From Stage	1		7	7	8	7	7	8
	2	7		7	8	7	8	8
	3	8	8		8	7	8	7
	4	7	7	7		7	3	3
	5	8	8	7	7		7	7
	6	7	7	7	2	7		8
	7	6	6	6	2	6	8	

Full Input Data And Results

**Give-Way Lane Input Data**

Junction: A12 - Pettits Lane											
Lane	Movement	Max Flow when Giving Way (PCU/Hr)	Min Flow when Giving Way (PCU/Hr)	Opposing Lane	Opp. Lane Coeff.	Opp. Mvmnts.	Right Turn Storage (PCU)	Non-Blocking Storage (PCU)	RTF	Right Turn Move up (s)	Max Turns in Intergreen (PCU)
1/1 (A12 Eastbound (W))	10/1 (Left)	1439	0	3/2	1.09	All	-	-	-	-	-
				3/3	1.09	All					
				3/4	1.09	All					
				2/3	1.09	All					
2/1 (Pettits Lane (N))	5/1 (Left)	1439	0	1/2	1.09	All	-	-	-	-	-
				1/3	1.09	All					
				1/4	1.09	All					
				4/3	1.09	All					
2/3 (Pettits Lane (N))	6/2 (Right)	1439	0	4/2	1.09	All	3.00	-	0.50	3	3.00
3/1 (A12 Westbound (E))	9/1 (Left)	1439	0	1/5	1.09	All	-	-	-	-	-
				2/2	1.09	All					
				3/2	1.09	All					
4/1 (Pettits Lane (S))	6/1 (Left)	1439	0	3/3	1.09	All	-	-	-	-	-
				3/4	1.09	All					
				2/3	1.09	All					
4/3 (Pettits Lane (S))	5/1 (Right)	1439	0	2/2	1.09	All	3.00	-	0.50	3	3.00

Full Input Data And Results

**Lane Input Data**

Junction: A12 - Pettits Lane												
Lane	Lane Type	Phases	Start Disp.	End Disp.	Physical Length (PCU)	Sat Flow Type	Def User Saturation Flow (PCU/Hr)	Lane Width (m)	Gradient	Nearside Lane	Turns	Turning Radius (m)
1/1 (A12 Eastbound (W))	O		2	3	3.8	Geom	-	5.00	0.00	Y	Arm 10 Left	15.00
1/2 (A12 Eastbound (W))	U	A	2	3	60.0	Geom	-	2.60	0.00	Y	Arm 5 Ahead	Inf
1/3 (A12 Eastbound (W))	U	A	2	3	60.0	Geom	-	2.50	0.00	N	Arm 5 Ahead	Inf
1/4 (A12 Eastbound (W))	U	A	2	3	60.0	Geom	-	2.50	0.00	N	Arm 5 Ahead	Inf
1/5 (A12 Eastbound (W))	U	C	2	3	5.0	Geom	-	3.40	0.00	Y	Arm 9 Right	Inf
2/1 (Pettits Lane (N))	O		2	3	7.0	Geom	-	4.50	0.00	Y	Arm 5 Left	27.00
2/2 (Pettits Lane (N))	U	F	2	3	60.0	Geom	-	3.40	0.00	Y	Arm 9 Ahead	Inf
2/3 (Pettits Lane (N))	O	F	2	3	60.0	Geom	-	3.40	0.00	Y	Arm 6 Right	Inf
3/1 (A12 Westbound (E))	O		2	3	5.0	Geom	-	5.00	0.00	Y	Arm 9 Left	20.00
3/2 (A12 Westbound (E))	U	B	2	3	60.0	Geom	-	4.20	0.00	Y	Arm 6 Ahead	Inf
3/3 (A12 Westbound (E))	U	B	2	3	60.0	Geom	-	3.10	0.00	N	Arm 6 Ahead	Inf
3/4 (A12 Westbound (E))	U	B	2	3	60.0	Geom	-	3.10	0.00	N	Arm 6 Ahead	Inf
3/5 (A12 Westbound (E))	U	D	2	3	5.0	Geom	-	3.70	0.00	Y	Arm 10 Right	12.50
4/1 (Pettits Lane (S))	O		2	3	5.0	Geom	-	5.00	0.00	Y	Arm 6 Left	58.00
4/2 (Pettits Lane (S))	U	E	2	3	60.0	Geom	-	3.10	0.00	Y	Arm 10 Ahead	Inf
4/3 (Pettits Lane (S))	O	E	2	3	60.0	Geom	-	3.50	0.00	Y	Arm 5 Right	Inf
5/1 (A12 Eastbound (Internal))	U		2	3	60.0	Inf	-	-	-	-	-	-
5/2 (A12 Eastbound (Internal))	U		2	3	60.0	Inf	-	-	-	-	-	-
5/3 (A12 Eastbound (Internal))	U		2	3	60.0	Inf	-	-	-	-	-	-
6/1 (A12 Westbound(Internal))	U		2	3	60.0	Inf	-	-	-	-	-	-

Full Input Data And Results

6/2 (A12 Westbound(Internal))	U		2	3	60.0	Inf	-	-	-	-	-	-
6/3 (A12 Westbound(Internal))	U		2	3	60.0	Inf	-	-	-	-	-	-
7/1 (A12 Westbound (W))	U		2	3	60.0	Inf	-	-	-	-	-	-
7/2 (A12 Westbound (W))	U		2	3	60.0	Inf	-	-	-	-	-	-
8/1 (A12 Eastbound (E))	U		2	3	60.0	Inf	-	-	-	-	-	-
8/2 (A12 Eastbound (E))	U		2	3	60.0	Inf	-	-	-	-	-	-
9/1 (Pettits Lane Southbound exit)	U		2	3	60.0	Inf	-	-	-	-	-	-
10/1 (Pettits Lane Northbound Exit)	U		2	3	60.0	Inf	-	-	-	-	-	-

Traffic Flow Groups

Flow Group	Start Time	End Time	Duration	Formula
1: 'Base Year 2023 AM'	08:00	09:00	01:00	
2: 'Base Year 2023 PM'	17:00	18:00	01:00	
3: 'Reference Case 2030 AM'	08:00	09:00	01:00	F1 * 1.0466
4: 'Reference Case 2030 PM'	17:00	18:00	01:00	F2*1.0521
7: 'Do Something 2030 + LTC AM'	08:00	09:00	01:00	F3+F5
8: 'Do Something 2030 + LTC PM'	17:00	18:00	01:00	F4+F6

Scenario 1: 'Base Year 2023 AM' (FG1: 'Base Year 2023 AM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

	Destination					
	A	B	C	D	Tot.	
Origin	A	0	303	241	51	595
	B	377	0	208	1546	2131
	C	190	133	0	30	353
	D	54	1351	96	0	1501
	Tot.	621	1787	545	1627	4580

Full Input Data And Results

**Traffic Lane Flows**

Lane	Scenario 1: Base Year 2023 AM
<b>Junction: A12 - Pettits Lane</b>	
1/1 (short)	54
1/2 (with short)	488(In) 434(Out)
1/3	476
1/4 (with short)	537(In) 441(Out)
1/5 (short)	96
2/1 (short)	303
2/2 (with short)	544(In) 241(Out)
2/3	51
3/1 (short)	208
3/2 (with short)	842(In) 634(Out)
3/3	723
3/4 (with short)	566(In) 189(Out)
3/5 (short)	377
4/1 (short)	30
4/2 (with short)	220(In) 190(Out)
4/3	133
5/1	870
5/2	476
5/3	441
6/1	664
6/2	774
6/3	189
7/1	664
7/2	963
8/1	1346
8/2	441
9/1	545
10/1	621

Full Input Data And Results

**Lane Saturation Flows**

Junction: A12 - Pettits Lane								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (A12 Eastbound (W))	5.00	0.00	Y	Arm 10 Left	15.00	100.0 %	1923	1923
1/2 (A12 Eastbound (W))	2.60	0.00	Y	Arm 5 Ahead	Inf	100.0 %	1875	1875
1/3 (A12 Eastbound (W))	2.50	0.00	N	Arm 5 Ahead	Inf	100.0 %	2005	2005
1/4 (A12 Eastbound (W))	2.50	0.00	N	Arm 5 Ahead	Inf	100.0 %	2005	2005
1/5 (A12 Eastbound (W))	3.40	0.00	Y	Arm 9 Right	Inf	100.0 %	1955	1955
2/1 (Pettits Lane (N))	4.50	0.00	Y	Arm 5 Left	27.00	100.0 %	1956	1956
2/2 (Pettits Lane (N))	3.40	0.00	Y	Arm 9 Ahead	Inf	100.0 %	1955	1955
2/3 (Pettits Lane (N))	3.40	0.00	Y	Arm 6 Right	Inf	100.0 %	1955	1955
3/1 (A12 Westbound (E))	5.00	0.00	Y	Arm 9 Left	20.00	100.0 %	1967	1967
3/2 (A12 Westbound (E))	4.20	0.00	Y	Arm 6 Ahead	Inf	100.0 %	2035	2035
3/3 (A12 Westbound (E))	3.10	0.00	N	Arm 6 Ahead	Inf	100.0 %	2065	2065
3/4 (A12 Westbound (E))	3.10	0.00	N	Arm 6 Ahead	Inf	100.0 %	2065	2065
3/5 (A12 Westbound (E))	3.70	0.00	Y	Arm 10 Right	12.50	100.0 %	1772	1772
4/1 (Pettits Lane (S))	5.00	0.00	Y	Arm 6 Left	58.00	100.0 %	2062	2062
4/2 (Pettits Lane (S))	3.10	0.00	Y	Arm 10 Ahead	Inf	100.0 %	1925	1925
4/3 (Pettits Lane (S))	3.50	0.00	Y	Arm 5 Right	Inf	100.0 %	1965	1965
5/1 (A12 Eastbound (Internal) Lane 1)	Infinite Saturation Flow						Inf	Inf
5/2 (A12 Eastbound (Internal) Lane 2)	Infinite Saturation Flow						Inf	Inf
5/3 (A12 Eastbound (Internal) Lane 3)	Infinite Saturation Flow						Inf	Inf
6/1 (A12 Westbound(Internal) Lane 1)	Infinite Saturation Flow						Inf	Inf
6/2 (A12 Westbound(Internal) Lane 2)	Infinite Saturation Flow						Inf	Inf
6/3 (A12 Westbound(Internal) Lane 3)	Infinite Saturation Flow						Inf	Inf
7/1 (A12 Westbound (W) Lane 1)	Infinite Saturation Flow						Inf	Inf



Full Input Data And Results

7/2 (A12 Westbound (W) Lane 2)	Infinite Saturation Flow	Inf	Inf
8/1 (A12 Eastbound (E) Lane 1)	Infinite Saturation Flow	Inf	Inf
8/2 (A12 Eastbound (E) Lane 2)	Infinite Saturation Flow	Inf	Inf
9/1 (Pettits Lane Southbound exit Lane 1)	Infinite Saturation Flow	Inf	Inf
10/1 (Pettits Lane Northbound Exit Lane 1)	Infinite Saturation Flow	Inf	Inf

Scenario 2: 'Base Year 2023 PM' (FG2: 'Base Year 2023 PM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	253	241	65	559
	B	438	0	140	1444	2022
	C	315	213	0	68	596
	D	92	1328	107	0	1527
	Tot.	845	1794	488	1577	4704

Full Input Data And Results

**Traffic Lane Flows**

Lane	Scenario 2: Base Year 2023 PM
<b>Junction: A12 - Pettits Lane</b>	
1/1 (short)	92
1/2 (with short)	499(In) 407(Out)
1/3	492
1/4 (with short)	536(In) 429(Out)
1/5 (short)	107
2/1 (short)	253
2/2 (with short)	494(In) 241(Out)
2/3	65
3/1 (short)	140
3/2 (with short)	806(In) 666(Out)
3/3	778
3/4 (with short)	438(In) 0(Out)
3/5 (short)	438
4/1 (short)	68
4/2 (with short)	383(In) 315(Out)
4/3	213
5/1	873
5/2	492
5/3	429
6/1	734
6/2	843
6/3	0
7/1	734
7/2	843
8/1	1365
8/2	429
9/1	488
10/1	845

Full Input Data And Results

**Lane Saturation Flows**

Junction: A12 - Pettits Lane								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (A12 Eastbound (W))	5.00	0.00	Y	Arm 10 Left	15.00	100.0 %	1923	1923
1/2 (A12 Eastbound (W))	2.60	0.00	Y	Arm 5 Ahead	Inf	100.0 %	1875	1875
1/3 (A12 Eastbound (W))	2.50	0.00	N	Arm 5 Ahead	Inf	100.0 %	2005	2005
1/4 (A12 Eastbound (W))	2.50	0.00	N	Arm 5 Ahead	Inf	100.0 %	2005	2005
1/5 (A12 Eastbound (W))	3.40	0.00	Y	Arm 9 Right	Inf	100.0 %	1955	1955
2/1 (Pettits Lane (N))	4.50	0.00	Y	Arm 5 Left	27.00	100.0 %	1956	1956
2/2 (Pettits Lane (N))	3.40	0.00	Y	Arm 9 Ahead	Inf	100.0 %	1955	1955
2/3 (Pettits Lane (N))	3.40	0.00	Y	Arm 6 Right	Inf	100.0 %	1955	1955
3/1 (A12 Westbound (E))	5.00	0.00	Y	Arm 9 Left	20.00	100.0 %	1967	1967
3/2 (A12 Westbound (E))	4.20	0.00	Y	Arm 6 Ahead	Inf	100.0 %	2035	2035
3/3 (A12 Westbound (E))	3.10	0.00	N	Arm 6 Ahead	Inf	100.0 %	2065	2065
3/4 (A12 Westbound (E))	3.10	0.00	N	Arm 6 Ahead	Inf	0.0 %	2065	2065
3/5 (A12 Westbound (E))	3.70	0.00	Y	Arm 10 Right	12.50	100.0 %	1772	1772
4/1 (Pettits Lane (S))	5.00	0.00	Y	Arm 6 Left	58.00	100.0 %	2062	2062
4/2 (Pettits Lane (S))	3.10	0.00	Y	Arm 10 Ahead	Inf	100.0 %	1925	1925
4/3 (Pettits Lane (S))	3.50	0.00	Y	Arm 5 Right	Inf	100.0 %	1965	1965
5/1 (A12 Eastbound (Internal) Lane 1)	Infinite Saturation Flow						Inf	Inf
5/2 (A12 Eastbound (Internal) Lane 2)	Infinite Saturation Flow						Inf	Inf
5/3 (A12 Eastbound (Internal) Lane 3)	Infinite Saturation Flow						Inf	Inf
6/1 (A12 Westbound(Internal) Lane 1)	Infinite Saturation Flow						Inf	Inf
6/2 (A12 Westbound(Internal) Lane 2)	Infinite Saturation Flow						Inf	Inf
6/3 (A12 Westbound(Internal) Lane 3)	Infinite Saturation Flow						Inf	Inf
7/1 (A12 Westbound (W) Lane 1)	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

7/2 (A12 Westbound (W) Lane 2)	Infinite Saturation Flow	Inf	Inf
8/1 (A12 Eastbound (E) Lane 1)	Infinite Saturation Flow	Inf	Inf
8/2 (A12 Eastbound (E) Lane 2)	Infinite Saturation Flow	Inf	Inf
9/1 (Pettits Lane Southbound exit Lane 1)	Infinite Saturation Flow	Inf	Inf
10/1 (Pettits Lane Northbound Exit Lane 1)	Infinite Saturation Flow	Inf	Inf

**Scenario 3: 'Reference Case 2030 AM'** (FG3: 'Reference Case 2030 AM', Plan 1: 'Network Control Plan 1')

**Traffic Flows, Desired**

**Desired Flow :**

		Destination				
		A	B	C	D	Tot.
Origin	A	0	317	252	53	622
	B	395	0	218	1618	2231
	C	199	139	0	31	369
	D	57	1414	100	0	1571
	Tot.	651	1870	570	1702	4793

Full Input Data And Results

**Traffic Lane Flows**

Lane	Scenario 3: Reference Case 2030 AM
<b>Junction: A12 - Pettits Lane</b>	
1/1 (short)	57
1/2 (with short)	511(In) 454(Out)
1/3	498
1/4 (with short)	562(In) 462(Out)
1/5 (short)	100
2/1 (short)	317
2/2 (with short)	569(In) 252(Out)
2/3	53
3/1 (short)	218
3/2 (with short)	878(In) 660(Out)
3/3	753
3/4 (with short)	600(In) 205(Out)
3/5 (short)	395
4/1 (short)	31
4/2 (with short)	230(In) 199(Out)
4/3	139
5/1	910
5/2	498
5/3	462
6/1	691
6/2	806
6/3	205
7/1	691
7/2	1011
8/1	1408
8/2	462
9/1	570
10/1	651

Full Input Data And Results

**Lane Saturation Flows**

Junction: A12 - Pettits Lane								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (A12 Eastbound (W))	5.00	0.00	Y	Arm 10 Left	15.00	100.0 %	1923	1923
1/2 (A12 Eastbound (W))	2.60	0.00	Y	Arm 5 Ahead	Inf	100.0 %	1875	1875
1/3 (A12 Eastbound (W))	2.50	0.00	N	Arm 5 Ahead	Inf	100.0 %	2005	2005
1/4 (A12 Eastbound (W))	2.50	0.00	N	Arm 5 Ahead	Inf	100.0 %	2005	2005
1/5 (A12 Eastbound (W))	3.40	0.00	Y	Arm 9 Right	Inf	100.0 %	1955	1955
2/1 (Pettits Lane (N))	4.50	0.00	Y	Arm 5 Left	27.00	100.0 %	1956	1956
2/2 (Pettits Lane (N))	3.40	0.00	Y	Arm 9 Ahead	Inf	100.0 %	1955	1955
2/3 (Pettits Lane (N))	3.40	0.00	Y	Arm 6 Right	Inf	100.0 %	1955	1955
3/1 (A12 Westbound (E))	5.00	0.00	Y	Arm 9 Left	20.00	100.0 %	1967	1967
3/2 (A12 Westbound (E))	4.20	0.00	Y	Arm 6 Ahead	Inf	100.0 %	2035	2035
3/3 (A12 Westbound (E))	3.10	0.00	N	Arm 6 Ahead	Inf	100.0 %	2065	2065
3/4 (A12 Westbound (E))	3.10	0.00	N	Arm 6 Ahead	Inf	100.0 %	2065	2065
3/5 (A12 Westbound (E))	3.70	0.00	Y	Arm 10 Right	12.50	100.0 %	1772	1772
4/1 (Pettits Lane (S))	5.00	0.00	Y	Arm 6 Left	58.00	100.0 %	2062	2062
4/2 (Pettits Lane (S))	3.10	0.00	Y	Arm 10 Ahead	Inf	100.0 %	1925	1925
4/3 (Pettits Lane (S))	3.50	0.00	Y	Arm 5 Right	Inf	100.0 %	1965	1965
5/1 (A12 Eastbound (Internal) Lane 1)	Infinite Saturation Flow						Inf	Inf
5/2 (A12 Eastbound (Internal) Lane 2)	Infinite Saturation Flow						Inf	Inf
5/3 (A12 Eastbound (Internal) Lane 3)	Infinite Saturation Flow						Inf	Inf
6/1 (A12 Westbound(Internal) Lane 1)	Infinite Saturation Flow						Inf	Inf
6/2 (A12 Westbound(Internal) Lane 2)	Infinite Saturation Flow						Inf	Inf
6/3 (A12 Westbound(Internal) Lane 3)	Infinite Saturation Flow						Inf	Inf
7/1 (A12 Westbound (W) Lane 1)	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

7/2 (A12 Westbound (W) Lane 2)	Infinite Saturation Flow	Inf	Inf
8/1 (A12 Eastbound (E) Lane 1)	Infinite Saturation Flow	Inf	Inf
8/2 (A12 Eastbound (E) Lane 2)	Infinite Saturation Flow	Inf	Inf
9/1 (Pettits Lane Southbound exit Lane 1)	Infinite Saturation Flow	Inf	Inf
10/1 (Pettits Lane Northbound Exit Lane 1)	Infinite Saturation Flow	Inf	Inf

**Scenario 4: 'Reference Case 2030 PM'** (FG4: 'Reference Case 2030 PM', Plan 1: 'Network Control Plan 1')

**Traffic Flows, Desired**

**Desired Flow :**

		Destination				
		A	B	C	D	Tot.
Origin	A	0	266	254	68	588
	B	461	0	147	1519	2127
	C	331	224	0	72	627
	D	97	1397	113	0	1607
	Tot.	889	1887	514	1659	4949

Full Input Data And Results

**Traffic Lane Flows**

Lane	Scenario 4: Reference Case 2030 PM
<b>Junction: A12 - Pettits Lane</b>	
1/1 (short)	97
1/2 (with short)	525(In) 428(Out)
1/3	519
1/4 (with short)	563(In) 450(Out)
1/5 (short)	113
2/1 (short)	266
2/2 (with short)	520(In) 254(Out)
2/3	68
3/1 (short)	147
3/2 (with short)	845(In) 698(Out)
3/3	821
3/4 (with short)	461(In) 0(Out)
3/5 (short)	461
4/1 (short)	72
4/2 (with short)	403(In) 331(Out)
4/3	224
5/1	918
5/2	519
5/3	450
6/1	770
6/2	889
6/3	0
7/1	770
7/2	889
8/1	1437
8/2	450
9/1	514
10/1	889



Full Input Data And Results

**Lane Saturation Flows**

Junction: A12 - Pettits Lane								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (A12 Eastbound (W))	5.00	0.00	Y	Arm 10 Left	15.00	100.0 %	1923	1923
1/2 (A12 Eastbound (W))	2.60	0.00	Y	Arm 5 Ahead	Inf	100.0 %	1875	1875
1/3 (A12 Eastbound (W))	2.50	0.00	N	Arm 5 Ahead	Inf	100.0 %	2005	2005
1/4 (A12 Eastbound (W))	2.50	0.00	N	Arm 5 Ahead	Inf	100.0 %	2005	2005
1/5 (A12 Eastbound (W))	3.40	0.00	Y	Arm 9 Right	Inf	100.0 %	1955	1955
2/1 (Pettits Lane (N))	4.50	0.00	Y	Arm 5 Left	27.00	100.0 %	1956	1956
2/2 (Pettits Lane (N))	3.40	0.00	Y	Arm 9 Ahead	Inf	100.0 %	1955	1955
2/3 (Pettits Lane (N))	3.40	0.00	Y	Arm 6 Right	Inf	100.0 %	1955	1955
3/1 (A12 Westbound (E))	5.00	0.00	Y	Arm 9 Left	20.00	100.0 %	1967	1967
3/2 (A12 Westbound (E))	4.20	0.00	Y	Arm 6 Ahead	Inf	100.0 %	2035	2035
3/3 (A12 Westbound (E))	3.10	0.00	N	Arm 6 Ahead	Inf	100.0 %	2065	2065
3/4 (A12 Westbound (E))	3.10	0.00	N	Arm 6 Ahead	Inf	0.0 %	2065	2065
3/5 (A12 Westbound (E))	3.70	0.00	Y	Arm 10 Right	12.50	100.0 %	1772	1772
4/1 (Pettits Lane (S))	5.00	0.00	Y	Arm 6 Left	58.00	100.0 %	2062	2062
4/2 (Pettits Lane (S))	3.10	0.00	Y	Arm 10 Ahead	Inf	100.0 %	1925	1925
4/3 (Pettits Lane (S))	3.50	0.00	Y	Arm 5 Right	Inf	100.0 %	1965	1965
5/1 (A12 Eastbound (Internal) Lane 1)	Infinite Saturation Flow						Inf	Inf
5/2 (A12 Eastbound (Internal) Lane 2)	Infinite Saturation Flow						Inf	Inf
5/3 (A12 Eastbound (Internal) Lane 3)	Infinite Saturation Flow						Inf	Inf
6/1 (A12 Westbound(Internal) Lane 1)	Infinite Saturation Flow						Inf	Inf
6/2 (A12 Westbound(Internal) Lane 2)	Infinite Saturation Flow						Inf	Inf
6/3 (A12 Westbound(Internal) Lane 3)	Infinite Saturation Flow						Inf	Inf
7/1 (A12 Westbound (W) Lane 1)	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

7/2 (A12 Westbound (W) Lane 2)	Infinite Saturation Flow	Inf	Inf
8/1 (A12 Eastbound (E) Lane 1)	Infinite Saturation Flow	Inf	Inf
8/2 (A12 Eastbound (E) Lane 2)	Infinite Saturation Flow	Inf	Inf
9/1 (Pettits Lane Southbound exit Lane 1)	Infinite Saturation Flow	Inf	Inf
10/1 (Pettits Lane Northbound Exit Lane 1)	Infinite Saturation Flow	Inf	Inf

**Scenario 5: 'Do Something 2030 + LTC AM'** (FG7: 'Do Something 2030 + LTC AM', Plan 1: 'Network Control Plan 1')

**Traffic Flows, Desired**

**Desired Flow :**

	Destination					
		A	B	C	D	Tot.
Origin	A	0	379	251	39	669
	B	434	0	219	1642	2295
	C	211	144	0	31	386
	D	56	1450	85	0	1591
	Tot.	701	1973	555	1712	4941

Full Input Data And Results

**Traffic Lane Flows**

Lane	Scenario 5: Do Something 2030 + LTC AM
<b>Junction: A12 - Pettits Lane</b>	
1/1 (short)	56
1/2 (with short)	512(In) 456(Out)
1/3	524
1/4 (with short)	555(In) 470(Out)
1/5 (short)	85
2/1 (short)	379
2/2 (with short)	630(In) 251(Out)
2/3	39
3/1 (short)	219
3/2 (with short)	950(In) 731(Out)
3/3	905
3/4 (with short)	440(In) 6(Out)
3/5 (short)	434
4/1 (short)	31
4/2 (with short)	242(In) 211(Out)
4/3	144
5/1	979
5/2	524
5/3	470
6/1	762
6/2	944
6/3	6
7/1	762
7/2	950
8/1	1503
8/2	470
9/1	555
10/1	701

Full Input Data And Results

**Lane Saturation Flows**

Junction: A12 - Pettits Lane								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (A12 Eastbound (W))	5.00	0.00	Y	Arm 10 Left	15.00	100.0 %	1923	1923
1/2 (A12 Eastbound (W))	2.60	0.00	Y	Arm 5 Ahead	Inf	100.0 %	1875	1875
1/3 (A12 Eastbound (W))	2.50	0.00	N	Arm 5 Ahead	Inf	100.0 %	2005	2005
1/4 (A12 Eastbound (W))	2.50	0.00	N	Arm 5 Ahead	Inf	100.0 %	2005	2005
1/5 (A12 Eastbound (W))	3.40	0.00	Y	Arm 9 Right	Inf	100.0 %	1955	1955
2/1 (Pettits Lane (N))	4.50	0.00	Y	Arm 5 Left	27.00	100.0 %	1956	1956
2/2 (Pettits Lane (N))	3.40	0.00	Y	Arm 9 Ahead	Inf	100.0 %	1955	1955
2/3 (Pettits Lane (N))	3.40	0.00	Y	Arm 6 Right	Inf	100.0 %	1955	1955
3/1 (A12 Westbound (E))	5.00	0.00	Y	Arm 9 Left	20.00	100.0 %	1967	1967
3/2 (A12 Westbound (E))	4.20	0.00	Y	Arm 6 Ahead	Inf	100.0 %	2035	2035
3/3 (A12 Westbound (E))	3.10	0.00	N	Arm 6 Ahead	Inf	100.0 %	2065	2065
3/4 (A12 Westbound (E))	3.10	0.00	N	Arm 6 Ahead	Inf	100.0 %	2065	2065
3/5 (A12 Westbound (E))	3.70	0.00	Y	Arm 10 Right	12.50	100.0 %	1772	1772
4/1 (Pettits Lane (S))	5.00	0.00	Y	Arm 6 Left	58.00	100.0 %	2062	2062
4/2 (Pettits Lane (S))	3.10	0.00	Y	Arm 10 Ahead	Inf	100.0 %	1925	1925
4/3 (Pettits Lane (S))	3.50	0.00	Y	Arm 5 Right	Inf	100.0 %	1965	1965
5/1 (A12 Eastbound (Internal) Lane 1)	Infinite Saturation Flow						Inf	Inf
5/2 (A12 Eastbound (Internal) Lane 2)	Infinite Saturation Flow						Inf	Inf
5/3 (A12 Eastbound (Internal) Lane 3)	Infinite Saturation Flow						Inf	Inf
6/1 (A12 Westbound(Internal) Lane 1)	Infinite Saturation Flow						Inf	Inf
6/2 (A12 Westbound(Internal) Lane 2)	Infinite Saturation Flow						Inf	Inf
6/3 (A12 Westbound(Internal) Lane 3)	Infinite Saturation Flow						Inf	Inf
7/1 (A12 Westbound (W) Lane 1)	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

7/2 (A12 Westbound (W) Lane 2)	Infinite Saturation Flow	Inf	Inf
8/1 (A12 Eastbound (E) Lane 1)	Infinite Saturation Flow	Inf	Inf
8/2 (A12 Eastbound (E) Lane 2)	Infinite Saturation Flow	Inf	Inf
9/1 (Pettits Lane Southbound exit Lane 1)	Infinite Saturation Flow	Inf	Inf
10/1 (Pettits Lane Northbound Exit Lane 1)	Infinite Saturation Flow	Inf	Inf

**Scenario 6: 'Do Something 2030 + LTC PM'** (FG8: 'Do Something 2030 + LTC PM', Plan 1: 'Network Control Plan 1')

**Traffic Flows, Desired**

**Desired Flow :**

	Destination					
		A	B	C	D	Tot.
Origin	A	0	289	253	69	611
	B	492	0	147	1511	2150
	C	332	226	0	76	634
	D	96	1418	110	0	1624
	Tot.	920	1933	510	1656	5019

Full Input Data And Results

**Traffic Lane Flows**

Lane	Scenario 6: Do Something 2030 + LTC PM
<b>Junction: A12 - Pettits Lane</b>	
1/1 (short)	96
1/2 (with short)	531(In) 435(Out)
1/3	525
1/4 (with short)	568(In) 458(Out)
1/5 (short)	110
2/1 (short)	289
2/2 (with short)	542(In) 253(Out)
2/3	69
3/1 (short)	147
3/2 (with short)	842(In) 695(Out)
3/3	816
3/4 (with short)	492(In) 0(Out)
3/5 (short)	492
4/1 (short)	76
4/2 (with short)	408(In) 332(Out)
4/3	226
5/1	950
5/2	525
5/3	458
6/1	771
6/2	885
6/3	0
7/1	771
7/2	885
8/1	1475
8/2	458
9/1	510
10/1	920

Full Input Data And Results

**Lane Saturation Flows**

Junction: A12 - Pettits Lane								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (A12 Eastbound (W))	5.00	0.00	Y	Arm 10 Left	15.00	100.0 %	1923	1923
1/2 (A12 Eastbound (W))	2.60	0.00	Y	Arm 5 Ahead	Inf	100.0 %	1875	1875
1/3 (A12 Eastbound (W))	2.50	0.00	N	Arm 5 Ahead	Inf	100.0 %	2005	2005
1/4 (A12 Eastbound (W))	2.50	0.00	N	Arm 5 Ahead	Inf	100.0 %	2005	2005
1/5 (A12 Eastbound (W))	3.40	0.00	Y	Arm 9 Right	Inf	100.0 %	1955	1955
2/1 (Pettits Lane (N))	4.50	0.00	Y	Arm 5 Left	27.00	100.0 %	1956	1956
2/2 (Pettits Lane (N))	3.40	0.00	Y	Arm 9 Ahead	Inf	100.0 %	1955	1955
2/3 (Pettits Lane (N))	3.40	0.00	Y	Arm 6 Right	Inf	100.0 %	1955	1955
3/1 (A12 Westbound (E))	5.00	0.00	Y	Arm 9 Left	20.00	100.0 %	1967	1967
3/2 (A12 Westbound (E))	4.20	0.00	Y	Arm 6 Ahead	Inf	100.0 %	2035	2035
3/3 (A12 Westbound (E))	3.10	0.00	N	Arm 6 Ahead	Inf	100.0 %	2065	2065
3/4 (A12 Westbound (E))	3.10	0.00	N	Arm 6 Ahead	Inf	0.0 %	2065	2065
3/5 (A12 Westbound (E))	3.70	0.00	Y	Arm 10 Right	12.50	100.0 %	1772	1772
4/1 (Pettits Lane (S))	5.00	0.00	Y	Arm 6 Left	58.00	100.0 %	2062	2062
4/2 (Pettits Lane (S))	3.10	0.00	Y	Arm 10 Ahead	Inf	100.0 %	1925	1925
4/3 (Pettits Lane (S))	3.50	0.00	Y	Arm 5 Right	Inf	100.0 %	1965	1965
5/1 (A12 Eastbound (Internal) Lane 1)	Infinite Saturation Flow						Inf	Inf
5/2 (A12 Eastbound (Internal) Lane 2)	Infinite Saturation Flow						Inf	Inf
5/3 (A12 Eastbound (Internal) Lane 3)	Infinite Saturation Flow						Inf	Inf
6/1 (A12 Westbound(Internal) Lane 1)	Infinite Saturation Flow						Inf	Inf
6/2 (A12 Westbound(Internal) Lane 2)	Infinite Saturation Flow						Inf	Inf
6/3 (A12 Westbound(Internal) Lane 3)	Infinite Saturation Flow						Inf	Inf
7/1 (A12 Westbound (W) Lane 1)	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

7/2 (A12 Westbound (W) Lane 2)	Infinite Saturation Flow	Inf	Inf
8/1 (A12 Eastbound (E) Lane 1)	Infinite Saturation Flow	Inf	Inf
8/2 (A12 Eastbound (E) Lane 2)	Infinite Saturation Flow	Inf	Inf
9/1 (Pettits Lane Southbound exit Lane 1)	Infinite Saturation Flow	Inf	Inf
10/1 (Pettits Lane Northbound Exit Lane 1)	Infinite Saturation Flow	Inf	Inf

**Scenario 7: '2023 Surveyed Peak Hour AM'** (FG9: '2023 Surveyed Peak Hour AM', Plan 1: 'Network Control Plan 1')

**Traffic Flows, Desired**

**Desired Flow :**

		Destination				
		A	B	C	D	Tot.
Origin	A	0	198	299	66	563
	B	441	22	276	1350	2089
	C	252	134	0	55	441
	D	70	1381	168	14	1633
	Tot.	763	1735	743	1485	4726



Full Input Data And Results

**Traffic Lane Flows**

Lane	Scenario 7: 2023 Surveyed Peak Hour AM
<b>Junction: A12 - Pettits Lane</b>	
1/1 (short)	70
1/2 (with short)	516(In) 446(Out)
1/3	495
1/4 (with short)	608(In) 440(Out)
1/5 (short)	168
2/1 (short)	198
2/2 (with short)	497(In) 299(Out)
2/3	66
3/1 (short)	276
3/2 (with short)	879(In) 603(Out)
3/3	709
3/4 (with short)	479(In) 38(Out)
3/5 (short)	441
4/1 (short)	55
4/2 (with short)	307(In) 252(Out)
4/3	134
5/1	778
5/2	495
5/3	440
6/1	658
6/2	775
6/3	38
7/1	658
7/2	813
8/1	1273
8/2	440
9/1	743
10/1	763

Full Input Data And Results

**Lane Saturation Flows**

Junction: A12 - Pettits Lane								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (A12 Eastbound (W))	5.00	0.00	Y	Arm 10 Left	15.00	100.0 %	1923	1923
1/2 (A12 Eastbound (W))	2.60	0.00	Y	Arm 5 Ahead	Inf	100.0 %	1875	1875
1/3 (A12 Eastbound (W))	2.50	0.00	N	Arm 5 Ahead	Inf	100.0 %	2005	2005
1/4 (A12 Eastbound (W))	2.50	0.00	N	Arm 5 Ahead	Inf	100.0 %	2005	2005
1/5 (A12 Eastbound (W))	3.40	0.00	Y	Arm 9 Right	Inf	100.0 %	1955	1955
2/1 (Pettits Lane (N))	4.50	0.00	Y	Arm 5 Left	27.00	100.0 %	1956	1956
2/2 (Pettits Lane (N))	3.40	0.00	Y	Arm 9 Ahead	Inf	100.0 %	1955	1955
2/3 (Pettits Lane (N))	3.40	0.00	Y	Arm 6 Right	Inf	100.0 %	1955	1955
3/1 (A12 Westbound (E))	5.00	0.00	Y	Arm 9 Left	20.00	100.0 %	1967	1967
3/2 (A12 Westbound (E))	4.20	0.00	Y	Arm 6 Ahead	Inf	100.0 %	2035	2035
3/3 (A12 Westbound (E))	3.10	0.00	N	Arm 6 Ahead	Inf	100.0 %	2065	2065
3/4 (A12 Westbound (E))	3.10	0.00	N	Arm 6 Ahead	Inf	100.0 %	2065	2065
3/5 (A12 Westbound (E))	3.70	0.00	Y	Arm 10 Right	12.50	100.0 %	1772	1772
4/1 (Pettits Lane (S))	5.00	0.00	Y	Arm 6 Left	58.00	100.0 %	2062	2062
4/2 (Pettits Lane (S))	3.10	0.00	Y	Arm 10 Ahead	Inf	100.0 %	1925	1925
4/3 (Pettits Lane (S))	3.50	0.00	Y	Arm 5 Right	Inf	100.0 %	1965	1965
5/1 (A12 Eastbound (Internal) Lane 1)	Infinite Saturation Flow						Inf	Inf
5/2 (A12 Eastbound (Internal) Lane 2)	Infinite Saturation Flow						Inf	Inf
5/3 (A12 Eastbound (Internal) Lane 3)	Infinite Saturation Flow						Inf	Inf
6/1 (A12 Westbound(Internal) Lane 1)	Infinite Saturation Flow						Inf	Inf
6/2 (A12 Westbound(Internal) Lane 2)	Infinite Saturation Flow						Inf	Inf
6/3 (A12 Westbound(Internal) Lane 3)	Infinite Saturation Flow						Inf	Inf
7/1 (A12 Westbound (W) Lane 1)	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

7/2 (A12 Westbound (W) Lane 2)	Infinite Saturation Flow	Inf	Inf
8/1 (A12 Eastbound (E) Lane 1)	Infinite Saturation Flow	Inf	Inf
8/2 (A12 Eastbound (E) Lane 2)	Infinite Saturation Flow	Inf	Inf
9/1 (Pettits Lane Southbound exit Lane 1)	Infinite Saturation Flow	Inf	Inf
10/1 (Pettits Lane Northbound Exit Lane 1)	Infinite Saturation Flow	Inf	Inf

**Scenario 8: '2023 Surveyed Peak Hour PM'** (FG10: '2023 Surveyed Peak Hour PM', Plan 1: 'Network Control Plan 1')

**Traffic Flows, Desired**

**Desired Flow :**

	Destination					
		A	B	C	D	Tot.
Origin	A	0	248	240	70	558
	B	431	18	130	1446	2025
	C	310	209	0	68	587
	D	92	1345	91	17	1545
	Tot.	833	1820	461	1601	4715

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**Traffic Lane Flows**

Lane	Scenario 8: 2023 Surveyed Peak Hour PM
<b>Junction: A12 - Pettits Lane</b>	
1/1 (short)	92
1/2 (with short)	513(In) 421(Out)
1/3	479
1/4 (with short)	536(In) 445(Out)
1/5 (short)	91
2/1 (short)	248
2/2 (with short)	488(In) 240(Out)
2/3	70
3/1 (short)	130
3/2 (with short)	794(In) 664(Out)
3/3	731
3/4 (with short)	482(In) 51(Out)
3/5 (short)	431
4/1 (short)	68
4/2 (with short)	378(In) 310(Out)
4/3	209
5/1	878
5/2	479
5/3	445
6/1	732
6/2	801
6/3	51
7/1	732
7/2	852
8/1	1357
8/2	445
9/1	461
10/1	833

Full Input Data And Results

**Lane Saturation Flows**

Junction: A12 - Pettits Lane								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (A12 Eastbound (W))	5.00	0.00	Y	Arm 10 Left	15.00	100.0 %	1923	1923
1/2 (A12 Eastbound (W))	2.60	0.00	Y	Arm 5 Ahead	Inf	100.0 %	1875	1875
1/3 (A12 Eastbound (W))	2.50	0.00	N	Arm 5 Ahead	Inf	100.0 %	2005	2005
1/4 (A12 Eastbound (W))	2.50	0.00	N	Arm 5 Ahead	Inf	100.0 %	2005	2005
1/5 (A12 Eastbound (W))	3.40	0.00	Y	Arm 9 Right	Inf	100.0 %	1955	1955
2/1 (Pettits Lane (N))	4.50	0.00	Y	Arm 5 Left	27.00	100.0 %	1956	1956
2/2 (Pettits Lane (N))	3.40	0.00	Y	Arm 9 Ahead	Inf	100.0 %	1955	1955
2/3 (Pettits Lane (N))	3.40	0.00	Y	Arm 6 Right	Inf	100.0 %	1955	1955
3/1 (A12 Westbound (E))	5.00	0.00	Y	Arm 9 Left	20.00	100.0 %	1967	1967
3/2 (A12 Westbound (E))	4.20	0.00	Y	Arm 6 Ahead	Inf	100.0 %	2035	2035
3/3 (A12 Westbound (E))	3.10	0.00	N	Arm 6 Ahead	Inf	100.0 %	2065	2065
3/4 (A12 Westbound (E))	3.10	0.00	N	Arm 6 Ahead	Inf	100.0 %	2065	2065
3/5 (A12 Westbound (E))	3.70	0.00	Y	Arm 10 Right	12.50	100.0 %	1772	1772
4/1 (Pettits Lane (S))	5.00	0.00	Y	Arm 6 Left	58.00	100.0 %	2062	2062
4/2 (Pettits Lane (S))	3.10	0.00	Y	Arm 10 Ahead	Inf	100.0 %	1925	1925
4/3 (Pettits Lane (S))	3.50	0.00	Y	Arm 5 Right	Inf	100.0 %	1965	1965
5/1 (A12 Eastbound (Internal) Lane 1)	Infinite Saturation Flow						Inf	Inf
5/2 (A12 Eastbound (Internal) Lane 2)	Infinite Saturation Flow						Inf	Inf
5/3 (A12 Eastbound (Internal) Lane 3)	Infinite Saturation Flow						Inf	Inf
6/1 (A12 Westbound(Internal) Lane 1)	Infinite Saturation Flow						Inf	Inf
6/2 (A12 Westbound(Internal) Lane 2)	Infinite Saturation Flow						Inf	Inf
6/3 (A12 Westbound(Internal) Lane 3)	Infinite Saturation Flow						Inf	Inf
7/1 (A12 Westbound (W) Lane 1)	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

7/2 (A12 Westbound (W) Lane 2)	Infinite Saturation Flow	Inf	Inf
8/1 (A12 Eastbound (E) Lane 1)	Infinite Saturation Flow	Inf	Inf
8/2 (A12 Eastbound (E) Lane 2)	Infinite Saturation Flow	Inf	Inf
9/1 (Pettits Lane Southbound exit Lane 1)	Infinite Saturation Flow	Inf	Inf
10/1 (Pettits Lane Northbound Exit Lane 1)	Infinite Saturation Flow	Inf	Inf

**Scenario 9: '2030 Surveyed Peak Hour AM'** (FG11: 'Copy of Reference Case 2030 AM', Plan 1: 'Network Control Plan 1')

**Traffic Flows, Desired**

**Desired Flow :**

	Destination					
		A	B	C	D	Tot.
Origin	A	0	207	313	69	589
	B	462	23	289	1413	2187
	C	264	140	0	58	462
	D	73	1445	176	15	1709
	Tot.	799	1815	778	1555	4947

Full Input Data And Results

**Traffic Lane Flows**

Lane	Scenario 9: 2030 Surveyed Peak Hour AM
<b>Junction: A12 - Pettits Lane</b>	
1/1 (short)	73
1/2 (with short)	540(In) 467(Out)
1/3	518
1/4 (with short)	636(In) 460(Out)
1/5 (short)	176
2/1 (short)	207
2/2 (with short)	520(In) 313(Out)
2/3	69
3/1 (short)	289
3/2 (with short)	915(In) 626(Out)
3/3	738
3/4 (with short)	511(In) 49(Out)
3/5 (short)	462
4/1 (short)	58
4/2 (with short)	322(In) 264(Out)
4/3	140
5/1	814
5/2	518
5/3	460
6/1	684
6/2	807
6/3	49
7/1	684
7/2	856
8/1	1332
8/2	460
9/1	778
10/1	799

Full Input Data And Results

**Lane Saturation Flows**

Junction: A12 - Pettits Lane								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (A12 Eastbound (W))	5.00	0.00	Y	Arm 10 Left	15.00	100.0 %	1923	1923
1/2 (A12 Eastbound (W))	2.60	0.00	Y	Arm 5 Ahead	Inf	100.0 %	1875	1875
1/3 (A12 Eastbound (W))	2.50	0.00	N	Arm 5 Ahead	Inf	100.0 %	2005	2005
1/4 (A12 Eastbound (W))	2.50	0.00	N	Arm 5 Ahead	Inf	100.0 %	2005	2005
1/5 (A12 Eastbound (W))	3.40	0.00	Y	Arm 9 Right	Inf	100.0 %	1955	1955
2/1 (Pettits Lane (N))	4.50	0.00	Y	Arm 5 Left	27.00	100.0 %	1956	1956
2/2 (Pettits Lane (N))	3.40	0.00	Y	Arm 9 Ahead	Inf	100.0 %	1955	1955
2/3 (Pettits Lane (N))	3.40	0.00	Y	Arm 6 Right	Inf	100.0 %	1955	1955
3/1 (A12 Westbound (E))	5.00	0.00	Y	Arm 9 Left	20.00	100.0 %	1967	1967
3/2 (A12 Westbound (E))	4.20	0.00	Y	Arm 6 Ahead	Inf	100.0 %	2035	2035
3/3 (A12 Westbound (E))	3.10	0.00	N	Arm 6 Ahead	Inf	100.0 %	2065	2065
3/4 (A12 Westbound (E))	3.10	0.00	N	Arm 6 Ahead	Inf	100.0 %	2065	2065
3/5 (A12 Westbound (E))	3.70	0.00	Y	Arm 10 Right	12.50	100.0 %	1772	1772
4/1 (Pettits Lane (S))	5.00	0.00	Y	Arm 6 Left	58.00	100.0 %	2062	2062
4/2 (Pettits Lane (S))	3.10	0.00	Y	Arm 10 Ahead	Inf	100.0 %	1925	1925
4/3 (Pettits Lane (S))	3.50	0.00	Y	Arm 5 Right	Inf	100.0 %	1965	1965
5/1 (A12 Eastbound (Internal) Lane 1)	Infinite Saturation Flow						Inf	Inf
5/2 (A12 Eastbound (Internal) Lane 2)	Infinite Saturation Flow						Inf	Inf
5/3 (A12 Eastbound (Internal) Lane 3)	Infinite Saturation Flow						Inf	Inf
6/1 (A12 Westbound(Internal) Lane 1)	Infinite Saturation Flow						Inf	Inf
6/2 (A12 Westbound(Internal) Lane 2)	Infinite Saturation Flow						Inf	Inf
6/3 (A12 Westbound(Internal) Lane 3)	Infinite Saturation Flow						Inf	Inf
7/1 (A12 Westbound (W) Lane 1)	Infinite Saturation Flow						Inf	Inf



Full Input Data And Results

7/2 (A12 Westbound (W) Lane 2)	Infinite Saturation Flow	Inf	Inf
8/1 (A12 Eastbound (E) Lane 1)	Infinite Saturation Flow	Inf	Inf
8/2 (A12 Eastbound (E) Lane 2)	Infinite Saturation Flow	Inf	Inf
9/1 (Pettits Lane Southbound exit Lane 1)	Infinite Saturation Flow	Inf	Inf
10/1 (Pettits Lane Northbound Exit Lane 1)	Infinite Saturation Flow	Inf	Inf

**Scenario 10: '2030 Surveyed Peak Hour PM'** (FG12: 'Copy of Reference Case 2030 PM', Plan 1: 'Network Control Plan 1')

**Traffic Flows, Desired**

**Desired Flow :**

	Destination					
		A	B	C	D	Tot.
Origin	A	0	261	253	74	588
	B	453	19	137	1521	2130
	C	326	220	0	72	618
	D	97	1415	96	18	1626
	Tot.	876	1915	486	1685	4962

Full Input Data And Results

**Traffic Lane Flows**

Lane	Scenario 10: 2030 Surveyed Peak Hour PM
<b>Junction: A12 - Pettits Lane</b>	
1/1 (short)	97
1/2 (with short)	540(In) 443(Out)
1/3	503
1/4 (with short)	565(In) 469(Out)
1/5 (short)	96
2/1 (short)	261
2/2 (with short)	514(In) 253(Out)
2/3	74
3/1 (short)	137
3/2 (with short)	835(In) 698(Out)
3/3	769
3/4 (with short)	507(In) 54(Out)
3/5 (short)	453
4/1 (short)	72
4/2 (with short)	398(In) 326(Out)
4/3	220
5/1	924
5/2	503
5/3	469
6/1	770
6/2	843
6/3	54
7/1	770
7/2	897
8/1	1427
8/2	469
9/1	486
10/1	876

Full Input Data And Results

**Lane Saturation Flows**

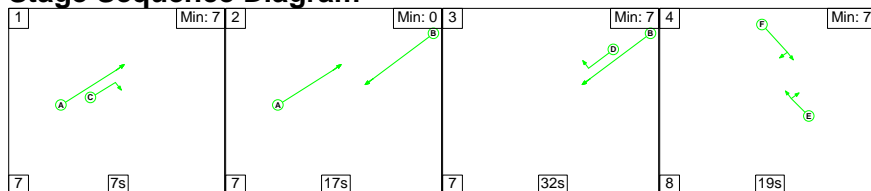
Junction: A12 - Pettits Lane								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (A12 Eastbound (W))	5.00	0.00	Y	Arm 10 Left	15.00	100.0 %	1923	1923
1/2 (A12 Eastbound (W))	2.60	0.00	Y	Arm 5 Ahead	Inf	100.0 %	1875	1875
1/3 (A12 Eastbound (W))	2.50	0.00	N	Arm 5 Ahead	Inf	100.0 %	2005	2005
1/4 (A12 Eastbound (W))	2.50	0.00	N	Arm 5 Ahead	Inf	100.0 %	2005	2005
1/5 (A12 Eastbound (W))	3.40	0.00	Y	Arm 9 Right	Inf	100.0 %	1955	1955
2/1 (Pettits Lane (N))	4.50	0.00	Y	Arm 5 Left	27.00	100.0 %	1956	1956
2/2 (Pettits Lane (N))	3.40	0.00	Y	Arm 9 Ahead	Inf	100.0 %	1955	1955
2/3 (Pettits Lane (N))	3.40	0.00	Y	Arm 6 Right	Inf	100.0 %	1955	1955
3/1 (A12 Westbound (E))	5.00	0.00	Y	Arm 9 Left	20.00	100.0 %	1967	1967
3/2 (A12 Westbound (E))	4.20	0.00	Y	Arm 6 Ahead	Inf	100.0 %	2035	2035
3/3 (A12 Westbound (E))	3.10	0.00	N	Arm 6 Ahead	Inf	100.0 %	2065	2065
3/4 (A12 Westbound (E))	3.10	0.00	N	Arm 6 Ahead	Inf	100.0 %	2065	2065
3/5 (A12 Westbound (E))	3.70	0.00	Y	Arm 10 Right	12.50	100.0 %	1772	1772
4/1 (Pettits Lane (S))	5.00	0.00	Y	Arm 6 Left	58.00	100.0 %	2062	2062
4/2 (Pettits Lane (S))	3.10	0.00	Y	Arm 10 Ahead	Inf	100.0 %	1925	1925
4/3 (Pettits Lane (S))	3.50	0.00	Y	Arm 5 Right	Inf	100.0 %	1965	1965
5/1 (A12 Eastbound (Internal) Lane 1)	Infinite Saturation Flow						Inf	Inf
5/2 (A12 Eastbound (Internal) Lane 2)	Infinite Saturation Flow						Inf	Inf
5/3 (A12 Eastbound (Internal) Lane 3)	Infinite Saturation Flow						Inf	Inf
6/1 (A12 Westbound(Internal) Lane 1)	Infinite Saturation Flow						Inf	Inf
6/2 (A12 Westbound(Internal) Lane 2)	Infinite Saturation Flow						Inf	Inf
6/3 (A12 Westbound(Internal) Lane 3)	Infinite Saturation Flow						Inf	Inf
7/1 (A12 Westbound (W) Lane 1)	Infinite Saturation Flow						Inf	Inf

### Full Input Data And Results

7/2 (A12 Westbound (W) Lane 2)	Infinite Saturation Flow	Inf	Inf
8/1 (A12 Eastbound (E) Lane 1)	Infinite Saturation Flow	Inf	Inf
8/2 (A12 Eastbound (E) Lane 2)	Infinite Saturation Flow	Inf	Inf
9/1 (Pettits Lane Southbound exit Lane 1)	Infinite Saturation Flow	Inf	Inf
10/1 (Pettits Lane Northbound Exit Lane 1)	Infinite Saturation Flow	Inf	Inf

### Scenario 1: 'Base Year 2023 AM' (FG1: 'Base Year 2023 AM', Plan 1: 'Network Control Plan 1')

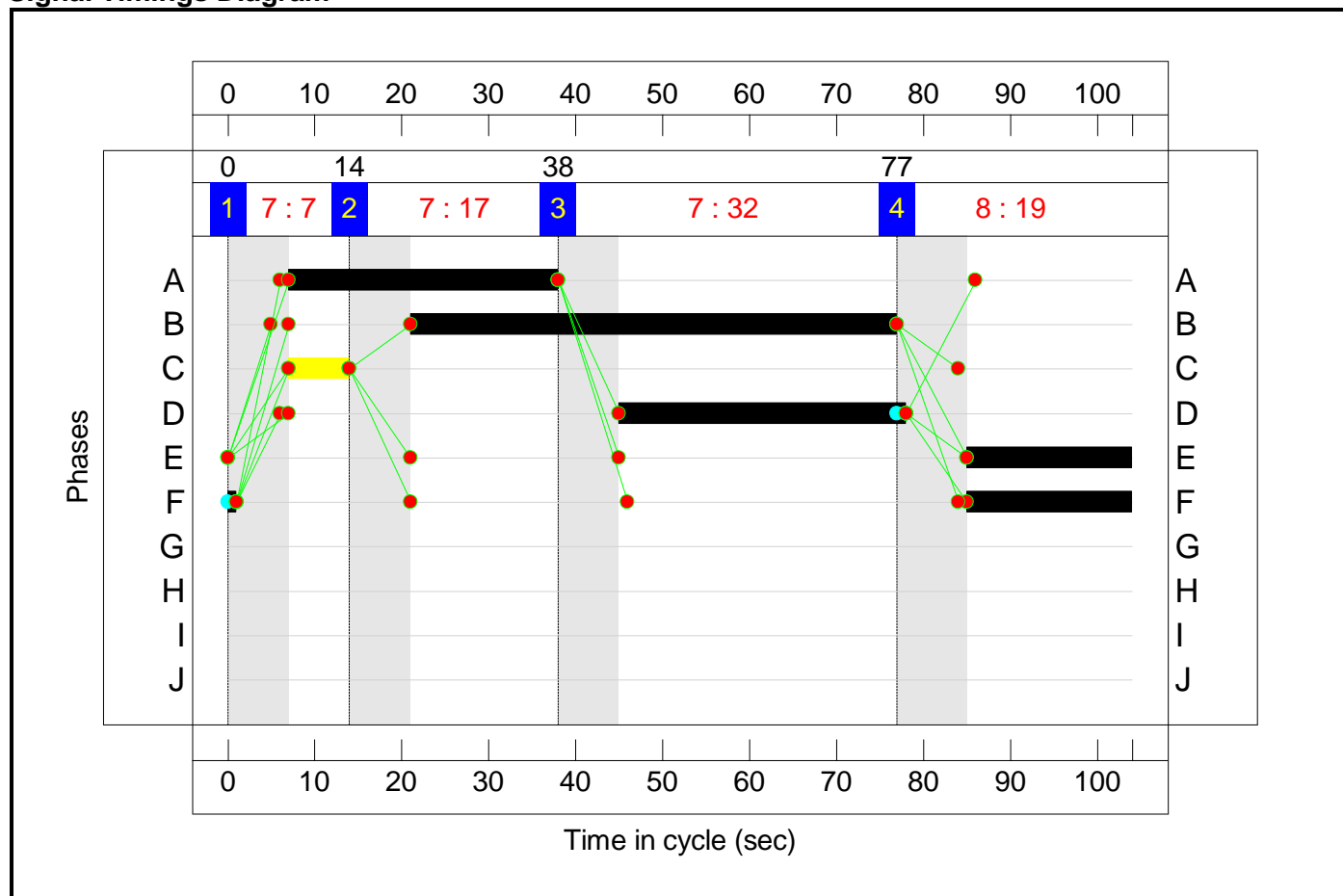
#### Stage Sequence Diagram



#### Stage Timings

Stage	1	2	3	4
Duration	7	17	32	19
Change Point	0	14	38	77

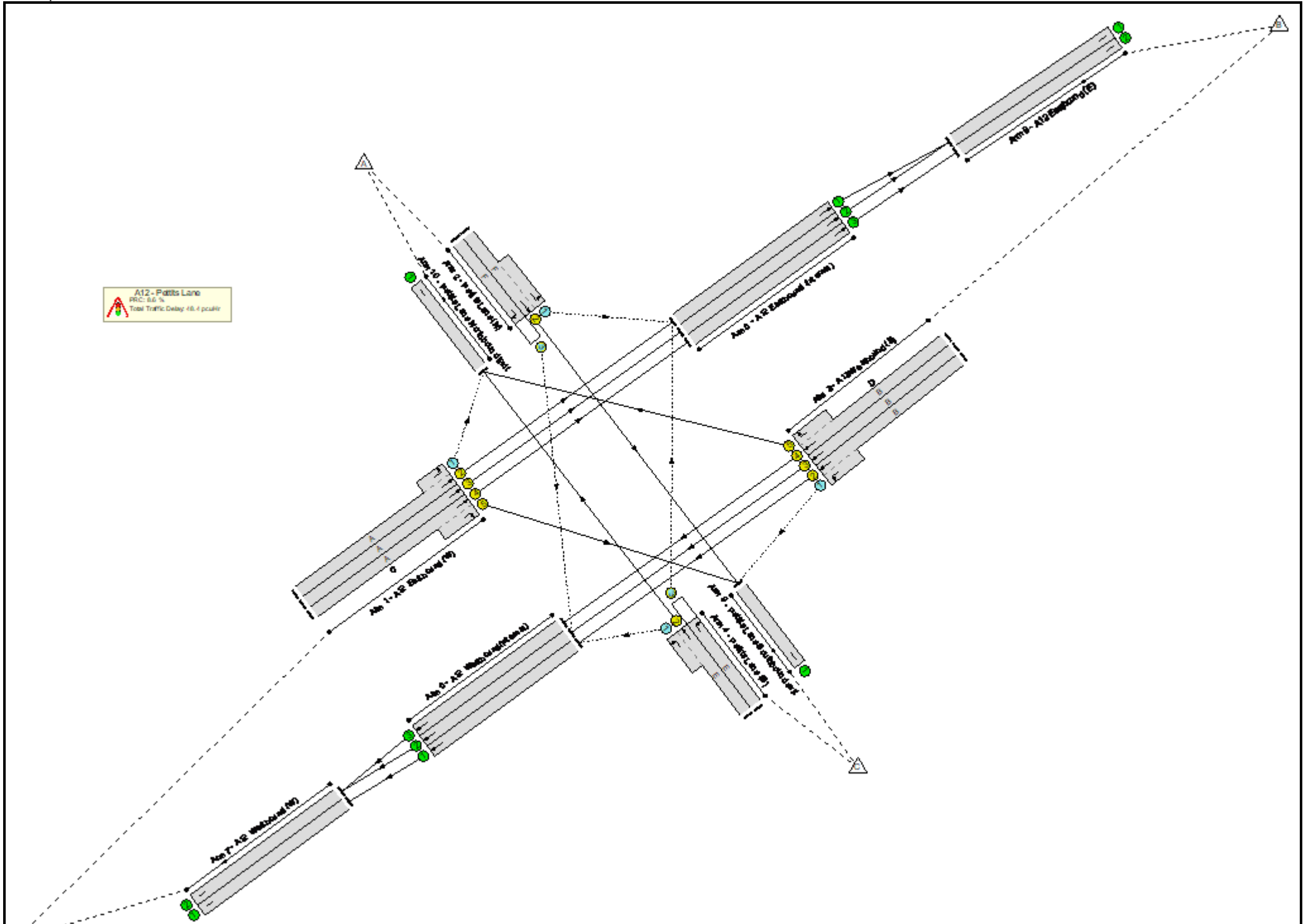
#### Signal Timings Diagram



## Full Input Data And Results

Full Input Data And Results  
**Network Layout Diagram**

Full Input Data And Results



## Full Input Data And Results



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 (%)
<b>Network</b>	-	-	<b>N/A</b>	-	-		-	-	-	-	-	-	<b>82.9%</b>
<b>A12 - Pettits Lane</b>	-	-	<b>N/A</b>	-	-		-	-	-	-	-	-	<b>82.9%</b>
1/2+1/1	A12 Eastbound (W) Ahead Left	U+O	N/A	N/A	A -		1	31	-	488	1875:1923	537+67	80.8 : 80.8%
1/3	A12 Eastbound (W) Ahead	U	N/A	N/A	A		1	31	-	476	2005	617	77.2%
1/4+1/5	A12 Eastbound (W) Ahead Right	U	N/A	N/A	A C		1	31:7	-	537	2005:1955	536+117	82.3 : 82.3%
2/2+2/1	Pettits Lane (N) Left Ahead	U+O	N/A	N/A	F -		1	20	-	544	1955:1956	309+388	78.0 : 78.0%
2/3	Pettits Lane (N) Right	O	N/A	N/A	F		1	20	-	51	1955	219	23.3%
3/2+3/1	A12 Westbound (E) Ahead Left	U+O	N/A	N/A	B -		1	56	-	842	2035:1967	874+287	72.5 : 72.5%
3/3	A12 Westbound (E) Ahead	U	N/A	N/A	B		1	56	-	723	2065	1132	63.9%
3/4+3/5	A12 Westbound (E) Ahead Right	U	N/A	N/A	B D		1	56:33	-	566	2065:1772	230+459	82.1 : 82.1%
4/2+4/1	Pettits Lane (S) Left Ahead	U+O	N/A	N/A	E -		1	19	-	220	1925:2062	351+55	54.2 : 54.2%
4/3	Pettits Lane (S) Right	O	N/A	N/A	E		1	19	-	133	1965	161	82.9%
5/1	A12 Eastbound (Internal) Ahead	U	N/A	N/A	-		-	-	-	870	Inf	Inf	0.0%
5/2	A12 Eastbound (Internal) Ahead	U	N/A	N/A	-		-	-	-	476	Inf	Inf	0.0%
5/3	A12 Eastbound (Internal) Ahead	U	N/A	N/A	-		-	-	-	441	Inf	Inf	0.0%
6/1	A12 Westbound(Internal) Ahead	U	N/A	N/A	-		-	-	-	664	Inf	Inf	0.0%
6/2	A12 Westbound(Internal) Ahead	U	N/A	N/A	-		-	-	-	774	Inf	Inf	0.0%

Full Input Data And Results

6/3	A12 Westbound(Internal) Ahead	U	N/A	N/A	-		-	-	-	189	Inf	Inf	0.0%
7/1	A12 Westbound (W)	U	N/A	N/A	-		-	-	-	664	Inf	Inf	0.0%
7/2	A12 Westbound (W)	U	N/A	N/A	-		-	-	-	963	Inf	Inf	0.0%
8/1	A12 Eastbound (E)	U	N/A	N/A	-		-	-	-	1346	Inf	Inf	0.0%
8/2	A12 Eastbound (E)	U	N/A	N/A	-		-	-	-	441	Inf	Inf	0.0%
9/1	Pettits Lane Southbound exit	U	N/A	N/A	-		-	-	-	545	Inf	Inf	0.0%
10/1	Pettits Lane Northbound Exit	U	N/A	N/A	-		-	-	-	621	Inf	Inf	0.0%

Full Input Data And Results

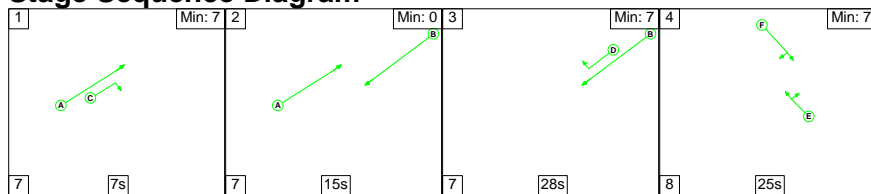
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
<b>Network</b>	-	-	246	500	32	33.0	14.9	0.5	48.4	-	-	-	-
<b>A12 - Pettits Lane</b>	-	-	246	500	32	33.0	14.9	0.5	48.4	-	-	-	-
1/2+1/1	488	488	0	54	0	4.6	2.0	-	6.6	48.7	12.5	2.0	14.5
1/3	476	476	-	-	-	4.3	1.7	-	6.0	45.2	12.4	1.7	14.1
1/4+1/5	537	537	-	-	-	6.3	2.2	-	8.5	57.2	13.1	2.2	15.3
2/2+2/1	544	544	50	253	0	3.1	1.7	-	4.8	31.7	6.3	1.7	8.0
2/3	51	51	50	0	1	0.5	0.2	0.1	0.7	52.5	1.2	0.2	1.4
3/2+3/1	842	842	39	169	0	3.3	1.3	-	4.6	19.7	16.0	1.3	17.3
3/3	723	723	-	-	-	3.3	0.9	-	4.2	20.7	14.5	0.9	15.3
3/4+3/5	566	566	-	-	-	4.2	2.2	-	6.4	40.8	12.3	2.2	14.5
4/2+4/1	220	220	6	24	0	2.1	0.6	-	2.7	44.3	4.9	0.6	5.5
4/3	133	133	102	0	31	1.4	2.1	0.4	3.9	105.5	3.8	2.1	5.9
5/1	870	870	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/2	476	476	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/3	441	441	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	664	664	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/2	774	774	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/3	189	189	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	664	664	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/2	963	963	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	1346	1346	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/2	441	441	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
9/1	545	545	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
10/1	621	621	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
C1			PRC for Signalled Lanes (%): 8.6		8.6	Total Delay for Signalled Lanes (pcuHr): 48.45		48.45	Cycle Time (s): 104				
			PRC Over All Lanes (%): 8.6		8.6	Total Delay Over All Lanes(pcuHr): 48.45		48.45					

## Full Input Data And Results

Full Input Data And Results

Scenario 2: 'Base Year 2023 PM' (FG2: 'Base Year 2023 PM', Plan 1: 'Network Control Plan 1')

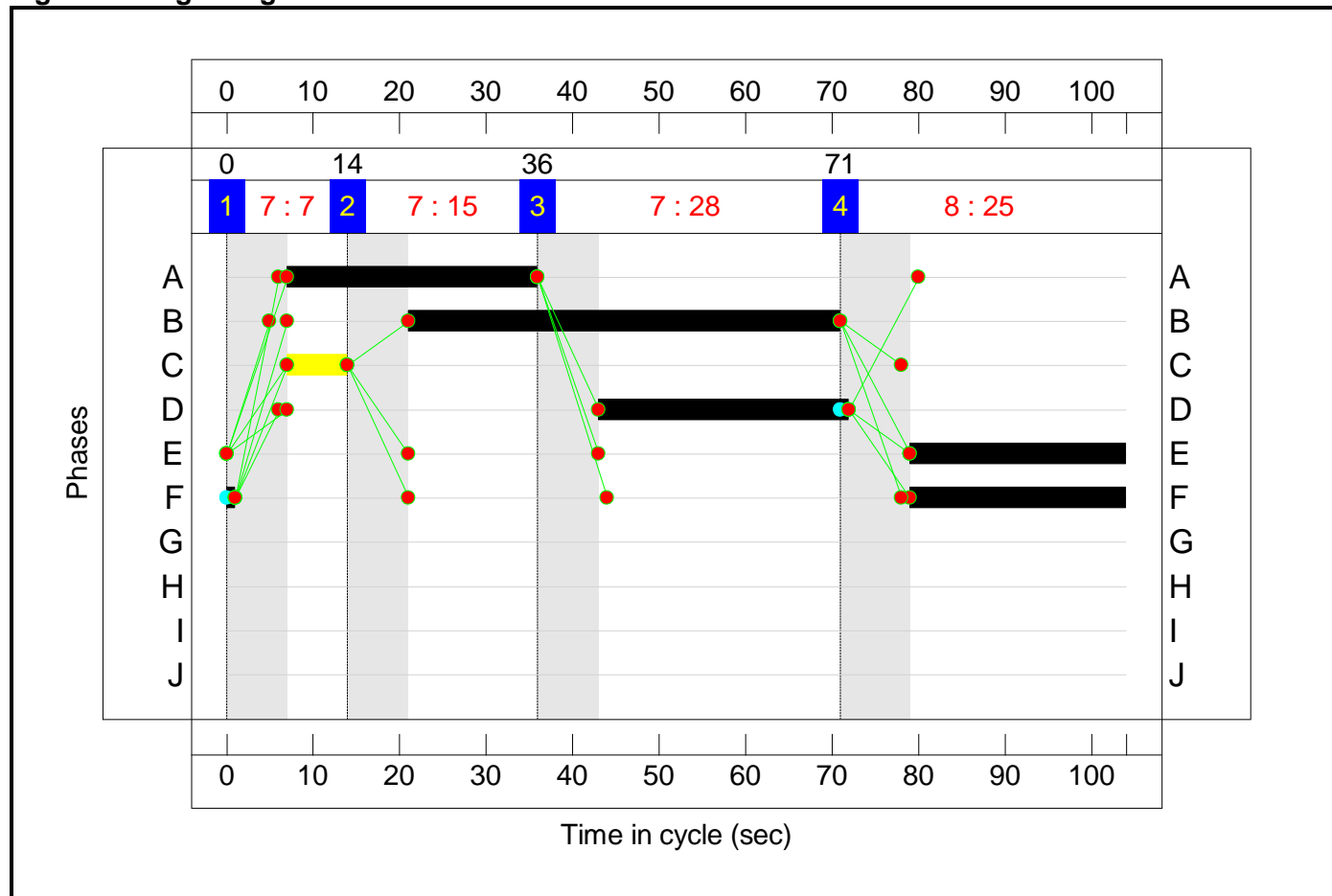
Stage Sequence Diagram



Stage Timings

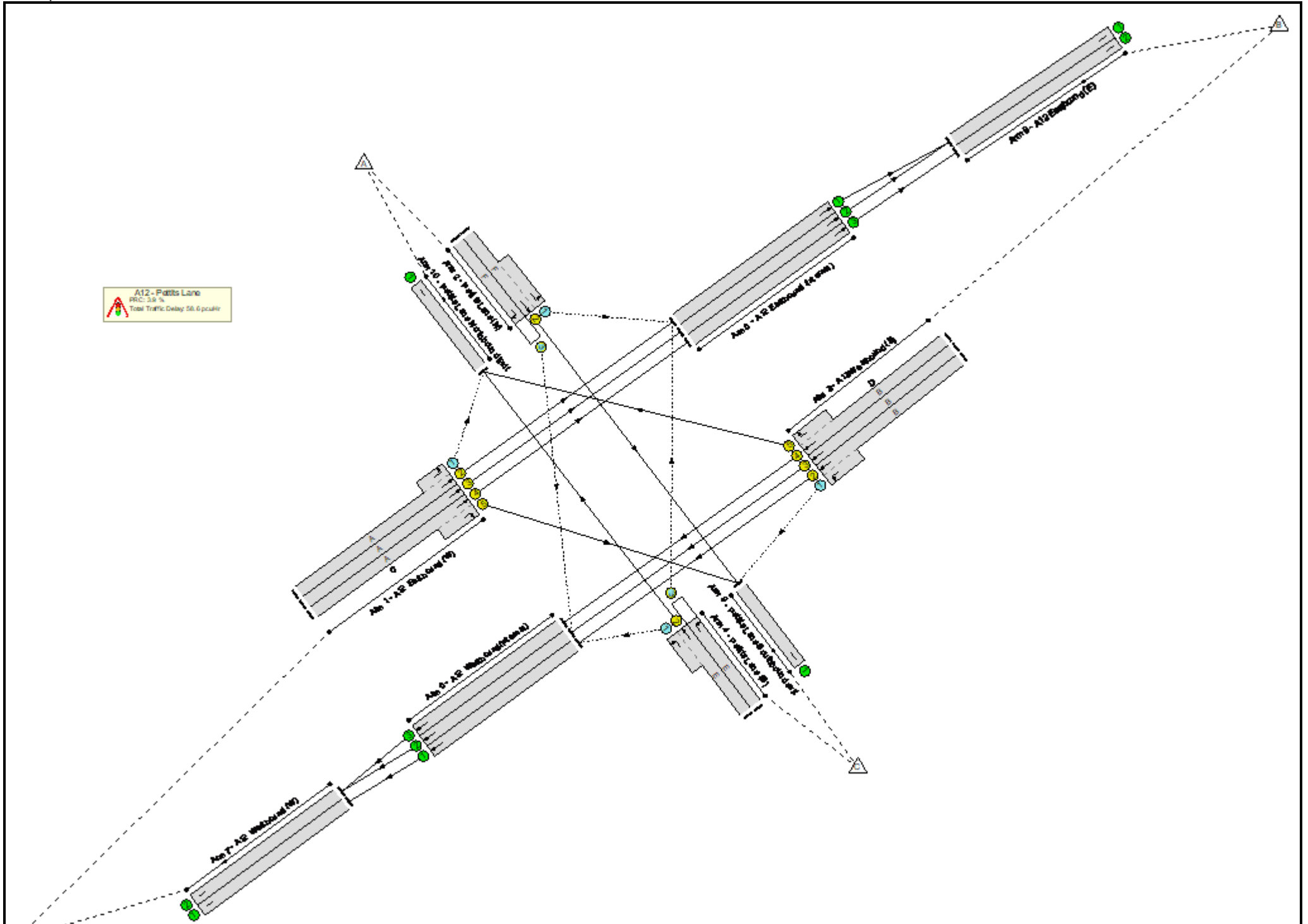
Stage	1	2	3	4
Duration	7	15	28	25
Change Point	0	14	36	71

Signal Timings Diagram



Full Input Data And Results  
**Network Layout Diagram**

Full Input Data And Results



## Full Input Data And Results



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 (%)
<b>Network</b>	-	-	N/A	-	-		-	-	-	-	-	-	<b>86.6%</b>
<b>A12 - Pettits Lane</b>	-	-	N/A	-	-		-	-	-	-	-	-	<b>86.6%</b>
1/2+1/1	A12 Eastbound (W) Ahead Left	U+O	N/A	N/A	A -		1	29	-	499	1875:1923	475+107	85.7 : 85.7%
1/3	A12 Eastbound (W) Ahead	U	N/A	N/A	A		1	29	-	492	2005	578	85.1%
1/4+1/5	A12 Eastbound (W) Ahead Right	U	N/A	N/A	A C		1	29:7	-	536	2005:1955	495+124	86.6 : 86.6%
2/2+2/1	Pettits Lane (N) Left Ahead	U+O	N/A	N/A	F -		1	26	-	494	1955:1956	371+389	65.0 : 65.0%
2/3	Pettits Lane (N) Right	O	N/A	N/A	F		1	26	-	65	1955	195	33.4%
3/2+3/1	A12 Westbound (E) Ahead Left	U+O	N/A	N/A	B -		1	50	-	806	2035:1967	848+178	78.5 : 78.5%
3/3	A12 Westbound (E) Ahead	U	N/A	N/A	B		1	50	-	778	2065	1013	76.8%
3/4+3/5	A12 Westbound (E) Ahead Right	U	N/A	N/A	B D		1	50:29	-	438	2065:1772	0+511	0.0 : 85.7%
4/2+4/1	Pettits Lane (S) Left Ahead	U+O	N/A	N/A	E -		1	25	-	383	1925:2062	435+94	72.4 : 72.4%
4/3	Pettits Lane (S) Right	O	N/A	N/A	E		1	25	-	213	1965	251	84.9%
5/1	A12 Eastbound (Internal) Ahead	U	N/A	N/A	-		-	-	-	873	Inf	Inf	0.0%
5/2	A12 Eastbound (Internal) Ahead	U	N/A	N/A	-		-	-	-	492	Inf	Inf	0.0%
5/3	A12 Eastbound (Internal) Ahead	U	N/A	N/A	-		-	-	-	429	Inf	Inf	0.0%
6/1	A12 Westbound(Internal) Ahead	U	N/A	N/A	-		-	-	-	734	Inf	Inf	0.0%
6/2	A12 Westbound(Internal) Ahead	U	N/A	N/A	-		-	-	-	843	Inf	Inf	0.0%

Full Input Data And Results

6/3	A12 Westbound(Internal) Ahead	U	N/A	N/A	-		-	-	-	0	Inf	Inf	0.0%
7/1	A12 Westbound (W)	U	N/A	N/A	-		-	-	-	734	Inf	Inf	0.0%
7/2	A12 Westbound (W)	U	N/A	N/A	-		-	-	-	843	Inf	Inf	0.0%
8/1	A12 Eastbound (E)	U	N/A	N/A	-		-	-	-	1365	Inf	Inf	0.0%
8/2	A12 Eastbound (E)	U	N/A	N/A	-		-	-	-	429	Inf	Inf	0.0%
9/1	Pettits Lane Southbound exit	U	N/A	N/A	-		-	-	-	488	Inf	Inf	0.0%
10/1	Pettits Lane Northbound Exit	U	N/A	N/A	-		-	-	-	845	Inf	Inf	0.0%

Full Input Data And Results

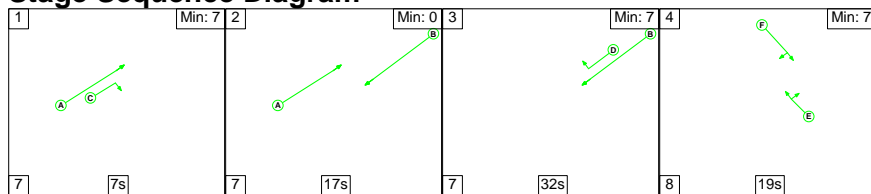
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
<b>Network</b>	-	-	353	445	33	38.2	19.7	0.7	58.6	-	-	-	-
<b>A12 - Pettits Lane</b>	-	-	353	445	33	38.2	19.7	0.7	58.6	-	-	-	-
1/2+1/1	499	499	0	92	0	4.8	2.8	-	7.7	55.3	12.7	2.8	15.5
1/3	492	492	-	-	-	4.8	2.7	-	7.4	54.5	13.4	2.7	16.1
1/4+1/5	536	536	-	-	-	6.7	3.0	-	9.7	65.0	13.3	3.0	16.4
2/2+2/1	494	494	51	202	0	2.6	0.9	-	3.5	25.4	5.8	0.9	6.7
2/3	65	65	64	0	1	0.5	0.2	0.3	1.0	57.5	1.4	0.2	1.7
3/2+3/1	806	806	24	116	0	4.3	1.8	-	6.1	27.4	18.2	1.8	20.0
3/3	778	778	-	-	-	4.7	1.6	-	6.3	29.2	18.4	1.6	20.0
3/4+3/5	438	438	-	-	-	4.3	2.8	-	7.0	57.8	11.9	2.8	14.7
4/2+4/1	383	383	33	35	0	3.4	1.3	-	4.7	44.0	8.9	1.3	10.2
4/3	213	213	181	0	32	2.2	2.5	0.5	5.2	87.4	5.9	2.5	8.3
5/1	873	873	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/2	492	492	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/3	429	429	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	734	734	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/2	843	843	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/3	0	0	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	734	734	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/2	843	843	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	1365	1365	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/2	429	429	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
9/1	488	488	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
10/1	845	845	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
C1			PRC for Signalled Lanes (%):		3.9	Total Delay for Signalled Lanes (pcuHr):		58.65	Cycle Time (s): 104				
			PRC Over All Lanes (%):		3.9	Total Delay Over All Lanes(pcuHr):		58.65					

## Full Input Data And Results

Full Input Data And Results

Scenario 3: 'Reference Case 2030 AM' (FG3: 'Reference Case 2030 AM', Plan 1: 'Network Control Plan 1')

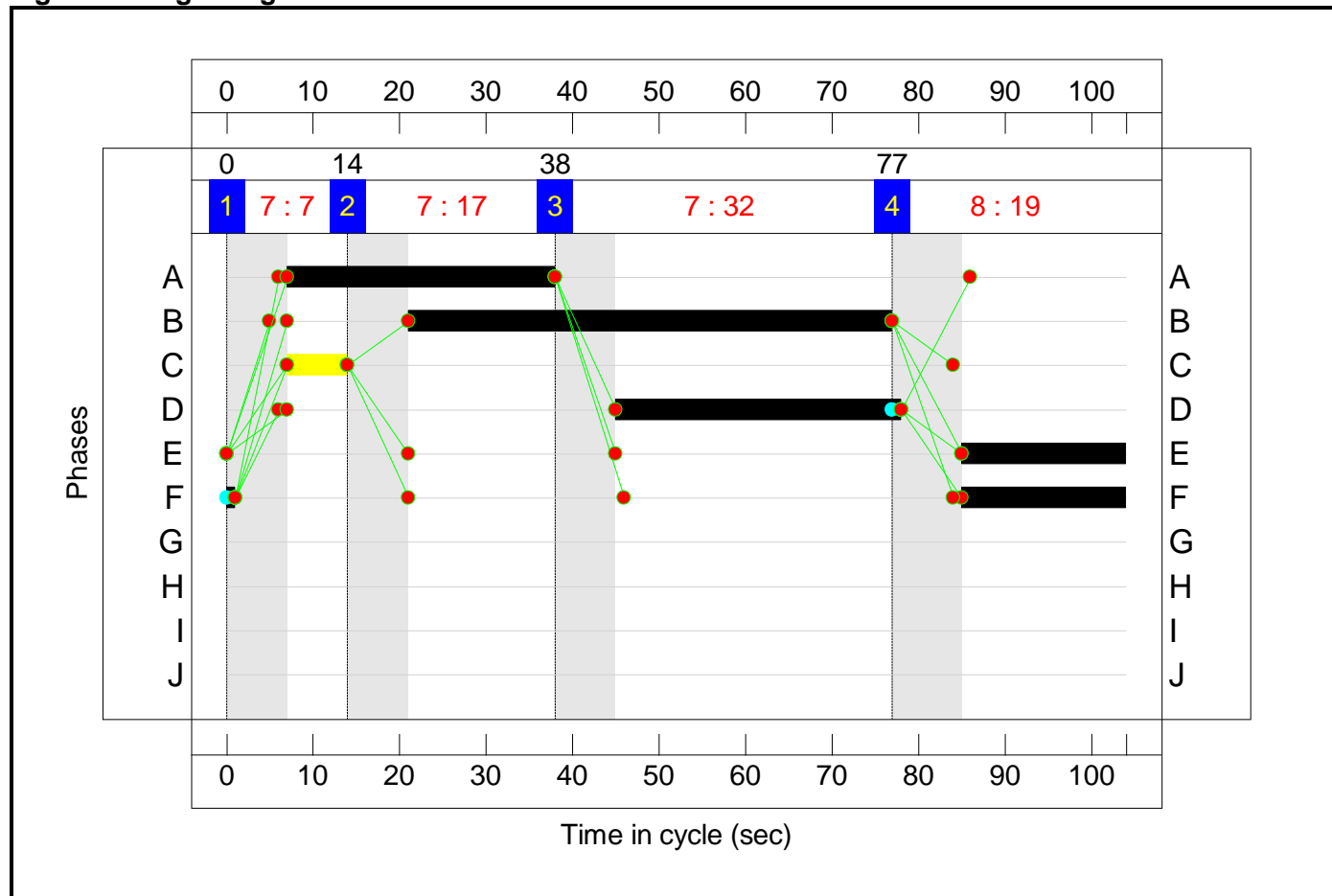
Stage Sequence Diagram



Stage Timings

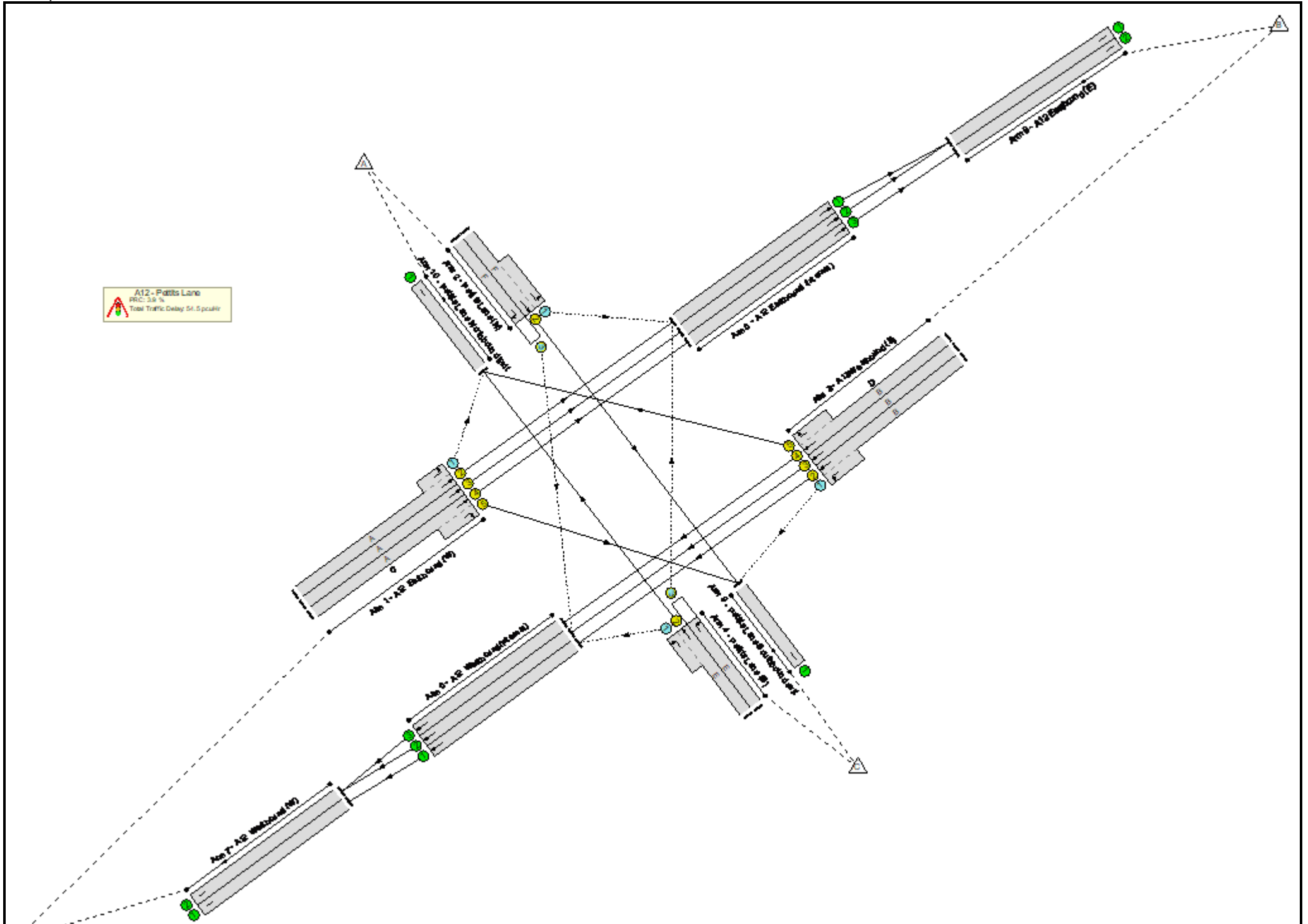
Stage	1	2	3	4
Duration	7	17	32	19
Change Point	0	14	38	77

Signal Timings Diagram



Full Input Data And Results  
**Network Layout Diagram**

Full Input Data And Results



## Full Input Data And Results



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 (%)
<b>Network</b>	-	-	N/A	-	-		-	-	-	-	-	-	<b>86.6%</b>
<b>A12 - Pettits Lane</b>	-	-	N/A	-	-		-	-	-	-	-	-	<b>86.6%</b>
1/2+1/1	A12 Eastbound (W) Ahead Left	U+O	N/A	N/A	A -		1	31	-	511	1875:1923	537+67	84.6 : 84.6%
1/3	A12 Eastbound (W) Ahead	U	N/A	N/A	A		1	31	-	498	2005	617	80.7%
1/4+1/5	A12 Eastbound (W) Ahead Right	U	N/A	N/A	A C		1	31:7	-	562	2005:1955	536+116	86.2 : 86.2%
2/2+2/1	Pettits Lane (N) Left Ahead	U+O	N/A	N/A	F -		1	20	-	569	1955:1956	309+389	81.6 : 81.6%
2/3	Pettits Lane (N) Right	O	N/A	N/A	F		1	20	-	53	1955	210	25.3%
3/2+3/1	A12 Westbound (E) Ahead Left	U+O	N/A	N/A	B -		1	56	-	878	2035:1967	873+288	75.6 : 75.6%
3/3	A12 Westbound (E) Ahead	U	N/A	N/A	B		1	56	-	753	2065	1132	66.5%
3/4+3/5	A12 Westbound (E) Ahead Right	U	N/A	N/A	B D		1	56:33	-	600	2065:1772	237+456	86.6 : 86.6%
4/2+4/1	Pettits Lane (S) Left Ahead	U+O	N/A	N/A	E -		1	19	-	230	1925:2062	351+55	56.7 : 56.7%
4/3	Pettits Lane (S) Right	O	N/A	N/A	E		1	19	-	139	1965	161	86.6%
5/1	A12 Eastbound (Internal) Ahead	U	N/A	N/A	-		-	-	-	910	Inf	Inf	0.0%
5/2	A12 Eastbound (Internal) Ahead	U	N/A	N/A	-		-	-	-	498	Inf	Inf	0.0%
5/3	A12 Eastbound (Internal) Ahead	U	N/A	N/A	-		-	-	-	462	Inf	Inf	0.0%
6/1	A12 Westbound(Internal) Ahead	U	N/A	N/A	-		-	-	-	691	Inf	Inf	0.0%
6/2	A12 Westbound(Internal) Ahead	U	N/A	N/A	-		-	-	-	806	Inf	Inf	0.0%

Full Input Data And Results

6/3	A12 Westbound(Internal) Ahead	U	N/A	N/A	-		-	-	-	205	Inf	Inf	0.0%
7/1	A12 Westbound (W)	U	N/A	N/A	-		-	-	-	691	Inf	Inf	0.0%
7/2	A12 Westbound (W)	U	N/A	N/A	-		-	-	-	1011	Inf	Inf	0.0%
8/1	A12 Eastbound (E)	U	N/A	N/A	-		-	-	-	1408	Inf	Inf	0.0%
8/2	A12 Eastbound (E)	U	N/A	N/A	-		-	-	-	462	Inf	Inf	0.0%
9/1	Pettits Lane Southbound exit	U	N/A	N/A	-		-	-	-	570	Inf	Inf	0.0%
10/1	Pettits Lane Northbound Exit	U	N/A	N/A	-		-	-	-	651	Inf	Inf	0.0%

Full Input Data And Results

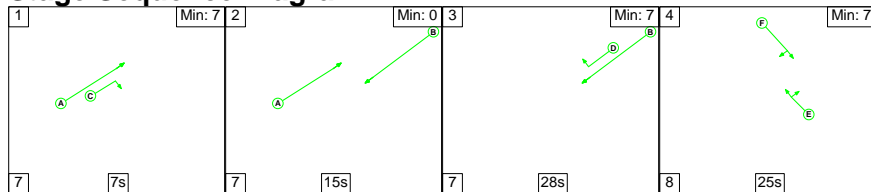
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
<b>Network</b>	-	-	246	525	44	35.3	18.7	0.5	54.5	-	-	-	-
<b>A12 - Pettits Lane</b>	-	-	246	525	44	35.3	18.7	0.5	54.5	-	-	-	-
1/2+1/1	511	511	0	57	0	4.9	2.6	-	7.5	52.7	13.2	2.6	15.8
1/3	498	498	-	-	-	4.6	2.0	-	6.6	47.8	13.1	2.0	15.2
1/4+1/5	562	562	-	-	-	6.7	2.9	-	9.6	61.7	14.1	2.9	17.0
2/2+2/1	569	569	54	263	0	3.2	2.1	-	5.4	33.9	6.7	2.1	8.8
2/3	53	53	52	0	1	0.5	0.2	0.1	0.8	54.0	1.3	0.2	1.4
3/2+3/1	878	878	38	180	0	3.6	1.5	-	5.1	21.0	17.4	1.5	19.0
3/3	753	753	-	-	-	3.5	1.0	-	4.5	21.4	15.3	1.0	16.3
3/4+3/5	600	600	-	-	-	4.6	3.0	-	7.6	45.7	13.4	3.0	16.4
4/2+4/1	230	230	6	25	0	2.2	0.7	-	2.9	45.1	5.2	0.7	5.8
4/3	139	139	96	0	43	1.5	2.6	0.4	4.5	116.8	3.9	2.6	6.5
5/1	910	910	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/2	498	498	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/3	462	462	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	691	691	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/2	806	806	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/3	205	205	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	691	691	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/2	1011	1011	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	1408	1408	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/2	462	462	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
9/1	570	570	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
10/1	651	651	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
C1			PRC for Signalled Lanes (%):		3.9	Total Delay for Signalled Lanes (pcuHr):		54.49	Cycle Time (s): 104				
			PRC Over All Lanes (%):		3.9	Total Delay Over All Lanes(pcuHr):		54.49					

## Full Input Data And Results

Full Input Data And Results

Scenario 4: 'Reference Case 2030 PM' (FG4: 'Reference Case 2030 PM', Plan 1: 'Network Control Plan 1')

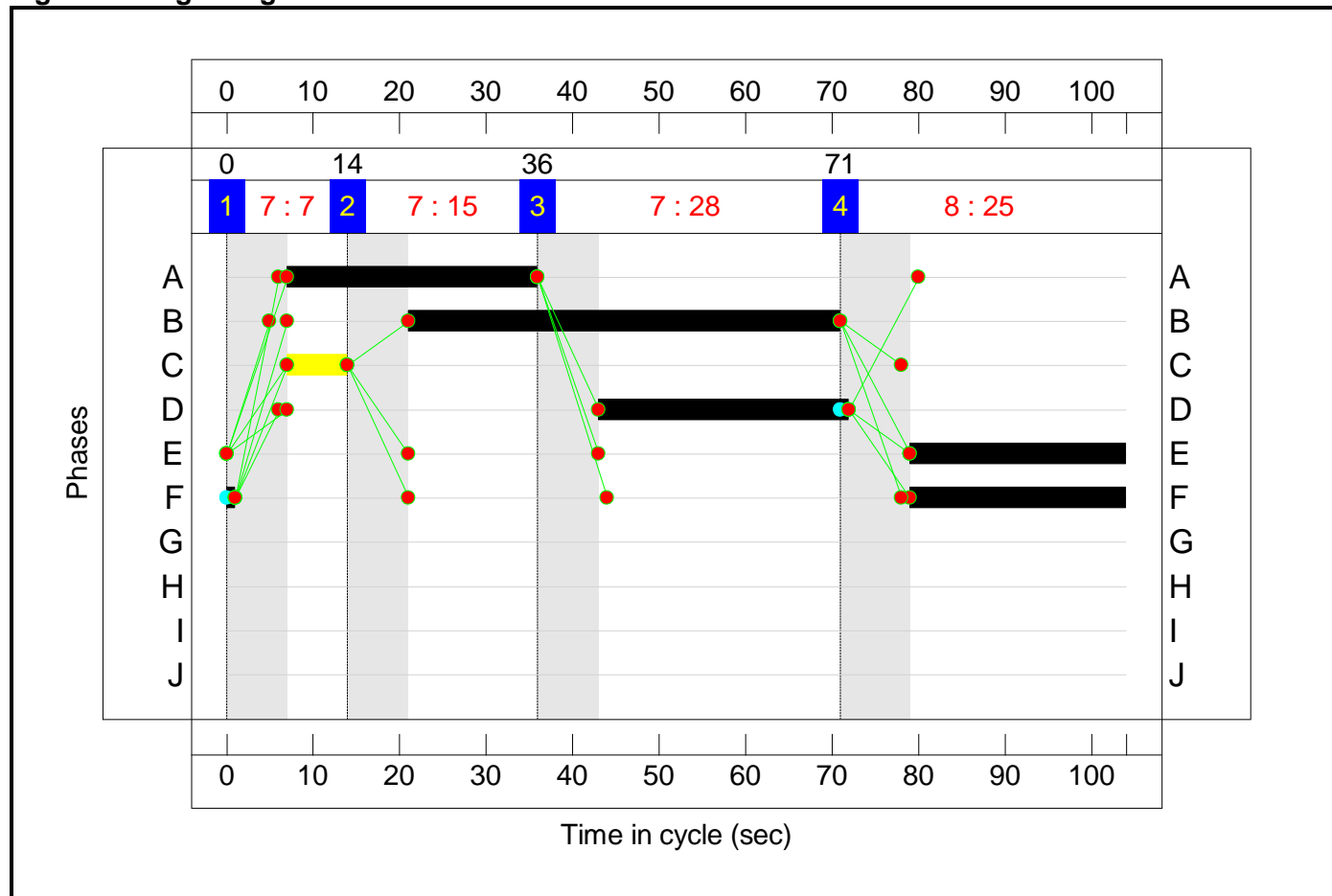
Stage Sequence Diagram



Stage Timings

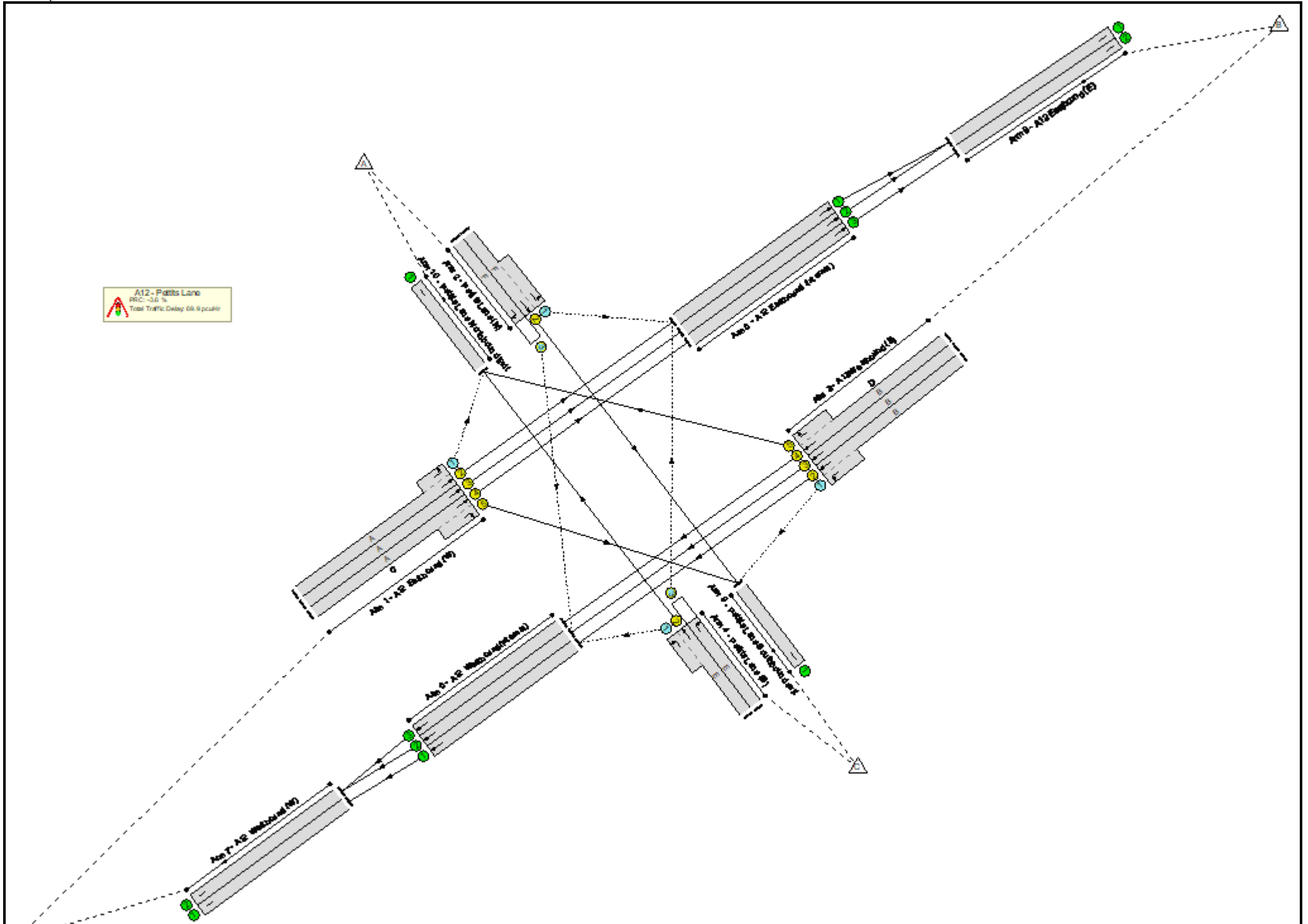
Stage	1	2	3	4
Duration	7	15	28	25
Change Point	0	14	36	71

Signal Timings Diagram



Full Input Data And Results  
**Network Layout Diagram**

Full Input Data And Results



A12 - Pitts Lane  
PRC - SE N  
Total Traffic Delay 68.9 sec/hr

App 1 - A12 Southbound (S)

App 2 - A12 Northbound (N)

App 3 - A12 Westbound (W)

App 4 - A12 Eastbound (E)

App 5 - Pitts Lane Southbound (S)

App 6 - Pitts Lane Northbound (N)

## Full Input Data And Results



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 (%)
<b>Network</b>	-	-	N/A	-	-		-	-	-	-	-	-	93.2%
<b>A12 - Pettits Lane</b>	-	-	N/A	-	-		-	-	-	-	-	-	93.2%
1/2+1/1	A12 Eastbound (W) Ahead Left	U+O	N/A	N/A	A -		1	29	-	525	1875:1923	475+108	90.2 : 90.2%
1/3	A12 Eastbound (W) Ahead	U	N/A	N/A	A		1	29	-	519	2005	578	89.7%
1/4+1/5	A12 Eastbound (W) Ahead Right	U	N/A	N/A	A C		1	29:7	-	563	2005:1955	495+124	90.9 : 90.9%
2/2+2/1	Pettits Lane (N) Left Ahead	U+O	N/A	N/A	F -		1	26	-	520	1955:1956	371+388	68.5 : 68.5%
2/3	Pettits Lane (N) Right	O	N/A	N/A	F		1	26	-	68	1955	180	37.8%
3/2+3/1	A12 Westbound (E) Ahead Left	U+O	N/A	N/A	B -		1	50	-	845	2035:1967	848+179	82.3 : 82.3%
3/3	A12 Westbound (E) Ahead	U	N/A	N/A	B		1	50	-	821	2065	1013	81.1%
3/4+3/5	A12 Westbound (E) Ahead Right	U	N/A	N/A	B D		1	50:29	-	461	2065:1772	0+511	0.0 : 90.2%
4/2+4/1	Pettits Lane (S) Left Ahead	U+O	N/A	N/A	E -		1	25	-	403	1925:2062	435+95	76.2 : 76.2%
4/3	Pettits Lane (S) Right	O	N/A	N/A	E		1	25	-	224	1965	240	93.2%
5/1	A12 Eastbound (Internal) Ahead	U	N/A	N/A	-		-	-	-	918	Inf	Inf	0.0%
5/2	A12 Eastbound (Internal) Ahead	U	N/A	N/A	-		-	-	-	519	Inf	Inf	0.0%
5/3	A12 Eastbound (Internal) Ahead	U	N/A	N/A	-		-	-	-	450	Inf	Inf	0.0%
6/1	A12 Westbound(Internal) Ahead	U	N/A	N/A	-		-	-	-	770	Inf	Inf	0.0%
6/2	A12 Westbound(Internal) Ahead	U	N/A	N/A	-		-	-	-	889	Inf	Inf	0.0%

Full Input Data And Results

6/3	A12 Westbound(Internal) Ahead	U	N/A	N/A	-		-	-	-	0	Inf	Inf	0.0%
7/1	A12 Westbound (W)	U	N/A	N/A	-		-	-	-	770	Inf	Inf	0.0%
7/2	A12 Westbound (W)	U	N/A	N/A	-		-	-	-	889	Inf	Inf	0.0%
8/1	A12 Eastbound (E)	U	N/A	N/A	-		-	-	-	1437	Inf	Inf	0.0%
8/2	A12 Eastbound (E)	U	N/A	N/A	-		-	-	-	450	Inf	Inf	0.0%
9/1	Pettits Lane Southbound exit	U	N/A	N/A	-		-	-	-	514	Inf	Inf	0.0%
10/1	Pettits Lane Northbound Exit	U	N/A	N/A	-		-	-	-	889	Inf	Inf	0.0%

Full Input Data And Results

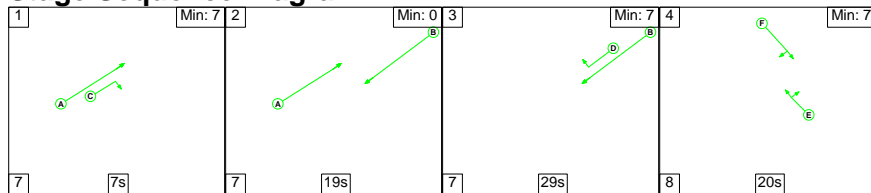
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
<b>Network</b>	-	-	352	466	55	41.2	28.0	0.8	69.9	-	-	-	-
<b>A12 - Pettits Lane</b>	-	-	352	466	55	41.2	28.0	0.8	69.9	-	-	-	-
1/2+1/1	525	525	0	97	0	5.2	4.0	-	9.3	63.6	13.7	4.0	17.7
1/3	519	519	-	-	-	5.1	3.9	-	9.0	62.3	14.3	3.9	18.1
1/4+1/5	563	563	-	-	-	7.2	4.3	-	11.5	73.4	14.2	4.3	18.6
2/2+2/1	520	520	56	210	0	2.7	1.1	-	3.8	26.3	6.2	1.1	7.3
2/3	68	68	67	0	1	0.6	0.3	0.3	1.2	61.0	1.5	0.3	1.8
3/2+3/1	845	845	24	123	0	4.7	2.3	-	7.0	29.8	19.6	2.3	21.8
3/3	821	821	-	-	-	5.1	2.1	-	7.2	31.6	19.8	2.1	21.9
3/4+3/5	461	461	-	-	-	4.6	4.0	-	8.5	66.6	12.8	4.0	16.8
4/2+4/1	403	403	36	36	0	3.6	1.6	-	5.2	46.2	9.6	1.6	11.1
4/3	224	224	170	0	54	2.4	4.5	0.5	7.4	118.2	6.3	4.5	10.8
5/1	918	918	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/2	519	519	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/3	450	450	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	770	770	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/2	889	889	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/3	0	0	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	770	770	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/2	889	889	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	1437	1437	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/2	450	450	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
9/1	514	514	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
10/1	889	889	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
C1			PRC for Signalled Lanes (%): -3.6		-3.6		Total Delay for Signalled Lanes (pcuHr): 69.94		69.94		Cycle Time (s): 104		
			PRC Over All Lanes (%):		-3.6		Total Delay Over All Lanes(pcuHr):		69.94				

## Full Input Data And Results

Full Input Data And Results

Scenario 5: 'Do Something 2030 + LTC AM' (FG7: 'Do Something 2030 + LTC AM', Plan 1: 'Network Control Plan 1')

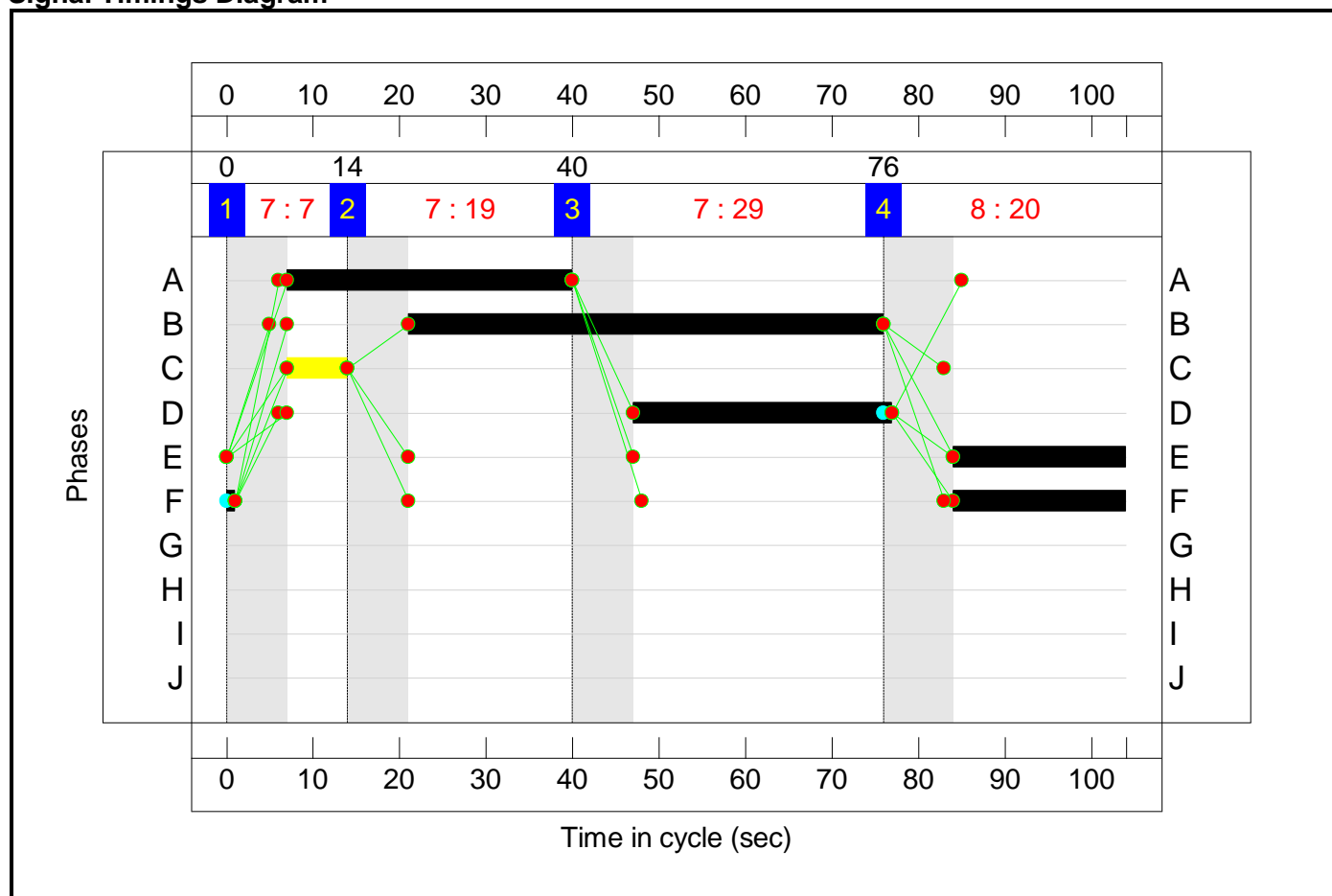
Stage Sequence Diagram



Stage Timings

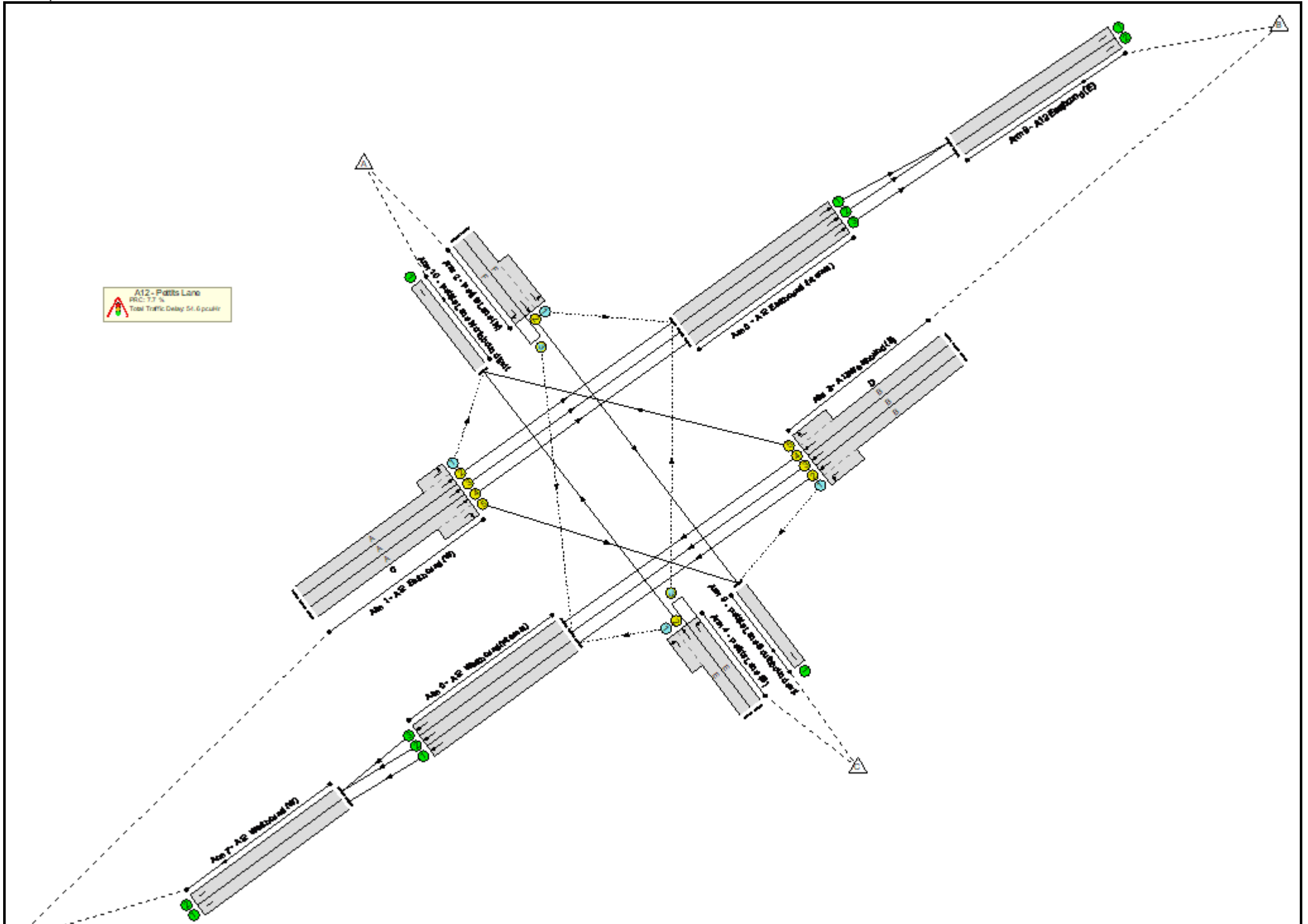
Stage	1	2	3	4
Duration	7	19	29	20
Change Point	0	14	40	76

Signal Timings Diagram



Full Input Data And Results  
**Network Layout Diagram**

Full Input Data And Results



## Full Input Data And Results



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 (%)
<b>Network</b>	-	-	<b>N/A</b>	-	-		-	-	-	-	-	-	<b>83.5%</b>
<b>A12 - Pettits Lane</b>	-	-	<b>N/A</b>	-	-		-	-	-	-	-	-	<b>83.5%</b>
1/2+1/1	A12 Eastbound (W) Ahead Left	U+O	N/A	N/A	A -		1	33	-	512	1875:1923	570+70	80.0 : 80.0%
1/3	A12 Eastbound (W) Ahead	U	N/A	N/A	A		1	33	-	524	2005	655	79.9%
1/4+1/5	A12 Eastbound (W) Ahead Right	U	N/A	N/A	A C		1	33:7	-	555	2005:1955	580+105	81.1 : 81.1%
2/2+2/1	Pettits Lane (N) Left Ahead	U+O	N/A	N/A	F -		1	21	-	630	1955:1956	310+468	81.0 : 81.0%
2/3	Pettits Lane (N) Right	O	N/A	N/A	F		1	21	-	39	1955	216	18.0%
3/2+3/1	A12 Westbound (E) Ahead Left	U+O	N/A	N/A	B -		1	55	-	950	2035:1967	875+262	83.5 : 83.5%
3/3	A12 Westbound (E) Ahead	U	N/A	N/A	B		1	55	-	905	2065	1112	81.4%
3/4+3/5	A12 Westbound (E) Ahead Right	U	N/A	N/A	B D		1	55:30	-	440	2065:1772	7+527	82.4 : 82.4%
4/2+4/1	Pettits Lane (S) Left Ahead	U+O	N/A	N/A	E -		1	20	-	242	1925:2062	368+54	57.3 : 57.3%
4/3	Pettits Lane (S) Right	O	N/A	N/A	E		1	20	-	144	1965	179	80.3%
5/1	A12 Eastbound (Internal) Ahead	U	N/A	N/A	-		-	-	-	979	Inf	Inf	0.0%
5/2	A12 Eastbound (Internal) Ahead	U	N/A	N/A	-		-	-	-	524	Inf	Inf	0.0%
5/3	A12 Eastbound (Internal) Ahead	U	N/A	N/A	-		-	-	-	470	Inf	Inf	0.0%
6/1	A12 Westbound(Internal) Ahead	U	N/A	N/A	-		-	-	-	762	Inf	Inf	0.0%
6/2	A12 Westbound(Internal) Ahead	U	N/A	N/A	-		-	-	-	944	Inf	Inf	0.0%

Full Input Data And Results

6/3	A12 Westbound(Internal) Ahead	U	N/A	N/A	-		-	-	-	6	Inf	Inf	0.0%
7/1	A12 Westbound (W)	U	N/A	N/A	-		-	-	-	762	Inf	Inf	0.0%
7/2	A12 Westbound (W)	U	N/A	N/A	-		-	-	-	950	Inf	Inf	0.0%
8/1	A12 Eastbound (E)	U	N/A	N/A	-		-	-	-	1503	Inf	Inf	0.0%
8/2	A12 Eastbound (E)	U	N/A	N/A	-		-	-	-	470	Inf	Inf	0.0%
9/1	Pettits Lane Southbound exit	U	N/A	N/A	-		-	-	-	555	Inf	Inf	0.0%
10/1	Pettits Lane Northbound Exit	U	N/A	N/A	-		-	-	-	701	Inf	Inf	0.0%

Full Input Data And Results

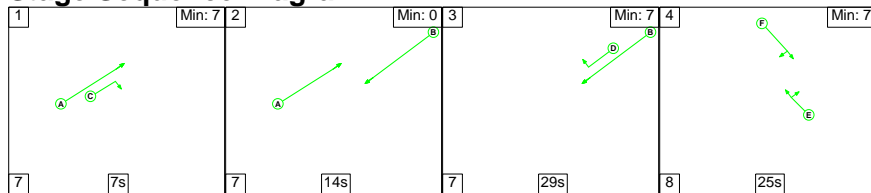
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
<b>Network</b>	-	-	252	582	34	36.6	17.5	0.5	54.6	-	-	-	-
<b>A12 - Pettits Lane</b>	-	-	252	582	34	36.6	17.5	0.5	54.6	-	-	-	-
1/2+1/1	512	512	0	56	0	4.6	1.9	-	6.6	46.2	13.0	1.9	15.0
1/3	524	524	-	-	-	4.6	1.9	-	6.6	45.2	13.7	1.9	15.6
1/4+1/5	555	555	-	-	-	6.1	2.1	-	8.2	53.2	13.6	2.1	15.7
2/2+2/1	630	630	64	315	0	3.4	2.1	-	5.5	31.3	6.6	2.1	8.6
2/3	39	39	38	0	1	0.4	0.1	0.1	0.6	51.6	0.9	0.1	1.0
3/2+3/1	950	950	33	186	0	4.5	2.5	-	7.0	26.4	21.1	2.5	23.6
3/3	905	905	-	-	-	5.0	2.1	-	7.1	28.2	21.4	2.1	23.5
3/4+3/5	440	440	-	-	-	4.1	2.2	-	6.4	52.1	11.7	2.2	13.9
4/2+4/1	242	242	7	24	0	2.3	0.7	-	3.0	44.3	5.5	0.7	6.1
4/3	144	144	111	0	33	1.5	1.8	0.4	3.8	94.4	4.0	1.8	5.9
5/1	979	979	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/2	524	524	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/3	470	470	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	762	762	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/2	944	944	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/3	6	6	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	762	762	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/2	950	950	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	1503	1503	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/2	470	470	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
9/1	555	555	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
10/1	701	701	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
C1			PRC for Signalled Lanes (%): 7.7		7.7	Total Delay for Signalled Lanes (pcuHr): 54.57		54.57	Cycle Time (s): 104				
			PRC Over All Lanes (%): 7.7		7.7	Total Delay Over All Lanes(pcuHr): 54.57		54.57					

## Full Input Data And Results

Full Input Data And Results

Scenario 6: 'Do Something 2030 + LTC PM' (FG8: 'Do Something 2030 + LTC PM', Plan 1: 'Network Control Plan 1')

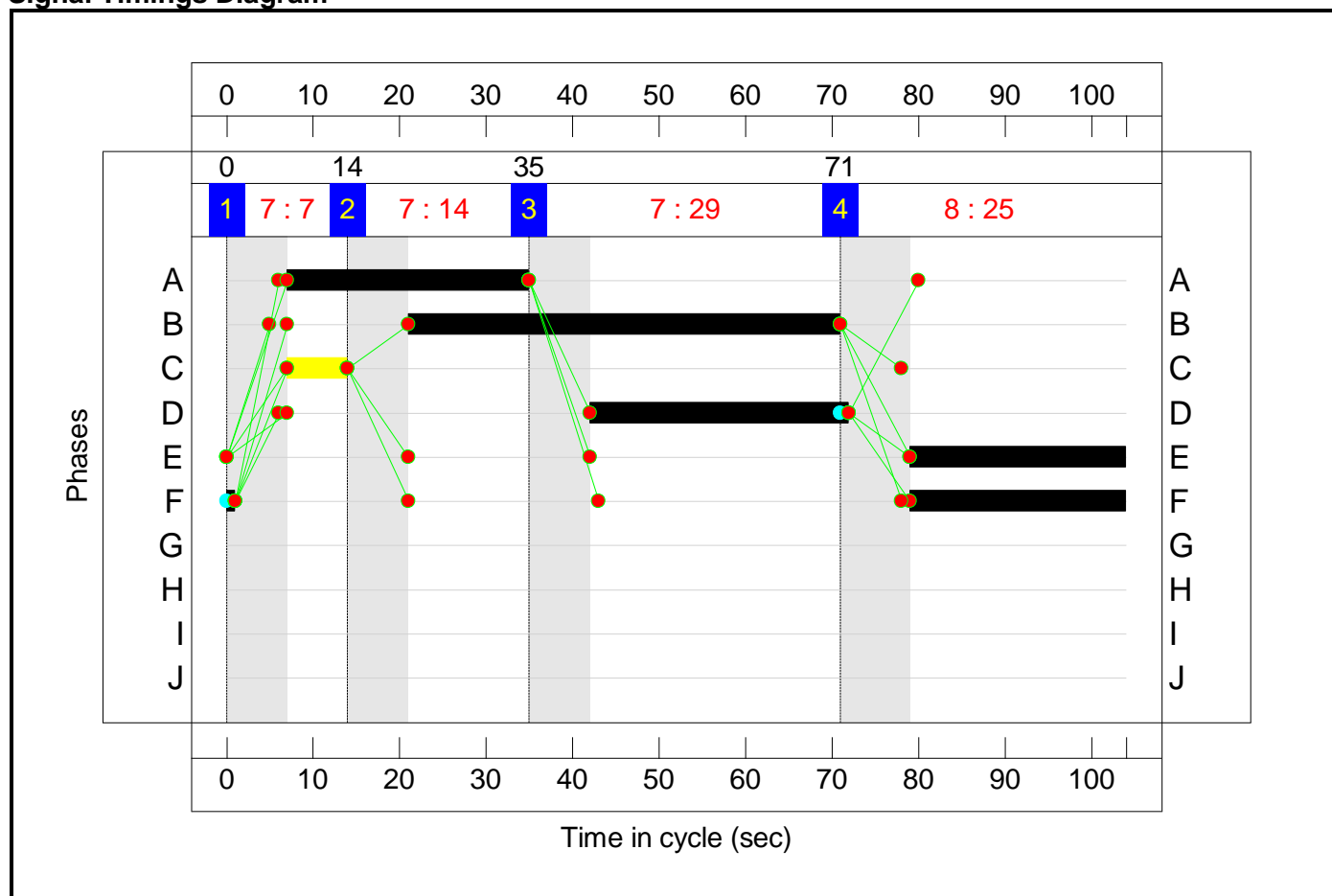
Stage Sequence Diagram



Stage Timings

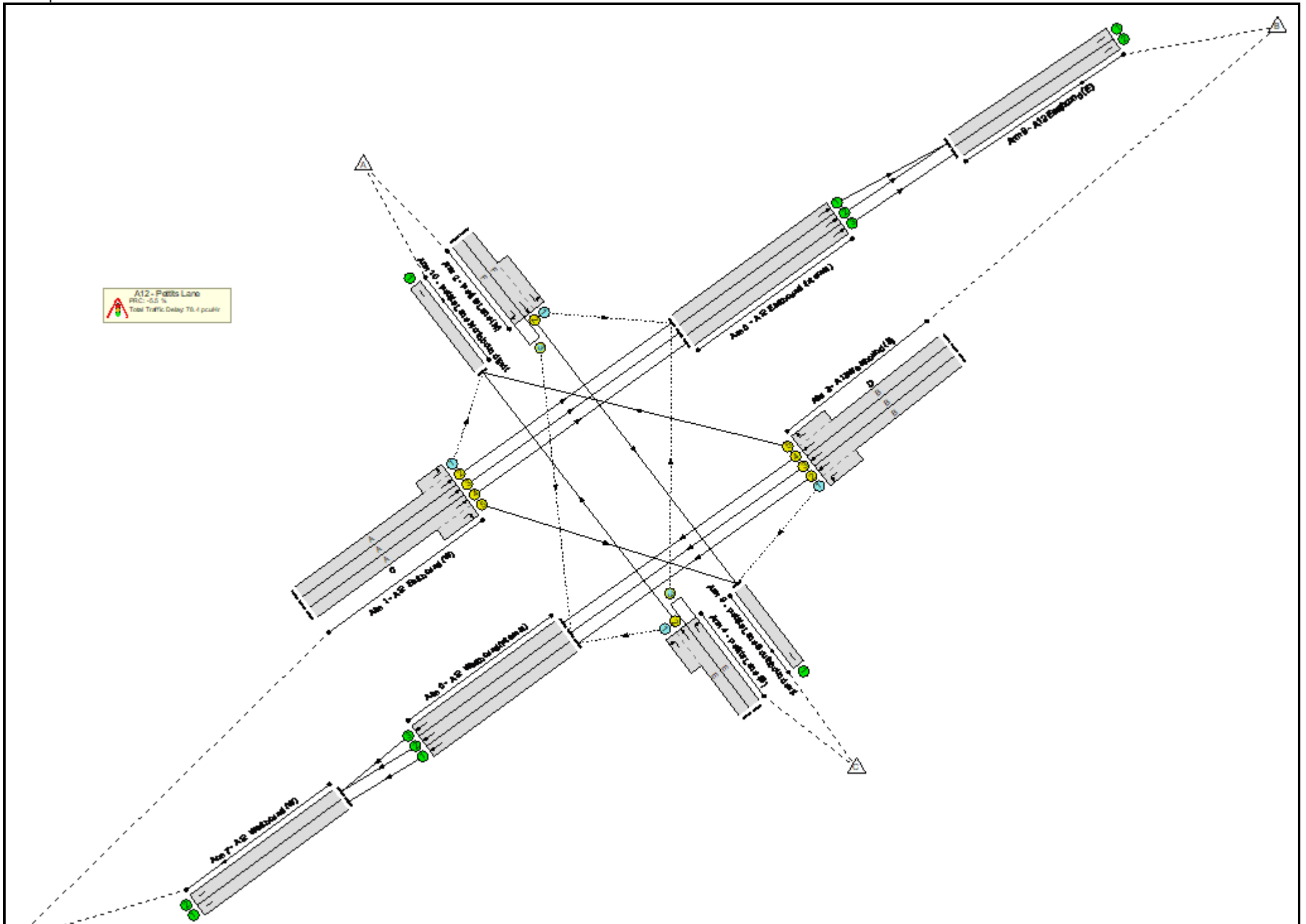
Stage	1	2	3	4
Duration	7	14	29	25
Change Point	0	14	35	71

Signal Timings Diagram



Full Input Data And Results  
**Network Layout Diagram**

Full Input Data And Results



## Full Input Data And Results



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 (%)
<b>Network</b>	-	-	N/A	-	-		-	-	-	-	-	-	<b>94.9%</b>
<b>A12 - Pettits Lane</b>	-	-	N/A	-	-		-	-	-	-	-	-	<b>94.9%</b>
1/2+1/1	A12 Eastbound (W) Ahead Left	U+O	N/A	N/A	A -		1	28	-	531	1875:1923	461+102	94.3 : 94.3%
1/3	A12 Eastbound (W) Ahead	U	N/A	N/A	A		1	28	-	525	2005	559	93.9%
1/4+1/5	A12 Eastbound (W) Ahead Right	U	N/A	N/A	A C		1	28:7	-	568	2005:1955	482+116	94.9 : 94.9%
2/2+2/1	Pettits Lane (N) Left Ahead	U+O	N/A	N/A	F -		1	26	-	542	1955:1956	365+417	69.3 : 69.3%
2/3	Pettits Lane (N) Right	O	N/A	N/A	F		1	26	-	69	1955	178	38.8%
3/2+3/1	A12 Westbound (E) Ahead Left	U+O	N/A	N/A	B -		1	50	-	842	2035:1967	847+179	82.0 : 82.0%
3/3	A12 Westbound (E) Ahead	U	N/A	N/A	B		1	50	-	816	2065	1013	80.6%
3/4+3/5	A12 Westbound (E) Ahead Right	U	N/A	N/A	B D		1	50:30	-	492	2065:1772	0+528	0.0 : 93.1%
4/2+4/1	Pettits Lane (S) Left Ahead	U+O	N/A	N/A	E -		1	25	-	408	1925:2062	432+99	76.8 : 76.8%
4/3	Pettits Lane (S) Right	O	N/A	N/A	E		1	25	-	226	1965	241	93.7%
5/1	A12 Eastbound (Internal) Ahead	U	N/A	N/A	-		-	-	-	950	Inf	Inf	0.0%
5/2	A12 Eastbound (Internal) Ahead	U	N/A	N/A	-		-	-	-	525	Inf	Inf	0.0%
5/3	A12 Eastbound (Internal) Ahead	U	N/A	N/A	-		-	-	-	458	Inf	Inf	0.0%
6/1	A12 Westbound(Internal) Ahead	U	N/A	N/A	-		-	-	-	771	Inf	Inf	0.0%
6/2	A12 Westbound(Internal) Ahead	U	N/A	N/A	-		-	-	-	885	Inf	Inf	0.0%

Full Input Data And Results

6/3	A12 Westbound(Internal) Ahead	U	N/A	N/A	-		-	-	-	0	Inf	Inf	0.0%
7/1	A12 Westbound (W)	U	N/A	N/A	-		-	-	-	771	Inf	Inf	0.0%
7/2	A12 Westbound (W)	U	N/A	N/A	-		-	-	-	885	Inf	Inf	0.0%
8/1	A12 Eastbound (E)	U	N/A	N/A	-		-	-	-	1475	Inf	Inf	0.0%
8/2	A12 Eastbound (E)	U	N/A	N/A	-		-	-	-	458	Inf	Inf	0.0%
9/1	Pettits Lane Southbound exit	U	N/A	N/A	-		-	-	-	510	Inf	Inf	0.0%
10/1	Pettits Lane Northbound Exit	U	N/A	N/A	-		-	-	-	920	Inf	Inf	0.0%

Full Input Data And Results

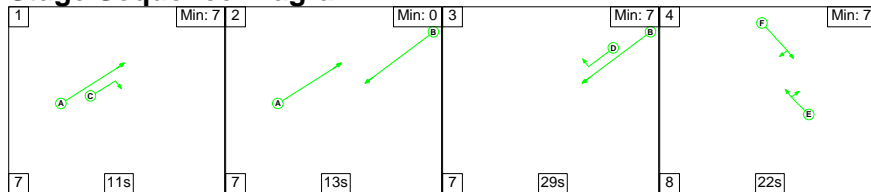
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
<b>Network</b>	-	-	360	487	56	42.1	35.5	0.8	78.4	-	-	-	-
<b>A12 - Pettits Lane</b>	-	-	360	487	56	42.1	35.5	0.8	78.4	-	-	-	-
1/2+1/1	531	531	0	96	0	5.5	6.0	-	11.5	77.9	14.1	6.0	20.1
1/3	525	525	-	-	-	5.3	5.8	-	11.1	76.1	14.7	5.8	20.5
1/4+1/5	568	568	-	-	-	7.4	6.5	-	13.9	88.1	14.7	6.5	21.3
2/2+2/1	542	542	59	230	0	2.7	1.1	-	3.9	25.6	6.2	1.1	7.3
2/3	69	69	68	0	1	0.6	0.3	0.3	1.2	61.7	1.5	0.3	1.8
3/2+3/1	842	842	24	123	0	4.7	2.2	-	6.9	29.5	19.5	2.2	21.7
3/3	816	816	-	-	-	5.1	2.0	-	7.1	31.3	19.7	2.0	21.8
3/4+3/5	492	492	-	-	-	4.8	5.3	-	10.1	74.0	13.8	5.3	19.1
4/2+4/1	408	408	39	37	0	3.6	1.6	-	5.3	46.4	9.6	1.6	11.3
4/3	226	226	171	0	55	2.4	4.6	0.5	7.5	120.0	6.4	4.6	11.0
5/1	950	950	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/2	525	525	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/3	458	458	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	771	771	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/2	885	885	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/3	0	0	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	771	771	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/2	885	885	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	1475	1475	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/2	458	458	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
9/1	510	510	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
10/1	920	920	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
C1			PRC for Signalled Lanes (%): -5.5		PRC Over All Lanes (%): -5.5		Total Delay for Signalled Lanes (pcuHr): 78.43		Total Delay Over All Lanes(pcuHr): 78.43		Cycle Time (s): 104		

## Full Input Data And Results

Full Input Data And Results

Scenario 7: '2023 Surveyed Peak Hour AM' (FG9: '2023 Surveyed Peak Hour AM', Plan 1: 'Network Control Plan 1')

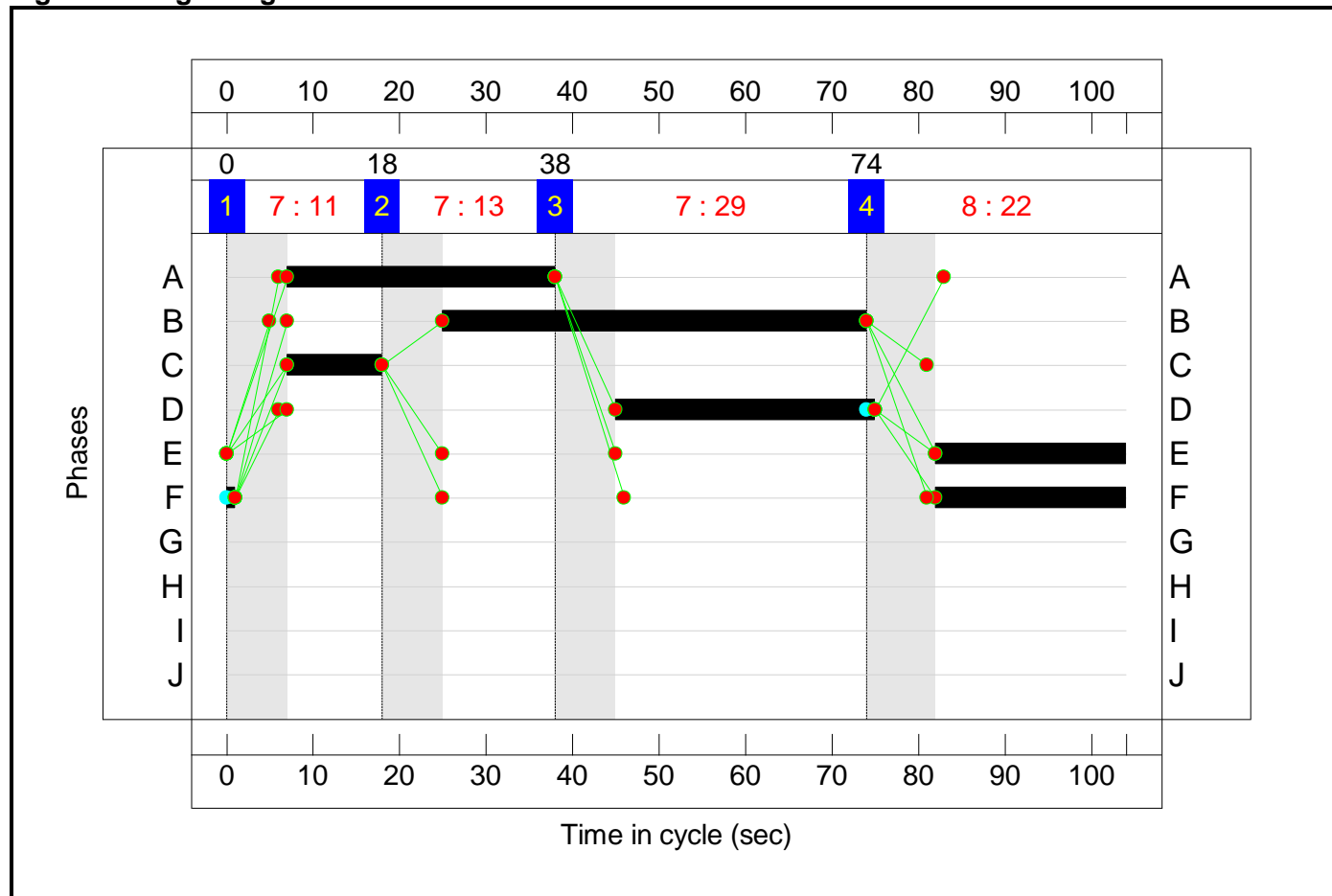
Stage Sequence Diagram



Stage Timings

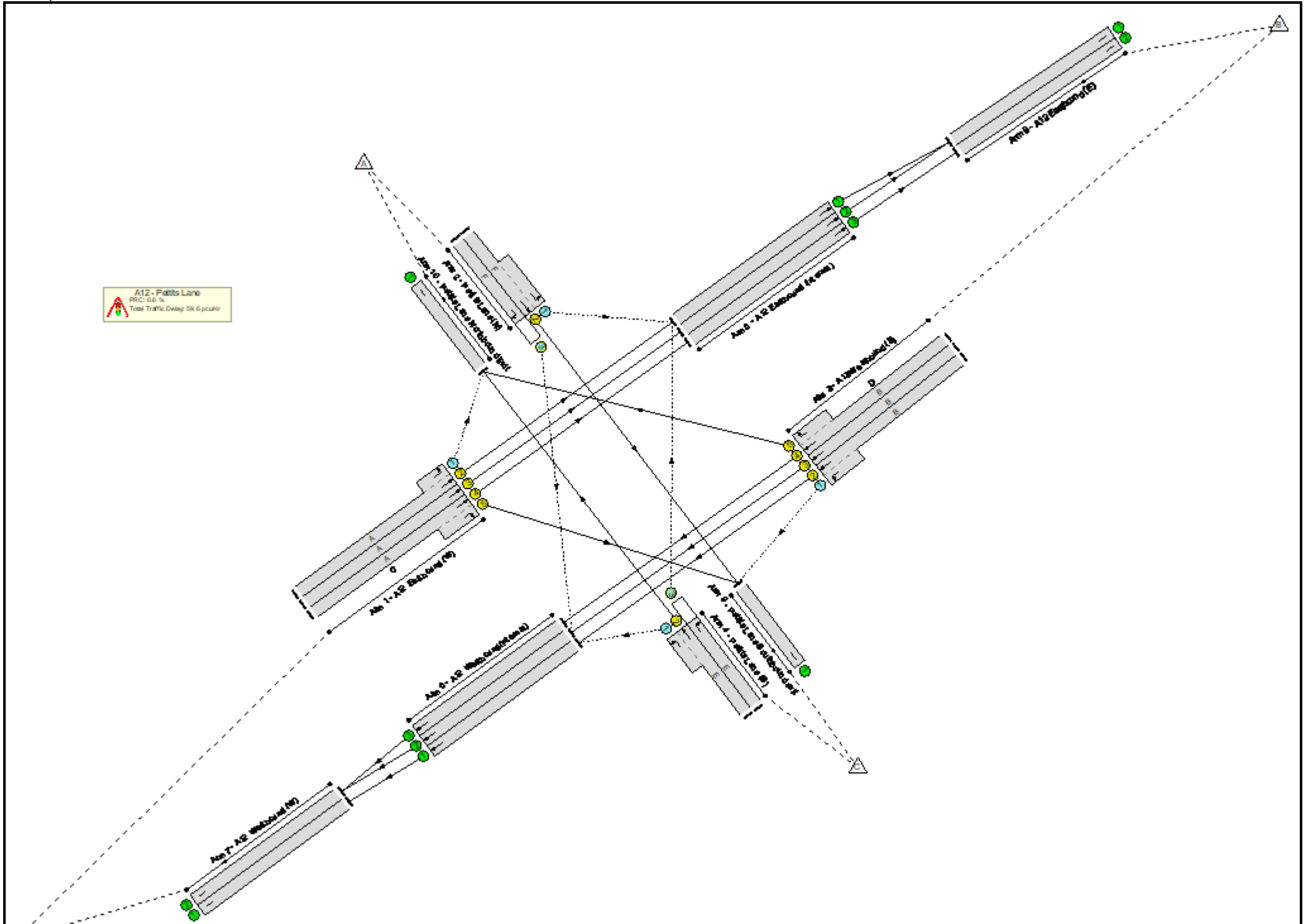
Stage	1	2	3	4
Duration	11	13	29	22
Change Point	0	18	38	74

Signal Timings Diagram



Full Input Data And Results  
**Network Layout Diagram**

Full Input Data And Results



## Full Input Data And Results



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 (%)
<b>Network</b>	-	-	N/A	-	-		-	-	-	-	-	-	<b>89.5%</b>
<b>A12 - Pettits Lane</b>	-	-	N/A	-	-		-	-	-	-	-	-	<b>89.5%</b>
1/2+1/1	A12 Eastbound (W) Ahead Left	U+O	N/A	N/A	A -		1	31	-	516	1875:1923	526+83	84.8 : 84.8%
1/3	A12 Eastbound (W) Ahead	U	N/A	N/A	A		1	31	-	495	2005	617	80.2%
1/4+1/5	A12 Eastbound (W) Ahead Right	U	N/A	N/A	A C		1	31:11	-	608	2005:1955	492+188	89.5 : 89.5%
2/2+2/1	Pettits Lane (N) Left Ahead	U+O	N/A	N/A	F -		1	23	-	497	1955:1956	367+243	81.5 : 81.5%
2/3	Pettits Lane (N) Right	O	N/A	N/A	F		1	23	-	66	1955	209	31.6%
3/2+3/1	A12 Westbound (E) Ahead Left	U+O	N/A	N/A	B -		1	49	-	879	2035:1967	718+328	84.0 : 84.0%
3/3	A12 Westbound (E) Ahead	U	N/A	N/A	B		1	49	-	709	2065	993	71.4%
3/4+3/5	A12 Westbound (E) Ahead Right	U	N/A	N/A	B D		1	49:30	-	479	2065:1772	44+506	87.1 : 87.1%
4/2+4/1	Pettits Lane (S) Left Ahead	U+O	N/A	N/A	E -		1	22	-	307	1925:2062	388+85	64.9 : 64.9%
4/3	Pettits Lane (S) Right	O	N/A	N/A	E		1	22	-	134	1965	162	82.6%
5/1	A12 Eastbound (Internal) Ahead	U	N/A	N/A	-		-	-	-	778	Inf	Inf	0.0%
5/2	A12 Eastbound (Internal) Ahead	U	N/A	N/A	-		-	-	-	495	Inf	Inf	0.0%
5/3	A12 Eastbound (Internal) Ahead	U	N/A	N/A	-		-	-	-	440	Inf	Inf	0.0%
6/1	A12 Westbound(Internal) Ahead	U	N/A	N/A	-		-	-	-	658	Inf	Inf	0.0%
6/2	A12 Westbound(Internal) Ahead	U	N/A	N/A	-		-	-	-	775	Inf	Inf	0.0%

Full Input Data And Results

6/3	A12 Westbound(Internal) Ahead	U	N/A	N/A	-		-	-	-	38	Inf	Inf	0.0%
7/1	A12 Westbound (W)	U	N/A	N/A	-		-	-	-	658	Inf	Inf	0.0%
7/2	A12 Westbound (W)	U	N/A	N/A	-		-	-	-	813	Inf	Inf	0.0%
8/1	A12 Eastbound (E)	U	N/A	N/A	-		-	-	-	1273	Inf	Inf	0.0%
8/2	A12 Eastbound (E)	U	N/A	N/A	-		-	-	-	440	Inf	Inf	0.0%
9/1	Pettits Lane Southbound exit	U	N/A	N/A	-		-	-	-	743	Inf	Inf	0.0%
10/1	Pettits Lane Northbound Exit	U	N/A	N/A	-		-	-	-	763	Inf	Inf	0.0%

Full Input Data And Results

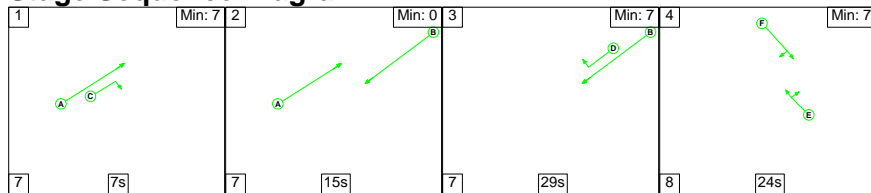
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
<b>Network</b>	-	-	273	481	45	38.2	20.7	0.7	59.6	-	-	-	-
<b>A12 - Pettits Lane</b>	-	-	273	481	45	38.2	20.7	0.7	59.6	-	-	-	-
1/2+1/1	516	516	0	70	0	4.8	2.6	-	7.4	51.7	13.3	2.6	15.9
1/3	495	495	-	-	-	4.6	2.0	-	6.5	47.4	13.1	2.0	15.0
1/4+1/5	608	608	-	-	-	7.7	3.8	-	11.5	68.3	14.6	3.8	18.5
2/2+2/1	497	497	44	154	0	3.4	2.1	-	5.5	39.8	8.5	2.1	10.6
2/3	66	66	65	0	1	0.6	0.2	0.2	1.0	55.3	1.5	0.2	1.7
3/2+3/1	879	879	55	221	0	4.5	2.6	-	7.1	28.9	19.4	2.6	22.0
3/3	709	709	-	-	-	4.2	1.2	-	5.4	27.6	16.1	1.2	17.4
3/4+3/5	479	479	-	-	-	4.5	3.1	-	7.6	56.9	12.6	3.1	15.7
4/2+4/1	307	307	19	36	0	2.8	0.9	-	3.7	43.1	6.9	0.9	7.8
4/3	134	134	90	0	44	1.3	2.1	0.5	3.9	105.2	3.8	2.1	5.8
5/1	778	778	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/2	495	495	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/3	440	440	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	658	658	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/2	775	775	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/3	38	38	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	658	658	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/2	813	813	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	1273	1273	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/2	440	440	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
9/1	743	743	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
10/1	763	763	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
C1			PRC for Signalled Lanes (%): 0.6		0.6	Total Delay for Signalled Lanes (pcuHr): 59.62		59.62	Cycle Time (s): 104				
			PRC Over All Lanes (%): 0.6		0.6	Total Delay Over All Lanes(pcuHr): 59.62		59.62					

## Full Input Data And Results

Full Input Data And Results

**Scenario 8: '2023 Surveyed Peak Hour PM'** (FG10: '2023 Surveyed Peak Hour PM', Plan 1: 'Network Control Plan 1')

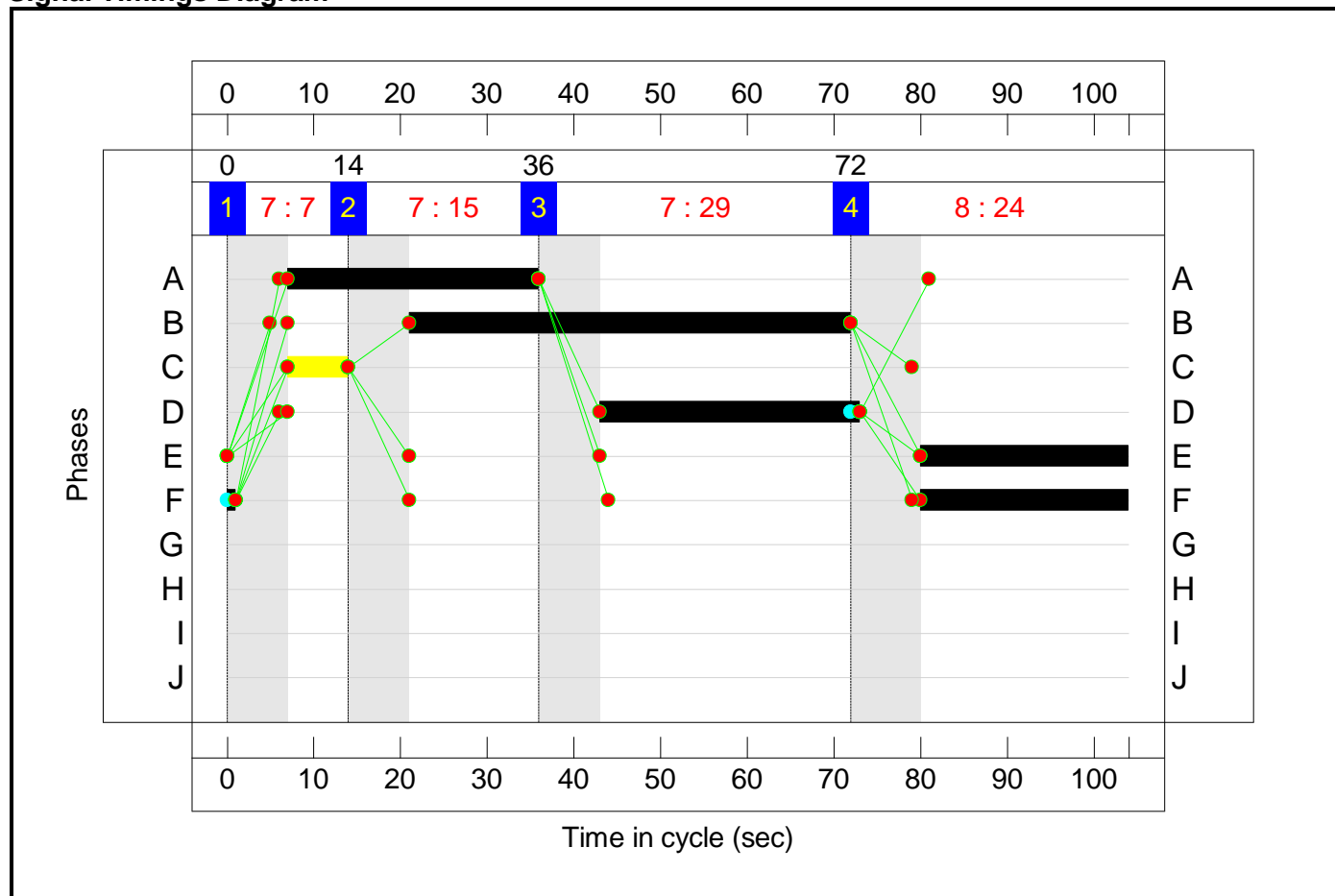
**Stage Sequence Diagram**



**Stage Timings**

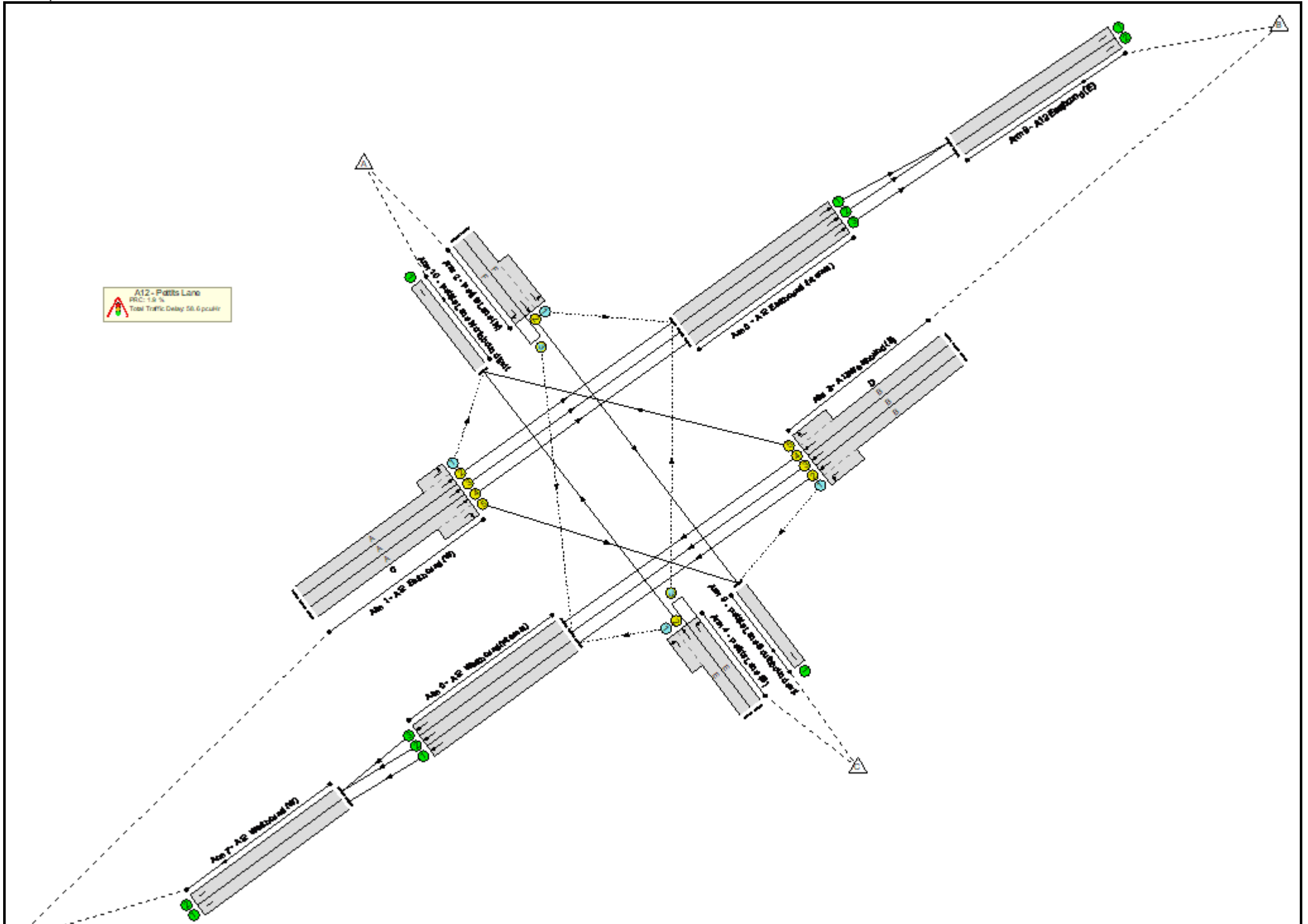
Stage	1	2	3	4
Duration	7	15	29	24
Change Point	0	14	36	72

**Signal Timings Diagram**



Full Input Data And Results  
**Network Layout Diagram**

Full Input Data And Results



## Full Input Data And Results



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 (%)
<b>Network</b>	-	-	N/A	-	-		-	-	-	-	-	-	<b>88.3%</b>
<b>A12 - Pettits Lane</b>	-	-	N/A	-	-		-	-	-	-	-	-	<b>88.3%</b>
1/2+1/1	A12 Eastbound (W) Ahead Left	U+O	N/A	N/A	A -		1	29	-	513	1875:1923	477+104	88.3 : 88.3%
1/3	A12 Eastbound (W) Ahead	U	N/A	N/A	A		1	29	-	479	2005	578	82.8%
1/4+1/5	A12 Eastbound (W) Ahead Right	U	N/A	N/A	A C		1	29:7	-	536	2005:1955	508+104	87.6 : 87.6%
2/2+2/1	Pettits Lane (N) Left Ahead	U+O	N/A	N/A	F -		1	25	-	488	1955:1956	363+375	66.2 : 66.2%
2/3	Pettits Lane (N) Right	O	N/A	N/A	F		1	25	-	70	1955	186	37.7%
3/2+3/1	A12 Westbound (E) Ahead Left	U+O	N/A	N/A	B -		1	51	-	794	2035:1967	873+171	76.1 : 76.1%
3/3	A12 Westbound (E) Ahead	U	N/A	N/A	B		1	51	-	731	2065	1032	70.8%
3/4+3/5	A12 Westbound (E) Ahead Right	U	N/A	N/A	B D		1	51:30	-	482	2065:1772	59+498	86.6 : 86.6%
4/2+4/1	Pettits Lane (S) Left Ahead	U+O	N/A	N/A	E -		1	24	-	378	1925:2062	419+92	74.0 : 74.0%
4/3	Pettits Lane (S) Right	O	N/A	N/A	E		1	24	-	209	1965	240	87.2%
5/1	A12 Eastbound (Internal) Ahead	U	N/A	N/A	-		-	-	-	878	Inf	Inf	0.0%
5/2	A12 Eastbound (Internal) Ahead	U	N/A	N/A	-		-	-	-	479	Inf	Inf	0.0%
5/3	A12 Eastbound (Internal) Ahead	U	N/A	N/A	-		-	-	-	445	Inf	Inf	0.0%
6/1	A12 Westbound(Internal) Ahead	U	N/A	N/A	-		-	-	-	732	Inf	Inf	0.0%
6/2	A12 Westbound(Internal) Ahead	U	N/A	N/A	-		-	-	-	801	Inf	Inf	0.0%

Full Input Data And Results

6/3	A12 Westbound(Internal) Ahead	U	N/A	N/A	-		-	-	-	51	Inf	Inf	0.0%
7/1	A12 Westbound (W)	U	N/A	N/A	-		-	-	-	732	Inf	Inf	0.0%
7/2	A12 Westbound (W)	U	N/A	N/A	-		-	-	-	852	Inf	Inf	0.0%
8/1	A12 Eastbound (E)	U	N/A	N/A	-		-	-	-	1357	Inf	Inf	0.0%
8/2	A12 Eastbound (E)	U	N/A	N/A	-		-	-	-	445	Inf	Inf	0.0%
9/1	Pettits Lane Southbound exit	U	N/A	N/A	-		-	-	-	461	Inf	Inf	0.0%
10/1	Pettits Lane Northbound Exit	U	N/A	N/A	-		-	-	-	833	Inf	Inf	0.0%

Full Input Data And Results

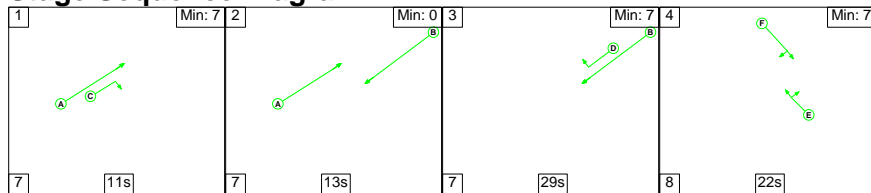
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
<b>Network</b>	-	-	342	434	41	37.6	20.3	0.8	58.6	-	-	-	-
<b>A12 - Pettits Lane</b>	-	-	342	434	41	37.6	20.3	0.8	58.6	-	-	-	-
1/2+1/1	513	513	0	92	0	5.1	3.4	-	8.5	59.7	13.2	3.4	16.6
1/3	479	479	-	-	-	4.6	2.3	-	6.9	51.9	12.9	2.3	15.2
1/4+1/5	536	536	-	-	-	6.5	3.3	-	9.8	65.6	13.6	3.3	16.8
2/2+2/1	488	488	49	199	0	2.6	1.0	-	3.6	26.4	5.9	1.0	6.8
2/3	70	70	69	0	1	0.6	0.3	0.3	1.2	60.1	1.6	0.3	1.9
3/2+3/1	794	794	23	107	0	4.1	1.6	-	5.7	25.7	17.1	1.6	18.7
3/3	731	731	-	-	-	4.1	1.2	-	5.3	26.0	16.2	1.2	17.4
3/4+3/5	482	482	-	-	-	4.4	3.0	-	7.4	55.3	12.5	3.0	15.5
4/2+4/1	378	378	32	36	0	3.4	1.4	-	4.8	45.8	8.9	1.4	10.3
4/3	209	209	170	0	39	2.2	2.9	0.5	5.5	95.5	5.8	2.9	8.7
5/1	878	878	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/2	479	479	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/3	445	445	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	732	732	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/2	801	801	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/3	51	51	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	732	732	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/2	852	852	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	1357	1357	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/2	445	445	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
9/1	461	461	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
10/1	833	833	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
C1			PRC for Signalled Lanes (%):		1.9	Total Delay for Signalled Lanes (pcuHr):		58.64	Cycle Time (s): 104				
			PRC Over All Lanes (%):		1.9	Total Delay Over All Lanes(pcuHr):		58.64					

## Full Input Data And Results

Full Input Data And Results

**Scenario 9: '2030 Surveyed Peak Hour AM'** (FG11: 'Copy of Reference Case 2030 AM', Plan 1: 'Network Control Plan 1')

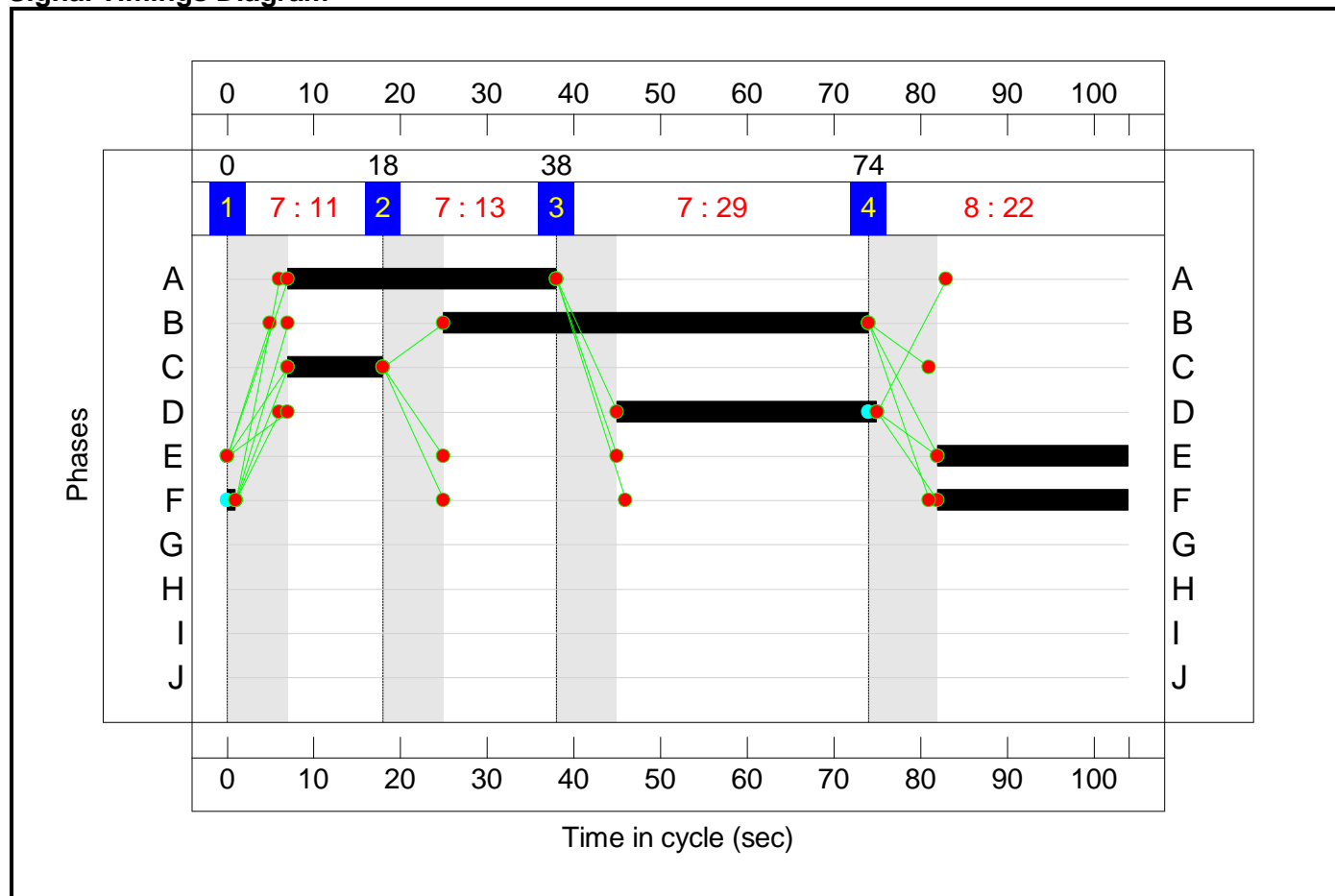
**Stage Sequence Diagram**



**Stage Timings**

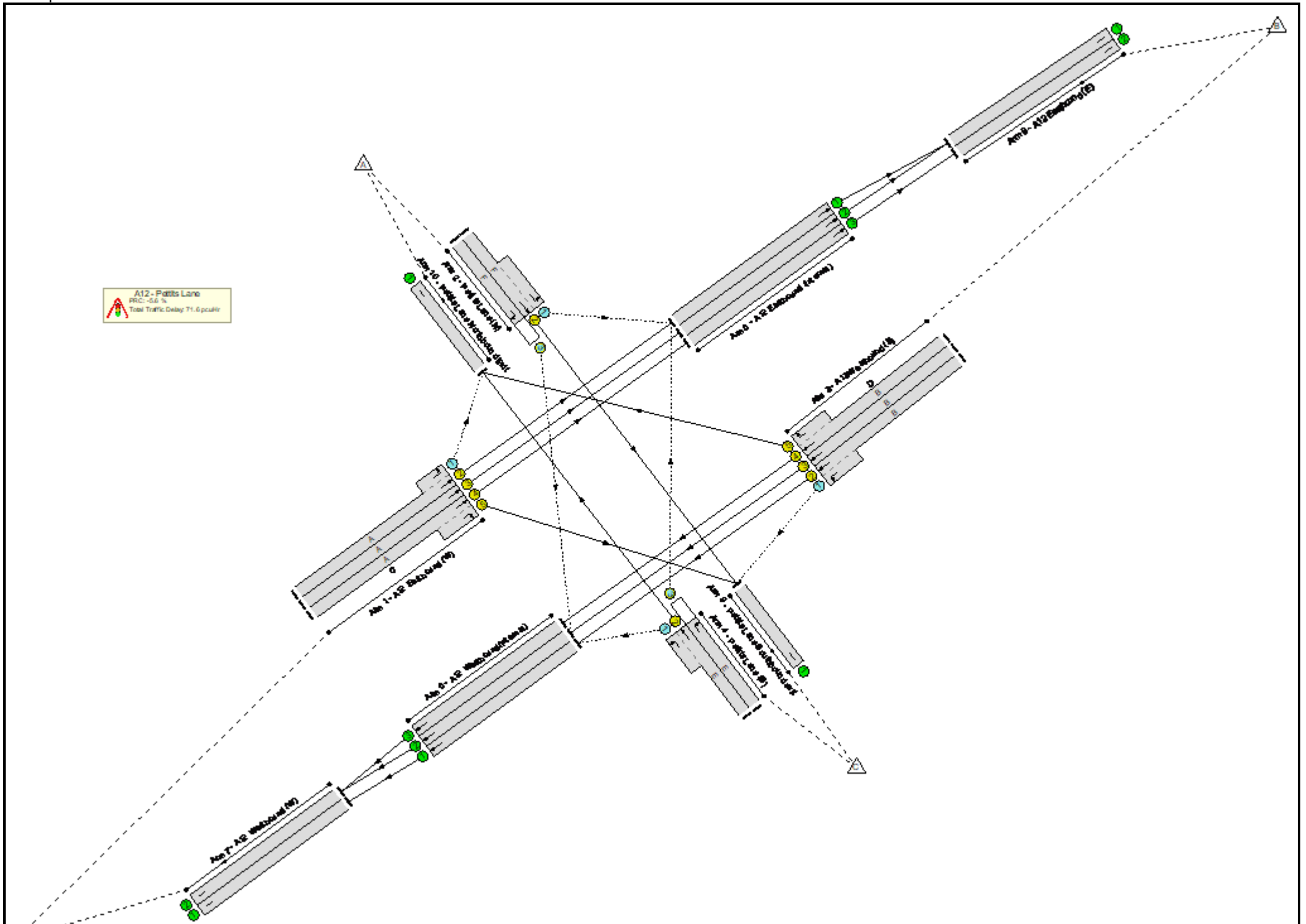
Stage	1	2	3	4
Duration	11	13	29	22
Change Point	0	18	38	74

**Signal Timings Diagram**



Full Input Data And Results  
**Network Layout Diagram**

Full Input Data And Results



## Full Input Data And Results



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 (%)
<b>Network</b>	-	-	N/A	-	-		-	-	-	-	-	-	<b>95.0%</b>
<b>A12 - Pettits Lane</b>	-	-	N/A	-	-		-	-	-	-	-	-	<b>95.0%</b>
1/2+1/1	A12 Eastbound (W) Ahead Left	U+O	N/A	N/A	A -		1	31	-	540	1875:1923	526+82	88.8 : 88.8%
1/3	A12 Eastbound (W) Ahead	U	N/A	N/A	A		1	31	-	518	2005	617	84.0%
1/4+1/5	A12 Eastbound (W) Ahead Right	U	N/A	N/A	A C		1	31:11	-	636	2005:1955	492+188	93.6 : 93.6%
2/2+2/1	Pettits Lane (N) Left Ahead	U+O	N/A	N/A	F -		1	23	-	520	1955:1956	367+243	85.3 : 85.3%
2/3	Pettits Lane (N) Right	O	N/A	N/A	F		1	23	-	69	1955	199	34.7%
3/2+3/1	A12 Westbound (E) Ahead Left	U+O	N/A	N/A	B -		1	49	-	915	2035:1967	716+331	87.4 : 87.4%
3/3	A12 Westbound (E) Ahead	U	N/A	N/A	B		1	49	-	738	2065	993	74.3%
3/4+3/5	A12 Westbound (E) Ahead Right	U	N/A	N/A	B D		1	49:30	-	511	2065:1772	53+501	92.2 : 92.2%
4/2+4/1	Pettits Lane (S) Left Ahead	U+O	N/A	N/A	E -		1	22	-	322	1925:2062	388+85	68.0 : 68.0%
4/3	Pettits Lane (S) Right	O	N/A	N/A	E		1	22	-	140	1965	147	95.0%
5/1	A12 Eastbound (Internal) Ahead	U	N/A	N/A	-		-	-	-	814	Inf	Inf	0.0%
5/2	A12 Eastbound (Internal) Ahead	U	N/A	N/A	-		-	-	-	518	Inf	Inf	0.0%
5/3	A12 Eastbound (Internal) Ahead	U	N/A	N/A	-		-	-	-	460	Inf	Inf	0.0%
6/1	A12 Westbound(Internal) Ahead	U	N/A	N/A	-		-	-	-	684	Inf	Inf	0.0%
6/2	A12 Westbound(Internal) Ahead	U	N/A	N/A	-		-	-	-	807	Inf	Inf	0.0%

Full Input Data And Results

6/3	A12 Westbound(Internal) Ahead	U	N/A	N/A	-		-	-	-	49	Inf	Inf	0.0%
7/1	A12 Westbound (W)	U	N/A	N/A	-		-	-	-	684	Inf	Inf	0.0%
7/2	A12 Westbound (W)	U	N/A	N/A	-		-	-	-	856	Inf	Inf	0.0%
8/1	A12 Eastbound (E)	U	N/A	N/A	-		-	-	-	1332	Inf	Inf	0.0%
8/2	A12 Eastbound (E)	U	N/A	N/A	-		-	-	-	460	Inf	Inf	0.0%
9/1	Pettits Lane Southbound exit	U	N/A	N/A	-		-	-	-	778	Inf	Inf	0.0%
10/1	Pettits Lane Northbound Exit	U	N/A	N/A	-		-	-	-	799	Inf	Inf	0.0%

Full Input Data And Results

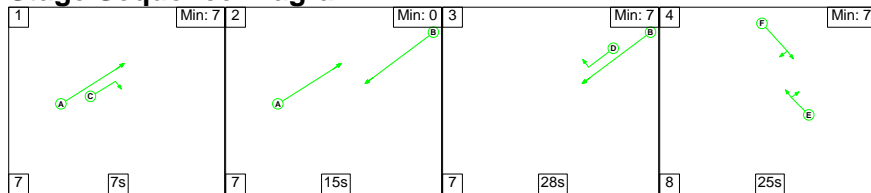
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
<b>Network</b>	-	-	268	502	66	40.9	29.8	0.8	71.6	-	-	-	-
<b>A12 - Pettits Lane</b>	-	-	268	502	66	40.9	29.8	0.8	71.6	-	-	-	-
1/2+1/1	540	540	0	73	0	5.1	3.6	-	8.7	57.9	14.2	3.6	17.7
1/3	518	518	-	-	-	4.8	2.5	-	7.3	50.9	14.0	2.5	16.4
1/4+1/5	636	636	-	-	-	8.2	5.8	-	14.0	79.3	15.8	5.8	21.5
2/2+2/1	520	520	49	158	0	3.6	2.7	-	6.3	43.8	9.5	2.7	12.2
2/3	69	69	68	0	1	0.6	0.3	0.2	1.1	57.5	1.6	0.3	1.8
3/2+3/1	915	915	55	234	0	4.9	3.3	-	8.2	32.3	21.0	3.3	24.3
3/3	738	738	-	-	-	4.5	1.4	-	5.9	28.8	17.2	1.4	18.7
3/4+3/5	511	511	-	-	-	4.8	4.8	-	9.7	68.2	13.7	4.8	18.5
4/2+4/1	322	322	22	36	0	2.9	1.0	-	4.0	44.4	7.3	1.0	8.4
4/3	140	140	75	0	65	1.4	4.4	0.6	6.3	163.0	4.0	4.4	8.4
5/1	814	814	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/2	518	518	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/3	460	460	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	684	684	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/2	807	807	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/3	49	49	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	684	684	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/2	856	856	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	1332	1332	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/2	460	460	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
9/1	778	778	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
10/1	799	799	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
C1			PRC for Signalled Lanes (%): -5.6		PRC Over All Lanes (%): -5.6		Total Delay for Signalled Lanes (pcuHr): 71.56		Total Delay Over All Lanes(pcuHr): 71.56		Cycle Time (s): 104		

## Full Input Data And Results

Full Input Data And Results

**Scenario 10: '2030 Surveyed Peak Hour PM'** (FG12: 'Copy of Reference Case 2030 PM', Plan 1: 'Network Control Plan 1')

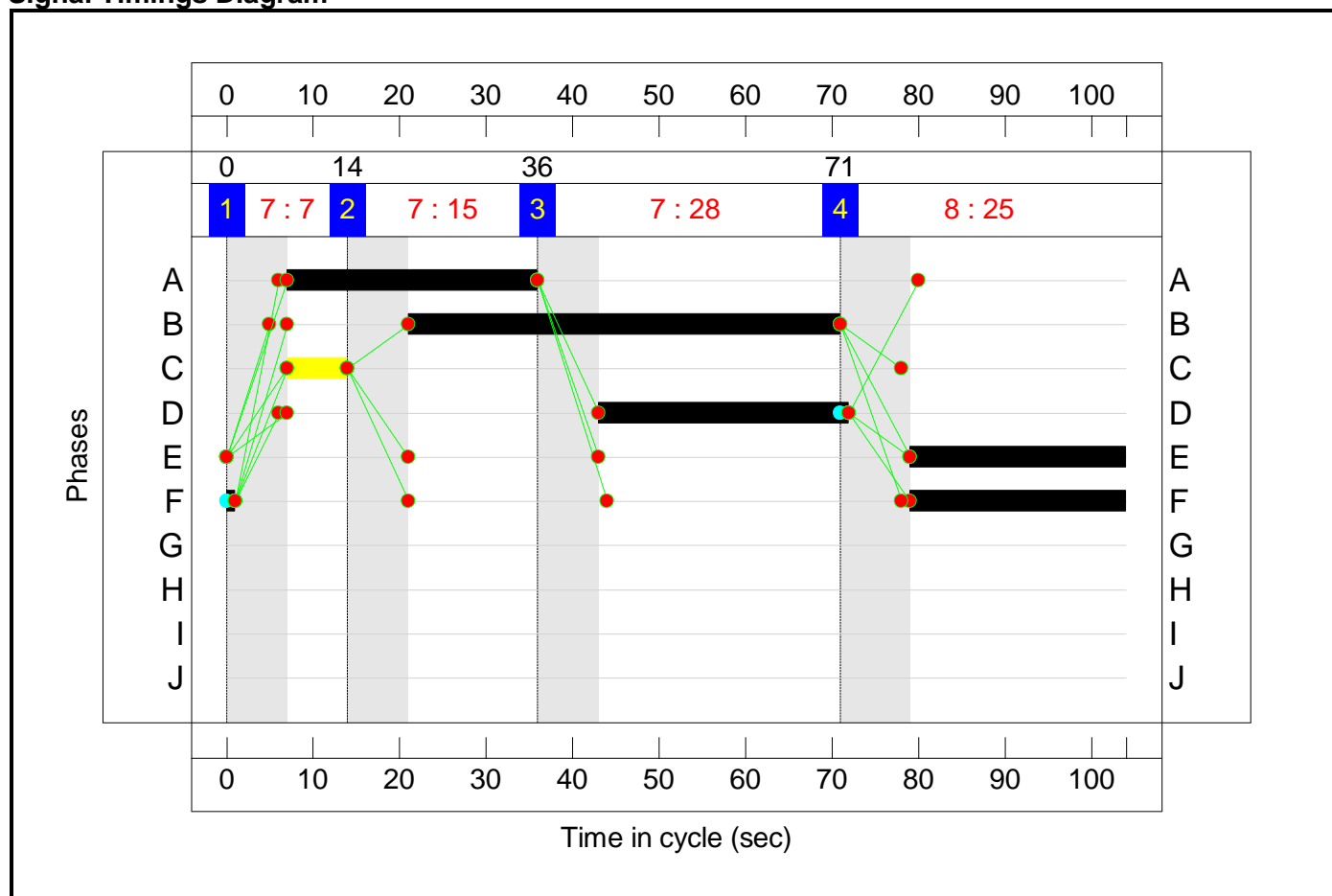
**Stage Sequence Diagram**



**Stage Timings**

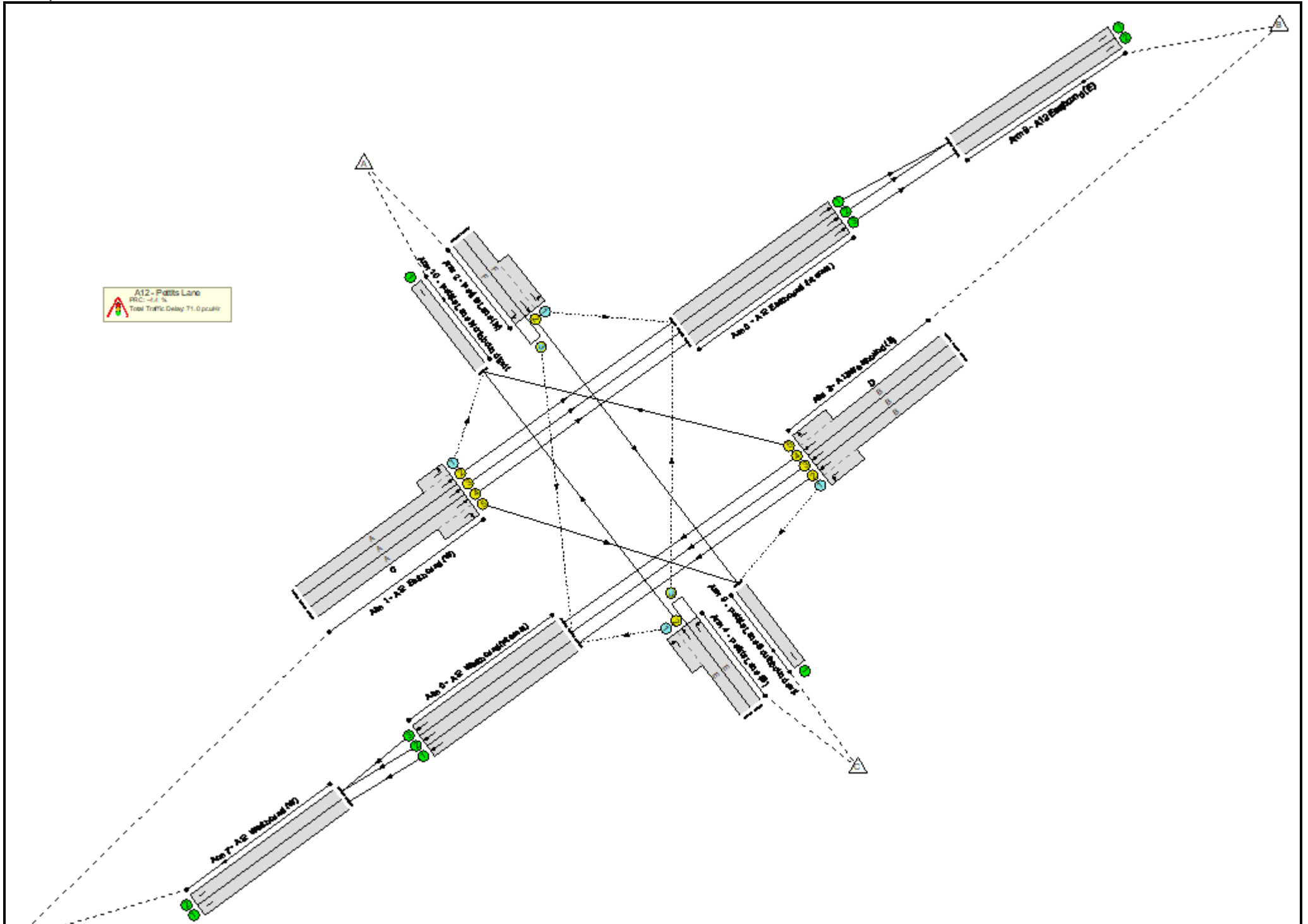
Stage	1	2	3	4
Duration	7	15	28	25
Change Point	0	14	36	71

**Signal Timings Diagram**



Full Input Data And Results  
**Network Layout Diagram**

Full Input Data And Results



## Full Input Data And Results



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 (%)
<b>Network</b>	-	-	N/A	-	-		-	-	-	-	-	-	93.9%
<b>A12 - Pettits Lane</b>	-	-	N/A	-	-		-	-	-	-	-	-	93.9%
1/2+1/1	A12 Eastbound (W) Ahead Left	U+O	N/A	N/A	A -		1	29	-	540	1875:1923	477+104	92.9 : 92.9%
1/3	A12 Eastbound (W) Ahead	U	N/A	N/A	A		1	29	-	503	2005	578	87.0%
1/4+1/5	A12 Eastbound (W) Ahead Right	U	N/A	N/A	A C		1	29:7	-	565	2005:1955	508+104	92.4 : 92.4%
2/2+2/1	Pettits Lane (N) Left Ahead	U+O	N/A	N/A	F -		1	26	-	514	1955:1956	372+384	68.0 : 68.0%
2/3	Pettits Lane (N) Right	O	N/A	N/A	F		1	26	-	74	1955	185	40.0%
3/2+3/1	A12 Westbound (E) Ahead Left	U+O	N/A	N/A	B -		1	50	-	835	2035:1967	856+168	81.5 : 81.5%
3/3	A12 Westbound (E) Ahead	U	N/A	N/A	B		1	50	-	769	2065	1013	75.9%
3/4+3/5	A12 Westbound (E) Ahead Right	U	N/A	N/A	B D		1	50:29	-	507	2065:1772	57+482	93.9 : 93.9%
4/2+4/1	Pettits Lane (S) Left Ahead	U+O	N/A	N/A	E -		1	25	-	398	1925:2062	434+96	75.1 : 75.1%
4/3	Pettits Lane (S) Right	O	N/A	N/A	E		1	25	-	220	1965	241	91.2%
5/1	A12 Eastbound (Internal) Ahead	U	N/A	N/A	-		-	-	-	924	Inf	Inf	0.0%
5/2	A12 Eastbound (Internal) Ahead	U	N/A	N/A	-		-	-	-	503	Inf	Inf	0.0%
5/3	A12 Eastbound (Internal) Ahead	U	N/A	N/A	-		-	-	-	469	Inf	Inf	0.0%
6/1	A12 Westbound(Internal) Ahead	U	N/A	N/A	-		-	-	-	770	Inf	Inf	0.0%
6/2	A12 Westbound(Internal) Ahead	U	N/A	N/A	-		-	-	-	843	Inf	Inf	0.0%

Full Input Data And Results

6/3	A12 Westbound(Internal) Ahead	U	N/A	N/A	-		-	-	-	54	Inf	Inf	0.0%
7/1	A12 Westbound (W)	U	N/A	N/A	-		-	-	-	770	Inf	Inf	0.0%
7/2	A12 Westbound (W)	U	N/A	N/A	-		-	-	-	897	Inf	Inf	0.0%
8/1	A12 Eastbound (E)	U	N/A	N/A	-		-	-	-	1427	Inf	Inf	0.0%
8/2	A12 Eastbound (E)	U	N/A	N/A	-		-	-	-	469	Inf	Inf	0.0%
9/1	Pettits Lane Southbound exit	U	N/A	N/A	-		-	-	-	486	Inf	Inf	0.0%
10/1	Pettits Lane Northbound Exit	U	N/A	N/A	-		-	-	-	876	Inf	Inf	0.0%



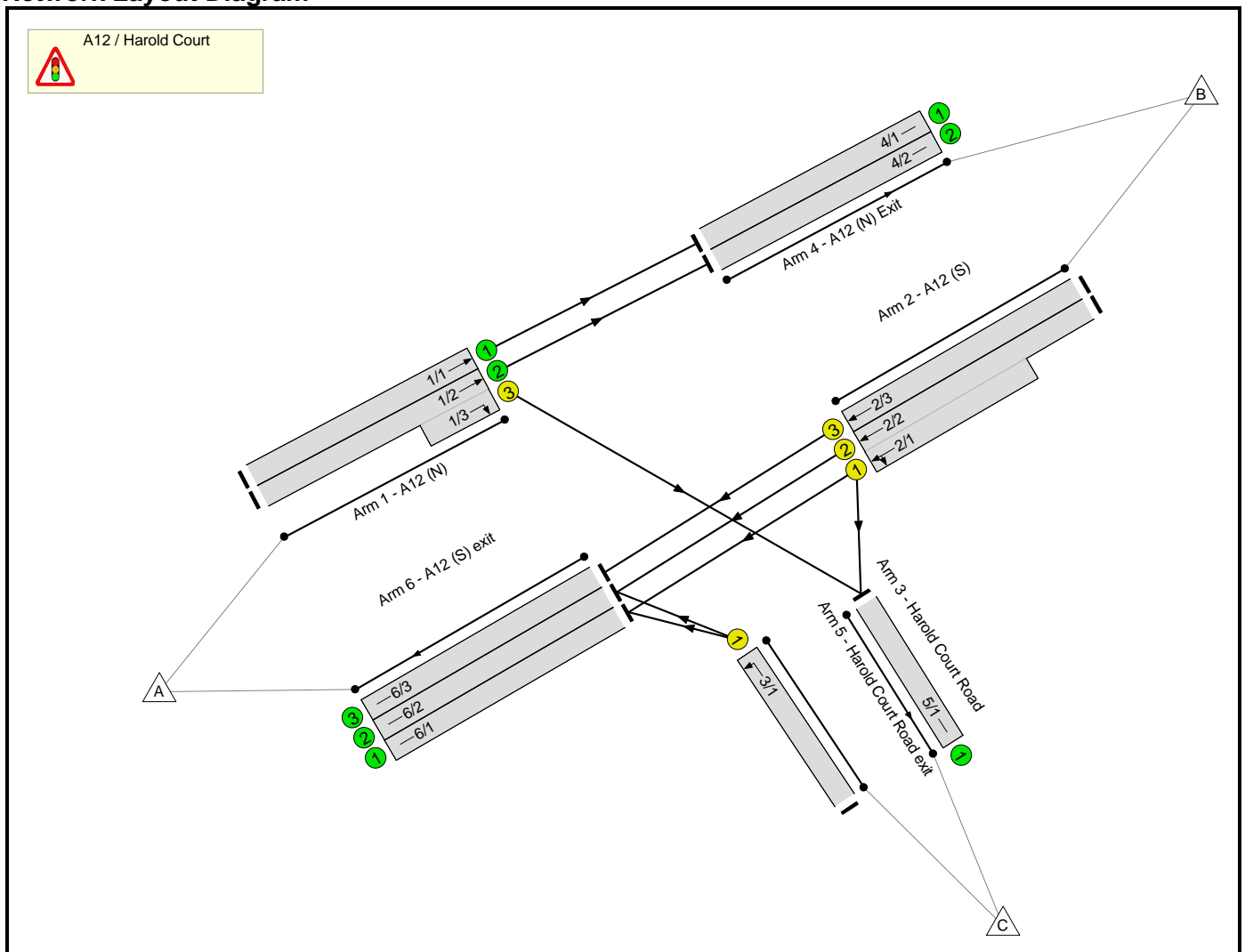
## Full Input Data And Results

Full Input Data And Results  
**Full Input Data And Results**

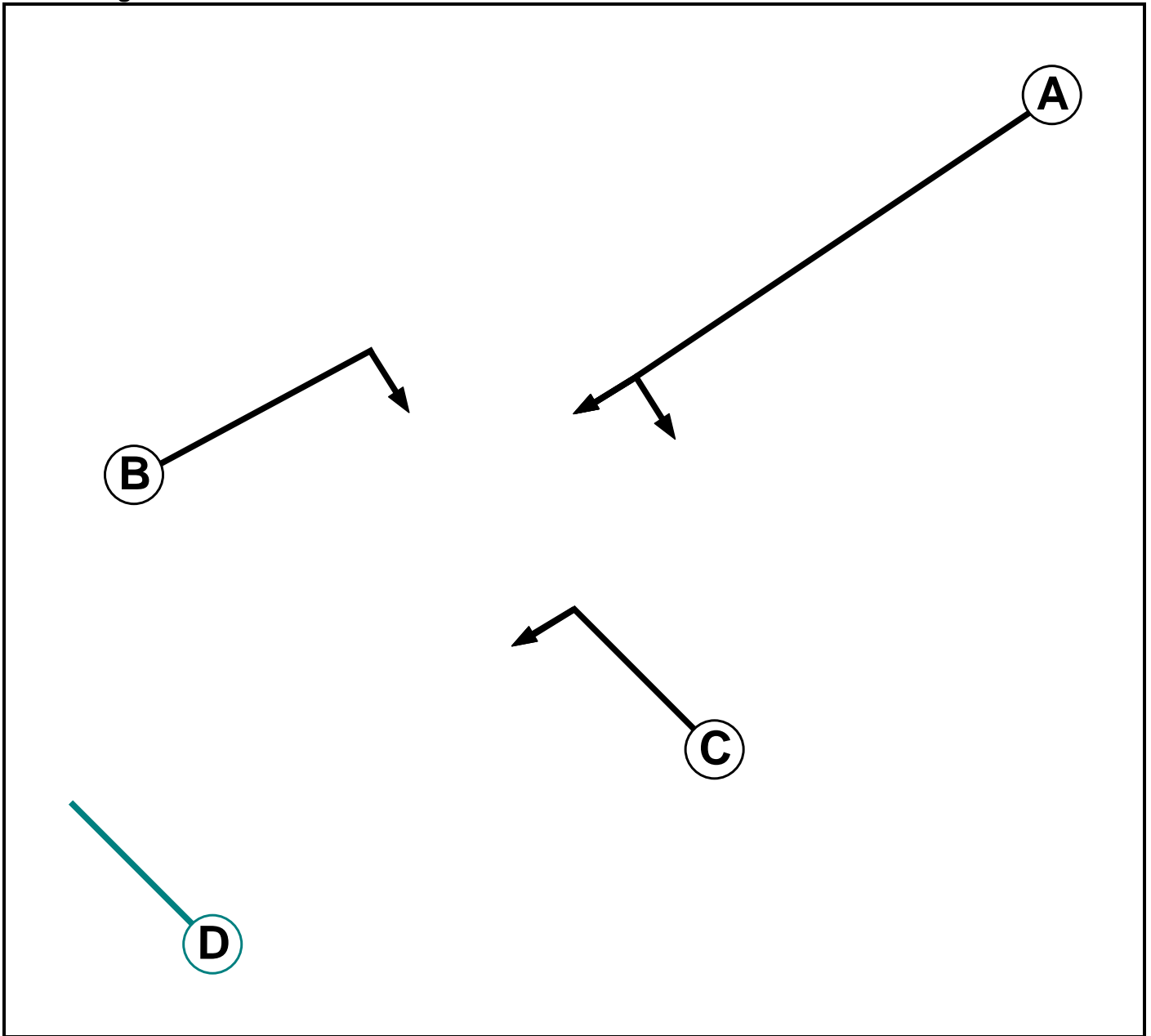
**User and Project Details**

<b>Project:</b>	
<b>Title:</b>	
<b>Location:</b>	
<b>Additional detail:</b>	
<b>File name:</b>	3 - A12 - Harold Court Road.lsg3x
<b>Author:</b>	
<b>Company:</b>	
<b>Address:</b>	

**Network Layout Diagram**



### Phase Diagram



### Phase Input Data

Phase Name	Phase Type	Assoc. Phase	Street Min	Cont Min
A	Traffic		7	7
B	Traffic		7	7
C	Traffic		7	7
D	Dummy		7	7

## Full Input Data And Results

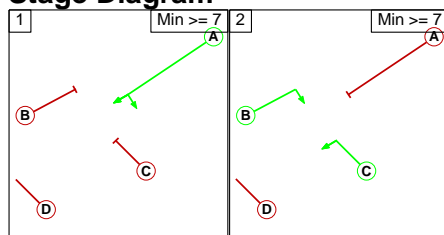
### Phase Intergrens Matrix

		Starting Phase			
		A	B	C	D
Terminating Phase	A	9	9	3	
	B	7	-	3	
	C	5	-	3	
	D	2	2	2	

### Phases in Stage

Stage No.	Phases in Stage
1	A
2	B C

### Stage Diagram



### Phase Delays

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

### Prohibited Stage Change

		To Stage	
		1	2
From Stage	1	9	
	2	7	

Full Input Data And Results

**Give-Way Lane Input Data**

**Junction: A12 / Harold Court**

There are no Opposed Lanes in this Junction



Full Input Data And Results

**Lane Input Data**

Junction: A12 / Harold Court												
Lane	Lane Type	Phases	Start Disp.	End Disp.	Physical Length (PCU)	Sat Flow Type	Def User Saturation Flow (PCU/Hr)	Lane Width (m)	Gradient	Nearside Lane	Turns	Turning Radius (m)
1/1 (A12 (N))	U		2	3	60.0	Geom	-	3.50	0.00	Y	Arm 4 Ahead	Inf
1/2 (A12 (N))	U		2	3	60.0	Geom	-	3.50	0.00	Y	Arm 4 Ahead	Inf
1/3 (A12 (N))	U	B	2	3	5.0	Geom	-	3.65	0.00	Y	Arm 5 Right	15.00
2/1 (A12 (S))	U	A	2	3	12.0	Geom	-	3.00	0.00	Y	Arm 5 Left	Inf
											Arm 6 Ahead	Inf
2/2 (A12 (S))	U	A	2	3	60.0	Geom	-	3.00	0.00	N	Arm 6 Ahead	Inf
2/3 (A12 (S))	U	A	2	3	60.0	Geom	-	3.00	0.00	N	Arm 6 Ahead	Inf
3/1 (Harold Court Road)	U	C	2	3	60.0	Geom	-	3.60	0.00	Y	Arm 6 Left	15.00
4/1 (A12 (N) Exit)	U		2	3	60.0	Inf	-	-	-	-	-	-
4/2 (A12 (N) Exit)	U		2	3	60.0	Inf	-	-	-	-	-	-
5/1 (Harold Court Road exit)	U		2	3	60.0	Inf	-	-	-	-	-	-
6/1 (A12 (S) exit)	U		2	3	60.0	Inf	-	-	-	-	-	-
6/2 (A12 (S) exit)	U		2	3	60.0	Inf	-	-	-	-	-	-
6/3 (A12 (S) exit)	U		2	3	60.0	Inf	-	-	-	-	-	-

**Traffic Flow Groups**

Flow Group	Start Time	End Time	Duration	Formula
1: 'Base Year 2023 AM'	08:00	09:00	01:00	
2: 'Base Year 2023 PM'	17:00	18:00	01:00	
3: 'Reference Case 2030 AM'	08:00	09:00	01:00	F1 * 1.0466
4: 'Reference Case 2030 PM'	17:00	18:00	01:00	F2 * 1.0521
7: 'Do Something 2030 + LTC AM'	08:00	09:00	01:00	F3+F5
8: 'Do Something 2030 + LTC PM'	17:00	18:00	01:00	F4+F6

Full Input Data And Results

**Scenario 1: '2023 AM'** (FG1: 'Base Year 2023 AM', Plan 1: 'Network Control Plan 1')

**Traffic Flows, Desired**

**Desired Flow :**

		Destination			
		A	B	C	Tot.
Origin	A	0	1597	123	1720
	B	2125	0	56	2181
	C	151	0	0	151
	Tot.	2276	1597	179	4052

**Traffic Lane Flows**

Lane	Scenario 1: 2023 AM
<b>Junction: A12 / Harold Court</b>	
1/1	1597
1/2 (with short)	123(In) 0(Out)
1/3 (short)	123
2/1 (short)	646
2/2 (with short)	1336(In) 690(Out)
2/3	845
3/1	151
4/1	1597
4/2	0
5/1	179
6/1	665
6/2	766
6/3	845

Full Input Data And Results

**Lane Saturation Flows**

Junction: A12 / Harold Court								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (A12 (N))	3.50	0.00	Y	Arm 4 Ahead	Inf	100.0 %	1965	1965
1/2 (A12 (N))	3.50	0.00	Y	Arm 4 Ahead	Inf	0.0 %	1965	1965
1/3 (A12 (N))	3.65	0.00	Y	Arm 5 Right	15.00	100.0 %	1800	1800
2/1 (A12 (S))	3.00	0.00	Y	Arm 5 Left Arm 6 Ahead	Inf Inf	8.7 % 91.3 %	1915	1915
2/2 (A12 (S))	3.00	0.00	N	Arm 6 Ahead	Inf	100.0 %	2055	2055
2/3 (A12 (S))	3.00	0.00	N	Arm 6 Ahead	Inf	100.0 %	2055	2055
3/1 (Harold Court Road)	3.60	0.00	Y	Arm 6 Left	15.00	100.0 %	1795	1795
4/1 (A12 (N) Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
4/2 (A12 (N) Exit Lane 2)	Infinite Saturation Flow						Inf	Inf
5/1 (Harold Court Road exit Lane 1)	Infinite Saturation Flow						Inf	Inf
6/1 (A12 (S) exit Lane 1)	Infinite Saturation Flow						Inf	Inf
6/2 (A12 (S) exit Lane 2)	Infinite Saturation Flow						Inf	Inf
6/3 (A12 (S) exit Lane 3)	Infinite Saturation Flow						Inf	Inf

**Scenario 2: '2023 PM'** (FG2: 'Base Year 2023 PM', Plan 1: 'Network Control Plan 1')

**Traffic Flows, Desired**

**Desired Flow :**

	Destination				
	A	B	C	Tot.	
Origin	A	0	1507	136	1643
	B	1995	0	63	2058
	C	206	0	0	206
	Tot.	2201	1507	199	3907

Full Input Data And Results

**Traffic Lane Flows**

Lane	Scenario 2: 2023 PM
<b>Junction: A12 / Harold Court</b>	
1/1	1507
1/2 (with short)	136(In) 0(Out)
1/3 (short)	136
2/1 (short)	623
2/2 (with short)	1291(In) 668(Out)
2/3	767
3/1	206
4/1	1507
4/2	0
5/1	199
6/1	663
6/2	771
6/3	767

Full Input Data And Results

**Lane Saturation Flows**

Junction: A12 / Harold Court								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (A12 (N))	3.50	0.00	Y	Arm 4 Ahead	Inf	100.0 %	1965	1965
1/2 (A12 (N))	3.50	0.00	Y	Arm 4 Ahead	Inf	0.0 %	1965	1965
1/3 (A12 (N))	3.65	0.00	Y	Arm 5 Right	15.00	100.0 %	1800	1800
2/1 (A12 (S))	3.00	0.00	Y	Arm 5 Left Arm 6 Ahead	Inf Inf	10.1 % 89.9 %	1915	1915
2/2 (A12 (S))	3.00	0.00	N	Arm 6 Ahead	Inf	100.0 %	2055	2055
2/3 (A12 (S))	3.00	0.00	N	Arm 6 Ahead	Inf	100.0 %	2055	2055
3/1 (Harold Court Road)	3.60	0.00	Y	Arm 6 Left	15.00	100.0 %	1795	1795
4/1 (A12 (N) Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
4/2 (A12 (N) Exit Lane 2)	Infinite Saturation Flow						Inf	Inf
5/1 (Harold Court Road exit Lane 1)	Infinite Saturation Flow						Inf	Inf
6/1 (A12 (S) exit Lane 1)	Infinite Saturation Flow						Inf	Inf
6/2 (A12 (S) exit Lane 2)	Infinite Saturation Flow						Inf	Inf
6/3 (A12 (S) exit Lane 3)	Infinite Saturation Flow						Inf	Inf

**Scenario 3: '2030 AM'** (FG3: 'Reference Case 2030 AM', Plan 1: 'Network Control Plan 1')

**Traffic Flows, Desired**

**Desired Flow :**

	Destination				
	A	B	C	Tot.	
Origin	A	0	1671	129	1800
	B	2224	0	59	2283
	C	158	0	0	158
	Tot.	2382	1671	188	4241

## Full Input Data And Results

### Traffic Lane Flows

Lane	Scenario 3: 2030 AM
<b>Junction: A12 / Harold Court</b>	
1/1	1671
1/2 (with short)	129(In) 0(Out)
1/3 (short)	129
2/1 (short)	669
2/2 (with short)	1387(In) 718(Out)
2/3	896
3/1	158
4/1	1671
4/2	0
5/1	188
6/1	689
6/2	797
6/3	896

Full Input Data And Results

**Lane Saturation Flows**

Junction: A12 / Harold Court								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (A12 (N))	3.50	0.00	Y	Arm 4 Ahead	Inf	100.0 %	1965	1965
1/2 (A12 (N))	3.50	0.00	Y	Arm 4 Ahead	Inf	0.0 %	1965	1965
1/3 (A12 (N))	3.65	0.00	Y	Arm 5 Right	15.00	100.0 %	1800	1800
2/1 (A12 (S))	3.00	0.00	Y	Arm 5 Left Arm 6 Ahead	Inf Inf	8.8 % 91.2 %	1915	1915
2/2 (A12 (S))	3.00	0.00	N	Arm 6 Ahead	Inf	100.0 %	2055	2055
2/3 (A12 (S))	3.00	0.00	N	Arm 6 Ahead	Inf	100.0 %	2055	2055
3/1 (Harold Court Road)	3.60	0.00	Y	Arm 6 Left	15.00	100.0 %	1795	1795
4/1 (A12 (N) Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
4/2 (A12 (N) Exit Lane 2)	Infinite Saturation Flow						Inf	Inf
5/1 (Harold Court Road exit Lane 1)	Infinite Saturation Flow						Inf	Inf
6/1 (A12 (S) exit Lane 1)	Infinite Saturation Flow						Inf	Inf
6/2 (A12 (S) exit Lane 2)	Infinite Saturation Flow						Inf	Inf
6/3 (A12 (S) exit Lane 3)	Infinite Saturation Flow						Inf	Inf

**Scenario 4: '2030 PM'** (FG4: 'Reference Case 2030 PM', Plan 1: 'Network Control Plan 1')

**Traffic Flows, Desired**

**Desired Flow :**

	Destination				
	A	B	C	Tot.	
Origin	A	0	1586	143	1729
	B	2099	0	66	2165
	C	217	0	0	217
	Tot.	2316	1586	209	4111

Full Input Data And Results

**Traffic Lane Flows**

Lane	Scenario 4: 2030 PM
<b>Junction: A12 / Harold Court</b>	
1/1	1586
1/2 (with short)	143(In) 0(Out)
1/3 (short)	143
2/1 (short)	650
2/2 (with short)	1348(In) 698(Out)
2/3	817
3/1	217
4/1	1586
4/2	0
5/1	209
6/1	692
6/2	807
6/3	817



Full Input Data And Results

**Lane Saturation Flows**

Junction: A12 / Harold Court								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (A12 (N))	3.50	0.00	Y	Arm 4 Ahead	Inf	100.0 %	1965	1965
1/2 (A12 (N))	3.50	0.00	Y	Arm 4 Ahead	Inf	0.0 %	1965	1965
1/3 (A12 (N))	3.65	0.00	Y	Arm 5 Right	15.00	100.0 %	1800	1800
2/1 (A12 (S))	3.00	0.00	Y	Arm 5 Left Arm 6 Ahead	Inf Inf	10.2 % 89.8 %	1915	1915
2/2 (A12 (S))	3.00	0.00	N	Arm 6 Ahead	Inf	100.0 %	2055	2055
2/3 (A12 (S))	3.00	0.00	N	Arm 6 Ahead	Inf	100.0 %	2055	2055
3/1 (Harold Court Road)	3.60	0.00	Y	Arm 6 Left	15.00	100.0 %	1795	1795
4/1 (A12 (N) Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
4/2 (A12 (N) Exit Lane 2)	Infinite Saturation Flow						Inf	Inf
5/1 (Harold Court Road exit Lane 1)	Infinite Saturation Flow						Inf	Inf
6/1 (A12 (S) exit Lane 1)	Infinite Saturation Flow						Inf	Inf
6/2 (A12 (S) exit Lane 2)	Infinite Saturation Flow						Inf	Inf
6/3 (A12 (S) exit Lane 3)	Infinite Saturation Flow						Inf	Inf

**Scenario 5: '2030 + LTC AM'** (FG7: 'Do Something 2030 + LTC AM', Plan 1: 'Network Control Plan 1')

**Traffic Flows, Desired**

**Desired Flow :**

	Destination				
	A	B	C	Tot.	
Origin	A	0	1368	129	1497
	B	2330	0	97	2427
	C	141	0	0	141
	Tot.	2471	1368	226	4065

## Full Input Data And Results

### Traffic Lane Flows

Lane	Scenario 5: 2030 + LTC AM
<b>Junction: A12 / Harold Court</b>	
1/1	1368
1/2 (with short)	129(In) 0(Out)
1/3 (short)	129
2/1 (short)	700
2/2 (with short)	1458(In) 758(Out)
2/3	969
3/1	141
4/1	1368
4/2	0
5/1	226
6/1	673
6/2	829
6/3	969

Full Input Data And Results

**Lane Saturation Flows**

Junction: A12 / Harold Court								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (A12 (N))	3.50	0.00	Y	Arm 4 Ahead	Inf	100.0 %	1965	1965
1/2 (A12 (N))	3.50	0.00	Y	Arm 4 Ahead	Inf	0.0 %	1965	1965
1/3 (A12 (N))	3.65	0.00	Y	Arm 5 Right	15.00	100.0 %	1800	1800
2/1 (A12 (S))	3.00	0.00	Y	Arm 5 Left Arm 6 Ahead	Inf Inf	13.9 % 86.1 %	1915	1915
2/2 (A12 (S))	3.00	0.00	N	Arm 6 Ahead	Inf	100.0 %	2055	2055
2/3 (A12 (S))	3.00	0.00	N	Arm 6 Ahead	Inf	100.0 %	2055	2055
3/1 (Harold Court Road)	3.60	0.00	Y	Arm 6 Left	15.00	100.0 %	1795	1795
4/1 (A12 (N) Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
4/2 (A12 (N) Exit Lane 2)	Infinite Saturation Flow						Inf	Inf
5/1 (Harold Court Road exit Lane 1)	Infinite Saturation Flow						Inf	Inf
6/1 (A12 (S) exit Lane 1)	Infinite Saturation Flow						Inf	Inf
6/2 (A12 (S) exit Lane 2)	Infinite Saturation Flow						Inf	Inf
6/3 (A12 (S) exit Lane 3)	Infinite Saturation Flow						Inf	Inf

**Scenario 6: '2030 + LTC PM'** (FG8: 'Do Something 2030 + LTC PM', Plan 1: 'Network Control Plan 1')

**Traffic Flows, Desired**

**Desired Flow :**

	Destination				
	A	B	C	Tot.	
Origin	A	0	1541	144	1685
	B	2070	0	66	2136
	C	226	0	0	226
	Tot.	2296	1541	210	4047

Full Input Data And Results

**Traffic Lane Flows**

Lane	Scenario 6: 2030 + LTC PM
<b>Junction: A12 / Harold Court</b>	
1/1	1541
1/2 (with short)	144(In) 0(Out)
1/3 (short)	144
2/1 (short)	643
2/2 (with short)	1333(In) 690(Out)
2/3	803
3/1	226
4/1	1541
4/2	0
5/1	210
6/1	690
6/2	803
6/3	803

Full Input Data And Results

**Lane Saturation Flows**

Junction: A12 / Harold Court								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (A12 (N))	3.50	0.00	Y	Arm 4 Ahead	Inf	100.0 %	1965	1965
1/2 (A12 (N))	3.50	0.00	Y	Arm 4 Ahead	Inf	0.0 %	1965	1965
1/3 (A12 (N))	3.65	0.00	Y	Arm 5 Right	15.00	100.0 %	1800	1800
2/1 (A12 (S))	3.00	0.00	Y	Arm 5 Left Arm 6 Ahead	Inf Inf	10.3 % 89.7 %	1915	1915
2/2 (A12 (S))	3.00	0.00	N	Arm 6 Ahead	Inf	100.0 %	2055	2055
2/3 (A12 (S))	3.00	0.00	N	Arm 6 Ahead	Inf	100.0 %	2055	2055
3/1 (Harold Court Road)	3.60	0.00	Y	Arm 6 Left	15.00	100.0 %	1795	1795
4/1 (A12 (N) Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
4/2 (A12 (N) Exit Lane 2)	Infinite Saturation Flow						Inf	Inf
5/1 (Harold Court Road exit Lane 1)	Infinite Saturation Flow						Inf	Inf
6/1 (A12 (S) exit Lane 1)	Infinite Saturation Flow						Inf	Inf
6/2 (A12 (S) exit Lane 2)	Infinite Saturation Flow						Inf	Inf
6/3 (A12 (S) exit Lane 3)	Infinite Saturation Flow						Inf	Inf

**Scenario 7: 'New Scenario'** (FG9: '2023 Surveyed Peak Hour AM', Plan 1: 'Network Control Plan 1')

**Traffic Flows, Desired**

**Desired Flow :**

	Destination				
	A	B	C	Tot.	
Origin	A	0	1594	100	1694
	B	2161	0	68	2229
	C	178	0	0	178
	Tot.	2339	1594	168	4101

## Full Input Data And Results

### Traffic Lane Flows

Lane	Scenario 7: New Scenario
<b>Junction: A12 / Harold Court</b>	
1/1	1594
1/2 (with short)	100(In) 0(Out)
1/3 (short)	100
2/1 (short)	665
2/2 (with short)	1377(In) 712(Out)
2/3	852
3/1	178
4/1	1594
4/2	0
5/1	168
6/1	686
6/2	801
6/3	852

Full Input Data And Results

**Lane Saturation Flows**

Junction: A12 / Harold Court								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (A12 (N))	3.50	0.00	Y	Arm 4 Ahead	Inf	100.0 %	1965	1965
1/2 (A12 (N))	3.50	0.00	Y	Arm 4 Ahead	Inf	0.0 %	1965	1965
1/3 (A12 (N))	3.65	0.00	Y	Arm 5 Right	15.00	100.0 %	1800	1800
2/1 (A12 (S))	3.00	0.00	Y	Arm 5 Left Arm 6 Ahead	Inf Inf	10.2 % 89.8 %	1915	1915
2/2 (A12 (S))	3.00	0.00	N	Arm 6 Ahead	Inf	100.0 %	2055	2055
2/3 (A12 (S))	3.00	0.00	N	Arm 6 Ahead	Inf	100.0 %	2055	2055
3/1 (Harold Court Road)	3.60	0.00	Y	Arm 6 Left	15.00	100.0 %	1795	1795
4/1 (A12 (N) Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
4/2 (A12 (N) Exit Lane 2)	Infinite Saturation Flow						Inf	Inf
5/1 (Harold Court Road exit Lane 1)	Infinite Saturation Flow						Inf	Inf
6/1 (A12 (S) exit Lane 1)	Infinite Saturation Flow						Inf	Inf
6/2 (A12 (S) exit Lane 2)	Infinite Saturation Flow						Inf	Inf
6/3 (A12 (S) exit Lane 3)	Infinite Saturation Flow						Inf	Inf

**Scenario 8: 'New Scenario'** (FG10: '2023 Surveyed Peak Hour PM', Plan 1: 'Network Control Plan 1')

**Traffic Flows, Desired**

**Desired Flow :**

	Destination				
	A	B	C	Tot.	
Origin	A	0	1509	91	1600
	B	2037	0	65	2102
	C	205	0	0	205
	Tot.	2242	1509	156	3907

## Full Input Data And Results

### Traffic Lane Flows

Lane	Scenario 8: New Scenario
<b>Junction: A12 / Harold Court</b>	
1/1	1509
1/2 (with short)	91(In) 0(Out)
1/3 (short)	91
2/1 (short)	631
2/2 (with short)	1309(In) 678(Out)
2/3	793
3/1	205
4/1	1509
4/2	0
5/1	156
6/1	668
6/2	781
6/3	793



Full Input Data And Results

**Lane Saturation Flows**

Junction: A12 / Harold Court								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (A12 (N))	3.50	0.00	Y	Arm 4 Ahead	Inf	100.0 %	1965	1965
1/2 (A12 (N))	3.50	0.00	Y	Arm 4 Ahead	Inf	0.0 %	1965	1965
1/3 (A12 (N))	3.65	0.00	Y	Arm 5 Right	15.00	100.0 %	1800	1800
2/1 (A12 (S))	3.00	0.00	Y	Arm 5 Left Arm 6 Ahead	Inf Inf	10.3 % 89.7 %	1915	1915
2/2 (A12 (S))	3.00	0.00	N	Arm 6 Ahead	Inf	100.0 %	2055	2055
2/3 (A12 (S))	3.00	0.00	N	Arm 6 Ahead	Inf	100.0 %	2055	2055
3/1 (Harold Court Road)	3.60	0.00	Y	Arm 6 Left	15.00	100.0 %	1795	1795
4/1 (A12 (N) Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
4/2 (A12 (N) Exit Lane 2)	Infinite Saturation Flow						Inf	Inf
5/1 (Harold Court Road exit Lane 1)	Infinite Saturation Flow						Inf	Inf
6/1 (A12 (S) exit Lane 1)	Infinite Saturation Flow						Inf	Inf
6/2 (A12 (S) exit Lane 2)	Infinite Saturation Flow						Inf	Inf
6/3 (A12 (S) exit Lane 3)	Infinite Saturation Flow						Inf	Inf

**Scenario 9: 'New Scenario'** (FG11: '2030 Surveyed Peak Hour AM', Plan 1: 'Network Control Plan 1')

**Traffic Flows, Desired**

**Desired Flow :**

	Destination				
	A	B	C	Tot.	
Origin	A	0	1668	105	1773
	B	2262	0	71	2333
	C	186	0	0	186
	Tot.	2448	1668	176	4292

Full Input Data And Results

**Traffic Lane Flows**

Lane	Scenario 9: New Scenario
<b>Junction: A12 / Harold Court</b>	
1/1	1668
1/2 (with short)	105(In) 0(Out)
1/3 (short)	105
2/1 (short)	690
2/2 (with short)	1431(In) 741(Out)
2/3	902
3/1	186
4/1	1668
4/2	0
5/1	176
6/1	712
6/2	834
6/3	902

Full Input Data And Results

**Lane Saturation Flows**

Junction: A12 / Harold Court								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (A12 (N))	3.50	0.00	Y	Arm 4 Ahead	Inf	100.0 %	1965	1965
1/2 (A12 (N))	3.50	0.00	Y	Arm 4 Ahead	Inf	0.0 %	1965	1965
1/3 (A12 (N))	3.65	0.00	Y	Arm 5 Right	15.00	100.0 %	1800	1800
2/1 (A12 (S))	3.00	0.00	Y	Arm 5 Left Arm 6 Ahead	Inf Inf	10.3 % 89.7 %	1915	1915
2/2 (A12 (S))	3.00	0.00	N	Arm 6 Ahead	Inf	100.0 %	2055	2055
2/3 (A12 (S))	3.00	0.00	N	Arm 6 Ahead	Inf	100.0 %	2055	2055
3/1 (Harold Court Road)	3.60	0.00	Y	Arm 6 Left	15.00	100.0 %	1795	1795
4/1 (A12 (N) Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
4/2 (A12 (N) Exit Lane 2)	Infinite Saturation Flow						Inf	Inf
5/1 (Harold Court Road exit Lane 1)	Infinite Saturation Flow						Inf	Inf
6/1 (A12 (S) exit Lane 1)	Infinite Saturation Flow						Inf	Inf
6/2 (A12 (S) exit Lane 2)	Infinite Saturation Flow						Inf	Inf
6/3 (A12 (S) exit Lane 3)	Infinite Saturation Flow						Inf	Inf

**Scenario 10: 'New Scenario'** (FG12: '2030 Surveyed Peak Hour PM', Plan 1: 'Network Control Plan 1')

**Traffic Flows, Desired**

**Desired Flow :**

	Destination				
	A	B	C	Tot.	
Origin	A	0	1588	96	1684
	B	2143	0	68	2211
	C	216	0	0	216
	Tot.	2359	1588	164	4111

## Full Input Data And Results

### Traffic Lane Flows

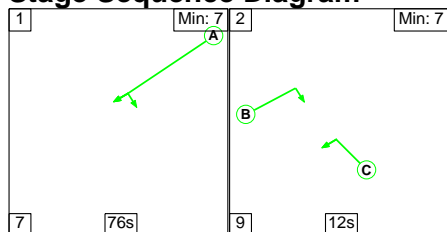
Lane	Scenario 10: New Scenario
<b>Junction: A12 / Harold Court</b>	
1/1	1588
1/2 (with short)	96(In) 0(Out)
1/3 (short)	96
2/1 (short)	659
2/2 (with short)	1367(In) 708(Out)
2/3	844
3/1	216
4/1	1588
4/2	0
5/1	164
6/1	699
6/2	816
6/3	844

**Lane Saturation Flows**

Junction: A12 / Harold Court								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (A12 (N))	3.50	0.00	Y	Arm 4 Ahead	Inf	100.0 %	1965	1965
1/2 (A12 (N))	3.50	0.00	Y	Arm 4 Ahead	Inf	0.0 %	1965	1965
1/3 (A12 (N))	3.65	0.00	Y	Arm 5 Right	15.00	100.0 %	1800	1800
2/1 (A12 (S))	3.00	0.00	Y	Arm 5 Left Arm 6 Ahead	Inf Inf	10.3 % 89.7 %	1915	1915
2/2 (A12 (S))	3.00	0.00	N	Arm 6 Ahead	Inf	100.0 %	2055	2055
2/3 (A12 (S))	3.00	0.00	N	Arm 6 Ahead	Inf	100.0 %	2055	2055
3/1 (Harold Court Road)	3.60	0.00	Y	Arm 6 Left	15.00	100.0 %	1795	1795
4/1 (A12 (N) Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
4/2 (A12 (N) Exit Lane 2)	Infinite Saturation Flow						Inf	Inf
5/1 (Harold Court Road exit Lane 1)	Infinite Saturation Flow						Inf	Inf
6/1 (A12 (S) exit Lane 1)	Infinite Saturation Flow						Inf	Inf
6/2 (A12 (S) exit Lane 2)	Infinite Saturation Flow						Inf	Inf
6/3 (A12 (S) exit Lane 3)	Infinite Saturation Flow						Inf	Inf

Scenario 1: '2023 AM' (FG1: 'Base Year 2023 AM', Plan 1: 'Network Control Plan 1')

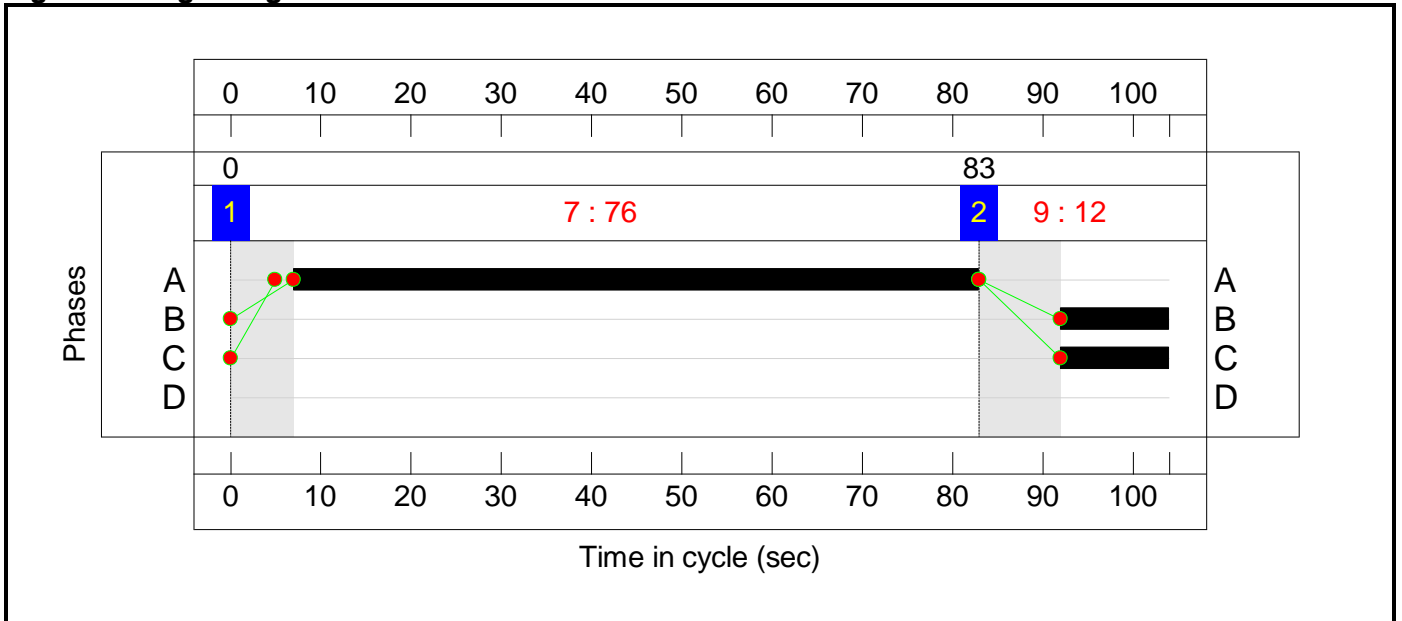
**Stage Sequence Diagram**



**Stage Timings**

Stage	1	2
Duration	76	12
Change Point	0	83

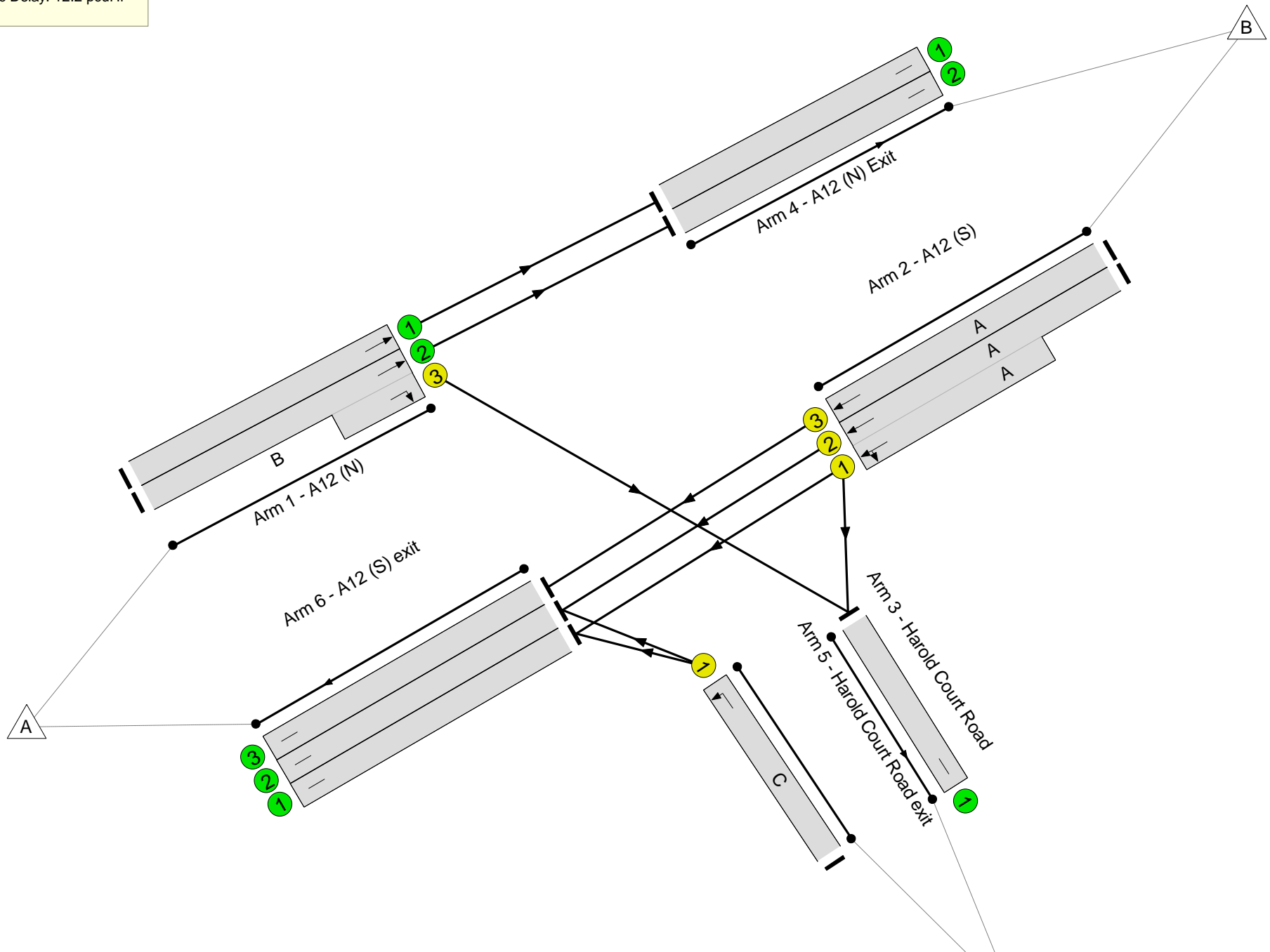
### Signal Timings Diagram



Full Input Data And Results  
**Network Layout Diagram**

Full Input Data And Results

A12 / Harold Court  
PRC: 10.7 %  
Total Traffic Delay: 12.2 pcuHr





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 (%)
<b>Network</b>	-	-	<b>N/A</b>	-	-		-	-	-	-	-	-	<b>81.3%</b>
<b>A12 / Harold Court</b>	-	-	<b>N/A</b>	-	-		-	-	-	-	-	-	<b>81.3%</b>
1/1	A12 (N) Ahead	U	N/A	N/A	-		-	-	-	1597	1965	1965	81.3%
1/2+1/3	A12 (N) Ahead Right	U	N/A	N/A	- B		-	-	-	123	1965:1800	0+225	0.0 : 54.7%
2/2+2/1	A12 (S) Left Ahead	U	N/A	N/A	A		1	76	-	1336	2055:1915	967+906	71.3 : 71.3%
2/3	A12 (S) Ahead	U	N/A	N/A	A		1	76	-	845	2055	1521	55.5%
3/1	Harold Court Road Left	U	N/A	N/A	C		1	12	-	151	1795	224	67.3%
4/1	A12 (N) Exit	U	N/A	N/A	-		-	-	-	1597	Inf	Inf	0.0%
4/2	A12 (N) Exit	U	N/A	N/A	-		-	-	-	0	Inf	Inf	0.0%
5/1	Harold Court Road exit	U	N/A	N/A	-		-	-	-	179	Inf	Inf	0.0%
6/1	A12 (S) exit	U	N/A	N/A	-		-	-	-	665	Inf	Inf	0.0%
6/2	A12 (S) exit	U	N/A	N/A	-		-	-	-	766	Inf	Inf	0.0%
6/3	A12 (S) exit	U	N/A	N/A	-		-	-	-	845	Inf	Inf	0.0%

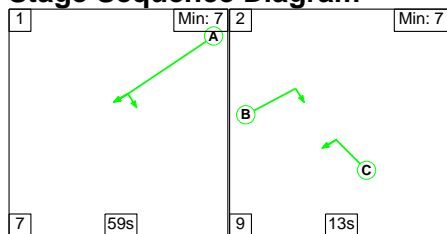
Full Input Data And Results

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)
<b>Network</b>	-	-	0	0	0	6.6	5.6	0.0	12.2	-	-	-	-
<b>A12 / Harold Court</b>	-	-	0	0	0	6.6	5.6	0.0	12.2	-	-	-	-
1/1	1597	1597	-	-	-	0.0	2.1	-	2.1	4.8	0.0	2.1	2.1
1/2+1/3	123	123	-	-	-	1.5	0.6	-	2.1	60.2	3.3	0.6	3.9
2/2+2/1	1336	1336	-	-	-	2.0	1.2	-	3.2	8.6	7.7	1.2	8.9
2/3	845	845	-	-	-	1.4	0.6	-	2.0	8.6	10.6	0.6	11.2
3/1	151	151	-	-	-	1.8	1.0	-	2.8	67.4	4.2	1.0	5.2
4/1	1597	1597	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/2	0	0	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	179	179	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	665	665	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/2	766	766	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/3	845	845	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
C1			PRC for Signalled Lanes (%):		26.2	Total Delay for Signalled Lanes (pcuHr):		8.05	Cycle Time (s): 104				
			PRC Over All Lanes (%):		10.7	Total Delay Over All Lanes(pcuHr):		12.25					

Full Input Data And Results

Scenario 2: '2023 PM' (FG2: 'Base Year 2023 PM', Plan 1: 'Network Control Plan 1')

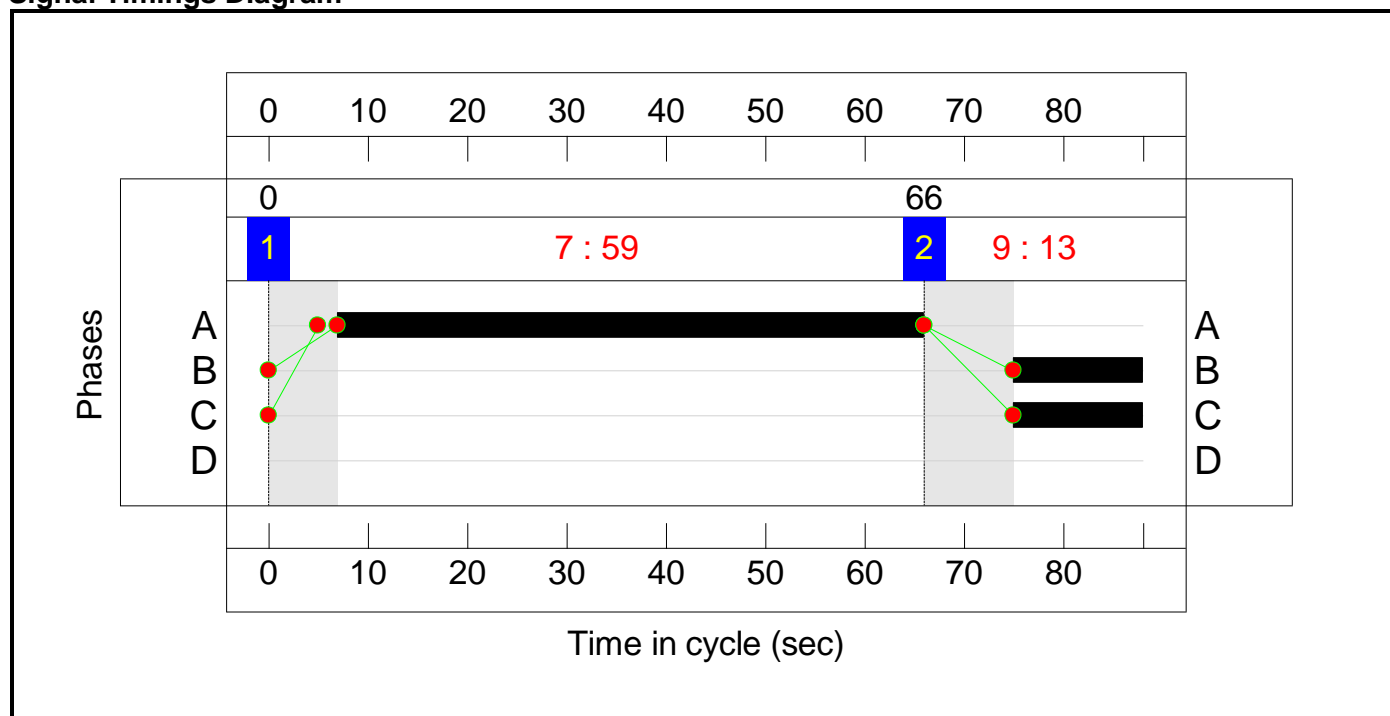
Stage Sequence Diagram



Stage Timings

Stage	1	2
Duration	59	13
Change Point	0	66

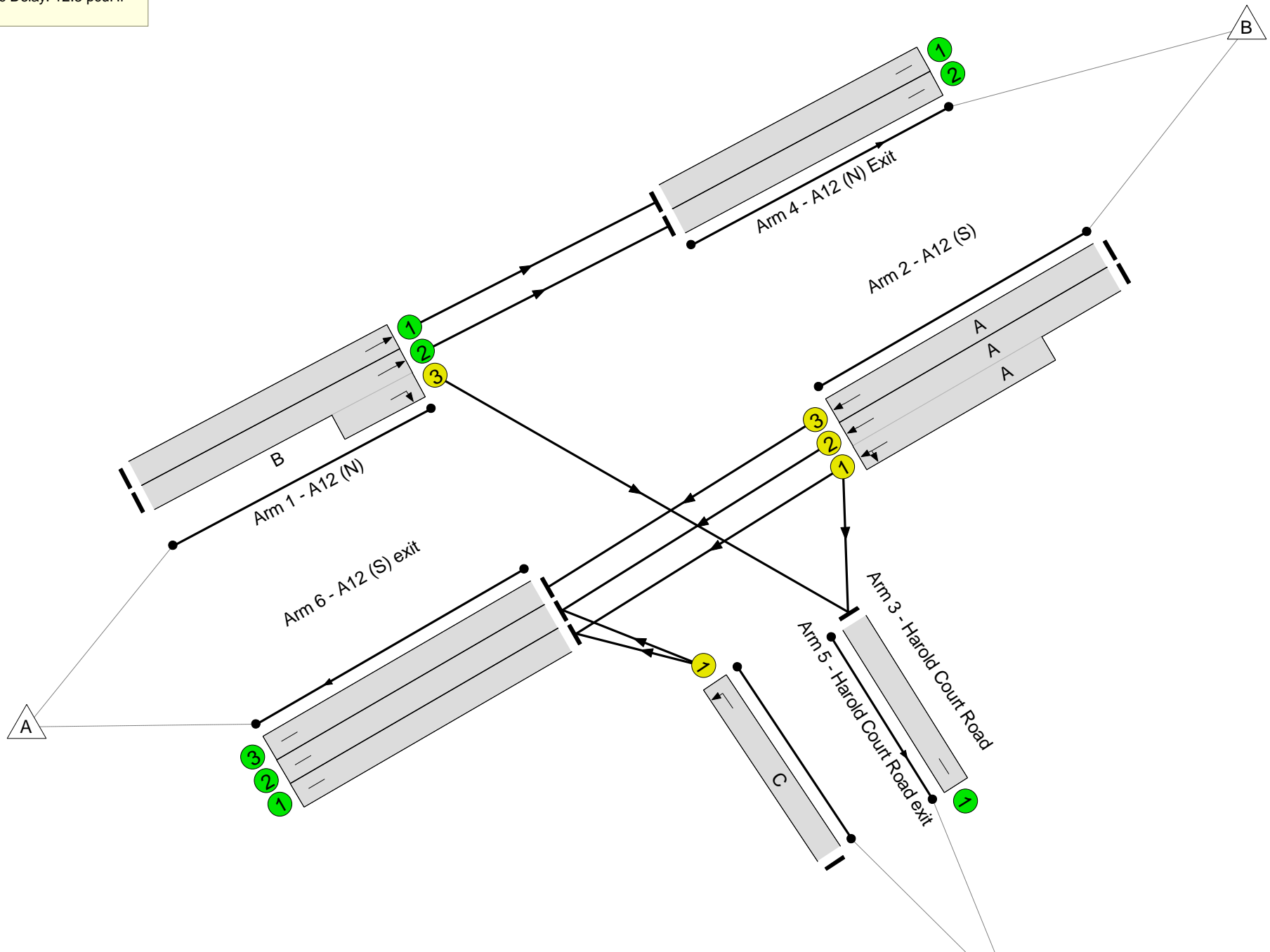
Signal Timings Diagram



Full Input Data And Results  
**Network Layout Diagram**

Full Input Data And Results

A12 / Harold Court  
PRC: 17.4 %  
Total Traffic Delay: 12.3 pcuHr



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 (%)
<b>Network</b>	-	-	<b>N/A</b>	-	-		-	-	-	-	-	-	<b>76.7%</b>
<b>A12 / Harold Court</b>	-	-	<b>N/A</b>	-	-		-	-	-	-	-	-	<b>76.7%</b>
1/1	A12 (N) Ahead	U	N/A	N/A	-		-	-	-	1507	1965	1965	76.7%
1/2+1/3	A12 (N) Ahead Right	U	N/A	N/A	- B		-	-	-	136	1965:1800	0+286	0.0 : 47.5%
2/2+2/1	A12 (S) Left Ahead	U	N/A	N/A	A		1	59	-	1291	2055:1915	946+882	70.6 : 70.6%
2/3	A12 (S) Ahead	U	N/A	N/A	A		1	59	-	767	2055	1401	54.7%
3/1	Harold Court Road Left	U	N/A	N/A	C		1	13	-	206	1795	286	72.1%
4/1	A12 (N) Exit	U	N/A	N/A	-		-	-	-	1507	Inf	Inf	0.0%
4/2	A12 (N) Exit	U	N/A	N/A	-		-	-	-	0	Inf	Inf	0.0%
5/1	Harold Court Road exit	U	N/A	N/A	-		-	-	-	199	Inf	Inf	0.0%
6/1	A12 (S) exit	U	N/A	N/A	-		-	-	-	663	Inf	Inf	0.0%
6/2	A12 (S) exit	U	N/A	N/A	-		-	-	-	771	Inf	Inf	0.0%
6/3	A12 (S) exit	U	N/A	N/A	-		-	-	-	767	Inf	Inf	0.0%

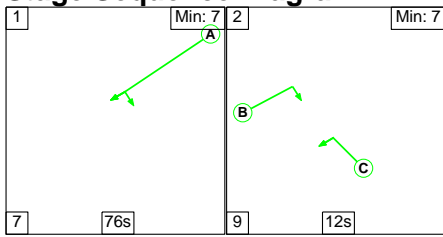
Full Input Data And Results

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)
<b>Network</b>	-	-	0	0	0	7.2	5.1	0.0	12.3	-	-	-	-
<b>A12 / Harold Court</b>	-	-	0	0	0	7.2	5.1	0.0	12.3	-	-	-	-
1/1	1507	1507	-	-	-	0.0	1.6	-	1.6	3.9	0.0	1.6	1.6
1/2+1/3	136	136	-	-	-	1.3	0.4	-	1.7	45.6	3.0	0.4	3.5
2/2+2/1	1291	1291	-	-	-	2.4	1.2	-	3.6	9.9	7.6	1.2	8.8
2/3	767	767	-	-	-	1.5	0.6	-	2.1	9.9	9.4	0.6	10.0
3/1	206	206	-	-	-	2.0	1.3	-	3.3	57.1	4.7	1.3	6.0
4/1	1507	1507	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/2	0	0	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	199	199	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	663	663	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/2	771	771	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/3	767	767	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
<p>C1                      PRC for Signalled Lanes (%): 24.8                      Total Delay for Signalled Lanes (pcuHr): 8.95                      Cycle Time (s): 88                      PRC Over All Lanes (%): 17.4                      Total Delay Over All Lanes(pcuHr): 12.30</p>													

Full Input Data And Results

Scenario 3: '2030 AM' (FG3: 'Reference Case 2030 AM', Plan 1: 'Network Control Plan 1')

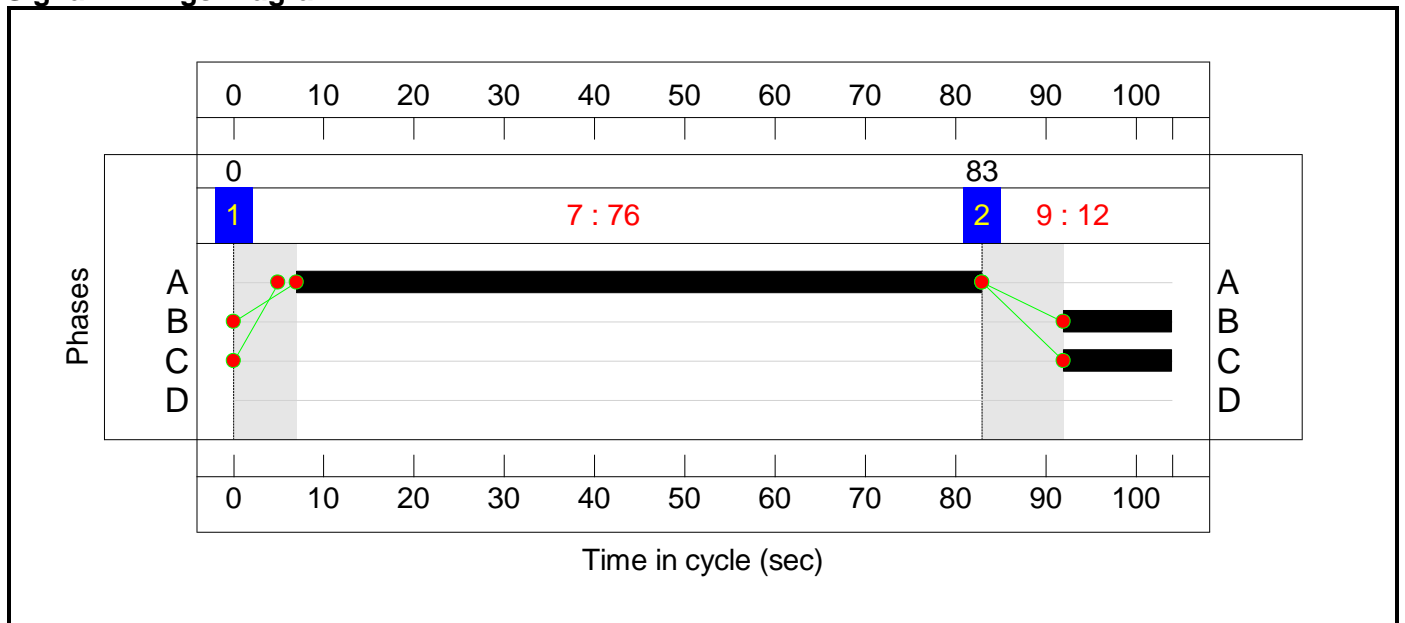
Stage Sequence Diagram



Stage Timings

Stage	1	2
Duration	76	12
Change Point	0	83

Signal Timings Diagram

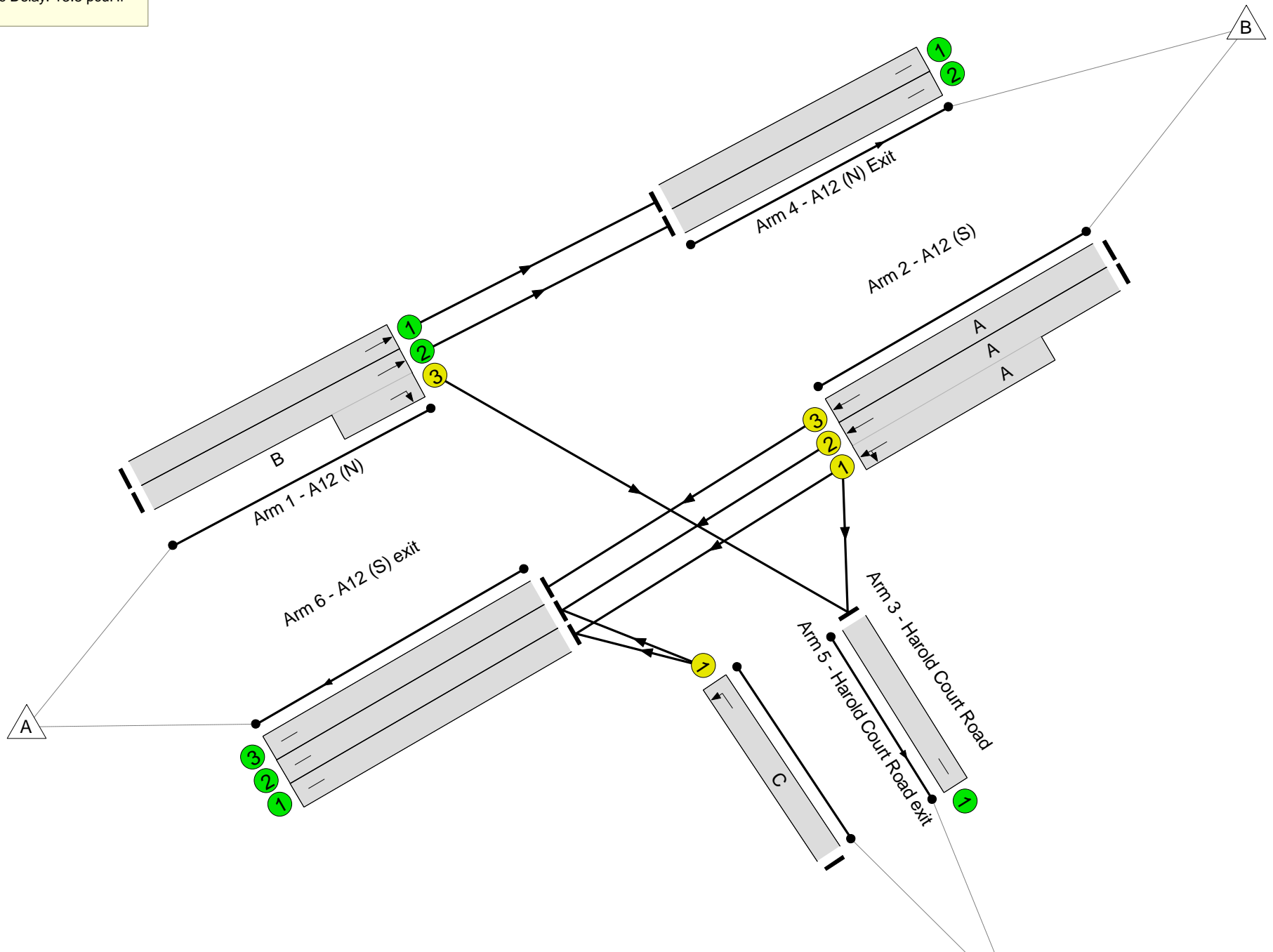





Full Input Data And Results  
**Network Layout Diagram**

Full Input Data And Results

A12 / Harold Court  
PRC: 5.8 %  
Total Traffic Delay: 13.8 pcuHr



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 (%)
<b>Network</b>	-	-	<b>N/A</b>	-	-		-	-	-	-	-	-	<b>85.0%</b>
<b>A12 / Harold Court</b>	-	-	<b>N/A</b>	-	-		-	-	-	-	-	-	<b>85.0%</b>
1/1	A12 (N) Ahead	U	N/A	N/A	-		-	-	-	1671	1965	1965	85.0%
1/2+1/3	A12 (N) Ahead Right	U	N/A	N/A	- B		-	-	-	129	1965:1800	0+225	0.0 : 57.3%
2/2+2/1	A12 (S) Left Ahead	U	N/A	N/A	A		1	76	-	1387	2055:1915	969+903	74.1 : 74.1%
2/3	A12 (S) Ahead	U	N/A	N/A	A		1	76	-	896	2055	1521	58.9%
3/1	Harold Court Road Left	U	N/A	N/A	C		1	12	-	158	1795	224	70.4%
4/1	A12 (N) Exit	U	N/A	N/A	-		-	-	-	1671	Inf	Inf	0.0%
4/2	A12 (N) Exit	U	N/A	N/A	-		-	-	-	0	Inf	Inf	0.0%
5/1	Harold Court Road exit	U	N/A	N/A	-		-	-	-	188	Inf	Inf	0.0%
6/1	A12 (S) exit	U	N/A	N/A	-		-	-	-	689	Inf	Inf	0.0%
6/2	A12 (S) exit	U	N/A	N/A	-		-	-	-	797	Inf	Inf	0.0%
6/3	A12 (S) exit	U	N/A	N/A	-		-	-	-	896	Inf	Inf	0.0%

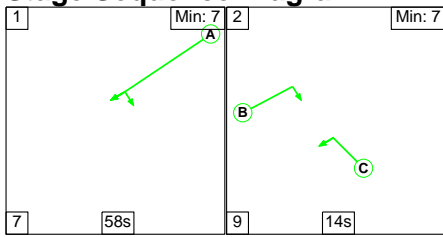
Full Input Data And Results

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)
<b>Network</b>	-	-	0	0	0	7.1	6.7	0.0	13.8	-	-	-	-
<b>A12 / Harold Court</b>	-	-	0	0	0	7.1	6.7	0.0	13.8	-	-	-	-
1/1	1671	1671	-	-	-	0.0	2.8	-	2.8	6.0	0.0	2.8	2.8
1/2+1/3	129	129	-	-	-	1.5	0.7	-	2.2	61.4	3.5	0.7	4.2
2/2+2/1	1387	1387	-	-	-	2.1	1.4	-	3.5	9.1	8.2	1.4	9.6
2/3	896	896	-	-	-	1.5	0.7	-	2.3	9.1	11.7	0.7	12.4
3/1	158	158	-	-	-	1.9	1.2	-	3.1	69.9	4.3	1.2	5.5
4/1	1671	1671	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/2	0	0	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	188	188	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	689	689	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/2	797	797	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/3	896	896	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
C1			PRC for Signalled Lanes (%):		21.4	Total Delay for Signalled Lanes (pcuHr):		8.83	Cycle Time (s): 104				
			PRC Over All Lanes (%):		5.8	Total Delay Over All Lanes(pcuHr):		13.82					

Full Input Data And Results

**Scenario 4: '2030 PM'** (FG4: 'Reference Case 2030 PM', Plan 1: 'Network Control Plan 1')

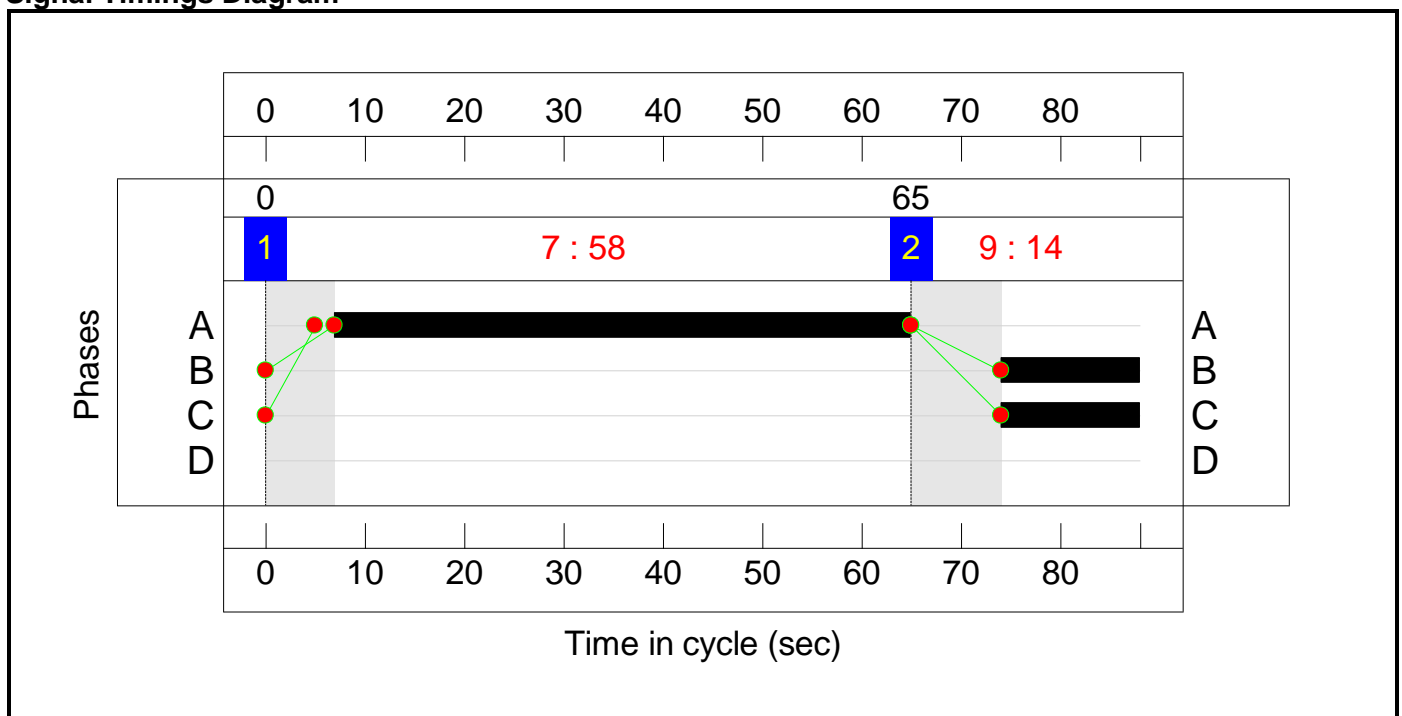
**Stage Sequence Diagram**



**Stage Timings**

Stage	1	2
Duration	58	14
Change Point	0	65

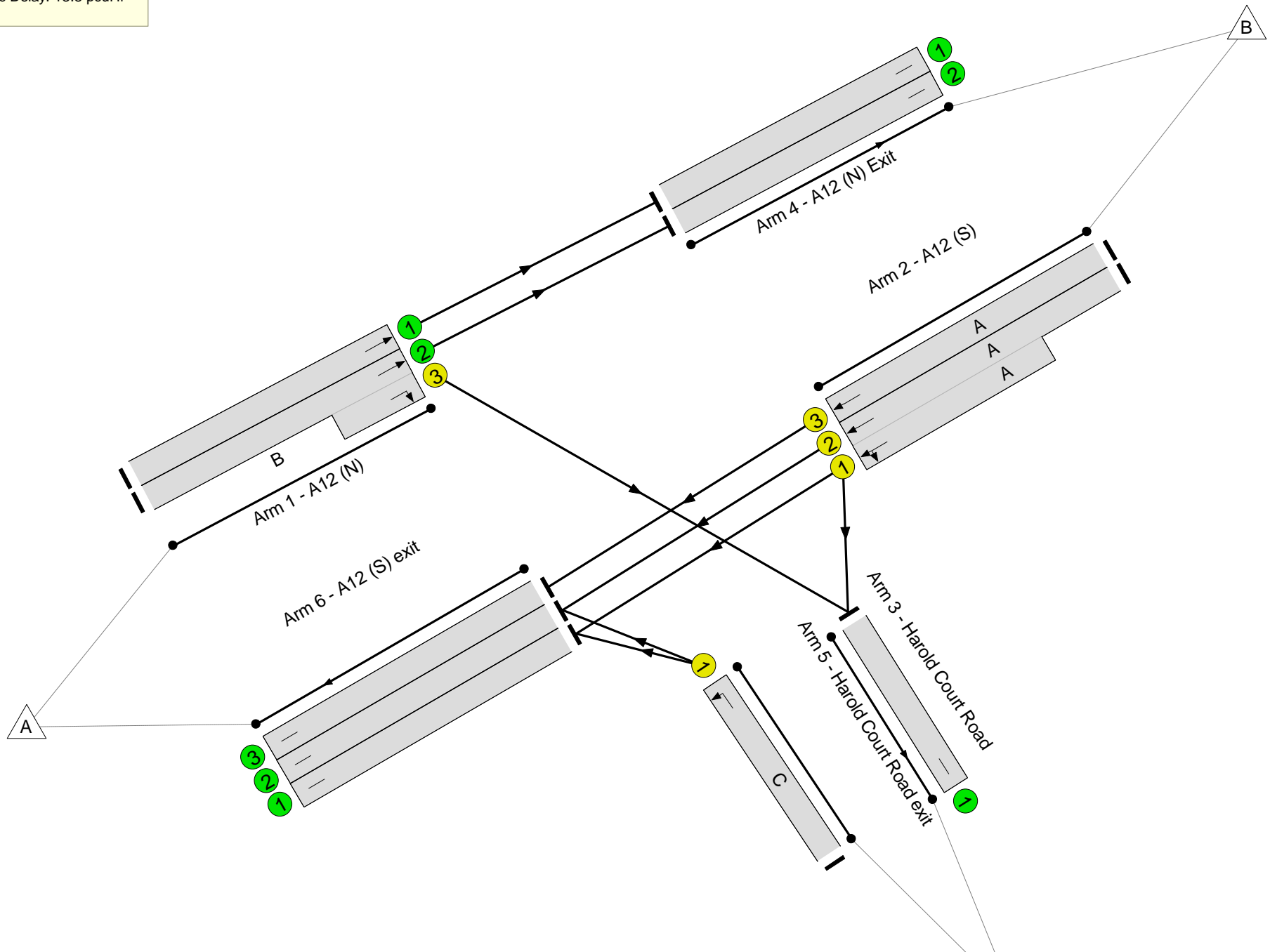
**Signal Timings Diagram**



Full Input Data And Results  
**Network Layout Diagram**

Full Input Data And Results

A12 / Harold Court  
PRC: 11.5 %  
Total Traffic Delay: 13.8 pcuHr



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 (%)
<b>Network</b>	-	-	<b>N/A</b>	-	-		-	-	-	-	-	-	<b>80.7%</b>
<b>A12 / Harold Court</b>	-	-	<b>N/A</b>	-	-		-	-	-	-	-	-	<b>80.7%</b>
1/1	A12 (N) Ahead	U	N/A	N/A	-		-	-	-	1586	1965	1965	80.7%
1/2+1/3	A12 (N) Ahead Right	U	N/A	N/A	- B		-	-	-	143	1965:1800	0+307	0.0 : 46.6%
2/2+2/1	A12 (S) Left Ahead	U	N/A	N/A	A		1	58	-	1348	2055:1915	935+870	74.7 : 74.7%
2/3	A12 (S) Ahead	U	N/A	N/A	A		1	58	-	817	2055	1378	59.3%
3/1	Harold Court Road Left	U	N/A	N/A	C		1	14	-	217	1795	306	70.9%
4/1	A12 (N) Exit	U	N/A	N/A	-		-	-	-	1586	Inf	Inf	0.0%
4/2	A12 (N) Exit	U	N/A	N/A	-		-	-	-	0	Inf	Inf	0.0%
5/1	Harold Court Road exit	U	N/A	N/A	-		-	-	-	209	Inf	Inf	0.0%
6/1	A12 (S) exit	U	N/A	N/A	-		-	-	-	692	Inf	Inf	0.0%
6/2	A12 (S) exit	U	N/A	N/A	-		-	-	-	807	Inf	Inf	0.0%
6/3	A12 (S) exit	U	N/A	N/A	-		-	-	-	817	Inf	Inf	0.0%



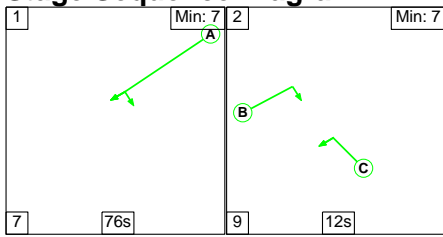
Full Input Data And Results

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)
<b>Network</b>	-	-	0	0	0	7.9	5.9	0.0	13.8	-	-	-	-
<b>A12 / Harold Court</b>	-	-	0	0	0	7.9	5.9	0.0	13.8	-	-	-	-
1/1	1586	1586	-	-	-	0.0	2.1	-	2.1	4.7	0.0	2.1	2.1
1/2+1/3	143	143	-	-	-	1.3	0.4	-	1.7	43.8	3.1	0.4	3.6
2/2+2/1	1348	1348	-	-	-	2.7	1.5	-	4.2	11.1	8.3	1.5	9.8
2/3	817	817	-	-	-	1.8	0.7	-	2.5	11.1	10.9	0.7	11.6
3/1	217	217	-	-	-	2.1	1.2	-	3.3	54.1	5.0	1.2	6.2
4/1	1586	1586	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/2	0	0	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	209	209	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	692	692	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/2	807	807	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/3	817	817	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
C1			PRC for Signalled Lanes (%):		20.5	Total Delay for Signalled Lanes (pcuHr):		9.97	Cycle Time (s): 88				
			PRC Over All Lanes (%):		11.5	Total Delay Over All Lanes(pcuHr):		13.78					

Full Input Data And Results

**Scenario 5: '2030 + LTC AM'** (FG7: 'Do Something 2030 + LTC AM', Plan 1: 'Network Control Plan 1')

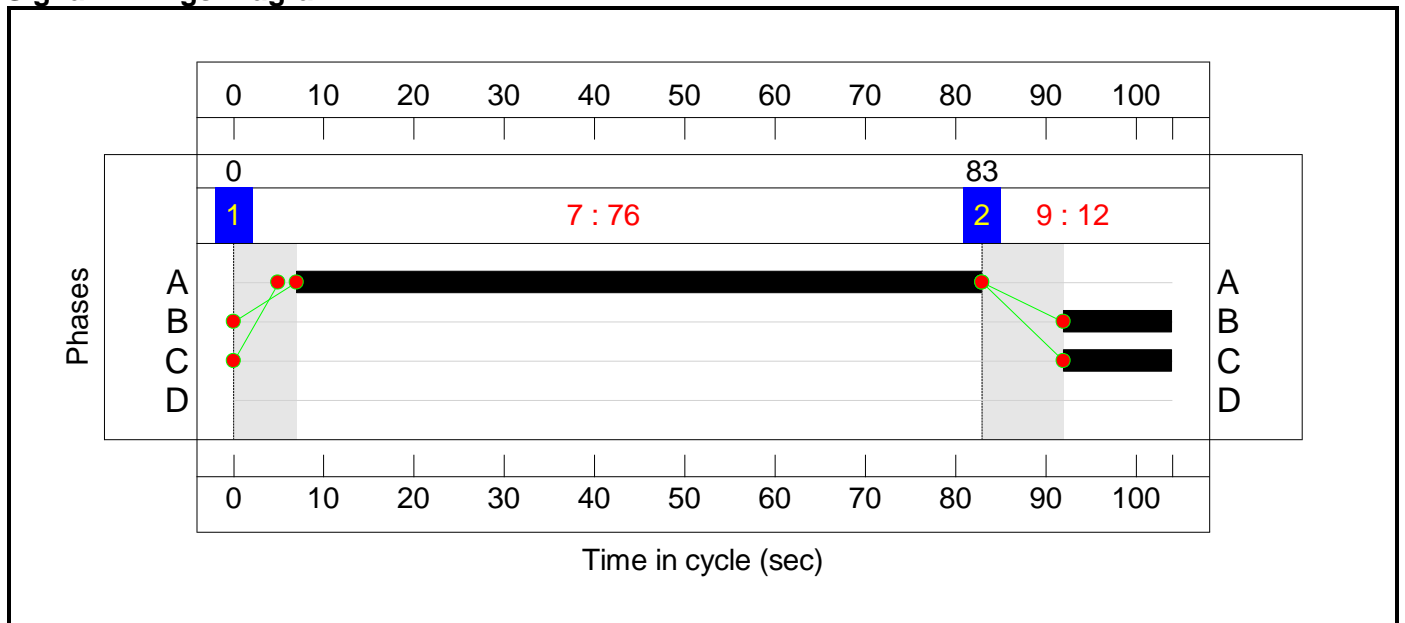
**Stage Sequence Diagram**



**Stage Timings**

Stage	1	2
Duration	76	12
Change Point	0	83

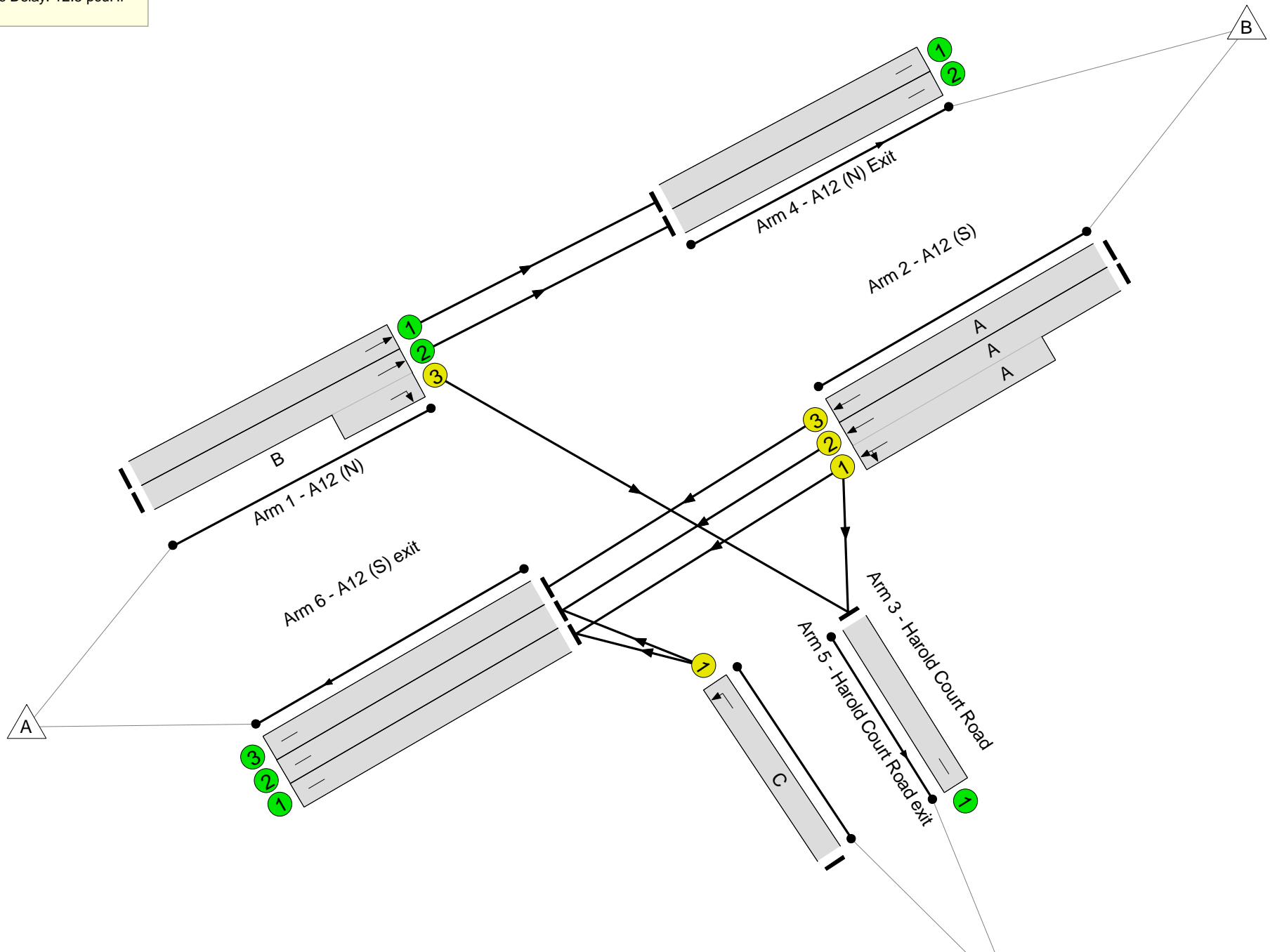
**Signal Timings Diagram**



Full Input Data And Results  
**Network Layout Diagram**

Full Input Data And Results

A12 / Harold Court  
PRC: 15.3 %  
Total Traffic Delay: 12.5 pcuHr



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 (%)
<b>Network</b>	-	-	<b>N/A</b>	-	-		-	-	-	-	-	-	<b>78.1%</b>
<b>A12 / Harold Court</b>	-	-	<b>N/A</b>	-	-		-	-	-	-	-	-	<b>78.1%</b>
1/1	A12 (N) Ahead	U	N/A	N/A	-		-	-	-	1368	1965	1965	69.6%
1/2+1/3	A12 (N) Ahead Right	U	N/A	N/A	- B		-	-	-	129	1965:1800	0+225	0.0 : 57.3%
2/2+2/1	A12 (S) Left Ahead	U	N/A	N/A	A		1	76	-	1458	2055:1915	971+897	78.1 : 78.1%
2/3	A12 (S) Ahead	U	N/A	N/A	A		1	76	-	969	2055	1521	63.7%
3/1	Harold Court Road Left	U	N/A	N/A	C		1	12	-	141	1795	224	62.8%
4/1	A12 (N) Exit	U	N/A	N/A	-		-	-	-	1368	Inf	Inf	0.0%
4/2	A12 (N) Exit	U	N/A	N/A	-		-	-	-	0	Inf	Inf	0.0%
5/1	Harold Court Road exit	U	N/A	N/A	-		-	-	-	226	Inf	Inf	0.0%
6/1	A12 (S) exit	U	N/A	N/A	-		-	-	-	673	Inf	Inf	0.0%
6/2	A12 (S) exit	U	N/A	N/A	-		-	-	-	829	Inf	Inf	0.0%
6/3	A12 (S) exit	U	N/A	N/A	-		-	-	-	969	Inf	Inf	0.0%

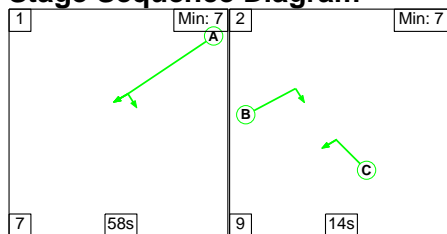
Full Input Data And Results

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)
<b>Network</b>	-	-	0	0	0	7.3	5.3	0.0	12.5	-	-	-	-
<b>A12 / Harold Court</b>	-	-	0	0	0	7.3	5.3	0.0	12.5	-	-	-	-
1/1	1368	1368	-	-	-	0.0	1.1	-	1.1	3.0	0.0	1.1	1.1
1/2+1/3	129	129	-	-	-	1.5	0.7	-	2.2	61.4	3.5	0.7	4.2
2/2+2/1	1458	1458	-	-	-	2.2	1.8	-	4.0	9.9	8.8	1.8	10.6
2/3	969	969	-	-	-	1.8	0.9	-	2.7	9.9	13.7	0.9	14.6
3/1	141	141	-	-	-	1.7	0.8	-	2.5	64.4	3.8	0.8	4.7
4/1	1368	1368	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/2	0	0	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	226	226	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	673	673	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/2	829	829	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/3	969	969	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
C1			PRC for Signalled Lanes (%):		15.3	Total Delay for Signalled Lanes (pcuHr):		9.19	Cycle Time (s): 104				
			PRC Over All Lanes (%):		15.3	Total Delay Over All Lanes(pcuHr):		12.53					

Full Input Data And Results

Scenario 6: '2030 + LTC PM' (FG8: 'Do Something 2030 + LTC PM', Plan 1: 'Network Control Plan 1')

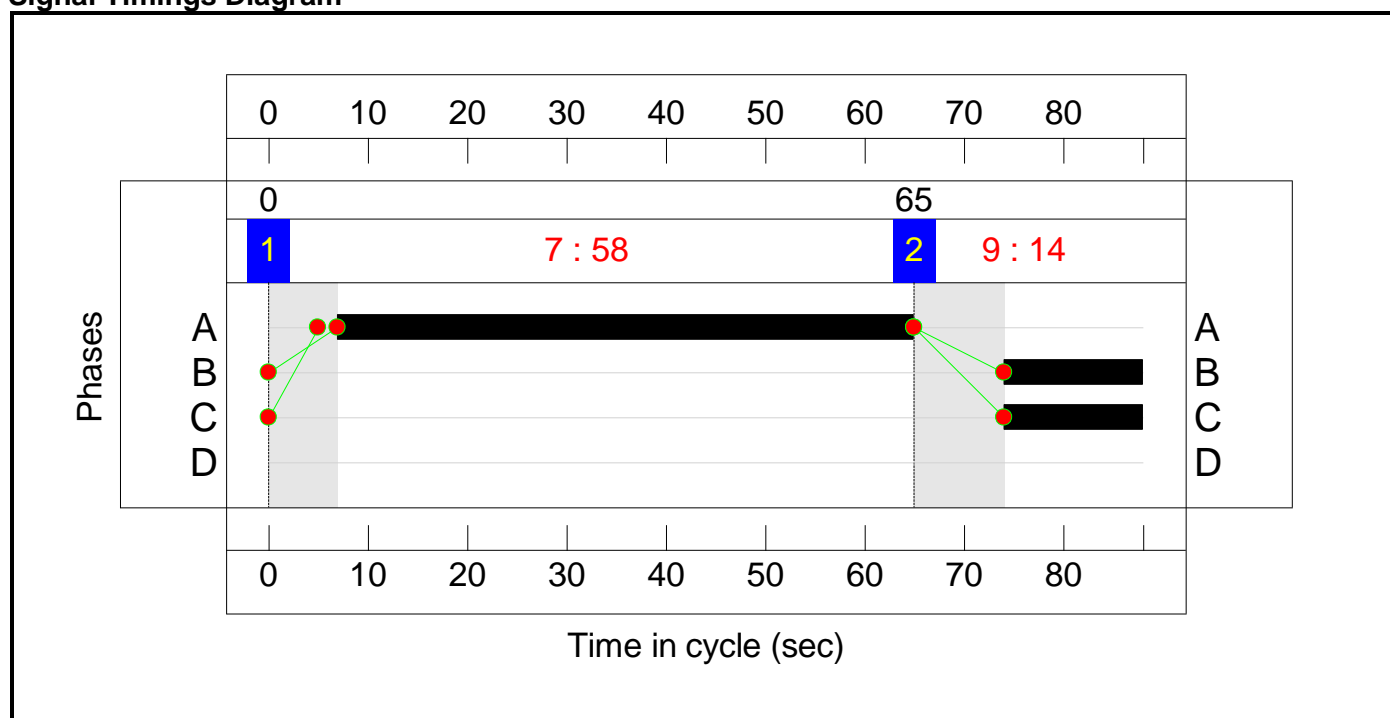
Stage Sequence Diagram



Stage Timings

Stage	1	2
Duration	58	14
Change Point	0	65

Signal Timings Diagram

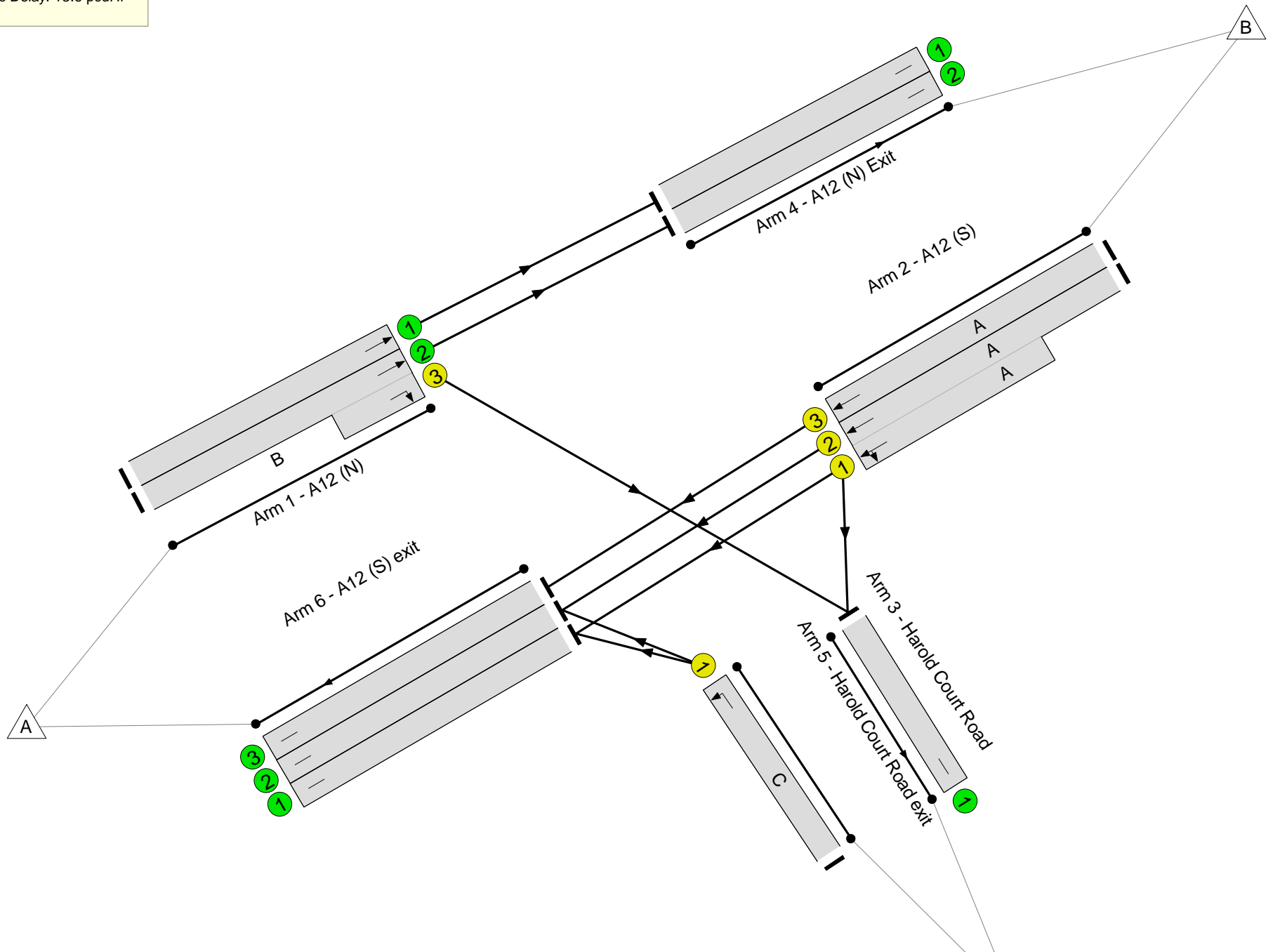


Full Input Data And Results  
**Network Layout Diagram**



Full Input Data And Results

A12 / Harold Court  
PRC: 14.8 %  
Total Traffic Delay: 13.6 pcuHr



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 (%)
<b>Network</b>	-	-	<b>N/A</b>	-	-		-	-	-	-	-	-	<b>78.4%</b>
<b>A12 / Harold Court</b>	-	-	<b>N/A</b>	-	-		-	-	-	-	-	-	<b>78.4%</b>
1/1	A12 (N) Ahead	U	N/A	N/A	-		-	-	-	1541	1965	1965	78.4%
1/2+1/3	A12 (N) Ahead Right	U	N/A	N/A	- B		-	-	-	144	1965:1800	0+307	0.0 : 46.9%
2/2+2/1	A12 (S) Left Ahead	U	N/A	N/A	A		1	58	-	1333	2055:1915	935+871	73.8 : 73.8%
2/3	A12 (S) Ahead	U	N/A	N/A	A		1	58	-	803	2055	1378	58.3%
3/1	Harold Court Road Left	U	N/A	N/A	C		1	14	-	226	1795	306	73.9%
4/1	A12 (N) Exit	U	N/A	N/A	-		-	-	-	1541	Inf	Inf	0.0%
4/2	A12 (N) Exit	U	N/A	N/A	-		-	-	-	0	Inf	Inf	0.0%
5/1	Harold Court Road exit	U	N/A	N/A	-		-	-	-	210	Inf	Inf	0.0%
6/1	A12 (S) exit	U	N/A	N/A	-		-	-	-	690	Inf	Inf	0.0%
6/2	A12 (S) exit	U	N/A	N/A	-		-	-	-	803	Inf	Inf	0.0%
6/3	A12 (S) exit	U	N/A	N/A	-		-	-	-	803	Inf	Inf	0.0%

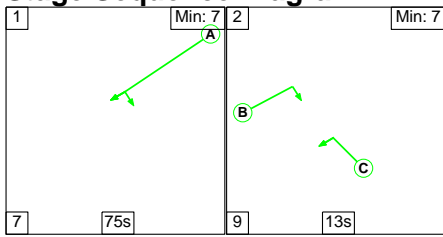
Full Input Data And Results

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)
<b>Network</b>	-	-	0	0	0	7.9	5.7	0.0	13.6	-	-	-	-
<b>A12 / Harold Court</b>	-	-	0	0	0	7.9	5.7	0.0	13.6	-	-	-	-
1/1	1541	1541	-	-	-	0.0	1.8	-	1.8	4.2	0.0	1.8	1.8
1/2+1/3	144	144	-	-	-	1.3	0.4	-	1.8	43.9	3.2	0.4	3.6
2/2+2/1	1333	1333	-	-	-	2.7	1.4	-	4.1	11.0	8.2	1.4	9.6
2/3	803	803	-	-	-	1.7	0.7	-	2.4	11.0	10.5	0.7	11.2
3/1	226	226	-	-	-	2.2	1.4	-	3.5	56.4	5.2	1.4	6.6
4/1	1541	1541	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/2	0	0	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	210	210	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	690	690	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/2	803	803	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/3	803	803	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
C1			PRC for Signalled Lanes (%):		21.8	Total Delay for Signalled Lanes (pcuHr):		10.06	Cycle Time (s):		88		
			PRC Over All Lanes (%):		14.8	Total Delay Over All Lanes(pcuHr):		13.61					

Full Input Data And Results

**Scenario 7: 'New Scenario'** (FG9: '2023 Surveyed Peak Hour AM', Plan 1: 'Network Control Plan 1')

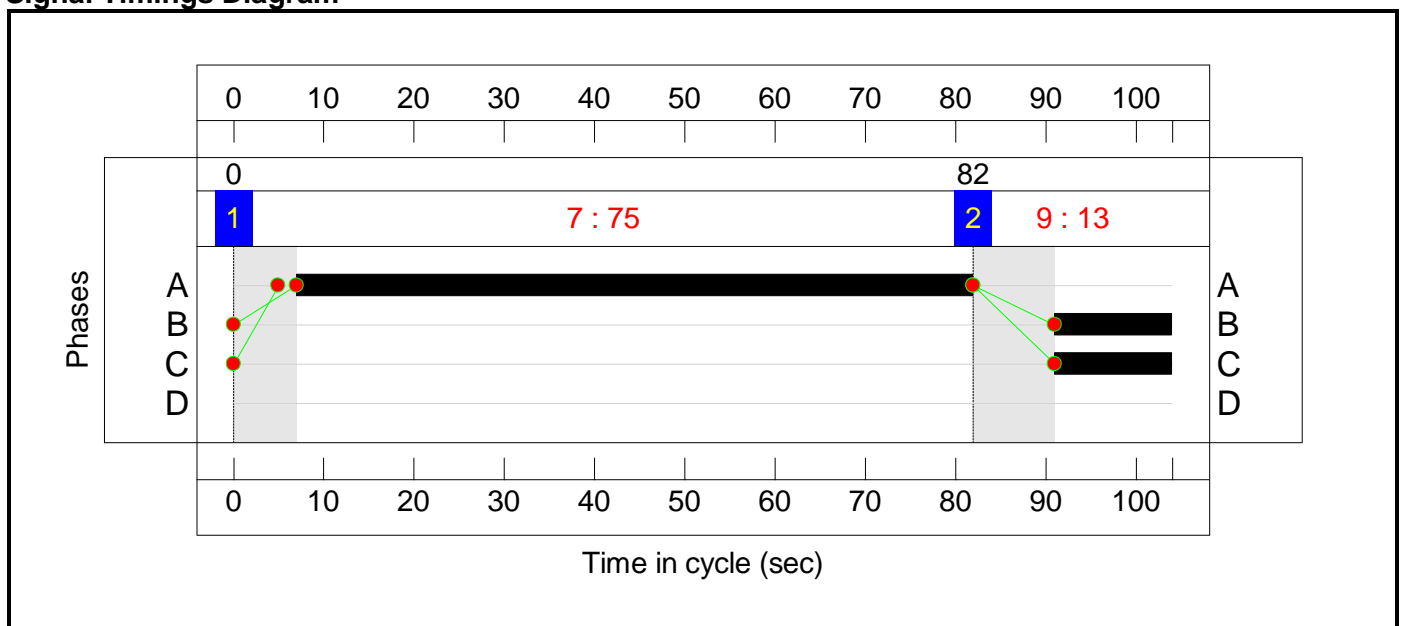
**Stage Sequence Diagram**



**Stage Timings**

Stage	1	2
Duration	75	13
Change Point	0	82

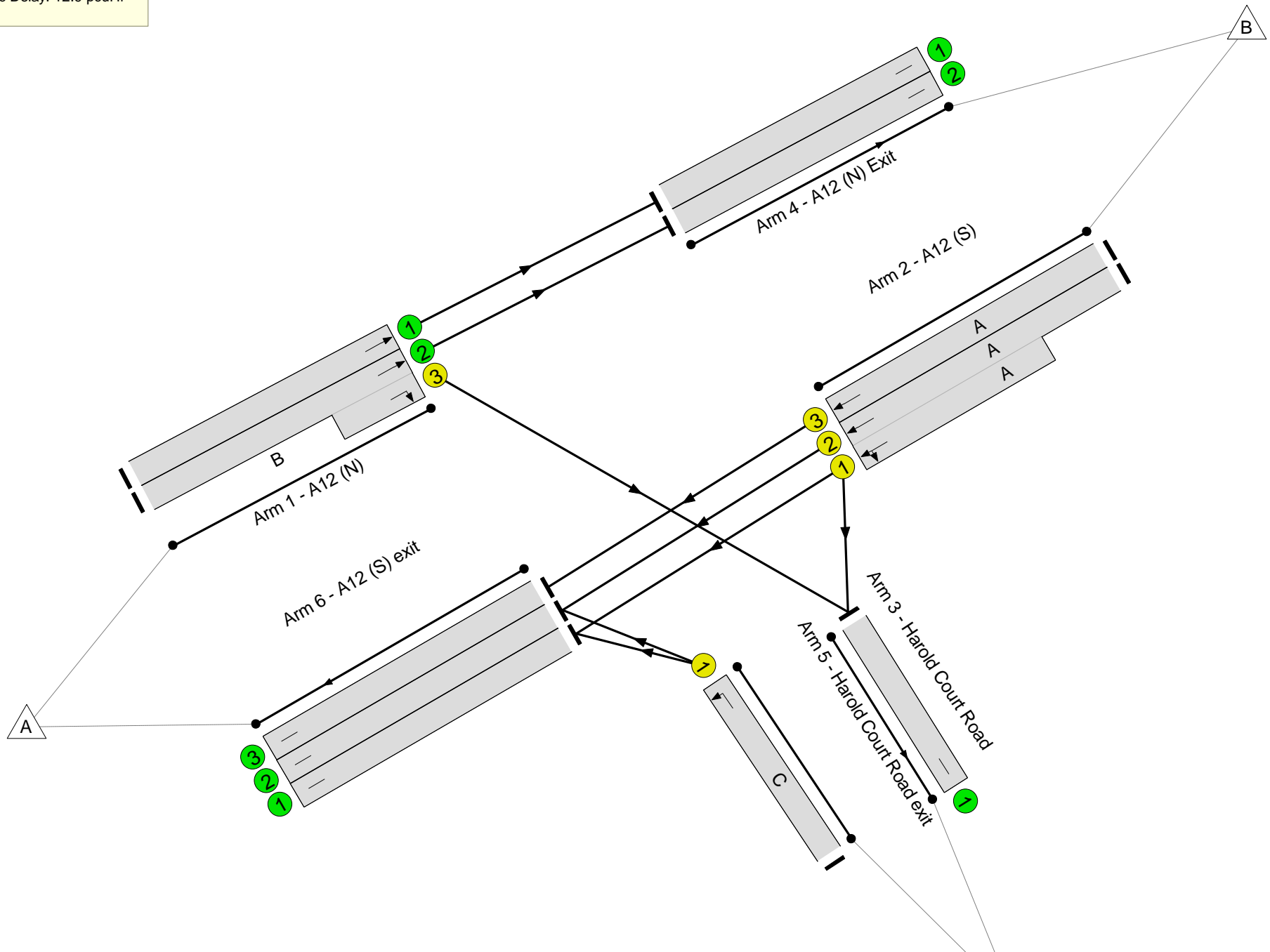
**Signal Timings Diagram**



Full Input Data And Results  
**Network Layout Diagram**

Full Input Data And Results

A12 / Harold Court  
PRC: 10.9 %  
Total Traffic Delay: 12.9 pcuHr



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 (%)
<b>Network</b>	-	-	<b>N/A</b>	-	-		-	-	-	-	-	-	<b>81.1%</b>
<b>A12 / Harold Court</b>	-	-	<b>N/A</b>	-	-		-	-	-	-	-	-	<b>81.1%</b>
1/1	A12 (N) Ahead	U	N/A	N/A	-		-	-	-	1594	1965	1965	81.1%
1/2+1/3	A12 (N) Ahead Right	U	N/A	N/A	- B		-	-	-	100	1965:1800	0+242	0.0 : 41.3%
2/2+2/1	A12 (S) Left Ahead	U	N/A	N/A	A		1	75	-	1377	2055:1915	958+895	74.3 : 74.3%
2/3	A12 (S) Ahead	U	N/A	N/A	A		1	75	-	852	2055	1502	56.7%
3/1	Harold Court Road Left	U	N/A	N/A	C		1	13	-	178	1795	242	73.7%
4/1	A12 (N) Exit	U	N/A	N/A	-		-	-	-	1594	Inf	Inf	0.0%
4/2	A12 (N) Exit	U	N/A	N/A	-		-	-	-	0	Inf	Inf	0.0%
5/1	Harold Court Road exit	U	N/A	N/A	-		-	-	-	168	Inf	Inf	0.0%
6/1	A12 (S) exit	U	N/A	N/A	-		-	-	-	686	Inf	Inf	0.0%
6/2	A12 (S) exit	U	N/A	N/A	-		-	-	-	801	Inf	Inf	0.0%
6/3	A12 (S) exit	U	N/A	N/A	-		-	-	-	852	Inf	Inf	0.0%

Full Input Data And Results

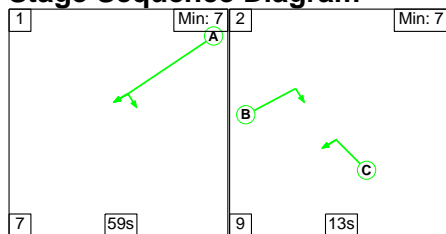
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
<b>Network</b>	-	-	0	0	0	7.0	5.9	0.0	12.9	-	-	-	-
<b>A12 / Harold Court</b>	-	-	0	0	0	7.0	5.9	0.0	12.9	-	-	-	-
1/1	1594	1594	-	-	-	0.0	2.1	-	2.1	4.8	0.0	2.1	2.1
1/2+1/3	100	100	-	-	-	1.1	0.3	-	1.5	53.8	2.6	0.3	3.0
2/2+2/1	1377	1377	-	-	-	2.2	1.4	-	3.6	9.5	8.3	1.4	9.7
2/3	852	852	-	-	-	1.5	0.7	-	2.2	9.2	11.1	0.7	11.8
3/1	178	178	-	-	-	2.1	1.3	-	3.5	70.4	4.9	1.3	6.2
4/1	1594	1594	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/2	0	0	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	168	168	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	686	686	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/2	801	801	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/3	852	852	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
C1			PRC for Signalled Lanes (%):		21.1	Total Delay for Signalled Lanes (pcuHr):		9.30	Cycle Time (s): 104				
			PRC Over All Lanes (%):		10.9	Total Delay Over All Lanes(pcuHr):		12.92					



Full Input Data And Results

**Scenario 8: 'New Scenario'** (FG10: '2023 Surveyed Peak Hour PM', Plan 1: 'Network Control Plan 1')

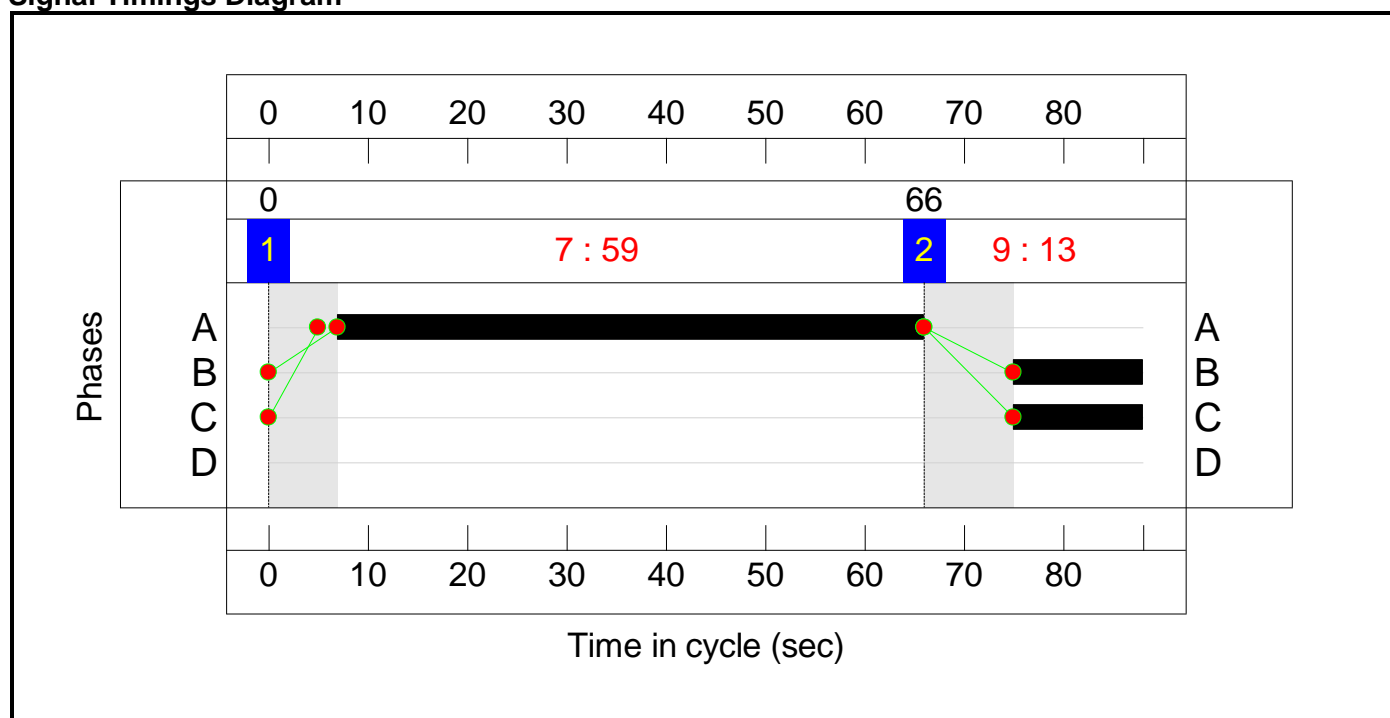
**Stage Sequence Diagram**



**Stage Timings**

Stage	1	2
Duration	59	13
Change Point	0	66

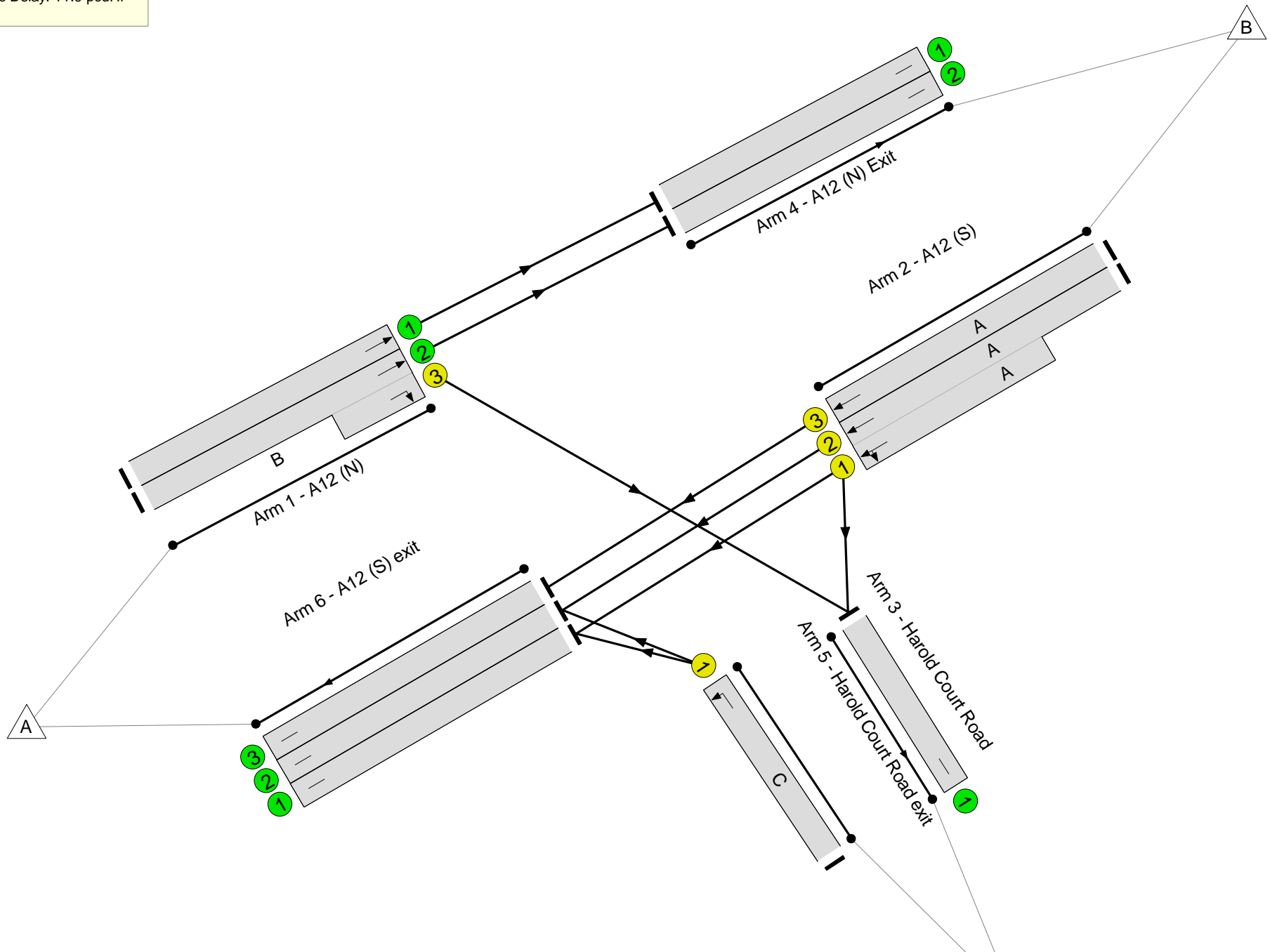
**Signal Timings Diagram**



Full Input Data And Results  
**Network Layout Diagram**

Full Input Data And Results

A12 / Harold Court  
PRC: 17.2 %  
Total Traffic Delay: 11.9 pcuHr



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 (%)
<b>Network</b>	-	-	<b>N/A</b>	-	-		-	-	-	-	-	-	<b>76.8%</b>
<b>A12 / Harold Court</b>	-	-	<b>N/A</b>	-	-		-	-	-	-	-	-	<b>76.8%</b>
1/1	A12 (N) Ahead	U	N/A	N/A	-		-	-	-	1509	1965	1965	76.8%
1/2+1/3	A12 (N) Ahead Right	U	N/A	N/A	- B		-	-	-	91	1965:1800	0+286	0.0 : 31.8%
2/2+2/1	A12 (S) Left Ahead	U	N/A	N/A	A		1	59	-	1309	2055:1915	947+881	71.6 : 71.6%
2/3	A12 (S) Ahead	U	N/A	N/A	A		1	59	-	793	2055	1401	56.6%
3/1	Harold Court Road Left	U	N/A	N/A	C		1	13	-	205	1795	286	71.8%
4/1	A12 (N) Exit	U	N/A	N/A	-		-	-	-	1509	Inf	Inf	0.0%
4/2	A12 (N) Exit	U	N/A	N/A	-		-	-	-	0	Inf	Inf	0.0%
5/1	Harold Court Road exit	U	N/A	N/A	-		-	-	-	156	Inf	Inf	0.0%
6/1	A12 (S) exit	U	N/A	N/A	-		-	-	-	668	Inf	Inf	0.0%
6/2	A12 (S) exit	U	N/A	N/A	-		-	-	-	781	Inf	Inf	0.0%
6/3	A12 (S) exit	U	N/A	N/A	-		-	-	-	793	Inf	Inf	0.0%

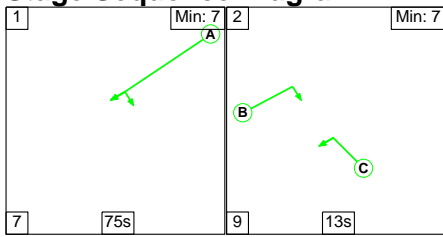
Full Input Data And Results

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)
<b>Network</b>	-	-	0	0	0	6.8	5.0	0.0	11.9	-	-	-	-
<b>A12 / Harold Court</b>	-	-	0	0	0	6.8	5.0	0.0	11.9	-	-	-	-
1/1	1509	1509	-	-	-	0.0	1.6	-	1.6	3.9	0.0	1.6	1.6
1/2+1/3	91	91	-	-	-	0.8	0.2	-	1.1	42.0	1.9	0.2	2.2
2/2+2/1	1309	1309	-	-	-	2.4	1.3	-	3.7	10.1	7.7	1.3	9.0
2/3	793	793	-	-	-	1.6	0.7	-	2.2	10.2	9.9	0.7	10.6
3/1	205	205	-	-	-	2.0	1.2	-	3.2	56.8	4.7	1.2	6.0
4/1	1509	1509	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/2	0	0	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	156	156	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	668	668	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/2	781	781	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/3	793	793	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
C1			PRC for Signalled Lanes (%):		25.4	Total Delay for Signalled Lanes (pcuHr):		9.16	Cycle Time (s):		88		
			PRC Over All Lanes (%):		17.2	Total Delay Over All Lanes(pcuHr):		11.86					

Full Input Data And Results

**Scenario 9: 'New Scenario'** (FG11: '2030 Surveyed Peak Hour AM', Plan 1: 'Network Control Plan 1')

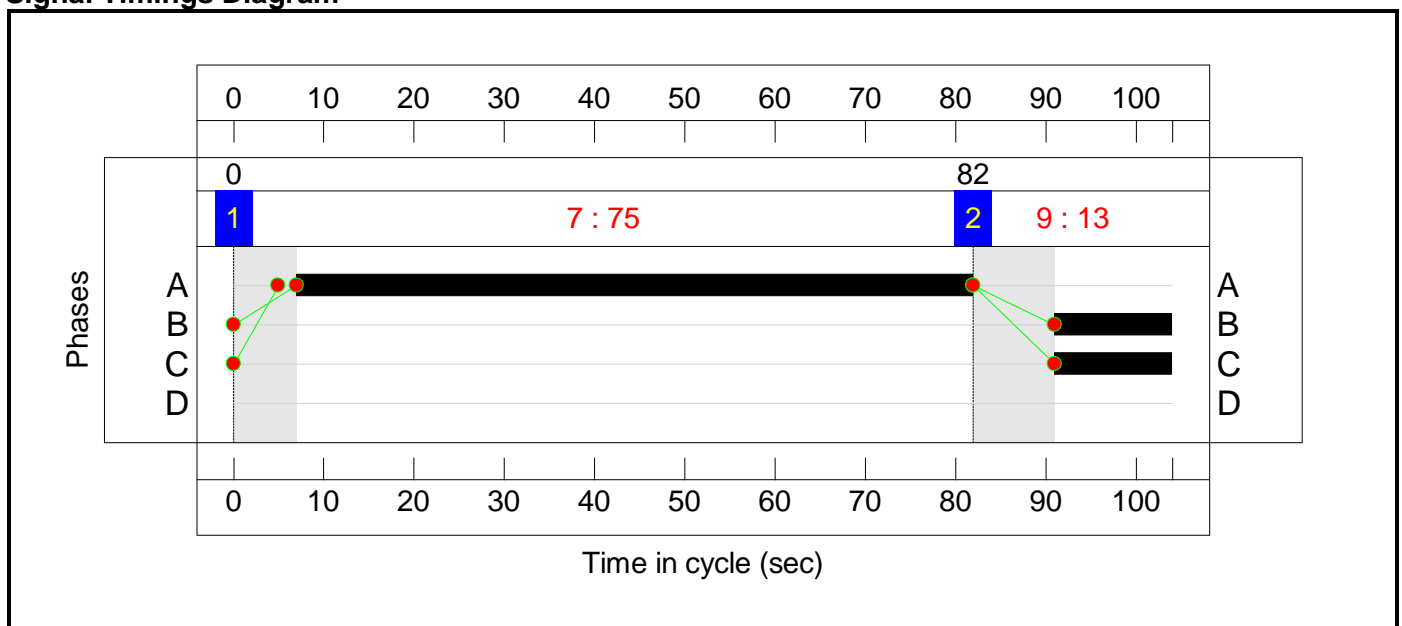
**Stage Sequence Diagram**



**Stage Timings**

Stage	1	2
Duration	75	13
Change Point	0	82

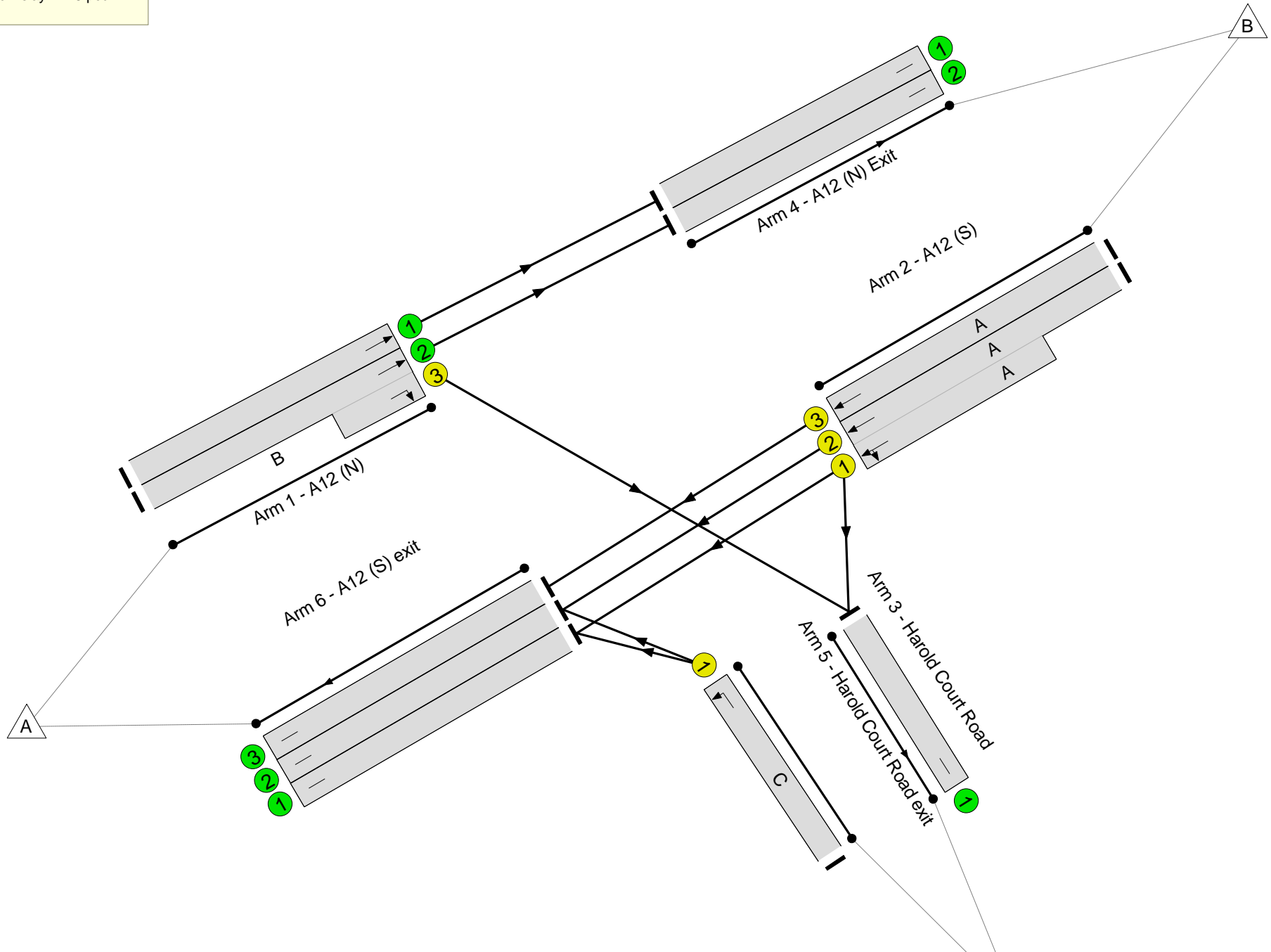
**Signal Timings Diagram**



Full Input Data And Results  
**Network Layout Diagram**

Full Input Data And Results

A12 / Harold Court  
PRC: 6.0 %  
Total Traffic Delay: 14.6 pcuHr





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 (%)
<b>Network</b>	-	-	<b>N/A</b>	-	-		-	-	-	-	-	-	<b>84.9%</b>
<b>A12 / Harold Court</b>	-	-	<b>N/A</b>	-	-		-	-	-	-	-	-	<b>84.9%</b>
1/1	A12 (N) Ahead	U	N/A	N/A	-		-	-	-	1668	1965	1965	84.9%
1/2+1/3	A12 (N) Ahead Right	U	N/A	N/A	- B		-	-	-	105	1965:1800	0+242	0.0 : 43.3%
2/2+2/1	A12 (S) Left Ahead	U	N/A	N/A	A		1	75	-	1431	2055:1915	959+893	77.3 : 77.3%
2/3	A12 (S) Ahead	U	N/A	N/A	A		1	75	-	902	2055	1502	60.1%
3/1	Harold Court Road Left	U	N/A	N/A	C		1	13	-	186	1795	242	77.0%
4/1	A12 (N) Exit	U	N/A	N/A	-		-	-	-	1668	Inf	Inf	0.0%
4/2	A12 (N) Exit	U	N/A	N/A	-		-	-	-	0	Inf	Inf	0.0%
5/1	Harold Court Road exit	U	N/A	N/A	-		-	-	-	176	Inf	Inf	0.0%
6/1	A12 (S) exit	U	N/A	N/A	-		-	-	-	712	Inf	Inf	0.0%
6/2	A12 (S) exit	U	N/A	N/A	-		-	-	-	834	Inf	Inf	0.0%
6/3	A12 (S) exit	U	N/A	N/A	-		-	-	-	902	Inf	Inf	0.0%

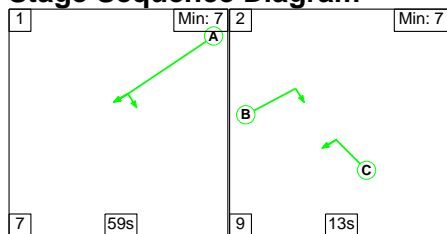
Full Input Data And Results

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)
<b>Network</b>	-	-	0	0	0	7.5	7.2	0.0	14.6	-	-	-	-
<b>A12 / Harold Court</b>	-	-	0	0	0	7.5	7.2	0.0	14.6	-	-	-	-
1/1	1668	1668	-	-	-	0.0	2.8	-	2.8	6.0	0.0	2.8	2.8
1/2+1/3	105	105	-	-	-	1.2	0.4	-	1.6	54.4	2.8	0.4	3.2
2/2+2/1	1431	1431	-	-	-	2.3	1.7	-	4.0	10.1	8.9	1.7	10.5
2/3	902	902	-	-	-	1.7	0.8	-	2.4	9.7	12.3	0.8	13.0
3/1	186	186	-	-	-	2.2	1.6	-	3.8	74.1	5.2	1.6	6.7
4/1	1668	1668	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/2	0	0	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	176	176	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	712	712	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/2	834	834	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/3	902	902	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
C1			PRC for Signalled Lanes (%):		16.5	Total Delay for Signalled Lanes (pcuHr):		10.29	Cycle Time (s): 104				
			PRC Over All Lanes (%):		6.0	Total Delay Over All Lanes(pcuHr):		14.63					

Full Input Data And Results

**Scenario 10: 'New Scenario'** (FG12: '2030 Surveyed Peak Hour PM', Plan 1: 'Network Control Plan 1')

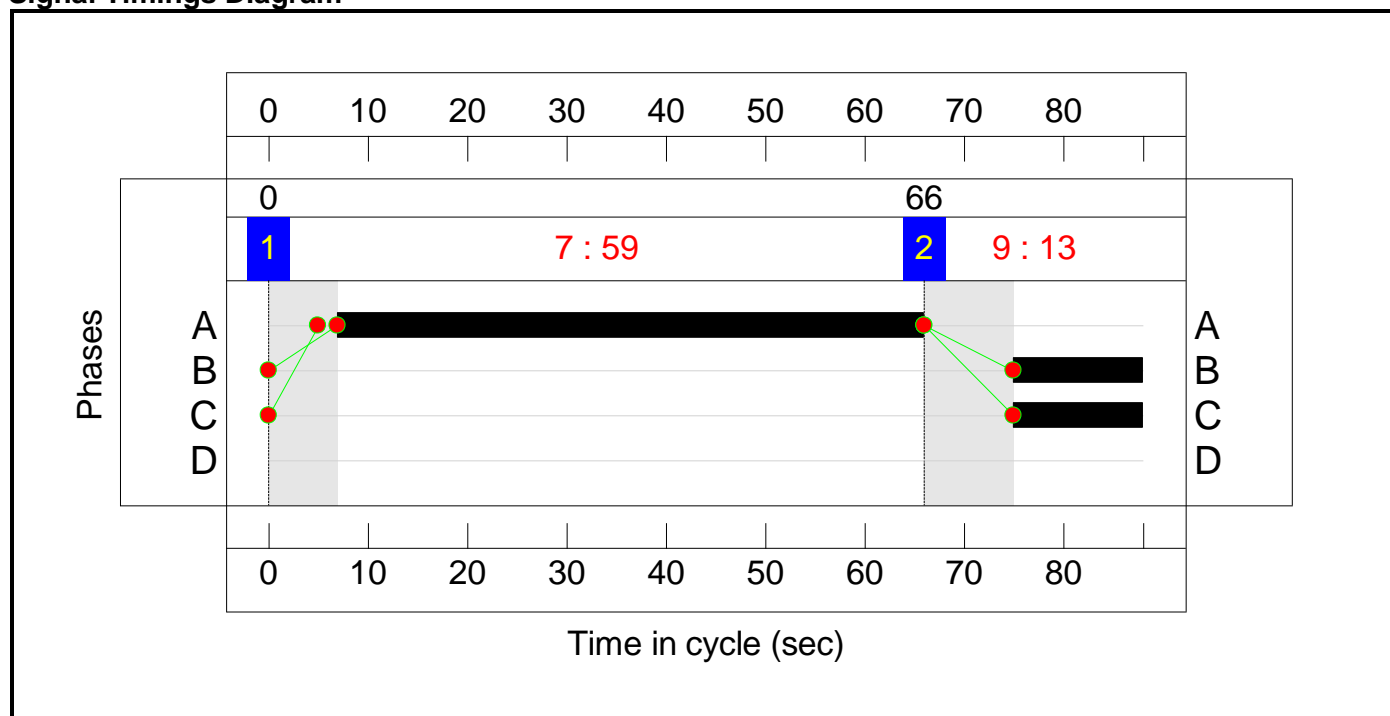
**Stage Sequence Diagram**



**Stage Timings**

Stage	1	2
Duration	59	13
Change Point	0	66

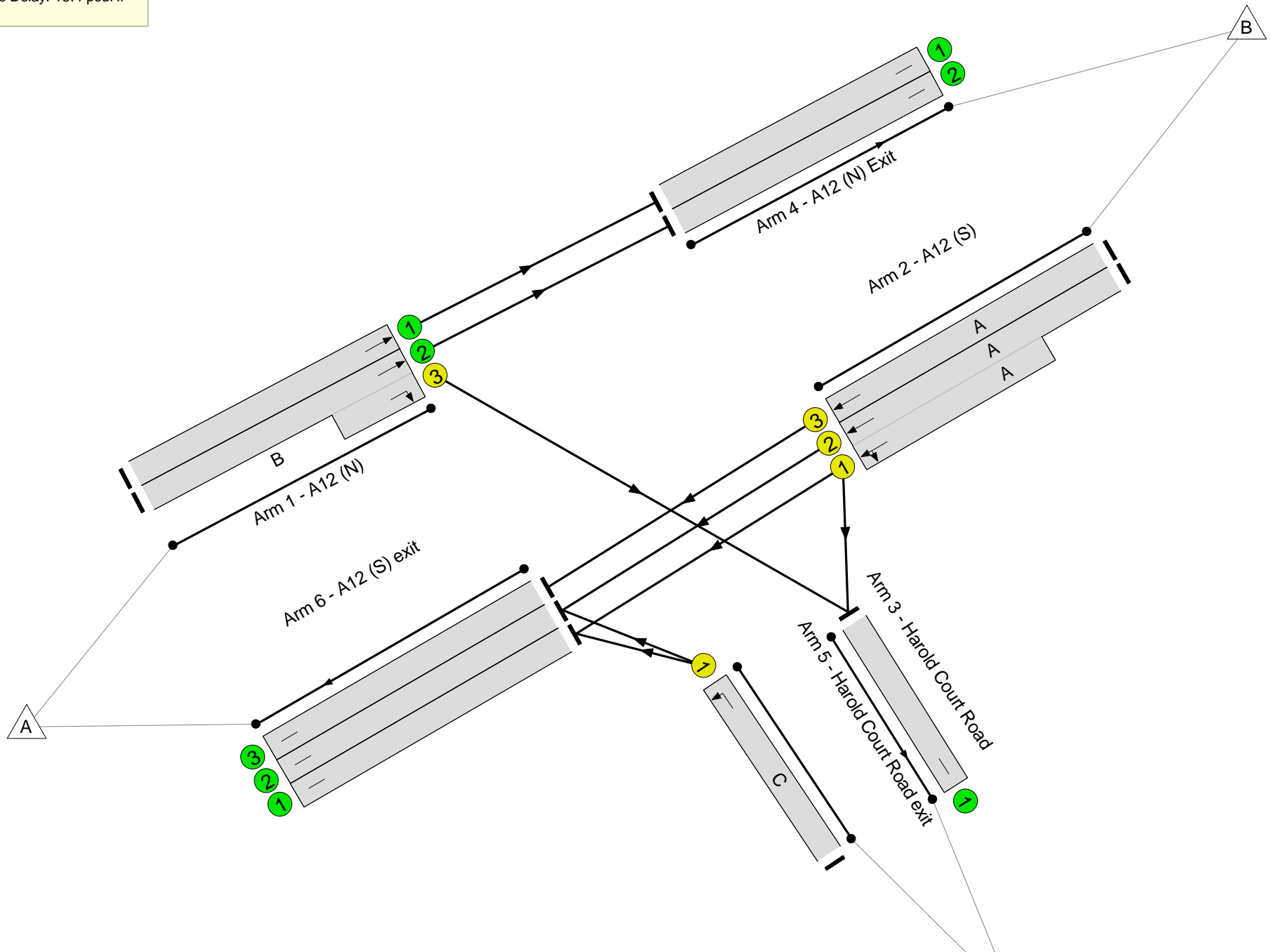

**Signal Timings Diagram**



Full Input Data And Results  
**Network Layout Diagram**

Full Input Data And Results

A12 / Harold Court  
PRC: 11.4 %  
Total Traffic Delay: 13.4 pcuHr



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 (%)
<b>Network</b>	-	-	<b>N/A</b>	-	-		-	-	-	-	-	-	<b>80.8%</b>
<b>A12 / Harold Court</b>	-	-	<b>N/A</b>	-	-		-	-	-	-	-	-	<b>80.8%</b>
1/1	A12 (N) Ahead	U	N/A	N/A	-		-	-	-	1588	1965	1965	80.8%
1/2+1/3	A12 (N) Ahead Right	U	N/A	N/A	- B		-	-	-	96	1965:1800	0+286	0.0 : 33.5%
2/2+2/1	A12 (S) Left Ahead	U	N/A	N/A	A		1	59	-	1367	2055:1915	947+881	74.8 : 74.8%
2/3	A12 (S) Ahead	U	N/A	N/A	A		1	59	-	844	2055	1401	60.2%
3/1	Harold Court Road Left	U	N/A	N/A	C		1	13	-	216	1795	286	75.6%
4/1	A12 (N) Exit	U	N/A	N/A	-		-	-	-	1588	Inf	Inf	0.0%
4/2	A12 (N) Exit	U	N/A	N/A	-		-	-	-	0	Inf	Inf	0.0%
5/1	Harold Court Road exit	U	N/A	N/A	-		-	-	-	164	Inf	Inf	0.0%
6/1	A12 (S) exit	U	N/A	N/A	-		-	-	-	699	Inf	Inf	0.0%
6/2	A12 (S) exit	U	N/A	N/A	-		-	-	-	816	Inf	Inf	0.0%
6/3	A12 (S) exit	U	N/A	N/A	-		-	-	-	844	Inf	Inf	0.0%

Full Input Data And Results

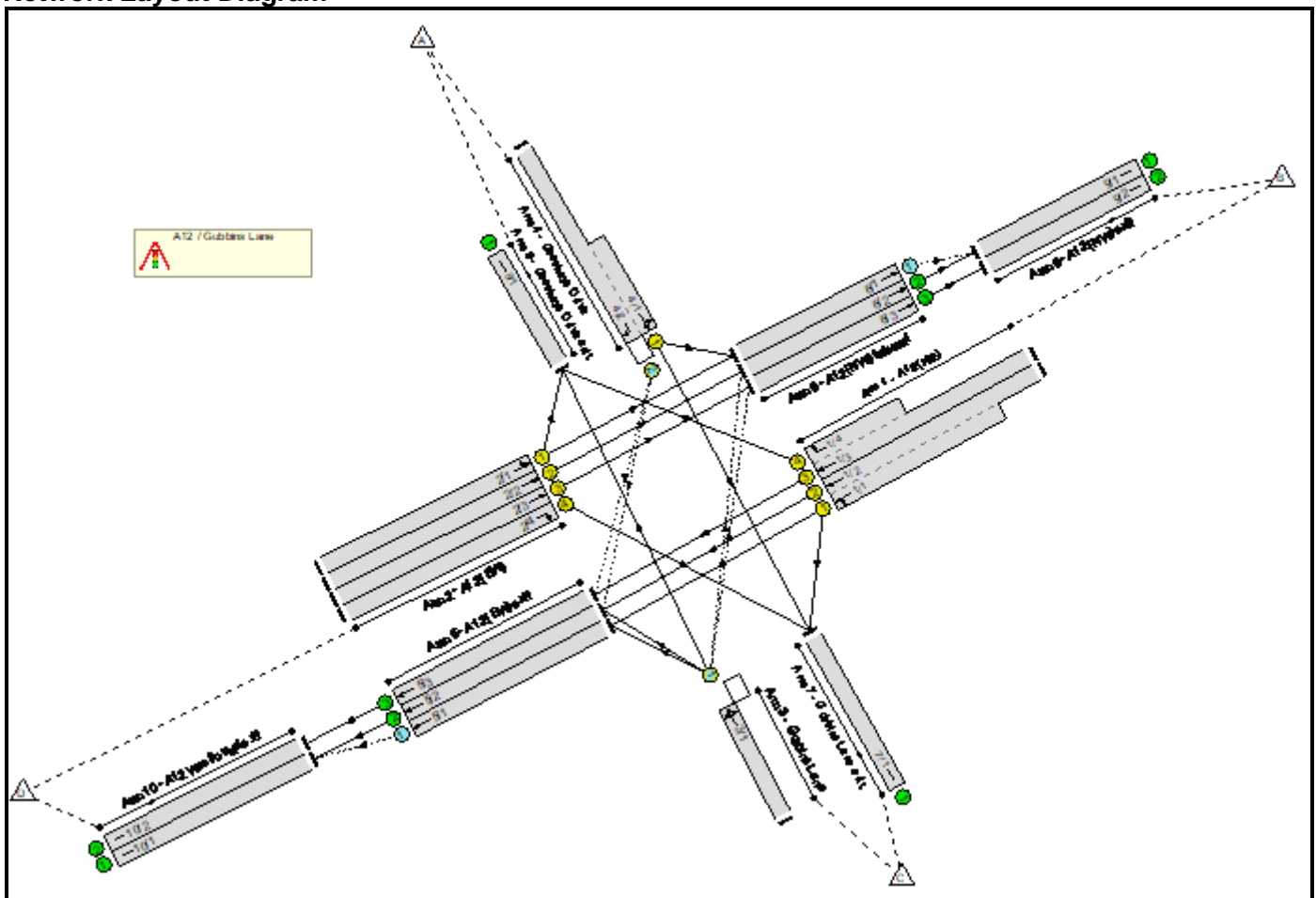
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
<b>Network</b>	-	-	<b>0</b>	<b>0</b>	<b>0</b>	<b>7.4</b>	<b>6.1</b>	<b>0.0</b>	<b>13.4</b>	-	-	-	-
<b>A12 / Harold Court</b>	-	-	<b>0</b>	<b>0</b>	<b>0</b>	<b>7.4</b>	<b>6.1</b>	<b>0.0</b>	<b>13.4</b>	-	-	-	-
1/1	1588	1588	-	-	-	0.0	2.1	-	2.1	4.7	0.0	2.1	2.1
1/2+1/3	96	96	-	-	-	0.9	0.3	-	1.1	42.3	2.1	0.3	2.3
2/2+2/1	1367	1367	-	-	-	2.6	1.5	-	4.1	10.7	8.3	1.5	9.7
2/3	844	844	-	-	-	1.8	0.8	-	2.5	10.8	11.0	0.8	11.8
3/1	216	216	-	-	-	2.1	1.5	-	3.6	60.2	5.0	1.5	6.5
4/1	1588	1588	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/2	0	0	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	164	164	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	699	699	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/2	816	816	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/3	844	844	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
C1			PRC for Signalled Lanes (%):		19.0	Total Delay for Signalled Lanes (pcuHr):		10.19	Cycle Time (s):		88		
			PRC Over All Lanes (%):		11.4	Total Delay Over All Lanes(pcuHr):		13.41					

Full Input Data And Results  
**Full Input Data And Results**

**User and Project Details**

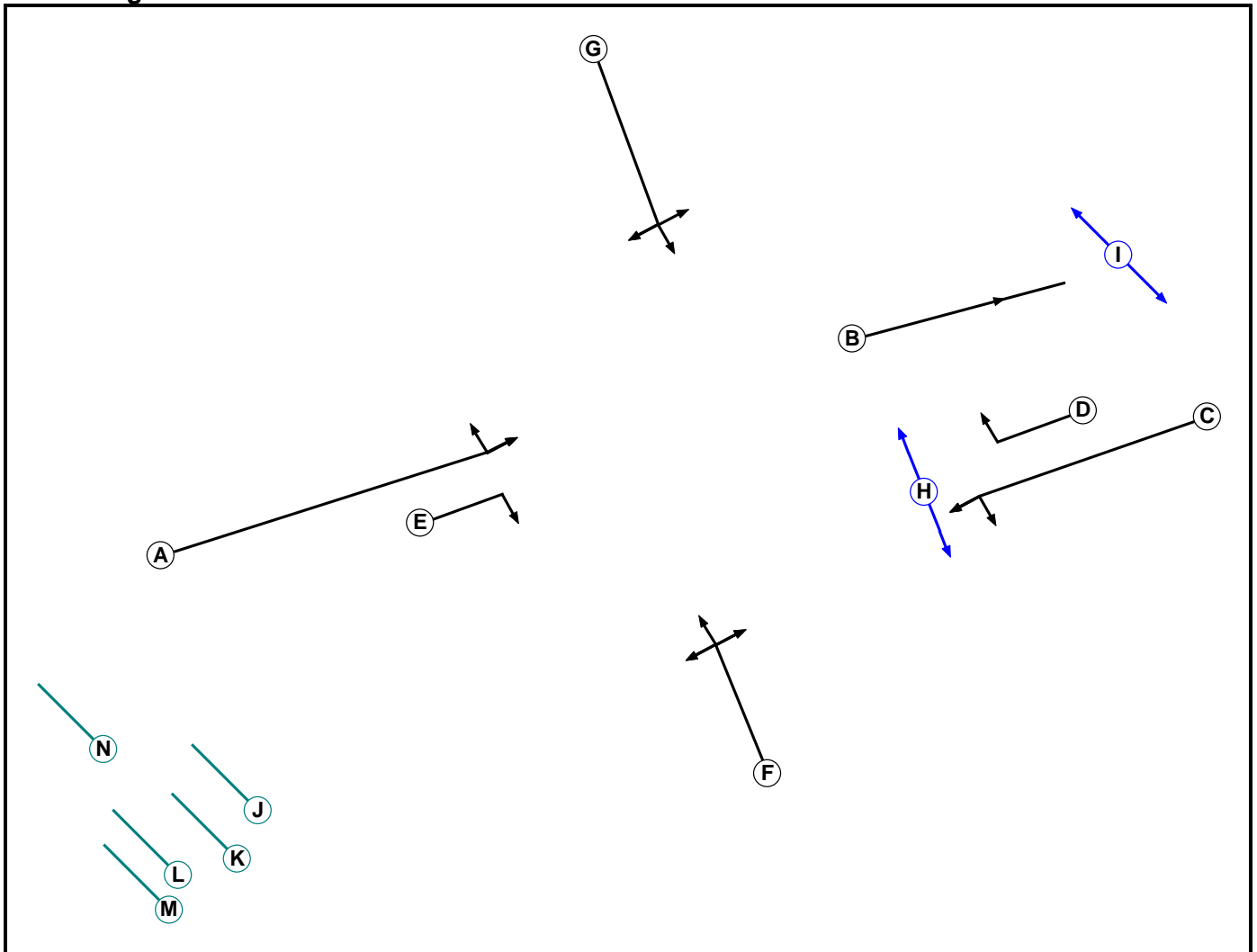
Project:	
Title:	
Location:	
Additional detail:	
File name:	4 - A12 - Gubbins Lane.lsg3x
Author:	
Company:	
Address:	

**Network Layout Diagram**





**Phase Diagram**



**Phase Input Data**

Phase Name	Phase Type	Stage Stream	Assoc. Phase	Street Min	Cont Min
A	Traffic	1		7	7
B	Traffic	2		7	7
C	Traffic	1		7	7
D	Traffic	1		7	7
E	Traffic	1		7	7
F	Traffic	1		7	7
G	Traffic	1		7	7
H	Pedestrian	1		6	6
I	Pedestrian	2		6	6
J	Dummy	1		1	1
K	Dummy	1		1	1
L	Dummy	1		1	1
M	Dummy	1		3	3
N	Dummy			3	3

Full Input Data And Results

**Phase Intergrens Matrix**

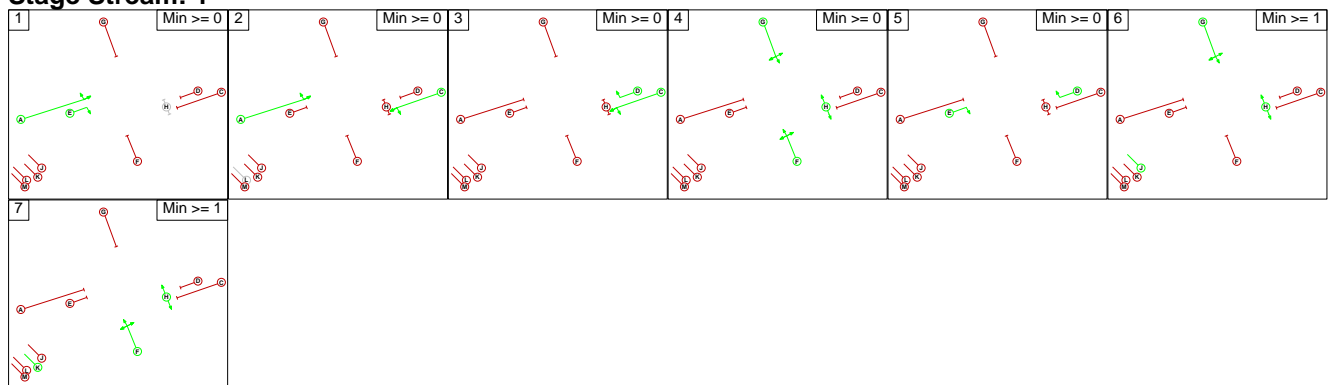
	Starting Phase													
	A	B	C	D	E	F	G	H	I	J	K	L	M	N
A	-	-	7	-	7	8	-	-	8	7	-	3	-	
B	-	-	-	-	-	-	-	7	-	-	-	-	3	
C	-	-	-	7	8	7	7	-	7	8	-	3	-	
D	9	-	-	-	7	7	7	-	7	7	9	3	-	
E	-	-	9	-	-	7	7	-	-	7	7	9	3	-
F	7	-	5	5	7	-	-	-	9	-	7	3	-	
G	7	-	8	6	7	-	-	-	-	10	8	3	-	
H	-	-	16	16	-	-	-	-	-	-	16	7	-	
I	-	10	-	-	-	-	-	-	-	-	-	-	4	
J	7	-	16	16	7	10	-	-	-	10	16	7	-	
K	7	-	16	16	7	-	9	-	-	8	16	7	-	
L	-	-	-	7	7	8	8	7	-	8	8	3	-	
M	2	-	2	2	2	2	2	2	-	2	2	-	-	
N	-	2	-	-	-	-	-	-	2	-	-	-	-	

**Phases in Stage**

Stream	Stage No.	Phases in Stage
1	1	A E
1	2	A C
1	3	C D
1	4	F G H
1	5	D E
1	6	G H J
1	7	F H K
2	1	B
2	2	I

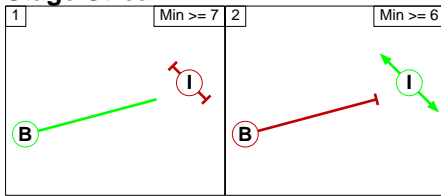
**Stage Diagram**

Stage Stream: 1



Full Input Data And Results

**Stage Stream: 2**



**Phase Delays**

**Stage Stream: 1**

Term. Stage	Start Stage	Phase	Type	Value	Cont value
1	3	A	Losing	2	2
1	4	E	Losing	1	1
1	6	E	Losing	1	1
2	6	C	Losing	1	1
2	7	A	Losing	1	1
3	1	C	Losing	2	2
3	4	D	Losing	1	1
3	7	D	Losing	1	1
4	2	F	Losing	9	9
4	2	G	Losing	8	8
4	3	F	Losing	8	8
4	3	G	Losing	8	8
4	5	F	Losing	9	9
4	5	G	Losing	9	9
6	2	G	Losing	8	8
6	3	G	Losing	8	8
6	5	G	Losing	9	9
7	2	F	Losing	9	9
7	3	F	Losing	11	11
7	5	F	Losing	9	9

**Stage Stream: 2**

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

Full Input Data And Results

**Prohibited Stage Change**

**Stage Stream: 1**

		To Stage						
		1	2	3	4	5	6	7
From Stage	1	■	9	9	8	7	8	7
	2	7	■	7	8	7	8	8
	3	9	9	■	8	7	7	8
	4	7	16	16	■	16	9	10
	5	9	9	9	7	■	7	7
	6	7	16	16	10	16	■	10
	7	7	16	16	9	16	9	■

**Stage Stream: 2**

		To Stage	
From Stage	1	1	2
	2	■	7
	3	10	■

Full Input Data And Results

**Give-Way Lane Input Data**

Junction: A12 / Gubbins Lane											
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)
3/1 (Gubbins Lane)	6/2 (Right)	1439	0	4/1	1.09	All	2.00	2.00	0.50	2	2.00
	6/3 (Right)	1439	0	4/1	1.09	All					
4/2 (Gooshays Drive)	5/2 (Right)	1439	0	3/1	1.09	To 5/1 (Left) To 5/2 (Left) To 8/1 (Ahead)	2.00	-	0.50	2	2.00
	5/3 (Right)	1439	0	3/1	1.09	To 5/1 (Left) To 5/2 (Left) To 8/1 (Ahead)					
5/1 (A12 (SW) exit)	10/1 (Ahead)	1439	0	5/2	1.09	All	-	-	-	-	-
6/1 (A12 (NW) internal)	9/1 (Ahead)	1439	0	9/2	1.09	All	-	-	-	-	-

Full Input Data And Results

**Lane Input Data**

Junction: A12 / Gubbins Lane												
Lane	Lane Type	Phases	Start Disp.	End Disp.	Physical Length (PCU)	Sat Flow Type	Def User Saturation Flow (PCU/Hr)	Lane Width (m)	Gradient	Nearside Lane	Turns	Turning Radius (m)
1/1 (A12 (NE))	U	C	2	3	20.6	Geom	-	3.40	0.00	Y	Arm 5 Ahead	Inf
											Arm 7 Left	12.00
1/2 (A12 (NE))	U	C	2	3	60.0	Geom	-	3.40	0.00	Y	Arm 5 Ahead	Inf
1/3 (A12 (NE))	U	C	2	3	60.0	Geom	-	3.60	0.00	N	Arm 5 Ahead	Inf
1/4 (A12 (NE))	U	D	2	3	9.1	Geom	-	3.20	0.00	Y	Arm 8 Right	13.50
2/1 (A12 (SW))	U	A	2	3	60.0	Geom	-	2.60	0.00	Y	Arm 6 Ahead	Inf
											Arm 8 Left	17.30
2/2 (A12 (SW))	U	A	2	3	60.0	Geom	-	3.20	0.00	N	Arm 6 Ahead	Inf
2/3 (A12 (SW))	U	A	2	3	60.0	Geom	-	3.20	0.00	N	Arm 6 Ahead	Inf
2/4 (A12 (SW))	U	E	2	3	60.0	Geom	-	3.50	0.00	Y	Arm 7 Right	15.60
3/1 (Gubbins Lane)	O	F	2	3	60.0	Geom	-	3.60	0.00	Y	Arm 5 Left	11.90
											Arm 6 Right	13.30
											Arm 8 Ahead	Inf
4/1 (Gooshays Drive)	U	G	2	3	9.0	Geom	-	3.40	0.00	Y	Arm 6 Left	14.20
											Arm 7 Ahead	Inf
4/2 (Gooshays Drive)	O	G	2	3	60.0	Geom	-	3.40	0.00	Y	Arm 5 Right	15.40
5/1 (A12 (SW) exit)	O		2	3	60.0	Geom	-	3.50	0.00	Y	Arm 10 Ahead	Inf
5/2 (A12 (SW) exit)	U		2	3	60.0	Geom	-	3.00	0.00	N	Arm 10 Ahead	Inf
5/3 (A12 (SW) exit)	U		2	3	60.0	Geom	-	3.00	0.00	N	Arm 10 Ahead	Inf
6/1 (A12 (NW) internal)	O		2	3	60.0	Geom	-	3.00	0.00	Y	Arm 9 Ahead	Inf
6/2 (A12 (NW) internal)	U		2	3	60.0	Geom	-	3.00	0.00	N	Arm 9 Ahead	Inf

Full Input Data And Results

6/3 (A12 (NW) internal)	U		2	3	60.0	Geom	-	3.00	0.00	N	Arm 9 Ahead	Inf
7/1 (Gubbins Lane exit)	U		2	3	60.0	Inf	-	-	-	-	-	-
8/1 (Gooshays Drive exit)	U		2	3	60.0	Inf	-	-	-	-	-	-
9/1 (A12 (NW) exit)	U		2	3	60.0	Inf	-	-	-	-	-	-
9/2 (A12 (NW) exit)	U		2	3	60.0	Inf	-	-	-	-	-	-
10/1 (A12 Westbound exit)	U		2	3	60.0	Inf	-	-	-	-	-	-
10/2 (A12 Westbound exit)	U		2	3	60.0	Inf	-	-	-	-	-	-

Traffic Flow Groups

Flow Group	Start Time	End Time	Duration	Formula
1: 'Base Year 2023 AM'	08:00	09:00	01:00	
2: 'Base Year 2023 PM'	17:00	18:00	01:00	
3: 'Reference Case 2030 AM'	08:00	09:00	01:00	F1 * 1.0466
4: 'Reference Case 2030 PM'	17:00	18:00	01:00	F2 * 1.0521
7: 'Do Something 2030 + LTC AM'	08:00	09:00	01:00	F3+F5
8: 'Do Something 2030 + LTC PM'	17:00	18:00	01:00	F4+F6
9: '2023 Surveyed Peak Hour AM'	08:00	09:00	01:00	
10: '2023 Surveyed Peak Hour PM'	17:00	18:00	01:00	
11: '2030 Surveyed Peak Hour AM'	08:00	09:00	01:00	F9 * 1.0466
12: '2030 Surveyed Peak Hour PM'	17:00	18:00	01:00	F10 * 1.0521

Full Input Data And Results

**Scenario 1: 'Base Year 2023 AM'** (FG1: 'Base Year 2023 AM', Plan 1: 'Network Control Plan 1')

**Traffic Flows, Desired**

**Desired Flow :**

		Destination				
		A	B	C	D	Tot.
Origin	A	0	45	405	89	539
	B	311	0	104	1464	1879
	C	254	95	0	94	443
	D	132	920	126	0	1178
	Tot.	697	1060	635	1647	4039



Full Input Data And Results

**Traffic Lane Flows**

Lane	Scenario 1: Base Year 2023 AM
<b>Junction: A12 / Gubbins Lane</b>	
1/1 (short)	494
1/2 (with short)	1010(In) 516(Out)
1/3 (with short)	869(In) 558(Out)
1/4 (short)	311
2/1	319
2/2	367
2/3	366
2/4	126
3/1	443
4/1 (short)	450
4/2 (with short)	539(In) 89(Out)
5/1	390
5/2	611
5/3	646
6/1	232
6/2	414
6/3	414
7/1	635
8/1	697
9/1	646
9/2	414
10/1	1001
10/2	646

Full Input Data And Results

**Lane Saturation Flows**

Junction: A12 / Gubbins Lane								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (A12 (NE))	3.40	0.00	Y	Arm 5 Ahead	Inf	78.9 %	1905	1905
				Arm 7 Left	12.00	21.1 %		
1/2 (A12 (NE))	3.40	0.00	Y	Arm 5 Ahead	Inf	100.0 %	1955	1955
1/3 (A12 (NE))	3.60	0.00	N	Arm 5 Ahead	Inf	100.0 %	2115	2115
1/4 (A12 (NE))	3.20	0.00	Y	Arm 8 Right	13.50	100.0 %	1742	1742
2/1 (A12 (SW))	2.60	0.00	Y	Arm 6 Ahead	Inf	58.6 %	1810	1810
				Arm 8 Left	17.30	41.4 %		
2/2 (A12 (SW))	3.20	0.00	N	Arm 6 Ahead	Inf	100.0 %	2075	2075
2/3 (A12 (SW))	3.20	0.00	N	Arm 6 Ahead	Inf	100.0 %	2075	2075
2/4 (A12 (SW))	3.50	0.00	Y	Arm 7 Right	15.60	100.0 %	1793	1793
3/1 (Gubbins Lane)	3.60	0.00	Y	Arm 5 Left	11.90	21.2 %	1879	1879
				Arm 6 Right	13.30	21.4 %		
				Arm 8 Ahead	Inf	57.3 %		
4/1 (Gooshays Drive)	3.40	0.00	Y	Arm 6 Left	14.20	10.0 %	1935	1935
				Arm 7 Ahead	Inf	90.0 %		
4/2 (Gooshays Drive)	3.40	0.00	Y	Arm 5 Right	15.40	100.0 %	1781	1781
5/1 (A12 (SW) exit)	3.50	0.00	Y	Arm 10 Ahead	Inf	100.0 %	1965	1965
5/2 (A12 (SW) exit)	3.00	0.00	N	Arm 10 Ahead	Inf	100.0 %	2055	2055
5/3 (A12 (SW) exit)	3.00	0.00	N	Arm 10 Ahead	Inf	100.0 %	2055	2055
6/1 (A12 (NW) internal)	3.00	0.00	Y	Arm 9 Ahead	Inf	100.0 %	1915	1915
6/2 (A12 (NW) internal)	3.00	0.00	N	Arm 9 Ahead	Inf	100.0 %	2055	2055
6/3 (A12 (NW) internal)	3.00	0.00	N	Arm 9 Ahead	Inf	100.0 %	2055	2055
7/1 (Gubbins Lane exit Lane 1)	Infinite Saturation Flow						Inf	Inf
8/1 (Gooshays Drive exit Lane 1)	Infinite Saturation Flow						Inf	Inf
9/1 (A12 (NW) exit Lane 1)	Infinite Saturation Flow						Inf	Inf
9/2 (A12 (NW) exit Lane 2)	Infinite Saturation Flow						Inf	Inf
10/1 (A12 Westbound exit Lane 1)	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

10/2 (A12 Westbound exit Lane 2)	Infinite Saturation Flow	Inf	Inf
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Scenario 2: 'Base Year 2023 PM' (FG2: 'Base Year 2023 PM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	59	385	128	572
	B	375	0	159	1189	1723
	C	305	71	0	108	484
	D	218	870	247	0	1335
	Tot.	898	1000	791	1425	4114

Traffic Lane Flows

Lane	Scenario 2: Base Year 2023 PM
<b>Junction: A12 / Gubbins Lane</b>	
1/1 (short)	420
1/2 (with short)	866(In) 446(Out)
1/3 (with short)	857(In) 482(Out)
1/4 (short)	375
2/1	325
2/2	381
2/3	382
2/4	247
3/1	484
4/1 (short)	444
4/2 (with short)	572(In) 128(Out)
5/1	261
5/2	555
5/3	609
6/1	166
6/2	416
6/3	418
7/1	791
8/1	898
9/1	582
9/2	418
10/1	816
10/2	609

Full Input Data And Results

**Lane Saturation Flows**

Junction: A12 / Gubbins Lane								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (A12 (NE))	3.40	0.00	Y	Arm 5 Ahead	Inf	62.1 %	1867	1867
				Arm 7 Left	12.00	37.9 %		
1/2 (A12 (NE))	3.40	0.00	Y	Arm 5 Ahead	Inf	100.0 %	1955	1955
1/3 (A12 (NE))	3.60	0.00	N	Arm 5 Ahead	Inf	100.0 %	2115	2115
1/4 (A12 (NE))	3.20	0.00	Y	Arm 8 Right	13.50	100.0 %	1742	1742
2/1 (A12 (SW))	2.60	0.00	Y	Arm 6 Ahead	Inf	32.9 %	1772	1772
				Arm 8 Left	17.30	67.1 %		
2/2 (A12 (SW))	3.20	0.00	N	Arm 6 Ahead	Inf	100.0 %	2075	2075
2/3 (A12 (SW))	3.20	0.00	N	Arm 6 Ahead	Inf	100.0 %	2075	2075
2/4 (A12 (SW))	3.50	0.00	Y	Arm 7 Right	15.60	100.0 %	1793	1793
3/1 (Gubbins Lane)	3.60	0.00	Y	Arm 5 Left	11.90	22.3 %	1891	1891
				Arm 6 Right	13.30	14.7 %		
				Arm 8 Ahead	Inf	63.0 %		
4/1 (Gooshays Drive)	3.40	0.00	Y	Arm 6 Left	14.20	13.3 %	1928	1928
				Arm 7 Ahead	Inf	86.7 %		
4/2 (Gooshays Drive)	3.40	0.00	Y	Arm 5 Right	15.40	100.0 %	1781	1781
5/1 (A12 (SW) exit)	3.50	0.00	Y	Arm 10 Ahead	Inf	100.0 %	1965	1965
5/2 (A12 (SW) exit)	3.00	0.00	N	Arm 10 Ahead	Inf	100.0 %	2055	2055
5/3 (A12 (SW) exit)	3.00	0.00	N	Arm 10 Ahead	Inf	100.0 %	2055	2055
6/1 (A12 (NW) internal)	3.00	0.00	Y	Arm 9 Ahead	Inf	100.0 %	1915	1915
6/2 (A12 (NW) internal)	3.00	0.00	N	Arm 9 Ahead	Inf	100.0 %	2055	2055
6/3 (A12 (NW) internal)	3.00	0.00	N	Arm 9 Ahead	Inf	100.0 %	2055	2055
7/1 (Gubbins Lane exit Lane 1)	Infinite Saturation Flow						Inf	Inf
8/1 (Gooshays Drive exit Lane 1)	Infinite Saturation Flow						Inf	Inf
9/1 (A12 (NW) exit Lane 1)	Infinite Saturation Flow						Inf	Inf
9/2 (A12 (NW) exit Lane 2)	Infinite Saturation Flow						Inf	Inf
10/1 (A12 Westbound exit Lane 1)	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

10/2 (A12 Westbound exit Lane 2)	Infinite Saturation Flow	Inf	Inf
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Scenario 3: 'Reference Case 2030 AM' (FG3: 'Reference Case 2030 AM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	47	424	93	564
	B	325	0	109	1532	1966
	C	266	99	0	98	463
	D	138	963	132	0	1233
	Tot.	729	1109	665	1723	4226

Traffic Lane Flows

Lane	Scenario 3: Reference Case 2030 AM
<b>Junction: A12 / Gubbins Lane</b>	
1/1 (short)	517
1/2 (with short)	1057(In) 540(Out)
1/3 (with short)	909(In) 584(Out)
1/4 (short)	325
2/1	334
2/2	383
2/3	384
2/4	132
3/1	463
4/1 (short)	471
4/2 (with short)	564(In) 93(Out)
5/1	408
5/2	639
5/3	676
6/1	243
6/2	432
6/3	434
7/1	665
8/1	729
9/1	675
9/2	434
10/1	1047
10/2	676

Full Input Data And Results

**Lane Saturation Flows**

Junction: A12 / Gubbins Lane								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (A12 (NE))	3.40	0.00	Y	Arm 5 Ahead	Inf	78.9 %	1905	1905
				Arm 7 Left	12.00	21.1 %		
1/2 (A12 (NE))	3.40	0.00	Y	Arm 5 Ahead	Inf	100.0 %	1955	1955
1/3 (A12 (NE))	3.60	0.00	N	Arm 5 Ahead	Inf	100.0 %	2115	2115
1/4 (A12 (NE))	3.20	0.00	Y	Arm 8 Right	13.50	100.0 %	1742	1742
2/1 (A12 (SW))	2.60	0.00	Y	Arm 6 Ahead	Inf	58.7 %	1810	1810
				Arm 8 Left	17.30	41.3 %		
2/2 (A12 (SW))	3.20	0.00	N	Arm 6 Ahead	Inf	100.0 %	2075	2075
2/3 (A12 (SW))	3.20	0.00	N	Arm 6 Ahead	Inf	100.0 %	2075	2075
2/4 (A12 (SW))	3.50	0.00	Y	Arm 7 Right	15.60	100.0 %	1793	1793
3/1 (Gubbins Lane)	3.60	0.00	Y	Arm 5 Left	11.90	21.2 %	1880	1880
				Arm 6 Right	13.30	21.4 %		
				Arm 8 Ahead	Inf	57.5 %		
4/1 (Gooshays Drive)	3.40	0.00	Y	Arm 6 Left	14.20	10.0 %	1935	1935
				Arm 7 Ahead	Inf	90.0 %		
4/2 (Gooshays Drive)	3.40	0.00	Y	Arm 5 Right	15.40	100.0 %	1781	1781
5/1 (A12 (SW) exit)	3.50	0.00	Y	Arm 10 Ahead	Inf	100.0 %	1965	1965
5/2 (A12 (SW) exit)	3.00	0.00	N	Arm 10 Ahead	Inf	100.0 %	2055	2055
5/3 (A12 (SW) exit)	3.00	0.00	N	Arm 10 Ahead	Inf	100.0 %	2055	2055
6/1 (A12 (NW) internal)	3.00	0.00	Y	Arm 9 Ahead	Inf	100.0 %	1915	1915
6/2 (A12 (NW) internal)	3.00	0.00	N	Arm 9 Ahead	Inf	100.0 %	2055	2055
6/3 (A12 (NW) internal)	3.00	0.00	N	Arm 9 Ahead	Inf	100.0 %	2055	2055
7/1 (Gubbins Lane exit Lane 1)	Infinite Saturation Flow						Inf	Inf
8/1 (Gooshays Drive exit Lane 1)	Infinite Saturation Flow						Inf	Inf
9/1 (A12 (NW) exit Lane 1)	Infinite Saturation Flow						Inf	Inf
9/2 (A12 (NW) exit Lane 2)	Infinite Saturation Flow						Inf	Inf
10/1 (A12 Westbound exit Lane 1)	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

10/2 (A12 Westbound exit Lane 2)	Infinite Saturation Flow	Inf	Inf
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**Scenario 4: 'Reference Case 2030 PM'** (FG4: 'Reference Case 2030 PM', Plan 1: 'Network Control Plan 1')

**Traffic Flows, Desired**

**Desired Flow :**

		Destination				
		A	B	C	D	Tot.
Origin	A	0	62	405	135	602
	B	395	0	167	1251	1813
	C	321	75	0	114	510
	D	229	915	260	0	1404
	Tot.	945	1052	832	1500	4329

**Traffic Lane Flows**

Lane	Scenario 4: Reference Case 2030 PM
<b>Junction: A12 / Gubbins Lane</b>	
1/1 (short)	442
1/2 (with short)	911(In) 469(Out)
1/3 (with short)	902(In) 507(Out)
1/4 (short)	395
2/1	342
2/2	401
2/3	401
2/4	260
3/1	510
4/1 (short)	467
4/2 (with short)	602(In) 135(Out)
5/1	275
5/2	583
5/3	642
6/1	175
6/2	438
6/3	439
7/1	832
8/1	945
9/1	613
9/2	439
10/1	858
10/2	642

Full Input Data And Results

**Lane Saturation Flows**

Junction: A12 / Gubbins Lane								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (A12 (NE))	3.40	0.00	Y	Arm 5 Ahead	Inf	62.2 %	1867	1867
				Arm 7 Left	12.00	37.8 %		
1/2 (A12 (NE))	3.40	0.00	Y	Arm 5 Ahead	Inf	100.0 %	1955	1955
1/3 (A12 (NE))	3.60	0.00	N	Arm 5 Ahead	Inf	100.0 %	2115	2115
1/4 (A12 (NE))	3.20	0.00	Y	Arm 8 Right	13.50	100.0 %	1742	1742
2/1 (A12 (SW))	2.60	0.00	Y	Arm 6 Ahead	Inf	33.0 %	1772	1772
				Arm 8 Left	17.30	67.0 %		
2/2 (A12 (SW))	3.20	0.00	N	Arm 6 Ahead	Inf	100.0 %	2075	2075
2/3 (A12 (SW))	3.20	0.00	N	Arm 6 Ahead	Inf	100.0 %	2075	2075
2/4 (A12 (SW))	3.50	0.00	Y	Arm 7 Right	15.60	100.0 %	1793	1793
3/1 (Gubbins Lane)	3.60	0.00	Y	Arm 5 Left	11.90	22.4 %	1890	1890
				Arm 6 Right	13.30	14.7 %		
				Arm 8 Ahead	Inf	62.9 %		
4/1 (Gooshays Drive)	3.40	0.00	Y	Arm 6 Left	14.20	13.3 %	1928	1928
				Arm 7 Ahead	Inf	86.7 %		
4/2 (Gooshays Drive)	3.40	0.00	Y	Arm 5 Right	15.40	100.0 %	1781	1781
5/1 (A12 (SW) exit)	3.50	0.00	Y	Arm 10 Ahead	Inf	100.0 %	1965	1965
5/2 (A12 (SW) exit)	3.00	0.00	N	Arm 10 Ahead	Inf	100.0 %	2055	2055
5/3 (A12 (SW) exit)	3.00	0.00	N	Arm 10 Ahead	Inf	100.0 %	2055	2055
6/1 (A12 (NW) internal)	3.00	0.00	Y	Arm 9 Ahead	Inf	100.0 %	1915	1915
6/2 (A12 (NW) internal)	3.00	0.00	N	Arm 9 Ahead	Inf	100.0 %	2055	2055
6/3 (A12 (NW) internal)	3.00	0.00	N	Arm 9 Ahead	Inf	100.0 %	2055	2055
7/1 (Gubbins Lane exit Lane 1)	Infinite Saturation Flow						Inf	Inf
8/1 (Gooshays Drive exit Lane 1)	Infinite Saturation Flow						Inf	Inf
9/1 (A12 (NW) exit Lane 1)	Infinite Saturation Flow						Inf	Inf
9/2 (A12 (NW) exit Lane 2)	Infinite Saturation Flow						Inf	Inf
10/1 (A12 Westbound exit Lane 1)	Infinite Saturation Flow						Inf	Inf



Full Input Data And Results

10/2 (A12 Westbound exit Lane 2)	Infinite Saturation Flow	Inf	Inf
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**Scenario 5: 'Do Something 2030 + LTC AM'** (FG7: 'Do Something 2030 + LTC AM', Plan 1: 'Network Control Plan 1')

**Traffic Flows, Desired**

**Desired Flow :**

		Destination				
		A	B	C	D	Tot.
Origin	A	0	88	406	95	589
	B	344	0	134	1570	2048
	C	268	82	0	97	447
	D	138	742	132	0	1012
	Tot.	750	912	672	1762	4096

**Traffic Lane Flows**

Lane	Scenario 5: Do Something 2030 + LTC AM
<b>Junction: A12 / Gubbins Lane</b>	
1/1 (short)	535
1/2 (with short)	1097(In) 562(Out)
1/3 (with short)	951(In) 607(Out)
1/4 (short)	344
2/1	271
2/2	305
2/3	304
2/4	132
3/1	447
4/1 (short)	494
4/2 (with short)	589(In) 95(Out)
5/1	401
5/2	664
5/3	697
6/1	221
6/2	346
6/3	345
7/1	672
8/1	750
9/1	567
9/2	345
10/1	1065
10/2	697

Full Input Data And Results

**Lane Saturation Flows**

Junction: A12 / Gubbins Lane								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (A12 (NE))	3.40	0.00	Y	Arm 5 Ahead	Inf	75.0 %	1896	1896
				Arm 7 Left	12.00	25.0 %		
1/2 (A12 (NE))	3.40	0.00	Y	Arm 5 Ahead	Inf	100.0 %	1955	1955
1/3 (A12 (NE))	3.60	0.00	N	Arm 5 Ahead	Inf	100.0 %	2115	2115
1/4 (A12 (NE))	3.20	0.00	Y	Arm 8 Right	13.50	100.0 %	1742	1742
2/1 (A12 (SW))	2.60	0.00	Y	Arm 6 Ahead	Inf	49.1 %	1796	1796
				Arm 8 Left	17.30	50.9 %		
2/2 (A12 (SW))	3.20	0.00	N	Arm 6 Ahead	Inf	100.0 %	2075	2075
2/3 (A12 (SW))	3.20	0.00	N	Arm 6 Ahead	Inf	100.0 %	2075	2075
2/4 (A12 (SW))	3.50	0.00	Y	Arm 7 Right	15.60	100.0 %	1793	1793
3/1 (Gubbins Lane)	3.60	0.00	Y	Arm 5 Left	11.90	21.7 %	1884	1884
				Arm 6 Right	13.30	18.3 %		
				Arm 8 Ahead	Inf	60.0 %		
4/1 (Gooshays Drive)	3.40	0.00	Y	Arm 6 Left	14.20	17.8 %	1919	1919
				Arm 7 Ahead	Inf	82.2 %		
4/2 (Gooshays Drive)	3.40	0.00	Y	Arm 5 Right	15.40	100.0 %	1781	1781
5/1 (A12 (SW) exit)	3.50	0.00	Y	Arm 10 Ahead	Inf	100.0 %	1965	1965
5/2 (A12 (SW) exit)	3.00	0.00	N	Arm 10 Ahead	Inf	100.0 %	2055	2055
5/3 (A12 (SW) exit)	3.00	0.00	N	Arm 10 Ahead	Inf	100.0 %	2055	2055
6/1 (A12 (NW) internal)	3.00	0.00	Y	Arm 9 Ahead	Inf	100.0 %	1915	1915
6/2 (A12 (NW) internal)	3.00	0.00	N	Arm 9 Ahead	Inf	100.0 %	2055	2055
6/3 (A12 (NW) internal)	3.00	0.00	N	Arm 9 Ahead	Inf	100.0 %	2055	2055
7/1 (Gubbins Lane exit Lane 1)	Infinite Saturation Flow						Inf	Inf
8/1 (Gooshays Drive exit Lane 1)	Infinite Saturation Flow						Inf	Inf
9/1 (A12 (NW) exit Lane 1)	Infinite Saturation Flow						Inf	Inf
9/2 (A12 (NW) exit Lane 2)	Infinite Saturation Flow						Inf	Inf
10/1 (A12 Westbound exit Lane 1)	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

10/2 (A12 Westbound exit Lane 2)	Infinite Saturation Flow	Inf	Inf
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**Scenario 6: 'Do Something 2030 + LTC PM'** (FG8: 'Do Something 2030 + LTC PM', Plan 1: 'Network Control Plan 1')

**Traffic Flows, Desired**

**Desired Flow :**

		Destination				
		A	B	C	D	Tot.
Origin	A	0	79	371	128	578
	B	396	0	144	1253	1793
	C	330	88	0	102	520
	D	229	830	260	0	1319
	Tot.	955	997	775	1483	4210

**Traffic Lane Flows**

Lane	Scenario 6: Do Something 2030 + LTC PM
<b>Junction: A12 / Gubbins Lane</b>	
1/1 (short)	612
1/2 (with short)	1256(In) 644(Out)
1/3 (with short)	537(In) 141(Out)
1/4 (short)	396
2/1	315
2/2	372
2/3	372
2/4	260
3/1	520
4/1 (short)	450
4/2 (with short)	578(In) 128(Out)
5/1	468
5/2	756
5/3	259
6/1	165
6/2	416
6/3	416
7/1	775
8/1	955
9/1	581
9/2	416
10/1	1224
10/2	259

Full Input Data And Results

**Lane Saturation Flows**

Junction: A12 / Gubbins Lane								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (A12 (NE))	3.40	0.00	Y	Arm 5 Ahead	Inf	76.5 %	1899	1899
				Arm 7 Left	12.00	23.5 %		
1/2 (A12 (NE))	3.40	0.00	Y	Arm 5 Ahead	Inf	100.0 %	1955	1955
1/3 (A12 (NE))	3.60	0.00	N	Arm 5 Ahead	Inf	100.0 %	2115	2115
1/4 (A12 (NE))	3.20	0.00	Y	Arm 8 Right	13.50	100.0 %	1742	1742
2/1 (A12 (SW))	2.60	0.00	Y	Arm 6 Ahead	Inf	27.3 %	1764	1764
				Arm 8 Left	17.30	72.7 %		
2/2 (A12 (SW))	3.20	0.00	N	Arm 6 Ahead	Inf	100.0 %	2075	2075
2/3 (A12 (SW))	3.20	0.00	N	Arm 6 Ahead	Inf	100.0 %	2075	2075
2/4 (A12 (SW))	3.50	0.00	Y	Arm 7 Right	15.60	100.0 %	1793	1793
3/1 (Gubbins Lane)	3.60	0.00	Y	Arm 5 Left	11.90	19.6 %	1892	1892
				Arm 6 Right	13.30	16.9 %		
				Arm 8 Ahead	Inf	63.5 %		
4/1 (Gooshays Drive)	3.40	0.00	Y	Arm 6 Left	14.20	17.6 %	1919	1919
				Arm 7 Ahead	Inf	82.4 %		
4/2 (Gooshays Drive)	3.40	0.00	Y	Arm 5 Right	15.40	100.0 %	1781	1781
5/1 (A12 (SW) exit)	3.50	0.00	Y	Arm 10 Ahead	Inf	100.0 %	1965	1965
5/2 (A12 (SW) exit)	3.00	0.00	N	Arm 10 Ahead	Inf	100.0 %	2055	2055
5/3 (A12 (SW) exit)	3.00	0.00	N	Arm 10 Ahead	Inf	100.0 %	2055	2055
6/1 (A12 (NW) internal)	3.00	0.00	Y	Arm 9 Ahead	Inf	100.0 %	1915	1915
6/2 (A12 (NW) internal)	3.00	0.00	N	Arm 9 Ahead	Inf	100.0 %	2055	2055
6/3 (A12 (NW) internal)	3.00	0.00	N	Arm 9 Ahead	Inf	100.0 %	2055	2055
7/1 (Gubbins Lane exit Lane 1)	Infinite Saturation Flow						Inf	Inf
8/1 (Gooshays Drive exit Lane 1)	Infinite Saturation Flow						Inf	Inf
9/1 (A12 (NW) exit Lane 1)	Infinite Saturation Flow						Inf	Inf
9/2 (A12 (NW) exit Lane 2)	Infinite Saturation Flow						Inf	Inf
10/1 (A12 Westbound exit Lane 1)	Infinite Saturation Flow						Inf	Inf

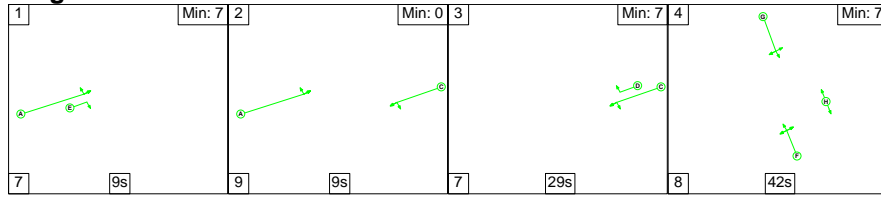
Full Input Data And Results

10/2 (A12 Westbound exit Lane 2)	Infinite Saturation Flow	Inf	Inf
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Scenario 1: 'Base Year 2023 AM' (FG1: 'Base Year 2023 AM', Plan 1: 'Network Control Plan 1')

Stage Sequence Diagram

Stage Stream: 1



Stage Stream: 2



Stage Timings

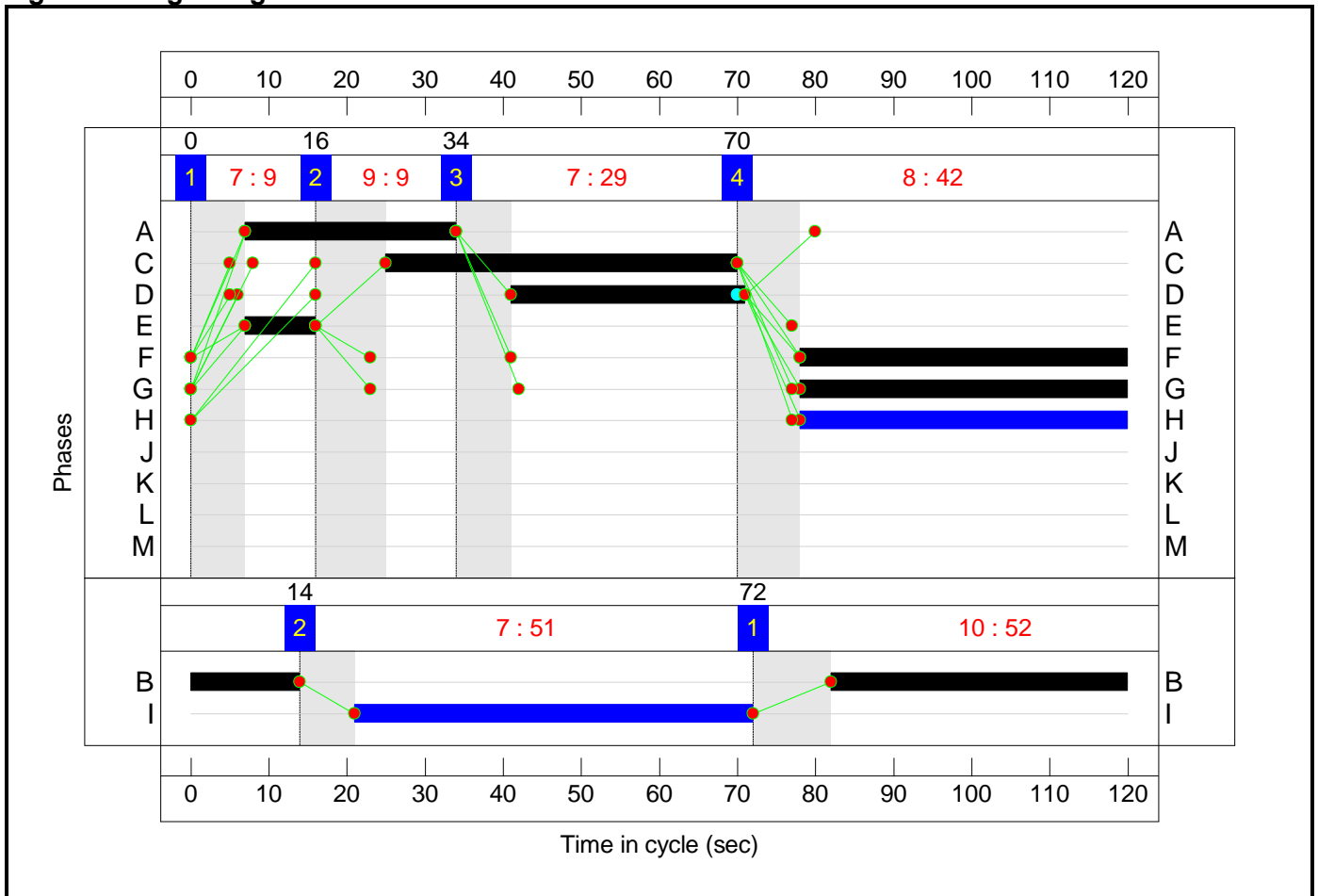
Stage Stream: 1

Stage	1	2	3	4
Duration	9	9	29	42
Change Point	0	16	34	70

Stage Stream: 2

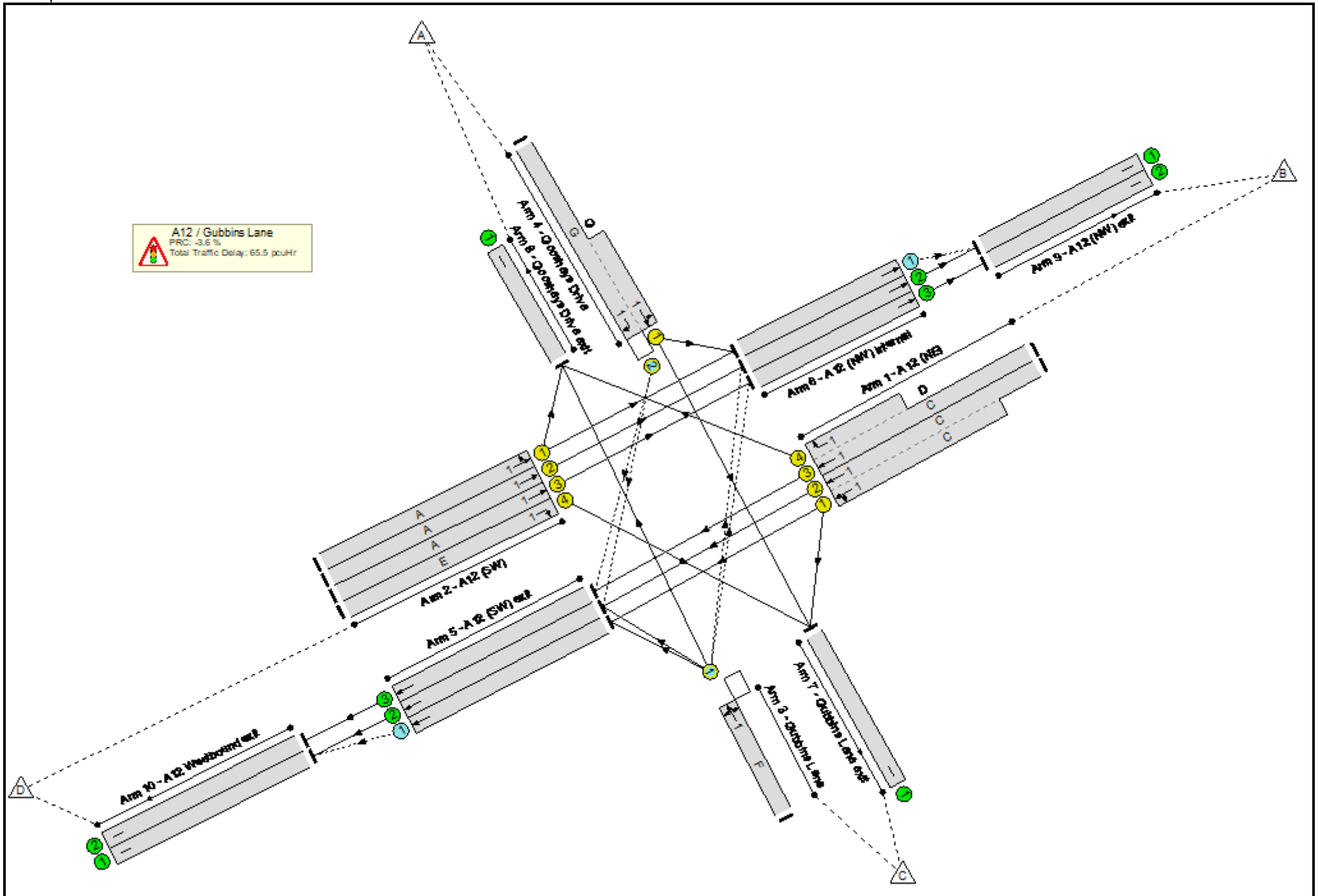
Stage	1	2
Duration	52	51
Change Point	72	14

Signal Timings Diagram



Full Input Data And Results  
**Network Layout Diagram**

Full Input Data And Results





## Full Input Data And Results

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 (%)
<b>Network</b>	-	-	<b>N/A</b>	-	-		-	-	-	-	-	-	<b>93.3%</b>
<b>A12 / Gubbins Lane</b>	-	-	<b>N/A</b>	-	-		-	-	-	-	-	-	<b>93.3%</b>
1/2+1/1	A12 (NE) Ahead Left	U	1	N/A	C		1	45	-	1010	1955:1905	688+659	75.0 : 75.0%
1/3+1/4	A12 (NE) Ahead Right	U	1	N/A	C D		1	45:30	-	869	2115:1742	598+333	93.3 : 93.3%
2/1	A12 (SW) Ahead Left	U	1	N/A	A		1	27	-	319	1810	422	75.5%
2/2	A12 (SW) Ahead	U	1	N/A	A		1	27	-	367	2075	484	75.8%
2/3	A12 (SW) Ahead	U	1	N/A	A		1	27	-	366	2075	484	75.6%
2/4	A12 (SW) Right	U	1	N/A	E		1	9	-	126	1793	149	84.3%
3/1	Gubbins Lane Left Right Ahead	O	1	N/A	F		1	42	-	443	1879	491	90.2%
4/2+4/1	Gooshays Drive Right Left Ahead	O+U	1	N/A	G		1	42	-	539	1781:1935	122+615	73.2 : 73.2%
5/1	A12 (SW) exit Ahead	O	N/A	N/A	-		-	-	-	390	1965	914	42.7%
5/2	A12 (SW) exit Ahead	U	N/A	N/A	-		-	-	-	611	2055	2055	29.7%
5/3	A12 (SW) exit Ahead	U	N/A	N/A	-		-	-	-	646	2055	2055	31.4%
6/1	A12 (NW) internal Ahead	O	N/A	N/A	-		-	-	-	232	1915	1439	16.1%
6/2	A12 (NW) internal Ahead	U	N/A	N/A	-		-	-	-	414	2055	2055	20.1%
6/3	A12 (NW) internal Ahead	U	N/A	N/A	-		-	-	-	414	2055	2055	20.1%
7/1	Gubbins Lane exit	U	N/A	N/A	-		-	-	-	635	Inf	Inf	0.0%

Full Input Data And Results

8/1	Gooshays Drive exit	U	N/A	N/A	-		-	-	-	697	Inf	Inf	0.0%
9/1	A12 (NW) exit	U	N/A	N/A	-		-	-	-	646	Inf	Inf	0.0%
9/2	A12 (NW) exit	U	N/A	N/A	-		-	-	-	414	Inf	Inf	0.0%
10/1	A12 Westbound exit	U	N/A	N/A	-		-	-	-	1001	Inf	Inf	0.0%
10/2	A12 Westbound exit	U	N/A	N/A	-		-	-	-	646	Inf	Inf	0.0%

Full Input Data And Results

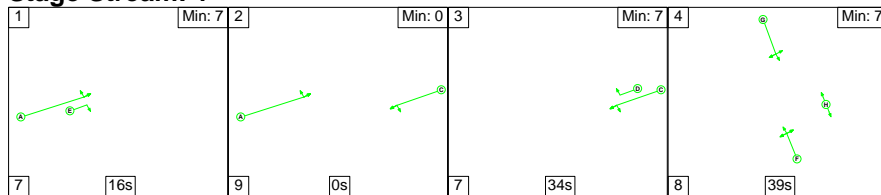
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
<b>Network</b>	-	-	574	232	0	44.3	20.6	0.6	65.5	-	-	-	-
<b>A12 / Gubbins Lane</b>	-	-	574	232	0	44.3	20.6	0.6	65.5	-	-	-	-
1/2+1/1	1010	1010	-	-	-	8.7	1.5	-	10.2	36.2	14.3	1.5	15.8
1/3+1/4	869	869	-	-	-	8.5	5.8	-	14.4	59.6	22.2	5.8	28.1
2/1	319	319	-	-	-	3.8	1.5	-	5.3	59.7	9.8	1.5	11.3
2/2	367	367	-	-	-	4.4	1.5	-	5.9	57.8	11.3	1.5	12.8
2/3	366	366	-	-	-	4.4	1.5	-	5.9	57.7	11.3	1.5	12.8
2/4	126	126	-	-	-	1.9	2.3	-	4.2	118.7	4.1	2.3	6.4
3/1	443	443	95	0	0	4.4	4.0	0.3	8.7	70.4	14.2	4.0	18.1
4/2+4/1	539	539	89	0	0	4.8	1.3	0.3	6.4	42.9	13.5	1.3	14.8
5/1	390	390	390	0	0	3.5	0.4	-	3.9	35.8	12.4	0.4	12.8
5/2	611	611	-	-	-	0.0	0.2	-	0.2	1.2	0.0	0.2	0.2
5/3	646	646	-	-	-	0.0	0.2	-	0.2	1.3	7.5	0.2	7.7
6/1	232	232	0	232	0	0.0	0.1	-	0.1	1.5	0.0	0.1	0.1
6/2	414	414	-	-	-	0.0	0.1	-	0.1	1.1	8.6	0.1	8.7
6/3	414	414	-	-	-	0.0	0.1	-	0.1	1.1	8.1	0.1	8.2
7/1	635	635	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	697	697	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
9/1	646	646	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
9/2	414	414	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
10/1	1001	1001	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
10/2	646	646	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
			C1 Stream: 1 PRC for Signalled Lanes (%):	-3.6	Total Delay for Signalled Lanes (pcuHr):			60.85	Cycle Time (s): 120				
			C1 Stream: 2 PRC for Signalled Lanes (%):	0.0	Total Delay for Signalled Lanes (pcuHr):			0.00	Cycle Time (s): 120				
			PRC Over All Lanes (%):	-3.6	Total Delay Over All Lanes (pcuHr):			65.54					

Full Input Data And Results

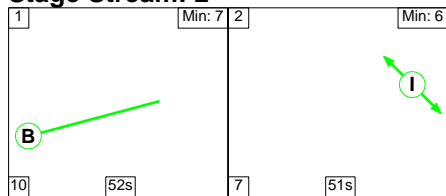
Scenario 2: 'Base Year 2023 PM' (FG2: 'Base Year 2023 PM', Plan 1: 'Network Control Plan 1')

Stage Sequence Diagram

Stage Stream: 1



Stage Stream: 2



Stage Timings

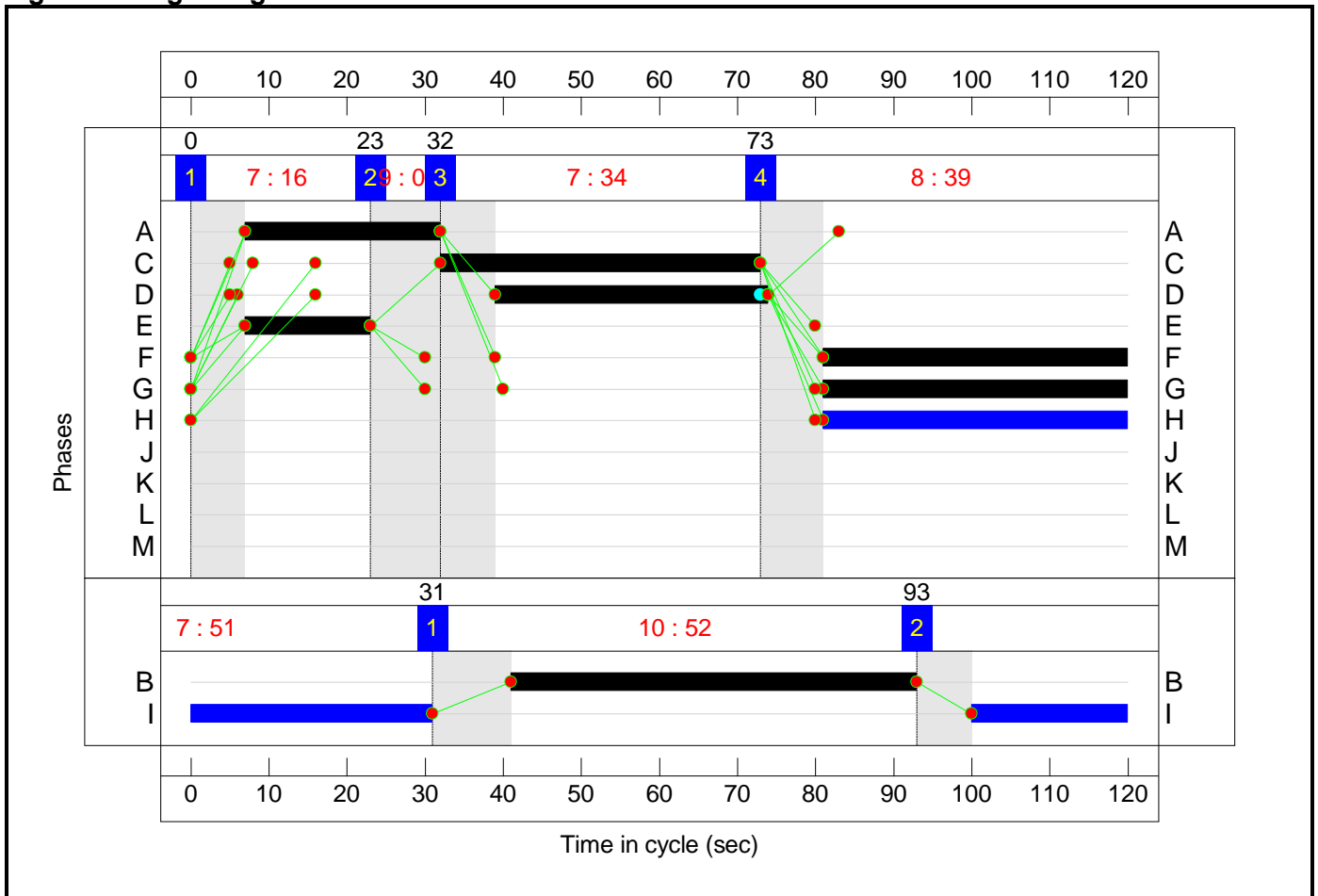
Stage Stream: 1

Stage	1	2	3	4
Duration	16	0	34	39
Change Point	0	23	32	73

Stage Stream: 2

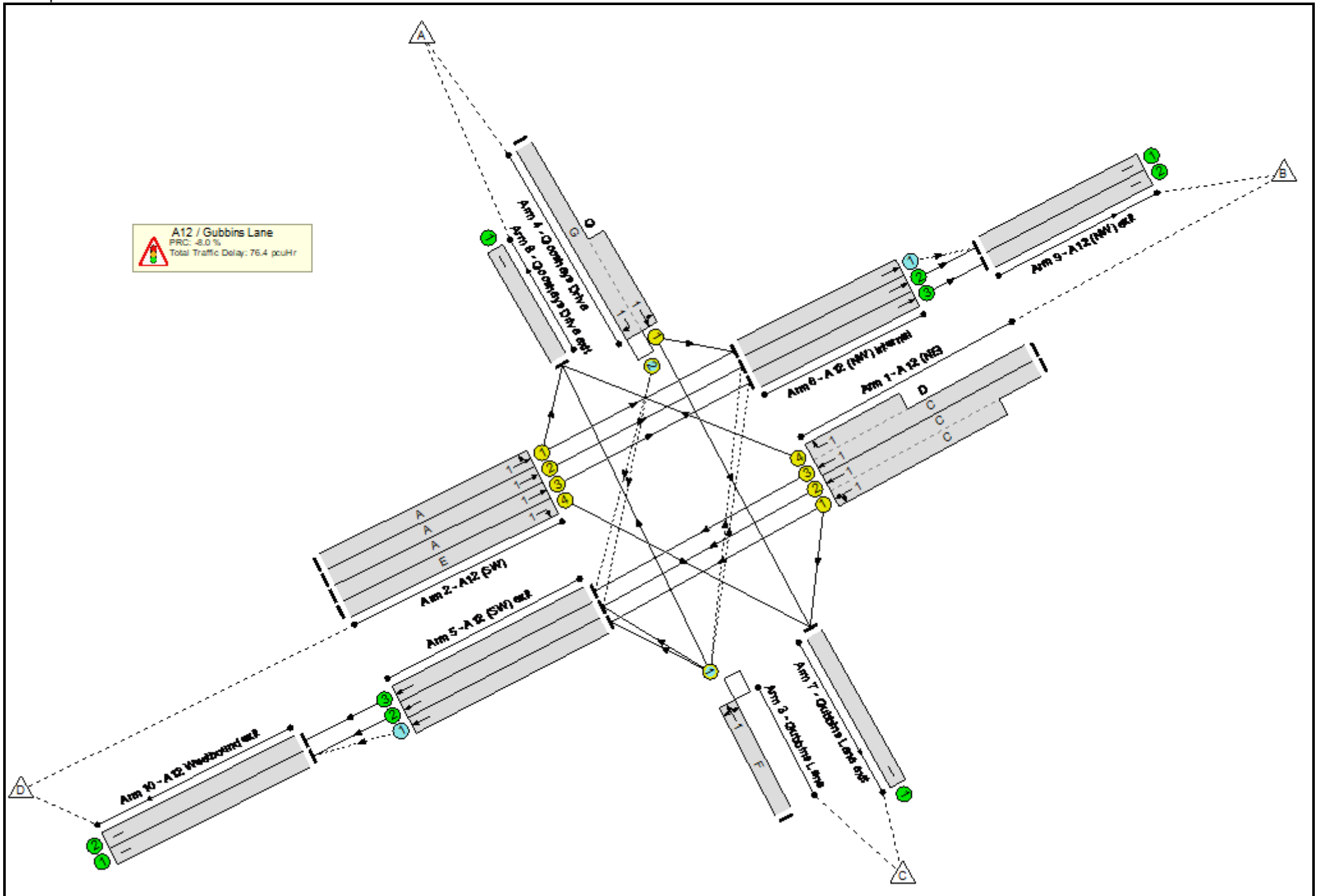
Stage	1	2
Duration	52	51
Change Point	31	93

Signal Timings Diagram



Full Input Data And Results  
**Network Layout Diagram**

Full Input Data And Results





## Full Input Data And Results

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 (%)
<b>Network</b>	-	-	<b>N/A</b>	-	-		-	-	-	-	-	-	<b>97.2%</b>
<b>A12 / Gubbins Lane</b>	-	-	<b>N/A</b>	-	-		-	-	-	-	-	-	<b>97.2%</b>
1/2+1/1	A12 (NE) Ahead Left	U	1	N/A	C		1	41	-	866	1955:1867	655+617	68.0 : 68.0%
1/3+1/4	A12 (NE) Ahead Right	U	1	N/A	C D		1	41:35	-	857	2115:1742	504+392	95.6 : 95.6%
2/1	A12 (SW) Ahead Left	U	1	N/A	A		1	25	-	325	1772	384	84.7%
2/2	A12 (SW) Ahead	U	1	N/A	A		1	25	-	381	2075	450	84.7%
2/3	A12 (SW) Ahead	U	1	N/A	A		1	25	-	382	2075	450	85.0%
2/4	A12 (SW) Right	U	1	N/A	E		1	16	-	247	1793	254	97.2%
3/1	Gubbins Lane Left Right Ahead	O	1	N/A	F		1	39	-	484	1891	551	87.9%
4/2+4/1	Gooshays Drive Right Left Ahead	O+U	1	N/A	G		1	39	-	572	1781:1928	140+535	91.2 : 83.0%
5/1	A12 (SW) exit Ahead	O	N/A	N/A	-		-	-	-	261	1965	956	27.3%
5/2	A12 (SW) exit Ahead	U	N/A	N/A	-		-	-	-	555	2055	2055	27.0%
5/3	A12 (SW) exit Ahead	U	N/A	N/A	-		-	-	-	609	2055	2055	29.6%
6/1	A12 (NW) internal Ahead	O	N/A	N/A	-		-	-	-	166	1915	1439	11.5%
6/2	A12 (NW) internal Ahead	U	N/A	N/A	-		-	-	-	416	2055	2055	20.2%
6/3	A12 (NW) internal Ahead	U	N/A	N/A	-		-	-	-	418	2055	2055	20.3%
7/1	Gubbins Lane exit	U	N/A	N/A	-		-	-	-	791	Inf	Inf	0.0%

Full Input Data And Results

8/1	Gooshays Drive exit	U	N/A	N/A	-		-	-	-	898	Inf	Inf	0.0%
9/1	A12 (NW) exit	U	N/A	N/A	-		-	-	-	582	Inf	Inf	0.0%
9/2	A12 (NW) exit	U	N/A	N/A	-		-	-	-	418	Inf	Inf	0.0%
10/1	A12 Westbound exit	U	N/A	N/A	-		-	-	-	816	Inf	Inf	0.0%
10/2	A12 Westbound exit	U	N/A	N/A	-		-	-	-	609	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)
<b>Network</b>	-	-	429	166	31	45.8	29.7	0.9	76.4	-	-	-	-
<b>A12 / Gubbins Lane</b>	-	-	429	166	31	45.8	29.7	0.9	76.4	-	-	-	-
1/2+1/1	866	866	-	-	-	7.9	1.1	-	8.9	37.2	12.5	1.1	13.6
1/3+1/4	857	857	-	-	-	8.5	7.7	-	16.3	68.3	19.8	7.7	27.6
2/1	325	325	-	-	-	4.1	2.5	-	6.6	73.2	10.4	2.5	12.9
2/2	381	381	-	-	-	4.8	2.6	-	7.4	69.5	12.2	2.6	14.8
2/3	382	382	-	-	-	4.8	2.6	-	7.4	69.8	12.2	2.6	14.8
2/4	247	247	-	-	-	3.5	6.3	-	9.8	143.1	8.2	6.3	14.5
3/1	484	484	71	0	0	4.9	3.3	0.3	8.5	63.1	15.3	3.3	18.6
4/2+4/1	572	572	97	0	31	5.7	2.6	0.6	8.9	56.1	14.4	2.6	17.0
5/1	261	261	261	0	0	1.7	0.2	-	1.9	25.8	8.2	0.2	8.4
5/2	555	555	-	-	-	0.0	0.2	-	0.2	1.2	0.0	0.2	0.2
5/3	609	609	-	-	-	0.0	0.2	-	0.2	1.3	7.4	0.2	7.7
6/1	166	166	0	166	0	0.0	0.1	-	0.1	1.4	0.0	0.1	0.1
6/2	416	416	-	-	-	0.0	0.1	-	0.1	1.1	9.2	0.1	9.3
6/3	418	418	-	-	-	0.0	0.1	-	0.1	1.1	9.2	0.1	9.3
7/1	791	791	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	898	898	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
9/1	582	582	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
9/2	418	418	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
10/1	816	816	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
10/2	609	609	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

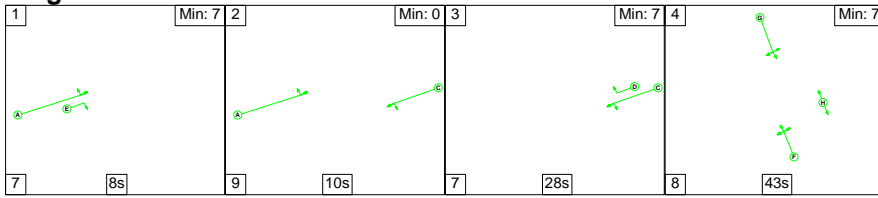
C1	Stream: 1 PRC for Signalled Lanes (%):	-8.0	Total Delay for Signalled Lanes (pcuHr):	73.81	Cycle Time (s):	120
C1	Stream: 2 PRC for Signalled Lanes (%):	0.0	Total Delay for Signalled Lanes (pcuHr):	0.00	Cycle Time (s):	120
	PRC Over All Lanes (%):	-8.0	Total Delay Over All Lanes (pcuHr):	76.42		

Full Input Data And Results

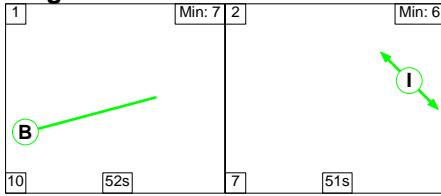
Scenario 3: 'Reference Case 2030 AM' (FG3: 'Reference Case 2030 AM', Plan 1: 'Network Control Plan 1')

Stage Sequence Diagram

Stage Stream: 1



Stage Stream: 2



Stage Timings

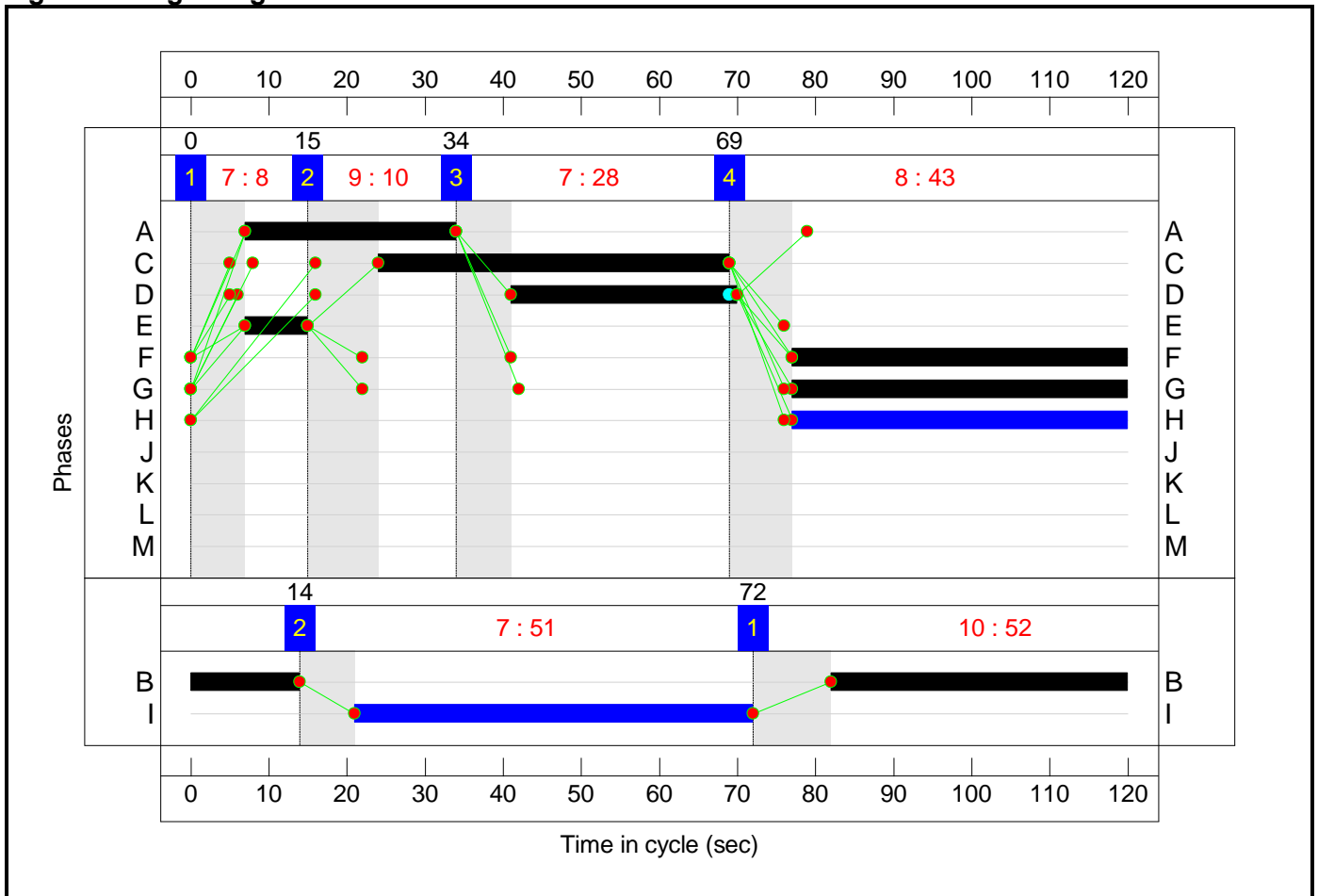
Stage Stream: 1

Stage	1	2	3	4
Duration	8	10	28	43
Change Point	0	15	34	69

Stage Stream: 2

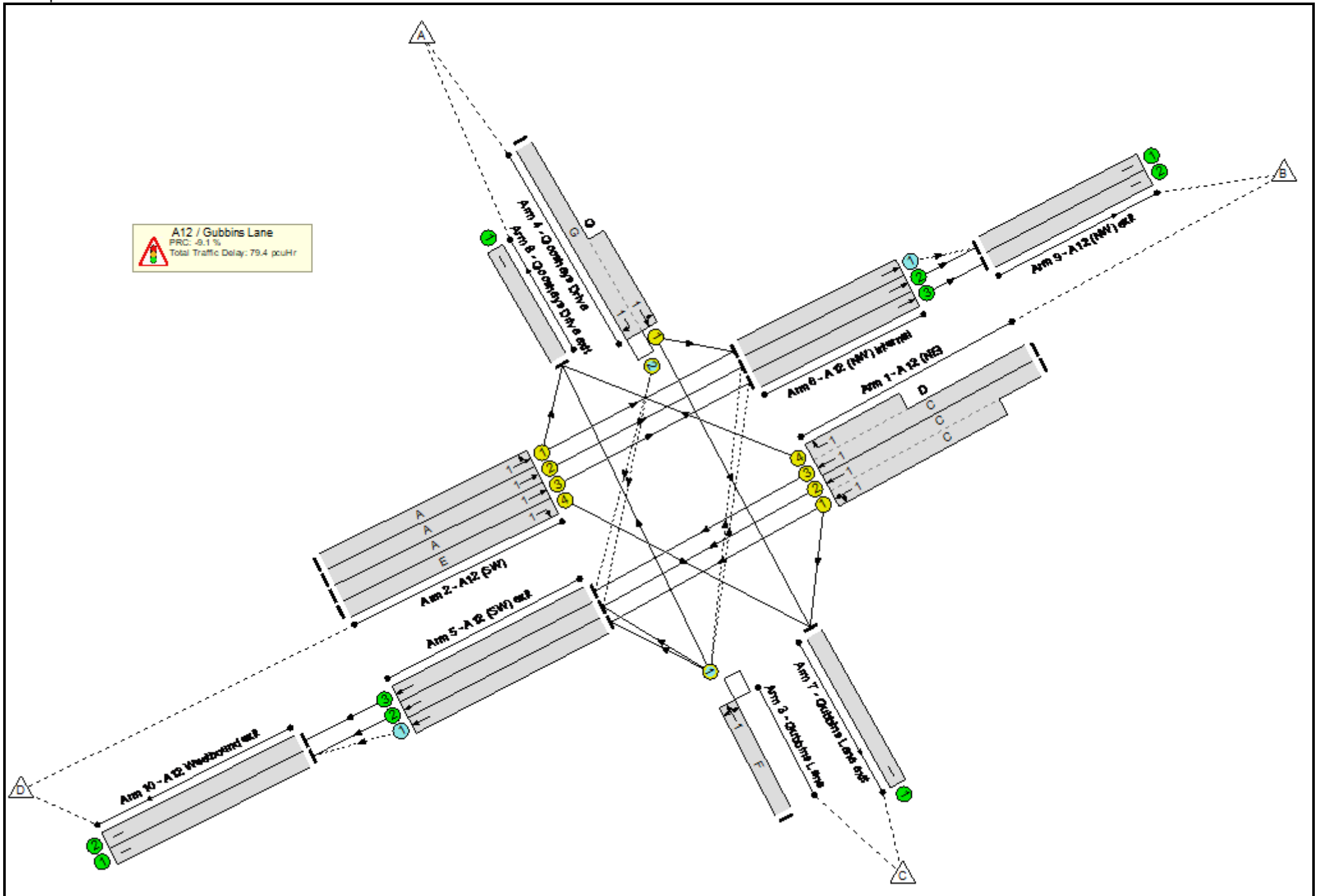
Stage	1	2
Duration	52	51
Change Point	72	14

Signal Timings Diagram



Full Input Data And Results  
**Network Layout Diagram**

Full Input Data And Results





## Full Input Data And Results

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 (%)
<b>Network</b>	-	-	<b>N/A</b>	-	-		-	-	-	-	-	-	<b>98.2%</b>
<b>A12 / Gubbins Lane</b>	-	-	<b>N/A</b>	-	-		-	-	-	-	-	-	<b>98.2%</b>
1/2+1/1	A12 (NE) Ahead Left	U	1	N/A	C		1	45	-	1057	1955:1905	688+659	78.4 : 78.4%
1/3+1/4	A12 (NE) Ahead Right	U	1	N/A	C D		1	45:29	-	909	2115:1742	598+333	97.6 : 97.6%
2/1	A12 (SW) Ahead Left	U	1	N/A	A		1	27	-	334	1810	422	79.1%
2/2	A12 (SW) Ahead	U	1	N/A	A		1	27	-	383	2075	484	79.1%
2/3	A12 (SW) Ahead	U	1	N/A	A		1	27	-	384	2075	484	79.3%
2/4	A12 (SW) Right	U	1	N/A	E		1	8	-	132	1793	134	98.2%
3/1	Gubbins Lane Left Right Ahead	O	1	N/A	F		1	43	-	463	1880	492	94.1%
4/2+4/1	Gooshays Drive Right Left Ahead	O+U	1	N/A	G		1	43	-	564	1781:1935	124+628	74.9 : 74.9%
5/1	A12 (SW) exit Ahead	O	N/A	N/A	-		-	-	-	408	1965	893	45.7%
5/2	A12 (SW) exit Ahead	U	N/A	N/A	-		-	-	-	639	2055	2055	31.1%
5/3	A12 (SW) exit Ahead	U	N/A	N/A	-		-	-	-	676	2055	2055	32.9%
6/1	A12 (NW) internal Ahead	O	N/A	N/A	-		-	-	-	243	1915	1439	16.9%
6/2	A12 (NW) internal Ahead	U	N/A	N/A	-		-	-	-	432	2055	2055	21.0%
6/3	A12 (NW) internal Ahead	U	N/A	N/A	-		-	-	-	434	2055	2055	21.1%
7/1	Gubbins Lane exit	U	N/A	N/A	-		-	-	-	665	Inf	Inf	0.0%

Full Input Data And Results

8/1	Gooshays Drive exit	U	N/A	N/A	-		-	-	-	729	Inf	Inf	0.0%
9/1	A12 (NW) exit	U	N/A	N/A	-		-	-	-	675	Inf	Inf	0.0%
9/2	A12 (NW) exit	U	N/A	N/A	-		-	-	-	434	Inf	Inf	0.0%
10/1	A12 Westbound exit	U	N/A	N/A	-		-	-	-	1047	Inf	Inf	0.0%
10/2	A12 Westbound exit	U	N/A	N/A	-		-	-	-	676	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)
<b>Network</b>	-	-	<b>600</b>	<b>243</b>	<b>0</b>	<b>47.3</b>	<b>31.5</b>	<b>0.7</b>	<b>79.4</b>	-	-	-	-
<b>A12 / Gubbins Lane</b>	-	-	<b>600</b>	<b>243</b>	<b>0</b>	<b>47.3</b>	<b>31.5</b>	<b>0.7</b>	<b>79.4</b>	-	-	-	-
1/2+1/1	1057	1057	-	-	-	9.2	1.8	-	11.0	37.5	15.3	1.8	17.1
1/3+1/4	909	909	-	-	-	9.3	10.5	-	19.8	78.5	24.5	10.5	35.0
2/1	334	334	-	-	-	4.0	1.8	-	5.8	62.8	10.4	1.8	12.2
2/2	383	383	-	-	-	4.6	1.8	-	6.4	60.4	11.9	1.8	13.7
2/3	384	384	-	-	-	4.6	1.8	-	6.5	60.6	11.9	1.8	13.8
2/4	132	132	-	-	-	2.0	5.2	-	7.2	196.1	4.4	5.2	9.5
3/1	463	463	99	0	0	4.6	5.7	0.4	10.7	83.2	15.0	5.7	20.8
4/2+4/1	564	564	93	0	0	5.0	1.5	0.3	6.7	43.0	14.4	1.5	15.8
5/1	408	408	408	0	0	3.9	0.4	-	4.4	38.4	13.0	0.4	13.4
5/2	639	639	-	-	-	0.0	0.2	-	0.2	1.3	0.0	0.2	0.2
5/3	676	676	-	-	-	0.0	0.2	-	0.3	1.4	7.5	0.2	7.7
6/1	243	243	0	243	0	0.0	0.1	-	0.1	1.5	0.0	0.1	0.1
6/2	432	432	-	-	-	0.0	0.1	-	0.1	1.2	9.2	0.1	9.3
6/3	434	434	-	-	-	0.0	0.1	-	0.1	1.2	9.2	0.1	9.3
7/1	665	665	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	729	729	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
9/1	675	675	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
9/2	434	434	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
10/1	1047	1047	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
10/2	676	676	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

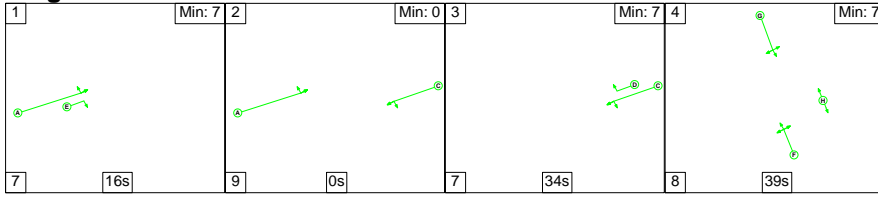
C1	Stream: 1 PRC for Signalled Lanes (%):	-9.1	Total Delay for Signalled Lanes (pcuHr):	74.20	Cycle Time (s):	120
C1	Stream: 2 PRC for Signalled Lanes (%):	0.0	Total Delay for Signalled Lanes (pcuHr):	0.00	Cycle Time (s):	120
	PRC Over All Lanes (%):	-9.1	Total Delay Over All Lanes (pcuHr):	79.41		

Full Input Data And Results

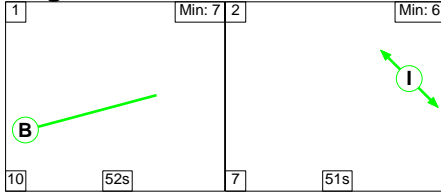
Scenario 4: 'Reference Case 2030 PM' (FG4: 'Reference Case 2030 PM', Plan 1: 'Network Control Plan 1')

Stage Sequence Diagram

Stage Stream: 1



Stage Stream: 2



Stage Timings

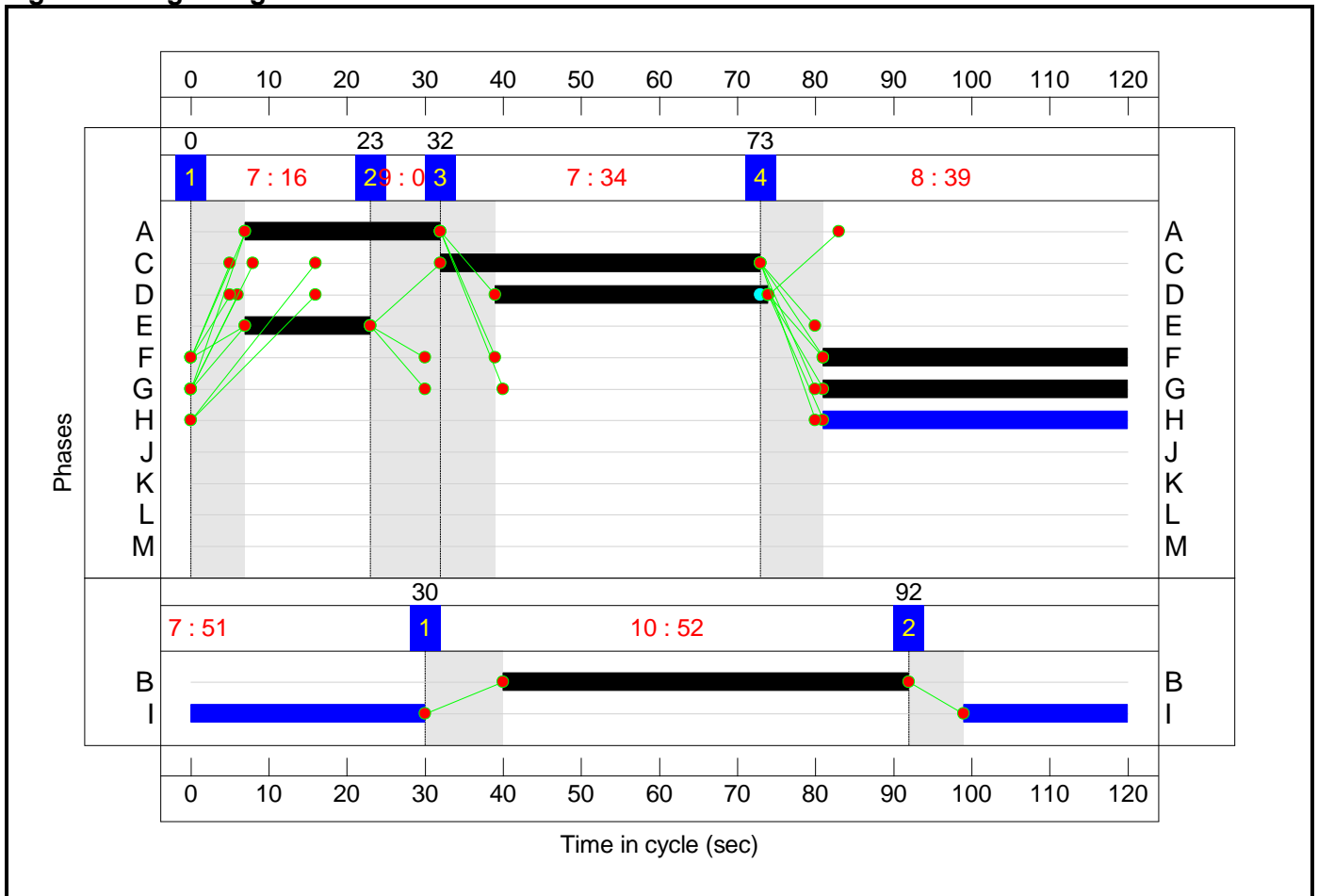
Stage Stream: 1

Stage	1	2	3	4
Duration	16	0	34	39
Change Point	0	23	32	73

Stage Stream: 2

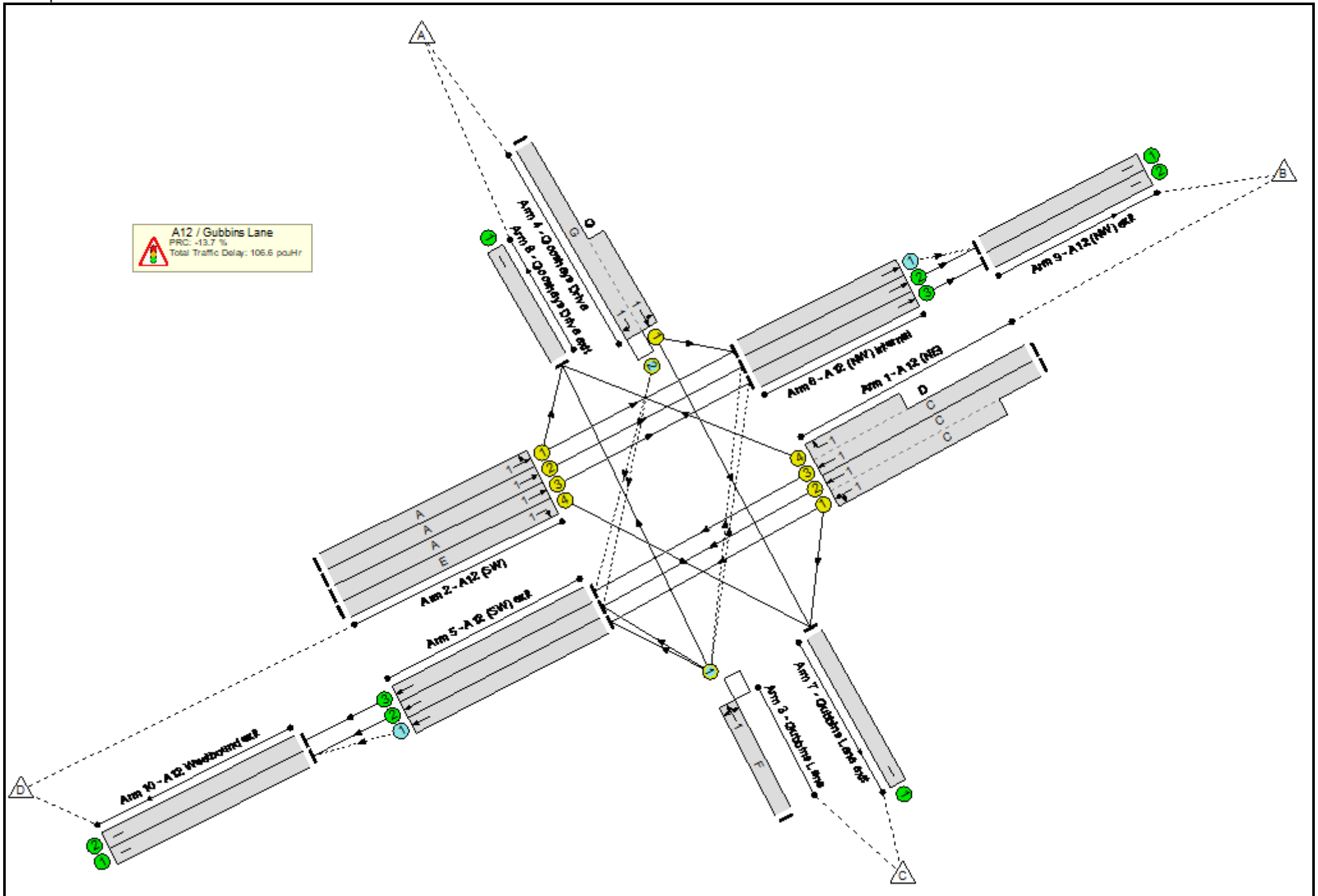
Stage	1	2
Duration	52	51
Change Point	30	92

Signal Timings Diagram



Full Input Data And Results  
**Network Layout Diagram**

Full Input Data And Results





## Full Input Data And Results

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 (%)
<b>Network</b>	-	-	<b>N/A</b>	-	-		-	-	-	-	-	-	<b>102.4%</b>
<b>A12 / Gubbins Lane</b>	-	-	<b>N/A</b>	-	-		-	-	-	-	-	-	<b>102.4%</b>
1/2+1/1	A12 (NE) Ahead Left	U	1	N/A	C		1	41	-	911	1955:1867	655+618	71.6 : 71.6%
1/3+1/4	A12 (NE) Ahead Right	U	1	N/A	C D		1	41:35	-	902	2115:1742	504+393	100.6 : 100.6%
2/1	A12 (SW) Ahead Left	U	1	N/A	A		1	25	-	342	1772	384	89.1%
2/2	A12 (SW) Ahead	U	1	N/A	A		1	25	-	401	2075	450	89.2%
2/3	A12 (SW) Ahead	U	1	N/A	A		1	25	-	401	2075	450	89.2%
2/4	A12 (SW) Right	U	1	N/A	E		1	16	-	260	1793	254	102.4%
3/1	Gubbins Lane Left Right Ahead	O	1	N/A	F		1	39	-	510	1890	502	101.5%
4/2+4/1	Gooshays Drive Right Left Ahead	O+U	1	N/A	G		1	39	-	602	1781:1928	147+551	91.6 : 84.7%
5/1	A12 (SW) exit Ahead	O	N/A	N/A	-		-	-	-	275	1965	936	29.4%
5/2	A12 (SW) exit Ahead	U	N/A	N/A	-		-	-	-	583	2055	2055	28.3%
5/3	A12 (SW) exit Ahead	U	N/A	N/A	-		-	-	-	642	2055	2055	31.2%
6/1	A12 (NW) internal Ahead	O	N/A	N/A	-		-	-	-	175	1915	1439	12.2%
6/2	A12 (NW) internal Ahead	U	N/A	N/A	-		-	-	-	438	2055	2055	21.3%
6/3	A12 (NW) internal Ahead	U	N/A	N/A	-		-	-	-	439	2055	2055	21.3%
7/1	Gubbins Lane exit	U	N/A	N/A	-		-	-	-	832	Inf	Inf	0.0%

Full Input Data And Results

8/1	Gooshays Drive exit	U	N/A	N/A	-		-	-	-	945	Inf	Inf	0.0%
9/1	A12 (NW) exit	U	N/A	N/A	-		-	-	-	613	Inf	Inf	0.0%
9/2	A12 (NW) exit	U	N/A	N/A	-		-	-	-	439	Inf	Inf	0.0%
10/1	A12 Westbound exit	U	N/A	N/A	-		-	-	-	858	Inf	Inf	0.0%
10/2	A12 Westbound exit	U	N/A	N/A	-		-	-	-	642	Inf	Inf	0.0%

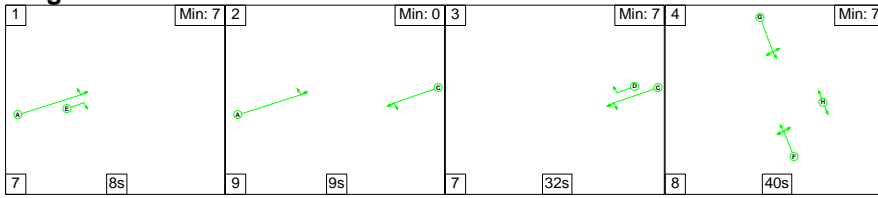


Full Input Data And Results

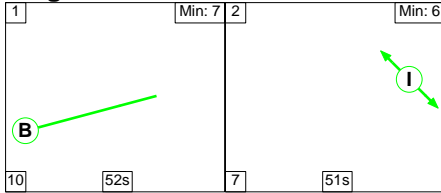
Scenario 5: 'Do Something 2030 + LTC AM' (FG7: 'Do Something 2030 + LTC AM', Plan 1: 'Network Control Plan 1')

Stage Sequence Diagram

Stage Stream: 1



Stage Stream: 2



Stage Timings

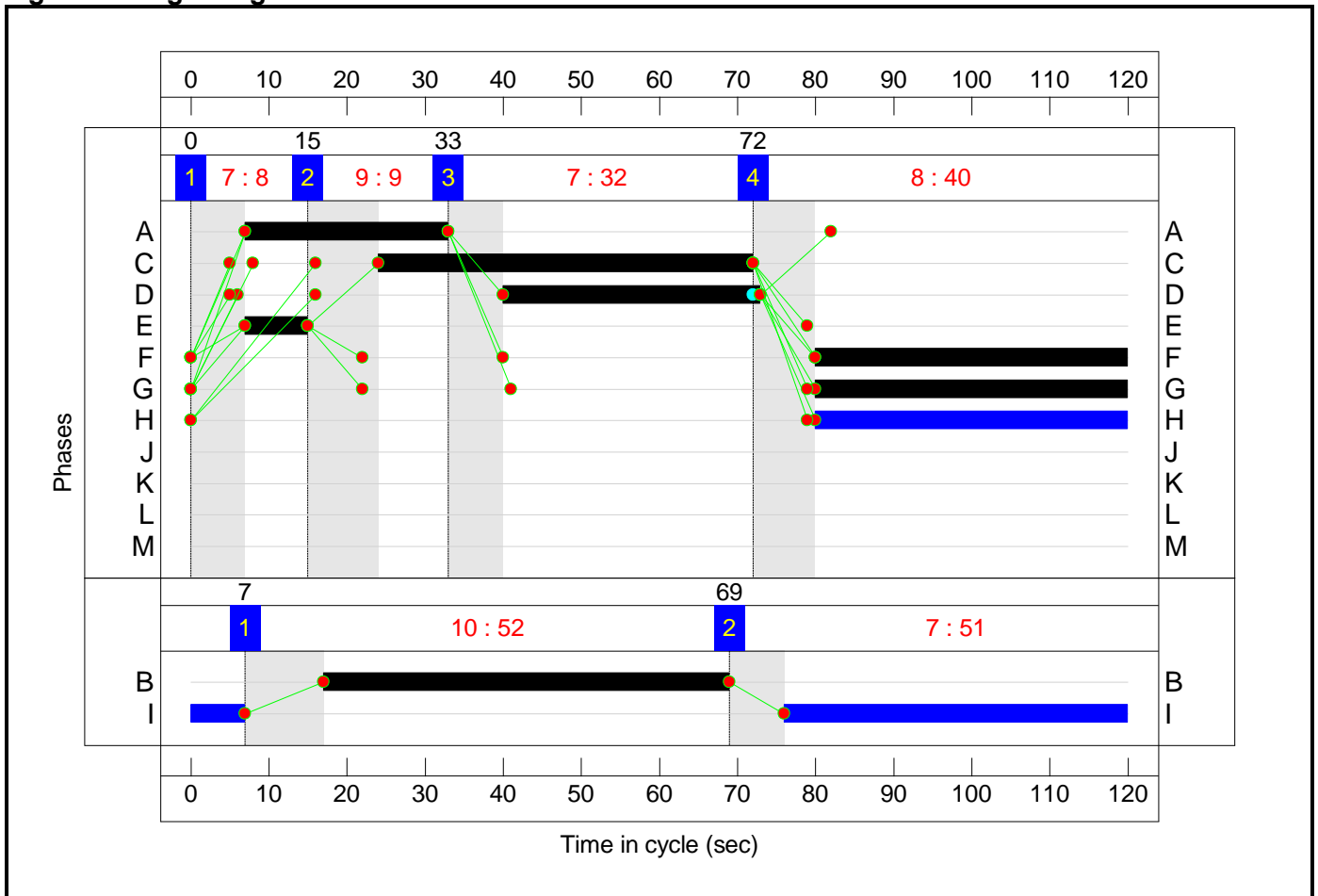
Stage Stream: 1

Stage	1	2	3	4
Duration	8	9	32	40
Change Point	0	15	33	72

Stage Stream: 2

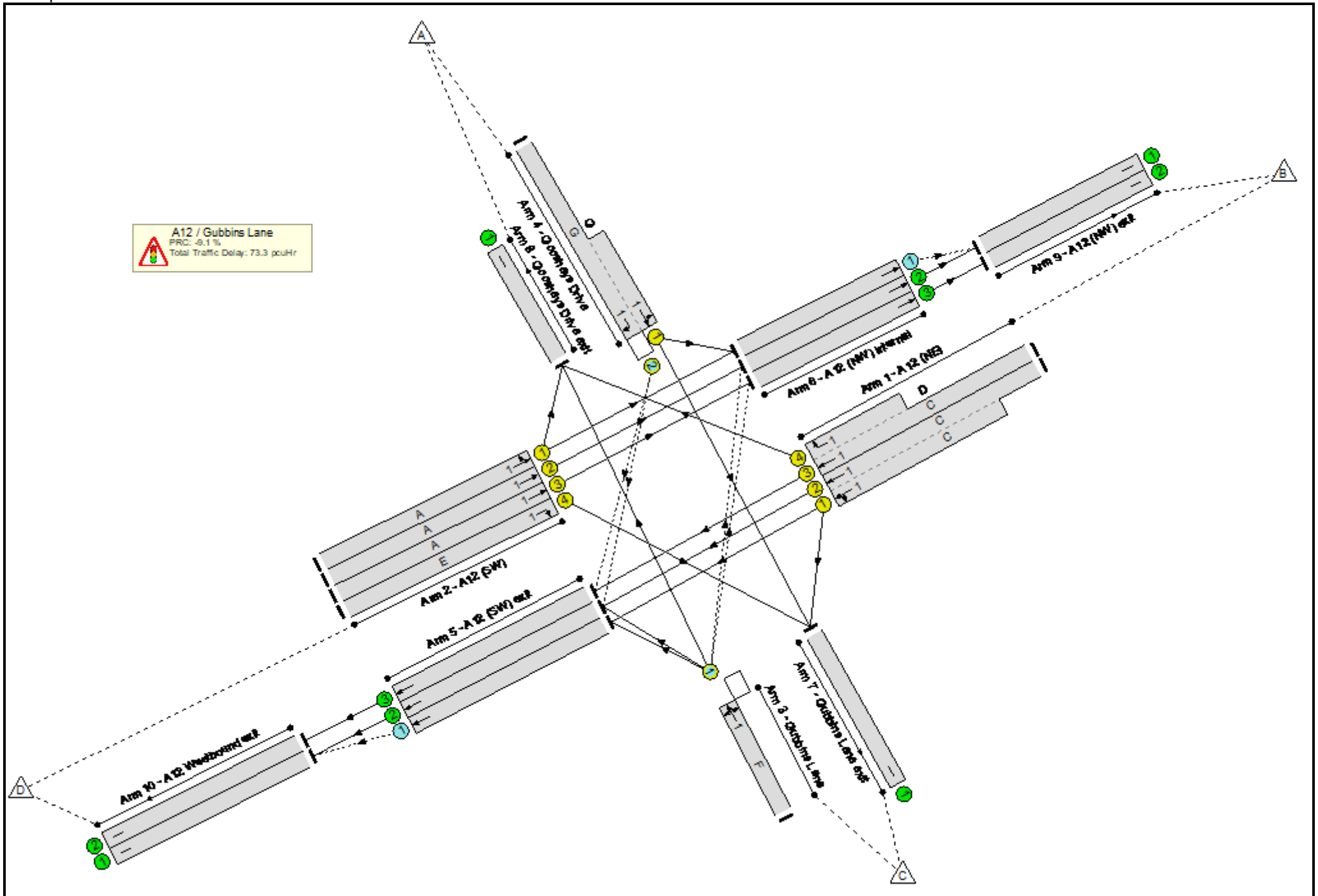
Stage	1	2
Duration	52	51
Change Point	7	69

**Signal Timings Diagram**



Full Input Data And Results  
**Network Layout Diagram**

Full Input Data And Results





## Full Input Data And Results

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 (%)
<b>Network</b>	-	-	<b>N/A</b>	-	-		-	-	-	-	-	-	<b>98.2%</b>
<b>A12 / Gubbins Lane</b>	-	-	<b>N/A</b>	-	-		-	-	-	-	-	-	<b>98.2%</b>
1/2+1/1	A12 (NE) Ahead Left	U	1	N/A	C		1	48	-	1097	1955:1896	713+679	78.8 : 78.8%
1/3+1/4	A12 (NE) Ahead Right	U	1	N/A	C D		1	48:33	-	951	2115:1742	627+356	96.8 : 96.8%
2/1	A12 (SW) Ahead Left	U	1	N/A	A		1	26	-	271	1796	404	67.1%
2/2	A12 (SW) Ahead	U	1	N/A	A		1	26	-	305	2075	467	65.3%
2/3	A12 (SW) Ahead	U	1	N/A	A		1	26	-	304	2075	467	65.1%
2/4	A12 (SW) Right	U	1	N/A	E		1	8	-	132	1793	134	98.2%
3/1	Gubbins Lane Left Right Ahead	O	1	N/A	F		1	40	-	447	1884	481	93.0%
4/2+4/1	Gooshays Drive Right Left Ahead	O+U	1	N/A	G		1	40	-	589	1781:1919	113+588	84.0 : 84.0%
5/1	A12 (SW) exit Ahead	O	N/A	N/A	-		-	-	-	401	1965	869	46.2%
5/2	A12 (SW) exit Ahead	U	N/A	N/A	-		-	-	-	664	2055	2055	32.3%
5/3	A12 (SW) exit Ahead	U	N/A	N/A	-		-	-	-	697	2055	2055	33.9%
6/1	A12 (NW) internal Ahead	O	N/A	N/A	-		-	-	-	221	1915	1439	15.4%
6/2	A12 (NW) internal Ahead	U	N/A	N/A	-		-	-	-	346	2055	2055	16.8%
6/3	A12 (NW) internal Ahead	U	N/A	N/A	-		-	-	-	345	2055	2055	16.8%
7/1	Gubbins Lane exit	U	N/A	N/A	-		-	-	-	672	Inf	Inf	0.0%

Full Input Data And Results

8/1	Gooshays Drive exit	U	N/A	N/A	-		-	-	-	750	Inf	Inf	0.0%
9/1	A12 (NW) exit	U	N/A	N/A	-		-	-	-	567	Inf	Inf	0.0%
9/2	A12 (NW) exit	U	N/A	N/A	-		-	-	-	345	Inf	Inf	0.0%
10/1	A12 Westbound exit	U	N/A	N/A	-		-	-	-	1065	Inf	Inf	0.0%
10/2	A12 Westbound exit	U	N/A	N/A	-		-	-	-	697	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)
<b>Network</b>	-	-	578	221	0	44.5	28.1	0.7	73.3	-	-	-	-
<b>A12 / Gubbins Lane</b>	-	-	578	221	0	44.5	28.1	0.7	73.3	-	-	-	-
1/2+1/1	1097	1097	-	-	-	9.0	1.8	-	10.8	35.4	15.5	1.8	17.3
1/3+1/4	951	951	-	-	-	9.1	9.4	-	18.5	69.9	25.5	9.4	34.9
2/1	271	271	-	-	-	3.2	1.0	-	4.2	55.8	8.2	1.0	9.2
2/2	305	305	-	-	-	3.6	0.9	-	4.5	53.2	9.2	0.9	10.2
2/3	304	304	-	-	-	3.6	0.9	-	4.5	53.2	9.1	0.9	10.0
2/4	132	132	-	-	-	2.0	5.2	-	7.2	196.1	4.4	5.2	9.5
3/1	447	447	82	0	0	4.5	5.1	0.4	9.9	79.9	14.5	5.1	19.6
4/2+4/1	589	589	95	0	0	5.8	2.5	0.4	8.6	52.7	16.1	2.5	18.6
5/1	401	401	401	0	0	3.9	0.4	-	4.3	38.5	12.8	0.4	13.2
5/2	664	664	-	-	-	0.0	0.2	-	0.2	1.3	0.0	0.2	0.2
5/3	697	697	-	-	-	0.0	0.3	-	0.3	1.4	7.5	0.3	7.8
6/1	221	221	0	221	0	0.0	0.1	-	0.1	1.5	0.0	0.1	0.1
6/2	346	346	-	-	-	0.0	0.1	-	0.1	1.1	6.9	0.1	7.0
6/3	345	345	-	-	-	0.0	0.1	-	0.1	1.1	6.9	0.1	7.0
7/1	672	672	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	750	750	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
9/1	567	567	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
9/2	345	345	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
10/1	1065	1065	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
10/2	697	697	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

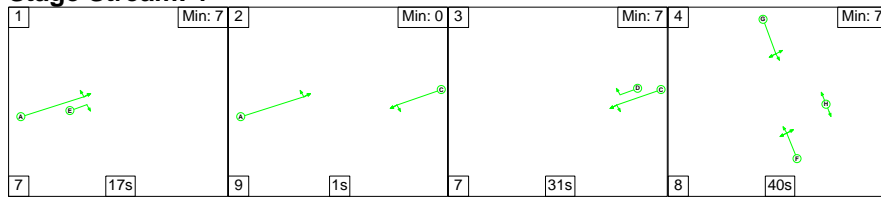
C1	Stream: 1 PRC for Signalled Lanes (%):	-9.1	Total Delay for Signalled Lanes (pcuHr):	68.19	Cycle Time (s):	120
C1	Stream: 2 PRC for Signalled Lanes (%):	0.0	Total Delay for Signalled Lanes (pcuHr):	0.00	Cycle Time (s):	120
	PRC Over All Lanes (%):	-9.1	Total Delay Over All Lanes (pcuHr):	73.28		

Full Input Data And Results

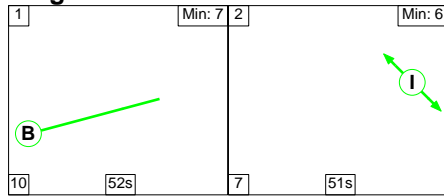
Scenario 6: 'Do Something 2030 + LTC PM' (FG8: 'Do Something 2030 + LTC PM', Plan 1: 'Network Control Plan 1')

Stage Sequence Diagram

Stage Stream: 1



Stage Stream: 2



Stage Timings

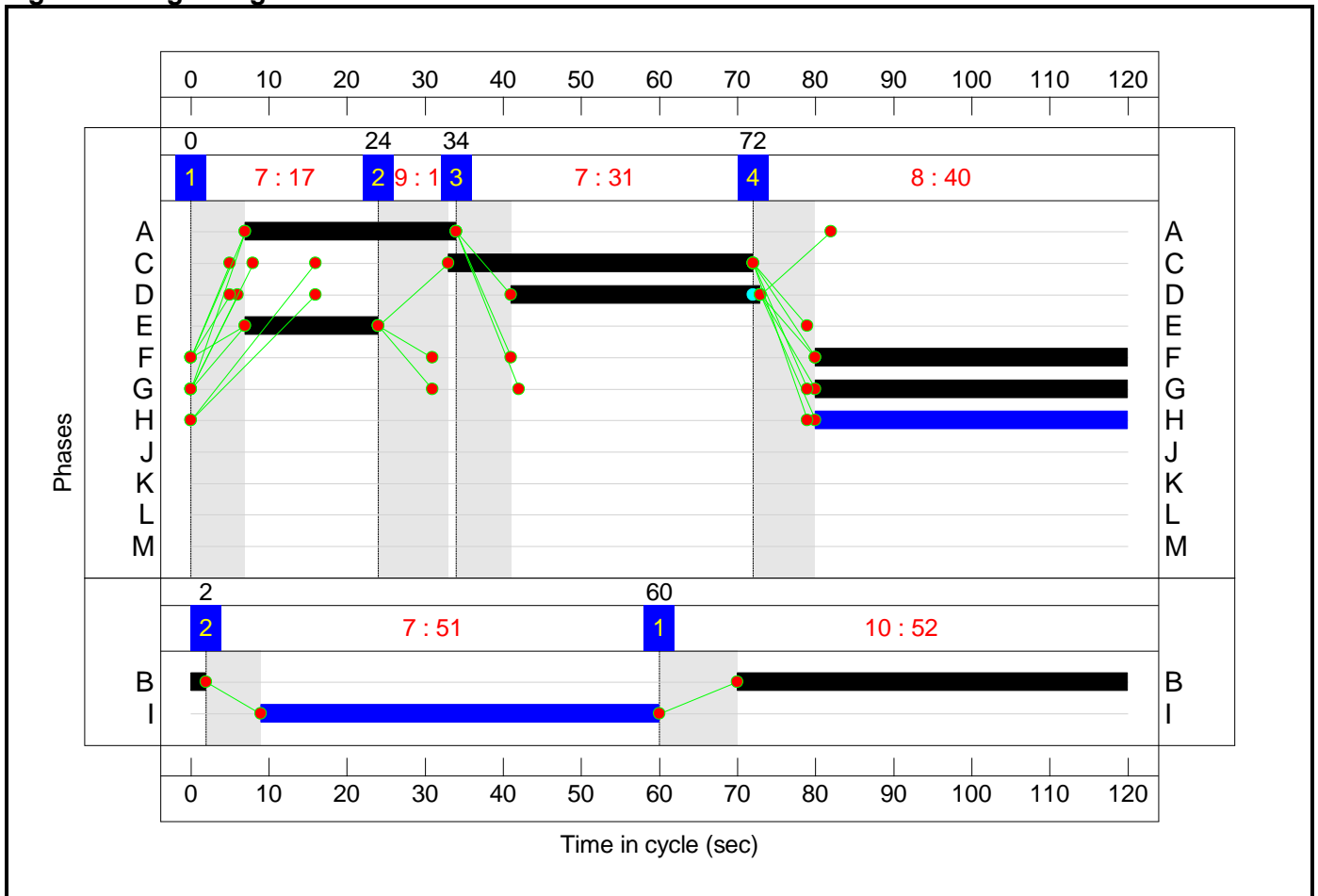
Stage Stream: 1

Stage	1	2	3	4
Duration	17	1	31	40
Change Point	0	24	34	72

Stage Stream: 2

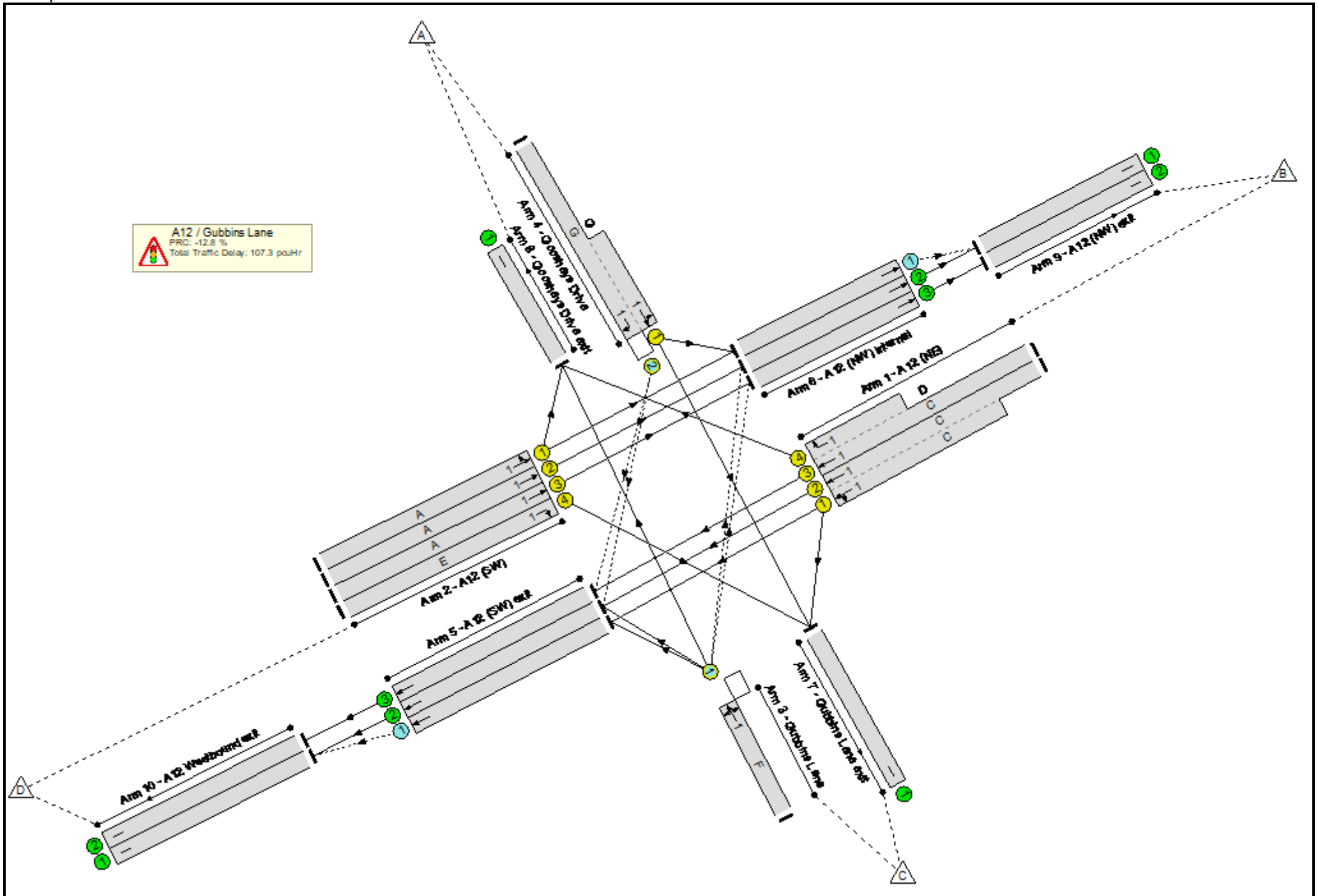
Stage	1	2
Duration	52	51
Change Point	60	2

Signal Timings Diagram



Full Input Data And Results  
**Network Layout Diagram**

Full Input Data And Results





## Full Input Data And Results

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 (%)
<b>Network</b>	-	-	<b>N/A</b>	-	-		-	-	-	-	-	-	<b>101.5%</b>
<b>A12 / Gubbins Lane</b>	-	-	<b>N/A</b>	-	-		-	-	-	-	-	-	<b>101.5%</b>
1/2+1/1	A12 (NE) Ahead Left	U	1	N/A	C		1	39	-	1256	1955:1899	639+607	100.8 : 100.8%
1/3+1/4	A12 (NE) Ahead Right	U	1	N/A	C D		1	39:32	-	537	2115:1742	153+429	92.3 : 92.3%
2/1	A12 (SW) Ahead Left	U	1	N/A	A		1	27	-	315	1764	412	76.5%
2/2	A12 (SW) Ahead	U	1	N/A	A		1	27	-	372	2075	484	76.8%
2/3	A12 (SW) Ahead	U	1	N/A	A		1	27	-	372	2075	484	76.8%
2/4	A12 (SW) Right	U	1	N/A	E		1	17	-	260	1793	269	96.7%
3/1	Gubbins Lane Left Right Ahead	O	1	N/A	F		1	40	-	520	1892	512	101.5%
4/2+4/1	Gooshays Drive Right Left Ahead	O+U	1	N/A	G		1	40	-	578	1781:1919	155+564	82.4 : 79.8%
5/1	A12 (SW) exit Ahead	O	N/A	N/A	-		-	-	-	468	1965	833	55.8%
5/2	A12 (SW) exit Ahead	U	N/A	N/A	-		-	-	-	756	2055	2055	36.5%
5/3	A12 (SW) exit Ahead	U	N/A	N/A	-		-	-	-	259	2055	2055	12.6%
6/1	A12 (NW) internal Ahead	O	N/A	N/A	-		-	-	-	165	1915	1439	11.5%
6/2	A12 (NW) internal Ahead	U	N/A	N/A	-		-	-	-	416	2055	2055	20.2%
6/3	A12 (NW) internal Ahead	U	N/A	N/A	-		-	-	-	416	2055	2055	20.2%
7/1	Gubbins Lane exit	U	N/A	N/A	-		-	-	-	775	Inf	Inf	0.0%

Full Input Data And Results

8/1	Gooshays Drive exit	U	N/A	N/A	-		-	-	-	955	Inf	Inf	0.0%
9/1	A12 (NW) exit	U	N/A	N/A	-		-	-	-	581	Inf	Inf	0.0%
9/2	A12 (NW) exit	U	N/A	N/A	-		-	-	-	416	Inf	Inf	0.0%
10/1	A12 Westbound exit	U	N/A	N/A	-		-	-	-	1224	Inf	Inf	0.0%
10/2	A12 Westbound exit	U	N/A	N/A	-		-	-	-	259	Inf	Inf	0.0%

Full Input Data And Results

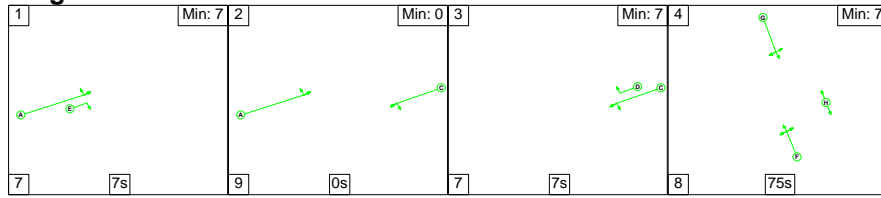
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)	
<b>Network</b>	-	-	645	165	34	53.5	52.9	0.9	107.3	-	-	-	-	
<b>A12 / Gubbins Lane</b>	-	-	645	165	34	53.5	52.9	0.9	107.3	-	-	-	-	
1/2+1/1	1256	1247	-	-	-	14.3	20.2	-	34.5	99.0	24.1	20.2	44.3	
1/3+1/4	537	537	-	-	-	5.8	4.9	-	10.7	71.5	13.9	4.9	18.8	
2/1	315	315	-	-	-	3.8	1.6	-	5.3	61.0	9.7	1.6	11.3	
2/2	372	372	-	-	-	4.4	1.6	-	6.1	58.6	11.6	1.6	13.2	
2/3	372	372	-	-	-	4.4	1.6	-	6.1	58.6	11.6	1.6	13.2	
2/4	260	260	-	-	-	3.7	6.1	-	9.8	135.6	8.6	6.1	14.7	
3/1	520	512	87	0	0	6.0	13.5	0.3	19.9	137.7	17.6	13.5	31.1	
4/2+4/1	578	578	94	0	34	5.6	2.0	0.5	8.1	50.4	14.5	2.0	16.5	
5/1	465	465	465	0	0	5.5	0.6	-	6.1	47.6	14.9	0.6	15.5	
5/2	750	750	-	-	-	0.0	0.3	-	0.3	1.4	0.0	0.3	0.3	
5/3	259	259	-	-	-	0.0	0.1	-	0.1	1.0	0.6	0.1	0.7	
6/1	165	165	0	165	0	0.0	0.1	-	0.1	1.4	0.0	0.1	0.1	
6/2	415	415	-	-	-	0.0	0.1	-	0.1	1.1	9.2	0.1	9.3	
6/3	415	415	-	-	-	0.0	0.1	-	0.1	1.1	9.2	0.1	9.3	
7/1	774	774	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
8/1	950	950	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
9/1	580	580	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
9/2	415	415	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
10/1	1214	1214	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
10/2	259	259	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0	
			C1	Stream: 1 PRC for Signalled Lanes (%):		-12.8	Total Delay for Signalled Lanes (pcuHr):		100.42	Cycle Time (s):		120		
			C1	Stream: 2 PRC for Signalled Lanes (%):		0.0	Total Delay for Signalled Lanes (pcuHr):		0.00	Cycle Time (s):		120		
				PRC Over All Lanes (%):		-12.8	Total Delay Over All Lanes (pcuHr):		107.25					

Full Input Data And Results

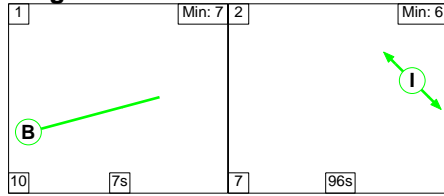
Scenario 7: '2023 Surveyed Peak Hour AM' (FG9: '2023 Surveyed Peak Hour AM', Plan 1: 'Network Control Plan 1')

Stage Sequence Diagram

Stage Stream: 1



Stage Stream: 2



Stage Timings

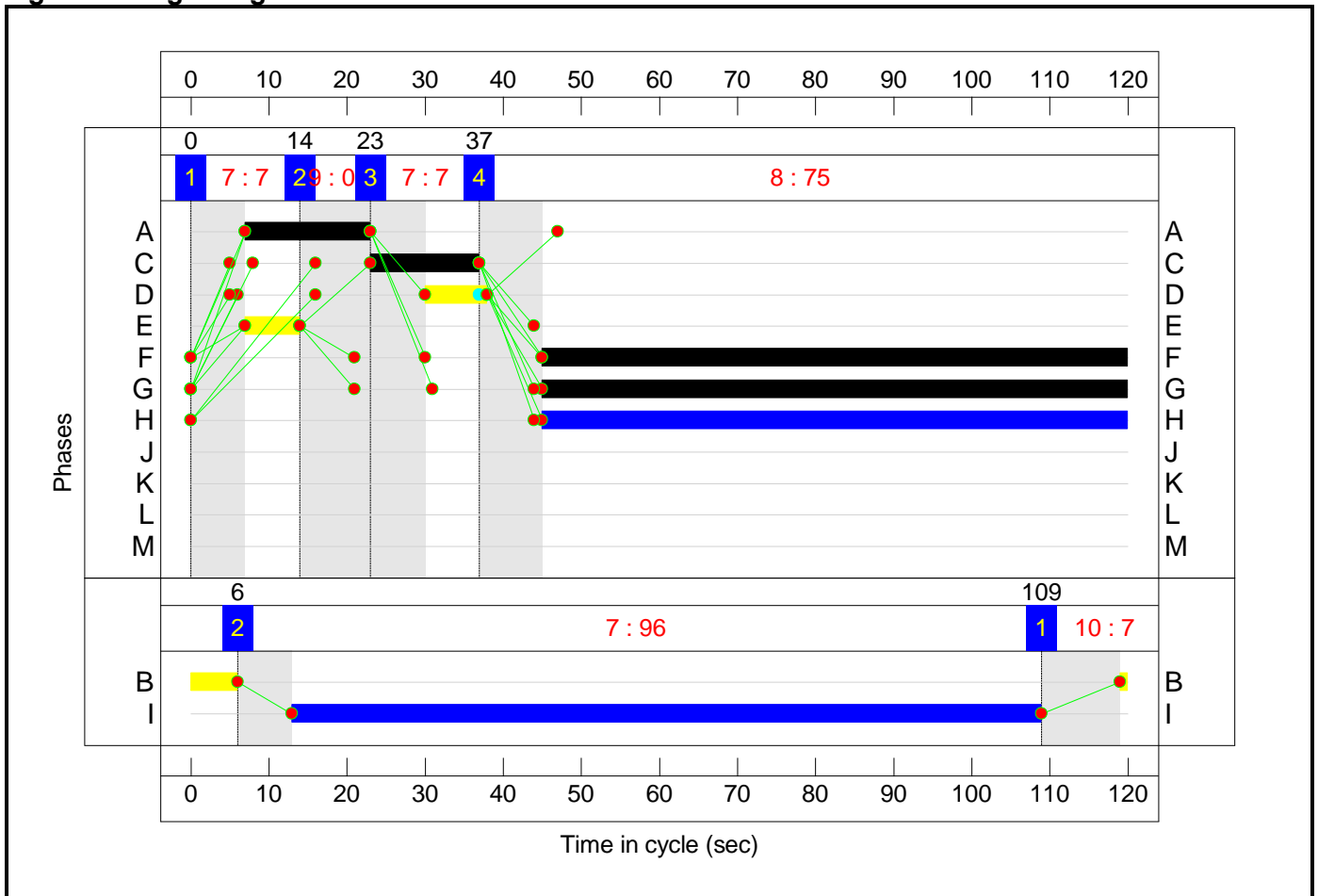
Stage Stream: 1

Stage	1	2	3	4
Duration	7	0	7	75
Change Point	0	14	23	37

Stage Stream: 2

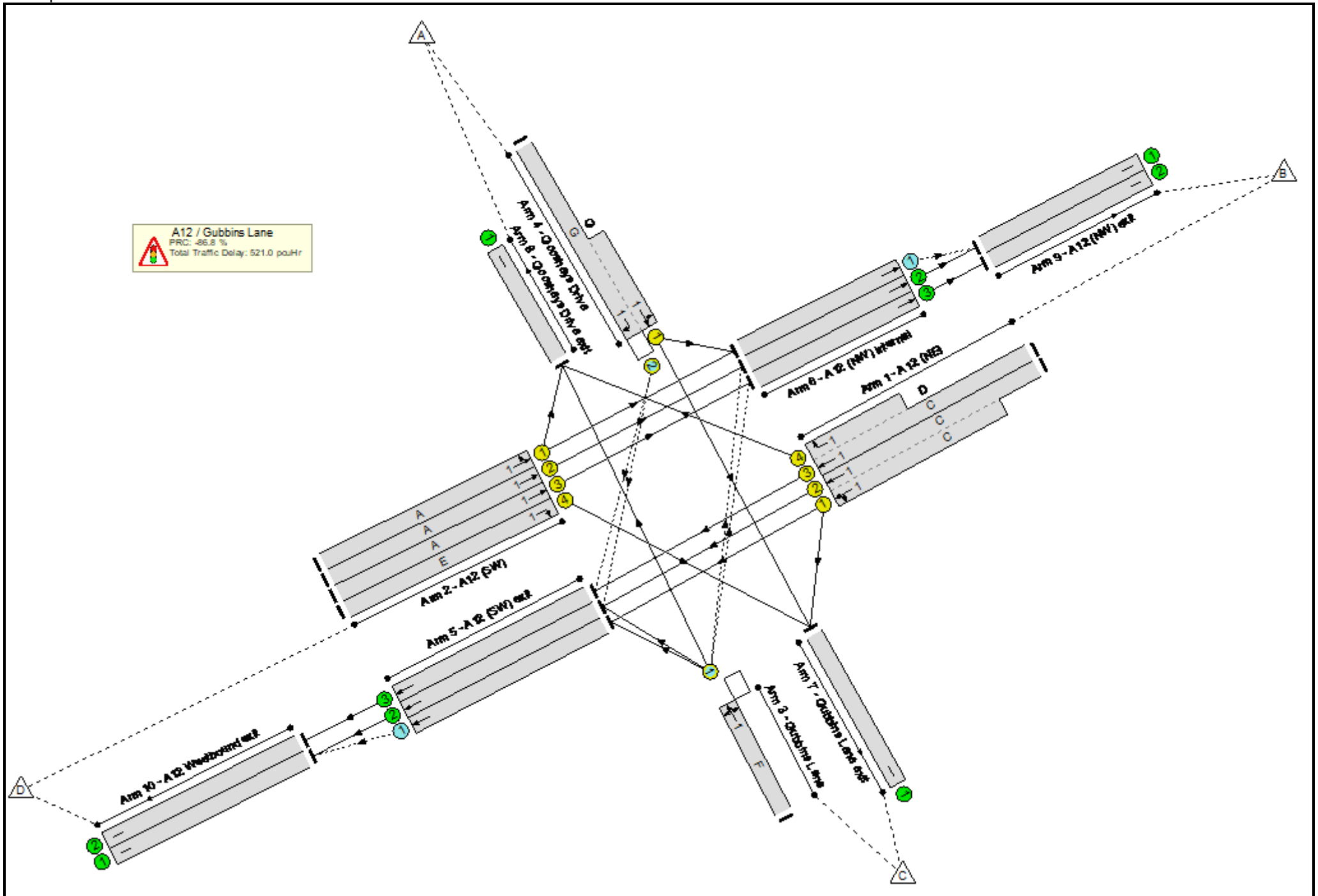
Stage	1	2
Duration	7	96
Change Point	109	6

Signal Timings Diagram



Full Input Data And Results  
**Network Layout Diagram**

Full Input Data And Results





## Full Input Data And Results

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 (%)
<b>Network</b>	-	-	<b>N/A</b>	-	-		-	-	-	-	-	-	<b>168.1%</b>
<b>A12 / Gubbins Lane</b>	-	-	<b>N/A</b>	-	-		-	-	-	-	-	-	<b>168.1%</b>
1/2+1/1	A12 (NE) Ahead Left	U	1	N/A	C		1	14	-	252	1955:1778	244+67	81.0 : 81.0%
1/3+1/4	A12 (NE) Ahead Right	U	1	N/A	C D		1	14:8	-	351	2115:1742	264+101	96.1 : 96.1%
2/1	A12 (SW) Ahead Left	U	1	N/A	A		1	16	-	118	1725	244	48.3%
2/2	A12 (SW) Ahead	U	1	N/A	A		1	16	-	149	2075	294	50.7%
2/3	A12 (SW) Ahead	U	1	N/A	A		1	16	-	149	2075	294	50.7%
2/4	A12 (SW) Right	U	1	N/A	E		1	7	-	70	1793	120	58.6%
3/1	Gubbins Lane Left Right Ahead	O	1	N/A	F		1	75	-	1828	1918	1088	168.1%
4/2+4/1	Gooshays Drive Right Left Ahead	O+U	1	N/A	G		1	75	-	1275	1781:1921	147+1058	135.0 : 101.8%
5/1	A12 (SW) exit Ahead	O	N/A	N/A	-		-	-	-	11	1965	1214	0.9%
5/2	A12 (SW) exit Ahead	U	N/A	N/A	-		-	-	-	300	2055	2055	12.6%
5/3	A12 (SW) exit Ahead	U	N/A	N/A	-		-	-	-	452	2055	2055	19.5%
6/1	A12 (NW) internal Ahead	O	N/A	N/A	-		-	-	-	181	1915	1439	12.4%
6/2	A12 (NW) internal Ahead	U	N/A	N/A	-		-	-	-	335	2055	2055	12.6%
6/3	A12 (NW) internal Ahead	U	N/A	N/A	-		-	-	-	335	2055	2055	12.6%
7/1	Gubbins Lane exit	U	N/A	N/A	-		-	-	-	1009	Inf	Inf	0.0%

Full Input Data And Results

8/1	Gooshays Drive exit	U	N/A	N/A	-		-	-	-	1569	Inf	Inf	0.0%
9/1	A12 (NW) exit	U	N/A	N/A	-		-	-	-	516	Inf	Inf	0.0%
9/2	A12 (NW) exit	U	N/A	N/A	-		-	-	-	335	Inf	Inf	0.0%
10/1	A12 Westbound exit	U	N/A	N/A	-		-	-	-	311	Inf	Inf	0.0%
10/2	A12 Westbound exit	U	N/A	N/A	-		-	-	-	452	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)
<b>Network</b>	-	-	<b>309</b>	<b>178</b>	<b>70</b>	<b>94.5</b>	<b>425.0</b>	<b>1.5</b>	<b>521.0</b>	-	-	-	-
<b>A12 / Gubbins Lane</b>	-	-	<b>309</b>	<b>178</b>	<b>70</b>	<b>94.5</b>	<b>425.0</b>	<b>1.5</b>	<b>521.0</b>	-	-	-	-
1/2+1/1	252	252	-	-	-	3.5	2.0	-	5.5	78.9	6.4	2.0	8.4
1/3+1/4	351	351	-	-	-	5.1	6.4	-	11.6	118.9	8.4	6.4	14.8
2/1	118	118	-	-	-	1.6	0.5	-	2.0	61.6	3.6	0.5	4.1
2/2	149	149	-	-	-	2.0	0.5	-	2.5	60.0	4.6	0.5	5.1
2/3	149	149	-	-	-	2.0	0.5	-	2.5	60.0	4.6	0.5	5.1
2/4	70	70	-	-	-	1.1	0.7	-	1.7	89.8	2.3	0.7	2.9
3/1	1828	1088	212	0	10	67.9	371.4	0.3	439.7	865.9	108.8	371.4	480.2
4/2+4/1	1275	1205	87	0	60	11.3	42.5	1.2	55.0	155.4	42.3	42.5	84.8
5/1	11	11	11	0	0	0.0	0.0	-	0.0	6.1	0.2	0.0	0.2
5/2	259	259	-	-	-	0.0	0.1	-	0.1	1.0	0.0	0.1	0.1
5/3	401	401	-	-	-	0.0	0.1	-	0.1	1.1	5.9	0.1	6.0
6/1	178	178	0	178	0	0.0	0.1	-	0.1	1.4	0.0	0.1	0.1
6/2	260	260	-	-	-	0.0	0.1	-	0.1	1.0	2.3	0.1	2.4
6/3	260	260	-	-	-	0.0	0.1	-	0.1	1.0	2.3	0.1	2.4
7/1	993	993	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	1021	1021	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
9/1	438	438	-	-	-	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	270	270	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
10/2	401	401	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

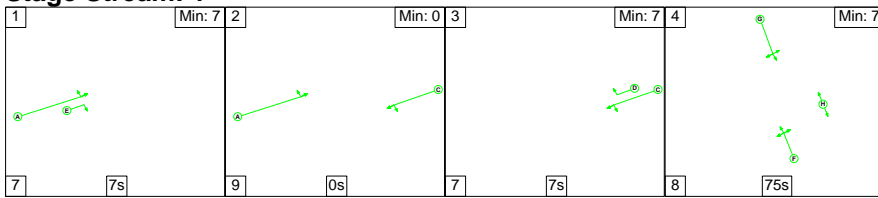
C1	Stream: 1 PRC for Signalled Lanes (%):	-86.8	Total Delay for Signalled Lanes (pcuHr):	520.57	Cycle Time (s):	120
C1	Stream: 2 PRC for Signalled Lanes (%):	0.0	Total Delay for Signalled Lanes (pcuHr):	0.00	Cycle Time (s):	120
	PRC Over All Lanes (%):	-86.8	Total Delay Over All Lanes (pcuHr):	521.01		

Full Input Data And Results

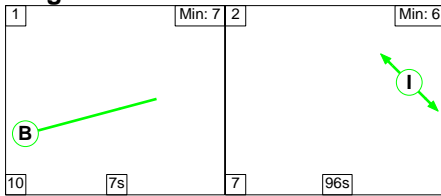
Scenario 8: '2023 Surveyed Peak Hour PM' (FG10: '2023 Surveyed Peak Hour PM', Plan 1: 'Network Control Plan 1')

Stage Sequence Diagram

Stage Stream: 1



Stage Stream: 2



Stage Timings

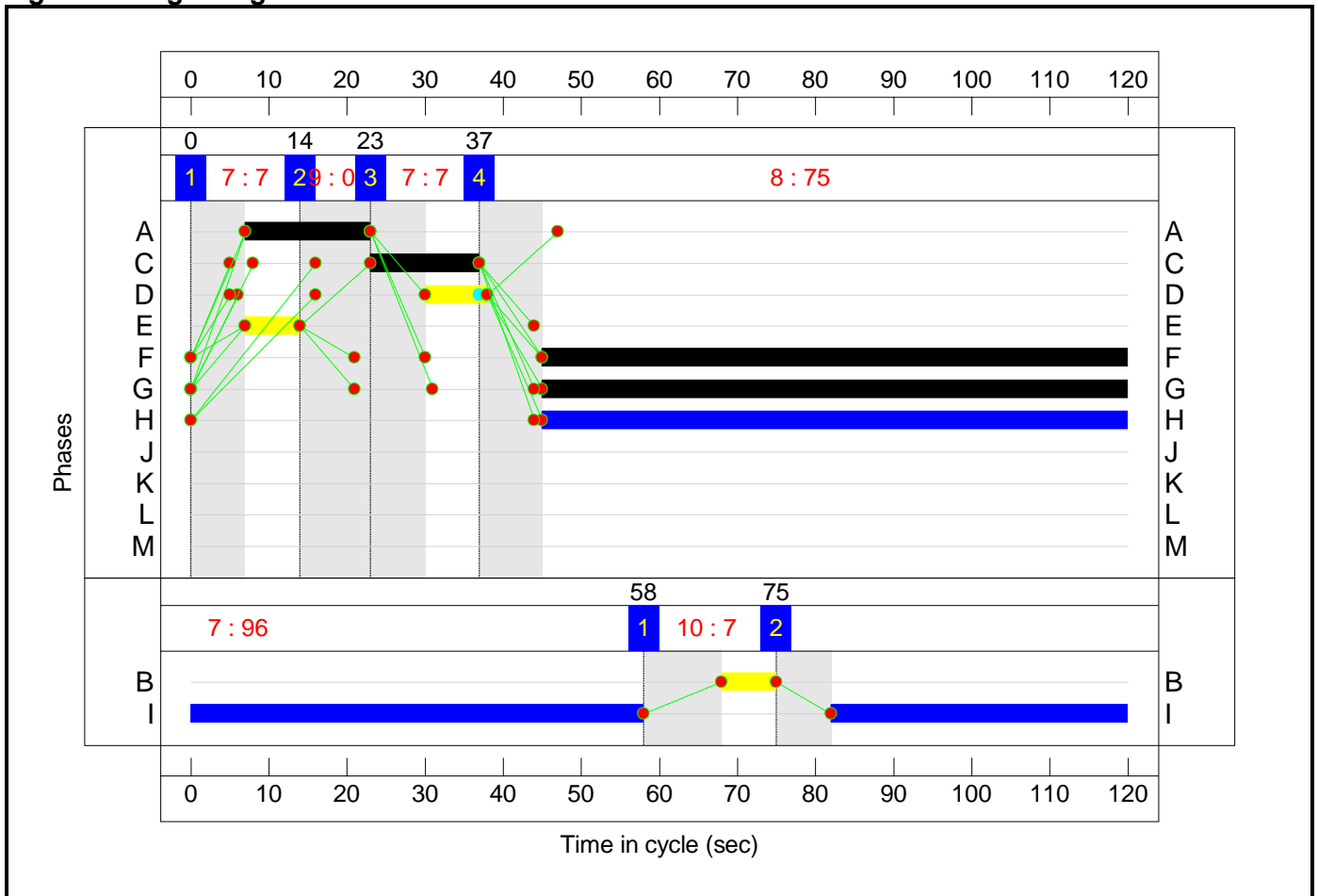
Stage Stream: 1

Stage	1	2	3	4
Duration	7	0	7	75
Change Point	0	14	23	37

Stage Stream: 2

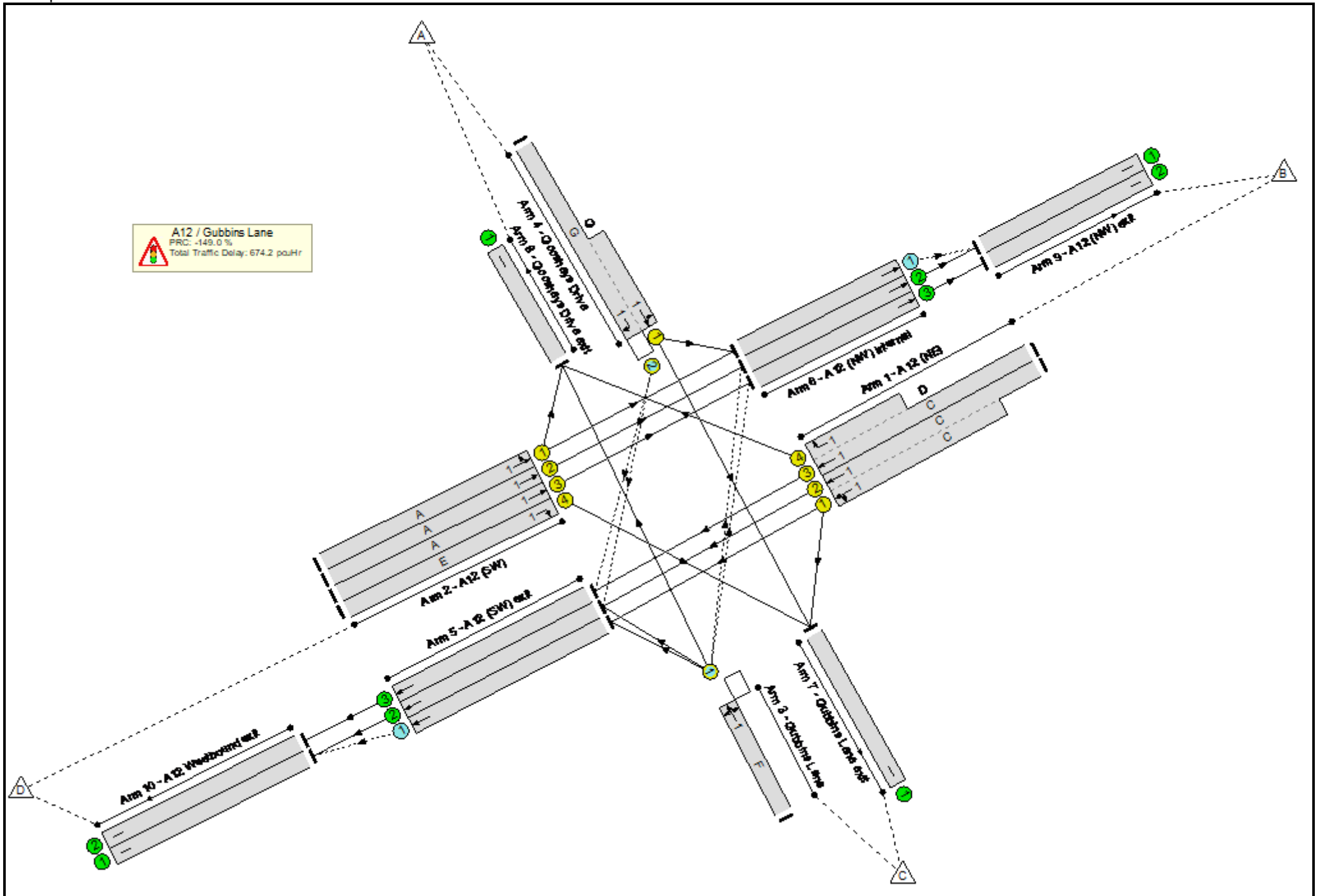
Stage	1	2
Duration	7	96
Change Point	58	75

Signal Timings Diagram



Full Input Data And Results  
**Network Layout Diagram**

Full Input Data And Results





## Full Input Data And Results

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 (%)
<b>Network</b>	-	-	<b>N/A</b>	-	-		-	-	-	-	-	-	<b>224.1%</b>
<b>A12 / Gubbins Lane</b>	-	-	<b>N/A</b>	-	-		-	-	-	-	-	-	<b>224.1%</b>
1/2+1/1	A12 (NE) Ahead Left	U	1	N/A	C		1	14	-	243	1955:1768	244+148	70.4 : 47.9%
1/3+1/4	A12 (NE) Ahead Right	U	1	N/A	C D		1	14:8	-	325	2115:1742	264+131	74.5 : 98.0%
2/1	A12 (SW) Ahead Left	U	1	N/A	A		1	16	-	107	1725	244	43.8%
2/2	A12 (SW) Ahead	U	1	N/A	A		1	16	-	152	2075	294	51.7%
2/3	A12 (SW) Ahead	U	1	N/A	A		1	16	-	152	2075	294	51.7%
2/4	A12 (SW) Right	U	1	N/A	E		1	7	-	71	1793	120	59.4%
3/1	Gubbins Lane Left Right Ahead	O	1	N/A	F		1	75	-	1730	1908	1136	152.3%
4/2+4/1	Gooshays Drive Right Left Ahead	O+U	1	N/A	G		1	75	-	1337	1781:1915	107+683	224.1 : 160.7%
5/1	A12 (SW) exit Ahead	O	N/A	N/A	-		-	-	-	11	1965	1179	0.9%
5/2	A12 (SW) exit Ahead	U	N/A	N/A	-		-	-	-	339	2055	2055	13.7%
5/3	A12 (SW) exit Ahead	U	N/A	N/A	-		-	-	-	436	2055	2055	14.8%
6/1	A12 (NW) internal Ahead	O	N/A	N/A	-		-	-	-	219	1915	1439	9.5%
6/2	A12 (NW) internal Ahead	U	N/A	N/A	-		-	-	-	326	2055	2055	13.0%
6/3	A12 (NW) internal Ahead	U	N/A	N/A	-		-	-	-	327	2055	2055	13.0%
7/1	Gubbins Lane exit	U	N/A	N/A	-		-	-	-	1010	Inf	Inf	0.0%

Full Input Data And Results

8/1	Gooshays Drive exit	U	N/A	N/A	-		-	-	-	1449	Inf	Inf	0.0%
9/1	A12 (NW) exit	U	N/A	N/A	-		-	-	-	545	Inf	Inf	0.0%
9/2	A12 (NW) exit	U	N/A	N/A	-		-	-	-	327	Inf	Inf	0.0%
10/1	A12 Westbound exit	U	N/A	N/A	-		-	-	-	350	Inf	Inf	0.0%
10/2	A12 Westbound exit	U	N/A	N/A	-		-	-	-	436	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)
<b>Network</b>	-	-	287	136	60	93.9	578.9	1.5	674.2	-	-	-	-
<b>A12 / Gubbins Lane</b>	-	-	287	136	60	93.9	578.9	1.5	674.2	-	-	-	-
1/2+1/1	243	243	-	-	-	3.4	0.8	-	4.2	61.6	5.5	0.8	6.3
1/3+1/4	325	325	-	-	-	4.7	2.2	-	6.9	76.7	6.3	2.2	8.5
2/1	107	107	-	-	-	1.4	0.4	-	1.8	60.2	3.2	0.4	3.6
2/2	152	152	-	-	-	2.0	0.5	-	2.5	60.3	4.7	0.5	5.2
2/3	152	152	-	-	-	2.0	0.5	-	2.5	60.3	4.7	0.5	5.2
2/4	71	71	-	-	-	1.1	0.7	-	1.8	90.5	2.3	0.7	3.0
3/1	1730	1136	229	0	0	56.1	298.6	0.3	355.0	738.6	95.8	298.6	394.4
4/2+4/1	1337	790	47	0	60	23.1	274.8	1.2	299.1	805.5	49.2	274.8	324.0
5/1	11	11	11	0	0	0.0	0.0	-	0.0	6.1	0.3	0.0	0.3
5/2	282	282	-	-	-	0.0	0.1	-	0.1	1.0	0.0	0.1	0.1
5/3	304	304	-	-	-	0.0	0.1	-	0.1	1.1	4.0	0.1	4.1
6/1	136	136	0	136	0	0.0	0.1	-	0.1	1.4	0.0	0.1	0.1
6/2	266	266	-	-	-	0.0	0.1	-	0.1	1.0	1.7	0.1	1.8
6/3	267	267	-	-	-	0.0	0.1	-	0.1	1.0	1.7	0.1	1.8
7/1	678	678	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	1032	1032	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
9/1	402	402	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
9/2	267	267	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
10/1	293	293	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
10/2	304	304	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 Stream: 1 PRC for Signalled Lanes (%): -149.0  
 C1 Stream: 2 PRC for Signalled Lanes (%): 0.0  
 PRC Over All Lanes (%): -149.0

Total Delay for Signalled Lanes (pcuHr): 673.85  
 Total Delay for Signalled Lanes (pcuHr): 0.00  
 Total Delay Over All Lanes(pcuHr): 674.24

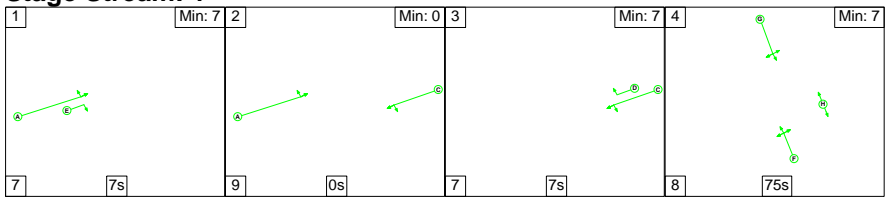
Cycle Time (s): 120  
 Cycle Time (s): 120

Full Input Data And Results

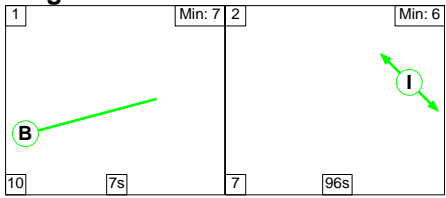
Scenario 9: '2030 Surveyed Peak Hour AM' (FG11: '2030 Surveyed Peak Hour AM', Plan 1: 'Network Control Plan 1')

Stage Sequence Diagram

Stage Stream: 1



Stage Stream: 2



Stage Timings

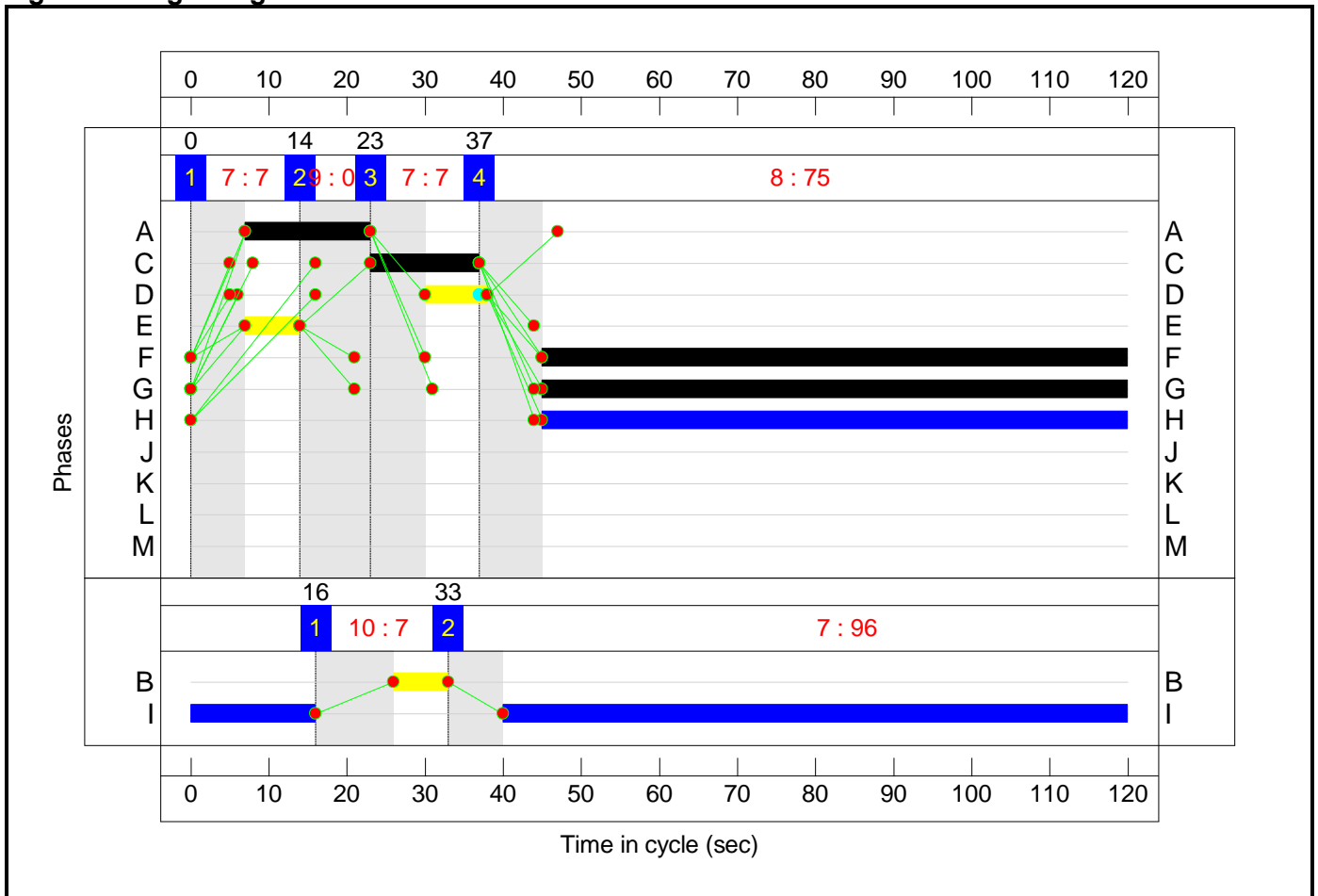
Stage Stream: 1

Stage	1	2	3	4
Duration	7	0	7	75
Change Point	0	14	23	37

Stage Stream: 2

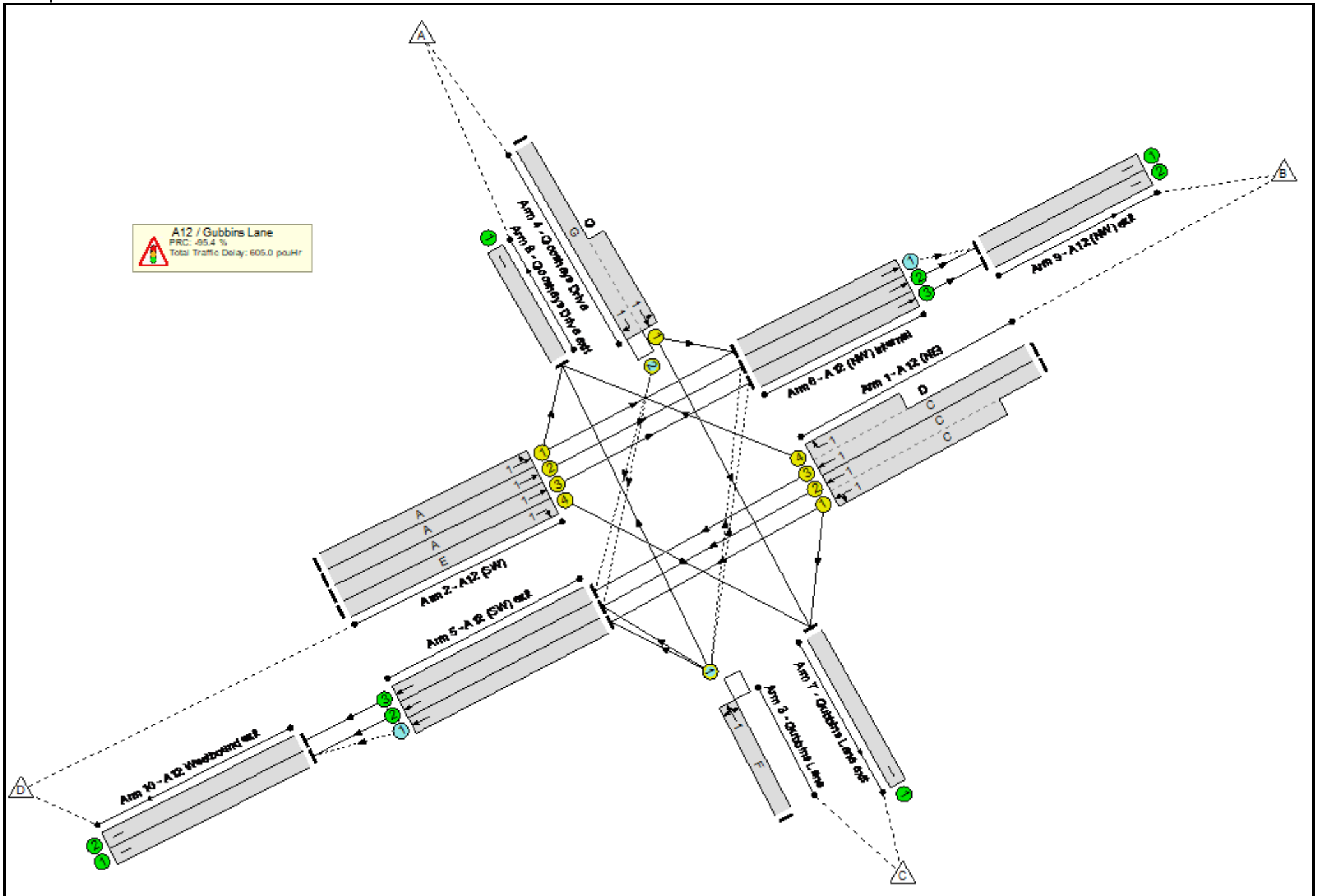
Stage	1	2
Duration	7	96
Change Point	16	33

Signal Timings Diagram



Full Input Data And Results  
**Network Layout Diagram**

Full Input Data And Results





## Full Input Data And Results

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 (%)
<b>Network</b>	-	-	<b>N/A</b>	-	-		-	-	-	-	-	-	<b>175.9%</b>
<b>A12 / Gubbins Lane</b>	-	-	<b>N/A</b>	-	-		-	-	-	-	-	-	<b>175.9%</b>
1/2+1/1	A12 (NE) Ahead Left	U	1	N/A	C		1	14	-	270	1955:1771	244+61	88.4 : 88.4%
1/3+1/4	A12 (NE) Ahead Right	U	1	N/A	C D		1	14:8	-	362	2115:1742	264+104	98.3 : 98.3%
2/1	A12 (SW) Ahead Left	U	1	N/A	A		1	16	-	123	1725	244	50.3%
2/2	A12 (SW) Ahead	U	1	N/A	A		1	16	-	156	2075	294	53.1%
2/3	A12 (SW) Ahead	U	1	N/A	A		1	16	-	156	2075	294	53.1%
2/4	A12 (SW) Right	U	1	N/A	E		1	7	-	73	1793	120	61.1%
3/1	Gubbins Lane Left Right Ahead	O	1	N/A	F		1	75	-	1913	1918	1088	175.9%
4/2+4/1	Gooshays Drive Right Left Ahead	O+U	1	N/A	G		1	75	-	1334	1781:1921	147+1058	141.2 : 106.5%
5/1	A12 (SW) exit Ahead	O	N/A	N/A	-		-	-	-	9	1965	1201	0.7%
5/2	A12 (SW) exit Ahead	U	N/A	N/A	-		-	-	-	323	2055	2055	13.5%
5/3	A12 (SW) exit Ahead	U	N/A	N/A	-		-	-	-	467	2055	2055	19.8%
6/1	A12 (NW) internal Ahead	O	N/A	N/A	-		-	-	-	189	1915	1439	12.3%
6/2	A12 (NW) internal Ahead	U	N/A	N/A	-		-	-	-	350	2055	2055	13.0%
6/3	A12 (NW) internal Ahead	U	N/A	N/A	-		-	-	-	351	2055	2055	13.0%
7/1	Gubbins Lane exit	U	N/A	N/A	-		-	-	-	1056	Inf	Inf	0.0%

Full Input Data And Results

8/1	Gooshays Drive exit	U	N/A	N/A	-		-	-	-	1642	Inf	Inf	0.0%
9/1	A12 (NW) exit	U	N/A	N/A	-		-	-	-	539	Inf	Inf	0.0%
9/2	A12 (NW) exit	U	N/A	N/A	-		-	-	-	351	Inf	Inf	0.0%
10/1	A12 Westbound exit	U	N/A	N/A	-		-	-	-	332	Inf	Inf	0.0%
10/2	A12 Westbound exit	U	N/A	N/A	-		-	-	-	467	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)
<b>Network</b>	-	-	<b>308</b>	<b>177</b>	<b>68</b>	<b>106.2</b>	<b>497.3</b>	<b>1.5</b>	<b>605.0</b>	-	-	-	-
<b>A12 / Gubbins Lane</b>	-	-	<b>308</b>	<b>177</b>	<b>68</b>	<b>106.2</b>	<b>497.3</b>	<b>1.5</b>	<b>605.0</b>	-	-	-	-
1/2+1/1	270	270	-	-	-	3.8	3.2	-	7.0	93.7	7.1	3.2	10.3
1/3+1/4	362	362	-	-	-	5.3	8.1	-	13.4	133.7	8.6	8.1	16.7
2/1	123	123	-	-	-	1.6	0.5	-	2.1	62.3	3.8	0.5	4.3
2/2	156	156	-	-	-	2.1	0.6	-	2.6	60.8	4.8	0.6	5.4
2/3	156	156	-	-	-	2.1	0.6	-	2.6	60.8	4.8	0.6	5.4
2/4	73	73	-	-	-	1.1	0.8	-	1.9	92.0	2.4	0.8	3.1
3/1	1913	1088	213	0	8	75.0	413.8	0.3	489.1	920.4	117.2	413.8	531.0
4/2+4/1	1334	1205	87	0	60	15.2	69.3	1.2	85.8	231.4	46.6	69.3	116.0
5/1	9	9	9	0	0	0.0	0.0	-	0.0	6.2	0.2	0.0	0.2
5/2	277	277	-	-	-	0.0	0.1	-	0.1	1.0	0.0	0.1	0.1
5/3	407	407	-	-	-	0.0	0.1	-	0.1	1.2	6.4	0.1	6.5
6/1	177	177	0	177	0	0.0	0.1	-	0.1	1.4	0.0	0.1	0.1
6/2	266	266	-	-	-	0.0	0.1	-	0.1	1.0	2.3	0.1	2.4
6/3	267	267	-	-	-	0.0	0.1	-	0.1	1.0	2.3	0.1	2.4
7/1	999	999	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	1031	1031	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
9/1	444	444	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
9/2	267	267	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
10/1	286	286	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
10/2	407	407	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

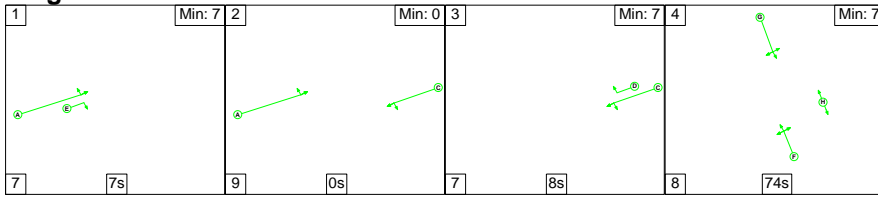
C1	Stream: 1 PRC for Signalled Lanes (%):	-95.4	Total Delay for Signalled Lanes (pcuHr):	604.60	Cycle Time (s):	120
C1	Stream: 2 PRC for Signalled Lanes (%):	0.0	Total Delay for Signalled Lanes (pcuHr):	0.00	Cycle Time (s):	120
	PRC Over All Lanes (%):	-95.4	Total Delay Over All Lanes (pcuHr):	605.04		

Full Input Data And Results

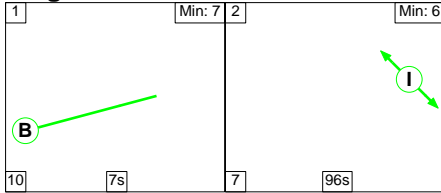
**Scenario 10: '2030 Surveyed Peak Hour PM'** (FG12: '2030 Surveyed Peak Hour PM', Plan 1: 'Network Control Plan 1')

**Stage Sequence Diagram**

**Stage Stream: 1**



**Stage Stream: 2**



**Stage Timings**

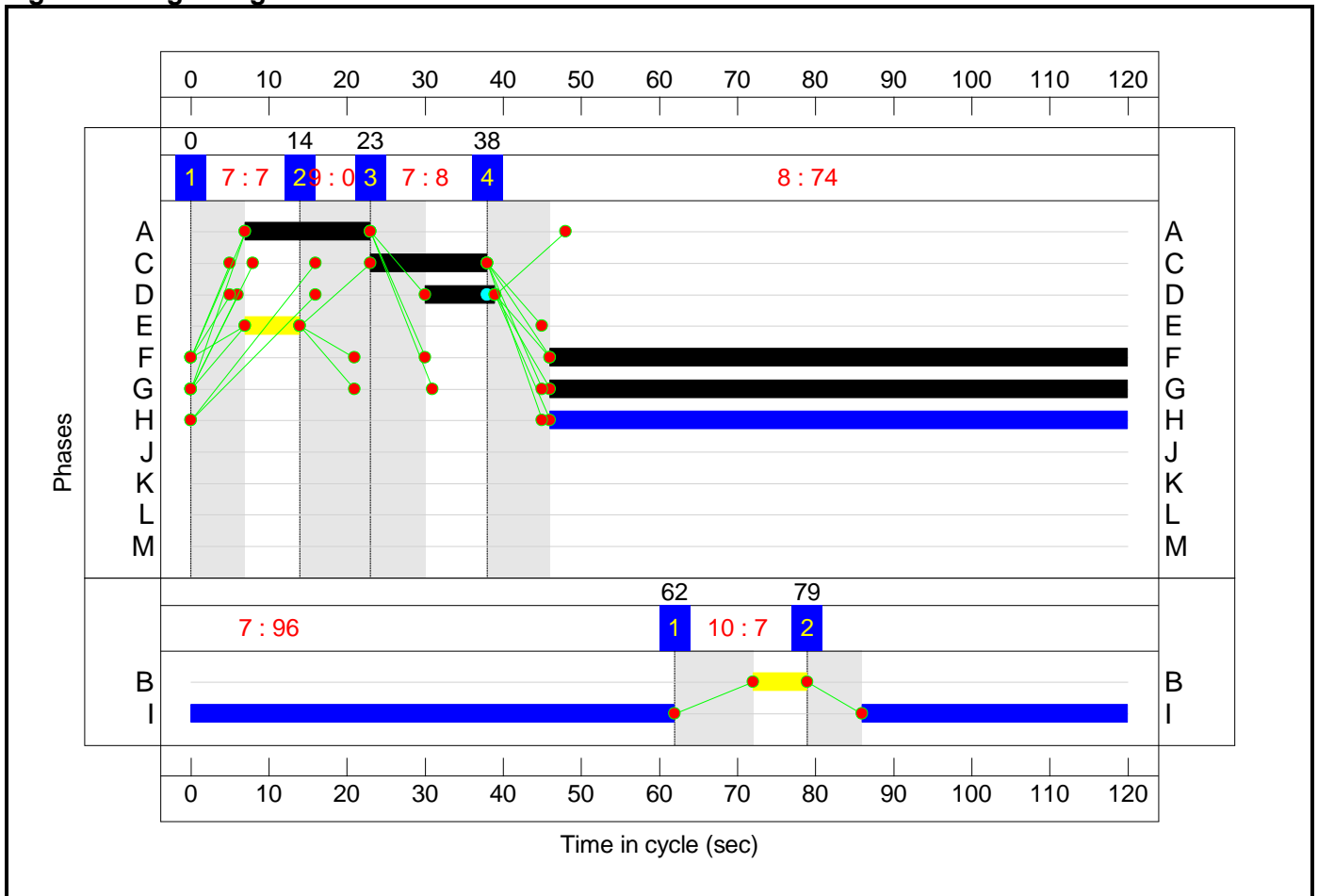
**Stage Stream: 1**

Stage	1	2	3	4
Duration	7	0	8	74
Change Point	0	14	23	38

**Stage Stream: 2**

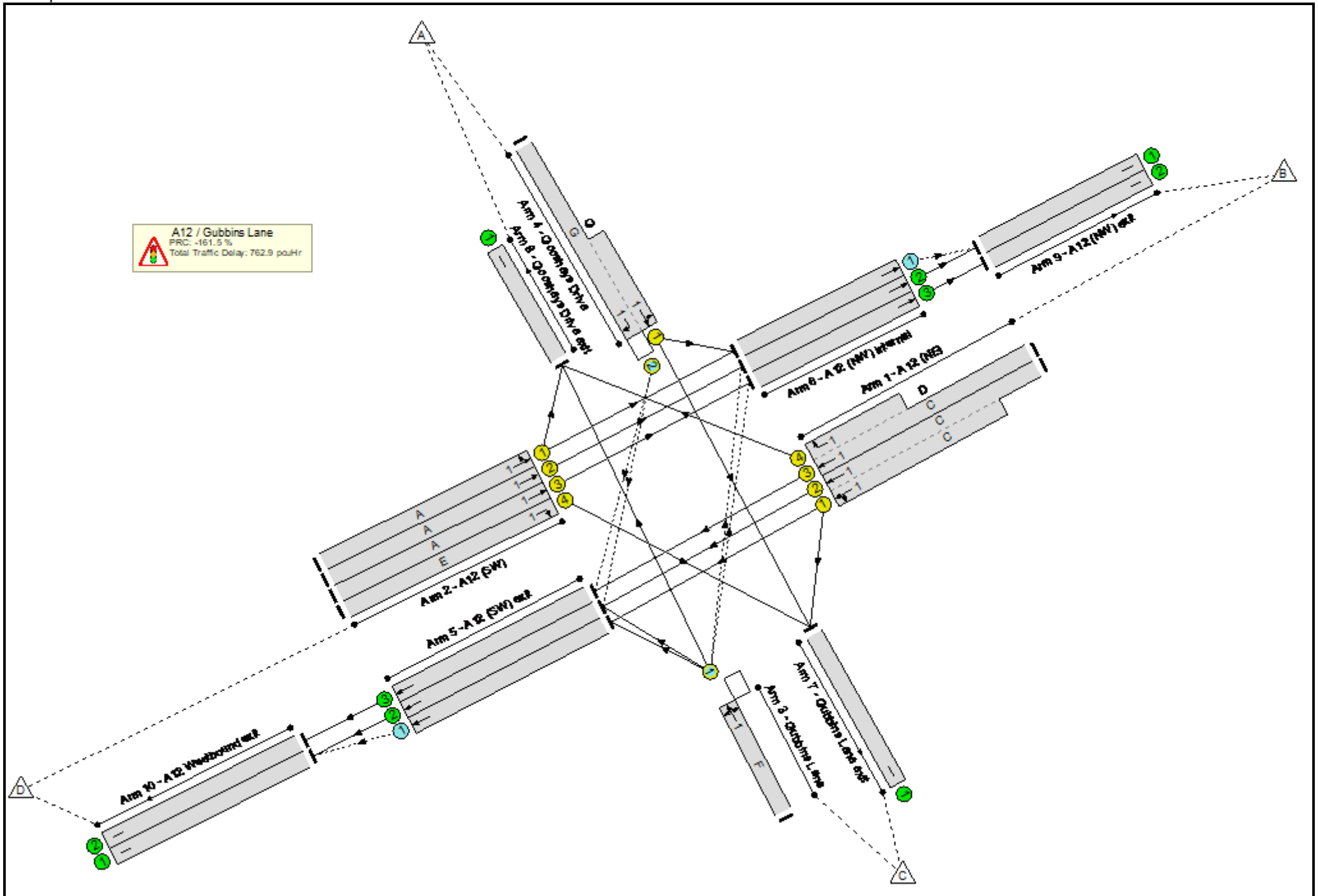
Stage	1	2
Duration	7	96
Change Point	62	79

Signal Timings Diagram



Full Input Data And Results  
**Network Layout Diagram**

Full Input Data And Results





## Full Input Data And Results

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 (%)
<b>Network</b>	-	-	<b>N/A</b>	-	-		-	-	-	-	-	-	<b>235.3%</b>
<b>A12 / Gubbins Lane</b>	-	-	<b>N/A</b>	-	-		-	-	-	-	-	-	<b>235.3%</b>
1/2+1/1	A12 (NE) Ahead Left	U	1	N/A	C		1	15	-	243	1955:1738	261+91	69.1 : 69.1%
1/3+1/4	A12 (NE) Ahead Right	U	1	N/A	C D		1	15:9	-	355	2115:1742	282+145	<b>78.0 : 93.0%</b>
2/1	A12 (SW) Ahead Left	U	1	N/A	A		1	16	-	113	1725	244	46.2%
2/2	A12 (SW) Ahead	U	1	N/A	A		1	16	-	160	2075	294	54.4%
2/3	A12 (SW) Ahead	U	1	N/A	A		1	16	-	160	2075	294	54.4%
2/4	A12 (SW) Right	U	1	N/A	E		1	7	-	75	1793	120	62.7%
3/1	Gubbins Lane Left Right Ahead	O	1	N/A	F		1	74	-	1820	1908	1120	<b>162.5%</b>
4/2+4/1	Gooshays Drive Right Left Ahead	O+U	1	N/A	G		1	74	-	1406	1781:1915	107+713	<b>235.3 : 162.0%</b>
5/1	A12 (SW) exit Ahead	O	N/A	N/A	-		-	-	-	0	1965	1173	0.0%
5/2	A12 (SW) exit Ahead	U	N/A	N/A	-		-	-	-	356	2055	2055	14.0%
5/3	A12 (SW) exit Ahead	U	N/A	N/A	-		-	-	-	471	2055	2055	15.9%
6/1	A12 (NW) internal Ahead	O	N/A	N/A	-		-	-	-	230	1915	1439	9.9%
6/2	A12 (NW) internal Ahead	U	N/A	N/A	-		-	-	-	343	2055	2055	13.3%
6/3	A12 (NW) internal Ahead	U	N/A	N/A	-		-	-	-	344	2055	2055	13.3%
7/1	Gubbins Lane exit	U	N/A	N/A	-		-	-	-	1063	Inf	Inf	0.0%

Full Input Data And Results

8/1	Gooshays Drive exit	U	N/A	N/A	-		-	-	-	1525	Inf	Inf	0.0%
9/1	A12 (NW) exit	U	N/A	N/A	-		-	-	-	573	Inf	Inf	0.0%
9/2	A12 (NW) exit	U	N/A	N/A	-		-	-	-	344	Inf	Inf	0.0%
10/1	A12 Westbound exit	U	N/A	N/A	-		-	-	-	356	Inf	Inf	0.0%
10/2	A12 Westbound exit	U	N/A	N/A	-		-	-	-	471	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)
<b>Network</b>	-	-	272	142	60	109.5	652.0	1.5	762.9	-	-	-	-
<b>A12 / Gubbins Lane</b>	-	-	272	142	60	109.5	652.0	1.5	762.9	-	-	-	-
1/2+1/1	243	243	-	-	-	3.3	1.1	-	4.4	65.1	5.7	1.1	6.8
1/3+1/4	355	355	-	-	-	5.1	2.3	-	7.4	75.4	7.1	2.3	9.4
2/1	113	113	-	-	-	1.5	0.4	-	1.9	60.9	3.5	0.4	3.9
2/2	160	160	-	-	-	2.1	0.6	-	2.7	61.2	4.9	0.6	5.5
2/3	160	160	-	-	-	2.1	0.6	-	2.7	61.2	4.9	0.6	5.5
2/4	75	75	-	-	-	1.1	0.8	-	1.9	93.6	2.4	0.8	3.2
3/1	1820	1120	226	0	0	64.9	351.4	0.3	416.6	824.0	105.8	351.4	457.2
4/2+4/1	1406	820	47	0	60	29.3	294.3	1.2	324.8	831.7	55.8	294.3	350.2
5/1	0	0	0	0	0	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/2	288	288	-	-	-	0.0	0.1	-	0.1	1.0	0.0	0.1	0.1
5/3	327	327	-	-	-	0.0	0.1	-	0.1	1.1	4.7	0.1	4.8
6/1	142	142	0	142	0	0.0	0.1	-	0.1	1.4	0.0	0.1	0.1
6/2	273	273	-	-	-	0.0	0.1	-	0.1	1.0	1.7	0.1	1.8
6/3	273	273	-	-	-	0.0	0.1	-	0.1	1.0	1.7	0.1	1.8
7/1	709	709	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	1034	1034	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
9/1	415	415	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
9/2	273	273	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
10/1	288	288	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
10/2	327	327	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

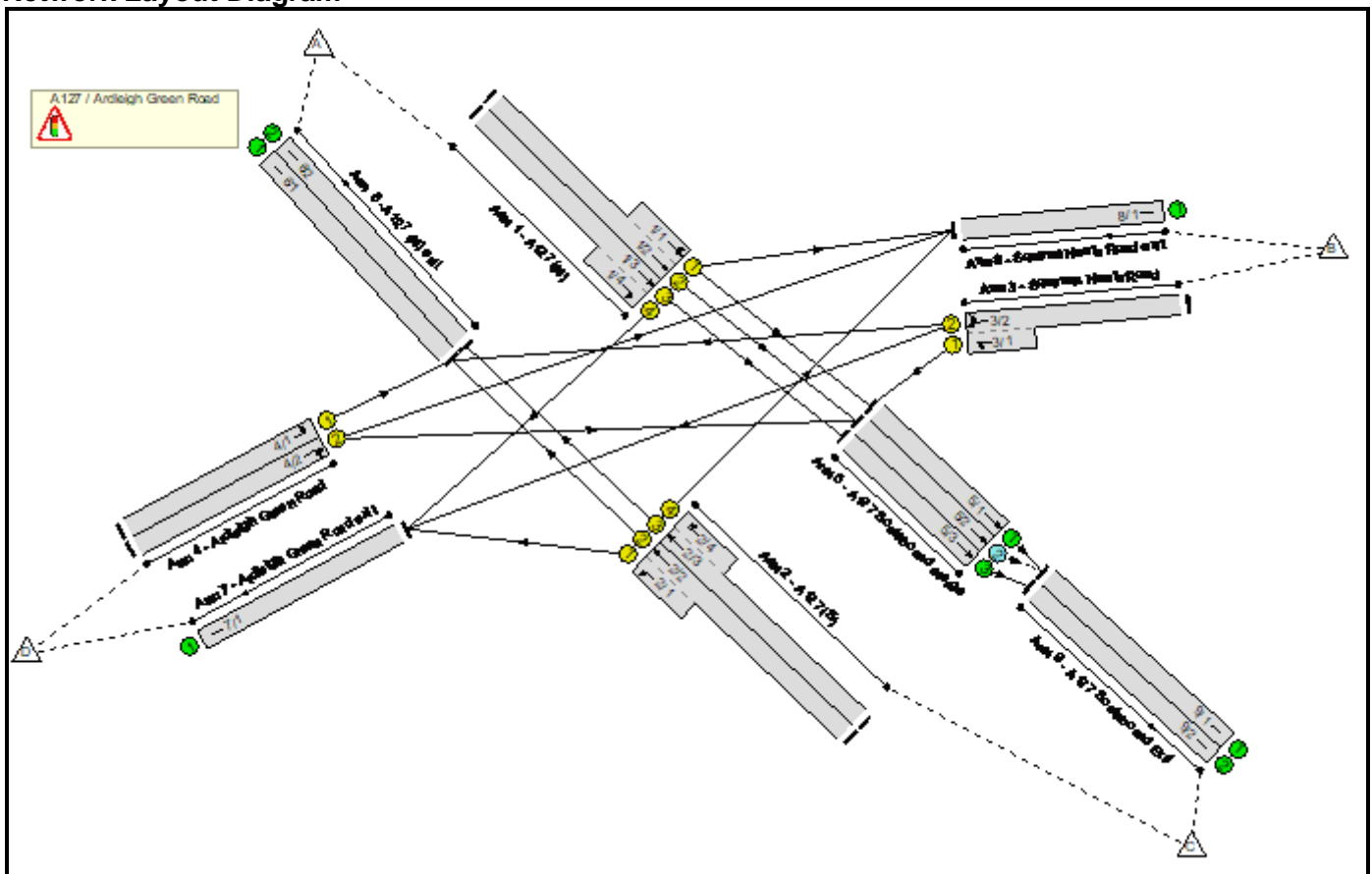
C1	Stream: 1 PRC for Signalled Lanes (%):	-161.5	Total Delay for Signalled Lanes (pcuHr):	762.56	Cycle Time (s):	120
C1	Stream: 2 PRC for Signalled Lanes (%):	0.0	Total Delay for Signalled Lanes (pcuHr):	0.00	Cycle Time (s):	120
	PRC Over All Lanes (%):	-161.5	Total Delay Over All Lanes (pcuHr):	762.94		

Full Input Data And Results  
Full Input Data And Results

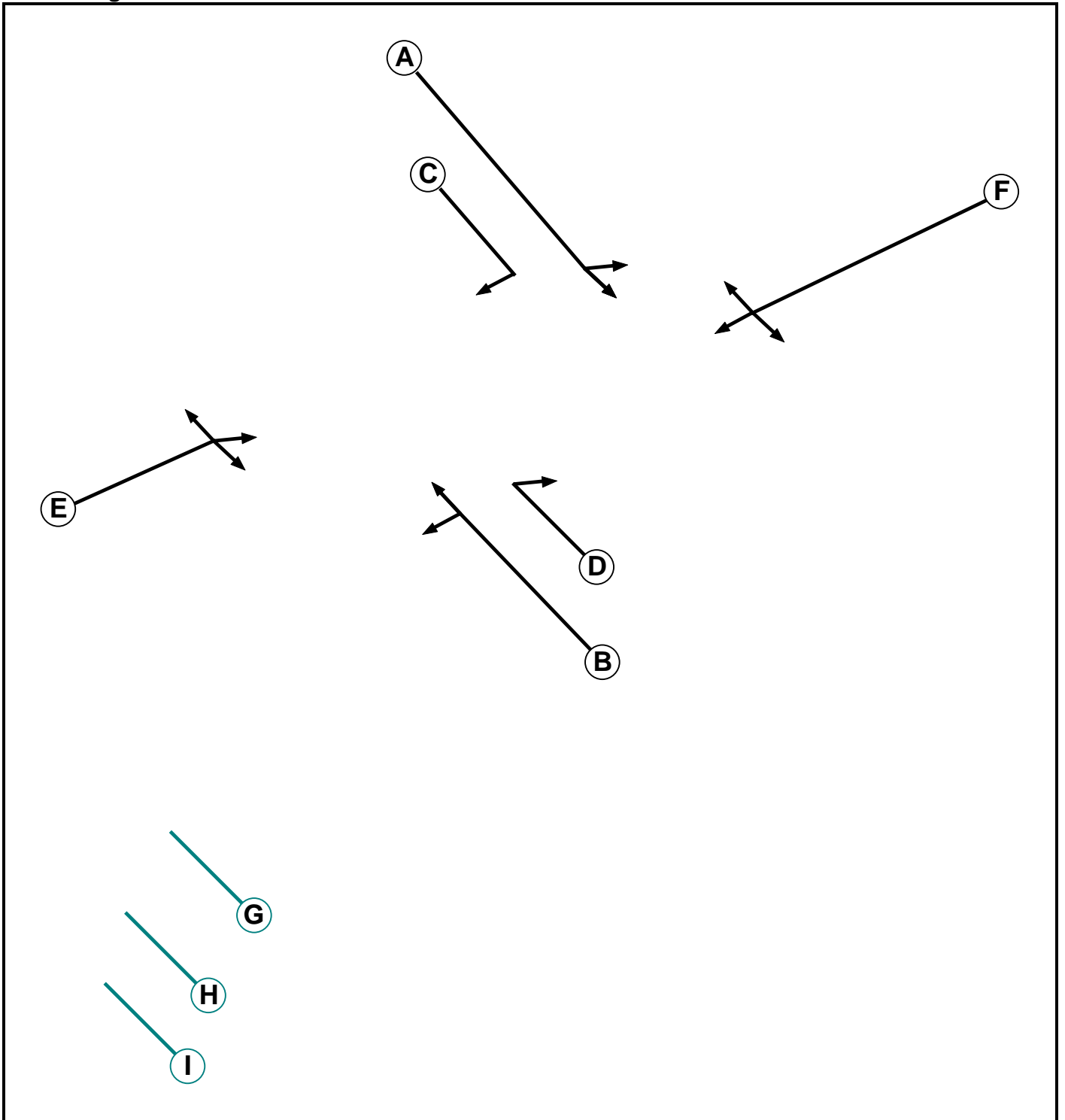
User and Project Details

Project:	
Title:	
Location:	
Additional detail:	
File name:	5 - A127 - Ardleigh Green Road.lsg3x
Author:	
Company:	
Address:	

Network Layout Diagram



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	Traffic		7	7
F	Traffic		7	7
G	Dummy		3	3
H	Dummy		1	1
I	Dummy		1	1

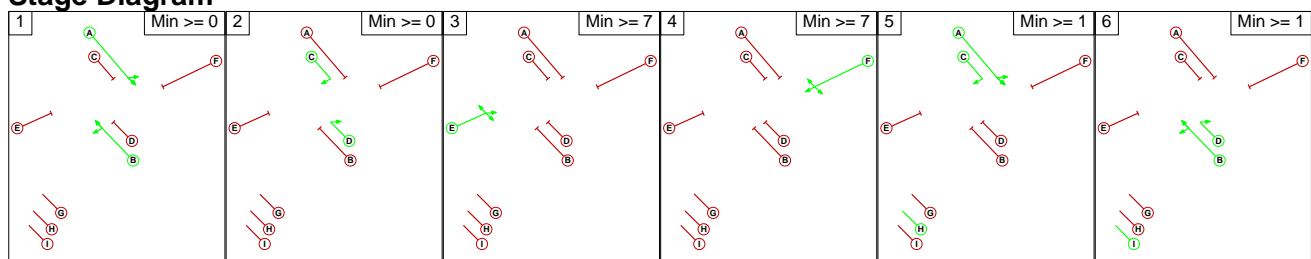
### Phase Intergreens Matrix

	Starting Phase								
	A	B	C	D	E	F	G	H	I
Terminating Phase	A	-	-	8	7	10	3	-	8
B	-		8	-	9	7	3	8	-
C	-	7		-	7	7	3	-	7
D	7	-	-		7	7	3	7	-
E	6	5	6	8		10	3	6	8
F	5	7	7	6	9		3	7	7
G	2	2	2	2	2	2		2	2
H	-	7	-	8	7	10	3		8
I	7	-	8	-	9	7	3	8	

### Phases in Stage

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

### Stage Diagram



Full Input Data And Results

**Phase Delays**

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

**Prohibited Stage Change**

		To Stage					
		1	2	3	4	5	6
From Stage	1						
	2						
	3						
	4						
	5						
	6						



Full Input Data And Results

**Give-Way Lane Input Data**

Junction: A127 / Ardleigh Green Road											
Lane	Movement	Max Flow when Giving Way (PCU/Hr)	Min Flow when Giving Way (PCU/Hr)	Opposing Lane	Opp. Lane Coeff.	Opp. Mvmnts.	Right Turn Storage (PCU)	Non-Blocking Storage (PCU)	RTF	Right Turn Move up (s)	Max Turns in Intergreen (PCU)
5/2 (A127 Southbound merge)	9/1 (Ahead)	1439	0	5/1	1.09	All	-	-	-	-	-

Full Input Data And Results

**Lane Input Data**

Junction: A127 / Ardleigh Green 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)
1/1 (A127 (N))	U	A	2	3	5.0	Geom	-	2.80	0.00	Y	Arm 5 Ahead	Inf
											Arm 8 Left	10.10
1/2 (A127 (N))	U	A	2	3	60.0	Geom	-	3.20	0.00	N	Arm 5 Ahead	Inf
1/3 (A127 (N))	U	A	2	3	60.0	Geom	-	3.30	0.00	N	Arm 5 Ahead	Inf
1/4 (A127 (N))	U	C	2	3	5.0	Geom	-	2.60	0.00	Y	Arm 7 Right	8.80
2/1 (A127 (S))	U	B	2	3	5.0	Geom	-	2.70	0.00	Y	Arm 7 Left	20.30
2/2 (A127 (S))	U	B	2	3	60.0	Geom	-	3.70	0.00	Y	Arm 6 Ahead	Inf
2/3 (A127 (S))	U	B	2	3	60.0	Geom	-	3.30	0.00	N	Arm 6 Ahead	Inf
2/4 (A127 (S))	U	D	2	3	5.0	Geom	-	3.40	0.00	Y	Arm 8 Right	7.50
3/1 (Squirrels Heath Road)	U	F	2	3	5.0	Geom	-	3.50	0.00	Y	Arm 5 Left	7.90
3/2 (Squirrels Heath Road)	U	F	2	3	60.0	Geom	-	3.30	0.00	Y	Arm 6 Right	22.20
											Arm 7 Ahead	Inf
4/1 (Ardleigh Green Road)	U	E	2	3	60.0	Geom	-	3.10	0.00	Y	Arm 6 Left	8.00
4/2 (Ardleigh Green Road)	U	E	2	3	60.0	Geom	-	3.00	0.00	Y	Arm 5 Right	21.70
											Arm 8 Ahead	Inf
5/1 (A127 Southbound merge)	U		2	3	60.0	Inf	-	-	-	-	-	-
5/2 (A127 Southbound merge)	O		2	3	60.0	Inf	-	-	-	-	-	-
5/3 (A127 Southbound merge)	U		2	3	60.0	Inf	-	-	-	-	-	-
6/1 (A127 (N) exit)	U		2	3	60.0	Inf	-	-	-	-	-	-
6/2 (A127 (N) exit)	U		2	3	60.0	Inf	-	-	-	-	-	-

**Full Input Data And Results**

7/1 (Ardleigh Green Road exit)	U		2	3	60.0	Inf	-	-	-	-	-	-
8/1 (Squirrel Heath Road exit)	U		2	3	60.0	Inf	-	-	-	-	-	-
9/1 (A127 Southbound Exit)	U		2	3	60.0	Inf	-	-	-	-	-	-
9/2 (A127 Southbound Exit)	U		2	3	60.0	Inf	-	-	-	-	-	-

**Traffic Flow Groups**

Flow Group	Start Time	End Time	Duration	Formula
1: 'Base Year 2023 AM'	08:00	09:00	01:00	
2: 'Base Year 2023 PM'	17:00	18:00	01:00	
3: 'Reference Case 2030 AM'	08:00	09:00	01:00	F1 *1.0466
4: 'Reference Case 2030 PM'	17:00	18:00	01:00	F2 * 1.0521
7: 'Do Something 2030 + LTC AM'	08:00	09:00	01:00	F3+F5
8: 'Do Something 2030 + LTC PM'	17:00	18:00	01:00	F4+F6

**Scenario 1: 'Base Year 2023 AM'** (FG1: 'Base Year 2023 AM', Plan 1: 'Network Control Plan 1')

**Traffic Flows, Desired**

**Desired Flow :**

		Destination				
		A	B	C	D	Tot.
Origin	A	0	170	1195	167	1532
	B	210	0	18	380	608
	C	1145	198	0	127	1470
	D	81	262	275	0	618
	Tot.	1436	630	1488	674	4228

Full Input Data And Results

**Traffic Lane Flows**

Lane	Scenario 1: Base Year 2023 AM
<b>Junction: A127 / Ardleigh Green Road</b>	
1/1 (short)	523
1/2 (with short)	788(In) 265(Out)
1/3 (with short)	744(In) 577(Out)
1/4 (short)	167
2/1 (short)	127
2/2 (with short)	720(In) 593(Out)
2/3 (with short)	750(In) 552(Out)
2/4 (short)	198
3/1 (short)	18
3/2 (with short)	608(In) 590(Out)
4/1	81
4/2	537
5/1	371
5/2	540
5/3	577
6/1	884
6/2	552
7/1	674
8/1	630
9/1	911
9/2	577

Full Input Data And Results

**Lane Saturation Flows**

Junction: A127 / Ardleigh Green Road								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (A127 (N))	2.80	0.00	Y	Arm 5 Ahead	Inf	67.5 %	1808	1808
				Arm 8 Left	10.10	32.5 %		
1/2 (A127 (N))	3.20	0.00	N	Arm 5 Ahead	Inf	100.0 %	2075	2075
1/3 (A127 (N))	3.30	0.00	N	Arm 5 Ahead	Inf	100.0 %	2085	2085
1/4 (A127 (N))	2.60	0.00	Y	Arm 7 Right	8.80	100.0 %	1602	1602
2/1 (A127 (S))	2.70	0.00	Y	Arm 7 Left	20.30	100.0 %	1755	1755
2/2 (A127 (S))	3.70	0.00	Y	Arm 6 Ahead	Inf	100.0 %	1985	1985
2/3 (A127 (S))	3.30	0.00	N	Arm 6 Ahead	Inf	100.0 %	2085	2085
2/4 (A127 (S))	3.40	0.00	Y	Arm 8 Right	7.50	100.0 %	1629	1629
3/1 (Squirrels Heath Road)	3.50	0.00	Y	Arm 5 Left	7.90	100.0 %	1651	1651
3/2 (Squirrels Heath Road)	3.30	0.00	Y	Arm 6 Right	22.20	35.6 %	1899	1899
				Arm 7 Ahead	Inf	64.4 %		
4/1 (Ardleigh Green Road)	3.10	0.00	Y	Arm 6 Left	8.00	100.0 %	1621	1621
4/2 (Ardleigh Green Road)	3.00	0.00	Y	Arm 5 Right	21.70	51.2 %	1850	1850
				Arm 8 Ahead	Inf	48.8 %		
5/1 (A127 Southbound merge Lane 1)	Infinite Saturation Flow						Inf	Inf
5/2 (A127 Southbound merge Lane 2)	Infinite Saturation Flow						Inf	Inf
5/3 (A127 Southbound merge Lane 3)	Infinite Saturation Flow						Inf	Inf
6/1 (A127 (N) exit Lane 1)	Infinite Saturation Flow						Inf	Inf
6/2 (A127 (N) exit Lane 2)	Infinite Saturation Flow						Inf	Inf
7/1 (Ardleigh Green Road exit Lane 1)	Infinite Saturation Flow						Inf	Inf
8/1 (Squirrel Heath Road exit Lane 1)	Infinite Saturation Flow						Inf	Inf
9/1 (A127 Southbound Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
9/2 (A127 Southbound Exit Lane 2)	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

**Scenario 2: 'Base Year 2023 PM'** (FG2: 'Base Year 2023 PM', Plan 1: 'Network Control Plan 1')

**Traffic Flows, Desired**

**Desired Flow :**

		Destination				
		A	B	C	D	Tot.
Origin	A	0	171	1130	219	1520
	B	157	0	23	424	604
	C	1141	218	0	150	1509
	D	81	259	275	0	615
	Tot.	1379	648	1428	793	4248

**Traffic Lane Flows**

Lane	Scenario 2: Base Year 2023 PM
<b>Junction: A127 / Ardleigh Green Road</b>	
1/1 (short)	551
1/2 (with short)	715(In) 164(Out)
1/3 (with short)	805(In) 586(Out)
1/4 (short)	219
2/1 (short)	150
2/2 (with short)	739(In) 589(Out)
2/3 (with short)	770(In) 552(Out)
2/4 (short)	218
3/1 (short)	23
3/2 (with short)	604(In) 581(Out)
4/1	81
4/2	534
5/1	403
5/2	439
5/3	586
6/1	827
6/2	552
7/1	793
8/1	648
9/1	842
9/2	586

Full Input Data And Results

**Lane Saturation Flows**

Junction: A127 / Ardleigh Green Road								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (A127 (N))	2.80	0.00	Y	Arm 5 Ahead	Inf	69.0 %	1812	1812
				Arm 8 Left	10.10	31.0 %		
1/2 (A127 (N))	3.20	0.00	N	Arm 5 Ahead	Inf	100.0 %	2075	2075
1/3 (A127 (N))	3.30	0.00	N	Arm 5 Ahead	Inf	100.0 %	2085	2085
1/4 (A127 (N))	2.60	0.00	Y	Arm 7 Right	8.80	100.0 %	1602	1602
2/1 (A127 (S))	2.70	0.00	Y	Arm 7 Left	20.30	100.0 %	1755	1755
2/2 (A127 (S))	3.70	0.00	Y	Arm 6 Ahead	Inf	100.0 %	1985	1985
2/3 (A127 (S))	3.30	0.00	N	Arm 6 Ahead	Inf	100.0 %	2085	2085
2/4 (A127 (S))	3.40	0.00	Y	Arm 8 Right	7.50	100.0 %	1629	1629
3/1 (Squirrels Heath Road)	3.50	0.00	Y	Arm 5 Left	7.90	100.0 %	1651	1651
3/2 (Squirrels Heath Road)	3.30	0.00	Y	Arm 6 Right	22.20	27.0 %	1910	1910
				Arm 7 Ahead	Inf	73.0 %		
4/1 (Ardleigh Green Road)	3.10	0.00	Y	Arm 6 Left	8.00	100.0 %	1621	1621
4/2 (Ardleigh Green Road)	3.00	0.00	Y	Arm 5 Right	21.70	51.5 %	1849	1849
				Arm 8 Ahead	Inf	48.5 %		
5/1 (A127 Southbound merge Lane 1)	Infinite Saturation Flow						Inf	Inf
5/2 (A127 Southbound merge Lane 2)	Infinite Saturation Flow						Inf	Inf
5/3 (A127 Southbound merge Lane 3)	Infinite Saturation Flow						Inf	Inf
6/1 (A127 (N) exit Lane 1)	Infinite Saturation Flow						Inf	Inf
6/2 (A127 (N) exit Lane 2)	Infinite Saturation Flow						Inf	Inf
7/1 (Ardleigh Green Road exit Lane 1)	Infinite Saturation Flow						Inf	Inf
8/1 (Squirrel Heath Road exit Lane 1)	Infinite Saturation Flow						Inf	Inf
9/1 (A127 Southbound Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
9/2 (A127 Southbound Exit Lane 2)	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

**Scenario 3: 'Reference Case 2030 AM'** (FG3: 'Reference Case 2030 AM', Plan 1: 'Network Control Plan 1')

**Traffic Flows, Desired**

**Desired Flow :**

		Destination				
		A	B	C	D	Tot.
Origin	A	0	178	1251	175	1604
	B	220	0	19	398	637
	C	1198	207	0	133	1538
	D	85	274	288	0	647
	Tot.	1503	659	1558	706	4426

**Traffic Lane Flows**

Lane	Scenario 3: Reference Case 2030 AM
<b>Junction: A127 / Ardleigh Green Road</b>	
1/1 (short)	569
1/2 (with short)	806(In) 237(Out)
1/3 (with short)	798(In) 623(Out)
1/4 (short)	175
2/1 (short)	133
2/2 (with short)	753(In) 620(Out)
2/3 (with short)	785(In) 578(Out)
2/4 (short)	207
3/1 (short)	19
3/2 (with short)	637(In) 618(Out)
4/1	85
4/2	562
5/1	410
5/2	525
5/3	623
6/1	925
6/2	578
7/1	706
8/1	659
9/1	935
9/2	623



Full Input Data And Results

**Lane Saturation Flows**

Junction: A127 / Ardleigh Green Road								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (A127 (N))	2.80	0.00	Y	Arm 5 Ahead	Inf	68.7 %	1811	1811
				Arm 8 Left	10.10	31.3 %		
1/2 (A127 (N))	3.20	0.00	N	Arm 5 Ahead	Inf	100.0 %	2075	2075
1/3 (A127 (N))	3.30	0.00	N	Arm 5 Ahead	Inf	100.0 %	2085	2085
1/4 (A127 (N))	2.60	0.00	Y	Arm 7 Right	8.80	100.0 %	1602	1602
2/1 (A127 (S))	2.70	0.00	Y	Arm 7 Left	20.30	100.0 %	1755	1755
2/2 (A127 (S))	3.70	0.00	Y	Arm 6 Ahead	Inf	100.0 %	1985	1985
2/3 (A127 (S))	3.30	0.00	N	Arm 6 Ahead	Inf	100.0 %	2085	2085
2/4 (A127 (S))	3.40	0.00	Y	Arm 8 Right	7.50	100.0 %	1629	1629
3/1 (Squirrels Heath Road)	3.50	0.00	Y	Arm 5 Left	7.90	100.0 %	1651	1651
3/2 (Squirrels Heath Road)	3.30	0.00	Y	Arm 6 Right	22.20	35.6 %	1899	1899
				Arm 7 Ahead	Inf	64.4 %		
4/1 (Ardleigh Green Road)	3.10	0.00	Y	Arm 6 Left	8.00	100.0 %	1621	1621
4/2 (Ardleigh Green Road)	3.00	0.00	Y	Arm 5 Right	21.70	51.2 %	1849	1849
				Arm 8 Ahead	Inf	48.8 %		
5/1 (A127 Southbound merge Lane 1)	Infinite Saturation Flow						Inf	Inf
5/2 (A127 Southbound merge Lane 2)	Infinite Saturation Flow						Inf	Inf
5/3 (A127 Southbound merge Lane 3)	Infinite Saturation Flow						Inf	Inf
6/1 (A127 (N) exit Lane 1)	Infinite Saturation Flow						Inf	Inf
6/2 (A127 (N) exit Lane 2)	Infinite Saturation Flow						Inf	Inf
7/1 (Ardleigh Green Road exit Lane 1)	Infinite Saturation Flow						Inf	Inf
8/1 (Squirrel Heath Road exit Lane 1)	Infinite Saturation Flow						Inf	Inf
9/1 (A127 Southbound Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
9/2 (A127 Southbound Exit Lane 2)	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

**Scenario 4: 'Reference Case 2030 PM'** (FG4: 'Reference Case 2030 PM', Plan 1: 'Network Control Plan 1')

**Traffic Flows, Desired**

**Desired Flow :**

		Destination				
		A	B	C	D	Tot.
Origin	A	0	180	1189	230	1599
	B	165	0	24	446	635
	C	1200	229	0	158	1587
	D	85	272	289	0	646
	Tot.	1450	681	1502	834	4467

**Traffic Lane Flows**

Lane	Scenario 4: Reference Case 2030 PM
<b>Junction: A127 / Ardleigh Green Road</b>	
1/1 (short)	547
1/2 (with short)	782(In) 235(Out)
1/3 (with short)	817(In) 587(Out)
1/4 (short)	230
2/1 (short)	158
2/2 (with short)	778(In) 620(Out)
2/3 (with short)	809(In) 580(Out)
2/4 (short)	229
3/1 (short)	24
3/2 (with short)	635(In) 611(Out)
4/1	85
4/2	561
5/1	391
5/2	524
5/3	587
6/1	870
6/2	580
7/1	834
8/1	681
9/1	915
9/2	587

Full Input Data And Results

**Lane Saturation Flows**

Junction: A127 / Ardleigh Green Road								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (A127 (N))	2.80	0.00	Y	Arm 5 Ahead	Inf	67.1 %	1807	1807
				Arm 8 Left	10.10	32.9 %		
1/2 (A127 (N))	3.20	0.00	N	Arm 5 Ahead	Inf	100.0 %	2075	2075
1/3 (A127 (N))	3.30	0.00	N	Arm 5 Ahead	Inf	100.0 %	2085	2085
1/4 (A127 (N))	2.60	0.00	Y	Arm 7 Right	8.80	100.0 %	1602	1602
2/1 (A127 (S))	2.70	0.00	Y	Arm 7 Left	20.30	100.0 %	1755	1755
2/2 (A127 (S))	3.70	0.00	Y	Arm 6 Ahead	Inf	100.0 %	1985	1985
2/3 (A127 (S))	3.30	0.00	N	Arm 6 Ahead	Inf	100.0 %	2085	2085
2/4 (A127 (S))	3.40	0.00	Y	Arm 8 Right	7.50	100.0 %	1629	1629
3/1 (Squirrels Heath Road)	3.50	0.00	Y	Arm 5 Left	7.90	100.0 %	1651	1651
3/2 (Squirrels Heath Road)	3.30	0.00	Y	Arm 6 Right	22.20	27.0 %	1910	1910
				Arm 7 Ahead	Inf	73.0 %		
4/1 (Ardleigh Green Road)	3.10	0.00	Y	Arm 6 Left	8.00	100.0 %	1621	1621
4/2 (Ardleigh Green Road)	3.00	0.00	Y	Arm 5 Right	21.70	51.5 %	1849	1849
				Arm 8 Ahead	Inf	48.5 %		
5/1 (A127 Southbound merge Lane 1)	Infinite Saturation Flow						Inf	Inf
5/2 (A127 Southbound merge Lane 2)	Infinite Saturation Flow						Inf	Inf
5/3 (A127 Southbound merge Lane 3)	Infinite Saturation Flow						Inf	Inf
6/1 (A127 (N) exit Lane 1)	Infinite Saturation Flow						Inf	Inf
6/2 (A127 (N) exit Lane 2)	Infinite Saturation Flow						Inf	Inf
7/1 (Ardleigh Green Road exit Lane 1)	Infinite Saturation Flow						Inf	Inf
8/1 (Squirrel Heath Road exit Lane 1)	Infinite Saturation Flow						Inf	Inf
9/1 (A127 Southbound Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
9/2 (A127 Southbound Exit Lane 2)	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

**Scenario 5: 'Do Something 2030 + LTC AM'** (FG7: 'Do Something 2030 + LTC AM', Plan 1: 'Network Control Plan 1')

**Traffic Flows, Desired**

**Desired Flow :**

Origin	Destination					
	A	B	C	D	Tot.	
A	0	151	1624	165	1940	
B	191	0	19	424	634	
C	1242	228	0	164	1634	
D	73	233	349	0	655	
Tot.	1506	612	1992	753	4863	

**Traffic Lane Flows**

Lane	Scenario 5: Do Something 2030 + LTC AM
<b>Junction: A127 / Ardleigh Green Road</b>	
1/1 (short)	910
1/2 (with short)	910(In) 0(Out)
1/3 (with short)	1030(In) 865(Out)
1/4 (short)	165
2/1 (short)	164
2/2 (with short)	977(In) 813(Out)
2/3 (with short)	657(In) 429(Out)
2/4 (short)	228
3/1 (short)	19
3/2 (with short)	634(In) 615(Out)
4/1	73
4/2	582
5/1	778
5/2	349
5/3	865
6/1	1077
6/2	429
7/1	753
8/1	612
9/1	1127
9/2	865

Full Input Data And Results

**Lane Saturation Flows**

Junction: A127 / Ardleigh Green Road								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (A127 (N))	2.80	0.00	Y	Arm 5 Ahead	Inf	83.4 %	1849	1849
				Arm 8 Left	10.10	16.6 %		
1/2 (A127 (N))	3.20	0.00	N	Arm 5 Ahead	Inf	0.0 %	2075	2075
1/3 (A127 (N))	3.30	0.00	N	Arm 5 Ahead	Inf	100.0 %	2085	2085
1/4 (A127 (N))	2.60	0.00	Y	Arm 7 Right	8.80	100.0 %	1602	1602
2/1 (A127 (S))	2.70	0.00	Y	Arm 7 Left	20.30	100.0 %	1755	1755
2/2 (A127 (S))	3.70	0.00	Y	Arm 6 Ahead	Inf	100.0 %	1985	1985
2/3 (A127 (S))	3.30	0.00	N	Arm 6 Ahead	Inf	100.0 %	2085	2085
2/4 (A127 (S))	3.40	0.00	Y	Arm 8 Right	7.50	100.0 %	1629	1629
3/1 (Squirrels Heath Road)	3.50	0.00	Y	Arm 5 Left	7.90	100.0 %	1651	1651
3/2 (Squirrels Heath Road)	3.30	0.00	Y	Arm 6 Right	22.20	31.1 %	1905	1905
				Arm 7 Ahead	Inf	68.9 %		
4/1 (Ardleigh Green Road)	3.10	0.00	Y	Arm 6 Left	8.00	100.0 %	1621	1621
4/2 (Ardleigh Green Road)	3.00	0.00	Y	Arm 5 Right	21.70	60.0 %	1839	1839
				Arm 8 Ahead	Inf	40.0 %		
5/1 (A127 Southbound merge Lane 1)	Infinite Saturation Flow						Inf	Inf
5/2 (A127 Southbound merge Lane 2)	Infinite Saturation Flow						Inf	Inf
5/3 (A127 Southbound merge Lane 3)	Infinite Saturation Flow						Inf	Inf
6/1 (A127 (N) exit Lane 1)	Infinite Saturation Flow						Inf	Inf
6/2 (A127 (N) exit Lane 2)	Infinite Saturation Flow						Inf	Inf
7/1 (Ardleigh Green Road exit Lane 1)	Infinite Saturation Flow						Inf	Inf
8/1 (Squirrel Heath Road exit Lane 1)	Infinite Saturation Flow						Inf	Inf
9/1 (A127 Southbound Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
9/2 (A127 Southbound Exit Lane 2)	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

**Scenario 6: 'Do Something 2030 + LTC PM'** (FG8: 'Do Something 2030 + LTC PM', Plan 1: 'Network Control Plan 1')

**Traffic Flows, Desired**

**Desired Flow :**

	Destination					
		A	B	C	D	Tot.
Origin	A	0	169	1368	230	1767
	B	173	0	24	439	636
	C	1228	241	0	188	1657
	D	54	256	348	0	658
	Tot.	1455	666	1740	857	4718

**Traffic Lane Flows**

Lane	Scenario 6: Do Something 2030 + LTC PM
<b>Junction: A127 / Ardleigh Green Road</b>	
1/1 (short)	818
1/2 (with short)	818(In) 0(Out)
1/3 (with short)	949(In) 719(Out)
1/4 (short)	230
2/1 (short)	188
2/2 (with short)	883(In) 695(Out)
2/3 (with short)	774(In) 533(Out)
2/4 (short)	241
3/1 (short)	24
3/2 (with short)	636(In) 612(Out)
4/1	54
4/2	604
5/1	673
5/2	348
5/3	719
6/1	922
6/2	533
7/1	857
8/1	666
9/1	1021
9/2	719

Full Input Data And Results

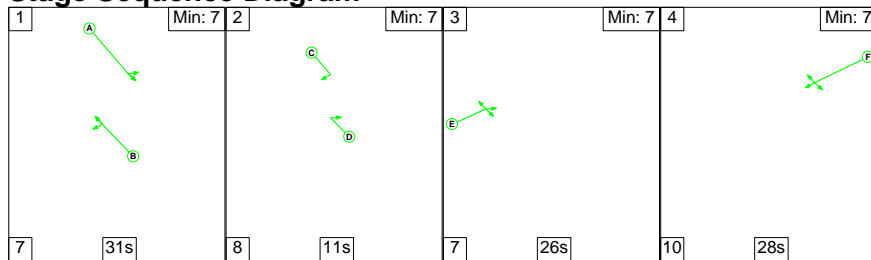
**Lane Saturation Flows**

Junction: A127 / Ardleigh Green Road								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (A127 (N))	2.80	0.00	Y	Arm 5 Ahead	Inf	79.3 %	1839	1839
				Arm 8 Left	10.10	20.7 %		
1/2 (A127 (N))	3.20	0.00	N	Arm 5 Ahead	Inf	0.0 %	2075	2075
1/3 (A127 (N))	3.30	0.00	N	Arm 5 Ahead	Inf	100.0 %	2085	2085
1/4 (A127 (N))	2.60	0.00	Y	Arm 7 Right	8.80	100.0 %	1602	1602
2/1 (A127 (S))	2.70	0.00	Y	Arm 7 Left	20.30	100.0 %	1755	1755
2/2 (A127 (S))	3.70	0.00	Y	Arm 6 Ahead	Inf	100.0 %	1985	1985
2/3 (A127 (S))	3.30	0.00	N	Arm 6 Ahead	Inf	100.0 %	2085	2085
2/4 (A127 (S))	3.40	0.00	Y	Arm 8 Right	7.50	100.0 %	1629	1629
3/1 (Squirrels Heath Road)	3.50	0.00	Y	Arm 5 Left	7.90	100.0 %	1651	1651
3/2 (Squirrels Heath Road)	3.30	0.00	Y	Arm 6 Right	22.20	28.3 %	1909	1909
				Arm 7 Ahead	Inf	71.7 %		
4/1 (Ardleigh Green Road)	3.10	0.00	Y	Arm 6 Left	8.00	100.0 %	1621	1621
4/2 (Ardleigh Green Road)	3.00	0.00	Y	Arm 5 Right	21.70	57.6 %	1842	1842
				Arm 8 Ahead	Inf	42.4 %		
5/1 (A127 Southbound merge Lane 1)	Infinite Saturation Flow						Inf	Inf
5/2 (A127 Southbound merge Lane 2)	Infinite Saturation Flow						Inf	Inf
5/3 (A127 Southbound merge Lane 3)	Infinite Saturation Flow						Inf	Inf
6/1 (A127 (N) exit Lane 1)	Infinite Saturation Flow						Inf	Inf
6/2 (A127 (N) exit Lane 2)	Infinite Saturation Flow						Inf	Inf
7/1 (Ardleigh Green Road exit Lane 1)	Infinite Saturation Flow						Inf	Inf
8/1 (Squirrel Heath Road exit Lane 1)	Infinite Saturation Flow						Inf	Inf
9/1 (A127 Southbound Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
9/2 (A127 Southbound Exit Lane 2)	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

Scenario 1: 'Base Year 2023 AM' (FG1: 'Base Year 2023 AM', Plan 1: 'Network Control Plan 1')

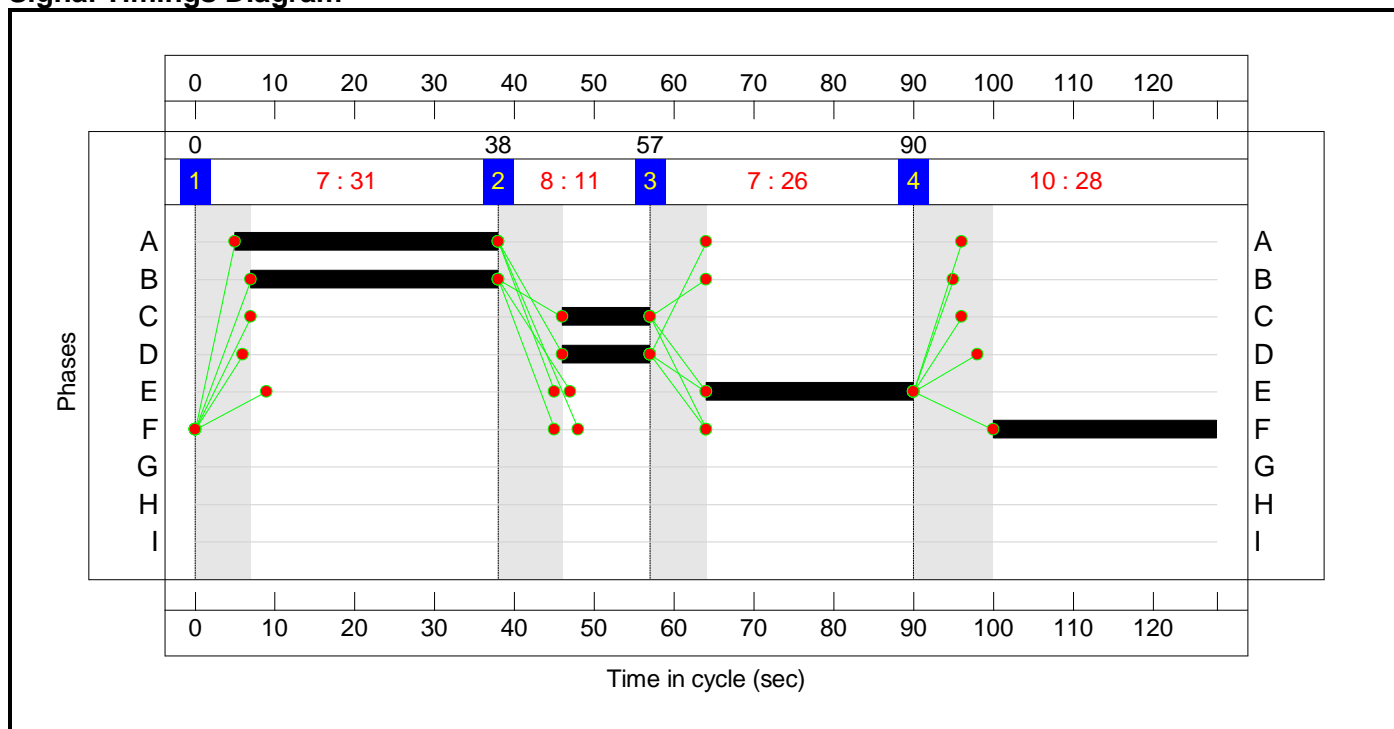
Stage Sequence Diagram



Stage Timings

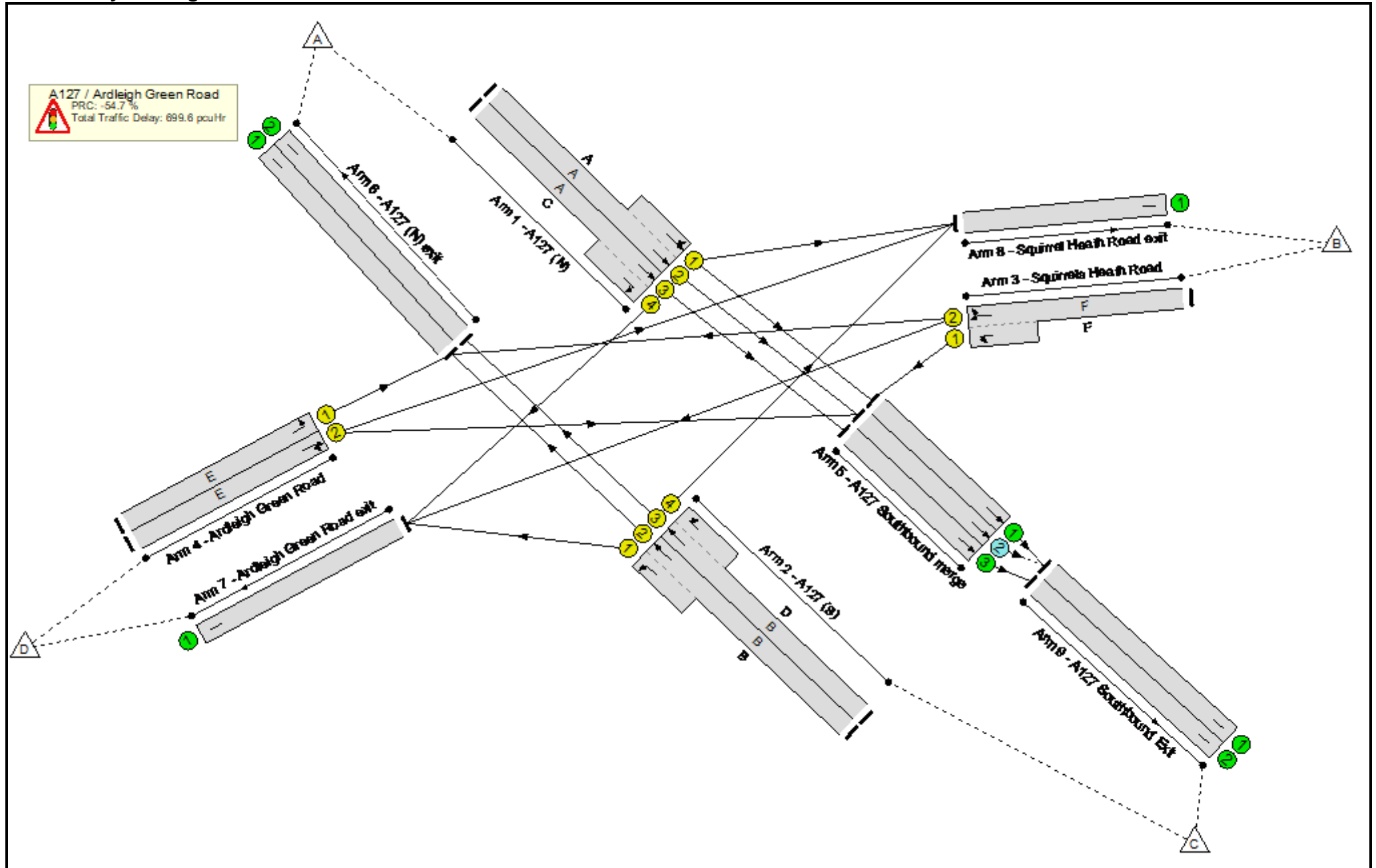
Stage	1	2	3	4
Duration	31	11	26	28
Change Point	0	38	57	90

Signal Timings Diagram





Full Input Data And Results  
Network Layout Diagram



## Full Input Data And Results

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 (%)
<b>Network</b>	-	-	<b>N/A</b>	-	-		-	-	-	-	-	-	<b>139.2%</b>
<b>A127 / Ardleigh Green Road</b>	-	-	<b>N/A</b>	-	-		-	-	-	-	-	-	<b>139.2%</b>
1/2+1/1	A127 (N) Ahead Left	U	N/A	N/A	A		1	33	-	788	2075:1808	190+376	139.2 : 139.2%
1/3+1/4	A127 (N) Ahead Right	U	N/A	N/A	A C		1	33:11	-	744	2085:1602	436+132	132.2 : 126.6%
2/2+2/1	A127 (S) Ahead Left	U	N/A	N/A	B		1	31	-	720	1985:1755	428+92	138.6 : 138.6%
2/3+2/4	A127 (S) Ahead Right	U	N/A	N/A	B D		1	31:11	-	750	2085:1629	397+145	139.2 : 136.9%
3/2+3/1	Squirrels Heath Road Left Right Ahead	U	N/A	N/A	F		1	28	-	608	1899:1651	427+13	138.1 : 138.1%
4/1	Ardleigh Green Road Left	U	N/A	N/A	E		1	26	-	81	1621	342	23.7%
4/2	Ardleigh Green Road Right Ahead	U	N/A	N/A	E		1	26	-	537	1850	390	137.6%
5/1	A127 Southbound merge Ahead	U	N/A	N/A	-		-	-	-	371	Inf	Inf	0.0%
5/2	A127 Southbound merge Ahead	O	N/A	N/A	-		-	-	-	540	Inf	1148	34.0%
5/3	A127 Southbound merge Ahead	U	N/A	N/A	-		-	-	-	577	Inf	Inf	0.0%
6/1	A127 (N) exit	U	N/A	N/A	-		-	-	-	884	Inf	Inf	0.0%
6/2	A127 (N) exit	U	N/A	N/A	-		-	-	-	552	Inf	Inf	0.0%
7/1	Ardleigh Green Road exit	U	N/A	N/A	-		-	-	-	674	Inf	Inf	0.0%
8/1	Squirrel Heath Road exit	U	N/A	N/A	-		-	-	-	630	Inf	Inf	0.0%

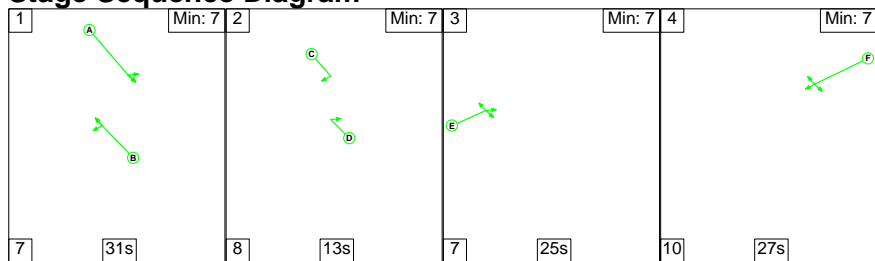
Full Input Data And Results

9/1	A127 Southbound Exit	U	N/A	N/A	-	-	-	-	911	Inf	Inf	0.0%	
9/2	A127 Southbound Exit	U	N/A	N/A	-	-	-	-	577	Inf	Inf	0.0%	
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	-	-	390	0	0	127.6	572.0	0.0	699.6	-	-	-	-
A127 / Ardleigh Green Road	-	-	390	0	0	127.6	572.0	0.0	699.6	-	-	-	-
1/2+1/1	788	566	-	-	-	24.2	112.6	-	136.9	625.4	34.5	112.6	147.1
1/3+1/4	744	564	-	-	-	20.8	89.9	-	110.7	535.5	32.3	89.9	122.2
2/2+2/1	720	519	-	-	-	22.4	102.1	-	124.5	622.5	32.5	102.1	134.5
2/3+2/4	750	542	-	-	-	23.3	106.2	-	129.5	621.6	33.2	106.2	139.3
3/2+3/1	608	440	-	-	-	20.7	85.6	-	106.3	629.4	32.7	85.6	118.3
4/1	81	81	-	-	-	0.9	0.2	-	1.1	48.8	2.4	0.2	2.5
4/2	537	390	-	-	-	14.7	75.2	-	89.9	602.8	24.3	75.2	99.5
5/1	267	267	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/2	390	390	390	0	0	0.5	0.3	-	0.7	6.6	6.5	0.3	6.7
5/3	436	436	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	661	661	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/2	397	397	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	494	494	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	457	457	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
9/1	657	657	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
9/2	436	436	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
C1		PRC for Signalled Lanes (%): -54.7		PRC Over All Lanes (%): -54.7		Total Delay for Signalled Lanes (pcuHr): 698.88		Total Delay Over All Lanes(pcuHr): 699.60		Cycle Time (s): 128			

Full Input Data And Results

Scenario 2: 'Base Year 2023 PM' (FG2: 'Base Year 2023 PM', Plan 1: 'Network Control Plan 1')

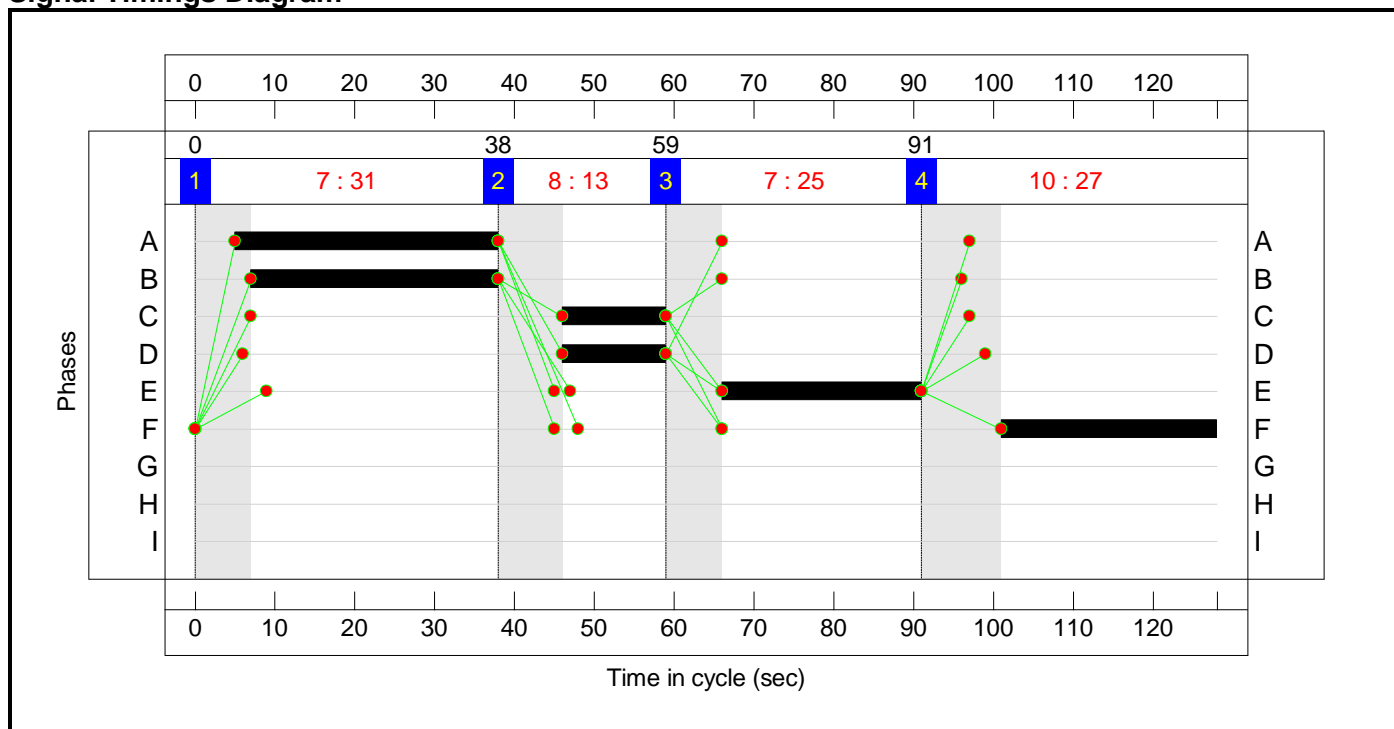
Stage Sequence Diagram



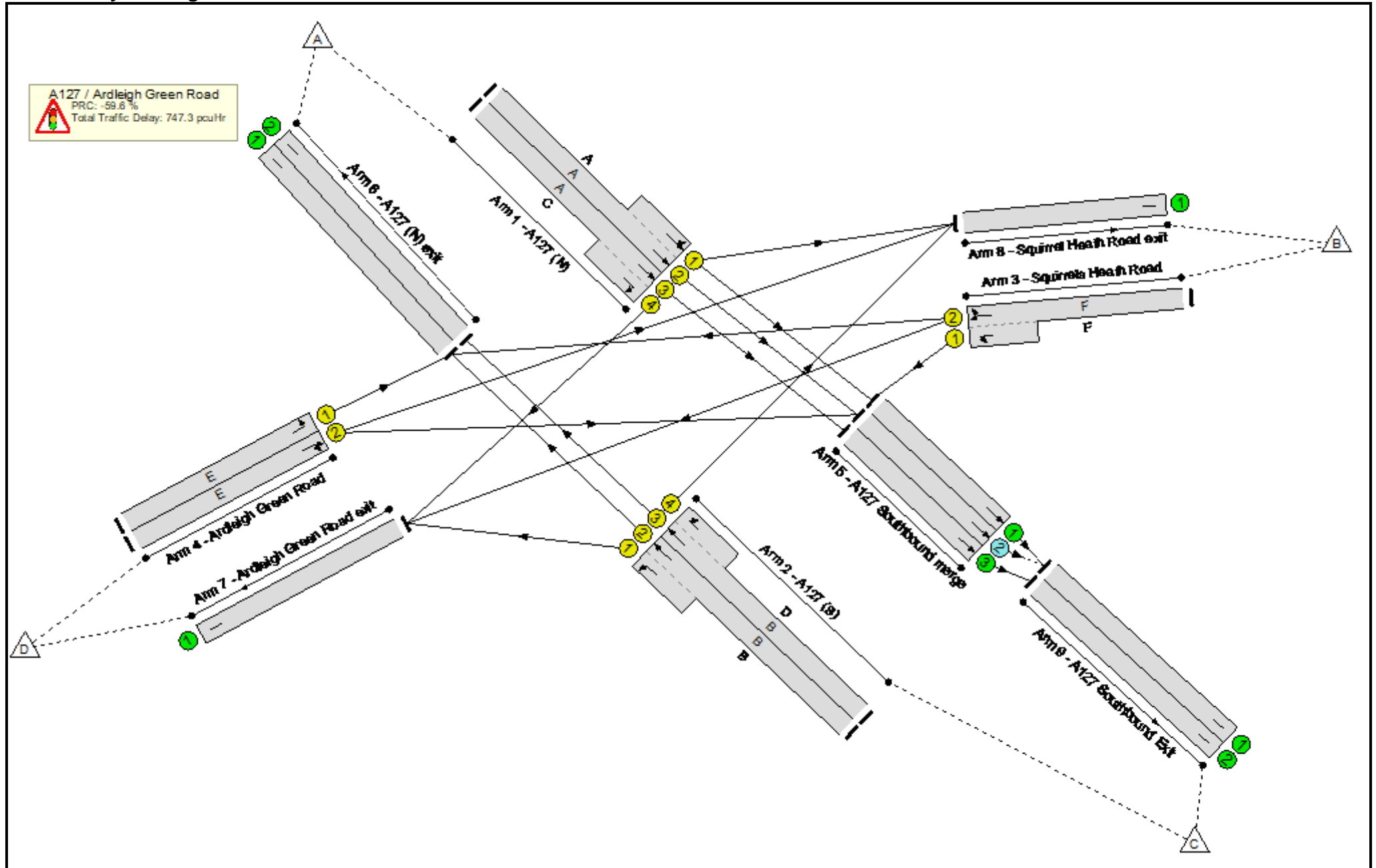
Stage Timings

Stage	1	2	3	4
Duration	31	13	25	27
Change Point	0	38	59	91

Signal Timings Diagram



Full Input Data And Results  
Network Layout Diagram



## Full Input Data And Results

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 (%)
<b>Network</b>	-	-	<b>N/A</b>	-	-		-	-	-	-	-	-	<b>143.7%</b>
<b>A127 / Ardleigh Green Road</b>	-	-	<b>N/A</b>	-	-		-	-	-	-	-	-	<b>143.7%</b>
1/2+1/1	A127 (N) Ahead Left	U	N/A	N/A	A		1	33	-	715	2075:1812	122+410	134.3 : 134.3%
1/3+1/4	A127 (N) Ahead Right	U	N/A	N/A	A C		1	33:13	-	805	2085:1602	408+153	143.7 : 143.2%
2/2+2/1	A127 (S) Ahead Left	U	N/A	N/A	B		1	31	-	739	1985:1755	418+106	141.1 : 141.1%
2/3+2/4	A127 (S) Ahead Right	U	N/A	N/A	B D		1	31:13	-	770	2085:1629	386+153	143.1 : 142.1%
3/2+3/1	Squirrels Heath Road Left Right Ahead	U	N/A	N/A	F		1	27	-	604	1910:1651	412+16	141.1 : 141.1%
4/1	Ardleigh Green Road Left	U	N/A	N/A	E		1	25	-	81	1621	329	24.6%
4/2	Ardleigh Green Road Right Ahead	U	N/A	N/A	E		1	25	-	534	1849	376	142.2%
5/1	A127 Southbound merge Ahead	U	N/A	N/A	-		-	-	-	403	Inf	Inf	0.0%
5/2	A127 Southbound merge Ahead	O	N/A	N/A	-		-	-	-	439	Inf	1113	28.4%
5/3	A127 Southbound merge Ahead	U	N/A	N/A	-		-	-	-	586	Inf	Inf	0.0%
6/1	A127 (N) exit	U	N/A	N/A	-		-	-	-	827	Inf	Inf	0.0%
6/2	A127 (N) exit	U	N/A	N/A	-		-	-	-	552	Inf	Inf	0.0%
7/1	Ardleigh Green Road exit	U	N/A	N/A	-		-	-	-	793	Inf	Inf	0.0%
8/1	Squirrel Heath Road exit	U	N/A	N/A	-		-	-	-	648	Inf	Inf	0.0%



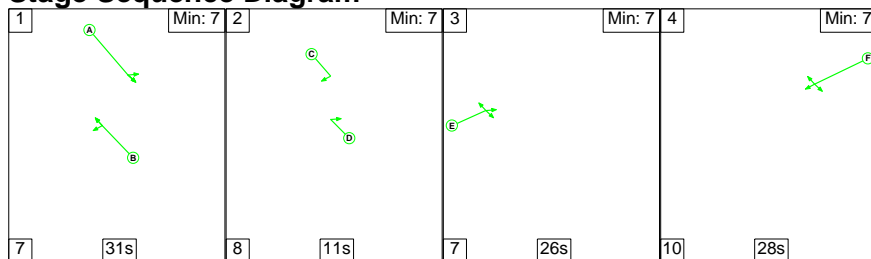
Full Input Data And Results

9/1	A127 Southbound Exit	U	N/A	N/A	-	-	-	-	842	Inf	Inf	0.0%	
9/2	A127 Southbound Exit	U	N/A	N/A	-	-	-	-	586	Inf	Inf	0.0%	
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	-	-	316	0	0	133.1	614.1	0.0	747.3	-	-	-	-
A127 / Ardleigh Green Road	-	-	316	0	0	133.1	614.1	0.0	747.3	-	-	-	-
1/2+1/1	715	532	-	-	-	20.9	93.2	-	114.1	574.5	31.4	93.2	124.6
1/3+1/4	805	568	-	-	-	25.7	123.7	-	149.4	668.3	36.0	123.7	159.8
2/2+2/1	739	524	-	-	-	23.6	109.3	-	132.8	647.1	33.5	109.3	142.7
2/3+2/4	770	543	-	-	-	24.7	117.0	-	141.7	662.7	34.3	117.0	151.4
3/2+3/1	604	428	-	-	-	21.3	89.7	-	111.0	661.4	33.1	89.7	122.8
4/1	81	81	-	-	-	1.0	0.2	-	1.1	50.0	2.4	0.2	2.6
4/2	534	376	-	-	-	15.9	80.9	-	96.7	652.2	25.2	80.9	106.1
5/1	299	299	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/2	316	316	316	0	0	0.1	0.2	-	0.3	3.8	4.1	0.2	4.3
5/3	415	415	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	610	610	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/2	389	389	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	560	560	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	463	463	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
9/1	615	615	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
9/2	415	415	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
C1		PRC for Signalled Lanes (%):		-59.6		Total Delay for Signalled Lanes (pcuHr):		746.96		Cycle Time (s):		128	
		PRC Over All Lanes (%):		-59.6		Total Delay Over All Lanes(pcuHr):		747.29					

Full Input Data And Results

Scenario 3: 'Reference Case 2030 AM' (FG3: 'Reference Case 2030 AM', Plan 1: 'Network Control Plan 1')

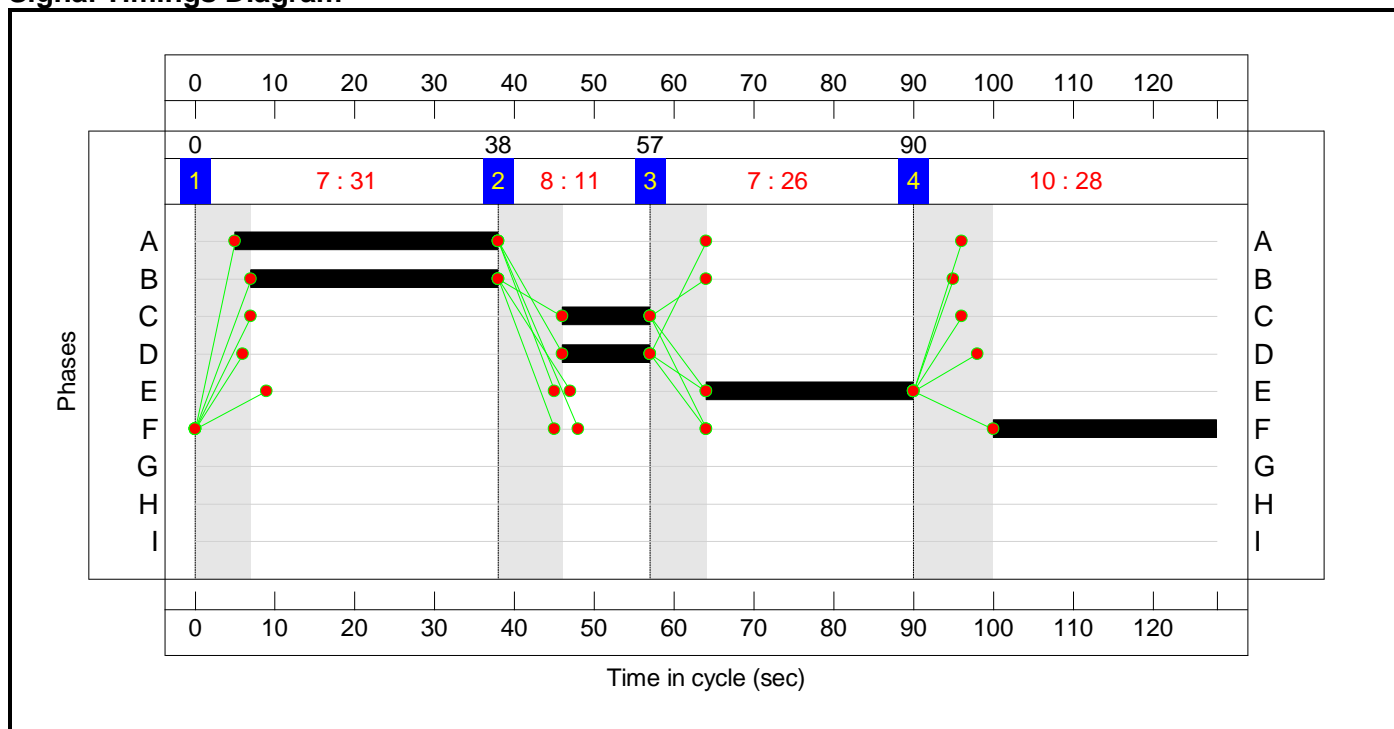
Stage Sequence Diagram



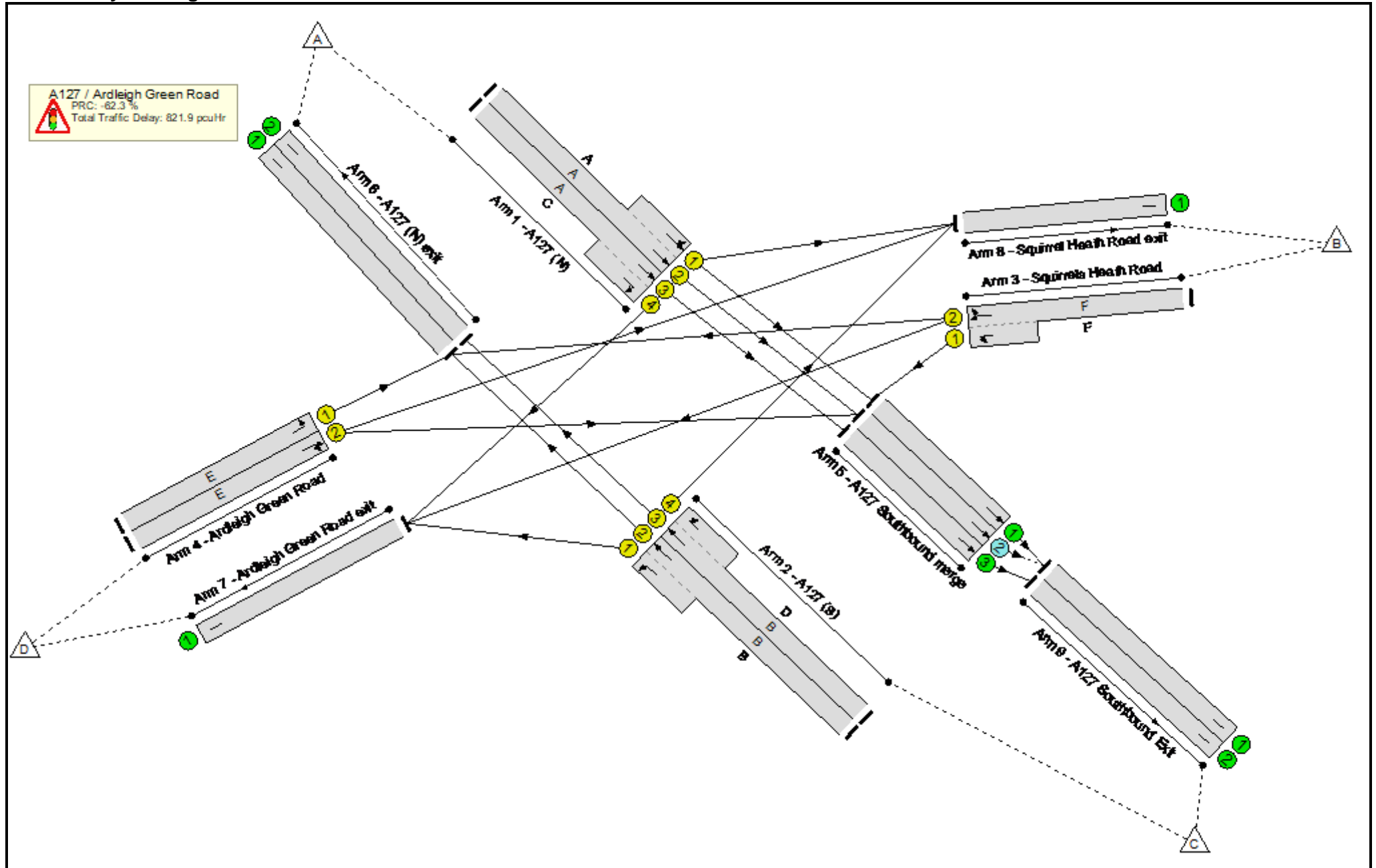
Stage Timings

Stage	1	2	3	4
Duration	31	11	26	28
Change Point	0	38	57	90

Signal Timings Diagram



Full Input Data And Results  
Network Layout Diagram



## Full Input Data And Results

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 (%)
<b>Network</b>	-	-	<b>N/A</b>	-	-		-	-	-	-	-	-	<b>146.0%</b>
<b>A127 / Ardleigh Green Road</b>	-	-	<b>N/A</b>	-	-		-	-	-	-	-	-	<b>146.0%</b>
1/2+1/1	A127 (N) Ahead Left	U	N/A	N/A	A		1	33	-	806	2075:1811	162+390	146.0 : 146.0%
1/3+1/4	A127 (N) Ahead Right	U	N/A	N/A	A C		1	33:11	-	798	2085:1602	439+124	142.0 : 141.7%
2/2+2/1	A127 (S) Ahead Left	U	N/A	N/A	B		1	31	-	753	1985:1755	428+92	145.0 : 145.0%
2/3+2/4	A127 (S) Ahead Right	U	N/A	N/A	B D		1	31:11	-	785	2085:1629	397+145	145.6 : 143.1%
3/2+3/1	Squirrels Heath Road Left Right Ahead	U	N/A	N/A	F		1	28	-	637	1899:1651	427+13	144.7 : 144.7%
4/1	Ardleigh Green Road Left	U	N/A	N/A	E		1	26	-	85	1621	342	24.9%
4/2	Ardleigh Green Road Right Ahead	U	N/A	N/A	E		1	26	-	562	1849	390	144.1%
5/1	A127 Southbound merge Ahead	U	N/A	N/A	-		-	-	-	410	Inf	Inf	0.0%
5/2	A127 Southbound merge Ahead	O	N/A	N/A	-		-	-	-	525	Inf	1133	32.0%
5/3	A127 Southbound merge Ahead	U	N/A	N/A	-		-	-	-	623	Inf	Inf	0.0%
6/1	A127 (N) exit	U	N/A	N/A	-		-	-	-	925	Inf	Inf	0.0%
6/2	A127 (N) exit	U	N/A	N/A	-		-	-	-	578	Inf	Inf	0.0%
7/1	Ardleigh Green Road exit	U	N/A	N/A	-		-	-	-	706	Inf	Inf	0.0%
8/1	Squirrel Heath Road exit	U	N/A	N/A	-		-	-	-	659	Inf	Inf	0.0%

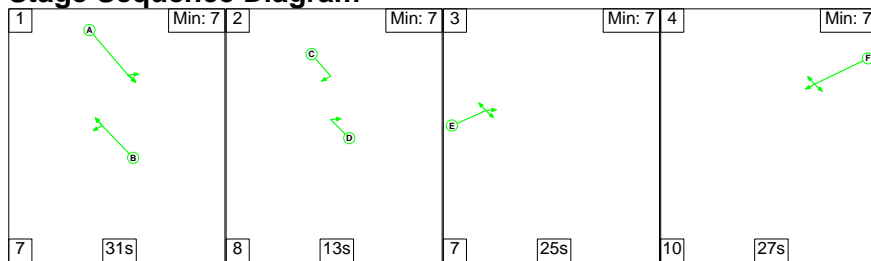
Full Input Data And Results

9/1	A127 Southbound Exit	U	N/A	N/A	-	-	-	-	935	Inf	Inf	0.0%	
9/2	A127 Southbound Exit	U	N/A	N/A	-	-	-	-	623	Inf	Inf	0.0%	
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	-	-	362	0	0	144.2	677.7	0.0	821.9	-	-	-	-
A127 / Ardleigh Green Road	-	-	362	0	0	144.2	677.7	0.0	821.9	-	-	-	-
1/2+1/1	806	552	-	-	-	26.6	128.6	-	155.2	693.2	36.7	128.6	165.3
1/3+1/4	798	562	-	-	-	25.0	119.5	-	144.5	651.9	36.2	119.5	155.7
2/2+2/1	753	519	-	-	-	25.0	118.4	-	143.4	685.4	34.8	118.4	153.2
2/3+2/4	785	542	-	-	-	26.0	123.4	-	149.4	685.0	35.7	123.4	159.1
3/2+3/1	637	440	-	-	-	23.2	99.9	-	123.1	696.0	35.8	99.9	135.7
4/1	85	85	-	-	-	1.0	0.2	-	1.2	49.1	2.5	0.2	2.7
4/2	562	390	-	-	-	17.0	87.6	-	104.6	669.9	26.7	87.6	114.3
5/1	281	281	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/2	362	362	362	0	0	0.3	0.2	-	0.6	5.7	5.5	0.2	5.7
5/3	439	439	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	665	665	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/2	398	398	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	490	490	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	457	457	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
9/1	643	643	-	-	-	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
C1		PRC for Signalled Lanes (%):		-62.3		Total Delay for Signalled Lanes (pcuHr):		821.34		Cycle Time (s): 128			
		PRC Over All Lanes (%):		-62.3		Total Delay Over All Lanes(pcuHr):		821.91					

Full Input Data And Results

Scenario 4: 'Reference Case 2030 PM' (FG4: 'Reference Case 2030 PM', Plan 1: 'Network Control Plan 1')

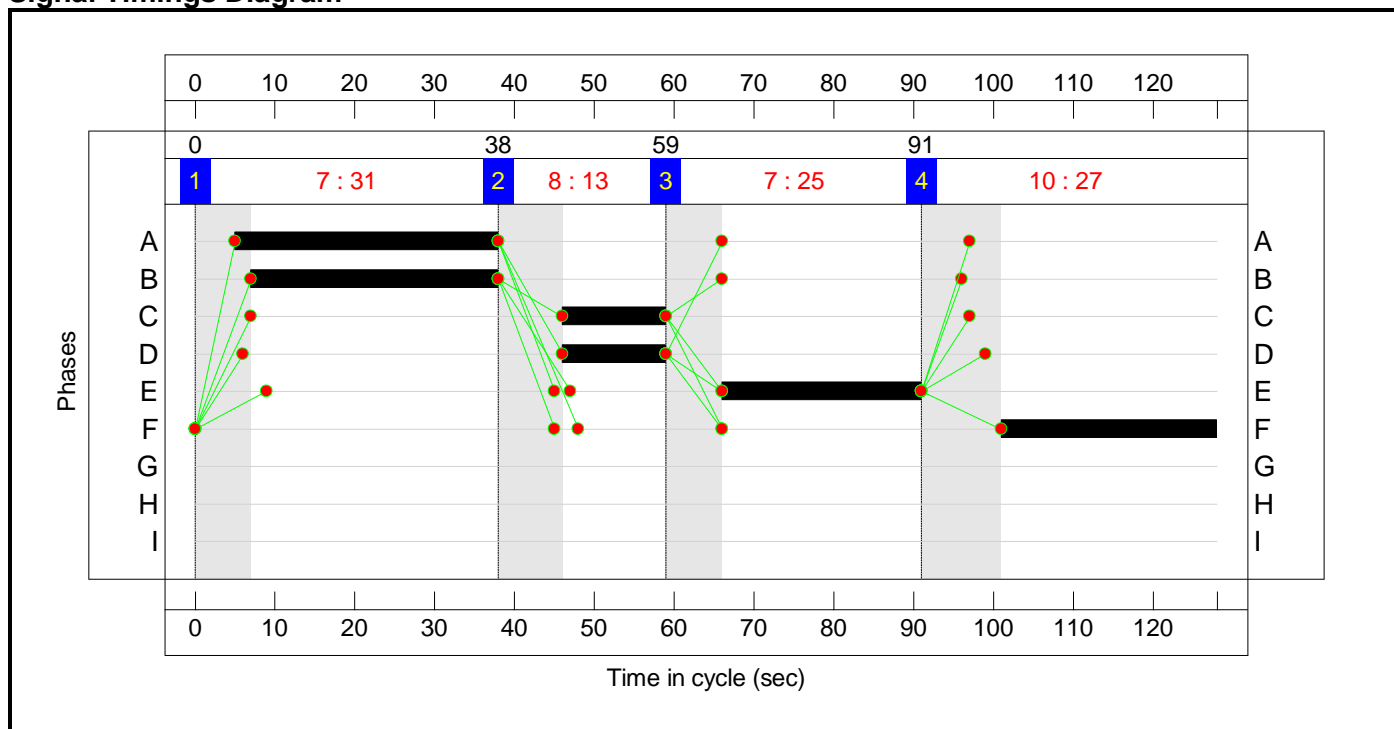
Stage Sequence Diagram



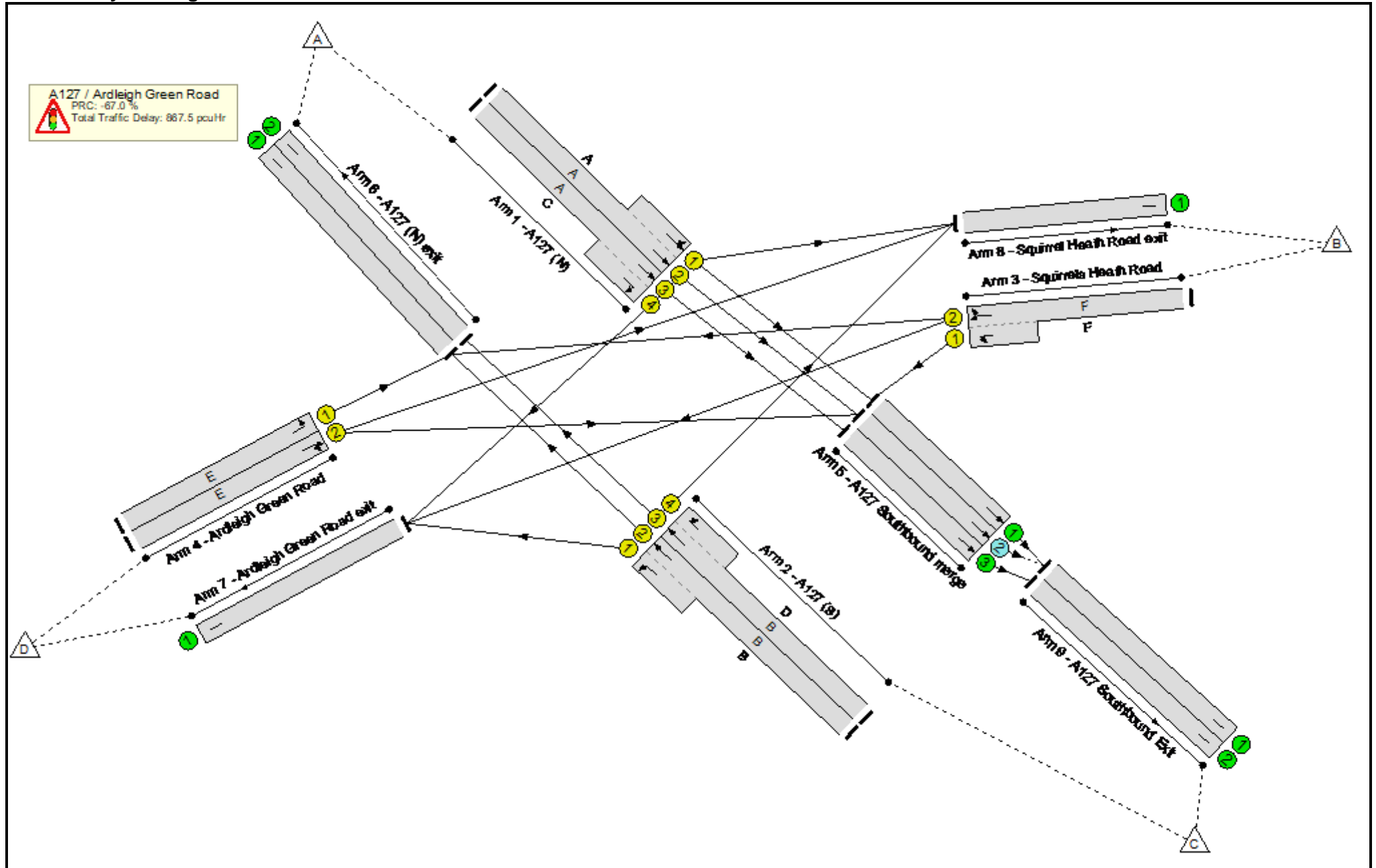
Stage Timings

Stage	1	2	3	4
Duration	31	13	25	27
Change Point	0	38	59	91

Signal Timings Diagram



Full Input Data And Results  
Network Layout Diagram





## Full Input Data And Results

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 (%)
<b>Network</b>	-	-	<b>N/A</b>	-	-		-	-	-	-	-	-	<b>150.3%</b>
<b>A127 / Ardleigh Green Road</b>	-	-	<b>N/A</b>	-	-		-	-	-	-	-	-	<b>150.3%</b>
1/2+1/1	A127 (N) Ahead Left	U	N/A	N/A	A		1	33	-	782	2075:1807	166+387	141.3 : 141.3%
1/3+1/4	A127 (N) Ahead Right	U	N/A	N/A	A C		1	33:13	-	817	2085:1602	391+153	150.0 : 150.0%
2/2+2/1	A127 (S) Ahead Left	U	N/A	N/A	B		1	31	-	778	1985:1755	417+106	148.5 : 148.5%
2/3+2/4	A127 (S) Ahead Right	U	N/A	N/A	B D		1	31:13	-	809	2085:1629	386+153	150.3 : 149.2%
3/2+3/1	Squirrels Heath Road Left Right Ahead	U	N/A	N/A	F		1	27	-	635	1910:1651	412+16	148.4 : 148.4%
4/1	Ardleigh Green Road Left	U	N/A	N/A	E		1	25	-	85	1621	329	25.8%
4/2	Ardleigh Green Road Right Ahead	U	N/A	N/A	E		1	25	-	561	1849	376	149.4%
5/1	A127 Southbound merge Ahead	U	N/A	N/A	-		-	-	-	391	Inf	Inf	0.0%
5/2	A127 Southbound merge Ahead	O	N/A	N/A	-		-	-	-	524	Inf	1138	31.6%
5/3	A127 Southbound merge Ahead	U	N/A	N/A	-		-	-	-	587	Inf	Inf	0.0%
6/1	A127 (N) exit	U	N/A	N/A	-		-	-	-	870	Inf	Inf	0.0%
6/2	A127 (N) exit	U	N/A	N/A	-		-	-	-	580	Inf	Inf	0.0%
7/1	Ardleigh Green Road exit	U	N/A	N/A	-		-	-	-	834	Inf	Inf	0.0%
8/1	Squirrel Heath Road exit	U	N/A	N/A	-		-	-	-	681	Inf	Inf	0.0%

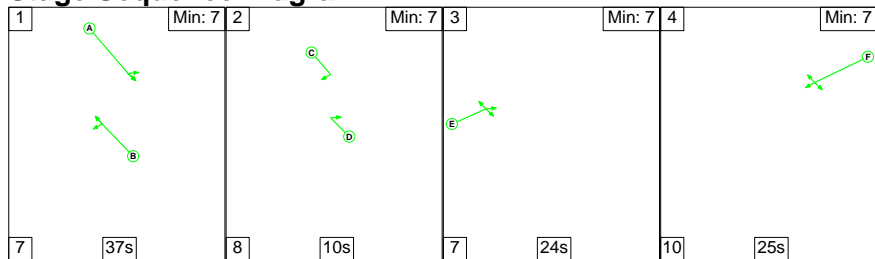
Full Input Data And Results

9/1	A127 Southbound Exit	U	N/A	N/A	-	-	-	-	915	Inf	Inf	0.0%	
9/2	A127 Southbound Exit	U	N/A	N/A	-	-	-	-	587	Inf	Inf	0.0%	
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	-	-	360	0	0	149.4	718.2	0.0	867.5	-	-	-	-
A127 / Ardleigh Green Road	-	-	360	0	0	149.4	718.2	0.0	867.5	-	-	-	-
1/2+1/1	782	554	-	-	-	24.6	115.9	-	140.6	647.1	34.9	115.9	150.8
1/3+1/4	817	563	-	-	-	26.8	137.7	-	164.5	725.0	36.7	137.7	174.4
2/2+2/1	778	524	-	-	-	26.6	128.6	-	155.2	718.1	36.3	128.6	164.9
2/3+2/4	809	543	-	-	-	27.7	136.4	-	164.0	729.8	37.1	136.4	173.5
3/2+3/1	635	428	-	-	-	24.0	105.0	-	129.0	731.6	36.4	105.0	141.4
4/1	85	85	-	-	-	1.0	0.2	-	1.2	50.3	2.5	0.2	2.7
4/2	561	376	-	-	-	18.3	94.2	-	112.5	721.8	27.8	94.2	122.0
5/1	276	276	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/2	360	360	360	0	0	0.3	0.2	-	0.5	5.5	5.6	0.2	5.9
5/3	410	410	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	614	614	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/2	390	390	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	560	560	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	463	463	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
9/1	636	636	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
9/2	410	410	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
C1		PRC for Signalled Lanes (%):		-67.0		Total Delay for Signalled Lanes (pcuHr):		867.00		Cycle Time (s):		128	
		PRC Over All Lanes (%):		-67.0		Total Delay Over All Lanes(pcuHr):		867.54					

Full Input Data And Results

**Scenario 5: 'Do Something 2030 + LTC AM'** (FG7: 'Do Something 2030 + LTC AM', Plan 1: 'Network Control Plan 1')

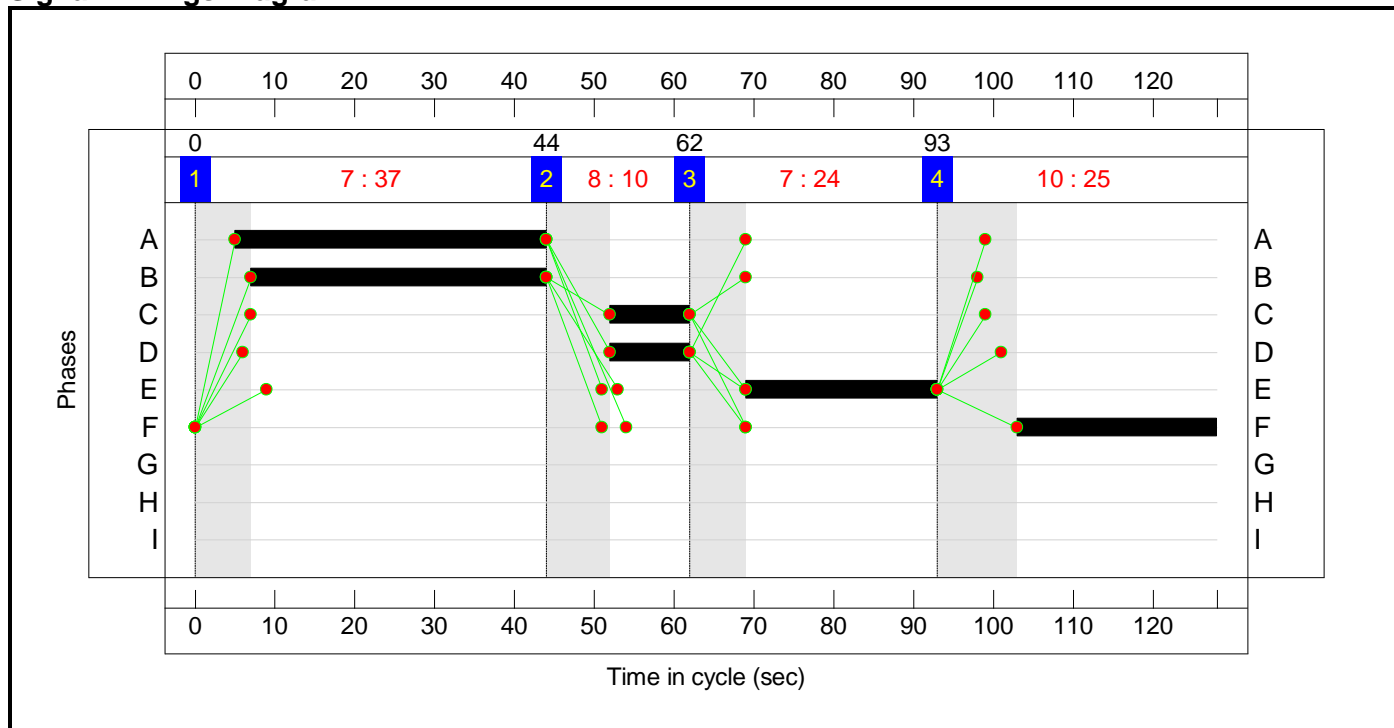
**Stage Sequence Diagram**



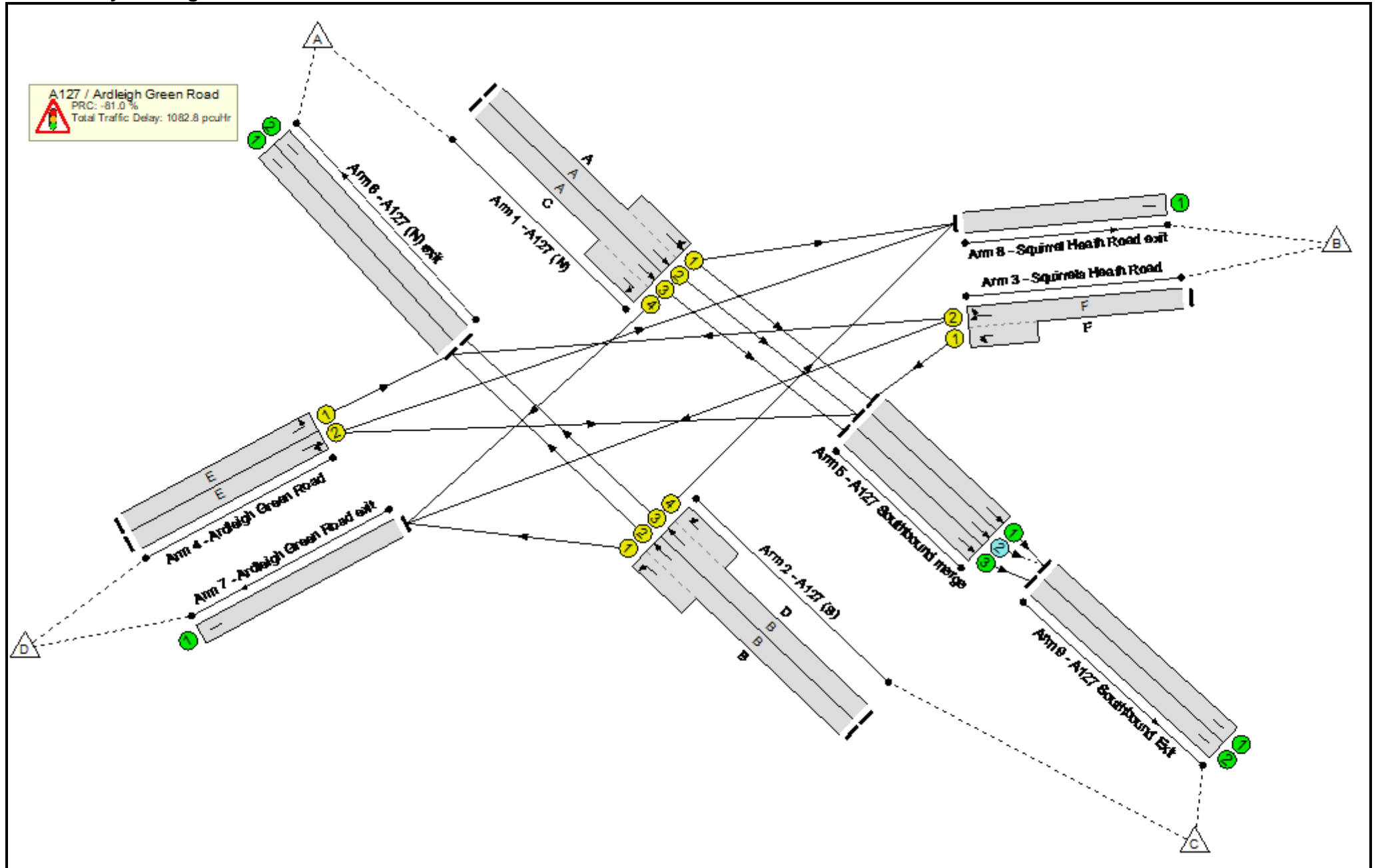
**Stage Timings**

Stage	1	2	3	4
Duration	37	10	24	25
Change Point	0	44	62	93

**Signal Timings Diagram**



Full Input Data And Results  
Network Layout Diagram



## Full Input Data And Results

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 (%)
<b>Network</b>	-	-	<b>N/A</b>	-	-		-	-	-	-	-	-	<b>162.9%</b>
<b>A127 / Ardleigh Green Road</b>	-	-	<b>N/A</b>	-	-		-	-	-	-	-	-	<b>162.9%</b>
1/2+1/1	A127 (N) Ahead Left	U	N/A	N/A	A		1	39	-	910	2075:1849	0+574	0.0 : 158.5%
1/3+1/4	A127 (N) Ahead Right	U	N/A	N/A	A C		1	39:10	-	1030	2085:1602	545+104	158.7 : 158.7%
2/2+2/1	A127 (S) Ahead Left	U	N/A	N/A	B		1	37	-	977	1985:1755	507+102	160.4 : 160.4%
2/3+2/4	A127 (S) Ahead Right	U	N/A	N/A	B D		1	37:10	-	657	2085:1629	263+140	162.9 : 162.9%
3/2+3/1	Squirrels Heath Road Left Right Ahead	U	N/A	N/A	F		1	25	-	634	1905:1651	385+12	159.8 : 159.8%
4/1	Ardleigh Green Road Left	U	N/A	N/A	E		1	24	-	73	1621	317	23.1%
4/2	Ardleigh Green Road Right Ahead	U	N/A	N/A	E		1	24	-	582	1839	359	162.0%
5/1	A127 Southbound merge Ahead	U	N/A	N/A	-		-	-	-	778	Inf	Inf	0.0%
5/2	A127 Southbound merge Ahead	O	N/A	N/A	-		-	-	-	349	Inf	969	22.2%
5/3	A127 Southbound merge Ahead	U	N/A	N/A	-		-	-	-	865	Inf	Inf	0.0%
6/1	A127 (N) exit	U	N/A	N/A	-		-	-	-	1077	Inf	Inf	0.0%
6/2	A127 (N) exit	U	N/A	N/A	-		-	-	-	429	Inf	Inf	0.0%
7/1	Ardleigh Green Road exit	U	N/A	N/A	-		-	-	-	753	Inf	Inf	0.0%
8/1	Squirrel Heath Road exit	U	N/A	N/A	-		-	-	-	612	Inf	Inf	0.0%

Full Input Data And Results

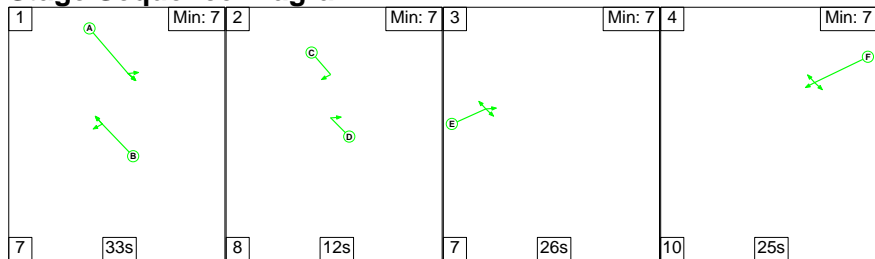
9/1	A127 Southbound Exit	U	N/A	N/A	-	-	-	-	1127	Inf	Inf	0.0%	
9/2	A127 Southbound Exit	U	N/A	N/A	-	-	-	-	865	Inf	Inf	0.0%	
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform 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	-	-	215	0	0	175.4	907.4	0.0	1082.8	-	-	-	-
A127 / Ardleigh Green Road	-	-	215	0	0	175.4	907.4	0.0	1082.8	-	-	-	-
1/2+1/1	910	574	-	-	-	32.6	169.4	-	201.9	798.7	45.6	169.4	214.9
1/3+1/4	1030	649	-	-	-	36.6	191.8	-	228.4	798.2	50.4	191.8	242.1
2/2+2/1	977	609	-	-	-	35.5	185.3	-	220.8	813.4	47.9	185.3	233.2
2/3+2/4	657	403	-	-	-	21.7	128.1	-	149.8	821.0	27.5	128.1	155.5
3/2+3/1	634	397	-	-	-	26.4	119.9	-	146.3	830.6	38.5	119.9	158.5
4/1	73	73	-	-	-	0.9	0.1	-	1.0	50.8	2.2	0.1	2.3
4/2	582	359	-	-	-	21.8	112.7	-	134.5	831.9	31.4	112.7	144.1
5/1	491	491	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/2	215	215	215	0	0	0.0	0.1	-	0.1	2.4	0.0	0.1	0.1
5/3	545	545	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	699	699	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/2	263	263	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	472	472	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	379	379	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
9/1	706	706	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
9/2	545	545	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
C1		PRC for Signalled Lanes (%):		-81.0		Total Delay for Signalled Lanes (pcuHr):		1082.67		Cycle Time (s):		128	
		PRC Over All Lanes (%):		-81.0		Total Delay Over All Lanes(pcuHr):		1082.82					



Full Input Data And Results

**Scenario 6: 'Do Something 2030 + LTC PM'** (FG8: 'Do Something 2030 + LTC PM', Plan 1: 'Network Control Plan 1')

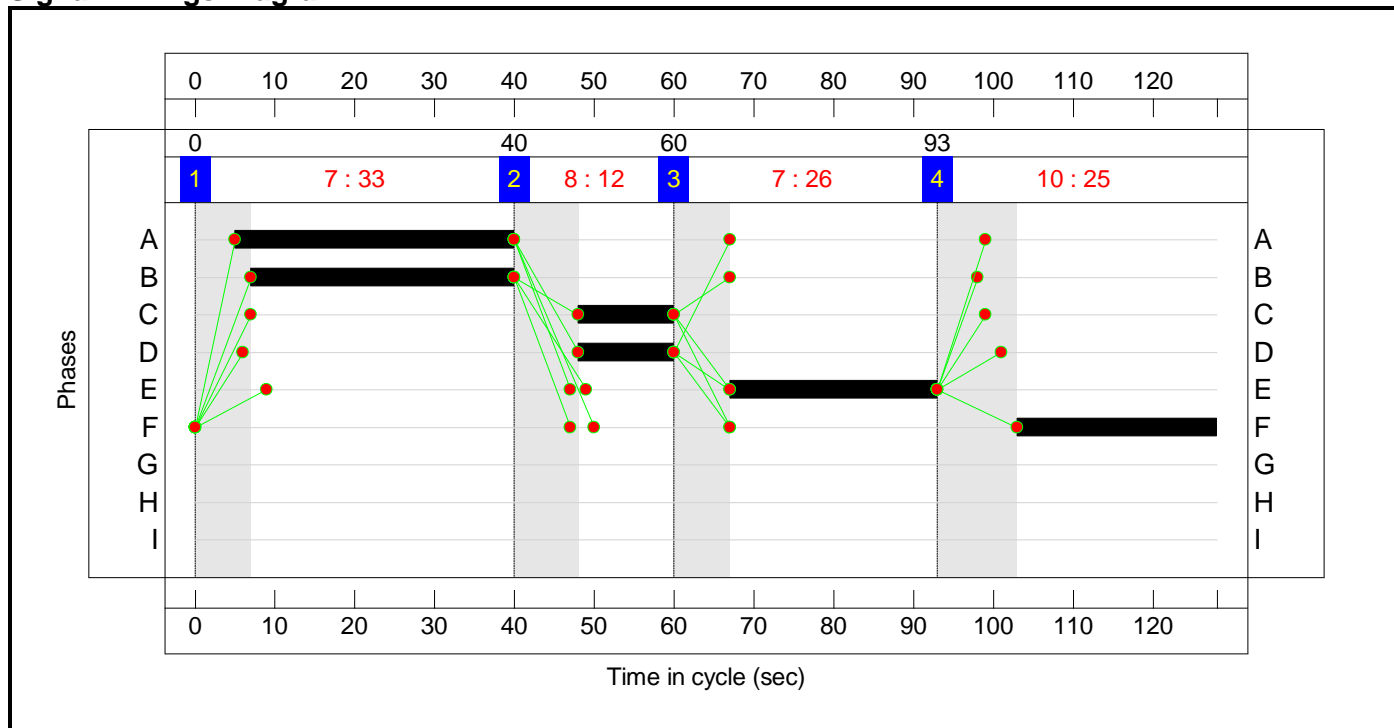
**Stage Sequence Diagram**



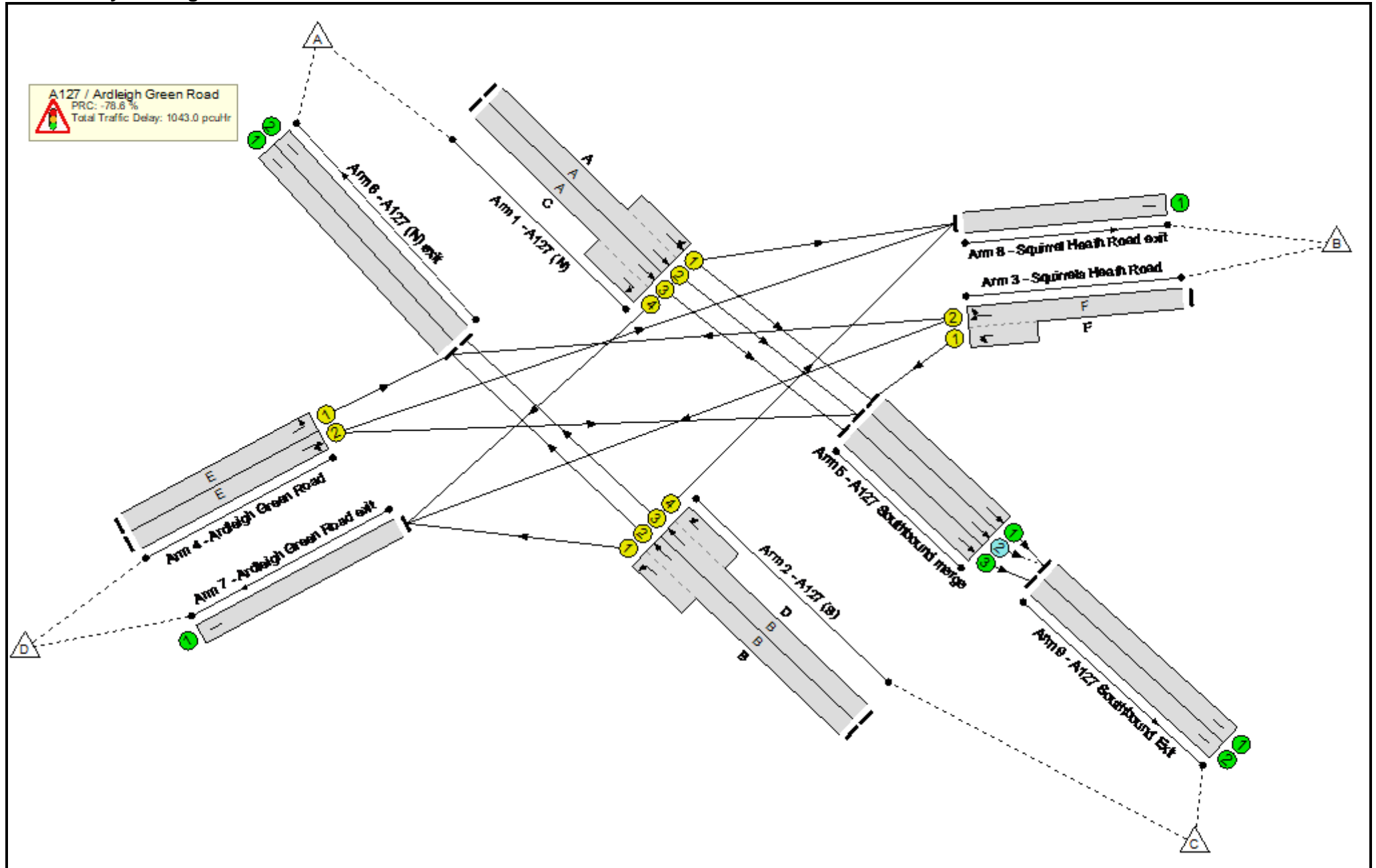
**Stage Timings**

Stage	1	2	3	4
Duration	33	12	26	25
Change Point	0	40	60	93

**Signal Timings Diagram**



Full Input Data And Results  
Network Layout Diagram



## Full Input Data And Results

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 (%)
<b>Network</b>	-	-	<b>N/A</b>	-	-		-	-	-	-	-	-	<b>160.7%</b>
<b>A127 / Ardleigh Green Road</b>	-	-	<b>N/A</b>	-	-		-	-	-	-	-	-	<b>160.7%</b>
1/2+1/1	A127 (N) Ahead Left	U	N/A	N/A	A		1	35	-	818	2075:1839	0+514	0.0 : 159.1%
1/3+1/4	A127 (N) Ahead Right	U	N/A	N/A	A C		1	35:12	-	949	2085:1602	451+148	159.4 : 155.4%
2/2+2/1	A127 (S) Ahead Left	U	N/A	N/A	B		1	33	-	883	1985:1755	437+118	158.9 : 158.9%
2/3+2/4	A127 (S) Ahead Right	U	N/A	N/A	B D		1	33:12	-	774	2085:1629	332+150	160.7 : 160.7%
3/2+3/1	Squirrels Heath Road Left Right Ahead	U	N/A	N/A	F		1	25	-	636	1909:1651	383+15	159.7 : 159.7%
4/1	Ardleigh Green Road Left	U	N/A	N/A	E		1	26	-	54	1621	342	15.8%
4/2	Ardleigh Green Road Right Ahead	U	N/A	N/A	E		1	26	-	604	1842	389	155.5%
5/1	A127 Southbound merge Ahead	U	N/A	N/A	-		-	-	-	673	Inf	Inf	0.0%
5/2	A127 Southbound merge Ahead	O	N/A	N/A	-		-	-	-	348	Inf	1013	22.1%
5/3	A127 Southbound merge Ahead	U	N/A	N/A	-		-	-	-	719	Inf	Inf	0.0%
6/1	A127 (N) exit	U	N/A	N/A	-		-	-	-	922	Inf	Inf	0.0%
6/2	A127 (N) exit	U	N/A	N/A	-		-	-	-	533	Inf	Inf	0.0%
7/1	Ardleigh Green Road exit	U	N/A	N/A	-		-	-	-	857	Inf	Inf	0.0%
8/1	Squirrel Heath Road exit	U	N/A	N/A	-		-	-	-	666	Inf	Inf	0.0%

Full Input Data And Results

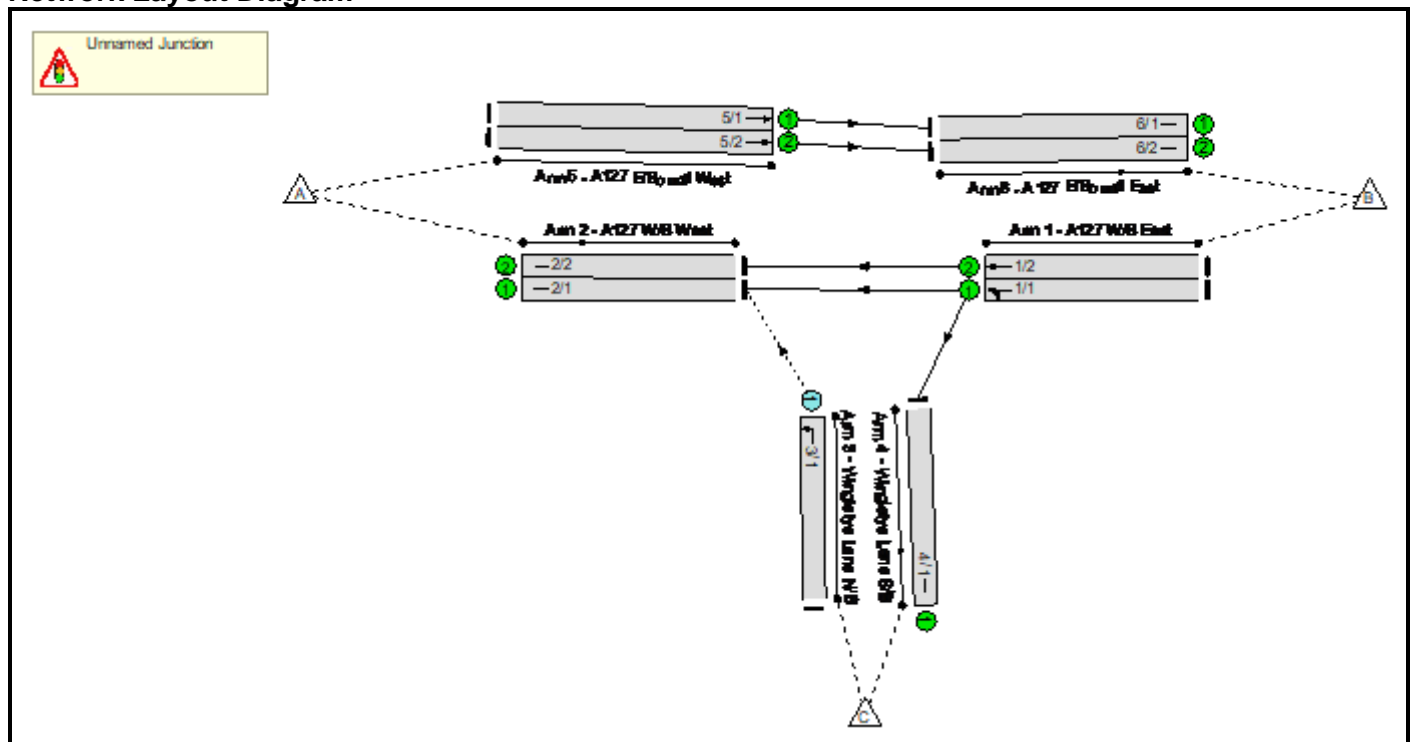
9/1	A127 Southbound Exit	U	N/A	N/A	-	-	-	-	1021	Inf	Inf	0.0%	
9/2	A127 Southbound Exit	U	N/A	N/A	-	-	-	-	719	Inf	Inf	0.0%	
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform 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	-	-	224	0	0	171.4	871.6	0.0	1043.0	-	-	-	-
A127 / Ardleigh Green Road	-	-	224	0	0	171.4	871.6	0.0	1043.0	-	-	-	-
1/2+1/1	818	514	-	-	-	30.0	153.2	-	183.2	806.5	41.1	153.2	194.4
1/3+1/4	949	599	-	-	-	34.5	176.3	-	210.8	799.6	45.9	176.3	222.2
2/2+2/1	883	556	-	-	-	32.4	164.9	-	197.3	804.3	42.8	164.9	207.7
2/3+2/4	774	482	-	-	-	26.4	147.5	-	173.9	808.8	34.0	147.5	181.5
3/2+3/1	636	398	-	-	-	26.4	120.2	-	146.7	830.2	38.6	120.2	158.8
4/1	54	54	-	-	-	0.6	0.1	-	0.7	47.5	1.6	0.1	1.7
4/2	604	389	-	-	-	21.2	109.1	-	130.3	776.6	31.4	109.1	140.5
5/1	423	423	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/2	224	224	224	0	0	0.0	0.1	-	0.1	2.3	0.0	0.1	0.1
5/3	451	451	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	600	600	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/2	332	332	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	541	541	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	421	421	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
9/1	647	647	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
9/2	451	451	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
C1		PRC for Signalled Lanes (%): -78.6		PRC Over All Lanes (%): -78.6		Total Delay for Signalled Lanes (pcuHr): 1042.86		Total Delay Over All Lanes(pcuHr): 1043.00		Cycle Time (s): 128			

Full Input Data And Results  
Full Input Data And Results

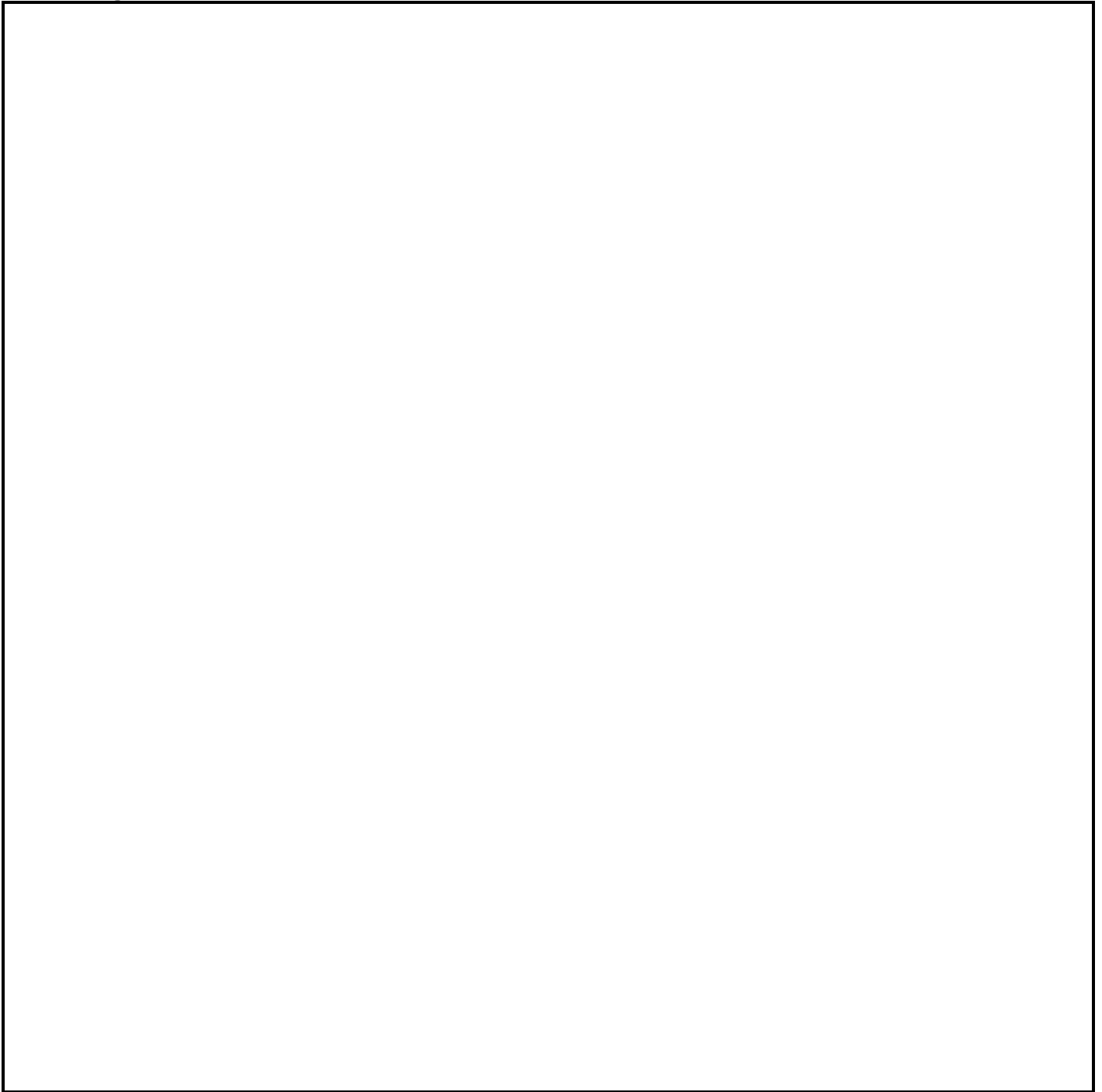
User and Project Details

Project:	
Title:	
Location:	
Additional detail:	
File name:	6 - A127 - Wingletye Lane.lsg3x
Author:	
Company:	
Address:	

Network Layout Diagram



### Phase Diagram



### Phase Input Data

Phase Name	Phase Type	Assoc. Phase	Street Min	Cont Min
------------	------------	--------------	------------	----------

### Phase Intergreens Matrix

	Starting Phase
Terminating Phase	This View cannot be shown as there are currently no Phases defined.

### Phases in Stage

Stage No.	Phases in Stage
-----------	-----------------

## Full Input Data And Results

### Stage Diagram

There are no Stages to display

### Phase Delays

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

### Prohibited Stage Change

	To Stage
From Stage	This View cannot be shown as there are currently no Stages defined.



Full Input Data And Results

**Give-Way Lane Input Data**

Junction: Unnamed Junction											
Lane	Movement	Max Flow when Giving Way (PCU/Hr)	Min Flow when Giving Way (PCU/Hr)	Opposing Lane	Opp. Lane Coeff.	Opp. Mvmnts.	Right Turn Storage (PCU)	Non-Blocking Storage (PCU)	RTF	Right Turn Move up (s)	Max Turns in Intergreen (PCU)
3/1 (Wingletye Lane N/B)	2/1 (Left)	715	0	1/1	0.22	To 2/1 (Ahead)	-	-	-	-	-

Full Input Data And Results

**Lane Input Data**

Junction: Unnamed Junction												
Lane	Lane Type	Phases	Start Disp.	End Disp.	Physical Length (PCU)	Sat Flow Type	Def User Saturation Flow (PCU/Hr)	Lane Width (m)	Gradient	Nearside Lane	Turns	Turning Radius (m)
1/1 (A127 W/B East)	U		2	3	60.0	Geom	-	3.65	0.00	Y	Arm 2 Ahead	Inf
											Arm 4 Left	15.00
1/2 (A127 W/B East)	U		2	3	60.0	Geom	-	3.65	0.00	N	Arm 2 Ahead	Inf
2/1 (A127 W/B West)	U		2	3	60.0	Geom	-	3.65	0.00	Y		
2/2 (A127 W/B West)	U		2	3	60.0	Geom	-	3.65	0.00	N		
3/1 (Wingletye Lane N/B)	O		2	3	60.0	Geom	-	3.25	0.00	Y	Arm 2 Left	15.00
4/1 (Wingletye Lane S/B)	U		2	3	60.0	Inf	-	-	-	-	-	-
5/1 (A127 E/Bound West)	U		2	3	60.0	Inf	-	-	-	-	-	-
5/2 (A127 E/Bound West)	U		2	3	60.0	Inf	-	-	-	-	-	-
6/1 (A127 E/Bound East)	U		2	3	60.0	Inf	-	-	-	-	-	-
6/2 (A127 E/Bound East)	U		2	3	60.0	Inf	-	-	-	-	-	-

**Traffic Flow Groups**

Flow Group	Start Time	End Time	Duration	Formula
1: 'Base Year 2023 AM'	07:00	08:00	01:00	
2: 'Base Year 2023 PM'	17:00	18:00	01:00	
3: 'Reference Case 2030 AM'	07:00	08:00	01:00	F1*1.0466
4: 'Reference Case 2030 PM'	17:00	18:00	01:00	F2*1.0521
7: 'Do Something 2030 + LTC AM'	07:00	08:00	01:00	F3+F5
8: 'Do Something 2030 + LTC PM'	17:00	18:00	01:00	F4+F6
9: 'Copy of Base Year 2023 AM'	07:15	08:15	01:00	
10: 'Copy of Base Year 2023 PM'	17:15	18:15	01:00	
11: 'Copy of Reference Case 2030 AM'	07:15	08:15	01:00	F1*1.0466
12: 'Copy of Reference Case 2030 PM'	17:15	18:15	01:00	F2*1.0521

Full Input Data And Results

**Scenario 1: '2023 AM'** (FG1: 'Base Year 2023 AM', Plan 1: 'Network Control Plan 1')

**Traffic Flows, Desired**

**Desired Flow :**

		Destination			
		A	B	C	Tot.
Origin	A	0	1665	0	1665
	B	1152	0	802	1954
	C	242	0	0	242
	Tot.	1394	1665	802	3861

**Traffic Lane Flows**

Lane	Scenario 1: 2023 AM
<b>Junction: Unnamed Junction</b>	
1/1	1378
1/2	576
2/1	818
2/2	576
3/1	242
4/1	802
5/1	833
5/2	832
6/1	833
6/2	832

Full Input Data And Results

**Lane Saturation Flows**

Junction: Unnamed Junction								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (A127 W/B East)	3.65	0.00	Y	Arm 2 Ahead	Inf	41.8 %	1871	1871
				Arm 4 Left	15.00	58.2 %		
1/2 (A127 W/B East)	3.65	0.00	N	Arm 2 Ahead	Inf	100.0 %	2120	2120
2/1 (A127 W/B West)	3.65	0.00	Y				1980	1980
2/2 (A127 W/B West)	3.65	0.00	N				2120	2120
3/1 (Wingletye Lane N/B)	3.25	0.00	Y	Arm 2 Left	15.00	100.0 %	1764	1764
4/1 (Wingletye Lane S/B Lane 1)	Infinite Saturation Flow						Inf	Inf
5/1 (A127 E/Bound West Lane 1)	Infinite Saturation Flow						Inf	Inf
5/2 (A127 E/Bound West Lane 2)	Infinite Saturation Flow						Inf	Inf
6/1 (A127 E/Bound East Lane 1)	Infinite Saturation Flow						Inf	Inf
6/2 (A127 E/Bound East Lane 2)	Infinite Saturation Flow						Inf	Inf

**Scenario 2: '2023 PM'** (FG2: 'Base Year 2023 PM', Plan 1: 'Network Control Plan 1')

**Traffic Flows, Desired**

**Desired Flow :**

	Destination				
		A	B	C	Tot.
Origin	A	0	1599	0	1599
	B	1109	0	876	1985
	C	242	0	0	242
	Tot.	1351	1599	876	3826

Full Input Data And Results

**Traffic Lane Flows**

Lane	Scenario 2: 2023 PM
<b>Junction: Unnamed Junction</b>	
1/1	1430
1/2	555
2/1	796
2/2	555
3/1	242
4/1	876
5/1	800
5/2	799
6/1	800
6/2	799

**Lane Saturation Flows**

Junction: Unnamed Junction								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (A127 W/B East)	3.65	0.00	Y	Arm 2 Ahead	Inf	38.7 %	1866	1866
				Arm 4 Left	15.00	61.3 %		
1/2 (A127 W/B East)	3.65	0.00	N	Arm 2 Ahead	Inf	100.0 %	2120	2120
2/1 (A127 W/B West)	3.65	0.00	Y				1980	1980
2/2 (A127 W/B West)	3.65	0.00	N				2120	2120
3/1 (Wingletye Lane N/B)	3.25	0.00	Y	Arm 2 Left	15.00	100.0 %	1764	1764
4/1 (Wingletye Lane S/B Lane 1)	Infinite Saturation Flow						Inf	Inf
5/1 (A127 E/Bound West Lane 1)	Infinite Saturation Flow						Inf	Inf
5/2 (A127 E/Bound West Lane 2)	Infinite Saturation Flow						Inf	Inf
6/1 (A127 E/Bound East Lane 1)	Infinite Saturation Flow						Inf	Inf
6/2 (A127 E/Bound East Lane 2)	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

**Scenario 3: '2030 AM'** (FG3: 'Reference Case 2030 AM', Plan 1: 'Network Control Plan 1')

**Traffic Flows, Desired**

**Desired Flow :**

		Destination			
		A	B	C	Tot.
Origin	A	0	1743	0	1743
	B	1206	0	839	2045
	C	253	0	0	253
	Tot.	1459	1743	839	4041

**Traffic Lane Flows**

Lane	Scenario 3: 2030 AM
<b>Junction: Unnamed Junction</b>	
1/1	1442
1/2	603
2/1	856
2/2	603
3/1	253
4/1	839
5/1	872
5/2	871
6/1	872
6/2	871

Full Input Data And Results

**Lane Saturation Flows**

Junction: Unnamed Junction								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (A127 W/B East)	3.65	0.00	Y	Arm 2 Ahead	Inf	41.8 %	1871	1871
				Arm 4 Left	15.00	58.2 %		
1/2 (A127 W/B East)	3.65	0.00	N	Arm 2 Ahead	Inf	100.0 %	2120	2120
2/1 (A127 W/B West)	3.65	0.00	Y				1980	1980
2/2 (A127 W/B West)	3.65	0.00	N				2120	2120
3/1 (Wingletye Lane N/B)	3.25	0.00	Y	Arm 2 Left	15.00	100.0 %	1764	1764
4/1 (Wingletye Lane S/B Lane 1)	Infinite Saturation Flow						Inf	Inf
5/1 (A127 E/Bound West Lane 1)	Infinite Saturation Flow						Inf	Inf
5/2 (A127 E/Bound West Lane 2)	Infinite Saturation Flow						Inf	Inf
6/1 (A127 E/Bound East Lane 1)	Infinite Saturation Flow						Inf	Inf
6/2 (A127 E/Bound East Lane 2)	Infinite Saturation Flow						Inf	Inf

**Scenario 4: '2030 PM'** (FG4: 'Reference Case 2030 PM', Plan 1: 'Network Control Plan 1')

**Traffic Flows, Desired**

**Desired Flow :**

	Destination				
		A	B	C	Tot.
Origin	A	0	1682	0	1682
	B	1167	0	922	2089
	C	255	0	0	255
	Tot.	1422	1682	922	4026

Full Input Data And Results

**Traffic Lane Flows**

Lane	Scenario 4: 2030 PM
<b>Junction: Unnamed Junction</b>	
1/1	1505
1/2	584
2/1	838
2/2	584
3/1	255
4/1	922
5/1	841
5/2	841
6/1	841
6/2	841

**Lane Saturation Flows**

<b>Junction: Unnamed Junction</b>								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (A127 W/B East)	3.65	0.00	Y	Arm 2 Ahead	Inf	38.7 %	1866	1866
				Arm 4 Left	15.00	61.3 %		
1/2 (A127 W/B East)	3.65	0.00	N	Arm 2 Ahead	Inf	100.0 %	2120	2120
2/1 (A127 W/B West)	3.65	0.00	Y				1980	1980
2/2 (A127 W/B West)	3.65	0.00	N				2120	2120
3/1 (Wingletye Lane N/B)	3.25	0.00	Y	Arm 2 Left	15.00	100.0 %	1764	1764
4/1 (Wingletye Lane S/B Lane 1)	Infinite Saturation Flow						Inf	Inf
5/1 (A127 E/Bound West Lane 1)	Infinite Saturation Flow						Inf	Inf
5/2 (A127 E/Bound West Lane 2)	Infinite Saturation Flow						Inf	Inf
6/1 (A127 E/Bound East Lane 1)	Infinite Saturation Flow						Inf	Inf
6/2 (A127 E/Bound East Lane 2)	Infinite Saturation Flow						Inf	Inf



Full Input Data And Results

**Scenario 5: '2030 AM + LTC'** (FG7: 'Do Something 2030 + LTC AM', Plan 1: 'Network Control Plan 1')

**Traffic Flows, Desired**

**Desired Flow :**

		Destination			
		A	B	C	Tot.
Origin	A	0	1743	0	1743
	B	1394	0	1061	2455
	C	159	0	0	159
	Tot.	1553	1743	1061	4357

**Traffic Lane Flows**

Lane	Scenario 5: 2030 AM + LTC
<b>Junction: Unnamed Junction</b>	
1/1	1220
1/2	1235
2/1	318
2/2	1235
3/1	159
4/1	1061
5/1	872
5/2	871
6/1	872
6/2	871

Full Input Data And Results

**Lane Saturation Flows**

Junction: Unnamed Junction								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (A127 W/B East)	3.65	0.00	Y	Arm 2 Ahead	Inf	13.0 %	1822	1822
				Arm 4 Left	15.00	87.0 %		
1/2 (A127 W/B East)	3.65	0.00	N	Arm 2 Ahead	Inf	100.0 %	2120	2120
2/1 (A127 W/B West)	3.65	0.00	Y				1980	1980
2/2 (A127 W/B West)	3.65	0.00	N				2120	2120
3/1 (Wingletye Lane N/B)	3.25	0.00	Y	Arm 2 Left	15.00	100.0 %	1764	1764
4/1 (Wingletye Lane S/B Lane 1)	Infinite Saturation Flow						Inf	Inf
5/1 (A127 E/Bound West Lane 1)	Infinite Saturation Flow						Inf	Inf
5/2 (A127 E/Bound West Lane 2)	Infinite Saturation Flow						Inf	Inf
6/1 (A127 E/Bound East Lane 1)	Infinite Saturation Flow						Inf	Inf
6/2 (A127 E/Bound East Lane 2)	Infinite Saturation Flow						Inf	Inf

**Scenario 6: '2030 PM + LTC'** (FG8: 'Do Something 2030 + LTC PM', Plan 1: 'Network Control Plan 1')

**Traffic Flows, Desired**

**Desired Flow :**

	Destination				
		A	B	C	Tot.
Origin	A	0	1682	0	1682
	B	1300	0	1039	2339
	C	193	0	0	193
	Tot.	1493	1682	1039	4214

Full Input Data And Results

**Traffic Lane Flows**

Lane	Scenario 6: 2030 PM + LTC
<b>Junction: Unnamed Junction</b>	
1/1	1161
1/2	1178
2/1	315
2/2	1178
3/1	193
4/1	1039
5/1	841
5/2	841
6/1	841
6/2	841

**Lane Saturation Flows**

<b>Junction: Unnamed Junction</b>								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (A127 W/B East)	3.65	0.00	Y	Arm 2 Ahead Arm 4 Left	Inf 15.00	10.5 % 89.5 %	1817	1817
1/2 (A127 W/B East)	3.65	0.00	N	Arm 2 Ahead	Inf	100.0 %	2120	2120
2/1 (A127 W/B West)	3.65	0.00	Y				1980	1980
2/2 (A127 W/B West)	3.65	0.00	N				2120	2120
3/1 (Wingletye Lane N/B)	3.25	0.00	Y	Arm 2 Left	15.00	100.0 %	1764	1764
4/1 (Wingletye Lane S/B Lane 1)	Infinite Saturation Flow						Inf	Inf
5/1 (A127 E/Bound West Lane 1)	Infinite Saturation Flow						Inf	Inf
5/2 (A127 E/Bound West Lane 2)	Infinite Saturation Flow						Inf	Inf
6/1 (A127 E/Bound East Lane 1)	Infinite Saturation Flow						Inf	Inf
6/2 (A127 E/Bound East Lane 2)	Infinite Saturation Flow						Inf	Inf

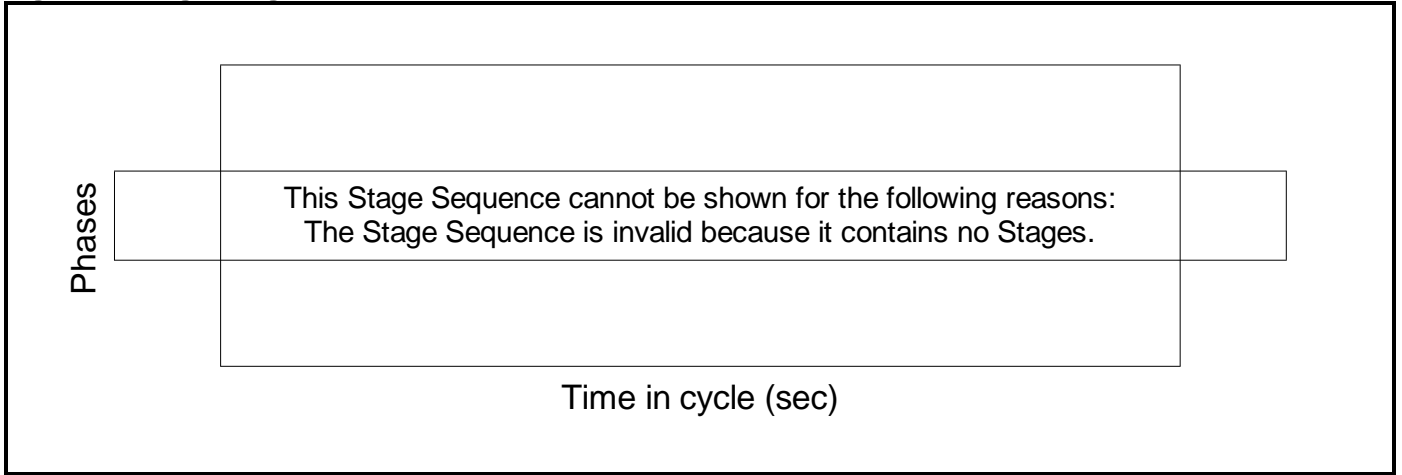
Scenario 1: '2023 AM' (FG1: 'Base Year 2023 AM', Plan 1: 'Network Control Plan 1')

**Stage Sequence Diagram**

**Stage Timings**

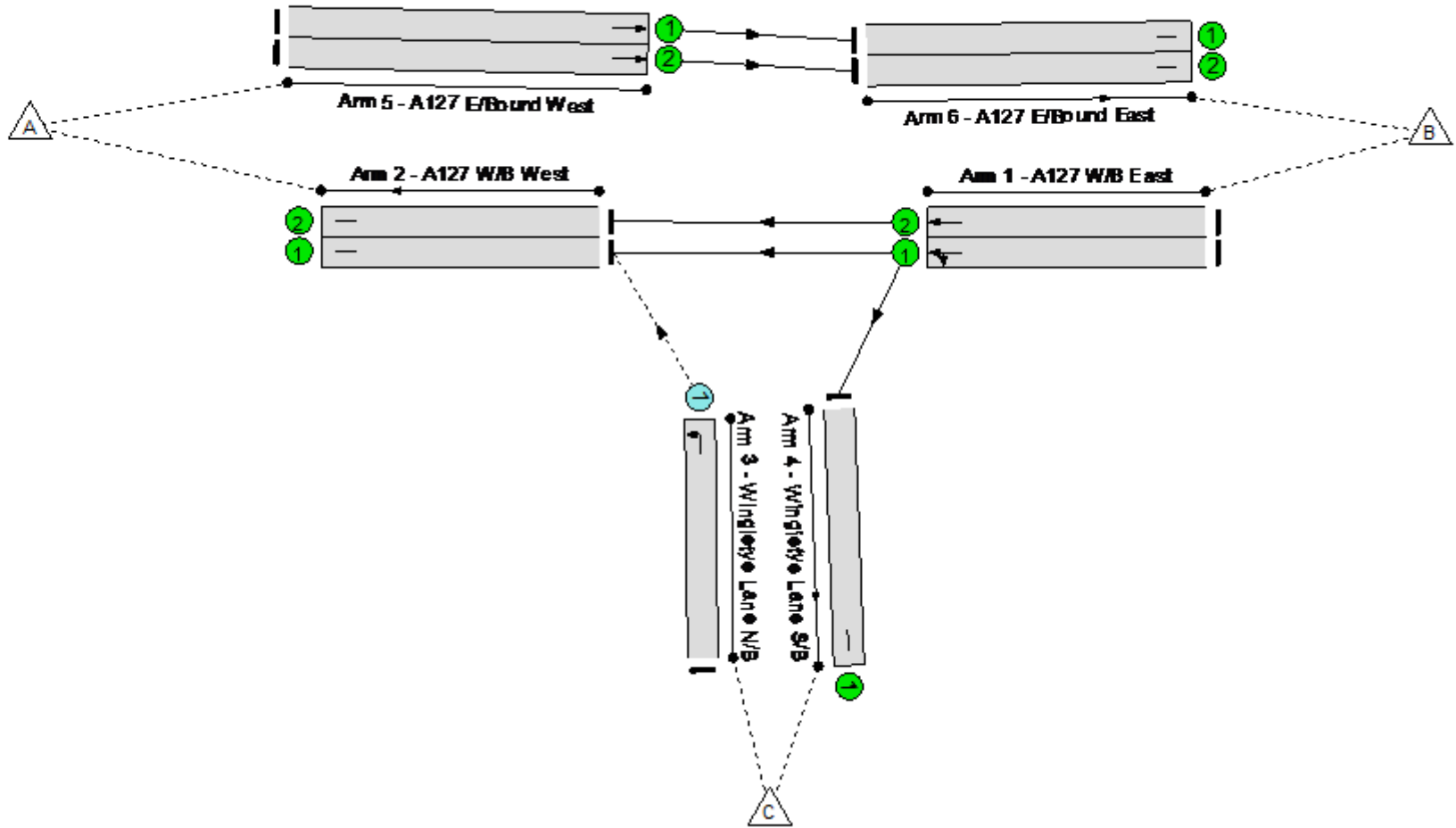

Stage
Duration
Change Point

**Signal Timings Diagram**



Full Input Data And Results  
**Network Layout Diagram**

Unnamed Junction  
PRC: 22.2 %  
Total Traffic Delay: 2.5 pu Hr



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 (%)
<b>Network</b>	-	-	<b>N/A</b>	-	-		-	-	-	-	-	-	<b>73.7%</b>
<b>Unnamed Junction</b>	-	-	<b>N/A</b>	-	-		-	-	-	-	-	-	<b>73.7%</b>
1/1	A127 W/B East Ahead Left	U	N/A	N/A	-		-	-	-	1378	1871	1871	73.7%
1/2	A127 W/B East Ahead	U	N/A	N/A	-		-	-	-	576	2120	2120	27.2%
2/1	A127 W/B West	U	N/A	N/A	-		-	-	-	818	1980	1980	41.3%
2/2	A127 W/B West	U	N/A	N/A	-		-	-	-	576	2120	2120	27.2%
3/1	Wingletye Lane N/B Left	O	N/A	N/A	-		-	-	-	242	1764	588	41.1%
4/1	Wingletye Lane S/B	U	N/A	N/A	-		-	-	-	802	Inf	Inf	0.0%
5/1	A127 E/Bound West Ahead	U	N/A	N/A	-		-	-	-	833	Inf	Inf	0.0%
5/2	A127 E/Bound West Ahead	U	N/A	N/A	-		-	-	-	832	Inf	Inf	0.0%
6/1	A127 E/Bound East	U	N/A	N/A	-		-	-	-	833	Inf	Inf	0.0%
6/2	A127 E/Bound East	U	N/A	N/A	-		-	-	-	832	Inf	Inf	0.0%

Full Input Data And Results

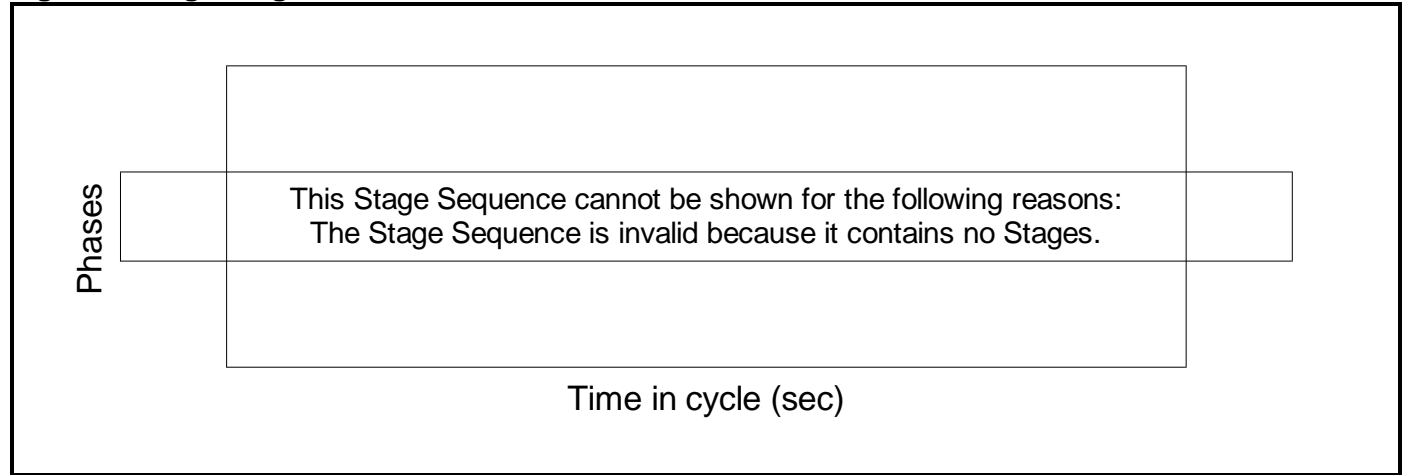
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
<b>Network</b>	-	-	242	0	0	0.0	2.5	0.0	2.5	-	-	-	-
<b>Unnamed Junction</b>	-	-	242	0	0	0.0	2.5	0.0	2.5	-	-	-	-
1/1	1378	1378	-	-	-	0.0	1.4	-	1.4	3.6	0.0	1.4	1.4
1/2	576	576	-	-	-	0.0	0.2	-	0.2	1.2	0.0	0.2	0.2
2/1	818	818	-	-	-	0.0	0.4	-	0.4	1.5	0.0	0.4	0.4
2/2	576	576	-	-	-	0.0	0.2	-	0.2	1.2	0.0	0.2	0.2
3/1	242	242	242	0	0	0.0	0.3	-	0.3	5.2	0.0	0.3	0.3
4/1	802	802	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	833	833	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/2	832	832	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	833	833	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/2	832	832	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
C1			PRC for Signalled Lanes (%):		0.0	Total Delay for Signalled Lanes (pcuHr):		0.00	Cycle Time (s):		90		
			PRC Over All Lanes (%):		22.2	Total Delay Over All Lanes(pcuHr):		2.46					

**Stage Sequence Diagram**

**Stage Timings**

Stage
Duration
Change Point

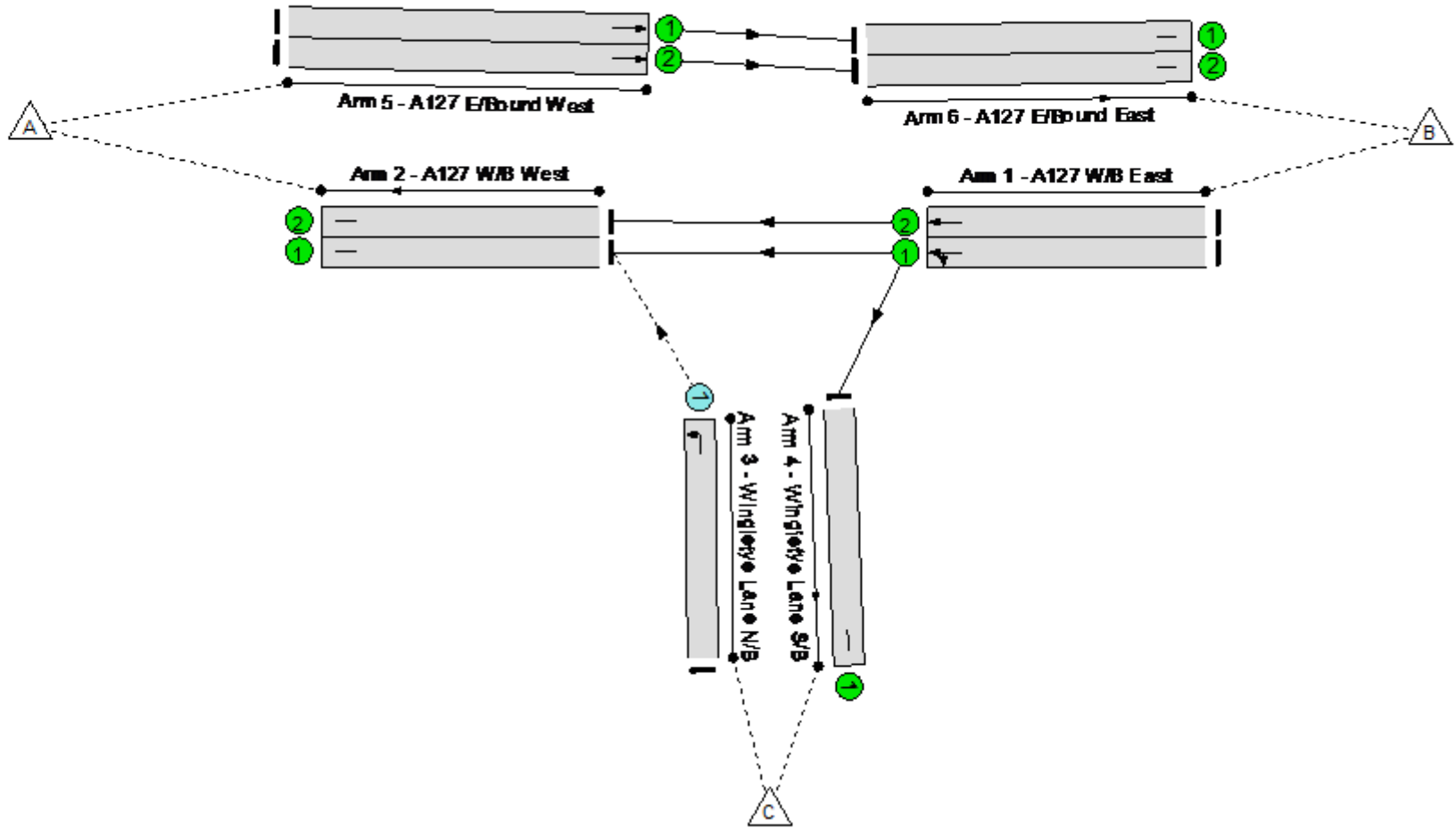

**Signal Timings Diagram**





Full Input Data And Results  
**Network Layout Diagram**

Unnamed Junction  
PRC: 17.4 %  
Total Traffic Delay: 2.7 puHr



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 (%)
<b>Network</b>	-	-	<b>N/A</b>	-	-		-	-	-	-	-	-	<b>76.6%</b>
<b>Unnamed Junction</b>	-	-	<b>N/A</b>	-	-		-	-	-	-	-	-	<b>76.6%</b>
1/1	A127 W/B East Ahead Left	U	N/A	N/A	-		-	-	-	1430	1866	1866	76.6%
1/2	A127 W/B East Ahead	U	N/A	N/A	-		-	-	-	555	2120	2120	26.2%
2/1	A127 W/B West	U	N/A	N/A	-		-	-	-	796	1980	1980	40.2%
2/2	A127 W/B West	U	N/A	N/A	-		-	-	-	555	2120	2120	26.2%
3/1	Wingletye Lane N/B Left	O	N/A	N/A	-		-	-	-	242	1764	593	40.8%
4/1	Wingletye Lane S/B	U	N/A	N/A	-		-	-	-	876	Inf	Inf	0.0%
5/1	A127 E/Bound West Ahead	U	N/A	N/A	-		-	-	-	800	Inf	Inf	0.0%
5/2	A127 E/Bound West Ahead	U	N/A	N/A	-		-	-	-	799	Inf	Inf	0.0%
6/1	A127 E/Bound East	U	N/A	N/A	-		-	-	-	800	Inf	Inf	0.0%
6/2	A127 E/Bound East	U	N/A	N/A	-		-	-	-	799	Inf	Inf	0.0%

Full Input Data And Results

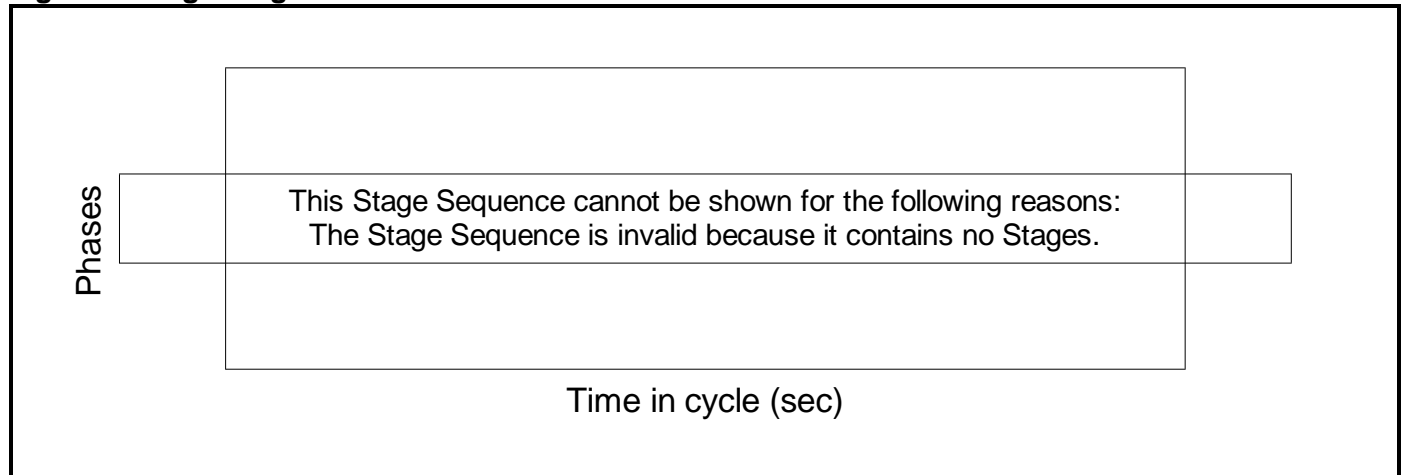
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
<b>Network</b>	-	-	242	0	0	0.0	2.7	0.0	2.7	-	-	-	-
<b>Unnamed Junction</b>	-	-	242	0	0	0.0	2.7	0.0	2.7	-	-	-	-
1/1	1430	1430	-	-	-	0.0	1.6	-	1.6	4.1	0.0	1.6	1.6
1/2	555	555	-	-	-	0.0	0.2	-	0.2	1.1	0.0	0.2	0.2
2/1	796	796	-	-	-	0.0	0.3	-	0.3	1.5	0.0	0.3	0.3
2/2	555	555	-	-	-	0.0	0.2	-	0.2	1.1	0.0	0.2	0.2
3/1	242	242	242	0	0	0.0	0.3	-	0.3	5.1	0.0	0.3	0.3
4/1	876	876	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	800	800	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/2	799	799	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	800	800	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/2	799	799	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
C1			PRC for Signalled Lanes (%):		0.0	Total Delay for Signalled Lanes (pcuHr):		0.00	Cycle Time (s):		90		
			PRC Over All Lanes (%):		17.4	Total Delay Over All Lanes(pcuHr):		2.66					

**Stage Sequence Diagram**

**Stage Timings**

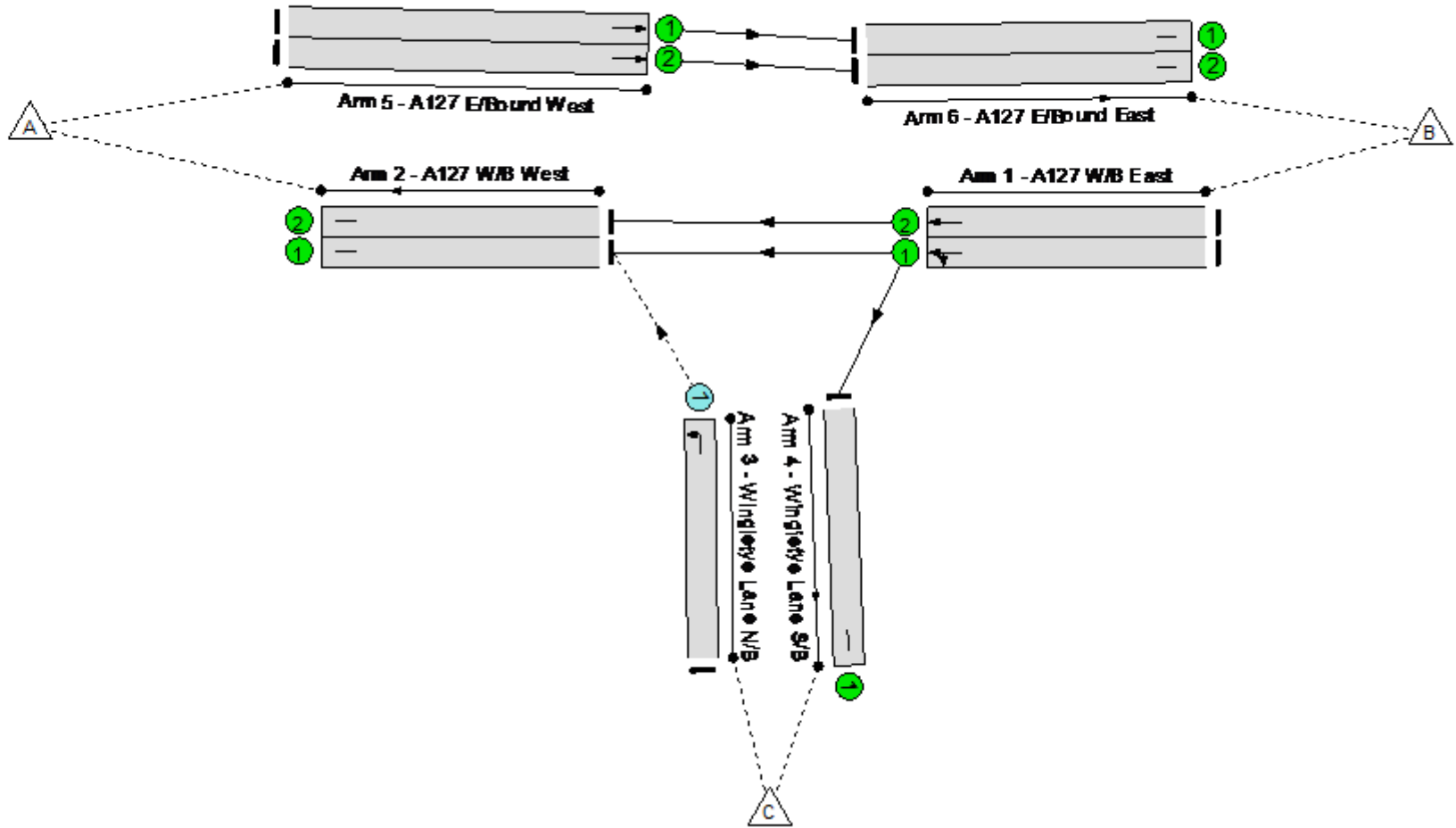
Stage
Duration
Change Point

**Signal Timings Diagram**



Full Input Data And Results  
**Network Layout Diagram**

Unnamed Junction  
PRC: 16.8 %  
Total Traffic Delay: 2.8 pcu/Hr



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 (%)
<b>Network</b>	-	-	<b>N/A</b>	-	-		-	-	-	-	-	-	<b>77.1%</b>
<b>Unnamed Junction</b>	-	-	<b>N/A</b>	-	-		-	-	-	-	-	-	<b>77.1%</b>
1/1	A127 W/B East Ahead Left	U	N/A	N/A	-		-	-	-	1442	1871	1871	77.1%
1/2	A127 W/B East Ahead	U	N/A	N/A	-		-	-	-	603	2120	2120	28.4%
2/1	A127 W/B West	U	N/A	N/A	-		-	-	-	856	1980	1980	43.2%
2/2	A127 W/B West	U	N/A	N/A	-		-	-	-	603	2120	2120	28.4%
3/1	Wingletye Lane N/B Left	O	N/A	N/A	-		-	-	-	253	1764	582	43.4%
4/1	Wingletye Lane S/B	U	N/A	N/A	-		-	-	-	839	Inf	Inf	0.0%
5/1	A127 E/Bound West Ahead	U	N/A	N/A	-		-	-	-	872	Inf	Inf	0.0%
5/2	A127 E/Bound West Ahead	U	N/A	N/A	-		-	-	-	871	Inf	Inf	0.0%
6/1	A127 E/Bound East	U	N/A	N/A	-		-	-	-	872	Inf	Inf	0.0%
6/2	A127 E/Bound East	U	N/A	N/A	-		-	-	-	871	Inf	Inf	0.0%

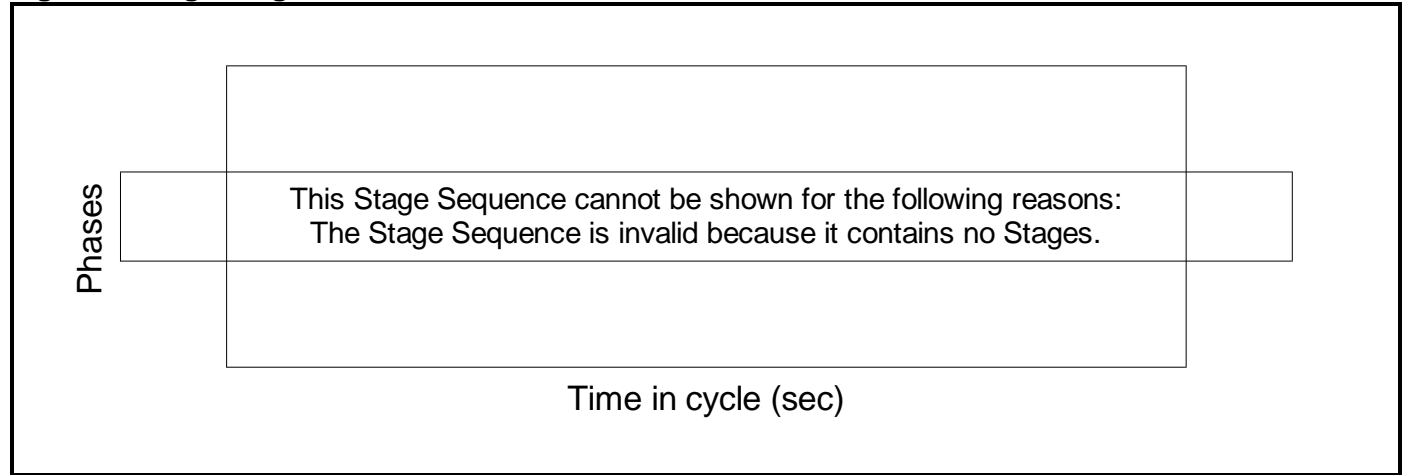


**Stage Sequence Diagram**

**Stage Timings**

Stage
Duration
Change Point

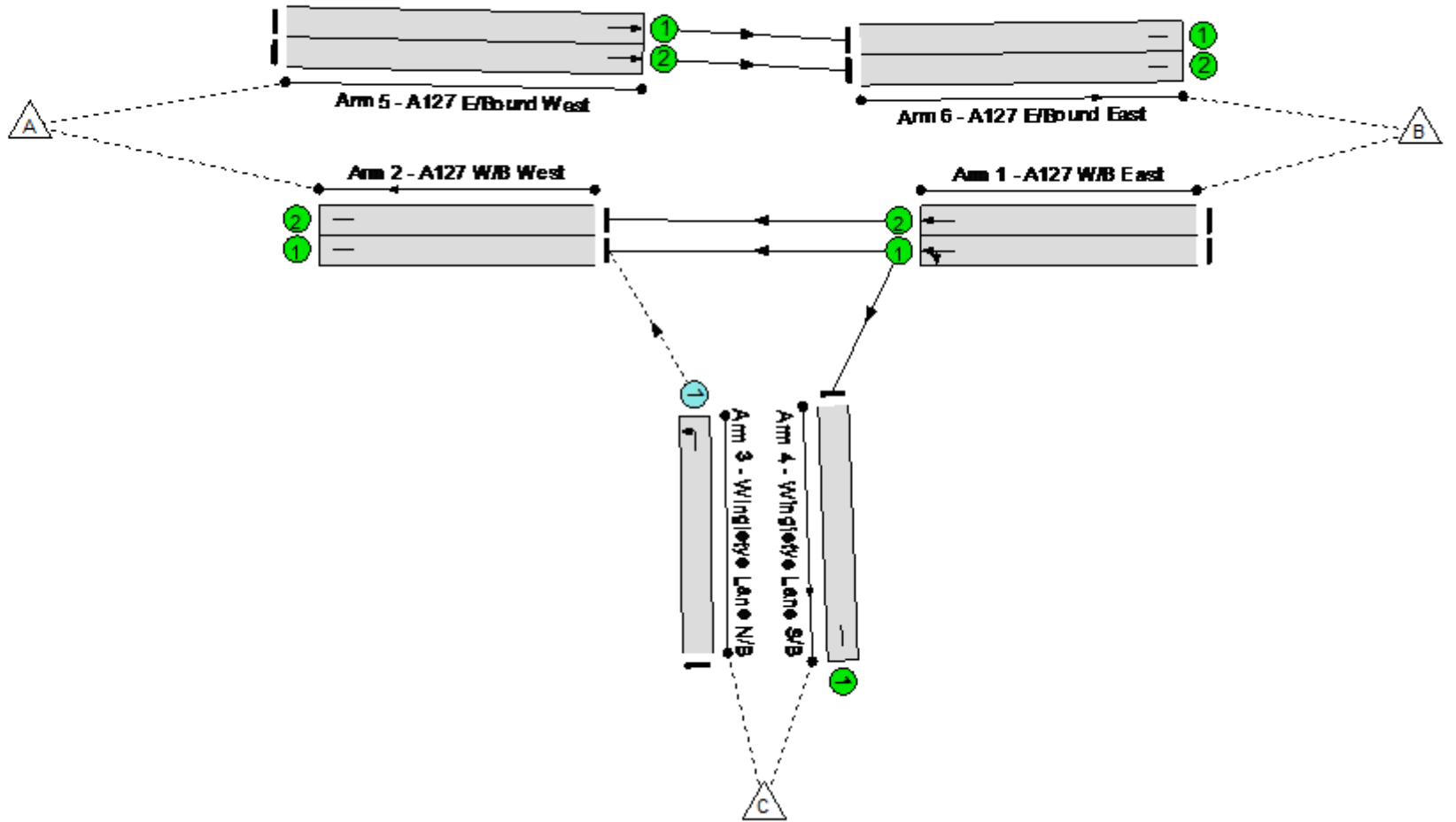
**Signal Timings Diagram**





Full Input Data And Results  
**Network Layout Diagram**

Unnamed Junction  
PRC: 11.8 %  
Total Traffic Delay: 3.2 pouHr



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 (%)
<b>Network</b>	-	-	<b>N/A</b>	-	-		-	-	-	-	-	-	<b>80.7%</b>
<b>Unnamed Junction</b>	-	-	<b>N/A</b>	-	-		-	-	-	-	-	-	<b>80.7%</b>
1/1	A127 W/B East Ahead Left	U	N/A	N/A	-		-	-	-	1505	1866	1866	80.7%
1/2	A127 W/B East Ahead	U	N/A	N/A	-		-	-	-	584	2120	2120	27.5%
2/1	A127 W/B West	U	N/A	N/A	-		-	-	-	838	1980	1980	42.3%
2/2	A127 W/B West	U	N/A	N/A	-		-	-	-	584	2120	2120	27.5%
3/1	Wingletye Lane N/B Left	O	N/A	N/A	-		-	-	-	255	1764	587	43.5%
4/1	Wingletye Lane S/B	U	N/A	N/A	-		-	-	-	922	Inf	Inf	0.0%
5/1	A127 E/Bound West Ahead	U	N/A	N/A	-		-	-	-	841	Inf	Inf	0.0%
5/2	A127 E/Bound West Ahead	U	N/A	N/A	-		-	-	-	841	Inf	Inf	0.0%
6/1	A127 E/Bound East	U	N/A	N/A	-		-	-	-	841	Inf	Inf	0.0%
6/2	A127 E/Bound East	U	N/A	N/A	-		-	-	-	841	Inf	Inf	0.0%

Full Input Data And Results

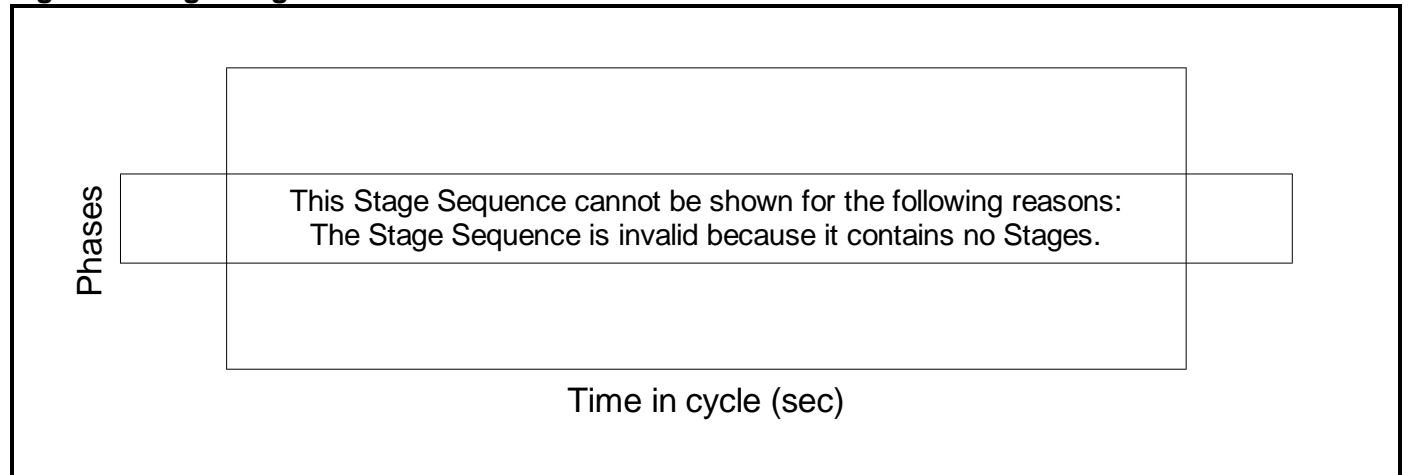
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
<b>Network</b>	-	-	255	0	0	0.0	3.2	0.0	3.2	-	-	-	-
<b>Unnamed Junction</b>	-	-	255	0	0	0.0	3.2	0.0	3.2	-	-	-	-
1/1	1505	1505	-	-	-	0.0	2.1	-	2.1	4.9	0.0	2.1	2.1
1/2	584	584	-	-	-	0.0	0.2	-	0.2	1.2	0.0	0.2	0.2
2/1	838	838	-	-	-	0.0	0.4	-	0.4	1.6	0.0	0.4	0.4
2/2	584	584	-	-	-	0.0	0.2	-	0.2	1.2	0.0	0.2	0.2
3/1	255	255	255	0	0	0.0	0.4	-	0.4	5.4	0.0	0.4	0.4
4/1	922	922	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	841	841	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/2	841	841	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	841	841	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/2	841	841	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
C1			PRC for Signalled Lanes (%):		0.0	Total Delay for Signalled Lanes (pcuHr):		0.00	Cycle Time (s):		90		
			PRC Over All Lanes (%):		11.6	Total Delay Over All Lanes(pcuHr):		3.19					

**Stage Sequence Diagram**

**Stage Timings**

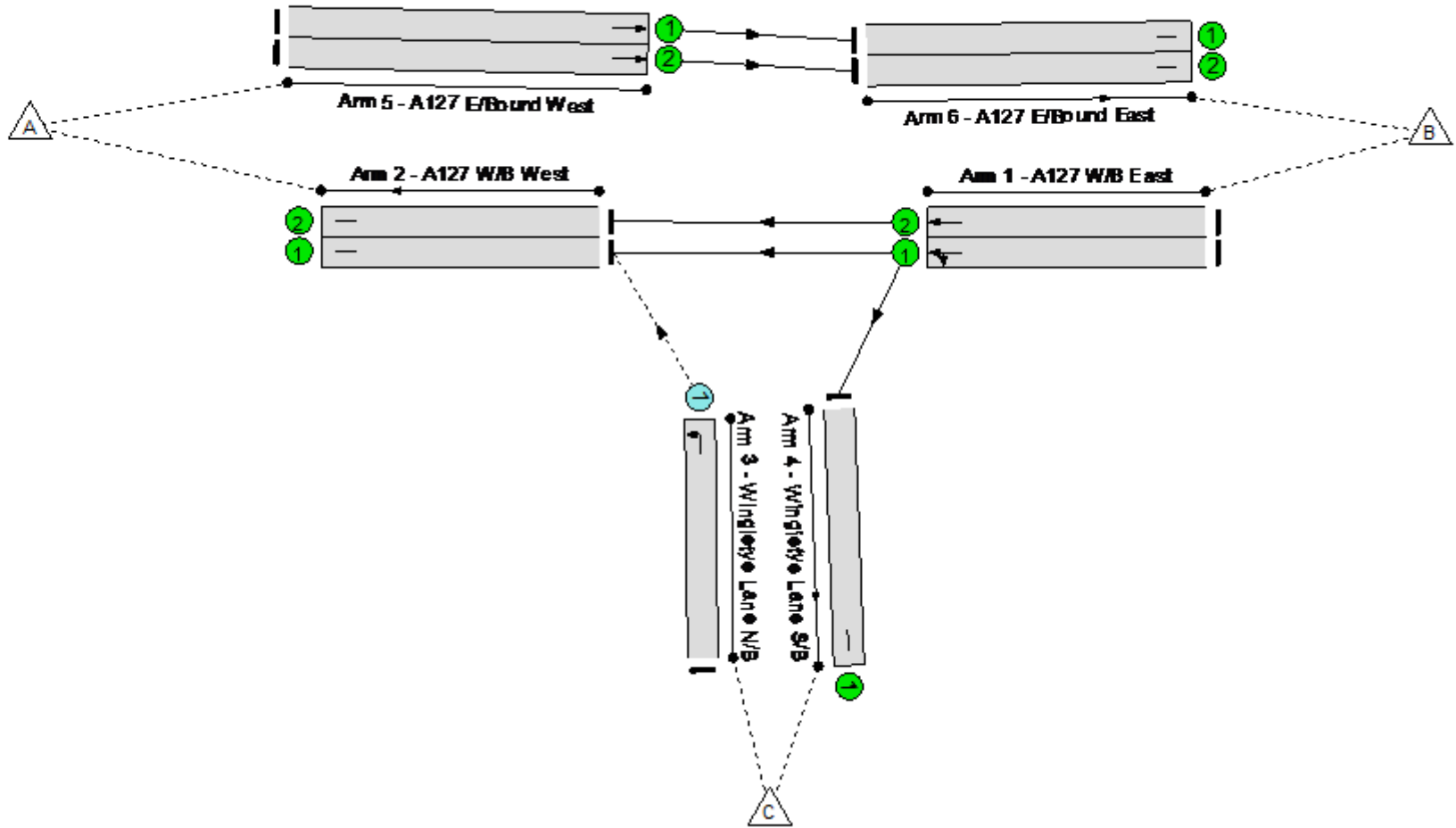

Stage
Duration
Change Point

**Signal Timings Diagram**



Full Input Data And Results  
**Network Layout Diagram**

Unnamed Junction  
PRC: 34.4 %  
Total Traffic Delay: 2.7 puHr



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 (%)
<b>Network</b>	-	-	<b>N/A</b>	-	-		-	-	-	-	-	-	<b>67.0%</b>
<b>Unnamed Junction</b>	-	-	<b>N/A</b>	-	-		-	-	-	-	-	-	<b>67.0%</b>
1/1	A127 W/B East Ahead Left	U	N/A	N/A	-		-	-	-	1220	1822	1822	67.0%
1/2	A127 W/B East Ahead	U	N/A	N/A	-		-	-	-	1235	2120	2120	58.3%
2/1	A127 W/B West	U	N/A	N/A	-		-	-	-	318	1980	1980	16.1%
2/2	A127 W/B West	U	N/A	N/A	-		-	-	-	1235	2120	2120	58.3%
3/1	Wingletye Lane N/B Left	O	N/A	N/A	-		-	-	-	159	1764	680	23.4%
4/1	Wingletye Lane S/B	U	N/A	N/A	-		-	-	-	1061	Inf	Inf	0.0%
5/1	A127 E/Bound West Ahead	U	N/A	N/A	-		-	-	-	872	Inf	Inf	0.0%
5/2	A127 E/Bound West Ahead	U	N/A	N/A	-		-	-	-	871	Inf	Inf	0.0%
6/1	A127 E/Bound East	U	N/A	N/A	-		-	-	-	872	Inf	Inf	0.0%
6/2	A127 E/Bound East	U	N/A	N/A	-		-	-	-	871	Inf	Inf	0.0%

Full Input Data And Results

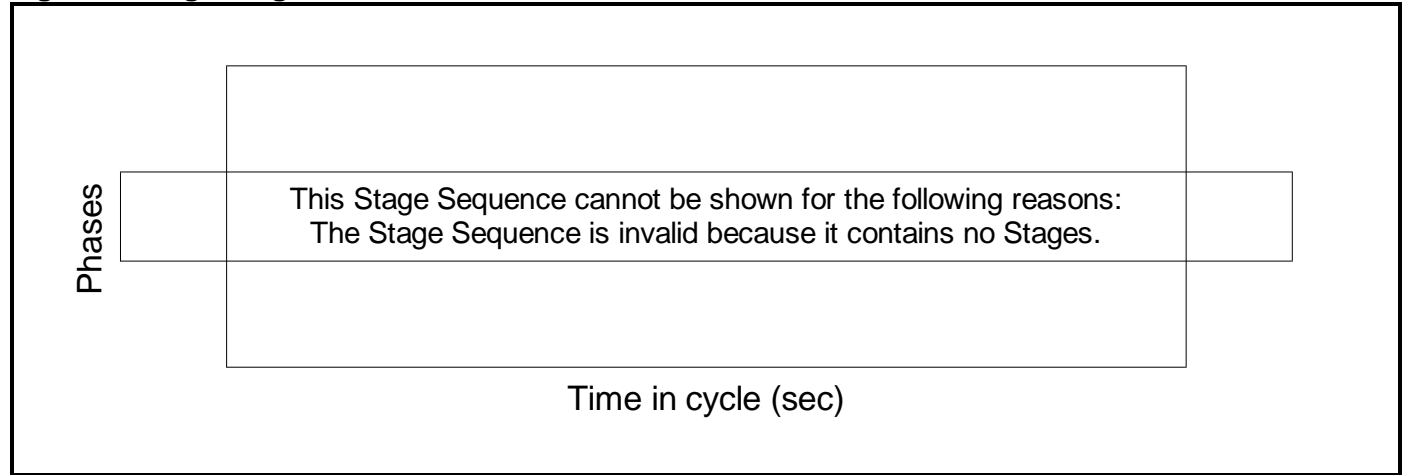
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
<b>Network</b>	-	-	159	0	0	0.0	2.7	0.0	2.7	-	-	-	-
<b>Unnamed Junction</b>	-	-	159	0	0	0.0	2.7	0.0	2.7	-	-	-	-
1/1	1220	1220	-	-	-	0.0	1.0	-	1.0	3.0	0.0	1.0	1.0
1/2	1235	1235	-	-	-	0.0	0.7	-	0.7	2.0	0.0	0.7	0.7
2/1	318	318	-	-	-	0.0	0.1	-	0.1	1.1	0.0	0.1	0.1
2/2	1235	1235	-	-	-	0.0	0.7	-	0.7	2.0	0.0	0.7	0.7
3/1	159	159	159	0	0	0.0	0.2	-	0.2	3.5	0.0	0.2	0.2
4/1	1061	1061	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	872	872	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/2	871	871	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	872	872	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/2	871	871	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
C1			PRC for Signalled Lanes (%):		0.0	Total Delay for Signalled Lanes (pcuHr):		0.00	Cycle Time (s):		90		
			PRC Over All Lanes (%):		34.4	Total Delay Over All Lanes(pcuHr):		2.65					

Stage Sequence Diagram

Stage Timings

Stage
Duration
Change Point

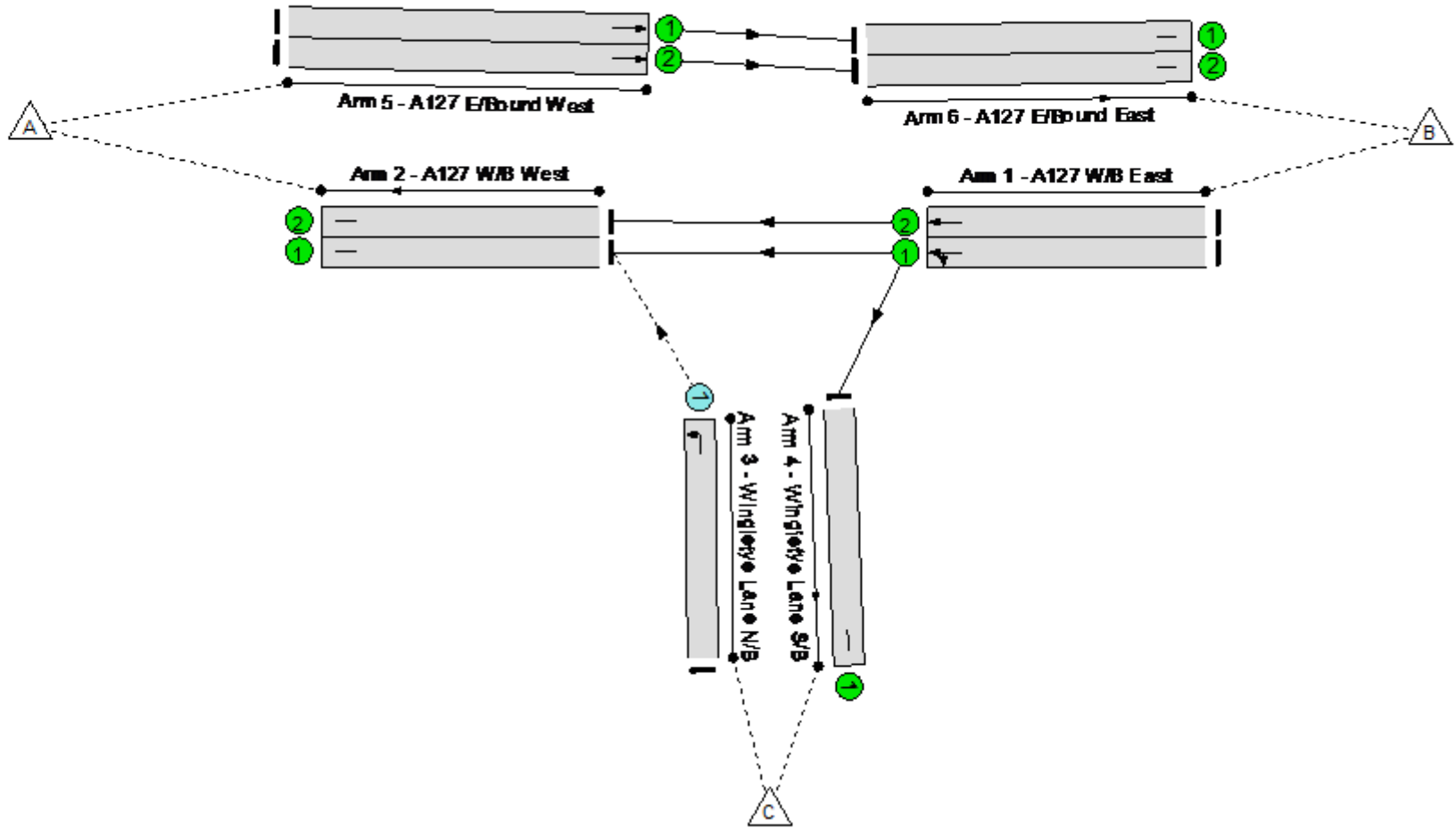

Signal Timings Diagram





Full Input Data And Results  
**Network Layout Diagram**

Unnamed Junction  
PRC: 40.9 %  
Total Traffic Delay: 2.4 pu Hr



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 (%)
<b>Network</b>	-	-	<b>N/A</b>	-	-		-	-	-	-	-	-	<b>63.9%</b>
<b>Unnamed Junction</b>	-	-	<b>N/A</b>	-	-		-	-	-	-	-	-	<b>63.9%</b>
1/1	A127 W/B East Ahead Left	U	N/A	N/A	-		-	-	-	1161	1817	1817	63.9%
1/2	A127 W/B East Ahead	U	N/A	N/A	-		-	-	-	1178	2120	2120	55.6%
2/1	A127 W/B West	U	N/A	N/A	-		-	-	-	315	1980	1980	15.9%
2/2	A127 W/B West	U	N/A	N/A	-		-	-	-	1178	2120	2120	55.6%
3/1	Wingletye Lane N/B Left	O	N/A	N/A	-		-	-	-	193	1764	688	28.0%
4/1	Wingletye Lane S/B	U	N/A	N/A	-		-	-	-	1039	Inf	Inf	0.0%
5/1	A127 E/Bound West Ahead	U	N/A	N/A	-		-	-	-	841	Inf	Inf	0.0%
5/2	A127 E/Bound West Ahead	U	N/A	N/A	-		-	-	-	841	Inf	Inf	0.0%
6/1	A127 E/Bound East	U	N/A	N/A	-		-	-	-	841	Inf	Inf	0.0%
6/2	A127 E/Bound East	U	N/A	N/A	-		-	-	-	841	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)
<b>Network</b>	-	-	193	0	0	0.0	2.4	0.0	2.4	-	-	-	-
<b>Unnamed Junction</b>	-	-	193	0	0	0.0	2.4	0.0	2.4	-	-	-	-
1/1	1161	1161	-	-	-	0.0	0.9	-	0.9	2.7	0.0	0.9	0.9
1/2	1178	1178	-	-	-	0.0	0.6	-	0.6	1.9	0.0	0.6	0.6
2/1	315	315	-	-	-	0.0	0.1	-	0.1	1.1	0.0	0.1	0.1
2/2	1178	1178	-	-	-	0.0	0.6	-	0.6	1.9	0.0	0.6	0.6
3/1	193	193	193	0	0	0.0	0.2	-	0.2	3.6	0.0	0.2	0.2
4/1	1039	1039	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	841	841	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/2	841	841	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	841	841	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/2	841	841	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
C1			PRC for Signalled Lanes (%):		0.0	Total Delay for Signalled Lanes (pcuHr):		0.00	Cycle Time (s):		90		
			PRC Over All Lanes (%):		40.9	Total Delay Over All Lanes(pcuHr):		2.42					

Junctions 10
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Filename: 7A - A127 - Hall Lane (North).j10  
 Path: P:\9100s\9190 - Lower Thames Crossing, London Borough of Havering\Junction Analysis\7 - A127 - Hall Lane  
 Report generation date: 26/06/2023 10:57:58

- «2030 + LTC, PM
  - »Junction Network
  - »Arms
  - »Traffic Demand
  - »Origin-Destination Data
  - »Vehicle Mix
  - »Results

**Summary of junction performance**

	AM					PM				
	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Set ID	Queue (PCU)	Delay (s)	RFC	LOS
<b>2023 Surveyed</b>										
Stream B-AC	D1	1.5	19.92	0.61	C	D2	2.4	27.99	0.71	D
Stream C-AB		0.1	6.26	0.06	A		0.1	6.39	0.08	A
<b>2030 Grownth</b>										
Stream B-AC	D3	1.8	22.80	0.65	C	D4	3.2	35.75	0.77	E
Stream C-AB		0.1	6.41	0.07	A		0.1	6.58	0.09	A
<b>2030 + LTC</b>										
Stream B-AC	D5	12.9	119.14	0.99	F	D6	4.0	45.62	0.82	E
Stream C-AB		0.1	6.47	0.09	A		0.1	6.40	0.08	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**

<b>Title</b>	
<b>Location</b>	
<b>Site number</b>	
<b>Date</b>	20/09/2022
<b>Version</b>	
<b>Status</b>	(new file)
<b>Identifier</b>	
<b>Client</b>	
<b>Jobnumber</b>	
<b>Enumerator</b>	JEGINTL\PIEPRZJ
<b>Description</b>	

### Units

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

### Analysis Options

Calculate Queue Percentiles	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
		0.85	36.00	20.00

### Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

### Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D6	2030 + LTC	PM	ONE HOUR	16:45	18:15	15

# 2030 + LTC, PM

## Data Errors and Warnings

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

## Junction Network

### Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	A127 / Hall Lane	T-Junction	Two-way	Two-way	Two-way		8.65	A

### Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	8.65	A

## Arms

### Arms

Arm	Name	Description	Arm type
A	A127 off-slip W		Major
B	Hall Ln N		Minor
C	Hall Ln E		Major

### Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right-turn storage	Width for right-turn storage (m)	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C	7.49	✓	6.18	✓	4.45	200.0	✓	20.00

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

### Minor Arm Geometry

Arm	Minor arm type	Lane width (m)	Visibility to left (m)	Visibility to right (m)
B	One lane	3.47	129	67

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
B-A	659	0.099	0.249	0.157	0.356
B-C	697	0.100	0.253	-	-
C-B	859	0.311	0.311	-	-

The slopes and intercepts shown above include custom intercept adjustments only.

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

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

## Traffic Demand

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

### Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	713	100.000
B		✓	307	100.000
C		✓	633	100.000

## Origin-Destination Data

### Demand (PCU/hr)

	To			
	A	B	C	
From	A	0	353	360
	B	280	0	27
	C	586	47	0

## Vehicle Mix

### Heavy Vehicle Percentages

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

## Results

### Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.82	45.62	4.0	E
C-AB	0.08	6.40	0.1	A
C-A				
A-B				
A-C				

### Main Results for each time segment

#### 16:45 - 17:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	231	492	0.470	228	0.9	13.441	B
C-AB	35	692	0.051	35	0.1	5.482	A
C-A	441			441			
A-B	266			266			
A-C	271			271			

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	276	459	0.602	274	1.4	18.951	C
C-AB	42	659	0.064	42	0.1	5.833	A
C-A	527			527			
A-B	317			317			
A-C	324			324			

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	338	413	0.819	329	3.7	39.477	E
C-AB	52	614	0.084	52	0.1	6.396	A
C-A	645			645			
A-B	389			389			
A-C	396			396			

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	338	412	0.819	337	4.0	45.621	E
C-AB	52	614	0.084	52	0.1	6.396	A
C-A	645			645			
A-B	389			389			
A-C	396			396			

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	276	459	0.602	286	1.6	21.826	C
C-AB	42	659	0.064	42	0.1	5.835	A
C-A	527			527			
A-B	317			317			
A-C	324			324			

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	231	492	0.470	234	0.9	14.077	B
C-AB	35	692	0.051	35	0.1	5.485	A
C-A	441			441			
A-B	266			266			
A-C	271			271			



Junctions 10
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Filename: 7B - A127 - Hall Lane (Southern section).j10  
 Path: P:\9100s\9190 - Lower Thames Crossing, London Borough of Havering\Junction Analysis\7 - A127 - Hall Lane  
 Report generation date: 26/06/2023 12:01:58

- »2023, AM
- »2023, PM
- »2030, AM
- »2030, PM
- »2030 + LTC, AM
- »2030 + LTC, PM

**Summary of junction performance**

	AM					PM				
	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Set ID	Queue (PCU)	Delay (s)	RFC	LOS
<b>2023</b>										
Stream B-CD	D1	0.7	13.04	0.41	B	D2	0.6	11.83	0.37	B
Stream B-AD		1.6	31.47	0.63	D		0.7	20.87	0.41	C
Stream A-BCD		0.8	6.02	0.29	A		1.2	6.34	0.37	A
Stream D-ABC		0.0	0.00	0.00	A		0.0	0.00	0.00	A
Stream C-ABD		0.0	0.00	0.00	A		0.0	0.00	0.00	A
<b>2030</b>										
Stream B-CD	D3	0.8	14.50	0.45	B	D4	0.7	12.82	0.40	B
Stream B-AD		2.1	39.17	0.69	E		0.8	23.86	0.46	C
Stream A-BCD		0.9	6.21	0.32	A		1.4	6.67	0.41	A
Stream D-ABC		0.0	0.00	0.00	A		0.0	0.00	0.00	A
Stream C-ABD		0.0	0.00	0.00	A		0.0	0.00	0.00	A
<b>2030 + LTC</b>										
Stream B-CD	D5	1.5	21.35	0.60	C	D6	1.0	17.01	0.51	C
Stream B-AD		24.5	268.69	1.13	F		3.2	59.25	0.79	F
Stream A-BCD		0.8	6.32	0.29	A		1.4	6.98	0.41	A
Stream D-ABC		0.0	0.00	0.00	A		0.0	0.00	0.00	A
Stream C-ABD		0.0	0.00	0.00	A		0.0	0.00	0.00	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	20/09/2022
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	JEGINTLPIEPRZJ
Description	

## Units

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

## Analysis Options

Calculate Queue Percentiles	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
		0.85	36.00	20.00

## Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2023	AM	ONE HOUR	06:45	08:15	15
D2	2023	PM	ONE HOUR	16:45	18:15	15
D3	2030	AM	ONE HOUR	06:45	08:15	15
D4	2030	PM	ONE HOUR	16:45	18:15	15
D5	2030 + LTC	AM	ONE HOUR	06:45	08:15	15
D6	2030 + LTC	PM	ONE HOUR	16:45	18:15	15

## Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

# 2023, AM

## Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm visibility to right	Arm B - Minor arm geometry	Visibility to right expected to have two components if the arm has two lanes, or two lanes in a flared section.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

## Junction Network

### Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Arm D Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	Crossroads	Two-way	Two-way	Two-way	Two-way		5.33	A

### Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	5.33	A

## Arms

### Arms

Arm	Name	Description	Arm type
A	Hall Ln N		Major
B	A127 slip-off E		Minor
C	Hall Ln S		Major
D	A127 slip-on W		Minor

### Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right-turn storage	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
A	7.26			200.0	✓	0.00
C	7.26			0.0	✓	0.00

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

### Minor Arm Geometry

Arm	Minor arm type	Lane width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Visibility to left (m)	Visibility to right (m)
B	Two lanes		3.50	3.32	162	53
D	One lane	2.20			0	0

## Slope / Intercept / Capacity

### Priority Intersection Slopes and Intercepts

Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for A-D	Slope for B-A	Slope for B-C	Slope for B-D	Slope for C-A	Slope for C-B	Slope for C-D	Slope for D-A	Slope for D-B	Slope for D-C
A-D	690	-	-	-	-	-	-	0.253	0.361	0.253	-	-	-
B-A	575	0.099	0.250	0.250	-	-	-	0.157	0.357	-	0.250	0.250	0.125
B-C	690	0.100	0.253	-	-	-	-	-	-	-	-	-	-
B-D, nearside lane	585	0.101	0.255	0.255	-	-	-	0.160	0.364	0.160	-	-	-
B-D, offside lane	575	0.099	0.250	0.250	-	-	-	0.157	0.357	0.157	-	-	-
C-B	574	0.210	0.210	0.300	-	-	-	-	-	-	-	-	-
D-A	574	-	-	-	-	-	-	0.210	-	0.083	-	-	-
D-B, nearside lane	440	0.120	0.120	0.273	-	-	-	0.191	0.191	0.076	-	-	-
D-B, offside lane	440	0.120	0.120	0.273	-	-	-	0.191	0.191	0.076	-	-	-
D-C	440	-	0.120	0.273	0.096	0.191	0.191	0.191	0.191	0.076	-	-	-

The slopes and intercepts shown above include custom intercept adjustments only.

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

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

## Traffic Demand

### Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2023	AM	ONE HOUR	06:45	08:15	15

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

### Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	549	100.000
B		✓	350	100.000
C		✓	782	100.000
D		✓	0	100.000

## Origin-Destination Data

### Demand (PCU/hr)

		To				
		A	B	C	D	
From	A	0	0	460	89	
	B	175	0	174	1	
	C	673	0	0	109	
	D	0	0	0	0	

## Vehicle Mix

### Heavy Vehicle Percentages

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

## Results

### Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-CD	0.41	13.04	0.7	B
B-AD	0.63	31.47	1.6	D
A-BCD	0.29	6.02	0.8	A
A-B				
A-C				
D-ABC	0.00	0.00	0.0	A
C-ABD	0.00	0.00	0.0	A
C-D				
C-A				

### Main Results for each time segment

#### 06:45 - 07:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	131	551	0.239	130	0.3	8.538	A
B-AD	132	392	0.337	130	0.5	13.651	B
A-BCD	120	783	0.153	119	0.3	5.417	A
A-B	0			0			
A-C	293			293			
D-ABC	0	294	0.000	0	0.0	0.000	A
C-ABD	0	481	0.000	0	0.0	0.000	A
C-D	82			82			
C-A	507			507			

#### 07:00 - 07:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	157	518	0.303	157	0.4	9.936	A
B-AD	158	356	0.443	156	0.8	17.944	C
A-BCD	165	808	0.204	164	0.5	5.596	A
A-B	0			0			
A-C	329			329			
D-ABC	0	258	0.000	0	0.0	0.000	A
C-ABD	0	463	0.000	0	0.0	0.000	A
C-D	98			98			
C-A	605			605			

07:15 - 07:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	192	470	0.409	191	0.7	12.870	B
B-AD	193	307	0.629	190	1.6	29.982	D
A-BCD	246	847	0.290	244	0.8	5.993	A
A-B	0			0			
A-C	359			359			
D-ABC	0	207	0.000	0	0.0	0.000	A
C-ABD	0	438	0.000	0	0.0	0.000	A
C-D	120			120			
C-A	741			741			

07:30 - 07:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	192	468	0.411	192	0.7	13.041	B
B-AD	193	306	0.630	193	1.6	31.470	D
A-BCD	246	847	0.291	246	0.8	6.021	A
A-B	0			0			
A-C	358			358			
D-ABC	0	207	0.000	0	0.0	0.000	A
C-ABD	0	437	0.000	0	0.0	0.000	A
C-D	120			120			
C-A	741			741			

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	157	516	0.304	158	0.4	10.081	B
B-AD	158	355	0.443	161	0.8	18.774	C
A-BCD	165	809	0.204	167	0.5	5.627	A
A-B	0			0			
A-C	328			328			
D-ABC	0	258	0.000	0	0.0	0.000	A
C-ABD	0	462	0.000	0	0.0	0.000	A
C-D	98			98			
C-A	605			605			

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	132	549	0.239	132	0.3	8.641	A
B-AD	132	391	0.337	133	0.5	14.012	B
A-BCD	121	784	0.154	121	0.3	5.449	A
A-B	0			0			
A-C	292			292			
D-ABC	0	294	0.000	0	0.0	0.000	A
C-ABD	0	481	0.000	0	0.0	0.000	A
C-D	82			82			
C-A	507			507			

# 2023, PM

## Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm visibility to right	Arm B - Minor arm geometry	Visibility to right expected to have two components if the arm has two lanes, or two lanes in a flared section.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

## Junction Network

### Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Arm D Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	Crossroads	Two-way	Two-way	Two-way	Two-way		3.52	A

### Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	3.52	A

## Traffic Demand

### Demand Set Details

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

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

### Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	638	100.000
B		✓	274	100.000
C		✓	758	100.000
D		✓	0	100.000

## Origin-Destination Data

### Demand (PCU/hr)

		To			
		A	B	C	D
From	A	0	0	530	108
	B	110	0	164	0
	C	604	0	0	154
	D	0	0	0	0

## Vehicle Mix

### Heavy Vehicle Percentages

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

## Results

### Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-CD	0.37	11.83	0.6	B
B-AD	0.41	20.87	0.7	C
A-BCD	0.37	6.34	1.2	A
A-B				
A-C				
D-ABC	0.00	0.00	0.0	A
C-ABD	0.00	0.00	0.0	A
C-D				
C-A				

### Main Results for each time segment

#### 16:45 - 17:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	123	558	0.221	122	0.3	8.251	A
B-AD	83	383	0.216	82	0.3	11.897	B
A-BCD	158	824	0.191	156	0.4	5.390	A
A-B	0			0			
A-C	323			323			
D-ABC	0	295	0.000	0	0.0	0.000	A
C-ABD	0	466	0.000	0	0.0	0.000	A
C-D	116			116			
C-A	455			455			

#### 17:00 - 17:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	147	528	0.279	147	0.4	9.429	A
B-AD	99	346	0.286	98	0.4	14.531	B
A-BCD	220	858	0.256	219	0.6	5.649	A
A-B	0			0			
A-C	354			354			
D-ABC	0	259	0.000	0	0.0	0.000	A
C-ABD	0	444	0.000	0	0.0	0.000	A
C-D	138			138			
C-A	543			543			



17:15 - 17:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	181	486	0.372	180	0.6	11.734	B
B-AD	121	294	0.412	120	0.7	20.557	C
A-BCD	336	908	0.369	333	1.1	6.290	A
A-B	0			0			
A-C	367			367			
D-ABC	0	208	0.000	0	0.0	0.000	A
C-ABD	0	415	0.000	0	0.0	0.000	A
C-D	170			170			
C-A	665			665			

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	181	485	0.372	181	0.6	11.830	B
B-AD	121	293	0.413	121	0.7	20.870	C
A-BCD	337	909	0.370	337	1.2	6.335	A
A-B	0			0			
A-C	366			366			
D-ABC	0	207	0.000	0	0.0	0.000	A
C-ABD	0	414	0.000	0	0.0	0.000	A
C-D	170			170			
C-A	665			665			

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	147	527	0.280	148	0.4	9.522	A
B-AD	99	345	0.287	100	0.4	14.765	B
A-BCD	221	859	0.257	223	0.7	5.696	A
A-B	0			0			
A-C	353			353			
D-ABC	0	258	0.000	0	0.0	0.000	A
C-ABD	0	444	0.000	0	0.0	0.000	A
C-D	138			138			
C-A	543			543			

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	123	556	0.222	124	0.3	8.329	A
B-AD	83	383	0.216	83	0.3	12.051	B
A-BCD	159	825	0.193	160	0.4	5.434	A
A-B	0			0			
A-C	321			321			
D-ABC	0	294	0.000	0	0.0	0.000	A
C-ABD	0	465	0.000	0	0.0	0.000	A
C-D	116			116			
C-A	455			455			

# 2030, AM

## Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm visibility to right	Arm B - Minor arm geometry	Visibility to right expected to have two components if the arm has two lanes, or two lanes in a flared section.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

## Junction Network

### Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Arm D Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	Crossroads	Two-way	Two-way	Two-way	Two-way		6.36	A

### Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	6.36	A

## Traffic Demand

### Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D3	2030	AM	ONE HOUR	06:45	08:15	15

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

### Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	576	100.000
B		✓	369	100.000
C		✓	820	100.000
D		✓	0	100.000

## Origin-Destination Data

### Demand (PCU/hr)

		To			
		A	B	C	D
From	A	0	0	482	94
	B	184	0	183	2
	C	705	0	0	115
	D	0	0	0	0

## Vehicle Mix

### Heavy Vehicle Percentages

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

## Results

### Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-CD	0.45	14.50	0.8	B
B-AD	0.69	39.17	2.1	E
A-BCD	0.32	6.21	0.9	A
A-B				
A-C				
D-ABC	0.00	0.00	0.0	A
C-ABD	0.00	0.00	0.0	A
C-D				
C-A				

### Main Results for each time segment

#### 06:45 - 07:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	139	542	0.256	137	0.3	8.875	A
B-AD	139	383	0.363	137	0.6	14.501	B
A-BCD	131	789	0.166	130	0.3	5.457	A
A-B	0			0			
A-C	303			303			
D-ABC	0	285	0.000	0	0.0	0.000	A
C-ABD	0	476	0.000	0	0.0	0.000	A
C-D	87			87			
C-A	531			531			

#### 07:00 - 07:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	166	507	0.327	165	0.5	10.522	B
B-AD	166	345	0.480	165	0.9	19.764	C
A-BCD	181	816	0.222	180	0.5	5.675	A
A-B	0			0			
A-C	337			337			
D-ABC	0	247	0.000	0	0.0	0.000	A
C-ABD	0	457	0.000	0	0.0	0.000	A
C-D	103			103			
C-A	634			634			

**07:15 - 07:30**

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	203	454	0.448	202	0.8	14.224	B
B-AD	203	294	0.691	199	2.0	36.274	E
A-BCD	274	857	0.320	272	0.9	6.178	A
A-B	0			0			
A-C	360			360			
D-ABC	0	193	0.000	0	0.0	0.000	A
C-ABD	0	431	0.000	0	0.0	0.000	A
C-D	127			127			
C-A	776			776			

**07:30 - 07:45**

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	203	451	0.451	203	0.8	14.500	B
B-AD	203	293	0.692	202	2.1	39.165	E
A-BCD	275	858	0.320	275	0.9	6.211	A
A-B	0			0			
A-C	359			359			
D-ABC	0	192	0.000	0	0.0	0.000	A
C-ABD	0	430	0.000	0	0.0	0.000	A
C-D	127			127			
C-A	776			776			

**07:45 - 08:00**

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	166	504	0.329	167	0.5	10.733	B
B-AD	166	345	0.481	170	1.0	21.146	C
A-BCD	182	817	0.223	184	0.5	5.713	A
A-B	0			0			
A-C	336			336			
D-ABC	0	247	0.000	0	0.0	0.000	A
C-ABD	0	457	0.000	0	0.0	0.000	A
C-D	103			103			
C-A	634			634			

**08:00 - 08:15**

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	139	540	0.257	139	0.4	9.002	A
B-AD	139	382	0.364	141	0.6	14.974	B
A-BCD	132	790	0.167	133	0.4	5.494	A
A-B	0			0			
A-C	302			302			
D-ABC	0	285	0.000	0	0.0	0.000	A
C-ABD	0	476	0.000	0	0.0	0.000	A
C-D	87			87			
C-A	531			531			

# 2030, PM

## Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm visibility to right	Arm B - Minor arm geometry	Visibility to right expected to have two components if the arm has two lanes, or two lanes in a flared section.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

## Junction Network

### Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Arm D Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	Crossroads	Two-way	Two-way	Two-way	Two-way		3.93	A

### Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	3.93	A

## Traffic Demand

### Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D4	2030	PM	ONE HOUR	16:45	18:15	15

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

### Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	672	100.000
B		✓	289	100.000
C		✓	799	100.000
D		✓	0	100.000

## Origin-Destination Data

### Demand (PCU/hr)

		To			
		A	B	C	D
From	A	0	0	558	114
	B	116	0	173	0
	C	636	0	0	163
	D	0	0	0	0

## Vehicle Mix

### Heavy Vehicle Percentages

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

## Results

### Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-CD	0.40	12.82	0.7	B
B-AD	0.46	23.86	0.8	C
A-BCD	0.41	6.67	1.4	A
A-B				
A-C				
D-ABC	0.00	0.00	0.0	A
C-ABD	0.00	0.00	0.0	A
C-D				
C-A				

### Main Results for each time segment

#### 16:45 - 17:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	130	550	0.237	129	0.3	8.530	A
B-AD	87	373	0.234	86	0.3	12.498	B
A-BCD	173	832	0.208	171	0.5	5.436	A
A-B	0			0			
A-C	333			333			
D-ABC	0	285	0.000	0	0.0	0.000	A
C-ABD	0	460	0.000	0	0.0	0.000	A
C-D	123			123			
C-A	479			479			

#### 17:00 - 17:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	156	519	0.300	155	0.4	9.888	A
B-AD	104	333	0.313	104	0.4	15.631	C
A-BCD	244	869	0.281	243	0.7	5.764	A
A-B	0			0			
A-C	360			360			
D-ABC	0	247	0.000	0	0.0	0.000	A
C-ABD	0	437	0.000	0	0.0	0.000	A
C-D	147			147			
C-A	572			572			

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	190	472	0.403	190	0.7	12.681	B
B-AD	128	279	0.458	126	0.8	23.352	C
A-BCD	379	924	0.410	376	1.4	6.610	A
A-B	0			0			
A-C	361			361			
D-ABC	0	192	0.000	0	0.0	0.000	A
C-ABD	0	406	0.000	0	0.0	0.000	A
C-D	179			179			
C-A	700			700			

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	190	471	0.404	190	0.7	12.819	B
B-AD	128	278	0.459	128	0.8	23.860	C
A-BCD	380	925	0.411	380	1.4	6.672	A
A-B	0			0			
A-C	360			360			
D-ABC	0	192	0.000	0	0.0	0.000	A
C-ABD	0	406	0.000	0	0.0	0.000	A
C-D	179			179			
C-A	700			700			

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	156	517	0.301	156	0.4	10.013	B
B-AD	104	332	0.314	106	0.5	15.973	C
A-BCD	246	871	0.282	248	0.8	5.831	A
A-B	0			0			
A-C	358			358			
D-ABC	0	246	0.000	0	0.0	0.000	A
C-ABD	0	436	0.000	0	0.0	0.000	A
C-D	147			147			
C-A	572			572			

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	130	549	0.237	131	0.3	8.626	A
B-AD	87	372	0.235	88	0.3	12.689	B
A-BCD	175	834	0.210	176	0.5	5.494	A
A-B	0			0			
A-C	331			331			
D-ABC	0	284	0.000	0	0.0	0.000	A
C-ABD	0	459	0.000	0	0.0	0.000	A
C-D	123			123			
C-A	479			479			

# 2030 + LTC, AM

## Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm visibility to right	Arm B - Minor arm geometry	Visibility to right expected to have two components if the arm has two lanes, or two lanes in a flared section.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

## Junction Network

### Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Arm D Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	Crossroads	Two-way	Two-way	Two-way	Two-way		42.45	E

### Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	42.45	E

## Traffic Demand

### Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D5	2030 + LTC	AM	ONE HOUR	06:45	08:15	15

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

### Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	522	100.000
B		✓	519	100.000
C		✓	931	100.000
D		✓	0	100.000

## Origin-Destination Data

### Demand (PCU/hr)

		To			
		A	B	C	D
From	A	0	0	441	81
	B	289	0	228	2
	C	853	0	0	78
	D	0	0	0	0

## Vehicle Mix



### Heavy Vehicle Percentages

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

## Results

### Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-CD	0.60	21.35	1.5	C
B-AD	1.13	268.69	24.5	F
A-BCD	0.29	6.32	0.8	A
A-B				
A-C				
D-ABC	0.00	0.00	0.0	A
C-ABD	0.00	0.00	0.0	A
C-D				
C-A				

### Main Results for each time segment

#### 06:45 - 07:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	173	516	0.335	171	0.5	10.369	B
B-AD	218	376	0.580	213	1.3	21.476	C
A-BCD	109	750	0.146	108	0.3	5.606	A
A-B	0			0			
A-C	284			284			
D-ABC	0	265	0.000	0	0.0	0.000	A
C-ABD	0	486	0.000	0	0.0	0.000	A
C-D	59			59			
C-A	642			642			

#### 07:00 - 07:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	207	471	0.439	206	0.8	13.513	B
B-AD	260	337	0.772	254	2.9	40.648	E
A-BCD	151	770	0.196	150	0.4	5.819	A
A-B	0			0			
A-C	318			318			
D-ABC	0	222	0.000	0	0.0	0.000	A
C-ABD	0	468	0.000	0	0.0	0.000	A
C-D	70			70			
C-A	767			767			

07:15 - 07:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	253	422	0.601	251	1.4	20.735	C
B-AD	318	283	1.125	271	14.7	144.758	F
A-BCD	228	801	0.285	227	0.8	6.289	A
A-B	0			0			
A-C	346			346			
D-ABC	0	156	0.000	0	0.0	0.000	A
C-ABD	0	445	0.000	0	0.0	0.000	A
C-D	86			86			
C-A	939			939			

07:30 - 07:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	253	421	0.601	253	1.5	21.346	C
B-AD	318	283	1.126	279	24.5	268.687	F
A-BCD	229	802	0.286	229	0.8	6.318	A
A-B	0			0			
A-C	346			346			
D-ABC	0	152	0.000	0	0.0	0.000	A
C-ABD	0	444	0.000	0	0.0	0.000	A
C-D	86			86			
C-A	939			939			

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	207	439	0.471	209	0.9	15.784	C
B-AD	260	336	0.773	323	8.7	194.711	F
A-BCD	152	771	0.197	153	0.5	5.856	A
A-B	0			0			
A-C	318			318			
D-ABC	0	216	0.000	0	0.0	0.000	A
C-ABD	0	468	0.000	0	0.0	0.000	A
C-D	70			70			
C-A	767			767			

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	173	502	0.345	174	0.5	11.052	B
B-AD	218	375	0.581	247	1.5	33.491	D
A-BCD	110	751	0.147	111	0.3	5.638	A
A-B	0			0			
A-C	283			283			
D-ABC	0	263	0.000	0	0.0	0.000	A
C-ABD	0	485	0.000	0	0.0	0.000	A
C-D	59			59			
C-A	642			642			

# 2030 + LTC, PM

## Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm visibility to right	Arm B - Minor arm geometry	Visibility to right expected to have two components if the arm has two lanes, or two lanes in a flared section.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

## Junction Network

### Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Arm D Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	Crossroads	Two-way	Two-way	Two-way	Two-way		8.71	A

### Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	8.71	A

## Traffic Demand

### Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D6	2030 + LTC	PM	ONE HOUR	16:45	18:15	15

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

### Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	630	100.000
B		✓	392	100.000
C		✓	892	100.000
D		✓	0	100.000

## Origin-Destination Data

### Demand (PCU/hr)

		To			
		A	B	C	D
From	A	0	0	520	110
	B	192	0	200	0
	C	761	0	0	131
	D	0	0	0	0

## Vehicle Mix

### Heavy Vehicle Percentages

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

## Results

### Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-CD	0.51	17.01	1.0	C
B-AD	0.79	59.25	3.2	F
A-BCD	0.41	6.98	1.4	A
A-B				
A-C				
D-ABC	0.00	0.00	0.0	A
C-ABD	0.00	0.00	0.0	A
C-D				
C-A				

### Main Results for each time segment

#### 16:45 - 17:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	151	533	0.283	149	0.4	9.341	A
B-AD	145	366	0.395	142	0.6	15.891	C
A-BCD	162	799	0.203	161	0.4	5.641	A
A-B	0			0			
A-C	312			312			
D-ABC	0	268	0.000	0	0.0	0.000	A
C-ABD	0	467	0.000	0	0.0	0.000	A
C-D	99			99			
C-A	573			573			

#### 17:00 - 17:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	180	495	0.363	179	0.6	11.377	B
B-AD	173	325	0.531	171	1.1	23.052	C
A-BCD	228	829	0.275	227	0.7	5.999	A
A-B	0			0			
A-C	338			338			
D-ABC	0	226	0.000	0	0.0	0.000	A
C-ABD	0	446	0.000	0	0.0	0.000	A
C-D	118			118			
C-A	684			684			

**17:15 - 17:30**

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	220	436	0.505	218	1.0	16.438	C
B-AD	211	269	0.786	204	2.9	50.618	F
A-BCD	354	875	0.405	351	1.3	6.913	A
A-B	0			0			
A-C	340			340			
D-ABC	0	164	0.000	0	0.0	0.000	A
C-ABD	0	417	0.000	0	0.0	0.000	A
C-D	144			144			
C-A	838			838			

**17:30 - 17:45**

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	220	431	0.510	220	1.0	17.015	C
B-AD	211	268	0.788	210	3.2	59.247	F
A-BCD	355	876	0.406	355	1.4	6.978	A
A-B	0			0			
A-C	338			338			
D-ABC	0	163	0.000	0	0.0	0.000	A
C-ABD	0	416	0.000	0	0.0	0.000	A
C-D	144			144			
C-A	838			838			

**17:45 - 18:00**

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	180	489	0.367	182	0.6	11.753	B
B-AD	173	324	0.532	181	1.2	26.333	D
A-BCD	230	831	0.277	232	0.7	6.069	A
A-B	0			0			
A-C	337			337			
D-ABC	0	225	0.000	0	0.0	0.000	A
C-ABD	0	445	0.000	0	0.0	0.000	A
C-D	118			118			
C-A	684			684			

**18:00 - 18:15**

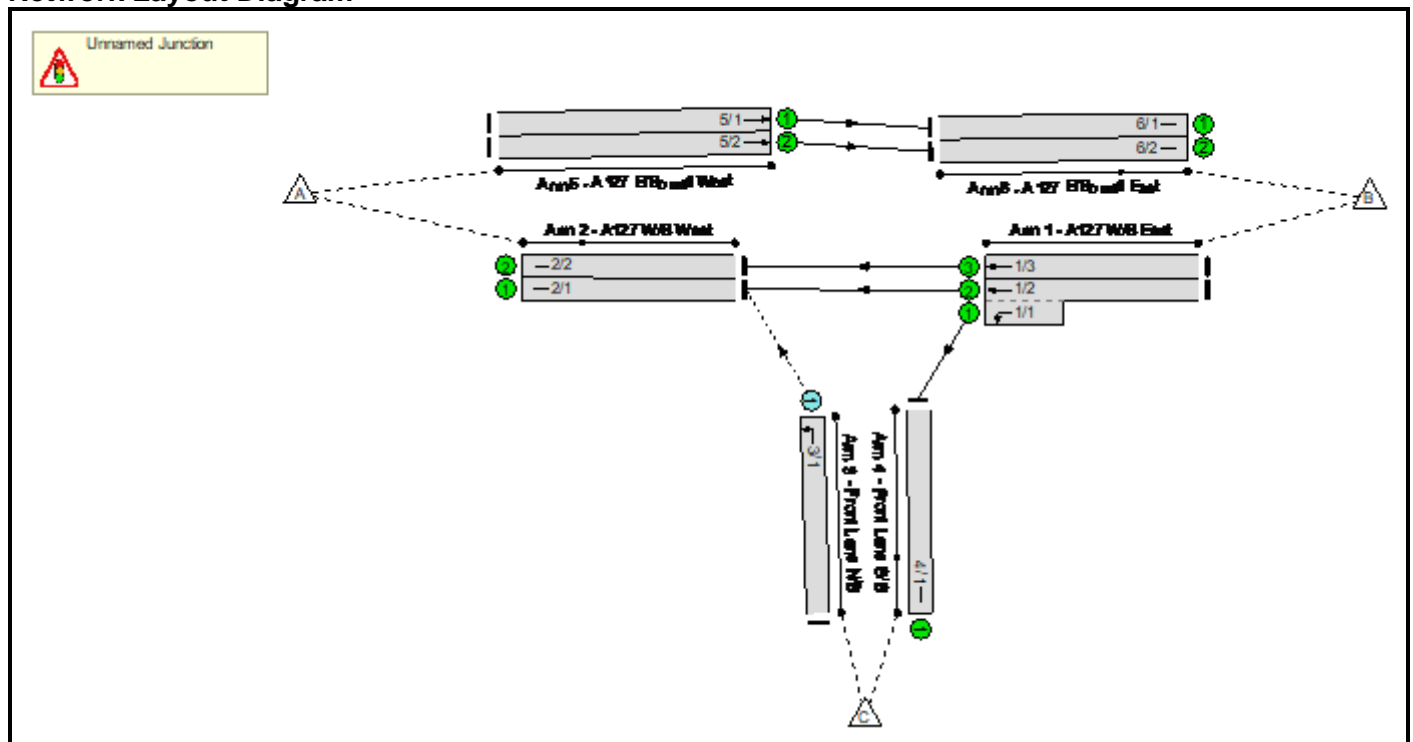
Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	151	530	0.284	151	0.4	9.513	A
B-AD	145	365	0.396	147	0.7	16.608	C
A-BCD	164	800	0.205	165	0.5	5.693	A
A-B	0			0			
A-C	311			311			
D-ABC	0	267	0.000	0	0.0	0.000	A
C-ABD	0	466	0.000	0	0.0	0.000	A
C-D	99			99			
C-A	573			573			

Full Input Data And Results  
**Full Input Data And Results**

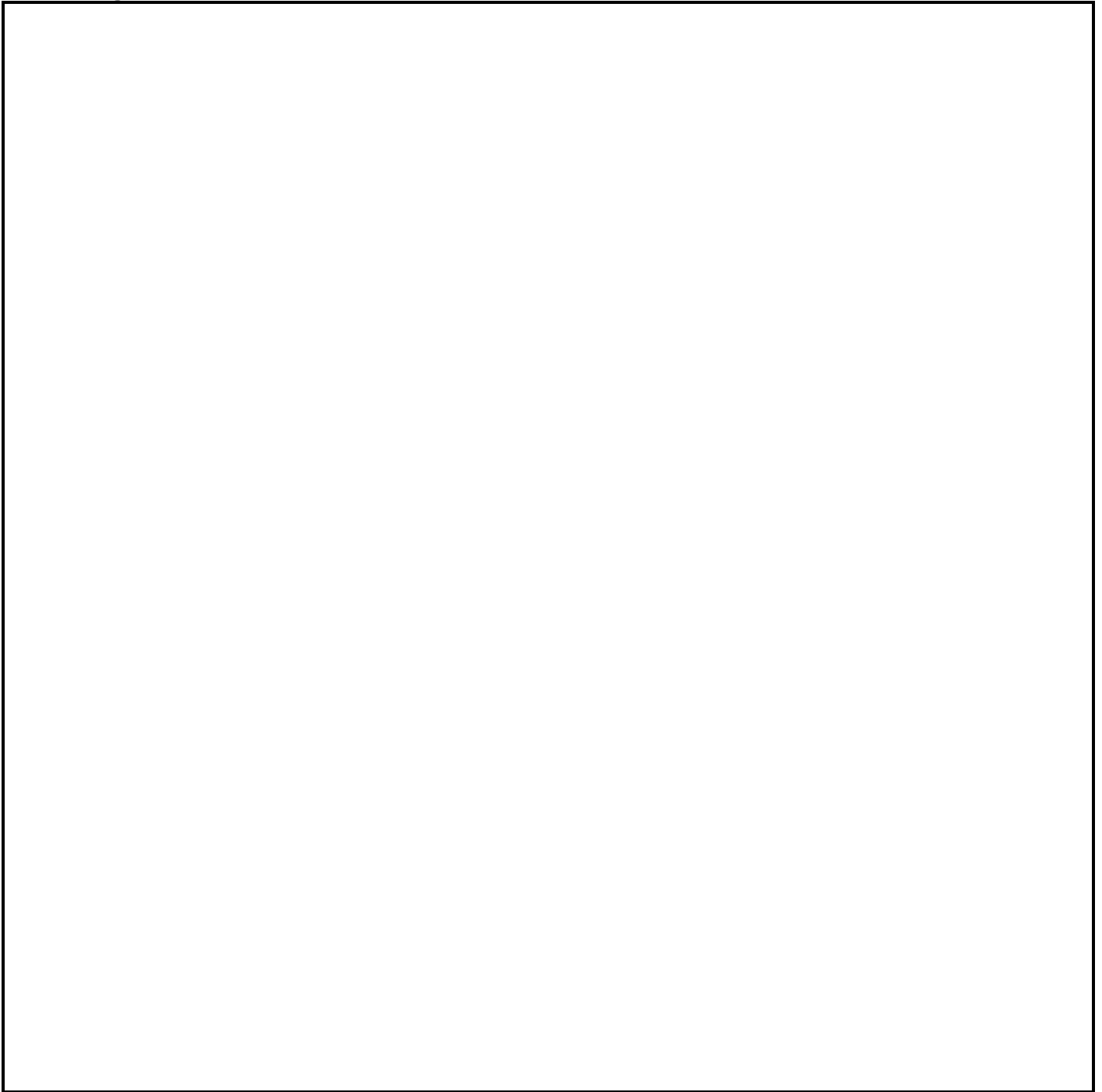
**User and Project Details**

Project:	
Title:	
Location:	
Additional detail:	
File name:	8 - A127 - Front Lane.lsg3x
Author:	
Company:	
Address:	

**Network Layout Diagram**



### Phase Diagram



### Phase Input Data

Phase Name	Phase Type	Assoc. Phase	Street Min	Cont Min
------------	------------	--------------	------------	----------

### Phase Intergreens Matrix

	Starting Phase
Terminating Phase	This View cannot be shown as there are currently no Phases defined.

### Phases in Stage

Stage No.	Phases in Stage
-----------	-----------------

## Full Input Data And Results

### Stage Diagram

There are no Stages to display

### Phase Delays

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

### Prohibited Stage Change

	To Stage
From Stage	This View cannot be shown as there are currently no Stages defined.



Full Input Data And Results

**Give-Way Lane Input Data**

Junction: Unnamed Junction											
Lane	Movement	Max Flow when Giving Way (PCU/Hr)	Min Flow when Giving Way (PCU/Hr)	Opposing Lane	Opp. Lane Coeff.	Opp. Mvmnts.	Right Turn Storage (PCU)	Non-Blocking Storage (PCU)	RTF	Right Turn Move up (s)	Max Turns in Intergreen (PCU)
3/1 (Front Lane N/B)	2/1 (Left)	715	0	1/2	0.22	All	-	-	-	-	-

Full Input Data And Results

**Lane Input Data**

Junction: Unnamed Junction												
Lane	Lane Type	Phases	Start Disp.	End Disp.	Physical Length (PCU)	Sat Flow Type	Def User Saturation Flow (PCU/Hr)	Lane Width (m)	Gradient	Nearside Lane	Turns	Turning Radius (m)
1/1 (A127 W/B East)	U		2	3	5.0	Geom	-	3.65	0.00	Y	Arm 4 Left	15.00
1/2 (A127 W/B East)	U		2	3	60.0	Geom	-	3.65	0.00	Y	Arm 2 Ahead	Inf
1/3 (A127 W/B East)	U		2	3	60.0	Geom	-	3.65	0.00	N	Arm 2 Ahead	Inf
2/1 (A127 W/B West)	U		2	3	60.0	Inf	-	-	-	-	-	-
2/2 (A127 W/B West)	U		2	3	60.0	Inf	-	-	-	-	-	-
3/1 (Front Lane N/B)	O		2	3	60.0	Geom	-	3.25	0.00	Y	Arm 2 Left	15.00
4/1 (Front Lane S/B)	U		2	3	60.0	Inf	-	-	-	-	-	-
5/1 (A127 E/Bound West)	U		2	3	60.0	Inf	-	-	-	-	-	-
5/2 (A127 E/Bound West)	U		2	3	60.0	Inf	-	-	-	-	-	-
6/1 (A127 E/Bound East)	U		2	3	60.0	Inf	-	-	-	-	-	-
6/2 (A127 E/Bound East)	U		2	3	60.0	Inf	-	-	-	-	-	-

**Traffic Flow Groups**

Flow Group	Start Time	End Time	Duration	Formula
1: 'Base Year 2023 AM'	07:00	08:00	01:00	
2: 'Base Year 2023 PM'	17:00	18:00	01:00	
3: 'Reference Case 2030 AM'	07:00	08:00	01:00	F1*1.0466
4: 'Reference Case 2030 PM'	17:00	18:00	01:00	F2*1.0521
7: 'Do Something 2030 + LTC AM'	07:00	08:00	01:00	F3+F5
8: 'Do Something 2030 + LTC PM'	17:00	18:00	01:00	F4+F6

Full Input Data And Results

**Scenario 1: 'Base 2023 AM'** (FG1: 'Base Year 2023 AM', Plan 1: 'Network Control Plan 1')

**Traffic Flows, Desired**

**Desired Flow :**

		Destination			
		A	B	C	Tot.
Origin	A	0	1766	0	1766
	B	2143	0	198	2341
	C	89	0	0	89
	Tot.	2232	1766	198	4196

**Traffic Lane Flows**

Lane	Scenario 1: Base 2023 AM
<b>Junction: Unnamed Junction</b>	
1/1 (short)	198
1/2 (with short)	1083(In) 885(Out)
1/3	1258
2/1	974
2/2	1258
3/1	89
4/1	198
5/1	883
5/2	883
6/1	883
6/2	883

Full Input Data And Results

**Lane Saturation Flows**

Junction: Unnamed Junction								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (A127 W/B East)	3.65	0.00	Y	Arm 4 Left	15.00	100.0 %	1800	1800
1/2 (A127 W/B East)	3.65	0.00	Y	Arm 2 Ahead	Inf	100.0 %	1980	1980
1/3 (A127 W/B East)	3.65	0.00	N	Arm 2 Ahead	Inf	100.0 %	2120	2120
2/1 (A127 W/B West Lane 1)	Infinite Saturation Flow						Inf	Inf
2/2 (A127 W/B West Lane 2)	Infinite Saturation Flow						Inf	Inf
3/1 (Front Lane N/B)	3.25	0.00	Y	Arm 2 Left	15.00	100.0 %	1764	1764
4/1 (Front Lane S/B Lane 1)	Infinite Saturation Flow						Inf	Inf
5/1 (A127 E/Bound West Lane 1)	Infinite Saturation Flow						Inf	Inf
5/2 (A127 E/Bound West Lane 2)	Infinite Saturation Flow						Inf	Inf
6/1 (A127 E/Bound East Lane 1)	Infinite Saturation Flow						Inf	Inf
6/2 (A127 E/Bound East Lane 2)	Infinite Saturation Flow						Inf	Inf

**Scenario 2: 'Base 2023 PM'** (FG2: 'Base Year 2023 PM', Plan 1: 'Network Control Plan 1')

**Traffic Flows, Desired**

**Desired Flow :**

	Destination				
	A	B	C	Tot.	
Origin	A	0	1658	0	1658
	B	1891	0	318	2209
	C	93	0	0	93
	Tot.	1984	1658	318	3960

Full Input Data And Results

**Traffic Lane Flows**

Lane	Scenario 2: Base 2023 PM
<b>Junction: Unnamed Junction</b>	
1/1 (short)	318
1/2 (with short)	1004(In) 686(Out)
1/3	1205
2/1	779
2/2	1205
3/1	93
4/1	318
5/1	829
5/2	829
6/1	829
6/2	829

**Lane Saturation Flows**

<b>Junction: Unnamed Junction</b>								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (A127 W/B East)	3.65	0.00	Y	Arm 4 Left	15.00	100.0 %	1800	1800
1/2 (A127 W/B East)	3.65	0.00	Y	Arm 2 Ahead	Inf	100.0 %	1980	1980
1/3 (A127 W/B East)	3.65	0.00	N	Arm 2 Ahead	Inf	100.0 %	2120	2120
2/1 (A127 W/B West Lane 1)	Infinite Saturation Flow						Inf	Inf
2/2 (A127 W/B West Lane 2)	Infinite Saturation Flow						Inf	Inf
3/1 (Front Lane N/B)	3.25	0.00	Y	Arm 2 Left	15.00	100.0 %	1764	1764
4/1 (Front Lane S/B Lane 1)	Infinite Saturation Flow						Inf	Inf
5/1 (A127 E/Bound West Lane 1)	Infinite Saturation Flow						Inf	Inf
5/2 (A127 E/Bound West Lane 2)	Infinite Saturation Flow						Inf	Inf
6/1 (A127 E/Bound East Lane 1)	Infinite Saturation Flow						Inf	Inf
6/2 (A127 E/Bound East Lane 2)	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

**Scenario 3: 'Reference Case 2030 AM'** (FG3: 'Reference Case 2030 AM', Plan 1: 'Network Control Plan 1')

**Traffic Flows, Desired**

**Desired Flow :**

		Destination			
		A	B	C	Tot.
Origin	A	0	1848	0	1848
	B	2243	0	207	2450
	C	93	0	0	93
	Tot.	2336	1848	207	4391

**Traffic Lane Flows**

Lane	Scenario 3: Reference Case 2030 AM
<b>Junction: Unnamed Junction</b>	
1/1 (short)	207
1/2 (with short)	1137(In) 930(Out)
1/3	1313
2/1	1023
2/2	1313
3/1	93
4/1	207
5/1	924
5/2	924
6/1	924
6/2	924

Full Input Data And Results

**Lane Saturation Flows**

Junction: Unnamed Junction								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (A127 W/B East)	3.65	0.00	Y	Arm 4 Left	15.00	100.0 %	1800	1800
1/2 (A127 W/B East)	3.65	0.00	Y	Arm 2 Ahead	Inf	100.0 %	1980	1980
1/3 (A127 W/B East)	3.65	0.00	N	Arm 2 Ahead	Inf	100.0 %	2120	2120
2/1 (A127 W/B West Lane 1)	Infinite Saturation Flow						Inf	Inf
2/2 (A127 W/B West Lane 2)	Infinite Saturation Flow						Inf	Inf
3/1 (Front Lane N/B)	3.25	0.00	Y	Arm 2 Left	15.00	100.0 %	1764	1764
4/1 (Front Lane S/B Lane 1)	Infinite Saturation Flow						Inf	Inf
5/1 (A127 E/Bound West Lane 1)	Infinite Saturation Flow						Inf	Inf
5/2 (A127 E/Bound West Lane 2)	Infinite Saturation Flow						Inf	Inf
6/1 (A127 E/Bound East Lane 1)	Infinite Saturation Flow						Inf	Inf
6/2 (A127 E/Bound East Lane 2)	Infinite Saturation Flow						Inf	Inf

**Scenario 4: 'Reference Case 2030 PM'** (FG4: 'Reference Case 2030 PM', Plan 1: 'Network Control Plan 1')

**Traffic Flows, Desired**

**Desired Flow :**

	Destination				
	A	B	C	Tot.	
Origin	A	0	1744	0	1744
	B	1990	0	335	2325
	C	98	0	0	98
	Tot.	2088	1744	335	4167

Full Input Data And Results

**Traffic Lane Flows**

Lane	Scenario 4: Reference Case 2030 PM
<b>Junction: Unnamed Junction</b>	
1/1 (short)	335
1/2 (with short)	1062(In) 727(Out)
1/3	1263
2/1	825
2/2	1263
3/1	98
4/1	335
5/1	872
5/2	872
6/1	872
6/2	872

**Lane Saturation Flows**

<b>Junction: Unnamed Junction</b>								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (A127 W/B East)	3.65	0.00	Y	Arm 4 Left	15.00	100.0 %	1800	1800
1/2 (A127 W/B East)	3.65	0.00	Y	Arm 2 Ahead	Inf	100.0 %	1980	1980
1/3 (A127 W/B East)	3.65	0.00	N	Arm 2 Ahead	Inf	100.0 %	2120	2120
2/1 (A127 W/B West Lane 1)	Infinite Saturation Flow						Inf	Inf
2/2 (A127 W/B West Lane 2)	Infinite Saturation Flow						Inf	Inf
3/1 (Front Lane N/B)	3.25	0.00	Y	Arm 2 Left	15.00	100.0 %	1764	1764
4/1 (Front Lane S/B Lane 1)	Infinite Saturation Flow						Inf	Inf
5/1 (A127 E/Bound West Lane 1)	Infinite Saturation Flow						Inf	Inf
5/2 (A127 E/Bound West Lane 2)	Infinite Saturation Flow						Inf	Inf
6/1 (A127 E/Bound East Lane 1)	Infinite Saturation Flow						Inf	Inf
6/2 (A127 E/Bound East Lane 2)	Infinite Saturation Flow						Inf	Inf



Full Input Data And Results

**Scenario 5: 'Do Something 2030 + LTC AM'** (FG7: 'Do Something 2030 + LTC AM', Plan 1: 'Network Control Plan 1')

**Traffic Flows, Desired**

**Desired Flow :**

		Destination			
		A	B	C	Tot.
Origin	A	0	1848	0	1848
	B	2793	0	328	3121
	C	151	0	0	151
	Tot.	2944	1848	328	5120

**Traffic Lane Flows**

Lane	Scenario 5: Do Something 2030 + LTC AM
<b>Junction: Unnamed Junction</b>	
1/1 (short)	328
1/2 (with short)	1469(In) 1141(Out)
1/3	1652
2/1	1292
2/2	1652
3/1	151
4/1	328
5/1	924
5/2	924
6/1	924
6/2	924

Full Input Data And Results

**Lane Saturation Flows**

Junction: Unnamed Junction								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (A127 W/B East)	3.65	0.00	Y	Arm 4 Left	15.00	100.0 %	1800	1800
1/2 (A127 W/B East)	3.65	0.00	Y	Arm 2 Ahead	Inf	100.0 %	1980	1980
1/3 (A127 W/B East)	3.65	0.00	N	Arm 2 Ahead	Inf	100.0 %	2120	2120
2/1 (A127 W/B West Lane 1)	Infinite Saturation Flow						Inf	Inf
2/2 (A127 W/B West Lane 2)	Infinite Saturation Flow						Inf	Inf
3/1 (Front Lane N/B)	3.25	0.00	Y	Arm 2 Left	15.00	100.0 %	1764	1764
4/1 (Front Lane S/B Lane 1)	Infinite Saturation Flow						Inf	Inf
5/1 (A127 E/Bound West Lane 1)	Infinite Saturation Flow						Inf	Inf
5/2 (A127 E/Bound West Lane 2)	Infinite Saturation Flow						Inf	Inf
6/1 (A127 E/Bound East Lane 1)	Infinite Saturation Flow						Inf	Inf
6/2 (A127 E/Bound East Lane 2)	Infinite Saturation Flow						Inf	Inf

**Scenario 6: 'Do Something 2030 + LTC PM'** (FG8: 'Do Something 2030 + LTC PM', Plan 1: 'Network Control Plan 1')

**Traffic Flows, Desired**

**Desired Flow :**

	Destination				
	A	B	C	Tot.	
Origin	A	0	1744	0	1744
	B	2322	0	358	2680
	C	161	0	0	161
	Tot.	2483	1744	358	4585

Full Input Data And Results

**Traffic Lane Flows**

Lane	Scenario 6: Do Something 2030 + LTC PM
<b>Junction: Unnamed Junction</b>	
1/1 (short)	358
1/2 (with short)	1242(In) 884(Out)
1/3	1438
2/1	1045
2/2	1438
3/1	161
4/1	358
5/1	872
5/2	872
6/1	872
6/2	872

**Lane Saturation Flows**

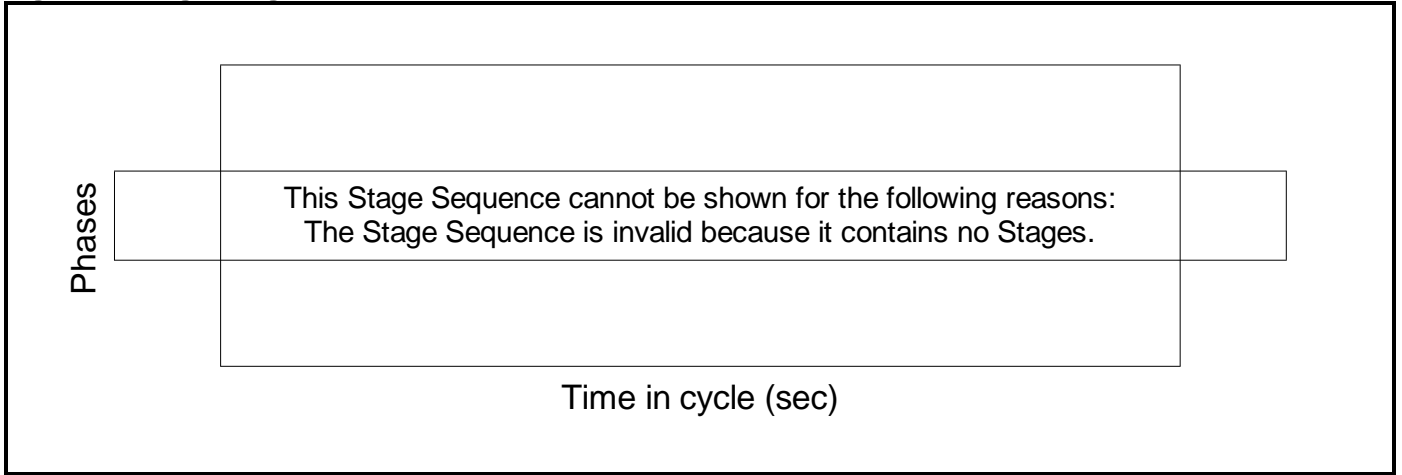
<b>Junction: Unnamed Junction</b>								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (A127 W/B East)	3.65	0.00	Y	Arm 4 Left	15.00	100.0 %	1800	1800
1/2 (A127 W/B East)	3.65	0.00	Y	Arm 2 Ahead	Inf	100.0 %	1980	1980
1/3 (A127 W/B East)	3.65	0.00	N	Arm 2 Ahead	Inf	100.0 %	2120	2120
2/1 (A127 W/B West Lane 1)	Infinite Saturation Flow						Inf	Inf
2/2 (A127 W/B West Lane 2)	Infinite Saturation Flow						Inf	Inf
3/1 (Front Lane N/B)	3.25	0.00	Y	Arm 2 Left	15.00	100.0 %	1764	1764
4/1 (Front Lane S/B Lane 1)	Infinite Saturation Flow						Inf	Inf
5/1 (A127 E/Bound West Lane 1)	Infinite Saturation Flow						Inf	Inf
5/2 (A127 E/Bound West Lane 2)	Infinite Saturation Flow						Inf	Inf
6/1 (A127 E/Bound East Lane 1)	Infinite Saturation Flow						Inf	Inf
6/2 (A127 E/Bound East Lane 2)	Infinite Saturation Flow						Inf	Inf

**Scenario 1: 'Base 2023 AM'** (FG1: 'Base Year 2023 AM', Plan 1: 'Network Control Plan 1')  
**Stage Sequence Diagram**

**Stage Timings**

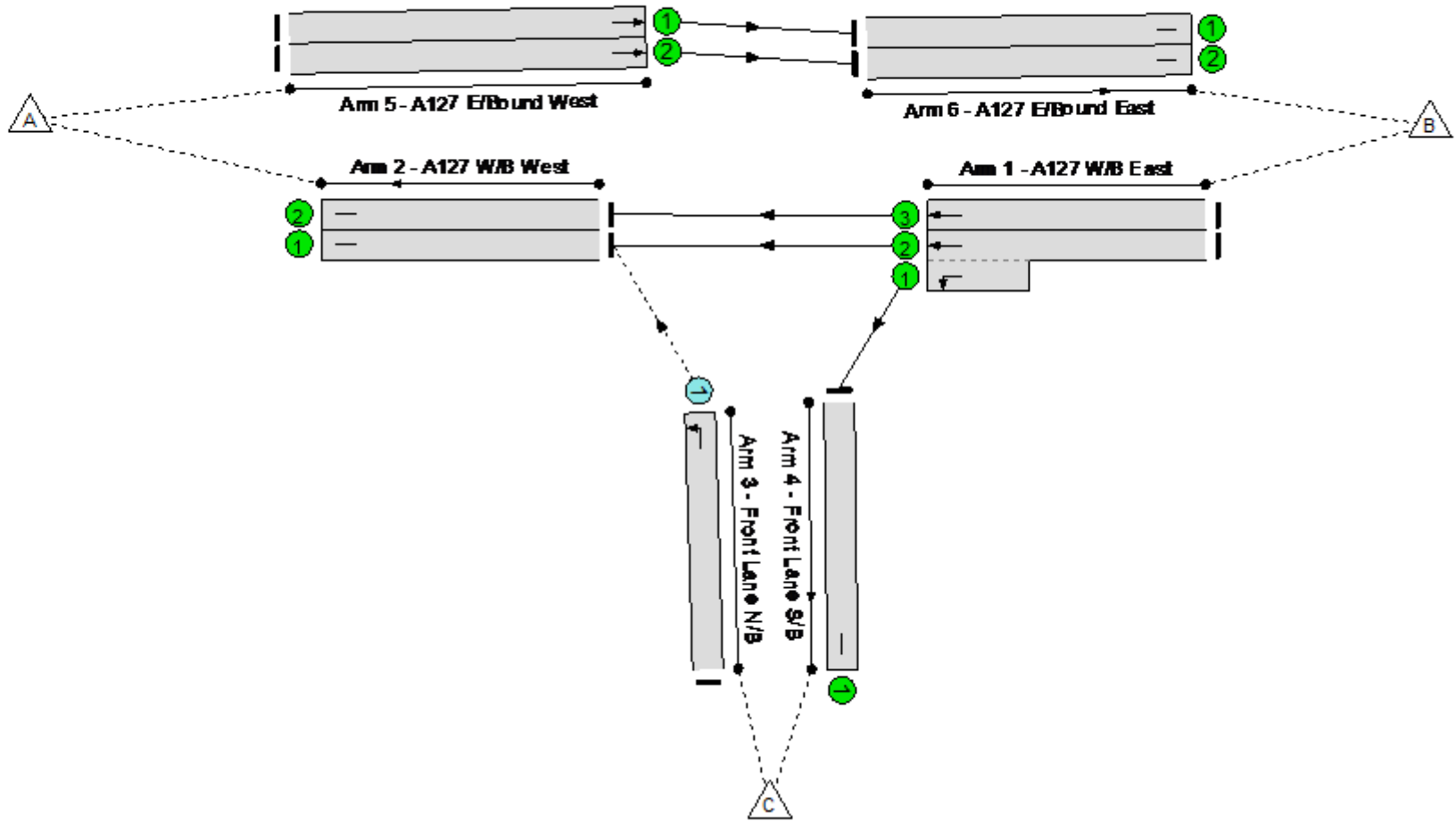
Stage
Duration
Change Point

**Signal Timings Diagram**



Full Input Data And Results  
**Network Layout Diagram**

Unnamed Junction  
PRC: 51.7 %  
Total Traffic Delay: 1.5 pu Hr



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 (%)
<b>Network</b>	-	-	<b>N/A</b>	-	-		-	-	-	-	-	-	<b>59.3%</b>
<b>Unnamed Junction</b>	-	-	<b>N/A</b>	-	-		-	-	-	-	-	-	<b>59.3%</b>
1/2+1/1	A127 W/B East Ahead Left	U	N/A	N/A	-		-	-	-	1083	1980:1800	1589+355	55.7 : 55.7%
1/3	A127 W/B East Ahead	U	N/A	N/A	-		-	-	-	1258	2120	2120	59.3%
2/1	A127 W/B West	U	N/A	N/A	-		-	-	-	974	Inf	Inf	0.0%
2/2	A127 W/B West	U	N/A	N/A	-		-	-	-	1258	Inf	Inf	0.0%
3/1	Front Lane N/B Left	O	N/A	N/A	-		-	-	-	89	1764	520	17.1%
4/1	Front Lane S/B	U	N/A	N/A	-		-	-	-	198	Inf	Inf	0.0%
5/1	A127 E/Bound West Ahead	U	N/A	N/A	-		-	-	-	883	Inf	Inf	0.0%
5/2	A127 E/Bound West Ahead	U	N/A	N/A	-		-	-	-	883	Inf	Inf	0.0%
6/1	A127 E/Bound East	U	N/A	N/A	-		-	-	-	883	Inf	Inf	0.0%
6/2	A127 E/Bound East	U	N/A	N/A	-		-	-	-	883	Inf	Inf	0.0%

Full Input Data And Results

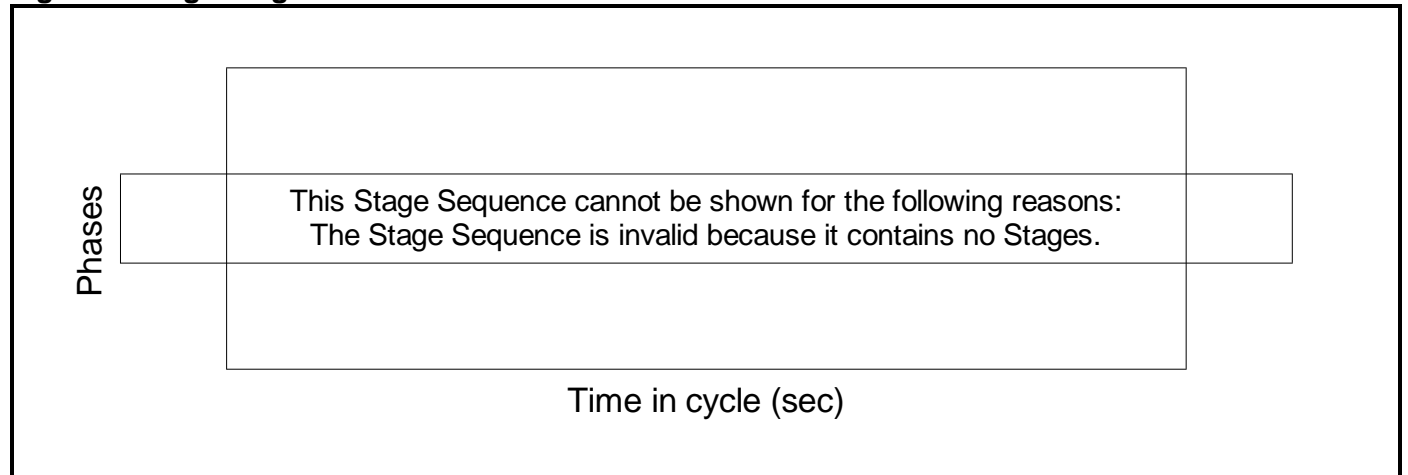
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
<b>Network</b>	-	-	<b>89</b>	<b>0</b>	<b>0</b>	<b>0.0</b>	<b>1.5</b>	<b>0.0</b>	<b>1.5</b>	-	-	-	-
<b>Unnamed Junction</b>	-	-	<b>89</b>	<b>0</b>	<b>0</b>	<b>0.0</b>	<b>1.5</b>	<b>0.0</b>	<b>1.5</b>	-	-	-	-
1/2+1/1	1083	1083	-	-	-	0.0	0.6	-	0.6	2.1	0.0	0.6	0.6
1/3	1258	1258	-	-	-	0.0	0.7	-	0.7	2.1	0.0	0.7	0.7
2/1	974	974	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
2/2	1258	1258	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
3/1	89	89	89	0	0	0.0	0.1	-	0.1	4.2	0.0	0.1	0.1
4/1	198	198	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	883	883	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/2	883	883	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	883	883	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/2	883	883	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
C1			PRC for Signalled Lanes (%):		0.0	Total Delay for Signalled Lanes (pcuHr):			0.00	Cycle Time (s): 90			
			PRC Over All Lanes (%):		51.7	Total Delay Over All Lanes(pcuHr):			1.46				

### Stage Sequence Diagram

#### Stage Timings

Stage
Duration
Change Point

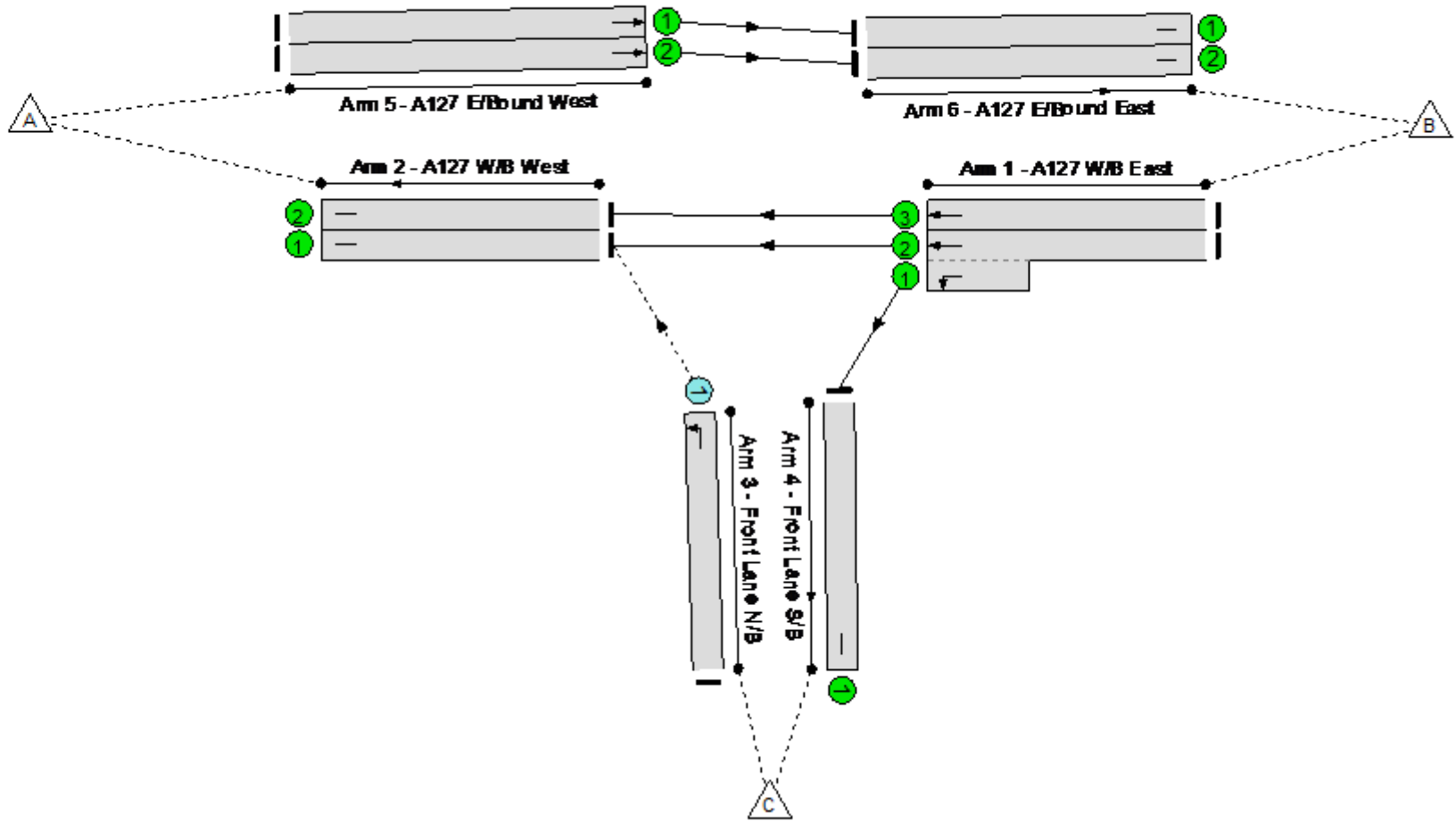
#### Signal Timings Diagram





Full Input Data And Results  
**Network Layout Diagram**

Unnamed Junction  
PRC: 58.3 %  
Total Traffic Delay: 1.3 pouHr



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 (%)
<b>Network</b>	-	-	<b>N/A</b>	-	-		-	-	-	-	-	-	<b>56.8%</b>
<b>Unnamed Junction</b>	-	-	<b>N/A</b>	-	-		-	-	-	-	-	-	<b>56.8%</b>
1/2+1/1	A127 W/B East Ahead Left	U	N/A	N/A	-		-	-	-	1004	1980:1800	1311+608	52.3 : 52.3%
1/3	A127 W/B East Ahead	U	N/A	N/A	-		-	-	-	1205	2120	2120	56.8%
2/1	A127 W/B West	U	N/A	N/A	-		-	-	-	779	Inf	Inf	0.0%
2/2	A127 W/B West	U	N/A	N/A	-		-	-	-	1205	Inf	Inf	0.0%
3/1	Front Lane N/B Left	O	N/A	N/A	-		-	-	-	93	1764	564	16.5%
4/1	Front Lane S/B	U	N/A	N/A	-		-	-	-	318	Inf	Inf	0.0%
5/1	A127 E/Bound West Ahead	U	N/A	N/A	-		-	-	-	829	Inf	Inf	0.0%
5/2	A127 E/Bound West Ahead	U	N/A	N/A	-		-	-	-	829	Inf	Inf	0.0%
6/1	A127 E/Bound East	U	N/A	N/A	-		-	-	-	829	Inf	Inf	0.0%
6/2	A127 E/Bound East	U	N/A	N/A	-		-	-	-	829	Inf	Inf	0.0%

Full Input Data And Results

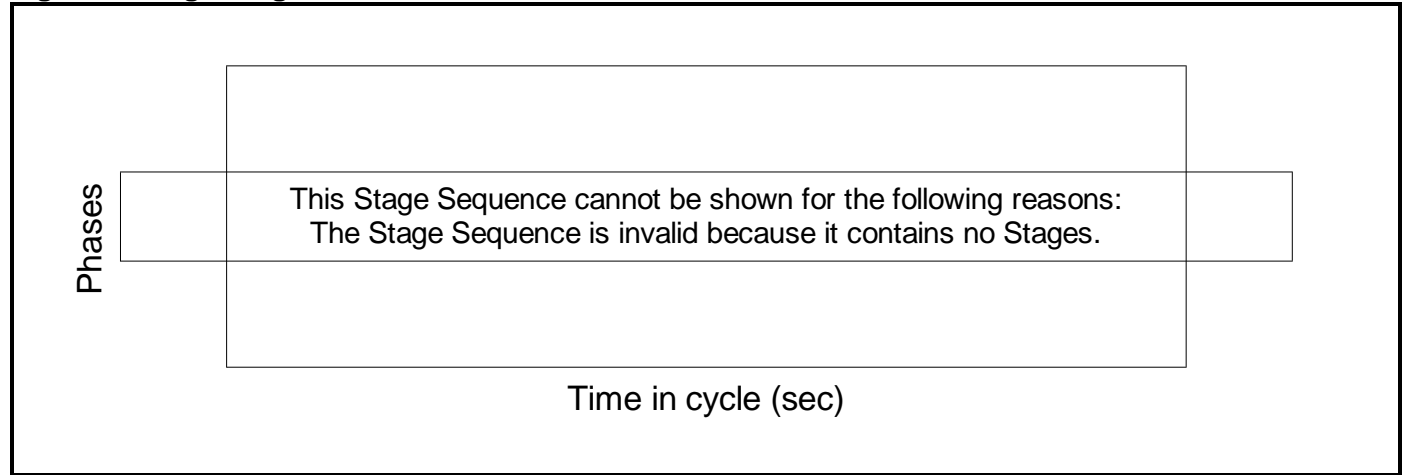
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
<b>Network</b>	-	-	93	0	0	0.0	1.3	0.0	1.3	-	-	-	-
<b>Unnamed Junction</b>	-	-	93	0	0	0.0	1.3	0.0	1.3	-	-	-	-
1/2+1/1	1004	1004	-	-	-	0.0	0.5	-	0.5	2.0	0.0	0.5	0.5
1/3	1205	1205	-	-	-	0.0	0.7	-	0.7	2.0	0.0	0.7	0.7
2/1	779	779	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
2/2	1205	1205	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
3/1	93	93	93	0	0	0.0	0.1	-	0.1	3.8	0.0	0.1	0.1
4/1	318	318	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	829	829	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/2	829	829	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	829	829	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/2	829	829	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
C1			PRC for Signalled Lanes (%):		0.0	Total Delay for Signalled Lanes (pcuHr):			0.00	Cycle Time (s): 90			
			PRC Over All Lanes (%):		58.3	Total Delay Over All Lanes(pcuHr):			1.30				

**Stage Sequence Diagram**

**Stage Timings**

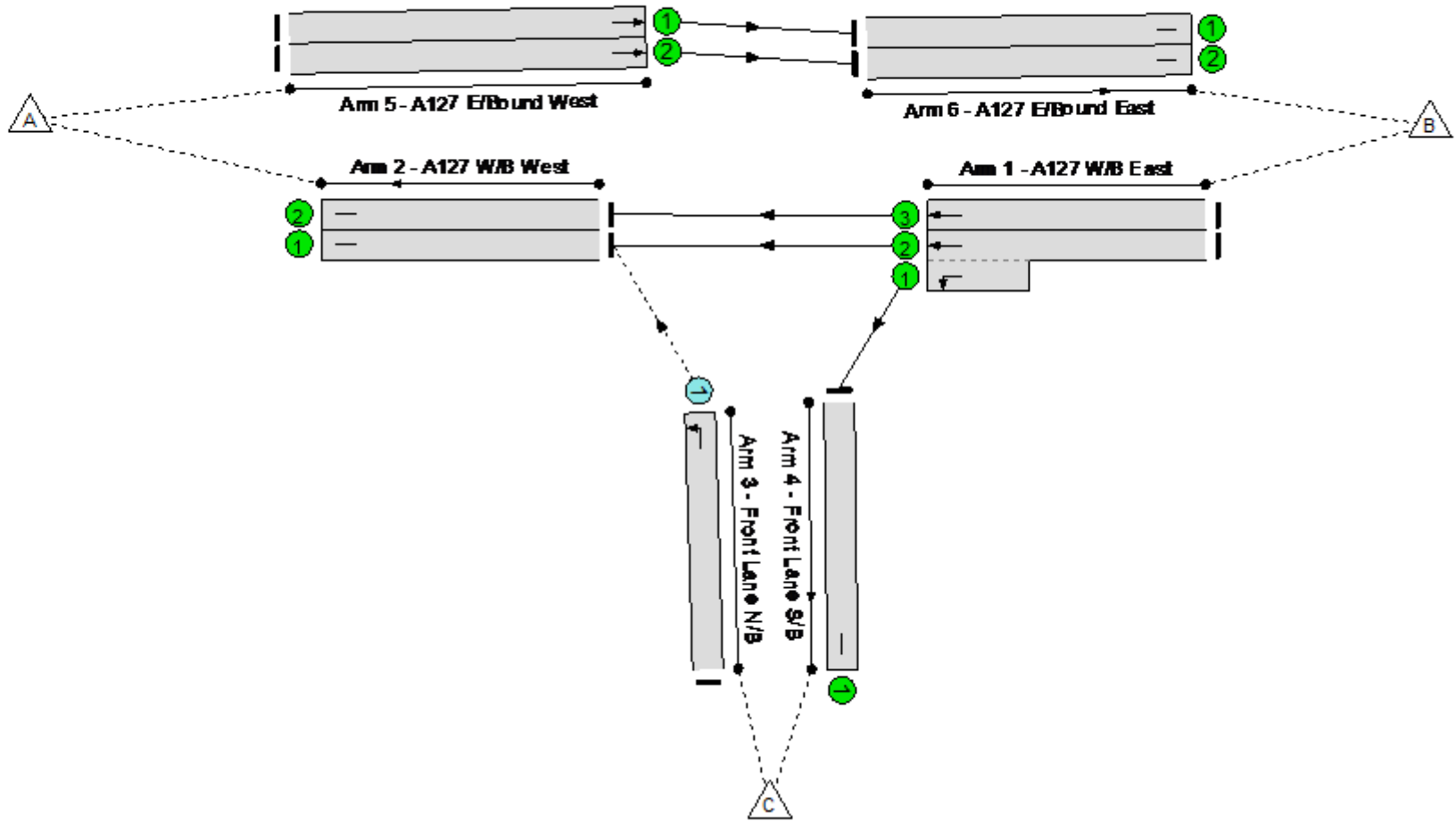
Stage
Duration
Change Point

**Signal Timings Diagram**



Full Input Data And Results  
**Network Layout Diagram**

Unnamed Junction  
PRC: 45.3 %  
Total Traffic Delay: 1.8 pouHr



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 (%)
<b>Network</b>	-	-	<b>N/A</b>	-	-		-	-	-	-	-	-	<b>61.9%</b>
<b>Unnamed Junction</b>	-	-	<b>N/A</b>	-	-		-	-	-	-	-	-	<b>61.9%</b>
1/2+1/1	A127 W/B East Ahead Left	U	N/A	N/A	-		-	-	-	1137	1980:1800	1591+354	58.5 : 58.5%
1/3	A127 W/B East Ahead	U	N/A	N/A	-		-	-	-	1313	2120	2120	61.9%
2/1	A127 W/B West	U	N/A	N/A	-		-	-	-	1023	Inf	Inf	0.0%
2/2	A127 W/B West	U	N/A	N/A	-		-	-	-	1313	Inf	Inf	0.0%
3/1	Front Lane N/B Left	O	N/A	N/A	-		-	-	-	93	1764	510	18.2%
4/1	Front Lane S/B	U	N/A	N/A	-		-	-	-	207	Inf	Inf	0.0%
5/1	A127 E/Bound West Ahead	U	N/A	N/A	-		-	-	-	924	Inf	Inf	0.0%
5/2	A127 E/Bound West Ahead	U	N/A	N/A	-		-	-	-	924	Inf	Inf	0.0%
6/1	A127 E/Bound East	U	N/A	N/A	-		-	-	-	924	Inf	Inf	0.0%
6/2	A127 E/Bound East	U	N/A	N/A	-		-	-	-	924	Inf	Inf	0.0%

Full Input Data And Results

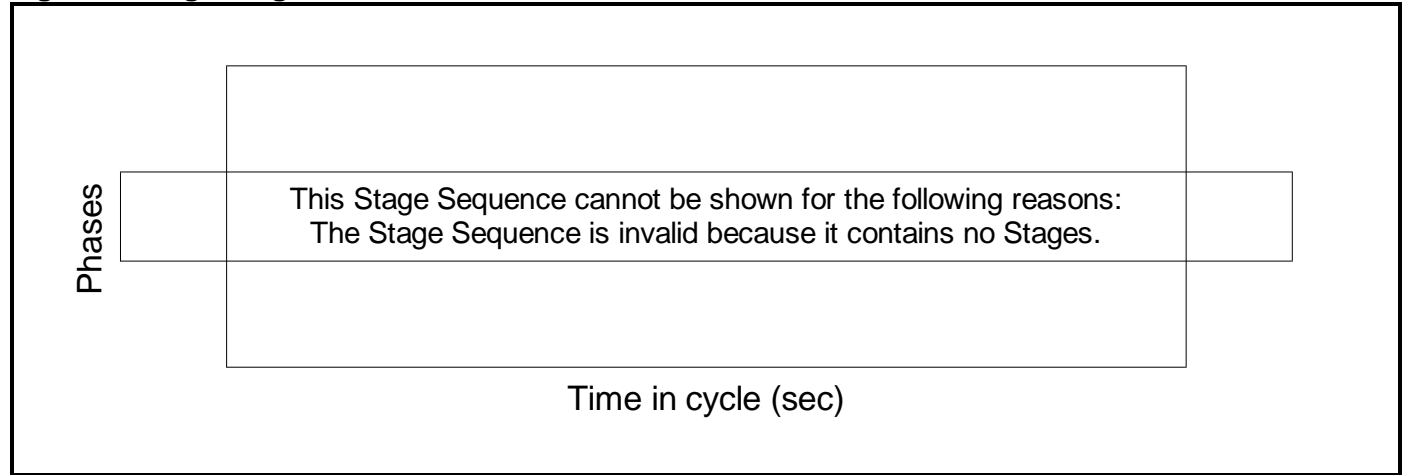
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
<b>Network</b>	-	-	<b>93</b>	<b>0</b>	<b>0</b>	<b>0.0</b>	<b>1.6</b>	<b>0.0</b>	<b>1.6</b>	-	-	-	-
<b>Unnamed Junction</b>	-	-	<b>93</b>	<b>0</b>	<b>0</b>	<b>0.0</b>	<b>1.6</b>	<b>0.0</b>	<b>1.6</b>	-	-	-	-
1/2+1/1	1137	1137	-	-	-	0.0	0.7	-	0.7	2.2	0.0	0.7	0.7
1/3	1313	1313	-	-	-	0.0	0.8	-	0.8	2.2	0.0	0.8	0.8
2/1	1023	1023	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
2/2	1313	1313	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
3/1	93	93	93	0	0	0.0	0.1	-	0.1	4.3	0.0	0.1	0.1
4/1	207	207	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	924	924	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/2	924	924	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	924	924	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/2	924	924	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
C1			PRC for Signalled Lanes (%):		0.0	Total Delay for Signalled Lanes (pcuHr):		0.00	Cycle Time (s):		90		
			PRC Over All Lanes (%):		45.3	Total Delay Over All Lanes(pcuHr):		1.63					

**Stage Sequence Diagram**

**Stage Timings**

Stage
Duration
Change Point

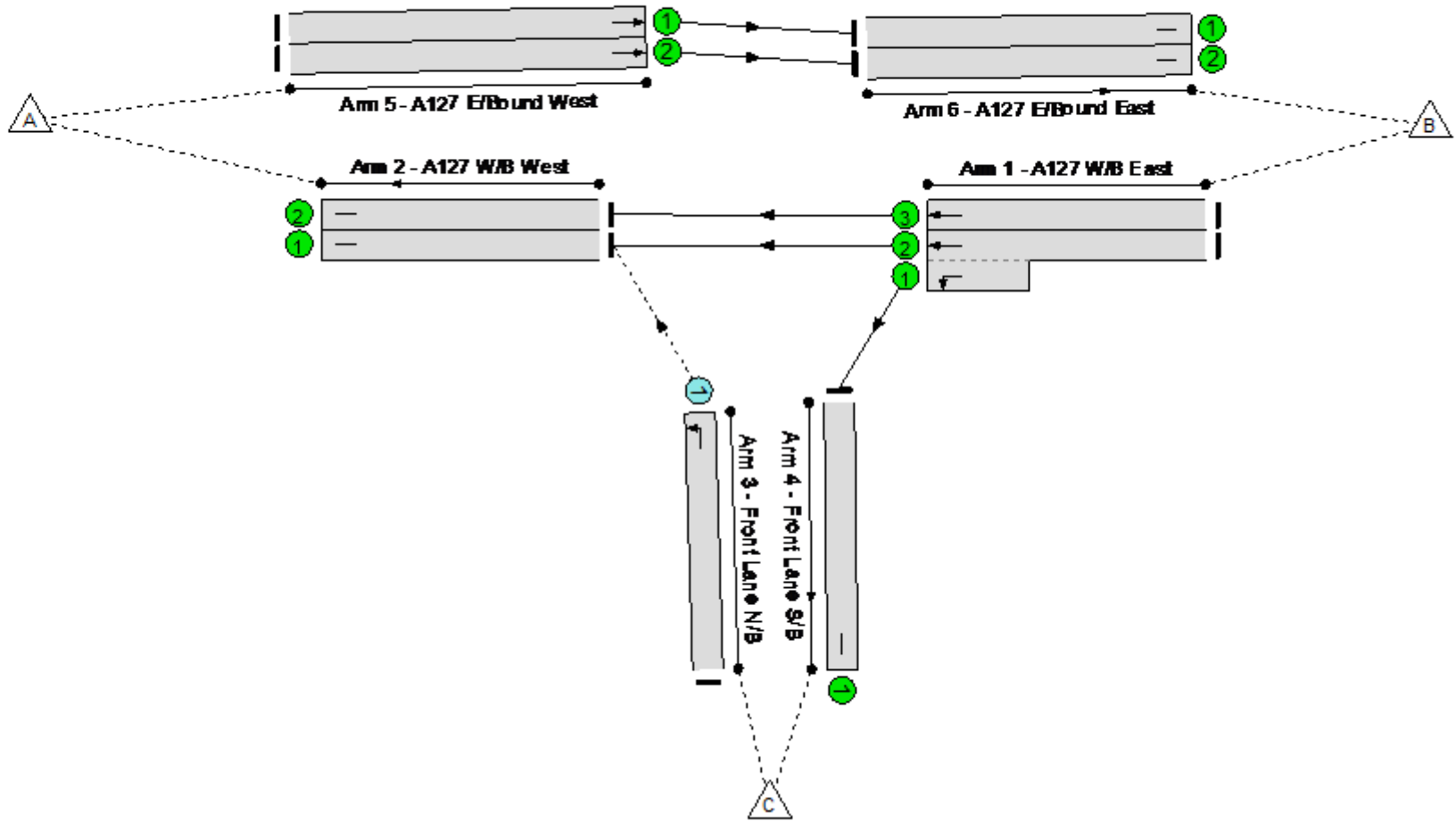
**Signal Timings Diagram**





Full Input Data And Results  
**Network Layout Diagram**

Unnamed Junction  
PRC: 51.1 %  
Total Traffic Delay: 1.5 pu Hr



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 (%)
<b>Network</b>	-	-	<b>N/A</b>	-	-		-	-	-	-	-	-	<b>59.6%</b>
<b>Unnamed Junction</b>	-	-	<b>N/A</b>	-	-		-	-	-	-	-	-	<b>59.6%</b>
1/2+1/1	A127 W/B East Ahead Left	U	N/A	N/A	-		-	-	-	1062	1980:1800	1314+605	55.3 : 55.3%
1/3	A127 W/B East Ahead	U	N/A	N/A	-		-	-	-	1263	2120	2120	59.6%
2/1	A127 W/B West	U	N/A	N/A	-		-	-	-	825	Inf	Inf	0.0%
2/2	A127 W/B West	U	N/A	N/A	-		-	-	-	1263	Inf	Inf	0.0%
3/1	Front Lane N/B Left	O	N/A	N/A	-		-	-	-	98	1764	555	17.7%
4/1	Front Lane S/B	U	N/A	N/A	-		-	-	-	335	Inf	Inf	0.0%
5/1	A127 E/Bound West Ahead	U	N/A	N/A	-		-	-	-	872	Inf	Inf	0.0%
5/2	A127 E/Bound West Ahead	U	N/A	N/A	-		-	-	-	872	Inf	Inf	0.0%
6/1	A127 E/Bound East	U	N/A	N/A	-		-	-	-	872	Inf	Inf	0.0%
6/2	A127 E/Bound East	U	N/A	N/A	-		-	-	-	872	Inf	Inf	0.0%

Full Input Data And Results

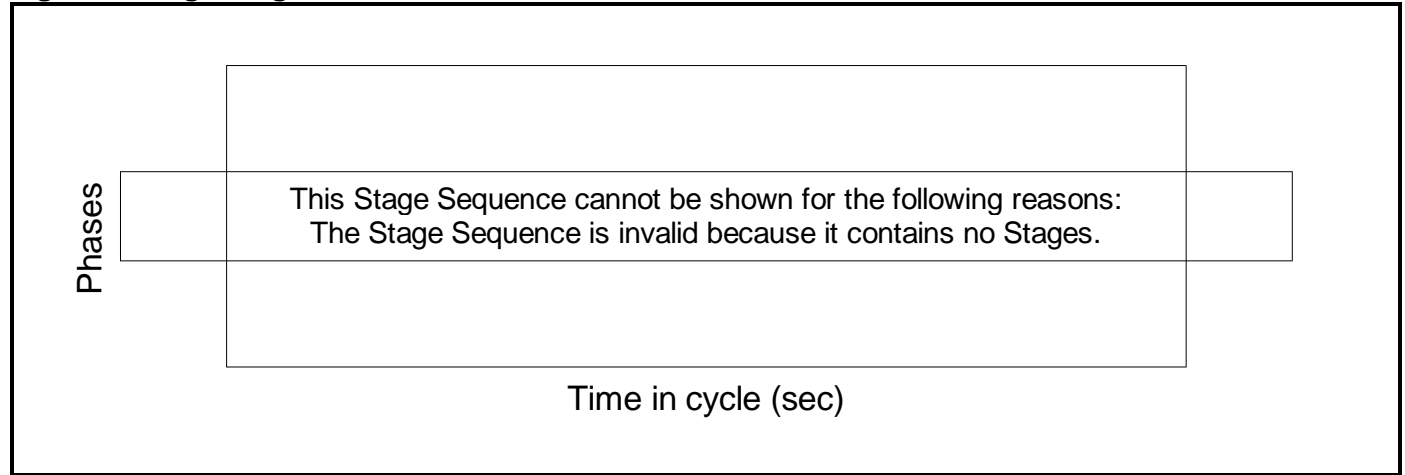
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
<b>Network</b>	-	-	<b>98</b>	<b>0</b>	<b>0</b>	<b>0.0</b>	<b>1.5</b>	<b>0.0</b>	<b>1.5</b>	-	-	-	-
<b>Unnamed Junction</b>	-	-	<b>98</b>	<b>0</b>	<b>0</b>	<b>0.0</b>	<b>1.5</b>	<b>0.0</b>	<b>1.5</b>	-	-	-	-
1/2+1/1	1062	1062	-	-	-	0.0	0.6	-	0.6	2.1	0.0	0.6	0.6
1/3	1263	1263	-	-	-	0.0	0.7	-	0.7	2.1	0.0	0.7	0.7
2/1	825	825	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
2/2	1263	1263	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
3/1	98	98	98	0	0	0.0	0.1	-	0.1	3.9	0.0	0.1	0.1
4/1	335	335	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	872	872	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/2	872	872	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	872	872	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/2	872	872	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
C1			PRC for Signalled Lanes (%):		0.0	Total Delay for Signalled Lanes (pcuHr):		0.00	Cycle Time (s):		90		
			PRC Over All Lanes (%):		51.1	Total Delay Over All Lanes(pcuHr):		1.46					

Stage Sequence Diagram

Stage Timings

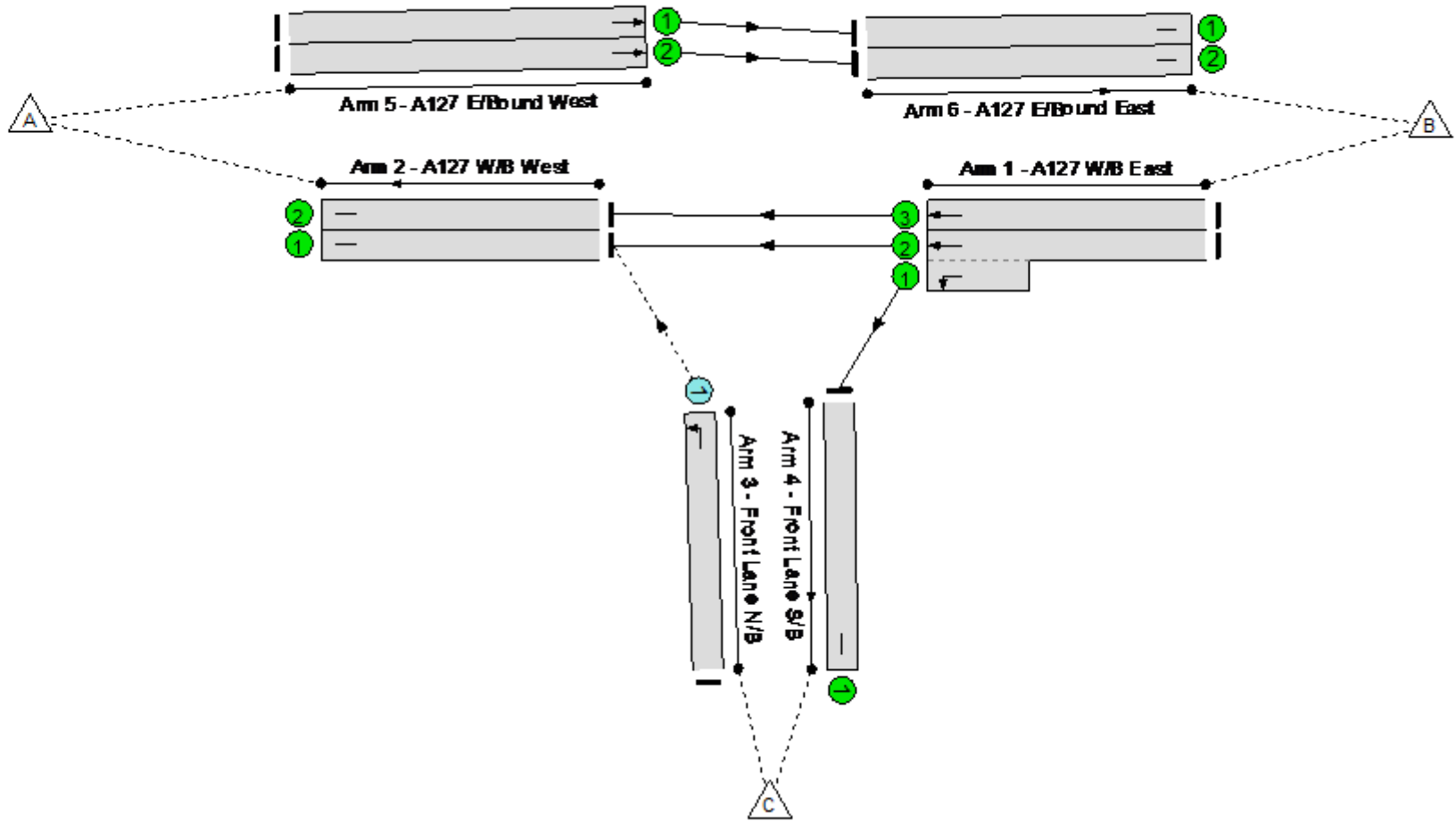
Stage
Duration
Change Point

Signal Timings Diagram



Full Input Data And Results  
**Network Layout Diagram**

Unnamed Junction  
PRC: 15.5 %  
Total Traffic Delay: 3.8 pou Hr



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 (%)
<b>Network</b>	-	-	<b>N/A</b>	-	-		-	-	-	-	-	-	<b>77.9%</b>
<b>Unnamed Junction</b>	-	-	<b>N/A</b>	-	-		-	-	-	-	-	-	<b>77.9%</b>
1/2+1/1	A127 W/B East Ahead Left	U	N/A	N/A	-		-	-	-	1469	1980:1800	1504+432	75.8 : 75.8%
1/3	A127 W/B East Ahead	U	N/A	N/A	-		-	-	-	1652	2120	2120	77.9%
2/1	A127 W/B West	U	N/A	N/A	-		-	-	-	1292	Inf	Inf	0.0%
2/2	A127 W/B West	U	N/A	N/A	-		-	-	-	1652	Inf	Inf	0.0%
3/1	Front Lane N/B Left	O	N/A	N/A	-		-	-	-	151	1764	464	32.5%
4/1	Front Lane S/B	U	N/A	N/A	-		-	-	-	328	Inf	Inf	0.0%
5/1	A127 E/Bound West Ahead	U	N/A	N/A	-		-	-	-	924	Inf	Inf	0.0%
5/2	A127 E/Bound West Ahead	U	N/A	N/A	-		-	-	-	924	Inf	Inf	0.0%
6/1	A127 E/Bound East	U	N/A	N/A	-		-	-	-	924	Inf	Inf	0.0%
6/2	A127 E/Bound East	U	N/A	N/A	-		-	-	-	924	Inf	Inf	0.0%

Full Input Data And Results

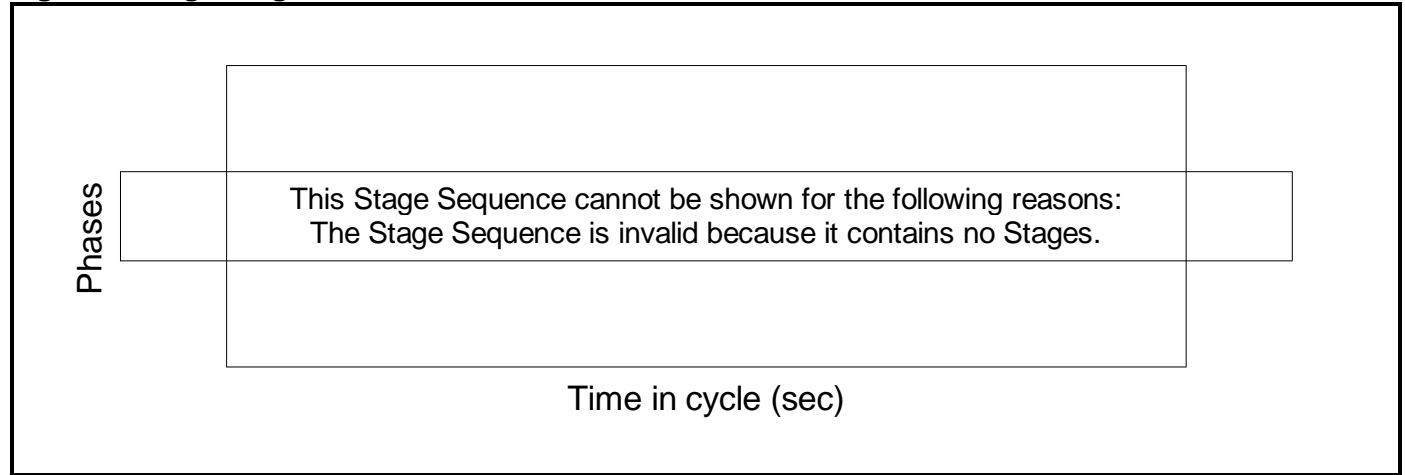
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
<b>Network</b>	-	-	151	0	0	0.0	3.6	0.0	3.6	-	-	-	-
<b>Unnamed Junction</b>	-	-	151	0	0	0.0	3.6	0.0	3.6	-	-	-	-
1/2+1/1	1469	1469	-	-	-	0.0	1.6	-	1.6	3.8	0.0	1.6	1.6
1/3	1652	1652	-	-	-	0.0	1.8	-	1.8	3.8	0.0	1.8	1.8
2/1	1292	1292	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
2/2	1652	1652	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
3/1	151	151	151	0	0	0.0	0.2	-	0.2	5.7	0.0	0.2	0.2
4/1	328	328	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	924	924	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/2	924	924	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	924	924	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/2	924	924	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
C1			PRC for Signalled Lanes (%):		0.0	Total Delay for Signalled Lanes (pcuHr):		0.00	Cycle Time (s):		90		
			PRC Over All Lanes (%):		15.5	Total Delay Over All Lanes (pcuHr):		3.55					

Stage Sequence Diagram

Stage Timings

Stage
Duration
Change Point

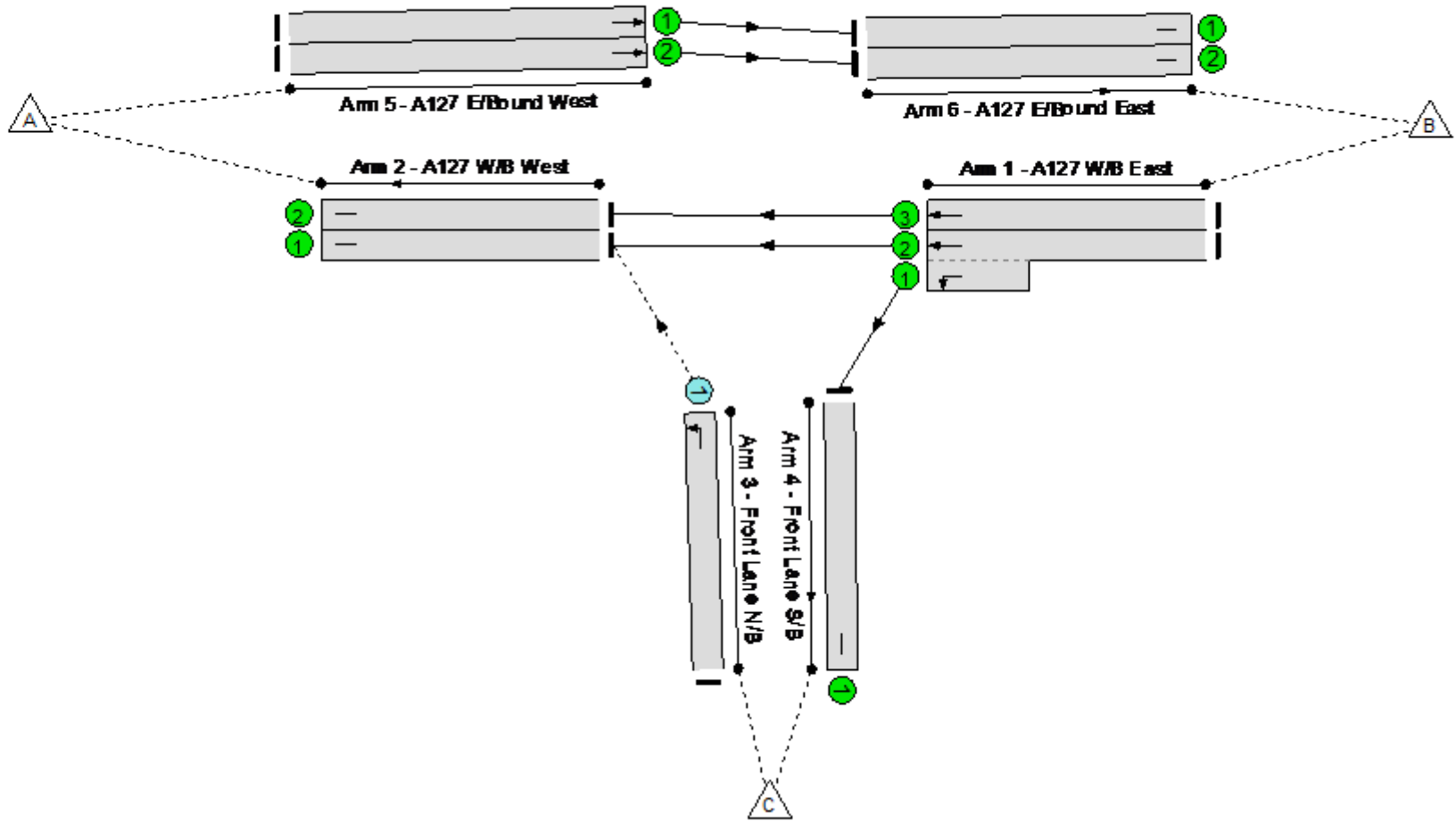
Signal Timings Diagram





Full Input Data And Results  
**Network Layout Diagram**

Unnamed Junction  
PRC: 32.7 %  
Total Traffic Delay: 2.2 pouHr



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 (%)
<b>Network</b>	-	-	<b>N/A</b>	-	-		-	-	-	-	-	-	<b>67.8%</b>
<b>Unnamed Junction</b>	-	-	<b>N/A</b>	-	-		-	-	-	-	-	-	<b>67.8%</b>
1/2+1/1	A127 W/B East Ahead Left	U	N/A	N/A	-		-	-	-	1242	1980:1800	1370+555	64.5 : 64.5%
1/3	A127 W/B East Ahead	U	N/A	N/A	-		-	-	-	1438	2120	2120	67.8%
2/1	A127 W/B West	U	N/A	N/A	-		-	-	-	1045	Inf	Inf	0.0%
2/2	A127 W/B West	U	N/A	N/A	-		-	-	-	1438	Inf	Inf	0.0%
3/1	Front Lane N/B Left	O	N/A	N/A	-		-	-	-	161	1764	520	30.9%
4/1	Front Lane S/B	U	N/A	N/A	-		-	-	-	358	Inf	Inf	0.0%
5/1	A127 E/Bound West Ahead	U	N/A	N/A	-		-	-	-	872	Inf	Inf	0.0%
5/2	A127 E/Bound West Ahead	U	N/A	N/A	-		-	-	-	872	Inf	Inf	0.0%
6/1	A127 E/Bound East	U	N/A	N/A	-		-	-	-	872	Inf	Inf	0.0%
6/2	A127 E/Bound East	U	N/A	N/A	-		-	-	-	872	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)
<b>Network</b>	-	-	161	0	0	0.0	2.2	0.0	2.2	-	-	-	-
<b>Unnamed Junction</b>	-	-	161	0	0	0.0	2.2	0.0	2.2	-	-	-	-
1/2+1/1	1242	1242	-	-	-	0.0	0.9	-	0.9	2.6	0.0	0.9	0.9
1/3	1438	1438	-	-	-	0.0	1.1	-	1.1	2.6	0.0	1.1	1.1
2/1	1045	1045	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
2/2	1438	1438	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
3/1	161	161	161	0	0	0.0	0.2	-	0.2	5.0	0.0	0.2	0.2
4/1	358	358	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	872	872	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/2	872	872	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	872	872	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/2	872	872	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
C1			PRC for Signalled Lanes (%):		0.0	Total Delay for Signalled Lanes (pcuHr):		0.00	Cycle Time (s):		90		
			PRC Over All Lanes (%):		32.7	Total Delay Over All Lanes(pcuHr):		2.18					

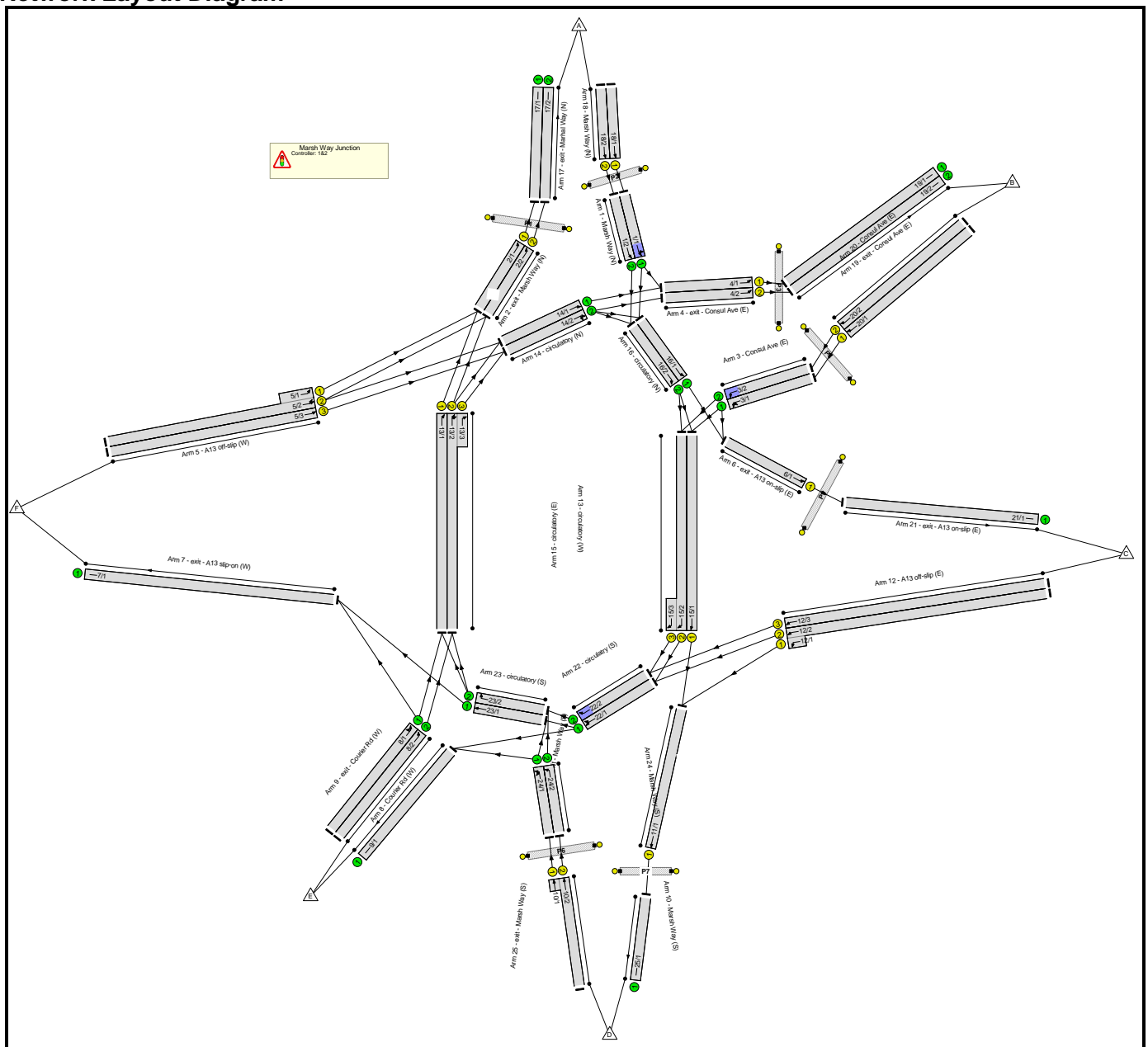
# Full Input Data And Results

## Full Input Data And Results

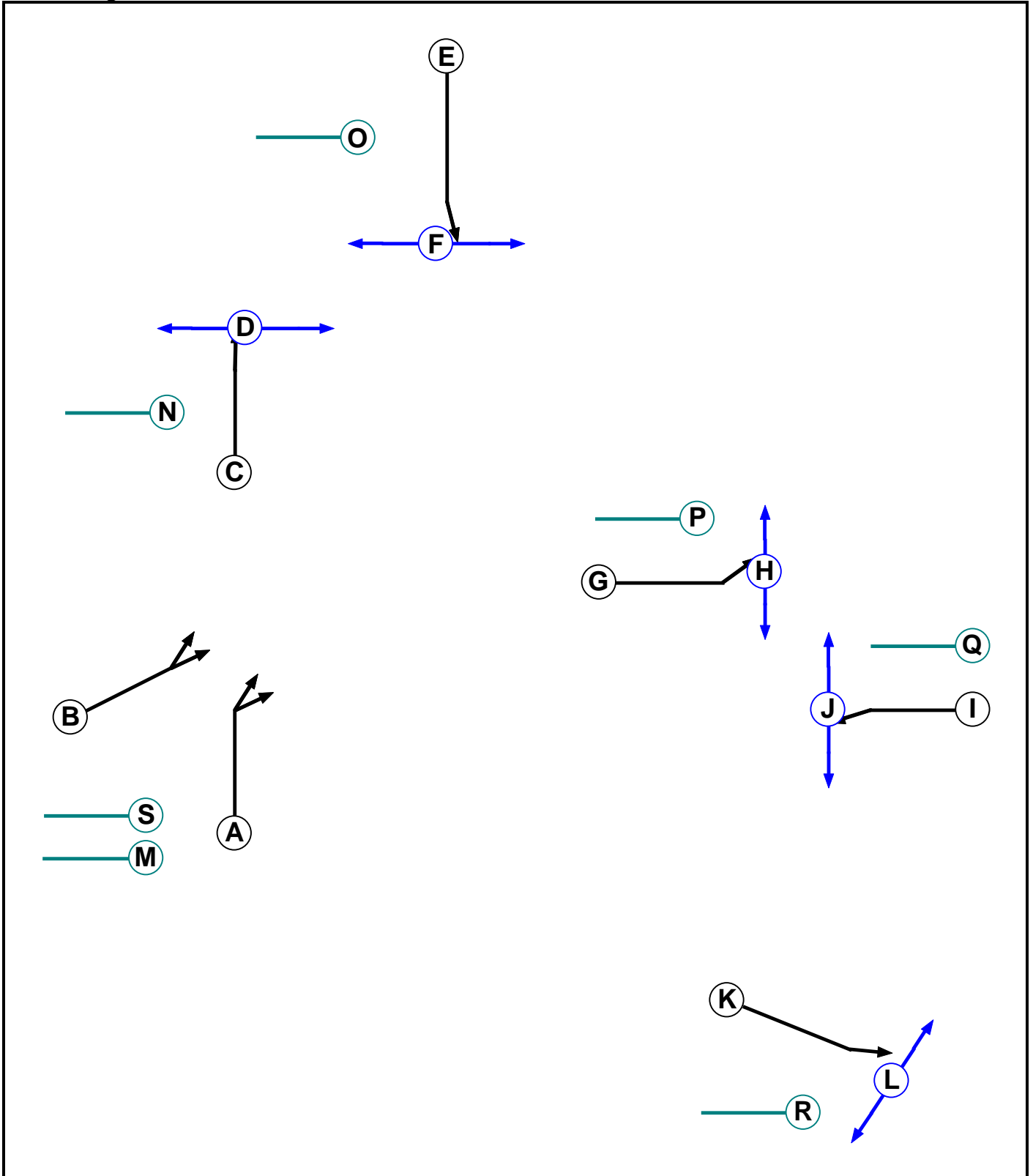
### User and Project Details

Project:	
Title:	
Location:	
Additional detail:	
File name:	9 - Marsh Way Junction.lsg3x
Author:	
Company:	
Address:	

### Network Layout Diagram



C1 - North  
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		-9999	7
B	Traffic	1		-9999	7
C	Traffic	2		-9999	7
D	Pedestrian	2		-9999	6
E	Traffic	3		-9999	7
F	Pedestrian	3		-9999	6
G	Traffic	4		-9999	7
H	Pedestrian	4		-9999	6
I	Traffic	5		-9999	7
J	Pedestrian	5		-9999	6
K	Traffic	6		-9999	7
L	Pedestrian	6		-9999	6
M	Dummy	1		-9999	3
N	Dummy	2		-9999	3
O	Dummy	3		-9999	3
P	Dummy	4		-9999	3
Q	Dummy	5		-9999	3
R	Dummy	6		-9999	3
S	Dummy	1		-9999	2

Full Input Data And Results

**Phase Intergreens Matrix**

		Starting Phase																		
		A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
Terminating Phase	A		5	-	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-	3
	B	7		-	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-	3
	C	-	-		5	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-
	D	-	-	9		-	-	-	-	-	-	-	-	-	4	-	-	-	-	-
	E	-	-	-	-		5	-	-	-	-	-	-	-	-	3	-	-	-	-
	F	-	-	-	-	10		-	-	-	-	-	-	-	-	4	-	-	-	-
	G	-	-	-	-	-	-		5	-	-	-	-	-	-	-	3	-	-	-
	H	-	-	-	-	-	-	9		-	-	-	-	-	-	-	4	-	-	-
	I	-	-	-	-	-	-	-	-		5	-	-	-	-	-	-	3	-	-
	J	-	-	-	-	-	-	-	-	10		-	-	-	-	-	-	4	-	-
	K	-	-	-	-	-	-	-	-	-	-		5	-	-	-	-	-	3	-
	L	-	-	-	-	-	-	-	-	-	-	9		-	-	-	-	-	4	-
	M	2	2	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-
	N	-	-	2	2	-	-	-	-	-	-	-	-	-		-	-	-	-	-
	O	-	-	-	-	2	2	-	-	-	-	-	-	-	-		-	-	-	-
	P	-	-	-	-	-	-	2	2	-	-	-	-	-	-	-		-	-	-
	Q	-	-	-	-	-	-	-	-	2	2	-	-	-	-	-	-		-	-
	R	-	-	-	-	-	-	-	-	-	-	2	2	-	-	-	-	-		-
	S	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

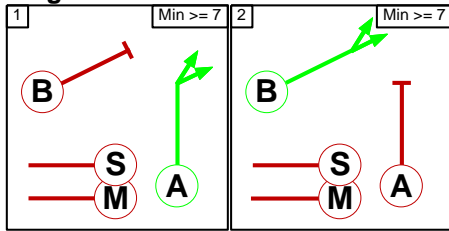
**Phases in Stage**

Stream	Stage No.	Phases in Stage
1	1	A
1	2	B
2	1	C
2	2	D
3	1	E
3	2	F
4	1	G
4	2	H
5	1	I
5	2	J
6	1	K
6	2	L

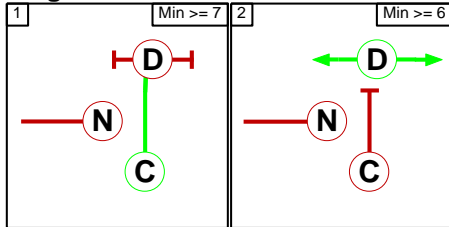
Full Input Data And Results

**Stage Diagram**

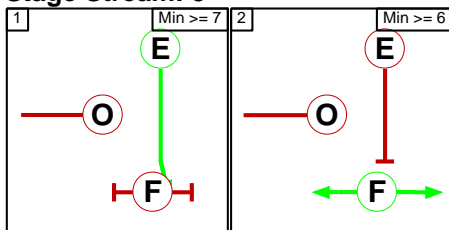
**Stage Stream: 1**



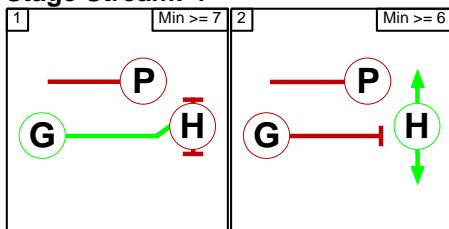
**Stage Stream: 2**



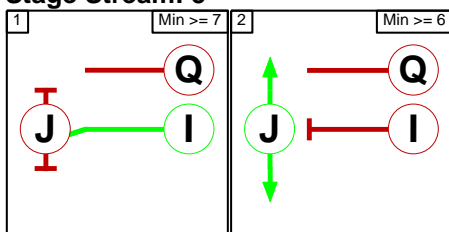
**Stage Stream: 3**



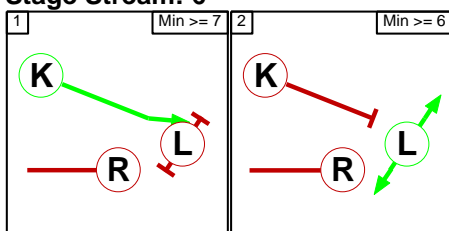
**Stage Stream: 4**



**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						



Full Input Data And Results

**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
There are no Phase Delays defined					

**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	7	

**Stage Stream: 2**

		To Stage	
From Stage		1	2
	1		5
	2	9	

**Stage Stream: 3**

		To Stage	
From Stage		1	2
	1		5
	2	10	

**Stage Stream: 4**

		To Stage	
From Stage		1	2
	1		5
	2	9	

Full Input Data And Results

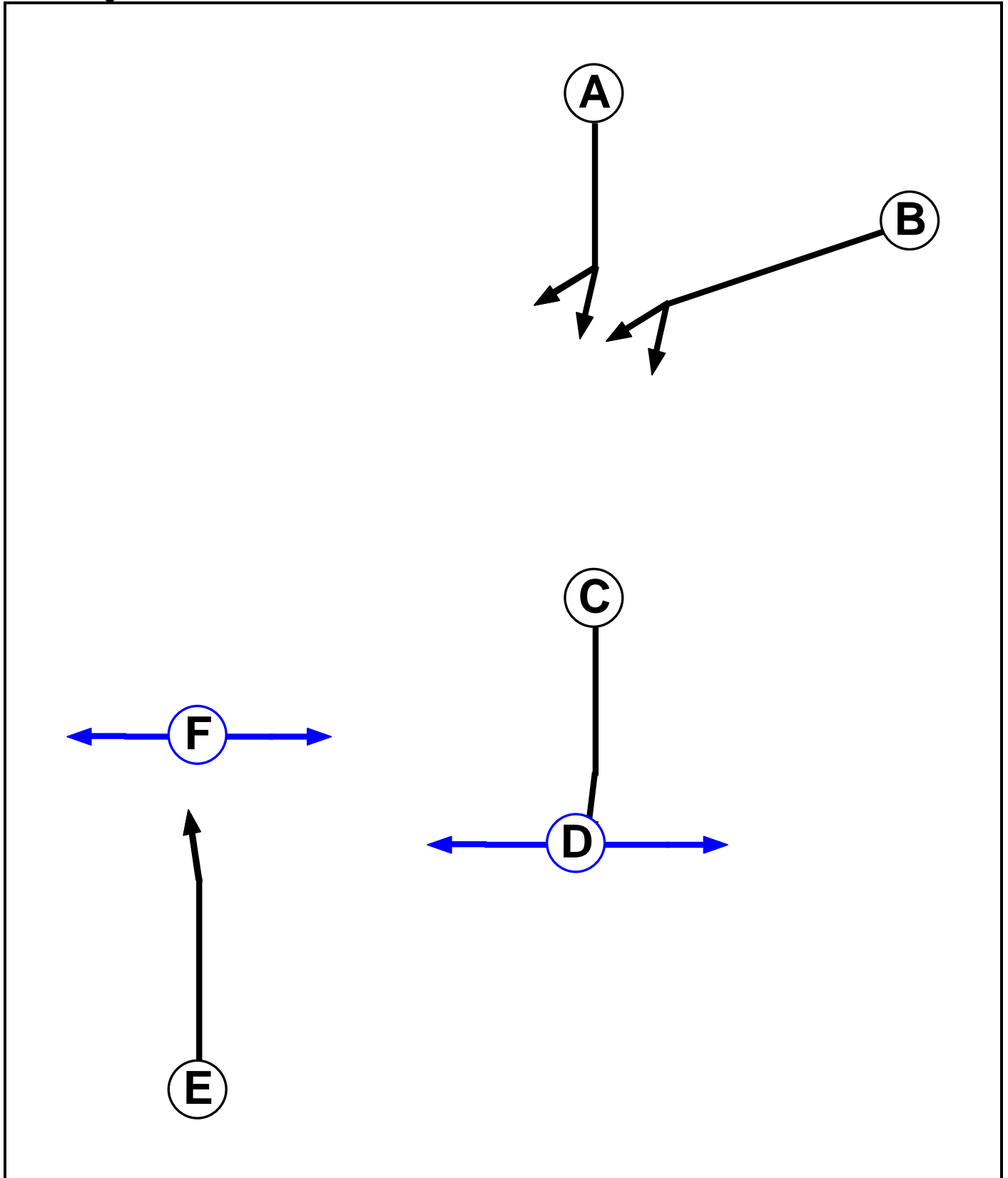
**Stage Stream: 5**

		To Stage	
		1	2
From Stage	1		5
	2	10	

**Stage Stream: 6**

		To Stage	
		1	2
From Stage	1		5
	2	9	

**C2 - South  
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		-9999	7
B	Traffic	1		-9999	7
C	Traffic	2		-9999	7
D	Pedestrian	2		-9999	6
E	Traffic	3		-9999	7
F	Pedestrian	3		-9999	6

**Phase Intergreens Matrix**

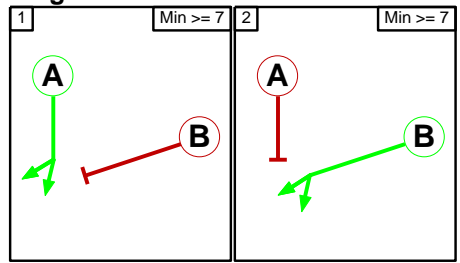
		Starting Phase					
		A	B	C	D	E	F
Terminating Phase	A	6	-	-	-	-	-
	B	6	-	-	-	-	-
	C	-	-	5	-	-	-
	D	-	-	8	-	-	-
	E	-	-	-	-	5	-
	F	-	-	-	-	9	-

**Phases in Stage**

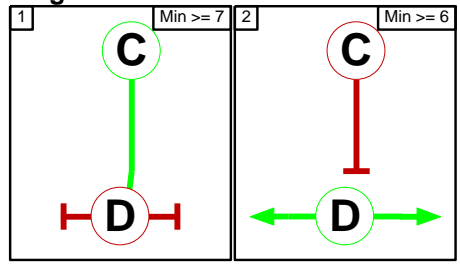
Stream	Stage No.	Phases in Stage
1	1	A
1	2	B
2	1	C
2	2	D
3	1	E
3	2	F

**Stage Diagram**

**Stage Stream: 1**

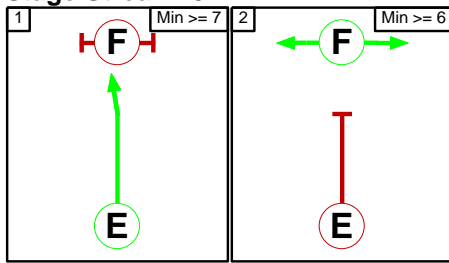


**Stage Stream: 2**



Full Input Data And Results

**Stage Stream: 3**



**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
There are no Phase Delays defined					

**Prohibited Stage Change**

**Stage Stream: 1**

		To Stage	
		1	2
From Stage	1		6
	2	6	

**Stage Stream: 2**

		To Stage	
		1	2
From Stage	1		5
	2	8	

**Stage Stream: 3**

		To Stage	
		1	2
From Stage	1		5
	2	9	

Full Input Data And Results

**Give-Way Lane Input Data**

**Junction: Marsh Way Junction**

There are no Opposed Lanes in this Junction

Full Input Data And Results

**Lane Input Data**

Junction: Marsh Way Junction												
Lane	Lane Type	Phases	Start Disp.	End Disp.	Physical Length (PCU)	Sat Flow Type	Def User Saturation Flow (PCU/Hr)	Lane Width (m)	Gradient	Nearside Lane	Turns	Turning Radius (m)
1/1 (Marsh Way (N))	U		2	3	5.4	Geom	-	4.00	0.00	Y	Arm 4 Left	51.00
											Arm 16 Ahead	51.00
1/2 (Marsh Way (N))	U		2	3	5.4	Geom	-	4.00	0.00	Y	Arm 16 Ahead	51.00
2/1 (exit - Marsh Way (N))	U	C	2	3	10.1	Geom	-	3.45	0.00	Y	Arm 17 Ahead	Inf
2/2 (exit - Marsh Way (N))	U	C	2	3	10.1	Geom	-	3.45	0.00	Y	Arm 17 Ahead	Inf
3/1 (Consul Ave (E))	U		2	3	5.9	Geom	-	4.00	0.00	Y	Arm 6 Left	18.00
											Arm 15 Left	18.00
3/2 (Consul Ave (E))	U		2	3	5.9	Geom	-	4.00	0.00	Y	Arm 15 Left	18.00
4/1 (exit - Consul Ave (E))	U	G	2	3	8.2	Geom	-	4.00	0.00	Y	Arm 19 Ahead	Inf
4/2 (exit - Consul Ave (E))	U	G	2	3	8.2	Geom	-	4.00	0.00	Y	Arm 19 Ahead	Inf
5/1 (A13 off-slip (W))	U	B	2	3	4.9	Geom	-	3.70	0.00	Y	Arm 2 Left	45.00
5/2 (A13 off-slip (W))	U	B	2	3	60.0	Geom	-	3.70	0.00	Y	Arm 2 Left	Inf
											Arm 14 Ahead	45.00
5/3 (A13 off-slip (W))	U	B	2	3	60.0	Geom	-	3.70	0.00	Y	Arm 14 Ahead	45.00
6/1 (exit - A13 on-slip (E))	U	K	2	3	7.8	Geom	-	4.00	0.00	Y	Arm 21 Ahead	Inf
7/1 (exit - A13 slip-on (W))	U		2	3	60.0	Inf	-	-	-	-	-	-
8/1 (Courier Rd (W))	U		2	3	60.0	Geom	-	3.30	0.00	Y	Arm 7 Left	19.00
											Arm 13 Ahead	19.00
8/2 (Courier Rd (W))	U		2	3	60.0	Geom	-	3.30	0.00	Y	Arm 13 Ahead	19.00

Full Input Data And Results

9/1 (exit - Courier Rd (W))	U		2	3	60.0	Inf	-	-	-	-	-	-
10/1 (Marsh Way (S))	U	E	2	3	1.7	Geom	-	3.40	0.00	Y	Arm 24 Ahead	Inf
10/2 (Marsh Way (S))	U	E	2	3	60.0	Geom	-	3.40	0.00	Y	Arm 24 Ahead	Inf
11/1 (exit - Marsh Way (S))	U	C	2	3	7.8	Geom	-	4.00	0.00	Y	Arm 25 Ahead	Inf
12/1 (A13 off-slip (E))	U	B	2	3	2.6	Geom	-	3.65	0.00	Y	Arm 11 Left	42.00
12/2 (A13 off-slip (E))	U	B	2	3	60.0	Geom	-	3.65	0.00	Y	Arm 22 Ahead	42.00
12/3 (A13 off-slip (E))	U	B	2	3	60.0	Geom	-	3.65	0.00	Y	Arm 22 Ahead	42.00
13/1 (circulatory (W))	U	A	2	3	24.7	Geom	-	4.00	0.00	Y	Arm 2 Ahead	24.00
13/2 (circulatory (W))	U	A	2	3	24.7	Geom	-	4.00	0.00	Y	Arm 2 Ahead	24.00
											Arm 14 Right	24.00
13/3 (circulatory (W))	U	A	2	3	4.9	Geom	-	4.00	0.00	Y	Arm 14 Right	24.00
14/1 (circulatory (N))	U		2	3	8.3	Geom	-	4.00	0.00	Y	Arm 4 Ahead	24.00
14/2 (circulatory (N))	U		2	3	8.3	Geom	-	4.00	0.00	Y	Arm 4 Ahead	24.00
											Arm 16 Right	24.00
15/1 (circulatory (E))	U	A	2	3	24.2	Geom	-	4.00	0.00	Y	Arm 11 Ahead	24.00
15/2 (circulatory (E))	U	A	2	3	24.2	Geom	-	4.00	0.00	Y	Arm 22 Right	24.00
15/3 (circulatory (E))	U	A	2	3	4.7	Geom	-	4.00	0.00	Y	Arm 22 Right	24.00
16/1 (circulatory (N))	U		2	3	5.9	Geom	-	4.00	0.00	Y	Arm 6 Ahead	24.00
16/2 (circulatory (N))	U		2	3	5.9	Geom	-	4.00	0.00	Y	Arm 15 Ahead	24.00
17/1 (exit - Marhal Way (N))	U		2	3	60.0	Inf	-	-	-	-	-	-



Full Input Data And Results

17/2 (exit - Marhal Way (N))	U		2	3	60.0	Inf	-	-	-	-	-	-
18/1 (Marsh Way (N))	U	E	2	3	60.0	Geom	-	3.70	0.00	Y	Arm 1 Ahead	Inf
18/2 (Marsh Way (N))	U	E	2	3	60.0	Geom	-	3.70	0.00	Y	Arm 1 Ahead	Inf
19/1 (exit - Consul Ave (E))	U		2	3	60.0	Inf	-	-	-	-	-	-
19/2 (exit - Consul Ave (E))	U		2	3	60.0	Inf	-	-	-	-	-	-
20/1 (Consul Ave (E))	U	I	2	3	60.0	Geom	-	4.00	0.00	Y	Arm 3 Ahead	Inf
20/2 (Consul Ave (E))	U	I	2	3	60.0	Geom	-	4.00	0.00	Y	Arm 3 Ahead	Inf
21/1 (exit - A13 on-slip (E))	U		2	3	60.0	Inf	-	-	-	-	-	-
22/1 (circulatory (S))	U		2	3	7.8	Geom	-	4.00	0.00	Y	Arm 9 Ahead	24.00
											Arm 23 Ahead	24.00
22/2 (circulatory (S))	U		2	3	7.8	Geom	-	4.00	0.00	Y	Arm 23 Ahead	24.00
23/1 (circulatory (S))	U		2	3	4.0	Geom	-	4.00	0.00	Y	Arm 7 Ahead	24.00
23/2 (circulatory (S))	U		2	3	4.0	Geom	-	4.00	0.00	Y	Arm 13 Right	24.00
24/1 (Marsh Way (S))	U		2	3	1.7	Geom	-	3.40	0.00	Y	Arm 9 Left	20.00
											Arm 23 Left	20.00
24/2 (Marsh Way (S))	U		2	3	1.7	Geom	-	3.40	0.00	Y	Arm 23 Left	20.00
25/1 (exit - Marsh Way (S))	U		2	3	60.0	Inf	-	-	-	-	-	-

Full Input Data And Results

**Traffic Flow Groups**

Flow Group	Start Time	End Time	Duration	Formula
1: 'Base Year 2023 AM'	07:00	08:00	01:00	
2: 'Base Year 2023 PM'	17:00	18:00	01:00	
3: 'Reference Case 2030 AM'	07:00	08:00	01:00	F1*1.0466
4: 'Reference Case 2030 PM'	17:00	18:00	01:00	F2*1.0521
7: 'Do Something 2030 + LTC AM'	07:00	08:00	01:00	F3 + F5
8: 'Do Something 2030 + LTC PM'	17:00	18:00	01:00	F4+F6

**Scenario 1: 'Base Year 2023 AM'** (FG1: 'Base Year 2023 AM', Plan 1: 'Network Control Plan 1')

**Traffic Flows, Desired**

**Desired Flow :**

	Destination							
	A	B	C	D	E	F	Tot.	
Origin	A	0	31	315	147	8	184	685
	B	0	0	68	34	2	41	145
	C	271	33	77	214	54	338	987
	D	119	15	32	0	0	57	223
	E	30	4	8	1	0	3	46
	F	172	47	2	43	3	53	320
	Tot.	592	130	502	439	67	676	2406

Full Input Data And Results

**Traffic Lane Flows**

Lane	Scenario 1: Base Year 2023 AM
<b>Junction: Marsh Way Junction</b>	
1/1	346
1/2	339
2/1	311
2/2	281
3/1	102
3/2	43
4/1	101
4/2	29
5/1 (short)	90
5/2 (with short)	193(In) 103(Out)
5/3	127
6/1	502
7/1	676
8/1	18
8/2	28
9/1	67
10/1 (short)	57
10/2 (with short)	223(In) 166(Out)
11/1	439
12/1 (short)	214
12/2 (with short)	606(In) 392(Out)
12/3	381
13/1	221
13/2 (with short)	369(In) 248(Out)
13/3 (short)	121
14/1	70
14/2	248
15/1	225
15/2 (with short)	291(In) 291(Out)
15/3 (short)	0
16/1	434
16/2	439
17/1	311
17/2	281

## Full Input Data And Results

18/1	346
18/2	339
19/1	101
19/2	29
20/1	102
20/2	43
21/1	502
22/1	683
22/2	381
23/1	673
23/2	547
24/1	57
24/2	166
25/1	439

Full Input Data And Results

**Lane Saturation Flows**

Junction: Marsh Way Junction								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (Marsh Way (N))	4.00	0.00	Y	Arm 4 Left	51.00	9.0 %	1957	1957
				Arm 16 Ahead	51.00	91.0 %		
1/2 (Marsh Way (N))	4.00	0.00	Y	Arm 16 Ahead	51.00	100.0 %	1957	1957
2/1 (exit - Marsh Way (N))	3.45	0.00	Y	Arm 17 Ahead	Inf	100.0 %	1960	1960
2/2 (exit - Marsh Way (N))	3.45	0.00	Y	Arm 17 Ahead	Inf	100.0 %	1960	1960
3/1 (Consul Ave (E))	4.00	0.00	Y	Arm 6 Left	18.00	66.7 %	1860	1860
				Arm 15 Left	18.00	33.3 %		
3/2 (Consul Ave (E))	4.00	0.00	Y	Arm 15 Left	18.00	100.0 %	1860	1860
4/1 (exit - Consul Ave (E))	4.00	0.00	Y	Arm 19 Ahead	Inf	100.0 %	2015	2015
4/2 (exit - Consul Ave (E))	4.00	0.00	Y	Arm 19 Ahead	Inf	100.0 %	2015	2015
5/1 (A13 off-slip (W))	3.70	0.00	Y	Arm 2 Left	45.00	100.0 %	1921	1921
5/2 (A13 off-slip (W))	3.70	0.00	Y	Arm 2 Left	Inf	79.6 %	1972	1972
				Arm 14 Ahead	45.00	20.4 %		
5/3 (A13 off-slip (W))	3.70	0.00	Y	Arm 14 Ahead	45.00	100.0 %	1921	1921
6/1 (exit - A13 on-slip (E))	4.00	0.00	Y	Arm 21 Ahead	Inf	100.0 %	2015	2015
7/1 (exit - A13 slip-on (W) Lane 1)	Infinite Saturation Flow						Inf	Inf
8/1 (Courier Rd (W))	3.30	0.00	Y	Arm 7 Left	19.00	16.7 %	1803	1803
				Arm 13 Ahead	19.00	83.3 %		
8/2 (Courier Rd (W))	3.30	0.00	Y	Arm 13 Ahead	19.00	100.0 %	1803	1803
9/1 (exit - Courier Rd (W) Lane 1)	Infinite Saturation Flow						Inf	Inf
10/1 (Marsh Way (S))	3.40	0.00	Y	Arm 24 Ahead	Inf	100.0 %	1955	1955
10/2 (Marsh Way (S))	3.40	0.00	Y	Arm 24 Ahead	Inf	100.0 %	1955	1955
11/1 (exit - Marsh Way (S))	4.00	0.00	Y	Arm 25 Ahead	Inf	100.0 %	2015	2015
12/1 (A13 off-slip (E))	3.65	0.00	Y	Arm 11 Left	42.00	100.0 %	1912	1912
12/2 (A13 off-slip (E))	3.65	0.00	Y	Arm 22 Ahead	42.00	100.0 %	1912	1912
12/3 (A13 off-slip (E))	3.65	0.00	Y	Arm 22 Ahead	42.00	100.0 %	1912	1912

Full Input Data And Results

13/1 (circulatory (W))	4.00	0.00	Y	Arm 2 Ahead	24.00	100.0 %	1896	1896
13/2 (circulatory (W))	4.00	0.00	Y	Arm 2 Ahead	24.00	80.2 %	1896	1896
				Arm 14 Right	24.00	19.8 %		
13/3 (circulatory (W))	4.00	0.00	Y	Arm 14 Right	24.00	100.0 %	1896	1896
14/1 (circulatory (N))	4.00	0.00	Y	Arm 4 Ahead	24.00	100.0 %	1896	1896
14/2 (circulatory (N))	4.00	0.00	Y	Arm 4 Ahead	24.00	11.7 %	1896	1896
				Arm 16 Right	24.00	88.3 %		
15/1 (circulatory (E))	4.00	0.00	Y	Arm 11 Ahead	24.00	100.0 %	1896	1896
15/2 (circulatory (E))	4.00	0.00	Y	Arm 22 Right	24.00	100.0 %	1896	1896
15/3 (circulatory (E))	4.00	0.00	Y	Arm 22 Right	24.00	0.0 %	2015	2015
16/1 (circulatory (N))	4.00	0.00	Y	Arm 6 Ahead	24.00	100.0 %	1896	1896
16/2 (circulatory (N))	4.00	0.00	Y	Arm 15 Ahead	24.00	100.0 %	1896	1896
17/1 (exit - Marhal Way (N) Lane 1)	Infinite Saturation Flow						Inf	Inf
17/2 (exit - Marhal Way (N) Lane 2)	Infinite Saturation Flow						Inf	Inf
18/1 (Marsh Way (N))	3.70	0.00	Y	Arm 1 Ahead	Inf	100.0 %	1985	1985
18/2 (Marsh Way (N))	3.70	0.00	Y	Arm 1 Ahead	Inf	100.0 %	1985	1985
19/1 (exit - Consul Ave (E) Lane 1)	Infinite Saturation Flow						Inf	Inf
19/2 (exit - Consul Ave (E) Lane 2)	Infinite Saturation Flow						Inf	Inf
20/1 (Consul Ave (E))	4.00	0.00	Y	Arm 3 Ahead	Inf	100.0 %	2015	2015
20/2 (Consul Ave (E))	4.00	0.00	Y	Arm 3 Ahead	Inf	100.0 %	2015	2015
21/1 (exit - A13 on-slip (E) Lane 1)	Infinite Saturation Flow						Inf	Inf
22/1 (circulatory (S))	4.00	0.00	Y	Arm 9 Ahead	24.00	9.8 %	1896	1896
				Arm 23 Ahead	24.00	90.2 %		
22/2 (circulatory (S))	4.00	0.00	Y	Arm 23 Ahead	24.00	100.0 %	1896	1896
23/1 (circulatory (S))	4.00	0.00	Y	Arm 7 Ahead	24.00	100.0 %	1896	1896
23/2 (circulatory (S))	4.00	0.00	Y	Arm 13 Right	24.00	100.0 %	1896	1896
24/1 (Marsh Way (S))	3.40	0.00	Y	Arm 9 Left	20.00	0.0 %	1819	1819
				Arm 23 Left	20.00	100.0 %		
24/2 (Marsh Way (S))	3.40	0.00	Y	Arm 23 Left	20.00	100.0 %	1819	1819

Full Input Data And Results

25/1 (exit - Marsh Way (S) Lane 1)	Infinite Saturation Flow	Inf	Inf
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Scenario 2: 'Base Year 2023 PM' (FG2: 'Base Year 2023 PM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination						
		A	B	C	D	E	F	Tot.
Origin	A	0	12	445	58	9	258	782
	B	0	0	74	10	2	43	129
	C	283	27	135	67	43	6	561
	D	207	20	98	0	0	105	430
	E	53	5	24	1	0	18	101
	F	486	24	2	8	2	32	554
	Tot.	1029	88	778	144	56	462	2557

Full Input Data And Results

**Traffic Lane Flows**

Lane	Scenario 2: Base Year 2023 PM
<b>Junction: Marsh Way Junction</b>	
1/1	457
1/2	325
2/1	519
2/2	510
3/1	84
3/2	45
4/1	64
4/2	24
5/1 (short)	239
5/2 (with short)	486(In) 247(Out)
5/3	68
6/1	778
7/1	462
8/1	48
8/2	53
9/1	56
10/1 (short)	105
10/2 (with short)	430(In) 325(Out)
11/1	144
12/1 (short)	67
12/2 (with short)	116(In) 49(Out)
12/3	445
13/1	280
13/2 (with short)	573(In) 315(Out)
13/3 (short)	258
14/1	52
14/2	326
15/1	77
15/2 (with short)	346(In) 346(Out)
15/3 (short)	0
16/1	704
16/2	368
17/1	519
17/2	510



## Full Input Data And Results

18/1	457
18/2	325
19/1	64
19/2	24
20/1	84
20/2	45
21/1	778
22/1	395
22/2	445
23/1	444
23/2	770
24/1	105
24/2	325
25/1	144

Full Input Data And Results

**Lane Saturation Flows**

Junction: Marsh Way Junction								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (Marsh Way (N))	4.00	0.00	Y	Arm 4 Left	51.00	2.6 %	1957	1957
				Arm 16 Ahead	51.00	97.4 %		
1/2 (Marsh Way (N))	4.00	0.00	Y	Arm 16 Ahead	51.00	100.0 %	1957	1957
2/1 (exit - Marsh Way (N))	3.45	0.00	Y	Arm 17 Ahead	Inf	100.0 %	1960	1960
2/2 (exit - Marsh Way (N))	3.45	0.00	Y	Arm 17 Ahead	Inf	100.0 %	1960	1960
3/1 (Consul Ave (E))	4.00	0.00	Y	Arm 6 Left	18.00	88.1 %	1860	1860
				Arm 15 Left	18.00	11.9 %		
3/2 (Consul Ave (E))	4.00	0.00	Y	Arm 15 Left	18.00	100.0 %	1860	1860
4/1 (exit - Consul Ave (E))	4.00	0.00	Y	Arm 19 Ahead	Inf	100.0 %	2015	2015
4/2 (exit - Consul Ave (E))	4.00	0.00	Y	Arm 19 Ahead	Inf	100.0 %	2015	2015
5/1 (A13 off-slip (W))	3.70	0.00	Y	Arm 2 Left	45.00	100.0 %	1921	1921
5/2 (A13 off-slip (W))	3.70	0.00	Y	Arm 2 Left	Inf	100.0 %	1985	1985
				Arm 14 Ahead	45.00	0.0 %		
5/3 (A13 off-slip (W))	3.70	0.00	Y	Arm 14 Ahead	45.00	100.0 %	1921	1921
6/1 (exit - A13 on-slip (E))	4.00	0.00	Y	Arm 21 Ahead	Inf	100.0 %	2015	2015
7/1 (exit - A13 slip-on (W) Lane 1)	Infinite Saturation Flow						Inf	Inf
8/1 (Courier Rd (W))	3.30	0.00	Y	Arm 7 Left	19.00	37.5 %	1803	1803
				Arm 13 Ahead	19.00	62.5 %		
8/2 (Courier Rd (W))	3.30	0.00	Y	Arm 13 Ahead	19.00	100.0 %	1803	1803
9/1 (exit - Courier Rd (W) Lane 1)	Infinite Saturation Flow						Inf	Inf
10/1 (Marsh Way (S))	3.40	0.00	Y	Arm 24 Ahead	Inf	100.0 %	1955	1955
10/2 (Marsh Way (S))	3.40	0.00	Y	Arm 24 Ahead	Inf	100.0 %	1955	1955
11/1 (exit - Marsh Way (S))	4.00	0.00	Y	Arm 25 Ahead	Inf	100.0 %	2015	2015
12/1 (A13 off-slip (E))	3.65	0.00	Y	Arm 11 Left	42.00	100.0 %	1912	1912
12/2 (A13 off-slip (E))	3.65	0.00	Y	Arm 22 Ahead	42.00	100.0 %	1912	1912
12/3 (A13 off-slip (E))	3.65	0.00	Y	Arm 22 Ahead	42.00	100.0 %	1912	1912

Full Input Data And Results

13/1 (circulatory (W))	4.00	0.00	Y	Arm 2 Ahead	24.00	100.0 %	1896	1896
13/2 (circulatory (W))	4.00	0.00	Y	Arm 2 Ahead	24.00	83.5 %	1896	1896
				Arm 14 Right	24.00	16.5 %		
13/3 (circulatory (W))	4.00	0.00	Y	Arm 14 Right	24.00	100.0 %	1896	1896
14/1 (circulatory (N))	4.00	0.00	Y	Arm 4 Ahead	24.00	100.0 %	1896	1896
14/2 (circulatory (N))	4.00	0.00	Y	Arm 4 Ahead	24.00	7.4 %	1896	1896
				Arm 16 Right	24.00	92.6 %		
15/1 (circulatory (E))	4.00	0.00	Y	Arm 11 Ahead	24.00	100.0 %	1896	1896
15/2 (circulatory (E))	4.00	0.00	Y	Arm 22 Right	24.00	100.0 %	1896	1896
15/3 (circulatory (E))	4.00	0.00	Y	Arm 22 Right	24.00	0.0 %	2015	2015
16/1 (circulatory (N))	4.00	0.00	Y	Arm 6 Ahead	24.00	100.0 %	1896	1896
16/2 (circulatory (N))	4.00	0.00	Y	Arm 15 Ahead	24.00	100.0 %	1896	1896
17/1 (exit - Marhal Way (N) Lane 1)	Infinite Saturation Flow						Inf	Inf
17/2 (exit - Marhal Way (N) Lane 2)	Infinite Saturation Flow						Inf	Inf
18/1 (Marsh Way (N))	3.70	0.00	Y	Arm 1 Ahead	Inf	100.0 %	1985	1985
18/2 (Marsh Way (N))	3.70	0.00	Y	Arm 1 Ahead	Inf	100.0 %	1985	1985
19/1 (exit - Consul Ave (E) Lane 1)	Infinite Saturation Flow						Inf	Inf
19/2 (exit - Consul Ave (E) Lane 2)	Infinite Saturation Flow						Inf	Inf
20/1 (Consul Ave (E))	4.00	0.00	Y	Arm 3 Ahead	Inf	100.0 %	2015	2015
20/2 (Consul Ave (E))	4.00	0.00	Y	Arm 3 Ahead	Inf	100.0 %	2015	2015
21/1 (exit - A13 on-slip (E) Lane 1)	Infinite Saturation Flow						Inf	Inf
22/1 (circulatory (S))	4.00	0.00	Y	Arm 9 Ahead	24.00	14.2 %	1896	1896
				Arm 23 Ahead	24.00	85.8 %		
22/2 (circulatory (S))	4.00	0.00	Y	Arm 23 Ahead	24.00	100.0 %	1896	1896
23/1 (circulatory (S))	4.00	0.00	Y	Arm 7 Ahead	24.00	100.0 %	1896	1896
23/2 (circulatory (S))	4.00	0.00	Y	Arm 13 Right	24.00	100.0 %	1896	1896
24/1 (Marsh Way (S))	3.40	0.00	Y	Arm 9 Left	20.00	0.0 %	1819	1819
				Arm 23 Left	20.00	100.0 %		
24/2 (Marsh Way (S))	3.40	0.00	Y	Arm 23 Left	20.00	100.0 %	1819	1819

Full Input Data And Results

25/1 (exit - Marsh Way (S) Lane 1)	Infinite Saturation Flow	Inf	Inf
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**Scenario 3: '2030 AM'** (FG3: 'Reference Case 2030 AM', Plan 1: 'Network Control Plan 1')

**Traffic Flows, Desired**

**Desired Flow :**

		Destination						
		A	B	C	D	E	F	Tot.
Origin	A	0	32	330	154	8	193	717
	B	0	0	71	36	2	43	152
	C	284	35	81	224	57	354	1035
	D	125	16	33	0	0	60	234
	E	31	4	8	1	0	3	47
	F	180	49	2	45	3	55	334
	Tot.	620	136	525	460	70	708	2519

Full Input Data And Results

**Traffic Lane Flows**

Lane	Scenario 3: 2030 AM
<b>Junction: Marsh Way Junction</b>	
1/1	362
1/2	355
2/1	323
2/2	297
3/1	107
3/2	45
4/1	111
4/2	25
5/1 (short)	94
5/2 (with short)	207(In) 113(Out)
5/3	127
6/1	525
7/1	708
8/1	19
8/2	28
9/1	70
10/1 (short)	60
10/2 (with short)	234(In) 174(Out)
11/1	460
12/1 (short)	224
12/2 (with short)	635(In) 411(Out)
12/3	400
13/1	229
13/2 (with short)	389(In) 263(Out)
13/3 (short)	126
14/1	79
14/2	253
15/1	236
15/2 (with short)	304(In) 304(Out)
15/3 (short)	0
16/1	454
16/2	459
17/1	323
17/2	297
18/1	362

## Full Input Data And Results

18/2	355
19/1	111
19/2	25
20/1	107
20/2	45
21/1	525
22/1	715
22/2	400
23/1	705
23/2	574
24/1	60
24/2	174
25/1	460

Full Input Data And Results

**Lane Saturation Flows**

Junction: Marsh Way Junction								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (Marsh Way (N))	4.00	0.00	Y	Arm 4 Left	51.00	8.8 %	1957	1957
				Arm 16 Ahead	51.00	91.2 %		
1/2 (Marsh Way (N))	4.00	0.00	Y	Arm 16 Ahead	51.00	100.0 %	1957	1957
2/1 (exit - Marsh Way (N))	3.45	0.00	Y	Arm 17 Ahead	Inf	100.0 %	1960	1960
2/2 (exit - Marsh Way (N))	3.45	0.00	Y	Arm 17 Ahead	Inf	100.0 %	1960	1960
3/1 (Consul Ave (E))	4.00	0.00	Y	Arm 6 Left	18.00	66.4 %	1860	1860
				Arm 15 Left	18.00	33.6 %		
3/2 (Consul Ave (E))	4.00	0.00	Y	Arm 15 Left	18.00	100.0 %	1860	1860
4/1 (exit - Consul Ave (E))	4.00	0.00	Y	Arm 19 Ahead	Inf	100.0 %	2015	2015
4/2 (exit - Consul Ave (E))	4.00	0.00	Y	Arm 19 Ahead	Inf	100.0 %	2015	2015
5/1 (A13 off-slip (W))	3.70	0.00	Y	Arm 2 Left	45.00	100.0 %	1921	1921
5/2 (A13 off-slip (W))	3.70	0.00	Y	Arm 2 Left	Inf	76.1 %	1969	1969
				Arm 14 Ahead	45.00	23.9 %		
5/3 (A13 off-slip (W))	3.70	0.00	Y	Arm 14 Ahead	45.00	100.0 %	1921	1921
6/1 (exit - A13 on-slip (E))	4.00	0.00	Y	Arm 21 Ahead	Inf	100.0 %	2015	2015
7/1 (exit - A13 slip-on (W) Lane 1)	Infinite Saturation Flow						Inf	Inf
8/1 (Courier Rd (W))	3.30	0.00	Y	Arm 7 Left	19.00	15.8 %	1803	1803
				Arm 13 Ahead	19.00	84.2 %		
8/2 (Courier Rd (W))	3.30	0.00	Y	Arm 13 Ahead	19.00	100.0 %	1803	1803
9/1 (exit - Courier Rd (W) Lane 1)	Infinite Saturation Flow						Inf	Inf
10/1 (Marsh Way (S))	3.40	0.00	Y	Arm 24 Ahead	Inf	100.0 %	1955	1955
10/2 (Marsh Way (S))	3.40	0.00	Y	Arm 24 Ahead	Inf	100.0 %	1955	1955
11/1 (exit - Marsh Way (S))	4.00	0.00	Y	Arm 25 Ahead	Inf	100.0 %	2015	2015
12/1 (A13 off-slip (E))	3.65	0.00	Y	Arm 11 Left	42.00	100.0 %	1912	1912
12/2 (A13 off-slip (E))	3.65	0.00	Y	Arm 22 Ahead	42.00	100.0 %	1912	1912
12/3 (A13 off-slip (E))	3.65	0.00	Y	Arm 22 Ahead	42.00	100.0 %	1912	1912

Full Input Data And Results

13/1 (circulatory (W))	4.00	0.00	Y	Arm 2 Ahead	24.00	100.0 %	1896	1896
13/2 (circulatory (W))	4.00	0.00	Y	Arm 2 Ahead	24.00	80.2 %	1896	1896
				Arm 14 Right	24.00	19.8 %		
13/3 (circulatory (W))	4.00	0.00	Y	Arm 14 Right	24.00	100.0 %	1896	1896
14/1 (circulatory (N))	4.00	0.00	Y	Arm 4 Ahead	24.00	100.0 %	1896	1896
14/2 (circulatory (N))	4.00	0.00	Y	Arm 4 Ahead	24.00	9.9 %	1896	1896
				Arm 16 Right	24.00	90.1 %		
15/1 (circulatory (E))	4.00	0.00	Y	Arm 11 Ahead	24.00	100.0 %	1896	1896
15/2 (circulatory (E))	4.00	0.00	Y	Arm 22 Right	24.00	100.0 %	1896	1896
15/3 (circulatory (E))	4.00	0.00	Y	Arm 22 Right	24.00	0.0 %	2015	2015
16/1 (circulatory (N))	4.00	0.00	Y	Arm 6 Ahead	24.00	100.0 %	1896	1896
16/2 (circulatory (N))	4.00	0.00	Y	Arm 15 Ahead	24.00	100.0 %	1896	1896
17/1 (exit - Marhal Way (N) Lane 1)	Infinite Saturation Flow						Inf	Inf
17/2 (exit - Marhal Way (N) Lane 2)	Infinite Saturation Flow						Inf	Inf
18/1 (Marsh Way (N))	3.70	0.00	Y	Arm 1 Ahead	Inf	100.0 %	1985	1985
18/2 (Marsh Way (N))	3.70	0.00	Y	Arm 1 Ahead	Inf	100.0 %	1985	1985
19/1 (exit - Consul Ave (E) Lane 1)	Infinite Saturation Flow						Inf	Inf
19/2 (exit - Consul Ave (E) Lane 2)	Infinite Saturation Flow						Inf	Inf
20/1 (Consul Ave (E))	4.00	0.00	Y	Arm 3 Ahead	Inf	100.0 %	2015	2015
20/2 (Consul Ave (E))	4.00	0.00	Y	Arm 3 Ahead	Inf	100.0 %	2015	2015
21/1 (exit - A13 on-slip (E) Lane 1)	Infinite Saturation Flow						Inf	Inf
22/1 (circulatory (S))	4.00	0.00	Y	Arm 9 Ahead	24.00	9.8 %	1896	1896
				Arm 23 Ahead	24.00	90.2 %		
22/2 (circulatory (S))	4.00	0.00	Y	Arm 23 Ahead	24.00	100.0 %	1896	1896
23/1 (circulatory (S))	4.00	0.00	Y	Arm 7 Ahead	24.00	100.0 %	1896	1896
23/2 (circulatory (S))	4.00	0.00	Y	Arm 13 Right	24.00	100.0 %	1896	1896
24/1 (Marsh Way (S))	3.40	0.00	Y	Arm 9 Left	20.00	0.0 %	1819	1819
				Arm 23 Left	20.00	100.0 %		
24/2 (Marsh Way (S))	3.40	0.00	Y	Arm 23 Left	20.00	100.0 %	1819	1819



Full Input Data And Results

25/1 (exit - Marsh Way (S) Lane 1)	Infinite Saturation Flow	Inf	Inf
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**Scenario 4: '2030 PM'** (FG4: 'Reference Case 2030 PM', Plan 1: 'Network Control Plan 1')

**Traffic Flows, Desired**

**Desired Flow :**

		Destination						
		A	B	C	D	E	F	Tot.
Origin	A	0	13	468	61	9	271	822
	B	0	0	78	11	2	45	136
	C	298	28	142	70	45	6	589
	D	218	21	103	0	0	110	452
	E	56	5	25	1	0	19	106
	F	511	25	2	8	2	34	582
	Tot.	1083	92	818	151	58	485	2687

Full Input Data And Results

**Traffic Lane Flows**

Lane	Scenario 4: 2030 PM
<b>Junction: Marsh Way Junction</b>	
1/1	481
1/2	341
2/1	553
2/2	530
3/1	89
3/2	47
4/1	66
4/2	26
5/1 (short)	249
5/2 (with short)	511(In) 262(Out)
5/3	71
6/1	818
7/1	485
8/1	46
8/2	60
9/1	58
10/1 (short)	110
10/2 (with short)	452(In) 342(Out)
11/1	151
12/1 (short)	70
12/2 (with short)	121(In) 51(Out)
12/3	468
13/1	304
13/2 (with short)	593(In) 321(Out)
13/3 (short)	272
14/1	53
14/2	343
15/1	81
15/2 (with short)	363(In) 363(Out)
15/3 (short)	0
16/1	740
16/2	386
17/1	553
17/2	530
18/1	481

## Full Input Data And Results

18/2	341
19/1	66
19/2	26
20/1	89
20/2	47
21/1	818
22/1	414
22/2	468
23/1	466
23/2	810
24/1	110
24/2	342
25/1	151

Full Input Data And Results

**Lane Saturation Flows**

Junction: Marsh Way Junction								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (Marsh Way (N))	4.00	0.00	Y	Arm 4 Left	51.00	2.7 %	1957	1957
				Arm 16 Ahead	51.00	97.3 %		
1/2 (Marsh Way (N))	4.00	0.00	Y	Arm 16 Ahead	51.00	100.0 %	1957	1957
2/1 (exit - Marsh Way (N))	3.45	0.00	Y	Arm 17 Ahead	Inf	100.0 %	1960	1960
2/2 (exit - Marsh Way (N))	3.45	0.00	Y	Arm 17 Ahead	Inf	100.0 %	1960	1960
3/1 (Consul Ave (E))	4.00	0.00	Y	Arm 6 Left	18.00	87.6 %	1860	1860
				Arm 15 Left	18.00	12.4 %		
3/2 (Consul Ave (E))	4.00	0.00	Y	Arm 15 Left	18.00	100.0 %	1860	1860
4/1 (exit - Consul Ave (E))	4.00	0.00	Y	Arm 19 Ahead	Inf	100.0 %	2015	2015
4/2 (exit - Consul Ave (E))	4.00	0.00	Y	Arm 19 Ahead	Inf	100.0 %	2015	2015
5/1 (A13 off-slip (W))	3.70	0.00	Y	Arm 2 Left	45.00	100.0 %	1921	1921
5/2 (A13 off-slip (W))	3.70	0.00	Y	Arm 2 Left	Inf	100.0 %	1985	1985
				Arm 14 Ahead	45.00	0.0 %		
5/3 (A13 off-slip (W))	3.70	0.00	Y	Arm 14 Ahead	45.00	100.0 %	1921	1921
6/1 (exit - A13 on-slip (E))	4.00	0.00	Y	Arm 21 Ahead	Inf	100.0 %	2015	2015
7/1 (exit - A13 slip-on (W) Lane 1)	Infinite Saturation Flow						Inf	Inf
8/1 (Courier Rd (W))	3.30	0.00	Y	Arm 7 Left	19.00	41.3 %	1803	1803
				Arm 13 Ahead	19.00	58.7 %		
8/2 (Courier Rd (W))	3.30	0.00	Y	Arm 13 Ahead	19.00	100.0 %	1803	1803
9/1 (exit - Courier Rd (W) Lane 1)	Infinite Saturation Flow						Inf	Inf
10/1 (Marsh Way (S))	3.40	0.00	Y	Arm 24 Ahead	Inf	100.0 %	1955	1955
10/2 (Marsh Way (S))	3.40	0.00	Y	Arm 24 Ahead	Inf	100.0 %	1955	1955
11/1 (exit - Marsh Way (S))	4.00	0.00	Y	Arm 25 Ahead	Inf	100.0 %	2015	2015
12/1 (A13 off-slip (E))	3.65	0.00	Y	Arm 11 Left	42.00	100.0 %	1912	1912
12/2 (A13 off-slip (E))	3.65	0.00	Y	Arm 22 Ahead	42.00	100.0 %	1912	1912
12/3 (A13 off-slip (E))	3.65	0.00	Y	Arm 22 Ahead	42.00	100.0 %	1912	1912

Full Input Data And Results

13/1 (circulatory (W))	4.00	0.00	Y	Arm 2 Ahead	24.00	100.0 %	1896	1896
13/2 (circulatory (W))	4.00	0.00	Y	Arm 2 Ahead	24.00	83.5 %	1896	1896
				Arm 14 Right	24.00	16.5 %		
13/3 (circulatory (W))	4.00	0.00	Y	Arm 14 Right	24.00	100.0 %	1896	1896
14/1 (circulatory (N))	4.00	0.00	Y	Arm 4 Ahead	24.00	100.0 %	1896	1896
14/2 (circulatory (N))	4.00	0.00	Y	Arm 4 Ahead	24.00	7.6 %	1896	1896
				Arm 16 Right	24.00	92.4 %		
15/1 (circulatory (E))	4.00	0.00	Y	Arm 11 Ahead	24.00	100.0 %	1896	1896
15/2 (circulatory (E))	4.00	0.00	Y	Arm 22 Right	24.00	100.0 %	1896	1896
15/3 (circulatory (E))	4.00	0.00	Y	Arm 22 Right	24.00	0.0 %	2015	2015
16/1 (circulatory (N))	4.00	0.00	Y	Arm 6 Ahead	24.00	100.0 %	1896	1896
16/2 (circulatory (N))	4.00	0.00	Y	Arm 15 Ahead	24.00	100.0 %	1896	1896
17/1 (exit - Marhal Way (N) Lane 1)	Infinite Saturation Flow						Inf	Inf
17/2 (exit - Marhal Way (N) Lane 2)	Infinite Saturation Flow						Inf	Inf
18/1 (Marsh Way (N))	3.70	0.00	Y	Arm 1 Ahead	Inf	100.0 %	1985	1985
18/2 (Marsh Way (N))	3.70	0.00	Y	Arm 1 Ahead	Inf	100.0 %	1985	1985
19/1 (exit - Consul Ave (E) Lane 1)	Infinite Saturation Flow						Inf	Inf
19/2 (exit - Consul Ave (E) Lane 2)	Infinite Saturation Flow						Inf	Inf
20/1 (Consul Ave (E))	4.00	0.00	Y	Arm 3 Ahead	Inf	100.0 %	2015	2015
20/2 (Consul Ave (E))	4.00	0.00	Y	Arm 3 Ahead	Inf	100.0 %	2015	2015
21/1 (exit - A13 on-slip (E) Lane 1)	Infinite Saturation Flow						Inf	Inf
22/1 (circulatory (S))	4.00	0.00	Y	Arm 9 Ahead	24.00	14.0 %	1896	1896
				Arm 23 Ahead	24.00	86.0 %		
22/2 (circulatory (S))	4.00	0.00	Y	Arm 23 Ahead	24.00	100.0 %	1896	1896
23/1 (circulatory (S))	4.00	0.00	Y	Arm 7 Ahead	24.00	100.0 %	1896	1896
23/2 (circulatory (S))	4.00	0.00	Y	Arm 13 Right	24.00	100.0 %	1896	1896
24/1 (Marsh Way (S))	3.40	0.00	Y	Arm 9 Left	20.00	0.0 %	1819	1819
				Arm 23 Left	20.00	100.0 %		
24/2 (Marsh Way (S))	3.40	0.00	Y	Arm 23 Left	20.00	100.0 %	1819	1819

Full Input Data And Results

25/1 (exit - Marsh Way (S) Lane 1)	Infinite Saturation Flow	Inf	Inf
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**Scenario 5: 'Do Something 2030 + LTC AM'** (FG7: 'Do Something 2030 + LTC AM', Plan 1: 'Network Control Plan 1')

**Traffic Flows, Desired**

**Desired Flow :**

		Destination						
		A	B	C	D	E	F	Tot.
Origin	A	0	28	329	154	8	186	705
	B	0	0	75	36	2	40	153
	C	275	45	81	224	57	354	1036
	D	125	16	33	0	0	60	234
	E	31	4	8	1	0	3	47
	F	177	49	2	45	3	55	331
	Tot.	608	142	528	460	70	698	2506

Full Input Data And Results

**Traffic Lane Flows**

Lane	Scenario 5: Do Something 2030 + LTC AM
<b>Junction: Marsh Way Junction</b>	
1/1	357
1/2	348
2/1	319
2/2	289
3/1	111
3/2	42
4/1	111
4/2	31
5/1 (short)	93
5/2 (with short)	199(In) 106(Out)
5/3	132
6/1	528
7/1	698
8/1	20
8/2	27
9/1	70
10/1 (short)	60
10/2 (with short)	234(In) 174(Out)
11/1	460
12/1 (short)	224
12/2 (with short)	635(In) 411(Out)
12/3	401
13/1	226
13/2 (with short)	393(In) 266(Out)
13/3 (short)	127
14/1	83
14/2	259
15/1	236
15/2 (with short)	294(In) 294(Out)
15/3 (short)	0
16/1	453
16/2	452
17/1	319
17/2	289

## Full Input Data And Results

18/1	357
18/2	348
19/1	111
19/2	31
20/1	111
20/2	42
21/1	528
22/1	705
22/2	401
23/1	695
23/2	575
24/1	60
24/2	174
25/1	460



Full Input Data And Results

**Lane Saturation Flows**

Junction: Marsh Way Junction								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (Marsh Way (N))	4.00	0.00	Y	Arm 4 Left	51.00	7.8 %	1957	1957
				Arm 16 Ahead	51.00	92.2 %		
1/2 (Marsh Way (N))	4.00	0.00	Y	Arm 16 Ahead	51.00	100.0 %	1957	1957
2/1 (exit - Marsh Way (N))	3.45	0.00	Y	Arm 17 Ahead	Inf	100.0 %	1960	1960
2/2 (exit - Marsh Way (N))	3.45	0.00	Y	Arm 17 Ahead	Inf	100.0 %	1960	1960
3/1 (Consul Ave (E))	4.00	0.00	Y	Arm 6 Left	18.00	67.6 %	1860	1860
				Arm 15 Left	18.00	32.4 %		
3/2 (Consul Ave (E))	4.00	0.00	Y	Arm 15 Left	18.00	100.0 %	1860	1860
4/1 (exit - Consul Ave (E))	4.00	0.00	Y	Arm 19 Ahead	Inf	100.0 %	2015	2015
4/2 (exit - Consul Ave (E))	4.00	0.00	Y	Arm 19 Ahead	Inf	100.0 %	2015	2015
5/1 (A13 off-slip (W))	3.70	0.00	Y	Arm 2 Left	45.00	100.0 %	1921	1921
5/2 (A13 off-slip (W))	3.70	0.00	Y	Arm 2 Left	Inf	79.2 %	1971	1971
				Arm 14 Ahead	45.00	20.8 %		
5/3 (A13 off-slip (W))	3.70	0.00	Y	Arm 14 Ahead	45.00	100.0 %	1921	1921
6/1 (exit - A13 on-slip (E))	4.00	0.00	Y	Arm 21 Ahead	Inf	100.0 %	2015	2015
7/1 (exit - A13 slip-on (W) Lane 1)	Infinite Saturation Flow						Inf	Inf
8/1 (Courier Rd (W))	3.30	0.00	Y	Arm 7 Left	19.00	15.0 %	1803	1803
				Arm 13 Ahead	19.00	85.0 %		
8/2 (Courier Rd (W))	3.30	0.00	Y	Arm 13 Ahead	19.00	100.0 %	1803	1803
9/1 (exit - Courier Rd (W) Lane 1)	Infinite Saturation Flow						Inf	Inf
10/1 (Marsh Way (S))	3.40	0.00	Y	Arm 24 Ahead	Inf	100.0 %	1955	1955
10/2 (Marsh Way (S))	3.40	0.00	Y	Arm 24 Ahead	Inf	100.0 %	1955	1955
11/1 (exit - Marsh Way (S))	4.00	0.00	Y	Arm 25 Ahead	Inf	100.0 %	2015	2015
12/1 (A13 off-slip (E))	3.65	0.00	Y	Arm 11 Left	42.00	100.0 %	1912	1912
12/2 (A13 off-slip (E))	3.65	0.00	Y	Arm 22 Ahead	42.00	100.0 %	1912	1912
12/3 (A13 off-slip (E))	3.65	0.00	Y	Arm 22 Ahead	42.00	100.0 %	1912	1912

Full Input Data And Results

13/1 (circulatory (W))	4.00	0.00	Y	Arm 2 Ahead	24.00	100.0 %	1896	1896
13/2 (circulatory (W))	4.00	0.00	Y	Arm 2 Ahead	24.00	77.1 %	1896	1896
				Arm 14 Right	24.00	22.9 %		
13/3 (circulatory (W))	4.00	0.00	Y	Arm 14 Right	24.00	100.0 %	1896	1896
14/1 (circulatory (N))	4.00	0.00	Y	Arm 4 Ahead	24.00	100.0 %	1896	1896
14/2 (circulatory (N))	4.00	0.00	Y	Arm 4 Ahead	24.00	12.0 %	1896	1896
				Arm 16 Right	24.00	88.0 %		
15/1 (circulatory (E))	4.00	0.00	Y	Arm 11 Ahead	24.00	100.0 %	1896	1896
15/2 (circulatory (E))	4.00	0.00	Y	Arm 22 Right	24.00	100.0 %	1896	1896
15/3 (circulatory (E))	4.00	0.00	Y	Arm 22 Right	24.00	0.0 %	2015	2015
16/1 (circulatory (N))	4.00	0.00	Y	Arm 6 Ahead	24.00	100.0 %	1896	1896
16/2 (circulatory (N))	4.00	0.00	Y	Arm 15 Ahead	24.00	100.0 %	1896	1896
17/1 (exit - Marhal Way (N) Lane 1)	Infinite Saturation Flow						Inf	Inf
17/2 (exit - Marhal Way (N) Lane 2)	Infinite Saturation Flow						Inf	Inf
18/1 (Marsh Way (N))	3.70	0.00	Y	Arm 1 Ahead	Inf	100.0 %	1985	1985
18/2 (Marsh Way (N))	3.70	0.00	Y	Arm 1 Ahead	Inf	100.0 %	1985	1985
19/1 (exit - Consul Ave (E) Lane 1)	Infinite Saturation Flow						Inf	Inf
19/2 (exit - Consul Ave (E) Lane 2)	Infinite Saturation Flow						Inf	Inf
20/1 (Consul Ave (E))	4.00	0.00	Y	Arm 3 Ahead	Inf	100.0 %	2015	2015
20/2 (Consul Ave (E))	4.00	0.00	Y	Arm 3 Ahead	Inf	100.0 %	2015	2015
21/1 (exit - A13 on-slip (E) Lane 1)	Infinite Saturation Flow						Inf	Inf
22/1 (circulatory (S))	4.00	0.00	Y	Arm 9 Ahead	24.00	9.9 %	1896	1896
				Arm 23 Ahead	24.00	90.1 %		
22/2 (circulatory (S))	4.00	0.00	Y	Arm 23 Ahead	24.00	100.0 %	1896	1896
23/1 (circulatory (S))	4.00	0.00	Y	Arm 7 Ahead	24.00	100.0 %	1896	1896
23/2 (circulatory (S))	4.00	0.00	Y	Arm 13 Right	24.00	100.0 %	1896	1896
24/1 (Marsh Way (S))	3.40	0.00	Y	Arm 9 Left	20.00	0.0 %	1819	1819
				Arm 23 Left	20.00	100.0 %		
24/2 (Marsh Way (S))	3.40	0.00	Y	Arm 23 Left	20.00	100.0 %	1819	1819

Full Input Data And Results

25/1 (exit - Marsh Way (S) Lane 1)	Infinite Saturation Flow	Inf	Inf
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**Scenario 6: 'Do Something 2030 + LTC PM'** (FG8: 'Do Something 2030 + LTC PM', Plan 1: 'Network Control Plan 1')

**Traffic Flows, Desired**

**Desired Flow :**

		Destination						
		A	B	C	D	E	F	Tot.
Origin	A	0	11	472	61	9	270	823
	B	0	0	82	11	2	44	139
	C	304	34	142	70	45	6	601
	D	218	21	103	0	0	110	452
	E	56	5	25	1	0	19	106
	F	514	24	2	8	2	34	584
	Tot.	1092	95	826	151	58	483	2705

Full Input Data And Results

**Traffic Lane Flows**

Lane	Scenario 6: Do Something 2030 + LTC PM
<b>Junction: Marsh Way Junction</b>	
1/1	483
1/2	340
2/1	668
2/2	424
3/1	93
3/2	46
4/1	71
4/2	24
5/1 (short)	253
5/2 (with short)	514(In) 261(Out)
5/3	70
6/1	826
7/1	483
8/1	42
8/2	64
9/1	58
10/1 (short)	110
10/2 (with short)	452(In) 342(Out)
11/1	151
12/1 (short)	70
12/2 (with short)	121(In) 51(Out)
12/3	480
13/1	415
13/2 (with short)	494(In) 223(Out)
13/3 (short)	271
14/1	60
14/2	341
15/1	81
15/2 (with short)	361(In) 361(Out)
15/3 (short)	0
16/1	744
16/2	385
17/1	668
17/2	424

## Full Input Data And Results

18/1	483
18/2	340
19/1	71
19/2	24
20/1	93
20/2	46
21/1	826
22/1	412
22/2	480
23/1	464
23/2	822
24/1	110
24/2	342
25/1	151

Full Input Data And Results

**Lane Saturation Flows**

Junction: Marsh Way Junction								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (Marsh Way (N))	4.00	0.00	Y	Arm 4 Left	51.00	2.3 %	1957	1957
				Arm 16 Ahead	51.00	97.7 %		
1/2 (Marsh Way (N))	4.00	0.00	Y	Arm 16 Ahead	51.00	100.0 %	1957	1957
2/1 (exit - Marsh Way (N))	3.45	0.00	Y	Arm 17 Ahead	Inf	100.0 %	1960	1960
2/2 (exit - Marsh Way (N))	3.45	0.00	Y	Arm 17 Ahead	Inf	100.0 %	1960	1960
3/1 (Consul Ave (E))	4.00	0.00	Y	Arm 6 Left	18.00	88.2 %	1860	1860
				Arm 15 Left	18.00	11.8 %		
3/2 (Consul Ave (E))	4.00	0.00	Y	Arm 15 Left	18.00	100.0 %	1860	1860
4/1 (exit - Consul Ave (E))	4.00	0.00	Y	Arm 19 Ahead	Inf	100.0 %	2015	2015
4/2 (exit - Consul Ave (E))	4.00	0.00	Y	Arm 19 Ahead	Inf	100.0 %	2015	2015
5/1 (A13 off-slip (W))	3.70	0.00	Y	Arm 2 Left	45.00	100.0 %	1921	1921
5/2 (A13 off-slip (W))	3.70	0.00	Y	Arm 2 Left	Inf	100.0 %	1985	1985
				Arm 14 Ahead	45.00	0.0 %		
5/3 (A13 off-slip (W))	3.70	0.00	Y	Arm 14 Ahead	45.00	100.0 %	1921	1921
6/1 (exit - A13 on-slip (E))	4.00	0.00	Y	Arm 21 Ahead	Inf	100.0 %	2015	2015
7/1 (exit - A13 slip-on (W) Lane 1)	Infinite Saturation Flow						Inf	Inf
8/1 (Courier Rd (W))	3.30	0.00	Y	Arm 7 Left	19.00	45.2 %	1803	1803
				Arm 13 Ahead	19.00	54.8 %		
8/2 (Courier Rd (W))	3.30	0.00	Y	Arm 13 Ahead	19.00	100.0 %	1803	1803
9/1 (exit - Courier Rd (W) Lane 1)	Infinite Saturation Flow						Inf	Inf
10/1 (Marsh Way (S))	3.40	0.00	Y	Arm 24 Ahead	Inf	100.0 %	1955	1955
10/2 (Marsh Way (S))	3.40	0.00	Y	Arm 24 Ahead	Inf	100.0 %	1955	1955
11/1 (exit - Marsh Way (S))	4.00	0.00	Y	Arm 25 Ahead	Inf	100.0 %	2015	2015
12/1 (A13 off-slip (E))	3.65	0.00	Y	Arm 11 Left	42.00	100.0 %	1912	1912
12/2 (A13 off-slip (E))	3.65	0.00	Y	Arm 22 Ahead	42.00	100.0 %	1912	1912
12/3 (A13 off-slip (E))	3.65	0.00	Y	Arm 22 Ahead	42.00	100.0 %	1912	1912

Full Input Data And Results

13/1 (circulatory (W))	4.00	0.00	Y	Arm 2 Ahead	24.00	100.0 %	1896	1896
13/2 (circulatory (W))	4.00	0.00	Y	Arm 2 Ahead	24.00	73.1 %	1896	1896
				Arm 14 Right	24.00	26.9 %		
13/3 (circulatory (W))	4.00	0.00	Y	Arm 14 Right	24.00	100.0 %	1896	1896
14/1 (circulatory (N))	4.00	0.00	Y	Arm 4 Ahead	24.00	100.0 %	1896	1896
14/2 (circulatory (N))	4.00	0.00	Y	Arm 4 Ahead	24.00	7.0 %	1896	1896
				Arm 16 Right	24.00	93.0 %		
15/1 (circulatory (E))	4.00	0.00	Y	Arm 11 Ahead	24.00	100.0 %	1896	1896
15/2 (circulatory (E))	4.00	0.00	Y	Arm 22 Right	24.00	100.0 %	1896	1896
15/3 (circulatory (E))	4.00	0.00	Y	Arm 22 Right	24.00	0.0 %	2015	2015
16/1 (circulatory (N))	4.00	0.00	Y	Arm 6 Ahead	24.00	100.0 %	1896	1896
16/2 (circulatory (N))	4.00	0.00	Y	Arm 15 Ahead	24.00	100.0 %	1896	1896
17/1 (exit - Marhal Way (N) Lane 1)	Infinite Saturation Flow						Inf	Inf
17/2 (exit - Marhal Way (N) Lane 2)	Infinite Saturation Flow						Inf	Inf
18/1 (Marsh Way (N))	3.70	0.00	Y	Arm 1 Ahead	Inf	100.0 %	1985	1985
18/2 (Marsh Way (N))	3.70	0.00	Y	Arm 1 Ahead	Inf	100.0 %	1985	1985
19/1 (exit - Consul Ave (E) Lane 1)	Infinite Saturation Flow						Inf	Inf
19/2 (exit - Consul Ave (E) Lane 2)	Infinite Saturation Flow						Inf	Inf
20/1 (Consul Ave (E))	4.00	0.00	Y	Arm 3 Ahead	Inf	100.0 %	2015	2015
20/2 (Consul Ave (E))	4.00	0.00	Y	Arm 3 Ahead	Inf	100.0 %	2015	2015
21/1 (exit - A13 on-slip (E) Lane 1)	Infinite Saturation Flow						Inf	Inf
22/1 (circulatory (S))	4.00	0.00	Y	Arm 9 Ahead	24.00	14.1 %	1896	1896
				Arm 23 Ahead	24.00	85.9 %		
22/2 (circulatory (S))	4.00	0.00	Y	Arm 23 Ahead	24.00	100.0 %	1896	1896
23/1 (circulatory (S))	4.00	0.00	Y	Arm 7 Ahead	24.00	100.0 %	1896	1896
23/2 (circulatory (S))	4.00	0.00	Y	Arm 13 Right	24.00	100.0 %	1896	1896
24/1 (Marsh Way (S))	3.40	0.00	Y	Arm 9 Left	20.00	0.0 %	1819	1819
				Arm 23 Left	20.00	100.0 %		
24/2 (Marsh Way (S))	3.40	0.00	Y	Arm 23 Left	20.00	100.0 %	1819	1819

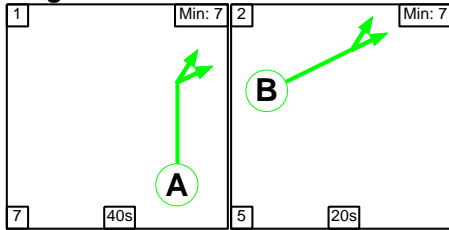
25/1 (exit - Marsh Way (S) Lane 1)	Infinite Saturation Flow	Inf	Inf
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**Scenario 1: 'Base Year 2023 AM'** (FG1: 'Base Year 2023 AM', Plan 1: 'Network Control Plan 1')

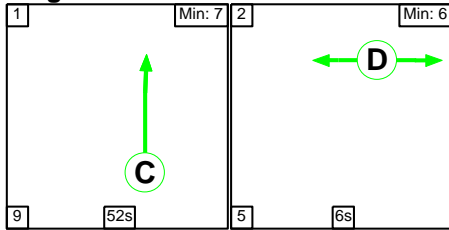
**C1 - North**

**Stage Sequence Diagram**

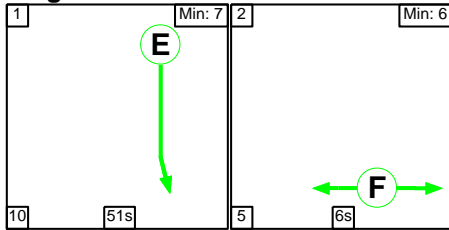
**Stage Stream: 1**



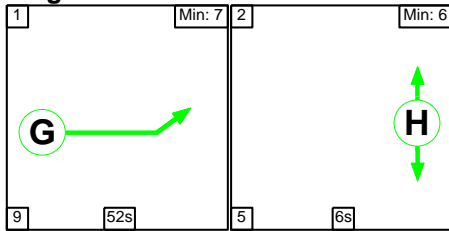
**Stage Stream: 2**



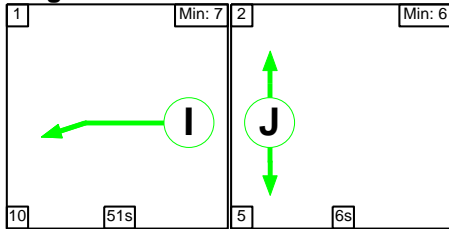
**Stage Stream: 3**



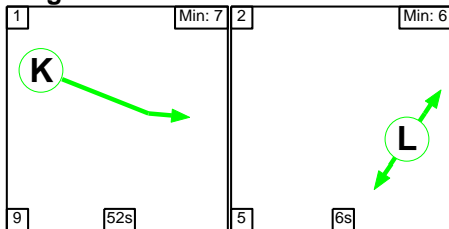
**Stage Stream: 4**



**Stage Stream: 5**



**Stage Stream: 6**





## Full Input Data And Results

### Stage Timings

#### Stage Stream: 1

Stage	1	2
Duration	40	20
Change Point	0	47

#### Stage Stream: 2

Stage	1	2
Duration	52	6
Change Point	3	64

#### Stage Stream: 3

Stage	1	2
Duration	51	6
Change Point	10	71

#### Stage Stream: 4

Stage	1	2
Duration	52	6
Change Point	12	1

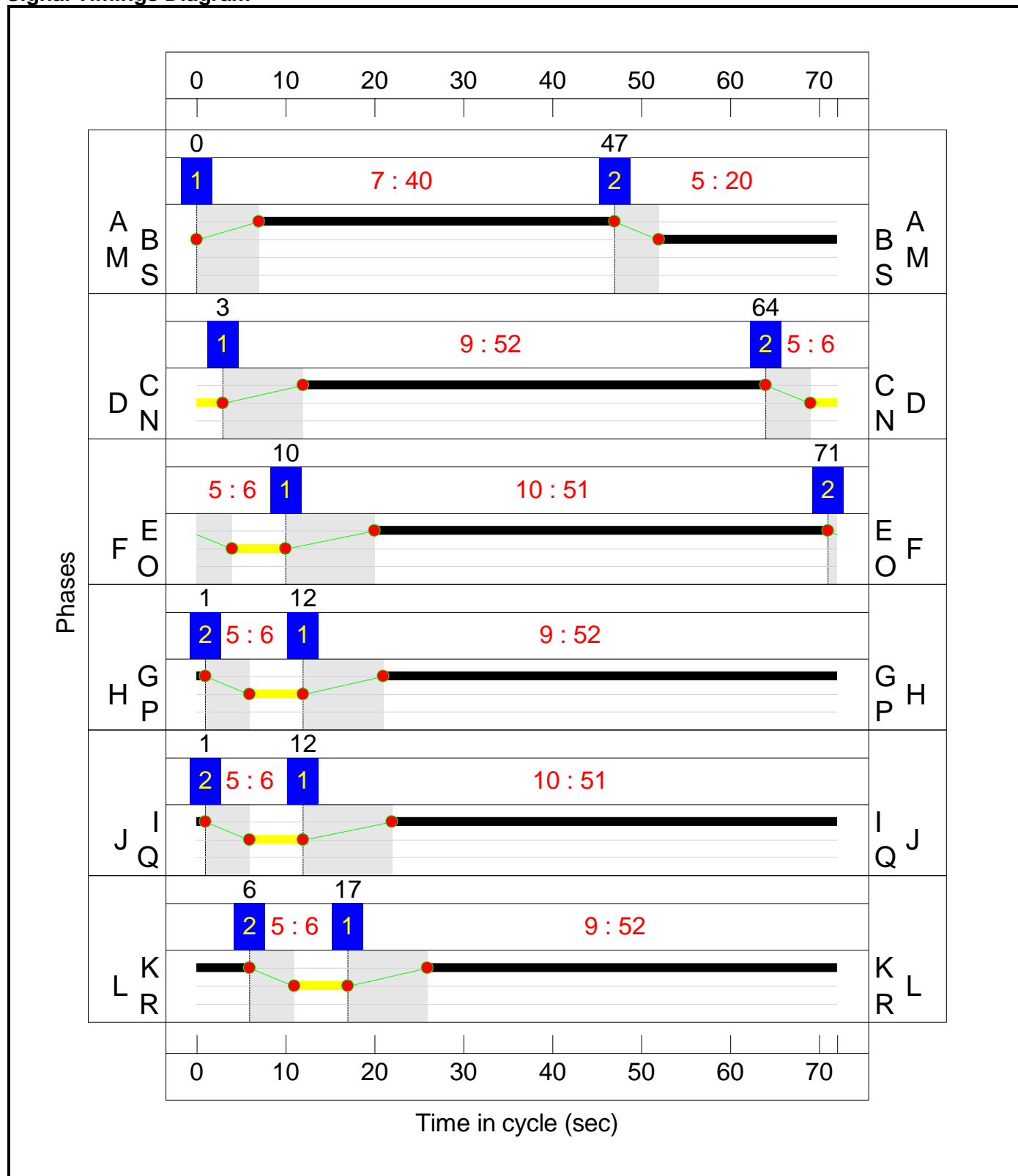
#### Stage Stream: 5

Stage	1	2
Duration	51	6
Change Point	12	1

#### Stage Stream: 6

Stage	1	2
Duration	52	6
Change Point	17	6

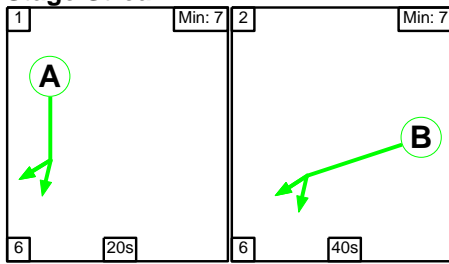
Signal Timings Diagram



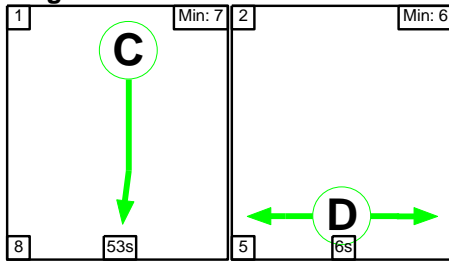
Full Input Data And Results

**C2 - South**  
**Stage Sequence Diagram**

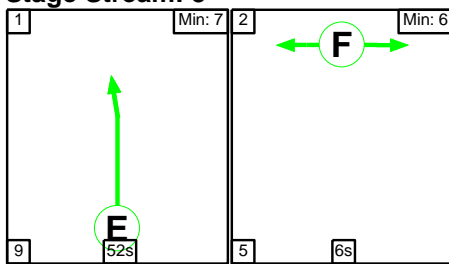
**Stage Stream: 1**



**Stage Stream: 2**



**Stage Stream: 3**



**Stage Timings**

**Stage Stream: 1**

Stage	1	2
Duration	20	40
Change Point	25	51

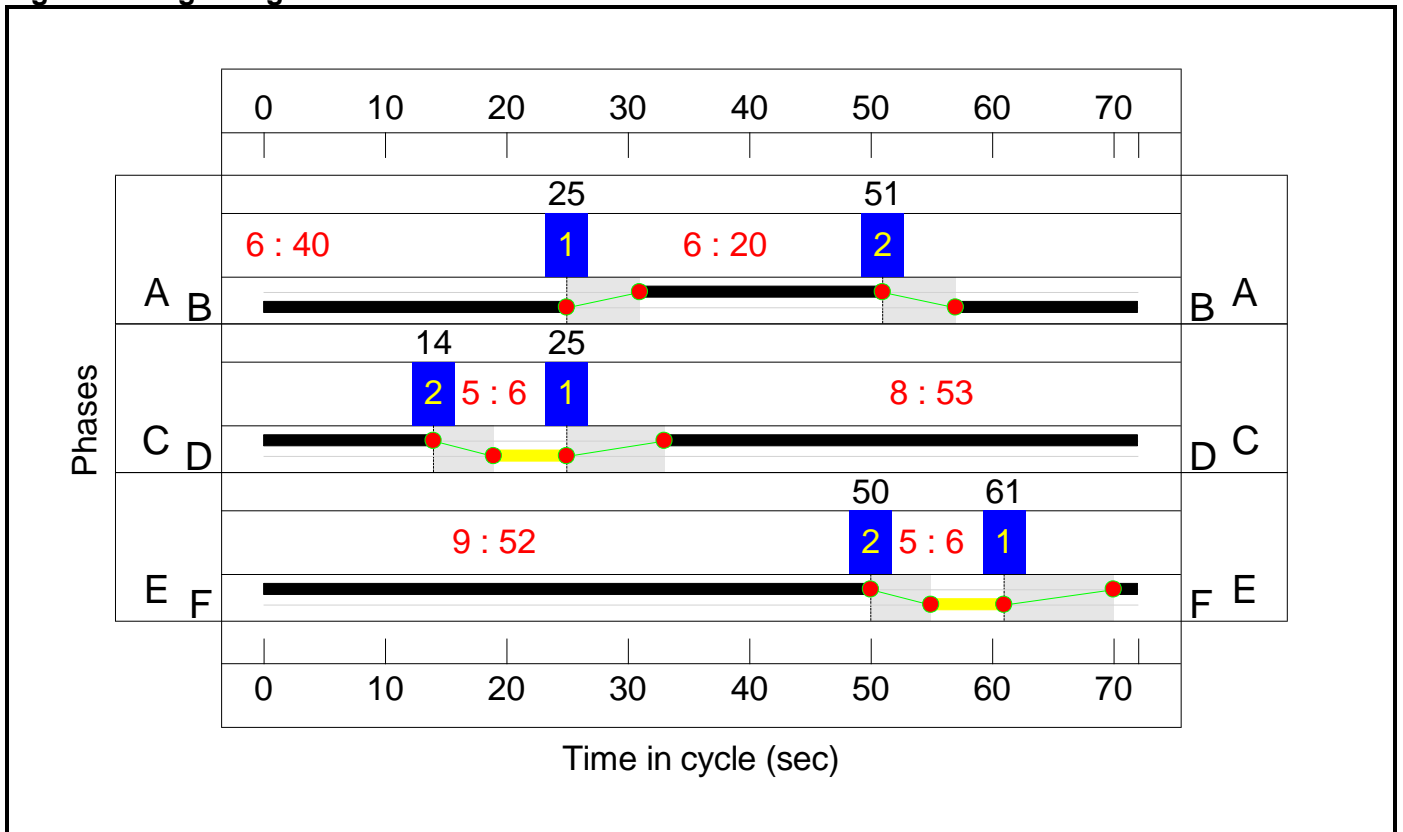
**Stage Stream: 2**

Stage	1	2
Duration	53	6
Change Point	25	14

**Stage Stream: 3**

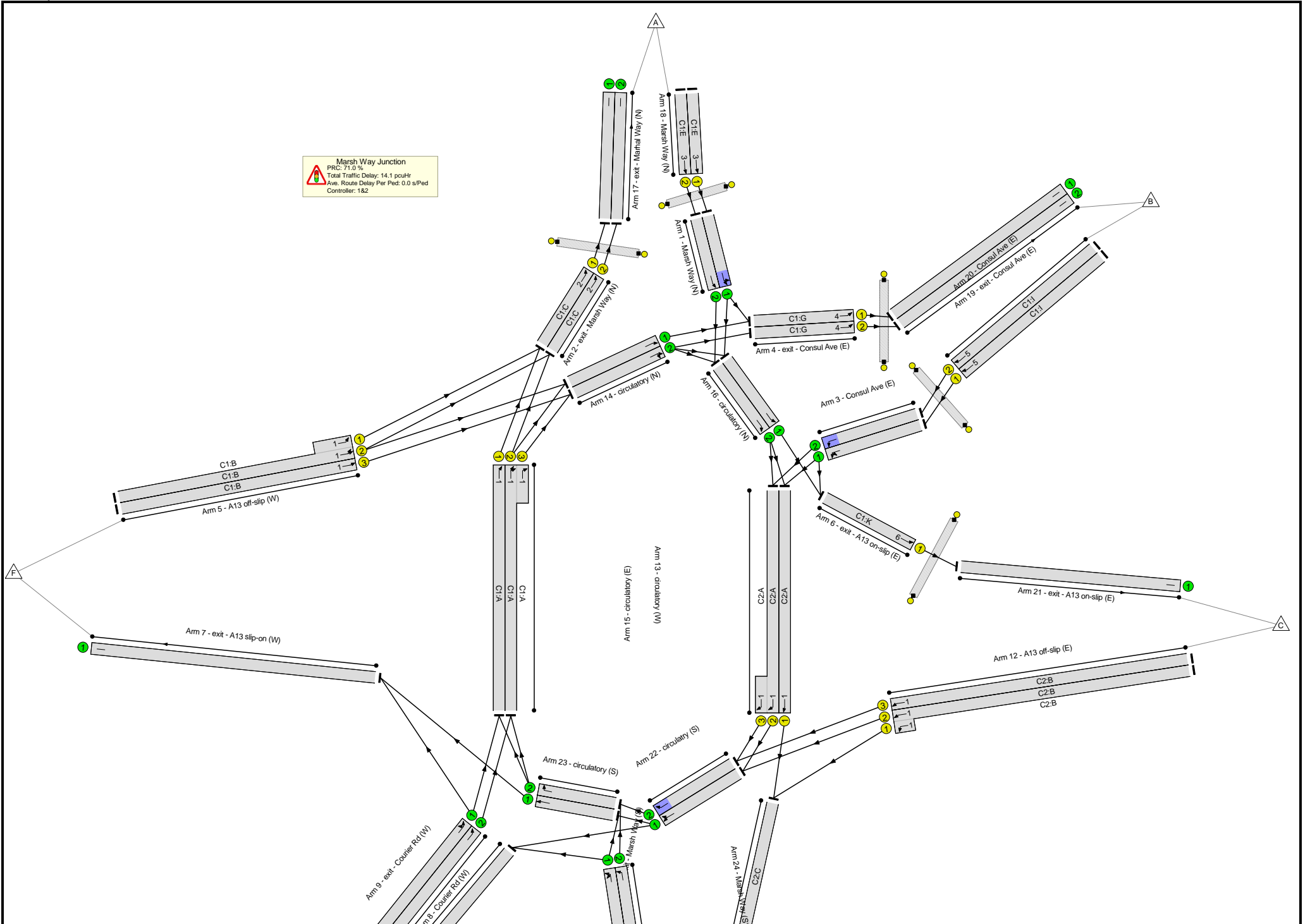
Stage	1	2
Duration	52	6
Change Point	61	50

Signal Timings Diagram



Full Input Data And Results  
**Network Layout Diagram**

# Full Input Data And Results



## Full Input Data And Results

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 (%)
<b>Network</b>	-	-	<b>N/A</b>	-	-		-	-	-	-	-	-	<b>52.6%</b>
<b>Marsh Way Junction</b>	-	-	<b>N/A</b>	-	-		-	-	-	-	-	-	<b>52.6%</b>
1/1	Marsh Way (N) Left Ahead	U	N/A	N/A	-		-	-	-	346	1957	1957	17.7%
1/2	Marsh Way (N) Ahead	U	N/A	N/A	-		-	-	-	339	1957	1957	17.3%
2/1	exit - Marsh Way (N) Ahead	U	1:2	N/A	C1:C		1	52	-	311	1960	1443	21.6%
2/2	exit - Marsh Way (N) Ahead	U	1:2	N/A	C1:C		1	52	-	281	1960	1443	19.5%
3/1	Consul Ave (E) Left Left2	U	N/A	N/A	-		-	-	-	102	1860	1860	5.5%
3/2	Consul Ave (E) Left	U	N/A	N/A	-		-	-	-	43	1860	1860	2.3%
4/1	exit - Consul Ave (E) Ahead	U	1:4	N/A	C1:G		1	52	-	101	2015	1483	6.8%
4/2	exit - Consul Ave (E) Ahead	U	1:4	N/A	C1:G		1	52	-	29	2015	1483	2.0%
5/2+5/1	A13 off-slip (W) Left Ahead	U	1:1	N/A	C1:B		1	20	-	193	1972:1921	435+380	23.7 : 23.7%
5/3	A13 off-slip (W) Ahead	U	1:1	N/A	C1:B		1	20	-	127	1921	560	22.7%
6/1	exit - A13 on-slip (E) Ahead	U	1:6	N/A	C1:K		1	52	-	502	2015	1483	33.8%
7/1	exit - A13 slip-on (W)	U	N/A	N/A	-		-	-	-	676	Inf	Inf	0.0%
8/1	Courier Rd (W) Left Ahead	U	N/A	N/A	-		-	-	-	18	1803	1803	1.0%
8/2	Courier Rd (W) Ahead	U	N/A	N/A	-		-	-	-	28	1803	1803	1.6%
9/1	exit - Courier Rd (W)	U	N/A	N/A	-		-	-	-	67	Inf	Inf	0.0%



Full Input Data And Results

10/2+10/1	Marsh Way (S) Ahead	U	2:3	N/A	C2:E		1	52	-	223	1955:1955	1103+379	15.0 : 15.0%
11/1	exit - Marsh Way (S) Ahead	U	2:2	N/A	C2:C		1	53	-	439	2015	1511	29.0%
12/2+12/1	A13 off-slip (E) Left Ahead	U	2:1	N/A	C2:B		1	40	-	606	1912:1912	757+413	51.8 : 51.8%
12/3	A13 off-slip (E) Ahead	U	2:1	N/A	C2:B		1	40	-	381	1912	1089	35.0%
13/1	circulatory (W) Ahead	U	1:1	N/A	C1:A		1	40	-	221	1896	1080	20.5%
13/2+13/3	circulatory (W) Ahead Right	U	1:1	N/A	C1:A		1	40	-	369	1896:1896	814+397	30.5 : 30.5%
14/1	circulatory (N) Ahead	U	N/A	N/A	-		-	-	-	70	1896	1896	3.7%
14/2	circulatory (N) Ahead Right	U	N/A	N/A	-		-	-	-	248	1896	1896	13.1%
15/1	circulatory (E) Ahead	U	2:1	N/A	C2:A		1	20	-	225	1896	553	40.7%
15/2+15/3	circulatory (E) Right	U	2:1	N/A	C2:A		1	20	-	291	1896:2015	553+0	52.6 : 0.0%
16/1	circulatory (N) Ahead	U	N/A	N/A	-		-	-	-	434	1896	1896	22.9%
16/2	circulatory (N) Ahead	U	N/A	N/A	-		-	-	-	439	1896	1896	23.2%
17/1	exit - Marhal Way (N)	U	N/A	N/A	-		-	-	-	311	Inf	Inf	0.0%
17/2	exit - Marhal Way (N)	U	N/A	N/A	-		-	-	-	281	Inf	Inf	0.0%
18/1	Marsh Way (N) Ahead	U	1:3	N/A	C1:E		1	51	-	346	1985	1434	24.1%
18/2	Marsh Way (N) Ahead	U	1:3	N/A	C1:E		1	51	-	339	1985	1434	23.6%
19/1	exit - Consul Ave (E)	U	N/A	N/A	-		-	-	-	101	Inf	Inf	0.0%
19/2	exit - Consul Ave (E)	U	N/A	N/A	-		-	-	-	29	Inf	Inf	0.0%
20/1	Consul Ave (E) Ahead	U	1:5	N/A	C1:I		1	51	-	102	2015	1455	7.0%

Full Input Data And Results

20/2	Consul Ave (E) Ahead	U	1:5	N/A	C1:I		1	51	-	43	2015	1455	3.0%
21/1	exit - A13 on-slip (E)	U	N/A	N/A	-		-	-	-	502	Inf	Inf	0.0%
22/1	circulatory (S) Ahead Ahead2	U	N/A	N/A	-		-	-	-	683	1896	1896	36.0%
22/2	circulatory (S) Ahead	U	N/A	N/A	-		-	-	-	381	1896	1896	20.1%
23/1	circulatory (S) Ahead	U	N/A	N/A	-		-	-	-	673	1896	1896	35.5%
23/2	circulatory (S) Right	U	N/A	N/A	-		-	-	-	547	1896	1896	28.9%
24/1	Marsh Way (S) Left Left2	U	N/A	N/A	-		-	-	-	57	1819	1819	3.1%
24/2	Marsh Way (S) Left	U	N/A	N/A	-		-	-	-	166	1819	1819	9.1%
25/1	exit - Marsh Way (S)	U	N/A	N/A	-		-	-	-	439	Inf	Inf	0.0%
Ped Link: P1	Unnamed Ped Link	-	1:2	-	C1:D		1	6	-	0	-	0	0.0%
Ped Link: P2	Unnamed Ped Link	-	1:3	-	C1:F		1	6	-	0	-	0	0.0%
Ped Link: P3	Unnamed Ped Link	-	1:4	-	C1:H		1	6	-	0	-	0	0.0%
Ped Link: P4	Unnamed Ped Link	-	1:5	-	C1:J		1	6	-	0	-	0	0.0%
Ped Link: P5	Unnamed Ped Link	-	1:6	-	C1:L		1	6	-	0	-	0	0.0%
Ped Link: P6	Unnamed Ped Link	-	2:3	-	C2:F		1	6	-	0	-	0	0.0%
Ped Link: P7	Unnamed Ped Link	-	2:2	-	C2:D		1	6	-	0	-	0	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)
<b>Network</b>	-	-	0	0	0	8.9	5.2	0.0	14.1	-	-	-	-
<b>Marsh Way Junction</b>	-	-	0	0	0	8.9	5.2	0.0	14.1	-	-	-	-
1/1	346	346	-	-	-	0.0	0.1	-	0.1	1.1	0.0	0.1	0.1
1/2	339	339	-	-	-	0.0	0.1	-	0.1	1.1	0.0	0.1	0.1
2/1	311	311	-	-	-	0.1	0.1	-	0.2	2.5	0.6	0.1	0.7
2/2	281	281	-	-	-	0.1	0.1	-	0.2	2.4	0.4	0.1	0.5
3/1	102	102	-	-	-	0.0	0.0	-	0.0	1.0	0.0	0.0	0.0
3/2	43	43	-	-	-	0.0	0.0	-	0.0	1.0	0.0	0.0	0.0
4/1	101	101	-	-	-	0.0	0.0	-	0.1	2.5	0.3	0.0	0.4
4/2	29	29	-	-	-	0.0	0.0	-	0.0	3.1	0.1	0.0	0.1
5/2+5/1	193	193	-	-	-	1.0	0.2	-	1.2	21.9	1.5	0.2	1.7
5/3	127	127	-	-	-	0.7	0.1	-	0.8	23.5	1.9	0.1	2.1
6/1	502	502	-	-	-	0.2	0.3	-	0.4	2.9	1.3	0.3	1.6
7/1	676	676	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	18	18	-	-	-	0.0	0.0	-	0.0	1.0	0.0	0.0	0.0
8/2	28	28	-	-	-	0.0	0.0	-	0.0	1.0	0.0	0.0	0.0
9/1	67	67	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
10/2+10/1	223	223	-	-	-	0.2	0.1	-	0.3	4.2	0.9	0.1	1.0
11/1	439	439	-	-	-	0.1	0.2	-	0.3	2.9	1.0	0.2	1.2
12/2+12/1	606	606	-	-	-	1.4	0.5	-	1.9	11.6	5.3	0.5	5.8
12/3	381	381	-	-	-	0.9	0.3	-	1.2	10.9	4.0	0.3	4.3
13/1	221	221	-	-	-	0.2	0.1	-	0.3	5.3	0.9	0.1	1.0
13/2+13/3	369	369	-	-	-	0.3	0.2	-	0.5	5.1	0.9	0.2	1.1
14/1	70	70	-	-	-	0.0	0.0	-	0.0	1.0	0.0	0.0	0.0
14/2	248	248	-	-	-	0.0	0.1	-	0.1	1.1	0.0	0.1	0.1
15/1	225	225	-	-	-	1.3	0.3	-	1.6	26.0	3.0	0.3	3.3



## Full Input Data And Results

C1 - North	Stream: 1	PRC for Signalled Lanes (%)	195.4	Total Delay for Signalled Lanes (pcuHr)	2.86	Cycle Time (s)	72
C1 - North	Stream: 2	PRC for Signalled Lanes (%)	317.5	Total Delay for Signalled Lanes (pcuHr)	0.40	Cycle Time (s)	72
C1 - North	Stream: 3	PRC for Signalled Lanes (%)	272.9	Total Delay for Signalled Lanes (pcuHr)	0.95	Cycle Time (s)	72
C1 - North	Stream: 4	PRC for Signalled Lanes (%)	1221.7	Total Delay for Signalled Lanes (pcuHr)	0.10	Cycle Time (s)	72
C1 - North	Stream: 5	PRC for Signalled Lanes (%)	1184.1	Total Delay for Signalled Lanes (pcuHr)	0.17	Cycle Time (s)	72
C1 - North	Stream: 6	PRC for Signalled Lanes (%)	165.9	Total Delay for Signalled Lanes (pcuHr)	0.41	Cycle Time (s)	72
C2 - South	Stream: 1	PRC for Signalled Lanes (%)	71.0	Total Delay for Signalled Lanes (pcuHr)	6.97	Cycle Time (s)	72
C2 - South	Stream: 2	PRC for Signalled Lanes (%)	209.8	Total Delay for Signalled Lanes (pcuHr)	0.35	Cycle Time (s)	72
C2 - South	Stream: 3	PRC for Signalled Lanes (%)	498.0	Total Delay for Signalled Lanes (pcuHr)	0.26	Cycle Time (s)	72
		PRC Over All Lanes (%)	71.0	Total Delay Over All Lanes(pcuHr)	14.08		

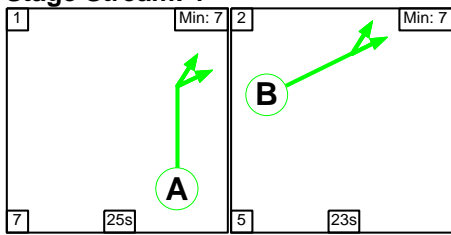
Full Input Data And Results

Scenario 2: 'Base Year 2023 PM' (FG2: 'Base Year 2023 PM', Plan 1: 'Network Control Plan 1')

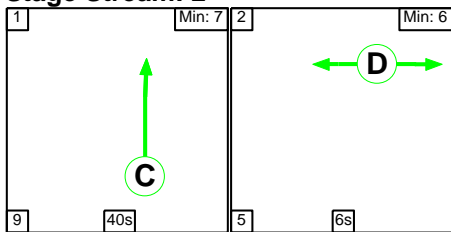
C1 - North

Stage Sequence Diagram

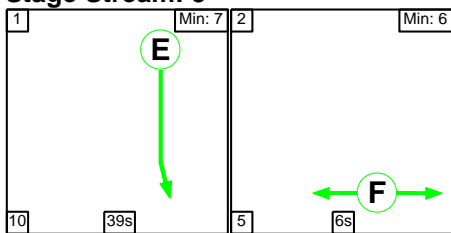
Stage Stream: 1



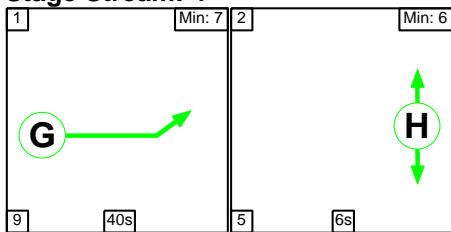
Stage Stream: 2



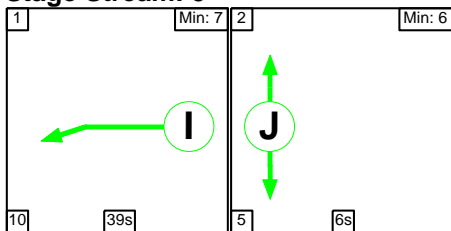
Stage Stream: 3



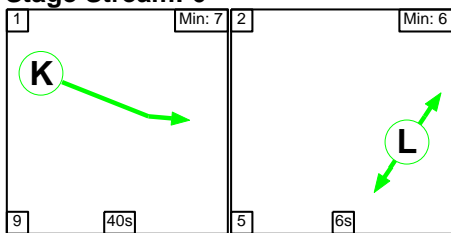
Stage Stream: 4



Stage Stream: 5



Stage Stream: 6



## Full Input Data And Results

### Stage Timings

#### Stage Stream: 1

Stage	1	2
Duration	25	23
Change Point	0	32

#### Stage Stream: 2

Stage	1	2
Duration	40	6
Change Point	2	51

#### Stage Stream: 3

Stage	1	2
Duration	39	6
Change Point	51	40

#### Stage Stream: 4

Stage	1	2
Duration	40	6
Change Point	6	55

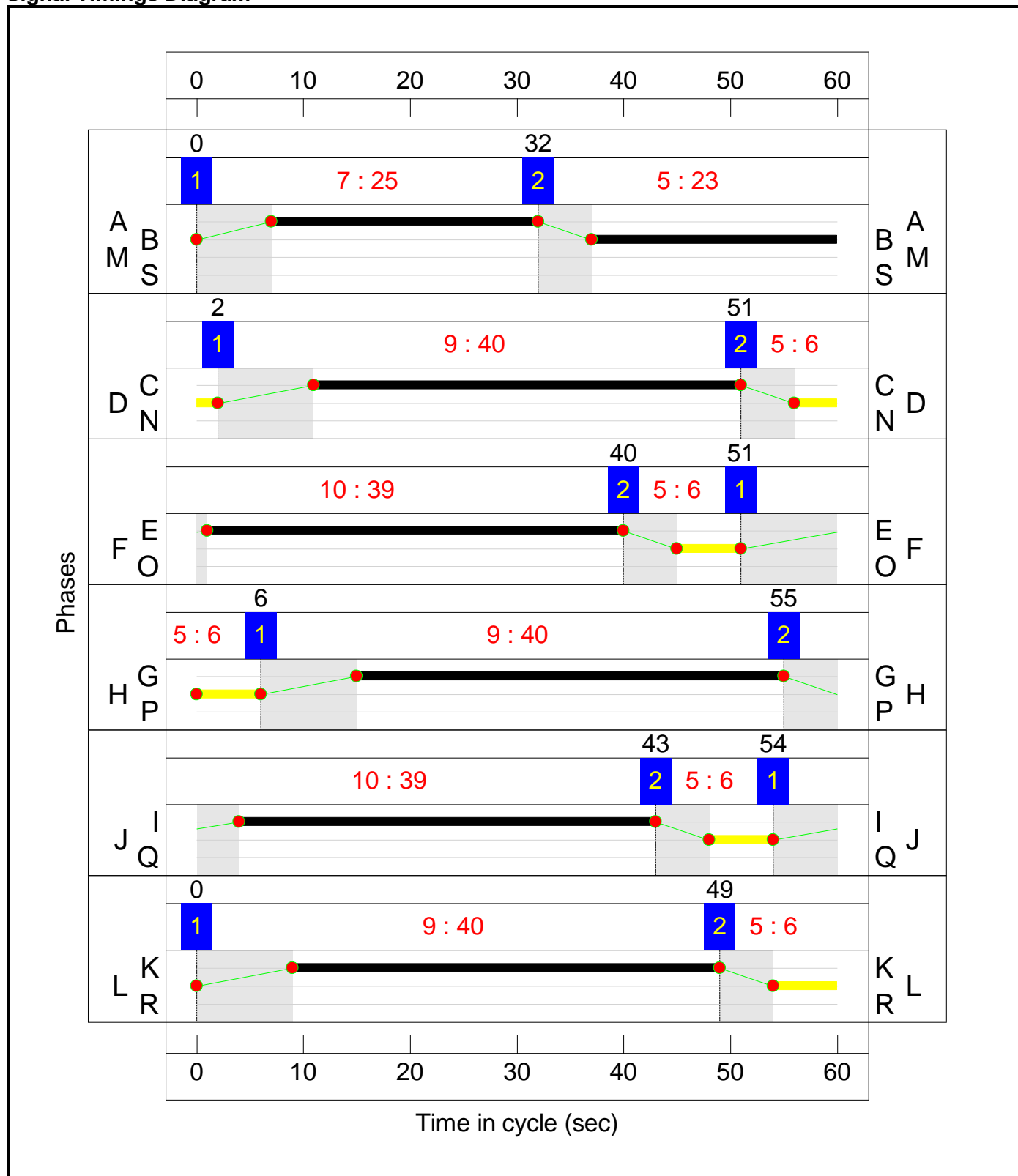
#### Stage Stream: 5

Stage	1	2
Duration	39	6
Change Point	54	43

#### Stage Stream: 6

Stage	1	2
Duration	40	6
Change Point	0	49

Signal Timings Diagram

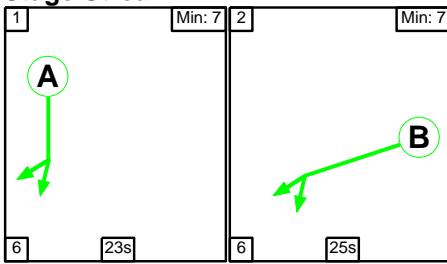




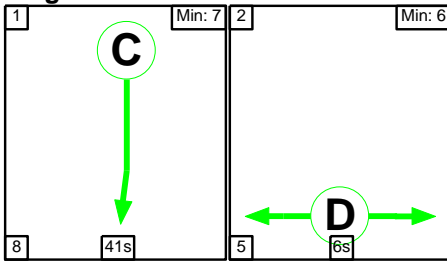
Full Input Data And Results

**C2 - South**  
**Stage Sequence Diagram**

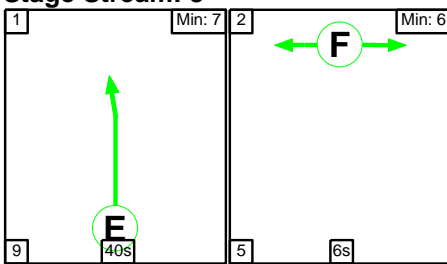
**Stage Stream: 1**



**Stage Stream: 2**



**Stage Stream: 3**



**Stage Timings**

**Stage Stream: 1**

Stage	1	2
Duration	23	25
Change Point	13	42

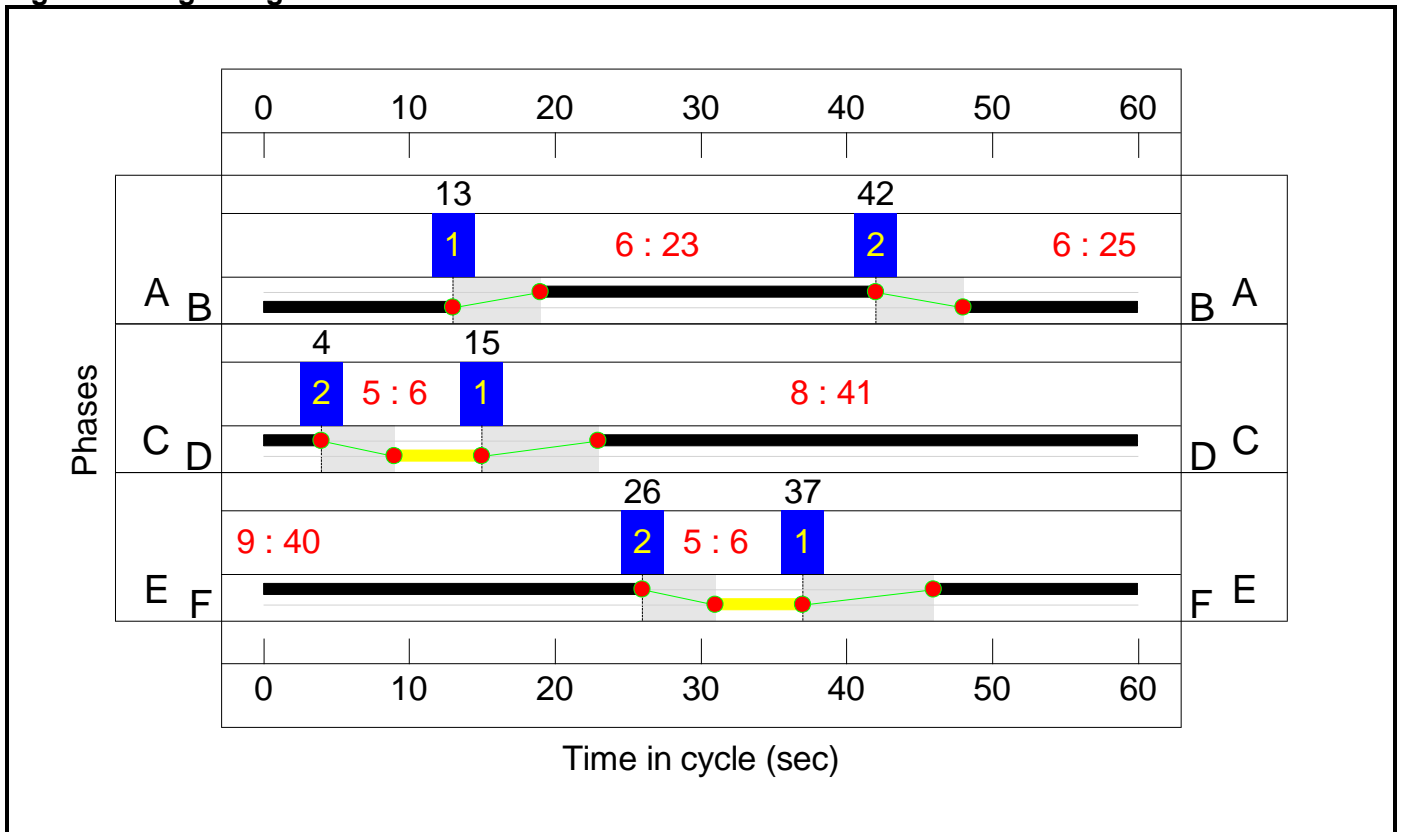
**Stage Stream: 2**

Stage	1	2
Duration	41	6
Change Point	15	4

**Stage Stream: 3**

Stage	1	2
Duration	40	6
Change Point	37	26

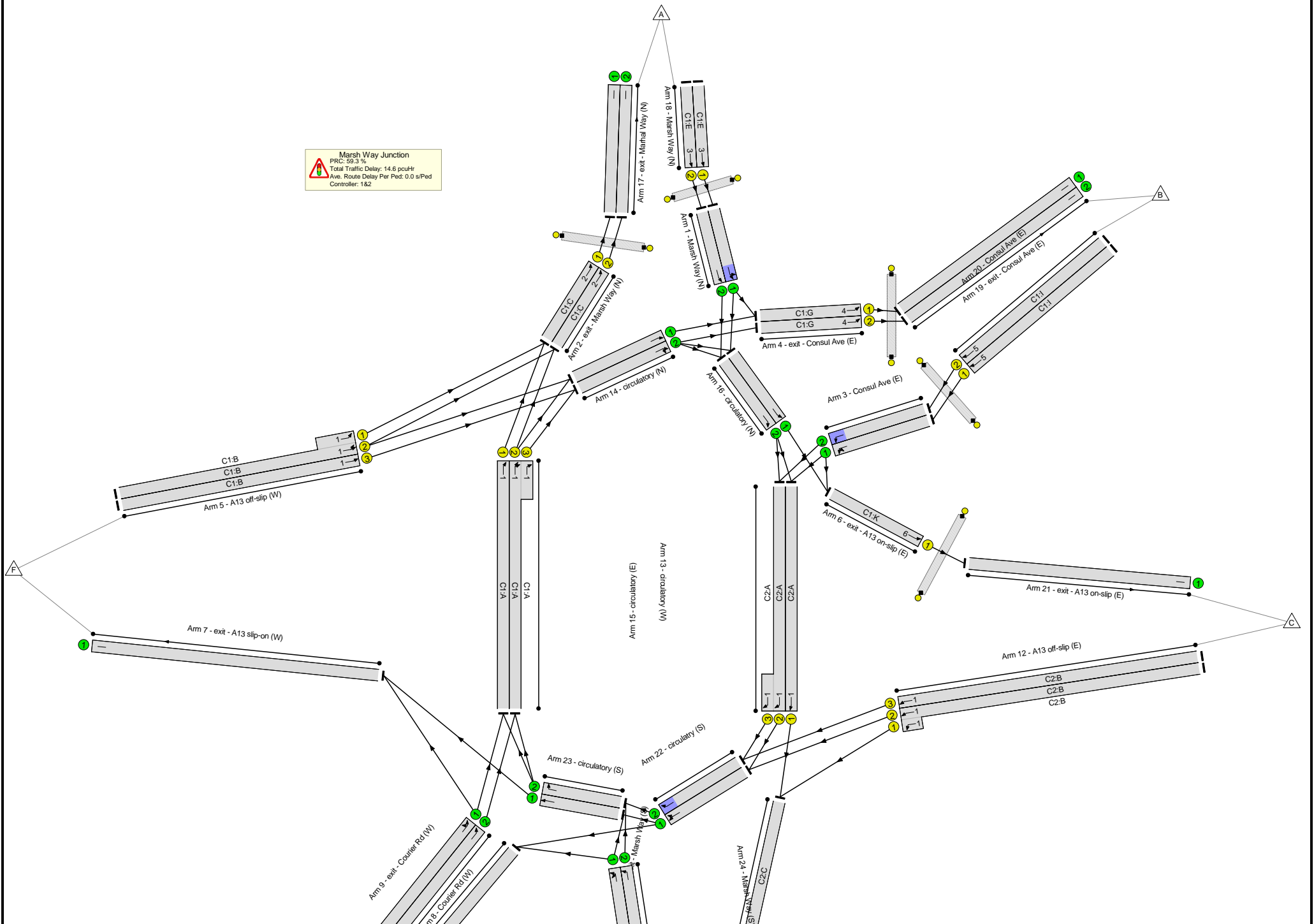
**Signal Timings Diagram**



Full Input Data And Results  
**Network Layout Diagram**

# Full Input Data And Results

Marsh Way Junction  
 PRC: 59.3 %  
 Total Traffic Delay: 14.6 pcuHr  
 Ave. Route Delay Per Ped: 0.0 s/Ped  
 Controller: 1&2



## Full Input Data And Results

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 (%)
<b>Network</b>	-	-	<b>N/A</b>	-	-		-	-	-	-	-	-	<b>56.5%</b>
<b>Marsh Way Junction</b>	-	-	<b>N/A</b>	-	-		-	-	-	-	-	-	<b>56.5%</b>
1/1	Marsh Way (N) Left Ahead	U	N/A	N/A	-		-	-	-	457	1957	1957	23.4%
1/2	Marsh Way (N) Ahead	U	N/A	N/A	-		-	-	-	325	1957	1957	16.6%
2/1	exit - Marsh Way (N) Ahead	U	1:2	N/A	C1:C		1	40	-	519	1960	1339	38.8%
2/2	exit - Marsh Way (N) Ahead	U	1:2	N/A	C1:C		1	40	-	510	1960	1339	38.1%
3/1	Consul Ave (E) Left Left2	U	N/A	N/A	-		-	-	-	84	1860	1860	4.5%
3/2	Consul Ave (E) Left	U	N/A	N/A	-		-	-	-	45	1860	1860	2.4%
4/1	exit - Consul Ave (E) Ahead	U	1:4	N/A	C1:G		1	40	-	64	2015	1377	4.6%
4/2	exit - Consul Ave (E) Ahead	U	1:4	N/A	C1:G		1	40	-	24	2015	1377	1.7%
5/2+5/1	A13 off-slip (W) Left Ahead	U	1:1	N/A	C1:B		1	23	-	486	1985:1921	561+543	44.0 : 44.0%
5/3	A13 off-slip (W) Ahead	U	1:1	N/A	C1:B		1	23	-	68	1921	768	8.8%
6/1	exit - A13 on-slip (E) Ahead	U	1:6	N/A	C1:K		1	40	-	778	2015	1377	56.5%
7/1	exit - A13 slip-on (W)	U	N/A	N/A	-		-	-	-	462	Inf	Inf	0.0%
8/1	Courier Rd (W) Left Ahead	U	N/A	N/A	-		-	-	-	48	1803	1803	2.7%
8/2	Courier Rd (W) Ahead	U	N/A	N/A	-		-	-	-	53	1803	1803	2.9%
9/1	exit - Courier Rd (W)	U	N/A	N/A	-		-	-	-	56	Inf	Inf	0.0%

Full Input Data And Results

10/2+10/1	Marsh Way (S) Ahead	U	2:3	N/A	C2:E		1	40	-	430	1955:1955	1047+338	31.0 : 31.0%
11/1	exit - Marsh Way (S) Ahead	U	2:2	N/A	C2:C		1	41	-	144	2015	1410	10.2%
12/2+12/1	A13 off-slip (E) Left Ahead	U	2:1	N/A	C2:B		1	25	-	116	1912:1912	404+552	12.1 : 12.1%
12/3	A13 off-slip (E) Ahead	U	2:1	N/A	C2:B		1	25	-	445	1912	829	53.7%
13/1	circulatory (W) Ahead	U	1:1	N/A	C1:A		1	25	-	280	1896	822	34.1%
13/2+13/3	circulatory (W) Ahead Right	U	1:1	N/A	C1:A		1	25	-	573	1896:1896	592+485	53.2 : 53.2%
14/1	circulatory (N) Ahead	U	N/A	N/A	-		-	-	-	52	1896	1896	2.7%
14/2	circulatory (N) Ahead Right	U	N/A	N/A	-		-	-	-	326	1896	1896	17.2%
15/1	circulatory (E) Ahead	U	2:1	N/A	C2:A		1	23	-	77	1896	758	10.2%
15/2+15/3	circulatory (E) Right	U	2:1	N/A	C2:A		1	23	-	346	1896:2015	758+0	45.6 : 0.0%
16/1	circulatory (N) Ahead	U	N/A	N/A	-		-	-	-	704	1896	1896	37.1%
16/2	circulatory (N) Ahead	U	N/A	N/A	-		-	-	-	368	1896	1896	19.4%
17/1	exit - Marhal Way (N)	U	N/A	N/A	-		-	-	-	519	Inf	Inf	0.0%
17/2	exit - Marhal Way (N)	U	N/A	N/A	-		-	-	-	510	Inf	Inf	0.0%
18/1	Marsh Way (N) Ahead	U	1:3	N/A	C1:E		1	39	-	457	1985	1323	34.5%
18/2	Marsh Way (N) Ahead	U	1:3	N/A	C1:E		1	39	-	325	1985	1323	24.6%
19/1	exit - Consul Ave (E)	U	N/A	N/A	-		-	-	-	64	Inf	Inf	0.0%
19/2	exit - Consul Ave (E)	U	N/A	N/A	-		-	-	-	24	Inf	Inf	0.0%
20/1	Consul Ave (E) Ahead	U	1:5	N/A	C1:I		1	39	-	84	2015	1343	6.3%

Full Input Data And Results

20/2	Consul Ave (E) Ahead	U	1:5	N/A	C1:I		1	39	-	45	2015	1343	3.3%
21/1	exit - A13 on-slip (E)	U	N/A	N/A	-		-	-	-	778	Inf	Inf	0.0%
22/1	circulatory (S) Ahead Ahead2	U	N/A	N/A	-		-	-	-	395	1896	1896	20.8%
22/2	circulatory (S) Ahead	U	N/A	N/A	-		-	-	-	445	1896	1896	23.5%
23/1	circulatory (S) Ahead	U	N/A	N/A	-		-	-	-	444	1896	1896	23.4%
23/2	circulatory (S) Right	U	N/A	N/A	-		-	-	-	770	1896	1896	40.6%
24/1	Marsh Way (S) Left Left2	U	N/A	N/A	-		-	-	-	105	1819	1819	5.8%
24/2	Marsh Way (S) Left	U	N/A	N/A	-		-	-	-	325	1819	1819	17.9%
25/1	exit - Marsh Way (S)	U	N/A	N/A	-		-	-	-	144	Inf	Inf	0.0%
Ped Link: P1	Unnamed Ped Link	-	1:2	-	C1:D		1	6	-	0	-	0	0.0%
Ped Link: P2	Unnamed Ped Link	-	1:3	-	C1:F		1	6	-	0	-	0	0.0%
Ped Link: P3	Unnamed Ped Link	-	1:4	-	C1:H		1	6	-	0	-	0	0.0%
Ped Link: P4	Unnamed Ped Link	-	1:5	-	C1:J		1	6	-	0	-	0	0.0%
Ped Link: P5	Unnamed Ped Link	-	1:6	-	C1:L		1	6	-	0	-	0	0.0%
Ped Link: P6	Unnamed Ped Link	-	2:3	-	C2:F		1	6	-	0	-	0	0.0%
Ped Link: P7	Unnamed Ped Link	-	2:2	-	C2:D		1	6	-	0	-	0	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)
<b>Network</b>	-	-	0	0	0	8.4	6.2	0.0	14.6	-	-	-	-
<b>Marsh Way Junction</b>	-	-	0	0	0	8.4	6.2	0.0	14.6	-	-	-	-
1/1	457	457	-	-	-	0.0	0.2	-	0.2	1.2	0.0	0.2	0.2
1/2	325	325	-	-	-	0.0	0.1	-	0.1	1.1	0.0	0.1	0.1
2/1	519	519	-	-	-	0.2	0.3	-	0.6	3.8	1.3	0.3	1.6
2/2	510	510	-	-	-	0.2	0.3	-	0.6	3.9	1.3	0.3	1.6
3/1	84	84	-	-	-	0.0	0.0	-	0.0	1.0	0.0	0.0	0.0
3/2	45	45	-	-	-	0.0	0.0	-	0.0	1.0	0.0	0.0	0.0
4/1	64	64	-	-	-	0.0	0.0	-	0.0	1.7	0.1	0.0	0.1
4/2	24	24	-	-	-	0.0	0.0	-	0.0	4.5	0.1	0.0	0.1
5/2+5/1	486	486	-	-	-	1.7	0.4	-	2.1	15.2	2.8	0.4	3.2
5/3	68	68	-	-	-	0.2	0.0	-	0.3	13.8	0.7	0.0	0.7
6/1	778	778	-	-	-	0.1	0.6	-	0.7	3.4	0.3	0.6	1.0
7/1	462	462	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	48	48	-	-	-	0.0	0.0	-	0.0	1.0	0.0	0.0	0.0
8/2	53	53	-	-	-	0.0	0.0	-	0.0	1.0	0.0	0.0	0.0
9/1	56	56	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
10/2+10/1	430	430	-	-	-	0.4	0.2	-	0.6	5.4	2.1	0.2	2.3
11/1	144	144	-	-	-	0.1	0.1	-	0.1	2.7	0.3	0.1	0.3
12/2+12/1	116	116	-	-	-	0.3	0.1	-	0.4	12.1	0.7	0.1	0.7
12/3	445	445	-	-	-	1.6	0.6	-	2.1	17.2	5.4	0.6	6.0
13/1	280	280	-	-	-	0.4	0.3	-	0.7	8.8	1.6	0.3	1.9
13/2+13/3	573	573	-	-	-	0.8	0.6	-	1.4	8.8	1.8	0.6	2.3
14/1	52	52	-	-	-	0.0	0.0	-	0.0	1.0	0.0	0.0	0.0
14/2	326	326	-	-	-	0.0	0.1	-	0.1	1.1	0.0	0.1	0.1
15/1	77	77	-	-	-	0.2	0.1	-	0.2	11.6	0.6	0.1	0.7



## Full Input Data And Results

C1 - North	Stream: 1	PRC for Signalled Lanes (%)	69.2	Total Delay for Signalled Lanes (pcuHr)	4.41	Cycle Time (s)	60
C1 - North	Stream: 2	PRC for Signalled Lanes (%)	132.3	Total Delay for Signalled Lanes (pcuHr)	1.11	Cycle Time (s)	60
C1 - North	Stream: 3	PRC for Signalled Lanes (%)	160.6	Total Delay for Signalled Lanes (pcuHr)	1.34	Cycle Time (s)	60
C1 - North	Stream: 4	PRC for Signalled Lanes (%)	1836.3	Total Delay for Signalled Lanes (pcuHr)	0.06	Cycle Time (s)	60
C1 - North	Stream: 5	PRC for Signalled Lanes (%)	1339.3	Total Delay for Signalled Lanes (pcuHr)	0.18	Cycle Time (s)	60
C1 - North	Stream: 6	PRC for Signalled Lanes (%)	59.3	Total Delay for Signalled Lanes (pcuHr)	0.74	Cycle Time (s)	60
C2 - South	Stream: 1	PRC for Signalled Lanes (%)	67.6	Total Delay for Signalled Lanes (pcuHr)	4.19	Cycle Time (s)	60
C2 - South	Stream: 2	PRC for Signalled Lanes (%)	781.6	Total Delay for Signalled Lanes (pcuHr)	0.11	Cycle Time (s)	60
C2 - South	Stream: 3	PRC for Signalled Lanes (%)	189.9	Total Delay for Signalled Lanes (pcuHr)	0.65	Cycle Time (s)	60
		PRC Over All Lanes (%)	59.3	Total Delay Over All Lanes(pcuHr)	14.58		

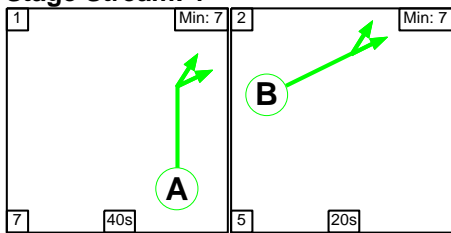
Full Input Data And Results

Scenario 3: '2030 AM' (FG3: 'Reference Case 2030 AM', Plan 1: 'Network Control Plan 1')

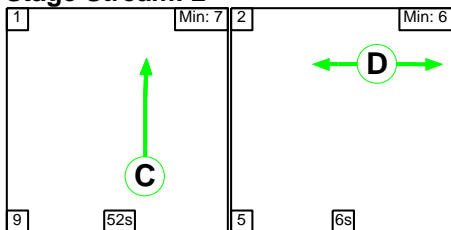
C1 - North

### Stage Sequence Diagram

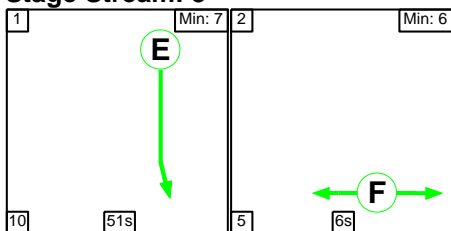
#### Stage Stream: 1



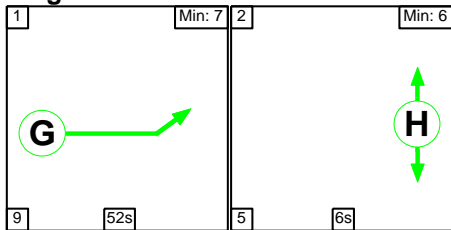
#### Stage Stream: 2



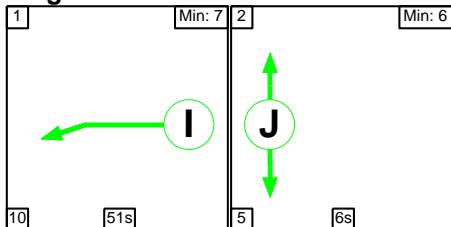
#### Stage Stream: 3



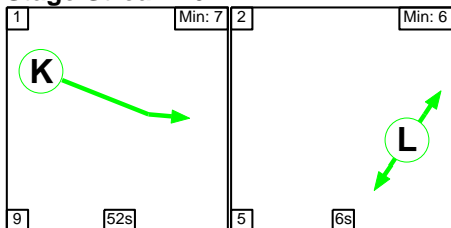
#### Stage Stream: 4



#### Stage Stream: 5



#### Stage Stream: 6



## Full Input Data And Results

### Stage Timings

#### Stage Stream: 1

Stage	1	2
Duration	40	20
Change Point	0	47

#### Stage Stream: 2

Stage	1	2
Duration	52	6
Change Point	2	63

#### Stage Stream: 3

Stage	1	2
Duration	51	6
Change Point	11	0

#### Stage Stream: 4

Stage	1	2
Duration	52	6
Change Point	10	71

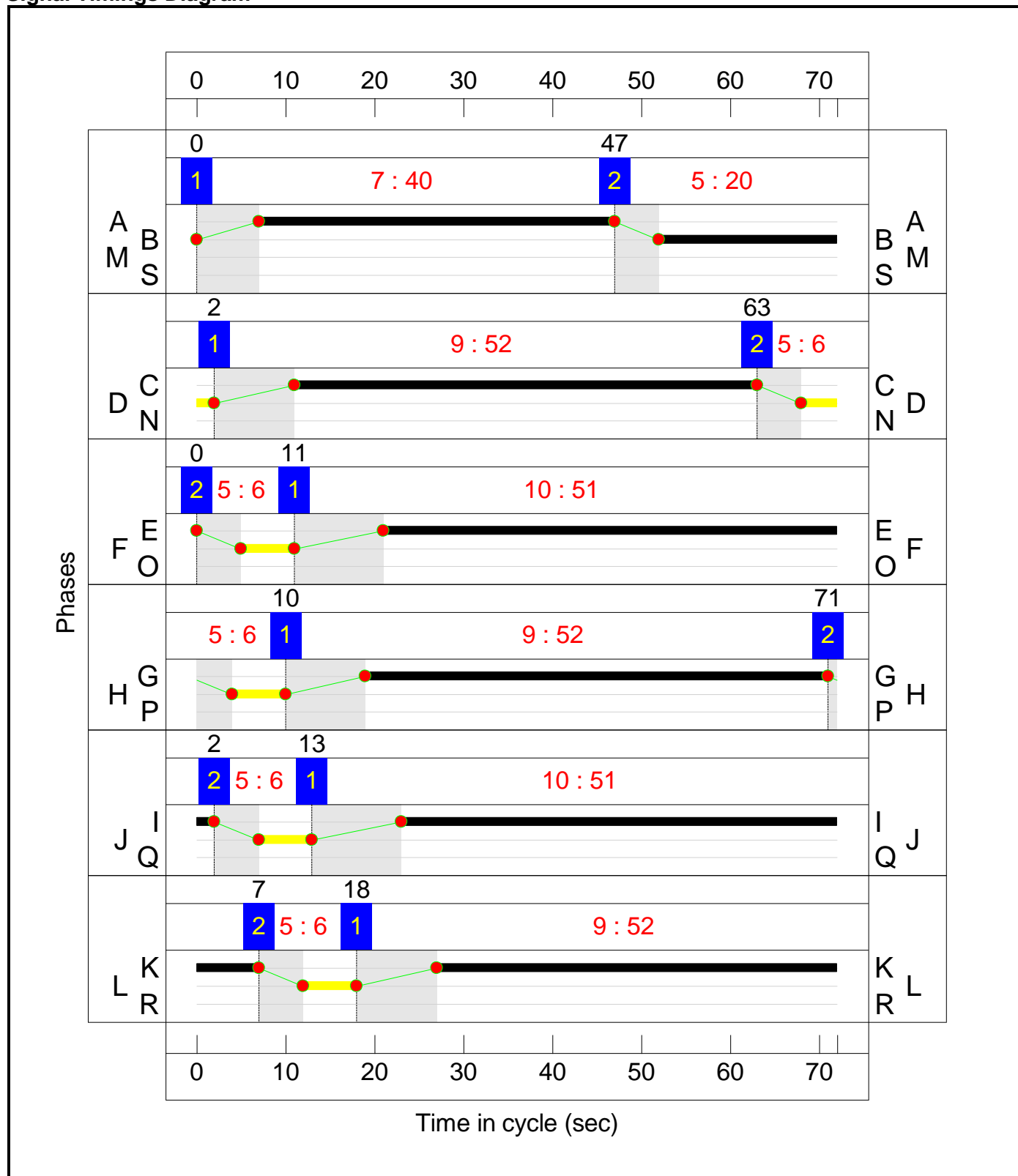
#### Stage Stream: 5

Stage	1	2
Duration	51	6
Change Point	13	2

#### Stage Stream: 6

Stage	1	2
Duration	52	6
Change Point	18	7

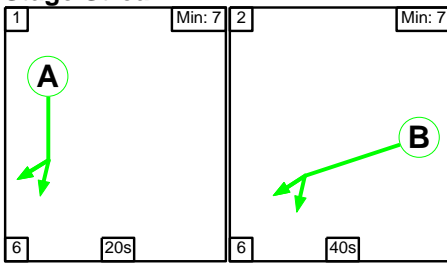
Signal Timings Diagram



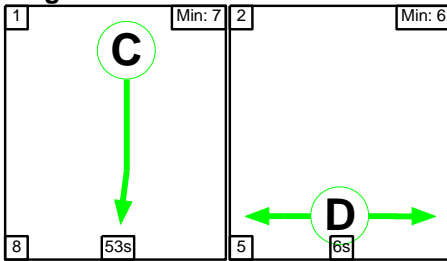
Full Input Data And Results

**C2 - South**  
**Stage Sequence Diagram**

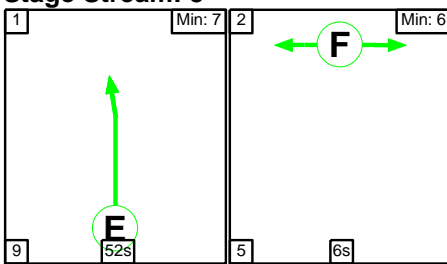
**Stage Stream: 1**



**Stage Stream: 2**



**Stage Stream: 3**



**Stage Timings**

**Stage Stream: 1**

Stage	1	2
Duration	20	40
Change Point	25	51

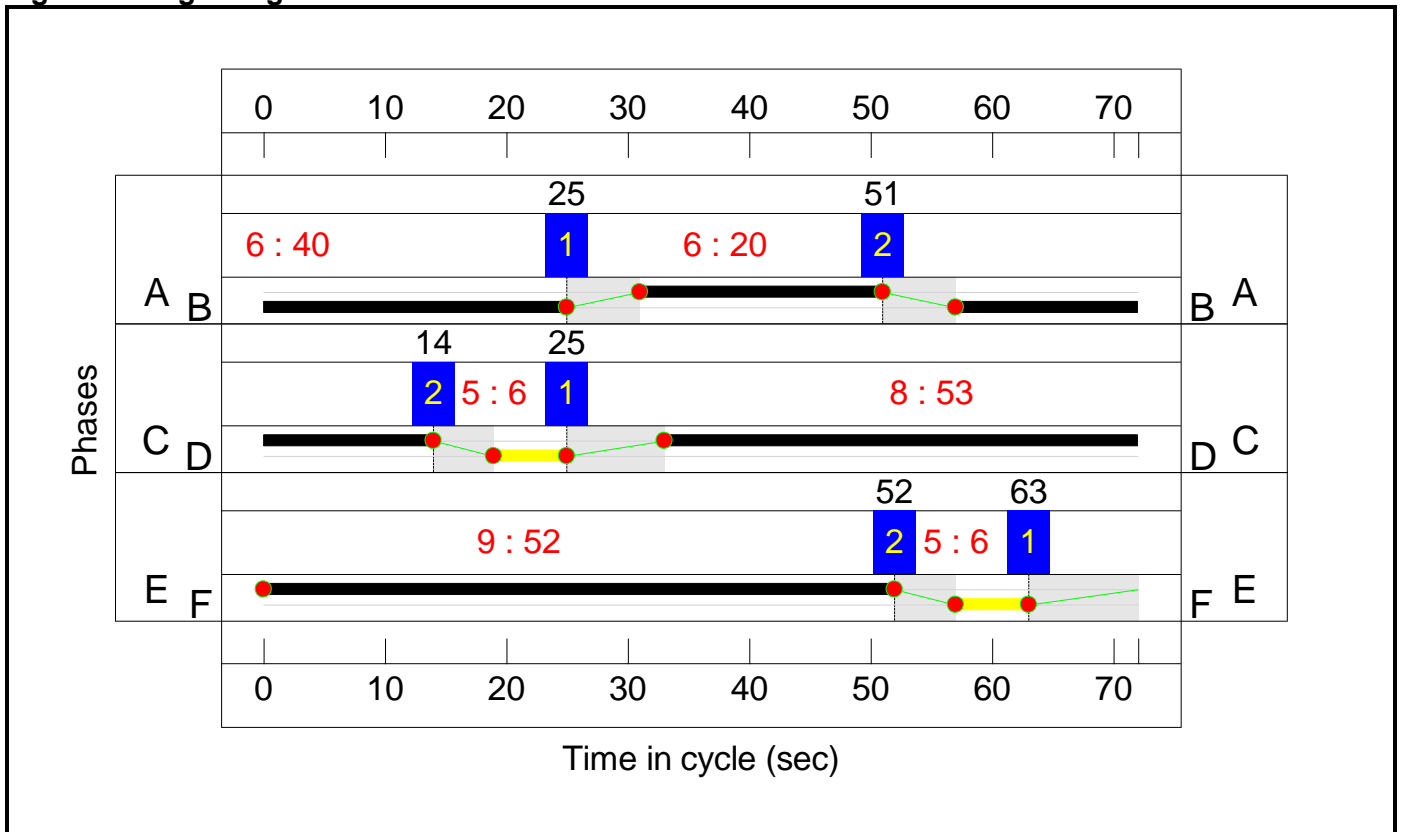
**Stage Stream: 2**

Stage	1	2
Duration	53	6
Change Point	25	14

**Stage Stream: 3**

Stage	1	2
Duration	52	6
Change Point	63	52

Signal Timings Diagram

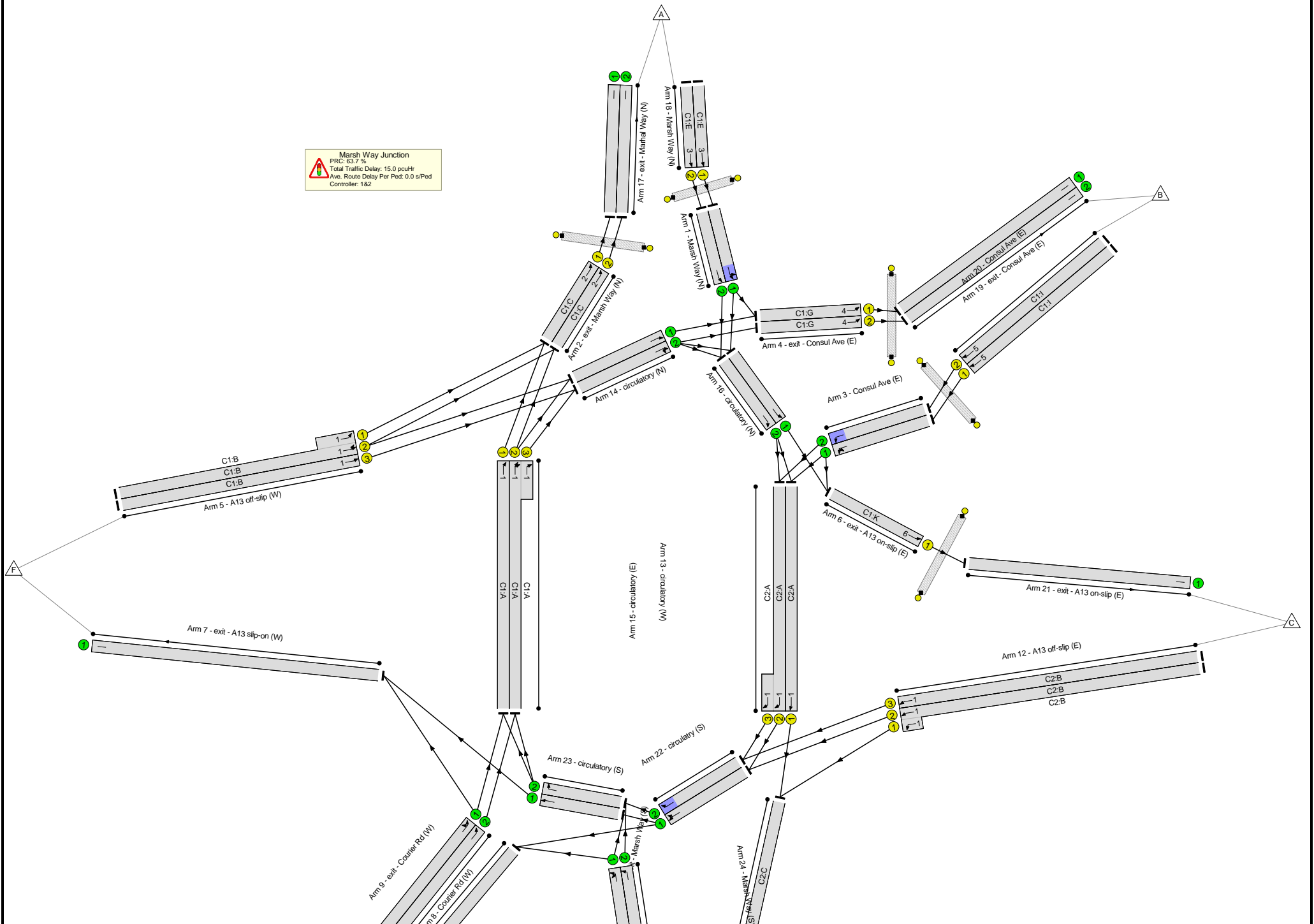




Full Input Data And Results  
**Network Layout Diagram**

# Full Input Data And Results

Marsh Way Junction  
 PRC: 63.7 %  
 Total Traffic Delay: 15.0 pcuHr  
 Ave. Route Delay Per Ped: 0.0 s/Ped  
 Controller: 1&2



## Full Input Data And Results

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 (%)
<b>Network</b>	-	-	<b>N/A</b>	-	-		-	-	-	-	-	-	<b>55.0%</b>
<b>Marsh Way Junction</b>	-	-	<b>N/A</b>	-	-		-	-	-	-	-	-	<b>55.0%</b>
1/1	Marsh Way (N) Left Ahead	U	N/A	N/A	-		-	-	-	362	1957	1957	18.5%
1/2	Marsh Way (N) Ahead	U	N/A	N/A	-		-	-	-	355	1957	1957	18.1%
2/1	exit - Marsh Way (N) Ahead	U	1:2	N/A	C1:C		1	52	-	323	1960	1443	22.4%
2/2	exit - Marsh Way (N) Ahead	U	1:2	N/A	C1:C		1	52	-	297	1960	1443	20.6%
3/1	Consul Ave (E) Left Left2	U	N/A	N/A	-		-	-	-	107	1860	1860	5.8%
3/2	Consul Ave (E) Left	U	N/A	N/A	-		-	-	-	45	1860	1860	2.4%
4/1	exit - Consul Ave (E) Ahead	U	1:4	N/A	C1:G		1	52	-	111	2015	1483	7.5%
4/2	exit - Consul Ave (E) Ahead	U	1:4	N/A	C1:G		1	52	-	25	2015	1483	1.7%
5/2+5/1	A13 off-slip (W) Left Ahead	U	1:1	N/A	C1:B		1	20	-	207	1969:1921	439+366	25.7 : 25.7%
5/3	A13 off-slip (W) Ahead	U	1:1	N/A	C1:B		1	20	-	127	1921	560	22.7%
6/1	exit - A13 on-slip (E) Ahead	U	1:6	N/A	C1:K		1	52	-	525	2015	1483	35.4%
7/1	exit - A13 slip-on (W)	U	N/A	N/A	-		-	-	-	708	Inf	Inf	0.0%
8/1	Courier Rd (W) Left Ahead	U	N/A	N/A	-		-	-	-	19	1803	1803	1.1%
8/2	Courier Rd (W) Ahead	U	N/A	N/A	-		-	-	-	28	1803	1803	1.6%
9/1	exit - Courier Rd (W)	U	N/A	N/A	-		-	-	-	70	Inf	Inf	0.0%

Full Input Data And Results

10/2+10/1	Marsh Way (S) Ahead	U	2:3	N/A	C2:E		1	52	-	234	1955:1955	1102+380	15.8 : 15.8%
11/1	exit - Marsh Way (S) Ahead	U	2:2	N/A	C2:C		1	53	-	460	2015	1511	30.4%
12/2+12/1	A13 off-slip (E) Left Ahead	U	2:1	N/A	C2:B		1	40	-	635	1912:1912	757+413	54.3 : 54.3%
12/3	A13 off-slip (E) Ahead	U	2:1	N/A	C2:B		1	40	-	400	1912	1089	36.7%
13/1	circulatory (W) Ahead	U	1:1	N/A	C1:A		1	40	-	229	1896	1080	21.2%
13/2+13/3	circulatory (W) Ahead Right	U	1:1	N/A	C1:A		1	40	-	389	1896:1896	817+392	32.2 : 32.2%
14/1	circulatory (N) Ahead	U	N/A	N/A	-		-	-	-	79	1896	1896	4.2%
14/2	circulatory (N) Ahead Right	U	N/A	N/A	-		-	-	-	253	1896	1896	13.3%
15/1	circulatory (E) Ahead	U	2:1	N/A	C2:A		1	20	-	236	1896	553	42.7%
15/2+15/3	circulatory (E) Right	U	2:1	N/A	C2:A		1	20	-	304	1896:2015	553+0	55.0 : 0.0%
16/1	circulatory (N) Ahead	U	N/A	N/A	-		-	-	-	454	1896	1896	23.9%
16/2	circulatory (N) Ahead	U	N/A	N/A	-		-	-	-	459	1896	1896	24.2%
17/1	exit - Marhal Way (N)	U	N/A	N/A	-		-	-	-	323	Inf	Inf	0.0%
17/2	exit - Marhal Way (N)	U	N/A	N/A	-		-	-	-	297	Inf	Inf	0.0%
18/1	Marsh Way (N) Ahead	U	1:3	N/A	C1:E		1	51	-	362	1985	1434	25.3%
18/2	Marsh Way (N) Ahead	U	1:3	N/A	C1:E		1	51	-	355	1985	1434	24.8%
19/1	exit - Consul Ave (E)	U	N/A	N/A	-		-	-	-	111	Inf	Inf	0.0%
19/2	exit - Consul Ave (E)	U	N/A	N/A	-		-	-	-	25	Inf	Inf	0.0%
20/1	Consul Ave (E) Ahead	U	1:5	N/A	C1:I		1	51	-	107	2015	1455	7.4%

Full Input Data And Results

20/2	Consul Ave (E) Ahead	U	1:5	N/A	C1:I		1	51	-	45	2015	1455	3.1%
21/1	exit - A13 on-slip (E)	U	N/A	N/A	-		-	-	-	525	Inf	Inf	0.0%
22/1	circulatory (S) Ahead Ahead2	U	N/A	N/A	-		-	-	-	715	1896	1896	37.7%
22/2	circulatory (S) Ahead	U	N/A	N/A	-		-	-	-	400	1896	1896	21.1%
23/1	circulatory (S) Ahead	U	N/A	N/A	-		-	-	-	705	1896	1896	37.2%
23/2	circulatory (S) Right	U	N/A	N/A	-		-	-	-	574	1896	1896	30.3%
24/1	Marsh Way (S) Left Left2	U	N/A	N/A	-		-	-	-	60	1819	1819	3.3%
24/2	Marsh Way (S) Left	U	N/A	N/A	-		-	-	-	174	1819	1819	9.6%
25/1	exit - Marsh Way (S)	U	N/A	N/A	-		-	-	-	460	Inf	Inf	0.0%
Ped Link: P1	Unnamed Ped Link	-	1:2	-	C1:D		1	6	-	0	-	0	0.0%
Ped Link: P2	Unnamed Ped Link	-	1:3	-	C1:F		1	6	-	0	-	0	0.0%
Ped Link: P3	Unnamed Ped Link	-	1:4	-	C1:H		1	6	-	0	-	0	0.0%
Ped Link: P4	Unnamed Ped Link	-	1:5	-	C1:J		1	6	-	0	-	0	0.0%
Ped Link: P5	Unnamed Ped Link	-	1:6	-	C1:L		1	6	-	0	-	0	0.0%
Ped Link: P6	Unnamed Ped Link	-	2:3	-	C2:F		1	6	-	0	-	0	0.0%
Ped Link: P7	Unnamed Ped Link	-	2:2	-	C2:D		1	6	-	0	-	0	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)
<b>Network</b>	-	-	0	0	0	9.5	5.6	0.0	15.0	-	-	-	-
<b>Marsh Way Junction</b>	-	-	0	0	0	9.5	5.6	0.0	15.0	-	-	-	-
1/1	362	362	-	-	-	0.0	0.1	-	0.1	1.1	0.0	0.1	0.1
1/2	355	355	-	-	-	0.0	0.1	-	0.1	1.1	0.0	0.1	0.1
2/1	323	323	-	-	-	0.1	0.1	-	0.2	2.6	0.5	0.1	0.6
2/2	297	297	-	-	-	0.1	0.1	-	0.2	2.6	0.5	0.1	0.6
3/1	107	107	-	-	-	0.0	0.0	-	0.0	1.0	0.0	0.0	0.0
3/2	45	45	-	-	-	0.0	0.0	-	0.0	1.0	0.0	0.0	0.0
4/1	111	111	-	-	-	0.0	0.0	-	0.1	2.6	0.3	0.0	0.4
4/2	25	25	-	-	-	0.0	0.0	-	0.0	3.4	0.1	0.0	0.1
5/2+5/1	207	207	-	-	-	1.1	0.2	-	1.3	22.1	1.7	0.2	1.9
5/3	127	127	-	-	-	0.7	0.1	-	0.8	23.5	1.9	0.1	2.1
6/1	525	525	-	-	-	0.2	0.3	-	0.5	3.1	1.4	0.3	1.7
7/1	708	708	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	19	19	-	-	-	0.0	0.0	-	0.0	1.0	0.0	0.0	0.0
8/2	28	28	-	-	-	0.0	0.0	-	0.0	1.0	0.0	0.0	0.0
9/1	70	70	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
10/2+10/1	234	234	-	-	-	0.2	0.1	-	0.3	4.2	1.0	0.1	1.1
11/1	460	460	-	-	-	0.2	0.2	-	0.4	2.9	1.0	0.2	1.2
12/2+12/1	635	635	-	-	-	1.5	0.6	-	2.1	11.9	5.8	0.6	6.4
12/3	400	400	-	-	-	0.9	0.3	-	1.2	11.1	4.3	0.3	4.6
13/1	229	229	-	-	-	0.2	0.1	-	0.4	5.5	1.1	0.1	1.2
13/2+13/3	389	389	-	-	-	0.3	0.2	-	0.6	5.2	1.1	0.2	1.4
14/1	79	79	-	-	-	0.0	0.0	-	0.0	1.0	0.0	0.0	0.0
14/2	253	253	-	-	-	0.0	0.1	-	0.1	1.1	0.0	0.1	0.1
15/1	236	236	-	-	-	1.4	0.4	-	1.7	26.6	3.2	0.4	3.5





## Full Input Data And Results

C1 - North	Stream: 1 PRC for Signalled Lanes (%):	179.7	Total Delay for Signalled Lanes (pcuHr):	3.01	Cycle Time (s):	72
C1 - North	Stream: 2 PRC for Signalled Lanes (%):	302.0	Total Delay for Signalled Lanes (pcuHr):	0.44	Cycle Time (s):	72
C1 - North	Stream: 3 PRC for Signalled Lanes (%):	256.4	Total Delay for Signalled Lanes (pcuHr):	1.01	Cycle Time (s):	72
C1 - North	Stream: 4 PRC for Signalled Lanes (%):	1102.6	Total Delay for Signalled Lanes (pcuHr):	0.10	Cycle Time (s):	72
C1 - North	Stream: 5 PRC for Signalled Lanes (%):	1124.1	Total Delay for Signalled Lanes (pcuHr):	0.18	Cycle Time (s):	72
C1 - North	Stream: 6 PRC for Signalled Lanes (%):	154.3	Total Delay for Signalled Lanes (pcuHr):	0.45	Cycle Time (s):	72
C2 - South	Stream: 1 PRC for Signalled Lanes (%):	63.7	Total Delay for Signalled Lanes (pcuHr):	7.48	Cycle Time (s):	72
C2 - South	Stream: 2 PRC for Signalled Lanes (%):	195.7	Total Delay for Signalled Lanes (pcuHr):	0.37	Cycle Time (s):	72
C2 - South	Stream: 3 PRC for Signalled Lanes (%):	470.0	Total Delay for Signalled Lanes (pcuHr):	0.27	Cycle Time (s):	72
	PRC Over All Lanes (%):	63.7	Total Delay Over All Lanes(pcuHr):	15.03		

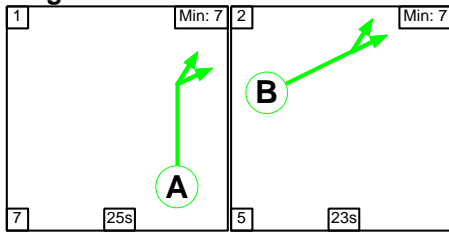
Full Input Data And Results

Scenario 4: '2030 PM' (FG4: 'Reference Case 2030 PM', Plan 1: 'Network Control Plan 1')

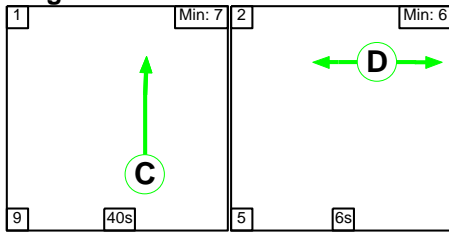
C1 - North

### Stage Sequence Diagram

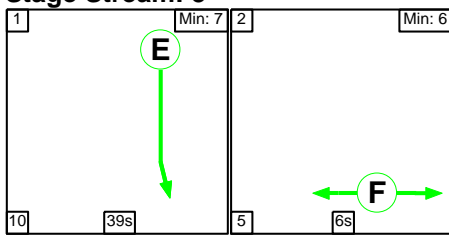
#### Stage Stream: 1



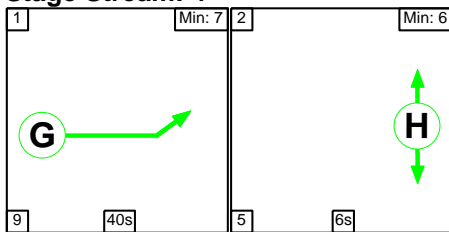
#### Stage Stream: 2



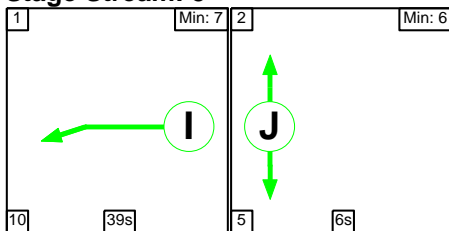
#### Stage Stream: 3



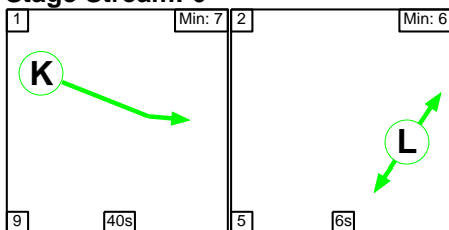
#### Stage Stream: 4



#### Stage Stream: 5



#### Stage Stream: 6



## Full Input Data And Results

### Stage Timings

#### Stage Stream: 1

Stage	1	2
Duration	25	23
Change Point	0	32

#### Stage Stream: 2

Stage	1	2
Duration	40	6
Change Point	1	50

#### Stage Stream: 3

Stage	1	2
Duration	39	6
Change Point	50	39

#### Stage Stream: 4

Stage	1	2
Duration	40	6
Change Point	6	55

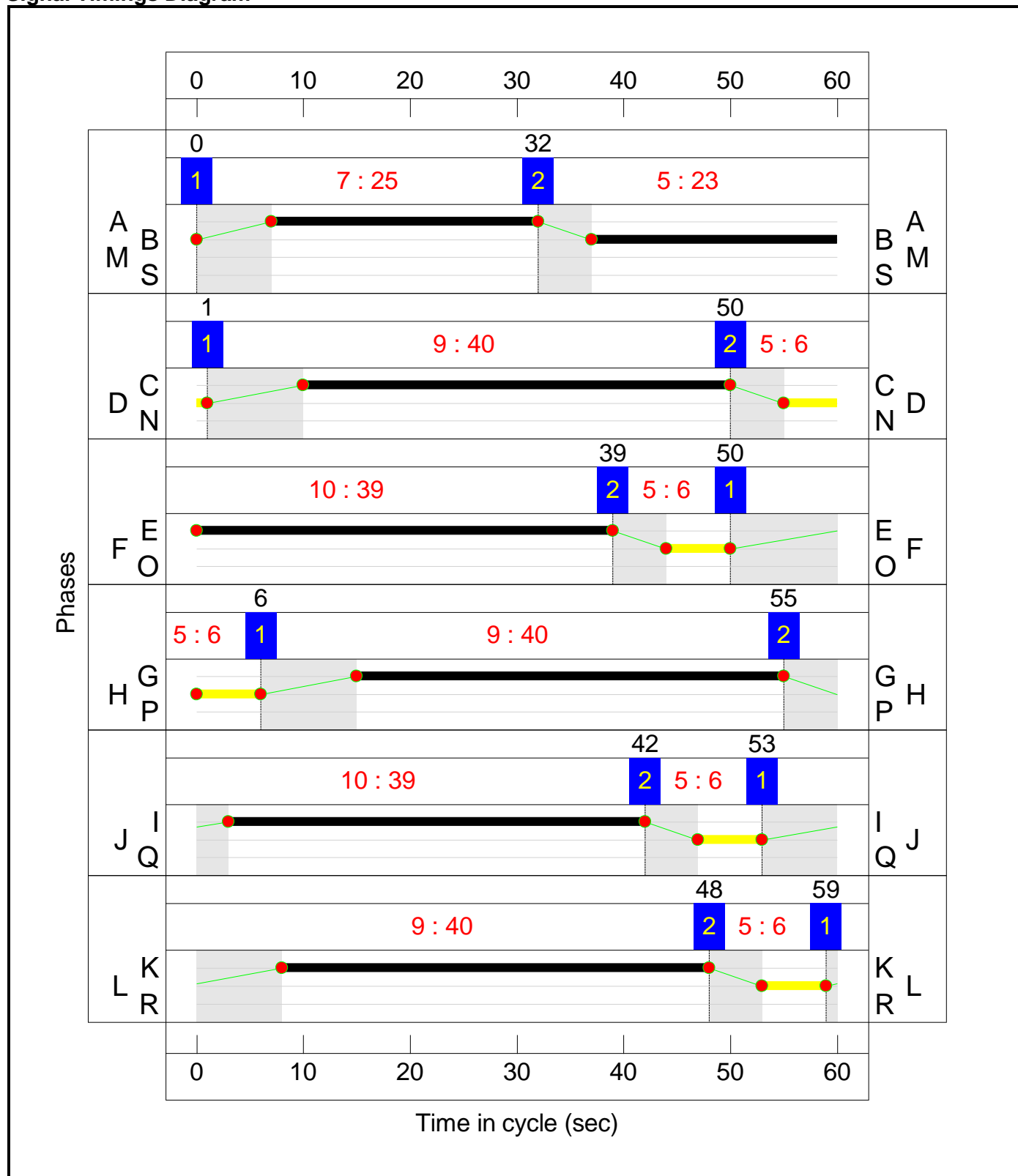
#### Stage Stream: 5

Stage	1	2
Duration	39	6
Change Point	53	42

#### Stage Stream: 6

Stage	1	2
Duration	40	6
Change Point	59	48

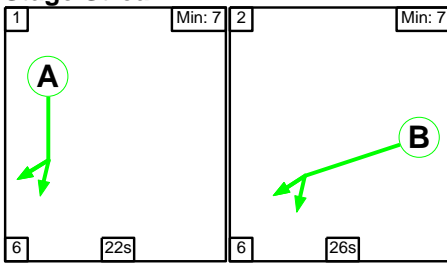
Signal Timings Diagram



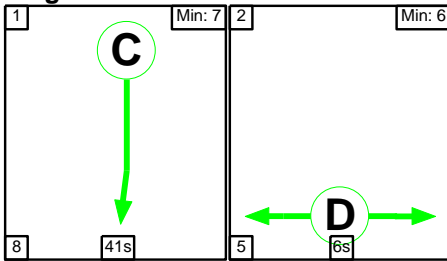
Full Input Data And Results

**C2 - South**  
**Stage Sequence Diagram**

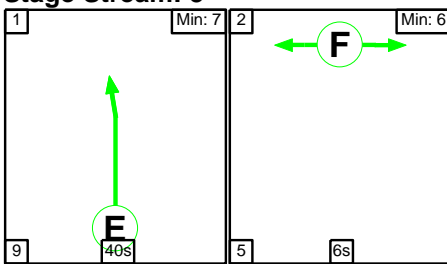
**Stage Stream: 1**



**Stage Stream: 2**



**Stage Stream: 3**



**Stage Timings**

**Stage Stream: 1**

Stage	1	2
Duration	22	26
Change Point	13	41

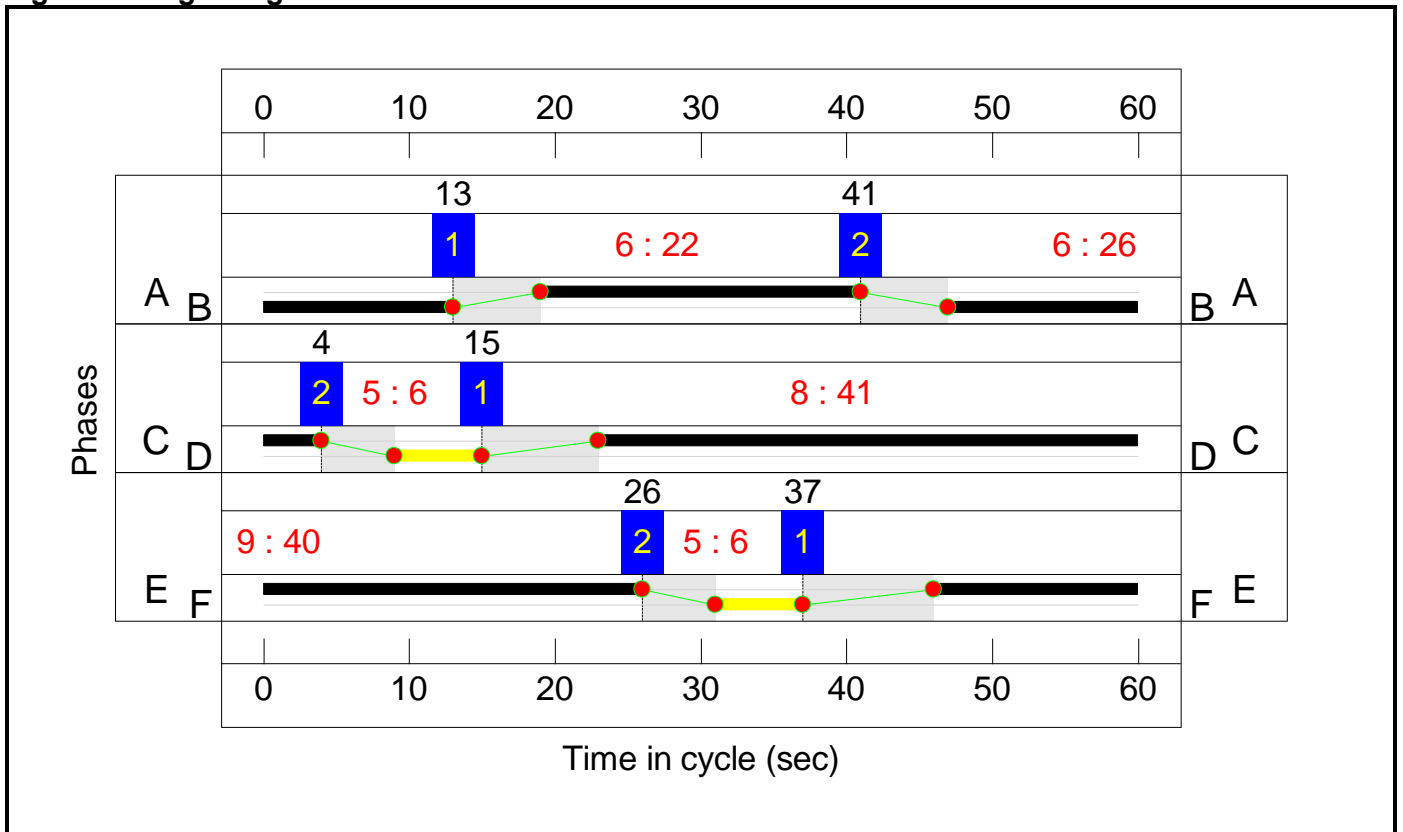
**Stage Stream: 2**

Stage	1	2
Duration	41	6
Change Point	15	4

**Stage Stream: 3**

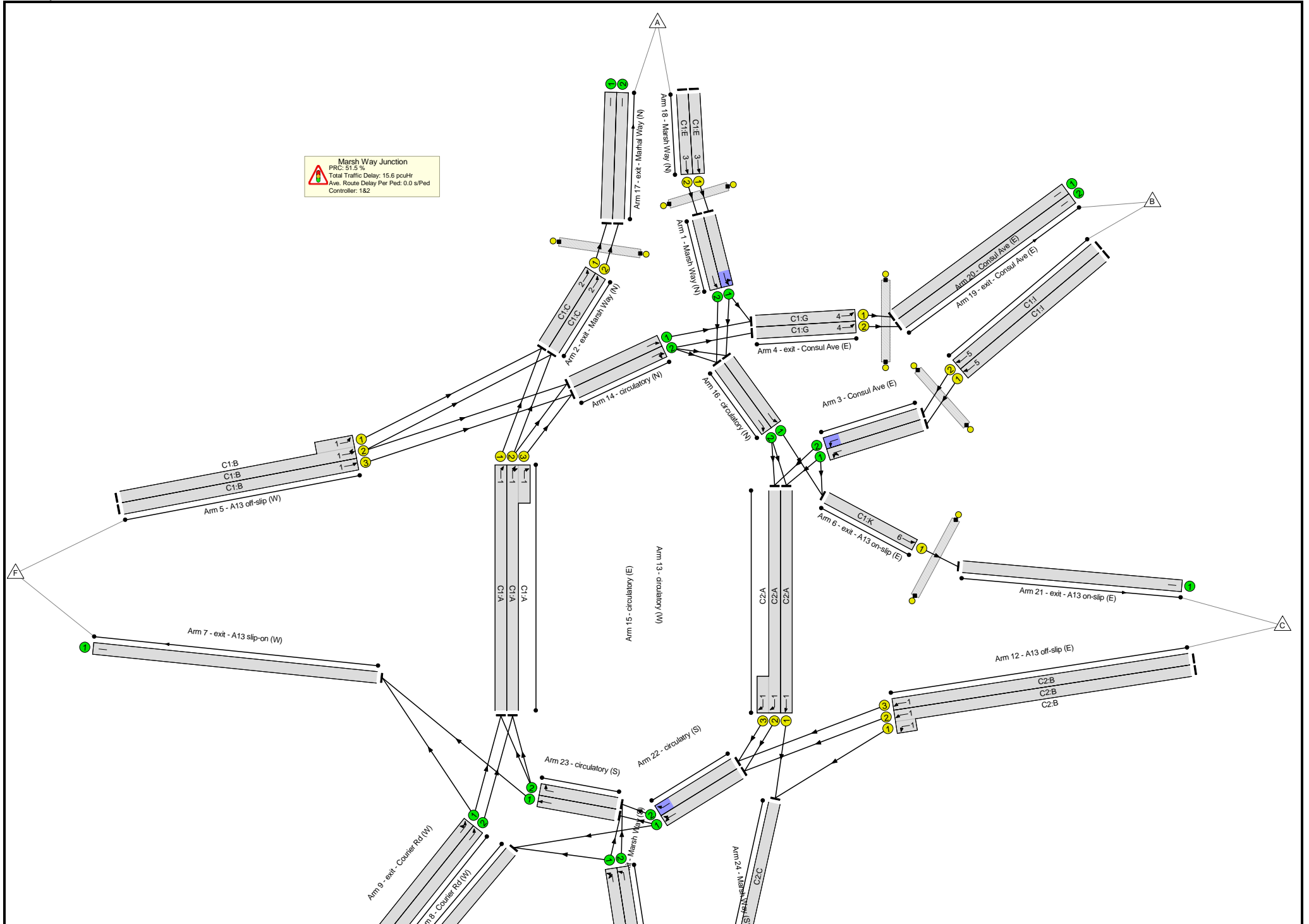
Stage	1	2
Duration	40	6
Change Point	37	26

**Signal Timings Diagram**



Full Input Data And Results  
**Network Layout Diagram**

# Full Input Data And Results





## Full Input Data And Results

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 (%)
<b>Network</b>	-	-	<b>N/A</b>	-	-		-	-	-	-	-	-	<b>59.4%</b>
<b>Marsh Way Junction</b>	-	-	<b>N/A</b>	-	-		-	-	-	-	-	-	<b>59.4%</b>
1/1	Marsh Way (N) Left Ahead	U	N/A	N/A	-		-	-	-	481	1957	1957	24.6%
1/2	Marsh Way (N) Ahead	U	N/A	N/A	-		-	-	-	341	1957	1957	17.4%
2/1	exit - Marsh Way (N) Ahead	U	1:2	N/A	C1:C		1	40	-	553	1960	1339	41.3%
2/2	exit - Marsh Way (N) Ahead	U	1:2	N/A	C1:C		1	40	-	530	1960	1339	39.6%
3/1	Consul Ave (E) Left Left2	U	N/A	N/A	-		-	-	-	89	1860	1860	4.8%
3/2	Consul Ave (E) Left	U	N/A	N/A	-		-	-	-	47	1860	1860	2.5%
4/1	exit - Consul Ave (E) Ahead	U	1:4	N/A	C1:G		1	40	-	66	2015	1377	4.8%
4/2	exit - Consul Ave (E) Ahead	U	1:4	N/A	C1:G		1	40	-	26	2015	1377	1.9%
5/2+5/1	A13 off-slip (W) Left Ahead	U	1:1	N/A	C1:B		1	23	-	511	1985:1921	564+536	46.5 : 46.5%
5/3	A13 off-slip (W) Ahead	U	1:1	N/A	C1:B		1	23	-	71	1921	768	9.2%
6/1	exit - A13 on-slip (E) Ahead	U	1:6	N/A	C1:K		1	40	-	818	2015	1377	59.4%
7/1	exit - A13 slip-on (W)	U	N/A	N/A	-		-	-	-	485	Inf	Inf	0.0%
8/1	Courier Rd (W) Left Ahead	U	N/A	N/A	-		-	-	-	46	1803	1803	2.6%
8/2	Courier Rd (W) Ahead	U	N/A	N/A	-		-	-	-	60	1803	1803	3.3%
9/1	exit - Courier Rd (W)	U	N/A	N/A	-		-	-	-	58	Inf	Inf	0.0%

Full Input Data And Results

10/2+10/1	Marsh Way (S) Ahead	U	2:3	N/A	C2:E		1	40	-	452	1955:1955	1048+337	32.6 : 32.6%
11/1	exit - Marsh Way (S) Ahead	U	2:2	N/A	C2:C		1	41	-	151	2015	1410	10.7%
12/2+12/1	A13 off-slip (E) Left Ahead	U	2:1	N/A	C2:B		1	26	-	121	1912:1912	416+571	12.2 : 12.2%
12/3	A13 off-slip (E) Ahead	U	2:1	N/A	C2:B		1	26	-	468	1912	860	54.4%
13/1	circulatory (W) Ahead	U	1:1	N/A	C1:A		1	25	-	304	1896	822	37.0%
13/2+13/3	circulatory (W) Ahead Right	U	1:1	N/A	C1:A		1	25	-	593	1896:1896	588+498	54.6 : 54.6%
14/1	circulatory (N) Ahead	U	N/A	N/A	-		-	-	-	53	1896	1896	2.8%
14/2	circulatory (N) Ahead Right	U	N/A	N/A	-		-	-	-	343	1896	1896	18.1%
15/1	circulatory (E) Ahead	U	2:1	N/A	C2:A		1	22	-	81	1896	727	11.1%
15/2+15/3	circulatory (E) Right	U	2:1	N/A	C2:A		1	22	-	363	1896:2015	727+0	49.9 : 0.0%
16/1	circulatory (N) Ahead	U	N/A	N/A	-		-	-	-	740	1896	1896	39.0%
16/2	circulatory (N) Ahead	U	N/A	N/A	-		-	-	-	386	1896	1896	20.4%
17/1	exit - Marhal Way (N)	U	N/A	N/A	-		-	-	-	553	Inf	Inf	0.0%
17/2	exit - Marhal Way (N)	U	N/A	N/A	-		-	-	-	530	Inf	Inf	0.0%
18/1	Marsh Way (N) Ahead	U	1:3	N/A	C1:E		1	39	-	481	1985	1323	36.3%
18/2	Marsh Way (N) Ahead	U	1:3	N/A	C1:E		1	39	-	341	1985	1323	25.8%
19/1	exit - Consul Ave (E)	U	N/A	N/A	-		-	-	-	66	Inf	Inf	0.0%
19/2	exit - Consul Ave (E)	U	N/A	N/A	-		-	-	-	26	Inf	Inf	0.0%
20/1	Consul Ave (E) Ahead	U	1:5	N/A	C1:I		1	39	-	89	2015	1343	6.6%

Full Input Data And Results

20/2	Consul Ave (E) Ahead	U	1:5	N/A	C1:I		1	39	-	47	2015	1343	3.5%
21/1	exit - A13 on-slip (E)	U	N/A	N/A	-		-	-	-	818	Inf	Inf	0.0%
22/1	circulatory (S) Ahead Ahead2	U	N/A	N/A	-		-	-	-	414	1896	1896	21.8%
22/2	circulatory (S) Ahead	U	N/A	N/A	-		-	-	-	468	1896	1896	24.7%
23/1	circulatory (S) Ahead	U	N/A	N/A	-		-	-	-	466	1896	1896	24.6%
23/2	circulatory (S) Right	U	N/A	N/A	-		-	-	-	810	1896	1896	42.7%
24/1	Marsh Way (S) Left Left2	U	N/A	N/A	-		-	-	-	110	1819	1819	6.0%
24/2	Marsh Way (S) Left	U	N/A	N/A	-		-	-	-	342	1819	1819	18.8%
25/1	exit - Marsh Way (S)	U	N/A	N/A	-		-	-	-	151	Inf	Inf	0.0%
Ped Link: P1	Unnamed Ped Link	-	1:2	-	C1:D		1	6	-	0	-	0	0.0%
Ped Link: P2	Unnamed Ped Link	-	1:3	-	C1:F		1	6	-	0	-	0	0.0%
Ped Link: P3	Unnamed Ped Link	-	1:4	-	C1:H		1	6	-	0	-	0	0.0%
Ped Link: P4	Unnamed Ped Link	-	1:5	-	C1:J		1	6	-	0	-	0	0.0%
Ped Link: P5	Unnamed Ped Link	-	1:6	-	C1:L		1	6	-	0	-	0	0.0%
Ped Link: P6	Unnamed Ped Link	-	2:3	-	C2:F		1	6	-	0	-	0	0.0%
Ped Link: P7	Unnamed Ped Link	-	2:2	-	C2:D		1	6	-	0	-	0	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)
<b>Network</b>	-	-	0	0	0	8.9	6.8	0.0	15.6	-	-	-	-
<b>Marsh Way Junction</b>	-	-	0	0	0	8.9	6.8	0.0	15.6	-	-	-	-
1/1	481	481	-	-	-	0.0	0.2	-	0.2	1.2	0.0	0.2	0.2
1/2	341	341	-	-	-	0.0	0.1	-	0.1	1.1	0.0	0.1	0.1
2/1	553	553	-	-	-	0.3	0.4	-	0.6	4.0	1.3	0.4	1.6
2/2	530	530	-	-	-	0.3	0.3	-	0.6	4.2	1.4	0.3	1.7
3/1	89	89	-	-	-	0.0	0.0	-	0.0	1.0	0.0	0.0	0.0
3/2	47	47	-	-	-	0.0	0.0	-	0.0	1.0	0.0	0.0	0.0
4/1	66	66	-	-	-	0.0	0.0	-	0.0	1.8	0.1	0.0	0.1
4/2	26	26	-	-	-	0.0	0.0	-	0.0	4.4	0.1	0.0	0.1
5/2+5/1	511	511	-	-	-	1.8	0.4	-	2.2	15.5	3.0	0.4	3.4
5/3	71	71	-	-	-	0.2	0.1	-	0.3	13.8	0.7	0.1	0.8
6/1	818	818	-	-	-	0.1	0.7	-	0.8	3.7	0.4	0.7	1.1
7/1	485	485	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	46	46	-	-	-	0.0	0.0	-	0.0	1.0	0.0	0.0	0.0
8/2	60	60	-	-	-	0.0	0.0	-	0.0	1.0	0.0	0.0	0.0
9/1	58	58	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
10/2+10/1	452	452	-	-	-	0.4	0.2	-	0.7	5.5	2.2	0.2	2.5
11/1	151	151	-	-	-	0.1	0.1	-	0.1	2.7	0.3	0.1	0.3
12/2+12/1	121	121	-	-	-	0.3	0.1	-	0.4	11.5	0.7	0.1	0.7
12/3	468	468	-	-	-	1.6	0.6	-	2.2	16.6	5.6	0.6	6.2
13/1	304	304	-	-	-	0.5	0.3	-	0.7	8.9	1.8	0.3	2.1
13/2+13/3	593	593	-	-	-	0.9	0.6	-	1.5	9.0	1.9	0.6	2.5
14/1	53	53	-	-	-	0.0	0.0	-	0.0	1.0	0.0	0.0	0.0
14/2	343	343	-	-	-	0.0	0.1	-	0.1	1.2	0.0	0.1	0.1
15/1	81	81	-	-	-	0.2	0.1	-	0.3	12.2	0.7	0.1	0.7



## Full Input Data And Results

C1 - North	Stream: 1	PRC for Signalled Lanes (%)	64.8	Total Delay for Signalled Lanes (pcuHr)	4.71	Cycle Time (s)	60
C1 - North	Stream: 2	PRC for Signalled Lanes (%)	118.0	Total Delay for Signalled Lanes (pcuHr)	1.24	Cycle Time (s)	60
C1 - North	Stream: 3	PRC for Signalled Lanes (%)	147.6	Total Delay for Signalled Lanes (pcuHr)	1.43	Cycle Time (s)	60
C1 - North	Stream: 4	PRC for Signalled Lanes (%)	1777.6	Total Delay for Signalled Lanes (pcuHr)	0.06	Cycle Time (s)	60
C1 - North	Stream: 5	PRC for Signalled Lanes (%)	1258.4	Total Delay for Signalled Lanes (pcuHr)	0.19	Cycle Time (s)	60
C1 - North	Stream: 6	PRC for Signalled Lanes (%)	51.5	Total Delay for Signalled Lanes (pcuHr)	0.83	Cycle Time (s)	60
C2 - South	Stream: 1	PRC for Signalled Lanes (%)	65.5	Total Delay for Signalled Lanes (pcuHr)	4.44	Cycle Time (s)	60
C2 - South	Stream: 2	PRC for Signalled Lanes (%)	740.7	Total Delay for Signalled Lanes (pcuHr)	0.11	Cycle Time (s)	60
C2 - South	Stream: 3	PRC for Signalled Lanes (%)	175.7	Total Delay for Signalled Lanes (pcuHr)	0.69	Cycle Time (s)	60
		PRC Over All Lanes (%)	51.5	Total Delay Over All Lanes(pcuHr)	15.64		

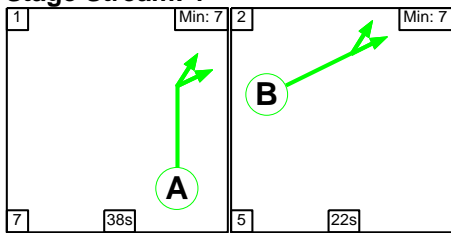
Full Input Data And Results

Scenario 5: 'Do Something 2030 + LTC AM' (FG7: 'Do Something 2030 + LTC AM', Plan 1: 'Network Control Plan 1')

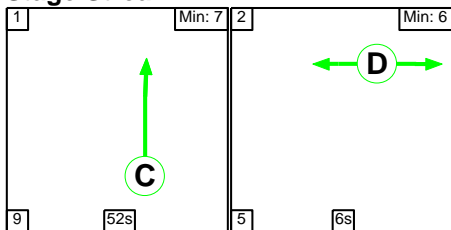
C1 - North

Stage Sequence Diagram

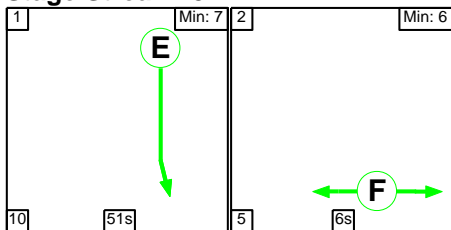
Stage Stream: 1



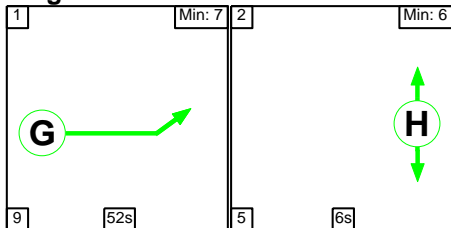
Stage Stream: 2



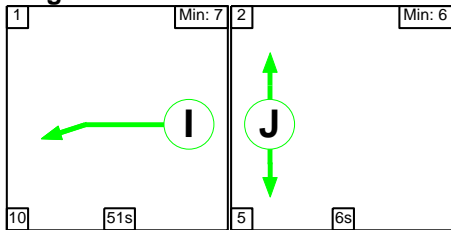
Stage Stream: 3



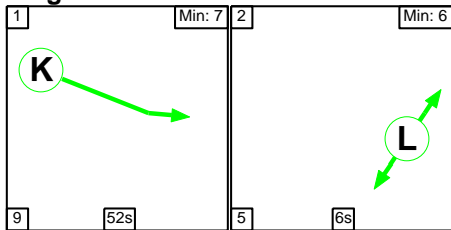
Stage Stream: 4



Stage Stream: 5



Stage Stream: 6





## Full Input Data And Results

### Stage Timings

#### Stage Stream: 1

Stage	1	2
Duration	38	22
Change Point	0	45

#### Stage Stream: 2

Stage	1	2
Duration	52	6
Change Point	2	63

#### Stage Stream: 3

Stage	1	2
Duration	51	6
Change Point	3	64

#### Stage Stream: 4

Stage	1	2
Duration	52	6
Change Point	7	68

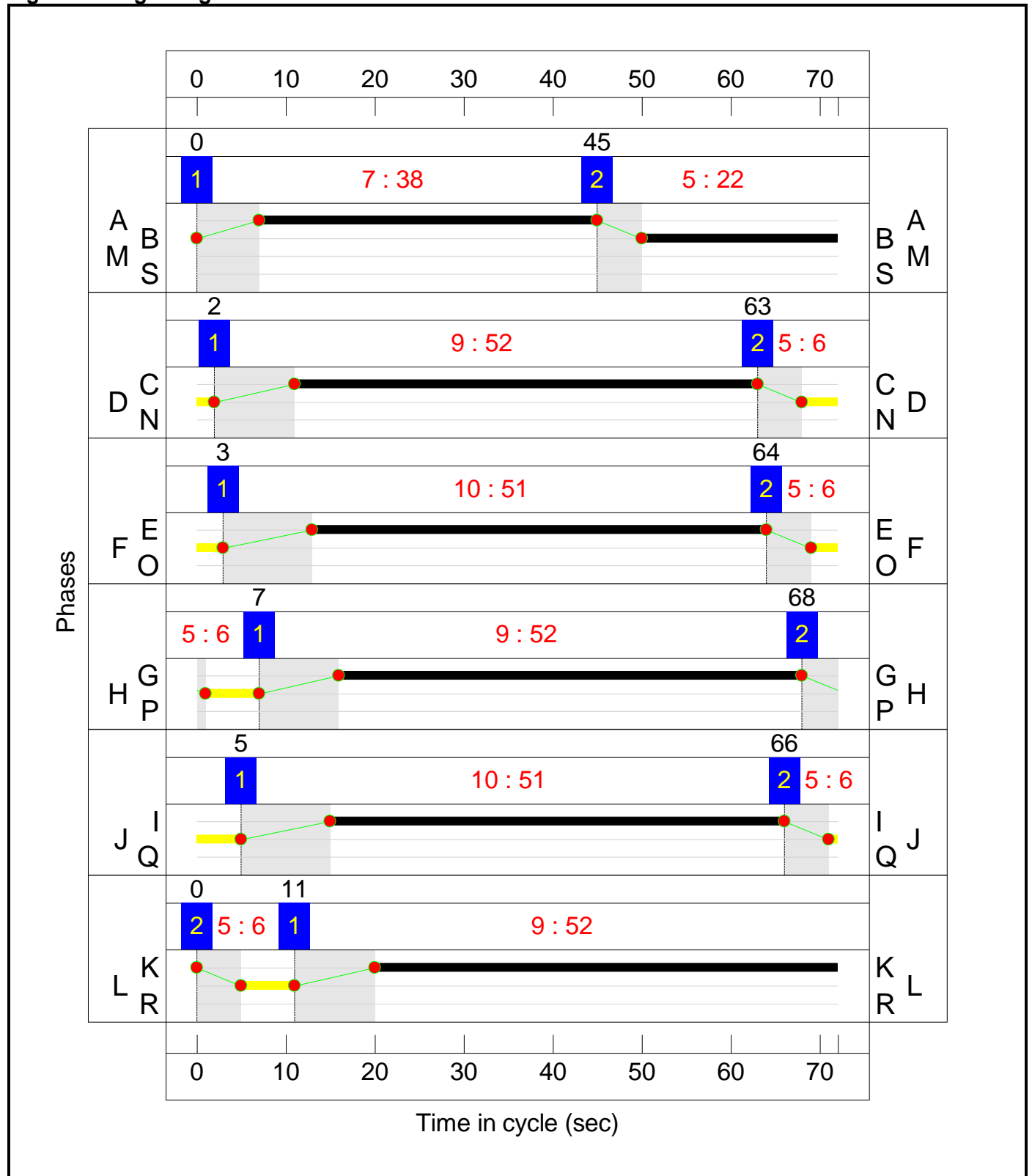
#### Stage Stream: 5

Stage	1	2
Duration	51	6
Change Point	5	66

#### Stage Stream: 6

Stage	1	2
Duration	52	6
Change Point	11	0

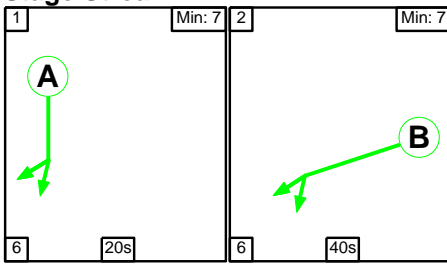
Signal Timings Diagram



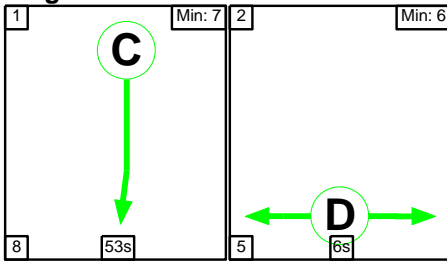
Full Input Data And Results

**C2 - South**  
**Stage Sequence Diagram**

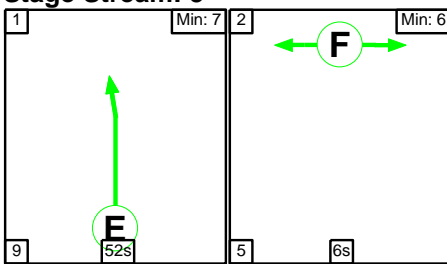
**Stage Stream: 1**



**Stage Stream: 2**



**Stage Stream: 3**



**Stage Timings**

**Stage Stream: 1**

Stage	1	2
Duration	20	40
Change Point	22	48

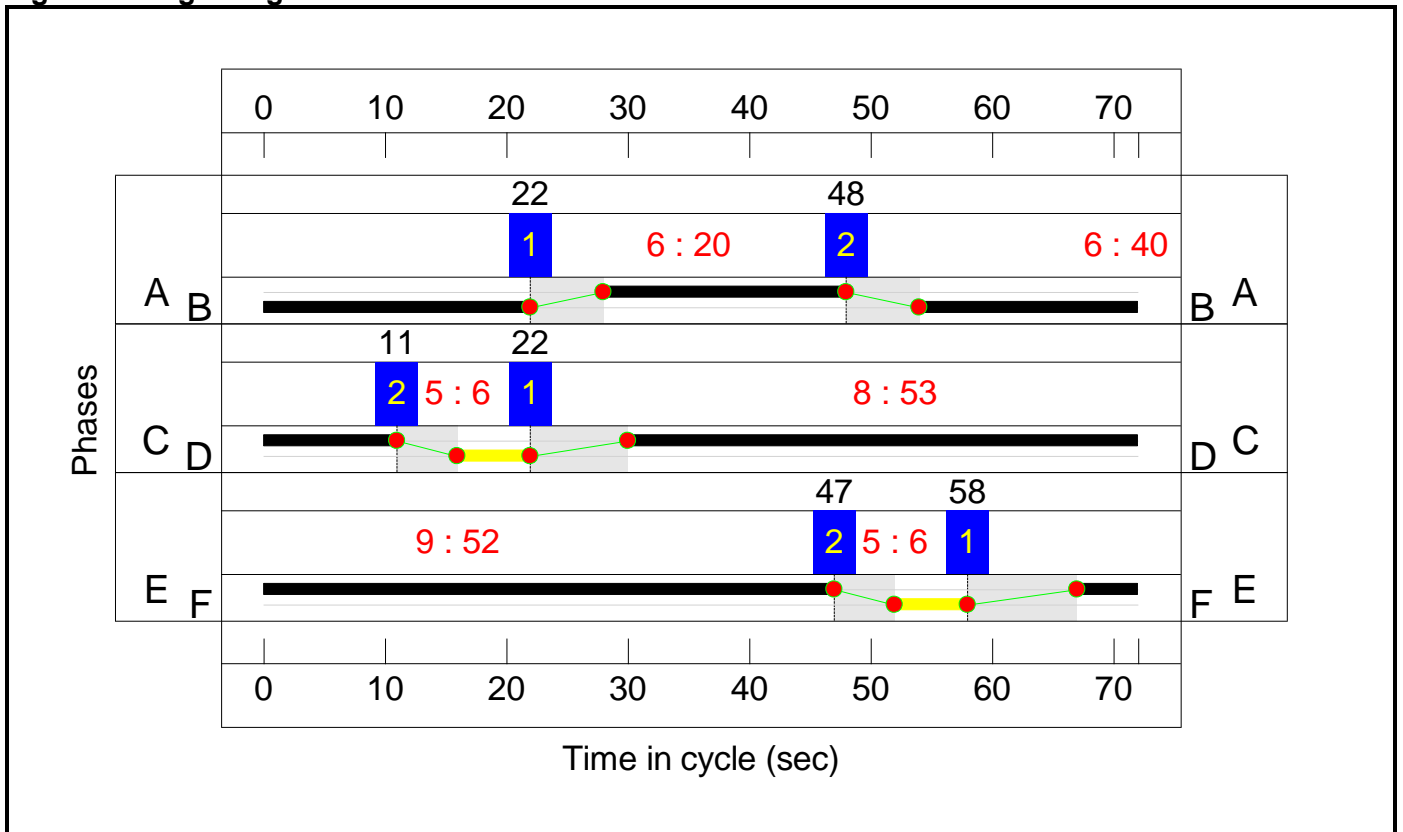
**Stage Stream: 2**

Stage	1	2
Duration	53	6
Change Point	22	11

**Stage Stream: 3**

Stage	1	2
Duration	52	6
Change Point	58	47

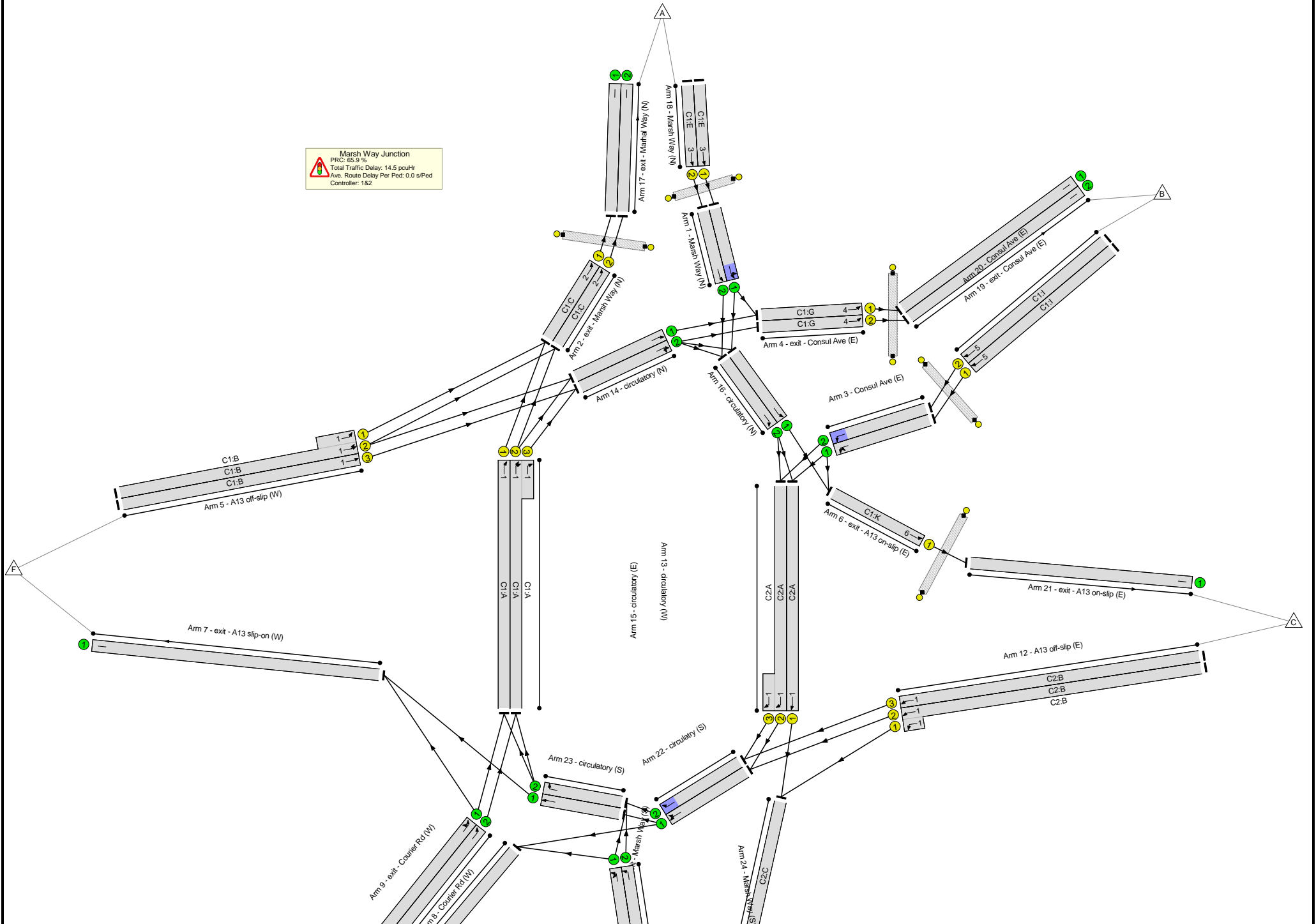
**Signal Timings Diagram**



Full Input Data And Results  
**Network Layout Diagram**

# Full Input Data And Results

Marsh Way Junction  
 PRC: 65.9 %  
 Total Traffic Delay: 14.5 pcuHr  
 Ave. Route Delay Per Ped: 0.0 s/Ped  
 Controller: 1&2



## Full Input Data And Results

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 (%)
<b>Network</b>	-	-	<b>N/A</b>	-	-		-	-	-	-	-	-	<b>54.3%</b>
<b>Marsh Way Junction</b>	-	-	<b>N/A</b>	-	-		-	-	-	-	-	-	<b>54.3%</b>
1/1	Marsh Way (N) Left Ahead	U	N/A	N/A	-		-	-	-	357	1957	1957	18.2%
1/2	Marsh Way (N) Ahead	U	N/A	N/A	-		-	-	-	348	1957	1957	17.8%
2/1	exit - Marsh Way (N) Ahead	U	1:2	N/A	C1:C		1	52	-	319	1960	1443	22.1%
2/2	exit - Marsh Way (N) Ahead	U	1:2	N/A	C1:C		1	52	-	289	1960	1443	20.0%
3/1	Consul Ave (E) Left Left2	U	N/A	N/A	-		-	-	-	111	1860	1860	6.0%
3/2	Consul Ave (E) Left	U	N/A	N/A	-		-	-	-	42	1860	1860	2.3%
4/1	exit - Consul Ave (E) Ahead	U	1:4	N/A	C1:G		1	52	-	111	2015	1483	7.5%
4/2	exit - Consul Ave (E) Ahead	U	1:4	N/A	C1:G		1	52	-	31	2015	1483	2.1%
5/2+5/1	A13 off-slip (W) Left Ahead	U	1:1	N/A	C1:B		1	22	-	199	1971:1921	464+407	22.9 : 22.9%
5/3	A13 off-slip (W) Ahead	U	1:1	N/A	C1:B		1	22	-	132	1921	614	21.5%
6/1	exit - A13 on-slip (E) Ahead	U	1:6	N/A	C1:K		1	52	-	528	2015	1483	35.6%
7/1	exit - A13 slip-on (W)	U	N/A	N/A	-		-	-	-	698	Inf	Inf	0.0%
8/1	Courier Rd (W) Left Ahead	U	N/A	N/A	-		-	-	-	20	1803	1803	1.1%
8/2	Courier Rd (W) Ahead	U	N/A	N/A	-		-	-	-	27	1803	1803	1.5%
9/1	exit - Courier Rd (W)	U	N/A	N/A	-		-	-	-	70	Inf	Inf	0.0%



Full Input Data And Results

10/2+10/1	Marsh Way (S) Ahead	U	2:3	N/A	C2:E		1	52	-	234	1955:1955	1102+380	15.8 : 15.8%
11/1	exit - Marsh Way (S) Ahead	U	2:2	N/A	C2:C		1	53	-	460	2015	1511	30.4%
12/2+12/1	A13 off-slip (E) Left Ahead	U	2:1	N/A	C2:B		1	40	-	635	1912:1912	757+413	54.3 : 54.3%
12/3	A13 off-slip (E) Ahead	U	2:1	N/A	C2:B		1	40	-	401	1912	1089	36.8%
13/1	circulatory (W) Ahead	U	1:1	N/A	C1:A		1	38	-	226	1896	1027	22.0%
13/2+13/3	circulatory (W) Ahead Right	U	1:1	N/A	C1:A		1	38	-	393	1896:1896	782+373	34.0 : 34.0%
14/1	circulatory (N) Ahead	U	N/A	N/A	-		-	-	-	83	1896	1896	4.4%
14/2	circulatory (N) Ahead Right	U	N/A	N/A	-		-	-	-	259	1896	1896	13.7%
15/1	circulatory (E) Ahead	U	2:1	N/A	C2:A		1	20	-	236	1896	553	42.7%
15/2+15/3	circulatory (E) Right	U	2:1	N/A	C2:A		1	20	-	294	1896:2015	553+0	53.2 : 0.0%
16/1	circulatory (N) Ahead	U	N/A	N/A	-		-	-	-	453	1896	1896	23.9%
16/2	circulatory (N) Ahead	U	N/A	N/A	-		-	-	-	452	1896	1896	23.8%
17/1	exit - Marhal Way (N)	U	N/A	N/A	-		-	-	-	319	Inf	Inf	0.0%
17/2	exit - Marhal Way (N)	U	N/A	N/A	-		-	-	-	289	Inf	Inf	0.0%
18/1	Marsh Way (N) Ahead	U	1:3	N/A	C1:E		1	51	-	357	1985	1434	24.9%
18/2	Marsh Way (N) Ahead	U	1:3	N/A	C1:E		1	51	-	348	1985	1434	24.3%
19/1	exit - Consul Ave (E)	U	N/A	N/A	-		-	-	-	111	Inf	Inf	0.0%
19/2	exit - Consul Ave (E)	U	N/A	N/A	-		-	-	-	31	Inf	Inf	0.0%
20/1	Consul Ave (E) Ahead	U	1:5	N/A	C1:I		1	51	-	111	2015	1455	7.6%

Full Input Data And Results

20/2	Consul Ave (E) Ahead	U	1:5	N/A	C1:I		1	51	-	42	2015	1455	2.9%
21/1	exit - A13 on-slip (E)	U	N/A	N/A	-		-	-	-	528	Inf	Inf	0.0%
22/1	circulatory (S) Ahead Ahead2	U	N/A	N/A	-		-	-	-	705	1896	1896	37.2%
22/2	circulatory (S) Ahead	U	N/A	N/A	-		-	-	-	401	1896	1896	21.1%
23/1	circulatory (S) Ahead	U	N/A	N/A	-		-	-	-	695	1896	1896	36.7%
23/2	circulatory (S) Right	U	N/A	N/A	-		-	-	-	575	1896	1896	30.3%
24/1	Marsh Way (S) Left Left2	U	N/A	N/A	-		-	-	-	60	1819	1819	3.3%
24/2	Marsh Way (S) Left	U	N/A	N/A	-		-	-	-	174	1819	1819	9.6%
25/1	exit - Marsh Way (S)	U	N/A	N/A	-		-	-	-	460	Inf	Inf	0.0%
Ped Link: P1	Unnamed Ped Link	-	1:2	-	C1:D		1	6	-	0	-	0	0.0%
Ped Link: P2	Unnamed Ped Link	-	1:3	-	C1:F		1	6	-	0	-	0	0.0%
Ped Link: P3	Unnamed Ped Link	-	1:4	-	C1:H		1	6	-	0	-	0	0.0%
Ped Link: P4	Unnamed Ped Link	-	1:5	-	C1:J		1	6	-	0	-	0	0.0%
Ped Link: P5	Unnamed Ped Link	-	1:6	-	C1:L		1	6	-	0	-	0	0.0%
Ped Link: P6	Unnamed Ped Link	-	2:3	-	C2:F		1	6	-	0	-	0	0.0%
Ped Link: P7	Unnamed Ped Link	-	2:2	-	C2:D		1	6	-	0	-	0	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)
<b>Network</b>	-	-	0	0	0	9.0	5.5	0.0	14.5	-	-	-	-
<b>Marsh Way Junction</b>	-	-	0	0	0	9.0	5.5	0.0	14.5	-	-	-	-
1/1	357	357	-	-	-	0.0	0.1	-	0.1	1.1	0.0	0.1	0.1
1/2	348	348	-	-	-	0.0	0.1	-	0.1	1.1	0.0	0.1	0.1
2/1	319	319	-	-	-	0.1	0.1	-	0.2	2.4	0.4	0.1	0.6
2/2	289	289	-	-	-	0.1	0.1	-	0.2	2.4	0.4	0.1	0.5
3/1	111	111	-	-	-	0.0	0.0	-	0.0	1.0	0.0	0.0	0.0
3/2	42	42	-	-	-	0.0	0.0	-	0.0	1.0	0.0	0.0	0.0
4/1	111	111	-	-	-	0.0	0.0	-	0.1	2.1	0.1	0.0	0.2
4/2	31	31	-	-	-	0.0	0.0	-	0.0	3.7	0.1	0.0	0.1
5/2+5/1	199	199	-	-	-	1.0	0.1	-	1.1	20.3	1.5	0.1	1.6
5/3	132	132	-	-	-	0.7	0.1	-	0.8	21.7	1.9	0.1	2.0
6/1	528	528	-	-	-	0.1	0.3	-	0.4	2.4	0.7	0.3	1.0
7/1	698	698	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	20	20	-	-	-	0.0	0.0	-	0.0	1.0	0.0	0.0	0.0
8/2	27	27	-	-	-	0.0	0.0	-	0.0	1.0	0.0	0.0	0.0
9/1	70	70	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
10/2+10/1	234	234	-	-	-	0.2	0.1	-	0.3	4.2	1.0	0.1	1.1
11/1	460	460	-	-	-	0.2	0.2	-	0.4	2.9	1.0	0.2	1.2
12/2+12/1	635	635	-	-	-	1.5	0.6	-	2.1	11.9	5.8	0.6	6.4
12/3	401	401	-	-	-	0.9	0.3	-	1.2	11.1	4.3	0.3	4.6
13/1	226	226	-	-	-	0.2	0.1	-	0.4	6.2	1.4	0.1	1.5
13/2+13/3	393	393	-	-	-	0.4	0.3	-	0.6	5.7	1.7	0.3	2.0
14/1	83	83	-	-	-	0.0	0.0	-	0.0	1.0	0.0	0.0	0.0
14/2	259	259	-	-	-	0.0	0.1	-	0.1	1.1	0.0	0.1	0.1
15/1	236	236	-	-	-	1.3	0.4	-	1.7	25.2	3.5	0.4	3.9



## Full Input Data And Results

C1 - North	Stream: 1	PRC for Signalled Lanes (%)	164.7	Total Delay for Signalled Lanes (pcuHr)	2.92	Cycle Time (s)	72
C1 - North	Stream: 2	PRC for Signalled Lanes (%)	307.1	Total Delay for Signalled Lanes (pcuHr)	0.41	Cycle Time (s)	72
C1 - North	Stream: 3	PRC for Signalled Lanes (%)	261.4	Total Delay for Signalled Lanes (pcuHr)	0.99	Cycle Time (s)	72
C1 - North	Stream: 4	PRC for Signalled Lanes (%)	1102.6	Total Delay for Signalled Lanes (pcuHr)	0.10	Cycle Time (s)	72
C1 - North	Stream: 5	PRC for Signalled Lanes (%)	1080.0	Total Delay for Signalled Lanes (pcuHr)	0.18	Cycle Time (s)	72
C1 - North	Stream: 6	PRC for Signalled Lanes (%)	152.8	Total Delay for Signalled Lanes (pcuHr)	0.36	Cycle Time (s)	72
C2 - South	Stream: 1	PRC for Signalled Lanes (%)	65.9	Total Delay for Signalled Lanes (pcuHr)	7.20	Cycle Time (s)	72
C2 - South	Stream: 2	PRC for Signalled Lanes (%)	195.7	Total Delay for Signalled Lanes (pcuHr)	0.37	Cycle Time (s)	72
C2 - South	Stream: 3	PRC for Signalled Lanes (%)	470.0	Total Delay for Signalled Lanes (pcuHr)	0.27	Cycle Time (s)	72
		PRC Over All Lanes (%)	65.9	Total Delay Over All Lanes(pcuHr)	14.49		

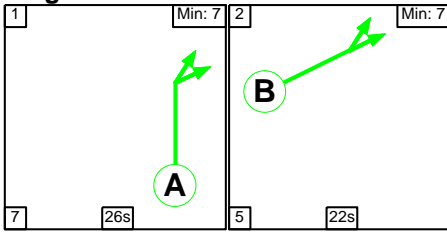
Full Input Data And Results

Scenario 6: 'Do Something 2030 + LTC PM' (FG8: 'Do Something 2030 + LTC PM', Plan 1: 'Network Control Plan 1')

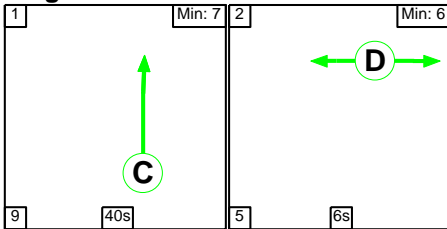
C1 - North

Stage Sequence Diagram

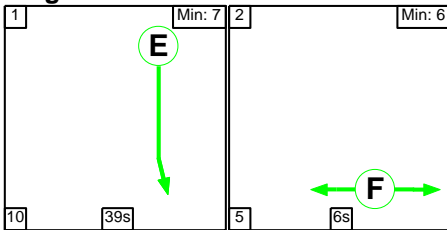
Stage Stream: 1



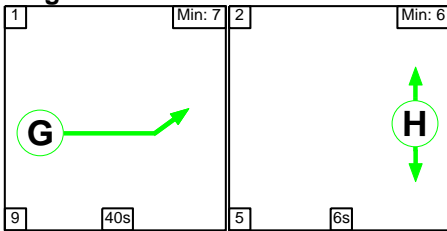
Stage Stream: 2



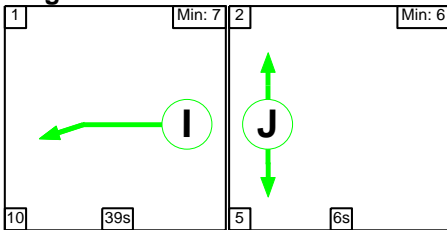
Stage Stream: 3



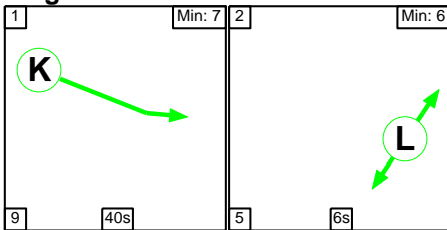
Stage Stream: 4



Stage Stream: 5



Stage Stream: 6



## Full Input Data And Results

### Stage Timings

#### Stage Stream: 1

Stage	1	2
Duration	26	22
Change Point	0	33

#### Stage Stream: 2

Stage	1	2
Duration	40	6
Change Point	1	50

#### Stage Stream: 3

Stage	1	2
Duration	39	6
Change Point	49	38

#### Stage Stream: 4

Stage	1	2
Duration	40	6
Change Point	6	55

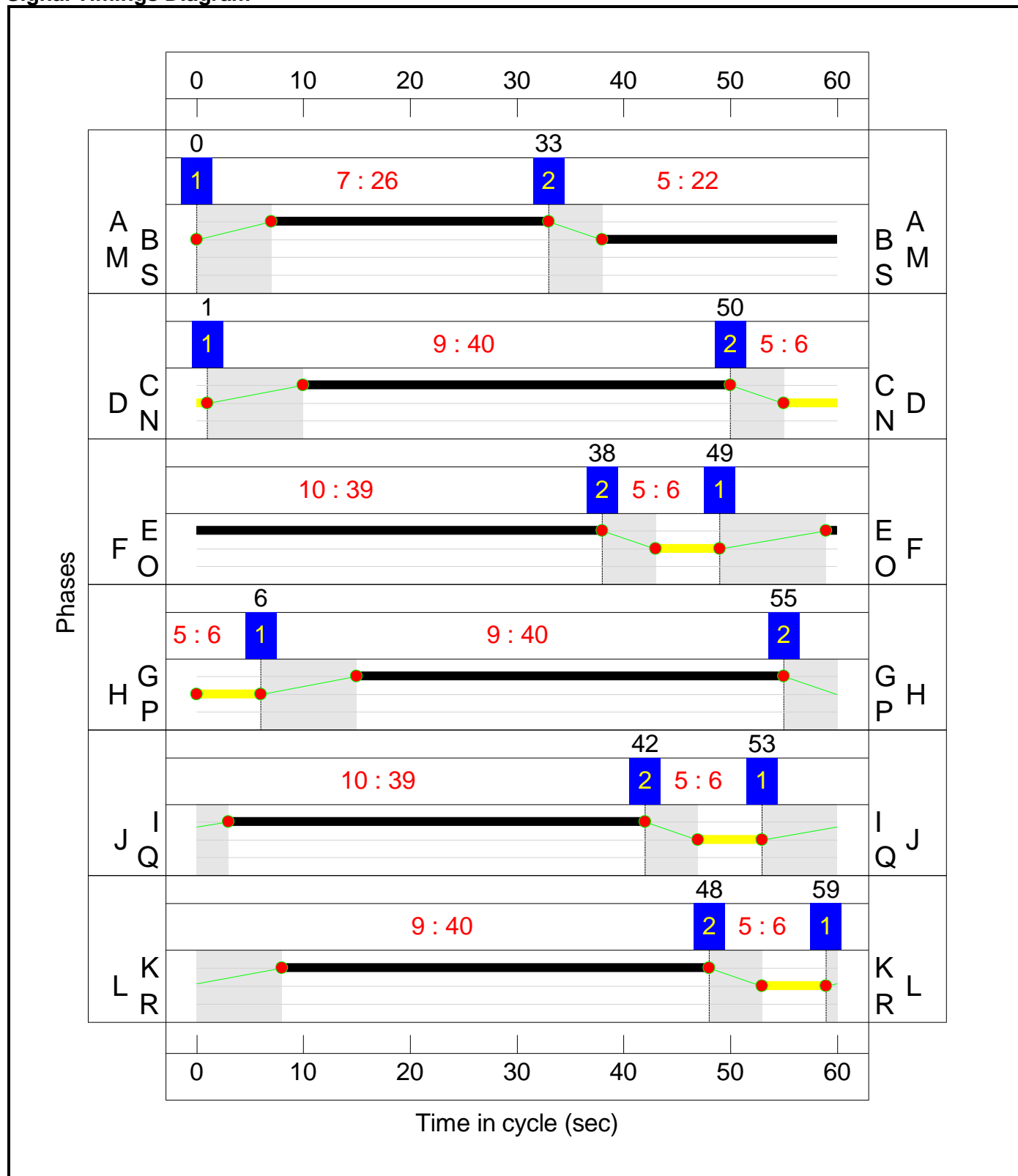
#### Stage Stream: 5

Stage	1	2
Duration	39	6
Change Point	53	42

#### Stage Stream: 6

Stage	1	2
Duration	40	6
Change Point	59	48

Signal Timings Diagram

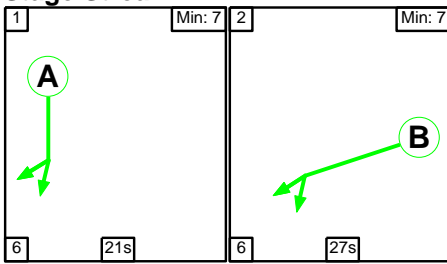




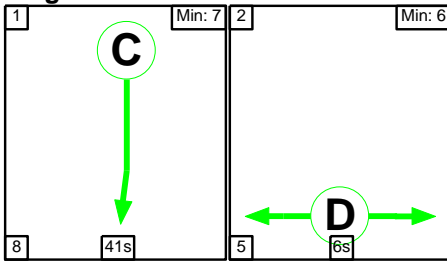
Full Input Data And Results

**C2 - South**  
**Stage Sequence Diagram**

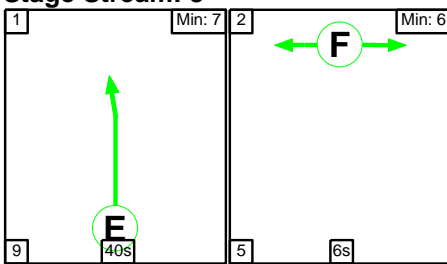
**Stage Stream: 1**



**Stage Stream: 2**



**Stage Stream: 3**



**Stage Timings**

**Stage Stream: 1**

Stage	1	2
Duration	21	27
Change Point	13	40

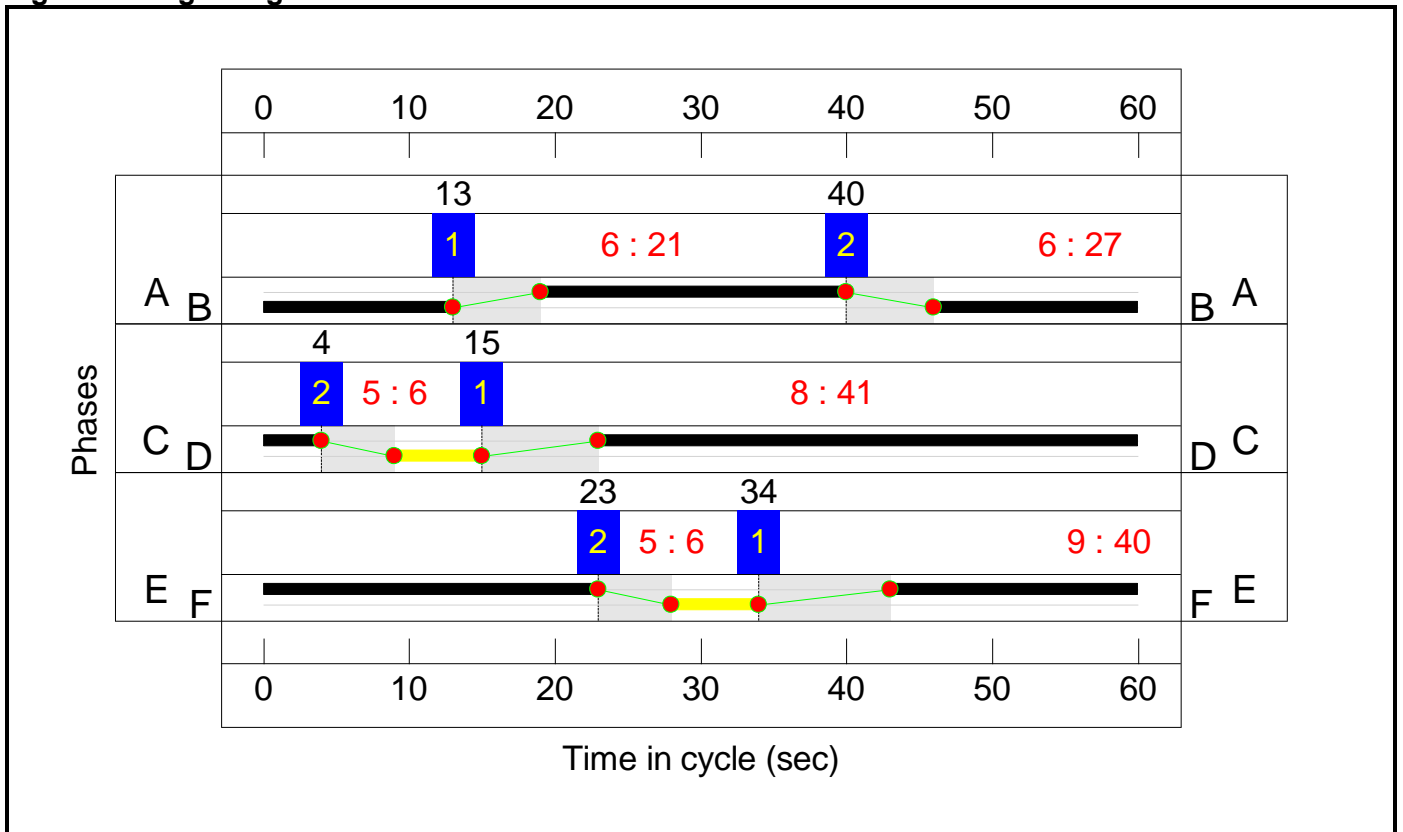
**Stage Stream: 2**

Stage	1	2
Duration	41	6
Change Point	15	4

**Stage Stream: 3**

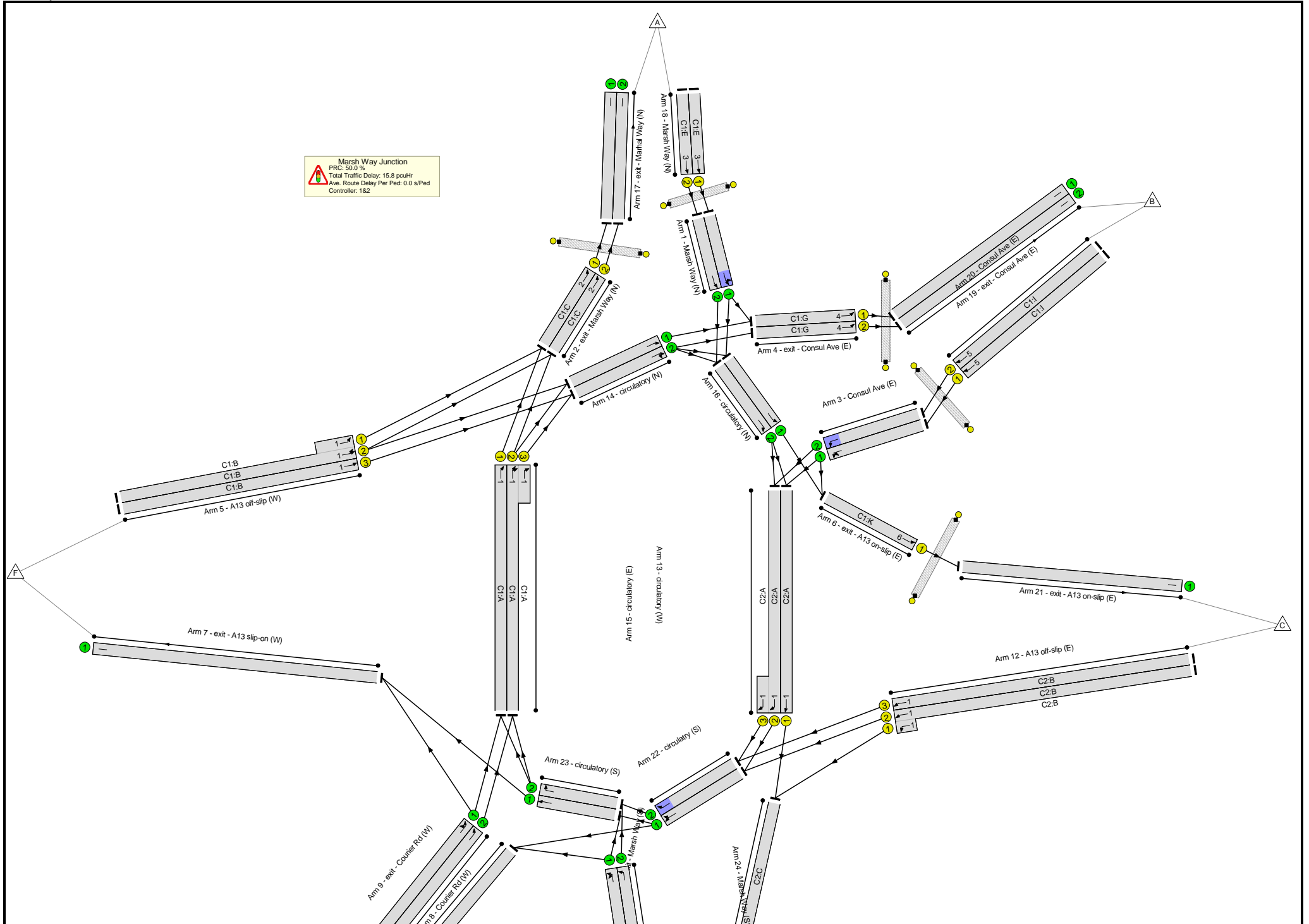
Stage	1	2
Duration	40	6
Change Point	34	23

Signal Timings Diagram



Full Input Data And Results  
**Network Layout Diagram**

# Full Input Data And Results



## Full Input Data And Results

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 (%)
<b>Network</b>	-	-	<b>N/A</b>	-	-		-	-	-	-	-	-	<b>60.0%</b>
<b>Marsh Way Junction</b>	-	-	<b>N/A</b>	-	-		-	-	-	-	-	-	<b>60.0%</b>
1/1	Marsh Way (N) Left Ahead	U	N/A	N/A	-		-	-	-	483	1957	1957	24.7%
1/2	Marsh Way (N) Ahead	U	N/A	N/A	-		-	-	-	340	1957	1957	17.4%
2/1	exit - Marsh Way (N) Ahead	U	1:2	N/A	C1:C		1	40	-	668	1960	1339	49.9%
2/2	exit - Marsh Way (N) Ahead	U	1:2	N/A	C1:C		1	40	-	424	1960	1339	31.7%
3/1	Consul Ave (E) Left Left2	U	N/A	N/A	-		-	-	-	93	1860	1860	5.0%
3/2	Consul Ave (E) Left	U	N/A	N/A	-		-	-	-	46	1860	1860	2.5%
4/1	exit - Consul Ave (E) Ahead	U	1:4	N/A	C1:G		1	40	-	71	2015	1377	5.2%
4/2	exit - Consul Ave (E) Ahead	U	1:4	N/A	C1:G		1	40	-	24	2015	1377	1.7%
5/2+5/1	A13 off-slip (W) Left Ahead	U	1:1	N/A	C1:B		1	22	-	514	1985:1921	545+528	47.9 : 47.9%
5/3	A13 off-slip (W) Ahead	U	1:1	N/A	C1:B		1	22	-	70	1921	736	9.5%
6/1	exit - A13 on-slip (E) Ahead	U	1:6	N/A	C1:K		1	40	-	826	2015	1377	60.0%
7/1	exit - A13 slip-on (W)	U	N/A	N/A	-		-	-	-	483	Inf	Inf	0.0%
8/1	Courier Rd (W) Left Ahead	U	N/A	N/A	-		-	-	-	42	1803	1803	2.3%
8/2	Courier Rd (W) Ahead	U	N/A	N/A	-		-	-	-	64	1803	1803	3.5%
9/1	exit - Courier Rd (W)	U	N/A	N/A	-		-	-	-	58	Inf	Inf	0.0%

Full Input Data And Results

10/2+10/1	Marsh Way (S) Ahead	U	2:3	N/A	C2:E		1	40	-	452	1955:1955	1048+337	32.6 : 32.6%
11/1	exit - Marsh Way (S) Ahead	U	2:2	N/A	C2:C		1	41	-	151	2015	1410	10.7%
12/2+12/1	A13 off-slip (E) Left Ahead	U	2:1	N/A	C2:B		1	27	-	121	1912:1912	430+590	11.9 : 11.9%
12/3	A13 off-slip (E) Ahead	U	2:1	N/A	C2:B		1	27	-	480	1912	892	53.8%
13/1	circulatory (W) Ahead	U	1:1	N/A	C1:A		1	26	-	415	1896	853	48.6%
13/2+13/3	circulatory (W) Ahead Right	U	1:1	N/A	C1:A		1	26	-	494	1896:1896	501+609	44.5 : 44.5%
14/1	circulatory (N) Ahead	U	N/A	N/A	-		-	-	-	60	1896	1896	3.2%
14/2	circulatory (N) Ahead Right	U	N/A	N/A	-		-	-	-	341	1896	1896	18.0%
15/1	circulatory (E) Ahead	U	2:1	N/A	C2:A		1	21	-	81	1896	695	11.7%
15/2+15/3	circulatory (E) Right	U	2:1	N/A	C2:A		1	21	-	361	1896:2015	695+0	51.9 : 0.0%
16/1	circulatory (N) Ahead	U	N/A	N/A	-		-	-	-	744	1896	1896	39.2%
16/2	circulatory (N) Ahead	U	N/A	N/A	-		-	-	-	385	1896	1896	20.3%
17/1	exit - Marhal Way (N)	U	N/A	N/A	-		-	-	-	668	Inf	Inf	0.0%
17/2	exit - Marhal Way (N)	U	N/A	N/A	-		-	-	-	424	Inf	Inf	0.0%
18/1	Marsh Way (N) Ahead	U	1:3	N/A	C1:E		1	39	-	483	1985	1323	36.5%
18/2	Marsh Way (N) Ahead	U	1:3	N/A	C1:E		1	39	-	340	1985	1323	25.7%
19/1	exit - Consul Ave (E)	U	N/A	N/A	-		-	-	-	71	Inf	Inf	0.0%
19/2	exit - Consul Ave (E)	U	N/A	N/A	-		-	-	-	24	Inf	Inf	0.0%
20/1	Consul Ave (E) Ahead	U	1:5	N/A	C1:I		1	39	-	93	2015	1343	6.9%

Full Input Data And Results

20/2	Consul Ave (E) Ahead	U	1:5	N/A	C1:I		1	39	-	46	2015	1343	3.4%
21/1	exit - A13 on-slip (E)	U	N/A	N/A	-		-	-	-	826	Inf	Inf	0.0%
22/1	circulatory (S) Ahead Ahead2	U	N/A	N/A	-		-	-	-	412	1896	1896	21.7%
22/2	circulatory (S) Ahead	U	N/A	N/A	-		-	-	-	480	1896	1896	25.3%
23/1	circulatory (S) Ahead	U	N/A	N/A	-		-	-	-	464	1896	1896	24.5%
23/2	circulatory (S) Right	U	N/A	N/A	-		-	-	-	822	1896	1896	43.4%
24/1	Marsh Way (S) Left Left2	U	N/A	N/A	-		-	-	-	110	1819	1819	6.0%
24/2	Marsh Way (S) Left	U	N/A	N/A	-		-	-	-	342	1819	1819	18.8%
25/1	exit - Marsh Way (S)	U	N/A	N/A	-		-	-	-	151	Inf	Inf	0.0%
Ped Link: P1	Unnamed Ped Link	-	1:2	-	C1:D		1	6	-	0	-	0	0.0%
Ped Link: P2	Unnamed Ped Link	-	1:3	-	C1:F		1	6	-	0	-	0	0.0%
Ped Link: P3	Unnamed Ped Link	-	1:4	-	C1:H		1	6	-	0	-	0	0.0%
Ped Link: P4	Unnamed Ped Link	-	1:5	-	C1:J		1	6	-	0	-	0	0.0%
Ped Link: P5	Unnamed Ped Link	-	1:6	-	C1:L		1	6	-	0	-	0	0.0%
Ped Link: P6	Unnamed Ped Link	-	2:3	-	C2:F		1	6	-	0	-	0	0.0%
Ped Link: P7	Unnamed Ped Link	-	2:2	-	C2:D		1	6	-	0	-	0	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)
<b>Network</b>	-	-	0	0	0	8.9	6.9	0.0	15.8	-	-	-	-
<b>Marsh Way Junction</b>	-	-	0	0	0	8.9	6.9	0.0	15.8	-	-	-	-
1/1	483	483	-	-	-	0.0	0.2	-	0.2	1.2	0.0	0.2	0.2
1/2	340	340	-	-	-	0.0	0.1	-	0.1	1.1	0.0	0.1	0.1
2/1	668	668	-	-	-	0.3	0.5	-	0.8	4.4	1.4	0.5	1.9
2/2	424	424	-	-	-	0.3	0.2	-	0.6	4.7	1.5	0.2	1.7
3/1	93	93	-	-	-	0.0	0.0	-	0.0	1.0	0.0	0.0	0.0
3/2	46	46	-	-	-	0.0	0.0	-	0.0	1.0	0.0	0.0	0.0
4/1	71	71	-	-	-	0.0	0.0	-	0.0	1.7	0.1	0.0	0.1
4/2	24	24	-	-	-	0.0	0.0	-	0.0	4.6	0.1	0.0	0.1
5/2+5/1	514	514	-	-	-	1.9	0.5	-	2.3	16.4	3.0	0.5	3.5
5/3	70	70	-	-	-	0.2	0.1	-	0.3	14.6	0.7	0.1	0.8
6/1	826	826	-	-	-	0.1	0.7	-	0.8	3.6	0.4	0.7	1.1
7/1	483	483	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	42	42	-	-	-	0.0	0.0	-	0.0	1.0	0.0	0.0	0.0
8/2	64	64	-	-	-	0.0	0.0	-	0.0	1.0	0.0	0.0	0.0
9/1	58	58	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
10/2+10/1	452	452	-	-	-	0.4	0.2	-	0.7	5.5	2.2	0.2	2.5
11/1	151	151	-	-	-	0.1	0.1	-	0.1	2.7	0.3	0.1	0.3
12/2+12/1	121	121	-	-	-	0.3	0.1	-	0.4	10.9	0.6	0.1	0.7
12/3	480	480	-	-	-	1.5	0.6	-	2.1	15.8	5.6	0.6	6.2
13/1	415	415	-	-	-	0.5	0.5	-	0.9	8.1	2.3	0.5	2.8
13/2+13/3	494	494	-	-	-	0.7	0.4	-	1.1	8.3	1.8	0.4	2.2
14/1	60	60	-	-	-	0.0	0.0	-	0.0	1.0	0.0	0.0	0.0
14/2	341	341	-	-	-	0.0	0.1	-	0.1	1.2	0.0	0.1	0.1
15/1	81	81	-	-	-	0.2	0.1	-	0.3	12.8	0.7	0.1	0.8



## Full Input Data And Results

C1 - North	Stream: 1	PRC for Signalled Lanes (%)	85.0	Total Delay for Signalled Lanes (pcuHr)	4.69	Cycle Time (s)	60
C1 - North	Stream: 2	PRC for Signalled Lanes (%)	80.4	Total Delay for Signalled Lanes (pcuHr)	1.36	Cycle Time (s)	60
C1 - North	Stream: 3	PRC for Signalled Lanes (%)	146.6	Total Delay for Signalled Lanes (pcuHr)	1.43	Cycle Time (s)	60
C1 - North	Stream: 4	PRC for Signalled Lanes (%)	1645.4	Total Delay for Signalled Lanes (pcuHr)	0.07	Cycle Time (s)	60
C1 - North	Stream: 5	PRC for Signalled Lanes (%)	1200.0	Total Delay for Signalled Lanes (pcuHr)	0.19	Cycle Time (s)	60
C1 - North	Stream: 6	PRC for Signalled Lanes (%)	50.0	Total Delay for Signalled Lanes (pcuHr)	0.83	Cycle Time (s)	60
C2 - South	Stream: 1	PRC for Signalled Lanes (%)	67.3	Total Delay for Signalled Lanes (pcuHr)	4.47	Cycle Time (s)	60
C2 - South	Stream: 2	PRC for Signalled Lanes (%)	740.7	Total Delay for Signalled Lanes (pcuHr)	0.11	Cycle Time (s)	60
C2 - South	Stream: 3	PRC for Signalled Lanes (%)	175.7	Total Delay for Signalled Lanes (pcuHr)	0.69	Cycle Time (s)	60
		PRC Over All Lanes (%)	50.0	Total Delay Over All Lanes(pcuHr)	15.81		

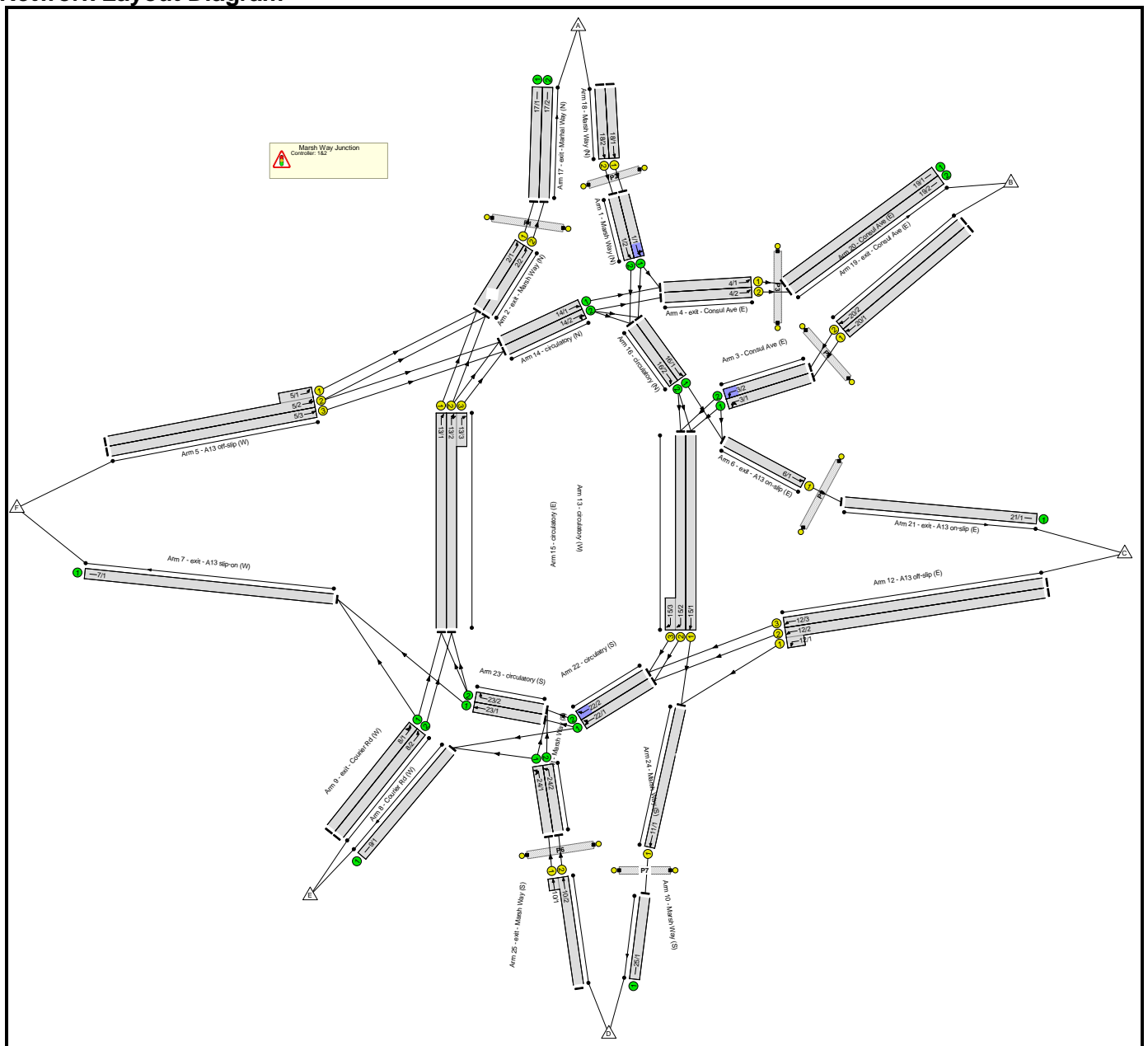
# Full Input Data And Results

## Full Input Data And Results

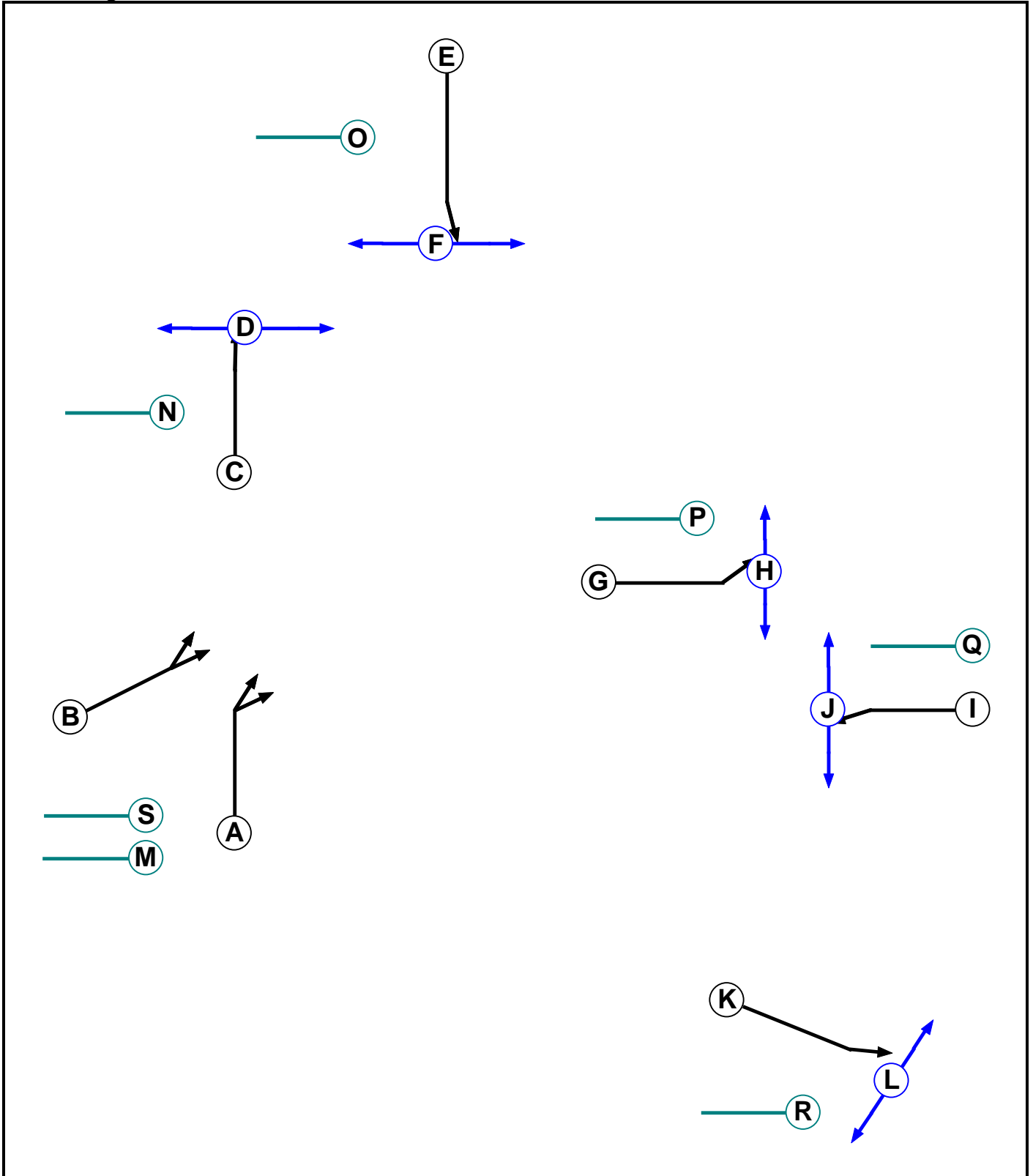
### User and Project Details

Project:	
Title:	
Location:	
Additional detail:	
File name:	9 - Marsh Way Junction.lsg3x
Author:	
Company:	
Address:	

### Network Layout Diagram



C1 - North  
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		-9999	7
B	Traffic	1		-9999	7
C	Traffic	2		-9999	7
D	Pedestrian	2		-9999	6
E	Traffic	3		-9999	7
F	Pedestrian	3		-9999	6
G	Traffic	4		-9999	7
H	Pedestrian	4		-9999	6
I	Traffic	5		-9999	7
J	Pedestrian	5		-9999	6
K	Traffic	6		-9999	7
L	Pedestrian	6		-9999	6
M	Dummy	1		-9999	3
N	Dummy	2		-9999	3
O	Dummy	3		-9999	3
P	Dummy	4		-9999	3
Q	Dummy	5		-9999	3
R	Dummy	6		-9999	3
S	Dummy	1		-9999	2

Full Input Data And Results

**Phase Intergreens Matrix**

		Starting Phase																		
		A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
Terminating Phase	A		5	-	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-	3
	B	7		-	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-	3
	C	-	-		5	-	-	-	-	-	-	-	-	-	3	-	-	-	-	-
	D	-	-	9		-	-	-	-	-	-	-	-	-	4	-	-	-	-	-
	E	-	-	-	-		5	-	-	-	-	-	-	-	-	3	-	-	-	-
	F	-	-	-	-	10		-	-	-	-	-	-	-	-	4	-	-	-	-
	G	-	-	-	-	-	-		5	-	-	-	-	-	-	-	3	-	-	-
	H	-	-	-	-	-	-	9		-	-	-	-	-	-	-	4	-	-	-
	I	-	-	-	-	-	-	-	-		5	-	-	-	-	-	-	3	-	-
	J	-	-	-	-	-	-	-	10		-	-	-	-	-	-	-	4	-	-
	K	-	-	-	-	-	-	-	-	-		5	-	-	-	-	-	-	3	-
	L	-	-	-	-	-	-	-	-	-	9		-	-	-	-	-	-	4	-
	M	2	2	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-
	N	-	-	2	2	-	-	-	-	-	-	-	-	-		-	-	-	-	-
	O	-	-	-	-	2	2	-	-	-	-	-	-	-	-		-	-	-	-
	P	-	-	-	-	-	-	2	2	-	-	-	-	-	-	-		-	-	-
	Q	-	-	-	-	-	-	-	-	2	2	-	-	-	-	-	-		-	-
	R	-	-	-	-	-	-	-	-	-	-	2	2	-	-	-	-	-		-
	S	2	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

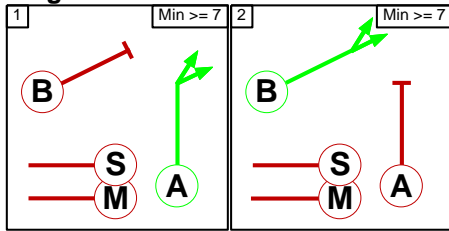
**Phases in Stage**

Stream	Stage No.	Phases in Stage
1	1	A
1	2	B
2	1	C
2	2	D
3	1	E
3	2	F
4	1	G
4	2	H
5	1	I
5	2	J
6	1	K
6	2	L

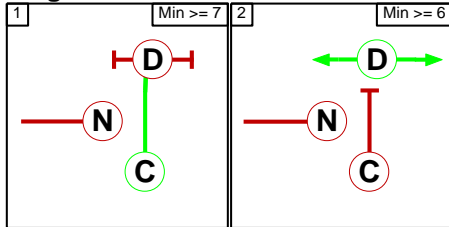
Full Input Data And Results

**Stage Diagram**

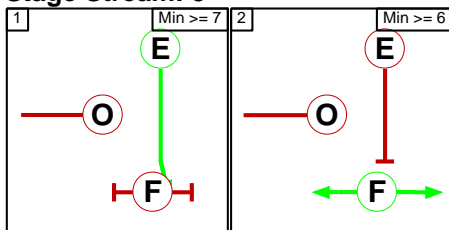
**Stage Stream: 1**



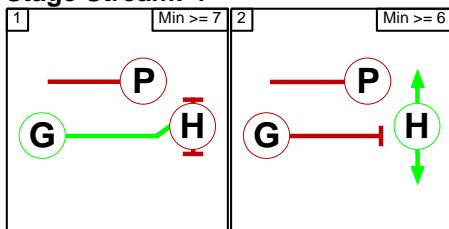
**Stage Stream: 2**



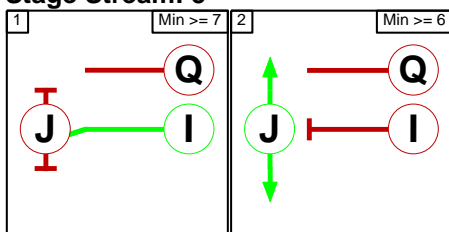
**Stage Stream: 3**



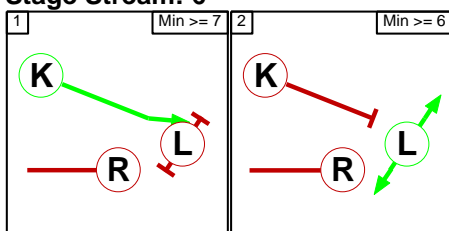
**Stage Stream: 4**



**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						



Full Input Data And Results

**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
There are no Phase Delays defined					

**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	7	

**Stage Stream: 2**

		To Stage	
From Stage		1	2
	1		5
	2	9	

**Stage Stream: 3**

		To Stage	
From Stage		1	2
	1		5
	2	10	

**Stage Stream: 4**

		To Stage	
From Stage		1	2
	1		5
	2	9	

Full Input Data And Results

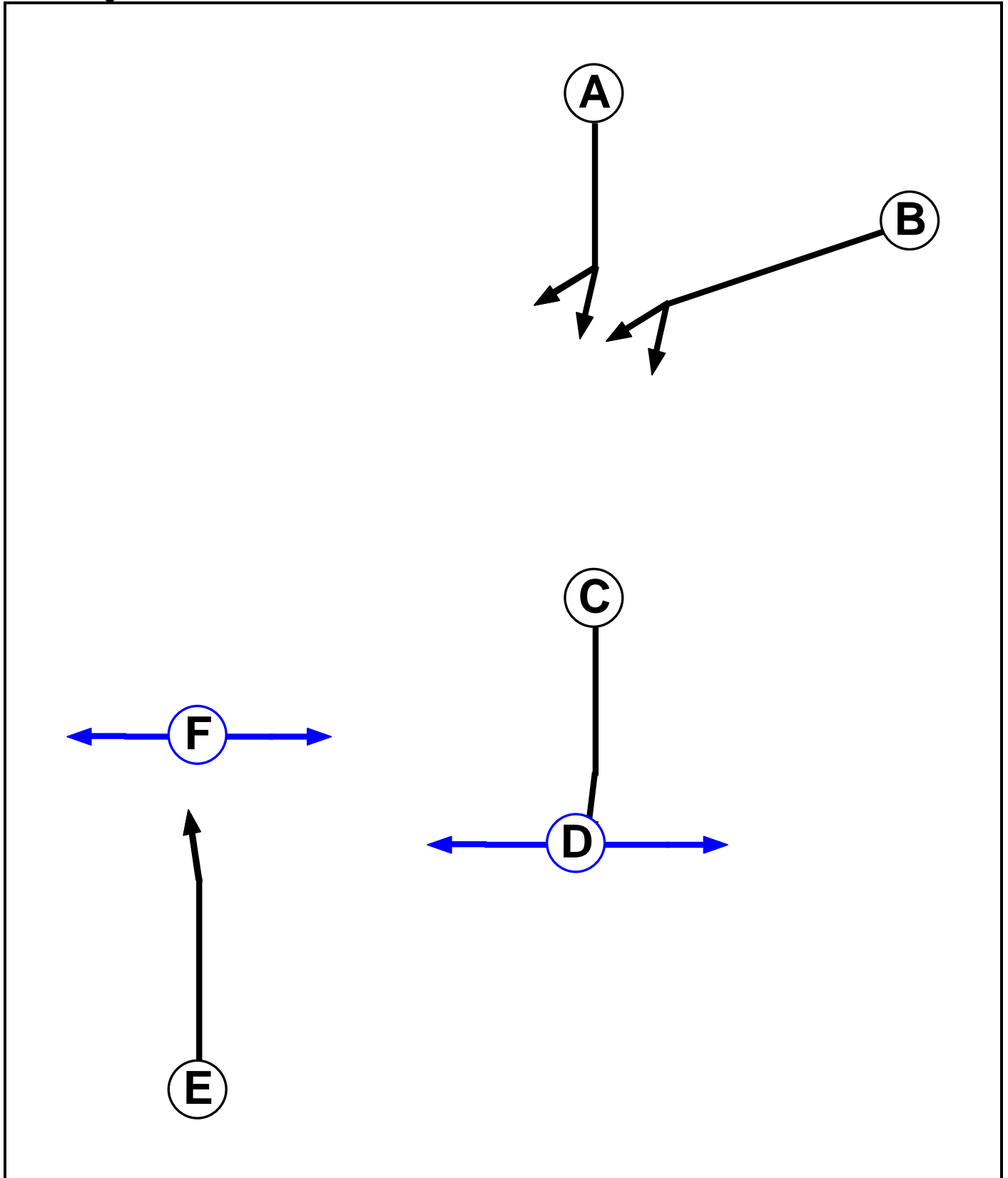
**Stage Stream: 5**

		To Stage	
		1	2
From Stage	1		5
	2	10	

**Stage Stream: 6**

		To Stage	
		1	2
From Stage	1		5
	2	9	

**C2 - South  
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		-9999	7
B	Traffic	1		-9999	7
C	Traffic	2		-9999	7
D	Pedestrian	2		-9999	6
E	Traffic	3		-9999	7
F	Pedestrian	3		-9999	6

**Phase Intergreens Matrix**

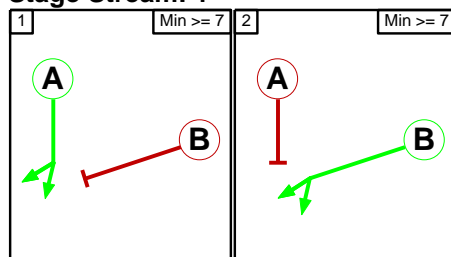
		Starting Phase					
		A	B	C	D	E	F
Terminating Phase	A	6	-	-	-	-	-
	B	6	-	-	-	-	-
	C	-	-	5	-	-	-
	D	-	-	8	-	-	-
	E	-	-	-	-	5	-
	F	-	-	-	-	9	-

**Phases in Stage**

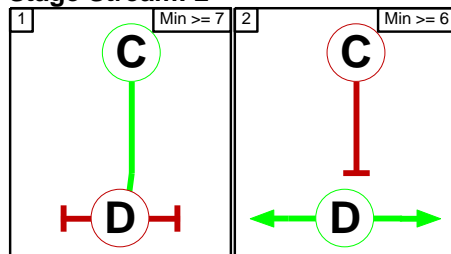
Stream	Stage No.	Phases in Stage
1	1	A
1	2	B
2	1	C
2	2	D
3	1	E
3	2	F

**Stage Diagram**

**Stage Stream: 1**

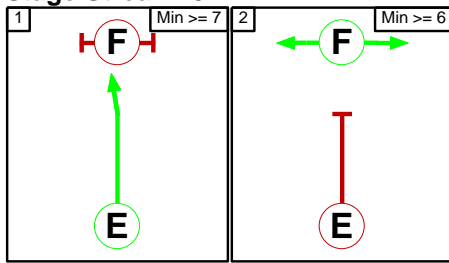


**Stage Stream: 2**



Full Input Data And Results

**Stage Stream: 3**



**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
There are no Phase Delays defined					

**Prohibited Stage Change**

**Stage Stream: 1**

		To Stage	
		1	2
From Stage	1		6
	2	6	

**Stage Stream: 2**

		To Stage	
		1	2
From Stage	1		5
	2	8	

**Stage Stream: 3**

		To Stage	
		1	2
From Stage	1		5
	2	9	

Full Input Data And Results

**Give-Way Lane Input Data**

**Junction: Marsh Way Junction**

There are no Opposed Lanes in this Junction

Full Input Data And Results

**Lane Input Data**

Junction: Marsh Way Junction												
Lane	Lane Type	Phases	Start Disp.	End Disp.	Physical Length (PCU)	Sat Flow Type	Def User Saturation Flow (PCU/Hr)	Lane Width (m)	Gradient	Nearside Lane	Turns	Turning Radius (m)
1/1 (Marsh Way (N))	U		2	3	5.4	Geom	-	4.00	0.00	Y	Arm 4 Left	51.00
											Arm 16 Ahead	51.00
1/2 (Marsh Way (N))	U		2	3	5.4	Geom	-	4.00	0.00	Y	Arm 16 Ahead	51.00
2/1 (exit - Marsh Way (N))	U	C	2	3	10.1	Geom	-	3.45	0.00	Y	Arm 17 Ahead	Inf
2/2 (exit - Marsh Way (N))	U	C	2	3	10.1	Geom	-	3.45	0.00	Y	Arm 17 Ahead	Inf
3/1 (Consul Ave (E))	U		2	3	5.9	Geom	-	4.00	0.00	Y	Arm 6 Left	18.00
											Arm 15 Left	18.00
3/2 (Consul Ave (E))	U		2	3	5.9	Geom	-	4.00	0.00	Y	Arm 15 Left	18.00
4/1 (exit - Consul Ave (E))	U	G	2	3	8.2	Geom	-	4.00	0.00	Y	Arm 19 Ahead	Inf
4/2 (exit - Consul Ave (E))	U	G	2	3	8.2	Geom	-	4.00	0.00	Y	Arm 19 Ahead	Inf
5/1 (A13 off-slip (W))	U	B	2	3	4.9	Geom	-	3.70	0.00	Y	Arm 2 Left	45.00
5/2 (A13 off-slip (W))	U	B	2	3	60.0	Geom	-	3.70	0.00	Y	Arm 2 Left	Inf
											Arm 14 Ahead	45.00
5/3 (A13 off-slip (W))	U	B	2	3	60.0	Geom	-	3.70	0.00	Y	Arm 14 Ahead	45.00
6/1 (exit - A13 on-slip (E))	U	K	2	3	7.8	Geom	-	4.00	0.00	Y	Arm 21 Ahead	Inf
7/1 (exit - A13 slip-on (W))	U		2	3	60.0	Inf	-	-	-	-	-	-
8/1 (Courier Rd (W))	U		2	3	60.0	Geom	-	3.30	0.00	Y	Arm 7 Left	19.00
											Arm 13 Ahead	19.00
8/2 (Courier Rd (W))	U		2	3	60.0	Geom	-	3.30	0.00	Y	Arm 13 Ahead	19.00

Full Input Data And Results

9/1 (exit - Courier Rd (W))	U		2	3	60.0	Inf	-	-	-	-	-	-
10/1 (Marsh Way (S))	U	E	2	3	1.7	Geom	-	3.40	0.00	Y	Arm 24 Ahead	Inf
10/2 (Marsh Way (S))	U	E	2	3	60.0	Geom	-	3.40	0.00	Y	Arm 24 Ahead	Inf
11/1 (exit - Marsh Way (S))	U	C	2	3	7.8	Geom	-	4.00	0.00	Y	Arm 25 Ahead	Inf
12/1 (A13 off-slip (E))	U	B	2	3	2.6	Geom	-	3.65	0.00	Y	Arm 11 Left	42.00
12/2 (A13 off-slip (E))	U	B	2	3	60.0	Geom	-	3.65	0.00	Y	Arm 22 Ahead	42.00
12/3 (A13 off-slip (E))	U	B	2	3	60.0	Geom	-	3.65	0.00	Y	Arm 22 Ahead	42.00
13/1 (circulatory (W))	U	A	2	3	24.7	Geom	-	4.00	0.00	Y	Arm 2 Ahead	24.00
13/2 (circulatory (W))	U	A	2	3	24.7	Geom	-	4.00	0.00	Y	Arm 2 Ahead	24.00
											Arm 14 Right	24.00
13/3 (circulatory (W))	U	A	2	3	4.9	Geom	-	4.00	0.00	Y	Arm 14 Right	24.00
14/1 (circulatory (N))	U		2	3	8.3	Geom	-	4.00	0.00	Y	Arm 4 Ahead	24.00
14/2 (circulatory (N))	U		2	3	8.3	Geom	-	4.00	0.00	Y	Arm 4 Ahead	24.00
											Arm 16 Right	24.00
15/1 (circulatory (E))	U	A	2	3	24.2	Geom	-	4.00	0.00	Y	Arm 11 Ahead	24.00
15/2 (circulatory (E))	U	A	2	3	24.2	Geom	-	4.00	0.00	Y	Arm 22 Right	24.00
15/3 (circulatory (E))	U	A	2	3	4.7	Geom	-	4.00	0.00	Y	Arm 22 Right	24.00
16/1 (circulatory (N))	U		2	3	5.9	Geom	-	4.00	0.00	Y	Arm 6 Ahead	24.00
16/2 (circulatory (N))	U		2	3	5.9	Geom	-	4.00	0.00	Y	Arm 15 Ahead	24.00
17/1 (exit - Marhal Way (N))	U		2	3	60.0	Inf	-	-	-	-	-	-



Full Input Data And Results

17/2 (exit - Marhal Way (N))	U		2	3	60.0	Inf	-	-	-	-	-	-
18/1 (Marsh Way (N))	U	E	2	3	60.0	Geom	-	3.70	0.00	Y	Arm 1 Ahead	Inf
18/2 (Marsh Way (N))	U	E	2	3	60.0	Geom	-	3.70	0.00	Y	Arm 1 Ahead	Inf
19/1 (exit - Consul Ave (E))	U		2	3	60.0	Inf	-	-	-	-	-	-
19/2 (exit - Consul Ave (E))	U		2	3	60.0	Inf	-	-	-	-	-	-
20/1 (Consul Ave (E))	U	I	2	3	60.0	Geom	-	4.00	0.00	Y	Arm 3 Ahead	Inf
20/2 (Consul Ave (E))	U	I	2	3	60.0	Geom	-	4.00	0.00	Y	Arm 3 Ahead	Inf
21/1 (exit - A13 on-slip (E))	U		2	3	60.0	Inf	-	-	-	-	-	-
22/1 (circulatory (S))	U		2	3	7.8	Geom	-	4.00	0.00	Y	Arm 9 Ahead	24.00
											Arm 23 Ahead	24.00
22/2 (circulatory (S))	U		2	3	7.8	Geom	-	4.00	0.00	Y	Arm 23 Ahead	24.00
23/1 (circulatory (S))	U		2	3	4.0	Geom	-	4.00	0.00	Y	Arm 7 Ahead	24.00
23/2 (circulatory (S))	U		2	3	4.0	Geom	-	4.00	0.00	Y	Arm 13 Right	24.00
24/1 (Marsh Way (S))	U		2	3	1.7	Geom	-	3.40	0.00	Y	Arm 9 Left	20.00
											Arm 23 Left	20.00
24/2 (Marsh Way (S))	U		2	3	1.7	Geom	-	3.40	0.00	Y	Arm 23 Left	20.00
25/1 (exit - Marsh Way (S))	U		2	3	60.0	Inf	-	-	-	-	-	-

Full Input Data And Results

**Traffic Flow Groups**

Flow Group	Start Time	End Time	Duration	Formula
1: 'Base Year 2023 AM'	07:00	08:00	01:00	
2: 'Base Year 2023 PM'	17:00	18:00	01:00	
3: 'Reference Case 2030 AM'	07:00	08:00	01:00	F1*1.0466
4: 'Reference Case 2030 PM'	17:00	18:00	01:00	F2*1.0521
7: 'Do Something 2030 + LTC AM'	07:00	08:00	01:00	F3 + F5
8: 'Do Something 2030 + LTC PM'	17:00	18:00	01:00	F4+F6

**Scenario 1: 'Base Year 2023 AM'** (FG1: 'Base Year 2023 AM', Plan 1: 'Network Control Plan 1')

**Traffic Flows, Desired**

**Desired Flow :**

	Destination							
	A	B	C	D	E	F	Tot.	
Origin	A	0	31	315	147	8	184	685
	B	0	0	68	34	2	41	145
	C	271	33	77	214	54	338	987
	D	119	15	32	0	0	57	223
	E	30	4	8	1	0	3	46
	F	172	47	2	43	3	53	320
	Tot.	592	130	502	439	67	676	2406

Full Input Data And Results

**Traffic Lane Flows**

Lane	Scenario 1: Base Year 2023 AM
<b>Junction: Marsh Way Junction</b>	
1/1	346
1/2	339
2/1	311
2/2	281
3/1	102
3/2	43
4/1	101
4/2	29
5/1 (short)	90
5/2 (with short)	193(In) 103(Out)
5/3	127
6/1	502
7/1	676
8/1	18
8/2	28
9/1	67
10/1 (short)	57
10/2 (with short)	223(In) 166(Out)
11/1	439
12/1 (short)	214
12/2 (with short)	606(In) 392(Out)
12/3	381
13/1	221
13/2 (with short)	369(In) 248(Out)
13/3 (short)	121
14/1	70
14/2	248
15/1	225
15/2 (with short)	291(In) 291(Out)
15/3 (short)	0
16/1	434
16/2	439
17/1	311
17/2	281

## Full Input Data And Results

18/1	346
18/2	339
19/1	101
19/2	29
20/1	102
20/2	43
21/1	502
22/1	683
22/2	381
23/1	673
23/2	547
24/1	57
24/2	166
25/1	439

Full Input Data And Results

**Lane Saturation Flows**

Junction: Marsh Way Junction								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (Marsh Way (N))	4.00	0.00	Y	Arm 4 Left	51.00	9.0 %	1957	1957
				Arm 16 Ahead	51.00	91.0 %		
1/2 (Marsh Way (N))	4.00	0.00	Y	Arm 16 Ahead	51.00	100.0 %	1957	1957
2/1 (exit - Marsh Way (N))	3.45	0.00	Y	Arm 17 Ahead	Inf	100.0 %	1960	1960
2/2 (exit - Marsh Way (N))	3.45	0.00	Y	Arm 17 Ahead	Inf	100.0 %	1960	1960
3/1 (Consul Ave (E))	4.00	0.00	Y	Arm 6 Left	18.00	66.7 %	1860	1860
				Arm 15 Left	18.00	33.3 %		
3/2 (Consul Ave (E))	4.00	0.00	Y	Arm 15 Left	18.00	100.0 %	1860	1860
4/1 (exit - Consul Ave (E))	4.00	0.00	Y	Arm 19 Ahead	Inf	100.0 %	2015	2015
4/2 (exit - Consul Ave (E))	4.00	0.00	Y	Arm 19 Ahead	Inf	100.0 %	2015	2015
5/1 (A13 off-slip (W))	3.70	0.00	Y	Arm 2 Left	45.00	100.0 %	1921	1921
5/2 (A13 off-slip (W))	3.70	0.00	Y	Arm 2 Left	Inf	79.6 %	1972	1972
				Arm 14 Ahead	45.00	20.4 %		
5/3 (A13 off-slip (W))	3.70	0.00	Y	Arm 14 Ahead	45.00	100.0 %	1921	1921
6/1 (exit - A13 on-slip (E))	4.00	0.00	Y	Arm 21 Ahead	Inf	100.0 %	2015	2015
7/1 (exit - A13 slip-on (W) Lane 1)	Infinite Saturation Flow						Inf	Inf
8/1 (Courier Rd (W))	3.30	0.00	Y	Arm 7 Left	19.00	16.7 %	1803	1803
				Arm 13 Ahead	19.00	83.3 %		
8/2 (Courier Rd (W))	3.30	0.00	Y	Arm 13 Ahead	19.00	100.0 %	1803	1803
9/1 (exit - Courier Rd (W) Lane 1)	Infinite Saturation Flow						Inf	Inf
10/1 (Marsh Way (S))	3.40	0.00	Y	Arm 24 Ahead	Inf	100.0 %	1955	1955
10/2 (Marsh Way (S))	3.40	0.00	Y	Arm 24 Ahead	Inf	100.0 %	1955	1955
11/1 (exit - Marsh Way (S))	4.00	0.00	Y	Arm 25 Ahead	Inf	100.0 %	2015	2015
12/1 (A13 off-slip (E))	3.65	0.00	Y	Arm 11 Left	42.00	100.0 %	1912	1912
12/2 (A13 off-slip (E))	3.65	0.00	Y	Arm 22 Ahead	42.00	100.0 %	1912	1912
12/3 (A13 off-slip (E))	3.65	0.00	Y	Arm 22 Ahead	42.00	100.0 %	1912	1912

Full Input Data And Results

13/1 (circulatory (W))	4.00	0.00	Y	Arm 2 Ahead	24.00	100.0 %	1896	1896
13/2 (circulatory (W))	4.00	0.00	Y	Arm 2 Ahead	24.00	80.2 %	1896	1896
				Arm 14 Right	24.00	19.8 %		
13/3 (circulatory (W))	4.00	0.00	Y	Arm 14 Right	24.00	100.0 %	1896	1896
14/1 (circulatory (N))	4.00	0.00	Y	Arm 4 Ahead	24.00	100.0 %	1896	1896
14/2 (circulatory (N))	4.00	0.00	Y	Arm 4 Ahead	24.00	11.7 %	1896	1896
				Arm 16 Right	24.00	88.3 %		
15/1 (circulatory (E))	4.00	0.00	Y	Arm 11 Ahead	24.00	100.0 %	1896	1896
15/2 (circulatory (E))	4.00	0.00	Y	Arm 22 Right	24.00	100.0 %	1896	1896
15/3 (circulatory (E))	4.00	0.00	Y	Arm 22 Right	24.00	0.0 %	2015	2015
16/1 (circulatory (N))	4.00	0.00	Y	Arm 6 Ahead	24.00	100.0 %	1896	1896
16/2 (circulatory (N))	4.00	0.00	Y	Arm 15 Ahead	24.00	100.0 %	1896	1896
17/1 (exit - Marhal Way (N) Lane 1)	Infinite Saturation Flow						Inf	Inf
17/2 (exit - Marhal Way (N) Lane 2)	Infinite Saturation Flow						Inf	Inf
18/1 (Marsh Way (N))	3.70	0.00	Y	Arm 1 Ahead	Inf	100.0 %	1985	1985
18/2 (Marsh Way (N))	3.70	0.00	Y	Arm 1 Ahead	Inf	100.0 %	1985	1985
19/1 (exit - Consul Ave (E) Lane 1)	Infinite Saturation Flow						Inf	Inf
19/2 (exit - Consul Ave (E) Lane 2)	Infinite Saturation Flow						Inf	Inf
20/1 (Consul Ave (E))	4.00	0.00	Y	Arm 3 Ahead	Inf	100.0 %	2015	2015
20/2 (Consul Ave (E))	4.00	0.00	Y	Arm 3 Ahead	Inf	100.0 %	2015	2015
21/1 (exit - A13 on-slip (E) Lane 1)	Infinite Saturation Flow						Inf	Inf
22/1 (circulatory (S))	4.00	0.00	Y	Arm 9 Ahead	24.00	9.8 %	1896	1896
				Arm 23 Ahead	24.00	90.2 %		
22/2 (circulatory (S))	4.00	0.00	Y	Arm 23 Ahead	24.00	100.0 %	1896	1896
23/1 (circulatory (S))	4.00	0.00	Y	Arm 7 Ahead	24.00	100.0 %	1896	1896
23/2 (circulatory (S))	4.00	0.00	Y	Arm 13 Right	24.00	100.0 %	1896	1896
24/1 (Marsh Way (S))	3.40	0.00	Y	Arm 9 Left	20.00	0.0 %	1819	1819
				Arm 23 Left	20.00	100.0 %		
24/2 (Marsh Way (S))	3.40	0.00	Y	Arm 23 Left	20.00	100.0 %	1819	1819

Full Input Data And Results

25/1 (exit - Marsh Way (S) Lane 1)	Infinite Saturation Flow	Inf	Inf
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**Scenario 2: 'Base Year 2023 PM'** (FG2: 'Base Year 2023 PM', Plan 1: 'Network Control Plan 1')

**Traffic Flows, Desired**

**Desired Flow :**

		Destination						
		A	B	C	D	E	F	Tot.
Origin	A	0	12	445	58	9	258	782
	B	0	0	74	10	2	43	129
	C	283	27	135	67	43	6	561
	D	207	20	98	0	0	105	430
	E	53	5	24	1	0	18	101
	F	486	24	2	8	2	32	554
	Tot.	1029	88	778	144	56	462	2557

Full Input Data And Results

**Traffic Lane Flows**

Lane	Scenario 2: Base Year 2023 PM
<b>Junction: Marsh Way Junction</b>	
1/1	457
1/2	325
2/1	519
2/2	510
3/1	84
3/2	45
4/1	64
4/2	24
5/1 (short)	239
5/2 (with short)	486(In) 247(Out)
5/3	68
6/1	778
7/1	462
8/1	48
8/2	53
9/1	56
10/1 (short)	105
10/2 (with short)	430(In) 325(Out)
11/1	144
12/1 (short)	67
12/2 (with short)	116(In) 49(Out)
12/3	445
13/1	280
13/2 (with short)	573(In) 315(Out)
13/3 (short)	258
14/1	52
14/2	326
15/1	77
15/2 (with short)	346(In) 346(Out)
15/3 (short)	0
16/1	704
16/2	368
17/1	519
17/2	510



## Full Input Data And Results

18/1	457
18/2	325
19/1	64
19/2	24
20/1	84
20/2	45
21/1	778
22/1	395
22/2	445
23/1	444
23/2	770
24/1	105
24/2	325
25/1	144

Full Input Data And Results

**Lane Saturation Flows**

Junction: Marsh Way Junction								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (Marsh Way (N))	4.00	0.00	Y	Arm 4 Left	51.00	2.6 %	1957	1957
				Arm 16 Ahead	51.00	97.4 %		
1/2 (Marsh Way (N))	4.00	0.00	Y	Arm 16 Ahead	51.00	100.0 %	1957	1957
2/1 (exit - Marsh Way (N))	3.45	0.00	Y	Arm 17 Ahead	Inf	100.0 %	1960	1960
2/2 (exit - Marsh Way (N))	3.45	0.00	Y	Arm 17 Ahead	Inf	100.0 %	1960	1960
3/1 (Consul Ave (E))	4.00	0.00	Y	Arm 6 Left	18.00	88.1 %	1860	1860
				Arm 15 Left	18.00	11.9 %		
3/2 (Consul Ave (E))	4.00	0.00	Y	Arm 15 Left	18.00	100.0 %	1860	1860
4/1 (exit - Consul Ave (E))	4.00	0.00	Y	Arm 19 Ahead	Inf	100.0 %	2015	2015
4/2 (exit - Consul Ave (E))	4.00	0.00	Y	Arm 19 Ahead	Inf	100.0 %	2015	2015
5/1 (A13 off-slip (W))	3.70	0.00	Y	Arm 2 Left	45.00	100.0 %	1921	1921
5/2 (A13 off-slip (W))	3.70	0.00	Y	Arm 2 Left	Inf	100.0 %	1985	1985
				Arm 14 Ahead	45.00	0.0 %		
5/3 (A13 off-slip (W))	3.70	0.00	Y	Arm 14 Ahead	45.00	100.0 %	1921	1921
6/1 (exit - A13 on-slip (E))	4.00	0.00	Y	Arm 21 Ahead	Inf	100.0 %	2015	2015
7/1 (exit - A13 slip-on (W) Lane 1)	Infinite Saturation Flow						Inf	Inf
8/1 (Courier Rd (W))	3.30	0.00	Y	Arm 7 Left	19.00	37.5 %	1803	1803
				Arm 13 Ahead	19.00	62.5 %		
8/2 (Courier Rd (W))	3.30	0.00	Y	Arm 13 Ahead	19.00	100.0 %	1803	1803
9/1 (exit - Courier Rd (W) Lane 1)	Infinite Saturation Flow						Inf	Inf
10/1 (Marsh Way (S))	3.40	0.00	Y	Arm 24 Ahead	Inf	100.0 %	1955	1955
10/2 (Marsh Way (S))	3.40	0.00	Y	Arm 24 Ahead	Inf	100.0 %	1955	1955
11/1 (exit - Marsh Way (S))	4.00	0.00	Y	Arm 25 Ahead	Inf	100.0 %	2015	2015
12/1 (A13 off-slip (E))	3.65	0.00	Y	Arm 11 Left	42.00	100.0 %	1912	1912
12/2 (A13 off-slip (E))	3.65	0.00	Y	Arm 22 Ahead	42.00	100.0 %	1912	1912
12/3 (A13 off-slip (E))	3.65	0.00	Y	Arm 22 Ahead	42.00	100.0 %	1912	1912

Full Input Data And Results

13/1 (circulatory (W))	4.00	0.00	Y	Arm 2 Ahead	24.00	100.0 %	1896	1896
13/2 (circulatory (W))	4.00	0.00	Y	Arm 2 Ahead	24.00	83.5 %	1896	1896
				Arm 14 Right	24.00	16.5 %		
13/3 (circulatory (W))	4.00	0.00	Y	Arm 14 Right	24.00	100.0 %	1896	1896
14/1 (circulatory (N))	4.00	0.00	Y	Arm 4 Ahead	24.00	100.0 %	1896	1896
14/2 (circulatory (N))	4.00	0.00	Y	Arm 4 Ahead	24.00	7.4 %	1896	1896
				Arm 16 Right	24.00	92.6 %		
15/1 (circulatory (E))	4.00	0.00	Y	Arm 11 Ahead	24.00	100.0 %	1896	1896
15/2 (circulatory (E))	4.00	0.00	Y	Arm 22 Right	24.00	100.0 %	1896	1896
15/3 (circulatory (E))	4.00	0.00	Y	Arm 22 Right	24.00	0.0 %	2015	2015
16/1 (circulatory (N))	4.00	0.00	Y	Arm 6 Ahead	24.00	100.0 %	1896	1896
16/2 (circulatory (N))	4.00	0.00	Y	Arm 15 Ahead	24.00	100.0 %	1896	1896
17/1 (exit - Marhal Way (N) Lane 1)	Infinite Saturation Flow						Inf	Inf
17/2 (exit - Marhal Way (N) Lane 2)	Infinite Saturation Flow						Inf	Inf
18/1 (Marsh Way (N))	3.70	0.00	Y	Arm 1 Ahead	Inf	100.0 %	1985	1985
18/2 (Marsh Way (N))	3.70	0.00	Y	Arm 1 Ahead	Inf	100.0 %	1985	1985
19/1 (exit - Consul Ave (E) Lane 1)	Infinite Saturation Flow						Inf	Inf
19/2 (exit - Consul Ave (E) Lane 2)	Infinite Saturation Flow						Inf	Inf
20/1 (Consul Ave (E))	4.00	0.00	Y	Arm 3 Ahead	Inf	100.0 %	2015	2015
20/2 (Consul Ave (E))	4.00	0.00	Y	Arm 3 Ahead	Inf	100.0 %	2015	2015
21/1 (exit - A13 on-slip (E) Lane 1)	Infinite Saturation Flow						Inf	Inf
22/1 (circulatory (S))	4.00	0.00	Y	Arm 9 Ahead	24.00	14.2 %	1896	1896
				Arm 23 Ahead	24.00	85.8 %		
22/2 (circulatory (S))	4.00	0.00	Y	Arm 23 Ahead	24.00	100.0 %	1896	1896
23/1 (circulatory (S))	4.00	0.00	Y	Arm 7 Ahead	24.00	100.0 %	1896	1896
23/2 (circulatory (S))	4.00	0.00	Y	Arm 13 Right	24.00	100.0 %	1896	1896
24/1 (Marsh Way (S))	3.40	0.00	Y	Arm 9 Left	20.00	0.0 %	1819	1819
				Arm 23 Left	20.00	100.0 %		
24/2 (Marsh Way (S))	3.40	0.00	Y	Arm 23 Left	20.00	100.0 %	1819	1819

Full Input Data And Results

25/1 (exit - Marsh Way (S) Lane 1)	Infinite Saturation Flow	Inf	Inf
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**Scenario 3: '2030 AM'** (FG3: 'Reference Case 2030 AM', Plan 1: 'Network Control Plan 1')

**Traffic Flows, Desired**

**Desired Flow :**

		Destination						
		A	B	C	D	E	F	Tot.
Origin	A	0	32	330	154	8	193	717
	B	0	0	71	36	2	43	152
	C	284	35	81	224	57	354	1035
	D	125	16	33	0	0	60	234
	E	31	4	8	1	0	3	47
	F	180	49	2	45	3	55	334
	Tot.	620	136	525	460	70	708	2519

Full Input Data And Results

**Traffic Lane Flows**

Lane	Scenario 3: 2030 AM
<b>Junction: Marsh Way Junction</b>	
1/1	362
1/2	355
2/1	323
2/2	297
3/1	107
3/2	45
4/1	111
4/2	25
5/1 (short)	94
5/2 (with short)	207(In) 113(Out)
5/3	127
6/1	525
7/1	708
8/1	19
8/2	28
9/1	70
10/1 (short)	60
10/2 (with short)	234(In) 174(Out)
11/1	460
12/1 (short)	224
12/2 (with short)	635(In) 411(Out)
12/3	400
13/1	229
13/2 (with short)	389(In) 263(Out)
13/3 (short)	126
14/1	79
14/2	253
15/1	236
15/2 (with short)	304(In) 304(Out)
15/3 (short)	0
16/1	454
16/2	459
17/1	323
17/2	297
18/1	362

## Full Input Data And Results

18/2	355
19/1	111
19/2	25
20/1	107
20/2	45
21/1	525
22/1	715
22/2	400
23/1	705
23/2	574
24/1	60
24/2	174
25/1	460

Full Input Data And Results

**Lane Saturation Flows**

Junction: Marsh Way Junction								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (Marsh Way (N))	4.00	0.00	Y	Arm 4 Left	51.00	8.8 %	1957	1957
				Arm 16 Ahead	51.00	91.2 %		
1/2 (Marsh Way (N))	4.00	0.00	Y	Arm 16 Ahead	51.00	100.0 %	1957	1957
2/1 (exit - Marsh Way (N))	3.45	0.00	Y	Arm 17 Ahead	Inf	100.0 %	1960	1960
2/2 (exit - Marsh Way (N))	3.45	0.00	Y	Arm 17 Ahead	Inf	100.0 %	1960	1960
3/1 (Consul Ave (E))	4.00	0.00	Y	Arm 6 Left	18.00	66.4 %	1860	1860
				Arm 15 Left	18.00	33.6 %		
3/2 (Consul Ave (E))	4.00	0.00	Y	Arm 15 Left	18.00	100.0 %	1860	1860
4/1 (exit - Consul Ave (E))	4.00	0.00	Y	Arm 19 Ahead	Inf	100.0 %	2015	2015
4/2 (exit - Consul Ave (E))	4.00	0.00	Y	Arm 19 Ahead	Inf	100.0 %	2015	2015
5/1 (A13 off-slip (W))	3.70	0.00	Y	Arm 2 Left	45.00	100.0 %	1921	1921
5/2 (A13 off-slip (W))	3.70	0.00	Y	Arm 2 Left	Inf	76.1 %	1969	1969
				Arm 14 Ahead	45.00	23.9 %		
5/3 (A13 off-slip (W))	3.70	0.00	Y	Arm 14 Ahead	45.00	100.0 %	1921	1921
6/1 (exit - A13 on-slip (E))	4.00	0.00	Y	Arm 21 Ahead	Inf	100.0 %	2015	2015
7/1 (exit - A13 slip-on (W) Lane 1)	Infinite Saturation Flow						Inf	Inf
8/1 (Courier Rd (W))	3.30	0.00	Y	Arm 7 Left	19.00	15.8 %	1803	1803
				Arm 13 Ahead	19.00	84.2 %		
8/2 (Courier Rd (W))	3.30	0.00	Y	Arm 13 Ahead	19.00	100.0 %	1803	1803
9/1 (exit - Courier Rd (W) Lane 1)	Infinite Saturation Flow						Inf	Inf
10/1 (Marsh Way (S))	3.40	0.00	Y	Arm 24 Ahead	Inf	100.0 %	1955	1955
10/2 (Marsh Way (S))	3.40	0.00	Y	Arm 24 Ahead	Inf	100.0 %	1955	1955
11/1 (exit - Marsh Way (S))	4.00	0.00	Y	Arm 25 Ahead	Inf	100.0 %	2015	2015
12/1 (A13 off-slip (E))	3.65	0.00	Y	Arm 11 Left	42.00	100.0 %	1912	1912
12/2 (A13 off-slip (E))	3.65	0.00	Y	Arm 22 Ahead	42.00	100.0 %	1912	1912
12/3 (A13 off-slip (E))	3.65	0.00	Y	Arm 22 Ahead	42.00	100.0 %	1912	1912

Full Input Data And Results

13/1 (circulatory (W))	4.00	0.00	Y	Arm 2 Ahead	24.00	100.0 %	1896	1896
13/2 (circulatory (W))	4.00	0.00	Y	Arm 2 Ahead	24.00	80.2 %	1896	1896
				Arm 14 Right	24.00	19.8 %		
13/3 (circulatory (W))	4.00	0.00	Y	Arm 14 Right	24.00	100.0 %	1896	1896
14/1 (circulatory (N))	4.00	0.00	Y	Arm 4 Ahead	24.00	100.0 %	1896	1896
14/2 (circulatory (N))	4.00	0.00	Y	Arm 4 Ahead	24.00	9.9 %	1896	1896
				Arm 16 Right	24.00	90.1 %		
15/1 (circulatory (E))	4.00	0.00	Y	Arm 11 Ahead	24.00	100.0 %	1896	1896
15/2 (circulatory (E))	4.00	0.00	Y	Arm 22 Right	24.00	100.0 %	1896	1896
15/3 (circulatory (E))	4.00	0.00	Y	Arm 22 Right	24.00	0.0 %	2015	2015
16/1 (circulatory (N))	4.00	0.00	Y	Arm 6 Ahead	24.00	100.0 %	1896	1896
16/2 (circulatory (N))	4.00	0.00	Y	Arm 15 Ahead	24.00	100.0 %	1896	1896
17/1 (exit - Marhal Way (N) Lane 1)	Infinite Saturation Flow						Inf	Inf
17/2 (exit - Marhal Way (N) Lane 2)	Infinite Saturation Flow						Inf	Inf
18/1 (Marsh Way (N))	3.70	0.00	Y	Arm 1 Ahead	Inf	100.0 %	1985	1985
18/2 (Marsh Way (N))	3.70	0.00	Y	Arm 1 Ahead	Inf	100.0 %	1985	1985
19/1 (exit - Consul Ave (E) Lane 1)	Infinite Saturation Flow						Inf	Inf
19/2 (exit - Consul Ave (E) Lane 2)	Infinite Saturation Flow						Inf	Inf
20/1 (Consul Ave (E))	4.00	0.00	Y	Arm 3 Ahead	Inf	100.0 %	2015	2015
20/2 (Consul Ave (E))	4.00	0.00	Y	Arm 3 Ahead	Inf	100.0 %	2015	2015
21/1 (exit - A13 on-slip (E) Lane 1)	Infinite Saturation Flow						Inf	Inf
22/1 (circulatory (S))	4.00	0.00	Y	Arm 9 Ahead	24.00	9.8 %	1896	1896
				Arm 23 Ahead	24.00	90.2 %		
22/2 (circulatory (S))	4.00	0.00	Y	Arm 23 Ahead	24.00	100.0 %	1896	1896
23/1 (circulatory (S))	4.00	0.00	Y	Arm 7 Ahead	24.00	100.0 %	1896	1896
23/2 (circulatory (S))	4.00	0.00	Y	Arm 13 Right	24.00	100.0 %	1896	1896
24/1 (Marsh Way (S))	3.40	0.00	Y	Arm 9 Left	20.00	0.0 %	1819	1819
				Arm 23 Left	20.00	100.0 %		
24/2 (Marsh Way (S))	3.40	0.00	Y	Arm 23 Left	20.00	100.0 %	1819	1819



Full Input Data And Results

25/1 (exit - Marsh Way (S) Lane 1)	Infinite Saturation Flow	Inf	Inf
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**Scenario 4: '2030 PM'** (FG4: 'Reference Case 2030 PM', Plan 1: 'Network Control Plan 1')

**Traffic Flows, Desired**

**Desired Flow :**

		Destination						
		A	B	C	D	E	F	Tot.
Origin	A	0	13	468	61	9	271	822
	B	0	0	78	11	2	45	136
	C	298	28	142	70	45	6	589
	D	218	21	103	0	0	110	452
	E	56	5	25	1	0	19	106
	F	511	25	2	8	2	34	582
	Tot.	1083	92	818	151	58	485	2687

Full Input Data And Results

**Traffic Lane Flows**

Lane	Scenario 4: 2030 PM
<b>Junction: Marsh Way Junction</b>	
1/1	481
1/2	341
2/1	553
2/2	530
3/1	89
3/2	47
4/1	66
4/2	26
5/1 (short)	249
5/2 (with short)	511(In) 262(Out)
5/3	71
6/1	818
7/1	485
8/1	46
8/2	60
9/1	58
10/1 (short)	110
10/2 (with short)	452(In) 342(Out)
11/1	151
12/1 (short)	70
12/2 (with short)	121(In) 51(Out)
12/3	468
13/1	304
13/2 (with short)	593(In) 321(Out)
13/3 (short)	272
14/1	53
14/2	343
15/1	81
15/2 (with short)	363(In) 363(Out)
15/3 (short)	0
16/1	740
16/2	386
17/1	553
17/2	530
18/1	481

## Full Input Data And Results

18/2	341
19/1	66
19/2	26
20/1	89
20/2	47
21/1	818
22/1	414
22/2	468
23/1	466
23/2	810
24/1	110
24/2	342
25/1	151

Full Input Data And Results

**Lane Saturation Flows**

Junction: Marsh Way Junction								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (Marsh Way (N))	4.00	0.00	Y	Arm 4 Left	51.00	2.7 %	1957	1957
				Arm 16 Ahead	51.00	97.3 %		
1/2 (Marsh Way (N))	4.00	0.00	Y	Arm 16 Ahead	51.00	100.0 %	1957	1957
2/1 (exit - Marsh Way (N))	3.45	0.00	Y	Arm 17 Ahead	Inf	100.0 %	1960	1960
2/2 (exit - Marsh Way (N))	3.45	0.00	Y	Arm 17 Ahead	Inf	100.0 %	1960	1960
3/1 (Consul Ave (E))	4.00	0.00	Y	Arm 6 Left	18.00	87.6 %	1860	1860
				Arm 15 Left	18.00	12.4 %		
3/2 (Consul Ave (E))	4.00	0.00	Y	Arm 15 Left	18.00	100.0 %	1860	1860
4/1 (exit - Consul Ave (E))	4.00	0.00	Y	Arm 19 Ahead	Inf	100.0 %	2015	2015
4/2 (exit - Consul Ave (E))	4.00	0.00	Y	Arm 19 Ahead	Inf	100.0 %	2015	2015
5/1 (A13 off-slip (W))	3.70	0.00	Y	Arm 2 Left	45.00	100.0 %	1921	1921
5/2 (A13 off-slip (W))	3.70	0.00	Y	Arm 2 Left	Inf	100.0 %	1985	1985
				Arm 14 Ahead	45.00	0.0 %		
5/3 (A13 off-slip (W))	3.70	0.00	Y	Arm 14 Ahead	45.00	100.0 %	1921	1921
6/1 (exit - A13 on-slip (E))	4.00	0.00	Y	Arm 21 Ahead	Inf	100.0 %	2015	2015
7/1 (exit - A13 slip-on (W) Lane 1)	Infinite Saturation Flow						Inf	Inf
8/1 (Courier Rd (W))	3.30	0.00	Y	Arm 7 Left	19.00	41.3 %	1803	1803
				Arm 13 Ahead	19.00	58.7 %		
8/2 (Courier Rd (W))	3.30	0.00	Y	Arm 13 Ahead	19.00	100.0 %	1803	1803
9/1 (exit - Courier Rd (W) Lane 1)	Infinite Saturation Flow						Inf	Inf
10/1 (Marsh Way (S))	3.40	0.00	Y	Arm 24 Ahead	Inf	100.0 %	1955	1955
10/2 (Marsh Way (S))	3.40	0.00	Y	Arm 24 Ahead	Inf	100.0 %	1955	1955
11/1 (exit - Marsh Way (S))	4.00	0.00	Y	Arm 25 Ahead	Inf	100.0 %	2015	2015
12/1 (A13 off-slip (E))	3.65	0.00	Y	Arm 11 Left	42.00	100.0 %	1912	1912
12/2 (A13 off-slip (E))	3.65	0.00	Y	Arm 22 Ahead	42.00	100.0 %	1912	1912
12/3 (A13 off-slip (E))	3.65	0.00	Y	Arm 22 Ahead	42.00	100.0 %	1912	1912

Full Input Data And Results

13/1 (circulatory (W))	4.00	0.00	Y	Arm 2 Ahead	24.00	100.0 %	1896	1896
13/2 (circulatory (W))	4.00	0.00	Y	Arm 2 Ahead	24.00	83.5 %	1896	1896
				Arm 14 Right	24.00	16.5 %		
13/3 (circulatory (W))	4.00	0.00	Y	Arm 14 Right	24.00	100.0 %	1896	1896
14/1 (circulatory (N))	4.00	0.00	Y	Arm 4 Ahead	24.00	100.0 %	1896	1896
14/2 (circulatory (N))	4.00	0.00	Y	Arm 4 Ahead	24.00	7.6 %	1896	1896
				Arm 16 Right	24.00	92.4 %		
15/1 (circulatory (E))	4.00	0.00	Y	Arm 11 Ahead	24.00	100.0 %	1896	1896
15/2 (circulatory (E))	4.00	0.00	Y	Arm 22 Right	24.00	100.0 %	1896	1896
15/3 (circulatory (E))	4.00	0.00	Y	Arm 22 Right	24.00	0.0 %	2015	2015
16/1 (circulatory (N))	4.00	0.00	Y	Arm 6 Ahead	24.00	100.0 %	1896	1896
16/2 (circulatory (N))	4.00	0.00	Y	Arm 15 Ahead	24.00	100.0 %	1896	1896
17/1 (exit - Marhal Way (N) Lane 1)	Infinite Saturation Flow						Inf	Inf
17/2 (exit - Marhal Way (N) Lane 2)	Infinite Saturation Flow						Inf	Inf
18/1 (Marsh Way (N))	3.70	0.00	Y	Arm 1 Ahead	Inf	100.0 %	1985	1985
18/2 (Marsh Way (N))	3.70	0.00	Y	Arm 1 Ahead	Inf	100.0 %	1985	1985
19/1 (exit - Consul Ave (E) Lane 1)	Infinite Saturation Flow						Inf	Inf
19/2 (exit - Consul Ave (E) Lane 2)	Infinite Saturation Flow						Inf	Inf
20/1 (Consul Ave (E))	4.00	0.00	Y	Arm 3 Ahead	Inf	100.0 %	2015	2015
20/2 (Consul Ave (E))	4.00	0.00	Y	Arm 3 Ahead	Inf	100.0 %	2015	2015
21/1 (exit - A13 on-slip (E) Lane 1)	Infinite Saturation Flow						Inf	Inf
22/1 (circulatory (S))	4.00	0.00	Y	Arm 9 Ahead	24.00	14.0 %	1896	1896
				Arm 23 Ahead	24.00	86.0 %		
22/2 (circulatory (S))	4.00	0.00	Y	Arm 23 Ahead	24.00	100.0 %	1896	1896
23/1 (circulatory (S))	4.00	0.00	Y	Arm 7 Ahead	24.00	100.0 %	1896	1896
23/2 (circulatory (S))	4.00	0.00	Y	Arm 13 Right	24.00	100.0 %	1896	1896
24/1 (Marsh Way (S))	3.40	0.00	Y	Arm 9 Left	20.00	0.0 %	1819	1819
				Arm 23 Left	20.00	100.0 %		
24/2 (Marsh Way (S))	3.40	0.00	Y	Arm 23 Left	20.00	100.0 %	1819	1819

Full Input Data And Results

25/1 (exit - Marsh Way (S) Lane 1)	Infinite Saturation Flow	Inf	Inf
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**Scenario 5: 'Do Something 2030 + LTC AM'** (FG7: 'Do Something 2030 + LTC AM', Plan 1: 'Network Control Plan 1')

**Traffic Flows, Desired**

**Desired Flow :**

		Destination						
		A	B	C	D	E	F	Tot.
Origin	A	0	28	329	154	8	186	705
	B	0	0	75	36	2	40	153
	C	275	45	81	224	57	354	1036
	D	125	16	33	0	0	60	234
	E	31	4	8	1	0	3	47
	F	177	49	2	45	3	55	331
	Tot.	608	142	528	460	70	698	2506

Full Input Data And Results

**Traffic Lane Flows**

Lane	Scenario 5: Do Something 2030 + LTC AM
<b>Junction: Marsh Way Junction</b>	
1/1	357
1/2	348
2/1	319
2/2	289
3/1	111
3/2	42
4/1	111
4/2	31
5/1 (short)	93
5/2 (with short)	199(In) 106(Out)
5/3	132
6/1	528
7/1	698
8/1	20
8/2	27
9/1	70
10/1 (short)	60
10/2 (with short)	234(In) 174(Out)
11/1	460
12/1 (short)	224
12/2 (with short)	635(In) 411(Out)
12/3	401
13/1	226
13/2 (with short)	393(In) 266(Out)
13/3 (short)	127
14/1	83
14/2	259
15/1	236
15/2 (with short)	294(In) 294(Out)
15/3 (short)	0
16/1	453
16/2	452
17/1	319
17/2	289

## Full Input Data And Results

18/1	357
18/2	348
19/1	111
19/2	31
20/1	111
20/2	42
21/1	528
22/1	705
22/2	401
23/1	695
23/2	575
24/1	60
24/2	174
25/1	460



Full Input Data And Results

**Lane Saturation Flows**

Junction: Marsh Way Junction								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (Marsh Way (N))	4.00	0.00	Y	Arm 4 Left	51.00	7.8 %	1957	1957
				Arm 16 Ahead	51.00	92.2 %		
1/2 (Marsh Way (N))	4.00	0.00	Y	Arm 16 Ahead	51.00	100.0 %	1957	1957
2/1 (exit - Marsh Way (N))	3.45	0.00	Y	Arm 17 Ahead	Inf	100.0 %	1960	1960
2/2 (exit - Marsh Way (N))	3.45	0.00	Y	Arm 17 Ahead	Inf	100.0 %	1960	1960
3/1 (Consul Ave (E))	4.00	0.00	Y	Arm 6 Left	18.00	67.6 %	1860	1860
				Arm 15 Left	18.00	32.4 %		
3/2 (Consul Ave (E))	4.00	0.00	Y	Arm 15 Left	18.00	100.0 %	1860	1860
4/1 (exit - Consul Ave (E))	4.00	0.00	Y	Arm 19 Ahead	Inf	100.0 %	2015	2015
4/2 (exit - Consul Ave (E))	4.00	0.00	Y	Arm 19 Ahead	Inf	100.0 %	2015	2015
5/1 (A13 off-slip (W))	3.70	0.00	Y	Arm 2 Left	45.00	100.0 %	1921	1921
5/2 (A13 off-slip (W))	3.70	0.00	Y	Arm 2 Left	Inf	79.2 %	1971	1971
				Arm 14 Ahead	45.00	20.8 %		
5/3 (A13 off-slip (W))	3.70	0.00	Y	Arm 14 Ahead	45.00	100.0 %	1921	1921
6/1 (exit - A13 on-slip (E))	4.00	0.00	Y	Arm 21 Ahead	Inf	100.0 %	2015	2015
7/1 (exit - A13 slip-on (W) Lane 1)	Infinite Saturation Flow						Inf	Inf
8/1 (Courier Rd (W))	3.30	0.00	Y	Arm 7 Left	19.00	15.0 %	1803	1803
				Arm 13 Ahead	19.00	85.0 %		
8/2 (Courier Rd (W))	3.30	0.00	Y	Arm 13 Ahead	19.00	100.0 %	1803	1803
9/1 (exit - Courier Rd (W) Lane 1)	Infinite Saturation Flow						Inf	Inf
10/1 (Marsh Way (S))	3.40	0.00	Y	Arm 24 Ahead	Inf	100.0 %	1955	1955
10/2 (Marsh Way (S))	3.40	0.00	Y	Arm 24 Ahead	Inf	100.0 %	1955	1955
11/1 (exit - Marsh Way (S))	4.00	0.00	Y	Arm 25 Ahead	Inf	100.0 %	2015	2015
12/1 (A13 off-slip (E))	3.65	0.00	Y	Arm 11 Left	42.00	100.0 %	1912	1912
12/2 (A13 off-slip (E))	3.65	0.00	Y	Arm 22 Ahead	42.00	100.0 %	1912	1912
12/3 (A13 off-slip (E))	3.65	0.00	Y	Arm 22 Ahead	42.00	100.0 %	1912	1912

Full Input Data And Results

13/1 (circulatory (W))	4.00	0.00	Y	Arm 2 Ahead	24.00	100.0 %	1896	1896
13/2 (circulatory (W))	4.00	0.00	Y	Arm 2 Ahead	24.00	77.1 %	1896	1896
				Arm 14 Right	24.00	22.9 %		
13/3 (circulatory (W))	4.00	0.00	Y	Arm 14 Right	24.00	100.0 %	1896	1896
14/1 (circulatory (N))	4.00	0.00	Y	Arm 4 Ahead	24.00	100.0 %	1896	1896
14/2 (circulatory (N))	4.00	0.00	Y	Arm 4 Ahead	24.00	12.0 %	1896	1896
				Arm 16 Right	24.00	88.0 %		
15/1 (circulatory (E))	4.00	0.00	Y	Arm 11 Ahead	24.00	100.0 %	1896	1896
15/2 (circulatory (E))	4.00	0.00	Y	Arm 22 Right	24.00	100.0 %	1896	1896
15/3 (circulatory (E))	4.00	0.00	Y	Arm 22 Right	24.00	0.0 %	2015	2015
16/1 (circulatory (N))	4.00	0.00	Y	Arm 6 Ahead	24.00	100.0 %	1896	1896
16/2 (circulatory (N))	4.00	0.00	Y	Arm 15 Ahead	24.00	100.0 %	1896	1896
17/1 (exit - Marhal Way (N) Lane 1)	Infinite Saturation Flow						Inf	Inf
17/2 (exit - Marhal Way (N) Lane 2)	Infinite Saturation Flow						Inf	Inf
18/1 (Marsh Way (N))	3.70	0.00	Y	Arm 1 Ahead	Inf	100.0 %	1985	1985
18/2 (Marsh Way (N))	3.70	0.00	Y	Arm 1 Ahead	Inf	100.0 %	1985	1985
19/1 (exit - Consul Ave (E) Lane 1)	Infinite Saturation Flow						Inf	Inf
19/2 (exit - Consul Ave (E) Lane 2)	Infinite Saturation Flow						Inf	Inf
20/1 (Consul Ave (E))	4.00	0.00	Y	Arm 3 Ahead	Inf	100.0 %	2015	2015
20/2 (Consul Ave (E))	4.00	0.00	Y	Arm 3 Ahead	Inf	100.0 %	2015	2015
21/1 (exit - A13 on-slip (E) Lane 1)	Infinite Saturation Flow						Inf	Inf
22/1 (circulatory (S))	4.00	0.00	Y	Arm 9 Ahead	24.00	9.9 %	1896	1896
				Arm 23 Ahead	24.00	90.1 %		
22/2 (circulatory (S))	4.00	0.00	Y	Arm 23 Ahead	24.00	100.0 %	1896	1896
23/1 (circulatory (S))	4.00	0.00	Y	Arm 7 Ahead	24.00	100.0 %	1896	1896
23/2 (circulatory (S))	4.00	0.00	Y	Arm 13 Right	24.00	100.0 %	1896	1896
24/1 (Marsh Way (S))	3.40	0.00	Y	Arm 9 Left	20.00	0.0 %	1819	1819
				Arm 23 Left	20.00	100.0 %		
24/2 (Marsh Way (S))	3.40	0.00	Y	Arm 23 Left	20.00	100.0 %	1819	1819

Full Input Data And Results

25/1 (exit - Marsh Way (S) Lane 1)	Infinite Saturation Flow	Inf	Inf
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**Scenario 6: 'Do Something 2030 + LTC PM'** (FG8: 'Do Something 2030 + LTC PM', Plan 1: 'Network Control Plan 1')

**Traffic Flows, Desired**

**Desired Flow :**

		Destination						
		A	B	C	D	E	F	Tot.
Origin	A	0	11	472	61	9	270	823
	B	0	0	82	11	2	44	139
	C	304	34	142	70	45	6	601
	D	218	21	103	0	0	110	452
	E	56	5	25	1	0	19	106
	F	514	24	2	8	2	34	584
	Tot.	1092	95	826	151	58	483	2705

Full Input Data And Results

**Traffic Lane Flows**

Lane	Scenario 6: Do Something 2030 + LTC PM
<b>Junction: Marsh Way Junction</b>	
1/1	483
1/2	340
2/1	668
2/2	424
3/1	93
3/2	46
4/1	71
4/2	24
5/1 (short)	253
5/2 (with short)	514(In) 261(Out)
5/3	70
6/1	826
7/1	483
8/1	42
8/2	64
9/1	58
10/1 (short)	110
10/2 (with short)	452(In) 342(Out)
11/1	151
12/1 (short)	70
12/2 (with short)	121(In) 51(Out)
12/3	480
13/1	415
13/2 (with short)	494(In) 223(Out)
13/3 (short)	271
14/1	60
14/2	341
15/1	81
15/2 (with short)	361(In) 361(Out)
15/3 (short)	0
16/1	744
16/2	385
17/1	668
17/2	424

## Full Input Data And Results

18/1	483
18/2	340
19/1	71
19/2	24
20/1	93
20/2	46
21/1	826
22/1	412
22/2	480
23/1	464
23/2	822
24/1	110
24/2	342
25/1	151

Full Input Data And Results

**Lane Saturation Flows**

Junction: Marsh Way Junction								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (Marsh Way (N))	4.00	0.00	Y	Arm 4 Left	51.00	2.3 %	1957	1957
				Arm 16 Ahead	51.00	97.7 %		
1/2 (Marsh Way (N))	4.00	0.00	Y	Arm 16 Ahead	51.00	100.0 %	1957	1957
2/1 (exit - Marsh Way (N))	3.45	0.00	Y	Arm 17 Ahead	Inf	100.0 %	1960	1960
2/2 (exit - Marsh Way (N))	3.45	0.00	Y	Arm 17 Ahead	Inf	100.0 %	1960	1960
3/1 (Consul Ave (E))	4.00	0.00	Y	Arm 6 Left	18.00	88.2 %	1860	1860
				Arm 15 Left	18.00	11.8 %		
3/2 (Consul Ave (E))	4.00	0.00	Y	Arm 15 Left	18.00	100.0 %	1860	1860
4/1 (exit - Consul Ave (E))	4.00	0.00	Y	Arm 19 Ahead	Inf	100.0 %	2015	2015
4/2 (exit - Consul Ave (E))	4.00	0.00	Y	Arm 19 Ahead	Inf	100.0 %	2015	2015
5/1 (A13 off-slip (W))	3.70	0.00	Y	Arm 2 Left	45.00	100.0 %	1921	1921
5/2 (A13 off-slip (W))	3.70	0.00	Y	Arm 2 Left	Inf	100.0 %	1985	1985
				Arm 14 Ahead	45.00	0.0 %		
5/3 (A13 off-slip (W))	3.70	0.00	Y	Arm 14 Ahead	45.00	100.0 %	1921	1921
6/1 (exit - A13 on-slip (E))	4.00	0.00	Y	Arm 21 Ahead	Inf	100.0 %	2015	2015
7/1 (exit - A13 slip-on (W) Lane 1)	Infinite Saturation Flow						Inf	Inf
8/1 (Courier Rd (W))	3.30	0.00	Y	Arm 7 Left	19.00	45.2 %	1803	1803
				Arm 13 Ahead	19.00	54.8 %		
8/2 (Courier Rd (W))	3.30	0.00	Y	Arm 13 Ahead	19.00	100.0 %	1803	1803
9/1 (exit - Courier Rd (W) Lane 1)	Infinite Saturation Flow						Inf	Inf
10/1 (Marsh Way (S))	3.40	0.00	Y	Arm 24 Ahead	Inf	100.0 %	1955	1955
10/2 (Marsh Way (S))	3.40	0.00	Y	Arm 24 Ahead	Inf	100.0 %	1955	1955
11/1 (exit - Marsh Way (S))	4.00	0.00	Y	Arm 25 Ahead	Inf	100.0 %	2015	2015
12/1 (A13 off-slip (E))	3.65	0.00	Y	Arm 11 Left	42.00	100.0 %	1912	1912
12/2 (A13 off-slip (E))	3.65	0.00	Y	Arm 22 Ahead	42.00	100.0 %	1912	1912
12/3 (A13 off-slip (E))	3.65	0.00	Y	Arm 22 Ahead	42.00	100.0 %	1912	1912

Full Input Data And Results

13/1 (circulatory (W))	4.00	0.00	Y	Arm 2 Ahead	24.00	100.0 %	1896	1896
13/2 (circulatory (W))	4.00	0.00	Y	Arm 2 Ahead	24.00	73.1 %	1896	1896
				Arm 14 Right	24.00	26.9 %		
13/3 (circulatory (W))	4.00	0.00	Y	Arm 14 Right	24.00	100.0 %	1896	1896
14/1 (circulatory (N))	4.00	0.00	Y	Arm 4 Ahead	24.00	100.0 %	1896	1896
14/2 (circulatory (N))	4.00	0.00	Y	Arm 4 Ahead	24.00	7.0 %	1896	1896
				Arm 16 Right	24.00	93.0 %		
15/1 (circulatory (E))	4.00	0.00	Y	Arm 11 Ahead	24.00	100.0 %	1896	1896
15/2 (circulatory (E))	4.00	0.00	Y	Arm 22 Right	24.00	100.0 %	1896	1896
15/3 (circulatory (E))	4.00	0.00	Y	Arm 22 Right	24.00	0.0 %	2015	2015
16/1 (circulatory (N))	4.00	0.00	Y	Arm 6 Ahead	24.00	100.0 %	1896	1896
16/2 (circulatory (N))	4.00	0.00	Y	Arm 15 Ahead	24.00	100.0 %	1896	1896
17/1 (exit - Marhal Way (N) Lane 1)	Infinite Saturation Flow						Inf	Inf
17/2 (exit - Marhal Way (N) Lane 2)	Infinite Saturation Flow						Inf	Inf
18/1 (Marsh Way (N))	3.70	0.00	Y	Arm 1 Ahead	Inf	100.0 %	1985	1985
18/2 (Marsh Way (N))	3.70	0.00	Y	Arm 1 Ahead	Inf	100.0 %	1985	1985
19/1 (exit - Consul Ave (E) Lane 1)	Infinite Saturation Flow						Inf	Inf
19/2 (exit - Consul Ave (E) Lane 2)	Infinite Saturation Flow						Inf	Inf
20/1 (Consul Ave (E))	4.00	0.00	Y	Arm 3 Ahead	Inf	100.0 %	2015	2015
20/2 (Consul Ave (E))	4.00	0.00	Y	Arm 3 Ahead	Inf	100.0 %	2015	2015
21/1 (exit - A13 on-slip (E) Lane 1)	Infinite Saturation Flow						Inf	Inf
22/1 (circulatory (S))	4.00	0.00	Y	Arm 9 Ahead	24.00	14.1 %	1896	1896
				Arm 23 Ahead	24.00	85.9 %		
22/2 (circulatory (S))	4.00	0.00	Y	Arm 23 Ahead	24.00	100.0 %	1896	1896
23/1 (circulatory (S))	4.00	0.00	Y	Arm 7 Ahead	24.00	100.0 %	1896	1896
23/2 (circulatory (S))	4.00	0.00	Y	Arm 13 Right	24.00	100.0 %	1896	1896
24/1 (Marsh Way (S))	3.40	0.00	Y	Arm 9 Left	20.00	0.0 %	1819	1819
				Arm 23 Left	20.00	100.0 %		
24/2 (Marsh Way (S))	3.40	0.00	Y	Arm 23 Left	20.00	100.0 %	1819	1819

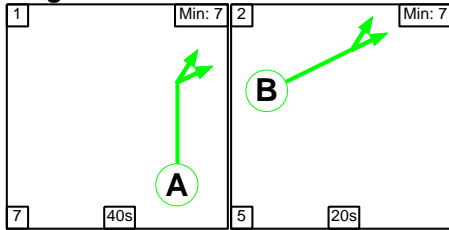
25/1 (exit - Marsh Way (S) Lane 1)	Infinite Saturation Flow	Inf	Inf
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**Scenario 1: 'Base Year 2023 AM'** (FG1: 'Base Year 2023 AM', Plan 1: 'Network Control Plan 1')

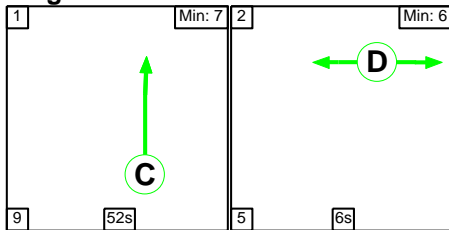
**C1 - North**

**Stage Sequence Diagram**

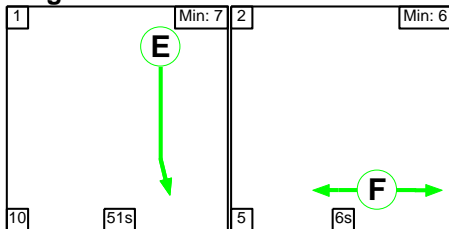
**Stage Stream: 1**



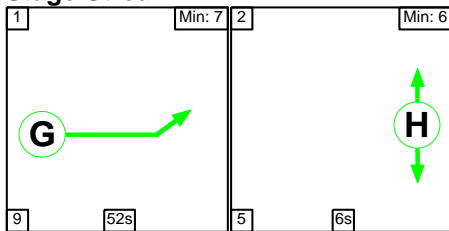
**Stage Stream: 2**



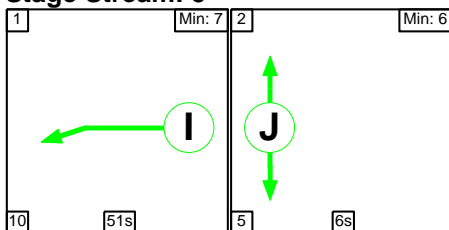
**Stage Stream: 3**



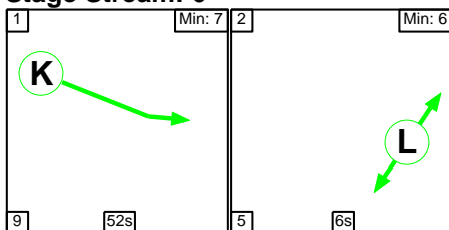
**Stage Stream: 4**



**Stage Stream: 5**



**Stage Stream: 6**





## Full Input Data And Results

### Stage Timings

#### Stage Stream: 1

Stage	1	2
Duration	40	20
Change Point	0	47

#### Stage Stream: 2

Stage	1	2
Duration	52	6
Change Point	3	64

#### Stage Stream: 3

Stage	1	2
Duration	51	6
Change Point	10	71

#### Stage Stream: 4

Stage	1	2
Duration	52	6
Change Point	12	1

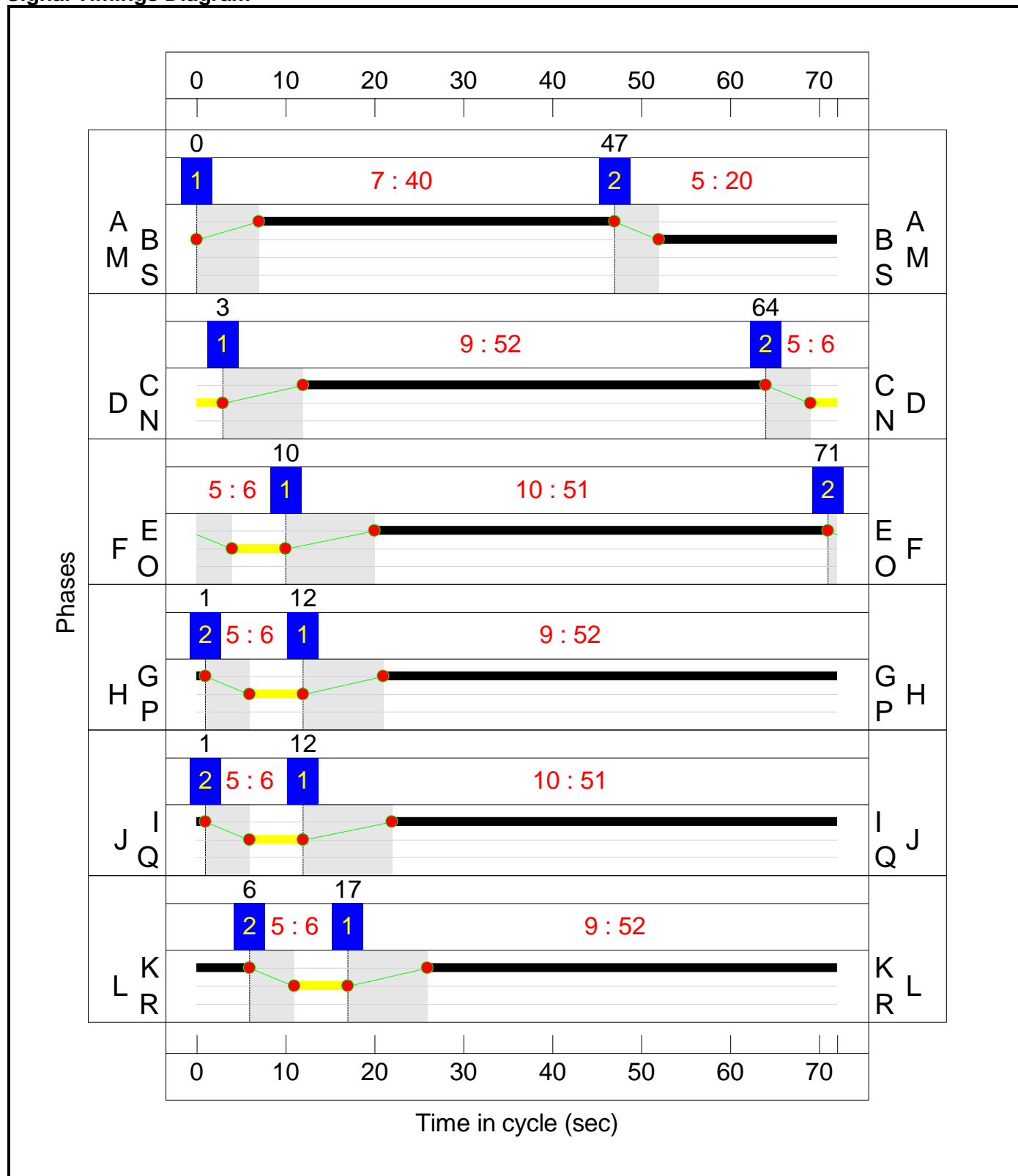
#### Stage Stream: 5

Stage	1	2
Duration	51	6
Change Point	12	1

#### Stage Stream: 6

Stage	1	2
Duration	52	6
Change Point	17	6

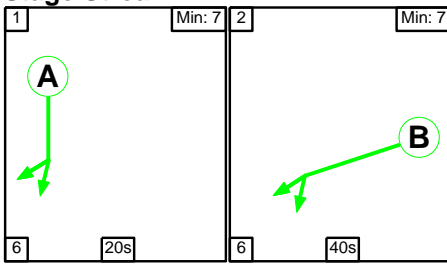
Signal Timings Diagram



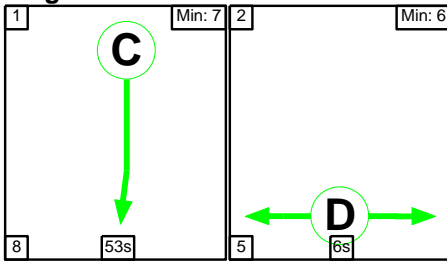
Full Input Data And Results

**C2 - South**  
**Stage Sequence Diagram**

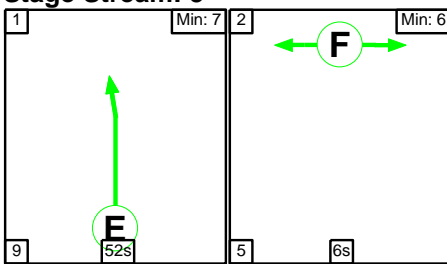
**Stage Stream: 1**



**Stage Stream: 2**



**Stage Stream: 3**



**Stage Timings**

**Stage Stream: 1**

Stage	1	2
Duration	20	40
Change Point	25	51

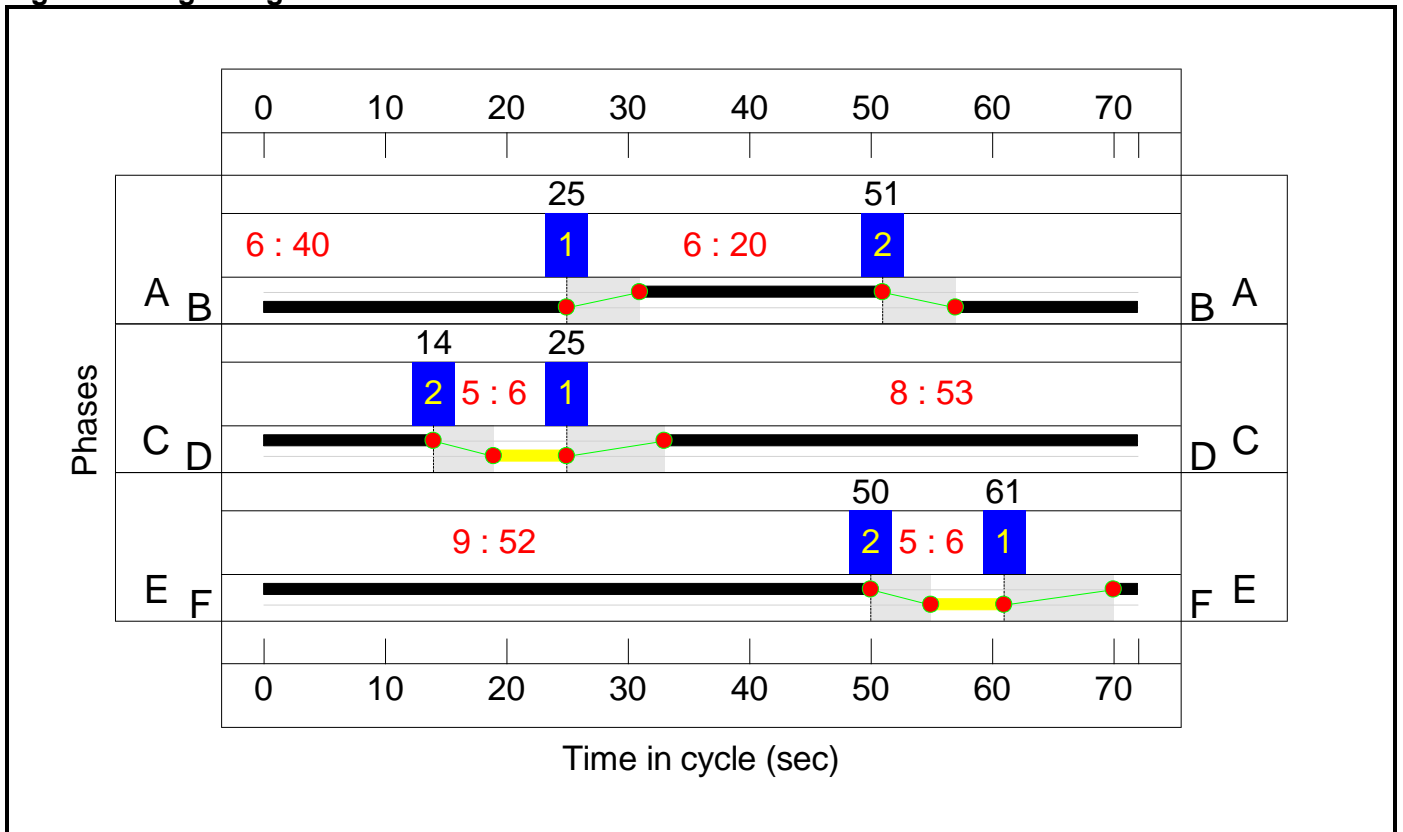
**Stage Stream: 2**

Stage	1	2
Duration	53	6
Change Point	25	14

**Stage Stream: 3**

Stage	1	2
Duration	52	6
Change Point	61	50

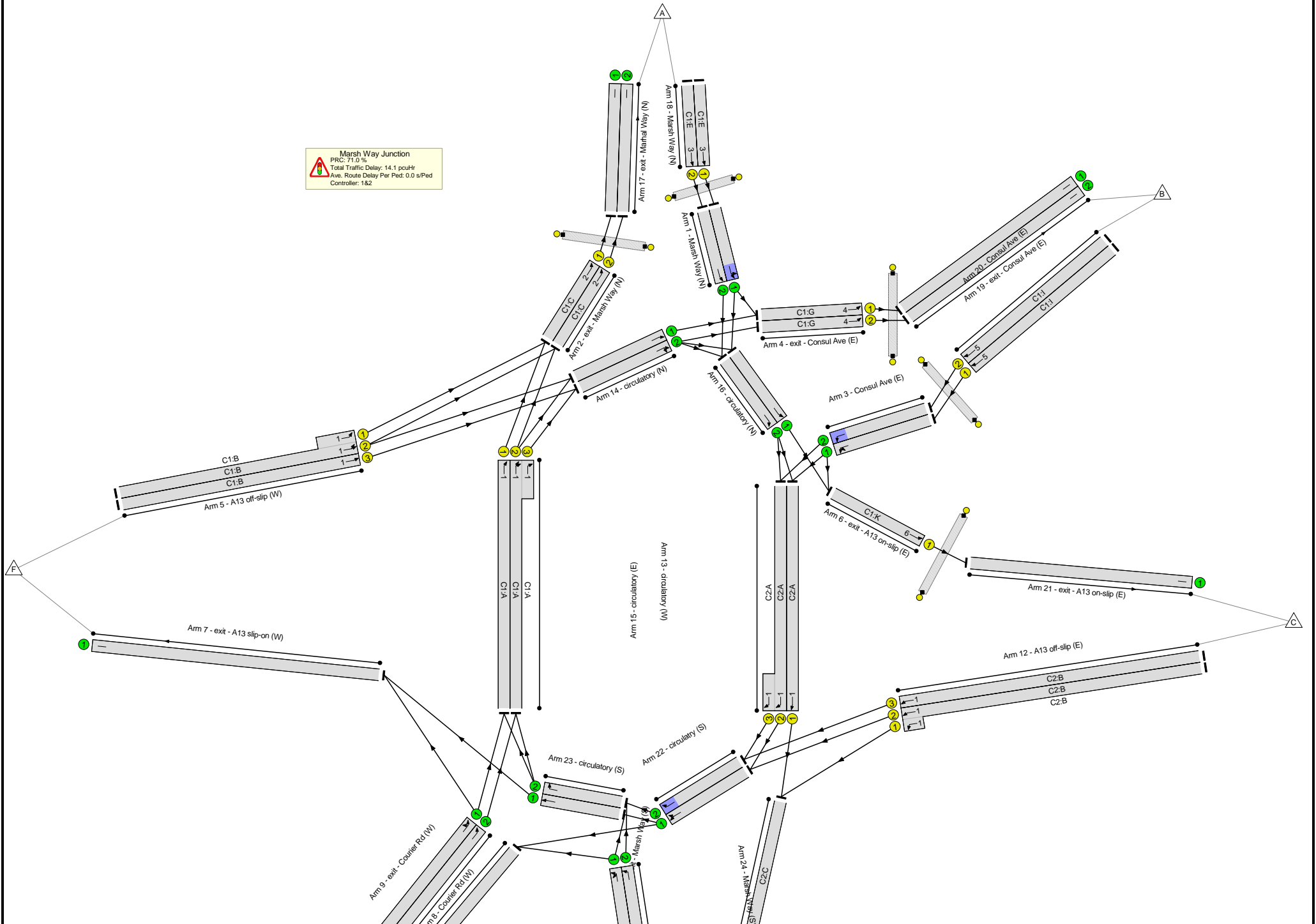
Signal Timings Diagram



Full Input Data And Results  
**Network Layout Diagram**

# Full Input Data And Results

**Marsh Way Junction**  
PRC: 71.0 %  
Total Traffic Delay: 14.1 pcuHr  
Ave. Route Delay Per Ped: 0.0 s/Ped  
Controller: 1&2



## Full Input Data And Results

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 (%)
<b>Network</b>	-	-	<b>N/A</b>	-	-		-	-	-	-	-	-	<b>52.6%</b>
<b>Marsh Way Junction</b>	-	-	<b>N/A</b>	-	-		-	-	-	-	-	-	<b>52.6%</b>
1/1	Marsh Way (N) Left Ahead	U	N/A	N/A	-		-	-	-	346	1957	1957	17.7%
1/2	Marsh Way (N) Ahead	U	N/A	N/A	-		-	-	-	339	1957	1957	17.3%
2/1	exit - Marsh Way (N) Ahead	U	1:2	N/A	C1:C		1	52	-	311	1960	1443	21.6%
2/2	exit - Marsh Way (N) Ahead	U	1:2	N/A	C1:C		1	52	-	281	1960	1443	19.5%
3/1	Consul Ave (E) Left Left2	U	N/A	N/A	-		-	-	-	102	1860	1860	5.5%
3/2	Consul Ave (E) Left	U	N/A	N/A	-		-	-	-	43	1860	1860	2.3%
4/1	exit - Consul Ave (E) Ahead	U	1:4	N/A	C1:G		1	52	-	101	2015	1483	6.8%
4/2	exit - Consul Ave (E) Ahead	U	1:4	N/A	C1:G		1	52	-	29	2015	1483	2.0%
5/2+5/1	A13 off-slip (W) Left Ahead	U	1:1	N/A	C1:B		1	20	-	193	1972:1921	435+380	23.7 : 23.7%
5/3	A13 off-slip (W) Ahead	U	1:1	N/A	C1:B		1	20	-	127	1921	560	22.7%
6/1	exit - A13 on-slip (E) Ahead	U	1:6	N/A	C1:K		1	52	-	502	2015	1483	33.8%
7/1	exit - A13 slip-on (W)	U	N/A	N/A	-		-	-	-	676	Inf	Inf	0.0%
8/1	Courier Rd (W) Left Ahead	U	N/A	N/A	-		-	-	-	18	1803	1803	1.0%
8/2	Courier Rd (W) Ahead	U	N/A	N/A	-		-	-	-	28	1803	1803	1.6%
9/1	exit - Courier Rd (W)	U	N/A	N/A	-		-	-	-	67	Inf	Inf	0.0%



Full Input Data And Results

10/2+10/1	Marsh Way (S) Ahead	U	2:3	N/A	C2:E		1	52	-	223	1955:1955	1103+379	15.0 : 15.0%
11/1	exit - Marsh Way (S) Ahead	U	2:2	N/A	C2:C		1	53	-	439	2015	1511	29.0%
12/2+12/1	A13 off-slip (E) Left Ahead	U	2:1	N/A	C2:B		1	40	-	606	1912:1912	757+413	51.8 : 51.8%
12/3	A13 off-slip (E) Ahead	U	2:1	N/A	C2:B		1	40	-	381	1912	1089	35.0%
13/1	circulatory (W) Ahead	U	1:1	N/A	C1:A		1	40	-	221	1896	1080	20.5%
13/2+13/3	circulatory (W) Ahead Right	U	1:1	N/A	C1:A		1	40	-	369	1896:1896	814+397	30.5 : 30.5%
14/1	circulatory (N) Ahead	U	N/A	N/A	-		-	-	-	70	1896	1896	3.7%
14/2	circulatory (N) Ahead Right	U	N/A	N/A	-		-	-	-	248	1896	1896	13.1%
15/1	circulatory (E) Ahead	U	2:1	N/A	C2:A		1	20	-	225	1896	553	40.7%
15/2+15/3	circulatory (E) Right	U	2:1	N/A	C2:A		1	20	-	291	1896:2015	553+0	52.6 : 0.0%
16/1	circulatory (N) Ahead	U	N/A	N/A	-		-	-	-	434	1896	1896	22.9%
16/2	circulatory (N) Ahead	U	N/A	N/A	-		-	-	-	439	1896	1896	23.2%
17/1	exit - Marhal Way (N)	U	N/A	N/A	-		-	-	-	311	Inf	Inf	0.0%
17/2	exit - Marhal Way (N)	U	N/A	N/A	-		-	-	-	281	Inf	Inf	0.0%
18/1	Marsh Way (N) Ahead	U	1:3	N/A	C1:E		1	51	-	346	1985	1434	24.1%
18/2	Marsh Way (N) Ahead	U	1:3	N/A	C1:E		1	51	-	339	1985	1434	23.6%
19/1	exit - Consul Ave (E)	U	N/A	N/A	-		-	-	-	101	Inf	Inf	0.0%
19/2	exit - Consul Ave (E)	U	N/A	N/A	-		-	-	-	29	Inf	Inf	0.0%
20/1	Consul Ave (E) Ahead	U	1:5	N/A	C1:I		1	51	-	102	2015	1455	7.0%

Full Input Data And Results

20/2	Consul Ave (E) Ahead	U	1:5	N/A	C1:I		1	51	-	43	2015	1455	3.0%
21/1	exit - A13 on-slip (E)	U	N/A	N/A	-		-	-	-	502	Inf	Inf	0.0%
22/1	circulatory (S) Ahead Ahead2	U	N/A	N/A	-		-	-	-	683	1896	1896	36.0%
22/2	circulatory (S) Ahead	U	N/A	N/A	-		-	-	-	381	1896	1896	20.1%
23/1	circulatory (S) Ahead	U	N/A	N/A	-		-	-	-	673	1896	1896	35.5%
23/2	circulatory (S) Right	U	N/A	N/A	-		-	-	-	547	1896	1896	28.9%
24/1	Marsh Way (S) Left Left2	U	N/A	N/A	-		-	-	-	57	1819	1819	3.1%
24/2	Marsh Way (S) Left	U	N/A	N/A	-		-	-	-	166	1819	1819	9.1%
25/1	exit - Marsh Way (S)	U	N/A	N/A	-		-	-	-	439	Inf	Inf	0.0%
Ped Link: P1	Unnamed Ped Link	-	1:2	-	C1:D		1	6	-	0	-	0	0.0%
Ped Link: P2	Unnamed Ped Link	-	1:3	-	C1:F		1	6	-	0	-	0	0.0%
Ped Link: P3	Unnamed Ped Link	-	1:4	-	C1:H		1	6	-	0	-	0	0.0%
Ped Link: P4	Unnamed Ped Link	-	1:5	-	C1:J		1	6	-	0	-	0	0.0%
Ped Link: P5	Unnamed Ped Link	-	1:6	-	C1:L		1	6	-	0	-	0	0.0%
Ped Link: P6	Unnamed Ped Link	-	2:3	-	C2:F		1	6	-	0	-	0	0.0%
Ped Link: P7	Unnamed Ped Link	-	2:2	-	C2:D		1	6	-	0	-	0	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)
<b>Network</b>	-	-	0	0	0	8.9	5.2	0.0	14.1	-	-	-	-
<b>Marsh Way Junction</b>	-	-	0	0	0	8.9	5.2	0.0	14.1	-	-	-	-
1/1	346	346	-	-	-	0.0	0.1	-	0.1	1.1	0.0	0.1	0.1
1/2	339	339	-	-	-	0.0	0.1	-	0.1	1.1	0.0	0.1	0.1
2/1	311	311	-	-	-	0.1	0.1	-	0.2	2.5	0.6	0.1	0.7
2/2	281	281	-	-	-	0.1	0.1	-	0.2	2.4	0.4	0.1	0.5
3/1	102	102	-	-	-	0.0	0.0	-	0.0	1.0	0.0	0.0	0.0
3/2	43	43	-	-	-	0.0	0.0	-	0.0	1.0	0.0	0.0	0.0
4/1	101	101	-	-	-	0.0	0.0	-	0.1	2.5	0.3	0.0	0.4
4/2	29	29	-	-	-	0.0	0.0	-	0.0	3.1	0.1	0.0	0.1
5/2+5/1	193	193	-	-	-	1.0	0.2	-	1.2	21.9	1.5	0.2	1.7
5/3	127	127	-	-	-	0.7	0.1	-	0.8	23.5	1.9	0.1	2.1
6/1	502	502	-	-	-	0.2	0.3	-	0.4	2.9	1.3	0.3	1.6
7/1	676	676	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	18	18	-	-	-	0.0	0.0	-	0.0	1.0	0.0	0.0	0.0
8/2	28	28	-	-	-	0.0	0.0	-	0.0	1.0	0.0	0.0	0.0
9/1	67	67	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
10/2+10/1	223	223	-	-	-	0.2	0.1	-	0.3	4.2	0.9	0.1	1.0
11/1	439	439	-	-	-	0.1	0.2	-	0.3	2.9	1.0	0.2	1.2
12/2+12/1	606	606	-	-	-	1.4	0.5	-	1.9	11.6	5.3	0.5	5.8
12/3	381	381	-	-	-	0.9	0.3	-	1.2	10.9	4.0	0.3	4.3
13/1	221	221	-	-	-	0.2	0.1	-	0.3	5.3	0.9	0.1	1.0
13/2+13/3	369	369	-	-	-	0.3	0.2	-	0.5	5.1	0.9	0.2	1.1
14/1	70	70	-	-	-	0.0	0.0	-	0.0	1.0	0.0	0.0	0.0
14/2	248	248	-	-	-	0.0	0.1	-	0.1	1.1	0.0	0.1	0.1
15/1	225	225	-	-	-	1.3	0.3	-	1.6	26.0	3.0	0.3	3.3



## Full Input Data And Results

C1 - North	Stream: 1	PRC for Signalled Lanes (%)	195.4	Total Delay for Signalled Lanes (pcuHr)	2.86	Cycle Time (s)	72
C1 - North	Stream: 2	PRC for Signalled Lanes (%)	317.5	Total Delay for Signalled Lanes (pcuHr)	0.40	Cycle Time (s)	72
C1 - North	Stream: 3	PRC for Signalled Lanes (%)	272.9	Total Delay for Signalled Lanes (pcuHr)	0.95	Cycle Time (s)	72
C1 - North	Stream: 4	PRC for Signalled Lanes (%)	1221.7	Total Delay for Signalled Lanes (pcuHr)	0.10	Cycle Time (s)	72
C1 - North	Stream: 5	PRC for Signalled Lanes (%)	1184.1	Total Delay for Signalled Lanes (pcuHr)	0.17	Cycle Time (s)	72
C1 - North	Stream: 6	PRC for Signalled Lanes (%)	165.9	Total Delay for Signalled Lanes (pcuHr)	0.41	Cycle Time (s)	72
C2 - South	Stream: 1	PRC for Signalled Lanes (%)	71.0	Total Delay for Signalled Lanes (pcuHr)	6.97	Cycle Time (s)	72
C2 - South	Stream: 2	PRC for Signalled Lanes (%)	209.8	Total Delay for Signalled Lanes (pcuHr)	0.35	Cycle Time (s)	72
C2 - South	Stream: 3	PRC for Signalled Lanes (%)	498.0	Total Delay for Signalled Lanes (pcuHr)	0.26	Cycle Time (s)	72
		PRC Over All Lanes (%)	71.0	Total Delay Over All Lanes(pcuHr)	14.08		

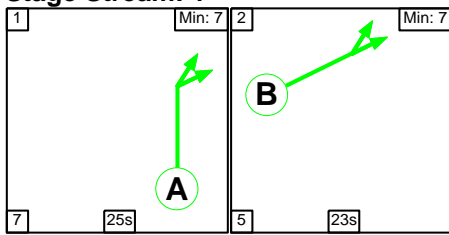
Full Input Data And Results

Scenario 2: 'Base Year 2023 PM' (FG2: 'Base Year 2023 PM', Plan 1: 'Network Control Plan 1')

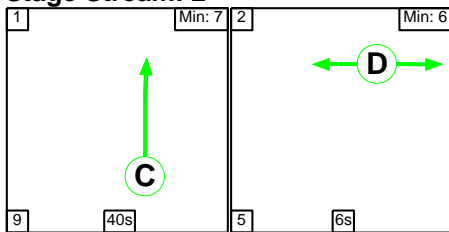
C1 - North

Stage Sequence Diagram

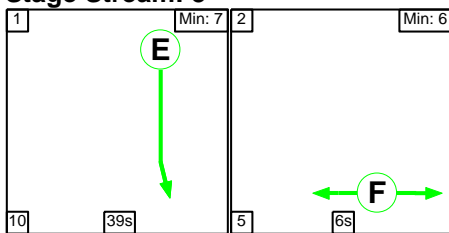
Stage Stream: 1



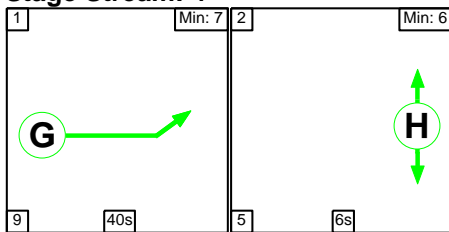
Stage Stream: 2



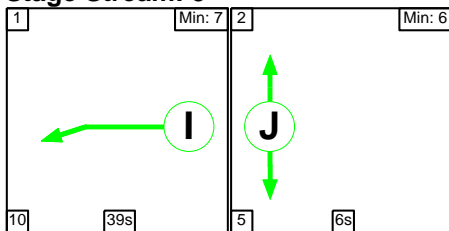
Stage Stream: 3



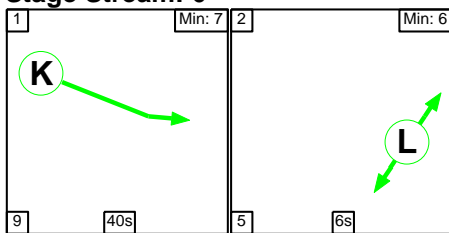
Stage Stream: 4



Stage Stream: 5



Stage Stream: 6



## Full Input Data And Results

### Stage Timings

#### Stage Stream: 1

Stage	1	2
Duration	25	23
Change Point	0	32

#### Stage Stream: 2

Stage	1	2
Duration	40	6
Change Point	2	51

#### Stage Stream: 3

Stage	1	2
Duration	39	6
Change Point	51	40

#### Stage Stream: 4

Stage	1	2
Duration	40	6
Change Point	6	55

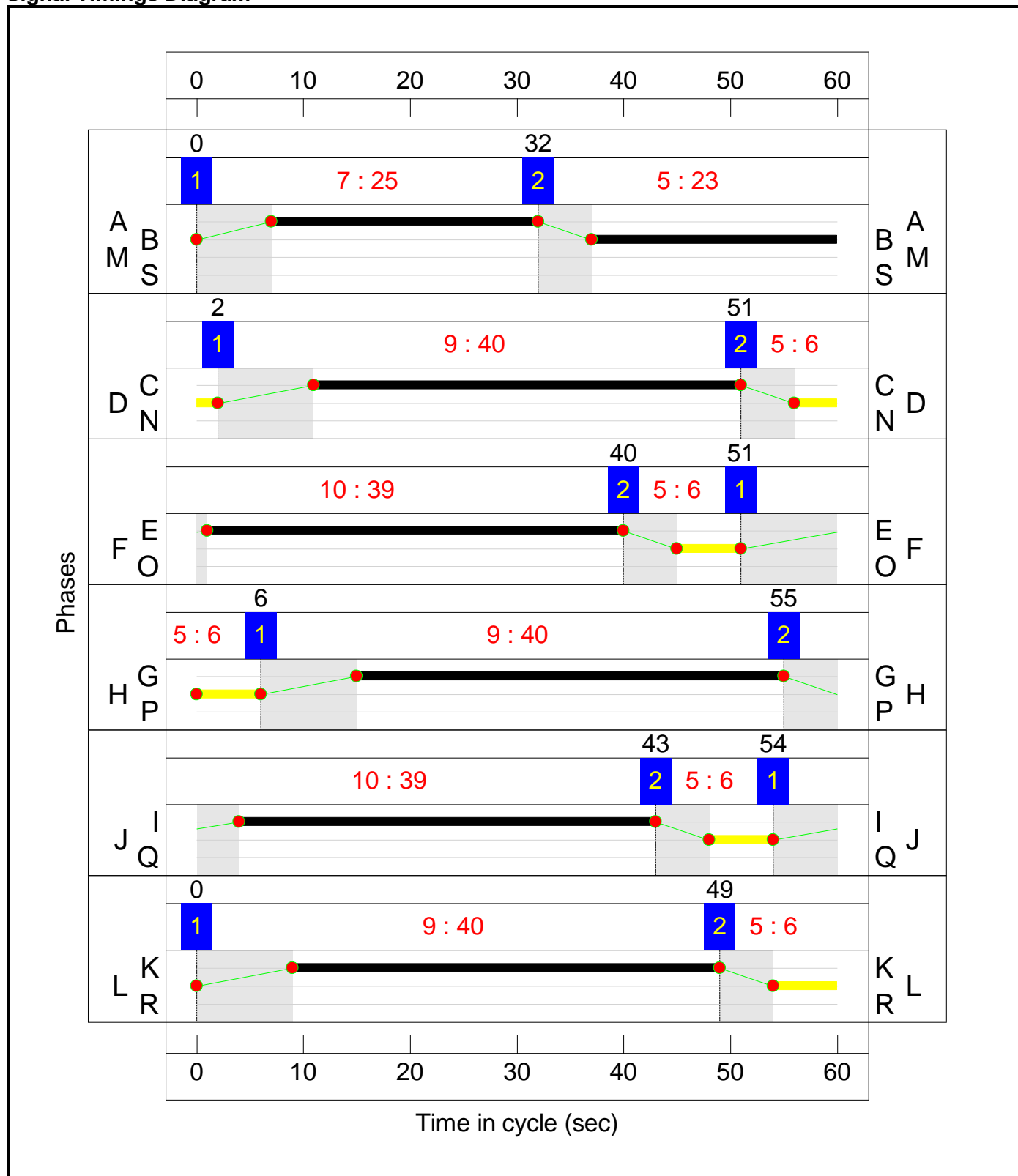
#### Stage Stream: 5

Stage	1	2
Duration	39	6
Change Point	54	43

#### Stage Stream: 6

Stage	1	2
Duration	40	6
Change Point	0	49

Signal Timings Diagram

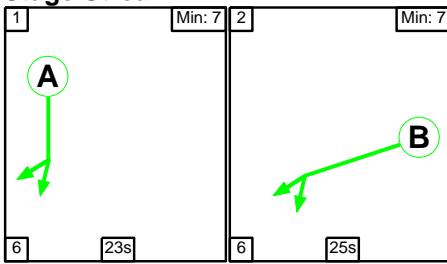




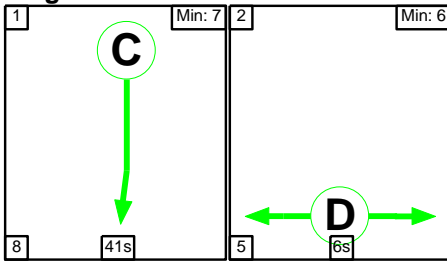
Full Input Data And Results

**C2 - South**  
**Stage Sequence Diagram**

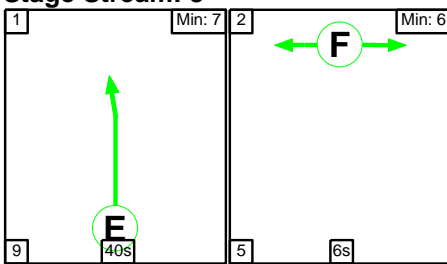
**Stage Stream: 1**



**Stage Stream: 2**



**Stage Stream: 3**



**Stage Timings**

**Stage Stream: 1**

Stage	1	2
Duration	23	25
Change Point	13	42

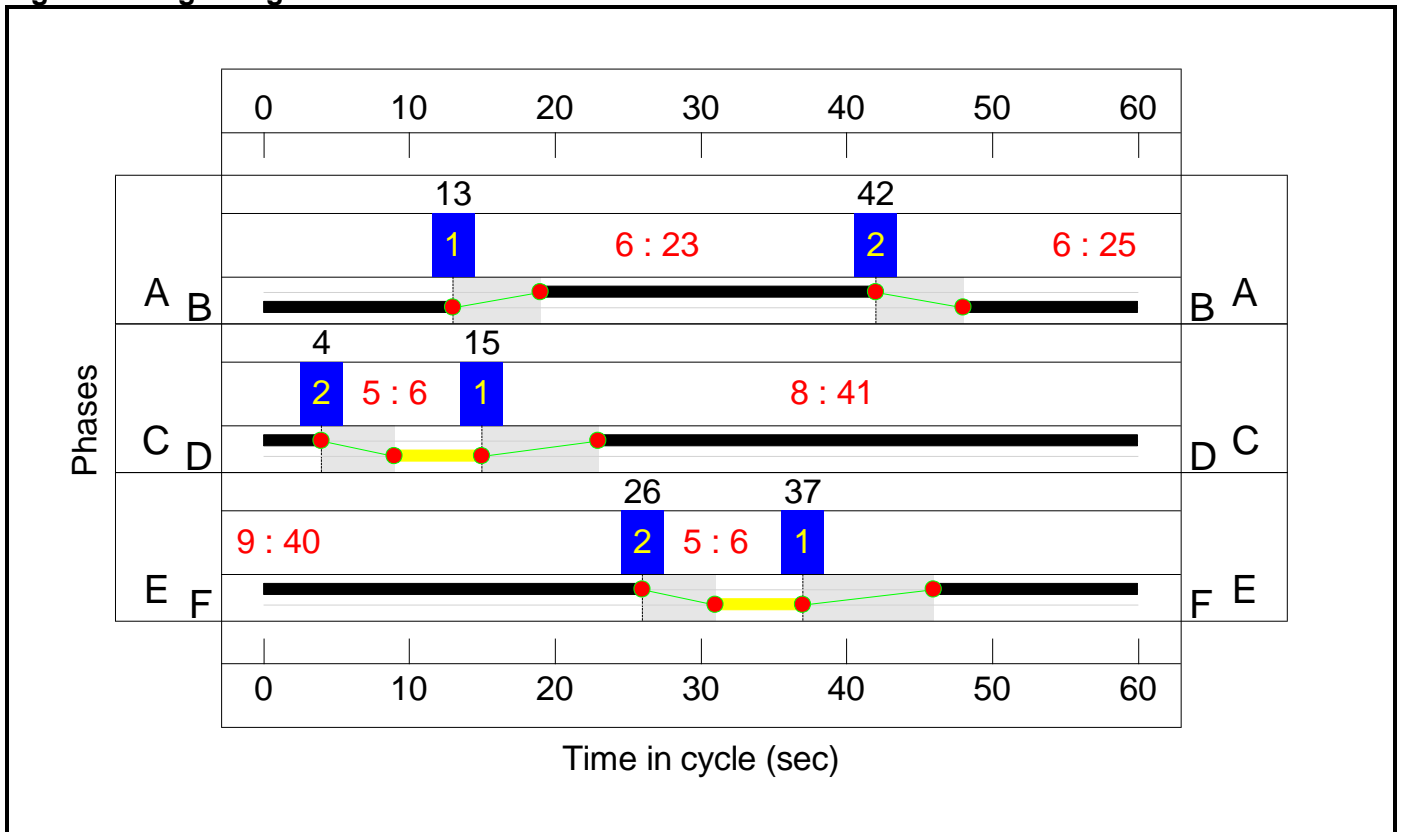
**Stage Stream: 2**

Stage	1	2
Duration	41	6
Change Point	15	4

**Stage Stream: 3**

Stage	1	2
Duration	40	6
Change Point	37	26

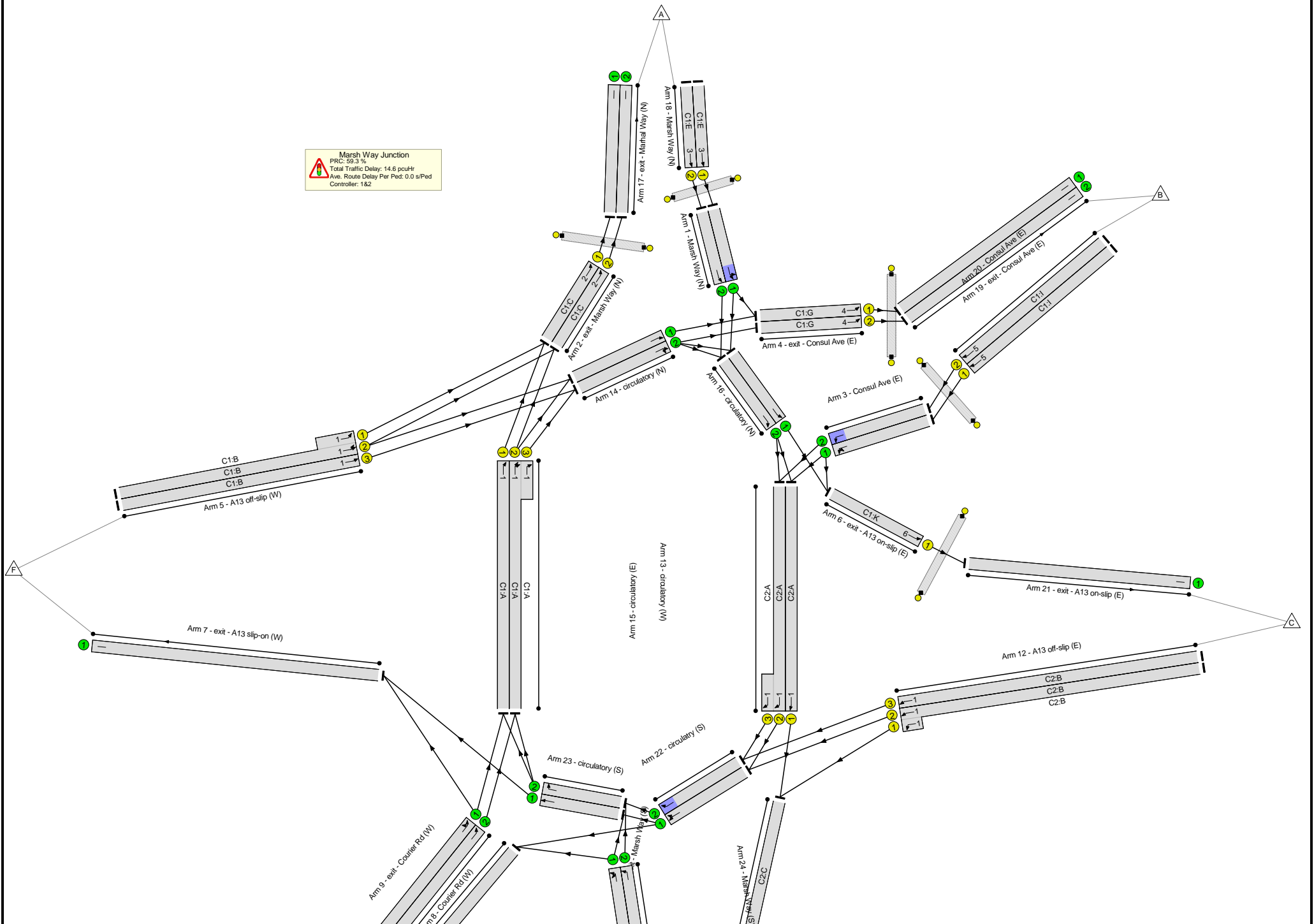
**Signal Timings Diagram**



Full Input Data And Results  
**Network Layout Diagram**

# Full Input Data And Results

Marsh Way Junction  
 PRC: 59.3 %  
 Total Traffic Delay: 14.6 pcuHr  
 Ave. Route Delay Per Ped: 0.0 s/Ped  
 Controller: 1&2



## Full Input Data And Results

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 (%)
<b>Network</b>	-	-	<b>N/A</b>	-	-		-	-	-	-	-	-	<b>56.5%</b>
<b>Marsh Way Junction</b>	-	-	<b>N/A</b>	-	-		-	-	-	-	-	-	<b>56.5%</b>
1/1	Marsh Way (N) Left Ahead	U	N/A	N/A	-		-	-	-	457	1957	1957	23.4%
1/2	Marsh Way (N) Ahead	U	N/A	N/A	-		-	-	-	325	1957	1957	16.6%
2/1	exit - Marsh Way (N) Ahead	U	1:2	N/A	C1:C		1	40	-	519	1960	1339	38.8%
2/2	exit - Marsh Way (N) Ahead	U	1:2	N/A	C1:C		1	40	-	510	1960	1339	38.1%
3/1	Consul Ave (E) Left Left2	U	N/A	N/A	-		-	-	-	84	1860	1860	4.5%
3/2	Consul Ave (E) Left	U	N/A	N/A	-		-	-	-	45	1860	1860	2.4%
4/1	exit - Consul Ave (E) Ahead	U	1:4	N/A	C1:G		1	40	-	64	2015	1377	4.6%
4/2	exit - Consul Ave (E) Ahead	U	1:4	N/A	C1:G		1	40	-	24	2015	1377	1.7%
5/2+5/1	A13 off-slip (W) Left Ahead	U	1:1	N/A	C1:B		1	23	-	486	1985:1921	561+543	44.0 : 44.0%
5/3	A13 off-slip (W) Ahead	U	1:1	N/A	C1:B		1	23	-	68	1921	768	8.8%
6/1	exit - A13 on-slip (E) Ahead	U	1:6	N/A	C1:K		1	40	-	778	2015	1377	56.5%
7/1	exit - A13 slip-on (W)	U	N/A	N/A	-		-	-	-	462	Inf	Inf	0.0%
8/1	Courier Rd (W) Left Ahead	U	N/A	N/A	-		-	-	-	48	1803	1803	2.7%
8/2	Courier Rd (W) Ahead	U	N/A	N/A	-		-	-	-	53	1803	1803	2.9%
9/1	exit - Courier Rd (W)	U	N/A	N/A	-		-	-	-	56	Inf	Inf	0.0%

Full Input Data And Results

10/2+10/1	Marsh Way (S) Ahead	U	2:3	N/A	C2:E		1	40	-	430	1955:1955	1047+338	31.0 : 31.0%
11/1	exit - Marsh Way (S) Ahead	U	2:2	N/A	C2:C		1	41	-	144	2015	1410	10.2%
12/2+12/1	A13 off-slip (E) Left Ahead	U	2:1	N/A	C2:B		1	25	-	116	1912:1912	404+552	12.1 : 12.1%
12/3	A13 off-slip (E) Ahead	U	2:1	N/A	C2:B		1	25	-	445	1912	829	53.7%
13/1	circulatory (W) Ahead	U	1:1	N/A	C1:A		1	25	-	280	1896	822	34.1%
13/2+13/3	circulatory (W) Ahead Right	U	1:1	N/A	C1:A		1	25	-	573	1896:1896	592+485	53.2 : 53.2%
14/1	circulatory (N) Ahead	U	N/A	N/A	-		-	-	-	52	1896	1896	2.7%
14/2	circulatory (N) Ahead Right	U	N/A	N/A	-		-	-	-	326	1896	1896	17.2%
15/1	circulatory (E) Ahead	U	2:1	N/A	C2:A		1	23	-	77	1896	758	10.2%
15/2+15/3	circulatory (E) Right	U	2:1	N/A	C2:A		1	23	-	346	1896:2015	758+0	45.6 : 0.0%
16/1	circulatory (N) Ahead	U	N/A	N/A	-		-	-	-	704	1896	1896	37.1%
16/2	circulatory (N) Ahead	U	N/A	N/A	-		-	-	-	368	1896	1896	19.4%
17/1	exit - Marhal Way (N)	U	N/A	N/A	-		-	-	-	519	Inf	Inf	0.0%
17/2	exit - Marhal Way (N)	U	N/A	N/A	-		-	-	-	510	Inf	Inf	0.0%
18/1	Marsh Way (N) Ahead	U	1:3	N/A	C1:E		1	39	-	457	1985	1323	34.5%
18/2	Marsh Way (N) Ahead	U	1:3	N/A	C1:E		1	39	-	325	1985	1323	24.6%
19/1	exit - Consul Ave (E)	U	N/A	N/A	-		-	-	-	64	Inf	Inf	0.0%
19/2	exit - Consul Ave (E)	U	N/A	N/A	-		-	-	-	24	Inf	Inf	0.0%
20/1	Consul Ave (E) Ahead	U	1:5	N/A	C1:I		1	39	-	84	2015	1343	6.3%

Full Input Data And Results

20/2	Consul Ave (E) Ahead	U	1:5	N/A	C1:I		1	39	-	45	2015	1343	3.3%
21/1	exit - A13 on-slip (E)	U	N/A	N/A	-		-	-	-	778	Inf	Inf	0.0%
22/1	circulatory (S) Ahead Ahead2	U	N/A	N/A	-		-	-	-	395	1896	1896	20.8%
22/2	circulatory (S) Ahead	U	N/A	N/A	-		-	-	-	445	1896	1896	23.5%
23/1	circulatory (S) Ahead	U	N/A	N/A	-		-	-	-	444	1896	1896	23.4%
23/2	circulatory (S) Right	U	N/A	N/A	-		-	-	-	770	1896	1896	40.6%
24/1	Marsh Way (S) Left Left2	U	N/A	N/A	-		-	-	-	105	1819	1819	5.8%
24/2	Marsh Way (S) Left	U	N/A	N/A	-		-	-	-	325	1819	1819	17.9%
25/1	exit - Marsh Way (S)	U	N/A	N/A	-		-	-	-	144	Inf	Inf	0.0%
Ped Link: P1	Unnamed Ped Link	-	1:2	-	C1:D		1	6	-	0	-	0	0.0%
Ped Link: P2	Unnamed Ped Link	-	1:3	-	C1:F		1	6	-	0	-	0	0.0%
Ped Link: P3	Unnamed Ped Link	-	1:4	-	C1:H		1	6	-	0	-	0	0.0%
Ped Link: P4	Unnamed Ped Link	-	1:5	-	C1:J		1	6	-	0	-	0	0.0%
Ped Link: P5	Unnamed Ped Link	-	1:6	-	C1:L		1	6	-	0	-	0	0.0%
Ped Link: P6	Unnamed Ped Link	-	2:3	-	C2:F		1	6	-	0	-	0	0.0%
Ped Link: P7	Unnamed Ped Link	-	2:2	-	C2:D		1	6	-	0	-	0	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)
<b>Network</b>	-	-	0	0	0	8.4	6.2	0.0	14.6	-	-	-	-
<b>Marsh Way Junction</b>	-	-	0	0	0	8.4	6.2	0.0	14.6	-	-	-	-
1/1	457	457	-	-	-	0.0	0.2	-	0.2	1.2	0.0	0.2	0.2
1/2	325	325	-	-	-	0.0	0.1	-	0.1	1.1	0.0	0.1	0.1
2/1	519	519	-	-	-	0.2	0.3	-	0.6	3.8	1.3	0.3	1.6
2/2	510	510	-	-	-	0.2	0.3	-	0.6	3.9	1.3	0.3	1.6
3/1	84	84	-	-	-	0.0	0.0	-	0.0	1.0	0.0	0.0	0.0
3/2	45	45	-	-	-	0.0	0.0	-	0.0	1.0	0.0	0.0	0.0
4/1	64	64	-	-	-	0.0	0.0	-	0.0	1.7	0.1	0.0	0.1
4/2	24	24	-	-	-	0.0	0.0	-	0.0	4.5	0.1	0.0	0.1
5/2+5/1	486	486	-	-	-	1.7	0.4	-	2.1	15.2	2.8	0.4	3.2
5/3	68	68	-	-	-	0.2	0.0	-	0.3	13.8	0.7	0.0	0.7
6/1	778	778	-	-	-	0.1	0.6	-	0.7	3.4	0.3	0.6	1.0
7/1	462	462	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	48	48	-	-	-	0.0	0.0	-	0.0	1.0	0.0	0.0	0.0
8/2	53	53	-	-	-	0.0	0.0	-	0.0	1.0	0.0	0.0	0.0
9/1	56	56	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
10/2+10/1	430	430	-	-	-	0.4	0.2	-	0.6	5.4	2.1	0.2	2.3
11/1	144	144	-	-	-	0.1	0.1	-	0.1	2.7	0.3	0.1	0.3
12/2+12/1	116	116	-	-	-	0.3	0.1	-	0.4	12.1	0.7	0.1	0.7
12/3	445	445	-	-	-	1.6	0.6	-	2.1	17.2	5.4	0.6	6.0
13/1	280	280	-	-	-	0.4	0.3	-	0.7	8.8	1.6	0.3	1.9
13/2+13/3	573	573	-	-	-	0.8	0.6	-	1.4	8.8	1.8	0.6	2.3
14/1	52	52	-	-	-	0.0	0.0	-	0.0	1.0	0.0	0.0	0.0
14/2	326	326	-	-	-	0.0	0.1	-	0.1	1.1	0.0	0.1	0.1
15/1	77	77	-	-	-	0.2	0.1	-	0.2	11.6	0.6	0.1	0.7



## Full Input Data And Results

C1 - North	Stream: 1	PRC for Signalled Lanes (%)	69.2	Total Delay for Signalled Lanes (pcuHr)	4.41	Cycle Time (s)	60
C1 - North	Stream: 2	PRC for Signalled Lanes (%)	132.3	Total Delay for Signalled Lanes (pcuHr)	1.11	Cycle Time (s)	60
C1 - North	Stream: 3	PRC for Signalled Lanes (%)	160.6	Total Delay for Signalled Lanes (pcuHr)	1.34	Cycle Time (s)	60
C1 - North	Stream: 4	PRC for Signalled Lanes (%)	1836.3	Total Delay for Signalled Lanes (pcuHr)	0.06	Cycle Time (s)	60
C1 - North	Stream: 5	PRC for Signalled Lanes (%)	1339.3	Total Delay for Signalled Lanes (pcuHr)	0.18	Cycle Time (s)	60
C1 - North	Stream: 6	PRC for Signalled Lanes (%)	59.3	Total Delay for Signalled Lanes (pcuHr)	0.74	Cycle Time (s)	60
C2 - South	Stream: 1	PRC for Signalled Lanes (%)	67.6	Total Delay for Signalled Lanes (pcuHr)	4.19	Cycle Time (s)	60
C2 - South	Stream: 2	PRC for Signalled Lanes (%)	781.6	Total Delay for Signalled Lanes (pcuHr)	0.11	Cycle Time (s)	60
C2 - South	Stream: 3	PRC for Signalled Lanes (%)	189.9	Total Delay for Signalled Lanes (pcuHr)	0.65	Cycle Time (s)	60
		PRC Over All Lanes (%)	59.3	Total Delay Over All Lanes(pcuHr)	14.58		

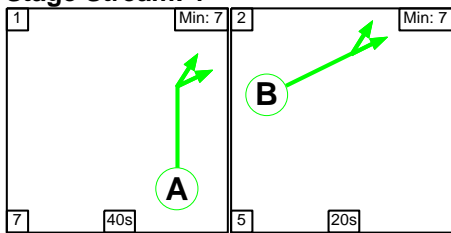
Full Input Data And Results

Scenario 3: '2030 AM' (FG3: 'Reference Case 2030 AM', Plan 1: 'Network Control Plan 1')

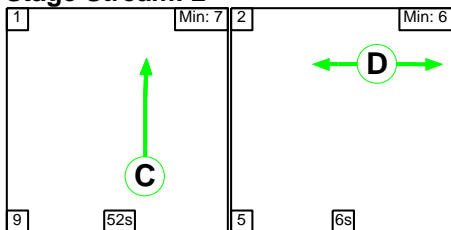
C1 - North

### Stage Sequence Diagram

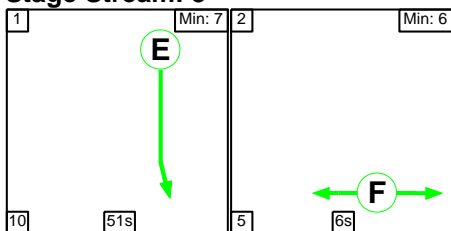
#### Stage Stream: 1



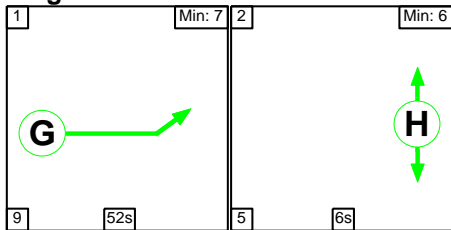
#### Stage Stream: 2



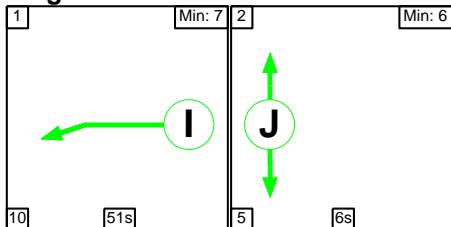
#### Stage Stream: 3



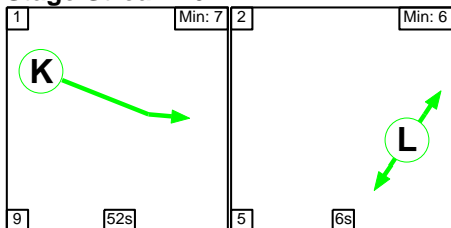
#### Stage Stream: 4



#### Stage Stream: 5



#### Stage Stream: 6



## Full Input Data And Results

### Stage Timings

#### Stage Stream: 1

Stage	1	2
Duration	40	20
Change Point	0	47

#### Stage Stream: 2

Stage	1	2
Duration	52	6
Change Point	2	63

#### Stage Stream: 3

Stage	1	2
Duration	51	6
Change Point	11	0

#### Stage Stream: 4

Stage	1	2
Duration	52	6
Change Point	10	71

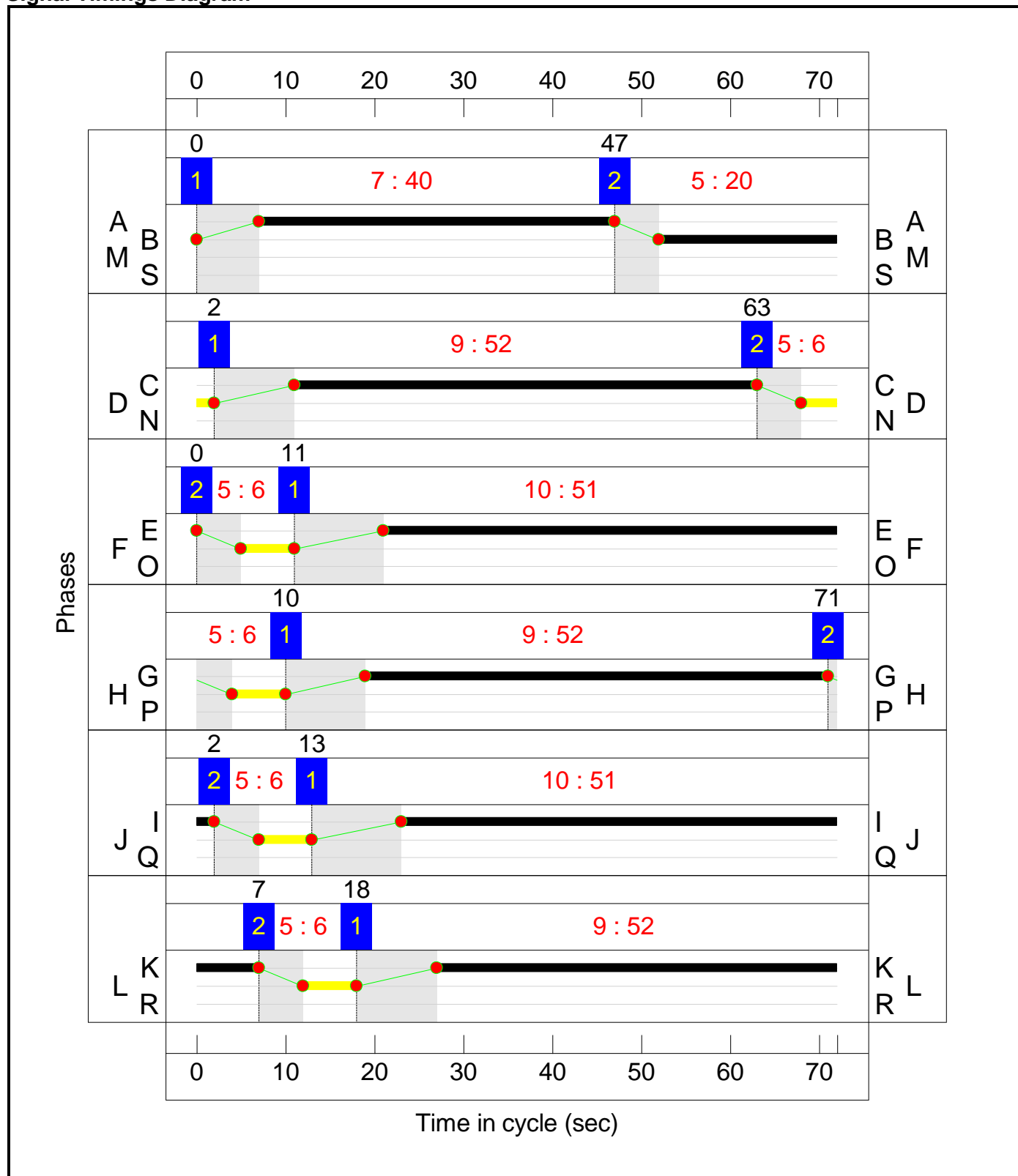
#### Stage Stream: 5

Stage	1	2
Duration	51	6
Change Point	13	2

#### Stage Stream: 6

Stage	1	2
Duration	52	6
Change Point	18	7

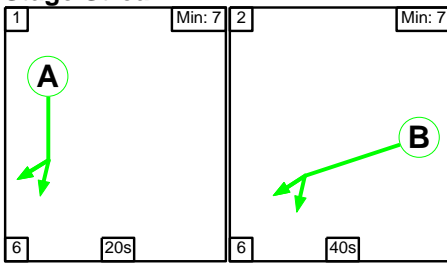
Signal Timings Diagram



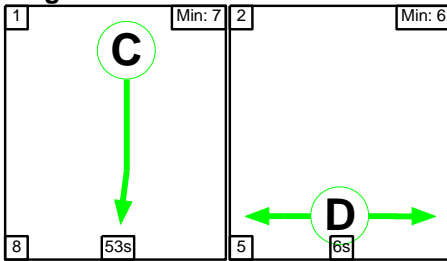
Full Input Data And Results

**C2 - South**  
**Stage Sequence Diagram**

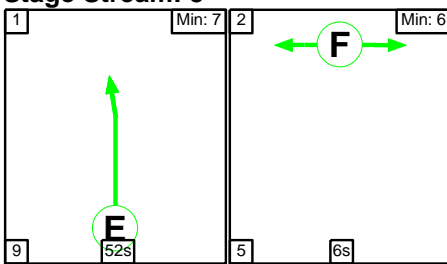
**Stage Stream: 1**



**Stage Stream: 2**



**Stage Stream: 3**



**Stage Timings**

**Stage Stream: 1**

Stage	1	2
Duration	20	40
Change Point	25	51

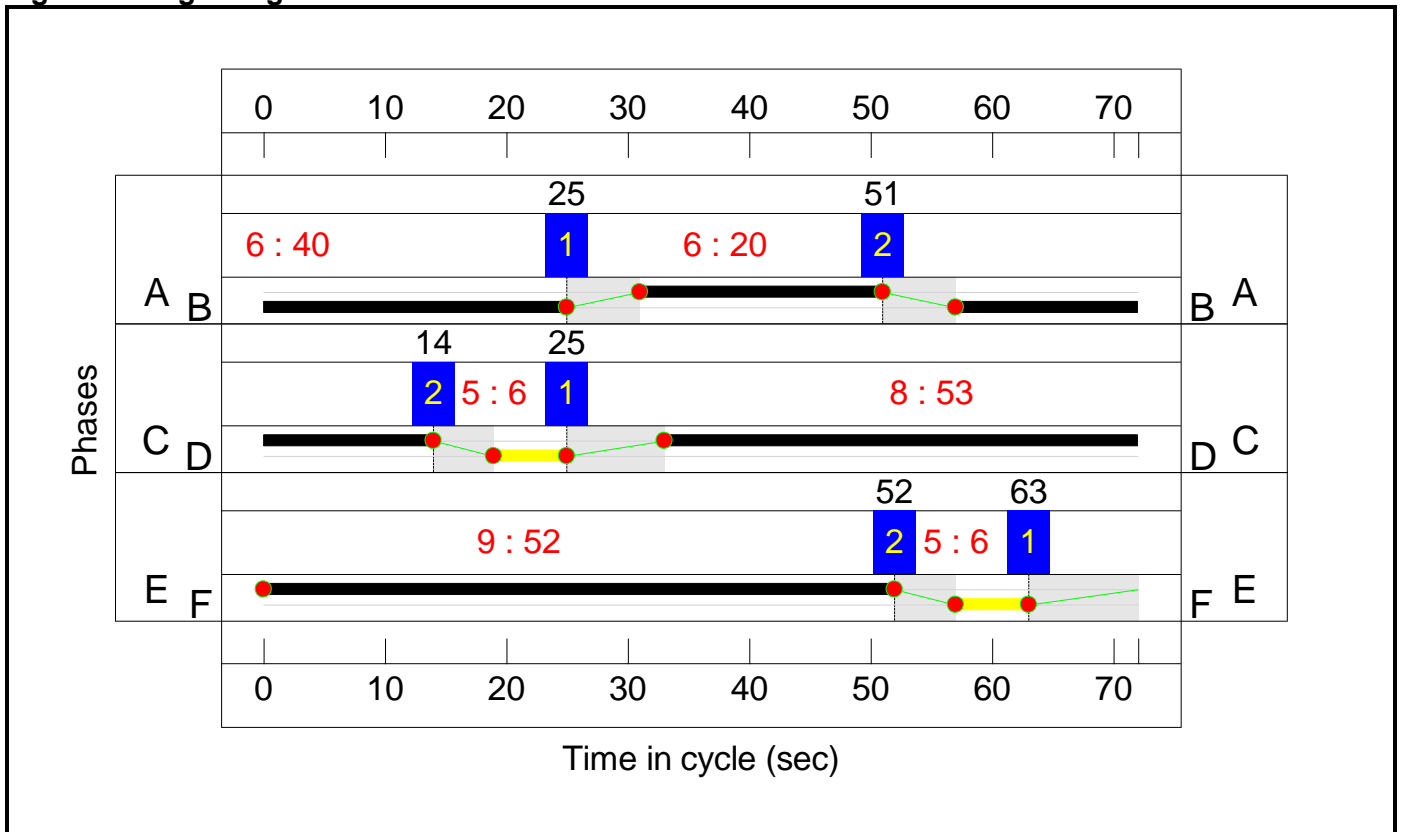
**Stage Stream: 2**

Stage	1	2
Duration	53	6
Change Point	25	14

**Stage Stream: 3**

Stage	1	2
Duration	52	6
Change Point	63	52

Signal Timings Diagram

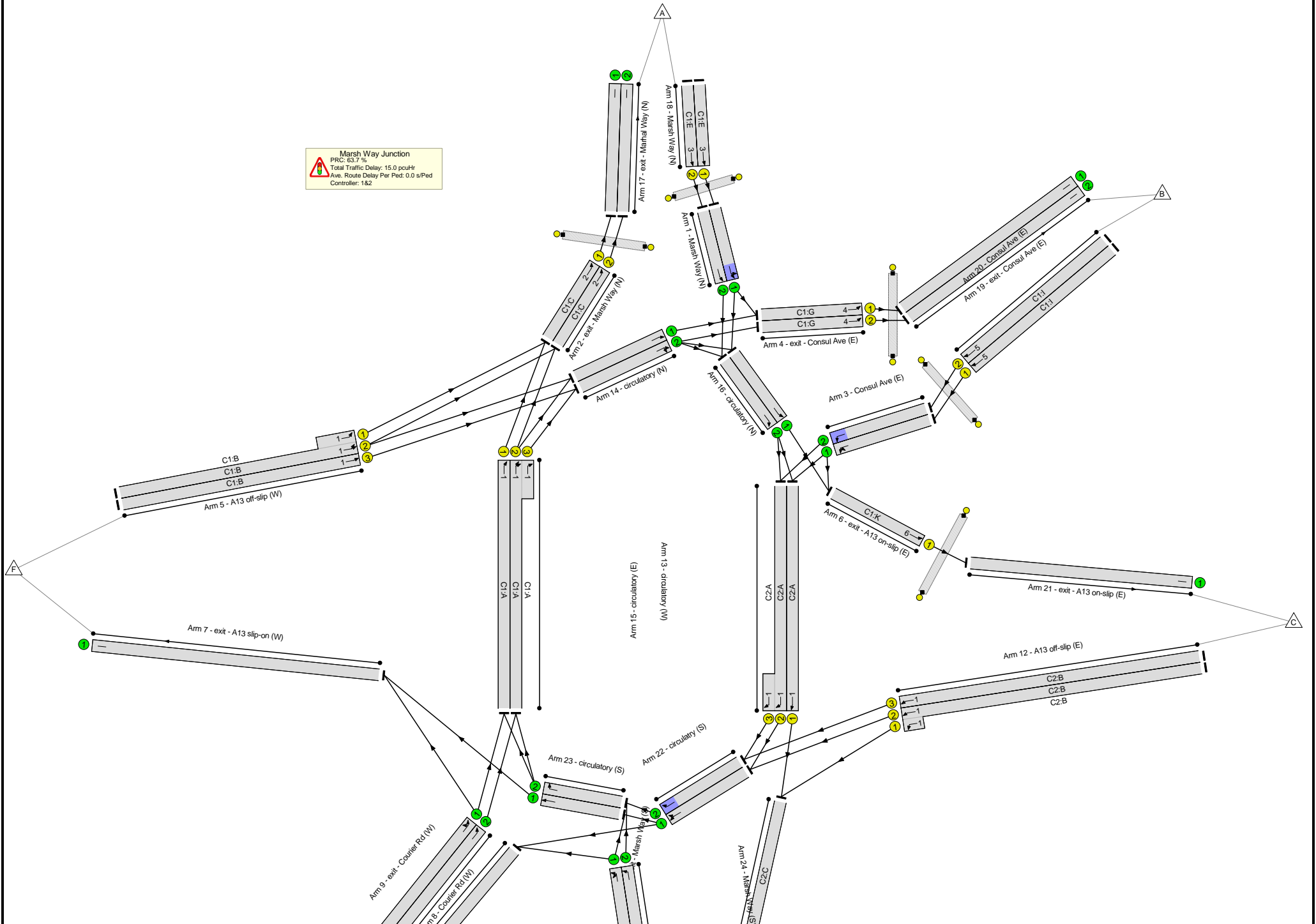




Full Input Data And Results  
**Network Layout Diagram**

# Full Input Data And Results

**Marsh Way Junction**  
 PRC: 63.7 %  
 Total Traffic Delay: 15.0 pcuHr  
 Ave. Route Delay Per Ped: 0.0 s/Ped  
 Controller: 1&2



## Full Input Data And Results

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 (%)
<b>Network</b>	-	-	<b>N/A</b>	-	-		-	-	-	-	-	-	<b>55.0%</b>
<b>Marsh Way Junction</b>	-	-	<b>N/A</b>	-	-		-	-	-	-	-	-	<b>55.0%</b>
1/1	Marsh Way (N) Left Ahead	U	N/A	N/A	-		-	-	-	362	1957	1957	18.5%
1/2	Marsh Way (N) Ahead	U	N/A	N/A	-		-	-	-	355	1957	1957	18.1%
2/1	exit - Marsh Way (N) Ahead	U	1:2	N/A	C1:C		1	52	-	323	1960	1443	22.4%
2/2	exit - Marsh Way (N) Ahead	U	1:2	N/A	C1:C		1	52	-	297	1960	1443	20.6%
3/1	Consul Ave (E) Left Left2	U	N/A	N/A	-		-	-	-	107	1860	1860	5.8%
3/2	Consul Ave (E) Left	U	N/A	N/A	-		-	-	-	45	1860	1860	2.4%
4/1	exit - Consul Ave (E) Ahead	U	1:4	N/A	C1:G		1	52	-	111	2015	1483	7.5%
4/2	exit - Consul Ave (E) Ahead	U	1:4	N/A	C1:G		1	52	-	25	2015	1483	1.7%
5/2+5/1	A13 off-slip (W) Left Ahead	U	1:1	N/A	C1:B		1	20	-	207	1969:1921	439+366	25.7 : 25.7%
5/3	A13 off-slip (W) Ahead	U	1:1	N/A	C1:B		1	20	-	127	1921	560	22.7%
6/1	exit - A13 on-slip (E) Ahead	U	1:6	N/A	C1:K		1	52	-	525	2015	1483	35.4%
7/1	exit - A13 slip-on (W)	U	N/A	N/A	-		-	-	-	708	Inf	Inf	0.0%
8/1	Courier Rd (W) Left Ahead	U	N/A	N/A	-		-	-	-	19	1803	1803	1.1%
8/2	Courier Rd (W) Ahead	U	N/A	N/A	-		-	-	-	28	1803	1803	1.6%
9/1	exit - Courier Rd (W)	U	N/A	N/A	-		-	-	-	70	Inf	Inf	0.0%

Full Input Data And Results

10/2+10/1	Marsh Way (S) Ahead	U	2:3	N/A	C2:E		1	52	-	234	1955:1955	1102+380	15.8 : 15.8%
11/1	exit - Marsh Way (S) Ahead	U	2:2	N/A	C2:C		1	53	-	460	2015	1511	30.4%
12/2+12/1	A13 off-slip (E) Left Ahead	U	2:1	N/A	C2:B		1	40	-	635	1912:1912	757+413	54.3 : 54.3%
12/3	A13 off-slip (E) Ahead	U	2:1	N/A	C2:B		1	40	-	400	1912	1089	36.7%
13/1	circulatory (W) Ahead	U	1:1	N/A	C1:A		1	40	-	229	1896	1080	21.2%
13/2+13/3	circulatory (W) Ahead Right	U	1:1	N/A	C1:A		1	40	-	389	1896:1896	817+392	32.2 : 32.2%
14/1	circulatory (N) Ahead	U	N/A	N/A	-		-	-	-	79	1896	1896	4.2%
14/2	circulatory (N) Ahead Right	U	N/A	N/A	-		-	-	-	253	1896	1896	13.3%
15/1	circulatory (E) Ahead	U	2:1	N/A	C2:A		1	20	-	236	1896	553	42.7%
15/2+15/3	circulatory (E) Right	U	2:1	N/A	C2:A		1	20	-	304	1896:2015	553+0	55.0 : 0.0%
16/1	circulatory (N) Ahead	U	N/A	N/A	-		-	-	-	454	1896	1896	23.9%
16/2	circulatory (N) Ahead	U	N/A	N/A	-		-	-	-	459	1896	1896	24.2%
17/1	exit - Marhal Way (N)	U	N/A	N/A	-		-	-	-	323	Inf	Inf	0.0%
17/2	exit - Marhal Way (N)	U	N/A	N/A	-		-	-	-	297	Inf	Inf	0.0%
18/1	Marsh Way (N) Ahead	U	1:3	N/A	C1:E		1	51	-	362	1985	1434	25.3%
18/2	Marsh Way (N) Ahead	U	1:3	N/A	C1:E		1	51	-	355	1985	1434	24.8%
19/1	exit - Consul Ave (E)	U	N/A	N/A	-		-	-	-	111	Inf	Inf	0.0%
19/2	exit - Consul Ave (E)	U	N/A	N/A	-		-	-	-	25	Inf	Inf	0.0%
20/1	Consul Ave (E) Ahead	U	1:5	N/A	C1:I		1	51	-	107	2015	1455	7.4%

Full Input Data And Results

20/2	Consul Ave (E) Ahead	U	1:5	N/A	C1:I		1	51	-	45	2015	1455	3.1%
21/1	exit - A13 on-slip (E)	U	N/A	N/A	-		-	-	-	525	Inf	Inf	0.0%
22/1	circulatory (S) Ahead Ahead2	U	N/A	N/A	-		-	-	-	715	1896	1896	37.7%
22/2	circulatory (S) Ahead	U	N/A	N/A	-		-	-	-	400	1896	1896	21.1%
23/1	circulatory (S) Ahead	U	N/A	N/A	-		-	-	-	705	1896	1896	37.2%
23/2	circulatory (S) Right	U	N/A	N/A	-		-	-	-	574	1896	1896	30.3%
24/1	Marsh Way (S) Left Left2	U	N/A	N/A	-		-	-	-	60	1819	1819	3.3%
24/2	Marsh Way (S) Left	U	N/A	N/A	-		-	-	-	174	1819	1819	9.6%
25/1	exit - Marsh Way (S)	U	N/A	N/A	-		-	-	-	460	Inf	Inf	0.0%
Ped Link: P1	Unnamed Ped Link	-	1:2	-	C1:D		1	6	-	0	-	0	0.0%
Ped Link: P2	Unnamed Ped Link	-	1:3	-	C1:F		1	6	-	0	-	0	0.0%
Ped Link: P3	Unnamed Ped Link	-	1:4	-	C1:H		1	6	-	0	-	0	0.0%
Ped Link: P4	Unnamed Ped Link	-	1:5	-	C1:J		1	6	-	0	-	0	0.0%
Ped Link: P5	Unnamed Ped Link	-	1:6	-	C1:L		1	6	-	0	-	0	0.0%
Ped Link: P6	Unnamed Ped Link	-	2:3	-	C2:F		1	6	-	0	-	0	0.0%
Ped Link: P7	Unnamed Ped Link	-	2:2	-	C2:D		1	6	-	0	-	0	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)
<b>Network</b>	-	-	0	0	0	9.5	5.6	0.0	15.0	-	-	-	-
<b>Marsh Way Junction</b>	-	-	0	0	0	9.5	5.6	0.0	15.0	-	-	-	-
1/1	362	362	-	-	-	0.0	0.1	-	0.1	1.1	0.0	0.1	0.1
1/2	355	355	-	-	-	0.0	0.1	-	0.1	1.1	0.0	0.1	0.1
2/1	323	323	-	-	-	0.1	0.1	-	0.2	2.6	0.5	0.1	0.6
2/2	297	297	-	-	-	0.1	0.1	-	0.2	2.6	0.5	0.1	0.6
3/1	107	107	-	-	-	0.0	0.0	-	0.0	1.0	0.0	0.0	0.0
3/2	45	45	-	-	-	0.0	0.0	-	0.0	1.0	0.0	0.0	0.0
4/1	111	111	-	-	-	0.0	0.0	-	0.1	2.6	0.3	0.0	0.4
4/2	25	25	-	-	-	0.0	0.0	-	0.0	3.4	0.1	0.0	0.1
5/2+5/1	207	207	-	-	-	1.1	0.2	-	1.3	22.1	1.7	0.2	1.9
5/3	127	127	-	-	-	0.7	0.1	-	0.8	23.5	1.9	0.1	2.1
6/1	525	525	-	-	-	0.2	0.3	-	0.5	3.1	1.4	0.3	1.7
7/1	708	708	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	19	19	-	-	-	0.0	0.0	-	0.0	1.0	0.0	0.0	0.0
8/2	28	28	-	-	-	0.0	0.0	-	0.0	1.0	0.0	0.0	0.0
9/1	70	70	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
10/2+10/1	234	234	-	-	-	0.2	0.1	-	0.3	4.2	1.0	0.1	1.1
11/1	460	460	-	-	-	0.2	0.2	-	0.4	2.9	1.0	0.2	1.2
12/2+12/1	635	635	-	-	-	1.5	0.6	-	2.1	11.9	5.8	0.6	6.4
12/3	400	400	-	-	-	0.9	0.3	-	1.2	11.1	4.3	0.3	4.6
13/1	229	229	-	-	-	0.2	0.1	-	0.4	5.5	1.1	0.1	1.2
13/2+13/3	389	389	-	-	-	0.3	0.2	-	0.6	5.2	1.1	0.2	1.4
14/1	79	79	-	-	-	0.0	0.0	-	0.0	1.0	0.0	0.0	0.0
14/2	253	253	-	-	-	0.0	0.1	-	0.1	1.1	0.0	0.1	0.1
15/1	236	236	-	-	-	1.4	0.4	-	1.7	26.6	3.2	0.4	3.5





## Full Input Data And Results

C1 - North	Stream: 1	PRC for Signalled Lanes (%)	179.7	Total Delay for Signalled Lanes (pcuHr)	3.01	Cycle Time (s)	72
C1 - North	Stream: 2	PRC for Signalled Lanes (%)	302.0	Total Delay for Signalled Lanes (pcuHr)	0.44	Cycle Time (s)	72
C1 - North	Stream: 3	PRC for Signalled Lanes (%)	256.4	Total Delay for Signalled Lanes (pcuHr)	1.01	Cycle Time (s)	72
C1 - North	Stream: 4	PRC for Signalled Lanes (%)	1102.6	Total Delay for Signalled Lanes (pcuHr)	0.10	Cycle Time (s)	72
C1 - North	Stream: 5	PRC for Signalled Lanes (%)	1124.1	Total Delay for Signalled Lanes (pcuHr)	0.18	Cycle Time (s)	72
C1 - North	Stream: 6	PRC for Signalled Lanes (%)	154.3	Total Delay for Signalled Lanes (pcuHr)	0.45	Cycle Time (s)	72
C2 - South	Stream: 1	PRC for Signalled Lanes (%)	63.7	Total Delay for Signalled Lanes (pcuHr)	7.48	Cycle Time (s)	72
C2 - South	Stream: 2	PRC for Signalled Lanes (%)	195.7	Total Delay for Signalled Lanes (pcuHr)	0.37	Cycle Time (s)	72
C2 - South	Stream: 3	PRC for Signalled Lanes (%)	470.0	Total Delay for Signalled Lanes (pcuHr)	0.27	Cycle Time (s)	72
		PRC Over All Lanes (%)	63.7	Total Delay Over All Lanes(pcuHr)	15.03		

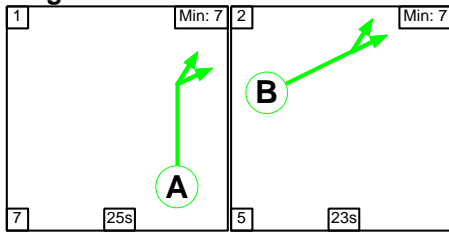
Full Input Data And Results

Scenario 4: '2030 PM' (FG4: 'Reference Case 2030 PM', Plan 1: 'Network Control Plan 1')

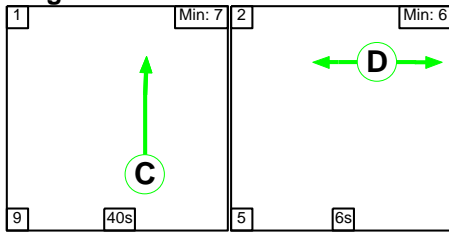
C1 - North

### Stage Sequence Diagram

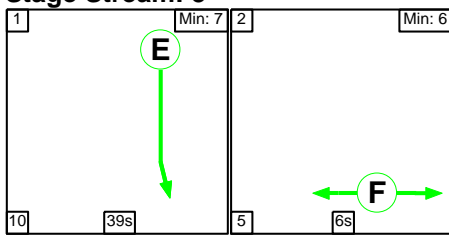
#### Stage Stream: 1



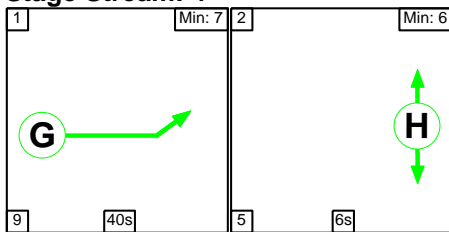
#### Stage Stream: 2



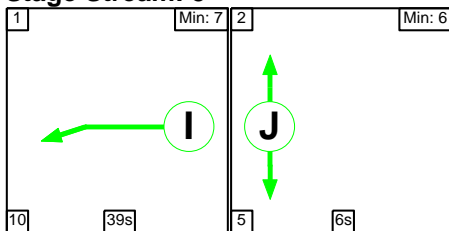
#### Stage Stream: 3



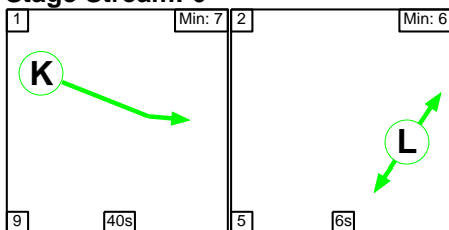
#### Stage Stream: 4



#### Stage Stream: 5



#### Stage Stream: 6



## Full Input Data And Results

### Stage Timings

#### Stage Stream: 1

Stage	1	2
Duration	25	23
Change Point	0	32

#### Stage Stream: 2

Stage	1	2
Duration	40	6
Change Point	1	50

#### Stage Stream: 3

Stage	1	2
Duration	39	6
Change Point	50	39

#### Stage Stream: 4

Stage	1	2
Duration	40	6
Change Point	6	55

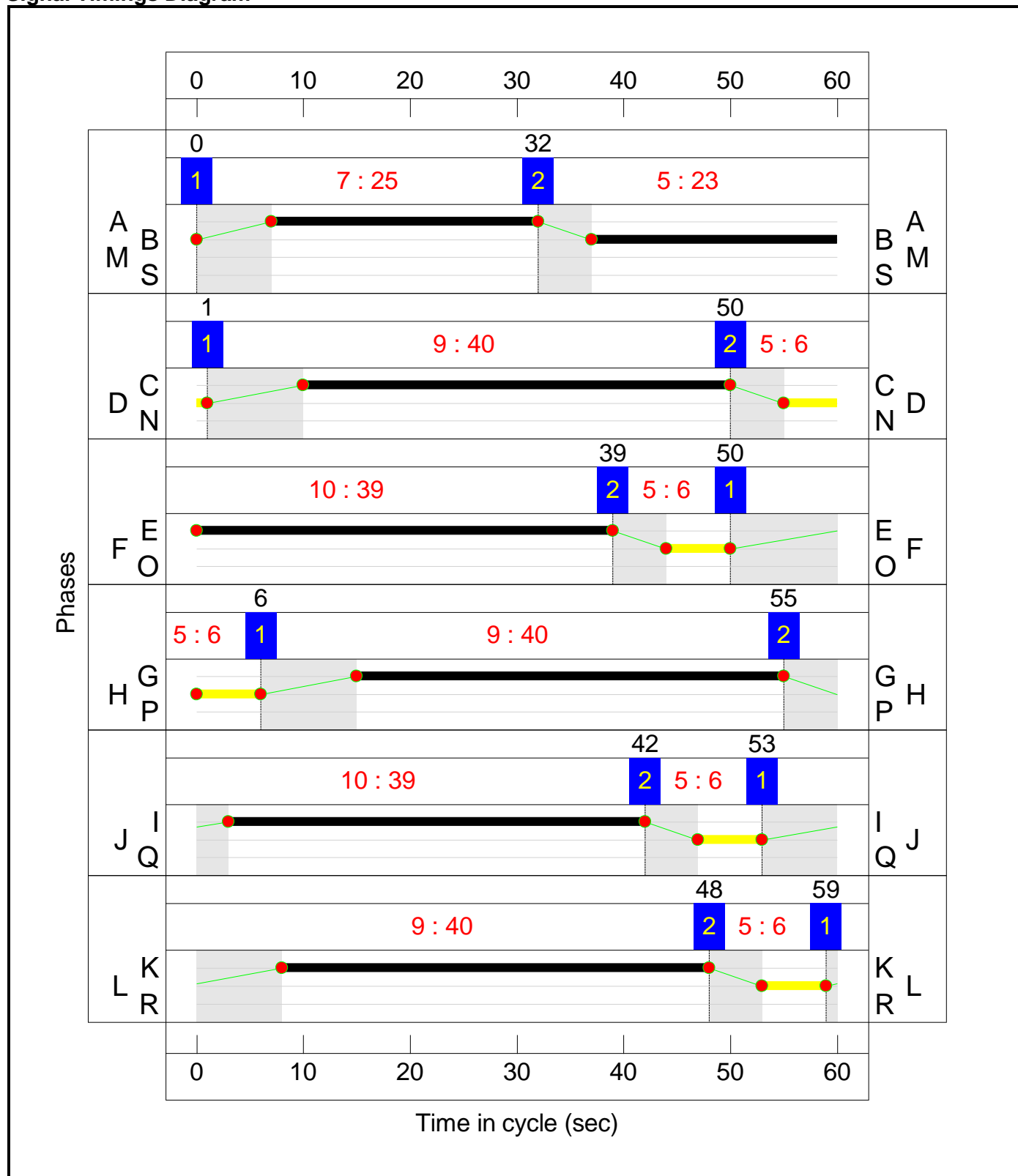
#### Stage Stream: 5

Stage	1	2
Duration	39	6
Change Point	53	42

#### Stage Stream: 6

Stage	1	2
Duration	40	6
Change Point	59	48

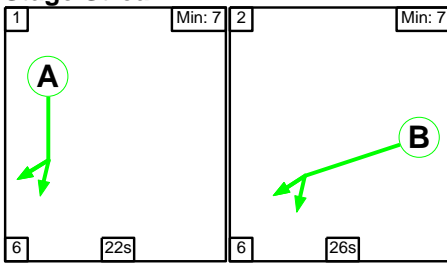
Signal Timings Diagram



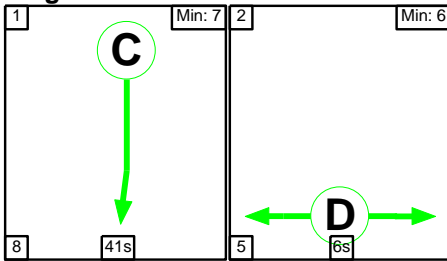
Full Input Data And Results

**C2 - South**  
**Stage Sequence Diagram**

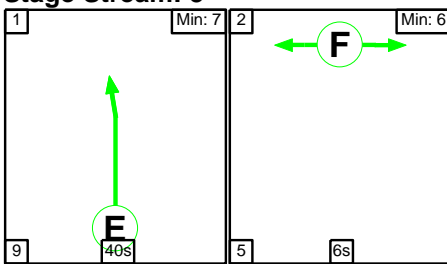
**Stage Stream: 1**



**Stage Stream: 2**



**Stage Stream: 3**



**Stage Timings**

**Stage Stream: 1**

Stage	1	2
Duration	22	26
Change Point	13	41

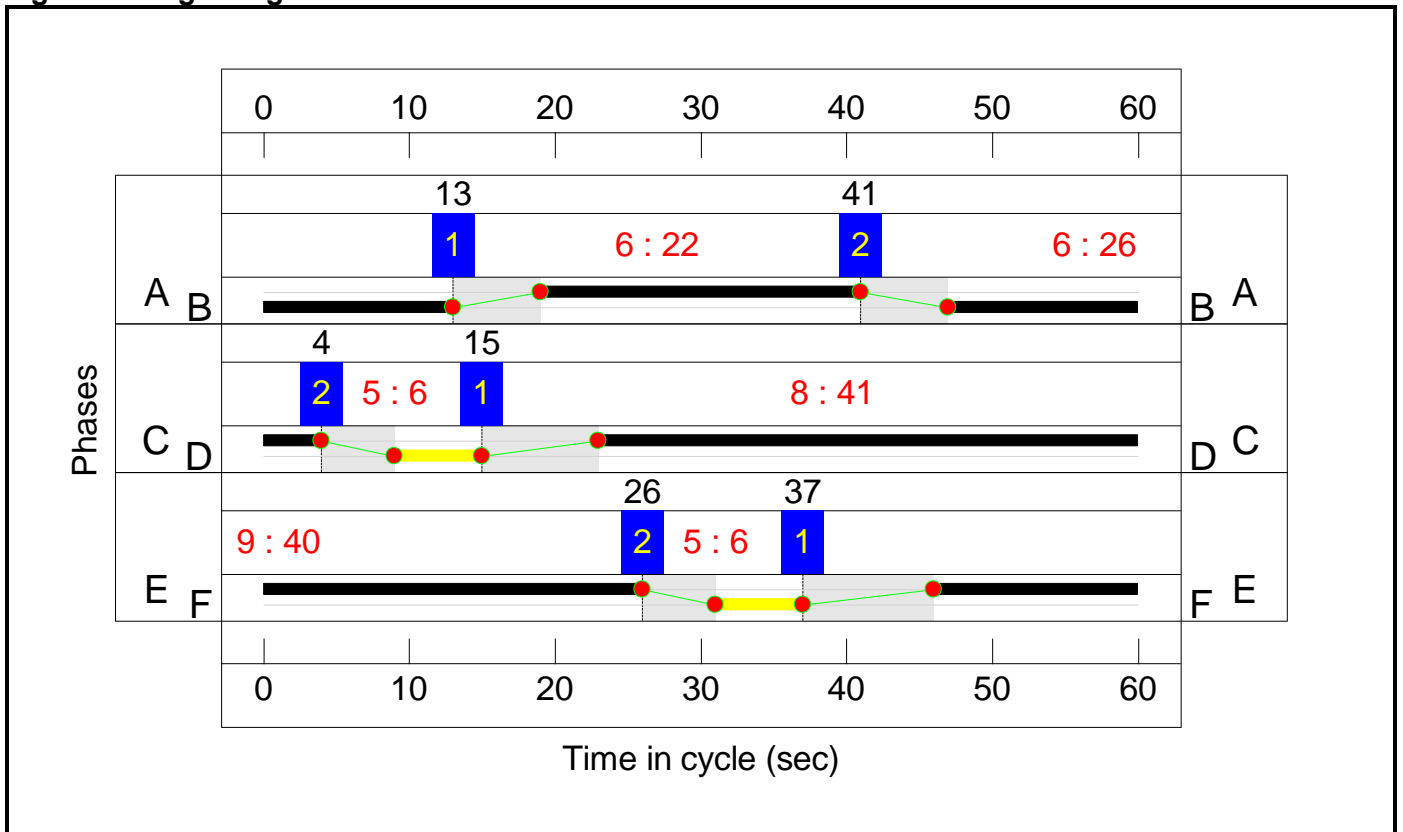
**Stage Stream: 2**

Stage	1	2
Duration	41	6
Change Point	15	4

**Stage Stream: 3**

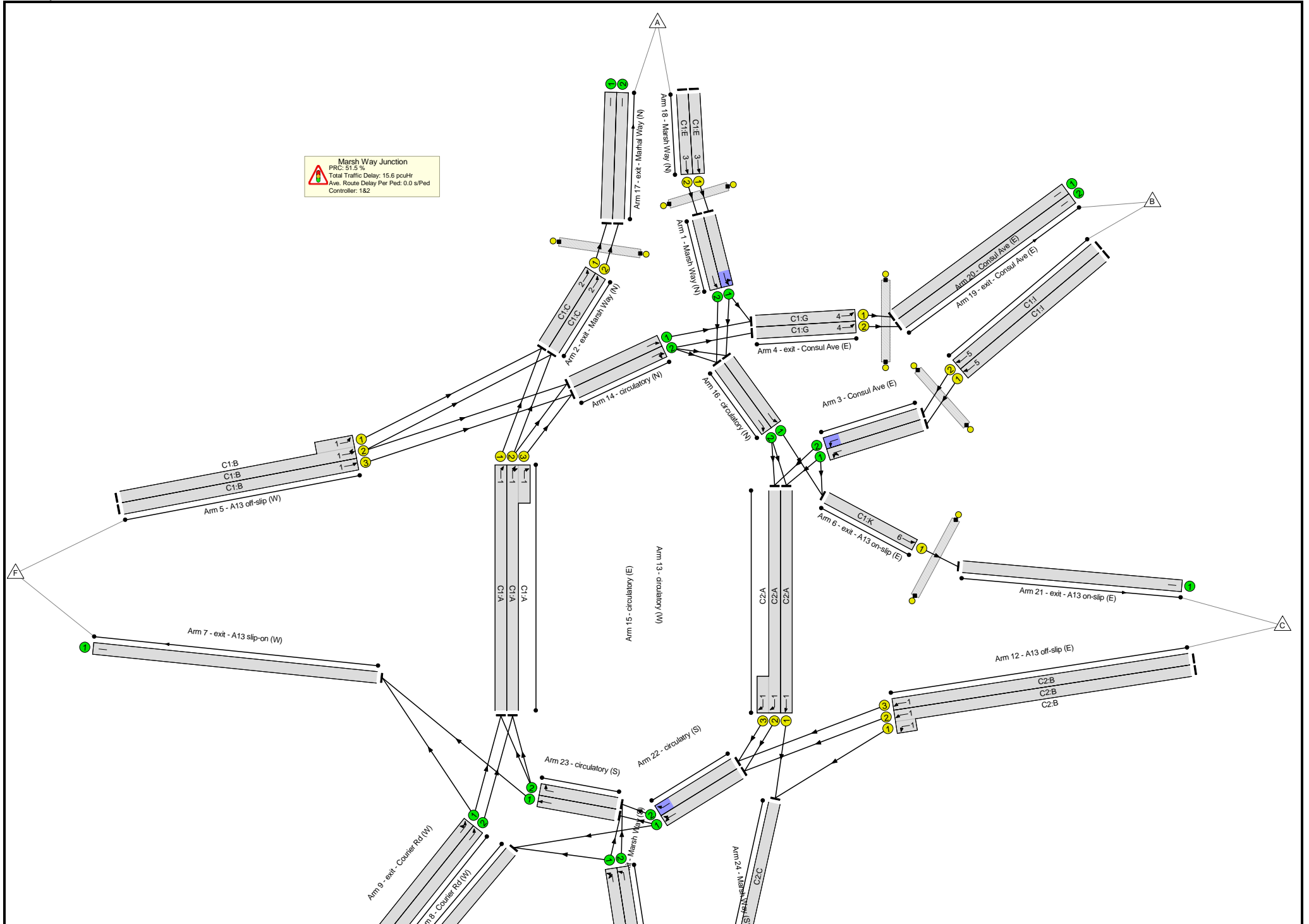
Stage	1	2
Duration	40	6
Change Point	37	26

Signal Timings Diagram



Full Input Data And Results  
**Network Layout Diagram**

# Full Input Data And Results





## Full Input Data And Results

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 (%)
<b>Network</b>	-	-	<b>N/A</b>	-	-		-	-	-	-	-	-	<b>59.4%</b>
<b>Marsh Way Junction</b>	-	-	<b>N/A</b>	-	-		-	-	-	-	-	-	<b>59.4%</b>
1/1	Marsh Way (N) Left Ahead	U	N/A	N/A	-		-	-	-	481	1957	1957	24.6%
1/2	Marsh Way (N) Ahead	U	N/A	N/A	-		-	-	-	341	1957	1957	17.4%
2/1	exit - Marsh Way (N) Ahead	U	1:2	N/A	C1:C		1	40	-	553	1960	1339	41.3%
2/2	exit - Marsh Way (N) Ahead	U	1:2	N/A	C1:C		1	40	-	530	1960	1339	39.6%
3/1	Consul Ave (E) Left Left2	U	N/A	N/A	-		-	-	-	89	1860	1860	4.8%
3/2	Consul Ave (E) Left	U	N/A	N/A	-		-	-	-	47	1860	1860	2.5%
4/1	exit - Consul Ave (E) Ahead	U	1:4	N/A	C1:G		1	40	-	66	2015	1377	4.8%
4/2	exit - Consul Ave (E) Ahead	U	1:4	N/A	C1:G		1	40	-	26	2015	1377	1.9%
5/2+5/1	A13 off-slip (W) Left Ahead	U	1:1	N/A	C1:B		1	23	-	511	1985:1921	564+536	46.5 : 46.5%
5/3	A13 off-slip (W) Ahead	U	1:1	N/A	C1:B		1	23	-	71	1921	768	9.2%
6/1	exit - A13 on-slip (E) Ahead	U	1:6	N/A	C1:K		1	40	-	818	2015	1377	59.4%
7/1	exit - A13 slip-on (W)	U	N/A	N/A	-		-	-	-	485	Inf	Inf	0.0%
8/1	Courier Rd (W) Left Ahead	U	N/A	N/A	-		-	-	-	46	1803	1803	2.6%
8/2	Courier Rd (W) Ahead	U	N/A	N/A	-		-	-	-	60	1803	1803	3.3%
9/1	exit - Courier Rd (W)	U	N/A	N/A	-		-	-	-	58	Inf	Inf	0.0%

Full Input Data And Results

10/2+10/1	Marsh Way (S) Ahead	U	2:3	N/A	C2:E		1	40	-	452	1955:1955	1048+337	32.6 : 32.6%
11/1	exit - Marsh Way (S) Ahead	U	2:2	N/A	C2:C		1	41	-	151	2015	1410	10.7%
12/2+12/1	A13 off-slip (E) Left Ahead	U	2:1	N/A	C2:B		1	26	-	121	1912:1912	416+571	12.2 : 12.2%
12/3	A13 off-slip (E) Ahead	U	2:1	N/A	C2:B		1	26	-	468	1912	860	54.4%
13/1	circulatory (W) Ahead	U	1:1	N/A	C1:A		1	25	-	304	1896	822	37.0%
13/2+13/3	circulatory (W) Ahead Right	U	1:1	N/A	C1:A		1	25	-	593	1896:1896	588+498	54.6 : 54.6%
14/1	circulatory (N) Ahead	U	N/A	N/A	-		-	-	-	53	1896	1896	2.8%
14/2	circulatory (N) Ahead Right	U	N/A	N/A	-		-	-	-	343	1896	1896	18.1%
15/1	circulatory (E) Ahead	U	2:1	N/A	C2:A		1	22	-	81	1896	727	11.1%
15/2+15/3	circulatory (E) Right	U	2:1	N/A	C2:A		1	22	-	363	1896:2015	727+0	49.9 : 0.0%
16/1	circulatory (N) Ahead	U	N/A	N/A	-		-	-	-	740	1896	1896	39.0%
16/2	circulatory (N) Ahead	U	N/A	N/A	-		-	-	-	386	1896	1896	20.4%
17/1	exit - Marhal Way (N)	U	N/A	N/A	-		-	-	-	553	Inf	Inf	0.0%
17/2	exit - Marhal Way (N)	U	N/A	N/A	-		-	-	-	530	Inf	Inf	0.0%
18/1	Marsh Way (N) Ahead	U	1:3	N/A	C1:E		1	39	-	481	1985	1323	36.3%
18/2	Marsh Way (N) Ahead	U	1:3	N/A	C1:E		1	39	-	341	1985	1323	25.8%
19/1	exit - Consul Ave (E)	U	N/A	N/A	-		-	-	-	66	Inf	Inf	0.0%
19/2	exit - Consul Ave (E)	U	N/A	N/A	-		-	-	-	26	Inf	Inf	0.0%
20/1	Consul Ave (E) Ahead	U	1:5	N/A	C1:I		1	39	-	89	2015	1343	6.6%

Full Input Data And Results

20/2	Consul Ave (E) Ahead	U	1:5	N/A	C1:I		1	39	-	47	2015	1343	3.5%
21/1	exit - A13 on-slip (E)	U	N/A	N/A	-		-	-	-	818	Inf	Inf	0.0%
22/1	circulatory (S) Ahead Ahead2	U	N/A	N/A	-		-	-	-	414	1896	1896	21.8%
22/2	circulatory (S) Ahead	U	N/A	N/A	-		-	-	-	468	1896	1896	24.7%
23/1	circulatory (S) Ahead	U	N/A	N/A	-		-	-	-	466	1896	1896	24.6%
23/2	circulatory (S) Right	U	N/A	N/A	-		-	-	-	810	1896	1896	42.7%
24/1	Marsh Way (S) Left Left2	U	N/A	N/A	-		-	-	-	110	1819	1819	6.0%
24/2	Marsh Way (S) Left	U	N/A	N/A	-		-	-	-	342	1819	1819	18.8%
25/1	exit - Marsh Way (S)	U	N/A	N/A	-		-	-	-	151	Inf	Inf	0.0%
Ped Link: P1	Unnamed Ped Link	-	1:2	-	C1:D		1	6	-	0	-	0	0.0%
Ped Link: P2	Unnamed Ped Link	-	1:3	-	C1:F		1	6	-	0	-	0	0.0%
Ped Link: P3	Unnamed Ped Link	-	1:4	-	C1:H		1	6	-	0	-	0	0.0%
Ped Link: P4	Unnamed Ped Link	-	1:5	-	C1:J		1	6	-	0	-	0	0.0%
Ped Link: P5	Unnamed Ped Link	-	1:6	-	C1:L		1	6	-	0	-	0	0.0%
Ped Link: P6	Unnamed Ped Link	-	2:3	-	C2:F		1	6	-	0	-	0	0.0%
Ped Link: P7	Unnamed Ped Link	-	2:2	-	C2:D		1	6	-	0	-	0	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)
<b>Network</b>	-	-	<b>0</b>	<b>0</b>	<b>0</b>	<b>8.9</b>	<b>6.8</b>	<b>0.0</b>	<b>15.6</b>	-	-	-	-
<b>Marsh Way Junction</b>	-	-	<b>0</b>	<b>0</b>	<b>0</b>	<b>8.9</b>	<b>6.8</b>	<b>0.0</b>	<b>15.6</b>	-	-	-	-
1/1	481	481	-	-	-	0.0	0.2	-	0.2	1.2	0.0	0.2	0.2
1/2	341	341	-	-	-	0.0	0.1	-	0.1	1.1	0.0	0.1	0.1
2/1	553	553	-	-	-	0.3	0.4	-	0.6	4.0	1.3	0.4	1.6
2/2	530	530	-	-	-	0.3	0.3	-	0.6	4.2	1.4	0.3	1.7
3/1	89	89	-	-	-	0.0	0.0	-	0.0	1.0	0.0	0.0	0.0
3/2	47	47	-	-	-	0.0	0.0	-	0.0	1.0	0.0	0.0	0.0
4/1	66	66	-	-	-	0.0	0.0	-	0.0	1.8	0.1	0.0	0.1
4/2	26	26	-	-	-	0.0	0.0	-	0.0	4.4	0.1	0.0	0.1
5/2+5/1	511	511	-	-	-	1.8	0.4	-	2.2	15.5	3.0	0.4	3.4
5/3	71	71	-	-	-	0.2	0.1	-	0.3	13.8	0.7	0.1	0.8
6/1	818	818	-	-	-	0.1	0.7	-	0.8	3.7	0.4	0.7	1.1
7/1	485	485	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	46	46	-	-	-	0.0	0.0	-	0.0	1.0	0.0	0.0	0.0
8/2	60	60	-	-	-	0.0	0.0	-	0.0	1.0	0.0	0.0	0.0
9/1	58	58	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
10/2+10/1	452	452	-	-	-	0.4	0.2	-	0.7	5.5	2.2	0.2	2.5
11/1	151	151	-	-	-	0.1	0.1	-	0.1	2.7	0.3	0.1	0.3
12/2+12/1	121	121	-	-	-	0.3	0.1	-	0.4	11.5	0.7	0.1	0.7
12/3	468	468	-	-	-	1.6	0.6	-	2.2	16.6	5.6	0.6	6.2
13/1	304	304	-	-	-	0.5	0.3	-	0.7	8.9	1.8	0.3	2.1
13/2+13/3	593	593	-	-	-	0.9	0.6	-	1.5	9.0	1.9	0.6	2.5
14/1	53	53	-	-	-	0.0	0.0	-	0.0	1.0	0.0	0.0	0.0
14/2	343	343	-	-	-	0.0	0.1	-	0.1	1.2	0.0	0.1	0.1
15/1	81	81	-	-	-	0.2	0.1	-	0.3	12.2	0.7	0.1	0.7



## Full Input Data And Results

C1 - North	Stream: 1 PRC for Signalled Lanes (%):	64.8	Total Delay for Signalled Lanes (pcuHr):	4.71	Cycle Time (s):	60
C1 - North	Stream: 2 PRC for Signalled Lanes (%):	118.0	Total Delay for Signalled Lanes (pcuHr):	1.24	Cycle Time (s):	60
C1 - North	Stream: 3 PRC for Signalled Lanes (%):	147.6	Total Delay for Signalled Lanes (pcuHr):	1.43	Cycle Time (s):	60
C1 - North	Stream: 4 PRC for Signalled Lanes (%):	1777.6	Total Delay for Signalled Lanes (pcuHr):	0.06	Cycle Time (s):	60
C1 - North	Stream: 5 PRC for Signalled Lanes (%):	1258.4	Total Delay for Signalled Lanes (pcuHr):	0.19	Cycle Time (s):	60
C1 - North	Stream: 6 PRC for Signalled Lanes (%):	51.5	Total Delay for Signalled Lanes (pcuHr):	0.83	Cycle Time (s):	60
C2 - South	Stream: 1 PRC for Signalled Lanes (%):	65.5	Total Delay for Signalled Lanes (pcuHr):	4.44	Cycle Time (s):	60
C2 - South	Stream: 2 PRC for Signalled Lanes (%):	740.7	Total Delay for Signalled Lanes (pcuHr):	0.11	Cycle Time (s):	60
C2 - South	Stream: 3 PRC for Signalled Lanes (%):	175.7	Total Delay for Signalled Lanes (pcuHr):	0.69	Cycle Time (s):	60
	PRC Over All Lanes (%):	51.5	Total Delay Over All Lanes(pcuHr):	15.64		

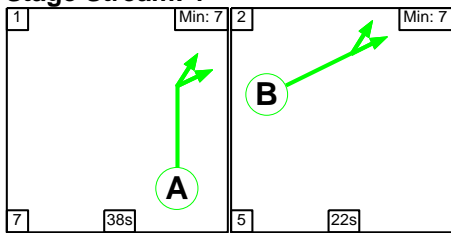
Full Input Data And Results

Scenario 5: 'Do Something 2030 + LTC AM' (FG7: 'Do Something 2030 + LTC AM', Plan 1: 'Network Control Plan 1')

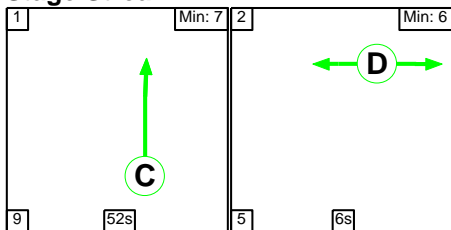
C1 - North

Stage Sequence Diagram

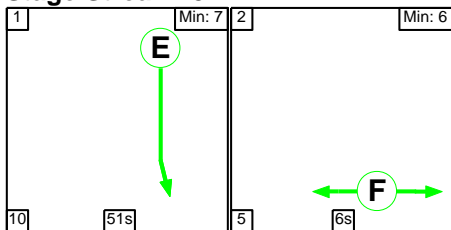
Stage Stream: 1



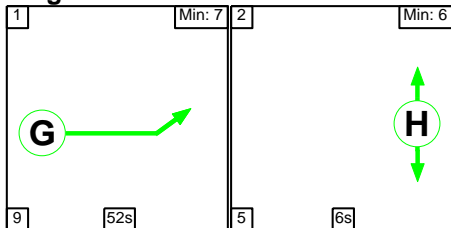
Stage Stream: 2



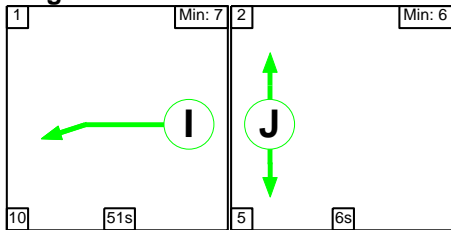
Stage Stream: 3



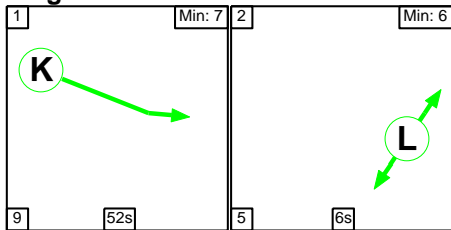
Stage Stream: 4



Stage Stream: 5



Stage Stream: 6





## Full Input Data And Results

### Stage Timings

#### Stage Stream: 1

Stage	1	2
Duration	38	22
Change Point	0	45

#### Stage Stream: 2

Stage	1	2
Duration	52	6
Change Point	2	63

#### Stage Stream: 3

Stage	1	2
Duration	51	6
Change Point	3	64

#### Stage Stream: 4

Stage	1	2
Duration	52	6
Change Point	7	68

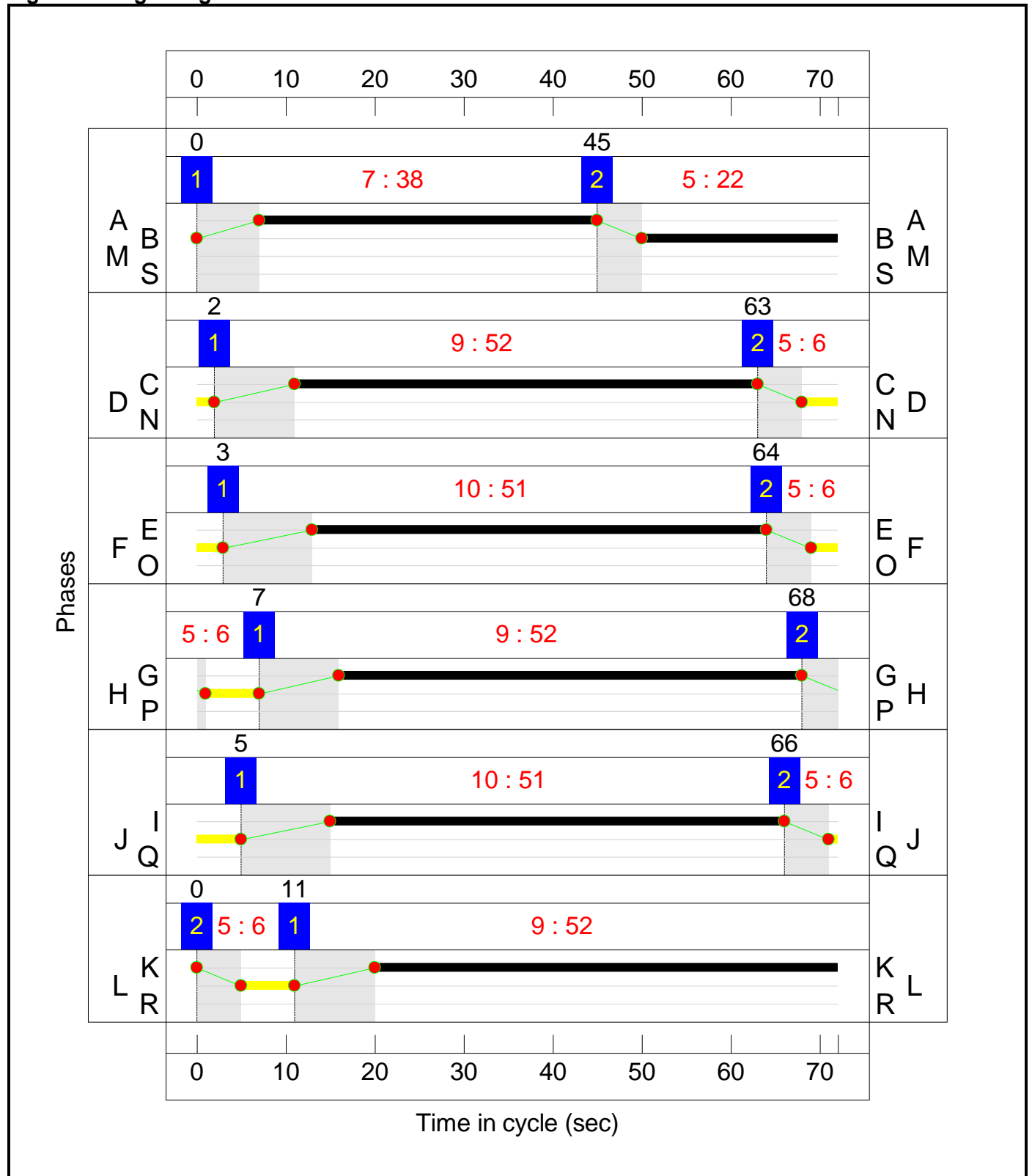
#### Stage Stream: 5

Stage	1	2
Duration	51	6
Change Point	5	66

#### Stage Stream: 6

Stage	1	2
Duration	52	6
Change Point	11	0

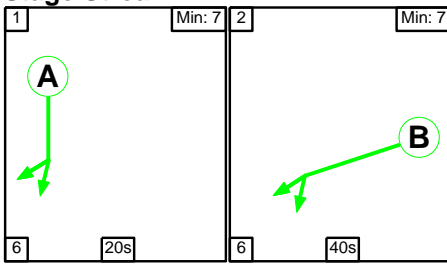
Signal Timings Diagram



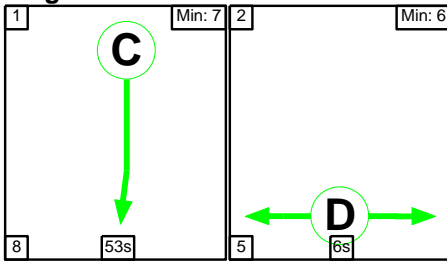
Full Input Data And Results

**C2 - South**  
**Stage Sequence Diagram**

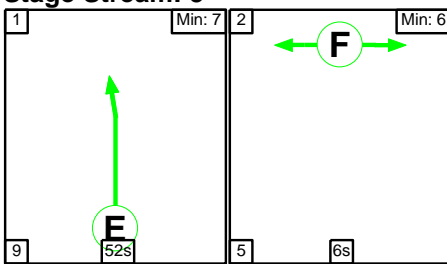
**Stage Stream: 1**



**Stage Stream: 2**



**Stage Stream: 3**



**Stage Timings**

**Stage Stream: 1**

Stage	1	2
Duration	20	40
Change Point	22	48

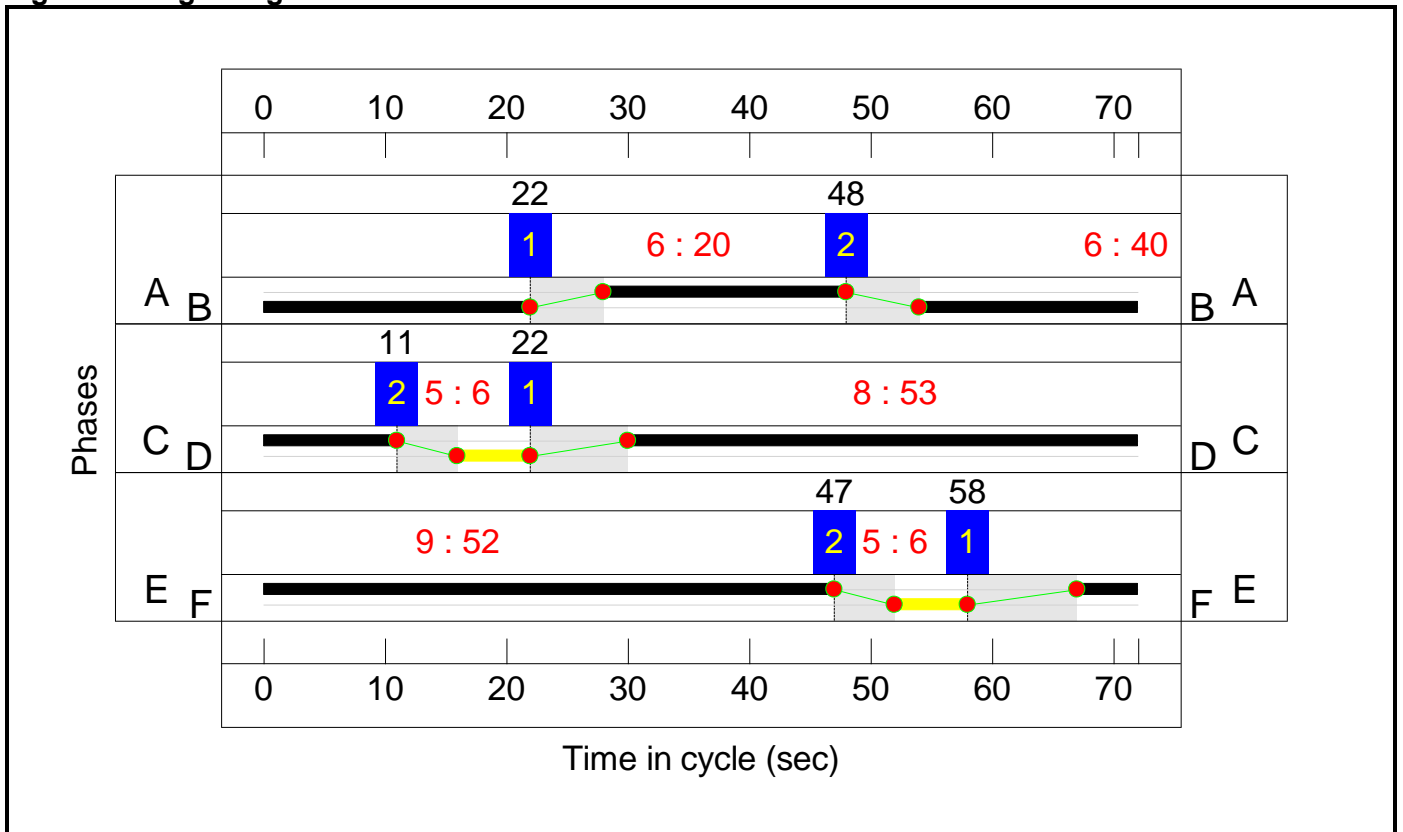
**Stage Stream: 2**

Stage	1	2
Duration	53	6
Change Point	22	11

**Stage Stream: 3**

Stage	1	2
Duration	52	6
Change Point	58	47

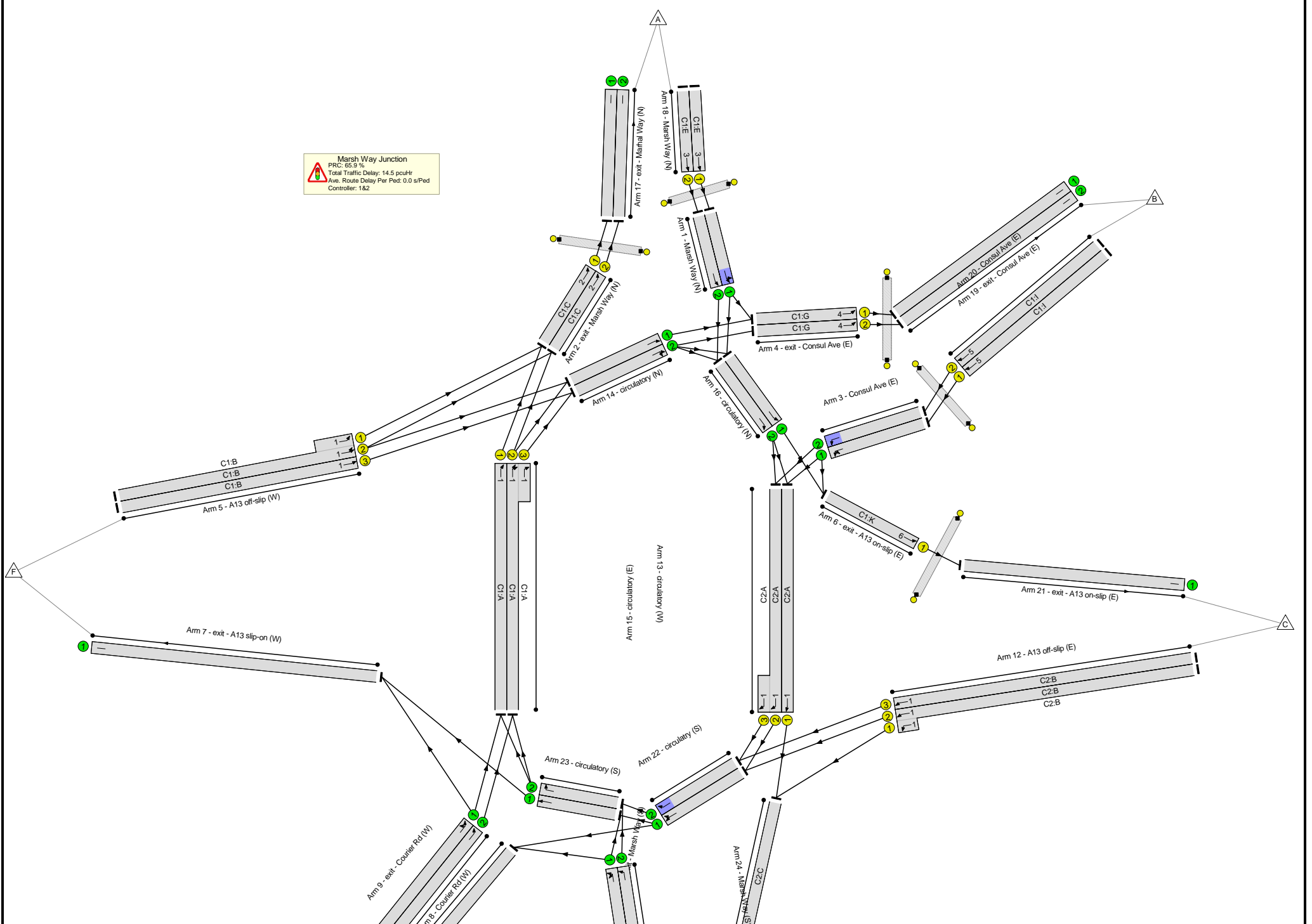
**Signal Timings Diagram**



Full Input Data And Results  
**Network Layout Diagram**

# Full Input Data And Results

Marsh Way Junction  
 PRC: 65.9 %  
 Total Traffic Delay: 14.5 pcuHr  
 Ave. Route Delay Per Ped: 0.0 s/Ped  
 Controller: 1&2



## Full Input Data And Results

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 (%)
<b>Network</b>	-	-	N/A	-	-		-	-	-	-	-	-	54.3%
<b>Marsh Way Junction</b>	-	-	N/A	-	-		-	-	-	-	-	-	54.3%
1/1	Marsh Way (N) Left Ahead	U	N/A	N/A	-		-	-	-	357	1957	1957	18.2%
1/2	Marsh Way (N) Ahead	U	N/A	N/A	-		-	-	-	348	1957	1957	17.8%
2/1	exit - Marsh Way (N) Ahead	U	1:2	N/A	C1:C		1	52	-	319	1960	1443	22.1%
2/2	exit - Marsh Way (N) Ahead	U	1:2	N/A	C1:C		1	52	-	289	1960	1443	20.0%
3/1	Consul Ave (E) Left Left2	U	N/A	N/A	-		-	-	-	111	1860	1860	6.0%
3/2	Consul Ave (E) Left	U	N/A	N/A	-		-	-	-	42	1860	1860	2.3%
4/1	exit - Consul Ave (E) Ahead	U	1:4	N/A	C1:G		1	52	-	111	2015	1483	7.5%
4/2	exit - Consul Ave (E) Ahead	U	1:4	N/A	C1:G		1	52	-	31	2015	1483	2.1%
5/2+5/1	A13 off-slip (W) Left Ahead	U	1:1	N/A	C1:B		1	22	-	199	1971:1921	464+407	22.9 : 22.9%
5/3	A13 off-slip (W) Ahead	U	1:1	N/A	C1:B		1	22	-	132	1921	614	21.5%
6/1	exit - A13 on-slip (E) Ahead	U	1:6	N/A	C1:K		1	52	-	528	2015	1483	35.6%
7/1	exit - A13 slip-on (W)	U	N/A	N/A	-		-	-	-	698	Inf	Inf	0.0%
8/1	Courier Rd (W) Left Ahead	U	N/A	N/A	-		-	-	-	20	1803	1803	1.1%
8/2	Courier Rd (W) Ahead	U	N/A	N/A	-		-	-	-	27	1803	1803	1.5%
9/1	exit - Courier Rd (W)	U	N/A	N/A	-		-	-	-	70	Inf	Inf	0.0%



Full Input Data And Results

10/2+10/1	Marsh Way (S) Ahead	U	2:3	N/A	C2:E		1	52	-	234	1955:1955	1102+380	15.8 : 15.8%
11/1	exit - Marsh Way (S) Ahead	U	2:2	N/A	C2:C		1	53	-	460	2015	1511	30.4%
12/2+12/1	A13 off-slip (E) Left Ahead	U	2:1	N/A	C2:B		1	40	-	635	1912:1912	757+413	54.3 : 54.3%
12/3	A13 off-slip (E) Ahead	U	2:1	N/A	C2:B		1	40	-	401	1912	1089	36.8%
13/1	circulatory (W) Ahead	U	1:1	N/A	C1:A		1	38	-	226	1896	1027	22.0%
13/2+13/3	circulatory (W) Ahead Right	U	1:1	N/A	C1:A		1	38	-	393	1896:1896	782+373	34.0 : 34.0%
14/1	circulatory (N) Ahead	U	N/A	N/A	-		-	-	-	83	1896	1896	4.4%
14/2	circulatory (N) Ahead Right	U	N/A	N/A	-		-	-	-	259	1896	1896	13.7%
15/1	circulatory (E) Ahead	U	2:1	N/A	C2:A		1	20	-	236	1896	553	42.7%
15/2+15/3	circulatory (E) Right	U	2:1	N/A	C2:A		1	20	-	294	1896:2015	553+0	53.2 : 0.0%
16/1	circulatory (N) Ahead	U	N/A	N/A	-		-	-	-	453	1896	1896	23.9%
16/2	circulatory (N) Ahead	U	N/A	N/A	-		-	-	-	452	1896	1896	23.8%
17/1	exit - Marhal Way (N)	U	N/A	N/A	-		-	-	-	319	Inf	Inf	0.0%
17/2	exit - Marhal Way (N)	U	N/A	N/A	-		-	-	-	289	Inf	Inf	0.0%
18/1	Marsh Way (N) Ahead	U	1:3	N/A	C1:E		1	51	-	357	1985	1434	24.9%
18/2	Marsh Way (N) Ahead	U	1:3	N/A	C1:E		1	51	-	348	1985	1434	24.3%
19/1	exit - Consul Ave (E)	U	N/A	N/A	-		-	-	-	111	Inf	Inf	0.0%
19/2	exit - Consul Ave (E)	U	N/A	N/A	-		-	-	-	31	Inf	Inf	0.0%
20/1	Consul Ave (E) Ahead	U	1:5	N/A	C1:I		1	51	-	111	2015	1455	7.6%

Full Input Data And Results

20/2	Consul Ave (E) Ahead	U	1:5	N/A	C1:I		1	51	-	42	2015	1455	2.9%
21/1	exit - A13 on-slip (E)	U	N/A	N/A	-		-	-	-	528	Inf	Inf	0.0%
22/1	circulatory (S) Ahead Ahead2	U	N/A	N/A	-		-	-	-	705	1896	1896	37.2%
22/2	circulatory (S) Ahead	U	N/A	N/A	-		-	-	-	401	1896	1896	21.1%
23/1	circulatory (S) Ahead	U	N/A	N/A	-		-	-	-	695	1896	1896	36.7%
23/2	circulatory (S) Right	U	N/A	N/A	-		-	-	-	575	1896	1896	30.3%
24/1	Marsh Way (S) Left Left2	U	N/A	N/A	-		-	-	-	60	1819	1819	3.3%
24/2	Marsh Way (S) Left	U	N/A	N/A	-		-	-	-	174	1819	1819	9.6%
25/1	exit - Marsh Way (S)	U	N/A	N/A	-		-	-	-	460	Inf	Inf	0.0%
Ped Link: P1	Unnamed Ped Link	-	1:2	-	C1:D		1	6	-	0	-	0	0.0%
Ped Link: P2	Unnamed Ped Link	-	1:3	-	C1:F		1	6	-	0	-	0	0.0%
Ped Link: P3	Unnamed Ped Link	-	1:4	-	C1:H		1	6	-	0	-	0	0.0%
Ped Link: P4	Unnamed Ped Link	-	1:5	-	C1:J		1	6	-	0	-	0	0.0%
Ped Link: P5	Unnamed Ped Link	-	1:6	-	C1:L		1	6	-	0	-	0	0.0%
Ped Link: P6	Unnamed Ped Link	-	2:3	-	C2:F		1	6	-	0	-	0	0.0%
Ped Link: P7	Unnamed Ped Link	-	2:2	-	C2:D		1	6	-	0	-	0	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)
<b>Network</b>	-	-	0	0	0	9.0	5.5	0.0	14.5	-	-	-	-
<b>Marsh Way Junction</b>	-	-	0	0	0	9.0	5.5	0.0	14.5	-	-	-	-
1/1	357	357	-	-	-	0.0	0.1	-	0.1	1.1	0.0	0.1	0.1
1/2	348	348	-	-	-	0.0	0.1	-	0.1	1.1	0.0	0.1	0.1
2/1	319	319	-	-	-	0.1	0.1	-	0.2	2.4	0.4	0.1	0.6
2/2	289	289	-	-	-	0.1	0.1	-	0.2	2.4	0.4	0.1	0.5
3/1	111	111	-	-	-	0.0	0.0	-	0.0	1.0	0.0	0.0	0.0
3/2	42	42	-	-	-	0.0	0.0	-	0.0	1.0	0.0	0.0	0.0
4/1	111	111	-	-	-	0.0	0.0	-	0.1	2.1	0.1	0.0	0.2
4/2	31	31	-	-	-	0.0	0.0	-	0.0	3.7	0.1	0.0	0.1
5/2+5/1	199	199	-	-	-	1.0	0.1	-	1.1	20.3	1.5	0.1	1.6
5/3	132	132	-	-	-	0.7	0.1	-	0.8	21.7	1.9	0.1	2.0
6/1	528	528	-	-	-	0.1	0.3	-	0.4	2.4	0.7	0.3	1.0
7/1	698	698	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	20	20	-	-	-	0.0	0.0	-	0.0	1.0	0.0	0.0	0.0
8/2	27	27	-	-	-	0.0	0.0	-	0.0	1.0	0.0	0.0	0.0
9/1	70	70	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
10/2+10/1	234	234	-	-	-	0.2	0.1	-	0.3	4.2	1.0	0.1	1.1
11/1	460	460	-	-	-	0.2	0.2	-	0.4	2.9	1.0	0.2	1.2
12/2+12/1	635	635	-	-	-	1.5	0.6	-	2.1	11.9	5.8	0.6	6.4
12/3	401	401	-	-	-	0.9	0.3	-	1.2	11.1	4.3	0.3	4.6
13/1	226	226	-	-	-	0.2	0.1	-	0.4	6.2	1.4	0.1	1.5
13/2+13/3	393	393	-	-	-	0.4	0.3	-	0.6	5.7	1.7	0.3	2.0
14/1	83	83	-	-	-	0.0	0.0	-	0.0	1.0	0.0	0.0	0.0
14/2	259	259	-	-	-	0.0	0.1	-	0.1	1.1	0.0	0.1	0.1
15/1	236	236	-	-	-	1.3	0.4	-	1.7	25.2	3.5	0.4	3.9



## Full Input Data And Results

C1 - North	Stream: 1 PRC for Signalled Lanes (%):	164.7	Total Delay for Signalled Lanes (pcuHr):	2.92	Cycle Time (s):	72
C1 - North	Stream: 2 PRC for Signalled Lanes (%):	307.1	Total Delay for Signalled Lanes (pcuHr):	0.41	Cycle Time (s):	72
C1 - North	Stream: 3 PRC for Signalled Lanes (%):	261.4	Total Delay for Signalled Lanes (pcuHr):	0.99	Cycle Time (s):	72
C1 - North	Stream: 4 PRC for Signalled Lanes (%):	1102.6	Total Delay for Signalled Lanes (pcuHr):	0.10	Cycle Time (s):	72
C1 - North	Stream: 5 PRC for Signalled Lanes (%):	1080.0	Total Delay for Signalled Lanes (pcuHr):	0.18	Cycle Time (s):	72
C1 - North	Stream: 6 PRC for Signalled Lanes (%):	152.8	Total Delay for Signalled Lanes (pcuHr):	0.36	Cycle Time (s):	72
C2 - South	Stream: 1 PRC for Signalled Lanes (%):	65.9	Total Delay for Signalled Lanes (pcuHr):	7.20	Cycle Time (s):	72
C2 - South	Stream: 2 PRC for Signalled Lanes (%):	195.7	Total Delay for Signalled Lanes (pcuHr):	0.37	Cycle Time (s):	72
C2 - South	Stream: 3 PRC for Signalled Lanes (%):	470.0	Total Delay for Signalled Lanes (pcuHr):	0.27	Cycle Time (s):	72
	PRC Over All Lanes (%):	65.9	Total Delay Over All Lanes(pcuHr):	14.49		

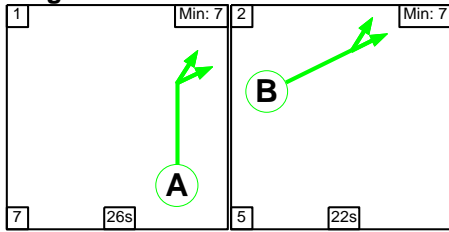
Full Input Data And Results

Scenario 6: 'Do Something 2030 + LTC PM' (FG8: 'Do Something 2030 + LTC PM', Plan 1: 'Network Control Plan 1')

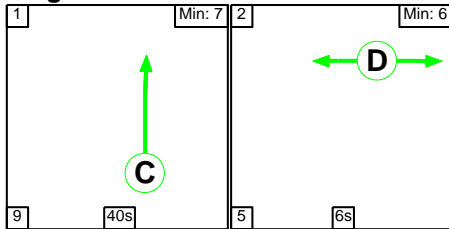
C1 - North

Stage Sequence Diagram

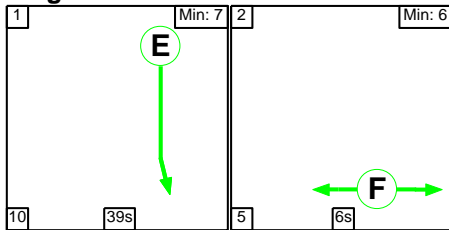
Stage Stream: 1



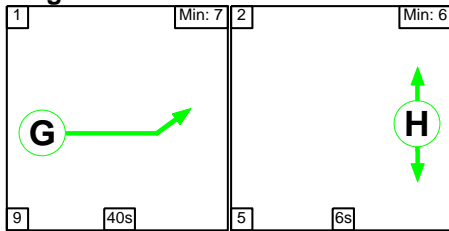
Stage Stream: 2



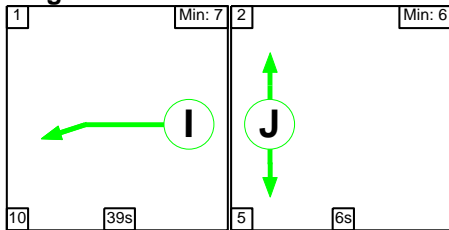
Stage Stream: 3



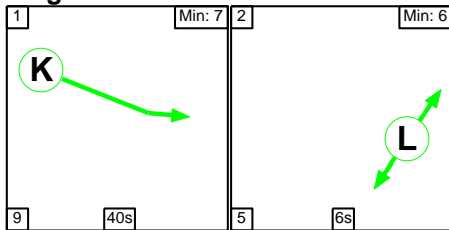
Stage Stream: 4



Stage Stream: 5



Stage Stream: 6



## Full Input Data And Results

### Stage Timings

#### Stage Stream: 1

Stage	1	2
Duration	26	22
Change Point	0	33

#### Stage Stream: 2

Stage	1	2
Duration	40	6
Change Point	1	50

#### Stage Stream: 3

Stage	1	2
Duration	39	6
Change Point	49	38

#### Stage Stream: 4

Stage	1	2
Duration	40	6
Change Point	6	55

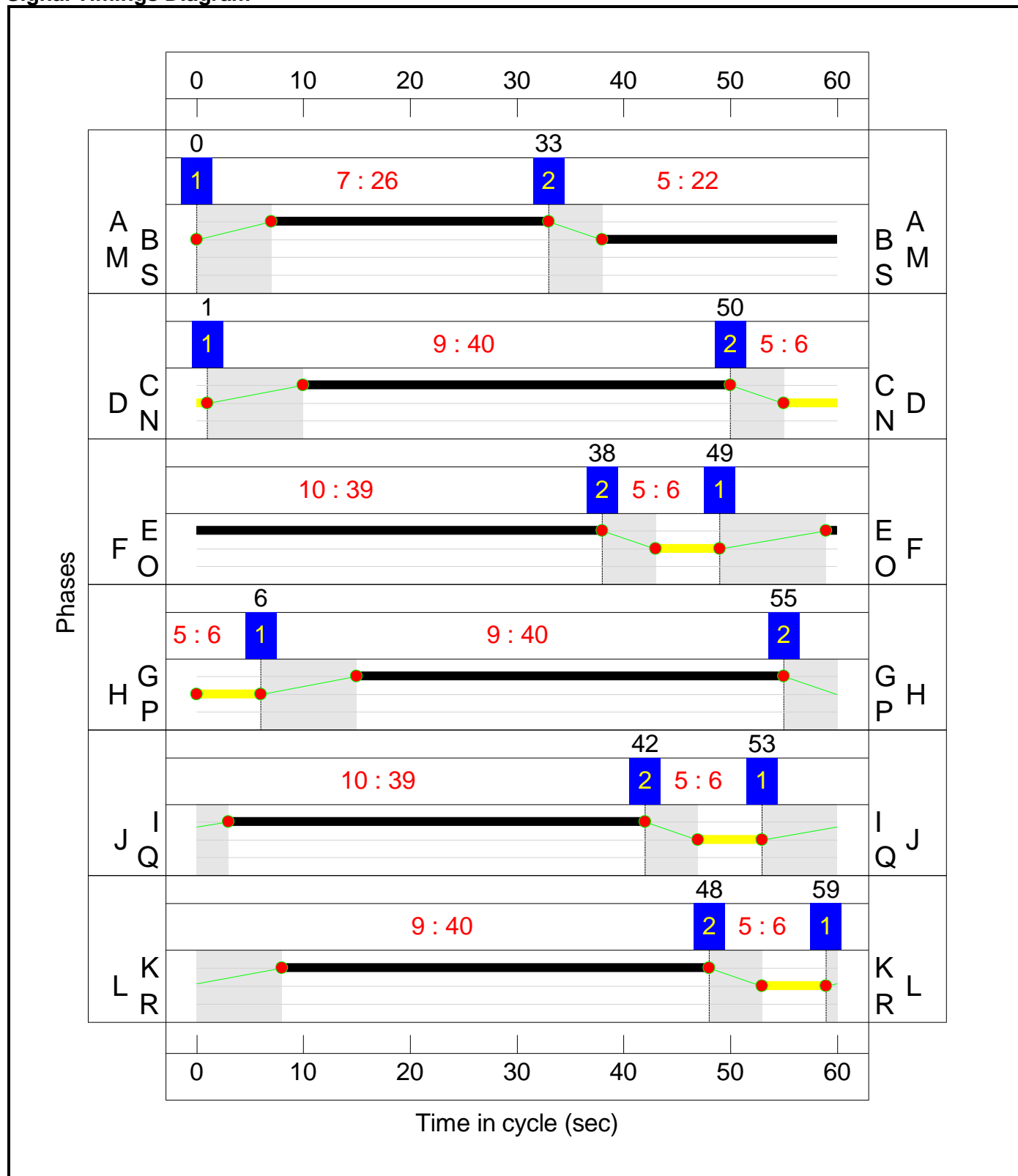
#### Stage Stream: 5

Stage	1	2
Duration	39	6
Change Point	53	42

#### Stage Stream: 6

Stage	1	2
Duration	40	6
Change Point	59	48

Signal Timings Diagram

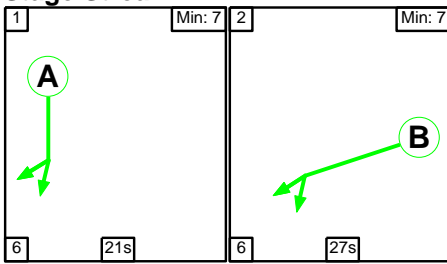




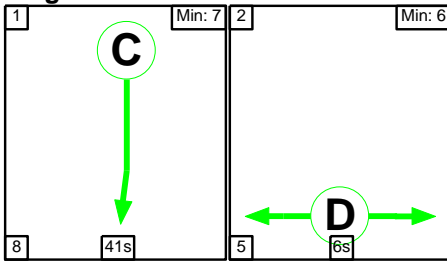
Full Input Data And Results

**C2 - South**  
**Stage Sequence Diagram**

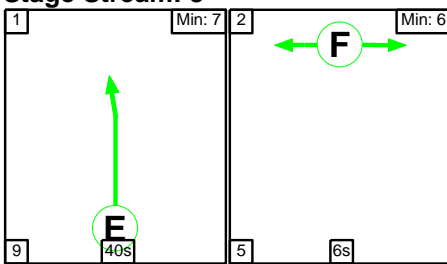
**Stage Stream: 1**



**Stage Stream: 2**



**Stage Stream: 3**



**Stage Timings**

**Stage Stream: 1**

Stage	1	2
Duration	21	27
Change Point	13	40

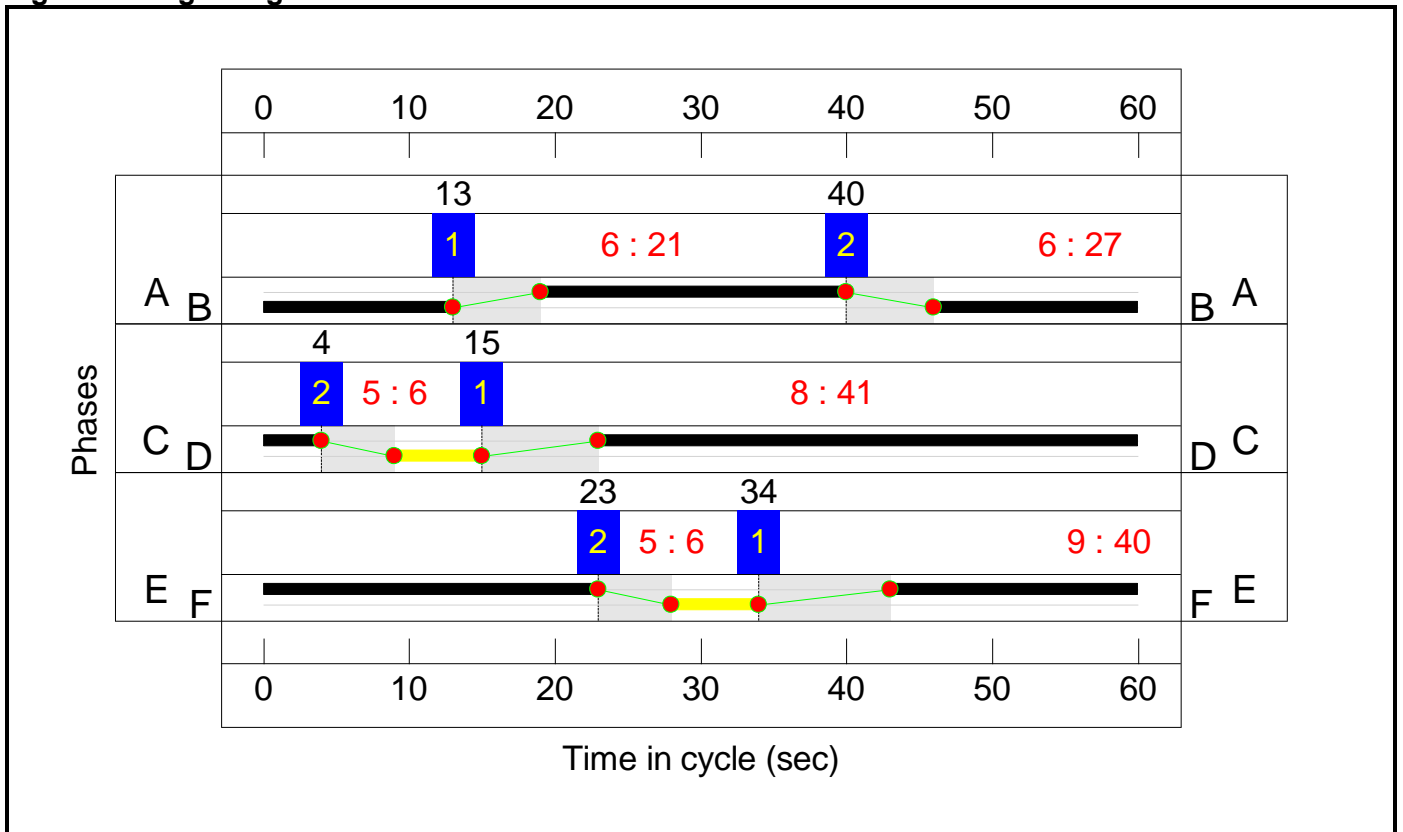
**Stage Stream: 2**

Stage	1	2
Duration	41	6
Change Point	15	4

**Stage Stream: 3**

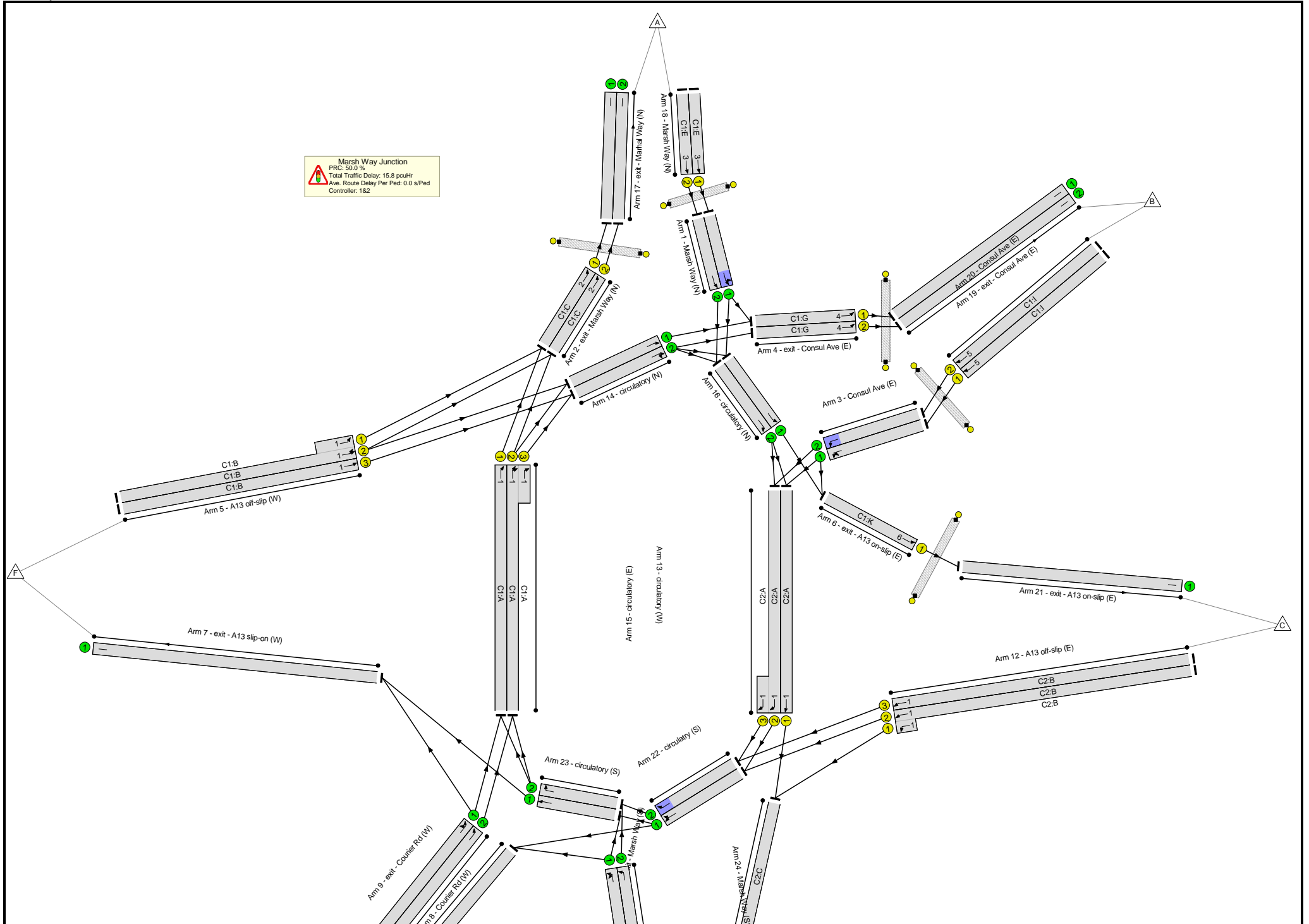
Stage	1	2
Duration	40	6
Change Point	34	23

Signal Timings Diagram



Full Input Data And Results  
**Network Layout Diagram**

# Full Input Data And Results



## Full Input Data And Results

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 (%)
<b>Network</b>	-	-	<b>N/A</b>	-	-		-	-	-	-	-	-	<b>60.0%</b>
<b>Marsh Way Junction</b>	-	-	<b>N/A</b>	-	-		-	-	-	-	-	-	<b>60.0%</b>
1/1	Marsh Way (N) Left Ahead	U	N/A	N/A	-		-	-	-	483	1957	1957	24.7%
1/2	Marsh Way (N) Ahead	U	N/A	N/A	-		-	-	-	340	1957	1957	17.4%
2/1	exit - Marsh Way (N) Ahead	U	1:2	N/A	C1:C		1	40	-	668	1960	1339	49.9%
2/2	exit - Marsh Way (N) Ahead	U	1:2	N/A	C1:C		1	40	-	424	1960	1339	31.7%
3/1	Consul Ave (E) Left Left2	U	N/A	N/A	-		-	-	-	93	1860	1860	5.0%
3/2	Consul Ave (E) Left	U	N/A	N/A	-		-	-	-	46	1860	1860	2.5%
4/1	exit - Consul Ave (E) Ahead	U	1:4	N/A	C1:G		1	40	-	71	2015	1377	5.2%
4/2	exit - Consul Ave (E) Ahead	U	1:4	N/A	C1:G		1	40	-	24	2015	1377	1.7%
5/2+5/1	A13 off-slip (W) Left Ahead	U	1:1	N/A	C1:B		1	22	-	514	1985:1921	545+528	47.9 : 47.9%
5/3	A13 off-slip (W) Ahead	U	1:1	N/A	C1:B		1	22	-	70	1921	736	9.5%
6/1	exit - A13 on-slip (E) Ahead	U	1:6	N/A	C1:K		1	40	-	826	2015	1377	60.0%
7/1	exit - A13 slip-on (W)	U	N/A	N/A	-		-	-	-	483	Inf	Inf	0.0%
8/1	Courier Rd (W) Left Ahead	U	N/A	N/A	-		-	-	-	42	1803	1803	2.3%
8/2	Courier Rd (W) Ahead	U	N/A	N/A	-		-	-	-	64	1803	1803	3.5%
9/1	exit - Courier Rd (W)	U	N/A	N/A	-		-	-	-	58	Inf	Inf	0.0%

Full Input Data And Results

10/2+10/1	Marsh Way (S) Ahead	U	2:3	N/A	C2:E		1	40	-	452	1955:1955	1048+337	32.6 : 32.6%
11/1	exit - Marsh Way (S) Ahead	U	2:2	N/A	C2:C		1	41	-	151	2015	1410	10.7%
12/2+12/1	A13 off-slip (E) Left Ahead	U	2:1	N/A	C2:B		1	27	-	121	1912:1912	430+590	11.9 : 11.9%
12/3	A13 off-slip (E) Ahead	U	2:1	N/A	C2:B		1	27	-	480	1912	892	53.8%
13/1	circulatory (W) Ahead	U	1:1	N/A	C1:A		1	26	-	415	1896	853	48.6%
13/2+13/3	circulatory (W) Ahead Right	U	1:1	N/A	C1:A		1	26	-	494	1896:1896	501+609	44.5 : 44.5%
14/1	circulatory (N) Ahead	U	N/A	N/A	-		-	-	-	60	1896	1896	3.2%
14/2	circulatory (N) Ahead Right	U	N/A	N/A	-		-	-	-	341	1896	1896	18.0%
15/1	circulatory (E) Ahead	U	2:1	N/A	C2:A		1	21	-	81	1896	695	11.7%
15/2+15/3	circulatory (E) Right	U	2:1	N/A	C2:A		1	21	-	361	1896:2015	695+0	51.9 : 0.0%
16/1	circulatory (N) Ahead	U	N/A	N/A	-		-	-	-	744	1896	1896	39.2%
16/2	circulatory (N) Ahead	U	N/A	N/A	-		-	-	-	385	1896	1896	20.3%
17/1	exit - Marhal Way (N)	U	N/A	N/A	-		-	-	-	668	Inf	Inf	0.0%
17/2	exit - Marhal Way (N)	U	N/A	N/A	-		-	-	-	424	Inf	Inf	0.0%
18/1	Marsh Way (N) Ahead	U	1:3	N/A	C1:E		1	39	-	483	1985	1323	36.5%
18/2	Marsh Way (N) Ahead	U	1:3	N/A	C1:E		1	39	-	340	1985	1323	25.7%
19/1	exit - Consul Ave (E)	U	N/A	N/A	-		-	-	-	71	Inf	Inf	0.0%
19/2	exit - Consul Ave (E)	U	N/A	N/A	-		-	-	-	24	Inf	Inf	0.0%
20/1	Consul Ave (E) Ahead	U	1:5	N/A	C1:I		1	39	-	93	2015	1343	6.9%

Full Input Data And Results

20/2	Consul Ave (E) Ahead	U	1:5	N/A	C1:I		1	39	-	46	2015	1343	3.4%
21/1	exit - A13 on-slip (E)	U	N/A	N/A	-		-	-	-	826	Inf	Inf	0.0%
22/1	circulatory (S) Ahead Ahead2	U	N/A	N/A	-		-	-	-	412	1896	1896	21.7%
22/2	circulatory (S) Ahead	U	N/A	N/A	-		-	-	-	480	1896	1896	25.3%
23/1	circulatory (S) Ahead	U	N/A	N/A	-		-	-	-	464	1896	1896	24.5%
23/2	circulatory (S) Right	U	N/A	N/A	-		-	-	-	822	1896	1896	43.4%
24/1	Marsh Way (S) Left Left2	U	N/A	N/A	-		-	-	-	110	1819	1819	6.0%
24/2	Marsh Way (S) Left	U	N/A	N/A	-		-	-	-	342	1819	1819	18.8%
25/1	exit - Marsh Way (S)	U	N/A	N/A	-		-	-	-	151	Inf	Inf	0.0%
Ped Link: P1	Unnamed Ped Link	-	1:2	-	C1:D		1	6	-	0	-	0	0.0%
Ped Link: P2	Unnamed Ped Link	-	1:3	-	C1:F		1	6	-	0	-	0	0.0%
Ped Link: P3	Unnamed Ped Link	-	1:4	-	C1:H		1	6	-	0	-	0	0.0%
Ped Link: P4	Unnamed Ped Link	-	1:5	-	C1:J		1	6	-	0	-	0	0.0%
Ped Link: P5	Unnamed Ped Link	-	1:6	-	C1:L		1	6	-	0	-	0	0.0%
Ped Link: P6	Unnamed Ped Link	-	2:3	-	C2:F		1	6	-	0	-	0	0.0%
Ped Link: P7	Unnamed Ped Link	-	2:2	-	C2:D		1	6	-	0	-	0	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)
<b>Network</b>	-	-	0	0	0	8.9	6.9	0.0	15.8	-	-	-	-
<b>Marsh Way Junction</b>	-	-	0	0	0	8.9	6.9	0.0	15.8	-	-	-	-
1/1	483	483	-	-	-	0.0	0.2	-	0.2	1.2	0.0	0.2	0.2
1/2	340	340	-	-	-	0.0	0.1	-	0.1	1.1	0.0	0.1	0.1
2/1	668	668	-	-	-	0.3	0.5	-	0.8	4.4	1.4	0.5	1.9
2/2	424	424	-	-	-	0.3	0.2	-	0.6	4.7	1.5	0.2	1.7
3/1	93	93	-	-	-	0.0	0.0	-	0.0	1.0	0.0	0.0	0.0
3/2	46	46	-	-	-	0.0	0.0	-	0.0	1.0	0.0	0.0	0.0
4/1	71	71	-	-	-	0.0	0.0	-	0.0	1.7	0.1	0.0	0.1
4/2	24	24	-	-	-	0.0	0.0	-	0.0	4.6	0.1	0.0	0.1
5/2+5/1	514	514	-	-	-	1.9	0.5	-	2.3	16.4	3.0	0.5	3.5
5/3	70	70	-	-	-	0.2	0.1	-	0.3	14.6	0.7	0.1	0.8
6/1	826	826	-	-	-	0.1	0.7	-	0.8	3.6	0.4	0.7	1.1
7/1	483	483	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	42	42	-	-	-	0.0	0.0	-	0.0	1.0	0.0	0.0	0.0
8/2	64	64	-	-	-	0.0	0.0	-	0.0	1.0	0.0	0.0	0.0
9/1	58	58	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
10/2+10/1	452	452	-	-	-	0.4	0.2	-	0.7	5.5	2.2	0.2	2.5
11/1	151	151	-	-	-	0.1	0.1	-	0.1	2.7	0.3	0.1	0.3
12/2+12/1	121	121	-	-	-	0.3	0.1	-	0.4	10.9	0.6	0.1	0.7
12/3	480	480	-	-	-	1.5	0.6	-	2.1	15.8	5.6	0.6	6.2
13/1	415	415	-	-	-	0.5	0.5	-	0.9	8.1	2.3	0.5	2.8
13/2+13/3	494	494	-	-	-	0.7	0.4	-	1.1	8.3	1.8	0.4	2.2
14/1	60	60	-	-	-	0.0	0.0	-	0.0	1.0	0.0	0.0	0.0
14/2	341	341	-	-	-	0.0	0.1	-	0.1	1.2	0.0	0.1	0.1
15/1	81	81	-	-	-	0.2	0.1	-	0.3	12.8	0.7	0.1	0.8



## Full Input Data And Results

C1 - North	Stream: 1	PRC for Signalled Lanes (%)	85.0	Total Delay for Signalled Lanes (pcuHr)	4.69	Cycle Time (s)	60
C1 - North	Stream: 2	PRC for Signalled Lanes (%)	80.4	Total Delay for Signalled Lanes (pcuHr)	1.36	Cycle Time (s)	60
C1 - North	Stream: 3	PRC for Signalled Lanes (%)	146.6	Total Delay for Signalled Lanes (pcuHr)	1.43	Cycle Time (s)	60
C1 - North	Stream: 4	PRC for Signalled Lanes (%)	1645.4	Total Delay for Signalled Lanes (pcuHr)	0.07	Cycle Time (s)	60
C1 - North	Stream: 5	PRC for Signalled Lanes (%)	1200.0	Total Delay for Signalled Lanes (pcuHr)	0.19	Cycle Time (s)	60
C1 - North	Stream: 6	PRC for Signalled Lanes (%)	50.0	Total Delay for Signalled Lanes (pcuHr)	0.83	Cycle Time (s)	60
C2 - South	Stream: 1	PRC for Signalled Lanes (%)	67.3	Total Delay for Signalled Lanes (pcuHr)	4.47	Cycle Time (s)	60
C2 - South	Stream: 2	PRC for Signalled Lanes (%)	740.7	Total Delay for Signalled Lanes (pcuHr)	0.11	Cycle Time (s)	60
C2 - South	Stream: 3	PRC for Signalled Lanes (%)	175.7	Total Delay for Signalled Lanes (pcuHr)	0.69	Cycle Time (s)	60
		PRC Over All Lanes (%)	50.0	Total Delay Over All Lanes(pcuHr)	15.81		

Junctions 10
ARCADY 10 - Roundabout Module
Version: 10.0.4.1693 © Copyright TRL Software Limited, 2021
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**Filename:** Junction 10 - A13-A1306 Wennington Rd.j10  
**Path:** P:\9100s\9190 - Lower Thames Crossing, London Borough of Havering\Junction Analysis\10 - A13 - A1306 Wennington Road  
**Report generation date:** 23/06/2023 16:11:50

- »2023, AM
- »2023, PM
- »Reference Case 2030 AM, AM
- »Reference Case 2030 AM, PM
- »Do Something 2030 + LTC, AM
- »Do Something 2030 + LTC, PM

**Summary of junction performance**

	AM					PM				
	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Set ID	Queue (PCU)	Delay (s)	RFC	LOS
<b>2023</b>										
Junction 1 - Arm 3	D1	0.7	2.58	0.42	A	D2	0.9	2.80	0.47	A
Junction 1 - Arm 4		0.5	3.28	0.34	A		1.1	4.84	0.53	A
Junction 1 - Arm 1		0.9	2.90	0.47	A		0.9	3.04	0.48	A
Junction 2 - Arm 1		1.1	3.12	0.52	A		1.1	3.18	0.53	A
Junction 2 - Arm 3		0.6	2.51	0.36	A		0.6	2.55	0.37	A
Junction 2 - Arm 4		0.5	2.49	0.33	A		0.4	2.37	0.29	A
<b>Reference Case 2030 AM</b>										
Junction 1 - Arm 3	D3	0.8	2.67	0.44	A	D4	1.0	2.93	0.49	A
Junction 1 - Arm 4		0.6	3.48	0.36	A		1.3	5.42	0.57	A
Junction 1 - Arm 1		1.0	3.12	0.50	A		1.0	3.28	0.51	A
Junction 2 - Arm 1		1.2	3.38	0.55	A		1.3	3.45	0.56	A
Junction 2 - Arm 3		0.6	2.58	0.38	A		0.6	2.63	0.39	A
Junction 2 - Arm 4		0.5	2.62	0.35	A		0.4	2.48	0.31	A
<b>Do Something 2030 + LTC</b>										
Junction 1 - Arm 3	D5	0.9	2.76	0.46	A	D6	1.2	3.24	0.54	A
Junction 1 - Arm 4		0.5	3.36	0.33	A		1.3	5.62	0.56	A
Junction 1 - Arm 1		1.0	2.98	0.49	A		1.1	3.49	0.53	A
Junction 2 - Arm 1		1.2	3.37	0.54	A		1.4	3.85	0.59	A
Junction 2 - Arm 3		0.6	2.61	0.38	A		0.8	2.82	0.43	A
Junction 2 - Arm 4		0.6	2.72	0.37	A		0.6	2.86	0.38	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	09/09/2022
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	JEGINTLPIEPRZJ
Description	

## Units

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

## Analysis Options

Calculate Queue Percentiles	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
		0.85	36.00	20.00

## Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2023	AM	ONE HOUR	06:45	08:15	15
D2	2023	PM	ONE HOUR	16:45	18:15	15
D3	Reference Case 2030 AM	AM	ONE HOUR	06:45	08:15	15
D4	Reference Case 2030 AM	PM	ONE HOUR	16:45	18:15	15
D5	Do Something 2030 + LTC	AM	ONE HOUR	06:45	08:15	15
D6	Do Something 2030 + LTC	PM	ONE HOUR	16:45	18:15	15

## Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

# 2023, AM

## Data Errors and Warnings

Severity	Area	Item	Description
Warning	Linked Roundabout	Junction 1 - Arm 3	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 roundabouts	Junction 1	U-turns on linked arms may cause sporadic locking up of junctions and/or unreliable results.
Warning	Linked Roundabout	Junction 2 - Arm 3	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 roundabouts	Junction 2	U-turns on linked arms may cause sporadic locking up of junctions and/or unreliable results.
Warning	Demand Sets	D3 - Reference Case 2030 AM, AM	Demand Set 3: Scenario Name includes Time Period Name ('AM'). Are you sure this is correct?
Warning	Vehicle Mix	Junction 1	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Vehicle Mix	Junction 2	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

## Junction Network

### Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	North Roundabout	Standard Roundabout		2, 3, 4, 1	2.86	A
2	South Roundabout	Standard Roundabout		1, 2, 3, 4	2.78	A

### Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	2.82	A

## Arms

### Arms

Junction	Arm	Name	Description	No give-way line
1	2	A13 Entry		
	3	A1306 (S) Internal		
	4	A13 Off-Slip (N)		
	1	A1306 (N)		
2	1	untitled		
	2	untitled		
	3	untitled		
	4	untitled		

### 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)	Entry only	Exit only
1	2								✓
	3	7.34	9.12	5.7	41.0	50.0	46.0		
	4	8.28	10.10	4.7	15.9	50.0	67.5		
	1	7.76	9.11	17.1	52.9	50.0	8.5		
2	1	7.44	10.30	7.9	40.1	50.0	5.5		
	2								✓
	3	7.34	8.27	1.6	25.1	50.0	39.0		
	4	7.38	10.30	20.2	15.8	50.0	24.0		

## Slope / Intercept / Capacity

### Roundabout Slope and Intercept used in model

Junction	Arm	Final slope	Final intercept (PCU/hr)
1	2		
	3	0.736	2419
	4	0.693	2361
	1	0.877	2959
2	1	0.876	2947
	2		
	3	0.711	2271
	4	0.831	2863

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

## Traffic Demand

### Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2023	AM	ONE HOUR	06:45	08:15	15

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 (PCU/hr)	Flow multiplier (%)	Internal storage space (PCU)
1	3	2	3	Simple (vertical queueing)	Normal	0	100.00	
2	3	1	2	Simple (vertical queueing)	Normal	0	100.00	

### Demand overview (Traffic)

Junction	Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1	2				
	3	✓			
	4		✓	504	100.000
	1		✓	1007	100.000
2	1		✓	1124	100.000
	2				
	3	✓			
	4		✓	648	100.000

## Origin-Destination Data

### Demand (PCU/hr)

#### Junction 1

		To			
		2	3	4	1
From	2	0	0	0	0
	3	279	5	0	635
	4	1	345	0	158
	1	449	557	0	1

**Demand (PCU/hr)**

**Junction 2**

		To			
		1	2	3	4
From	1	40	525	559	0
	2	0	0	0	0
	3	644	255	3	0
	4	280	2	366	0

## Vehicle Mix

**Heavy Vehicle Percentages**

**Junction 1**

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

**Heavy Vehicle Percentages**

**Junction 2**

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

## Results

**Results Summary for whole modelled period**

Junction	Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	2				
	3	0.42	2.58	0.7	A
	4	0.34	3.28	0.5	A
	1	0.47	2.90	0.9	A
2	1	0.52	3.12	1.1	A
	2				
	3	0.36	2.51	0.6	A
	4	0.33	2.49	0.5	A



### Main Results for each time segment

#### 06:45 - 07:00

Junction	Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	2		682						
	3	697	0.75	2418	0.288	695	0.4	2.087	A
	4	379	696	1879	0.202	378	0.3	2.398	A
	1	758	475	2543	0.298	756	0.4	2.013	A
2	1	846	433	2568	0.330	844	0.5	2.087	A
	2		727						
	3	549	30	2250	0.244	548	0.3	2.114	A
	4	488	578	2383	0.205	487	0.3	1.898	A

#### 07:00 - 07:15

Junction	Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	2		816						
	3	833	0.90	2418	0.345	833	0.5	2.271	A
	4	453	834	1783	0.254	453	0.3	2.705	A
	1	905	568	2461	0.368	905	0.6	2.311	A
2	1	1010	518	2493	0.405	1010	0.7	2.426	A
	2		869						
	3	657	36	2246	0.293	657	0.4	2.265	A
	4	583	693	2288	0.255	582	0.3	2.110	A

#### 07:15 - 07:30

Junction	Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	2		999						
	3	1020	1	2418	0.422	1019	0.7	2.572	A
	4	555	1020	1654	0.336	554	0.5	3.272	A
	1	1109	695	2349	0.472	1107	0.9	2.896	A
2	1	1238	635	2391	0.518	1236	1.1	3.113	A
	2		1064						
	3	804	44	2240	0.359	804	0.6	2.505	A
	4	713	848	2159	0.330	713	0.5	2.487	A

#### 07:30 - 07:45

Junction	Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	2		1000						
	3	1021	1	2418	0.422	1021	0.7	2.576	A
	4	555	1022	1653	0.336	555	0.5	3.278	A
	1	1109	697	2348	0.472	1109	0.9	2.903	A
2	1	1238	636	2390	0.518	1238	1.1	3.122	A
	2		1065						
	3	805	44	2240	0.360	805	0.6	2.509	A
	4	713	849	2158	0.331	713	0.5	2.492	A

07:45 - 08:00

Junction	Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	2		817						
	3	835	0.90	2418	0.345	836	0.5	2.275	A
	4	453	837	1781	0.254	454	0.3	2.714	A
	1	905	570	2460	0.368	906	0.6	2.321	A
2	1	1010	520	2492	0.406	1012	0.7	2.435	A
	2		871						
	3	659	36	2246	0.293	659	0.4	2.270	A
	4	583	695	2286	0.255	583	0.3	2.116	A

08:00 - 08:15

Junction	Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	2		684						
	3	699	0.75	2418	0.289	699	0.4	2.094	A
	4	379	700	1876	0.202	380	0.3	2.408	A
	1	758	477	2541	0.298	759	0.4	2.021	A
2	1	846	435	2566	0.330	847	0.5	2.094	A
	2		729						
	3	551	30	2250	0.245	552	0.3	2.120	A
	4	488	582	2380	0.205	488	0.3	1.905	A

# 2023, PM

## Data Errors and Warnings

Severity	Area	Item	Description
Warning	Linked Roundabout	Junction 1 - Arm 3	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 roundabouts	Junction 1	U-turns on linked arms may cause sporadic locking up of junctions and/or unreliable results.
Warning	Linked Roundabout	Junction 2 - Arm 3	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 roundabouts	Junction 2	U-turns on linked arms may cause sporadic locking up of junctions and/or unreliable results.
Warning	Demand Sets	D3 - Reference Case 2030 AM, AM	Demand Set 3: Scenario Name includes Time Period Name ('AM'). Are you sure this is correct?
Warning	Vehicle Mix	Junction 1	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Vehicle Mix	Junction 2	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

## Junction Network

### Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	North Roundabout	Standard Roundabout		2, 3, 4, 1	3.44	A
2	South Roundabout	Standard Roundabout		1, 2, 3, 4	2.80	A

### Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	3.14	A

## Traffic Demand

### Demand Set Details

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

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 (PCU/hr)	Flow multiplier (%)	Internal storage space (PCU)
1	3	2	3	Simple (vertical queueing)	Normal	0	100.00	
2	3	1	2	Simple (vertical queueing)	Normal	0	100.00	

### Demand overview (Traffic)

Junction	Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1	2				
	3	✓			
	4		✓	753	100.000
	1		✓	991	100.000
2	1		✓	1171	100.000
	2				
	3	✓			
	4		✓	565	100.000

## Origin-Destination Data

### Demand (PCU/hr)

		To				
		2	3	4	1	
Junction 1	From	2	0	0	0	0
		3	302	11	0	719
		4	1	397	0	355
		1	453	526	0	12

### Demand (PCU/hr)

		To				
		1	2	3	4	
Junction 2	From	1	37	466	668	0
		2	0	0	0	0
		3	687	230	5	0
		4	212	4	349	0

## Vehicle Mix

### Heavy Vehicle Percentages

		To				
		2	3	4	1	
Junction 1	From	2	0	0	0	0
		3	0	0	0	0
		4	0	0	0	0
		1	0	0	0	0

### Heavy Vehicle Percentages

		To				
		1	2	3	4	
Junction 2	From	1	0	0	0	0
		2	0	0	0	0
		3	0	0	0	0
		4	0	0	0	0

## Results

### Results Summary for whole modelled period

Junction	Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	2				
	3	0.47	2.80	0.9	A
	4	0.53	4.84	1.1	A
	1	0.48	3.04	0.9	A
2	1	0.53	3.18	1.1	A
	2				
	3	0.37	2.55	0.6	A
	4	0.29	2.37	0.4	A

### Main Results for each time segment

#### 16:45 - 17:00

Junction	Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	2		710						
	3	767	9	2412	0.318	765	0.5	2.184	A
	4	567	774	1824	0.311	565	0.4	2.855	A
	1	746	531	2494	0.299	744	0.4	2.056	A
2	1	882	409	2589	0.341	880	0.5	2.103	A
	2		795						
	3	565	28	2251	0.251	564	0.3	2.130	A
	4	425	591	2372	0.179	424	0.2	1.848	A

#### 17:00 - 17:15

Junction	Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	2		850						
	3	917	11	2411	0.381	917	0.6	2.408	A
	4	677	927	1718	0.394	676	0.6	3.453	A
	1	891	635	2402	0.371	890	0.6	2.380	A
2	1	1053	489	2518	0.418	1052	0.7	2.454	A
	2		951						
	3	676	33	2247	0.301	676	0.4	2.290	A
	4	508	709	2274	0.223	508	0.3	2.037	A

#### 17:15 - 17:30

Junction	Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	2		1040						
	3	1123	13	2409	0.466	1122	0.9	2.794	A
	4	829	1135	1574	0.527	827	1.1	4.807	A
	1	1091	778	2277	0.479	1090	0.9	3.029	A
2	1	1289	599	2422	0.532	1288	1.1	3.169	A
	2		1164						
	3	828	41	2242	0.369	827	0.6	2.542	A
	4	622	868	2142	0.290	622	0.4	2.367	A

17:30 - 17:45

Junction	Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	2		1041						
	3	1124	13	2409	0.467	1124	0.9	2.801	A
	4	829	1137	1573	0.527	829	1.1	4.840	A
	1	1091	779	2276	0.479	1091	0.9	3.037	A
2	1	1289	600	2421	0.532	1289	1.1	3.178	A
	2		1165						
	3	829	41	2242	0.370	829	0.6	2.546	A
	4	622	870	2141	0.291	622	0.4	2.369	A

17:45 - 18:00

Junction	Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	2		852						
	3	919	11	2411	0.381	920	0.6	2.416	A
	4	677	931	1716	0.395	679	0.7	3.479	A
	1	891	638	2400	0.371	892	0.6	2.391	A
2	1	1053	491	2517	0.418	1054	0.7	2.465	A
	2		952						
	3	678	33	2247	0.302	679	0.4	2.297	A
	4	508	712	2272	0.224	508	0.3	2.041	A

18:00 - 18:15

Junction	Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	2		713						
	3	769	9	2412	0.319	770	0.5	2.194	A
	4	567	779	1821	0.311	568	0.5	2.875	A
	1	746	534	2491	0.299	747	0.4	2.065	A
2	1	882	411	2587	0.341	882	0.5	2.112	A
	2		797						
	3	567	28	2251	0.252	568	0.3	2.138	A
	4	425	596	2368	0.180	426	0.2	1.855	A

# Reference Case 2030 AM, AM

## Data Errors and Warnings

Severity	Area	Item	Description
Warning	Linked Roundabout	Junction 1 - Arm 3	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 roundabouts	Junction 1	U-turns on linked arms may cause sporadic locking up of junctions and/or unreliable results.
Warning	Linked Roundabout	Junction 2 - Arm 3	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 roundabouts	Junction 2	U-turns on linked arms may cause sporadic locking up of junctions and/or unreliable results.
Warning	Demand Sets	D3 - Reference Case 2030 AM, AM	Demand Set 3: Scenario Name includes Time Period Name ('AM'). Are you sure this is correct?
Warning	Vehicle Mix	Junction 1	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Vehicle Mix	Junction 2	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

## Junction Network

### Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	North Roundabout	Standard Roundabout		2, 3, 4, 1	3.02	A
2	South Roundabout	Standard Roundabout		1, 2, 3, 4	2.95	A

### Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	2.99	A

## Traffic Demand

### Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D3	Reference Case 2030 AM	AM	ONE HOUR	06:45	08:15	15

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 (PCU/hr)	Flow multiplier (%)	Internal storage space (PCU)
1	3	2	3	Simple (vertical queueing)	Normal	0	100.00	
2	3	1	2	Simple (vertical queueing)	Normal	0	100.00	

### Demand overview (Traffic)

Junction	Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1	2				
	3	✓			
	4		✓	530	100.000
	1		✓	1055	100.000
2	1		✓	1178	100.000
	2				
	3	✓			
	4		✓	681	100.000

## Origin-Destination Data

### Demand (PCU/hr)

		To				
		2	3	4	1	
Junction 1	From	2	0	0	0	0
		3	293	6	0	665
		4	2	362	0	166
		1	470	583	0	2

### Demand (PCU/hr)

		To				
		1	2	3	4	
Junction 2	From	1	42	550	586	0
		2	0	0	0	0
		3	675	267	4	0
		4	294	3	384	0

## Vehicle Mix

### Heavy Vehicle Percentages

		To				
		2	3	4	1	
Junction 1	From	2	0	0	0	0
		3	0	0	0	0
		4	0	0	0	0
		1	0	0	0	0

### Heavy Vehicle Percentages

		To				
		1	2	3	4	
Junction 2	From	1	0	0	0	0
		2	0	0	0	0
		3	0	0	0	0
		4	0	0	0	0



## Results

### Results Summary for whole modelled period

Junction	Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	2				
	3	0.44	2.67	0.8	A
	4	0.36	3.48	0.6	A
	1	0.50	3.12	1.0	A
2	1	0.55	3.38	1.2	A
	2				
	3	0.38	2.58	0.6	A
	4	0.35	2.62	0.5	A

### Main Results for each time segment

#### 06:45 - 07:00

Junction	Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	2		716						
	3	731	2	2418	0.302	729	0.4	2.130	A
	4	399	731	1854	0.215	398	0.3	2.471	A
	1	794	499	2521	0.315	792	0.5	2.081	A
2	1	887	455	2548	0.348	885	0.5	2.161	A
	2		763						
	3	576	32	2249	0.256	575	0.3	2.148	A
	4	513	606	2360	0.217	512	0.3	1.947	A

#### 07:00 - 07:15

Junction	Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	2		856						
	3	874	2	2417	0.362	874	0.6	2.332	A
	4	476	876	1754	0.272	476	0.4	2.816	A
	1	948	598	2435	0.390	948	0.6	2.419	A
2	1	1059	545	2469	0.429	1058	0.7	2.549	A
	2		912						
	3	690	38	2244	0.307	689	0.4	2.315	A
	4	612	727	2259	0.271	612	0.4	2.185	A

#### 07:15 - 07:30

Junction	Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	2		1048						
	3	1070	2	2417	0.443	1069	0.8	2.670	A
	4	584	1072	1618	0.361	583	0.6	3.475	A
	1	1162	732	2317	0.501	1160	1.0	3.106	A
2	1	1297	667	2362	0.549	1295	1.2	3.367	A
	2		1116						
	3	844	46	2238	0.377	843	0.6	2.579	A
	4	750	890	2124	0.353	749	0.5	2.616	A

07:30 - 07:45

Junction	Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	2		1049						
	3	1072	2	2417	0.443	1072	0.8	2.674	A
	4	584	1074	1617	0.361	584	0.6	3.482	A
	1	1162	733	2316	0.501	1162	1.0	3.116	A
2	1	1297	668	2362	0.549	1297	1.2	3.380	A
	2		1118						
	3	845	46	2238	0.378	845	0.6	2.584	A
	4	750	892	2123	0.353	750	0.5	2.621	A

07:45 - 08:00

Junction	Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	2		858						
	3	876	2	2417	0.362	877	0.6	2.340	A
	4	476	879	1752	0.272	477	0.4	2.825	A
	1	948	600	2433	0.390	950	0.6	2.430	A
2	1	1059	547	2468	0.429	1061	0.8	2.562	A
	2		914						
	3	692	38	2244	0.308	692	0.4	2.320	A
	4	612	730	2257	0.271	613	0.4	2.192	A

08:00 - 08:15

Junction	Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	2		718						
	3	733	2	2418	0.303	734	0.4	2.138	A
	4	399	735	1851	0.216	399	0.3	2.479	A
	1	794	502	2519	0.315	795	0.5	2.088	A
2	1	887	457	2546	0.348	888	0.5	2.171	A
	2		765						
	3	579	32	2249	0.257	579	0.3	2.158	A
	4	513	611	2356	0.218	513	0.3	1.953	A

# Reference Case 2030 AM, PM

## Data Errors and Warnings

Severity	Area	Item	Description
Warning	Linked Roundabout	Junction 1 - Arm 3	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 roundabouts	Junction 1	U-turns on linked arms may cause sporadic locking up of junctions and/or unreliable results.
Warning	Linked Roundabout	Junction 2 - Arm 3	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 roundabouts	Junction 2	U-turns on linked arms may cause sporadic locking up of junctions and/or unreliable results.
Warning	Demand Sets	D3 - Reference Case 2030 AM, AM	Demand Set 3: Scenario Name includes Time Period Name ('AM'). Are you sure this is correct?
Warning	Vehicle Mix	Junction 1	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Vehicle Mix	Junction 2	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

## Junction Network

### Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	North Roundabout	Standard Roundabout		2, 3, 4, 1	3.73	A
2	South Roundabout	Standard Roundabout		1, 2, 3, 4	2.98	A

### Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	3.38	A

## Traffic Demand

### Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D4	Reference Case 2030 AM	PM	ONE HOUR	16:45	18:15	15

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 (PCU/hr)	Flow multiplier (%)	Internal storage space (PCU)
1	3	2	3	Simple (vertical queueing)	Normal	0	100.00	
2	3	1	2	Simple (vertical queueing)	Normal	0	100.00	

### Demand overview (Traffic)

Junction	Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1	2				
	3	✓			
	4		✓	790	100.000
	1		✓	1039	100.000
2	1		✓	1227	100.000
	2				
	3	✓			
	4		✓	593	100.000

## Origin-Destination Data

### Demand (PCU/hr)

		To				
		2	3	4	1	
Junction 1	From	2	0	0	0	0
		3	317	12	0	753
		4	2	416	0	372
		1	475	551	0	13

### Demand (PCU/hr)

		To				
		1	2	3	4	
Junction 2	From	1	39	488	700	0
		2	0	0	0	0
		3	720	241	6	0
		4	222	5	366	0

## Vehicle Mix

### Heavy Vehicle Percentages

		To				
		2	3	4	1	
Junction 1	From	2	0	0	0	0
		3	0	0	0	0
		4	0	0	0	0
		1	0	0	0	0

### Heavy Vehicle Percentages

		To				
		1	2	3	4	
Junction 2	From	1	0	0	0	0
		2	0	0	0	0
		3	0	0	0	0
		4	0	0	0	0

## Results

### Results Summary for whole modelled period

Junction	Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	2				
	3	0.49	2.93	1.0	A
	4	0.57	5.42	1.3	A
	1	0.51	3.28	1.0	A
2	1	0.56	3.45	1.3	A
	2				
	3	0.39	2.63	0.6	A
	4	0.31	2.48	0.4	A

### Main Results for each time segment

#### 16:45 - 17:00

Junction	Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	2		745						
	3	804	10	2412	0.334	802	0.5	2.234	A
	4	595	812	1798	0.331	593	0.5	2.981	A
	1	782	558	2470	0.317	780	0.5	2.129	A
2	1	924	430	2570	0.359	922	0.6	2.180	A
	2		834						
	3	593	29	2250	0.264	592	0.4	2.168	A
	4	446	621	2347	0.190	446	0.2	1.892	A

#### 17:00 - 17:15

Junction	Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	2		891						
	3	962	12	2410	0.399	961	0.7	2.483	A
	4	710	973	1687	0.421	709	0.7	3.680	A
	1	934	668	2374	0.393	933	0.6	2.498	A
2	1	1103	515	2496	0.442	1102	0.8	2.581	A
	2		997						
	3	710	35	2246	0.316	710	0.5	2.343	A
	4	533	745	2245	0.238	533	0.3	2.103	A

#### 17:15 - 17:30

Junction	Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	2		1090						
	3	1178	14	2408	0.489	1176	1.0	2.920	A
	4	870	1191	1536	0.566	868	1.3	5.368	A
	1	1144	817	2243	0.510	1142	1.0	3.267	A
2	1	1351	630	2395	0.564	1349	1.3	3.436	A
	2		1220						
	3	869	43	2241	0.388	868	0.6	2.622	A
	4	653	911	2106	0.310	652	0.4	2.476	A

17:30 - 17:45

Junction	Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	2		1092						
	3	1179	14	2408	0.490	1179	1.0	2.928	A
	4	870	1193	1534	0.567	870	1.3	5.419	A
	1	1144	819	2241	0.510	1144	1.0	3.280	A
2	1	1351	631	2394	0.564	1351	1.3	3.449	A
	2		1222						
	3	871	43	2241	0.389	871	0.6	2.627	A
	4	653	914	2104	0.310	653	0.4	2.479	A

17:45 - 18:00

Junction	Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	2		894						
	3	964	12	2410	0.400	965	0.7	2.495	A
	4	710	977	1684	0.422	712	0.7	3.713	A
	1	934	670	2371	0.394	936	0.7	2.509	A
2	1	1103	516	2495	0.442	1105	0.8	2.595	A
	2		999						
	3	712	35	2246	0.317	713	0.5	2.350	A
	4	533	748	2242	0.238	534	0.3	2.107	A

18:00 - 18:15

Junction	Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	2		748						
	3	807	10	2411	0.335	808	0.5	2.246	A
	4	595	817	1794	0.331	596	0.5	3.004	A
	1	782	561	2467	0.317	783	0.5	2.137	A
2	1	924	432	2569	0.360	925	0.6	2.190	A
	2		836						
	3	596	29	2250	0.265	596	0.4	2.178	A
	4	446	626	2343	0.191	447	0.2	1.900	A

# Do Something 2030 + LTC, AM

## Data Errors and Warnings

Severity	Area	Item	Description
Warning	Linked Roundabout	Junction 1 - Arm 3	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 roundabouts	Junction 1	U-turns on linked arms may cause sporadic locking up of junctions and/or unreliable results.
Warning	Linked Roundabout	Junction 2 - Arm 3	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 roundabouts	Junction 2	U-turns on linked arms may cause sporadic locking up of junctions and/or unreliable results.
Warning	Demand Sets	D3 - Reference Case 2030 AM, AM	Demand Set 3: Scenario Name includes Time Period Name ('AM'). Are you sure this is correct?
Warning	Vehicle Mix	Junction 1	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Vehicle Mix	Junction 2	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

## Junction Network

### Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	North Roundabout	Standard Roundabout		2, 3, 4, 1	2.96	A
2	South Roundabout	Standard Roundabout		1, 2, 3, 4	2.96	A

### Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	2.96	A

## Traffic Demand

### Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D5	Do Something 2030 + LTC	AM	ONE HOUR	06:45	08:15	15

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 (PCU/hr)	Flow multiplier (%)	Internal storage space (PCU)
1	3	2	3	Simple (vertical queueing)	Normal	0	100.00	
2	3	1	2	Simple (vertical queueing)	Normal	0	100.00	

### Demand overview (Traffic)

Junction	Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1	2				
	3	✓			
	4		✓	471	100.000
	1		✓	1048	100.000
2	1		✓	1124	100.000
	2				
	3	✓			
	4		✓	718	100.000

## Origin-Destination Data

### Demand (PCU/hr)

		To				
		2	3	4	1	
Junction 1	From	2	0	0	0	0
		3	304	6	0	691
		4	2	303	0	166
		1	470	576	0	2

### Demand (PCU/hr)

		To				
		1	2	3	4	
Junction 2	From	1	42	496	586	0
		2	0	0	0	0
		3	609	267	4	0
		4	294	3	421	0

## Vehicle Mix

### Heavy Vehicle Percentages

		To				
		2	3	4	1	
Junction 1	From	2	0	0	0	0
		3	0	0	0	0
		4	0	0	0	0
		1	0	0	0	0

### Heavy Vehicle Percentages

		To				
		1	2	3	4	
Junction 2	From	1	0	0	0	0
		2	0	0	0	0
		3	0	0	0	0
		4	0	0	0	0



## Results

### Results Summary for whole modelled period

Junction	Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	2				
	3	0.46	2.76	0.9	A
	4	0.33	3.36	0.5	A
	1	0.49	2.98	1.0	A
2	1	0.54	3.37	1.2	A
	2				
	3	0.38	2.61	0.6	A
	4	0.37	2.72	0.6	A

### Main Results for each time segment

#### 06:45 - 07:00

Junction	Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	2		666						
	3	759	2	2418	0.314	757	0.5	2.166	A
	4	355	759	1835	0.193	354	0.2	2.429	A
	1	789	463	2553	0.309	787	0.4	2.037	A
2	1	846	498	2511	0.337	844	0.5	2.157	A
	2		791						
	3	584	32	2249	0.260	583	0.4	2.159	A
	4	541	615	2353	0.230	539	0.3	1.984	A

#### 07:00 - 07:15

Junction	Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	2		797						
	3	908	2	2417	0.376	907	0.6	2.384	A
	4	423	909	1731	0.245	423	0.3	2.752	A
	1	942	555	2473	0.381	941	0.6	2.350	A
2	1	1010	596	2425	0.417	1010	0.7	2.543	A
	2		946						
	3	700	38	2244	0.312	699	0.5	2.330	A
	4	645	737	2251	0.287	645	0.4	2.241	A

#### 07:15 - 07:30

Junction	Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	2		976						
	3	1111	2	2417	0.460	1110	0.8	2.754	A
	4	519	1112	1590	0.326	518	0.5	3.356	A
	1	1154	679	2364	0.488	1153	0.9	2.970	A
2	1	1238	730	2308	0.536	1236	1.1	3.352	A
	2		1157						
	3	856	46	2238	0.383	856	0.6	2.602	A
	4	791	902	2114	0.374	790	0.6	2.717	A

07:30 - 07:45

Junction	Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	2		977						
	3	1113	2	2417	0.460	1113	0.9	2.759	A
	4	519	1115	1588	0.326	519	0.5	3.364	A
	1	1154	680	2363	0.488	1154	1.0	2.977	A
2	1	1238	731	2307	0.537	1238	1.2	3.366	A
	2		1159						
	3	858	46	2238	0.383	858	0.6	2.606	A
	4	791	904	2112	0.374	791	0.6	2.722	A

07:45 - 08:00

Junction	Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	2		799						
	3	910	2	2417	0.376	911	0.6	2.390	A
	4	423	913	1729	0.245	424	0.3	2.760	A
	1	942	557	2471	0.381	943	0.6	2.358	A
2	1	1010	598	2423	0.417	1012	0.7	2.555	A
	2		948						
	3	702	38	2244	0.313	702	0.5	2.336	A
	4	645	740	2249	0.287	646	0.4	2.249	A

08:00 - 08:15

Junction	Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	2		668						
	3	761	2	2418	0.315	762	0.5	2.174	A
	4	355	764	1832	0.194	355	0.2	2.437	A
	1	789	466	2551	0.309	790	0.4	2.044	A
2	1	846	500	2509	0.337	847	0.5	2.168	A
	2		793						
	3	587	32	2249	0.261	587	0.4	2.169	A
	4	541	619	2349	0.230	541	0.3	1.991	A

# Do Something 2030 + LTC, PM

## Data Errors and Warnings

Severity	Area	Item	Description
Warning	Linked Roundabout	Junction 1 - Arm 3	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 roundabouts	Junction 1	U-turns on linked arms may cause sporadic locking up of junctions and/or unreliable results.
Warning	Linked Roundabout	Junction 2 - Arm 3	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 roundabouts	Junction 2	U-turns on linked arms may cause sporadic locking up of junctions and/or unreliable results.
Warning	Demand Sets	D3 - Reference Case 2030 AM, AM	Demand Set 3: Scenario Name includes Time Period Name ('AM'). Are you sure this is correct?
Warning	Vehicle Mix	Junction 1	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.
Warning	Vehicle Mix	Junction 2	HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

## Junction Network

### Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	North Roundabout	Standard Roundabout		2, 3, 4, 1	3.92	A
2	South Roundabout	Standard Roundabout		1, 2, 3, 4	3.28	A

### Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	3.61	A

## Traffic Demand

### Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D6	Do Something 2030 + LTC	PM	ONE HOUR	16:45	18:15	15

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 (PCU/hr)	Flow multiplier (%)	Internal storage space (PCU)
1	3	2	3	Simple (vertical queueing)	Normal	0	100.00	
2	3	1	2	Simple (vertical queueing)	Normal	0	100.00	

### Demand overview (Traffic)

Junction	Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1	2				
	3	✓			
	4		✓	738	100.000
	1		✓	1069	100.000
2	1		✓	1208	100.000
	2				
	3	✓			
	4		✓	699	100.000

## Origin-Destination Data

### Demand (PCU/hr)

		To				
		2	3	4	1	
Junction 1	From	2	0	0	0	0
		3	403	12	0	773
		4	2	364	0	372
		1	475	581	0	13

### Demand (PCU/hr)

		To				
		1	2	3	4	
Junction 2	From	1	39	469	700	0
		2	0	0	0	0
		3	653	228	6	0
		4	222	5	472	0

## Vehicle Mix

### Heavy Vehicle Percentages

		To				
		2	3	4	1	
Junction 1	From	2	0	0	0	0
		3	0	0	0	0
		4	0	0	0	0
		1	0	0	0	0

### Heavy Vehicle Percentages

		To				
		1	2	3	4	
Junction 2	From	1	0	0	0	0
		2	0	0	0	0
		3	0	0	0	0
		4	0	0	0	0

## Results

### Results Summary for whole modelled period

Junction	Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	2				
	3	0.54	3.24	1.2	A
	4	0.56	5.62	1.3	A
	1	0.53	3.49	1.1	A
2	1	0.59	3.85	1.4	A
	2				
	3	0.43	2.82	0.8	A
	4	0.38	2.86	0.6	A

### Main Results for each time segment

#### 16:45 - 17:00

Junction	Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	2		728						
	3	885	10	2412	0.367	882	0.6	2.351	A
	4	556	892	1743	0.319	554	0.5	3.028	A
	1	805	583	2448	0.329	803	0.5	2.185	A
2	1	909	531	2482	0.366	907	0.6	2.284	A
	2		914						
	3	658	29	2250	0.292	656	0.4	2.256	A
	4	526	685	2294	0.229	525	0.3	2.034	A

#### 17:00 - 17:15

Junction	Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	2		871						
	3	1058	12	2410	0.439	1057	0.8	2.659	A
	4	663	1069	1620	0.409	663	0.7	3.755	A
	1	961	698	2347	0.409	960	0.7	2.594	A
2	1	1086	636	2390	0.454	1085	0.8	2.759	A
	2		1093						
	3	787	35	2246	0.350	787	0.5	2.466	A
	4	628	822	2181	0.288	628	0.4	2.318	A

#### 17:15 - 17:30

Junction	Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	2		1066						
	3	1295	14	2408	0.538	1294	1.2	3.225	A
	4	813	1308	1455	0.559	810	1.2	5.567	A
	1	1177	854	2211	0.532	1175	1.1	3.471	A
2	1	1330	779	2265	0.587	1328	1.4	3.832	A
	2		1338						
	3	963	43	2241	0.430	962	0.7	2.815	A
	4	770	1005	2028	0.379	769	0.6	2.857	A

17:30 - 17:45

Junction	Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	2		1068						
	3	1297	14	2408	0.539	1297	1.2	3.238	A
	4	813	1311	1452	0.559	813	1.3	5.625	A
	1	1177	856	2209	0.533	1177	1.1	3.489	A
2	1	1330	780	2264	0.587	1330	1.4	3.854	A
	2		1340						
	3	965	43	2241	0.431	965	0.8	2.821	A
	4	770	1008	2026	0.380	770	0.6	2.865	A

17:45 - 18:00

Junction	Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	2		874						
	3	1061	12	2410	0.440	1062	0.8	2.675	A
	4	663	1074	1617	0.410	666	0.7	3.796	A
	1	961	701	2344	0.410	963	0.7	2.608	A
2	1	1086	638	2388	0.455	1088	0.8	2.773	A
	2		1096						
	3	790	35	2246	0.352	791	0.5	2.476	A
	4	628	826	2177	0.289	629	0.4	2.326	A

18:00 - 18:15

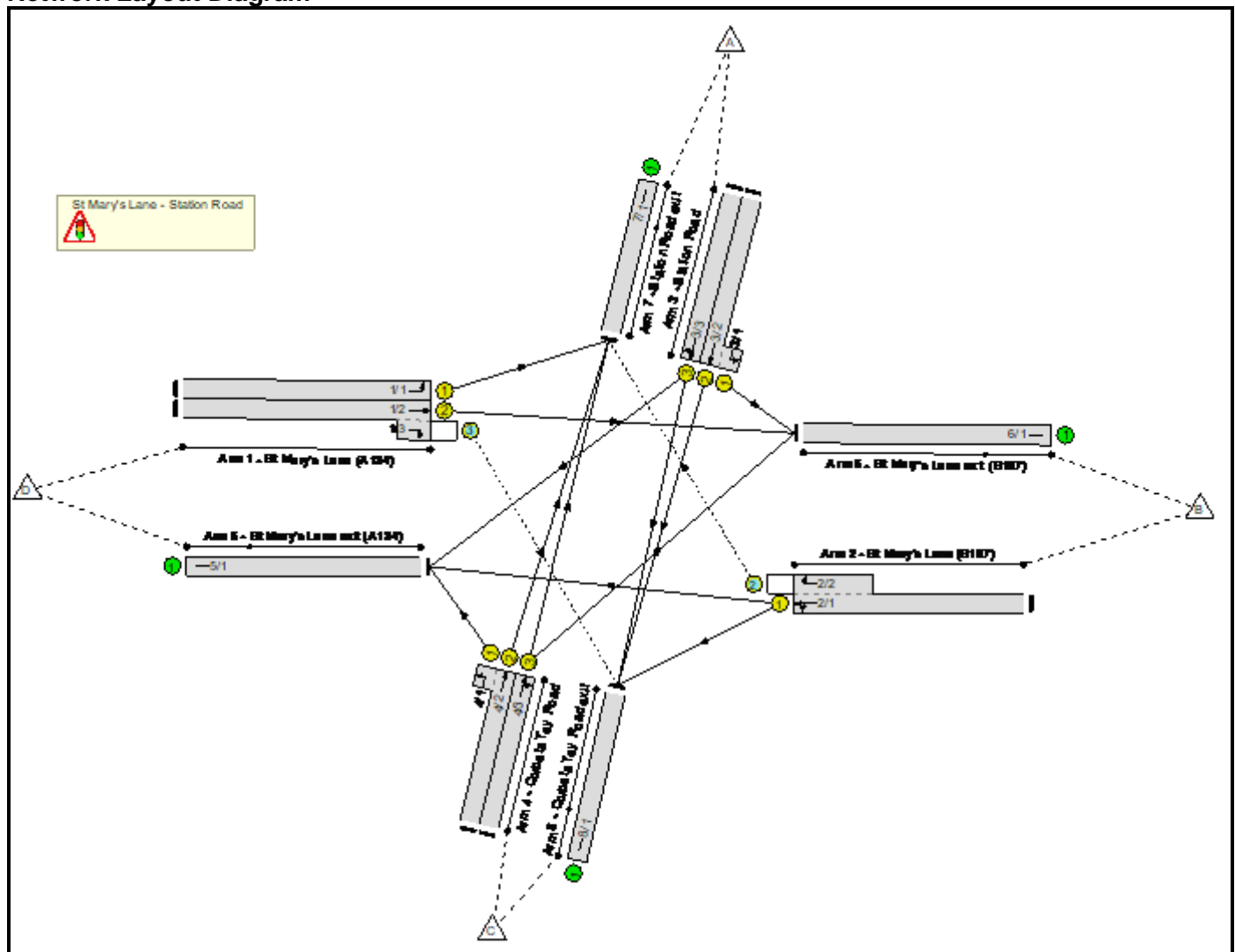
Junction	Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	2		731						
	3	888	10	2411	0.368	889	0.6	2.366	A
	4	556	898	1738	0.320	557	0.5	3.047	A
	1	805	586	2445	0.329	806	0.5	2.198	A
2	1	909	534	2479	0.367	910	0.6	2.295	A
	2		917						
	3	661	29	2250	0.294	661	0.4	2.267	A
	4	526	691	2289	0.230	527	0.3	2.044	A

Full Input Data And Results  
Full Input Data And Results

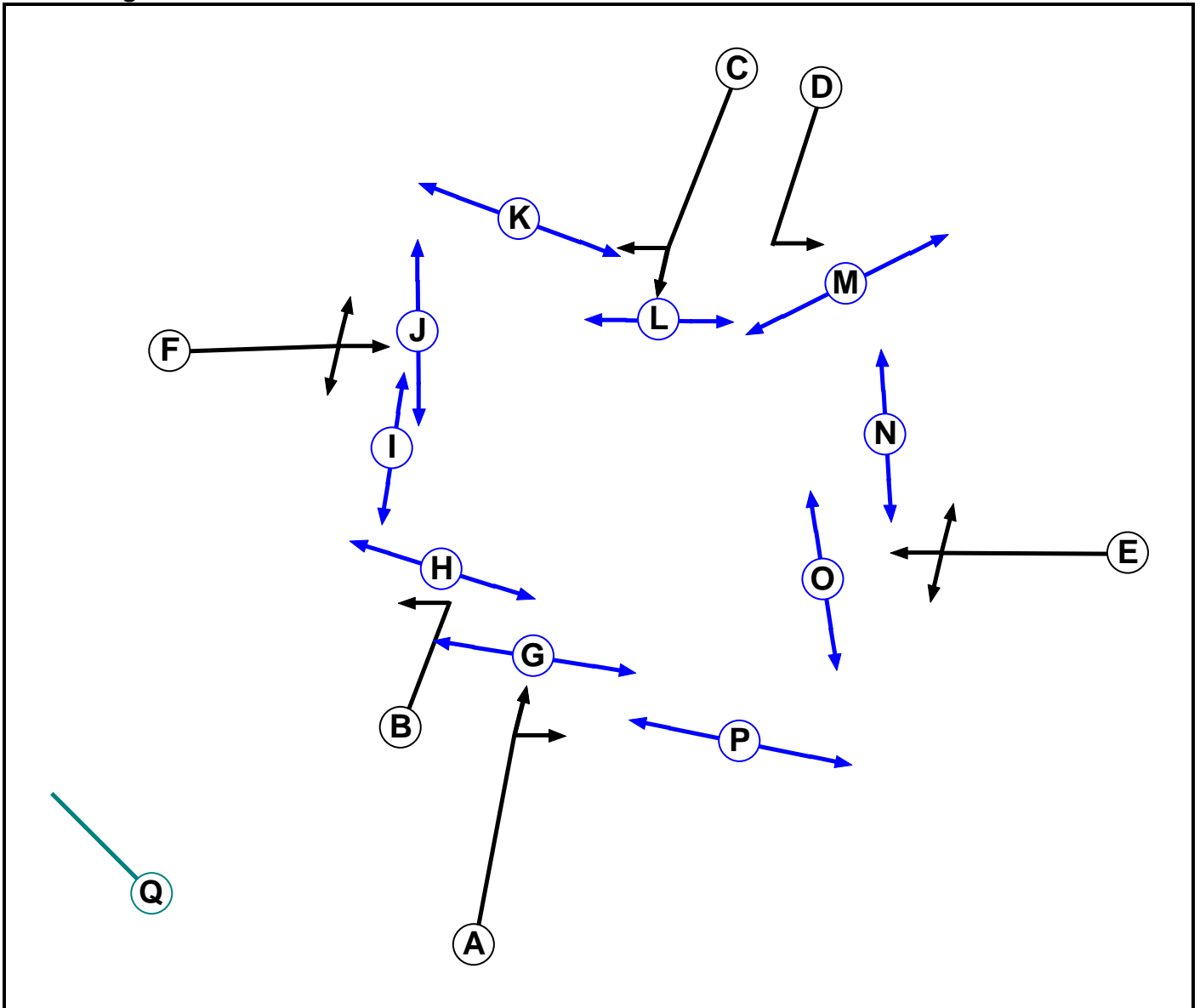
User and Project Details

Project:	
Title:	
Location:	
Additional detail:	
File name:	11 - St Mary's Lane - Station Road.lsg3x
Author:	
Company:	
Address:	

Network Layout Diagram



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	Traffic		7	7
F	Traffic		7	7
G	Pedestrian		7	7
H	Pedestrian		7	7
I	Pedestrian		7	7
J	Pedestrian		7	7
K	Pedestrian		7	7
L	Pedestrian		7	7
M	Pedestrian		7	7
N	Pedestrian		7	7
O	Pedestrian		7	7
P	Pedestrian		7	7
Q	Dummy		7	7

**Phase Intergrens Matrix**

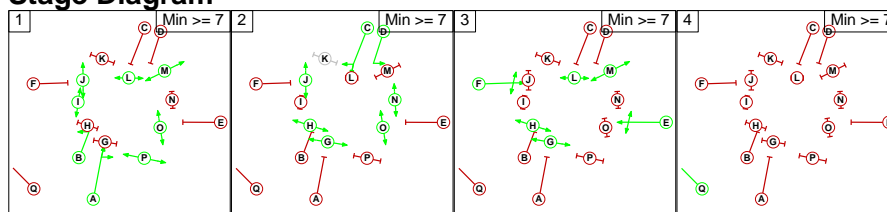
	Starting Phase																
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
A	-	-	7	10	5	5	5	-	-	-	8	-	-	11	-	-	3
B	-	-	5	-	5	-	-	5	-	-	-	-	-	-	-	-	3
C	8	10	-	-	5	5	-	-	11	-	-	5	-	-	-	9	3
D	5	-	-	-	-	5	-	-	-	-	-	-	5	-	-	-	3
E	7	9	5	-	-	-	-	-	9	-	11	-	-	-	5	9	3
F	5	-	7	9	-	-	-	-	-	5	9	-	-	9	-	10	3
G	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3
H	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3
I	-	-	8	-	8	-	-	-	-	-	-	-	-	-	-	-	3
J	-	-	-	-	-	10	-	-	-	-	-	-	-	-	-	-	4
K	9	-	-	-	9	9	-	-	-	-	-	-	-	-	-	-	4
L	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-	-	3
M	-	-	-	8	-	-	-	-	-	-	-	-	-	-	-	-	3
N	8	-	-	-	-	8	-	-	-	-	-	-	-	-	-	-	3
O	-	-	-	-	8	-	-	-	-	-	-	-	-	-	-	-	3
P	-	-	8	-	8	8	-	-	-	-	-	-	-	-	-	-	3
Q	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2

Terminating Phase

**Phases in Stage**

Stage No.	Phases in Stage
1	AB IJLMOP
2	CDGHJNO
3	EFGHLM
4	Q

**Stage Diagram**



Full Input Data And Results

**Phase Delays**

Term. Stage	Start Stage	Phase	Type	Value	Cont value
1	2	B	Losing	5	5
1	2	I	Losing	2	2
1	2	L	Losing	2	2
1	2	M	Losing	2	2
1	2	P	Losing	2	2
1	3	A	Losing	5	5
1	3	B	Losing	5	5
1	3	I	Losing	2	2
1	3	O	Losing	2	2
1	3	P	Losing	2	2
2	1	D	Losing	5	5
2	1	G	Losing	2	2
2	1	H	Losing	2	2
2	1	N	Losing	2	2
2	3	C	Losing	5	5
2	3	D	Losing	5	5
2	3	N	Losing	2	2
2	3	O	Losing	2	2
3	1	E	Losing	1	1
3	1	G	Losing	2	2
3	1	H	Losing	2	2
3	2	L	Losing	1	1
3	2	M	Losing	1	1

**Prohibited Stage Change**

		To Stage			
		1	2	3	4
From Stage	1		11	10	4
	2	11		10	4
	3	10	9		3
	4	2	2	2	

Full Input Data And Results

**Give-Way Lane Input Data**

Junction: St Mary's Lane - Station Road											
Lane	Movement	Max Flow when Giving Way (PCU/Hr)	Min Flow when Giving Way (PCU/Hr)	Opposing Lane	Opp. Lane Coeff.	Opp. Mvmnts.	Right Turn Storage (PCU)	Non-Blocking Storage (PCU)	RTF	Right Turn Move up (s)	Max Turns in Intergreen (PCU)
1/3 (St Mary's Lane (A124))	8/1 (Right)	1439	0	2/1	1.09	All	2.00	-	0.50	2	2.00
2/2 (St Mary's Lane (B187))	7/1 (Right)	1439	0	1/1	1.09	All	2.00	-	0.50	2	2.00
				1/2	1.09	All					

Full Input Data And Results

**Lane Input Data**

Junction: St Mary's Lane - Station 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)
1/1 (St Mary's Lane (A124))	U	F	2	3	60.0	Geom	-	3.10	0.00	Y	Arm 7 Left	22.80
1/2 (St Mary's Lane (A124))	U	F	2	3	60.0	Geom	-	3.00	0.00	Y	Arm 6 Ahead	Inf
1/3 (St Mary's Lane (A124))	O	F	2	3	2.6	Geom	-	3.00	0.00	Y	Arm 8 Right	Inf
2/1 (St Mary's Lane (B187))	U	E	2	3	60.0	Geom	-	3.50	0.00	Y	Arm 5 Ahead	Inf
											Arm 8 Left	16.50
2/2 (St Mary's Lane (B187))	O	E	2	3	6.0	Geom	-	3.10	0.00	Y	Arm 7 Right	9.00
3/1 (Station Road)	U	D	2	3	1.7	Geom	-	3.00	0.00	Y	Arm 6 Left	18.60
3/2 (Station Road)	U	C	2	3	60.0	Geom	-	3.10	0.00	Y	Arm 8 Ahead	Inf
3/3 (Station Road)	U	C	2	3	60.0	Geom	-	3.10	0.00	Y	Arm 5 Right	16.00
											Arm 8 Ahead	Inf
4/1 (Corbets Tey Road)	U	B	2	3	1.7	Geom	-	4.00	0.00	Y	Arm 5 Left	12.80
4/2 (Corbets Tey Road)	U	A	2	3	60.0	Geom	-	3.00	0.00	Y	Arm 7 Ahead	Inf
4/3 (Corbets Tey Road)	U	A	2	3	60.0	Geom	-	3.00	0.00	Y	Arm 6 Right	22.80
											Arm 7 Ahead	Inf
5/1 (St Mary's Lane exit (A124))	U		2	3	60.0	Inf	-	-	-	-	-	-
6/1 (St Mary's Lane exit (B187))	U		2	3	60.0	Inf	-	-	-	-	-	-
7/1 (Station Road exit)	U		2	3	60.0	Inf	-	-	-	-	-	-
8/1 (Corbets Tey Road exit)	U		2	3	60.0	Inf	-	-	-	-	-	-

Full Input Data And Results

**Traffic Flow Groups**

Flow Group	Start Time	End Time	Duration	Formula
1: 'Base Year 2023 AM'	08:00	09:00	01:00	
2: 'Base Year 2023 PM'	17:00	18:00	01:00	
3: 'Reference Case 2030 AM'	08:00	09:00	01:00	F1 * 1.2
4: 'Reference Case 2030 PM'	08:00	09:00	01:00	F2 * 1.2
7: 'Do Something 2030 + LTC AM'	08:00	09:00	01:00	F3+F5
8: 'Do Something 2030 + LTC PM'	17:00	18:00	01:00	F4+F6

**Scenario 1: '2023 AM'** (FG1: 'Base Year 2023 AM', Plan 1: 'Network Control Plan 1')

**Traffic Flows, Desired**

**Desired Flow :**

	Destination					
	A	B	C	D	Tot.	
Origin	A	0	54	299	237	590
	B	53	0	76	230	359
	C	294	83	0	51	428
	D	343	227	34	0	604
	Tot.	690	364	409	518	1981

Full Input Data And Results

**Traffic Lane Flows**

Lane	Scenario 1: 2023 AM
<b>Junction: St Mary's Lane - Station Road</b>	
1/1	343
1/2 (with short)	261(In) 227(Out)
1/3 (short)	34
2/1 (with short)	359(In) 306(Out)
2/2 (short)	53
3/1 (short)	54
3/2 (with short)	325(In) 271(Out)
3/3	265
4/1 (short)	51
4/2 (with short)	234(In) 183(Out)
4/3	194
5/1	518
6/1	364
7/1	690
8/1	409

Full Input Data And Results

**Lane Saturation Flows**

Junction: St Mary's Lane - Station Road								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (St Mary's Lane (A124))	3.10	0.00	Y	Arm 7 Left	22.80	100.0 %	1806	1806
1/2 (St Mary's Lane (A124))	3.00	0.00	Y	Arm 6 Ahead	Inf	100.0 %	1915	1915
1/3 (St Mary's Lane (A124))	3.00	0.00	Y	Arm 8 Right	Inf	100.0 %	1915	1915
2/1 (St Mary's Lane (B187))	3.50	0.00	Y	Arm 5 Ahead	Inf	75.2 %	1922	1922
				Arm 8 Left	16.50	24.8 %		
2/2 (St Mary's Lane (B187))	3.10	0.00	Y	Arm 7 Right	9.00	100.0 %	1650	1650
3/1 (Station Road)	3.00	0.00	Y	Arm 6 Left	18.60	100.0 %	1772	1772
3/2 (Station Road)	3.10	0.00	Y	Arm 8 Ahead	Inf	100.0 %	1925	1925
3/3 (Station Road)	3.10	0.00	Y	Arm 5 Right	16.00	89.4 %	1776	1776
				Arm 8 Ahead	Inf	10.6 %		
4/1 (Corbets Tey Road)	4.00	0.00	Y	Arm 5 Left	12.80	100.0 %	1804	1804
4/2 (Corbets Tey Road)	3.00	0.00	Y	Arm 7 Ahead	Inf	100.0 %	1915	1915
4/3 (Corbets Tey Road)	3.00	0.00	Y	Arm 6 Right	22.80	42.8 %	1863	1863
				Arm 7 Ahead	Inf	57.2 %		
5/1 (St Mary's Lane exit (A124) Lane 1)	Infinite Saturation Flow						Inf	Inf
6/1 (St Mary's Lane exit (B187) Lane 1)	Infinite Saturation Flow						Inf	Inf
7/1 (Station Road exit Lane 1)	Infinite Saturation Flow						Inf	Inf
8/1 (Corbets Tey Road exit Lane 1)	Infinite Saturation Flow						Inf	Inf



Full Input Data And Results

Scenario 2: '2023 PM' (FG2: 'Base Year 2023 PM', Plan 1: 'Network Control Plan 1')

**Traffic Flows, Desired**

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	80	333	264	677
	B	81	0	123	239	443
	C	264	146	0	78	488
	D	353	342	56	0	751
	Tot.	698	568	512	581	2359

**Traffic Lane Flows**

Lane	Scenario 2: 2023 PM
<b>Junction: St Mary's Lane - Station Road</b>	
1/1	353
1/2 (with short)	398(In) 342(Out)
1/3 (short)	56
2/1 (with short)	443(In) 362(Out)
2/2 (short)	81
3/1 (short)	80
3/2 (with short)	370(In) 290(Out)
3/3	307
4/1 (short)	78
4/2 (with short)	271(In) 193(Out)
4/3	217
5/1	581
6/1	568
7/1	698
8/1	512

Full Input Data And Results

**Lane Saturation Flows**

Junction: St Mary's Lane - Station Road								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (St Mary's Lane (A124))	3.10	0.00	Y	Arm 7 Left	22.80	100.0 %	1806	1806
1/2 (St Mary's Lane (A124))	3.00	0.00	Y	Arm 6 Ahead	Inf	100.0 %	1915	1915
1/3 (St Mary's Lane (A124))	3.00	0.00	Y	Arm 8 Right	Inf	100.0 %	1915	1915
2/1 (St Mary's Lane (B187))	3.50	0.00	Y	Arm 5 Ahead	Inf	66.0 %	1906	1906
				Arm 8 Left	16.50	34.0 %		
2/2 (St Mary's Lane (B187))	3.10	0.00	Y	Arm 7 Right	9.00	100.0 %	1650	1650
3/1 (Station Road)	3.00	0.00	Y	Arm 6 Left	18.60	100.0 %	1772	1772
3/2 (Station Road)	3.10	0.00	Y	Arm 8 Ahead	Inf	100.0 %	1925	1925
3/3 (Station Road)	3.10	0.00	Y	Arm 5 Right	16.00	86.0 %	1781	1781
				Arm 8 Ahead	Inf	14.0 %		
4/1 (Corbets Tey Road)	4.00	0.00	Y	Arm 5 Left	12.80	100.0 %	1804	1804
4/2 (Corbets Tey Road)	3.00	0.00	Y	Arm 7 Ahead	Inf	100.0 %	1915	1915
4/3 (Corbets Tey Road)	3.00	0.00	Y	Arm 6 Right	22.80	67.3 %	1834	1834
				Arm 7 Ahead	Inf	32.7 %		
5/1 (St Mary's Lane exit (A124) Lane 1)	Infinite Saturation Flow						Inf	Inf
6/1 (St Mary's Lane exit (B187) Lane 1)	Infinite Saturation Flow						Inf	Inf
7/1 (Station Road exit Lane 1)	Infinite Saturation Flow						Inf	Inf
8/1 (Corbets Tey Road exit Lane 1)	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

Scenario 3: '2030 AM' (FG3: 'Reference Case 2030 AM', Plan 1: 'Network Control Plan 1')

**Traffic Flows, Desired**

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	65	359	284	708
	B	64	0	91	276	431
	C	353	100	0	61	514
	D	412	272	41	0	725
	Tot.	829	437	491	621	2378

**Traffic Lane Flows**

Lane	Scenario 3: 2030 AM
<b>Junction: St Mary's Lane - Station Road</b>	
1/1	412
1/2 (with short)	313(In) 272(Out)
1/3 (short)	41
2/1 (with short)	431(In) 367(Out)
2/2 (short)	64
3/1 (short)	65
3/2 (with short)	383(In) 318(Out)
3/3	325
4/1 (short)	61
4/2 (with short)	277(In) 216(Out)
4/3	237
5/1	621
6/1	437
7/1	829
8/1	491

Full Input Data And Results

**Lane Saturation Flows**

Junction: St Mary's Lane - Station Road								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (St Mary's Lane (A124))	3.10	0.00	Y	Arm 7 Left	22.80	100.0 %	1806	1806
1/2 (St Mary's Lane (A124))	3.00	0.00	Y	Arm 6 Ahead	Inf	100.0 %	1915	1915
1/3 (St Mary's Lane (A124))	3.00	0.00	Y	Arm 8 Right	Inf	100.0 %	1915	1915
2/1 (St Mary's Lane (B187))	3.50	0.00	Y	Arm 5 Ahead	Inf	75.2 %	1922	1922
				Arm 8 Left	16.50	24.8 %		
2/2 (St Mary's Lane (B187))	3.10	0.00	Y	Arm 7 Right	9.00	100.0 %	1650	1650
3/1 (Station Road)	3.00	0.00	Y	Arm 6 Left	18.60	100.0 %	1772	1772
3/2 (Station Road)	3.10	0.00	Y	Arm 8 Ahead	Inf	100.0 %	1925	1925
3/3 (Station Road)	3.10	0.00	Y	Arm 5 Right	16.00	87.4 %	1779	1779
				Arm 8 Ahead	Inf	12.6 %		
4/1 (Corbets Tey Road)	4.00	0.00	Y	Arm 5 Left	12.80	100.0 %	1804	1804
4/2 (Corbets Tey Road)	3.00	0.00	Y	Arm 7 Ahead	Inf	100.0 %	1915	1915
4/3 (Corbets Tey Road)	3.00	0.00	Y	Arm 6 Right	22.80	42.2 %	1863	1863
				Arm 7 Ahead	Inf	57.8 %		
5/1 (St Mary's Lane exit (A124) Lane 1)	Infinite Saturation Flow						Inf	Inf
6/1 (St Mary's Lane exit (B187) Lane 1)	Infinite Saturation Flow						Inf	Inf
7/1 (Station Road exit Lane 1)	Infinite Saturation Flow						Inf	Inf
8/1 (Corbets Tey Road exit Lane 1)	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

**Scenario 4: '2030 PM'** (FG4: 'Reference Case 2030 PM', Plan 1: 'Network Control Plan 1')

**Traffic Flows, Desired**

**Desired Flow :**

		Destination				
		A	B	C	D	Tot.
Origin	A	0	96	400	317	813
	B	97	0	148	287	532
	C	317	175	0	94	586
	D	424	410	67	0	901
	Tot.	838	681	615	698	2832

**Traffic Lane Flows**

Lane	Scenario 4: 2030 PM
<b>Junction: St Mary's Lane - Station Road</b>	
1/1	424
1/2 (with short)	477(In) 410(Out)
1/3 (short)	67
2/1 (with short)	532(In) 435(Out)
2/2 (short)	97
3/1 (short)	96
3/2 (with short)	436(In) 340(Out)
3/3	377
4/1 (short)	94
4/2 (with short)	320(In) 226(Out)
4/3	266
5/1	698
6/1	681
7/1	838
8/1	615

Full Input Data And Results

**Lane Saturation Flows**

Junction: St Mary's Lane - Station Road								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (St Mary's Lane (A124))	3.10	0.00	Y	Arm 7 Left	22.80	100.0 %	1806	1806
1/2 (St Mary's Lane (A124))	3.00	0.00	Y	Arm 6 Ahead	Inf	100.0 %	1915	1915
1/3 (St Mary's Lane (A124))	3.00	0.00	Y	Arm 8 Right	Inf	100.0 %	1915	1915
2/1 (St Mary's Lane (B187))	3.50	0.00	Y	Arm 5 Ahead	Inf	66.0 %	1906	1906
				Arm 8 Left	16.50	34.0 %		
2/2 (St Mary's Lane (B187))	3.10	0.00	Y	Arm 7 Right	9.00	100.0 %	1650	1650
3/1 (Station Road)	3.00	0.00	Y	Arm 6 Left	18.60	100.0 %	1772	1772
3/2 (Station Road)	3.10	0.00	Y	Arm 8 Ahead	Inf	100.0 %	1925	1925
3/3 (Station Road)	3.10	0.00	Y	Arm 5 Right	16.00	84.1 %	1784	1784
				Arm 8 Ahead	Inf	15.9 %		
4/1 (Corbets Tey Road)	4.00	0.00	Y	Arm 5 Left	12.80	100.0 %	1804	1804
4/2 (Corbets Tey Road)	3.00	0.00	Y	Arm 7 Ahead	Inf	100.0 %	1915	1915
4/3 (Corbets Tey Road)	3.00	0.00	Y	Arm 6 Right	22.80	65.8 %	1836	1836
				Arm 7 Ahead	Inf	34.2 %		
5/1 (St Mary's Lane exit (A124) Lane 1)	Infinite Saturation Flow						Inf	Inf
6/1 (St Mary's Lane exit (B187) Lane 1)	Infinite Saturation Flow						Inf	Inf
7/1 (Station Road exit Lane 1)	Infinite Saturation Flow						Inf	Inf
8/1 (Corbets Tey Road exit Lane 1)	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

**Scenario 5: '2030 + LTC AM'** (FG7: 'Do Something 2030 + LTC AM', Plan 1: 'Network Control Plan 1')

**Traffic Flows, Desired**

**Desired Flow :**

		Destination				
		A	B	C	D	Tot.
Origin	A	0	44	329	287	660
	B	63	0	74	188	325
	C	381	105	0	59	545
	D	457	283	42	0	782
	Tot.	901	432	445	534	2312

**Traffic Lane Flows**

Lane	Scenario 5: 2030 + LTC AM
<b>Junction: St Mary's Lane - Station Road</b>	
1/1	457
1/2 (with short)	325(In) 283(Out)
1/3 (short)	42
2/1 (with short)	325(In) 262(Out)
2/2 (short)	63
3/1 (short)	44
3/2 (with short)	359(In) 315(Out)
3/3	301
4/1 (short)	59
4/2 (with short)	291(In) 232(Out)
4/3	254
5/1	534
6/1	432
7/1	901
8/1	445

Full Input Data And Results

**Lane Saturation Flows**

Junction: St Mary's Lane - Station Road								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (St Mary's Lane (A124))	3.10	0.00	Y	Arm 7 Left	22.80	100.0 %	1806	1806
1/2 (St Mary's Lane (A124))	3.00	0.00	Y	Arm 6 Ahead	Inf	100.0 %	1915	1915
1/3 (St Mary's Lane (A124))	3.00	0.00	Y	Arm 8 Right	Inf	100.0 %	1915	1915
2/1 (St Mary's Lane (B187))	3.50	0.00	Y	Arm 5 Ahead	Inf	71.8 %	1916	1916
				Arm 8 Left	16.50	28.2 %		
2/2 (St Mary's Lane (B187))	3.10	0.00	Y	Arm 7 Right	9.00	100.0 %	1650	1650
3/1 (Station Road)	3.00	0.00	Y	Arm 6 Left	18.60	100.0 %	1772	1772
3/2 (Station Road)	3.10	0.00	Y	Arm 8 Ahead	Inf	100.0 %	1925	1925
3/3 (Station Road)	3.10	0.00	Y	Arm 5 Right	16.00	95.3 %	1767	1767
				Arm 8 Ahead	Inf	4.7 %		
4/1 (Corbets Tey Road)	4.00	0.00	Y	Arm 5 Left	12.80	100.0 %	1804	1804
4/2 (Corbets Tey Road)	3.00	0.00	Y	Arm 7 Ahead	Inf	100.0 %	1915	1915
4/3 (Corbets Tey Road)	3.00	0.00	Y	Arm 6 Right	22.80	41.3 %	1864	1864
				Arm 7 Ahead	Inf	58.7 %		
5/1 (St Mary's Lane exit (A124) Lane 1)	Infinite Saturation Flow						Inf	Inf
6/1 (St Mary's Lane exit (B187) Lane 1)	Infinite Saturation Flow						Inf	Inf
7/1 (Station Road exit Lane 1)	Infinite Saturation Flow						Inf	Inf
8/1 (Corbets Tey Road exit Lane 1)	Infinite Saturation Flow						Inf	Inf



Full Input Data And Results

**Scenario 6: '2030 + LTC PM'** (FG8: 'Do Something 2030 + LTC PM', Plan 1: 'Network Control Plan 1')

**Traffic Flows, Desired**

**Desired Flow :**

		Destination				
		A	B	C	D	Tot.
Origin	A	0	93	355	350	798
	B	97	0	140	268	505
	C	327	207	0	96	630
	D	421	417	77	0	915
	Tot.	845	717	572	714	2848

**Traffic Lane Flows**

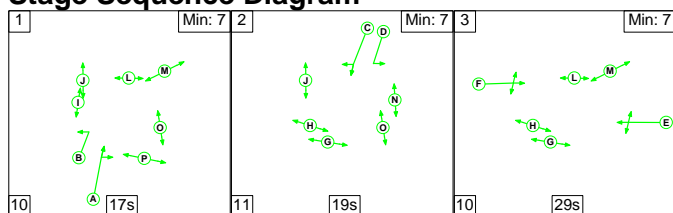
Lane	Scenario 6: 2030 + LTC PM
<b>Junction: St Mary's Lane - Station Road</b>	
1/1	421
1/2 (with short)	494(In) 417(Out)
1/3 (short)	77
2/1 (with short)	505(In) 408(Out)
2/2 (short)	97
3/1 (short)	93
3/2 (with short)	431(In) 338(Out)
3/3	367
4/1 (short)	96
4/2 (with short)	341(In) 245(Out)
4/3	289
5/1	714
6/1	717
7/1	845
8/1	572

**Lane Saturation Flows**

Junction: St Mary's Lane - Station Road								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (St Mary's Lane (A124))	3.10	0.00	Y	Arm 7 Left	22.80	100.0 %	1806	1806
1/2 (St Mary's Lane (A124))	3.00	0.00	Y	Arm 6 Ahead	Inf	100.0 %	1915	1915
1/3 (St Mary's Lane (A124))	3.00	0.00	Y	Arm 8 Right	Inf	100.0 %	1915	1915
2/1 (St Mary's Lane (B187))	3.50	0.00	Y	Arm 5 Ahead	Inf	65.7 %	1906	1906
				Arm 8 Left	16.50	34.3 %		
2/2 (St Mary's Lane (B187))	3.10	0.00	Y	Arm 7 Right	9.00	100.0 %	1650	1650
3/1 (Station Road)	3.00	0.00	Y	Arm 6 Left	18.60	100.0 %	1772	1772
3/2 (Station Road)	3.10	0.00	Y	Arm 8 Ahead	Inf	100.0 %	1925	1925
3/3 (Station Road)	3.10	0.00	Y	Arm 5 Right	16.00	95.4 %	1767	1767
				Arm 8 Ahead	Inf	4.6 %		
4/1 (Corbets Tey Road)	4.00	0.00	Y	Arm 5 Left	12.80	100.0 %	1804	1804
4/2 (Corbets Tey Road)	3.00	0.00	Y	Arm 7 Ahead	Inf	100.0 %	1915	1915
4/3 (Corbets Tey Road)	3.00	0.00	Y	Arm 6 Right	22.80	71.6 %	1829	1829
				Arm 7 Ahead	Inf	28.4 %		
5/1 (St Mary's Lane exit (A124) Lane 1)	Infinite Saturation Flow						Inf	Inf
6/1 (St Mary's Lane exit (B187) Lane 1)	Infinite Saturation Flow						Inf	Inf
7/1 (Station Road exit Lane 1)	Infinite Saturation Flow						Inf	Inf
8/1 (Corbets Tey Road exit Lane 1)	Infinite Saturation Flow						Inf	Inf

**Scenario 1: '2023 AM'** (FG1: 'Base Year 2023 AM', Plan 1: 'Network Control Plan 1')

**Stage Sequence Diagram**

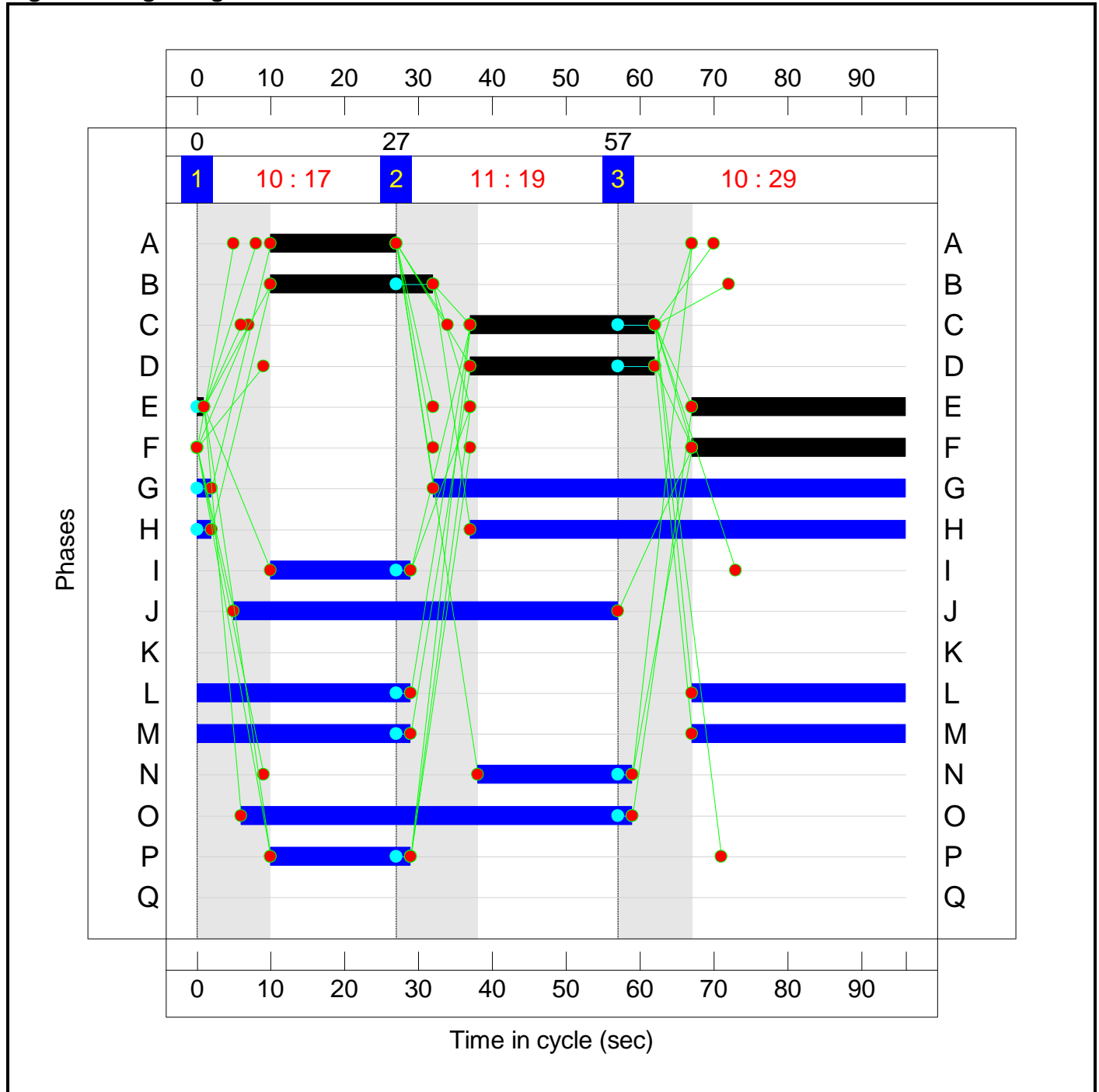


Full Input Data And Results

Stage Timings

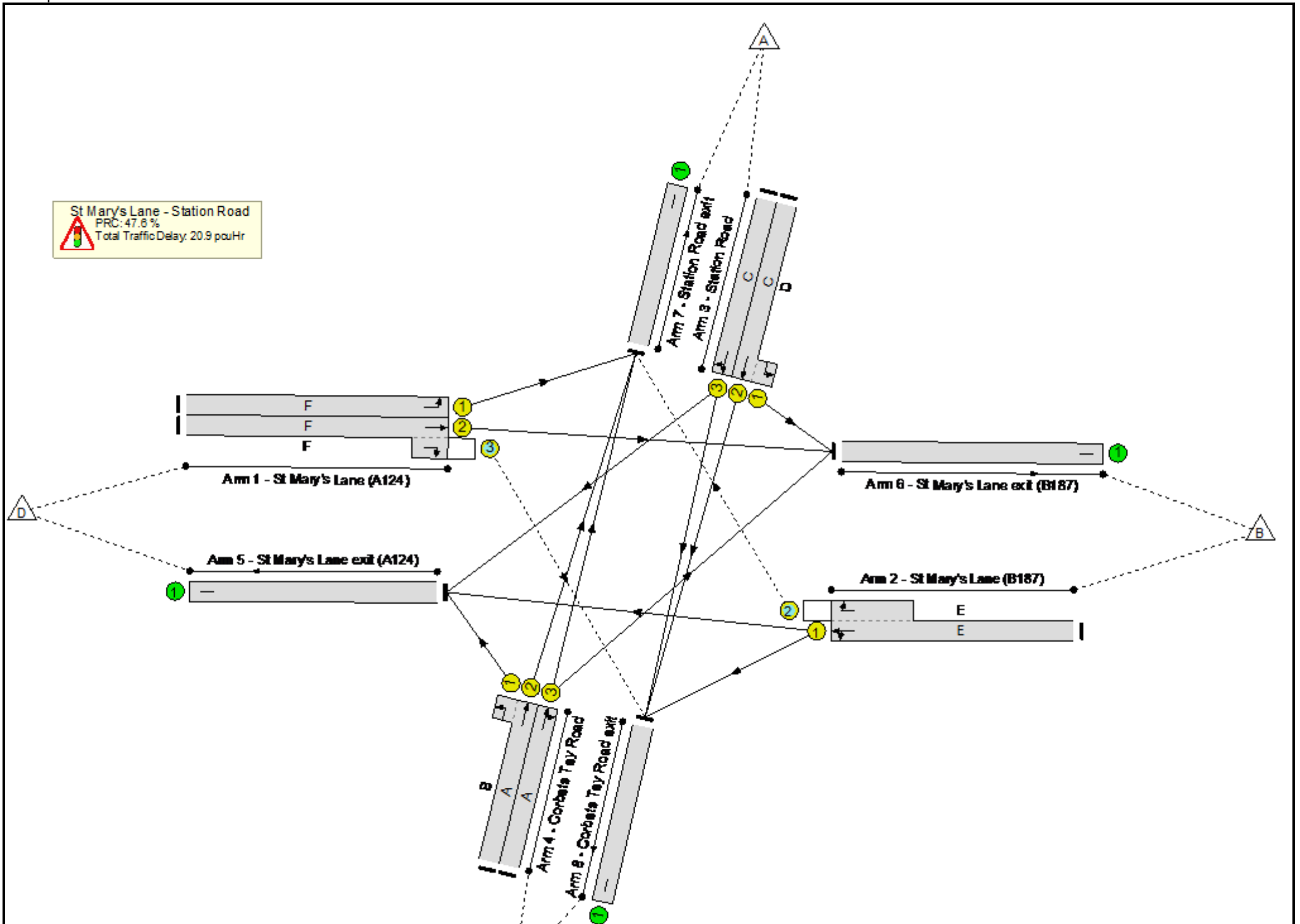
Stage	1	2	3
Duration	17	19	29
Change Point	0	27	57

Signal Timings Diagram



Full Input Data And Results  
**Network Layout Diagram**

Full Input Data And Results



Full Input Data And Results

**Network Results**

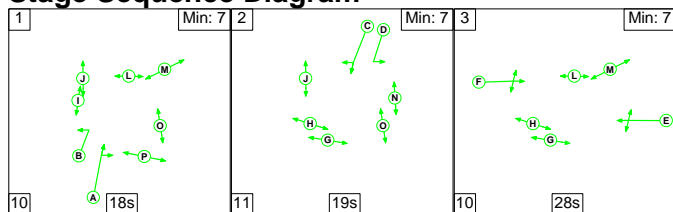
Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	-	-	N/A	-	-		-	-	-	-	-	-	61.0%
St Mary's Lane - Station Road	-	-	N/A	-	-		-	-	-	-	-	-	61.0%
1/1	St Mary's Lane (A124) Left	U	N/A	N/A	F		1	29	-	343	1806	564	60.8%
1/2+1/3	St Mary's Lane (A124) Ahead Right	U+O	N/A	N/A	F		1	29	-	261	1915:1915	539+81	42.1 : 42.1%
2/1+2/2	St Mary's Lane (B187) Ahead Right Left	U+O	N/A	N/A	E		1	30	-	359	1922:1650	558+97	54.8 : 54.8%
3/2+3/1	Station Road Left Ahead	U	N/A	N/A	C D		1	25	-	325	1925:1772	449+89	60.4 : 60.4%
3/3	Station Road Right Ahead	U	N/A	N/A	C		1	25	-	265	1776	481	55.1%
4/2+4/1	Corbets Tey Road Left Ahead	U	N/A	N/A	A B		1	17:22	-	234	1915:1804	300+84	61.0 : 61.0%
4/3	Corbets Tey Road Right Ahead	U	N/A	N/A	A		1	17	-	194	1863	349	55.5%
5/1	St Mary's Lane exit (A124)	U	N/A	N/A	-		-	-	-	518	Inf	Inf	0.0%
6/1	St Mary's Lane exit (B187)	U	N/A	N/A	-		-	-	-	364	Inf	Inf	0.0%
7/1	Station Road exit	U	N/A	N/A	-		-	-	-	690	Inf	Inf	0.0%
8/1	Corbets Tey Road exit	U	N/A	N/A	-		-	-	-	409	Inf	Inf	0.0%



Full Input Data And Results

Scenario 2: '2023 PM' (FG2: 'Base Year 2023 PM', Plan 1: 'Network Control Plan 1')

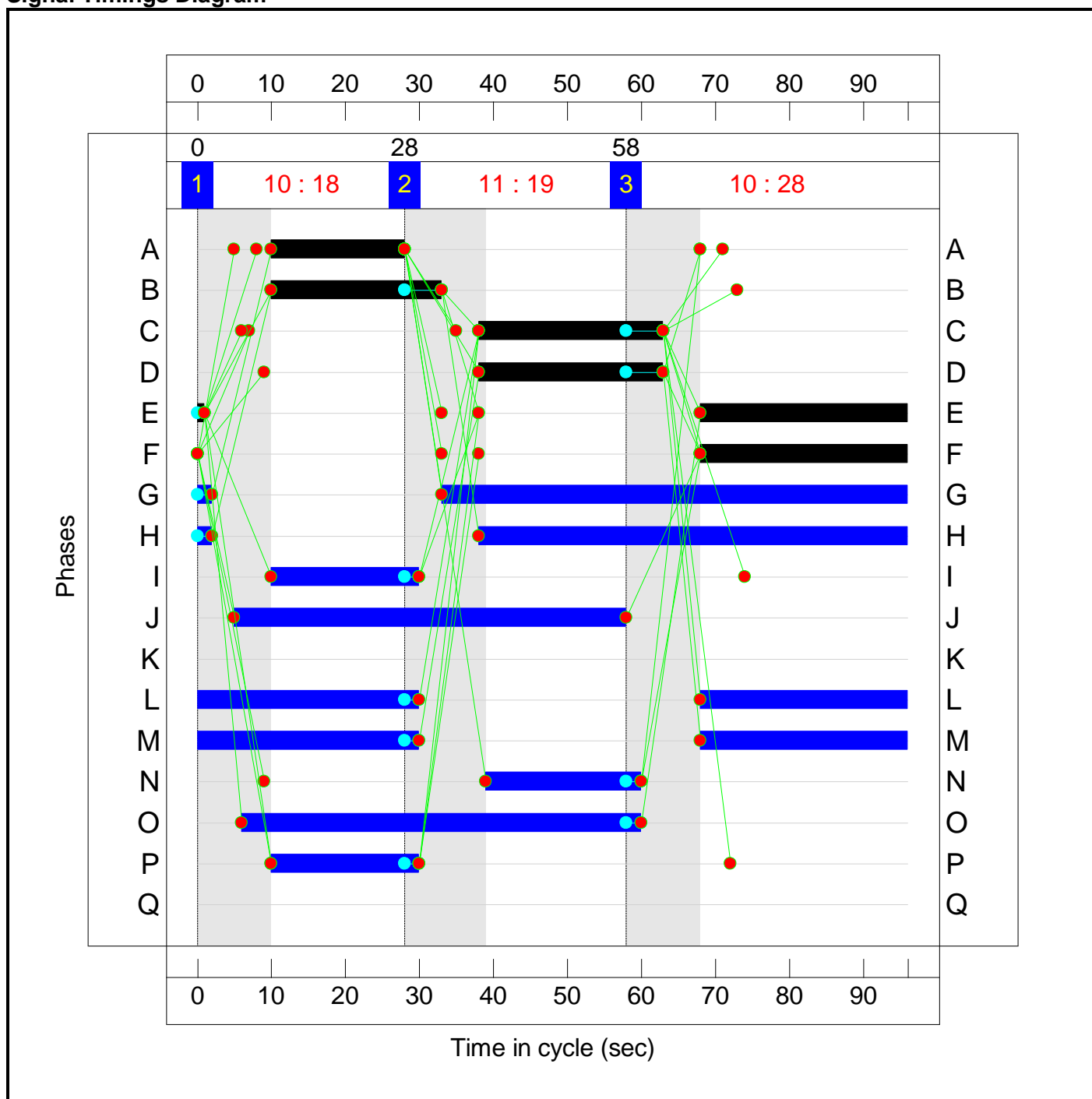
Stage Sequence Diagram



Stage Timings

Stage	1	2	3
Duration	18	19	28
Change Point	0	28	58

Signal Timings Diagram

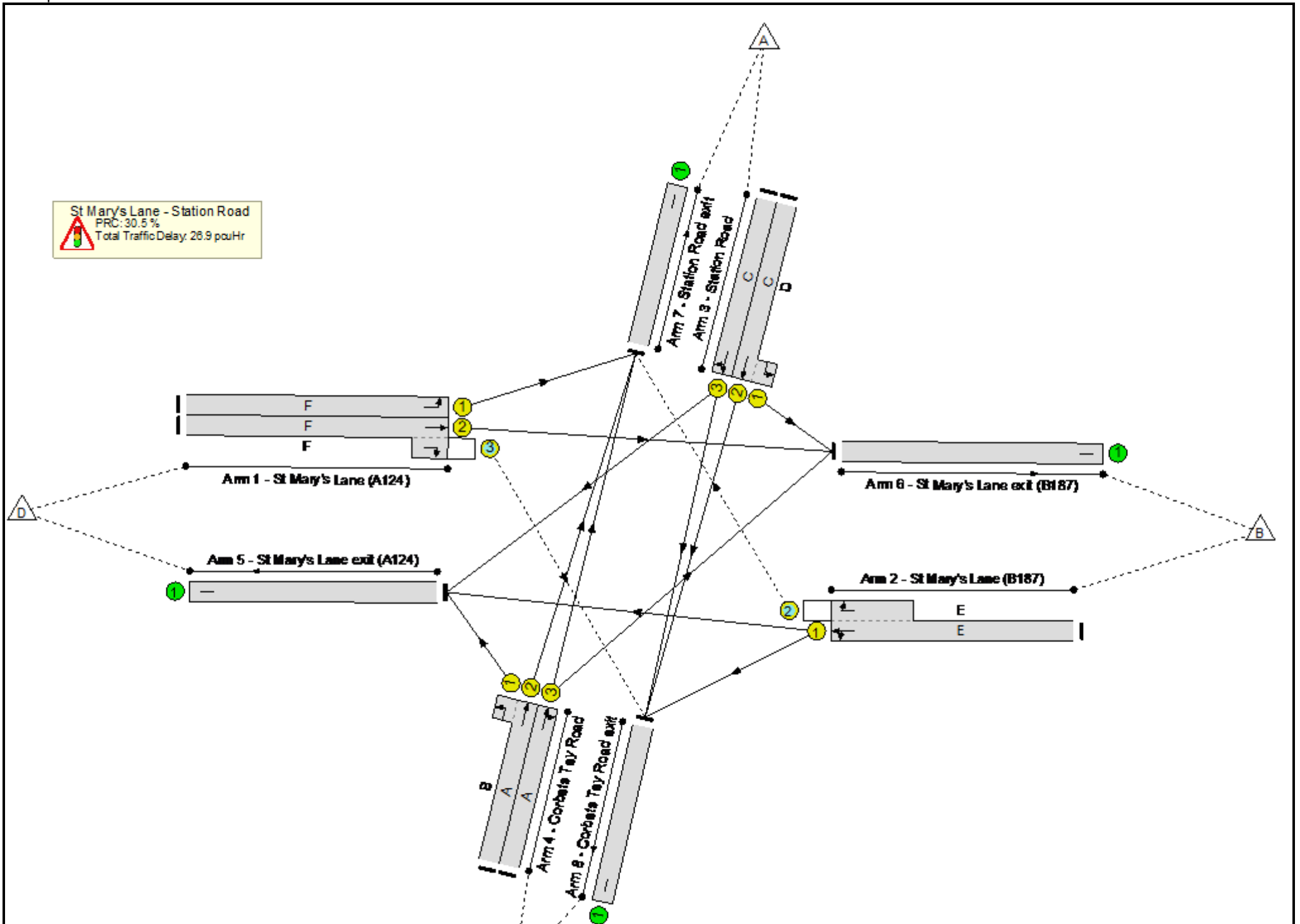




## Full Input Data And Results

Full Input Data And Results  
**Network Layout Diagram**

Full Input Data And Results



Full Input Data And Results

**Network Results**

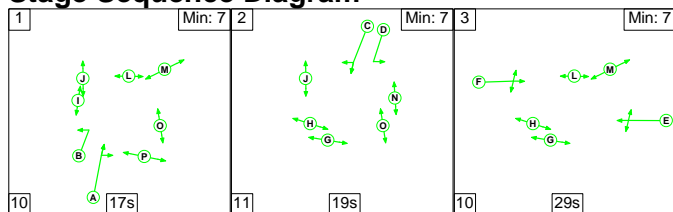
Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	-	-	N/A	-	-		-	-	-	-	-	-	69.0%
St Mary's Lane - Station Road	-	-	N/A	-	-		-	-	-	-	-	-	69.0%
1/1	St Mary's Lane (A124) Left	U	N/A	N/A	F		1	28	-	353	1806	546	64.7%
1/2+1/3	St Mary's Lane (A124) Ahead Right	U+O	N/A	N/A	F		1	28	-	398	1915:1915	516+85	66.2 : 66.2%
2/1+2/2	St Mary's Lane (B187) Ahead Right Left	U+O	N/A	N/A	E		1	29	-	443	1906:1650	525+117	69.0 : 69.0%
3/2+3/1	Station Road Left Ahead	U	N/A	N/A	C D		1	25	-	370	1925:1772	424+117	68.4 : 68.4%
3/3	Station Road Right Ahead	U	N/A	N/A	C		1	25	-	307	1781	482	63.6%
4/2+4/1	Corbets Tey Road Left Ahead	U	N/A	N/A	A B		1	18:23	-	271	1915:1804	292+118	66.0 : 66.0%
4/3	Corbets Tey Road Right Ahead	U	N/A	N/A	A		1	18	-	217	1834	363	59.8%
5/1	St Mary's Lane exit (A124)	U	N/A	N/A	-		-	-	-	581	Inf	Inf	0.0%
6/1	St Mary's Lane exit (B187)	U	N/A	N/A	-		-	-	-	568	Inf	Inf	0.0%
7/1	Station Road exit	U	N/A	N/A	-		-	-	-	698	Inf	Inf	0.0%
8/1	Corbets Tey Road exit	U	N/A	N/A	-		-	-	-	512	Inf	Inf	0.0%



Full Input Data And Results

Scenario 3: '2030 AM' (FG3: 'Reference Case 2030 AM', Plan 1: 'Network Control Plan 1')

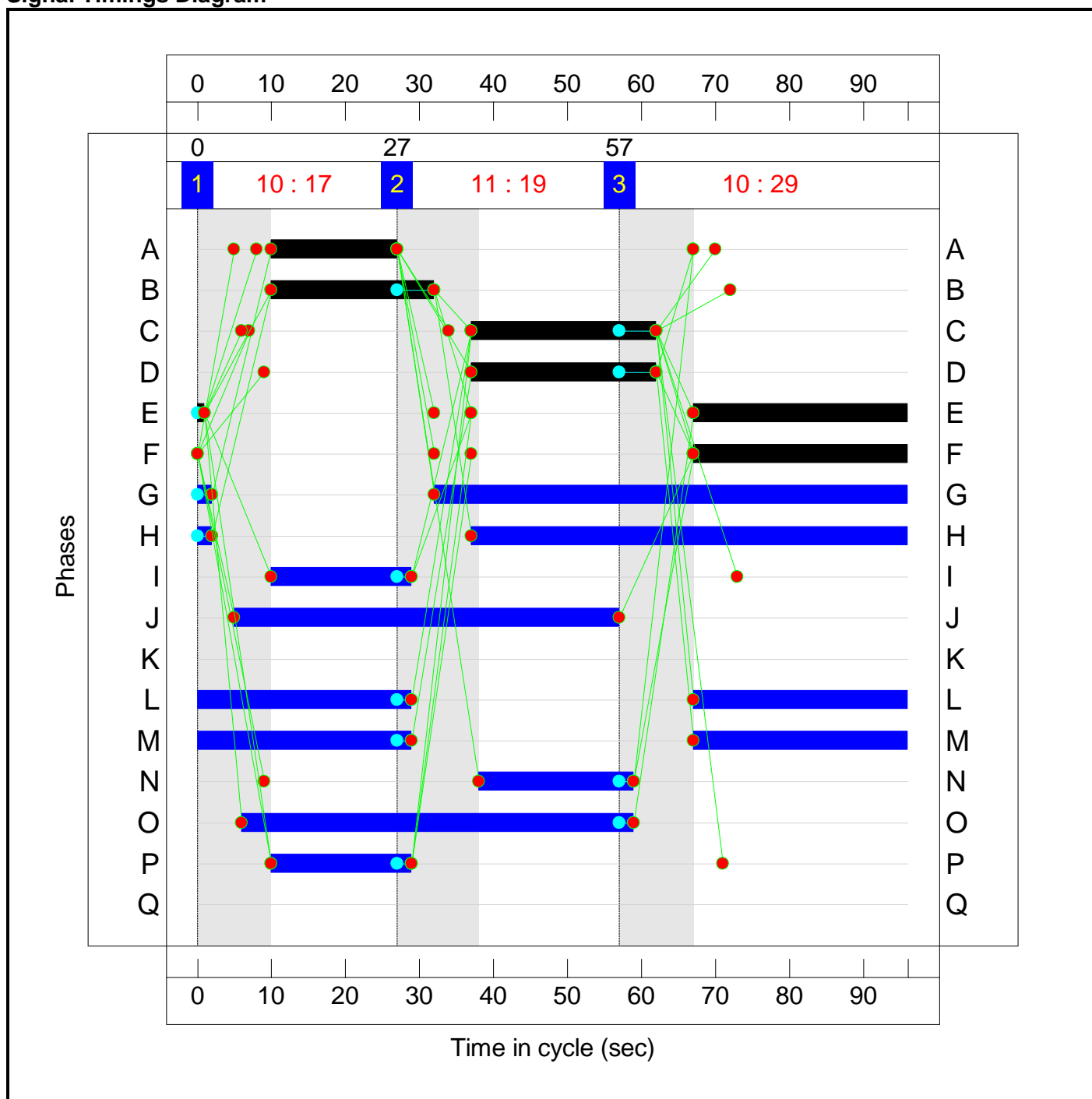
Stage Sequence Diagram



Stage Timings

Stage	1	2	3
Duration	17	19	29
Change Point	0	27	57

Signal Timings Diagram

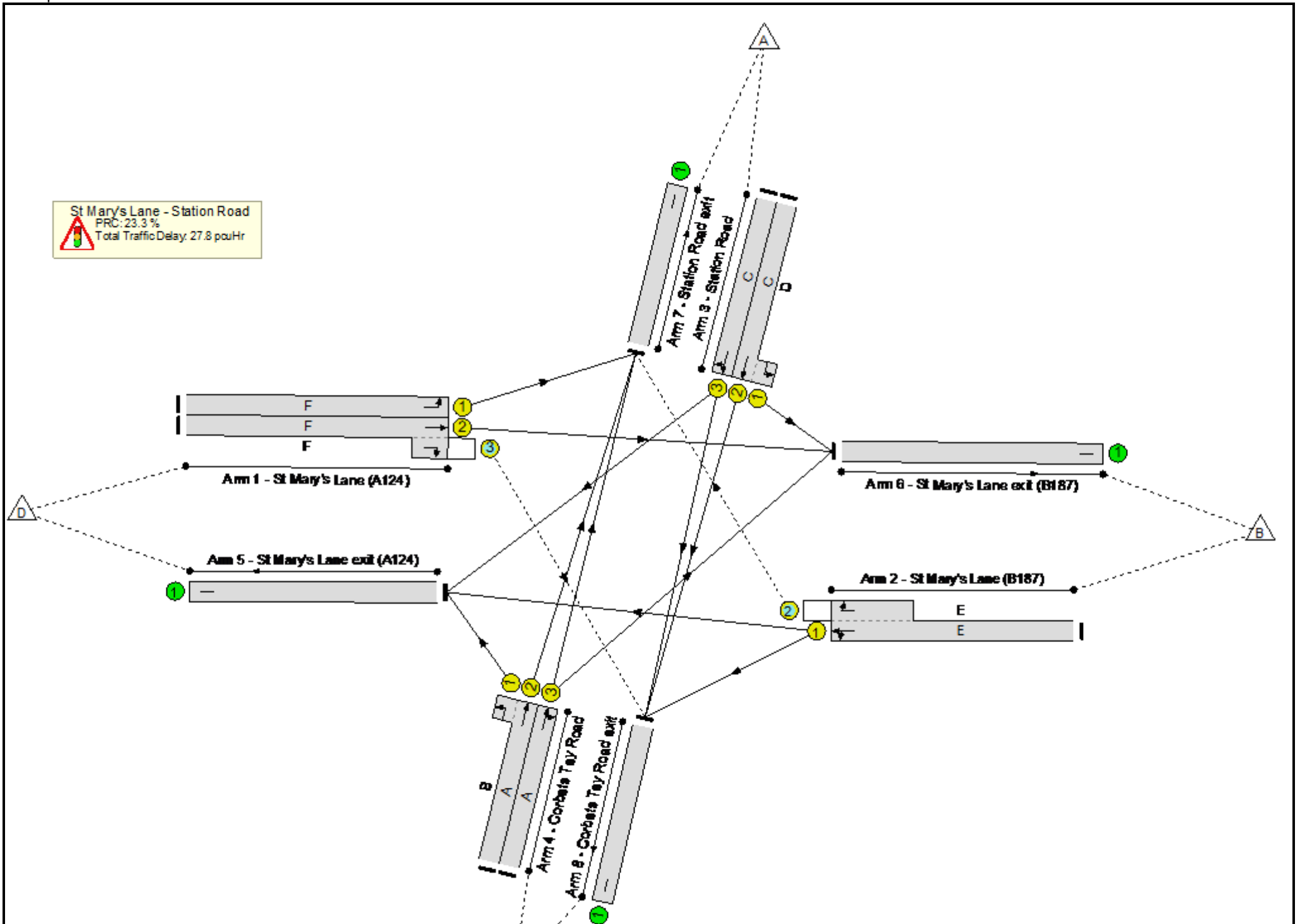


## Full Input Data And Results

Full Input Data And Results  
**Network Layout Diagram**



Full Input Data And Results



Full Input Data And Results

**Network Results**

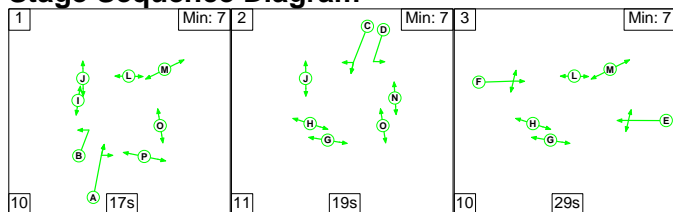
Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
<b>Network</b>	-	-	<b>N/A</b>	-	-		-	-	-	-	-	-	<b>73.0%</b>
<b>St Mary's Lane - Station Road</b>	-	-	<b>N/A</b>	-	-		-	-	-	-	-	-	<b>73.0%</b>
1/1	St Mary's Lane (A124) Left	U	N/A	N/A	F		1	29	-	412	1806	564	73.0%
1/2+1/3	St Mary's Lane (A124) Ahead Right	U+O	N/A	N/A	F		1	29	-	313	1915:1915	538+81	50.5 : 50.5%
2/1+2/2	St Mary's Lane (B187) Ahead Right Left	U+O	N/A	N/A	E		1	30	-	431	1922:1650	558+97	65.8 : 65.8%
3/2+3/1	Station Road Left Ahead	U	N/A	N/A	C D		1	25	-	383	1925:1772	447+91	71.2 : 71.2%
3/3	Station Road Right Ahead	U	N/A	N/A	C		1	25	-	325	1779	482	67.5%
4/2+4/1	Corbets Tey Road Left Ahead	U	N/A	N/A	A B		1	17:22	-	277	1915:1804	299+85	72.1 : 72.1%
4/3	Corbets Tey Road Right Ahead	U	N/A	N/A	A		1	17	-	237	1863	349	67.8%
5/1	St Mary's Lane exit (A124)	U	N/A	N/A	-		-	-	-	621	Inf	Inf	0.0%
6/1	St Mary's Lane exit (B187)	U	N/A	N/A	-		-	-	-	437	Inf	Inf	0.0%
7/1	Station Road exit	U	N/A	N/A	-		-	-	-	829	Inf	Inf	0.0%
8/1	Corbets Tey Road exit	U	N/A	N/A	-		-	-	-	491	Inf	Inf	0.0%



Full Input Data And Results

Scenario 4: '2030 PM' (FG4: 'Reference Case 2030 PM', Plan 1: 'Network Control Plan 1')

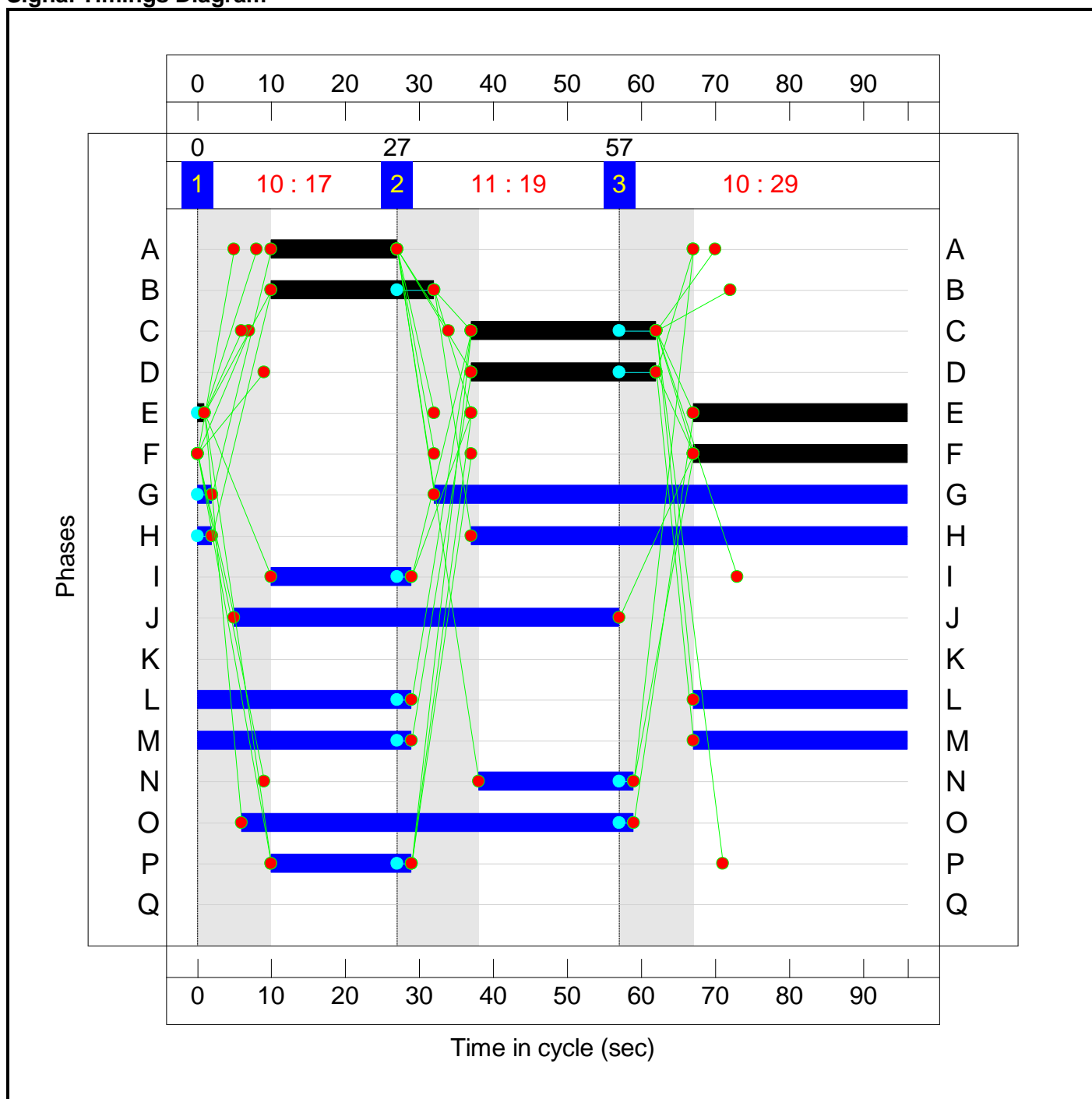
Stage Sequence Diagram



Stage Timings

Stage	1	2	3
Duration	17	19	29
Change Point	0	27	57

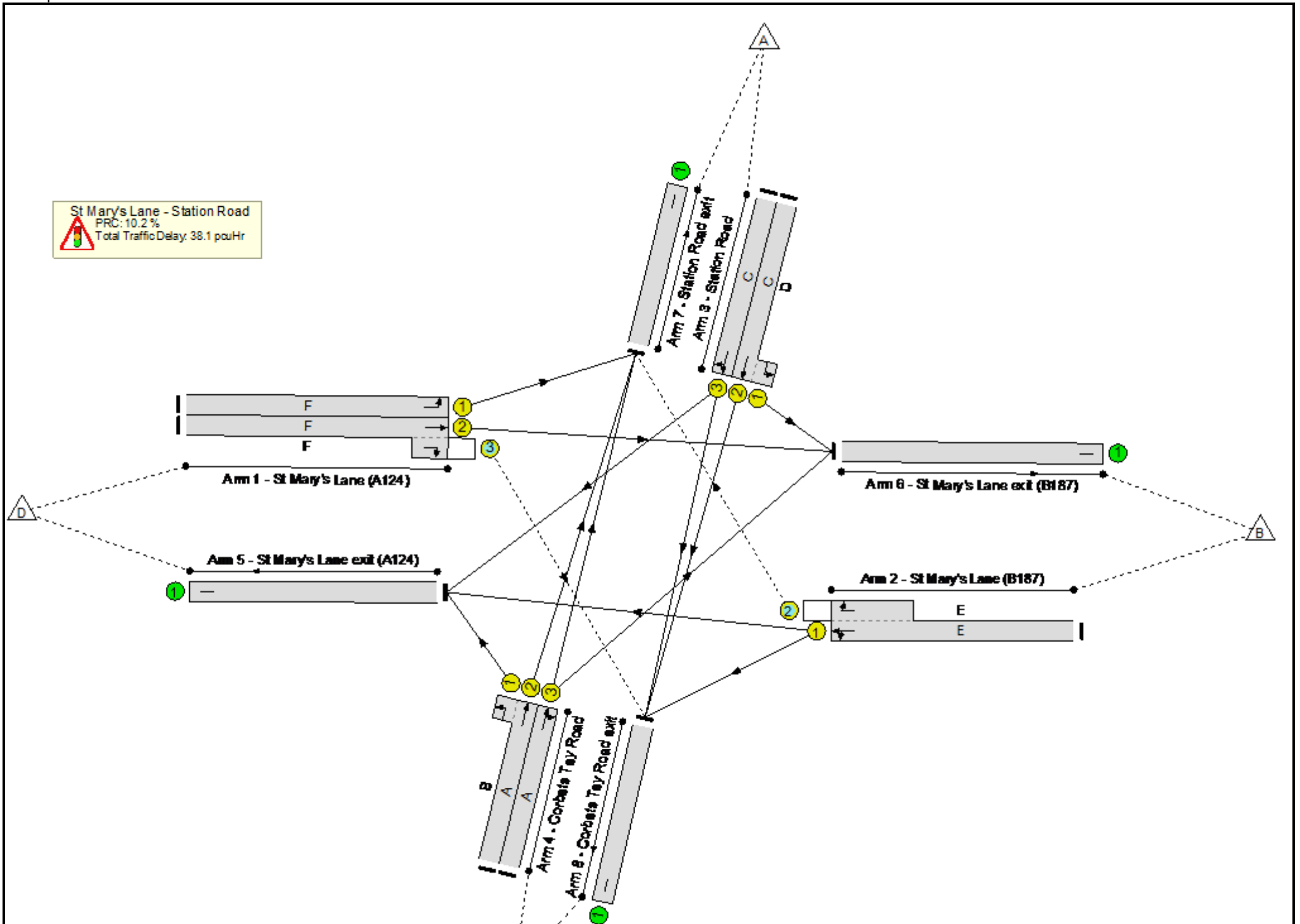
Signal Timings Diagram



## Full Input Data And Results

Full Input Data And Results  
**Network Layout Diagram**

Full Input Data And Results



Full Input Data And Results

**Network Results**

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	-	-	N/A	-	-		-	-	-	-	-	-	81.7%
St Mary's Lane - Station Road	-	-	N/A	-	-		-	-	-	-	-	-	81.7%
1/1	St Mary's Lane (A124) Left	U	N/A	N/A	F		1	29	-	424	1806	564	75.1%
1/2+1/3	St Mary's Lane (A124) Ahead Right	U+O	N/A	N/A	F		1	29	-	477	1915:1915	534+87	76.8 : 76.8%
2/1+2/2	St Mary's Lane (B187) Ahead Right Left	U+O	N/A	N/A	E		1	30	-	532	1906:1650	541+119	80.4 : 81.4%
3/2+3/1	Station Road Left Ahead	U	N/A	N/A	C D		1	25	-	436	1925:1772	422+119	80.5 : 80.5%
3/3	Station Road Right Ahead	U	N/A	N/A	C		1	25	-	377	1784	483	78.0%
4/2+4/1	Corbets Tey Road Left Ahead	U	N/A	N/A	A B		1	17:22	-	320	1915:1804	277+115	81.7 : 81.7%
4/3	Corbets Tey Road Right Ahead	U	N/A	N/A	A		1	17	-	266	1836	344	77.3%
5/1	St Mary's Lane exit (A124)	U	N/A	N/A	-		-	-	-	698	Inf	Inf	0.0%
6/1	St Mary's Lane exit (B187)	U	N/A	N/A	-		-	-	-	681	Inf	Inf	0.0%
7/1	Station Road exit	U	N/A	N/A	-		-	-	-	838	Inf	Inf	0.0%
8/1	Corbets Tey Road exit	U	N/A	N/A	-		-	-	-	615	Inf	Inf	0.0%

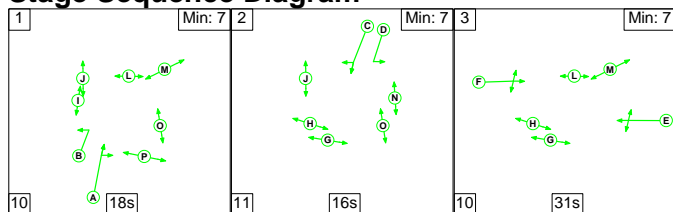




Full Input Data And Results

Scenario 5: '2030 + LTC AM' (FG7: 'Do Something 2030 + LTC AM', Plan 1: 'Network Control Plan 1')

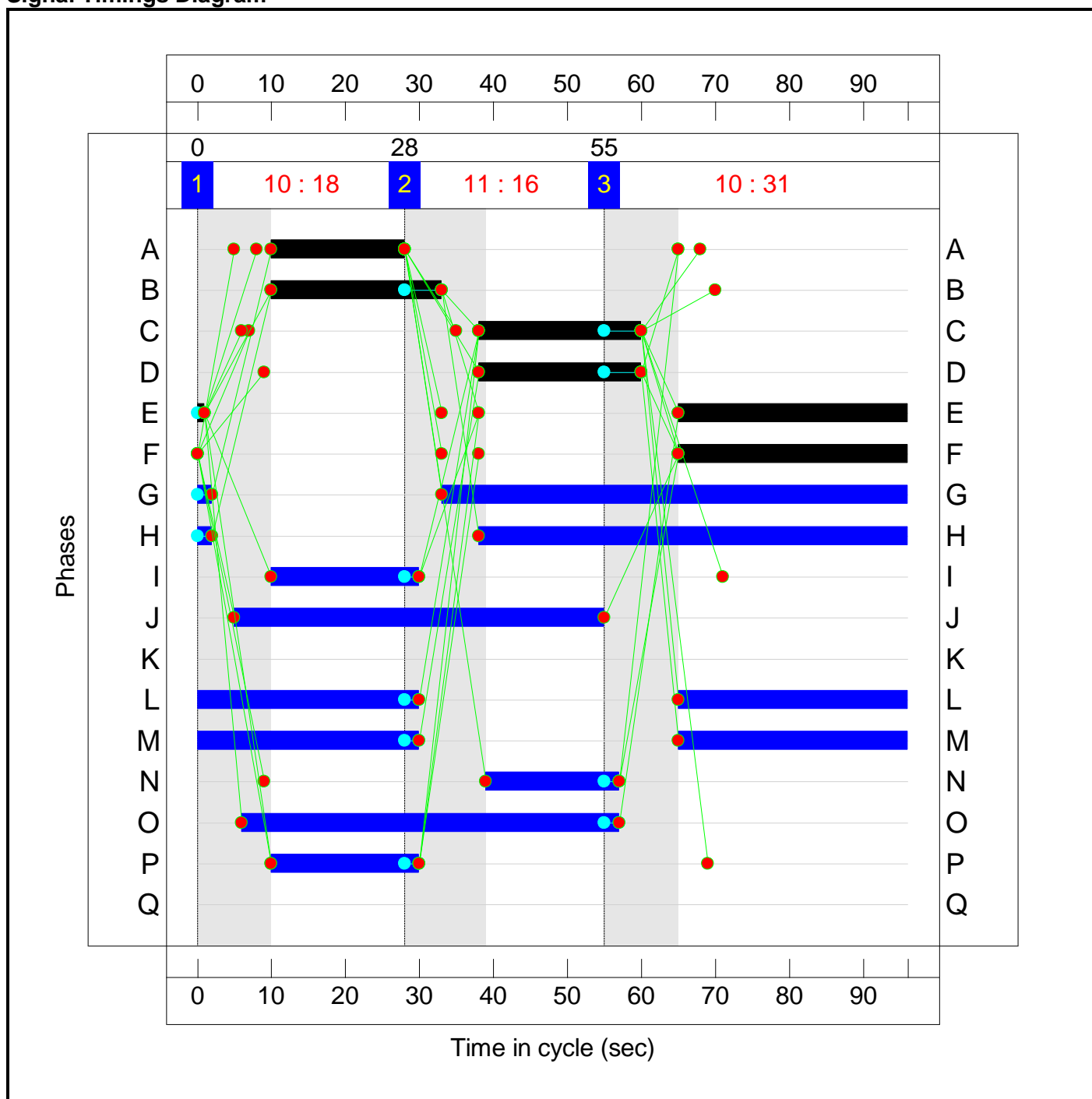
Stage Sequence Diagram



Stage Timings

Stage	1	2	3
Duration	18	16	31
Change Point	0	28	55

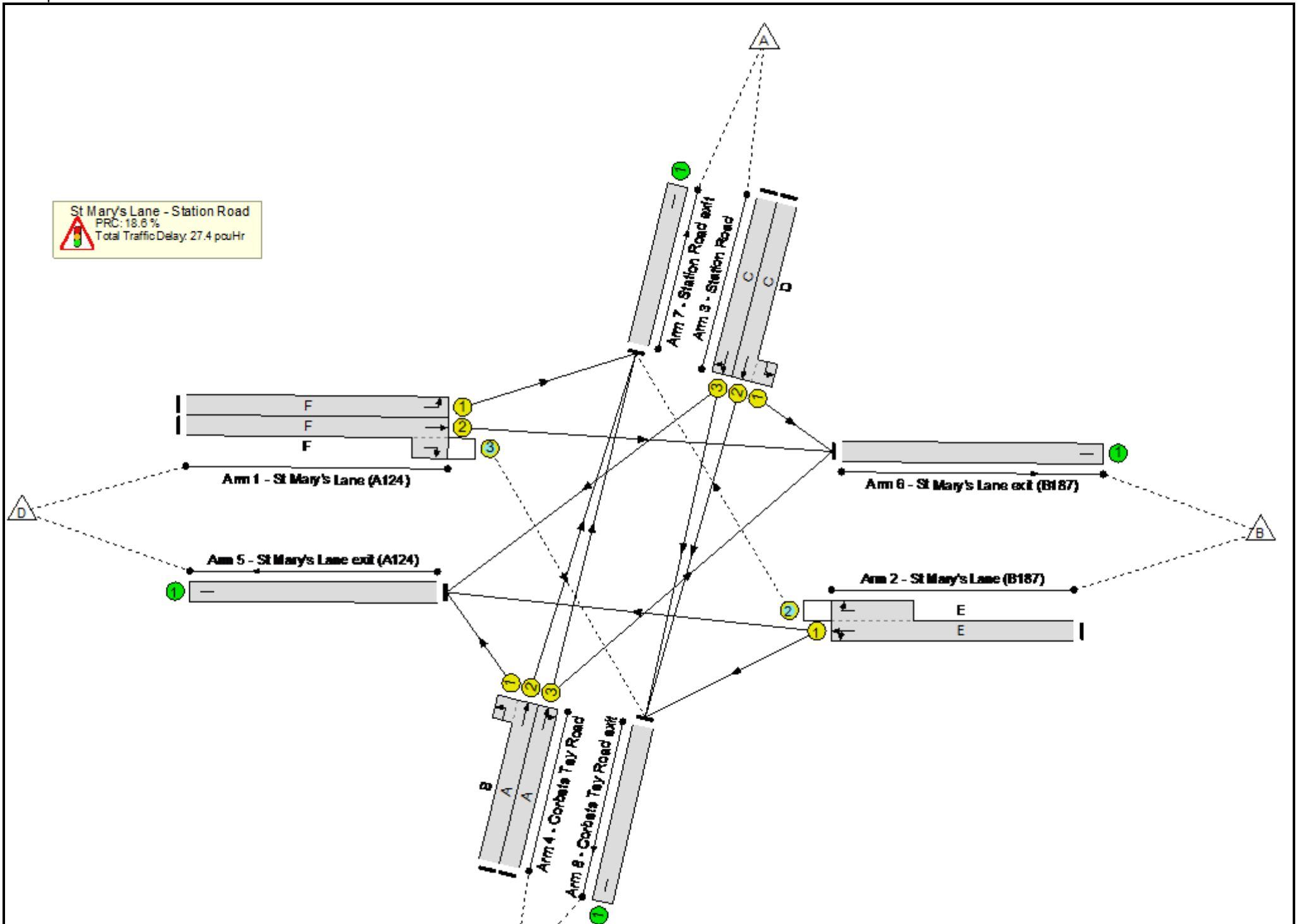
Signal Timings Diagram



## Full Input Data And Results

Full Input Data And Results  
**Network Layout Diagram**

Full Input Data And Results



Full Input Data And Results

**Network Results**

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	-	-	N/A	-	-		-	-	-	-	-	-	75.9%
St Mary's Lane - Station Road	-	-	N/A	-	-		-	-	-	-	-	-	75.9%
1/1	St Mary's Lane (A124) Left	U	N/A	N/A	F		1	31	-	457	1806	602	75.9%
1/2+1/3	St Mary's Lane (A124) Ahead Right	U+O	N/A	N/A	F		1	31	-	325	1915:1915	574+85	49.3 : 49.3%
2/1+2/2	St Mary's Lane (B187) Ahead Right Left	U+O	N/A	N/A	E		1	32	-	325	1916:1650	568+134	46.1 : 46.9%
3/2+3/1	Station Road Left Ahead	U	N/A	N/A	C D		1	22	-	359	1925:1772	418+58	75.4 : 75.4%
3/3	Station Road Right Ahead	U	N/A	N/A	C		1	22	-	301	1767	423	71.1%
4/2+4/1	Corbets Tey Road Left Ahead	U	N/A	N/A	A B		1	18:23	-	291	1915:1804	321+82	72.4 : 72.4%
4/3	Corbets Tey Road Right Ahead	U	N/A	N/A	A		1	18	-	254	1864	369	68.9%
5/1	St Mary's Lane exit (A124)	U	N/A	N/A	-		-	-	-	534	Inf	Inf	0.0%
6/1	St Mary's Lane exit (B187)	U	N/A	N/A	-		-	-	-	432	Inf	Inf	0.0%
7/1	Station Road exit	U	N/A	N/A	-		-	-	-	901	Inf	Inf	0.0%
8/1	Corbets Tey Road exit	U	N/A	N/A	-		-	-	-	445	Inf	Inf	0.0%

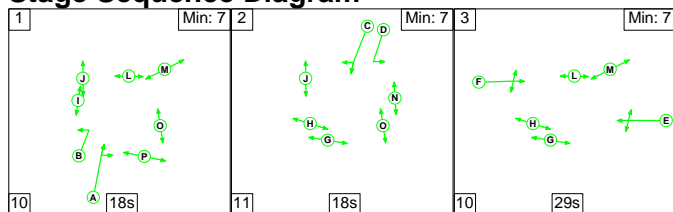
Full Input Data And Results

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)
<b>Network</b>	-	-	<b>104</b>	<b>0</b>	<b>1</b>	<b>19.5</b>	<b>7.5</b>	<b>0.4</b>	<b>27.4</b>	-	-	-	-
<b>St Mary's Lane - Station Road</b>	-	-	<b>104</b>	<b>0</b>	<b>1</b>	<b>19.5</b>	<b>7.5</b>	<b>0.4</b>	<b>27.4</b>	-	-	-	-
1/1	457	457	-	-	-	3.6	1.5	-	5.2	40.7	10.8	1.5	12.3
1/2+1/3	325	325	42	0	0	2.3	0.5	0.1	2.8	31.1	6.4	0.5	6.9
2/1+2/2	325	325	62	0	1	2.1	0.4	0.4	2.9	32.2	5.2	0.4	5.7
3/2+3/1	359	359	-	-	-	3.3	1.5	-	4.8	48.4	8.5	1.5	10.0
3/3	301	301	-	-	-	2.8	1.2	-	4.0	47.9	7.3	1.2	8.5
4/2+4/1	291	291	-	-	-	2.8	1.3	-	4.1	50.5	6.8	1.3	8.0
4/3	254	254	-	-	-	2.5	1.1	-	3.6	51.1	6.3	1.1	7.4
5/1	534	534	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	432	432	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	901	901	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	445	445	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
C1			PRC for Signalled Lanes (%):	18.6	Total Delay for Signalled Lanes (pcuHr):			27.40	Cycle Time (s): 96				
			PRC Over All Lanes (%):	18.6	Total Delay Over All Lanes(pcuHr):			27.40					

Full Input Data And Results

Scenario 6: '2030 + LTC PM' (FG8: 'Do Something 2030 + LTC PM', Plan 1: 'Network Control Plan 1')

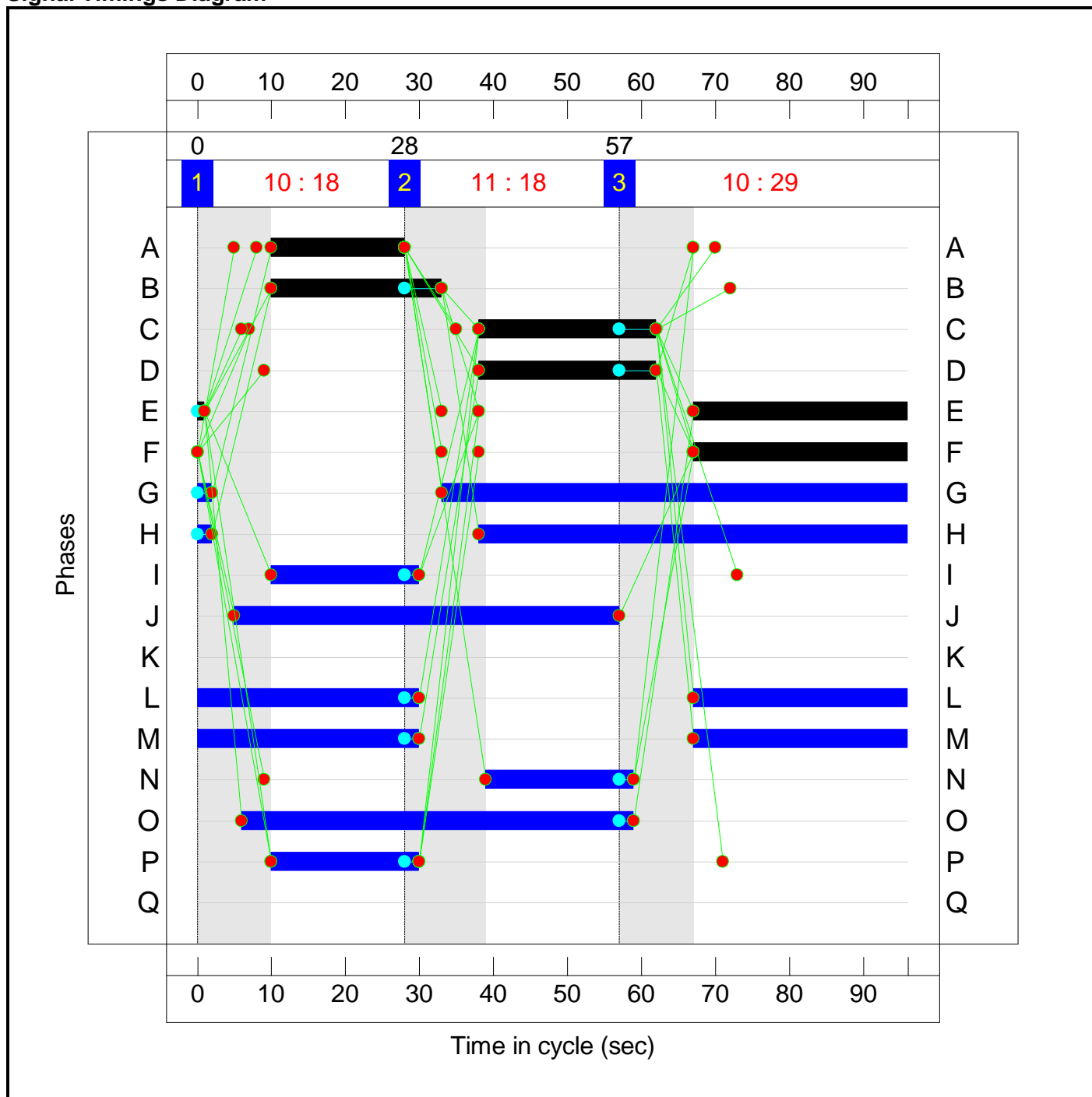
Stage Sequence Diagram



Stage Timings

Stage	1	2	3
Duration	18	18	29
Change Point	0	28	57

Signal Timings Diagram

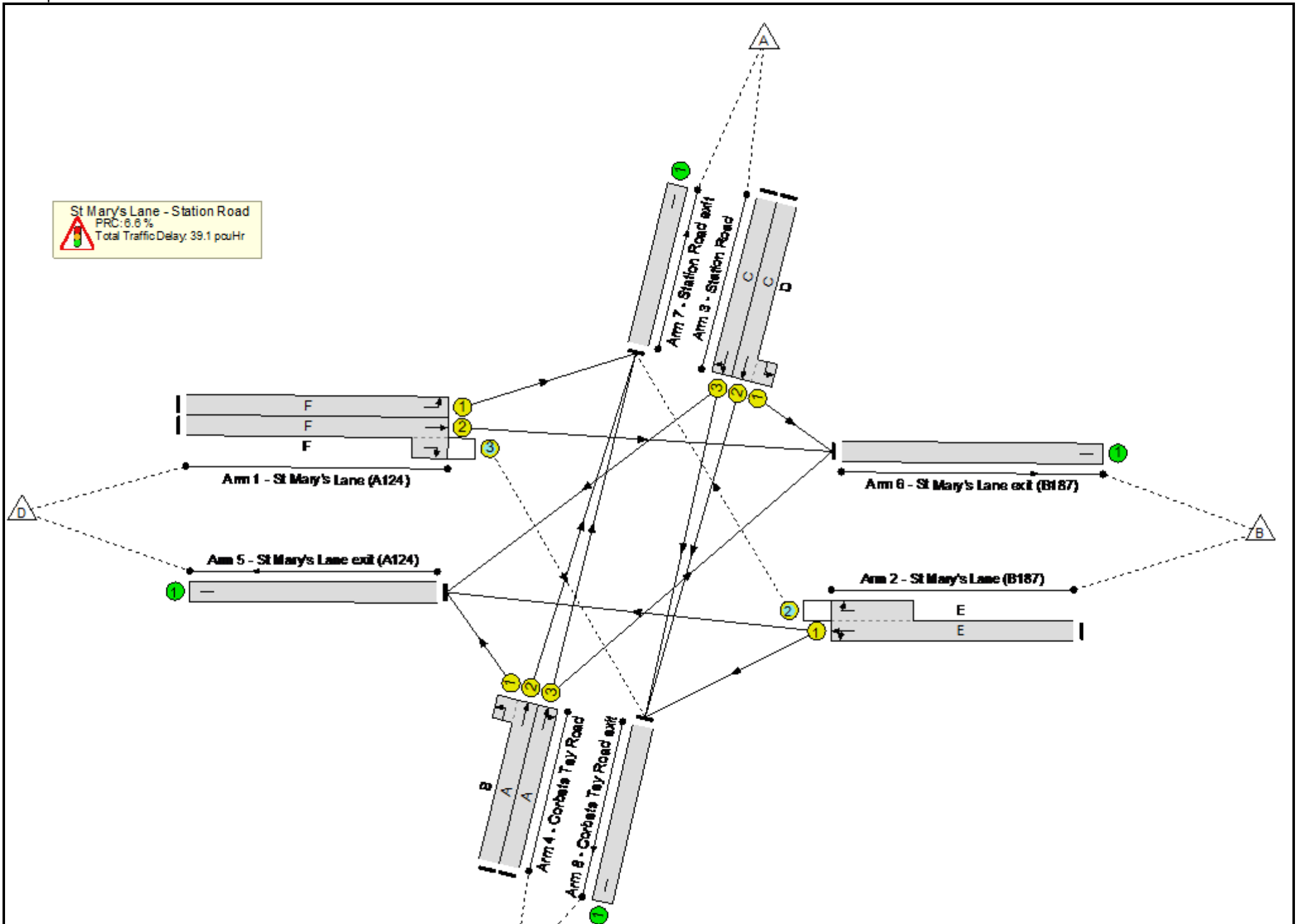




## Full Input Data And Results

Full Input Data And Results  
**Network Layout Diagram**

Full Input Data And Results



Full Input Data And Results

**Network Results**

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	-	-	N/A	-	-		-	-	-	-	-	-	84.4%
St Mary's Lane - Station Road	-	-	N/A	-	-		-	-	-	-	-	-	84.4%
1/1	St Mary's Lane (A124) Left	U	N/A	N/A	F		1	29	-	421	1806	564	74.6%
1/2+1/3	St Mary's Lane (A124) Ahead Right	U+O	N/A	N/A	F		1	29	-	494	1915:1915	526+97	79.3 : 79.3%
2/1+2/2	St Mary's Lane (B187) Ahead Right Left	U+O	N/A	N/A	E		1	30	-	505	1906:1650	537+115	76.0 : 84.4%
3/2+3/1	Station Road Left Ahead	U	N/A	N/A	C D		1	24	-	431	1925:1772	409+113	82.7 : 82.7%
3/3	Station Road Right Ahead	U	N/A	N/A	C		1	24	-	367	1767	460	79.8%
4/2+4/1	Corbets Tey Road Left Ahead	U	N/A	N/A	A B		1	18:23	-	341	1915:1804	294+115	83.2 : 83.2%
4/3	Corbets Tey Road Right Ahead	U	N/A	N/A	A		1	18	-	289	1829	362	79.8%
5/1	St Mary's Lane exit (A124)	U	N/A	N/A	-		-	-	-	714	Inf	Inf	0.0%
6/1	St Mary's Lane exit (B187)	U	N/A	N/A	-		-	-	-	717	Inf	Inf	0.0%
7/1	Station Road exit	U	N/A	N/A	-		-	-	-	845	Inf	Inf	0.0%
8/1	Corbets Tey Road exit	U	N/A	N/A	-		-	-	-	572	Inf	Inf	0.0%

