1.0 INTRODUCTION

1.1 Following submission of application MBC/23/504471/OUT for the provision of up to 120 dwellings on land at Moat Road, Headcorn, Kent County Council ("KCC") as Local Highway Authority provided their formal consultation response, which is attached at **Appendix A**.

1.2 This note should be read in conjunction with the submitted transport assessment 20472-04d dated 25th September 2023.

1.3 Whilst KCC are generally supportive of the proposals, there were two final matters they requested further information on. These were summarised as:

- Confirmation of the suitability of the emergency access for development traffic;
- Confirmation of how pedestrian movements from Kings Road to Mote Road would be safely accommodated;

1.4 This note provides further information to address those two matters.

2.0 EMERGENCY ACCESS

2.1 The detailed text within the consultation response stated:

Further information on the suitability of the emergency access has also been provided. This confirms that whilst the access track can accommodate two-way flow near to the junction of mill bank, it is limited to one-way flows in sections. The ta does not confirm the extent or location of the area of one way working.

2.2 Drawing 20472-05 presents the topographical information of the track. This shows that due to the boundary fence and adjacent hedgerow there are two sections where two cars could have issues passing.

2.3 The first location is c9m back from the A274 for a distance of 26m. This would still enable two vehicles to pass within the junction to remove the potential for vehicles needing to wait on the A274.

2.4 The second section is close to the site access where the turning of vehicles into and out of the site coupled with the boundary fence and hedge, could make it difficult for two vehicles to pass.

2.5 This could be resolved by alterations to the field gate to provide a straighter alignment into the site.

2.6 Importantly, due to the straight alignment of the track from the A274 to the site, any vehicles travelling along it will have good approach visibility of opposing vehicles, reducing the potential for them meeting at either of the narrower sections.

2.7 As can be seen by the vehicle tracking, there, are no issues with a fire tender using the track or two cars, for the majority. It is therefore, considered the track provides suitable access for emergency vehicles and future resident's cars should there be a lasting issue at the main site access on Moat Road.

3.0 KINGS ROAD / MOAT ROAD SIGNALS

3.1 The detailed text within their consultation response stated:

Whilst this assessment highlights the presence of the nearby primary school it fails to acknowledge the lack of controlled crossing facilities at the adjacent crossroads. Consequently, residents wishing to complete pedestrian trips to/from the school would have to walk to the controlled facilities in the village centre to access a safe and suitable crossing. It is therefore considered that the applicant has still not confirmed how pedestrian movements from Kings Road to Mote Road would be safely accommodated.

3.2 Following initial discussions with KCC following receipt of their response, a scheme to incorporate crossing features into the existing signal junction have been explored. DTA **Drawing 20472-04a** presents push button crossing on the southern and eastern arms to facilitate safe crossing from the development towards the school. There, would also be clear safety benefits to existing pedestrians crossing the junction.

3.3 To incorporate the Kings Road crossing points, alterations to the existing kerb lines are required to increase the widths of the footway. Due to this physical change, KCC requests a safety audit was undertaken.

3.4 Meraki Alliance, was subsequently appointed. DTA are aware of the audit team leader's previous experience in the consideration and design of signal junction which therefore, best placed them to review the proposals. Furthermore, the audit team has recently visited the area to provide informal views on the proposed footway scheme.

3.5 The audit team were provided with the transport assessment and scheme drawing, as well as the updated LINSIG assessment of the junction. The received audit is attached at **Appendix B**. The audit found no road safety problems with the proposals.

3.6 Following an initial submission of the updated signal modelling, KCC required the maximum extendable pedestrian clearance times be used in order to give a robust worse case scenario. Therefore the intergreen times were increased accordingly.

3.7 The LINSIG outputs are attached at **Appendix C**.

3.8 The results show the signals will continue to operate with significant reserve capacity in both the morning and evening peak periods.

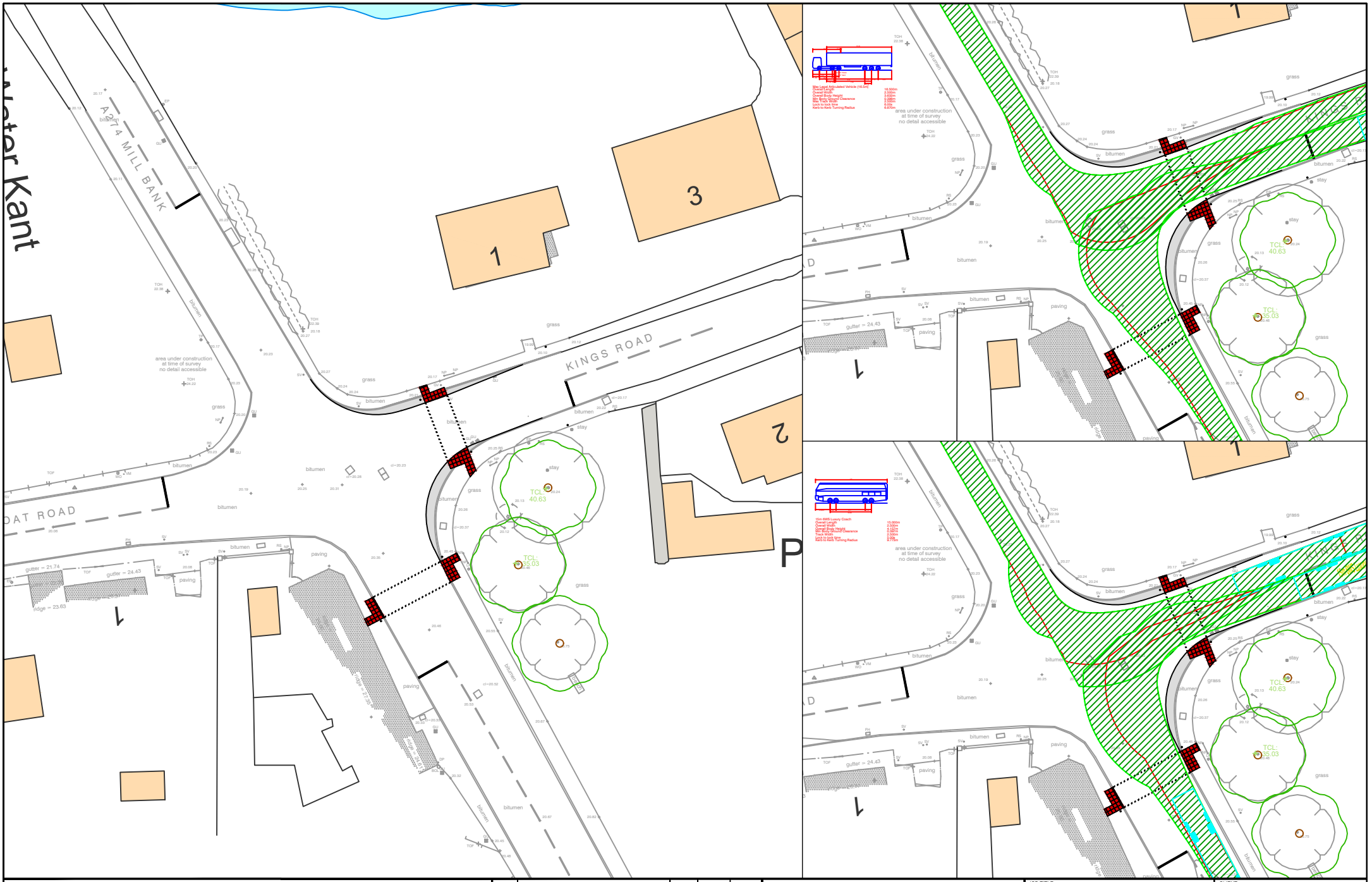
4.0 SUMMARY AND CONCLUSION

4.1 The further information requested by KCC has been provided and demonstrates that the track to the north of the site will deliver a suitable route in case of emergencies.

4.2 The applicant will provide improvements to the Kings Road/ Moat Road signal junction, to incorporate push button crossings for pedestrians. It is anticipated this scheme will be delivered via a S278 highway works agreement.

4.3 It is considered there are no further outstanding issues and therefore, in accordance with the NPPF, the residual impact of the development would not result in a severe impact on highway safety or capacity.

Drawings



REV	DESCRIPTION	DRAWN	INITIALS	DATE

DTA
Transport Planning Consultants

Forester House, Doctors Lane,
Henley -in-Arden
Warwickshire B95 5AW
Tel: +44(0)1564 793598
Fax: +44(0)1564 793983
www.dtatransportation.co.uk

JOB TITLE	CLIENT
Moat Road, Headcorn	Catesby Estates PLC

DRAWING TITLE

Proposed Pedestrian Crossings

SCALE	DRAWN BY	DATE	DRAWING No	REVISION
1:500@A4	DN	Nov 23	20472–04	A

Areas of single way traffic due to reduced width of useable lane.

Pumping Appliance
Overall Length 7.900m
Overall Width 2.500m
Overall Body Height 3.300m
Min Body Ground Clearance 0.140m
Track Width 2.500m
Lock to lock time 4.00s
Kerb to Kerb Turning Radius 7.750m

MPV (2006)
Overall Length 4.856m
Overall Width 1.860m
Overall Body Height 1.919m
Min Body Ground Clearance 0.300m
Max Track Width 1.779m
Lock to lock time 4.90s
Kerb to Kerb Turning Radius 5.700m

REV	DESCRIPTION	DRAWN	INITIALS	DATE

DTA
Transport Planning Consultants

Forester House, Doctors Lane,
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Tel: +44(0)1564 793598
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www.dtatransportation.co.uk

JOB TITLE: Moat Road, Headcorn
CLIENT: Catesby Estates PLC
DRAWING TITLE: Northern Emergency Access Details
SCALE: 1:500@A3
DRAWN BY: DN
DATE: Dec 23
DRAWING No: 20472-05
REVISION:

Appendix A

KCC Highways Comments

Maidstone Borough Council
Maidstone Planning Department
King Street
Maidstone
Kent
ME15 6JQ

Highways and Transportation
Kroner House
Eurogate Business Park
Ashford
TN24 8XU
Tel: 03000 418181
Date: 8 November 2023
Our Ref:

Application - MBC/23/504471/OUT
Location - Land At Moat Road Headcorn Maidstone TN27 9NT
Proposal - Outline application (with all matters reserved except access) for the development of up to 120no. dwellings (Use Class C3) including demolition of existing buildings, new means of access into the site from Moat Road (not internal roads), associated highway works, provision of public open space, emergency/pedestrian access to Millbank, and associated infrastructure including surface water drainage (with related off site s278 highway works to Moat Road).

Introduction

The proposals seek permission for a development of up to 120no. dwellings *(Use Class C3)* including demolition of existing buildings, means of access into the site from Moat Road *(not internal roads)*, associated highway works, provision of public open space, emergency / pedestrian access to Millbank, realignment of the existing public right of way and associated infrastructure including surface water drainage.

Kent County Council *(KCC)* Highways note that the proposals are supported by a Transport Assessment *(TA)*, which is dated September 2023 and was produced by David Tucker Associates.

The TA seeks to address the concerns previously raised by this authority in response to the previous, all be it withdrawn application *(MBC reference: 22/505616/OUT).* I have the following highway comments to make in respect of it:

Access

Vehicular

Consistent with the requirements of the Kent Design Guide *(KDG)* the development will be served by a singular all purpose vehicular access and additional secondary, emergency only access.

Primary access is to be taken from Mote Road in the form of a simple priority junction. As requested in KCC Highways response to the withdrawn application additional traffic surveys have been completed. These surveys identify 85th percentile speeds of 43.1 mph mph eastbound and 44.8 mph westbound. Given how the splays proposed are in accordance with

the requirements for identified speeds and achievable within the existing highway boundary or land within the applicant's control they are acceptable to KCC Highways.

Whilst the extension of the existing 30 mph is considered sensible given how the built-up area would be increased, in the event of planning permission being granted, importantly the proposed access strategy is not dependent upon this. A best endeavours condition relating to the extension of the 30mph limit should be attached to any consent.

To address this authority's concerns regarding the propensity for the larger vehicles to overrun adjacent the traffic lanes the applicant has incorporated an overunable area. Whilst this would assist in better accommodating left turns out the site by larger vehicles, other movements would still require the use of adjacent lanes.

Although KCC Highways maintain the view that the optimum arrangement would be to fully accommodate larger vehicles, it is acknowledged that movements by such vehicles are infrequent. Consequently, a highway-based objection on these grounds in isolation is not considered reasonable.

Further information on the suitability of the emergency access has also been provided. This confirms that whilst the access track can accommodate two-way flow near to the junction of Mill Bank, it is limited to one-way flows in sections. The TA does not confirm the extent or location of the area of one way working.

Finally, the previously requested stage 1 Road Safety Audit *(RSA)* and supporting designer's response has now been provided. 2 problems have been raised with the RSA, with the applicant accepting the auditor's recommendation in both instances.

Pedestrian

To ensure pedestrian connectivity with the village centre the applicant is proposing a road narrowing scheme that would involve a priority working arrangement. Importantly, the applicant has provided a drawing *(drawing number:20473-03-2 Rev D titled 'Visibility Splays'*) demonstrating that adequate levels of intervisibility can be achieved.

As a result of the applicant's proposed narrowing, they are able to provide a footway connection along the site frontage that would link in with the existing footway on the southern side of Mote Road. The footway would vary from 1.5 to 2 meters in width.

Confirmation that the footway link will connect with the development's internal footpaths is welcomed. As only outline permission is sought at this time it is accepted that how this will interface with the site's internal layout will form part of reserved matters, should permission be granted. It is also accepted that details relating to the lighting of the proposed narrowing will be agreed as part of any S278 Agreement.

Sustainability

Walking and Cycling

Section 3.6 of the applicant's TA contains an assessment of the propensity for travel by walking and cycling. This assessment correctly identifies the fact that subject to the provision of the proposed footway link the site is within walking distance of many local amenities.

Whilst this assessment highlights the presence of the nearby primary school it fails to acknowledge the lack of controlled crossing facilities at the adjacent crossroads. Consequently, residents wishing to complete pedestrian trips to/from the school would have to walk to the

controlled facilities in the village centre to access a safe and suitable crossing. It is therefore considered that the applicant has still not confirmed how pedestrian movements from Kings Road to Mote Road would be safely accommodated.

Public Transport

As set out within the TA owing to the development's location on the outskirts of village centre it is well placed for trips by alternative modes. Headcorn train station is a mainline station offering services to a range of local and regional destinations at a good level of frequency. In addition, the site is within walking distance of bus stops that also offer regular services in the direction of Maidstone.

Trip Generation

The development is anticipated 78 trips *(combined arrivals and departures)* in AM peak and 70 trips in the PM peak.

To derive these forecasts the applicant has interrogated the TRICS database in conjunction with Census Travel to Work Data for Middle Super Output Area *(MSOA)* that the site is located in. This analysis confirms that a significant proportion *(67%)* of the existing population travel to work using the private motor vehicles.

Given how the applicant's site selection parameters focus on sites in an *'edge of town,'* or *'suburban'* location with comparable locational characteristics to the development site, they are considered acceptable for assessment purposes.

Trip Distribution and Assignment

It is noted that the applicant has again made use of Census Travel to Work Data to distribute the development trips, with them assigned across the network using a real time journey planner. Such an approach is acceptable to KCC Highways given how it is reasonable to assume the travel patterns of the perspective residents would be similar to the existing, with use of a real time journey planner reflecting the propensity for road users to choose the route that affords the quickest journey time. Based upon the methodology utilised by the applicant the majority *(82%)* of trips are expected route to/from the nearby signalised crossroads.

Assessment Methodology

The applicant's capacity assessments are based upon traffic surveys completed in July 2022 and March 2023. Given how these surveys were completed during a traffic neutral period, outside of any Covid-19 restrictions their use is considered acceptable.

To reflect the current Local Plan Period the applicant has adopted a horizon year of 2031, with Tempro growth rate used to growth the baseline traffic years up to the horizon year. KCC Highways consider such an approach to be acceptable.

Contrary to this authority's formal pre-application advice the applicant has not explicitly accounted for nearby committed development *(MBC reference: 15/503325/HYBRID, 220 dwellings)*. This is on the basis that the majority of the development is now built out, with any residual elements of the development being accounted for within the Tempro growth factors. Owing to the advance stage of the development question, in this instance the approach adopted is considered acceptable.

Traffic Impact

Site Access junction with Mote Road *(Priority Junction)*

The applicant's capacity assessment confirms that following the addition of the development traffic the junction will operate within capacity, without any unacceptable levels of queuing or delays.

Mill Bank/Kings Road/North Street/Mote Road *(Signalised Crossroads)*

The applicant's capacity assessment confirms that the junction currently operates without any capacity issues. Following the addition of the development traffic the junction is anticipated to continue to operate within capacity, without any unacceptable levels of queuing or delays.

Wider network *(Staplehurst and Linton Crossroads)*

To determine the likely impact of the development across the wider network a percentage impact assessment has been completed. This assessment compares the junctions existing traffic flows against the additional trips the development is anticipated to generate through them.

In all assessed periods the development is forecast to increase traffic by no greater than 0.3%. Such modest increases in traffic are likely to be well within daily fluctuations and as such KCC Highways consider the impact across the wider network to be acceptable.

Parking, Scale and Layout

As only outline planning permission is sought at this time matters relating to the development's internal layout, including parking provision, would form part of a future reserved matters application should planning permission be granted. Consequently, KCC Highways have no comments to make in respect of these matters at this time.

Personal Injury Collision *(PIC)* Record

PIC data for the most recently available 5-year period has been sourced and analysed by the applicant. This confirms that 4 collisions occurred during the period in question, all which were slight in severity. These collisions occurred across the agreed area with no clusters identifiable. KCC Highways are therefore satisfied that the proposals will not exacerbate any pre-existing highway safety issues.

Summary and Recommendation

KCC Highways wish to raise a ***holding objection*** to the proposals on the basis that the applicant should be required to provide the following additional information:

- Confirmation of the suitability of the emergency access for development traffic;

- Confirmation of how pedestrian movements from Kings Road to Mote Road would be safely accommodated;

Informative: It is important to note that planning permission does not convey any approval to carry out works on or affecting the public highway.

Any changes to or affecting the public highway in Kent require the formal agreement of the Highway Authority, Kent County Council (KCC), and it should not be assumed that this will be a given because planning permission has been granted. For this reason, anyone considering works which may affect the public highway, including any highway-owned street furniture, is

advised to engage with KCC Highways and Transportation at an early stage in the design process.

Across the county there are pieces of land next to private homes and gardens that do not look like roads or pavements but are actually part of the public highway. Some of this highway land is owned by Kent County Council whilst some is owned by third party owners. Irrespective of the ownership, this land may have highway rights over the topsoil.

Works on private land may also affect the public highway. These include works to cellars, to retaining walls which support the highway or land above the highway, and to balconies, signs or other structures which project over the highway. Such works also require the approval of the Highway Authority.

Kent County Council has now introduced a formal technical approval process for new or altered highway assets, with the aim of improving future maintainability. This process applies to all development works affecting the public highway other than applications for vehicle crossings, which are covered by a separate approval process.

Should the development be approved by the Planning Authority, it is the responsibility of the applicant to ensure, before the development is commenced, that all necessary highway approvals and consents have been obtained and that the limits of the highway boundary have been clearly established, since failure to do so may result in enforcement action being taken by the Highway Authority. The applicant must also ensure that the details shown on the approved plans agree in every aspect with those approved under the relevant legislation and common law. It is therefore important for the applicant to contact KCC Highways and Transportation to progress this aspect of the works prior to commencement on site.

Guidance for applicants, including information about how to clarify the highway boundary and links to application forms for vehicular crossings and other highway matters, may be found on Kent County Council's website: https://www.kent.gov.uk/roads-and-travel/highway-permits-and-licences/highways-permissions-and-technical-guidance. Alternatively, KCC Highways and Transportation may be contacted by telephone: 03000 418181

Yours Faithfully

Director of Highways & Transportation

*This is a statutory technical response on behalf of KCC as Highway Authority. If you wish to make representations in relation to highways matters associated with the planning application under consideration, please make these directly to the Planning Authority.

Appendix B

Received RSA

meraki alliance
Highways, Transportation & Safety Consulting

Pedestrian Crossing Improvements: Traffic Signal Junction - Mill Road / Mill Bank / Kings Road / North Road

Road Safety Audit: Stage 1

Kent County Council
County Hall
Maidstone
Kent
ME14 1XQ

Jonathan Birkett
Meraki Alliance Ltd
Unit 1 Waterside
Old Boston Road
Wetherby
LS22 5NB
Tel:+44 (0) 7966296302

meraki alliance
Highways, Transportation & Safety Consulting

Pedestrian Crossing Improvements: Traffic Signal Junction - Mill Road / Mill Bank / Kings Road / North Road

Road Safety Audit: Stage 1

Report Produced for:	Kent County Council
Report Produced by:	Jonathan Birkett
Report Dated:	05 December 2023
Report Reference:	MAL/SIHRSA1Rev0
Road Safety Audit Team Leader:	Jonathan Birkett

Pedestrian Crossing Improvements: Traffic Signal Junction - Mill Road / Mill Bank / Kings Road / North Road

Road Safety Audit: Stage 1

Contents Amendment Record

This report has been issued & amended as follows:

Issue	Revision	Description	Date	Signed
1	0	Draft Report	04 Dec 2023	JB
1	0	FINAL REPORT	05 Dec 2023	JB/GK

Report Circulation Record

This report has been circulated, as follows:

Person	Organisation	No. of Copies	Date
	Kent County Council		
Dave Neale	DTA	Electronic	05 Dec 2023
Gillian Kidd	Meraki Alliance Ltd	Electronic	05 Dec 2023

Contents

1 Introduction

1.1 General

This report has been prepared in response to a request to undertake a Stage 1 Road Safety Audit (i.e., carried out prior to detailed design), by Dave Neale (DTA) on behalf of Kent County Council. The scheme submitted for Audit is the improved pedestrian crossing facilities at Mill Road-Mill Bank-Kings Road-North Road, Headcorn.

The scope of the works included within this Road Safety Audit are:

- New signalised crossing Kings Road.
- New signalised crossing North Street.
- Localised changes to kerb lines.

Overseeing Organisation

Kent County Council.

Client

Catesby.

Design Organisation

DTA.

The audit comprised an examination of documents forming the Audit Brief and an examination of the site.

1.2 Documents Forming the Brief

The documents were made available to the Road Safety Audit Team by Dave Neale (DTA), on behalf of Kent County Council. The total documents forming the Audit Brief are listed in Appendix 1:

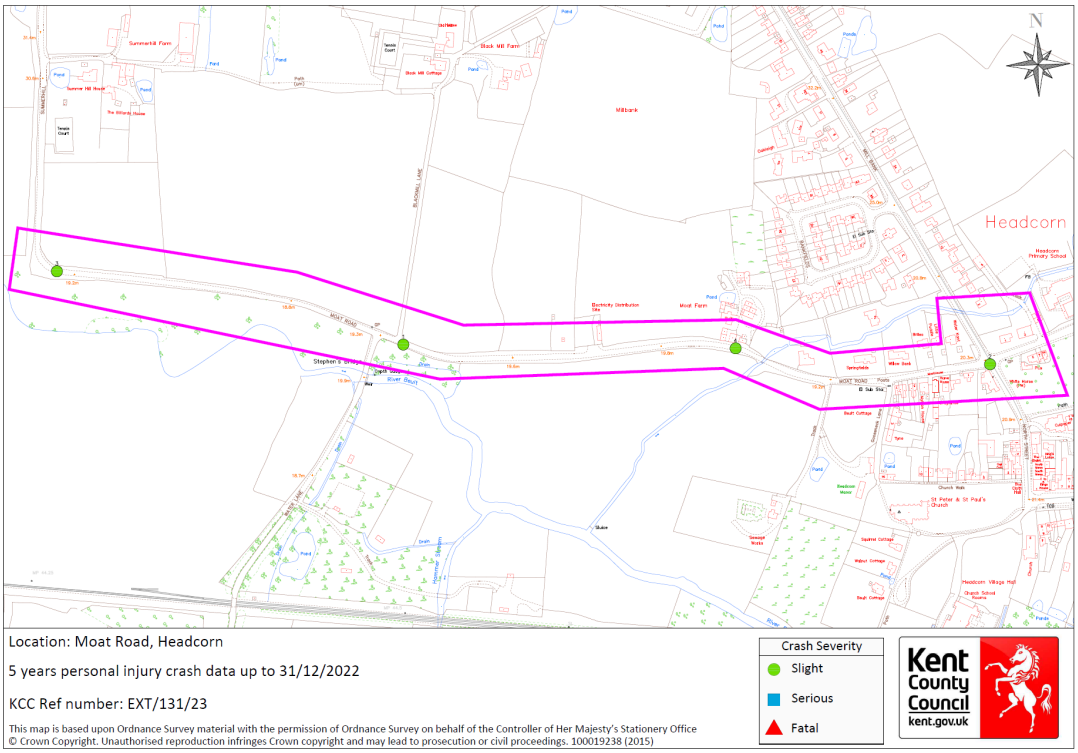
Generally, the Brief comprised:

- Brief.
- Drawings.
- Transport Assessment.
- Traffic flow data.
- Collision Data.

1.3 Collision Traffic and Speed Data

Collision data was provided as part of the brief and associated Transport Assessment.

The latest five-year personal injury collision data up to 31/12/2022 has been provided from Kent County Council. The search area and collision plot are shown below.



Detailed traffic and speed data is shown below:

Site Location	Direction	5 Day Ave.	7 Day Ave.	Average 85%ile (mph)	Average Mean (mph)	AM Peak	PM Peak
Site 1	Eastbound	117	109	14.9	11.9	11	6
	Westbound	126	117	14.8	11.7	6	10
Site 2	Eastbound	1424	1257	43.1	36.9	123	145
	Westbound	1442	1283	44.8	38.2	150	117
Site 3	Eastbound	1432	1268	34.3	28.8	127	146
	Westbound	1436	1276	34.2	28.8	147	117

Site 2 covers a location to the west of the existing substation access and site 3 is closer to the village centre near the bridge.

1.4 Details of Site Visit

A site inspection was undertaken on 04 October 2023 between 12:30 and 13:45. The Audit Team spent 75 minutes on site understanding the proposed works and their interaction with the local road network.

During the site visit the weather was fine. No incidents were noted whilst on site.

1.5 RSA Team and Format

It was considered that the information provided was sufficient for the purpose of carrying out the Road Safety Audit Stage 1 requested.

The Road Safety Audit Team membership approved was:

JONATHAN BIRKETT IENG MICE FIHE

Holder of Certificate of Competency

Road Safety Audit Team Leader

G KIDD BSC (HONS) MIHE

Road Safety Audit Team Member

The Road Safety Audit comprised an examination of the documents and drawings supplied to the Road Safety Audit Team (referenced in Appendix 1 of this report). No member of the Road Safety Audit Team has had any previous input to the design of the scheme.

The Terms of Reference are as described in the National Highways Design Manual for Roads and Bridges document GG119 'Road Safety Audit'. The scheme has been examined and this report compiled only with regard to safety implications to road users of the scheme as presented. It has not been verified for compliance with any other Standards or criteria. However, in order to clearly explain a safety problem or the recommendation to resolve a problem, the Audit Team may on occasion have referred to a design standard for information only. However, any audit comments should not be construed as implying that a technical audit has been undertaken in any respect.

Furthermore, any recommendations included within this report should not be regarded as being prescriptive design solution to the problem raised. They are intended only to indicate a proportionate and viable means of eliminating or mitigating the identified problem, as stipulated in GG119, and in no way imply that a formal design process has been undertaken. There may be alternative methods of addressing a problem which should be equally acceptable in achieving the desired elimination or mitigation and these should be considered when responding to this report.

It is the Project Sponsor's responsibility to ensure that all problems raised by the Road Safety Audit Team are given due consideration.

In the event of a collision and any resulting legal action, Meraki Alliance Ltd would have to defend its actions on the basis that it took such care, as in all circumstances was reasonably required, to ensure that the highway was not dangerous to road users. It is important therefore that recommendations contained in the report are acted upon wherever possible.

1.6 Departures or Relaxations from Standards

No departures from standard have been provided to the RSA Team.

1.7 Items Outside the Scope of the Road Safety Audit

No items have been identified outside the scope of the RSA.

1.8 Information not provided for this Stage of Audit

All information has been provided necessary to undertake this RSA Stage 1.

2 Items Raised at Stage 1 Road Safety Audit

This section details the findings of this Stage 1 Road Safety Audit. All locations of identified problems are illustrated on the plans after each audit section.

2.1 RSA 1 Problems

No safety related problems identified.

END OF PROBLEMS IDENTIFIED AND RECOMMENDATIONS PRESENTED IN THIS STAGE 1 ROAD SAFETY AUDIT

3 Audit Team Statement

We certify that this Road Safety Audit has been carried out in accordance with GG119	
ROAD SAFETY AUDIT TEAM LEADER	
NAME:	JONATHAN BIRKETT
SIGNED:	
POSITION:	DIRECTOR
ORGANISATION	MERAKI ALLIANCE LTD
DATE:	05 DEC 2023
ROAD SAFETY AUDIT TEAM MEMBER	
NAME:	GILLIAN KIDD
SIGNED:	
POSITION:	AUDIT TEAM MEMBER
ORGANISATION	MERAKI ALLIANCE LTD
DATE:	05 DEC 2023

Appendix 1 – Audited Documents

20472-04a

Moat Road-Mill Bank-Kings Road-North Street_Rev C - Full Input Data And Results

Appendix 2 Problem Location Plan

No safety related problems identified.

Appendix C

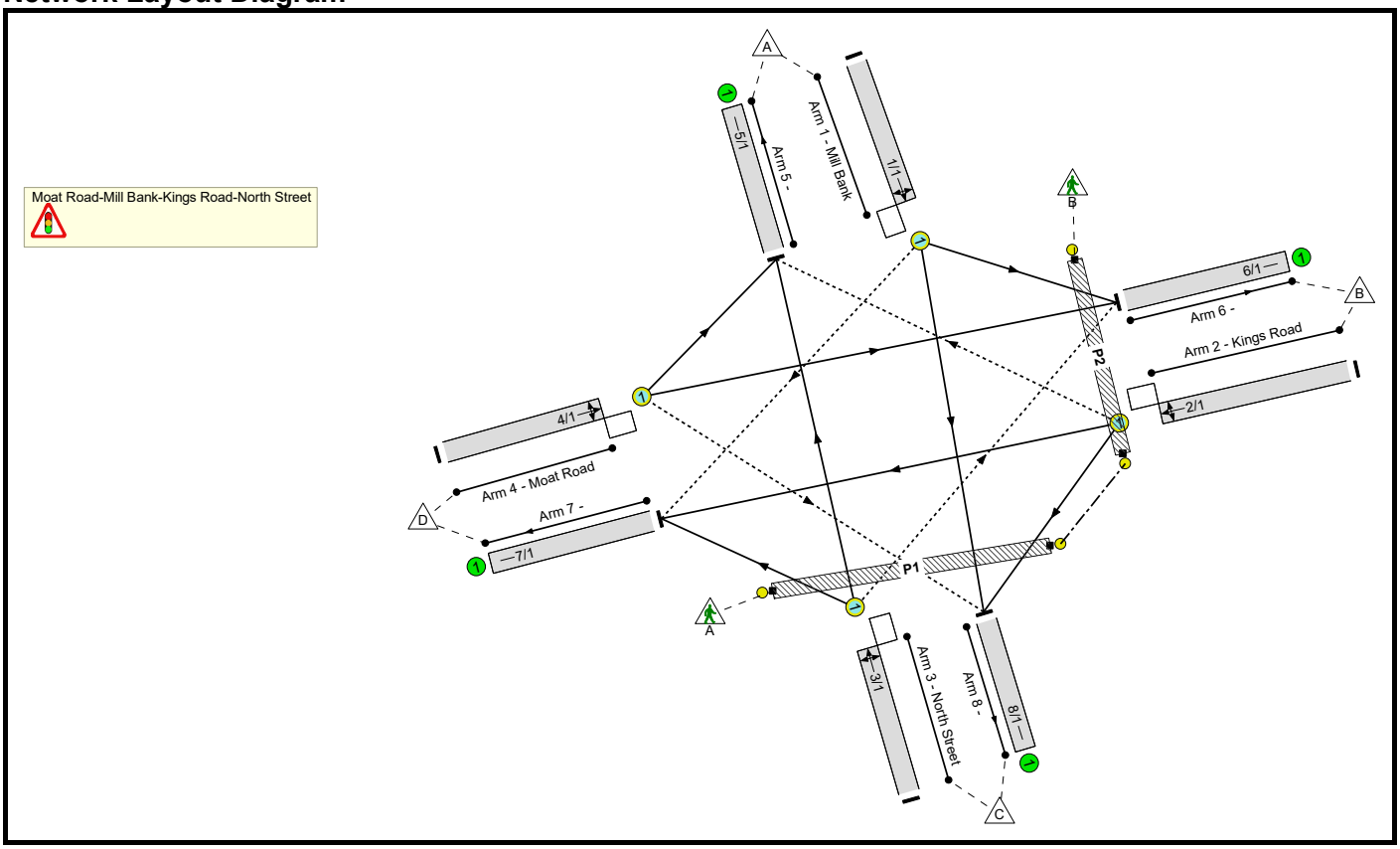
LINSIG Outputs

Full Input Data And Results

User and Project Details

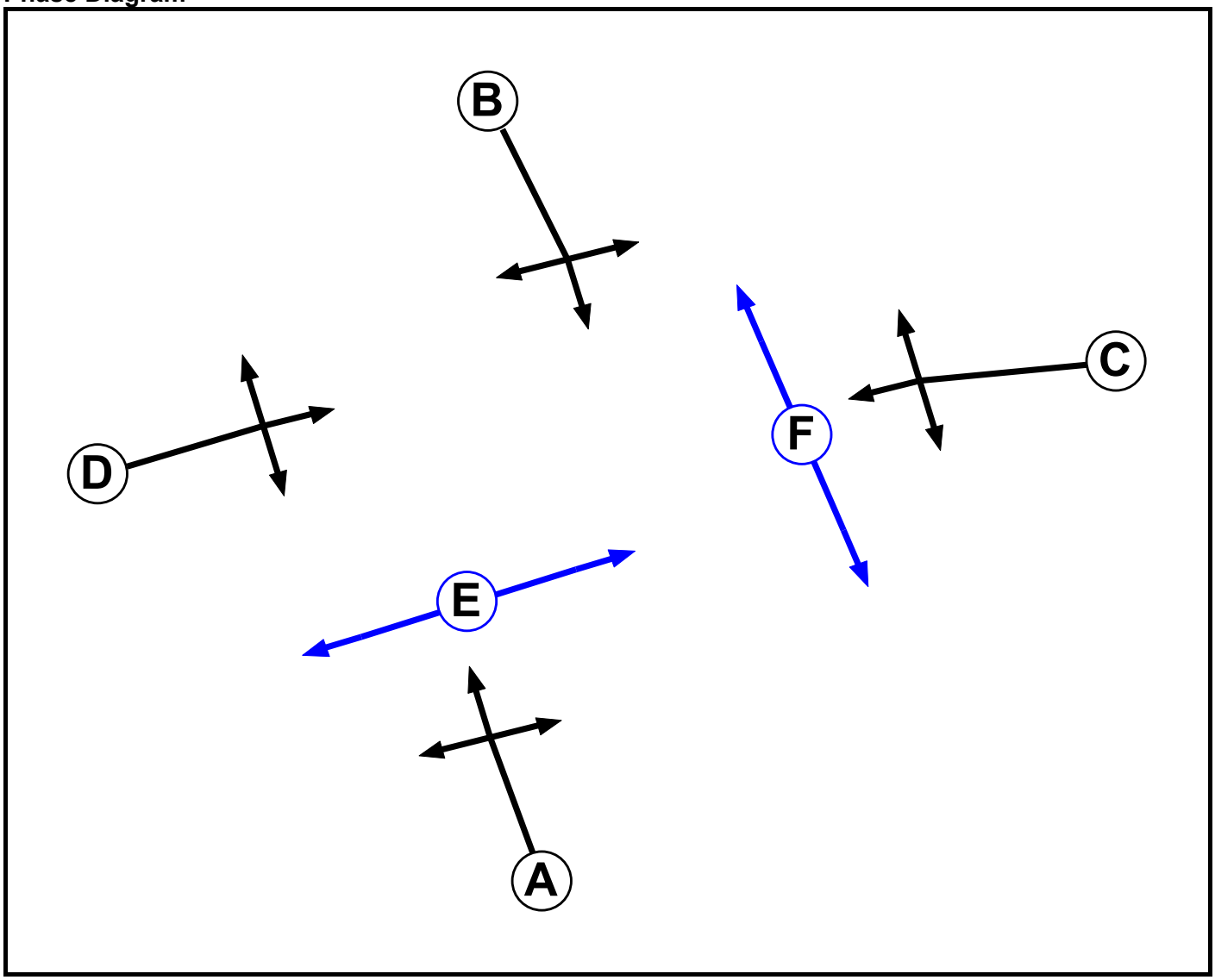
Project:	**Headcorn**
Title:	
Location:	
Client:	Catesby Estates PLC
Additional detail:	
File name:	Moat Road-Mill Bank-Kings Road-North Street_Rev C.lsg3x
Author:	JA
Company:	David Tucker Associates
Address:	

Network Layout Diagram



Full Input Data And Results

Phase Diagram



Phase Input Data

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

Full Input Data And Results

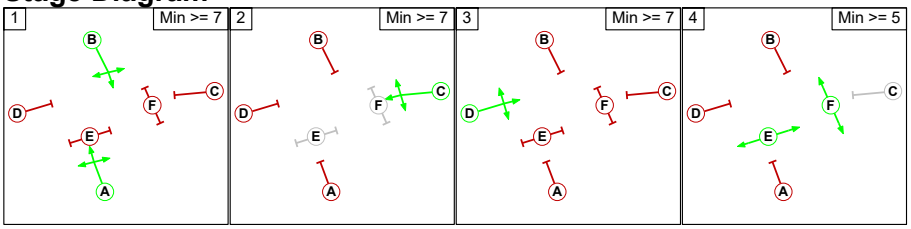
Phase Intergreens Matrix

		Starting Phase					
		A	B	C	D	E	F
Terminating Phase	A		-	8	8	10	10
	B	-		8	8	10	10
	C	7	7		7	-	-
	D	7	7	6		10	10
	E	10	10	-	10		-
	F	10	10	-	10	-	

Phases in Stage

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

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	3	4
From Stage	1		8	8	10
	2	7		7	0
	3	7	6		10
	4	10	2	10	

Full Input Data And Results

Give-Way Lane Input Data

Junction: Moat Road-Mill Bank-Kings Road-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)
1/1 (Mill Bank)	7/1 (Right)	1439	0	3/1	1.09	To 5/1 (Ahead) To 7/1 (Left)	2.00	2.00	0.50	2	2.00
2/1 (Kings Road)	5/1 (Right)	1439	0	4/1	1.09	To 5/1 (Left) To 6/1 (Ahead)	2.00	2.00	0.50	2	2.00
3/1 (North Street)	6/1 (Right)	1439	0	1/1	1.09	To 6/1 (Left) To 8/1 (Ahead)	2.00	2.00	0.50	2	2.00
4/1 (Moat Road)	8/1 (Right)	1439	0	2/1	1.09	To 7/1 (Ahead) To 8/1 (Left)	2.00	2.00	0.50	2	2.00

Full Input Data And Results

Lane Input Data

Junction: Moat Road-Mill Bank-Kings Road-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 (Mill Bank)	O	B	2	3	60.0	Geom	-	2.50	0.00	Y	Arm 6 Left	10.80
											Arm 7 Right	9.00
											Arm 8 Ahead	Inf
2/1 (Kings Road)	O	C	2	3	60.0	Geom	-	2.80	0.00	Y	Arm 5 Right	14.00
											Arm 7 Ahead	Inf
											Arm 8 Left	8.00
3/1 (North Street)	O	A	2	3	60.0	Geom	-	3.20	0.00	Y	Arm 5 Ahead	Inf
											Arm 6 Right	10.95
											Arm 7 Left	11.50
4/1 (Moat Road)	O	D	2	3	60.0	Geom	-	3.00	0.00	Y	Arm 5 Left	9.20
											Arm 6 Ahead	Inf
											Arm 8 Right	17.50
5/1	U		2	3	60.0	Inf	-	-	-	-	-	-
6/1	U		2	3	60.0	Inf	-	-	-	-	-	-
7/1	U		2	3	60.0	Inf	-	-	-	-	-	-
8/1	U		2	3	60.0	Inf	-	-	-	-	-	-

Traffic Flow Groups

Flow Group	Start Time	End Time	Duration	Formula
1: '2022 Base AM'	08:00	09:00	01:00	
2: '2022 Base PM'	17:00	18:00	01:00	
3: '2031 Base AM'	08:00	09:00	01:00	
4: '2031 Base PM'	17:00	18:00	01:00	
5: '2031 Base + Dev AM'	08:00	09:00	01:00	
6: '2031 Base + Dev PM'	17:00	18:00	01:00	

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

Traffic Flows, Desired

Desired Flow :

Origin	Destination					
		A	B	C	D	Tot.
	A	0	69	254	27	350
	B	77	0	39	58	174
	C	312	30	0	66	408
	D	23	34	56	0	113
	Tot.	412	133	349	151	1045

Traffic Lane Flows

Lane	Scenario 1: Scenario 1
Junction: Moat Road-Mill Bank-Kings Road-North Street	
1/1	350
2/1	174
3/1	408
4/1	113
5/1	412
6/1	133
7/1	151
8/1	349

Full Input Data And Results

Lane Saturation Flows

Junction: Moat Road-Mill Bank-Kings Road-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 (Mill Bank)	2.50	0.00	Y	Arm 6 Left	10.80	19.7 %	1793	1793
				Arm 7 Right	9.00	7.7 %		
				Arm 8 Ahead	Inf	72.6 %		
2/1 (Kings Road)	2.80	0.00	Y	Arm 5 Right	14.00	44.3 %	1739	1739
				Arm 7 Ahead	Inf	33.3 %		
				Arm 8 Left	8.00	22.4 %		
3/1 (North Street)	3.20	0.00	Y	Arm 5 Ahead	Inf	76.5 %	1877	1877
				Arm 6 Right	10.95	7.4 %		
				Arm 7 Left	11.50	16.2 %		
4/1 (Moat Road)	3.00	0.00	Y	Arm 5 Left	9.20	20.4 %	1780	1780
				Arm 6 Ahead	Inf	30.1 %		
				Arm 8 Right	17.50	49.6 %		
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf

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

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	100	318	18	436
	B	60	0	22	35	117
	C	275	26	0	54	355
	D	19	67	72	0	158
	Tot.	354	193	412	107	1066

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 2: New Scenario
Junction: Moat Road-Mill Bank-Kings Road-North Street	
1/1	436
2/1	117
3/1	355
4/1	158
5/1	354
6/1	193
7/1	107
8/1	412

Lane Saturation Flows

Junction: Moat Road-Mill Bank-Kings Road-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 (Mill Bank)	2.50	0.00	Y	Arm 6 Left	10.80	22.9 %	1795	1795
				Arm 7 Right	9.00	4.1 %		
				Arm 8 Ahead	Inf	72.9 %		
2/1 (Kings Road)	2.80	0.00	Y	Arm 5 Right	14.00	51.3 %	1738	1738
				Arm 7 Ahead	Inf	29.9 %		
				Arm 8 Left	8.00	18.8 %		
3/1 (North Street)	3.20	0.00	Y	Arm 5 Ahead	Inf	77.5 %	1879	1879
				Arm 6 Right	10.95	7.3 %		
				Arm 7 Left	11.50	15.2 %		
4/1 (Moat Road)	3.00	0.00	Y	Arm 5 Left	9.20	12.0 %	1809	1809
				Arm 6 Ahead	Inf	42.4 %		
				Arm 8 Right	17.50	45.6 %		
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

Scenario 3: 'New Scenario' (FG3: '2031 Base AM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	73	269	28	370
	B	82	0	41	62	185
	C	331	31	0	69	431
	D	24	36	59	0	119
	Tot.	437	140	369	159	1105

Traffic Lane Flows

Lane	Scenario 3: New Scenario
Junction: Moat Road-Mill Bank-Kings Road-North Street	
1/1	370
2/1	185
3/1	431
4/1	119
5/1	437
6/1	140
7/1	159
8/1	369

Lane Saturation Flows

Junction: Moat Road-Mill Bank-Kings Road-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 (Mill Bank)	2.50	0.00	Y	Arm 6 Left	10.80	19.7 %	1793	1793
				Arm 7 Right	9.00	7.6 %		
				Arm 8 Ahead	Inf	72.7 %		
2/1 (Kings Road)	2.80	0.00	Y	Arm 5 Right	14.00	44.3 %	1740	1740
				Arm 7 Ahead	Inf	33.5 %		
				Arm 8 Left	8.00	22.2 %		
3/1 (North Street)	3.20	0.00	Y	Arm 5 Ahead	Inf	76.8 %	1877	1877
				Arm 6 Right	10.95	7.2 %		
				Arm 7 Left	11.50	16.0 %		
4/1 (Moat Road)	3.00	0.00	Y	Arm 5 Left	9.20	20.2 %	1781	1781
				Arm 6 Ahead	Inf	30.3 %		
				Arm 8 Right	17.50	49.6 %		
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf

Scenario 4: 'New Scenario' (FG4: '2031 Base PM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	107	338	19	464
	B	64	0	23	37	124
	C	292	28	0	57	377
	D	21	72	77	0	170
	Tot.	377	207	438	113	1135

Traffic Lane Flows

Lane	Scenario 4: New Scenario
Junction: Moat Road-Mill Bank-Kings Road-North Street	
1/1	464
2/1	124
3/1	377
4/1	170
5/1	377
6/1	207
7/1	113
8/1	438

Full Input Data And Results

Lane Saturation Flows

Junction: Moat Road-Mill Bank-Kings Road-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 (Mill Bank)	2.50	0.00	Y	Arm 6 Left	10.80	23.1 %	1795	1795
				Arm 7 Right	9.00	4.1 %		
				Arm 8 Ahead	Inf	72.8 %		
2/1 (Kings Road)	2.80	0.00	Y	Arm 5 Right	14.00	51.6 %	1738	1738
				Arm 7 Ahead	Inf	29.8 %		
				Arm 8 Left	8.00	18.5 %		
3/1 (North Street)	3.20	0.00	Y	Arm 5 Ahead	Inf	77.5 %	1879	1879
				Arm 6 Right	10.95	7.4 %		
				Arm 7 Left	11.50	15.1 %		
4/1 (Moat Road)	3.00	0.00	Y	Arm 5 Left	9.20	12.4 %	1808	1808
				Arm 6 Ahead	Inf	42.4 %		
				Arm 8 Right	17.50	45.3 %		
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf

Scenario 5: 'New Scenario' (FG5: '2031 Base + Dev AM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	73	269	39	381
	B	82	0	41	62	185
	C	331	31	0	72	434
	D	65	37	68	0	170
	Tot.	478	141	378	173	1170

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 5: New Scenario
Junction: Moat Road-Mill Bank-Kings Road-North Street	
1/1	381
2/1	185
3/1	434
4/1	170
5/1	478
6/1	141
7/1	173
8/1	378

Lane Saturation Flows

Junction: Moat Road-Mill Bank-Kings Road-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 (Mill Bank)	2.50	0.00	Y	Arm 6 Left	10.80	19.2 %	1787	1787
				Arm 7 Right	9.00	10.2 %		
				Arm 8 Ahead	Inf	70.6 %		
2/1 (Kings Road)	2.80	0.00	Y	Arm 5 Right	14.00	44.3 %	1740	1740
				Arm 7 Ahead	Inf	33.5 %		
				Arm 8 Left	8.00	22.2 %		
3/1 (North Street)	3.20	0.00	Y	Arm 5 Ahead	Inf	76.3 %	1876	1876
				Arm 6 Right	10.95	7.1 %		
				Arm 7 Left	11.50	16.6 %		
4/1 (Moat Road)	3.00	0.00	Y	Arm 5 Left	9.20	38.2 %	1746	1746
				Arm 6 Ahead	Inf	21.8 %		
				Arm 8 Right	17.50	40.0 %		
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

Scenario 6: 'New Scenario' (FG6: '2031 Base + Dev PM', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination				
		A	B	C	D	Tot.
Origin	A	0	107	338	53	498
	B	64	0	23	38	125
	C	292	28	0	64	384
	D	34	72	80	0	186
	Tot.	390	207	441	155	1193

Traffic Lane Flows

Lane	Scenario 6: New Scenario
Junction: Moat Road-Mill Bank-Kings Road-North Street	
1/1	498
2/1	125
3/1	384
4/1	186
5/1	390
6/1	207
7/1	155
8/1	441

Lane Saturation Flows

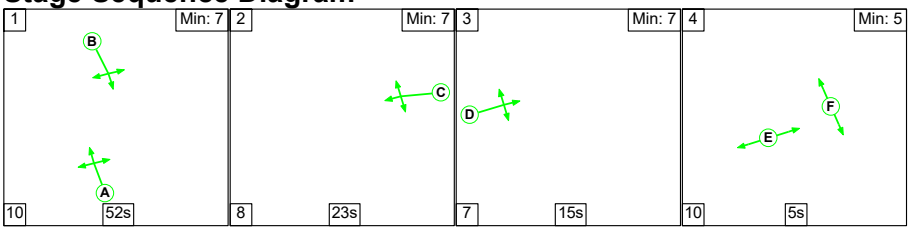
Junction: Moat Road-Mill Bank-Kings Road-North Street

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 (Mill Bank)	2.50	0.00	Y	Arm 6 Left	10.80	21.5 %	1780	1780
				Arm 7 Right	9.00	10.6 %		
				Arm 8 Ahead	Inf	67.9 %		
2/1 (Kings Road)	2.80	0.00	Y	Arm 5 Right	14.00	51.2 %	1740	1740
				Arm 7 Ahead	Inf	30.4 %		
				Arm 8 Left	8.00	18.4 %		
3/1 (North Street)	3.20	0.00	Y	Arm 5 Ahead	Inf	76.0 %	1875	1875
				Arm 6 Right	10.95	7.3 %		
				Arm 7 Left	11.50	16.7 %		
4/1 (Moat Road)	3.00	0.00	Y	Arm 5 Left	9.20	18.3 %	1795	1795
				Arm 6 Ahead	Inf	38.7 %		
				Arm 8 Right	17.50	43.0 %		
5/1	Infinite Saturation Flow						Inf	Inf
6/1	Infinite Saturation Flow						Inf	Inf
7/1	Infinite Saturation Flow						Inf	Inf
8/1	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

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

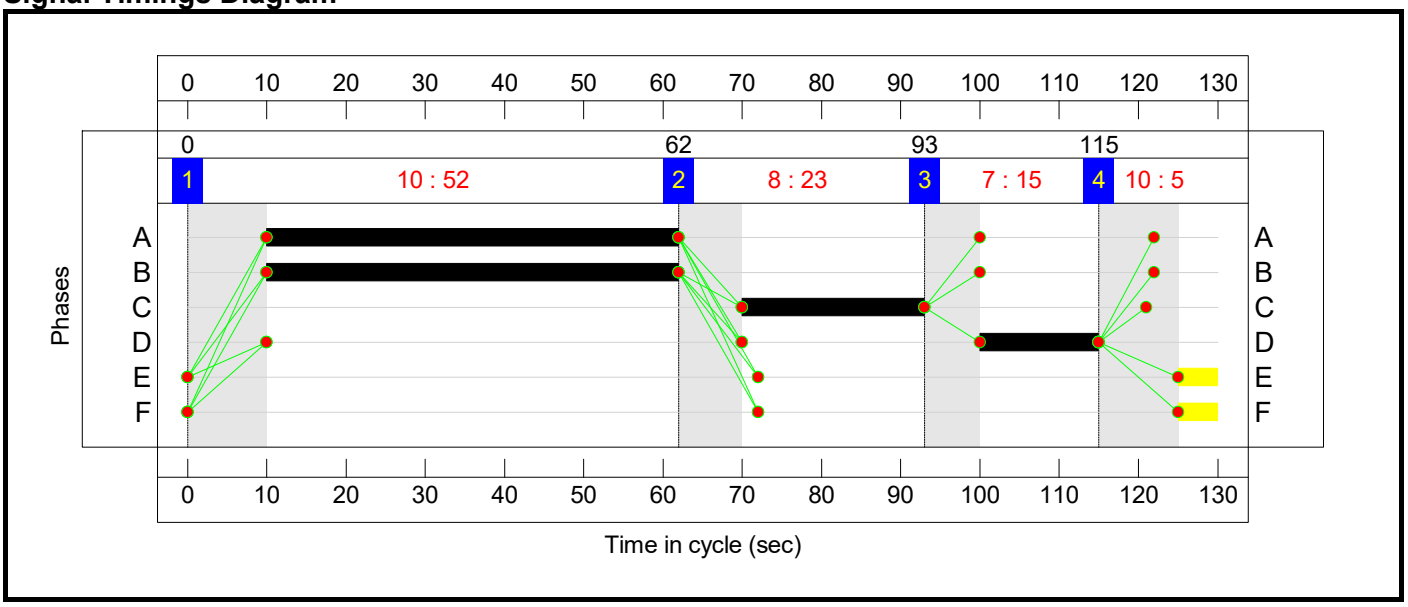
Stage Sequence Diagram



Stage Timings

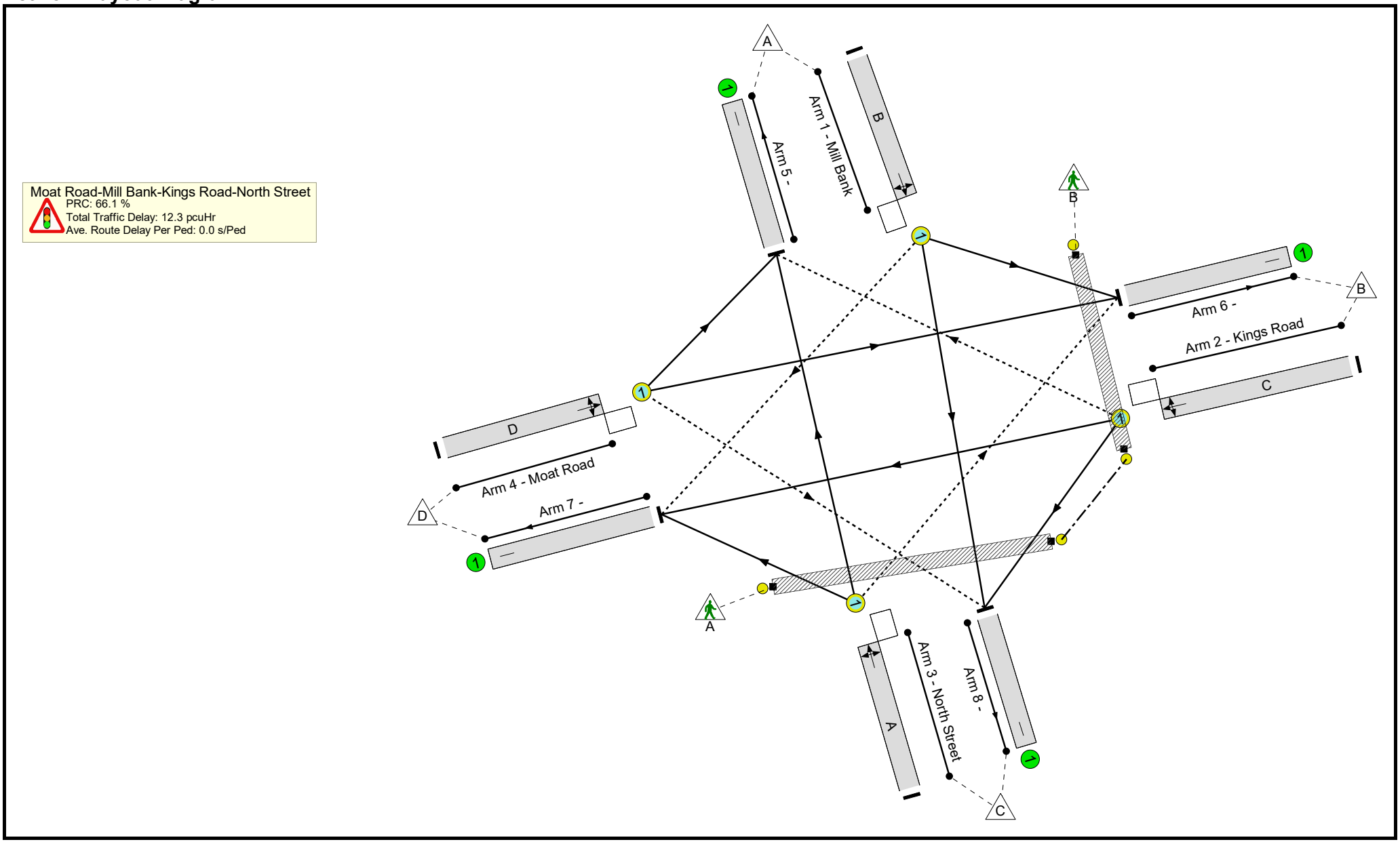
Stage	1	2	3	4
Duration	52	23	15	5
Change Point	0	62	93	115

Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	-	-	**N/A**	-	-		-	-	-	-	-	-	**54.2%**
Moat Road-Mill Bank-Kings Road-North Street	-	-	**N/A**	-	-		-	-	-	-	-	-	**54.2%**
1/1	Mill Bank Left Right Ahead	O	N/A	N/A	B		1	52	-	350	1793	731	47.9%
2/1	Kings Road Right Ahead Left	O	N/A	N/A	C		1	23	-	174	1739	321	54.2%
3/1	North Street Ahead Right Left	O	N/A	N/A	A		1	52	-	408	1877	765	53.3%
4/1	Moat Road Left Ahead Right	O	N/A	N/A	D		1	15	-	113	1780	219	51.6%
5/1		U	N/A	N/A	-		-	-	-	412	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	133	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	151	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	349	Inf	Inf	0.0%
Ped Link: P1	Unnamed Ped Link	-	N/A	-	E		1	5	-	0	-	2769	0.0%
Ped Link: P2	Unnamed Ped Link	-	N/A	-	F		1	5	-	0	-	2769	0.0%

Full Input Data And Results

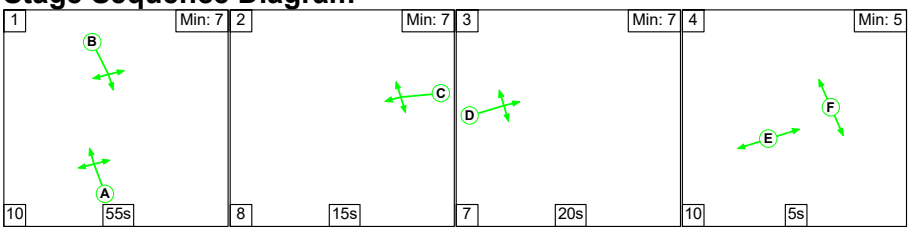
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**57**	**131**	**2**	**10.1**	**2.1**	**0.1**	**12.3**	**-**	**-**	**-**	**-**
Moat Road-Mill Bank-Kings Road-North Street	**-**	**-**	**57**	**131**	**2**	**10.1**	**2.1**	**0.1**	**12.3**	**-**	**-**	**-**	**-**
1/1	350	350	27	0	0	2.8	0.5	0.1	3.3	33.8	9.2	0.5	9.7
2/1	174	174	0	76	1	2.3	0.6	0.0	2.9	60.2	5.7	0.6	6.2
3/1	408	408	30	0	0	3.3	0.6	0.1	3.9	34.7	11.1	0.6	11.7
4/1	113	113	0	55	1	1.7	0.5	0.0	2.2	70.2	3.8	0.5	4.3
5/1	412	412	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	133	133	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	151	151	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	349	349	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
Ped Link: P1	0	0	-	-	-	-	-	-	0.0	0.0	-	-	0.0
Ped Link: P2	0	0	-	-	-	-	-	-	0.0	0.0	-	-	0.0

C1 PRC for Signalled Lanes (%): 66.1 Total Delay for Signalled Lanes (pcuHr): 12.33 Cycle Time (s): 130
PRC Over All Lanes (%): 66.1 Total Delay Over All Lanes(pcuHr): 12.33

Full Input Data And Results

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

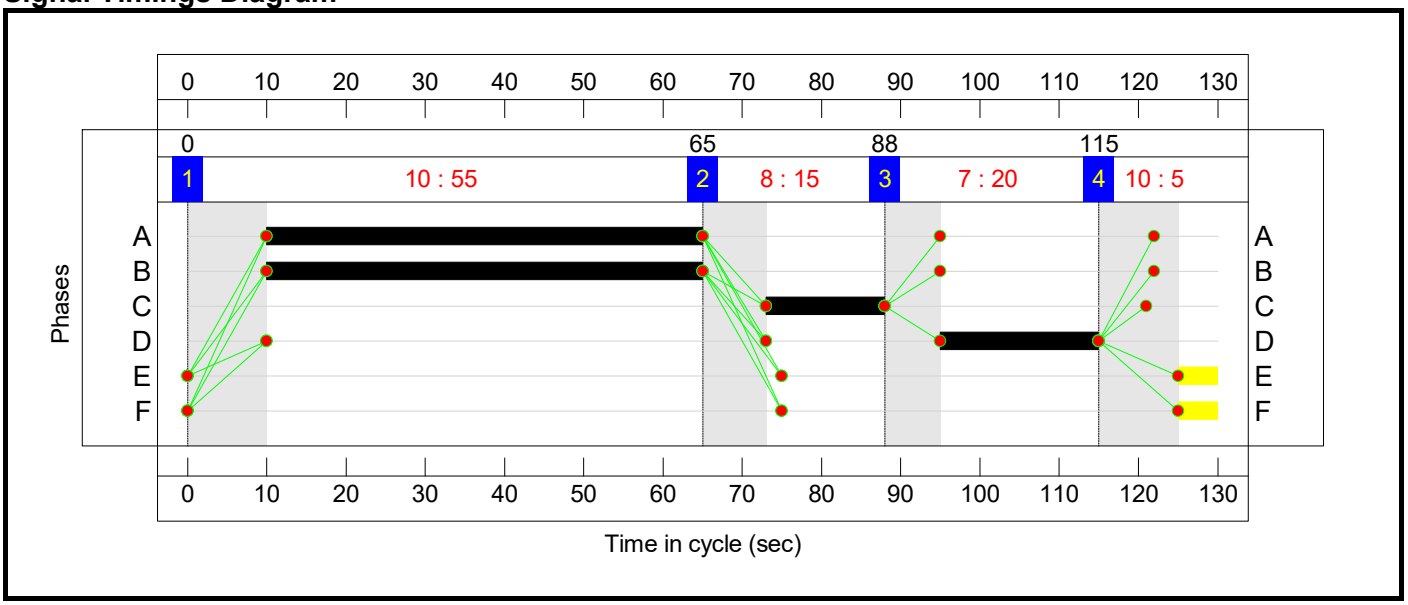
Stage Sequence Diagram



Stage Timings

Stage	1	2	3	4
Duration	55	15	20	5
Change Point	0	65	88	115

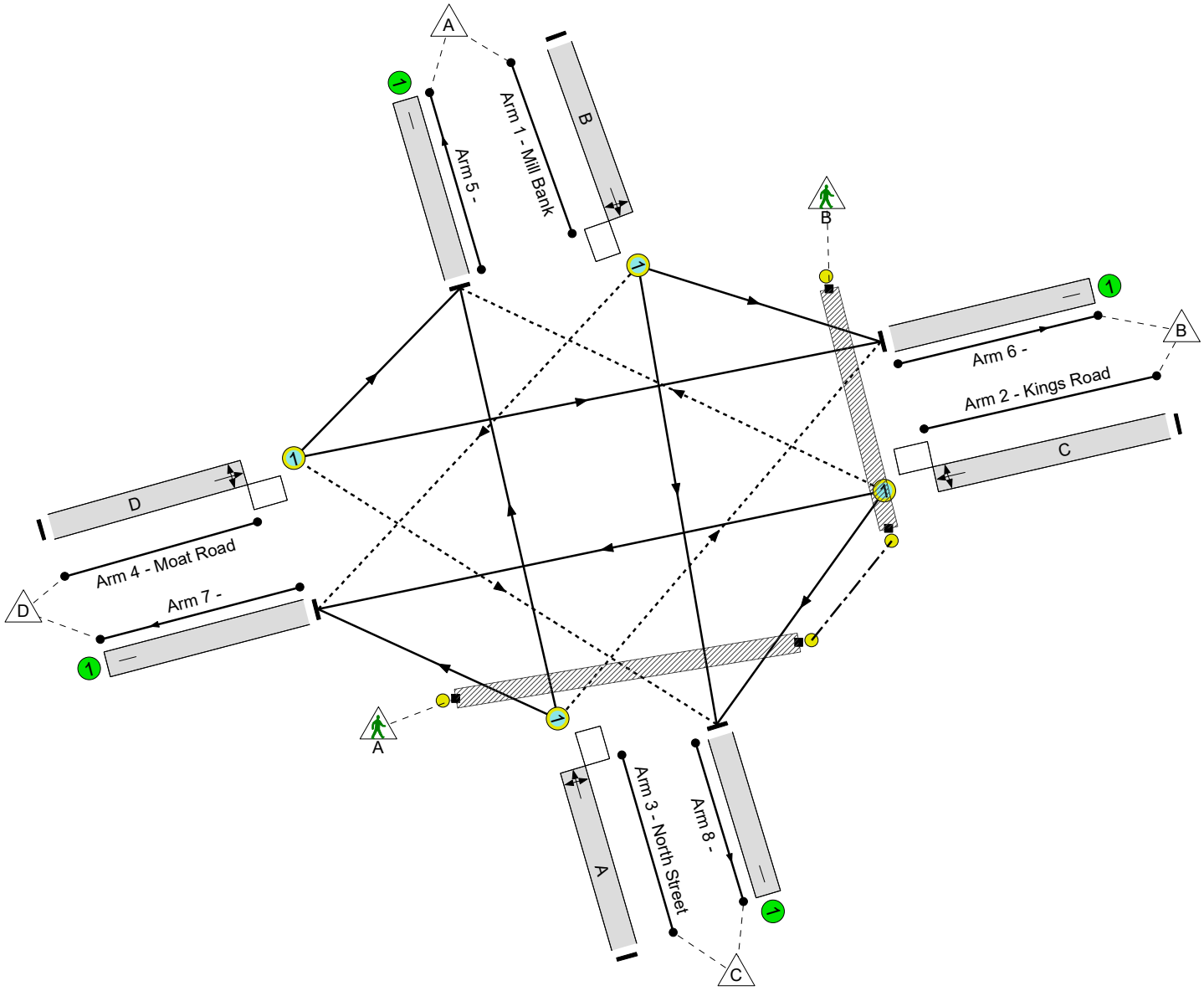
Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram

Moat Road-Mill Bank-Kings Road-North Street
PRC: 59.6 %
Total Traffic Delay: 12.2 pcuHr
Ave. Route Delay Per Ped: 0.0 s/Ped



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	-	-	**N/A**	-	-		-	-	-	-	-	-	**56.4%**
Moat Road-Mill Bank-Kings Road-North Street	-	-	**N/A**	-	-		-	-	-	-	-	-	**56.4%**
1/1	Mill Bank Left Right Ahead	O	N/A	N/A	B		1	55	-	436	1795	773	56.4%
2/1	Kings Road Right Ahead Left	O	N/A	N/A	C		1	15	-	117	1738	214	54.7%
3/1	North Street Ahead Right Left	O	N/A	N/A	A		1	55	-	355	1879	809	43.9%
4/1	Moat Road Left Ahead Right	O	N/A	N/A	D		1	20	-	158	1809	292	54.1%
5/1		U	N/A	N/A	-		-	-	-	354	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	193	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	107	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	412	Inf	Inf	0.0%
Ped Link: P1	Unnamed Ped Link	-	N/A	-	E		1	5	-	0	-	2769	0.0%
Ped Link: P2	Unnamed Ped Link	-	N/A	-	F		1	5	-	0	-	2769	0.0%

Full Input Data And Results

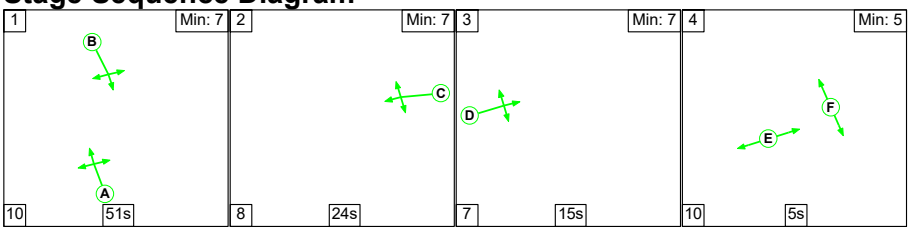
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**44**	**130**	**2**	**9.9**	**2.2**	**0.1**	**12.2**	**-**	**-**	**-**	**-**
Moat Road-Mill Bank-Kings Road-North Street	**-**	**-**	**44**	**130**	**2**	**9.9**	**2.2**	**0.1**	**12.2**	**-**	**-**	**-**	**-**
1/1	436	436	18	0	0	3.4	0.6	0.0	4.0	33.3	11.7	0.6	12.4
2/1	117	117	0	59	1	1.7	0.6	0.0	2.3	72.0	4.0	0.6	4.6
3/1	355	355	26	0	0	2.6	0.4	0.1	3.0	30.8	9.0	0.4	9.4
4/1	158	158	0	71	1	2.2	0.6	0.0	2.8	63.4	5.2	0.6	5.8
5/1	354	354	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	193	193	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	107	107	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	412	412	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
Ped Link: P1	0	0	-	-	-	-	-	-	0.0	0.0	-	-	0.0
Ped Link: P2	0	0	-	-	-	-	-	-	0.0	0.0	-	-	0.0

C1 PRC for Signalled Lanes (%): 59.6 Total Delay for Signalled Lanes (pcuHr): 12.20 Cycle Time (s): 130
PRC Over All Lanes (%): 59.6 Total Delay Over All Lanes(pcuHr): 12.20

Full Input Data And Results

Scenario 3: 'New Scenario' (FG3: '2031 Base AM', Plan 1: 'Network Control Plan 1')

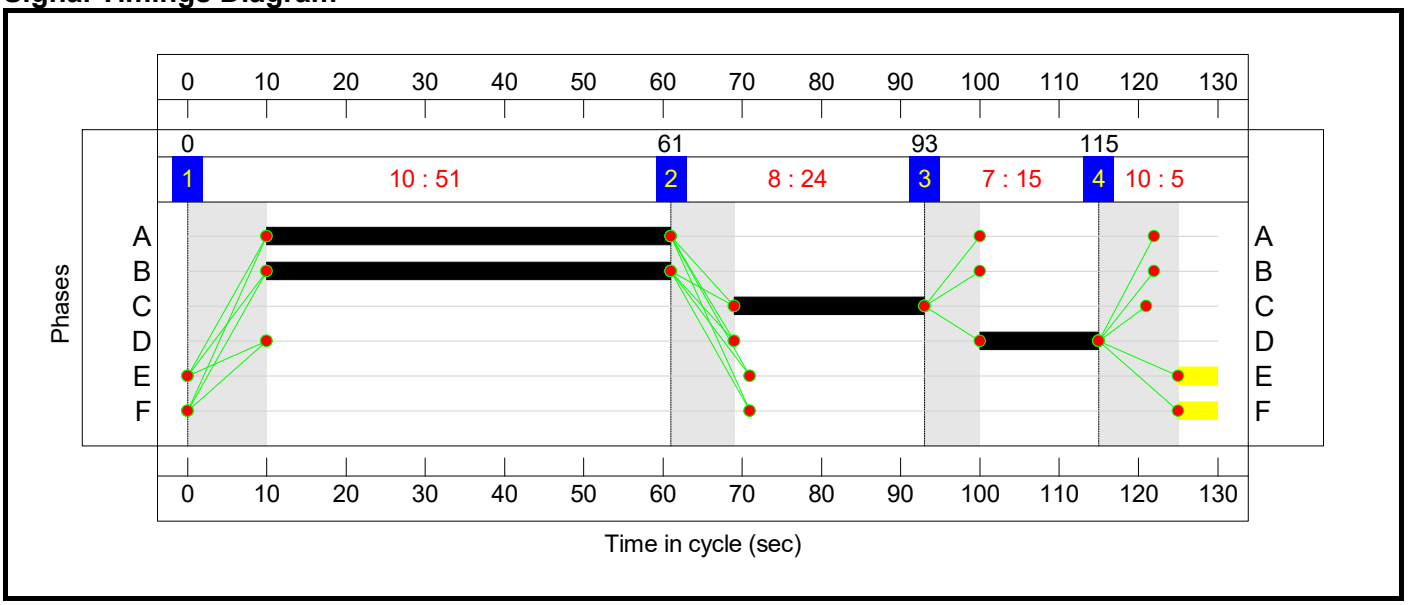
Stage Sequence Diagram



Stage Timings

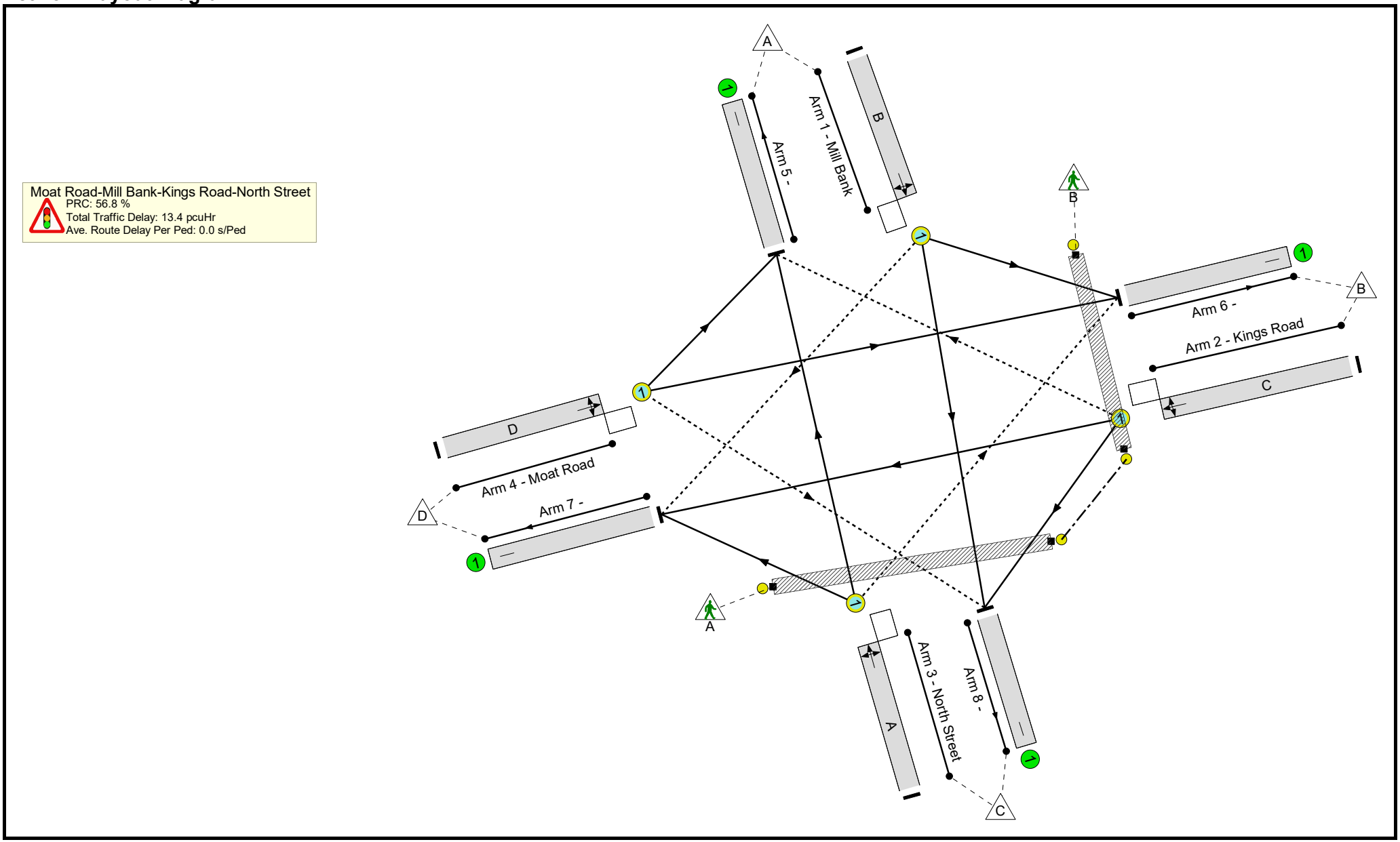
Stage	1	2	3	4
Duration	51	24	15	5
Change Point	0	61	93	115

Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	-	-	**N/A**	-	-		-	-	-	-	-	-	**57.4%**
Moat Road-Mill Bank-Kings Road-North Street	-	-	**N/A**	-	-		-	-	-	-	-	-	**57.4%**
1/1	Mill Bank Left Right Ahead	O	N/A	N/A	B		1	51	-	370	1793	717	51.6%
2/1	Kings Road Right Ahead Left	O	N/A	N/A	C		1	24	-	185	1740	335	55.3%
3/1	North Street Ahead Right Left	O	N/A	N/A	A		1	51	-	431	1877	751	57.4%
4/1	Moat Road Left Ahead Right	O	N/A	N/A	D		1	15	-	119	1781	219	54.3%
5/1		U	N/A	N/A	-		-	-	-	437	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	140	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	159	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	369	Inf	Inf	0.0%
Ped Link: P1	Unnamed Ped Link	-	N/A	-	E		1	5	-	0	-	2769	0.0%
Ped Link: P2	Unnamed Ped Link	-	N/A	-	F		1	5	-	0	-	2769	0.0%

Full Input Data And Results

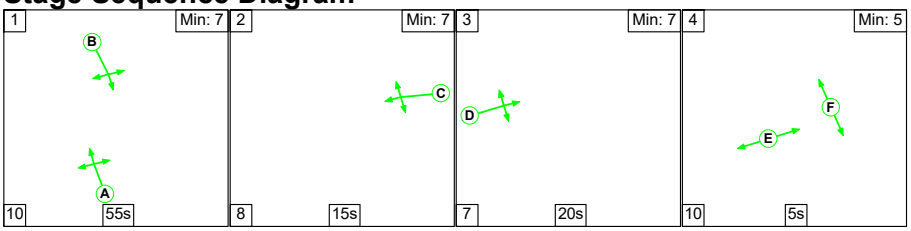
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**59**	**139**	**2**	**10.9**	**2.4**	**0.2**	**13.4**	**-**	**-**	**-**	**-**
Moat Road-Mill Bank-Kings Road-North Street	**-**	**-**	**59**	**139**	**2**	**10.9**	**2.4**	**0.2**	**13.4**	**-**	**-**	**-**	**-**
1/1	370	370	28	0	0	3.0	0.5	0.1	3.6	35.5	10.1	0.5	10.6
2/1	185	185	0	81	1	2.4	0.6	0.0	3.1	59.4	6.0	0.6	6.6
3/1	431	431	31	0	0	3.6	0.7	0.1	4.4	36.6	12.1	0.7	12.8
4/1	119	119	0	58	1	1.8	0.6	0.0	2.4	71.3	4.0	0.6	4.6
5/1	437	437	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	140	140	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	159	159	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	369	369	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
Ped Link: P1	0	0	-	-	-	-	-	-	0.0	0.0	-	-	0.0
Ped Link: P2	0	0	-	-	-	-	-	-	0.0	0.0	-	-	0.0

C1 PRC for Signalled Lanes (%): 56.8 Total Delay for Signalled Lanes (pcuHr): 13.43 Cycle Time (s): 130
PRC Over All Lanes (%): 56.8 Total Delay Over All Lanes(pcuHr): 13.43

Full Input Data And Results

Scenario 4: 'New Scenario' (FG4: '2031 Base PM', Plan 1: 'Network Control Plan 1')

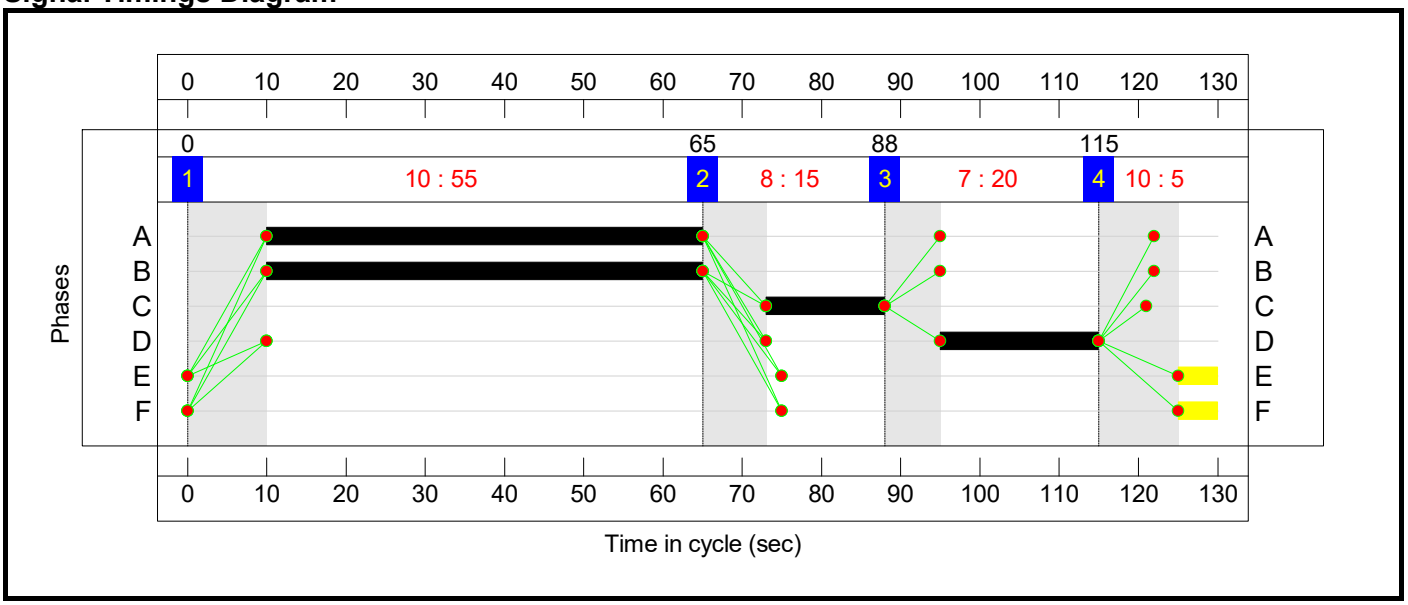
Stage Sequence Diagram



Stage Timings

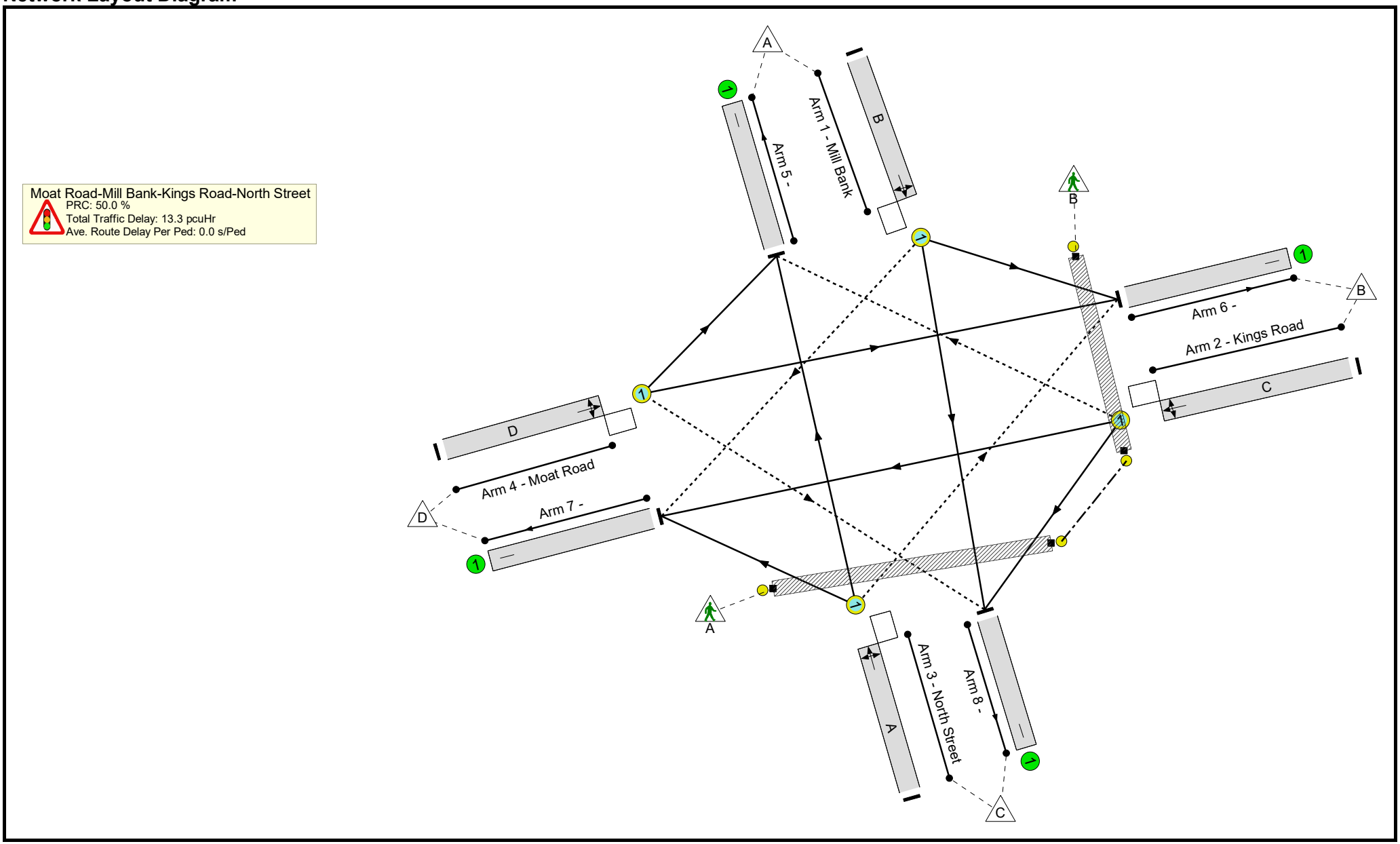
Stage	1	2	3	4
Duration	55	15	20	5
Change Point	0	65	88	115

Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	-	-	**N/A**	-	-		-	-	-	-	-	-	**60.0%**
Moat Road-Mill Bank-Kings Road-North Street	-	-	**N/A**	-	-		-	-	-	-	-	-	**60.0%**
1/1	Mill Bank Left Right Ahead	O	N/A	N/A	B		1	55	-	464	1795	773	60.0%
2/1	Kings Road Right Ahead Left	O	N/A	N/A	C		1	15	-	124	1738	214	58.0%
3/1	North Street Ahead Right Left	O	N/A	N/A	A		1	55	-	377	1879	809	46.6%
4/1	Moat Road Left Ahead Right	O	N/A	N/A	D		1	20	-	170	1808	292	58.2%
5/1		U	N/A	N/A	-		-	-	-	377	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	207	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	113	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	438	Inf	Inf	0.0%
Ped Link: P1	Unnamed Ped Link	-	N/A	-	E		1	5	-	0	-	2769	0.0%
Ped Link: P2	Unnamed Ped Link	-	N/A	-	F		1	5	-	0	-	2769	0.0%

Full Input Data And Results

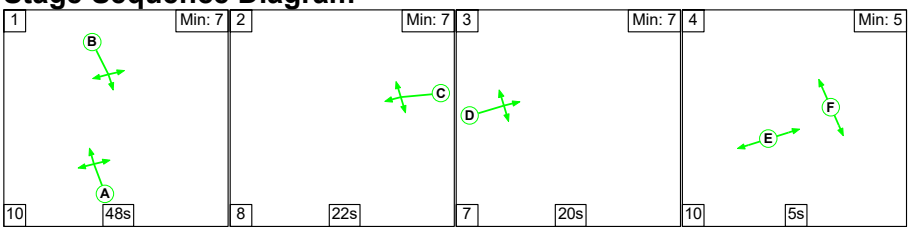
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**47**	**139**	**2**	**10.7**	**2.5**	**0.1**	**13.3**	**-**	**-**	**-**	**-**
Moat Road-Mill Bank-Kings Road-North Street	**-**	**-**	**47**	**139**	**2**	**10.7**	**2.5**	**0.1**	**13.3**	**-**	**-**	**-**	**-**
1/1	464	464	19	0	0	3.7	0.7	0.0	4.4	34.4	12.8	0.7	13.5
2/1	124	124	0	63	1	1.9	0.7	0.0	2.5	73.6	4.2	0.7	4.9
3/1	377	377	28	0	0	2.8	0.4	0.1	3.3	31.5	9.6	0.4	10.1
4/1	170	170	0	76	1	2.4	0.7	0.0	3.1	65.0	5.7	0.7	6.4
5/1	377	377	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	207	207	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	113	113	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	438	438	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
Ped Link: P1	0	0	-	-	-	-	-	-	0.0	0.0	-	-	0.0
Ped Link: P2	0	0	-	-	-	-	-	-	0.0	0.0	-	-	0.0

C1 PRC for Signalled Lanes (%): 50.0 Total Delay for Signalled Lanes (pcuHr): 13.34 Cycle Time (s): 130
PRC Over All Lanes (%): 50.0 Total Delay Over All Lanes(pcuHr): 13.34

Full Input Data And Results

Scenario 5: 'New Scenario' (FG5: '2031 Base + Dev AM', Plan 1: 'Network Control Plan 1')

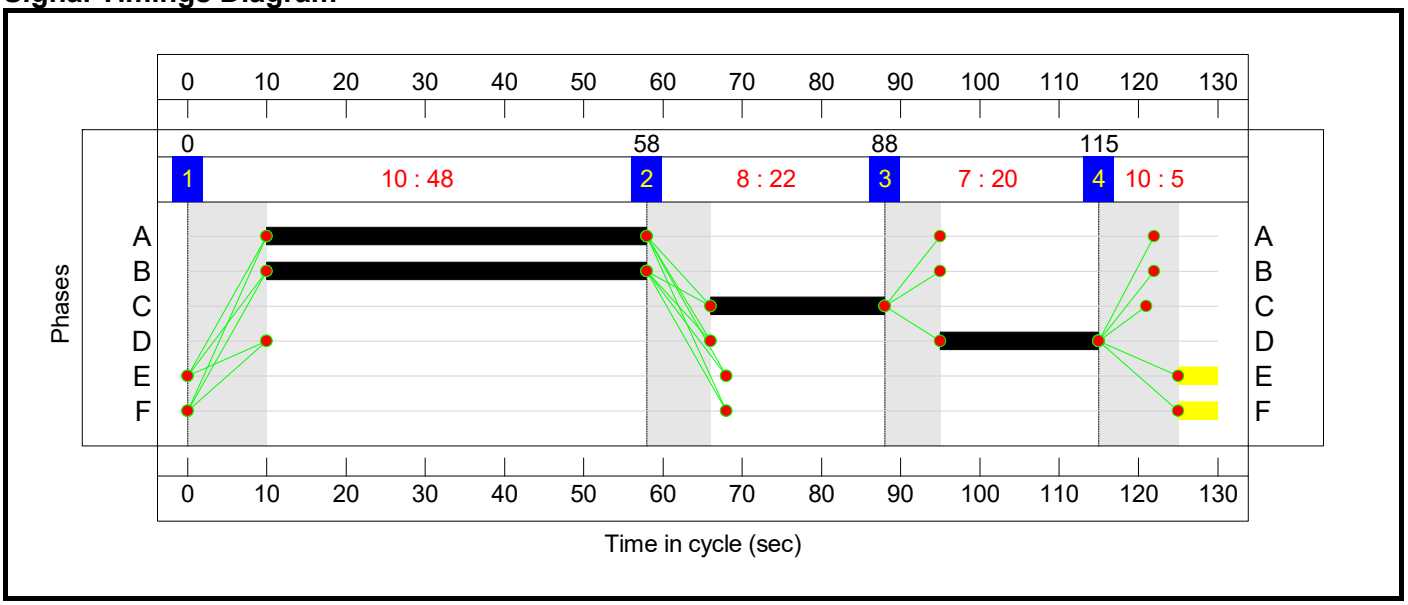
Stage Sequence Diagram



Stage Timings

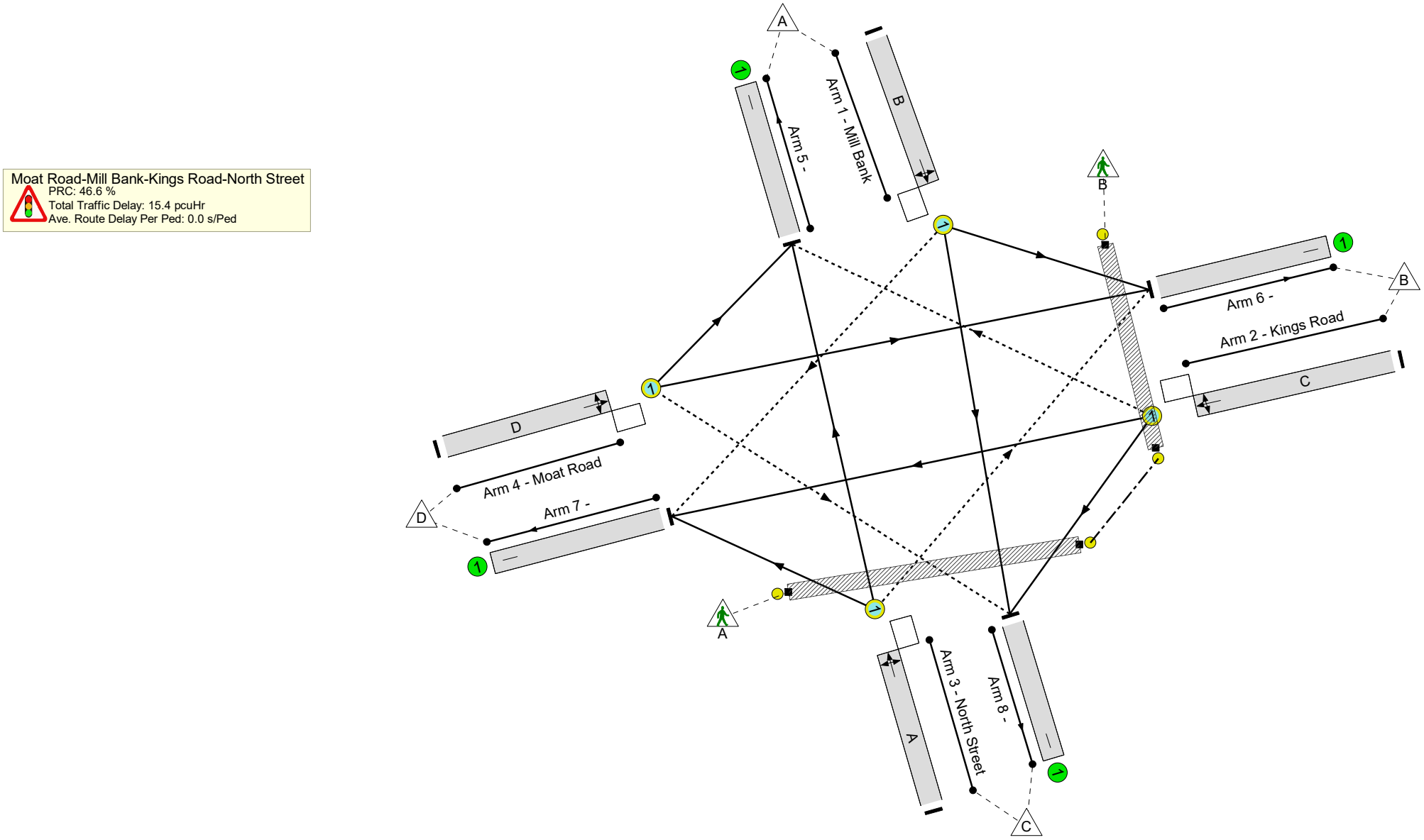
Stage	1	2	3	4
Duration	48	22	20	5
Change Point	0	58	88	115

Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram



Full Input Data And Results

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	-	-	**N/A**	-	-		-	-	-	-	-	-	**61.4%**
Moat Road-Mill Bank-Kings Road-North Street	-	-	**N/A**	-	-		-	-	-	-	-	-	**61.4%**
1/1	Mill Bank Left Right Ahead	O	N/A	N/A	B		1	48	-	381	1787	667	57.1%
2/1	Kings Road Right Ahead Left	O	N/A	N/A	C		1	22	-	185	1740	308	60.1%
3/1	North Street Ahead Right Left	O	N/A	N/A	A		1	48	-	434	1876	707	61.4%
4/1	Moat Road Left Ahead Right	O	N/A	N/A	D		1	20	-	170	1746	282	60.3%
5/1		U	N/A	N/A	-		-	-	-	478	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	141	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	173	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	378	Inf	Inf	0.0%
Ped Link: P1	Unnamed Ped Link	-	N/A	-	E		1	5	-	0	-	2769	0.0%
Ped Link: P2	Unnamed Ped Link	-	N/A	-	F		1	5	-	0	-	2769	0.0%

Full Input Data And Results

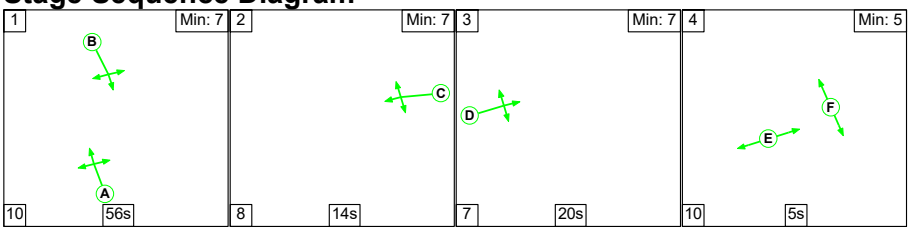
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**70**	**148**	**2**	**12.3**	**2.9**	**0.2**	**15.4**	**-**	**-**	**-**	**-**
Moat Road-Mill Bank-Kings Road-North Street	**-**	**-**	**70**	**148**	**2**	**12.3**	**2.9**	**0.2**	**15.4**	**-**	**-**	**-**	**-**
1/1	381	381	39	0	0	3.4	0.7	0.1	4.2	39.6	10.8	0.7	11.5
2/1	185	185	0	81	1	2.5	0.7	0.0	3.3	63.8	6.1	0.7	6.9
3/1	434	434	31	0	0	4.0	0.8	0.1	4.8	40.0	12.7	0.8	13.4
4/1	170	170	0	67	1	2.4	0.7	0.0	3.1	66.5	5.7	0.7	6.4
5/1	478	478	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	141	141	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	173	173	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	378	378	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
Ped Link: P1	0	0	-	-	-	-	-	-	0.0	0.0	-	-	0.0
Ped Link: P2	0	0	-	-	-	-	-	-	0.0	0.0	-	-	0.0

C1 PRC for Signalled Lanes (%): 46.6 Total Delay for Signalled Lanes (pcuHr): 15.44 Cycle Time (s): 130
PRC Over All Lanes (%): 46.6 Total Delay Over All Lanes(pcuHr): 15.44

Full Input Data And Results

Scenario 6: 'New Scenario' (FG6: '2031 Base + Dev PM', Plan 1: 'Network Control Plan 1')

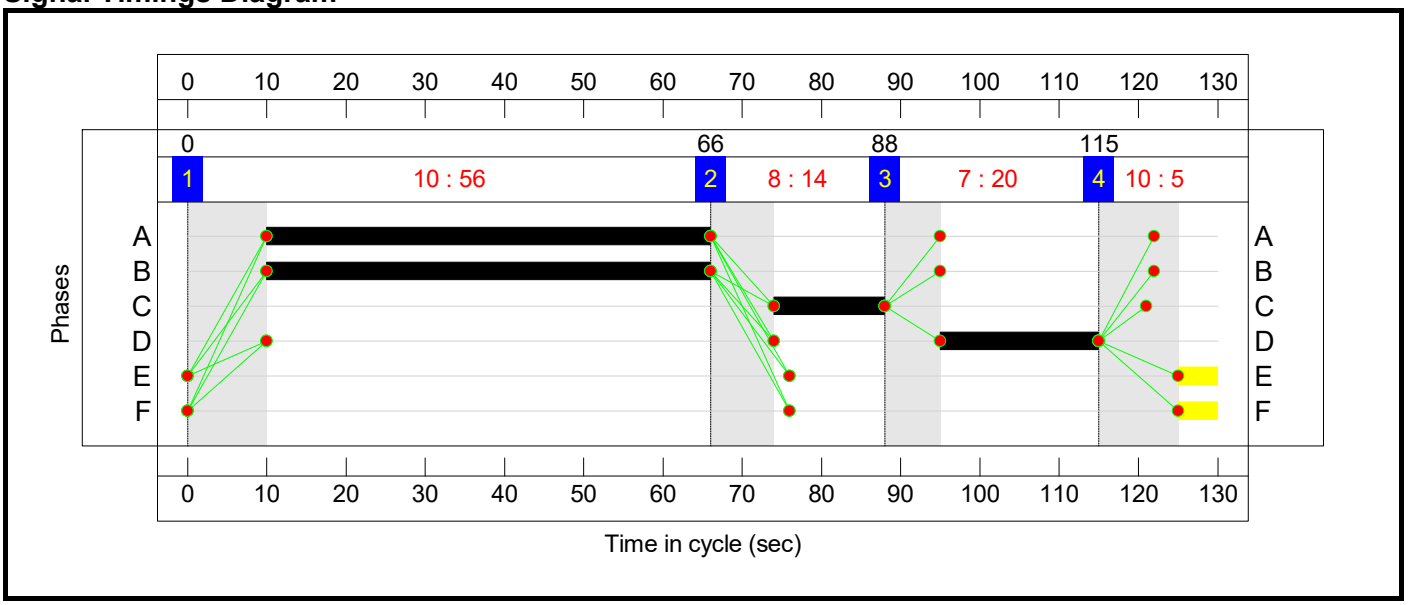
Stage Sequence Diagram



Stage Timings

Stage	1	2	3	4
Duration	56	14	20	5
Change Point	0	66	88	115

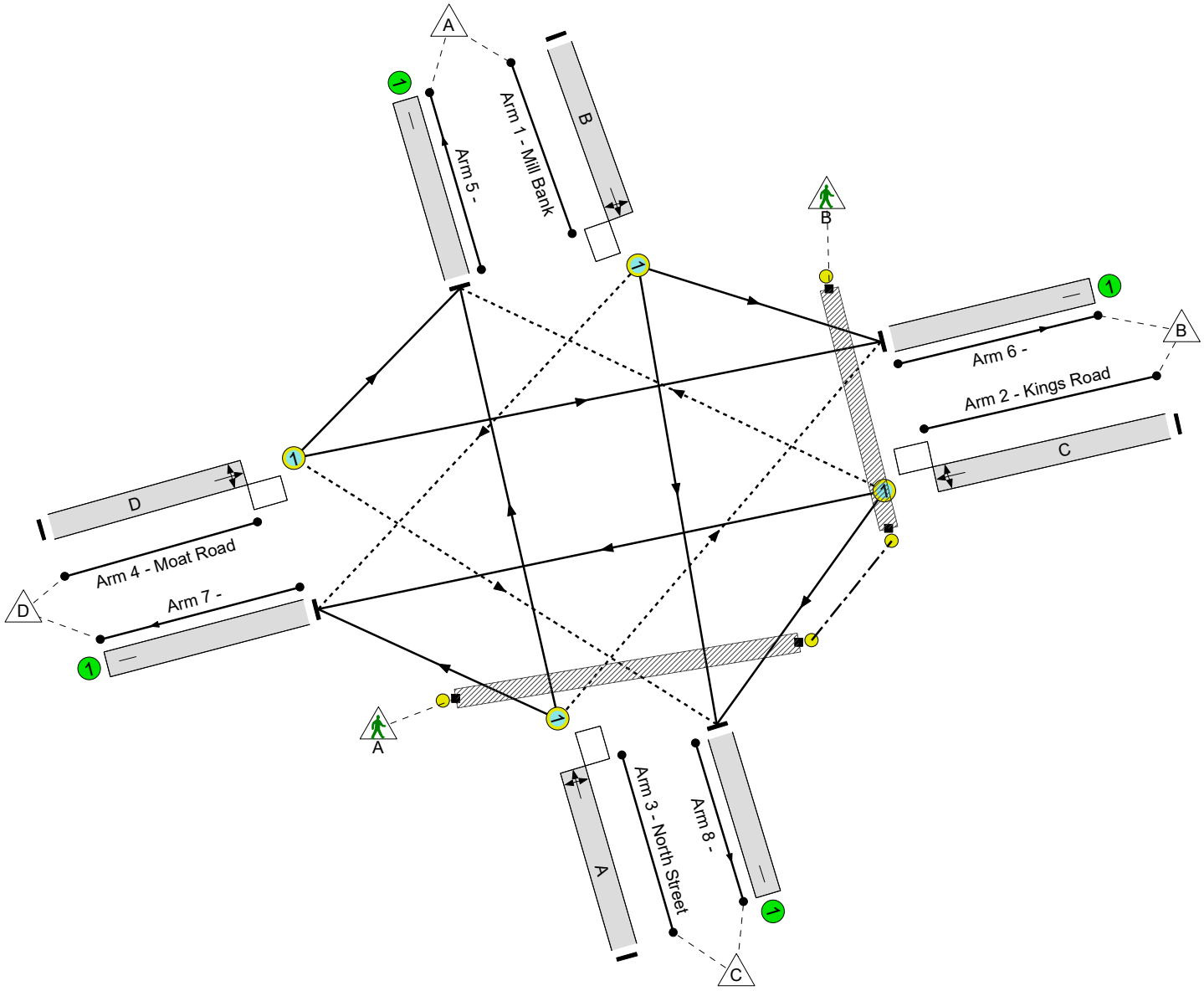
Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram

Moat Road-Mill Bank-Kings Road-North Street
PRC: 40.3 %
Total Traffic Delay: 14.4 pcuHr
Ave. Route Delay Per Ped: 0.0 s/Ped



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**	-	-		-	-	-	-	-	-	**64.1%**
Moat Road-Mill Bank-Kings Road-North Street	-	-	**N/A**	-	-		-	-	-	-	-	-	**64.1%**
1/1	Mill Bank Left Right Ahead	O	N/A	N/A	B		1	56	-	498	1780	780	63.8%
2/1	Kings Road Right Ahead Left	O	N/A	N/A	C		1	14	-	125	1740	201	62.3%
3/1	North Street Ahead Right Left	O	N/A	N/A	A		1	56	-	384	1875	822	46.7%
4/1	Moat Road Left Ahead Right	O	N/A	N/A	D		1	20	-	186	1795	290	64.1%
5/1		U	N/A	N/A	-		-	-	-	390	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	207	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	155	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	441	Inf	Inf	0.0%
Ped Link: P1	Unnamed Ped Link	-	N/A	-	E		1	5	-	0	-	2769	0.0%
Ped Link: P2	Unnamed Ped Link	-	N/A	-	F		1	5	-	0	-	2769	0.0%

Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	**-**	**-**	**81**	**142**	**2**	**11.2**	**3.0**	**0.2**	**14.4**	**-**	**-**	**-**	**-**
Moat Road-Mill Bank-Kings Road-North Street	**-**	**-**	**81**	**142**	**2**	**11.2**	**3.0**	**0.2**	**14.4**	**-**	**-**	**-**	**-**
1/1	498	498	53	0	0	3.9	0.9	0.1	4.9	35.4	14.0	0.9	14.8
2/1	125	125	0	63	1	1.9	0.8	0.0	2.7	78.1	4.3	0.8	5.1
3/1	384	384	28	0	0	2.7	0.4	0.1	3.3	31.0	9.7	0.4	10.1
4/1	186	186	0	79	1	2.6	0.9	0.0	3.5	68.0	6.3	0.9	7.1
5/1	390	390	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	207	207	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	155	155	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	441	441	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
Ped Link: P1	0	0	-	-	-	-	-	-	0.0	0.0	-	-	0.0
Ped Link: P2	0	0	-	-	-	-	-	-	0.0	0.0	-	-	0.0

C1 PRC for Signalled Lanes (%): 40.3 Total Delay for Signalled Lanes (pcuHr): 14.43 Cycle Time (s): 130
PRC Over All Lanes (%): 40.3 Total Delay Over All Lanes(pcuHr): 14.43

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