

Bloor Homes

HINCKLEY WEST DEVELOPMENT

PLANNING APPLICATION REF: 23/0573/FUL

RESPONSE TO LEICESTERSHIRE COUNTY COUNCIL COMMENTS (ISSUED 22/12/23)

1.0 INTRODUCTION

- 1.1.1 Capricorn Transport Planning Ltd (CTP) is appointed by Bloor Homes to advise on the traffic and highways issues relevant to the above Full Planning Application (FPA) to Hinckley and Bosworth Borough Council (HBBC), for additional residential development on land to the west of Normandy Way, Hinckley. The local highway authority is Leicestershire County Council (LCC).
- 1.1.2 The FPA scheme lies adjacent to the development known as *Hollycroft Grange*, now under construction to provide 850 dwellings and complementary land uses in accordance with Outline Planning Consent reference: *15/00188/OUT*. The FPA proposes a further 153 dwellings and a second access to Hollycroft Grange from the Normandy Way/Roston Drive/Triumph roundabout together with new pedestrian/cycle routes and crossings of Normandy Way.
- 1.1.3 The FPA is supported by a Transport Assessment (TA); two Stage 1 Road Safety Audits (RSAs); corresponding RSA Response Reports; and Technical Notes 3 and 4.
- 1.1.4 LCC issued its second formal response to the FPA on 22/12/23, which is reproduced in **Appendix A** and requests further information on the following issues:
1. Proposed site access.
 2. Off-site pedestrian/cycle crossing at Outlands Drive.
 3. Traffic survey data at additional locations along the A47 corridor and revised junction capacity assessments based on revised trip generation rates.
 4. Justification/evidence of current modal split and proposed modal shift.

1.1.5 This document provides a response to LCC's requests for further information under the above 4 headings. In addition, it acknowledges and considers LCC's comments under the following additional headings:

- Highway Safety
- Trip Generation
- Internal Layout
- Transport Sustainability

2.0 SITE ACCESS

- 2.1.1 The design issues raised by LCC and CTP's design team response are summarised below. The revised design drawings referred to below are presented at the end of this note (Page 20 onwards).

LCC Comment No. 1	Design Team Response
A traffic capacity assessment would be required for the proposed junction layout for the LHA to review, and also to inform the design layout requirements for any queuing length provision, ensuring traffic does not block the roundabout etc.	Capacity assessments of both the A47/Roston Drive Roundabout and the Triumph Motorcycles access are presented in the submitted TA. The former has been updated to reflect use of the lower trip generation rates set out in TN3 and design changes requested in LCC's response. These revised assessments are provided under the heading <i>Junction Capacity Assessments</i> on pages 13 to 16 below. The revised access proposals are shown on Drawing C21021/DR101 (Page 20 onwards).

LCC Comment No. 2	Design Team Response
The tactile paving arrangements appears excessive, the "tails" could be removed and a layout in keeping with Figure 11 of "Guidance on the Use of Tactile Paving Surfaces" proposed instead.	The tactile paving proposals shown on Drawing C21021/DR101 (Page 20 onwards) have been designed in accordance with the resource quoted by LCC. The layout requirements will be reviewed and agreed at detailed design stage.

LCC Comment No. 3	Design Team Response
The existing footway link between the splitter island and footway/cycleway should be identified.	A note to this effect has been included on Drawing C21021/DR101 (Page 20 onwards).

LCC Comment No. 4	Design Team Response
In accordance with Table DG5 of the LHDG the LHA would advise the applicant to design the access to the Triumph factory as a major industrial access. This could alleviate the issues identified with the swept path analysis below.	The junction of the factory access with the proposed Spine Road has been amended to provide 15m corner radii and exit/entry tapers in accordance with LHDG Table DG5. Vehicle swept path analysis is shown on Drawing C21021/DR102 (Page 20 onwards) and demonstrates that the design vehicle (articulated HGV) can be accommodated.

LCC Comment No. 5	Design Team Response
Signal heads should be shown on the drawing with dimensions demonstrating that the design criteria required by LTN1/20 can be adhered to.	Traffic signal heads at the <i>Toucan</i> crossing are shown on Drawing C21021/DR101 (Page 20 onwards) in accordance with the relevant guidance.

LCC Comment No. 6	Design Team Response
The changes to the roundabout geometry are minor and acceptable however the roundabout exit width leading towards the proposed crossing is considerably below the required 7 to 7.5m stated in DMRB CD116.	The <i>Toucan</i> crossing has been placed within the roundabout northern splitter island to follow the desire line along the north side of Roston Drive. To minimise crossing distances, the northbound exit width has been reduced by widening the splitter island. No road safety issues relating to this proposal were raised in the Stage 1 RSA. It is noted that whilst there is a reduction below recommended standards in terms of exit width, LCC accepts the amendments to the roundabout's geometry (see Appendix B). An alternative option would be to relocate the Toucan crossing north of the roundabout exit. No modifications to the existing northbound exit would then be required and the crossing would be positioned where the whole carriageway can be crossed in a single movement. However, it is considered that the current <i>Toucan</i> location would minimise walking distances and is currently the preferred arrangement in terms of encouraging modal shift.

LCC Comment No. 7	Design Team Response
Visibility splays for the proposed access should be based on measured 85th percentile speeds and not the signed speed limit. The splays should also be to both the left and to the right of the junction.	The proposed access is an extension of the existing cul-de-sac that leads only into Triumph Motorcycles access, located just 50m from the Roston Drive roundabout exit. Any measurements of vehicle speeds on this existing link would be unrepresentative of the proposed future road layout, which has been designed to limit vehicle speeds to 30mph. Visibility splays of 2.4m x 43m are shown to the left and right of the proposed Triumph Motorcycles access on Drawing C21021/DR101 (Page 20 onwards).

LCC Comment No. 8	Design Team Response
As the access is located on the outside of a horizontal bend, an additional visibility area ought to be shown to a point tangential to the nearer edge of the main road carriageway, as per DMRB CD123 Figure 3.9.	This has been shown on Drawing C21021/DR101 (Page 20 onwards).

LCC Comment No. 9	Design Team Response
Where the existing splitter island is shown to be widened there are currently kick over arrows. What provision has been made to ensure vehicles exiting the roundabout do not collide with the widened splitter island?	The existing kick-over arrows will be removed. Any additional road markings required to ensure satisfactory lane discipline, such as upstream entry lane arrows or spiral lane markings on the circulatory carriageway, will be agreed at detailed design stage.

LCC Comment No. 10	Design Team Response
Whilst visibility splays and Stopping Sight Distances (SSD) should be acceptable as it is an existing roundabout, the LHA require confirmation that the SSD for the traffic signal heads for vehicles exiting the roundabout is sufficient. These should be based on measured 85 th percentile speeds.	Measured 85th percentile speeds are reported in Table 3.1 of the TA, as follows: • South of Roston Drive, northbound: 34mph • North of Roston Drive, southbound: 43mph Table DG4 of the LHDG requires SSD of 59m for vehicle speeds of 31mph to 35mph. Northbound exit visibility splays of 59m are shown on Drawing C21021/DR101 (Page 20 onwards). For the southbound approach to the <i>Toucan</i> crossing, a SSD of 120m would be provided to accommodate measured 85th percentile speeds in the range 41mph to 44mph, as required by Table DG4 of the LHDG. As stated in the Stage 1 RSA Response Report, any existing vegetation within the highway verge that could obstruct visibility splays would be reduced.

LCC Comment No. 11	Design Team Response
Full width carriageway resurfacing is required where the carriageway is to be widened. This will eliminate joints and potential weak points in the carriageway and also reduce the chances of differential settlement.	Noted and accepted.

2.1.3 LCC's comments also refer to the findings of the Stage 1 RSA of the originally submitted scheme. It is noted that LCC accepts the Design Team Response to the issues raised in the RSA. **Drawing C21021/DR101** (Page 20 onwards) has been updated in accordance with these recommendations.

2.1.4 LCC has also provided the following additional comments:

If the LPA is minded to grant planning permission, the applicant should note the following issues which will need to be addressed as part of the Section 278 technical approval process:

- Carriageway cores are required to determine the existing carriageway construction so that a suitable make up for the new construction can be determined;*
- Confirmation that statutory undertakers are not affected by the works should be provided. This should be either a websearch plan showing that they have no assets in the area of works, or if they do have assets in the area a formal NRSWA C3 response from the Statutory Undertaker stating that they are unaffected. If Statutory Undertakers are affected please provide the response letter, estimate of works and plan of the works. This can be undertaken at the detailed design stage of the scheme; and*
- The drainage system will be need to be adjusted to allow for the additional surface water. This can be undertaken at the detailed design stage of the scheme*

2.1.5 These additional comments will be addressed at the detailed design stage.

3.0 HIGHWAY SAFETY

- 3.1.1 It is noted that LCC has undertaken additional checks of its road traffic collision database for the 5-year period 01/01/17 to 31/10/23. LCC concludes that:

There were various circumstances involved in the collisions, therefore given the scope of the study area there are no patterns / trends within the data which would require a road safety scheme of mitigation in connection with the development proposals.

- 3.1.2 No further information on this matter is therefore required.

4.0 TRIP GENERATION

- 4.1.1 LCC's comments acknowledge the revised trip generation rates proposed in the recently-issued TN3. Further comments on this matter are provided in a separate Technical Note by Phil Jones Associates (PJA), which is (included as **Appendix C** to this response).

5.0 JUNCTION CAPACITY ASSESSMENTS

- 5.1.1 LCC acknowledges that the submitted TA has considered the impact of the development at the following junctions:

- A47 Normandy Way/Greenfinch Road roundabout
- A47 Normandy Way/Outlands Drive junction
- A47 Normandy Way/Roston Drive roundabout

- 5.1.2 However, LCC also provides the following comments:

Notwithstanding the above based on the scale and impact of the proposed development the LHA would expect the applicant to review all the junctions along the A47 corridor between the A47/B4668 Leicester Road and A47 Dodwells Road/A5.

Furthermore the LHA would expect the applicant to also undertake capacity assessments at local junctions where approximately 30 additional two-way trips or more are generated by the proposals as well as at other key location junctions which already reaching capacity or operating over capacity.

- 5.1.3 A revised assessment of the scheme's impact has been undertaken using the new Sword Drive trip rates and the trip distribution adopted in the TA. Use of these trip rates to assess the impact of the FPA scheme has been accepted by LCC.
- 5.1.4 This revised assessment of traffic flow increases on the adjoining highway network is included in **Appendix D**. Again, this assessment does not take into account the agreed 15% modal shift.
- 5.1.5 A summary of the additional peak hour development traffic flows into key junctions is presented in **Table 5.1**.

Table 5.1: Development Traffic Flows Into Key Junctions – FPA Scheme (Revised Trip Rates)

JUNCTION		AM (Vehicles)	PM (Vehicles)
A1	NORMANDY WAY/GREENFINCH ROAD	19	16
J1	NORMANDY WAY/OUTLANDS DRIVE	6	5
J2	NORMANDY WAY/ROSTON DRIVE	65	54
J3	A5/A47 DODWELL'S ROUNDABOUT	47	39
J4	A5/A47 THE LONG SHOOT SIGNALS	20	17
J5	M69 JUNCTION 1	23	19
J6	A47/WYKIN ROAD ROUNDABOUT	17	14
J7	A47/STOKE ROAD ROUNDABOUT	15	12
J8	A47/A447 JUNCTION	14	12
J9	A47/LEICESTER ROAD JUNCTION, EARL SHILTON	12	10

- 5.1.6 Development traffic flows are forecast to be well below 30 vehicles at all junctions on the corridor highlighted by LCC, except for:
- J2: Normandy Way/Roston Drive;
 - J3: A5/A47 Dodwell's Roundabout.

- 5.1.7 On this basis, capacity assessments at other junctions on the A47 corridor between the site and the B4668 Leicester Road are not required.
- 5.1.8 Whilst development traffic flows associated with the FPA in isolation are forecast to be above 30 vehicles at the A5/A47 Dodwell's Roundabout, they would be below 50 vehicles and therefore modest relative to existing traffic flows. However, a physical highway mitigation scheme is now proposed and is supported by further modelling (see Section 8 of this response).
- 5.1.9 On this basis, it is concluded that the FPA would have no material impact on the Strategic Road Network (SRN), subject to delivery of the proposed highway mitigation scheme at the Dodwells Roundabout.
- 5.1.10 Because the Normandy Way/Roston Drive roundabout is subject to modifications, in particular the provision of a *Toucan* crossing and reduction of the northbound exit width, an updated capacity assessment has been undertaken. The assessment year (2036) traffic forecasts have been updated to take into account the following changes:
- Updated Sword Drive trip rates applied to both the approved scheme (850 dwellings) and the FPA scheme (153 dwellings);
 - Traffic growth forecasts updated to the latest version of TEMPRO (v8.1). These are slightly higher than the previous growth forecasts used in the TA;
 - Traffic flows generated by the Richborough Estates appeal scheme at Stoke Road (HBBC planning ref: 22/00318/OUT) added, as this is now a committed development;
 - Pedestrian crossing demands at the proposed *Toucan* crossing updated to latest forecasts (as set out in TN6, to be submitted separately).
- 5.1.11 One of the potential effects of reducing the northbound exit width as proposed to accommodate the *Toucan* crossing is that northbound drivers entering the roundabout would be less likely to use the full 2-lane entry width as this would require them to merge into a single lane before reaching the roundabout exit if they are to continue northbound.

5.1.12 This potential effect has been taken into account by applying an intercept correction to the upstream A47 northbound entry. The details and results of the revised assessment are presented in **Appendix E**.

5.1.13 **Table 5.2** summarises the results of the revised assessment. It can be seen that the roundabout operates in all scenarios except the PM peak hour with the full development in place, when the A47 Northbound entry (Arm D) operates above the desirable maximum RFC value of 0.85 and with a queue of just over 20 vehicles. In terms of traffic impact, this is likely to be a worst-case scenario because even the existing exit width reduces quickly to a single lane, such that some drivers would not use of the full two-lane entry to continue northbound in any event. In addition, the traffic forecasts do not allow for the agreed 15% modal shift arising from delivery of the Travel Plan (see Section 8).

**Table 5.2: Results of updated JUNCTIONS 10 Assessment –
A47/Roston Drive Roundabout**

AM							
	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Network Residual Capacity
PROPOSED ROUNDABOUT (AM) - DS3 2036							
Arm A	A2 D7	0.4	4.55	0.29	A	8.21	24 % [Arm D]
Arm B		2.4	7.17	0.69	A		
Arm C		1.0	8.74	0.48	A		
Arm D		2.1	11.69	0.67	B		

PM							
	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Network Residual Capacity
PROPOSED ROUNDABOUT (PM) - DS3 2036							
Arm A	A3 D8	0.8	7.68	0.43	A	29.89	-6 % [Arm D]
Arm B		1.5	5.59	0.58	A		
Arm C		0.6	5.71	0.34	A		
Arm D		20.6	63.76	0.98	F		

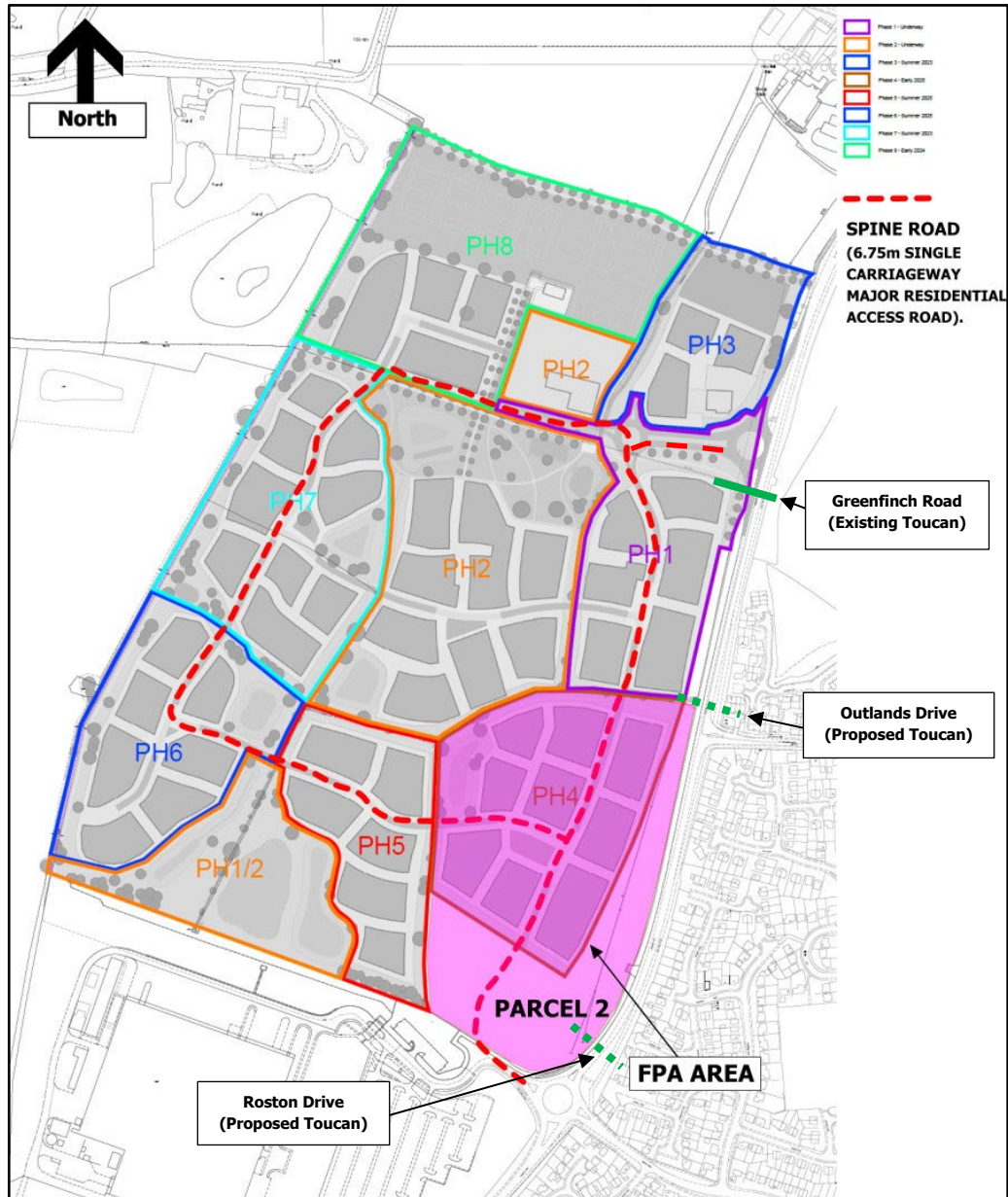
5.1.14 Nevertheless, it is considered that the results are a reasonable trade-off of highway capacity for improved pedestrian and cyclist connectivity.

5.1.15 A capacity assessment of the proposed Triumph Motorcycles access junction was also presented in the TA. The assessment demonstrated that the proposed junction would operate with significant reserve capacity and with no discernible queuing. Because traffic flows through the junction would now be reduced as a result of applying the Sword Drive trip rates, it is not considered necessary to repeat this assessment.

6.0 OFF-SITE IMPLICATIONS – PEDESTRIAN AND CYCLIST INFRASTRUCTURE

- 6.1.1 LCC has provided comments on the proposed off-site works to provide an uncontrolled pedestrian/cycle crossing on Normandy Way north of Outlands Drive, as included in the submitted TA (Drawing **C21021/DR002**, Page 20 onwards).
- 6.1.2 These original proposals have since been reviewed in response to LCC's comments and the comments received from Active Travel England (ATE). As a result of this review, a *Toucan* crossing is now proposed at this location.
- 6.1.3 The *Toucan* crossing proposals are presented on **Drawing C21021/DR104** (Page 20 onwards). In developing this proposal, comments on the previous uncontrolled crossing scheme as provided in LCC's second response have been taken on board where relevant.
- 6.1.4 **Figure 6.1** below shows the location of the Hollycroft Grange development and the approximate location of the proposed Outlands Drive crossing, together with the adjacent crossing points at Greenfinch Road and Roston Drive.

Figure 6.1: Toucan Crossing Location Plan



- 6.1.5 It is considered that an additional controlled crossing facility at Outlands Drive would improve the site's accessibility by pedestrians and cyclists, increasing the number of opportunities to cross Normandy Way in a direct and controlled manner. This would further support the objectives and modal shift targets set out in the Travel Plan (see Section 8).

- 6.1.6 A further Technical Note (TN6) provides the supporting numerical justification for the additional signal-controlled crossing in accordance with Chapter 6 of the Traffic Signs Manual (TSM Ch 6).
- 6.1.7 A separate response to ATE's comments will also be provided and will include additional information on how the proposed *Toucan* would address desire lines and connect with the Hollycroft Grange internal foot and cycle path network. This response will be copied to LCC and HBBC for information.

7.0 INTERNAL LAYOUT

- 7.1.1 The issues previously raised by LCC are to be addressed directly by Bloor Homes. A revised site layout accompanies this note in **Appendix F**.

8.0 TRANSPORT SUSTAINABILITY AND MITIGATION

- 8.1.1 LCC has provided the following comments on the information presented in the TA:

- The LHA also note the applicants commitment to provide cycle storage for all properties in resident's garages or cycle stores. Whilst this is welcomed to promote cycling this should not be to the detriment of the internal dimensions of a single garage required to accommodate a car (3m x 6m in LHDG) or a double garage (6m x 6m).*
- Notwithstanding the above, the LHA would agree with NH response to the applicant's via email dated 1 December 2023 which asked for further justification / evidence as to why a modal shift of 11.7% is appropriate for this planning application.*

- 8.1.2 With regard to the first point, Bloor Homes has confirmed that a cycle storage shed will be provided with every property to avoid reducing the available space within the garages. This provision can be secured by means of an appropriately worded planning condition.

- 8.1.3 The second point was comprehensively addressed in TN4, which provides the following additional information and comments:

- The National Highways approach is that sustainable travel is a priority to achieve nil detriment. An 11.7% modal shift assumption has been agreed with applicants for other development proposals in the local area. Therefore, for consistency, TN3 provided a sensitivity analysis on 11.7% modal shift whereas Bloor Homes is promoting an agreed modal shift target of 15%.
- The 15% modal shift target is set by the approved *Normandy Fields Travel Plan* (NFTP), which covers the whole of Hollycroft Grange and has recently been expanded to cover the provides the additional FPA development. The NFTP was originally prepared by Lawrence Walker Limited (LWL) in March 2019. Updated versions of the NFTP were provided to support Phases 3 and 7 of the consented scheme, both dated January 2022. These updates and the associated 15% modal shift target have been approved by HBBC via the discharge

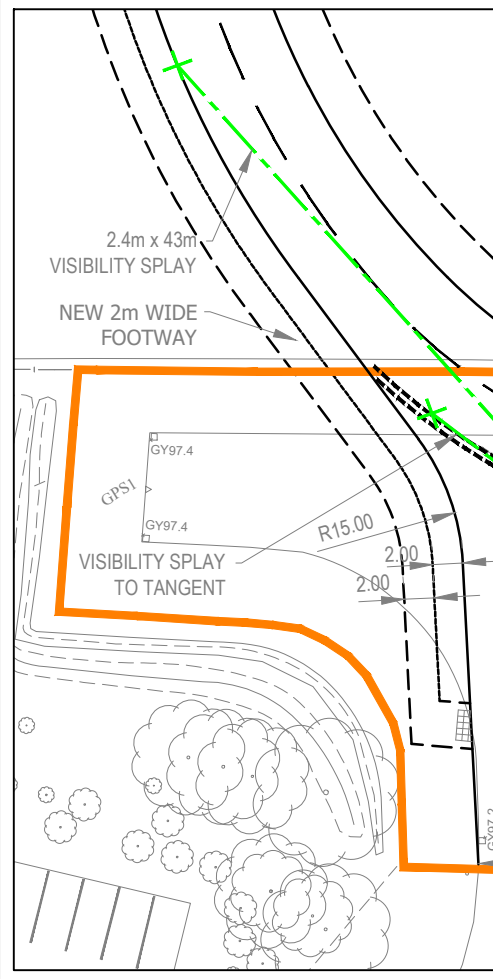
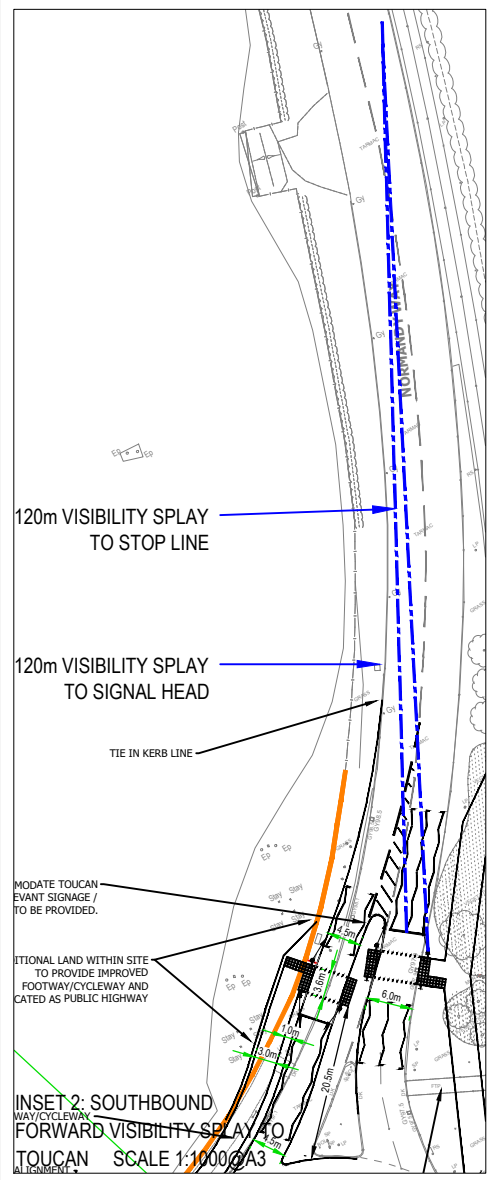
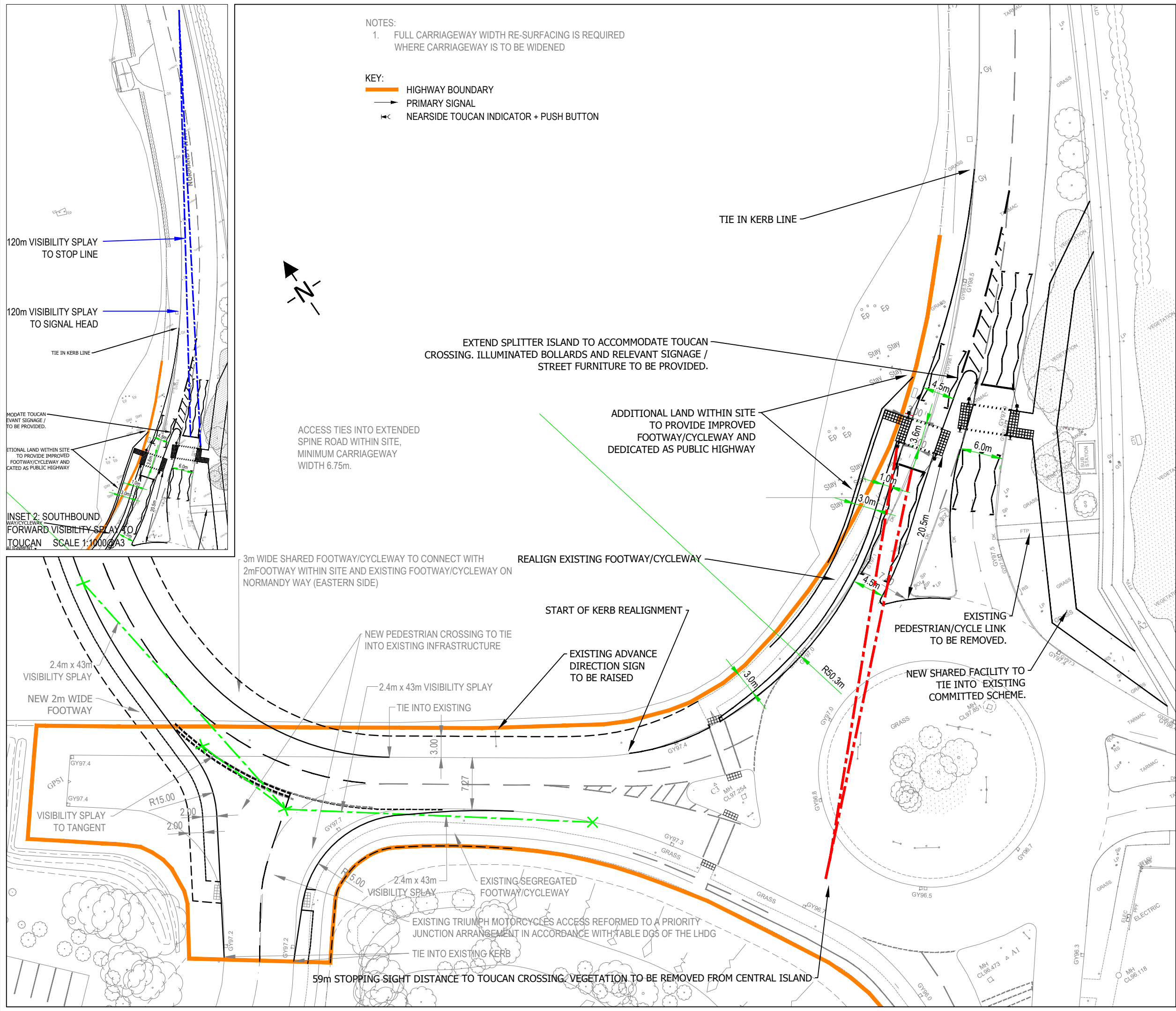
of conditions of the outline planning consent.

- 8.1.4 Notwithstanding this, it is now proposed that traffic impacts at the A5/A47 Dodwells Roundabout will be addressed by a scheme of widening at the A47 entry. This proposal would fully mitigate the impact of the FPA scheme without requiring any modal shift. The widening scheme and supporting modelling are provided in PJA's Technical Note (**Appendix C**).

9.0 SUMMARY

- 9.1.1 This document provides the additional information requested by LCC in its second formal response to the Full Planning Application (FPA) for a further 153 dwellings on land to the west of Normandy Way, Hinckley (Hollycroft Grange).
- 9.1.2 The information provided above should be read in conjunction with the Transport Assessment (TA) that accompanied the FPA and subsequent Technical Notes TN3 and TN4. Together with the additional Technical Note TN6 (which provides further information on the proposed Outlands Drive Toucan crossing), PJA's further Technical Note (which addressed the A5 at Dodwells Roundabout) and a separate response to other sustainable travel matters raised by Active Travel England, it is considered that this additional information now addresses the issues raised by LCC and will enable the FPA to be determined subject to suitable highways-related planning conditions.

REVISED DRAWINGS



- NOTES:
- FULL CARRIAGEWAY WIDTH RE-SURFACING IS REQUIRED WHERE CARRIAGEWAY IS TO BE WIDENED
- KEY:
- HIGHWAY BOUNDARY
 - PRIMARY SIGNAL
 - NEAR SIDE TOUCAN INDICATOR + PUSH BUTTON

GENERAL NOTES

- THIS DRAWING IS NOT TO BE SCALED FOR CONSTRUCTION PURPOSES.
- THE CONTRACTOR SHALL CHECK ALL DIMENSIONS AND LEVELS ON SITE.

REV	DESCRIPTION	DATE	BY	AUTH
A	TOUCAN MOVED TO ORIGINAL LOCATION	13.03.24	SM	SAM

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CLIENT
BLOOR HOMES

PROJECT
**NORMANDY WAY
HINCKLEY**

TITLE
**DEVELOPMENT ACCESS
ARRANGEMENTS: OPTION 1**

DRAWN	AUTHORISED	SCALE	SHEET SIZE	DATE
AMP	SM	1:500	A3	02.02.24

PROJECT NO.	DRAWING NO.	REV
C21021	DR101	A

Capricorn Transport Planning

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APPENDIX A

LCC SECOND RESPONSE (22/12/23)

Substantive response of the Local Highway Authority to a planning consultation received under The Development Management Order.



Response provided under the delegated authority of the Director of Environment & Transport.

APPLICATION DETAILS:

Planning Application Number: 23/00573/FUL

Highway Reference Number: 2023/0573/04/H/R1

Application Address: Land To The West Of Normandy Way Hinckley Leicestershire

Application Type: Full

Description of Application:

Re-consultation. Full planning application for 153 dwellings with a vehicular access from the factory access road and existing roundabout on the A47, drainage, landscaping, public open space, ground remodelling and supporting infrastructure and utilities.

GENERAL DETAILS

Planning Case Officer: Matt Jedruch

Applicant: Sally Smith

County Councillor: Cllr David Bill MBE

Parish:

Road Classification: Class A

Substantive Response provided in accordance with article 22(5) of The Town and Country Planning (Development Management Procedure) (England) Order 2015:

The Local Highway Authority does not consider that the application as submitted fully assesses the highway impact of the proposed development and further information is required as set out in this response. Without this information the Local Highway Authority is unable to provide final highway advice on this application.

Advice to Local Planning Authority

Background

This is the Local Highway Authority's (LHA's) second formal response to the planning application for the erection of 153 dwellings with a vehicular access from the factory access road and existing roundabout on A47 Normandy Way.

The LHA's first response, dated 05 July 2023, focused on the site access arrangements, off-site impact of the proposed development and the internal layout of the site. To address some of the initial comments and discuss the application, the applicant met with the LHA and National Highways (NH) on 05 September 2023. Following that meeting the applicant submitted the transport documents / plans listed below to the Local Planning Authority (LPA) on 16 November 2023:

- Define Covering Letter document ref:DE_155I_FPA Cover_2023 11 16_SP, 'Land west of Normandy Way Hinckley', dated 16 November 2023;
- Nineteen47 Chartered Town Planners and Urban Designers, drawing number: F-008, 'Planning Layout - Land at Normandy Fields, West of Hinckley', Revision G;
- Nineteen47 Chartered Town Planners and Urban Designers, drawing number: F-009, 'Presentation Layout - Land at Normandy Fields, West of Hinckley', Revision F;
- Nineteen47 Chartered Town Planners and Urban Designers, drawing number: F-402, 'Car Parking Schedule - Land at Normandy Fields, West of Hinckley', Revision C;
- Nineteen47 Chartered Town Planners and Urban Designers, drawing number: F-403, 'Refuse Strategy Plan - Land at Normandy Fields, West of Hinckley', Revision C;
- Capricorn Transport Planning, document ref: C21021, 'Highways Technical Note 3 (HTN3) 'Hinckley West Development', Revision A, submitted to the Local Planning Authority on 26 October 2023;
- Capricorn Transport Planning Consulting drawing number: DR001, 'Proposed Development - Access – Normandy Way', dated 14 November 2022;
- Capricorn Transport Planning Consulting drawing number: DR002, 'Proposed Pedestrian / Cycle Crossing at Outlands Drive – Normandy Way', dated 19 December 2022;
- Capricorn Transport Planning Consulting drawing number: DR003, 'Proposed Development - Access Vehicle Tracking – Normandy Way', Revision A, dated 19 December 2022;
- Capricorn Transport Planning document ref: C21021-RSARR1, 'Land west of Normandy Way, Hinckley - Section 278 Works – Site Access: Stage 1 Road Safety Audit Response Report', Issue 1, dated 11 August 2023;
- Capricorn Transport Planning document ref: C21021-RSARR2, 'Land west of Normandy Way, Hinckley - Section 278 Works – Off-Site Improvements: Stage 1 RSA Response Report, dated 11 August 2023;
- Waterman Aspen Stage 1 Road Safety Audit document ref: SA4197A, 'Normandy Way and Outlands Drive - Hinckley Section 278 Works', August 2023;
- Waterman Aspen Stage 1 Road Safety Audit document ref: SA4197B, 'Normandy Way and Outlands Drive - Hinckley Section 278 Works', August 2023; and
- Walker Engineering Residential Travel Plan (RTP) 'Normandy Fields, Hinckley – Travel Plan (Phase 4) (Phase 4 Extension Full Application)', dated August 2023.

The LHA has now had the opportunity to review further aspects of the proposed development and is pleased to offer the following comments for consideration by the applicant.

Site Access

As set out in the second response to the planning application, vehicular access to the proposed development would be via an extension to the existing Spine Road for the Hollycroft Grange scheme and would connect with Normandy Way at Roston Drive. The applicant has indicated that the new route would be a 6.75m single carriageway road, designed in accordance with the Leicestershire Highways Design Guide (LHDG) standard for a Major Residential Access Road and suitable for use by bus services. The scheme would therefore connect Hollycroft Grange to Normandy Way at two locations.

Following submission of a Stage 1 Road Safety Audit (RSA1) the LHA has now undertaken a design check on the proposed site access as shown on Capricorn Transport Planning Consultants drawing number C21021/DR001, and offers the following comments for the applicant's consideration / response:

- A traffic capacity assessment would be required for the proposed junction layout for the LHA to review, and also to inform the design layout requirements for any queuing length provision, ensuring traffic does not block the roundabout etc.
- The tactile paving arrangements appears excessive, the "tails" could be removed and a layout in keeping with Figure 11 of "Guidance on the Use of Tactile Paving Surfaces" proposed instead.
- The existing footway link between the splitter island and footway/cycleway should be identified as to be removed.
- In accordance with Table DG5 of the LHDG the LHA would advise the applicant to design the access to the Triumph factory as a major industrial access. This could alleviate the issues identified with the swept path analysis below.
- Signal heads should be shown on the drawing with dimensions demonstrating that the design criteria required by LTN1/20 can be adhered to.
- The changes to the roundabout geometry are minor and acceptable however the roundabout exit width leading towards the proposed crossing is considerably below the required 7 to 7.5m stated in DMRB CD116.
- Visibility splays for the proposed access should be based on measured 85th percentile speeds and not the signed speed limit. The splays should also be to both the left and to the right of the junction.
- As the access is located on the outside of a horizontal bend, an additional visibility area ought to be shown to a point tangential to the nearer edge of the main road carriageway, as per DMRB CD123 Figure 3.9.
- Where the existing splitter island is shown to be widened there are currently kick over arrows. What provision has been made to ensure vehicles exiting the roundabout do not collide with the widened splitter island?
- Whilst the visibility splays and Stopping Sight Distances (SSD) should be acceptable as it is an existing roundabout, the LHA require confirmation that the SSD for the traffic signal heads for vehicles exiting the roundabout is sufficient. These should be based on measured 85th percentile speeds.
- Full width carriageway resurfacing is required where the carriageway is to be widened. This will eliminate joints and potential weak points in the carriageway and also reduce the chances of differential settlement.

Stage 1 Road Safety Audit

Following a request from the LHA in its initial observations the applicant has commissioned an independent Stage 1 Road Safety Audit (RSA1) of the site access arrangements. The RSA1 identified four problems which are referenced below:

1. There is an existing Advanced Direction Sign on the verge on this arm of the roundabout, where the drawings suggest a new footway will be located. The ADS is relatively low on one side and, if this remains, then pedestrians may collide with the sign.
2. The proposed link will lie adjacent to an existing gas governor. Pedestrians and cyclists emerging from the crossing may not be able to see cyclists approaching, possibly at speed, and may step in front, risking a collision.
3. There is considerable vegetation on the south-west bound approach to the proposed crossing. This may obscure visibility for pedestrians / cyclists waiting to cross, and of the signal head for drivers. If drivers cannot see either pedestrians / cyclists or the signal head, then they may not be prepared to stop and a collision may result.
4. The roundabout has considerable vegetation on the central island. This may reduce forward visibility of queuing vehicles at the proposed crossing and this may in turn result in rear shunt collisions.

The applicant has provided a Designers Response and accepted each recommendation in the RSA1 to overcome the four issues raised in the RSA1. All the responses provided by the Designer for the access improvements are accepted by the LHA.

Other Considerations

If the LPA is minded to grant planning permission, the applicant should note the following issues which will need to be addressed as part of the Section 278 technical approval process:

- Carriageway cores are required to determine the existing carriageway construction so that a suitable make up for the new construction can be determined;
- Confirmation that statutory undertakers are not affected by the works should be provided. This should be either a websearch plan showing that they have no assets in the area of works, or if they do have assets in the area a formal NRSWA C3 response from the Statutory Undertaker stating that they are unaffected. If Statutory Undertakers are affected please provide the response letter , estimate of works and plan of the works. This can be undertaken at the detailed design stage of the scheme; and
- The drainage system will be need to be adjusted to allow for the additional surface water. This can be undertaken at the detailed design stage of the scheme

Highway Safety

The applicant has reviewed the Personal Injury Collision (PIC) data for the period 1 January 2017 to 31 August 2022. The study area covers the length of Normandy Way between the Roston Drive roundabout to the south, and Greenfinch Road roundabout to the north, including both junctions.

There was just one PIC during period under consideration which was at the Normandy Way / Outlands Drive junction in April 2021 and classified as slight in severity. The applicant has concluded that based on the PIC record there is no spatial clustering or trends and there are no existing road safety issues that could be exacerbated by the proposed development.

Figure 3.3: Extent of Collision Study Area

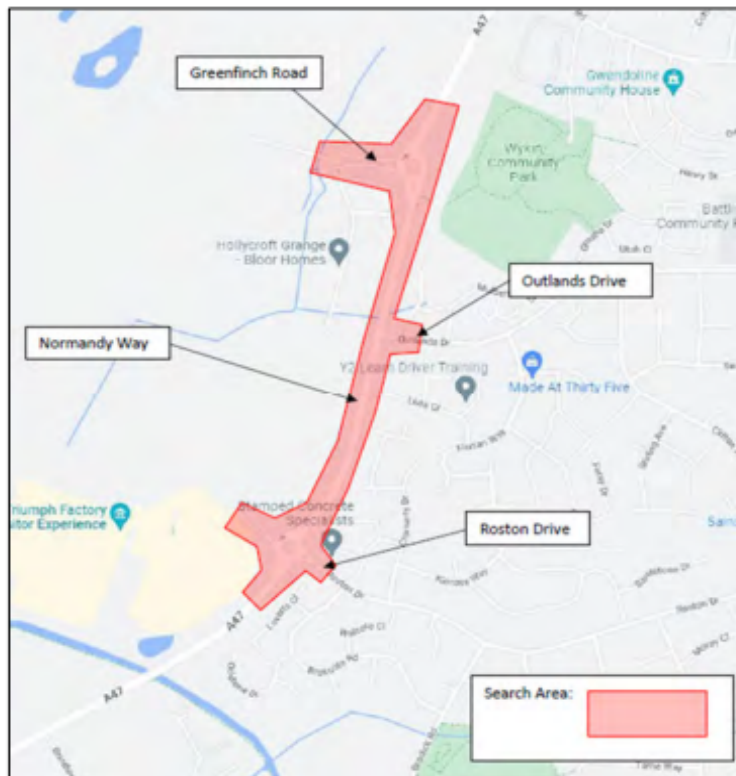


Figure 1: Location of Personal Injury Collision Study Area reproduced from Figure 3.3 of Capricorn Transport Planning Transport Statement

To understand the latest situation with the PIC data the LHA has also checked its own database for the five year period from 1 January 2017 - 31 October 2023 on the A47 between A47 / Stoke Road junction (to the north) and the A5 / Dodwells Road junction (south of the site). The key findings of the LHA's review are detailed below:

- 10 slight and three serious collisions in the expanded study area. There were no fatalities in the period under consideration; and
- One collision in 2017, four collisions in 2019, two collisions in 2020 and 2021, one collision in 2022 and three collisions up to end of October 2023.

There were various circumstances involved in the collisions, therefore given the scope of the study area there are no patterns / trends within the data which would require a road safety scheme of mitigation in connection with the development proposals.

Trip Generation

Following discussions with the LHA and NH in September 2023, the applicant undertook a review of the TRICS database and automatic traffic surveys on Sword Drive for one week in October 2023 to establish a trip rate / trip generation for the proposed development. As well as a residential development, two retail park accesses also exist off Sword Drive. Therefore, to identify the residential trips only, the applicant identified three locations and discounted the retail park access trips from the total number of vehicles counted on Sword Drive.

The methodology and results of the TRICS exercise and traffic surveys is provided in Appendices TN3-A, TN3-B and Appendix TN3-C of the October 2023 HTN3. A summary of the trip rates from the TRICS surveys and Sword Road development are reproduced in Figure 2 and Figure 3 below:

Table TN3.5: Residential Vehicle Trips/Dwelling (TRICS v7.10.2)

Time Period	Arrival	Departure	Two-Way
AM (08:00-09:00)	0.163	0.395	0.558
PM (17:00-18:00)	0.350	0.169	0.519

Figure 2: Trip rates from the Sword Road development reproduced from Table TN3.5 of Capricorn Transport Planning Highway Technical Note 3.

**Table TN3.8: Local Trip Rates for Sword Drive Residential Area
(Vehicle trips/dwelling)**

Time Period	Arrival	Departure	Two-Way
AM (08:00-09:00)	0.167	0.384	0.551
PM (17:00-18:00)	0.246	0.210	0.457

Figure 3: Trip rates from the Sword Road development reproduced from Table TN3.8 of Capricorn Transport Planning Highway Technical Note.

Based on the scale of development of 153 dwellings this would generate 85 and 79 (two-way) trips in the AM and PM peak hours respectively based on TRICS surveys or 84 and 70 (two-way) trips based on the 2023 traffic count at Sword Drive.

The LHA considers that the site should be assessed as a stand alone site with the Sword Drive trip rates to understand the impact of the proposed development on the local highway network and wider Strategic Road Network.

Junction Capacity Assessments

The LHA acknowledge that the applicant has considered the impact of the proposed development at the following junctions:

- A1: A47 Normandy Way / Greenfinch Road Roundabout;
- J1: A47 Normandy Way / Outlands Drive; and
- J2: A47 Normandy Way / Roston Drive

Notwithstanding the above based on the scale and impact of the proposed development the LHA would expect the applicant to review all the junctions along the A47 corridor between the A47 / B4668 Leicester Road and A47 Dodwells Road / A5.

Furthermore the LHA would expect the applicant to also undertake capacity assessments at local junctions where approximately 30 additional two-way trips or more are generated by the proposals as well as at other key location junctions which already reaching capacity or operating over capacity.

The LHA may have traffic counts and junction models for some of these junctions so the applicant should contact ndi@leics.gov.uk and trafficandsignalconsultation@leics.gov.uk respectively for further information.

Off-Site Implications - Pedestrian and Cycling Infrastructure

Whilst the impact of the proposed development on the local highway network has not been established, the applicant has put forward a scheme of mitigation to encourage walking and cycling to and from the proposed development. The scheme is shown on Capricorn Transport Planning Consultants drawing number: C21021/DR002, dated 11 August 2023.

The LHA has now undertaken a design check on the proposed Pedestrian/Cycle Crossing at Outlands Drive and offers the following comments for consideration / response:

1. The drawing is of a poor quality and appears to be based on a photocopy of a previous drawing. The designs should be based on an actual topographical survey.
2. The hatching should be amended so as not to force traffic turning right into Outland Drive to drive over the centre hatching.
3. The 1.5m width hatching alongside the right turn lane forces right turning vehicles over to the left and into the visibility splay for pedestrians waiting to cross on the proposed refuge. If the 85th percentile speeds are less than 85kph then a width of 5.5m is acceptable as per DMRB CD123 para 6.11.1 and the hatching can be removed.
4. The width of the footway / cycleway should be maintained throughout, and not narrowed at the Outlands Drive crossing.
5. The proposed pedestrian link to the north of the proposed refuge should meet the kerb line perpendicularly and not at an angle as shown. Tactile paving should also be shown on the drawing.
6. The proposed taper gradient for the ghost island should be identified on the drawing and should be in accordance with Table 6.1.1 of the DMRB CD 123.

Stage 1 Road Safety Audit

Following a request from the LHA in the initial highway observations the applicant has commissioned an independent Stage 1 Road Safety Audit (RSA1) of the off-site works. The RSA1 identified two problems which are referenced below:

1. The existing splitter island lies opposite a lighting column and a large utility box cover. These could coincide with the area of dropped kerbs and tactile paving for the proposed pedestrian facility. If this is the case, then it could result in pedestrians colliding with the column or slipping on the cover.
2. The proposed refuge will be close to the right-turn lane and reservoir for Outlands Drive. Vehicles waiting in the lane / reservoir may obstruct pedestrian visibility. If pedestrians cannot see approaching vehicles (and vice versa), then they may step out in front of moving traffic, risking a collision.

The applicant has provided a Designers Response and accepted each recommendation in the RSA1 for the off-site improvements. To address the two issues raised in the RSA1, the Designer

has provided an updated drawing for the off-site improvements drawing number: C21021/DR002, Rev A. Both responses to the RSA1 recommendations provided by the Designer are accepted by the LHA.

Internal Layout

The LHA has reviewed the internal layout of the proposed development as shown on drawing number N1787 F-008-G against the LHDG and can confirm that the outstanding issues identified in the highway observations dated 5 July 2023 remain. Whilst these are not reproduced in full for the purposes of this response the LHA would encourage the applicant to refer to the earlier observations and make all the amendments to ensure the site is adoptable and that parking is in accordance with the LHDG.

Transport Sustainability

Section 4 of the TA considers the transport sustainability of the site. The LHA has considered this aspect of the proposed development and provides further comments below.

Walking

The Presentation Layout of the proposed development is shown on drawing number: N1787-F-009, Revision D and a 2km walking catchment plan is shown in Figure 4.1 of the TA. The applicant is planning to provide pedestrian links from the proposed development to tie in with the existing footway provision.

Cycling

The area is covered by several cycle routes to allow residents to travel to adjacent built-up areas in and around Hinckley / Nuneaton to access other leisure, employment, and shopping opportunities. The LHA note the applicant's aspiration to improve walking / cycling crossings around the proposed development in Section 5 of the TA. The LHA also note the applicants commitment to provide cycle storage for all properties in resident's garages or cycle stores. Whilst this is welcomed to promote cycling this should not be to the detriment of the internal dimensions of a single garage required to accommodate a car (3m x 6m in LHDG) or a double garage (6m x 6m).

Public Transport

There are two Arriva services 6/6A and 7 that residents can use which could serve the proposed development. These link Burbage and Hinckley at various intervals through Monday - Saturday.

As part of the Outline planning consent for Hollycroft Grange there is an approved Public Transport Strategy for Phases 1 and 2. The approved bus route commences on Greenfinch Road, west of Normandy Way. According to the applicant it will run at a 30-minute frequency to and from the town centre via Normandy Way, Roston Drive, Brodick Road and Coventry Road. The service is subject to six-monthly reviews over a five-year period commencing at the occupation of the 50th dwelling.

The applicant has confirmed that they intend to provide bus stops along the spine road at locations and to a specification that would be agreed with the LHA. Lastly the applicant has indicated that the approved Public Transport Strategy will be updated to include the proposed development.

Notwithstanding the above, the LHA would agree with NH response to the applicant's via email dated 1 December 2023 which asked for further justification / evidence as to why a modal shift of 11.7% is appropriate for this planning application.

Closing

The LHA has identified some concerns and inconsistencies in the way that the transport impact of the development has been assessed. Therefore, the applicant should provide further evidence / clarification on the issues raised in this response, including:

- Proposed site access strategy;
- Off-site pedestrian / cycle crossing at Outlands Drive;
- Traffic survey data at junctions identified above along with revised junction capacity assessments and model files based on revised trip rates; and
- Justification / evidence of current mode split and detailed breakdown of proposed 11.7% distributed to other modes

Notwithstanding the above the LHA has been advised that the applicant has submitted Highway Technical Note 4 (HTN4) which may address some of the issues NH have raised and which this response refers to. The updated HTN4 will be reviewed and the LHA will provide further observations in due course along with comments on the Travel Plan.

Date Received
16 November 2023

Case Officer
David Hunt

Reviewer
AW

Date issued
22 December 2023

APPENDIX B

LCC ACCEPTANCE OF ROUNDABOUT MODIFICATIONS

Sean McGregor

From: Richard Clay <Richard.Clay@leics.gov.uk>
Sent: 19 January 2024 09:58
To: Dan Southall
Cc: Geoff Hibbert; David Hunt; Sally Smith; Jenny Brader; Tom Gilbert
Subject: RE: 23/00573/FUL at Land To The West Of Normandy Way Hinckley Leicestershire

Hi Dan,

Thanks for the updated swept path analysis. Based on the results I can confirm I'd accept the reduced exit width for this site.

Best regards

Rich

Richard Clay BEng MCIHT
Senior Engineer
Development Approvals - Infrastructure Planning
Leicestershire County Council
Tel 0116 305 8246
Richard.Clay@leics.gov.uk

A

Leicestershire Highway Design Guide

From: Dan Southall <Dan.Southall@bloorhomes.com>
Sent: 19 January 2024 08:05
To: Richard Clay <Richard.Clay@leics.gov.uk>
Cc: Geoff Hibbert <Geoff.Hibbert@bloorhomes.com>; David Hunt <David.Hunt@leics.gov.uk>; Sally Smith <Sally.Smith@bloorhomes.com>; Jenny Brader <Jenny.Brader@bloorhomes.com>; Tom Gilbert <tom.gilbert@bloorhomes.com>
Subject: RE: 23/00573/FUL at Land To The West Of Normandy Way Hinckley Leicestershire

Morning Richard,

Thanks for the quick response yesterday.
Please find attached some updated tracking now showing a 18.55m long HGV traversing the roundabout exit heading north on Normandy way.
To be honest, it doesn't really make much, if any difference which is great.

Off the back of this, if you can confirm that the 4.5m exit width off the roundabout heading north up Normandy Way is acceptable for us to base our detailed design off, that would be brilliant.

Any further queries or issues, please let me know.

Thanks again,

Dan Southall
Engineer

Bloor Homes East Midlands

1 Wheatfield Way, Hinckley, Leicestershire, LE10 1YG

Tel: 01455 248488

Email: Dan.Southall@bloorhomes.com



From: Richard Clay <Richard.Clay@leics.gov.uk>

Sent: Thursday, January 18, 2024 3:54 PM

To: Dan Southall <Dan.Southall@bloorhomes.com>

Cc: Geoff Hibbert <Geoff.Hibbert@bloorhomes.com>; David Hunt <David.Hunt@leics.gov.uk>; Sally Smith <Sally.Smith@bloorhomes.com>; Jenny Brader <Jenny.Brader@bloorhomes.com>; Tom Gilbert <tom.gilbert@bloorhomes.com>

Subject: RE: 23/00573/FUL at Land To The West Of Normandy Way Hinckley Leicestershire

Hi Dan,

Based on the swept path analysis I'd be happy with the proposals, however we're a bit concerned about the changes to the law allowing the length of an articulated lorry to increase to 18.55m.

Would it be possible to undertake some tracking for such a vehicle (probably need to create a vehicle using the wizard), seeing as the design includes the narrower exit width and could be liable to being struck by larger vehicles compared to a standard exit width.

Thanks

Rich

Richard Clay BEng MCIHT

Senior Engineer

Development Approvals - Infrastructure Planning

Leicestershire County Council

Tel 0116 305 8246

Richard.Clay@leics.gov.uk

A

Leicestershire Highway Design Guide

From: Dan Southall <Dan.Southall@bloorhomes.com>

Sent: 18 January 2024 15:23

To: Richard Clay <Richard.Clay@leics.gov.uk>

Cc: Geoff Hibbert <Geoff.Hibbert@bloorhomes.com>; David Hunt <David.Hunt@leics.gov.uk>; Sally Smith <Sally.Smith@bloorhomes.com>; Jenny Brader <Jenny.Brader@bloorhomes.com>; Tom Gilbert <tom.gilbert@bloorhomes.com>

Subject: RE: 23/00573/FUL at Land To The West Of Normandy Way Hinckley Leicestershire

Thanks Richard,

I look forward to hearing from you tomorrow.

Regards,

Dan Southall
Engineer

Bloor Homes East Midlands

1 Wheatfield Way, Hinckley, Leicestershire, LE10 1YG

Tel: 01455 248488

Email: Dan.Southall@bloorhomes.com



From: Richard Clay <Richard.Clay@leics.gov.uk>

Sent: Thursday, January 18, 2024 3:03 PM

To: Dan Southall <Dan.Southall@bloorhomes.com>

Cc: Geoff Hibbert <Geoff.Hibbert@bloorhomes.com>; David Hunt <David.Hunt@leics.gov.uk>; Sally Smith <Sally.Smith@bloorhomes.com>; Jenny Brader <Jenny.Brader@bloorhomes.com>; Tom Gilbert <tom.gilbert@bloorhomes.com>

Subject: RE: 23/00573/FUL at Land To The West Of Normandy Way Hinckley Leicestershire

Thanks Dan,

I'll have a quick chat with David, and will get my comments back to you as soon as possible (hopefully tomorrow at the latest)

Best regards

Richard

Richard Clay BEng MCIHT

Senior Engineer

Development Approvals - Infrastructure Planning

Leicestershire County Council

Tel 0116 305 8246

Richard.Clay@leics.gov.uk

A

Leicestershire Highway Design Guide

From: Dan Southall <Dan.Southall@bloorhomes.com>

Sent: 18 January 2024 10:54

To: Richard Clay <Richard.Clay@leics.gov.uk>

Cc: Geoff Hibbert <Geoff.Hibbert@bloorhomes.com>; David Hunt <David.Hunt@leics.gov.uk>; Sally Smith <Sally.Smith@bloorhomes.com>; Jenny Brader <Jenny.Brader@bloorhomes.com>; Tom Gilbert <tom.gilbert@bloorhomes.com>

Subject: RE: 23/00573/FUL at Land To The West Of Normandy Way Hinckley Leicestershire

Importance: High

CAUTION: This email originated from outside of the organisation. Do not click links or open attachments unless you recognise the sender and know the content is safe.

Morning Richard,

Nice to talk to you this morning, and thanks for working with us to get this thrashed out so we can avoid any issues in the future.

As we discussed, please see attached some tracking showing a large articulated lorry traversing the roundabout and exiting north on Normandy Way.

As you can see, the HGV tracks with a constant swing and always avoids the kerb line at all times. There looks to be good distance at the 4.5m exit from the kerb line to the vehicle either side.

I would be grateful if you can take a look at this and provide us with a response with a view to confirming you are happy for us to proceed with the detailed design based on an exit width of 4.5m.

If you need anything further, please feel free to give me a call.

Thanks Richard.

Regards,

Dan Southall
Engineer

Bloor Homes East Midlands

1 Wheatfield Way, Hinckley, Leicestershire, LE10 1YG

Tel: 01455 248488

Email: Dan.Southall@bloorhomes.com



From: Jenny Brader <Jenny.Brader@bloorhomes.com>

Sent: Thursday, January 18, 2024 9:20 AM

To: Dan Southall <Dan.Southall@bloorhomes.com>; Tom Gilbert <tom.gilbert@bloorhomes.com>; Sally Smith <Sally.Smith@bloorhomes.com>

Cc: Geoff Hibbert <Geoff.Hibbert@bloorhomes.com>

Subject: FW: 23/00573/FUL at Land To The West Of Normandy Way Hinckley Leicestershire

Good morning all,

Please see comments in respect to the off site highway works for phase 4 – they have also provided us with the engineer contact should we wish to liaise directly with them

Kind regards

Jen

Jenny Brader
Planning Manager

Bloor Homes East Midlands

1 Wheatfield Way, Hinckley, Leicestershire, LE10 1YG

Tel: 01455 248488

Email: Jenny.Brader@bloorhomes.com



From: David Hunt <David.Hunt@leics.gov.uk>

Sent: Thursday, January 18, 2024 9:17 AM

To: Jenny Brader <Jenny.Brader@bloorhomes.com>

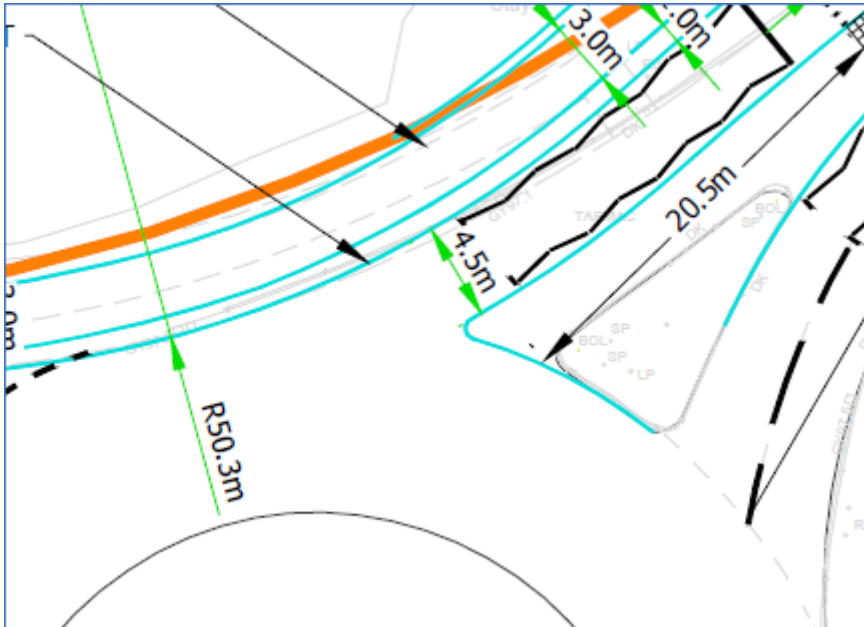
Cc: Richard Clay <Richard.Clay@leics.gov.uk>

Subject: RE: 23/00573/FUL at Land To The West Of Normandy Way Hinckley Leicestershire

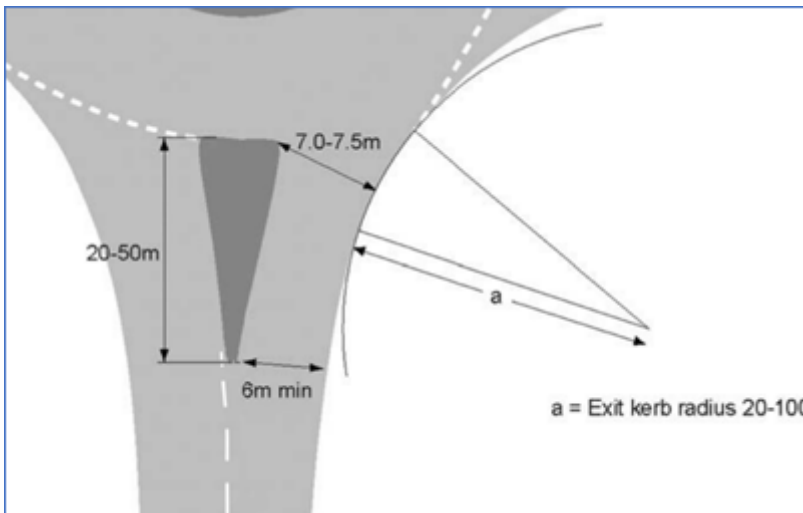
Good morning Jenny

Richard has provided me with some comments which are reproduced below for info.

His major concern with the roundabout changes was that the exit width was only 4.5m as shown below,



whereas DMRB CD 116 clause 3.28.2 states that the exit width should be between 7.0 and 7.5m



Richard has said that's fine if your Engineer would like to contact him so they can discuss a way forward. His details are provided below:

Richard Clay BEng MCIHT

Senior Engineer

Development Approvals - Infrastructure Planning

Leicestershire County Council

Tel 0116 305 8246

Kind regards,
David

David Hunt - Senior Transport Planner
Highway Development Management

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APPENDIX C

PJA TECHNICAL NOTE

Technical Note

Project: Hinckley Phase 4

Subject: Strategic Highway Network Impacts

Client:	Bloor Homes Western	Version:	B
Project No:	07839	Author:	JO/KN
Date:	March 2024	Approved:	ME

I Introduction

- 1.1.1 PJA has been commissioned by Bloor Homes to provide supplementary transport and highways support in relation to a live planning application for the Hinckley Phase 4 scheme (Ref: 23/00573/FUL). The scheme comprises a re-planned layout within Phase 4 of the approved 'Hollycroft Grange' scheme.
- 1.1.2 The proposals would provide an additional 153 dwellings over the consented position, increasing the total within the wider site from 850 to 1,003 dwellings, and would also provide access from the Triumph Motorcycle access road, which would also act as a second point of access to the wider development.
- 1.1.3 To date, the following relevant documentation has been prepared and submitted via the local planning authority:
- Transport Assessment, Capricorn Transport Planning (May 2023) ['2023 TA'].
 - Travel Plan, Lawrence Walker Limited (August 2023).
 - Technical Note 3, Capricorn Transport Planning (October 2023).
 - Technical Note 4, Capricorn Transport Planning (December 2023).
- 1.1.4 Responses have been provided by key consultees; Leicestershire County Council (LCC), National Highways (NH) and Active Travel England (ATE):
- LCC Responses (June 2023 and November 2023)
 - NH Responses (July 2023, December 2023 (email) and January 2024)
 - ATE Responses (July 2023 and December 2023)

1.2 Technical Note Purpose

- 1.2.1 This note and the additional assessment contained within relates to quantifying and assessing highway impacts on the strategic highway network.
- 1.2.2 NH and LCC have both expressed concerns with the methodology and assessment presented to date to quantify the highway impacts of the proposed development and their latest position is summarised below.

Table 1: Summary of LCC/NH Position

Assumed Points of Agreement	Points Not Agreed/Further Information Requested
Trip rates from the surveyed Sword Drive donor site and the application of these to the proposed 153 dwellings.	Application of the surveyed Sword Drive trip rates to the consented development (850 dwellings).
	Modal shift assumptions, 11.7% blanket reduction.
The adoption of 2011 Census Journey to Work data as a means of distributing traffic with a manual assignment is acceptable ¹ .	Modelling of junctions on the local network, it has been requested all junctions on the A47 between the B4668 and A5 are modelled, along with any further junctions which are approaching or at capacity.
	Modelling of the A5 / Dodwells / Longshoot has been requested.

- 1.2.3 Having considered the submitted information and consultation comments, this Technical Note provides further assessment of the potential impacts on the strategic highway network (A5).

2 Consented Vehicle Trip Generation Envelope (2015)

- 2.1.1 The consented development (Hollycroft Grange – 850 dwellings) was assessed within a Transport Assessment and Supplementary Transport Assessment prepared in 2015 ['2015 TA' and '2015 STA']. The established vehicle trip generation envelope associated with the consented 850 dwellings was calculated using trip rates set out in the 2015 TA.

Table 2: Consented Trip Envelope (850 dwellings, 2015 TA)

Source	AM			PM		
	Arr	Dep	Tot	Arr	Dep	Tot
Residential Vehicle Trip Rates (2015 TA)	0.148	0.425	0.573	0.409	0.244	0.653

¹ It should also be noted that a manual approach has been taken as part of the ongoing appeal relating to the residential development by Jelison at Burbage. As part of the appeal documentation prepared, a manual approach has been taken, i.e. not utilising the strategic traffic model, and this has been agreed with LCC and NH, as set out in the Statement of Common Ground. On this basis, it is deemed that a manual approach would be appropriate for the assessment of the proposed scheme.

Source	AM			PM		
	Arr	Dep	Tot	Arr	Dep	Tot
Consented Vehicle Trip Generation (850 dwellings)	126	361	487	348	207	555

- 2.1.2 Within the 2015 STA, the Leicester and Leicestershire Integrated Transport Model (LLITM)² was used to distribute and assign the development traffic associated with the 850 dwellings, and this was then dynamically assigned within the PARAMICS model.

3 Proposed Development - Supporting Assessment (2023)

- 3.1.1 The 2023 TA adopted the agreed trip rates from the 2015 TA. A numerical exercise was carried out which considered the number of trips at key junctions to determine the scope of junction modelling and led to the assessment of three junctions; A47/Outlands Drive, A47/Roston Drive and A47/Greenfinch Way. The modelling concluded that the proposed development (including the provision of a second point of access) did not result in an unacceptable impact on the operation of these junctions when compared to the consented position.
- 3.1.2 No assessment was undertaken of the strategic highway network beyond the initial numerical analysis, as this was used to conclude further modelling was not required.
- 3.1.3 Concerns were raised by NH and LCC relating to highway impacts based on this submitted work, and subsequent technical work since the planning submission has sought to minimise the number of additional trips on the highway network.
- 3.1.4 The post application technical work (Technical Notes 3 and 4) focussed on:
- Using the agreed trip envelope for the consented 850 dwellings from the 2015 TA as a basis for comparison.
 - Calculating observed trip rates from a nearby donor site (Sword Drive, Hinckley).
 - Application of the observed trip rates to both the consented (850) and proposed (153) dwellings.
 - Application of a blanket reduction in vehicle trip generation on the basis of an 11.7% modal shift for both the consented and proposed dwellings.
 - Comparing the revised trip generation with modal shift of the 1,003 total dwellings to the consented trip envelope.

² The LLITM is now superseded by the Pan Regional Transport Model (PRTM)

- Which concluded that the proposed development, based on the parameters above, had nil impact on the A5/A47/B4666 (Dodwells) roundabout and A5/A47 (Longshoot) junction.

3.1.5 Further concerns were raised by LCC and NH following this additional work as follows:

- The application of the donor site trip rates to the consented development is not accepted.
- The application of blanket modal shift across all vehicle trips is not accepted.

4 Revised Assessment

4.1 Vehicle Trip Generation

4.1.1 It is agreed by LCC and NH, that it is appropriate to apply the revised trip rates (Table 3 below) to the proposed development (153 dwellings), but it has not been agreed that these trip rates can be applied to the consented element (850 dwellings).

4.1.2 It is deemed appropriate to apply the revised trip rates to the both the proposed and consented development for the following reasons:

- It is well documented and evidenced that travel patterns have changed in recent years, particularly following the Covid-19 pandemic.
- The trip rates presented in Table 3 provide local data for a similar residential area to that proposed and evidences the local change in trip making patterns, particularly in the PM peak.

4.1.3 Whilst concerns with the blanket application of modal shift targets is understood, there is potential for modal shift, particularly when considering the 2015 TA trip rates.

4.1.4 Notwithstanding this, the assessment in this note adopts the 2015 TA trip rates for the consented development, because of the concerns raised by LCC and NH, and the donor site trip rates for the proposed development and does not allow for any modal shift. Thus providing a robust assessment. A summary of the proposed development trip generation is set out in Table 3.

Table 3: Proposed Development Vehicle Trip Generation

	AM Peak (08:00 – 09:00)			PM Peak (17:00 – 18:00)		
	Arrivals	Departures	Total	Arrivals	Departures	Total
Sword Drive Donor Site Surveyed Trip Rates	0.167	0.384	0.551	0.246	0.21	0.456
Trip Generation (153 dwellings)	26	59	85	38	32	70

- 4.1.5 Using these robust parameters, the proposed development is forecast to generate an additional 85 vehicle trips in the AM peak and 70 vehicle trips in the PM peak over and above the consented trip envelope.

4.2 Vehicle Trip Distribution and Assignment

- 4.2.1 As part of the work in the Capricorn Transport Planning technical assessment, a manual exercise was undertaken using 2011 Census Journey to Work data to distribute and assign trips across the highway network. The proposed development trip generation (153 dwellings) has been distributed and assigned as per the 2023 TA.

Table 4: Additional Vehicle Trips Forecast at Key A5 Junctions

Approach	AM Peak	PM Peak
A5/A47/B4666 (Dodwells)		
A47	33	18
B4666	1	2
A5 (SE)	7	10
A5 (NW)	6	9
<i>Total</i>	<i>47</i>	<i>39</i>
A5/A47 (Longshoot)		
A5 (SE)	14	8
A47	3	5
A5 (NW)	2	4
<i>Total</i>	<i>19</i>	<i>17</i>

- 4.2.2 Fewer than 20 additional vehicle trips are forecast to route through the A5/A47 (Longshoot) junction. It is considered that the change in traffic flows forecast at the Longshoot junction would not result in a severe impact over and above the consented development and therefore further assessment is not deemed necessary.
- 4.2.3 An additional 47 and 39 vehicle trips are forecast to route through the A5/A47/B4666 (Dodwells roundabout) in the AM and PM peak hours, respectively, as a result of the proposed development.
- 4.2.4 In the context of the total vehicle flow through the Dodwells, the proposed increase in traffic flows resulting from the proposed development is minimal. It is however acknowledged that the operation of this junction is sensitive to changes in traffic flow due to its congested nature.

5 Mitigation Scheme

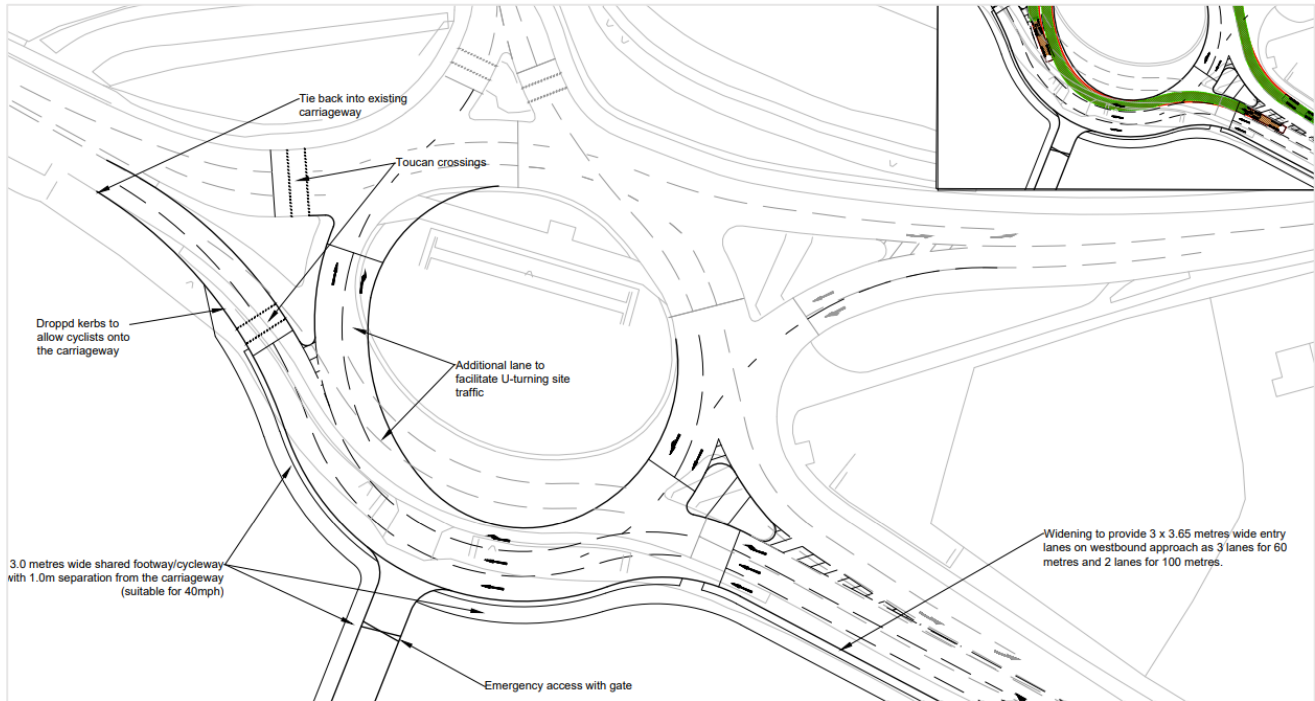
5.1 Wider Improvements

- 5.1.1 The Dodwells Roundabout is a key junction on the corridor of the A5 Hinckley to Tamworth Road Investment Strategy 3 (RIS3) Pipelines scheme, as identified in the Road Investment Strategy 2 (RIS2). It is understood that improvements within this Pipeline are currently only up to option development stage, and therefore there is no fixed scheme, funding or area of safeguarded land identified. As such, it is proposed to put forward an interim scheme which mitigates the impacts of the proposed development to ensure the impacts are not severe.

5.2 Committed Mitigation Scheme – Padge Hall Farm

- 5.2.1 In December 2023, hybrid planning consent (Hinckley and Bosworth Borough Council [21/01191/HYB], Rugby Borough Council [R21/0985] and Nuneaton and Bedworth Borough Council [038340]) was granted for the development of distribution and industrial buildings (B2 and B8 use classes) on land south of the A5, Padge Hall Farm, Hinckley.
- 5.2.2 The consented development of land south of the A5, Padge Hall Farm, will provide a new site access junction with the A5 and changes to Dodwells Roundabout to accommodate an emergency access and to mitigate identified impacts of the development.
- 5.2.3 Condition 17 of the consent states that:
- “Prior to the development first being brought into use, a scheme of works at A5 Dodwells roundabout, as shown on drawing 1839-DR-007 Rev P5 (or as amended by a Road Safety Audit or Detailed Design), having first been submitted to and approved in writing by the Local Planning Authority (LPA) in consultation with National Highways, shall be provided in accordance with the approved details”*
- 5.2.4 An extract of this drawing is shown in Figure 1.

Figure 1: Padge Hall Farm – Dodwells Roundabout Mitigation Scheme (Extract from Drawing 1839-DR-007 P5)



5.3 Proposed Mitigation

- 5.3.1 There is currently congestion and queuing experienced on the A47 and the A5 NE approaches to the Dodwells roundabout, as identified through the modelling in the Padge Hall Farm TA, during both the AM and PM peak hours.
- 5.3.2 The A47 approach has the most significant congestion and is the approach where the largest increase in approaching traffic is forecast. The A47 approach currently has a short second lane which can accommodate around two PCUs. It is therefore proposed to widen the carriageway to provide two traffic lanes over a length of an additional three PCUs. This would require some narrowing of the shared use pedestrian and cycle facility to 2.5m which is still deemed to be appropriate considering the route this facility links into. The proposed mitigation scheme drawing is included in **Appendix A**.
- 5.3.3 The committed mitigation scheme proposed by Padge Hall Farm will only implement changes to the south-western and southern sides of the junction, and as a result the spatial interaction between any mitigation scheme and committed improvement scheme is limited.
- 5.3.4 The current layout, committed scheme and proposed mitigation scheme have been considered in LinSig to indicate the benefits of the scheme in terms of mitigating the forecast additional vehicle trips. The methodology for this modelling is set out below.

6 Capacity Assessment

6.1 Methodology

Assessment Traffic Flows

- 6.1.1 Assessment traffic flows have been extracted from the Padge Hall Farm TA for a future year (2031) with Padge Hall Farm development traffic scenario³.
- 6.1.2 To assess the impact of the proposed development and identified mitigation scheme on the operation of the Dodwells roundabout, the following scenarios have been assessed for the AM and PM network peaks:
 - 1 2031 Base + Padge Hall Farm Development.
 - 2 2031 Base + Padge Hall Farm Development *plus* Proposed Development (153 dwellings).

6.2 Modelling Approach

- 6.2.1 The approved LinSig models from the Padge Hall application have been used as the basis for the assessment of the junction. A further LinSig model has been prepared to assess the operation of the junction with the proposed mitigation schemes. Both models include scenarios to reflect the assessment scenarios outlined in paragraph 6.1.2.
- 6.2.2 Within the approved model, the offside lane of the A47 Dodwells Road approach was coded with a lane length of 3 Passenger Car Units (PCU). Upon review of the model, it is not considered that this provides a suitable representation of the available lane length on this approach. Within the model of the existing junction operation, this has been amended to a lane length of 2 PCU. In the model for the identified mitigation scheme, the lane length has been increased to 5 PCU, reflecting the proposed mitigation scheme.
- 6.2.3 It is understood that the junction currently operates under MOVA control. In both models, the signal timings used within the LinSig for the Padge Hall Farm TA have been retained to provide a consistent basis for assessment.

³ Due to the committed nature of the 850 dwelling scheme at Hollycroft Grange, it is understood an allowance was made for the traffic generated by this development within the 2031 future year assessment flows in the Padge Hall assessment.

6.3 Results

6.3.1 The figures below show a summary of the results on each of the approaches to the junction, with full results, including those for the circulatory, provided in **Appendix B**.

6.3.2 These results demonstrate that the junction currently operates at/over capacity in both peak periods, on at least one approach. Following addition of the traffic generated by the proposed development, it continues to operate at/over capacity in both peaks with increases to queueing particularly on the A47 Dodwells Road approach.

6.3.3 The identified mitigation scheme reduces forecast queueing and delay on the A47 Dodwells Road to a level that is lower than that in the operation of the network in the scenario without the additional traffic associated with the proposed 153 dwellings. On all other approaches, and the circulatory, the proposed development with proposed mitigation scheme has little to no impact on queueing and delay. It is therefore concluded that the identified improvement scheme mitigates the impact of the additional trips generated by the 153 dwellings through the Dodwells Roundabout. Indeed, the operation of the A47 is improved beyond what is required to mitigate the development impacts providing some wider benefit to conditions on this approach.

Figure 2: AM Peak – Modelling Results Summary (Approaches)

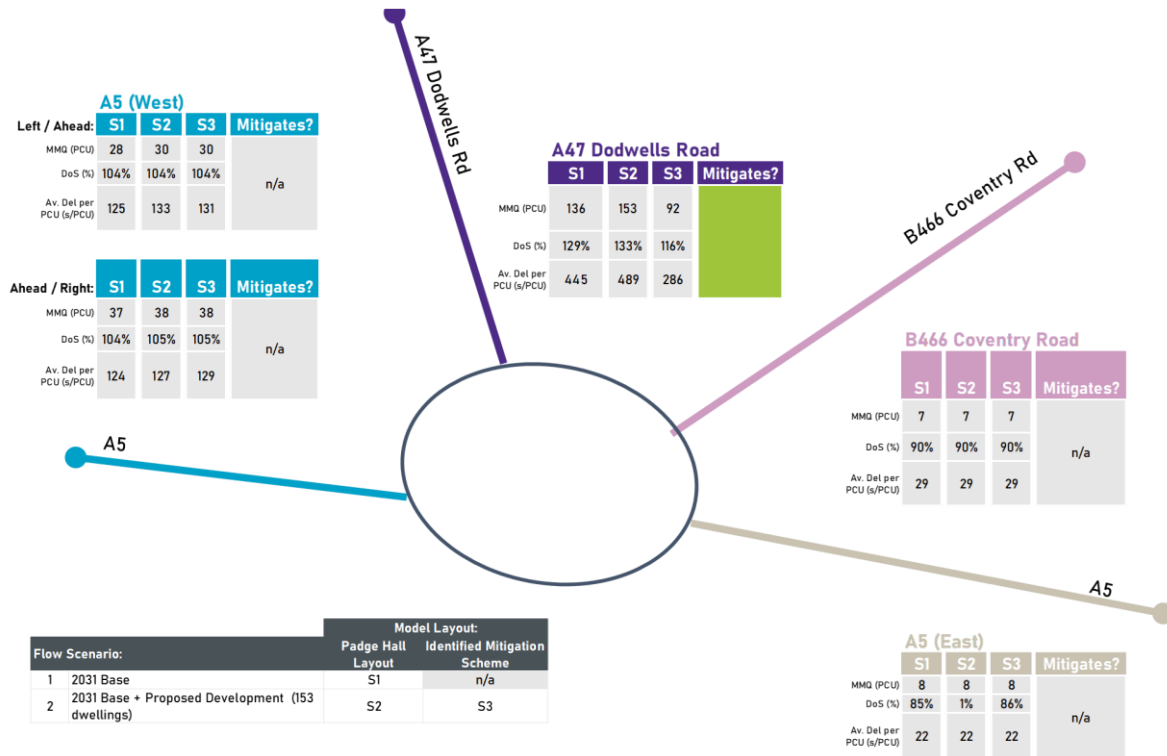
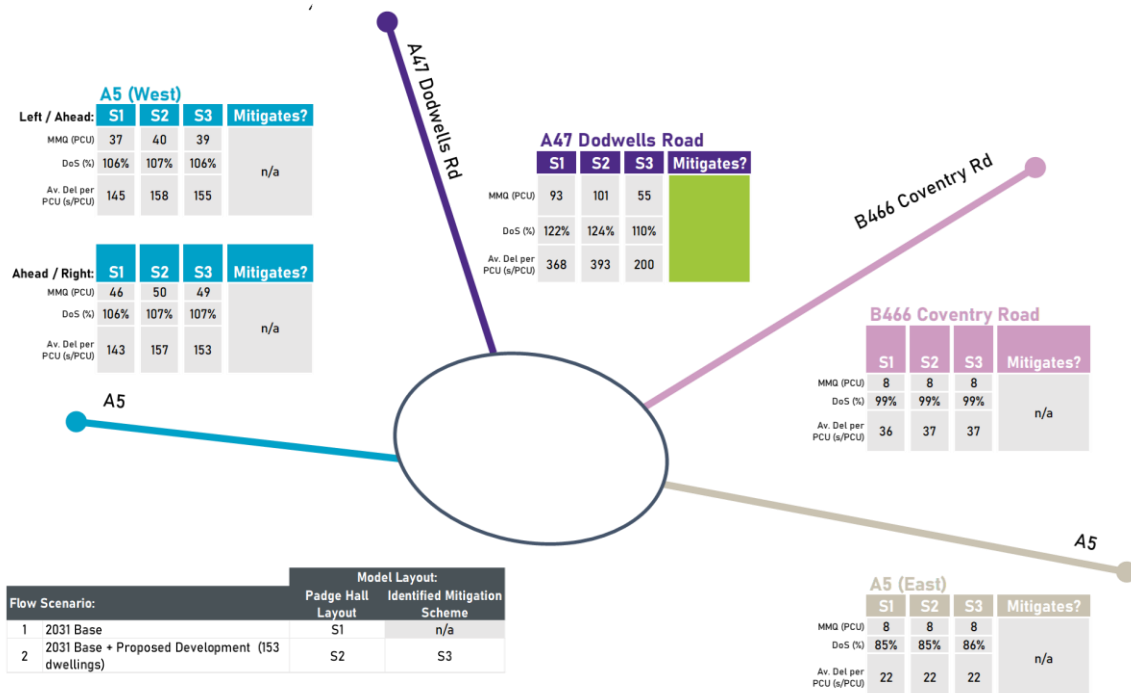


Figure 3: PM Peak – Modelling Results Summary (Approaches)



- 6.3.4 To ensure that the impact of the proposed scheme mitigates the impact of the proposed development should the Padge Hall Farm committed improvement not come forward, further testing within LinSig has been undertaken using the approved traffic flows from the 2015 TA as the baseline scenario to compare against. This demonstrates the conclusions still hold with the resulting impacts of the proposed development not being severe with the introduction of improvements on the A47 approach. The full outputs of this modelling are provided in **Appendix C**.

7 Summary and Conclusions

- 7.1.1 This Technical Note has given further consideration of the potential impacts of the proposed development (153 dwellings) over and above those assessed as part of the consented development of 850 dwellings established through the 2015 TA and STA:

- Previous technical work and consultee comments from LCC and NH in relation to the 2023 submission have been reviewed.
- The concerns raised by LCC and NH have been noted to include application of revised trip rates and blanket reduction for modal shift targets. It is however noted that the application of revised trip rates to the proposed development is agreed along with precedent set on other nearby development for the use of a manual approach to distribution and assignment of trips.
- Based on the concerns raised and points agreed, PJA has considered (in the context of the strategic road network):
 - The application of revised trip rates to the proposed development only. Whilst it is deemed that the application of revised trip rates to the proposed development is appropriate, the comments made by LCC and NH in relation to this have been noted.
 - Distribution and assignment of these additional trips over and above the consented trip envelope using a manual distribution and exercise presented by Capricorn Transport Planning.
- In the context of the A5, the additional trips forecast at the Dodwells and Longshoot junctions is minimal, particularly considering the current baseline flow at these junctions:
 - This is particularly the case at the Longshoot where fewer than 20 additional vehicle trips are forecast and therefore it is deemed that further assessment and mitigation is not required.
 - An additional 47 and 39 vehicle trips are forecast at the Dodwells roundabout. Again, in the context of background flows, this increase is deemed to be minimal. However, since

the operation of the junction is sensitive, a proposed mitigation scheme has been put forward.

- This has been modelled using parameters from the recently approved LinSig model for the consented Padge Hall Farm development. This demonstrates that the proposed scheme mitigates the additional traffic generated by the proposed 153 dwellings over and above the consented trip envelope.
- This has been further tested to demonstrate the conclusions still hold should the Padge Hall Farm consented development and associated consented improvements not come forward.
- It is therefore suggested that the applicant funds the proposed improvements identified on the A47 approach as a means of mitigating the impact of the proposed development. Indeed, this improvement more than mitigates the forecast impact of the proposed development providing some further betterment to conditions on this approach.

7.1.2 The National Planning Policy Framework (NPPF) at paragraph 115 states:

“Development should only be prevented or refused on highways grounds if there would be an unacceptable impact on highway safety, or the residual cumulative impacts on the road network would be severe.”

7.1.3 In the context of the strategic highway network of the A5, it is deemed that the additional traffic generated by the 153 dwellings would not have a severe impact following the introduction of the proposed improvement scheme at the Dodwells comprising enhancements to the A47 approach.

Appendix A Proposed Mitigation Scheme Drawing



A47 Dodwells Road

Existing

Existing segregated cycle facility.

Existing warning tactile paving on shared use path.

Existing utilities on southbound side of A47.

Existing gully.

Existing shared use footway/cycleway facility, 4.3m wide.

Existing uncontrolled pedestrian crossing with dropped kerbs and tactile paving.

4.4m

4.4m

4.3m

3.0m

11.9m

7.4m

Existing turning lane storage length: 11.9m.

Number of cars stored between stop line and pedestrian crossing to north: 9

Dodwells Roundabout

B4666 Coventry Road

A5

Proposed

A47 Dodwells Road

Realigned kerb to tie in with existing kerb before warning tactile paving on shared use path. 1:5 taper, as per Figure 7.10 of DMRB CD123 (dedicated turning lane arrangement for a left-turn approach lane).

Existing drop kerb to be removed - full height kerb to be reinstated.

Centre line road markings to be extended between stop line and start of taper.

Number of cars stored between stop line and pedestrian crossing to north: 12

5.5m

2.5m

27.7m

Proposed narrowing of existing shared footway/cycleway over a 25m distance to provide additional lane capacity for queuing vehicles.

Proposed turning lane storage length: 27.7m.

Dodwells Roundabout

B4666

CDM Note
These drawings have been produced with reference to the CDM Regulations 2015.
Please note that these are pre-construction phase drawings and should be subject to further design risk management as required in accordance with Regulation 9.

File name C:\PIA\PHIL JONES ASSOCIATES\SHARED\DATA - 07839 HINCKLEY - PHASE 4\3.1 TECHNICAL\3.1 DRAWINGS\CURRENT\07839-TR-A-0001.DWG, printed on 20/03/2024 12:09:12, by Alex Paining

P01	20/03/2024	AP	ARP	AN
Rev	Date	Drw	Chk	App

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Client
Bloor Homes
Project
Hinckley - Phase 4
Drawing Status
Concept
Title
A47 / Dodwells Roundabout Mitigation
Drawing No.
07839-TR-A-0001



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Appendix B LinSig Outputs (Accounting for Committed Padge Hall Farm Improvement)

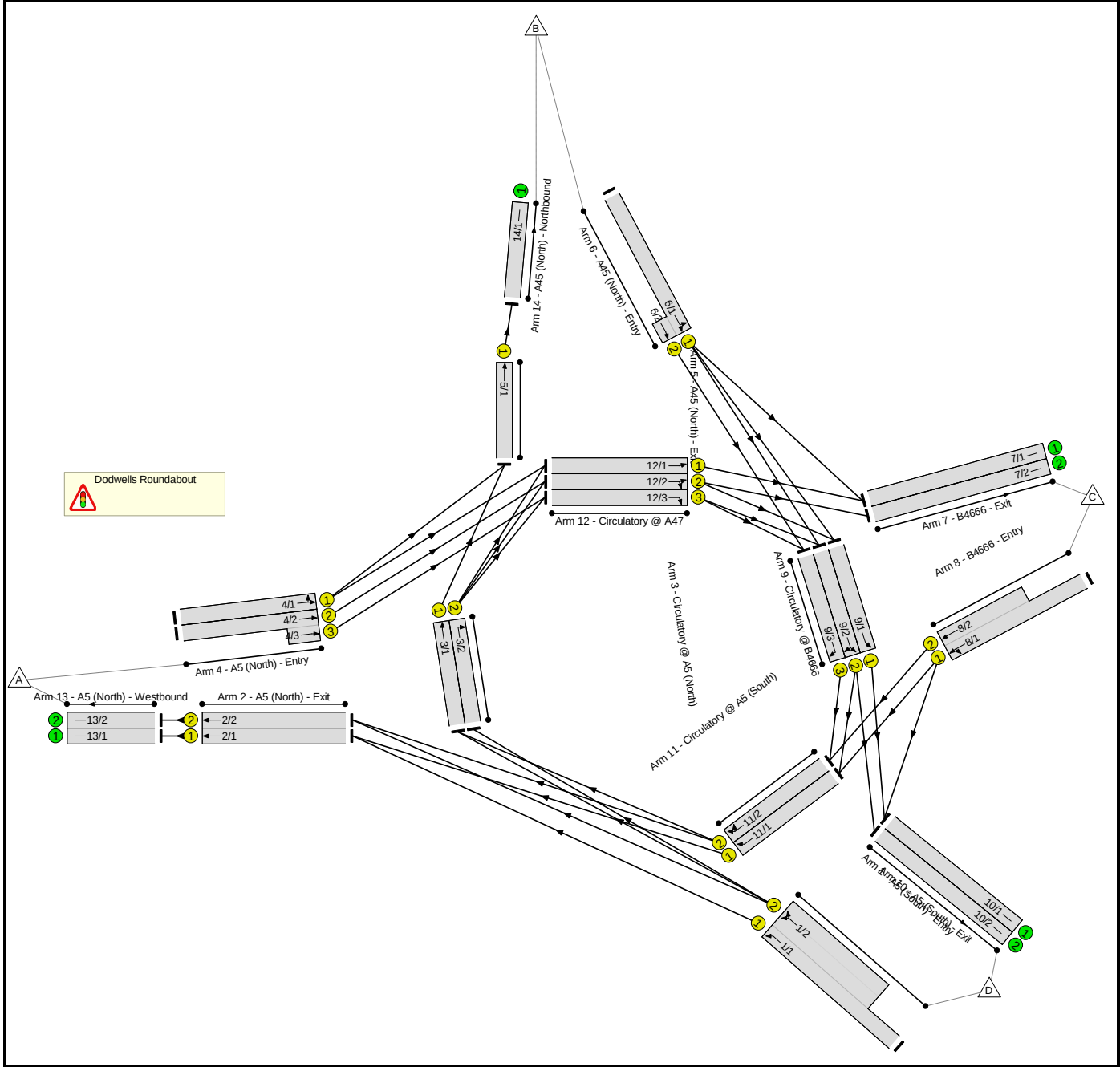
Full Input Data And Results

Full Input Data And Results

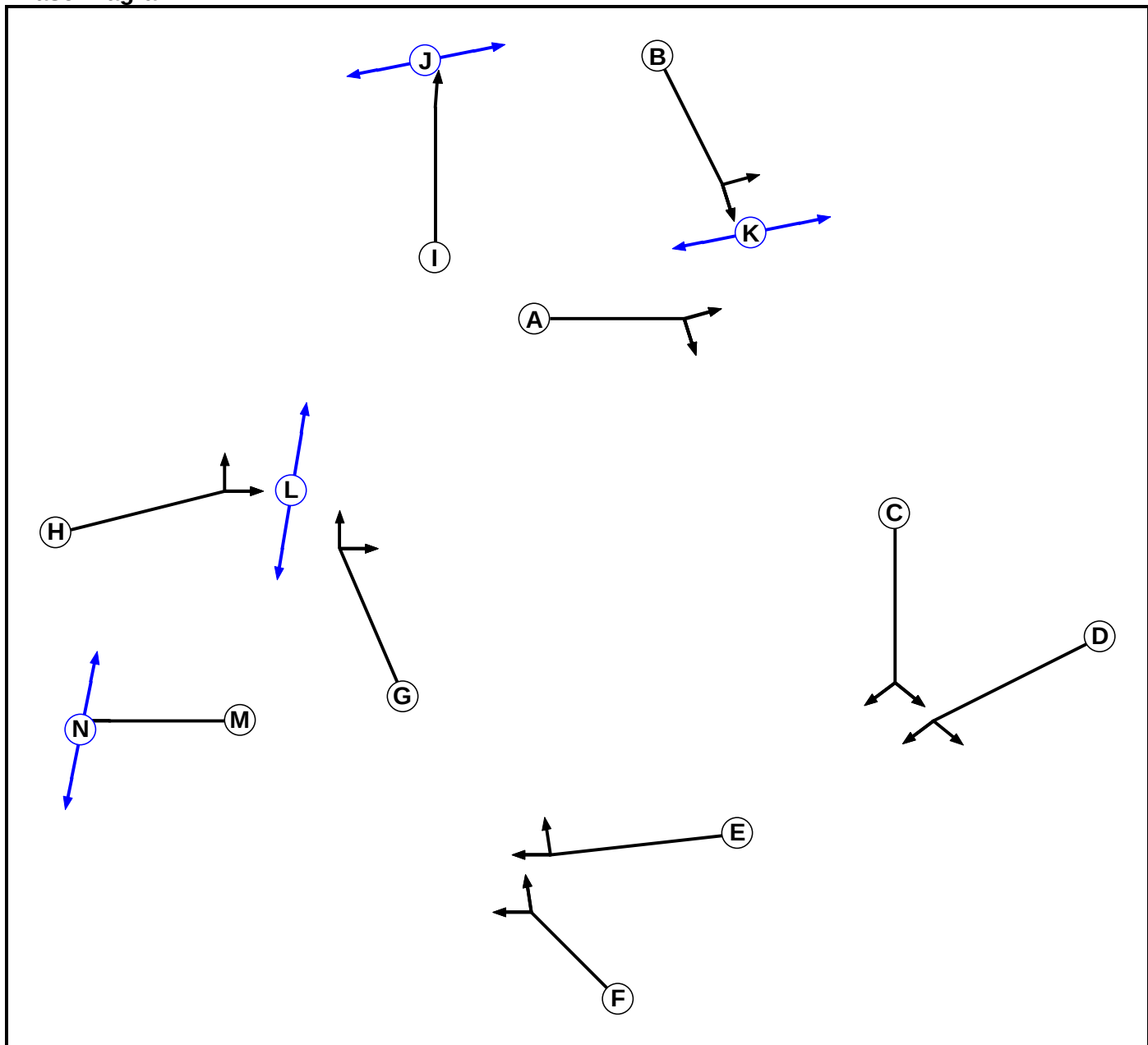
User and Project Details

Project:	
Title:	
Location:	
Additional detail:	
File name:	Hinckley - Padge Hall Mitigation Layout.lsg3x
Author:	
Company:	
Address:	

Network Layout Diagram



Phase Diagram



Full Input Data And Results

Phase Input Data

Phase Name	Phase Type	Stage Stream	Assoc. Phase	Street Min	Cont Min
A	Traffic	1		7	7
B	Traffic	1		7	7
C	Traffic	2		7	5
D	Traffic	2		7	7
E	Traffic	3		7	5
F	Traffic	3		7	7
G	Traffic	4		7	7
H	Traffic	4		7	7
I	Traffic	5		7	7
J	Pedestrian	5		7	7
K	Pedestrian	1		7	7
L	Pedestrian	4		7	7
M	Traffic	6		7	7
N	Pedestrian	6		7	7

Phase Intergreens Matrix

	Starting Phase													
	A	B	C	D	E	F	G	H	I	J	K	L	M	N
Terminating Phase	A	5	-	-	-	-	-	-	-	-	-	-	-	-
	B	6	-	-	-	-	-	-	-	-	6	-	-	-
	C	-	-	5	-	-	-	-	-	-	-	-	-	-
	D	-	-	5	-	-	-	-	-	-	-	-	-	-
	E	-	-	-	5	-	-	-	-	-	-	-	-	-
	F	-	-	-	6	-	-	-	-	-	-	-	-	-
	G	-	-	-	-	-	6	-	-	-	-	-	-	-
	H	-	-	-	-	-	5	-	-	-	5	-	-	-
	I	-	-	-	-	-	-	-	5	-	-	-	-	-
	J	-	-	-	-	-	-	-	7	-	-	-	-	-
	K	-	7	-	-	-	-	-	-	-	-	-	-	-
	L	-	-	-	-	-	-	7	-	-	-	-	-	-
	M	-	-	-	-	-	-	-	-	-	-	-	5	-
	N	-	-	-	-	-	-	-	-	-	-	7	-	-

Phases in Stage

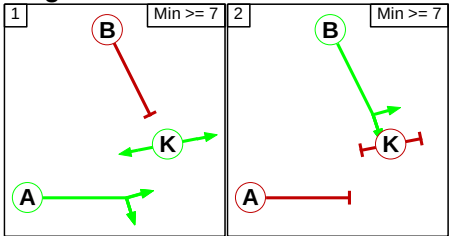
Stream	Stage No.	Phases in Stage
1	1	A K
1	2	B
2	1	C
2	2	D
3	1	E

Full Input Data And Results

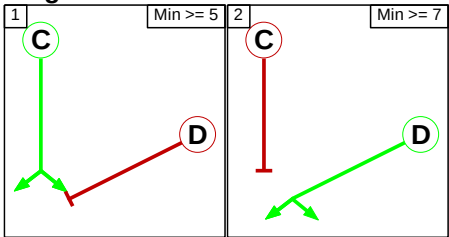
3	2	F
4	1	G L
4	2	H
5	1	I
5	2	J
6	1	M
6	2	N

Stage Diagram

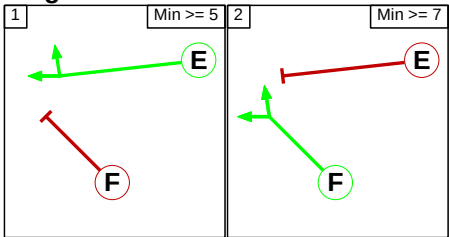
Stage Stream: 1



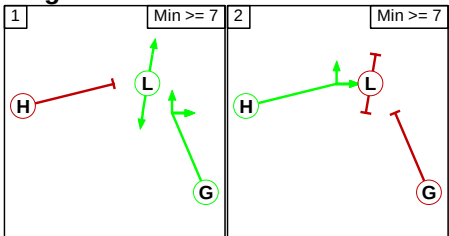
Stage Stream: 2



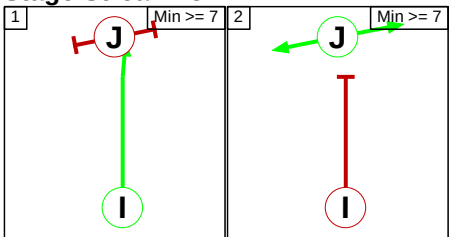
Stage Stream: 3



Stage Stream: 4

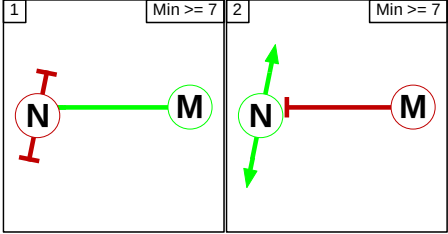


Stage Stream: 5



Full Input Data And Results

Stage Stream: 6



Phase Delays

Stage Stream: 1

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

Stage Stream: 2

Term. Stage	Start Stage	Phase	Type	Value	Cont value
1	2	C	Losing	2	2

Stage Stream: 3

Term. Stage	Start Stage	Phase	Type	Value	Cont value
1	2	E	Losing	2	2

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	7
	2	6

Stage Stream: 2

	To Stage	
From Stage	1	2
	1	7
	2	5

Full Input Data And Results

Stage Stream: 3

	To Stage		
From Stage		1	2
	1		7
	2	6	

Stage Stream: 4

	To Stage		
From Stage		1	2
	1		7
	2	5	

Stage Stream: 5

	To Stage		
From Stage		1	2
	1		5
	2	7	

Stage Stream: 6

	To Stage		
From Stage		1	2
	1		5
	2	7	

Full Input Data And Results

Give-Way Lane Input Data

Junction: Dodwells Roundabout
There are no Opposed Lanes in this Junction

Full Input Data And Results

Lane Input Data

Junction: Dodwells Roundabout												
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 (A5 (South) - Entry)	U	F	2	3	60.0	User	1800	-	-	-	-	-
1/2 (A5 (South) - Entry)	U	F	2	3	12.0	User	3600	-	-	-	-	-
2/1 (A5 (North) - Exit)	U	M	2	3	16.5	Geom	-	3.65	0.00	Y	Arm 13 Ahead	Inf
2/2 (A5 (North) - Exit)	U	M	2	3	16.5	Geom	-	3.65	0.00	Y	Arm 13 Ahead	Inf
3/1 (Circulatory @ A5 (North))	U	G	2	3	13.9	User	1900	-	-	-	-	-
3/2 (Circulatory @ A5 (North))	U	G	2	3	13.9	User	1900	-	-	-	-	-
4/1 (A5 (North) - Entry)	U	H	2	3	60.0	User	1800	-	-	-	-	-
4/2 (A5 (North) - Entry)	U	H	2	3	60.0	User	1800	-	-	-	-	-
4/3 (A5 (North) - Entry)	U	H	2	3	3.0	User	1800	-	-	-	-	-
5/1 (A45 (North) - Exit)	U	I	2	3	6.1	Geom	-	3.65	0.00	Y	Arm 14 Ahead	Inf
6/1 (A45 (North) - Entry)	U	B	2	3	60.0	User	1800	-	-	-	-	-
6/2 (A45 (North) - Entry)	U	B	2	3	2.0	User	1800	-	-	-	-	-
7/1 (B4666 - Exit)	U		2	3	10.4	Geom	-	3.65	0.00	Y		
7/2 (B4666 - Exit)	U		2	3	10.4	Geom	-	3.65	0.00	Y		
8/1 (B4666 - Entry)	U	D	2	3	60.0	User	1800	-	-	-	-	-
8/2 (B4666 - Entry)	U	D	2	3	9.0	User	1800	-	-	-	-	-
9/1 (Circulatory @ B4666)	U	C	2	3	8.7	User	1900	-	-	-	-	-

Full Input Data And Results

9/2 (Circulatory @ B4666)	U	C	2	3	8.7	User	1900	-	-	-	-	-
9/3 (Circulatory @ B4666)	U	C	2	3	8.7	User	1900	-	-	-	-	-
10/1 (A5 (South) - Exit)	U		2	3	7.0	Geom	-	3.65	0.00	Y		
10/2 (A5 (South) - Exit)	U		2	3	7.0	Geom	-	3.65	0.00	Y		
11/1 (Circulatory @ A5 (South))	U	E	2	3	6.1	User	1900	-	-	-	-	-
11/2 (Circulatory @ A5 (South))	U	E	2	3	6.1	User	1900	-	-	-	-	-
12/1 (Circulatory @ A47)	U	A	2	3	7.5	User	1900	-	-	-	-	-
12/2 (Circulatory @ A47)	U	A	2	3	7.5	User	1900	-	-	-	-	-
12/3 (Circulatory @ A47)	U	A	2	3	7.5	User	1900	-	-	-	-	-
13/1 (A5 (North) - Westbound)	U		2	3	60.0	Inf	-	-	-	-	-	-
13/2 (A5 (North) - Westbound)	U		2	3	60.0	Inf	-	-	-	-	-	-
14/1 (A45 (North) - Northbound)	U		2	3	60.0	Inf	-	-	-	-	-	-

Traffic Flow Groups

Flow Group	Start Time	End Time	Duration	Formula
11: 'Padge Hall TA - 2031 Base + Committed + Consented AM'	08:00	09:00	01:00	
12: 'Padge Hall TA - 2031 Base + Committed + Consented PM'	17:00	18:00	01:00	
13: 'Padge Hall TA - 2031 Base + Committed + Consented + Proposed AM'	08:00	09:00	01:00	
14: 'Padge Hall TA - 2031 Base + Committed + Consented + Proposed PM'	17:00	18:00	01:00	

Scenario 11: '2031 Base AM' (FG11: 'Padge Hall TA - 2031 Base + Committed + Consented AM', Plan 1: 'Existing Signal Specification')

Traffic Flows, Desired

Desired Flow :

	Destination					
Origin	A	B	C	D	Tot.	
	A	0	384	346	839	1569
	B	600	0	116	330	1046
	C	617	69	0	57	743

Full Input Data And Results

	D	721	479	47	45	1292
	Tot.	1938	932	509	1271	4650

Traffic Lane Flows

Lane	Scenario 11: 2031 Base AM
Junction: Dodwells Roundabout	
1/1 (with short)	1292(In) 412(Out)
1/2 (short)	880
2/1	970
2/2	968
3/1	548
3/2	92
4/1	663
4/2 (with short)	906(In) 464(Out)
4/3 (short)	442
5/1	932
6/1 (with short)	1046(In) 666(Out)
6/2 (short)	380
7/1	442
7/2	67
8/1 (with short)	743(In) 395(Out)
8/2 (short)	348
9/1	674
9/2	760
9/3	380
10/1	731
10/2	540
11/1	558
11/2	728
12/1	326
12/2	482
12/3	469
13/1	970
13/2	968
14/1	932

Lane Saturation Flows

Junction: Dodwells Roundabout								
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 (A5 (South) - Entry Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800

1/2 (A5 (South) - Entry Lane 2)	This lane uses a directly entered Saturation Flow						3600	3600
2/1 (A5 (North) - Exit)	3.65	0.00	Y	Arm 13 Ahead	Inf	100.0 %	1980	1980
2/2 (A5 (North) - Exit)	3.65	0.00	Y	Arm 13 Ahead	Inf	100.0 %	1980	1980
3/1 (Circulatory @ A5 (North) Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
3/2 (Circulatory @ A5 (North) Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
4/1 (A5 (North) - Entry Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800
4/2 (A5 (North) - Entry Lane 2)	This lane uses a directly entered Saturation Flow						1800	1800
4/3 (A5 (North) - Entry Lane 3)	This lane uses a directly entered Saturation Flow						1800	1800
5/1 (A45 (North) - Exit)	3.65	0.00	Y	Arm 14 Ahead	Inf	100.0 %	1980	1980
6/1 (A45 (North) - Entry Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800
6/2 (A45 (North) - Entry Lane 2)	This lane uses a directly entered Saturation Flow						1800	1800
7/1 (B4666 - Exit)	3.65	0.00	Y				1980	1980
7/2 (B4666 - Exit)	3.65	0.00	Y				1980	1980
8/1 (B4666 - Entry Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800
8/2 (B4666 - Entry Lane 2)	This lane uses a directly entered Saturation Flow						1800	1800
9/1 (Circulatory @ B4666 Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
9/2 (Circulatory @ B4666 Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
9/3 (Circulatory @ B4666 Lane 3)	This lane uses a directly entered Saturation Flow						1900	1900
10/1 (A5 (South) - Exit)	3.65	0.00	Y				1980	1980
10/2 (A5 (South) - Exit)	3.65	0.00	Y				1980	1980
11/1 (Circulatory @ A5 (South) Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
11/2 (Circulatory @ A5 (South) Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
12/1 (Circulatory @ A47 Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
12/2 (Circulatory @ A47 Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
12/3 (Circulatory @ A47 Lane 3)	This lane uses a directly entered Saturation Flow						1900	1900

Full Input Data And Results

13/1 (A5 (North) - Westbound Lane 1)	Infinite Saturation Flow	Inf	Inf
13/2 (A5 (North) - Westbound Lane 2)	Infinite Saturation Flow	Inf	Inf
14/1 (A45 (North) - Northbound Lane 1)	Infinite Saturation Flow	Inf	Inf

Scenario 12: '2031 Base PM' (FG12: 'Padge Hall TA - 2031 Base + Committed + Consented PM', Plan 1: 'Existing Signal Specification')

Traffic Flows, Desired

Desired Flow :

	Destination					
Origin	A	A	B	C	D	Tot.
	A	0	464	460	833	1757
	B	389	0	98	375	862
	C	479	61	0	90	630
	D	1131	382	81	81	1675
	Tot.	1999	907	639	1379	4924

Traffic Lane Flows

Lane	Scenario 12: 2031 Base PM
Junction: Dodwells Roundabout	
1/1 (with short)	1675(In) 571(Out)
1/2 (short)	1104
2/1	977
2/2	1022
3/1	443
3/2	162
4/1	760
4/2 (with short)	997(In) 519(Out)
4/3 (short)	478
5/1	907
6/1 (with short)	862(In) 611(Out)
6/2 (short)	251
7/1	475
7/2	164
8/1 (with short)	630(In) 358(Out)
8/2 (short)	272
9/1	657
9/2	770
9/3	251
10/1	747
10/2	632
11/1	406
11/2	523
12/1	377
12/2	552
12/3	526
13/1	977
13/2	1022
14/1	907

Lane Saturation Flows

Junction: Dodwells Roundabout								
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 (A5 (South) - Entry Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800

1/2 (A5 (South) - Entry Lane 2)	This lane uses a directly entered Saturation Flow						3600	3600
2/1 (A5 (North) - Exit)	3.65	0.00	Y	Arm 13 Ahead	Inf	100.0 %	1980	1980
2/2 (A5 (North) - Exit)	3.65	0.00	Y	Arm 13 Ahead	Inf	100.0 %	1980	1980
3/1 (Circulatory @ A5 (North) Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
3/2 (Circulatory @ A5 (North) Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
4/1 (A5 (North) - Entry Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800
4/2 (A5 (North) - Entry Lane 2)	This lane uses a directly entered Saturation Flow						1800	1800
4/3 (A5 (North) - Entry Lane 3)	This lane uses a directly entered Saturation Flow						1800	1800
5/1 (A45 (North) - Exit)	3.65	0.00	Y	Arm 14 Ahead	Inf	100.0 %	1980	1980
6/1 (A45 (North) - Entry Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800
6/2 (A45 (North) - Entry Lane 2)	This lane uses a directly entered Saturation Flow						1800	1800
7/1 (B4666 - Exit)	3.65	0.00	Y				1980	1980
7/2 (B4666 - Exit)	3.65	0.00	Y				1980	1980
8/1 (B4666 - Entry Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800
8/2 (B4666 - Entry Lane 2)	This lane uses a directly entered Saturation Flow						1800	1800
9/1 (Circulatory @ B4666 Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
9/2 (Circulatory @ B4666 Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
9/3 (Circulatory @ B4666 Lane 3)	This lane uses a directly entered Saturation Flow						1900	1900
10/1 (A5 (South) - Exit)	3.65	0.00	Y				1980	1980
10/2 (A5 (South) - Exit)	3.65	0.00	Y				1980	1980
11/1 (Circulatory @ A5 (South) Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
11/2 (Circulatory @ A5 (South) Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
12/1 (Circulatory @ A47 Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
12/2 (Circulatory @ A47 Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
12/3 (Circulatory @ A47 Lane 3)	This lane uses a directly entered Saturation Flow						1900	1900

Full Input Data And Results

13/1 (A5 (North) - Westbound Lane 1)	Infinite Saturation Flow	Inf	Inf
13/2 (A5 (North) - Westbound Lane 2)	Infinite Saturation Flow	Inf	Inf
14/1 (A45 (North) - Northbound Lane 1)	Infinite Saturation Flow	Inf	Inf

Scenario 13: '2031 Base + Development AM' (FG13: 'Padge Hall TA - 2031 Base + Committed + Consented + Proposed AM', Plan 1: 'Existing Signal Specification')

Traffic Flows, Desired

Desired Flow :

	Destination					
Origin		A	B	C	D	Tot.
	A	0	390	346	839	1575
	B	614	0	119	346	1079
	C	617	70	0	57	744
	D	721	486	47	45	1299
	Tot.	1952	946	512	1287	4697

Full Input Data And Results

Traffic Lane Flows

Lane	Scenario 13: 2031 Base + Development AM
Junction: Dodwells Roundabout	
1/1 (with short)	1299(In) 414(Out)
1/2 (short)	885
2/1	974
2/2	978
3/1	556
3/2	92
4/1	667
4/2 (with short)	908(In) 465(Out)
4/3 (short)	443
5/1	946
6/1 (with short)	1079(In) 687(Out)
6/2 (short)	392
7/1	443
7/2	69
8/1 (with short)	744(In) 395(Out)
8/2 (short)	349
9/1	684
9/2	768
9/3	392
10/1	741
10/2	546
11/1	560
11/2	741
12/1	324
12/2	484
12/3	469
13/1	974
13/2	978
14/1	946

Lane Saturation Flows

Junction: Dodswells Roundabout								
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 (A5 (South) - Entry Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800

1/2 (A5 (South) - Entry Lane 2)	This lane uses a directly entered Saturation Flow						3600	3600
2/1 (A5 (North) - Exit)	3.65	0.00	Y	Arm 13 Ahead	Inf	100.0 %	1980	1980
2/2 (A5 (North) - Exit)	3.65	0.00	Y	Arm 13 Ahead	Inf	100.0 %	1980	1980
3/1 (Circulatory @ A5 (North) Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
3/2 (Circulatory @ A5 (North) Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
4/1 (A5 (North) - Entry Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800
4/2 (A5 (North) - Entry Lane 2)	This lane uses a directly entered Saturation Flow						1800	1800
4/3 (A5 (North) - Entry Lane 3)	This lane uses a directly entered Saturation Flow						1800	1800
5/1 (A45 (North) - Exit)	3.65	0.00	Y	Arm 14 Ahead	Inf	100.0 %	1980	1980
6/1 (A45 (North) - Entry Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800
6/2 (A45 (North) - Entry Lane 2)	This lane uses a directly entered Saturation Flow						1800	1800
7/1 (B4666 - Exit)	3.65	0.00	Y				1980	1980
7/2 (B4666 - Exit)	3.65	0.00	Y				1980	1980
8/1 (B4666 - Entry Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800
8/2 (B4666 - Entry Lane 2)	This lane uses a directly entered Saturation Flow						1800	1800
9/1 (Circulatory @ B4666 Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
9/2 (Circulatory @ B4666 Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
9/3 (Circulatory @ B4666 Lane 3)	This lane uses a directly entered Saturation Flow						1900	1900
10/1 (A5 (South) - Exit)	3.65	0.00	Y				1980	1980
10/2 (A5 (South) - Exit)	3.65	0.00	Y				1980	1980
11/1 (Circulatory @ A5 (South) Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
11/2 (Circulatory @ A5 (South) Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
12/1 (Circulatory @ A47 Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
12/2 (Circulatory @ A47 Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
12/3 (Circulatory @ A47 Lane 3)	This lane uses a directly entered Saturation Flow						1900	1900

Full Input Data And Results

13/1 (A5 (North) - Westbound Lane 1)	Infinite Saturation Flow	Inf	Inf
13/2 (A5 (North) - Westbound Lane 2)	Infinite Saturation Flow	Inf	Inf
14/1 (A45 (North) - Northbound Lane 1)	Infinite Saturation Flow	Inf	Inf

Scenario 14: '2031 Base + Development PM' (FG14: 'Padge Hall TA - 2031 Base + Committed + Consented + Proposed PM', Plan 1: 'Existing Signal Specification')

Traffic Flows, Desired

Desired Flow :

	Destination					
Origin		A	B	C	D	Tot.
	A	0	473	460	833	1766
	B	397	0	100	384	881
	C	479	63	0	90	632
	D	1131	392	81	81	1685
	Tot.	2007	928	641	1388	4964

Traffic Lane Flows

Lane	Scenario 14: 2031 Base + Development PM
Junction: Dodwells Roundabout	
1/1 (with short)	1685(In) 580(Out)
1/2 (short)	1105
2/1	977
2/2	1030
3/1	455
3/2	162
4/1	767
4/2 (with short)	999(In) 528(Out)
4/3 (short)	471
5/1	928
6/1 (with short)	881(In) 615(Out)
6/2 (short)	266
7/1	475
7/2	166
8/1 (with short)	632(In) 356(Out)
8/2 (short)	276
9/1	655
9/2	774
9/3	266
10/1	745
10/2	643
11/1	397
11/2	542
12/1	375
12/2	558
12/3	522
13/1	977
13/2	1030
14/1	928

Lane Saturation Flows

Junction: Dodwells Roundabout								
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 (A5 (South) - Entry Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800

1/2 (A5 (South) - Entry Lane 2)	This lane uses a directly entered Saturation Flow						3600	3600
2/1 (A5 (North) - Exit)	3.65	0.00	Y	Arm 13 Ahead	Inf	100.0 %	1980	1980
2/2 (A5 (North) - Exit)	3.65	0.00	Y	Arm 13 Ahead	Inf	100.0 %	1980	1980
3/1 (Circulatory @ A5 (North) Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
3/2 (Circulatory @ A5 (North) Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
4/1 (A5 (North) - Entry Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800
4/2 (A5 (North) - Entry Lane 2)	This lane uses a directly entered Saturation Flow						1800	1800
4/3 (A5 (North) - Entry Lane 3)	This lane uses a directly entered Saturation Flow						1800	1800
5/1 (A45 (North) - Exit)	3.65	0.00	Y	Arm 14 Ahead	Inf	100.0 %	1980	1980
6/1 (A45 (North) - Entry Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800
6/2 (A45 (North) - Entry Lane 2)	This lane uses a directly entered Saturation Flow						1800	1800
7/1 (B4666 - Exit)	3.65	0.00	Y				1980	1980
7/2 (B4666 - Exit)	3.65	0.00	Y				1980	1980
8/1 (B4666 - Entry Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800
8/2 (B4666 - Entry Lane 2)	This lane uses a directly entered Saturation Flow						1800	1800
9/1 (Circulatory @ B4666 Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
9/2 (Circulatory @ B4666 Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
9/3 (Circulatory @ B4666 Lane 3)	This lane uses a directly entered Saturation Flow						1900	1900
10/1 (A5 (South) - Exit)	3.65	0.00	Y				1980	1980
10/2 (A5 (South) - Exit)	3.65	0.00	Y				1980	1980
11/1 (Circulatory @ A5 (South) Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
11/2 (Circulatory @ A5 (South) Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
12/1 (Circulatory @ A47 Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
12/2 (Circulatory @ A47 Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
12/3 (Circulatory @ A47 Lane 3)	This lane uses a directly entered Saturation Flow						1900	1900

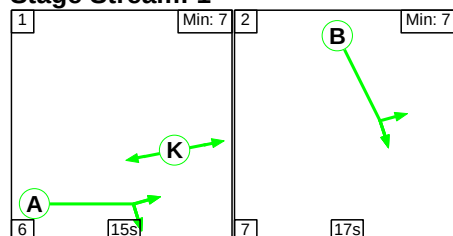
Full Input Data And Results

13/1 (A5 (North) - Westbound Lane 1)	Infinite Saturation Flow	Inf	Inf
13/2 (A5 (North) - Westbound Lane 2)	Infinite Saturation Flow	Inf	Inf
14/1 (A45 (North) - Northbound Lane 1)	Infinite Saturation Flow	Inf	Inf

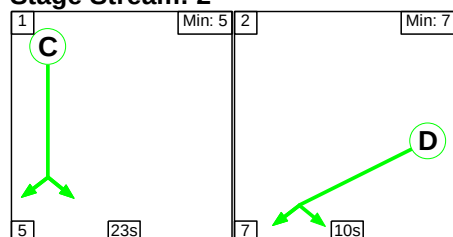
Scenario 11: '2031 Base AM' (FG11: 'Padge Hall TA - 2031 Base + Committed + Consented AM', Plan 1: 'Existing Signal Specification')

Stage Sequence Diagram

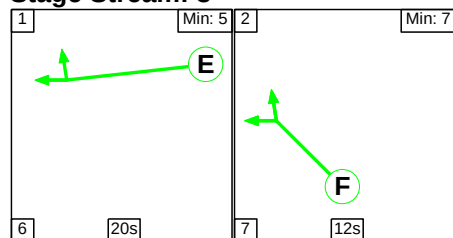
Stage Stream: 1



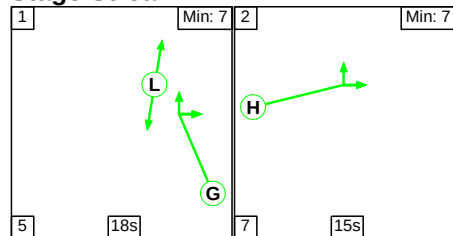
Stage Stream: 2



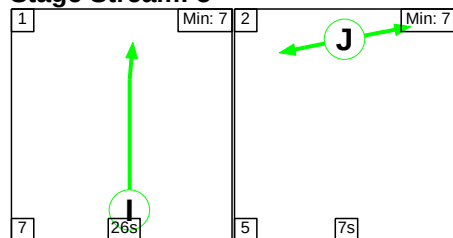
Stage Stream: 3



Stage Stream: 4

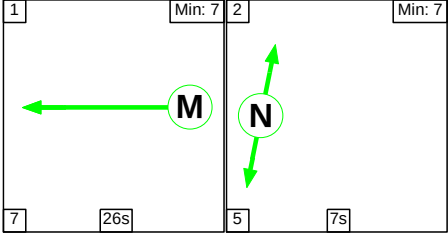


Stage Stream: 5



Full Input Data And Results

Stage Stream: 6



Stage Timings

Stage Stream: 1

Stage	1	2
Duration	15	17
Change Point	3	24

Stage Stream: 2

Stage	1	2
Duration	23	10
Change Point	1	29

Stage Stream: 3

Stage	1	2
Duration	20	12
Change Point	33	14

Stage Stream: 4

Stage	1	2
Duration	18	15
Change Point	21	44

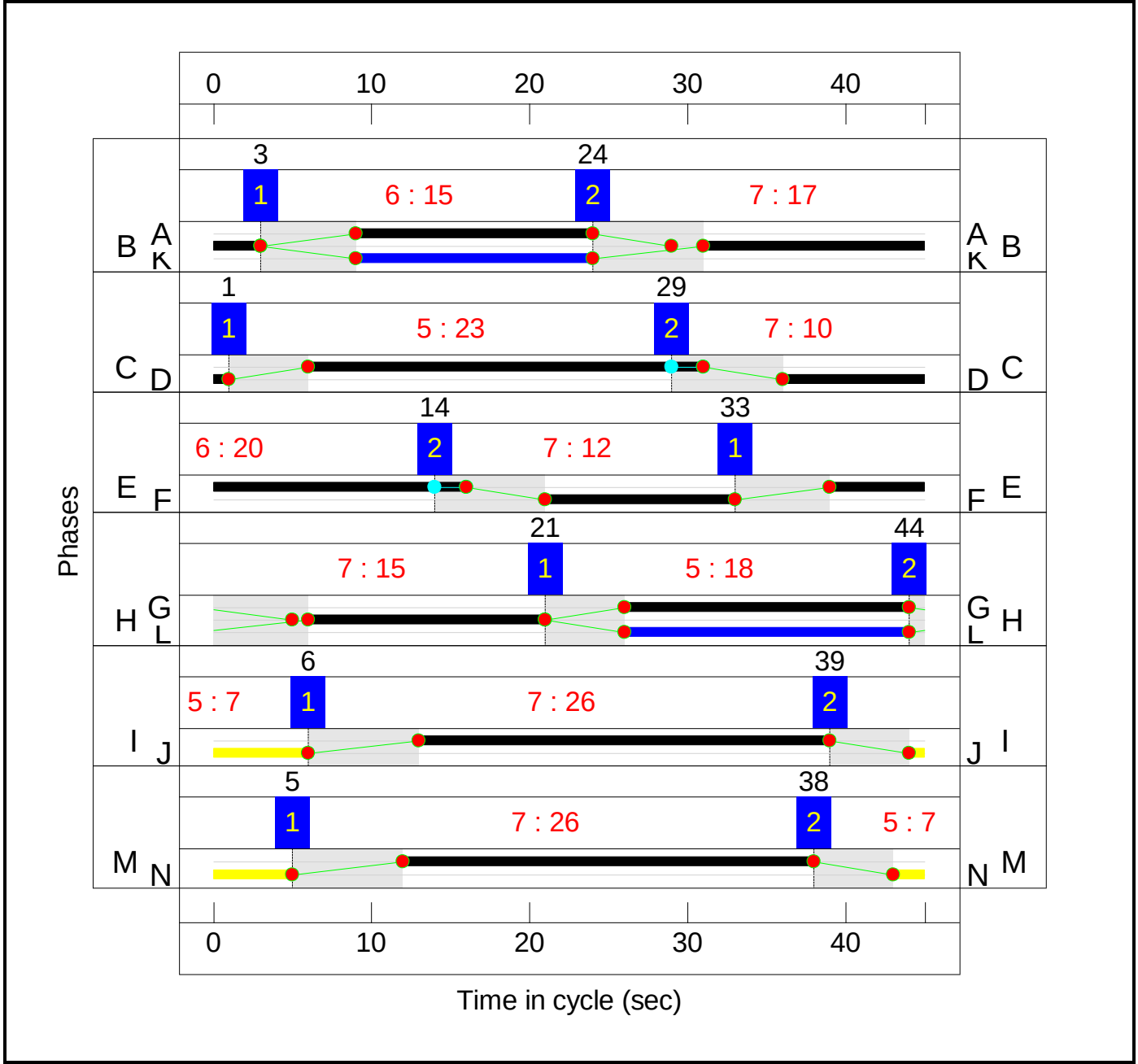
Stage Stream: 5

Stage	1	2
Duration	26	7
Change Point	6	39

Full Input Data And Results
Stage Stream: 6

Stage	1	2
Duration	26	7
Change Point	5	38

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	-	-		-	-	-	-	-	-	128.9%
Dodwells Roundabout	-	-	N/A	-	-		-	-	-	-	-	-	128.9%
1/1+1/2	A5 (South) - Entry Ahead Ahead2	U	3	N/A	F		1	12	-	1292	1800:3600	520+1040	79.2 : 84.6%
2/1	A5 (North) - Exit Ahead	U	6	N/A	M		1	26	-	970	1980	1188	77.5%
2/2	A5 (North) - Exit Ahead	U	6	N/A	M		1	26	-	968	1980	1188	74.3%
3/1	Circulatory @ A5 (North) Ahead	U	4	N/A	G		1	18	-	548	1900	802	68.3%
3/2	Circulatory @ A5 (North) Right	U	4	N/A	G		1	18	-	92	1900	802	11.5%
4/1	A5 (North) - Entry Left Ahead	U	4	N/A	H		1	15	-	663	1800	640	103.6%
4/2+4/3	A5 (North) - Entry Ahead	U	4	N/A	H		1	15	-	906	1800:1800	445+424	104.3 : 104.3%
5/1	A45 (North) - Exit Ahead	U	5	N/A	I		1	26	-	932	1980	1188	77.3%
6/1+6/2	A45 (North) - Entry Left Ahead	U	1	N/A	B		1	17	-	1046	1800:1800	517+295	128.9 : 128.9%
7/1	B4666 - Exit	U	N/A	N/A	-		-	-	-	442	1980	1980	20.5%
7/2	B4666 - Exit	U	N/A	N/A	-		-	-	-	67	1980	1980	3.2%
8/1+8/2	B4666 - Entry Left Ahead	U	2	N/A	D		1	10	-	743	1800:1800	440+440	89.8 : 79.1%
9/1	Circulatory @ B4666 Ahead	U	2	N/A	C		1	25	-	674	1900	1098	54.6%
9/2	Circulatory @ B4666 Ahead Right	U	2	N/A	C		1	25	-	760	1900	1098	61.6%
9/3	Circulatory @ B4666 Right	U	2	N/A	C		1	25	-	380	1900	1098	26.8%
10/1	A5 (South) - Exit	U	N/A	N/A	-		-	-	-	731	1980	1980	33.2%

Full Input Data And Results

10/2	A5 (South) - Exit	U	N/A	N/A	-		-	-	-	540	1980	1980	25.5%
11/1	Circulatory @ A5 (South) Ahead	U	3	N/A	E		1	22	-	558	1900	971	52.4%
11/2	Circulatory @ A5 (South) Ahead Right	U	3	N/A	E		1	22	-	728	1900	971	66.2%
12/1	Circulatory @ A47 Ahead	U	1	N/A	A		1	15	-	326	1900	676	46.8%
12/2	Circulatory @ A47 Ahead Right	U	1	N/A	A		1	15	-	482	1900	676	68.5%
12/3	Circulatory @ A47 Right	U	1	N/A	A		1	15	-	469	1900	676	66.7%
13/1	A5 (North) - Westbound	U	N/A	N/A	-		-	-	-	970	Inf	Inf	0.0%
13/2	A5 (North) - Westbound	U	N/A	N/A	-		-	-	-	968	Inf	Inf	0.0%
14/1	A45 (North) - Northbound	U	N/A	N/A	-		-	-	-	932	Inf	Inf	0.0%

Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	-	-	0	0	0	33.0	183.6	0.0	216.5	-	-	-	-
Dodwells Roundabout	-	-	0	0	0	33.0	183.6	0.0	216.5	-	-	-	-
1/1+1/2	1292	1292	-	-	-	5.4	2.4	-	7.7	21.6	5.1	2.4	7.5
2/1	921	921	-	-	-	1.4	1.7	-	3.1	12.1	7.3	1.7	9.0
2/2	883	883	-	-	-	1.2	1.4	-	2.6	10.7	7.4	1.4	8.8
3/1	548	548	-	-	-	0.4	1.1	-	1.5	9.8	1.1	1.1	2.2
3/2	92	92	-	-	-	0.0	0.1	-	0.1	2.9	0.0	0.1	0.1
4/1	663	640	-	-	-	3.1	19.9	-	23.0	124.9	8.6	19.9	28.4
4/2+4/3	906	869	-	-	-	4.1	27.1	-	31.2	123.8	9.7	27.1	36.7
5/1	919	919	-	-	-	1.1	1.7	-	2.8	11.0	6.2	1.7	7.9
6/1+6/2	1046	811	-	-	-	9.8	119.5	-	129.4	445.2	16.1	119.5	135.6
7/1	406	406	-	-	-	0.0	0.1	-	0.1	1.1	0.0	0.1	0.1
7/2	64	64	-	-	-	0.0	0.0	-	0.0	0.9	0.0	0.0	0.0
8/1+8/2	743	743	-	-	-	3.3	2.6	-	6.0	28.9	4.7	2.6	7.3
9/1	600	600	-	-	-	0.5	0.6	-	1.1	6.7	2.5	0.6	3.1
9/2	676	676	-	-	-	0.6	0.8	-	1.4	7.5	2.9	0.8	3.7
9/3	295	295	-	-	-	0.8	0.2	-	1.0	12.4	3.7	0.2	3.8
10/1	657	657	-	-	-	0.0	0.2	-	0.2	1.4	0.0	0.2	0.2
10/2	506	506	-	-	-	0.0	0.2	-	0.2	1.2	0.0	0.2	0.2
11/1	509	509	-	-	-	0.0	0.5	-	0.6	4.2	0.1	0.5	0.6
11/2	643	643	-	-	-	0.1	1.0	-	1.1	6.2	0.5	1.0	1.5
12/1	316	316	-	-	-	0.4	0.4	-	0.8	9.0	1.1	0.4	1.5
12/2	463	463	-	-	-	0.3	1.1	-	1.3	10.3	1.1	1.1	2.2
12/3	451	451	-	-	-	0.3	1.0	-	1.3	10.3	1.6	1.0	2.6
13/1	921	921	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
13/2	883	883	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

Full Input Data And Results

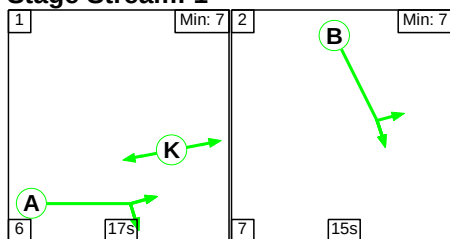
14/1	919	919	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
		C1	Stream: 1 PRC for Signalled Lanes (%)	-43.3	Total Delay for Signalled Lanes (pcuHr):	132.77	Cycle Time (s):	45					
		C1	Stream: 2 PRC for Signalled Lanes (%)	0.3	Total Delay for Signalled Lanes (pcuHr):	9.50	Cycle Time (s):	45					
		C1	Stream: 3 PRC for Signalled Lanes (%)	6.4	Total Delay for Signalled Lanes (pcuHr):	9.44	Cycle Time (s):	45					
		C1	Stream: 4 PRC for Signalled Lanes (%)	-15.9	Total Delay for Signalled Lanes (pcuHr):	55.71	Cycle Time (s):	45					
		C1	Stream: 5 PRC for Signalled Lanes (%)	16.4	Total Delay for Signalled Lanes (pcuHr):	2.81	Cycle Time (s):	45					
		C1	Stream: 6 PRC for Signalled Lanes (%)	16.1	Total Delay for Signalled Lanes (pcuHr):	5.72	Cycle Time (s):	45					
			PRC Over All Lanes (%)	-43.3	Total Delay Over All Lanes(pcuHr):	216.52							

Full Input Data And Results

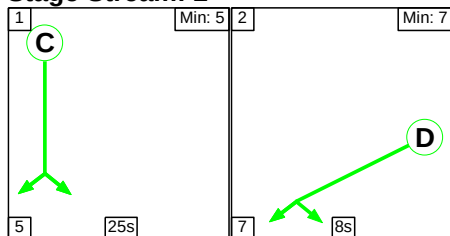
Scenario 12: '2031 Base PM' (FG12: 'Padge Hall TA - 2031 Base + Committed + Consented PM', Plan 1: 'Existing Signal Specification')

Stage Sequence Diagram

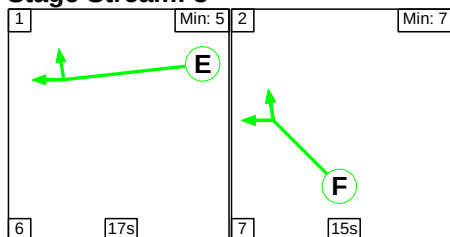
Stage Stream: 1



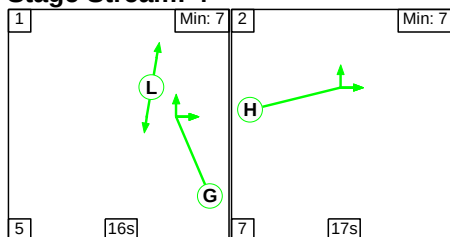
Stage Stream: 2



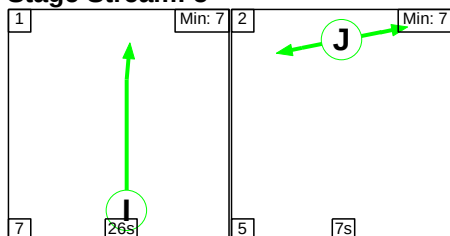
Stage Stream: 3



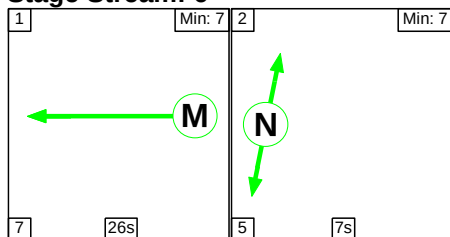
Stage Stream: 4



Stage Stream: 5



Stage Stream: 6



Stage Timings

Stage Stream: 1

Stage	1	2
Duration	17	15
Change Point	3	26

Stage Stream: 2

Stage	1	2
Duration	25	8
Change Point	3	33

Stage Stream: 3

Stage	1	2
Duration	17	15
Change Point	37	15

Stage Stream: 4

Stage	1	2
Duration	16	17
Change Point	23	44

Stage Stream: 5

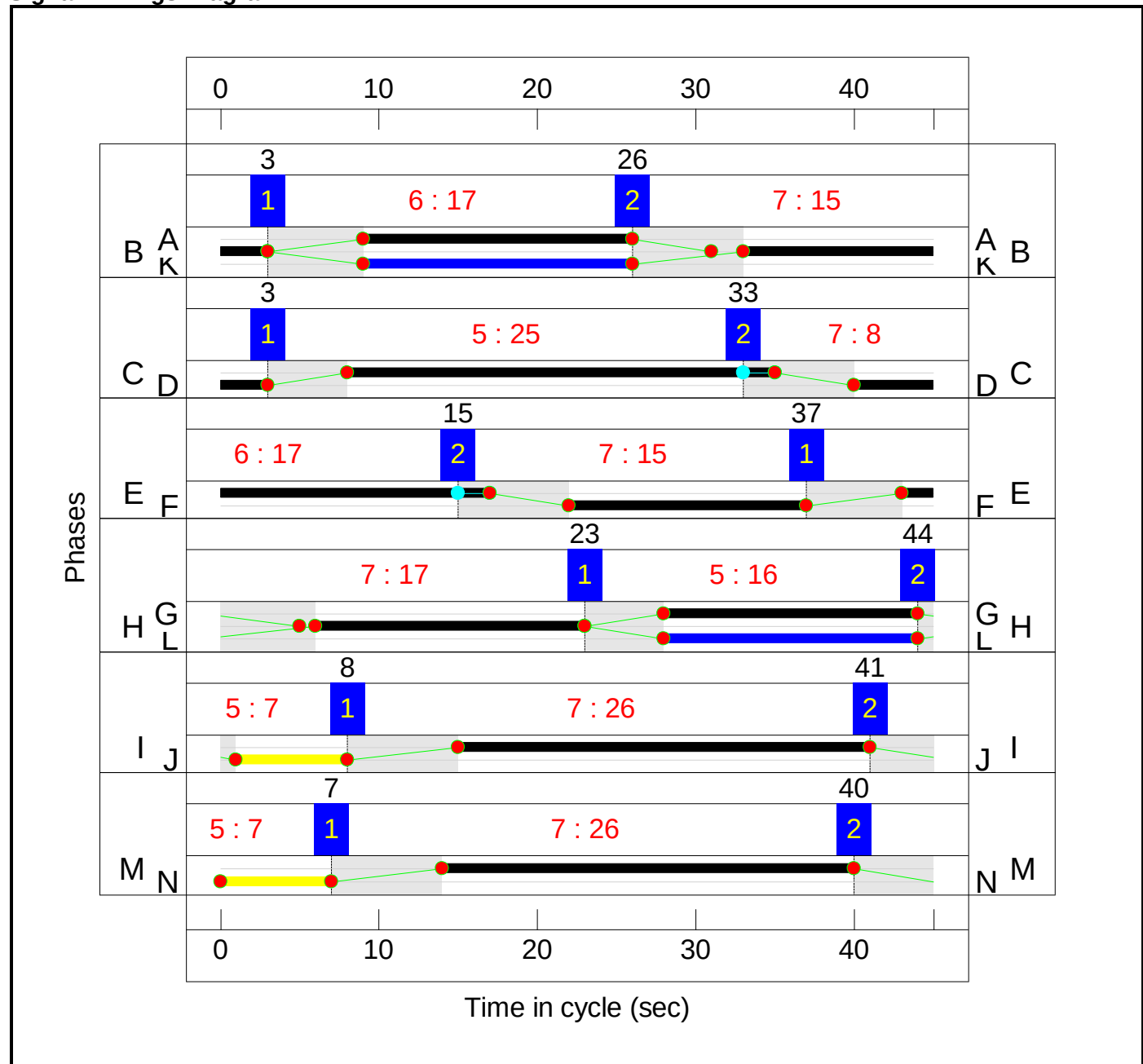
Stage	1	2
Duration	26	7
Change Point	8	41

Full Input Data And Results

Stage Stream: 6

Stage	1	2
Duration	26	7
Change Point	7	40

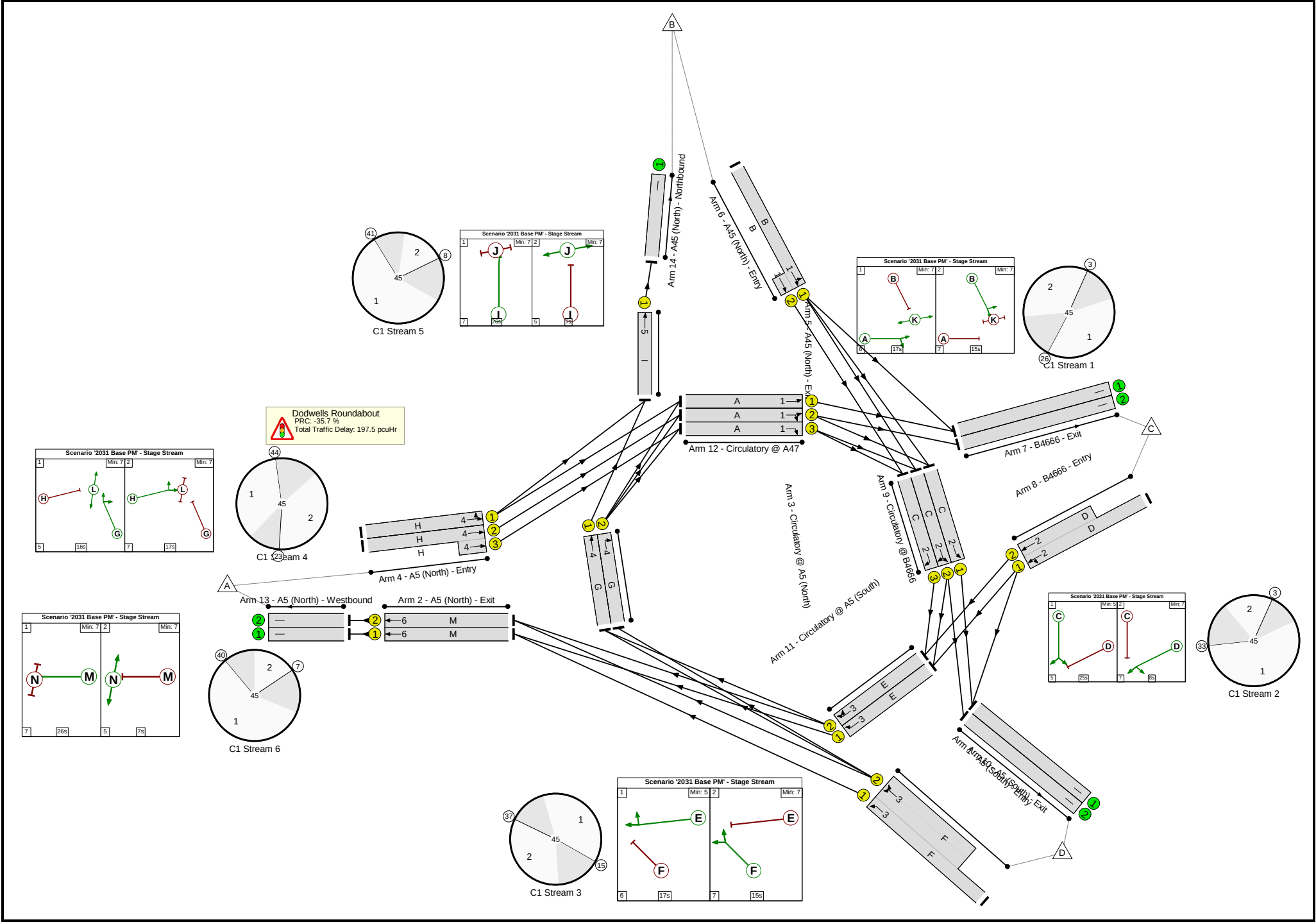
Signal Timings Diagram



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	-	-		-	-	-	-	-	-	122.1%
Dodwells Roundabout	-	-	N/A	-	-		-	-	-	-	-	-	122.1%
1/1+1/2	A5 (South) - Entry Ahead Ahead2	U	3	N/A	F		1	15	-	1675	1800:3600	614+1186	93.1 : 93.1%
2/1	A5 (North) - Exit Ahead	U	6	N/A	M		1	26	-	977	1980	1188	80.1%
2/2	A5 (North) - Exit Ahead	U	6	N/A	M		1	26	-	1022	1980	1188	82.2%
3/1	Circulatory @ A5 (North) Ahead	U	4	N/A	G		1	16	-	443	1900	718	61.7%
3/2	Circulatory @ A5 (North) Right	U	4	N/A	G		1	16	-	162	1900	718	22.6%
4/1	A5 (North) - Entry Left Ahead	U	4	N/A	H		1	17	-	760	1800	720	105.6%
4/2+4/3	A5 (North) - Entry Ahead	U	4	N/A	H		1	17	-	997	1800:1800	490+451	105.9 : 105.9%
5/1	A45 (North) - Exit Ahead	U	5	N/A	I		1	26	-	907	1980	1188	74.3%
6/1+6/2	A45 (North) - Entry Left Ahead	U	1	N/A	B		1	15	-	862	1800:1800	500+205	122.1 : 122.1%
7/1	B4666 - Exit	U	N/A	N/A	-		-	-	-	475	1980	1980	22.3%
7/2	B4666 - Exit	U	N/A	N/A	-		-	-	-	164	1980	1980	7.8%
8/1+8/2	B4666 - Entry Left Ahead	U	2	N/A	D		1	8	-	630	1800:1800	360+360	99.4 : 75.6%
9/1	Circulatory @ B4666 Ahead	U	2	N/A	C		1	27	-	657	1900	1182	49.8%
9/2	Circulatory @ B4666 Ahead Right	U	2	N/A	C		1	27	-	770	1900	1182	59.1%
9/3	Circulatory @ B4666 Right	U	2	N/A	C		1	27	-	251	1900	1182	17.4%
10/1	A5 (South) - Exit	U	N/A	N/A	-		-	-	-	747	1980	1980	34.3%

Full Input Data And Results

10/2	A5 (South) - Exit	U	N/A	N/A	-		-	-	-	632	1980	1980	29.6%
11/1	Circulatory @ A5 (South) Ahead	U	3	N/A	E		1	19	-	406	1900	844	45.1%
11/2	Circulatory @ A5 (South) Ahead Right	U	3	N/A	E		1	19	-	523	1900	844	56.5%
12/1	Circulatory @ A47 Ahead	U	1	N/A	A		1	17	-	377	1900	760	47.6%
12/2	Circulatory @ A47 Ahead Right	U	1	N/A	A		1	17	-	552	1900	760	68.8%
12/3	Circulatory @ A47 Right	U	1	N/A	A		1	17	-	526	1900	760	65.7%
13/1	A5 (North) - Westbound	U	N/A	N/A	-		-	-	-	977	Inf	Inf	0.0%
13/2	A5 (North) - Westbound	U	N/A	N/A	-		-	-	-	1022	Inf	Inf	0.0%
14/1	A45 (North) - Northbound	U	N/A	N/A	-		-	-	-	907	Inf	Inf	0.0%

Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	-	-	0	0	0	33.1	164.4	0.0	197.5	-	-	-	-
Dodwells Roundabout	-	-	0	0	0	33.1	164.4	0.0	197.5	-	-	-	-
1/1+1/2	1675	1675	-	-	-	6.3	6.1	-	12.4	26.7	6.7	6.1	12.8
2/1	952	952	-	-	-	1.8	2.0	-	3.8	14.4	7.4	2.0	9.4
2/2	976	976	-	-	-	1.7	2.3	-	3.9	14.4	7.4	2.3	9.7
3/1	443	443	-	-	-	0.5	0.8	-	1.3	10.3	1.3	0.8	2.1
3/2	162	162	-	-	-	0.1	0.1	-	0.2	4.6	0.1	0.1	0.3
4/1	760	720	-	-	-	3.7	27.0	-	30.7	145.4	10.0	27.0	37.0
4/2+4/3	997	941	-	-	-	4.5	35.1	-	39.6	142.9	11.2	35.1	46.3
5/1	883	883	-	-	-	1.2	1.4	-	2.6	10.6	7.0	1.4	8.4
6/1+6/2	862	706	-	-	-	7.4	80.8	-	88.2	368.2	12.4	80.8	93.2
7/1	442	442	-	-	-	0.0	0.1	-	0.1	1.2	0.0	0.1	0.1
7/2	155	155	-	-	-	0.0	0.0	-	0.0	1.0	0.0	0.0	0.0
8/1+8/2	630	630	-	-	-	3.1	3.3	-	6.3	36.2	4.4	3.3	7.6
9/1	588	588	-	-	-	0.6	0.5	-	1.1	6.7	2.8	0.5	3.2
9/2	699	699	-	-	-	0.5	0.7	-	1.3	6.5	2.5	0.7	3.2
9/3	205	205	-	-	-	0.6	0.1	-	0.7	11.8	2.5	0.1	2.7
10/1	678	678	-	-	-	0.0	0.3	-	0.3	1.4	0.0	0.3	0.3
10/2	586	586	-	-	-	0.0	0.2	-	0.2	1.3	0.0	0.2	0.2
11/1	381	381	-	-	-	0.0	0.4	-	0.4	4.2	0.1	0.4	0.5
11/2	477	477	-	-	-	0.1	0.6	-	0.7	5.4	0.1	0.6	0.8
12/1	361	361	-	-	-	0.5	0.5	-	0.9	9.2	1.6	0.5	2.1
12/2	523	523	-	-	-	0.3	1.1	-	1.4	9.7	3.2	1.1	4.3
12/3	499	499	-	-	-	0.4	0.9	-	1.3	9.6	3.2	0.9	4.2
13/1	952	952	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
13/2	976	976	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

Full Input Data And Results

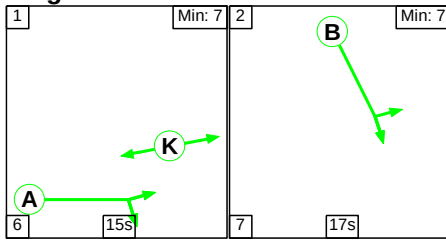
14/1	883	883	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
		C1	Stream: 1 PRC for Signalled Lanes (%)	-35.7	Total Delay for Signalled Lanes (pcuHr)	91.81	Cycle Time (s)	45					
		C1	Stream: 2 PRC for Signalled Lanes (%)	-10.5	Total Delay for Signalled Lanes (pcuHr)	9.37	Cycle Time (s)	45					
		C1	Stream: 3 PRC for Signalled Lanes (%)	-3.4	Total Delay for Signalled Lanes (pcuHr)	13.58	Cycle Time (s)	45					
		C1	Stream: 4 PRC for Signalled Lanes (%)	-17.7	Total Delay for Signalled Lanes (pcuHr)	71.75	Cycle Time (s)	45					
		C1	Stream: 5 PRC for Signalled Lanes (%)	21.1	Total Delay for Signalled Lanes (pcuHr)	2.61	Cycle Time (s)	45					
		C1	Stream: 6 PRC for Signalled Lanes (%)	9.5	Total Delay for Signalled Lanes (pcuHr)	7.72	Cycle Time (s)	45					
			PRC Over All Lanes (%)	-35.7	Total Delay Over All Lanes(pcuHr)	197.50							

Full Input Data And Results

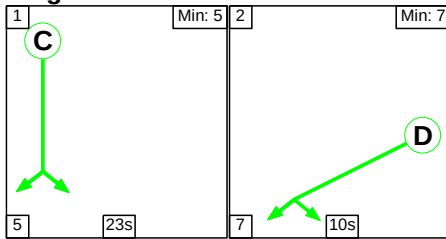
Scenario 13: '2031 Base + Development AM' (FG13: 'Padge Hall TA - 2031 Base + Committed + Consented + Proposed AM', Plan 1: 'Existing Signal Specification')

Stage Sequence Diagram

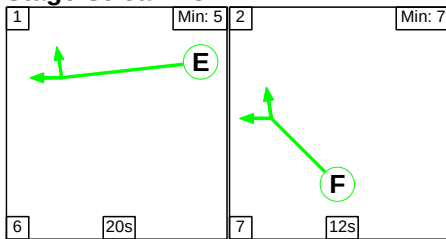
Stage Stream: 1



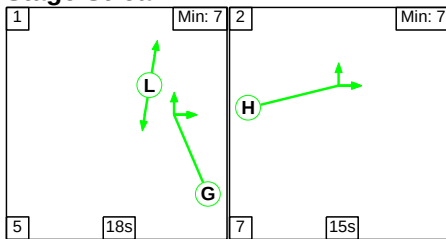
Stage Stream: 2



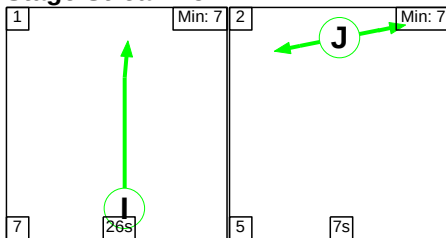
Stage Stream: 3



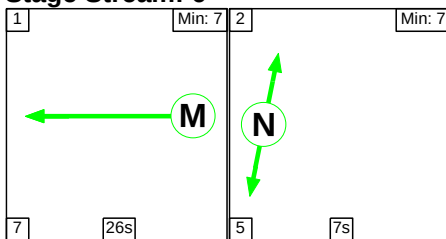
Stage Stream: 4



Stage Stream: 5



Stage Stream: 6



Stage Timings

Stage Stream: 1

Stage	1	2
Duration	15	17
Change Point	3	24

Stage Stream: 2

Stage	1	2
Duration	23	10
Change Point	1	29

Stage Stream: 3

Stage	1	2
Duration	20	12
Change Point	33	14

Stage Stream: 4

Stage	1	2
Duration	18	15
Change Point	21	44

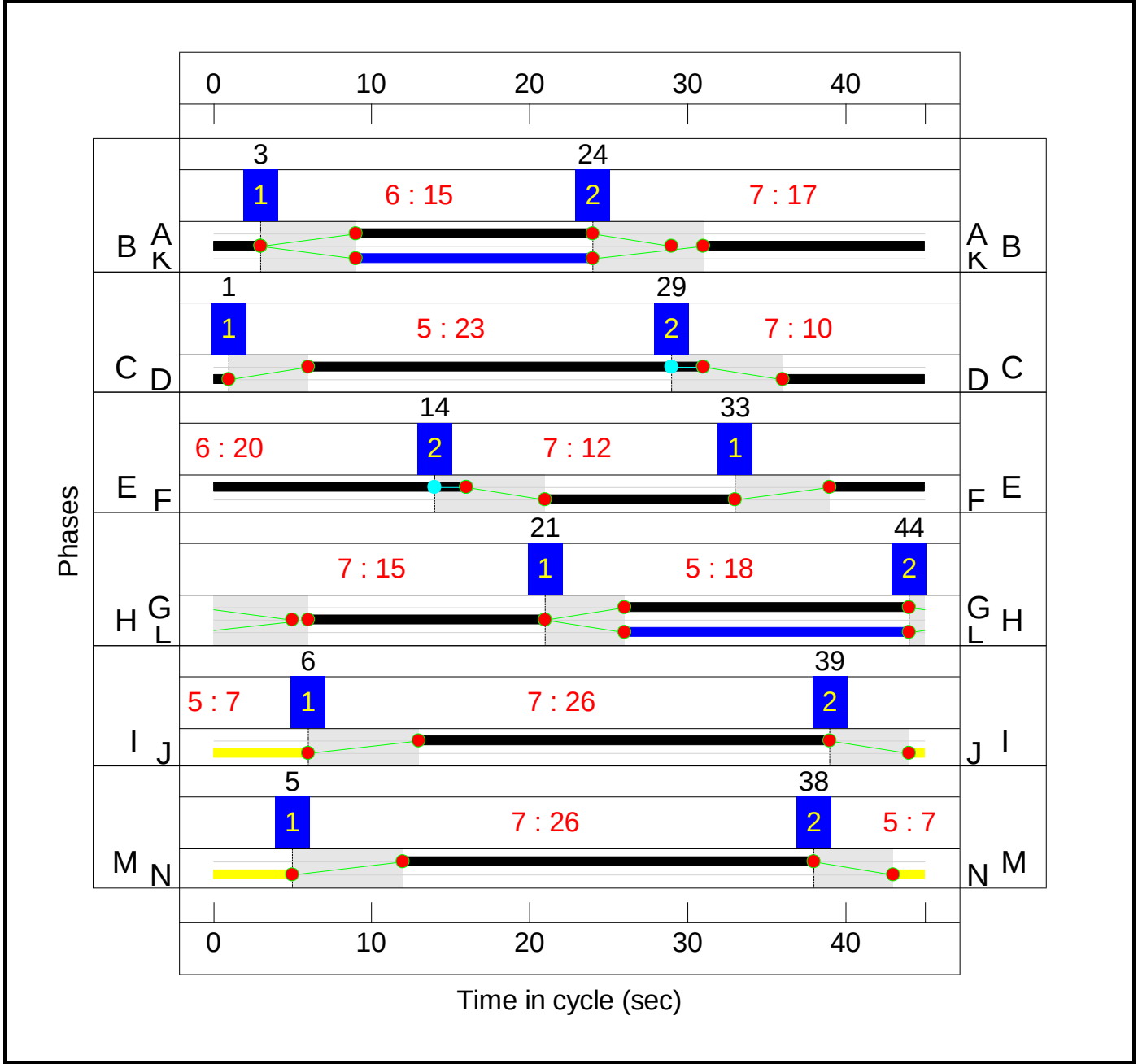
Stage Stream: 5

Stage	1	2
Duration	26	7
Change Point	6	39

Full Input Data And Results
Stage Stream: 6

Stage	1	2
Duration	26	7
Change Point	5	38

Signal Timings Diagram



Full Input Data And Results

Network Layout Diagram

Dodwells Roundabout
 PRC: -47.8 %
 Total Traffic Delay: 236.5 pcuHr

Scenario '2031 Base + Development AM' - Stage Stream

Arm 1 - A45 (North) - Exit
 C1 Stream 1: 1 (45), 2 (3)

Arm 2 - A5 (North) - Exit
 C1 Stream 2: 1 (45), 2 (1), 3 (29)

Arm 3 - Circulatory @ A5 (North)
 C1 Stream 3: 1 (45), 2 (33), 3 (14)

Arm 4 - A5 (North) - Entry
 C1 Stream 4: 1 (45), 2 (44)

Arm 5 - A45 (North) - Entry
 C1 Stream 5: 1 (45), 2 (39), 3 (6)

Arm 6 - A45 (North) - Entry
 C1 Stream 6: 1 (45), 2 (38), 3 (5)

Arm 7 - B4666 - Exit
 C1 Stream 7: 1 (45), 2 (29), 3 (1)

Arm 8 - B4666 - Entry
 C1 Stream 8: 1 (45), 2 (29), 3 (1)

Arm 9 - Circulatory @ B4666
 C1 Stream 9: 1 (45), 2 (33), 3 (14)

Arm 10 - A5 (South) - Entry
 C1 Stream 10: 1 (45), 2 (33), 3 (14)

Arm 11 - Circulatory @ A5 (South)
 C1 Stream 11: 1 (45), 2 (33), 3 (14)

Arm 12 - Circulatory @ A47
 C1 Stream 12: 1 (45), 2 (33), 3 (14)

Arm 13 - A5 (North) - Westbound
 C1 Stream 13: 1 (45), 2 (38), 3 (5)

Arm 14 - A45 (North) - Northbound
 C1 Stream 14: 1 (45), 2 (39), 3 (6)

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	-	-		-	-	-	-	-	-	133.0%
Dodwells Roundabout	-	-	N/A	-	-		-	-	-	-	-	-	133.0%
1/1+1/2	A5 (South) - Entry Ahead Ahead2	U	3	N/A	F		1	12	-	1299	1800:3600	520+1040	79.6 : 85.1%
2/1	A5 (North) - Exit Ahead	U	6	N/A	M		1	26	-	974	1980	1188	77.4%
2/2	A5 (North) - Exit Ahead	U	6	N/A	M		1	26	-	978	1980	1188	74.1%
3/1	Circulatory @ A5 (North) Ahead	U	4	N/A	G		1	18	-	556	1900	802	69.3%
3/2	Circulatory @ A5 (North) Right	U	4	N/A	G		1	18	-	92	1900	802	11.5%
4/1	A5 (North) - Entry Left Ahead	U	4	N/A	H		1	15	-	667	1800	640	104.2%
4/2+4/3	A5 (North) - Entry Ahead	U	4	N/A	H		1	15	-	908	1800:1800	445+424	104.5 : 104.5%
5/1	A45 (North) - Exit Ahead	U	5	N/A	I		1	26	-	946	1980	1188	78.3%
6/1+6/2	A45 (North) - Entry Left Ahead	U	1	N/A	B		1	17	-	1079	1800:1800	517+295	133.0 : 133.0%
7/1	B4666 - Exit	U	N/A	N/A	-		-	-	-	443	1980	1980	20.3%
7/2	B4666 - Exit	U	N/A	N/A	-		-	-	-	69	1980	1980	3.3%
8/1+8/2	B4666 - Entry Left Ahead	U	2	N/A	D		1	10	-	744	1800:1800	440+440	89.8 : 79.3%
9/1	Circulatory @ B4666 Ahead	U	2	N/A	C		1	25	-	684	1900	1098	54.7%
9/2	Circulatory @ B4666 Ahead Right	U	2	N/A	C		1	25	-	768	1900	1098	61.5%
9/3	Circulatory @ B4666 Right	U	2	N/A	C		1	25	-	392	1900	1098	26.8%
10/1	A5 (South) - Exit	U	N/A	N/A	-		-	-	-	741	1980	1980	33.2%

Full Input Data And Results

10/2	A5 (South) - Exit	U	N/A	N/A	-		-	-	-	546	1980	1980	25.6%
11/1	Circulatory @ A5 (South) Ahead	U	3	N/A	E		1	22	-	560	1900	971	52.0%
11/2	Circulatory @ A5 (South) Ahead Right	U	3	N/A	E		1	22	-	741	1900	971	66.3%
12/1	Circulatory @ A47 Ahead	U	1	N/A	A		1	15	-	324	1900	676	46.3%
12/2	Circulatory @ A47 Ahead Right	U	1	N/A	A		1	15	-	484	1900	676	68.7%
12/3	Circulatory @ A47 Right	U	1	N/A	A		1	15	-	469	1900	676	66.6%
13/1	A5 (North) - Westbound	U	N/A	N/A	-		-	-	-	974	Inf	Inf	0.0%
13/2	A5 (North) - Westbound	U	N/A	N/A	-		-	-	-	978	Inf	Inf	0.0%
14/1	A45 (North) - Northbound	U	N/A	N/A	-		-	-	-	946	Inf	Inf	0.0%

Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	-	-	0	0	0	34.2	202.3	0.0	236.5	-	-	-	-
Dodwells Roundabout	-	-	0	0	0	34.2	202.3	0.0	236.5	-	-	-	-
1/1+1/2	1299	1299	-	-	-	5.4	2.4	-	7.9	21.8	5.2	2.4	7.6
2/1	919	919	-	-	-	1.4	1.7	-	3.1	12.1	7.3	1.7	9.0
2/2	881	881	-	-	-	1.2	1.4	-	2.6	10.7	7.4	1.4	8.8
3/1	556	556	-	-	-	0.4	1.1	-	1.5	10.0	1.1	1.1	2.3
3/2	92	92	-	-	-	0.0	0.1	-	0.1	2.9	0.0	0.1	0.1
4/1	667	640	-	-	-	3.2	21.3	-	24.6	132.6	8.7	21.3	30.0
4/2+4/3	908	869	-	-	-	4.1	27.8	-	32.0	126.8	9.7	27.8	37.6
5/1	930	930	-	-	-	1.2	1.8	-	2.9	11.4	6.3	1.8	8.0
6/1+6/2	1079	811	-	-	-	10.8	135.8	-	146.6	489.2	17.2	135.8	153.1
7/1	402	402	-	-	-	0.0	0.1	-	0.1	1.1	0.0	0.1	0.1
7/2	66	66	-	-	-	0.0	0.0	-	0.0	0.9	0.0	0.0	0.0
8/1+8/2	744	744	-	-	-	3.4	2.6	-	6.0	29.0	4.7	2.6	7.4
9/1	600	600	-	-	-	0.5	0.6	-	1.1	6.8	2.5	0.6	3.1
9/2	675	675	-	-	-	0.6	0.8	-	1.4	7.5	2.8	0.8	3.6
9/3	295	295	-	-	-	0.8	0.2	-	1.0	12.4	3.7	0.2	3.8
10/1	657	657	-	-	-	0.0	0.2	-	0.2	1.4	0.0	0.2	0.2
10/2	508	508	-	-	-	0.0	0.2	-	0.2	1.2	0.0	0.2	0.2
11/1	505	505	-	-	-	0.0	0.5	-	0.6	4.1	0.1	0.5	0.6
11/2	644	644	-	-	-	0.1	1.0	-	1.1	6.2	0.5	1.0	1.5
12/1	313	313	-	-	-	0.4	0.4	-	0.8	9.0	1.1	0.4	1.5
12/2	464	464	-	-	-	0.3	1.1	-	1.3	10.4	1.1	1.1	2.2
12/3	450	450	-	-	-	0.3	1.0	-	1.3	10.2	1.6	1.0	2.6
13/1	919	919	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
13/2	881	881	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

Full Input Data And Results

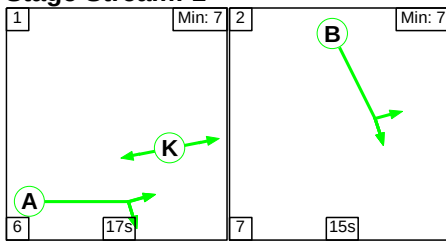
14/1	930	930	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
		C1	Stream: 1 PRC for Signalled Lanes (%)	-47.8	Total Delay for Signalled Lanes (pcuHr)	150.04	Cycle Time (s)	45					
		C1	Stream: 2 PRC for Signalled Lanes (%)	0.3	Total Delay for Signalled Lanes (pcuHr)	9.52	Cycle Time (s)	45					
		C1	Stream: 3 PRC for Signalled Lanes (%)	5.8	Total Delay for Signalled Lanes (pcuHr)	9.54	Cycle Time (s)	45					
		C1	Stream: 4 PRC for Signalled Lanes (%)	-16.1	Total Delay for Signalled Lanes (pcuHr)	58.16	Cycle Time (s)	45					
		C1	Stream: 5 PRC for Signalled Lanes (%)	14.9	Total Delay for Signalled Lanes (pcuHr)	2.95	Cycle Time (s)	45					
		C1	Stream: 6 PRC for Signalled Lanes (%)	16.4	Total Delay for Signalled Lanes (pcuHr)	5.71	Cycle Time (s)	45					
			PRC Over All Lanes (%)	-47.8	Total Delay Over All Lanes(pcuHr)	236.49							

Full Input Data And Results

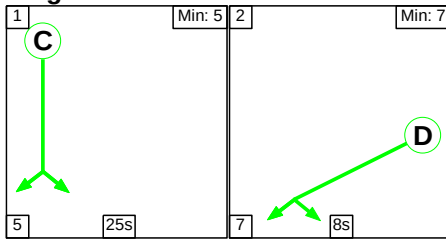
Scenario 14: '2031 Base + Development PM' (FG14: 'Padge Hall TA - 2031 Base + Committed + Consented + Proposed PM', Plan 1: 'Existing Signal Specification')

Stage Sequence Diagram

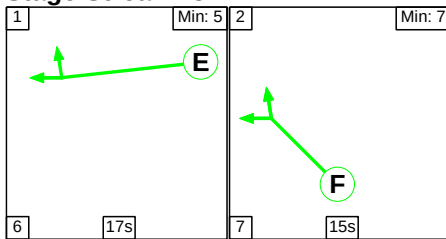
Stage Stream: 1



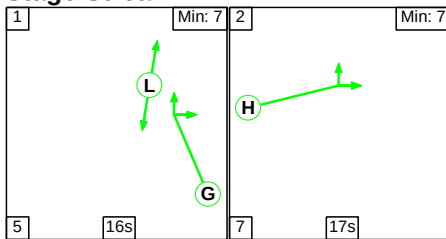
Stage Stream: 2



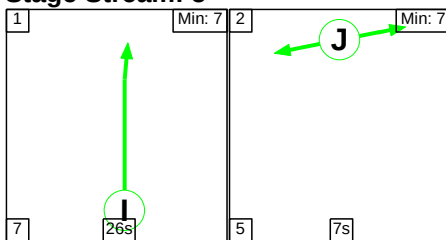
Stage Stream: 3



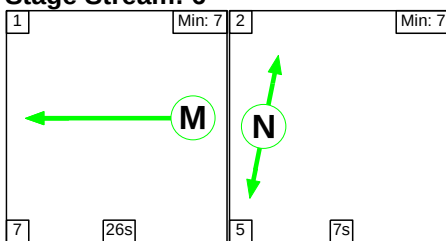
Stage Stream: 4



Stage Stream: 5



Stage Stream: 6



Stage Timings

Stage Stream: 1

Stage	1	2
Duration	17	15
Change Point	3	26

Stage Stream: 2

Stage	1	2
Duration	25	8
Change Point	3	33

Stage Stream: 3

Stage	1	2
Duration	17	15
Change Point	37	15

Stage Stream: 4

Stage	1	2
Duration	16	17
Change Point	23	44

Stage Stream: 5

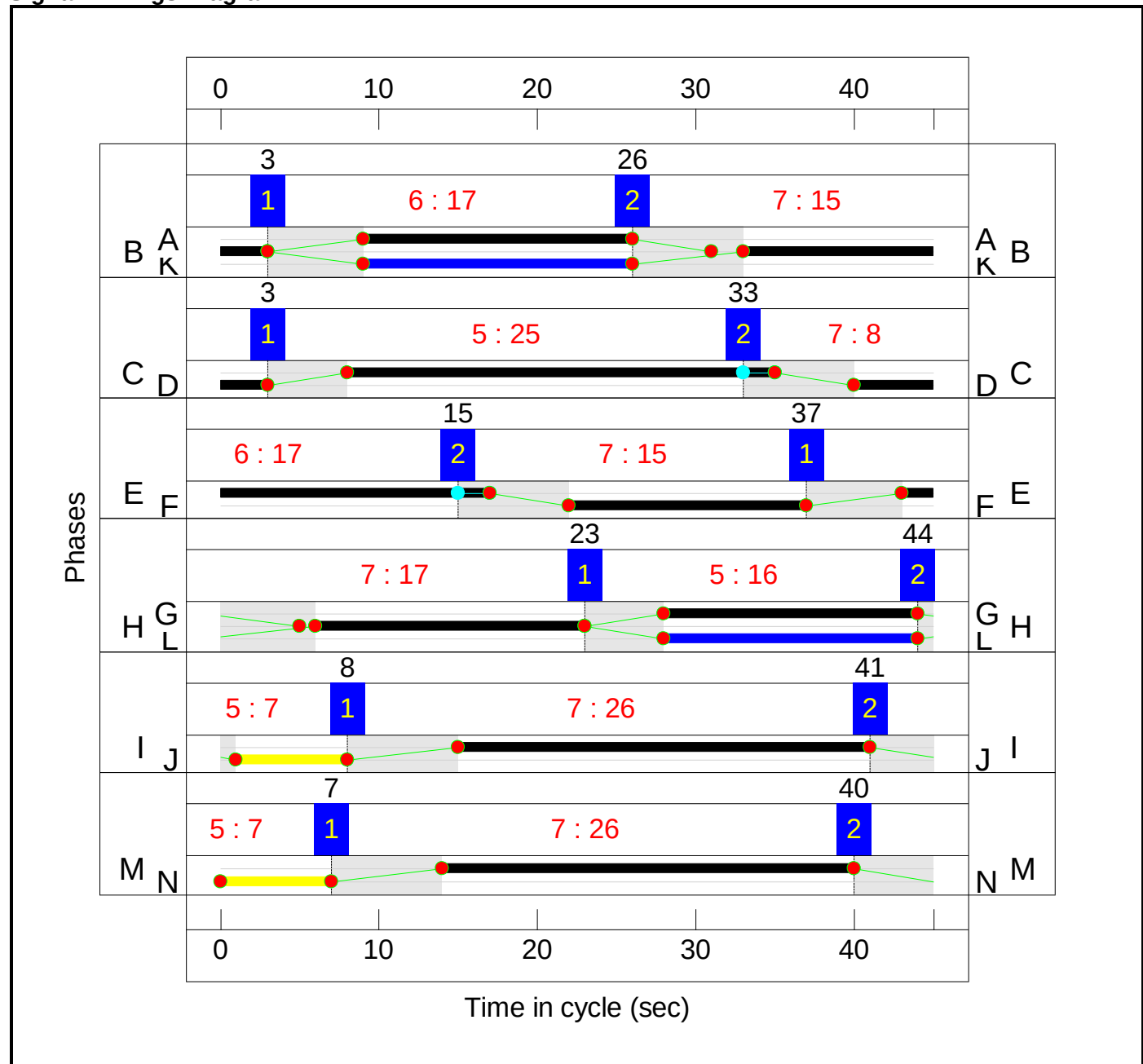
Stage	1	2
Duration	26	7
Change Point	8	41

Full Input Data And Results

Stage Stream: 6

Stage	1	2
Duration	26	7
Change Point	7	40

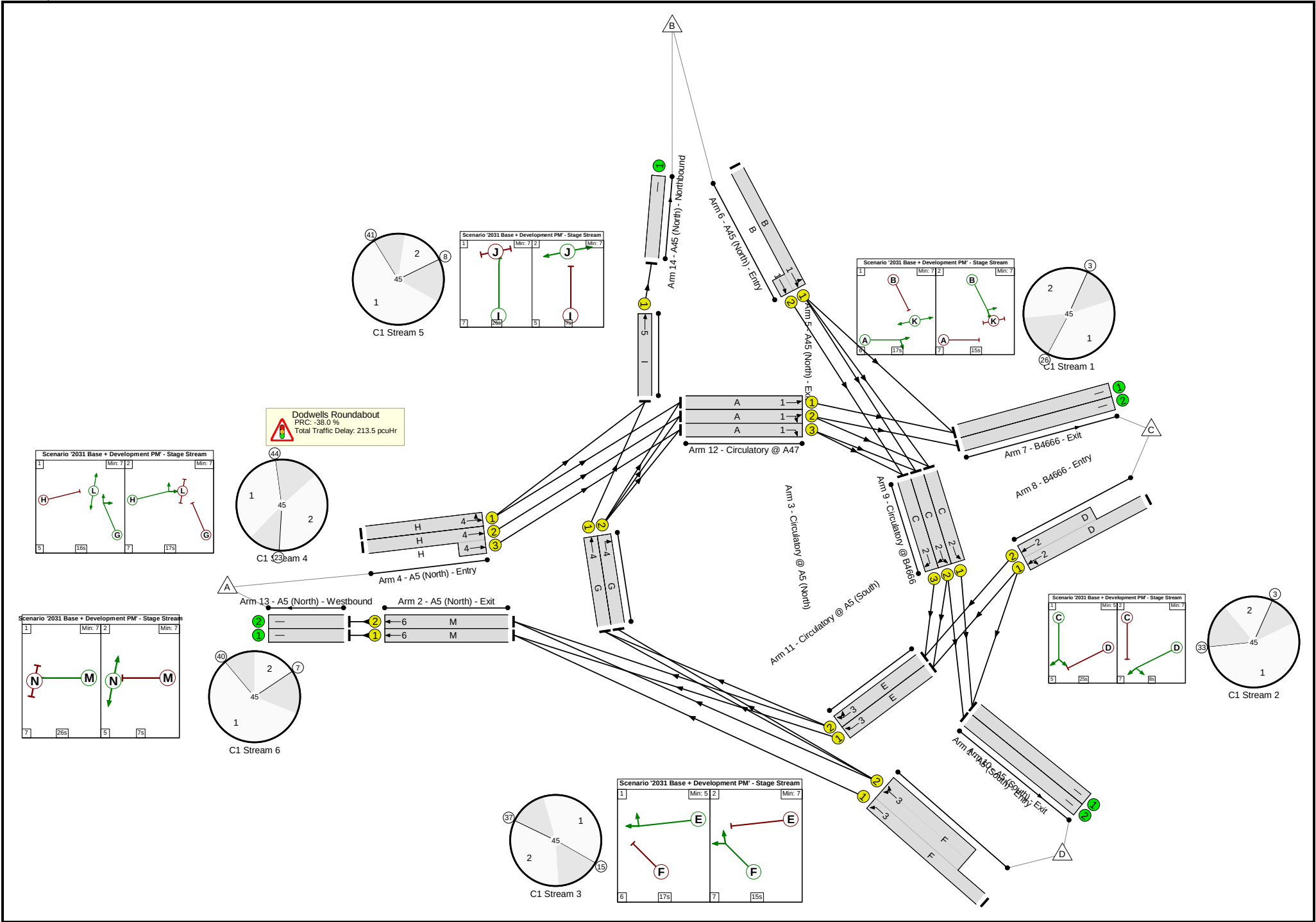
Signal Timings Diagram



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	-	-		-	-	-	-	-	-	124.2%
Dodwells Roundabout	-	-	N/A	-	-		-	-	-	-	-	-	124.2%
1/1+1/2	A5 (South) - Entry Ahead Ahead2	U	3	N/A	F		1	15	-	1685	1800:3600	620+1180	93.6 : 93.6%
2/1	A5 (North) - Exit Ahead	U	6	N/A	M		1	26	-	977	1980	1188	80.1%
2/2	A5 (North) - Exit Ahead	U	6	N/A	M		1	26	-	1030	1980	1188	82.3%
3/1	Circulatory @ A5 (North) Ahead	U	4	N/A	G		1	16	-	455	1900	718	63.4%
3/2	Circulatory @ A5 (North) Right	U	4	N/A	G		1	16	-	162	1900	718	22.6%
4/1	A5 (North) - Entry Left Ahead	U	4	N/A	H		1	17	-	767	1800	720	106.5%
4/2+4/3	A5 (North) - Entry Ahead	U	4	N/A	H		1	17	-	999	1800:1800	494+440	106.9 : 106.9%
5/1	A45 (North) - Exit Ahead	U	5	N/A	I		1	26	-	928	1980	1188	75.7%
6/1+6/2	A45 (North) - Entry Left Ahead	U	1	N/A	B		1	15	-	881	1800:1800	495+214	124.2 : 124.2%
7/1	B4666 - Exit	U	N/A	N/A	-		-	-	-	475	1980	1980	22.1%
7/2	B4666 - Exit	U	N/A	N/A	-		-	-	-	166	1980	1980	7.8%
8/1+8/2	B4666 - Entry Left Ahead	U	2	N/A	D		1	8	-	632	1800:1800	360+360	98.9 : 76.7%
9/1	Circulatory @ B4666 Ahead	U	2	N/A	C		1	27	-	655	1900	1182	49.1%
9/2	Circulatory @ B4666 Ahead Right	U	2	N/A	C		1	27	-	774	1900	1182	58.7%
9/3	Circulatory @ B4666 Right	U	2	N/A	C		1	27	-	266	1900	1182	18.1%
10/1	A5 (South) - Exit	U	N/A	N/A	-		-	-	-	745	1980	1980	33.8%

Full Input Data And Results

10/2	A5 (South) - Exit	U	N/A	N/A	-		-	-	-	643	1980	1980	29.7%
11/1	Circulatory @ A5 (South) Ahead	U	3	N/A	E		1	19	-	397	1900	844	44.0%
11/2	Circulatory @ A5 (South) Ahead Right	U	3	N/A	E		1	19	-	542	1900	844	58.0%
12/1	Circulatory @ A47 Ahead	U	1	N/A	A		1	17	-	375	1900	760	47.0%
12/2	Circulatory @ A47 Ahead Right	U	1	N/A	A		1	17	-	558	1900	760	68.9%
12/3	Circulatory @ A47 Right	U	1	N/A	A		1	17	-	522	1900	760	64.7%
13/1	A5 (North) - Westbound	U	N/A	N/A	-		-	-	-	977	Inf	Inf	0.0%
13/2	A5 (North) - Westbound	U	N/A	N/A	-		-	-	-	1030	Inf	Inf	0.0%
14/1	A45 (North) - Northbound	U	N/A	N/A	-		-	-	-	928	Inf	Inf	0.0%

Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	-	-	0	0	0	34.1	179.4	0.0	213.5	-	-	-	-
Dodwells Roundabout	-	-	0	0	0	34.1	179.4	0.0	213.5	-	-	-	-
1/1+1/2	1685	1685	-	-	-	6.4	6.6	-	12.9	27.6	6.8	6.6	13.3
2/1	951	951	-	-	-	1.9	2.0	-	3.8	14.6	7.4	2.0	9.4
2/2	978	978	-	-	-	1.6	2.3	-	3.9	14.5	7.5	2.3	9.8
3/1	455	455	-	-	-	0.5	0.9	-	1.3	10.6	1.6	0.9	2.5
3/2	162	162	-	-	-	0.1	0.1	-	0.2	4.6	0.1	0.1	0.3
4/1	767	720	-	-	-	3.8	29.9	-	33.7	158.4	10.2	29.9	40.1
4/2+4/3	999	934	-	-	-	4.7	38.9	-	43.6	157.0	11.5	38.9	50.3
5/1	899	899	-	-	-	1.2	1.5	-	2.8	11.0	7.2	1.5	8.8
6/1+6/2	881	709	-	-	-	7.8	88.4	-	96.2	393.2	13.0	88.4	101.4
7/1	437	437	-	-	-	0.0	0.1	-	0.1	1.2	0.0	0.1	0.1
7/2	155	155	-	-	-	0.0	0.0	-	0.0	1.0	0.0	0.0	0.0
8/1+8/2	632	632	-	-	-	3.1	3.3	-	6.4	36.6	4.4	3.3	7.7
9/1	580	580	-	-	-	0.6	0.5	-	1.1	6.6	2.6	0.5	3.1
9/2	694	694	-	-	-	0.6	0.7	-	1.3	6.5	2.5	0.7	3.2
9/3	214	214	-	-	-	0.6	0.1	-	0.7	11.9	2.7	0.1	2.8
10/1	670	670	-	-	-	0.0	0.3	-	0.3	1.4	0.0	0.3	0.3
10/2	589	589	-	-	-	0.0	0.2	-	0.2	1.3	0.0	0.2	0.2
11/1	371	371	-	-	-	0.0	0.4	-	0.4	4.2	0.1	0.4	0.5
11/2	490	490	-	-	-	0.1	0.7	-	0.8	5.7	0.2	0.7	0.8
12/1	357	357	-	-	-	0.5	0.4	-	0.9	9.2	1.6	0.4	2.1
12/2	524	524	-	-	-	0.3	1.1	-	1.4	9.6	2.6	1.1	3.7
12/3	491	491	-	-	-	0.4	0.9	-	1.3	9.5	3.2	0.9	4.1
13/1	951	951	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
13/2	978	978	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

Full Input Data And Results

14/1	899	899	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
		C1	Stream: 1 PRC for Signalled Lanes (%):	-38.0		Total Delay for Signalled Lanes (pcuHr):	99.82		Cycle Time (s):	45			
		C1	Stream: 2 PRC for Signalled Lanes (%):	-9.9		Total Delay for Signalled Lanes (pcuHr):	9.45		Cycle Time (s):	45			
		C1	Stream: 3 PRC for Signalled Lanes (%):	-4.0		Total Delay for Signalled Lanes (pcuHr):	14.14		Cycle Time (s):	45			
		C1	Stream: 4 PRC for Signalled Lanes (%):	-18.8		Total Delay for Signalled Lanes (pcuHr):	78.87		Cycle Time (s):	45			
		C1	Stream: 5 PRC for Signalled Lanes (%):	18.9		Total Delay for Signalled Lanes (pcuHr):	2.76		Cycle Time (s):	45			
		C1	Stream: 6 PRC for Signalled Lanes (%):	9.3		Total Delay for Signalled Lanes (pcuHr):	7.78		Cycle Time (s):	45			
			PRC Over All Lanes (%):	-38.0		Total Delay Over All Lanes(pcuHr):	213.46						

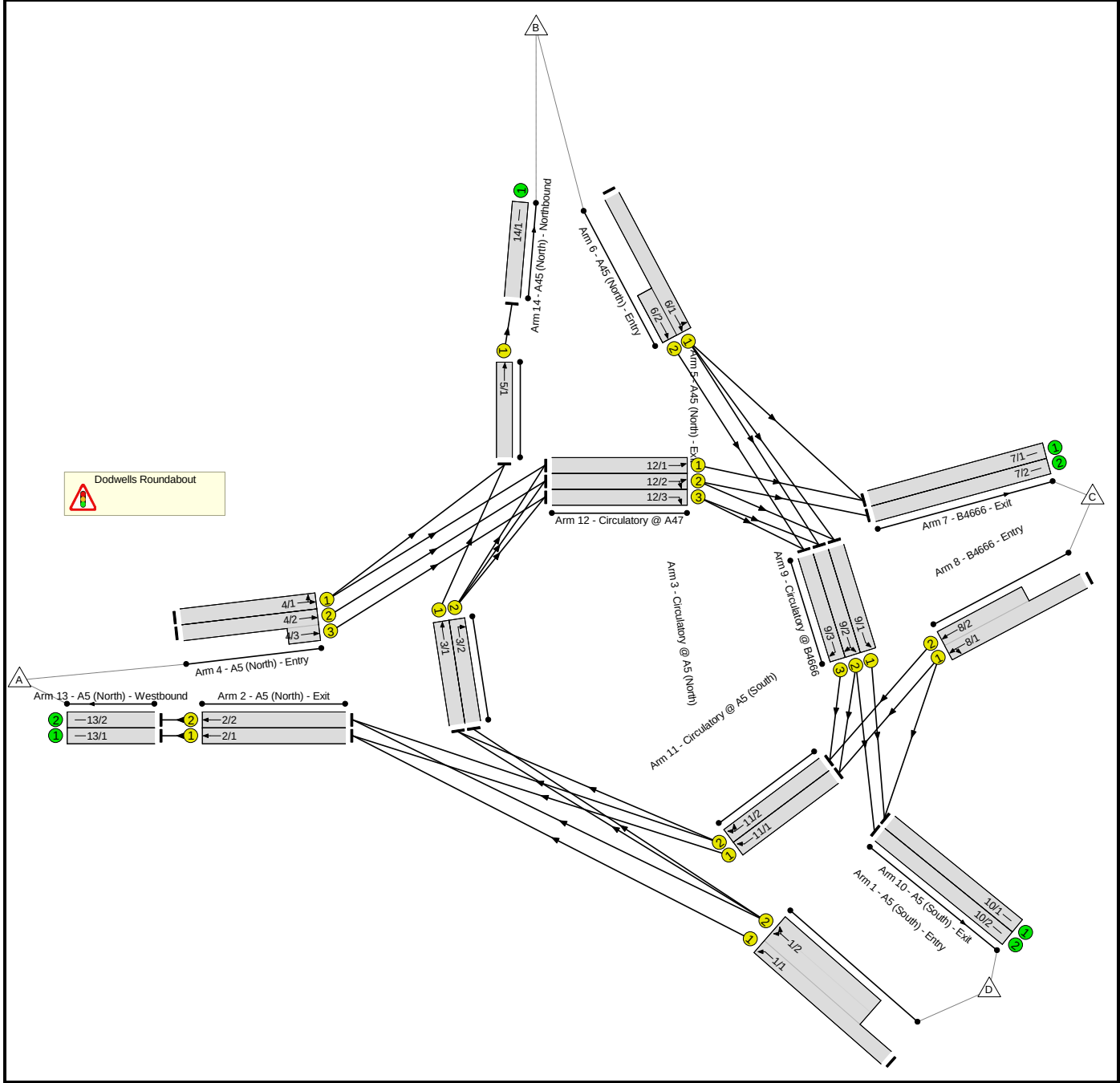
Full Input Data And Results

Full Input Data And Results

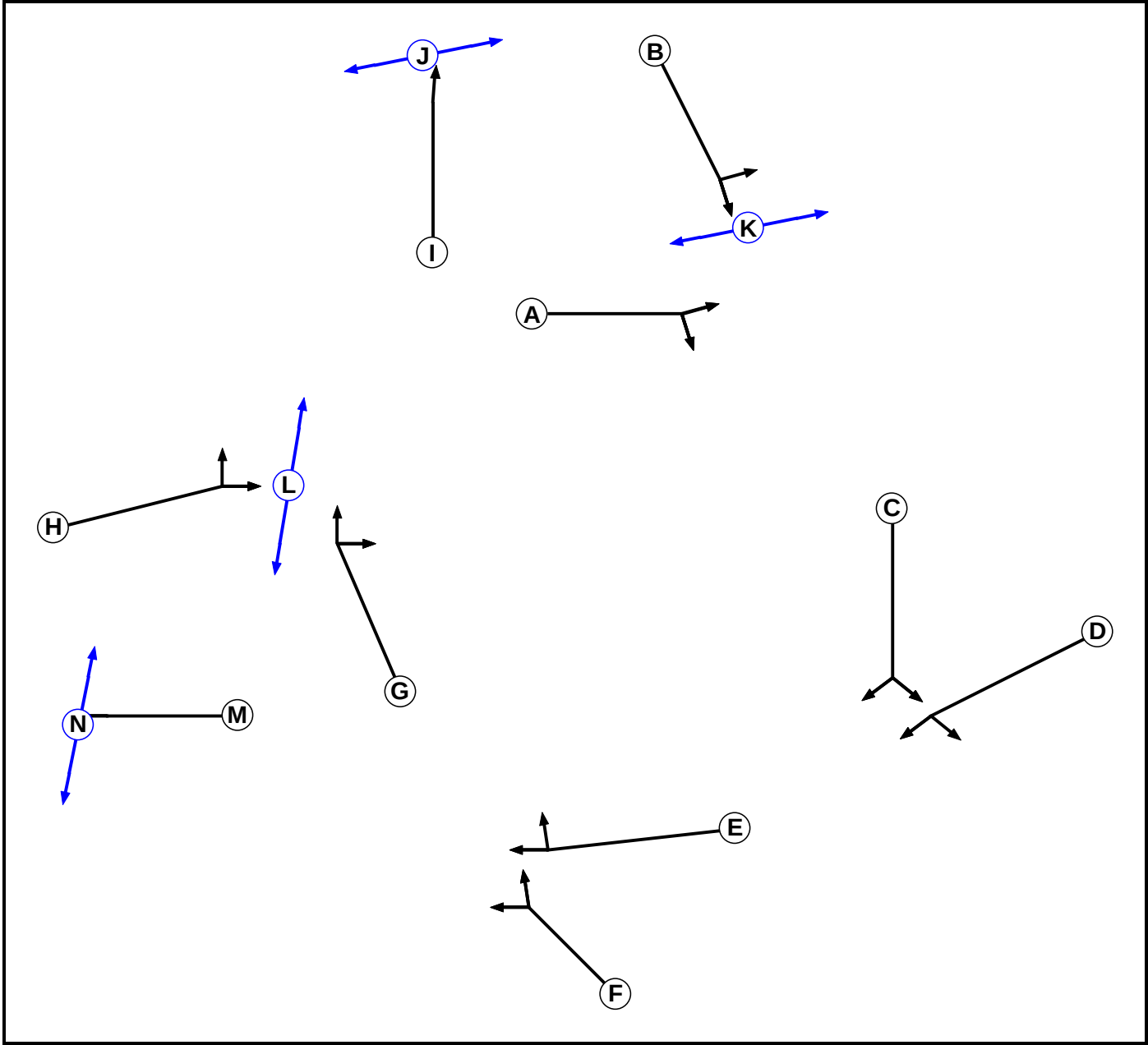
User and Project Details

Project:	
Title:	
Location:	
Additional detail:	
File name:	Hinckley - Padge Hall Mitigation Layout with Bloor Mitigation.lsg3x
Author:	
Company:	
Address:	

Network Layout Diagram



Phase Diagram



Full Input Data And Results

Phase Input Data

Phase Name	Phase Type	Stage Stream	Assoc. Phase	Street Min	Cont Min
A	Traffic	1		7	7
B	Traffic	1		7	7
C	Traffic	2		7	5
D	Traffic	2		7	7
E	Traffic	3		7	5
F	Traffic	3		7	7
G	Traffic	4		7	7
H	Traffic	4		7	7
I	Traffic	5		7	7
J	Pedestrian	5		7	7
K	Pedestrian	1		7	7
L	Pedestrian	4		7	7
M	Traffic	6		7	7
N	Pedestrian	6		7	7

Phase Intergreens Matrix

	Starting Phase													
	A	B	C	D	E	F	G	H	I	J	K	L	M	N
Terminating Phase	A	5	-	-	-	-	-	-	-	-	-	-	-	-
	B	6	-	-	-	-	-	-	-	-	6	-	-	-
	C	-	-	5	-	-	-	-	-	-	-	-	-	-
	D	-	-	5	-	-	-	-	-	-	-	-	-	-
	E	-	-	-	5	-	-	-	-	-	-	-	-	-
	F	-	-	-	6	-	-	-	-	-	-	-	-	-
	G	-	-	-	-	-	6	-	-	-	-	-	-	-
	H	-	-	-	-	-	5	-	-	-	5	-	-	-
	I	-	-	-	-	-	-	-	5	-	-	-	-	-
	J	-	-	-	-	-	-	-	7	-	-	-	-	-
	K	-	7	-	-	-	-	-	-	-	-	-	-	-
	L	-	-	-	-	-	-	7	-	-	-	-	-	-
	M	-	-	-	-	-	-	-	-	-	-	-	5	-
	N	-	-	-	-	-	-	-	-	-	-	7	-	-

Phases in Stage

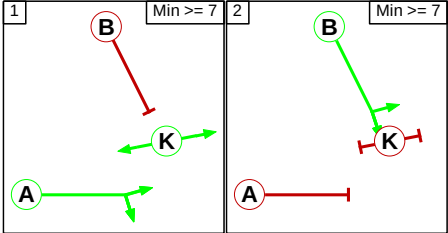
Stream	Stage No.	Phases in Stage
1	1	A K
1	2	B
2	1	C
2	2	D
3	1	E

Full Input Data And Results

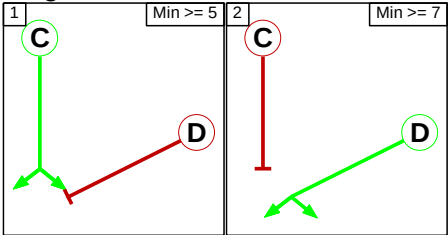
3	2	F
4	1	G L
4	2	H
5	1	I
5	2	J
6	1	M
6	2	N

Stage Diagram

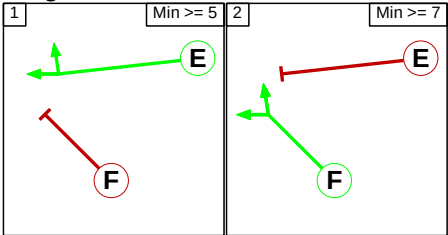
Stage Stream: 1



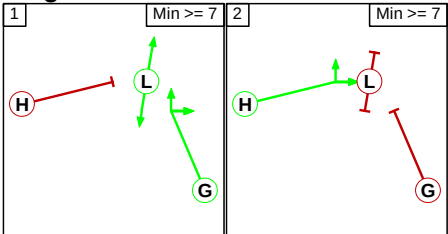
Stage Stream: 2



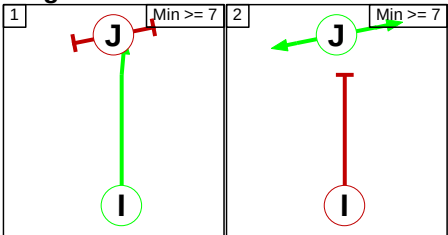
Stage Stream: 3



Stage Stream: 4

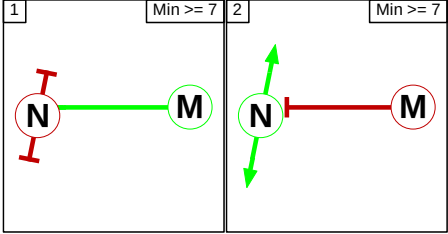


Stage Stream: 5



Full Input Data And Results

Stage Stream: 6



Phase Delays

Stage Stream: 1

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

Stage Stream: 2

Term. Stage	Start Stage	Phase	Type	Value	Cont value
1	2	C	Losing	2	2

Stage Stream: 3

Term. Stage	Start Stage	Phase	Type	Value	Cont value
1	2	E	Losing	2	2

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	7
	2	6

Stage Stream: 2

	To Stage	
From Stage	1	2
	1	7
	2	5

Full Input Data And Results

Stage Stream: 3

	To Stage		
From Stage		1	2
	1		7
	2	6	

Stage Stream: 4

	To Stage		
From Stage		1	2
	1		7
	2	5	

Stage Stream: 5

	To Stage		
From Stage		1	2
	1		5
	2	7	

Stage Stream: 6

	To Stage		
From Stage		1	2
	1		5
	2	7	

Full Input Data And Results

Give-Way Lane Input Data

Junction: Dodwells Roundabout
There are no Opposed Lanes in this Junction

Full Input Data And Results

Lane Input Data

Junction: Dodwells Roundabout												
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 (A5 (South) - Entry)	U	F	2	3	60.0	User	1800	-	-	-	-	-
1/2 (A5 (South) - Entry)	U	F	2	3	12.0	User	3600	-	-	-	-	-
2/1 (A5 (North) - Exit)	U	M	2	3	16.5	Geom	-	3.65	0.00	Y	Arm 13 Ahead	Inf
2/2 (A5 (North) - Exit)	U	M	2	3	16.5	Geom	-	3.65	0.00	Y	Arm 13 Ahead	Inf
3/1 (Circulatory @ A5 (North))	U	G	2	3	13.9	User	1900	-	-	-	-	-
3/2 (Circulatory @ A5 (North))	U	G	2	3	13.9	User	1900	-	-	-	-	-
4/1 (A5 (North) - Entry)	U	H	2	3	60.0	User	1800	-	-	-	-	-
4/2 (A5 (North) - Entry)	U	H	2	3	60.0	User	1800	-	-	-	-	-
4/3 (A5 (North) - Entry)	U	H	2	3	3.0	User	1800	-	-	-	-	-
5/1 (A45 (North) - Exit)	U	I	2	3	6.1	Geom	-	3.65	0.00	Y	Arm 14 Ahead	Inf
6/1 (A45 (North) - Entry)	U	B	2	3	60.0	User	1800	-	-	-	-	-
6/2 (A45 (North) - Entry)	U	B	2	3	5.0	User	1800	-	-	-	-	-
7/1 (B4666 - Exit)	U		2	3	10.4	Geom	-	3.65	0.00	Y		
7/2 (B4666 - Exit)	U		2	3	10.4	Geom	-	3.65	0.00	Y		
8/1 (B4666 - Entry)	U	D	2	3	60.0	User	1800	-	-	-	-	-
8/2 (B4666 - Entry)	U	D	2	3	9.0	User	1800	-	-	-	-	-
9/1 (Circulatory @ B4666)	U	C	2	3	8.7	User	1900	-	-	-	-	-

Full Input Data And Results

9/2 (Circulatory @ B4666)	U	C	2	3	8.7	User	1900	-	-	-	-	-
9/3 (Circulatory @ B4666)	U	C	2	3	8.7	User	1900	-	-	-	-	-
10/1 (A5 (South) - Exit)	U		2	3	7.0	Geom	-	3.65	0.00	Y		
10/2 (A5 (South) - Exit)	U		2	3	7.0	Geom	-	3.65	0.00	Y		
11/1 (Circulatory @ A5 (South))	U	E	2	3	6.1	User	1900	-	-	-	-	-
11/2 (Circulatory @ A5 (South))	U	E	2	3	6.1	User	1900	-	-	-	-	-
12/1 (Circulatory @ A47)	U	A	2	3	7.5	User	1900	-	-	-	-	-
12/2 (Circulatory @ A47)	U	A	2	3	7.5	User	1900	-	-	-	-	-
12/3 (Circulatory @ A47)	U	A	2	3	7.5	User	1900	-	-	-	-	-
13/1 (A5 (North) - Westbound)	U		2	3	60.0	Inf	-	-	-	-	-	-
13/2 (A5 (North) - Westbound)	U		2	3	60.0	Inf	-	-	-	-	-	-
14/1 (A45 (North) - Northbound)	U		2	3	60.0	Inf	-	-	-	-	-	-

Traffic Flow Groups

Flow Group	Start Time	End Time	Duration	Formula
13: 'Padge Hall TA - 2031 Base + Committed + Consented + Proposed AM'	08:00	09:00	01:00	
14: 'Padge Hall TA - 2031 Base + Committed + Consented + Proposed PM'	17:00	18:00	01:00	

Scenario 13: '2031 Base + Development AM' (FG13: 'Padge Hall TA - 2031 Base + Committed + Consented + Proposed AM', Plan 1: 'Existing Signal Specification')

Traffic Flows, Desired

Desired Flow :

	Destination					
		A	B	C	D	Tot.
Origin	A	0	390	346	839	1575
	B	614	0	119	346	1079
	C	617	70	0	57	744
	D	721	486	47	45	1299
	Tot.	1952	946	512	1287	4697

Traffic Lane Flows

Lane	Scenario 13: 2031 Base + Development AM
Junction: Dodwells Roundabout	
1/1 (with short)	1299(In) 407(Out)
1/2 (short)	892
2/1	989
2/2	963
3/1	556
3/2	92
4/1	666
4/2 (with short)	909(In) 466(Out)
4/3 (short)	443
5/1	946
6/1 (with short)	1079(In) 708(Out)
6/2 (short)	371
7/1	442
7/2	70
8/1 (with short)	744(In) 396(Out)
8/2 (short)	348
9/1	700
9/2	773
9/3	371
10/1	757
10/2	530
11/1	582
11/2	719
12/1	323
12/2	484
12/3	470
13/1	989
13/2	963
14/1	946

Lane Saturation Flows

Junction: Dodwells Roundabout								
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 (A5 (South) - Entry Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800

1/2 (A5 (South) - Entry Lane 2)	This lane uses a directly entered Saturation Flow						3600	3600
2/1 (A5 (North) - Exit)	3.65	0.00	Y	Arm 13 Ahead	Inf	100.0 %	1980	1980
2/2 (A5 (North) - Exit)	3.65	0.00	Y	Arm 13 Ahead	Inf	100.0 %	1980	1980
3/1 (Circulatory @ A5 (North) Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
3/2 (Circulatory @ A5 (North) Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
4/1 (A5 (North) - Entry Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800
4/2 (A5 (North) - Entry Lane 2)	This lane uses a directly entered Saturation Flow						1800	1800
4/3 (A5 (North) - Entry Lane 3)	This lane uses a directly entered Saturation Flow						1800	1800
5/1 (A45 (North) - Exit)	3.65	0.00	Y	Arm 14 Ahead	Inf	100.0 %	1980	1980
6/1 (A45 (North) - Entry Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800
6/2 (A45 (North) - Entry Lane 2)	This lane uses a directly entered Saturation Flow						1800	1800
7/1 (B4666 - Exit)	3.65	0.00	Y				1980	1980
7/2 (B4666 - Exit)	3.65	0.00	Y				1980	1980
8/1 (B4666 - Entry Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800
8/2 (B4666 - Entry Lane 2)	This lane uses a directly entered Saturation Flow						1800	1800
9/1 (Circulatory @ B4666 Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
9/2 (Circulatory @ B4666 Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
9/3 (Circulatory @ B4666 Lane 3)	This lane uses a directly entered Saturation Flow						1900	1900
10/1 (A5 (South) - Exit)	3.65	0.00	Y				1980	1980
10/2 (A5 (South) - Exit)	3.65	0.00	Y				1980	1980
11/1 (Circulatory @ A5 (South) Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
11/2 (Circulatory @ A5 (South) Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
12/1 (Circulatory @ A47 Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
12/2 (Circulatory @ A47 Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
12/3 (Circulatory @ A47 Lane 3)	This lane uses a directly entered Saturation Flow						1900	1900

Full Input Data And Results

13/1 (A5 (North) - Westbound Lane 1)	Infinite Saturation Flow	Inf	Inf
13/2 (A5 (North) - Westbound Lane 2)	Infinite Saturation Flow	Inf	Inf
14/1 (A45 (North) - Northbound Lane 1)	Infinite Saturation Flow	Inf	Inf

Scenario 14: '2031 Base + Development PM' (FG14: 'Padge Hall TA - 2031 Base + Committed + Consented + Proposed PM', Plan 1: 'Existing Signal Specification')

Traffic Flows, Desired

Desired Flow :

	Destination					
		A	B	C	D	Tot.
Origin	A	0	473	460	833	1766
	B	397	0	100	384	881
	C	479	63	0	90	632
	D	1131	392	81	81	1685
	Tot.	2007	928	641	1388	4964

Traffic Lane Flows

Lane	Scenario 14: 2031 Base + Development PM
Junction: Dodwells Roundabout	
1/1 (with short)	1685(In) 580(Out)
1/2 (short)	1105
2/1	988
2/2	1019
3/1	455
3/2	162
4/1	765
4/2 (with short)	1001(In) 524(Out)
4/3 (short)	477
5/1	928
6/1 (with short)	881(In) 625(Out)
6/2 (short)	256
7/1	473
7/2	168
8/1 (with short)	632(In) 357(Out)
8/2 (short)	275
9/1	667
9/2	772
9/3	256
10/1	757
10/2	631
11/1	408
11/2	531
12/1	373
12/2	553
12/3	529
13/1	988
13/2	1019
14/1	928

Lane Saturation Flows

Junction: Dodwells Roundabout								
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 (A5 (South) - Entry Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800

1/2 (A5 (South) - Entry Lane 2)	This lane uses a directly entered Saturation Flow						3600	3600
2/1 (A5 (North) - Exit)	3.65	0.00	Y	Arm 13 Ahead	Inf	100.0 %	1980	1980
2/2 (A5 (North) - Exit)	3.65	0.00	Y	Arm 13 Ahead	Inf	100.0 %	1980	1980
3/1 (Circulatory @ A5 (North) Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
3/2 (Circulatory @ A5 (North) Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
4/1 (A5 (North) - Entry Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800
4/2 (A5 (North) - Entry Lane 2)	This lane uses a directly entered Saturation Flow						1800	1800
4/3 (A5 (North) - Entry Lane 3)	This lane uses a directly entered Saturation Flow						1800	1800
5/1 (A45 (North) - Exit)	3.65	0.00	Y	Arm 14 Ahead	Inf	100.0 %	1980	1980
6/1 (A45 (North) - Entry Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800
6/2 (A45 (North) - Entry Lane 2)	This lane uses a directly entered Saturation Flow						1800	1800
7/1 (B4666 - Exit)	3.65	0.00	Y				1980	1980
7/2 (B4666 - Exit)	3.65	0.00	Y				1980	1980
8/1 (B4666 - Entry Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800
8/2 (B4666 - Entry Lane 2)	This lane uses a directly entered Saturation Flow						1800	1800
9/1 (Circulatory @ B4666 Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
9/2 (Circulatory @ B4666 Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
9/3 (Circulatory @ B4666 Lane 3)	This lane uses a directly entered Saturation Flow						1900	1900
10/1 (A5 (South) - Exit)	3.65	0.00	Y				1980	1980
10/2 (A5 (South) - Exit)	3.65	0.00	Y				1980	1980
11/1 (Circulatory @ A5 (South) Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
11/2 (Circulatory @ A5 (South) Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
12/1 (Circulatory @ A47 Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
12/2 (Circulatory @ A47 Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
12/3 (Circulatory @ A47 Lane 3)	This lane uses a directly entered Saturation Flow						1900	1900

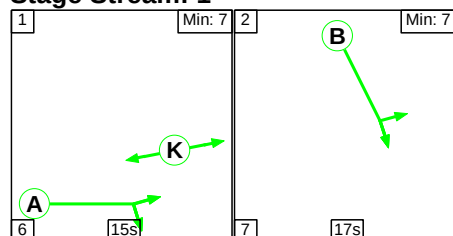
Full Input Data And Results

13/1 (A5 (North) - Westbound Lane 1)	Infinite Saturation Flow	Inf	Inf
13/2 (A5 (North) - Westbound Lane 2)	Infinite Saturation Flow	Inf	Inf
14/1 (A45 (North) - Northbound Lane 1)	Infinite Saturation Flow	Inf	Inf

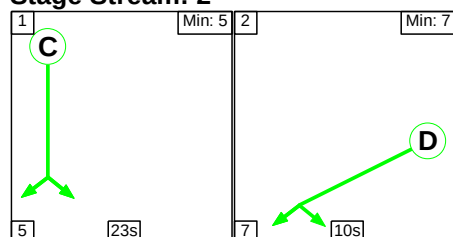
Scenario 13: '2031 Base + Development AM' (FG13: 'Padge Hall TA - 2031 Base + Committed + Consented + Proposed AM', Plan 1: 'Existing Signal Specification')

Stage Sequence Diagram

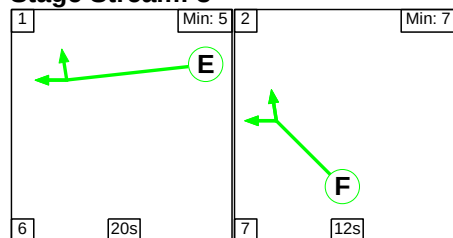
Stage Stream: 1



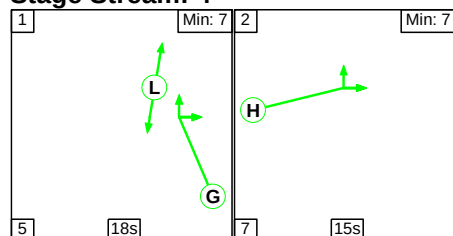
Stage Stream: 2



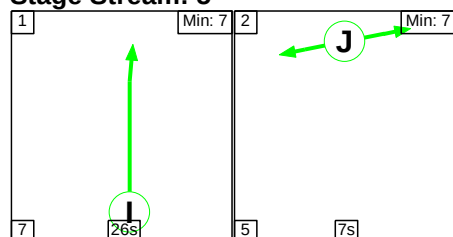
Stage Stream: 3



Stage Stream: 4

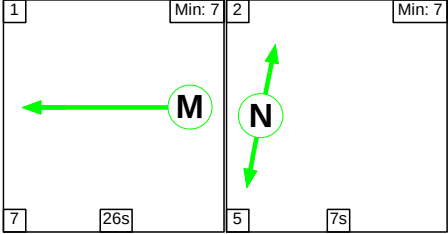


Stage Stream: 5



Full Input Data And Results

Stage Stream: 6



Stage Timings

Stage Stream: 1

Stage	1	2
Duration	15	17
Change Point	3	24

Stage Stream: 2

Stage	1	2
Duration	23	10
Change Point	1	29

Stage Stream: 3

Stage	1	2
Duration	20	12
Change Point	33	14

Stage Stream: 4

Stage	1	2
Duration	18	15
Change Point	21	44

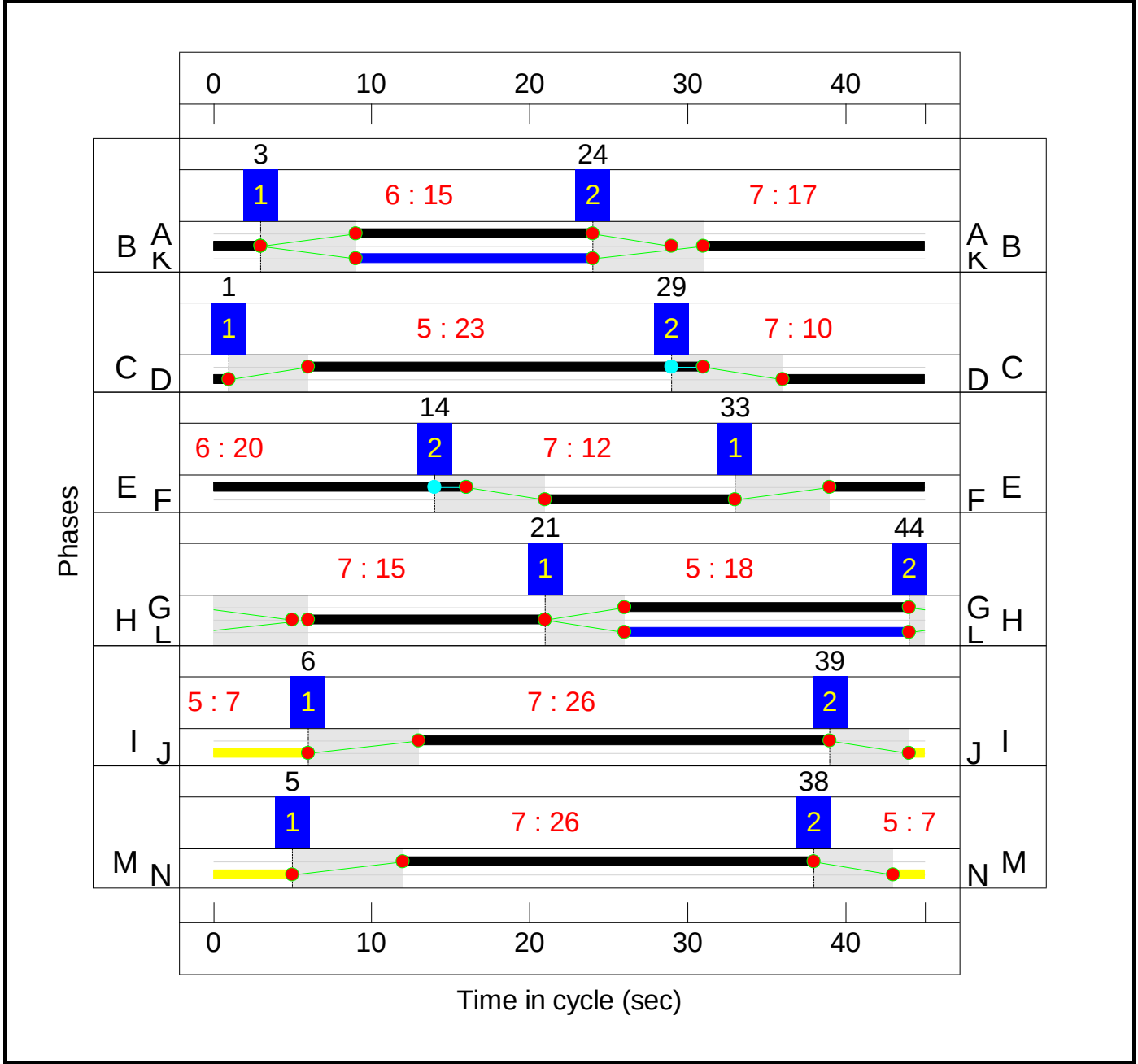
Stage Stream: 5

Stage	1	2
Duration	26	7
Change Point	6	39

Full Input Data And Results
Stage Stream: 6

Stage	1	2
Duration	26	7
Change Point	5	38

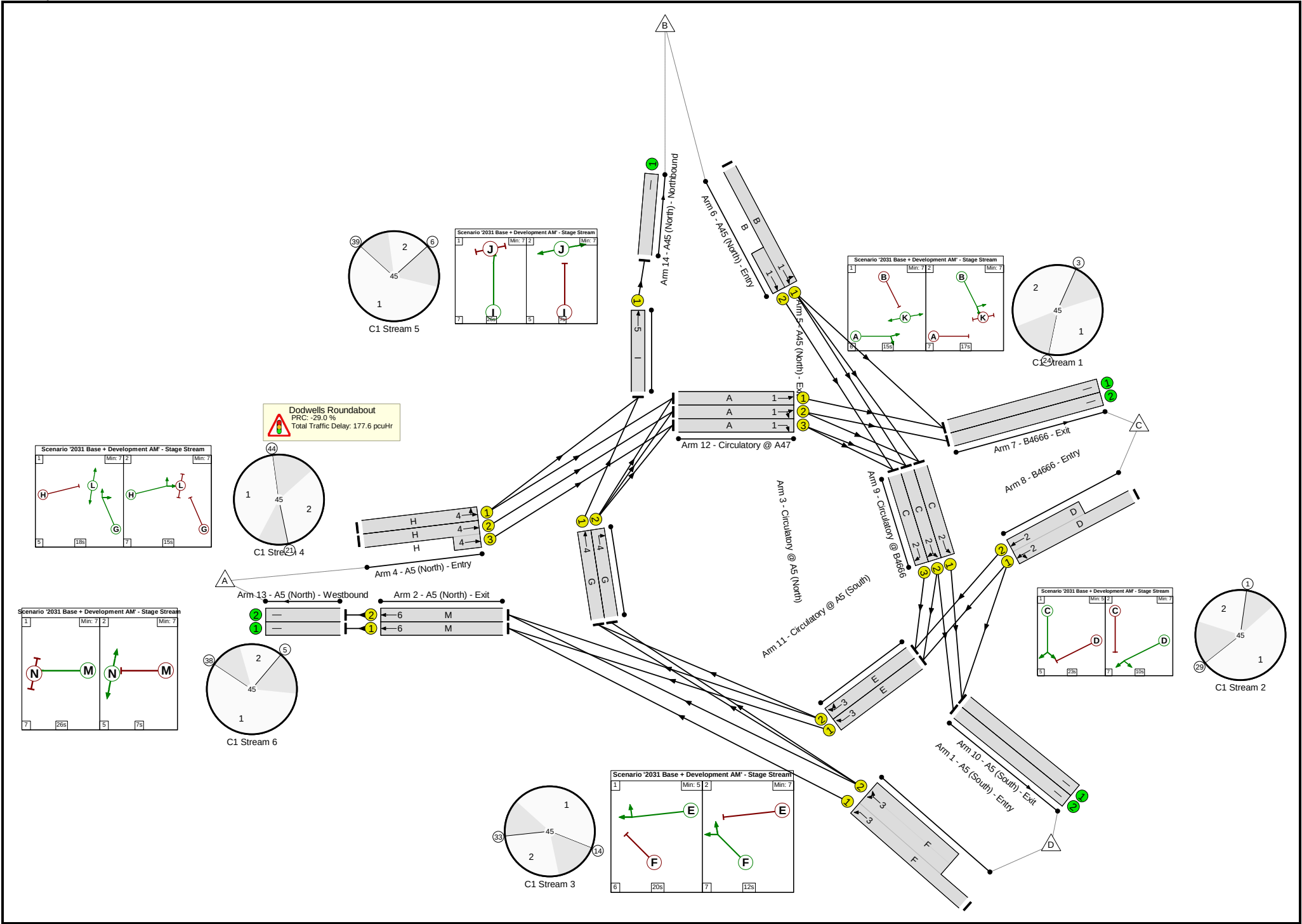
Signal Timings Diagram



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	-	-		-	-	-	-	-	-	116.1%
Dodwells Roundabout	-	-	N/A	-	-		-	-	-	-	-	-	116.1%
1/1+1/2	A5 (South) - Entry Ahead Ahead2	U	3	N/A	F		1	12	-	1299	1800:3600	520+1040	78.3 : 85.8%
2/1	A5 (North) - Exit Ahead	U	6	N/A	M		1	26	-	989	1980	1188	80.4%
2/2	A5 (North) - Exit Ahead	U	6	N/A	M		1	26	-	963	1980	1188	76.7%
3/1	Circulatory @ A5 (North) Ahead	U	4	N/A	G		1	18	-	556	1900	802	69.3%
3/2	Circulatory @ A5 (North) Right	U	4	N/A	G		1	18	-	92	1900	802	11.5%
4/1	A5 (North) - Entry Left Ahead	U	4	N/A	H		1	15	-	666	1800	640	104.1%
4/2+4/3	A5 (North) - Entry Ahead	U	4	N/A	H		1	15	-	909	1800:1800	445+423	104.7 : 104.7%
5/1	A45 (North) - Exit Ahead	U	5	N/A	I		1	26	-	946	1980	1188	78.3%
6/1+6/2	A45 (North) - Entry Left Ahead	U	1	N/A	B		1	17	-	1079	1800:1800	610+320	116.1 : 116.1%
7/1	B4666 - Exit	U	N/A	N/A	-		-	-	-	442	1980	1980	20.9%
7/2	B4666 - Exit	U	N/A	N/A	-		-	-	-	70	1980	1980	3.4%
8/1+8/2	B4666 - Entry Left Ahead	U	2	N/A	D		1	10	-	744	1800:1800	440+440	90.0 : 79.1%
9/1	Circulatory @ B4666 Ahead	U	2	N/A	C		1	25	-	700	1900	1098	58.5%
9/2	Circulatory @ B4666 Ahead Right	U	2	N/A	C		1	25	-	773	1900	1098	64.8%
9/3	Circulatory @ B4666 Right	U	2	N/A	C		1	25	-	371	1900	1098	29.1%
10/1	A5 (South) - Exit	U	N/A	N/A	-		-	-	-	757	1980	1980	35.3%

Full Input Data And Results

10/2	A5 (South) - Exit	U	N/A	N/A	-		-	-	-	530	1980	1980	25.3%
11/1	Circulatory @ A5 (South) Ahead	U	3	N/A	E		1	22	-	582	1900	971	56.5%
11/2	Circulatory @ A5 (South) Ahead Right	U	3	N/A	E		1	22	-	719	1900	971	68.7%
12/1	Circulatory @ A47 Ahead	U	1	N/A	A		1	15	-	323	1900	676	46.2%
12/2	Circulatory @ A47 Ahead Right	U	1	N/A	A		1	15	-	484	1900	676	68.5%
12/3	Circulatory @ A47 Right	U	1	N/A	A		1	15	-	470	1900	676	66.6%
13/1	A5 (North) - Westbound	U	N/A	N/A	-		-	-	-	989	Inf	Inf	0.0%
13/2	A5 (North) - Westbound	U	N/A	N/A	-		-	-	-	963	Inf	Inf	0.0%
14/1	A45 (North) - Northbound	U	N/A	N/A	-		-	-	-	946	Inf	Inf	0.0%

Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	-	-	0	0	0	31.7	145.9	0.0	177.6	-	-	-	-
Dodwells Roundabout	-	-	0	0	0	31.7	145.9	0.0	177.6	-	-	-	-
1/1+1/2	1299	1299	-	-	-	5.4	2.4	-	7.9	21.8	5.2	2.4	7.6
2/1	955	955	-	-	-	1.4	2.0	-	3.4	12.9	7.8	2.0	9.8
2/2	912	912	-	-	-	1.3	1.6	-	2.9	11.6	7.9	1.6	9.6
3/1	556	556	-	-	-	0.4	1.1	-	1.5	10.0	1.1	1.1	2.3
3/2	92	92	-	-	-	0.0	0.1	-	0.1	2.9	0.0	0.1	0.1
4/1	666	640	-	-	-	3.2	20.9	-	24.2	130.6	8.7	20.9	29.6
4/2+4/3	909	868	-	-	-	4.2	28.4	-	32.6	129.1	9.8	28.4	38.2
5/1	931	931	-	-	-	1.2	1.8	-	3.0	11.5	6.3	1.8	8.1
6/1+6/2	1079	930	-	-	-	7.6	78.1	-	85.7	285.9	14.2	78.1	92.4
7/1	415	415	-	-	-	0.0	0.1	-	0.1	1.1	0.0	0.1	0.1
7/2	67	67	-	-	-	0.0	0.0	-	0.0	0.9	0.0	0.0	0.0
8/1+8/2	744	744	-	-	-	3.4	2.6	-	6.0	29.0	4.7	2.6	7.4
9/1	643	643	-	-	-	0.7	0.7	-	1.4	7.7	3.1	0.7	3.8
9/2	711	711	-	-	-	0.7	0.9	-	1.6	8.3	3.3	0.9	4.2
9/3	320	320	-	-	-	1.1	0.2	-	1.3	14.2	4.0	0.2	4.2
10/1	700	700	-	-	-	0.0	0.3	-	0.3	1.4	0.0	0.3	0.3
10/2	502	502	-	-	-	0.0	0.2	-	0.2	1.2	0.0	0.2	0.2
11/1	548	548	-	-	-	0.1	0.6	-	0.7	4.7	0.2	0.6	0.8
11/2	668	668	-	-	-	0.2	1.1	-	1.3	7.0	0.7	1.1	1.8
12/1	312	312	-	-	-	0.4	0.4	-	0.8	9.0	1.1	0.4	1.5
12/2	463	463	-	-	-	0.3	1.1	-	1.3	10.4	1.1	1.1	2.2
12/3	450	450	-	-	-	0.3	1.0	-	1.3	10.2	1.6	1.0	2.6
13/1	955	955	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
13/2	912	912	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

Full Input Data And Results

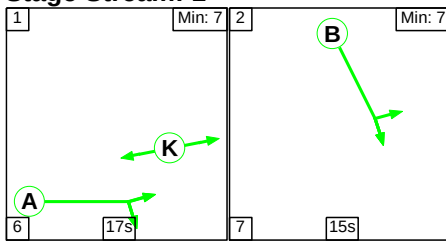
14/1	931	931	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
		C1	Stream: 1 PRC for Signalled Lanes (%)	-29.0	Total Delay for Signalled Lanes (pcuHr):	89.10	Cycle Time (s):	45					
		C1	Stream: 2 PRC for Signalled Lanes (%)	-0.0	Total Delay for Signalled Lanes (pcuHr):	10.27	Cycle Time (s):	45					
		C1	Stream: 3 PRC for Signalled Lanes (%)	4.9	Total Delay for Signalled Lanes (pcuHr):	9.87	Cycle Time (s):	45					
		C1	Stream: 4 PRC for Signalled Lanes (%)	-16.3	Total Delay for Signalled Lanes (pcuHr):	58.39	Cycle Time (s):	45					
		C1	Stream: 5 PRC for Signalled Lanes (%)	14.9	Total Delay for Signalled Lanes (pcuHr):	2.97	Cycle Time (s):	45					
		C1	Stream: 6 PRC for Signalled Lanes (%)	11.9	Total Delay for Signalled Lanes (pcuHr):	6.36	Cycle Time (s):	45					
			PRC Over All Lanes (%)	-29.0	Total Delay Over All Lanes(pcuHr):	177.56							

Full Input Data And Results

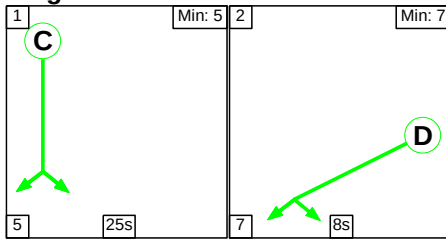
Scenario 14: '2031 Base + Development PM' (FG14: 'Padge Hall TA - 2031 Base + Committed + Consented + Proposed PM', Plan 1: 'Existing Signal Specification')

Stage Sequence Diagram

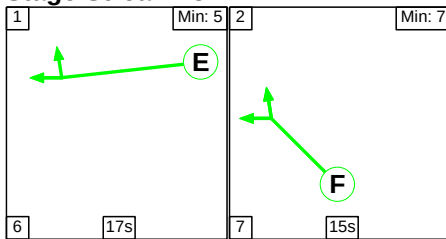
Stage Stream: 1



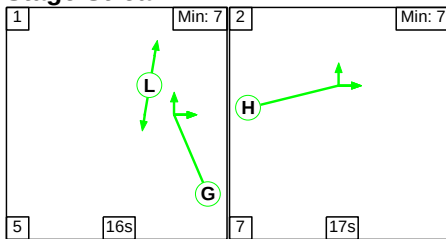
Stage Stream: 2



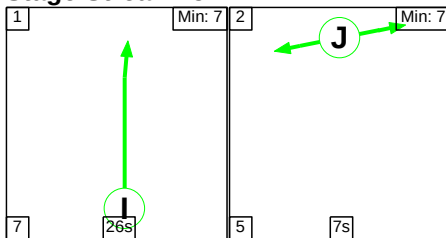
Stage Stream: 3



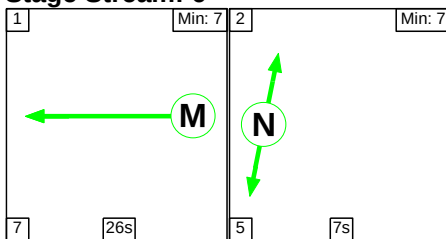
Stage Stream: 4



Stage Stream: 5



Stage Stream: 6



Stage Timings

Stage Stream: 1

Stage	1	2
Duration	17	15
Change Point	3	26

Stage Stream: 2

Stage	1	2
Duration	25	8
Change Point	3	33

Stage Stream: 3

Stage	1	2
Duration	17	15
Change Point	37	15

Stage Stream: 4

Stage	1	2
Duration	16	17
Change Point	23	44

Stage Stream: 5

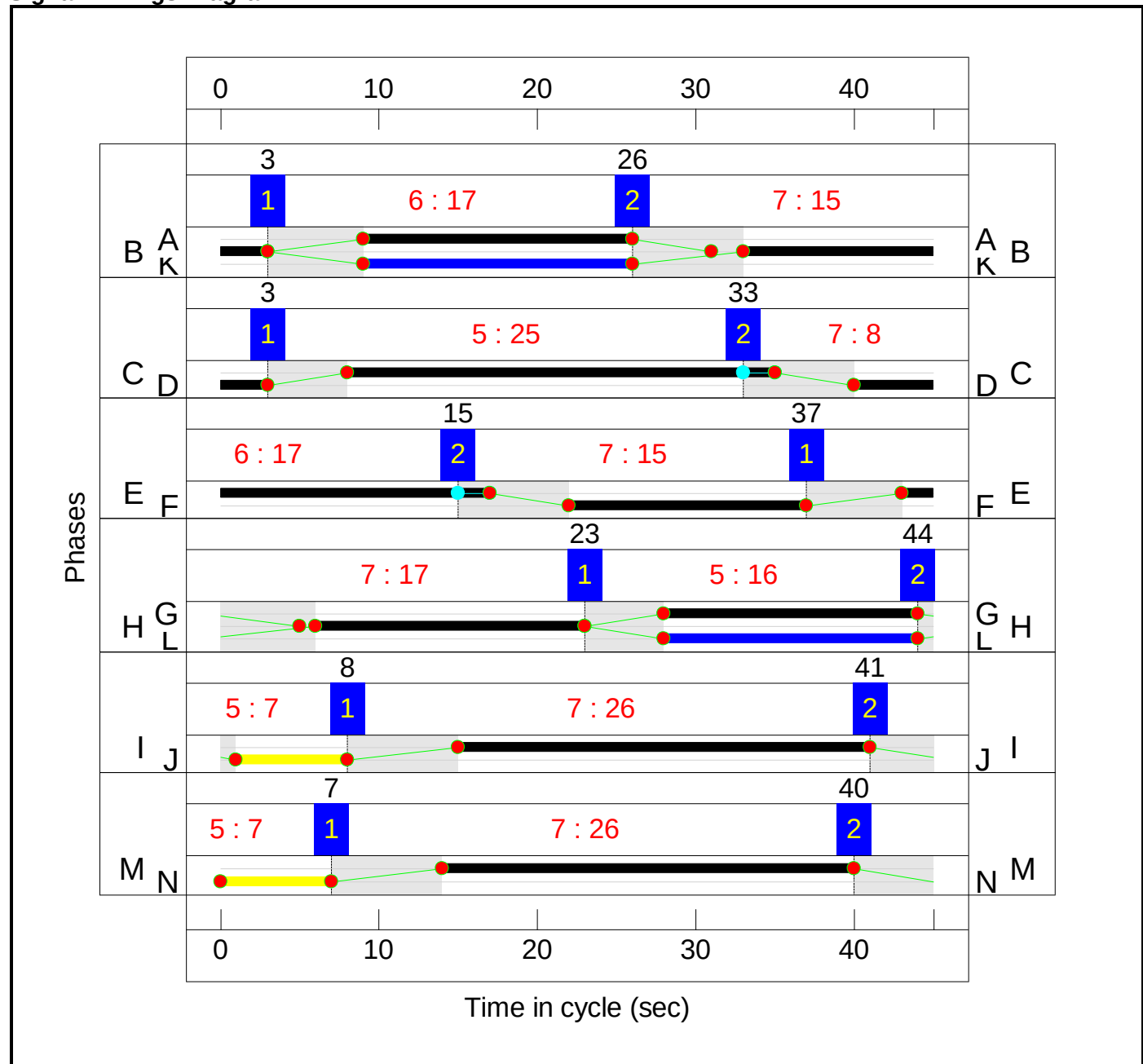
Stage	1	2
Duration	26	7
Change Point	8	41

Full Input Data And Results

Stage Stream: 6

Stage	1	2
Duration	26	7
Change Point	7	40

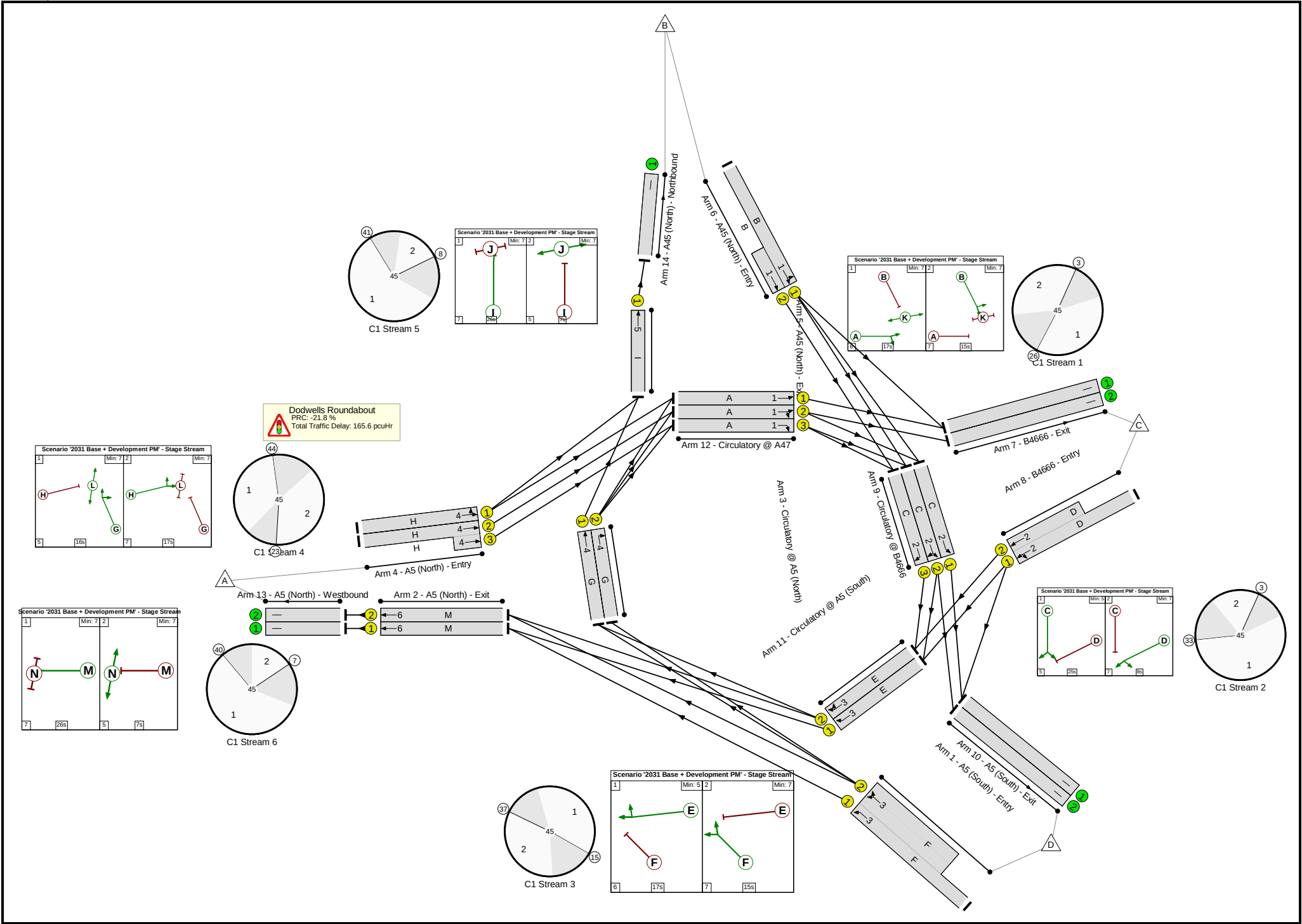
Signal Timings Diagram



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	-	-		-	-	-	-	-	-	109.6%
Dodwells Roundabout	-	-	N/A	-	-		-	-	-	-	-	-	109.6%
1/1+1/2	A5 (South) - Entry Ahead Ahead2	U	3	N/A	F		1	15	-	1685	1800:3600	620+1180	93.6 : 93.6%
2/1	A5 (North) - Exit Ahead	U	6	N/A	M		1	26	-	988	1980	1188	82.1%
2/2	A5 (North) - Exit Ahead	U	6	N/A	M		1	26	-	1019	1980	1188	83.9%
3/1	Circulatory @ A5 (North) Ahead	U	4	N/A	G		1	16	-	455	1900	718	63.4%
3/2	Circulatory @ A5 (North) Right	U	4	N/A	G		1	16	-	162	1900	718	22.6%
4/1	A5 (North) - Entry Left Ahead	U	4	N/A	H		1	17	-	765	1800	720	106.3%
4/2+4/3	A5 (North) - Entry Ahead	U	4	N/A	H		1	17	-	1001	1800:1800	491+447	106.7 : 106.7%
5/1	A45 (North) - Exit Ahead	U	5	N/A	I		1	26	-	928	1980	1188	75.8%
6/1+6/2	A45 (North) - Entry Left Ahead	U	1	N/A	B		1	15	-	881	1800:1800	570+234	109.6 : 109.6%
7/1	B4666 - Exit	U	N/A	N/A	-		-	-	-	473	1980	1980	22.6%
7/2	B4666 - Exit	U	N/A	N/A	-		-	-	-	168	1980	1980	8.0%
8/1+8/2	B4666 - Entry Left Ahead	U	2	N/A	D		1	8	-	632	1800:1800	360+360	99.2 : 76.4%
9/1	Circulatory @ B4666 Ahead	U	2	N/A	C		1	27	-	667	1900	1182	52.4%
9/2	Circulatory @ B4666 Ahead Right	U	2	N/A	C		1	27	-	772	1900	1182	61.0%
9/3	Circulatory @ B4666 Right	U	2	N/A	C		1	27	-	256	1900	1182	19.8%
10/1	A5 (South) - Exit	U	N/A	N/A	-		-	-	-	757	1980	1980	35.9%

Full Input Data And Results

10/2	A5 (South) - Exit	U	N/A	N/A	-		-	-	-	631	1980	1980	29.9%
11/1	Circulatory @ A5 (South) Ahead	U	3	N/A	E		1	19	-	408	1900	844	46.9%
11/2	Circulatory @ A5 (South) Ahead Right	U	3	N/A	E		1	19	-	531	1900	844	60.2%
12/1	Circulatory @ A47 Ahead	U	1	N/A	A		1	17	-	373	1900	760	46.8%
12/2	Circulatory @ A47 Ahead Right	U	1	N/A	A		1	17	-	553	1900	760	68.5%
12/3	Circulatory @ A47 Right	U	1	N/A	A		1	17	-	529	1900	760	65.7%
13/1	A5 (North) - Westbound	U	N/A	N/A	-		-	-	-	988	Inf	Inf	0.0%
13/2	A5 (North) - Westbound	U	N/A	N/A	-		-	-	-	1019	Inf	Inf	0.0%
14/1	A45 (North) - Northbound	U	N/A	N/A	-		-	-	-	928	Inf	Inf	0.0%

Full Input Data And Results

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	-	-	0	0	0	32.0	133.6	0.0	165.6	-	-	-	-
Dodwells Roundabout	-	-	0	0	0	32.0	133.6	0.0	165.6	-	-	-	-
1/1+1/2	1685	1685	-	-	-	6.4	6.6	-	12.9	27.6	6.8	6.6	13.3
2/1	976	976	-	-	-	1.9	2.2	-	4.2	15.3	7.8	2.2	10.0
2/2	997	997	-	-	-	1.7	2.5	-	4.2	15.2	7.8	2.5	10.4
3/1	455	455	-	-	-	0.5	0.9	-	1.3	10.6	1.6	0.9	2.5
3/2	162	162	-	-	-	0.1	0.1	-	0.2	4.6	0.1	0.1	0.3
4/1	765	720	-	-	-	3.8	29.1	-	32.9	154.7	10.1	29.1	39.2
4/2+4/3	1001	938	-	-	-	4.7	37.9	-	42.5	152.9	11.4	37.9	49.3
5/1	900	900	-	-	-	1.2	1.5	-	2.8	11.1	7.2	1.5	8.8
6/1+6/2	881	804	-	-	-	5.3	43.6	-	48.9	199.8	11.2	43.6	54.8
7/1	447	447	-	-	-	0.0	0.1	-	0.1	1.2	0.0	0.1	0.1
7/2	158	158	-	-	-	0.0	0.0	-	0.0	1.0	0.0	0.0	0.0
8/1+8/2	632	632	-	-	-	3.1	3.3	-	6.4	36.6	4.4	3.3	7.7
9/1	620	620	-	-	-	0.7	0.6	-	1.3	7.5	3.4	0.6	4.0
9/2	721	721	-	-	-	0.6	0.8	-	1.4	7.0	2.8	0.8	3.6
9/3	234	234	-	-	-	0.8	0.1	-	0.9	14.0	2.9	0.1	3.0
10/1	710	710	-	-	-	0.0	0.3	-	0.3	1.4	0.0	0.3	0.3
10/2	592	592	-	-	-	0.0	0.2	-	0.2	1.3	0.0	0.2	0.2
11/1	396	396	-	-	-	0.1	0.4	-	0.5	4.5	0.1	0.4	0.5
11/2	509	509	-	-	-	0.1	0.8	-	0.9	6.2	0.2	0.8	1.0
12/1	356	356	-	-	-	0.5	0.4	-	0.9	9.2	1.6	0.4	2.1
12/2	520	520	-	-	-	0.3	1.1	-	1.4	9.4	2.1	1.1	3.2
12/3	499	499	-	-	-	0.4	1.0	-	1.3	9.7	3.3	1.0	4.2
13/1	976	976	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
13/2	997	997	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

Full Input Data And Results

14/1	900	900	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
		C1	Stream: 1 PRC for Signalled Lanes (%):	-21.8		Total Delay for Signalled Lanes (pcuHr):	52.51		Cycle Time (s):	45			
		C1	Stream: 2 PRC for Signalled Lanes (%):	-10.2		Total Delay for Signalled Lanes (pcuHr):	10.02		Cycle Time (s):	45			
		C1	Stream: 3 PRC for Signalled Lanes (%):	-4.0		Total Delay for Signalled Lanes (pcuHr):	14.30		Cycle Time (s):	45			
		C1	Stream: 4 PRC for Signalled Lanes (%):	-18.5		Total Delay for Signalled Lanes (pcuHr):	76.94		Cycle Time (s):	45			
		C1	Stream: 5 PRC for Signalled Lanes (%):	18.8		Total Delay for Signalled Lanes (pcuHr):	2.77		Cycle Time (s):	45			
		C1	Stream: 6 PRC for Signalled Lanes (%):	7.3		Total Delay for Signalled Lanes (pcuHr):	8.37		Cycle Time (s):	45			
			PRC Over All Lanes (%):	-21.8		Total Delay Over All Lanes(pcuHr):	165.58						

Appendix C LinSig Outputs (Without Committed Padge Hall Farm Improvement)

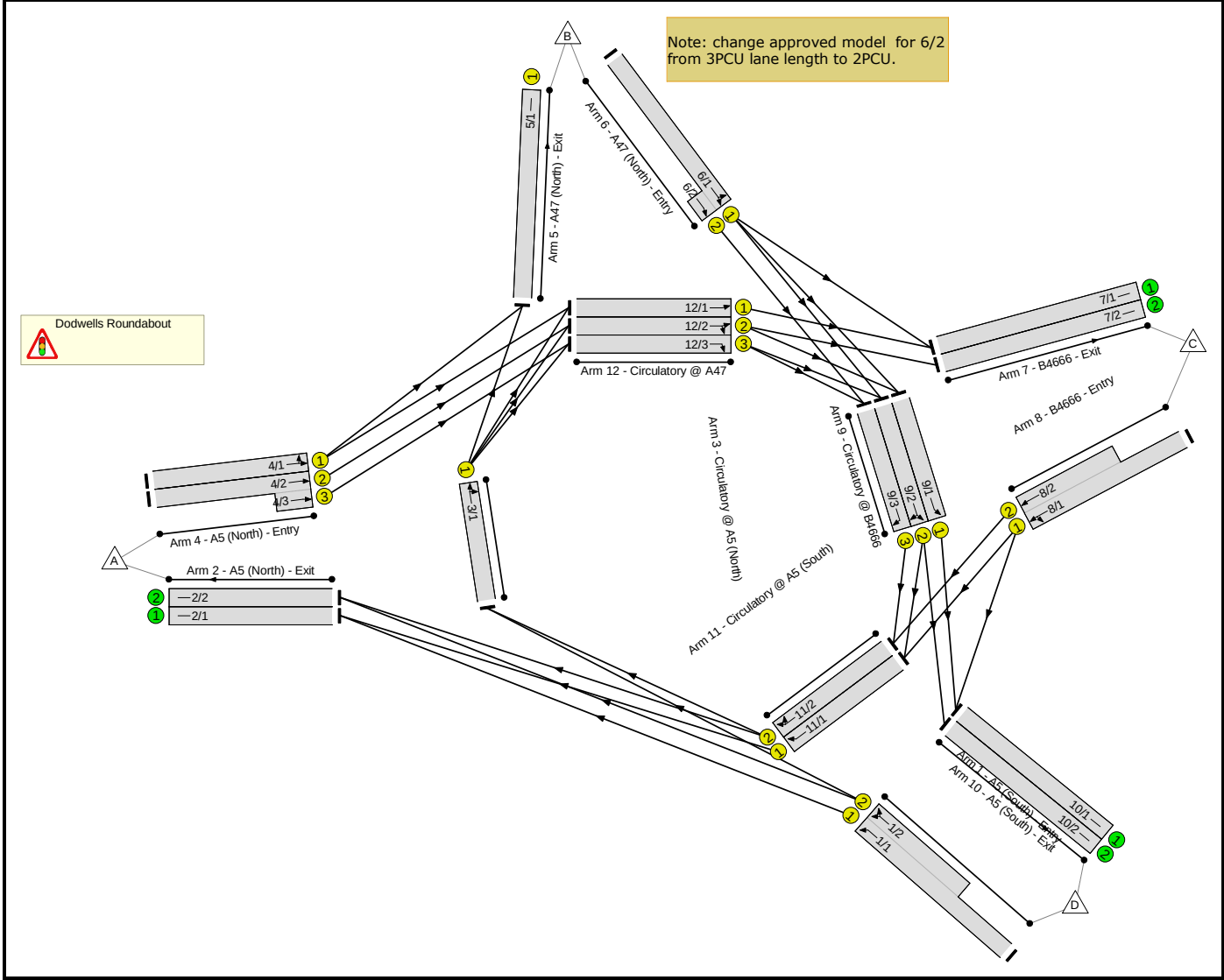
Full Input Data And Results

Full Input Data And Results

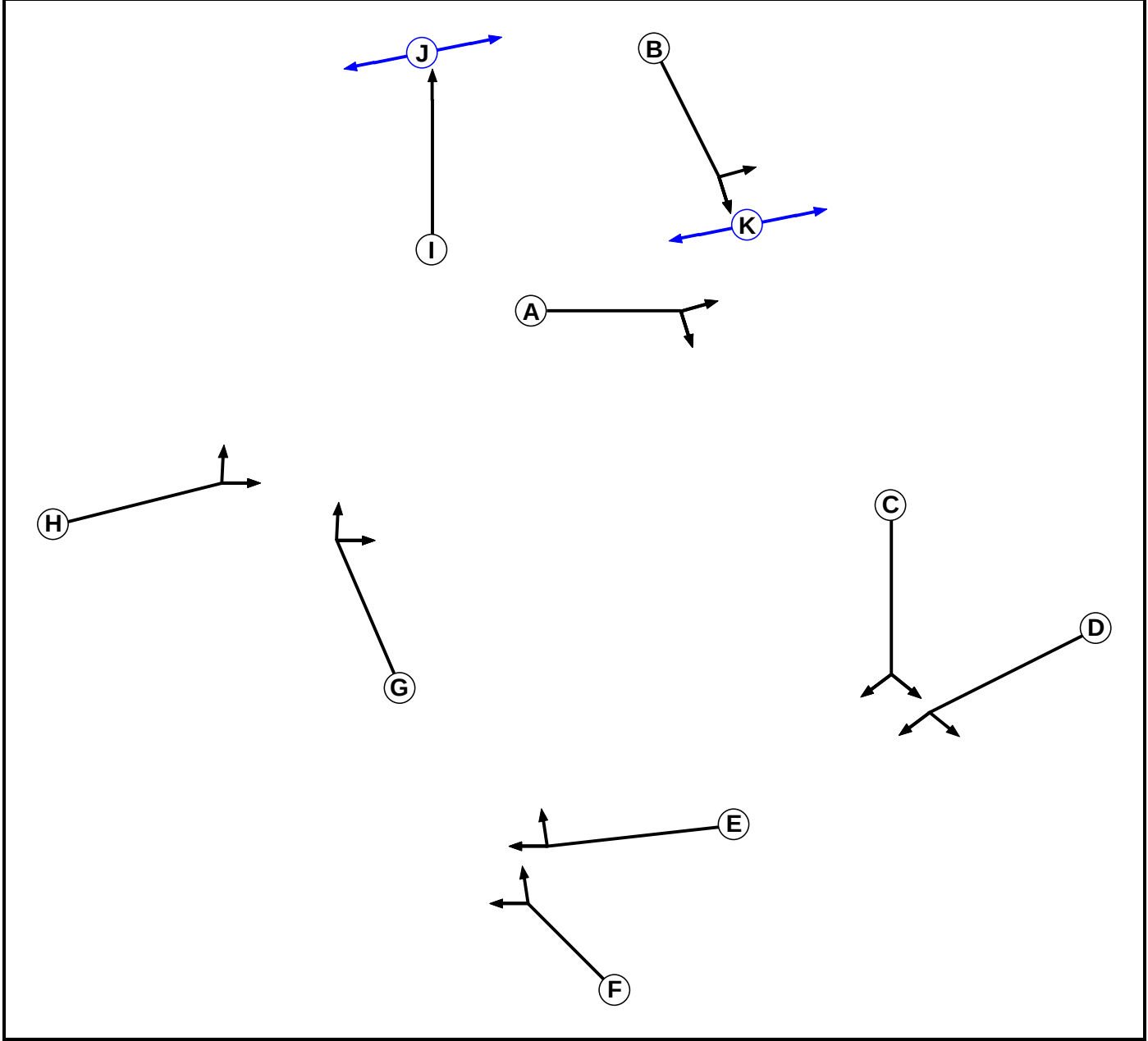
User and Project Details

Project:	
Title:	
Location:	
Additional detail:	
File name:	Hinckley - Existing Layout.lsg3x
Author:	
Company:	
Address:	

Network Layout Diagram



Phase Diagram



Full Input Data And Results

Phase Input Data

Phase Name	Phase Type	Stage Stream	Assoc. Phase	Street Min	Cont Min
A	Traffic	1		7	7
B	Traffic	1		7	7
C	Traffic	2		7	7
D	Traffic	2		7	7
E	Traffic	3		7	7
F	Traffic	3		7	7
G	Traffic	4		7	7
H	Traffic	4		7	7
I	Traffic	5		7	7
J	Pedestrian	5		7	7
K	Pedestrian	1		7	7

Phase Intergreens Matrix

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

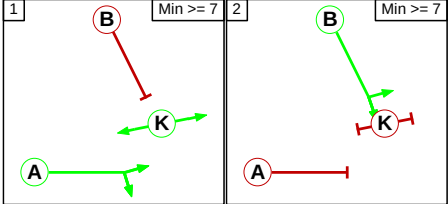
Phases in Stage

Stream	Stage No.	Phases in Stage
1	1	A K
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

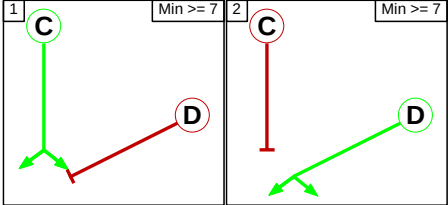
Stage Diagram

Full Input Data And Results

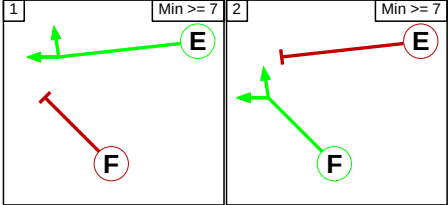
Stage Stream: 1



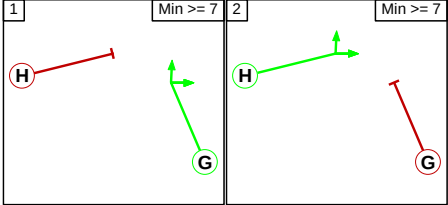
Stage Stream: 2



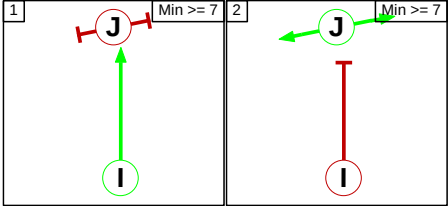
Stage Stream: 3



Stage Stream: 4



Stage Stream: 5



Phase Delays

Stage Stream: 1

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

Stage Stream: 2

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

Stage Stream: 3

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

Full Input Data And Results

Stage Stream: 4

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

Stage Stream: 5

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

Prohibited Stage Change

Stage Stream: 1

From Stage	To Stage		
		1	2
	1		7
	2	6	

Stage Stream: 2

From Stage	To Stage		
		1	2
	1		5
	2	5	

Stage Stream: 3

From Stage	To Stage		
		1	2
	1		5
	2	6	

Stage Stream: 4

From Stage	To Stage		
		1	2
	1		6
	2	5	

Stage Stream: 5

From Stage	To Stage		
		1	2
	1		5
	2	7	

Full Input Data And Results

Give-Way Lane Input Data

Junction: Dodwells Roundabout
There are no Opposed Lanes in this Junction

Full Input Data And Results

Lane Input Data

Junction: Dodwells Roundabout												
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 (A5 (South) - Entry)	U	F	2	3	60.0	User	1800	-	-	-	-	-
1/2 (A5 (South) - Entry)	U	F	2	3	10.0	User	1800	-	-	-	-	-
2/1 (A5 (North) - Exit)	U		2	3	5.0	Inf	-	-	-	-	-	-
2/2 (A5 (North) - Exit)	U		2	3	5.0	Inf	-	-	-	-	-	-
3/1 (Circulatory @ A5 (North))	U	G	2	3	13.9	User	1900	-	-	-	-	-
4/1 (A5 (North) - Entry)	U	H	2	3	60.0	User	1800	-	-	-	-	-
4/2 (A5 (North) - Entry)	U	H	2	3	60.0	User	1800	-	-	-	-	-
4/3 (A5 (North) - Entry)	U	H	2	3	3.0	User	1800	-	-	-	-	-
5/1 (A47 (North) - Exit)	U	I	2	3	6.1	Geom	-	3.50	0.00	Y		
6/1 (A47 (North) - Entry)	U	B	2	3	60.0	User	1800	-	-	-	-	-
6/2 (A47 (North) - Entry)	U	B	2	3	2.0	User	1800	-	-	-	-	-
7/1 (B4666 - Exit)	U		2	3	5.0	Inf	-	-	-	-	-	-
7/2 (B4666 - Exit)	U		2	3	5.0	Inf	-	-	-	-	-	-
8/1 (B4666 - Entry)	U	D	2	3	60.0	User	1800	-	-	-	-	-
8/2 (B4666 - Entry)	U	D	2	3	9.0	User	1800	-	-	-	-	-
9/1 (Circulatory @ B4666)	U	C	2	3	8.7	User	1900	-	-	-	-	-
9/2 (Circulatory @ B4666)	U	C	2	3	8.7	User	1900	-	-	-	-	-
9/3 (Circulatory @ B4666)	U	C	2	3	8.7	User	1900	-	-	-	-	-

Full Input Data And Results

10/1 (A5 (South) - Exit)	U		2	3	5.0	Inf	-	-	-	-	-	-
10/2 (A5 (South) - Exit)	U		2	3	5.0	Inf	-	-	-	-	-	-
11/1 (Circulatory @ A5 (South))	U	E	2	3	6.1	User	1900	-	-	-	-	-
11/2 (Circulatory @ A5 (South))	U	E	2	3	6.1	User	1900	-	-	-	-	-
12/1 (Circulatory @ A47)	U	A	2	3	7.5	User	1900	-	-	-	-	-
12/2 (Circulatory @ A47)	U	A	2	3	7.5	User	1900	-	-	-	-	-
12/3 (Circulatory @ A47)	U	A	2	3	7.5	User	1900	-	-	-	-	-

Traffic Flow Groups

Flow Group	Start Time	End Time	Duration	Formula
3: 'Capricorn TA - 2026 Base + Committed + Consented AM'	08:00	09:00	01:00	
4: 'Capricorn TA - 2026 Base + Committed + Consented PM'	17:00	18:00	01:00	
5: 'Capricorn TA - 2026 Base + Committed + Consented + Proposed AM'	08:00	09:00	01:00	
6: 'Capricorn TA - 2026 Base + Committed + Consented + Proposed PM'	17:00	18:00	01:00	

Scenario 3: '2026 Base AM' (FG3: 'Capricorn TA - 2026 Base + Committed + Consented AM', Plan 1: 'Existing Signal Specification')

Traffic Flows, Desired

Desired Flow :

	Destination					
Origin		A	B	C	D	Tot.
	A	8	444	352	524	1328
	B	651	0	111	261	1023
	C	444	101	0	53	598
	D	403	286	37	0	726
	Tot.	1506	831	500	838	3675

Traffic Lane Flows

Lane	Scenario 3: 2026 Base AM
Junction: Dodwells Roundabout	
1/1 (with short)	726(In) 363(Out)
1/2 (short)	363
2/1	941
2/2	565
3/1	424
4/1	561
4/2 (with short)	767(In) 405(Out)
4/3 (short)	362
5/1	831
6/1 (with short)	1023(In) 678(Out)
6/2 (short)	345
7/1	265
7/2	235
8/1 (with short)	598(In) 324(Out)
8/2 (short)	274
9/1	427
9/2	665
9/3	352
10/1	480
10/2	358
11/1	578
11/2	626
12/1	154
12/2	405
12/3	362

Lane Saturation Flows

Junction: Dodwells Roundabout								
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 (A5 (South) - Entry Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800
1/2 (A5 (South) - Entry Lane 2)	This lane uses a directly entered Saturation Flow						1800	1800
2/1 (A5 (North) - Exit Lane 1)	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

2/2 (A5 (North) - Exit Lane 2)	Infinite Saturation Flow					Inf	Inf
3/1 (Circulatory @ A5 (North) Lane 1)	This lane uses a directly entered Saturation Flow					1900	1900
4/1 (A5 (North) - Entry Lane 1)	This lane uses a directly entered Saturation Flow					1800	1800
4/2 (A5 (North) - Entry Lane 2)	This lane uses a directly entered Saturation Flow					1800	1800
4/3 (A5 (North) - Entry Lane 3)	This lane uses a directly entered Saturation Flow					1800	1800
5/1 (A47 (North) - Exit)	3.50	0.00	Y			1965	1965
6/1 (A47 (North) - Entry Lane 1)	This lane uses a directly entered Saturation Flow					1800	1800
6/2 (A47 (North) - Entry Lane 2)	This lane uses a directly entered Saturation Flow					1800	1800
7/1 (B4666 - Exit Lane 1)	Infinite Saturation Flow					Inf	Inf
7/2 (B4666 - Exit Lane 2)	Infinite Saturation Flow					Inf	Inf
8/1 (B4666 - Entry Lane 1)	This lane uses a directly entered Saturation Flow					1800	1800
8/2 (B4666 - Entry Lane 2)	This lane uses a directly entered Saturation Flow					1800	1800
9/1 (Circulatory @ B4666 Lane 1)	This lane uses a directly entered Saturation Flow					1900	1900
9/2 (Circulatory @ B4666 Lane 2)	This lane uses a directly entered Saturation Flow					1900	1900
9/3 (Circulatory @ B4666 Lane 3)	This lane uses a directly entered Saturation Flow					1900	1900
10/1 (A5 (South) - Exit Lane 1)	Infinite Saturation Flow					Inf	Inf
10/2 (A5 (South) - Exit Lane 2)	Infinite Saturation Flow					Inf	Inf
11/1 (Circulatory @ A5 (South) Lane 1)	This lane uses a directly entered Saturation Flow					1900	1900
11/2 (Circulatory @ A5 (South) Lane 2)	This lane uses a directly entered Saturation Flow					1900	1900
12/1 (Circulatory @ A47 Lane 1)	This lane uses a directly entered Saturation Flow					1900	1900
12/2 (Circulatory @ A47 Lane 2)	This lane uses a directly entered Saturation Flow					1900	1900
12/3 (Circulatory @ A47 Lane 3)	This lane uses a directly entered Saturation Flow					1900	1900

Full Input Data And Results

Scenario 4: '2026 Base PM' (FG4: 'Capricorn TA - 2026 Base + Committed + Consented PM', Plan 1: 'Existing Signal Specification')

Traffic Flows, Desired

Desired Flow :

Origin	Destination					
		A	B	C	D	Tot.
	A	7	509	466	278	1260
	B	665	0	76	296	1037
	C	445	96	0	68	609
	D	464	286	37	0	787
	Tot.	1581	891	579	642	3693

Traffic Lane Flows

Lane	Scenario 4: 2026 Base PM
Junction: Dodwells Roundabout	
1/1 (with short)	787(In) 394(Out)
1/2 (short)	393
2/1	980
2/2	601
3/1	419
4/1	560
4/2 (with short)	700(In) 416(Out)
4/3 (short)	284
5/1	891
6/1 (with short)	1037(In) 697(Out)
6/2 (short)	340
7/1	164
7/2	415
8/1 (with short)	609(In) 325(Out)
8/2 (short)	284
9/1	297
9/2	606
9/3	343
10/1	365
10/2	277
11/1	586
11/2	627
12/1	88
12/2	416
12/3	284

Lane Saturation Flows

Junction: Dodwells Roundabout								
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 (A5 (South) - Entry Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800
1/2 (A5 (South) - Entry Lane 2)	This lane uses a directly entered Saturation Flow						1800	1800
2/1 (A5 (North) - Exit Lane 1)	Infinite Saturation Flow						Inf	Inf

2/2 (A5 (North) - Exit Lane 2)	Infinite Saturation Flow						Inf	Inf
3/1 (Circulatory @ A5 (North) Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
4/1 (A5 (North) - Entry Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800
4/2 (A5 (North) - Entry Lane 2)	This lane uses a directly entered Saturation Flow						1800	1800
4/3 (A5 (North) - Entry Lane 3)	This lane uses a directly entered Saturation Flow						1800	1800
5/1 (A47 (North) - Exit)	3.50	0.00	Y				1965	1965
6/1 (A47 (North) - Entry Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800
6/2 (A47 (North) - Entry Lane 2)	This lane uses a directly entered Saturation Flow						1800	1800
7/1 (B4666 - Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
7/2 (B4666 - Exit Lane 2)	Infinite Saturation Flow						Inf	Inf
8/1 (B4666 - Entry Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800
8/2 (B4666 - Entry Lane 2)	This lane uses a directly entered Saturation Flow						1800	1800
9/1 (Circulatory @ B4666 Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
9/2 (Circulatory @ B4666 Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
9/3 (Circulatory @ B4666 Lane 3)	This lane uses a directly entered Saturation Flow						1900	1900
10/1 (A5 (South) - Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
10/2 (A5 (South) - Exit Lane 2)	Infinite Saturation Flow						Inf	Inf
11/1 (Circulatory @ A5 (South) Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
11/2 (Circulatory @ A5 (South) Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
12/1 (Circulatory @ A47 Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
12/2 (Circulatory @ A47 Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
12/3 (Circulatory @ A47 Lane 3)	This lane uses a directly entered Saturation Flow						1900	1900

Full Input Data And Results

Scenario 5: '2026 Base + Development AM' (FG5: 'Capricorn TA - 2026 Base + Committed + Consented + Proposed AM', Plan 1: 'Existing Signal Specification')

Traffic Flows, Desired

Desired Flow :

Origin	Destination					
		A	B	C	D	Tot.
	A	8	450	352	524	1334
	B	665	0	114	277	1056
	C	444	102	0	53	599
	D	403	293	37	0	733
	Tot.	1520	845	503	854	3722

Traffic Lane Flows

Lane	Scenario 5: 2026 Base + Development AM
Junction: Dodwells Roundabout	
1/1 (with short)	733(In) 366(Out)
1/2 (short)	367
2/1	950
2/2	570
3/1	432
4/1	563
4/2 (with short)	771(In) 407(Out)
4/3 (short)	364
5/1	845
6/1 (with short)	1056(In) 702(Out)
6/2 (short)	354
7/1	264
7/2	239
8/1 (with short)	599(In) 324(Out)
8/2 (short)	275
9/1	440
9/2	674
9/3	360
10/1	493
10/2	361
11/1	584
11/2	635
12/1	150
12/2	407
12/3	364

Lane Saturation Flows

Junction: Dodwells Roundabout								
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 (A5 (South) - Entry Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800
1/2 (A5 (South) - Entry Lane 2)	This lane uses a directly entered Saturation Flow						1800	1800
2/1 (A5 (North) - Exit Lane 1)	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

2/2 (A5 (North) - Exit Lane 2)	Infinite Saturation Flow					Inf	Inf
3/1 (Circulatory @ A5 (North) Lane 1)	This lane uses a directly entered Saturation Flow					1900	1900
4/1 (A5 (North) - Entry Lane 1)	This lane uses a directly entered Saturation Flow					1800	1800
4/2 (A5 (North) - Entry Lane 2)	This lane uses a directly entered Saturation Flow					1800	1800
4/3 (A5 (North) - Entry Lane 3)	This lane uses a directly entered Saturation Flow					1800	1800
5/1 (A47 (North) - Exit)	3.50	0.00	Y			1965	1965
6/1 (A47 (North) - Entry Lane 1)	This lane uses a directly entered Saturation Flow					1800	1800
6/2 (A47 (North) - Entry Lane 2)	This lane uses a directly entered Saturation Flow					1800	1800
7/1 (B4666 - Exit Lane 1)	Infinite Saturation Flow					Inf	Inf
7/2 (B4666 - Exit Lane 2)	Infinite Saturation Flow					Inf	Inf
8/1 (B4666 - Entry Lane 1)	This lane uses a directly entered Saturation Flow					1800	1800
8/2 (B4666 - Entry Lane 2)	This lane uses a directly entered Saturation Flow					1800	1800
9/1 (Circulatory @ B4666 Lane 1)	This lane uses a directly entered Saturation Flow					1900	1900
9/2 (Circulatory @ B4666 Lane 2)	This lane uses a directly entered Saturation Flow					1900	1900
9/3 (Circulatory @ B4666 Lane 3)	This lane uses a directly entered Saturation Flow					1900	1900
10/1 (A5 (South) - Exit Lane 1)	Infinite Saturation Flow					Inf	Inf
10/2 (A5 (South) - Exit Lane 2)	Infinite Saturation Flow					Inf	Inf
11/1 (Circulatory @ A5 (South) Lane 1)	This lane uses a directly entered Saturation Flow					1900	1900
11/2 (Circulatory @ A5 (South) Lane 2)	This lane uses a directly entered Saturation Flow					1900	1900
12/1 (Circulatory @ A47 Lane 1)	This lane uses a directly entered Saturation Flow					1900	1900
12/2 (Circulatory @ A47 Lane 2)	This lane uses a directly entered Saturation Flow					1900	1900
12/3 (Circulatory @ A47 Lane 3)	This lane uses a directly entered Saturation Flow					1900	1900

Full Input Data And Results

Scenario 6: '2026 Base + Development PM' (FG6: 'Capricorn TA - 2026 Base + Committed + Consented + Proposed PM', Plan 1: 'Existing Signal Specification')

Traffic Flows, Desired

Desired Flow :

Origin	Destination					
		A	B	C	D	Tot.
	A	7	518	466	278	1269
	B	673	0	78	305	1056
	C	445	98	0	68	611
	D	464	296	37	0	797
	Tot.	1589	912	581	651	3733

Traffic Lane Flows

Lane	Scenario 6: 2026 Base + Development PM
Junction: Dodwells Roundabout	
1/1 (with short)	797(In) 399(Out)
1/2 (short)	398
2/1	990
2/2	599
3/1	431
4/1	565
4/2 (with short)	704(In) 420(Out)
4/3 (short)	284
5/1	912
6/1 (with short)	1056(In) 712(Out)
6/2 (short)	344
7/1	162
7/2	419
8/1 (with short)	611(In) 326(Out)
8/2 (short)	285
9/1	306
9/2	610
9/3	347
10/1	374
10/2	277
11/1	591
11/2	632
12/1	84
12/2	420
12/3	284

Lane Saturation Flows

Junction: Dodwells Roundabout								
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 (A5 (South) - Entry Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800
1/2 (A5 (South) - Entry Lane 2)	This lane uses a directly entered Saturation Flow						1800	1800
2/1 (A5 (North) - Exit Lane 1)	Infinite Saturation Flow						Inf	Inf

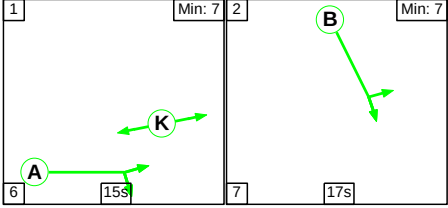
2/2 (A5 (North) - Exit Lane 2)	Infinite Saturation Flow						Inf	Inf
3/1 (Circulatory @ A5 (North) Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
4/1 (A5 (North) - Entry Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800
4/2 (A5 (North) - Entry Lane 2)	This lane uses a directly entered Saturation Flow						1800	1800
4/3 (A5 (North) - Entry Lane 3)	This lane uses a directly entered Saturation Flow						1800	1800
5/1 (A47 (North) - Exit)	3.50	0.00	Y				1965	1965
6/1 (A47 (North) - Entry Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800
6/2 (A47 (North) - Entry Lane 2)	This lane uses a directly entered Saturation Flow						1800	1800
7/1 (B4666 - Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
7/2 (B4666 - Exit Lane 2)	Infinite Saturation Flow						Inf	Inf
8/1 (B4666 - Entry Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800
8/2 (B4666 - Entry Lane 2)	This lane uses a directly entered Saturation Flow						1800	1800
9/1 (Circulatory @ B4666 Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
9/2 (Circulatory @ B4666 Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
9/3 (Circulatory @ B4666 Lane 3)	This lane uses a directly entered Saturation Flow						1900	1900
10/1 (A5 (South) - Exit Lane 1)	Infinite Saturation Flow						Inf	Inf
10/2 (A5 (South) - Exit Lane 2)	Infinite Saturation Flow						Inf	Inf
11/1 (Circulatory @ A5 (South) Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
11/2 (Circulatory @ A5 (South) Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
12/1 (Circulatory @ A47 Lane 1)	This lane uses a directly entered Saturation Flow						1900	1900
12/2 (Circulatory @ A47 Lane 2)	This lane uses a directly entered Saturation Flow						1900	1900
12/3 (Circulatory @ A47 Lane 3)	This lane uses a directly entered Saturation Flow						1900	1900

Full Input Data And Results

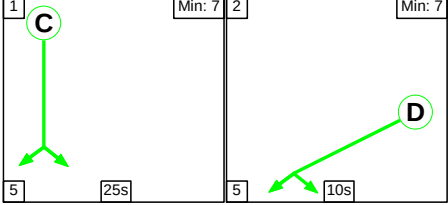
Scenario 3: '2026 Base AM' (FG3: 'Capricorn TA - 2026 Base + Committed + Consented AM', Plan 1: 'Existing Signal Specification')

Stage Sequence Diagram

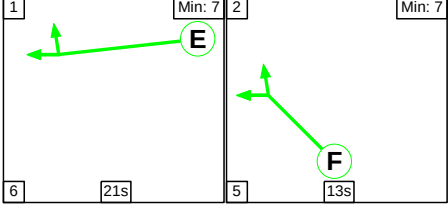
Stage Stream: 1



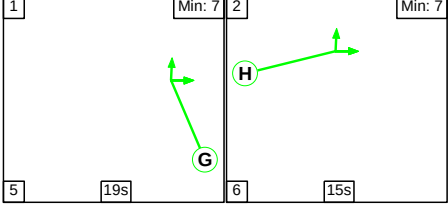
Stage Stream: 2



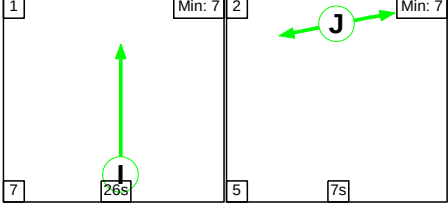
Stage Stream: 3



Stage Stream: 4



Stage Stream: 5



Stage Timings

Stage Stream: 1

Stage	1	2
Duration	15	17
Change Point	3	24

Stage Stream: 2

Stage	1	2
Duration	25	10
Change Point	1	31

Full Input Data And Results

Stage Stream: 3

Stage	1	2
Duration	21	13
Change Point	33	15

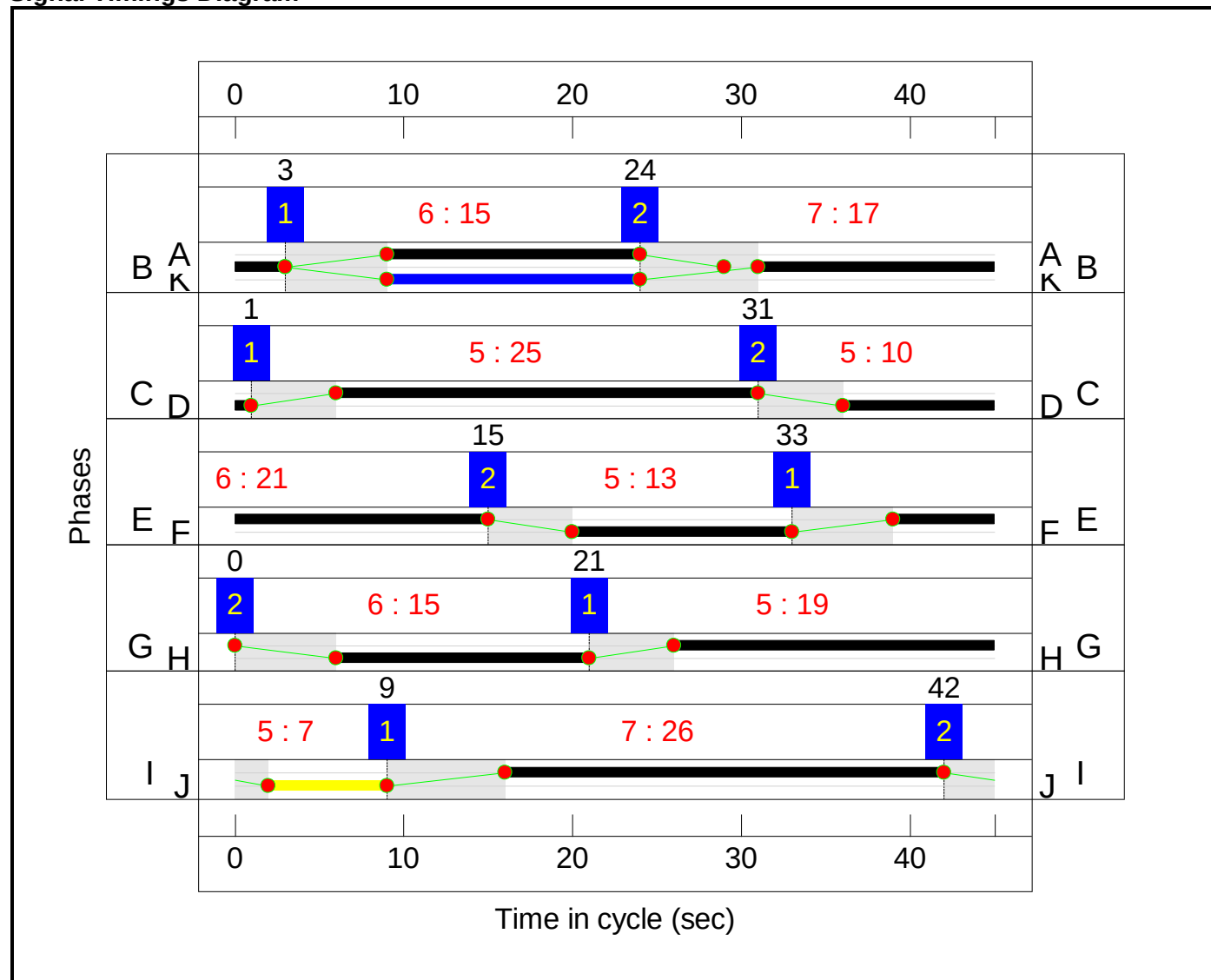
Stage Stream: 4

Stage	1	2
Duration	19	15
Change Point	21	0

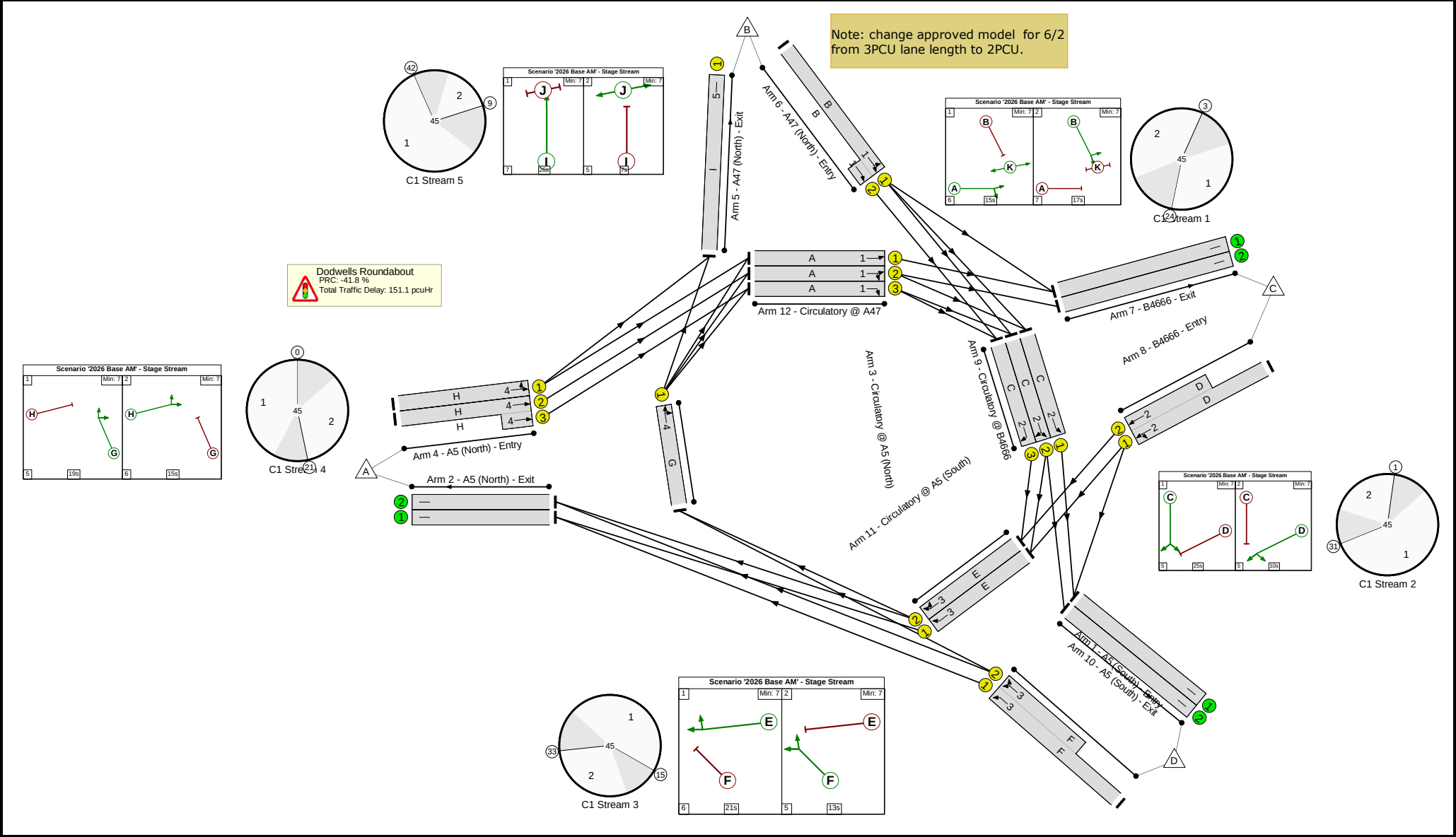
Stage Stream: 5

Stage	1	2
Duration	26	7
Change Point	9	42

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	-	-		-	-	-	-	-	-	127.6%
Dodwells Roundabout	-	-	N/A	-	-		-	-	-	-	-	-	127.6%
1/1+1/2	A5 (South) - Entry Ahead Ahead2	U	3	N/A	F		1	13	-	726	1800:1800	560+560	64.8 : 64.8%
2/1	A5 (North) - Exit	U	N/A	N/A	-		-	-	-	941	Inf	Inf	0.0%
2/2	A5 (North) - Exit	U	N/A	N/A	-		-	-	-	565	Inf	Inf	0.0%
3/1	Circulatory @ A5 (North) Ahead Right	U	4	N/A	G		1	19	-	424	1900	844	50.2%
4/1	A5 (North) - Entry Left Ahead	U	4	N/A	H		1	15	-	561	1800	640	87.7%
4/2+4/3	A5 (North) - Entry Ahead	U	4	N/A	H		1	15	-	767	1800:1800	451+403	89.8 : 89.8%
5/1	A47 (North) - Exit	U	5	N/A	I		1	26	-	831	1965	1179	70.5%
6/1+6/2	A47 (North) - Entry Left Ahead	U	1	N/A	B		1	17	-	1023	1800:1800	531+270	127.6 : 127.6%
7/1	B4666 - Exit	U	N/A	N/A	-		-	-	-	265	Inf	Inf	0.0%
7/2	B4666 - Exit	U	N/A	N/A	-		-	-	-	235	Inf	Inf	0.0%
8/1+8/2	B4666 - Entry Left Ahead	U	2	N/A	D		1	10	-	598	1800:1800	440+440	73.6 : 62.3%
9/1	Circulatory @ B4666 Ahead	U	2	N/A	C		1	25	-	427	1900	1098	33.8%
9/2	Circulatory @ B4666 Ahead Right	U	2	N/A	C		1	25	-	665	1900	1098	54.5%
9/3	Circulatory @ B4666 Right	U	2	N/A	C		1	25	-	352	1900	1098	25.3%
10/1	A5 (South) - Exit	U	N/A	N/A	-		-	-	-	480	Inf	Inf	0.0%
10/2	A5 (South) - Exit	U	N/A	N/A	-		-	-	-	358	Inf	Inf	0.0%

Full Input Data And Results

11/1	Circulatory @ A5 (South) Ahead	U	3	N/A	E		1	21	-	578	1900	929	55.1%
11/2	Circulatory @ A5 (South) Ahead Right	U	3	N/A	E		1	21	-	626	1900	929	59.3%
12/1	Circulatory @ A47 Ahead	U	1	N/A	A		1	15	-	154	1900	676	22.8%
12/2	Circulatory @ A47 Ahead Right	U	1	N/A	A		1	15	-	405	1900	676	60.0%
12/3	Circulatory @ A47 Right	U	1	N/A	A		1	15	-	362	1900	676	53.6%

Full Input Data And Results

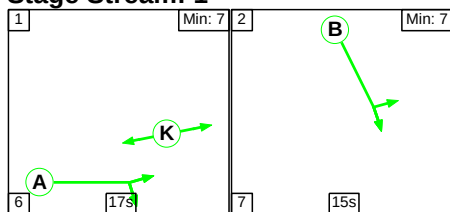
All Input Data and Results													
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	-	-	0	0	0	23.3	127.8	0.0	151.1	-	-	-	-
Dodwells Roundabout	-	-	0	0	0	23.3	127.8	0.0	151.1	-	-	-	-
1/1+1/2	726	726	-	-	-	2.7	0.9	-	3.6	17.9	3.8	0.9	4.7
2/1	875	875	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
2/2	490	490	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
3/1	424	424	-	-	-	0.6	0.5	-	1.1	9.4	2.7	0.5	3.2
4/1	561	561	-	-	-	2.1	3.3	-	5.4	34.6	6.5	3.3	9.8
4/2+4/3	767	767	-	-	-	2.6	4.0	-	6.6	31.2	6.1	4.0	10.1
5/1	831	831	-	-	-	0.7	1.2	-	1.9	8.1	5.8	1.2	7.0
6/1+6/2	1023	801	-	-	-	9.4	113.1	-	122.5	431.0	15.6	113.1	128.7
7/1	241	241	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/2	235	235	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1+8/2	598	598	-	-	-	2.6	1.1	-	3.6	21.8	3.7	1.1	4.7
9/1	371	371	-	-	-	0.5	0.3	-	0.8	7.3	2.5	0.3	2.7
9/2	598	598	-	-	-	0.6	0.6	-	1.2	7.5	3.0	0.6	3.6
9/3	277	277	-	-	-	0.7	0.2	-	0.9	11.8	3.4	0.2	3.5
10/1	424	424	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
10/2	357	357	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
11/1	512	512	-	-	-	0.1	0.6	-	0.7	5.2	0.3	0.6	0.9
11/2	551	551	-	-	-	0.2	0.7	-	1.0	6.2	1.1	0.7	1.8
12/1	154	154	-	-	-	0.2	0.1	-	0.4	8.3	0.6	0.1	0.7
12/2	405	405	-	-	-	0.1	0.7	-	0.8	7.3	0.1	0.7	0.9
12/3	362	362	-	-	-	0.1	0.6	-	0.6	6.4	0.1	0.6	0.7
C1 Stream: 1 PRC for Signalled Lanes (%): -41.8 C1 Stream: 2 PRC for Signalled Lanes (%): 22.2 C1 Stream: 3 PRC for Signalled Lanes (%): 38.8 C1 Stream: 4 PRC for Signalled Lanes (%): 0.3 C1 Stream: 5 PRC for Signalled Lanes (%): 27.7 PRC Over All Lanes (%): -41.8 Total Delay for Signalled Lanes (pcuHr): 124.29 Total Delay for Signalled Lanes (pcuHr): 6.52 Total Delay for Signalled Lanes (pcuHr): 5.31 Total Delay for Signalled Lanes (pcuHr): 13.15 Total Delay for Signalled Lanes (pcuHr): 1.87 Total Delay Over All Lanes(pcuHr): 151.14 Cycle Time (s): 45 Cycle Time (s): 45 Cycle Time (s): 45 Cycle Time (s): 45 Cycle Time (s): 45													

Full Input Data And Results

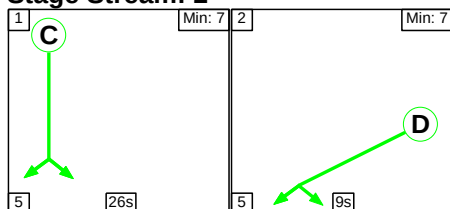
Scenario 4: '2026 Base PM' (FG4: 'Capricorn TA - 2026 Base + Committed + Consented PM', Plan 1: 'Existing Signal Specification')

Stage Sequence Diagram

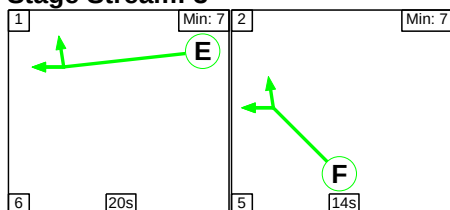
Stage Stream: 1



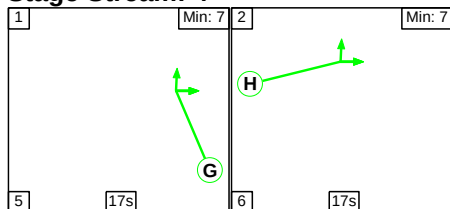
Stage Stream: 2



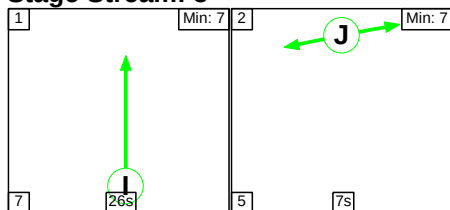
Stage Stream: 3



Stage Stream: 4



Stage Stream: 5



Stage Timings

Stage Stream: 1

Stage	1	2
Duration	17	15
Change Point	3	26

Stage Stream: 2

Stage	1	2
Duration	26	9
Change Point	4	35

Full Input Data And Results

Stage Stream: 3

Stage	1	2
Duration	20	14
Change Point	37	18

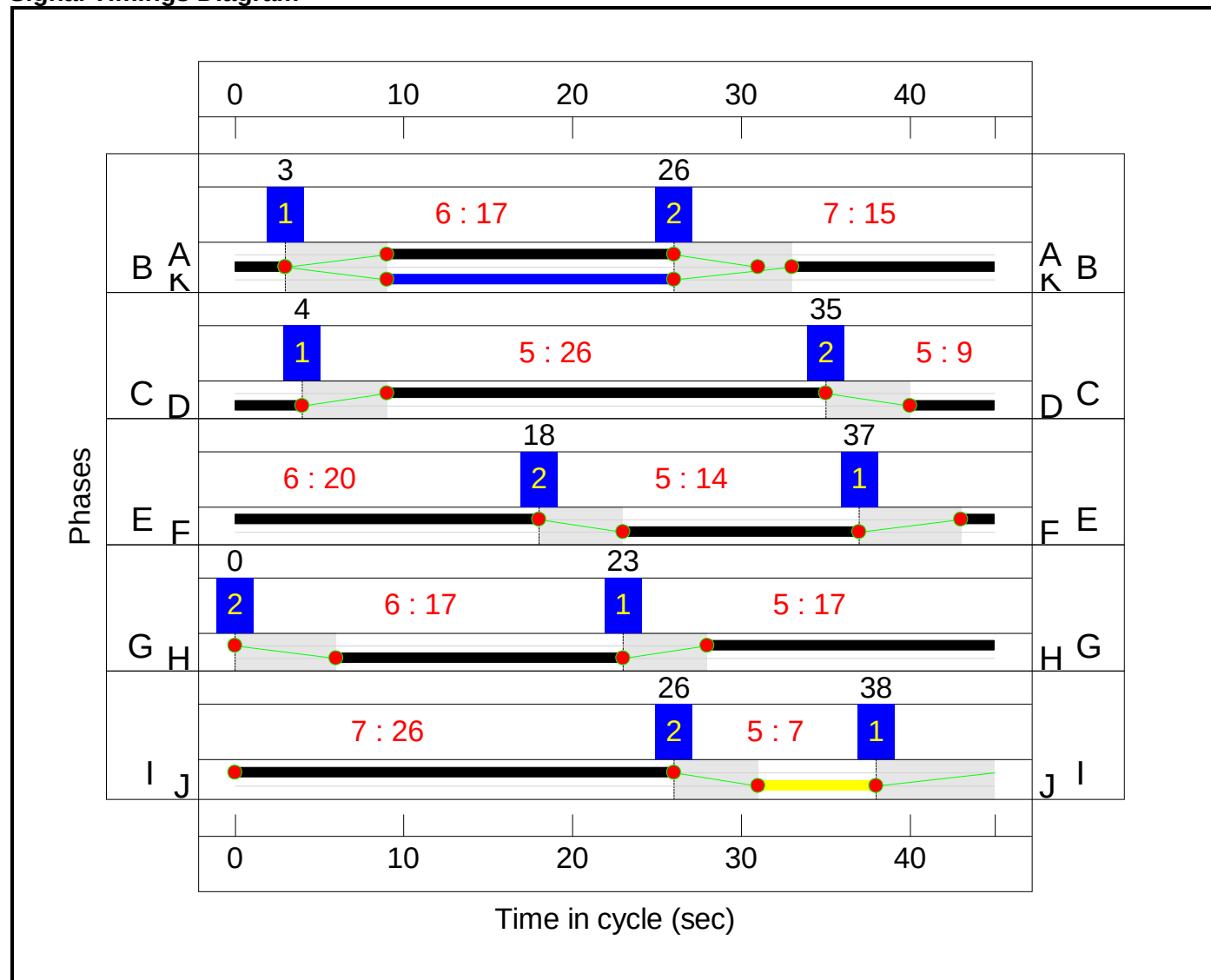
Stage Stream: 4

Stage	1	2
Duration	17	17
Change Point	23	0

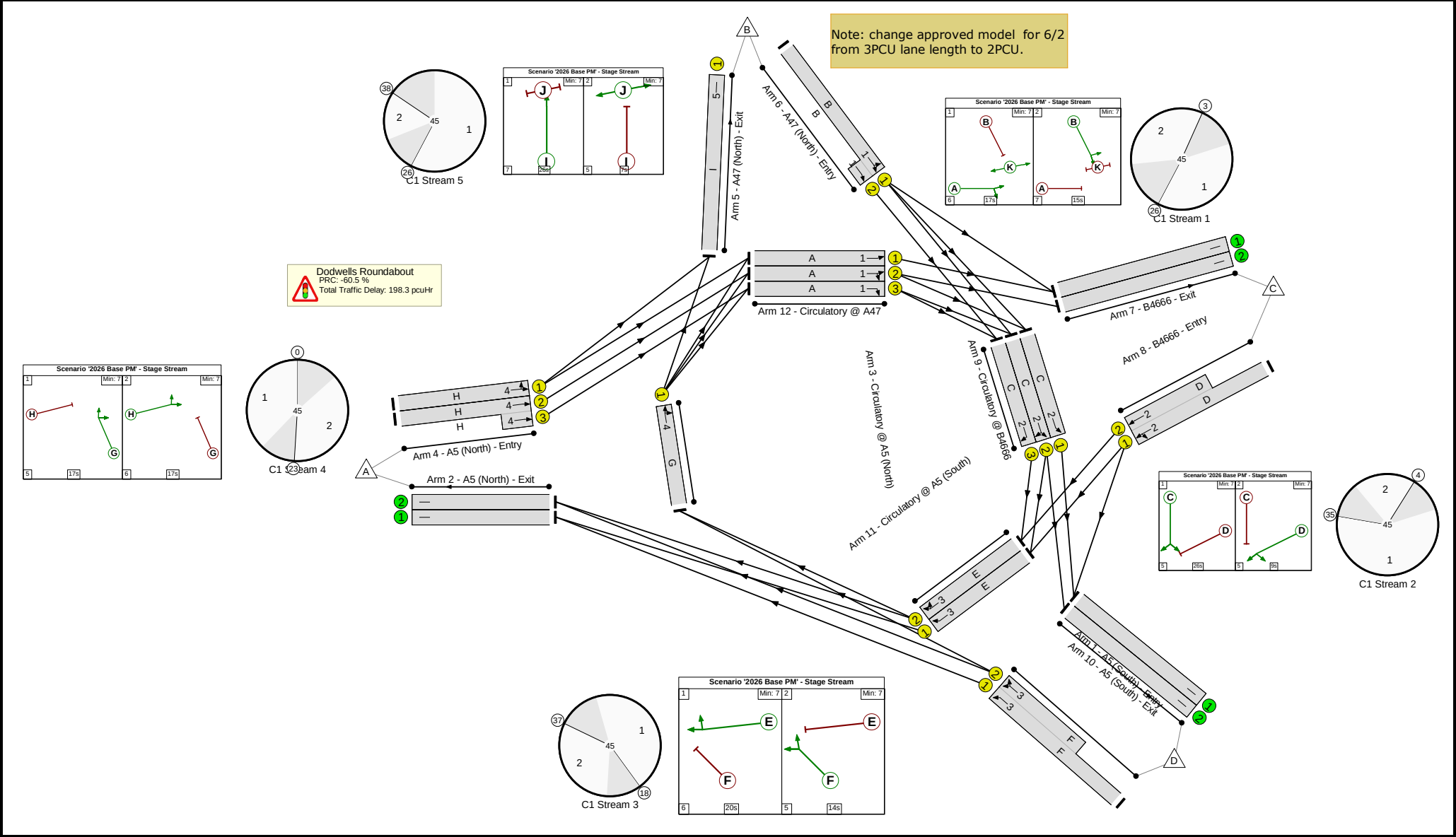
Stage Stream: 5

Stage	1	2
Duration	26	7
Change Point	38	26

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	-	-		-	-	-	-	-	-	144.4%
Dodwells Roundabout	-	-	N/A	-	-		-	-	-	-	-	-	144.4%
1/1+1/2	A5 (South) - Entry Ahead Ahead2	U	3	N/A	F		1	14	-	787	1800:1800	600+600	65.7 : 65.5%
2/1	A5 (North) - Exit	U	N/A	N/A	-		-	-	-	980	Inf	Inf	0.0%
2/2	A5 (North) - Exit	U	N/A	N/A	-		-	-	-	601	Inf	Inf	0.0%
3/1	Circulatory @ A5 (North) Ahead Right	U	4	N/A	G		1	17	-	419	1900	760	55.1%
4/1	A5 (North) - Entry Left Ahead	U	4	N/A	H		1	17	-	560	1800	720	77.8%
4/2+4/3	A5 (North) - Entry Ahead	U	4	N/A	H		1	17	-	700	1800:1800	525+359	79.2 : 79.2%
5/1	A47 (North) - Exit	U	5	N/A	I		1	26	-	891	1965	1179	75.6%
6/1+6/2	A47 (North) - Entry Left Ahead	U	1	N/A	B		1	15	-	1037	1800:1800	483+235	144.4 : 144.4%
7/1	B4666 - Exit	U	N/A	N/A	-		-	-	-	164	Inf	Inf	0.0%
7/2	B4666 - Exit	U	N/A	N/A	-		-	-	-	415	Inf	Inf	0.0%
8/1+8/2	B4666 - Entry Left Ahead	U	2	N/A	D		1	9	-	609	1800:1800	400+400	81.3 : 71.0%
9/1	Circulatory @ B4666 Ahead	U	2	N/A	C		1	26	-	297	1900	1140	18.1%
9/2	Circulatory @ B4666 Ahead Right	U	2	N/A	C		1	26	-	606	1900	1140	44.4%
9/3	Circulatory @ B4666 Right	U	2	N/A	C		1	26	-	343	1900	1140	20.9%
10/1	A5 (South) - Exit	U	N/A	N/A	-		-	-	-	365	Inf	Inf	0.0%
10/2	A5 (South) - Exit	U	N/A	N/A	-		-	-	-	277	Inf	Inf	0.0%

Full Input Data And Results

11/1	Circulatory @ A5 (South) Ahead	U	3	N/A	E		1	20	-	586	1900	887	54.8%
11/2	Circulatory @ A5 (South) Ahead Right	U	3	N/A	E		1	20	-	627	1900	887	58.9%
12/1	Circulatory @ A47 Ahead	U	1	N/A	A		1	17	-	88	1900	760	11.6%
12/2	Circulatory @ A47 Ahead Right	U	1	N/A	A		1	17	-	416	1900	760	54.7%
12/3	Circulatory @ A47 Right	U	1	N/A	A		1	17	-	284	1900	760	37.4%

Full Input Data And Results

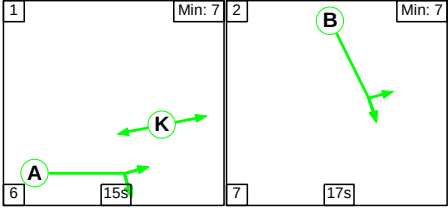
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	-	-	0	0	0	26.1	172.2	0.0	198.3	-	-	-	-
Dodwells Roundabout	-	-	0	0	0	26.1	172.2	0.0	198.3	-	-	-	-
1/1+1/2	787	787	-	-	-	2.8	0.9	-	3.7	17.1	4.2	0.9	5.1
2/1	880	880	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
2/2	496	496	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
3/1	419	419	-	-	-	0.6	0.6	-	1.2	10.1	1.7	0.6	2.3
4/1	560	560	-	-	-	1.8	1.7	-	3.5	22.8	6.1	1.7	7.8
4/2+4/3	700	700	-	-	-	2.0	1.9	-	3.9	20.1	5.1	1.9	7.0
5/1	891	891	-	-	-	1.3	1.5	-	2.8	11.3	4.9	1.5	6.5
6/1+6/2	1037	718	-	-	-	12.2	161.1	-	173.3	601.6	18.2	161.1	179.3
7/1	141	141	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/2	415	415	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1+8/2	609	609	-	-	-	2.8	1.6	-	4.3	25.7	3.8	1.6	5.4
9/1	206	206	-	-	-	0.6	0.1	-	0.7	12.6	2.5	0.1	2.7
9/2	506	506	-	-	-	0.7	0.4	-	1.1	7.8	3.2	0.4	3.6
9/3	238	238	-	-	-	0.7	0.1	-	0.9	13.3	2.9	0.1	3.1
10/1	274	274	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
10/2	277	277	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
11/1	486	486	-	-	-	0.1	0.6	-	0.7	5.3	0.2	0.6	0.8
11/2	522	522	-	-	-	0.1	0.7	-	0.8	5.8	0.3	0.7	1.0
12/1	88	88	-	-	-	0.2	0.1	-	0.2	9.2	0.5	0.1	0.5
12/2	416	416	-	-	-	0.1	0.6	-	0.7	5.8	0.1	0.6	0.7
12/3	284	284	-	-	-	0.0	0.3	-	0.3	4.4	0.1	0.3	0.4
C1 Stream: 1 PRC for Signalled Lanes (%): -60.5 C1 Stream: 2 PRC for Signalled Lanes (%): 10.8 C1 Stream: 3 PRC for Signalled Lanes (%): 37.1 C1 Stream: 4 PRC for Signalled Lanes (%): 13.6 C1 Stream: 5 PRC for Signalled Lanes (%): 19.1 PRC Over All Lanes (%): -60.5 Total Delay for Signalled Lanes (pcuHr): 174.55 Total Delay for Signalled Lanes (pcuHr): 7.03 Total Delay for Signalled Lanes (pcuHr): 5.31 Total Delay for Signalled Lanes (pcuHr): 8.62 Total Delay for Signalled Lanes (pcuHr): 2.79 Total Delay Over All Lanes(pcuHr): 198.30 Cycle Time (s): 45 Cycle Time (s): 45 Cycle Time (s): 45 Cycle Time (s): 45 Cycle Time (s): 45													

Full Input Data And Results

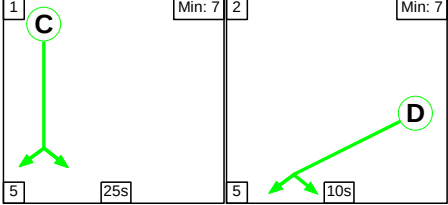
Scenario 5: '2026 Base + Development AM' (FG5: 'Capricorn TA - 2026 Base + Committed + Consented + Proposed AM', Plan 1: 'Existing Signal Specification')

Stage Sequence Diagram

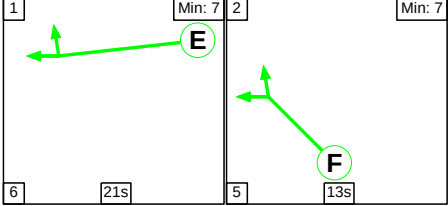
Stage Stream: 1



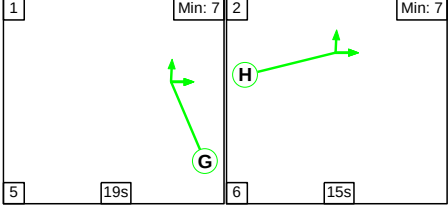
Stage Stream: 2



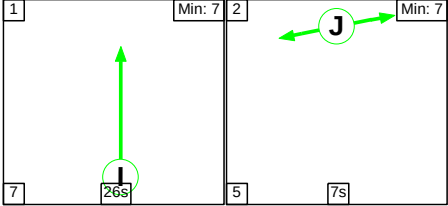
Stage Stream: 3



Stage Stream: 4



Stage Stream: 5



Stage Timings

Stage Stream: 1

Stage	1	2
Duration	15	17
Change Point	3	24

Stage Stream: 2

Stage	1	2
Duration	25	10
Change Point	1	31

Full Input Data And Results

Stage Stream: 3

Stage	1	2
Duration	21	13
Change Point	33	15

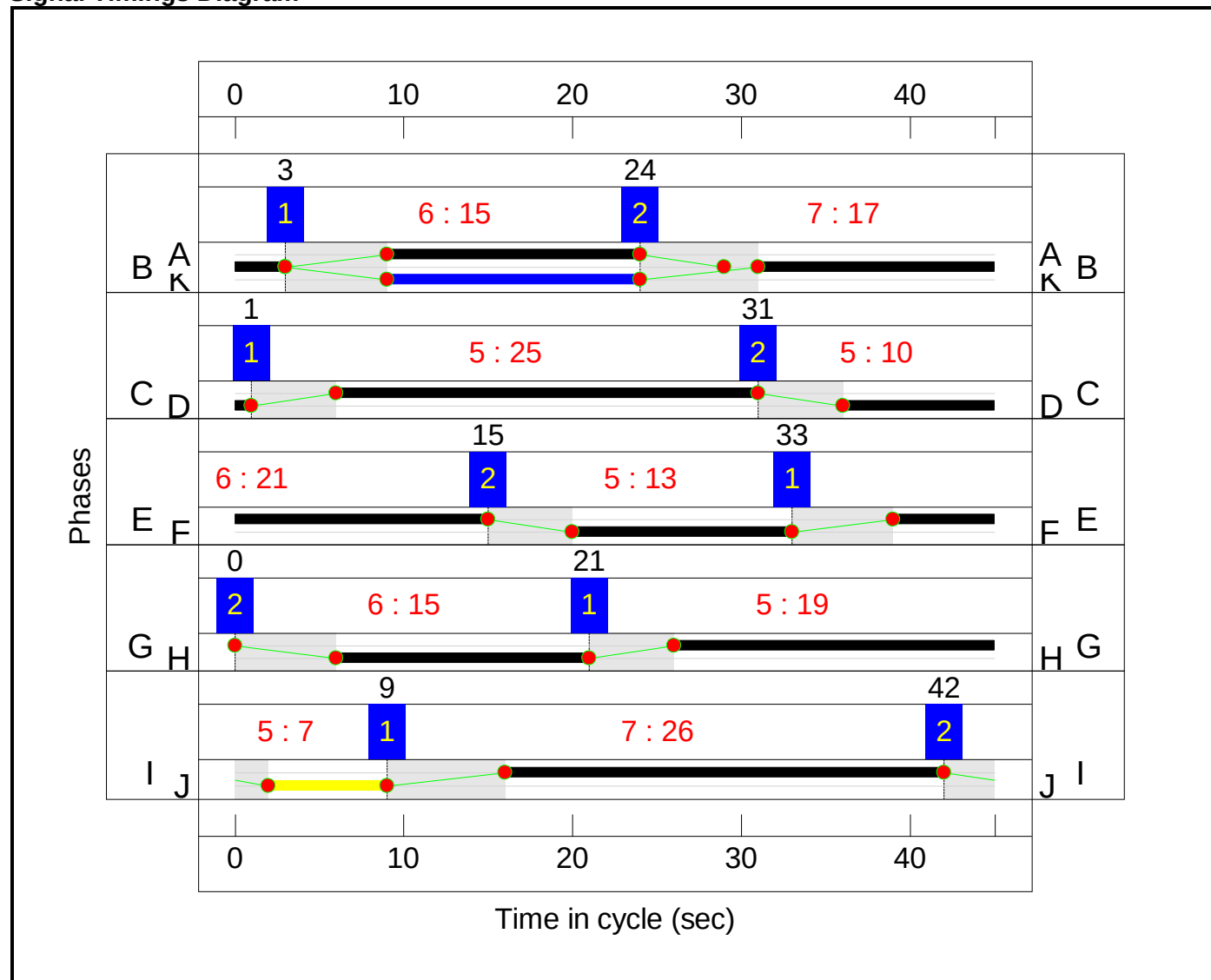
Stage Stream: 4

Stage	1	2
Duration	19	15
Change Point	21	0

Stage Stream: 5

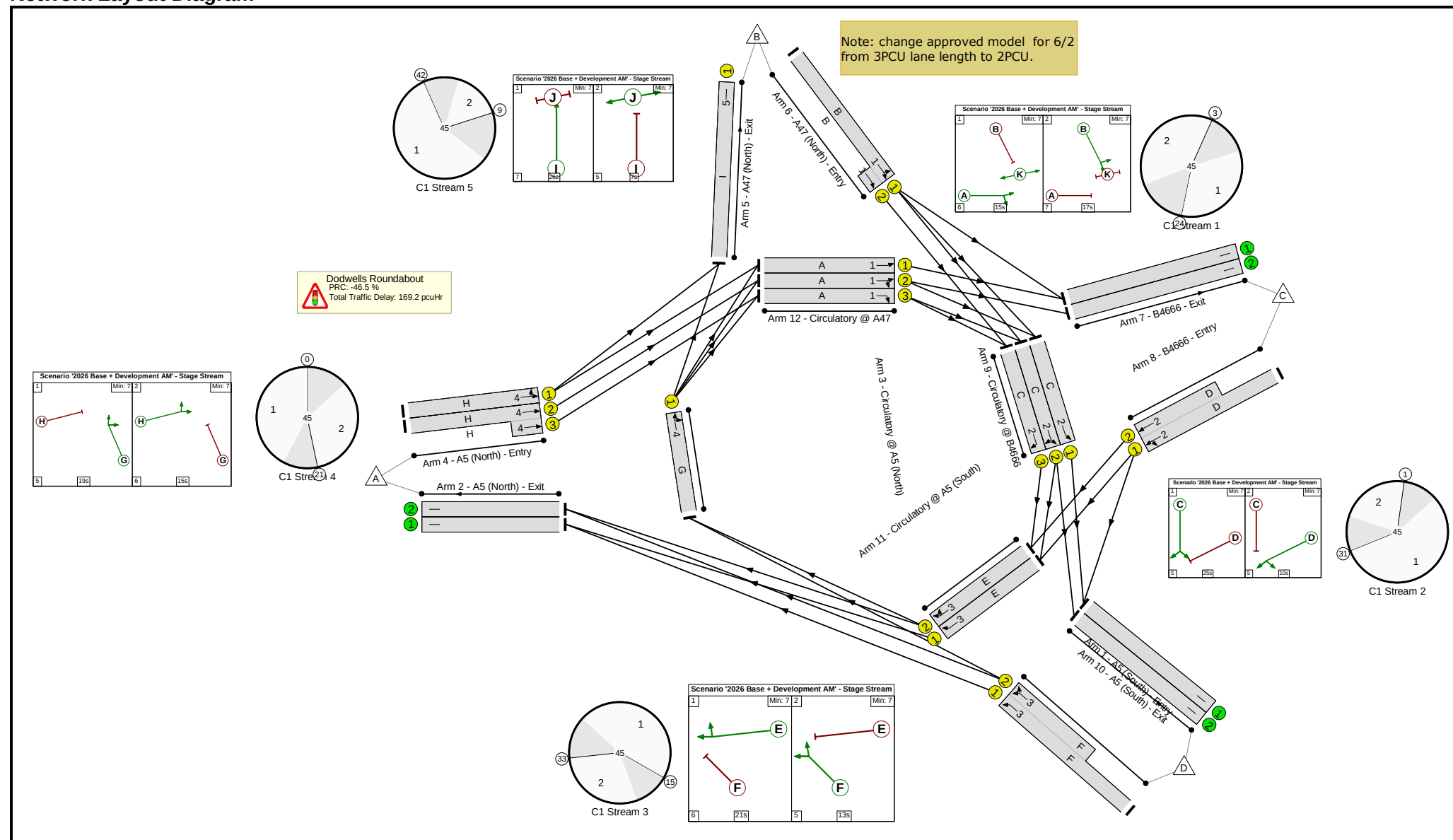
Stage	1	2
Duration	26	7
Change Point	9	42

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	-	-		-	-	-	-	-	-	131.9%
Dodwells Roundabout	-	-	N/A	-	-		-	-	-	-	-	-	131.9%
1/1+1/2	A5 (South) - Entry Ahead Ahead2	U	3	N/A	F		1	13	-	733	1800:1800	560+560	65.4 : 65.5%
2/1	A5 (North) - Exit	U	N/A	N/A	-		-	-	-	950	Inf	Inf	0.0%
2/2	A5 (North) - Exit	U	N/A	N/A	-		-	-	-	570	Inf	Inf	0.0%
3/1	Circulatory @ A5 (North) Ahead Right	U	4	N/A	G		1	19	-	432	1900	844	51.2%
4/1	A5 (North) - Entry Left Ahead	U	4	N/A	H		1	15	-	563	1800	640	88.0%
4/2+4/3	A5 (North) - Entry Ahead	U	4	N/A	H		1	15	-	771	1800:1800	451+403	90.2 : 90.2%
5/1	A47 (North) - Exit	U	5	N/A	I		1	26	-	845	1965	1179	71.7%
6/1+6/2	A47 (North) - Entry Left Ahead	U	1	N/A	B		1	17	-	1056	1800:1800	532+268	131.9 : 131.9%
7/1	B4666 - Exit	U	N/A	N/A	-		-	-	-	264	Inf	Inf	0.0%
7/2	B4666 - Exit	U	N/A	N/A	-		-	-	-	239	Inf	Inf	0.0%
8/1+8/2	B4666 - Entry Left Ahead	U	2	N/A	D		1	10	-	599	1800:1800	440+440	73.6 : 62.5%
9/1	Circulatory @ B4666 Ahead	U	2	N/A	C		1	25	-	440	1900	1098	34.1%
9/2	Circulatory @ B4666 Ahead Right	U	2	N/A	C		1	25	-	674	1900	1098	54.4%
9/3	Circulatory @ B4666 Right	U	2	N/A	C		1	25	-	360	1900	1098	25.0%
10/1	A5 (South) - Exit	U	N/A	N/A	-		-	-	-	493	Inf	Inf	0.0%
10/2	A5 (South) - Exit	U	N/A	N/A	-		-	-	-	361	Inf	Inf	0.0%

Full Input Data And Results

11/1	Circulatory @ A5 (South) Ahead	U	3	N/A	E		1	21	-	584	1900	929	54.8%
11/2	Circulatory @ A5 (South) Ahead Right	U	3	N/A	E		1	21	-	635	1900	929	59.1%
12/1	Circulatory @ A47 Ahead	U	1	N/A	A		1	15	-	150	1900	676	22.2%
12/2	Circulatory @ A47 Ahead Right	U	1	N/A	A		1	15	-	407	1900	676	60.2%
12/3	Circulatory @ A47 Right	U	1	N/A	A		1	15	-	364	1900	676	53.9%

Full Input Data And Results

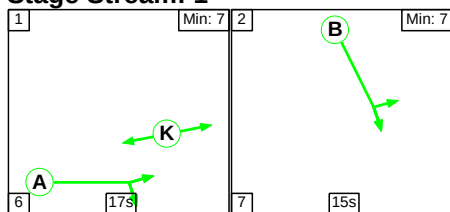
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	-	-	0	0	0	24.4	144.8	0.0	169.2	-	-	-	-
Dodwells Roundabout	-	-	0	0	0	24.4	144.8	0.0	169.2	-	-	-	-
1/1+1/2	733	733	-	-	-	2.7	0.9	-	3.7	18.0	3.9	0.9	4.8
2/1	875	875	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
2/2	484	484	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
3/1	432	432	-	-	-	0.6	0.5	-	1.1	9.5	2.7	0.5	3.3
4/1	563	563	-	-	-	2.1	3.4	-	5.5	35.1	6.6	3.4	9.9
4/2+4/3	771	771	-	-	-	2.6	4.2	-	6.8	31.9	6.1	4.2	10.3
5/1	845	845	-	-	-	0.7	1.3	-	2.0	8.4	5.9	1.3	7.1
6/1+6/2	1056	801	-	-	-	10.4	129.7	-	140.1	477.6	16.8	129.7	146.5
7/1	236	236	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/2	239	239	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1+8/2	599	599	-	-	-	2.6	1.1	-	3.6	21.8	3.7	1.1	4.7
9/1	374	374	-	-	-	0.5	0.3	-	0.8	7.4	2.5	0.3	2.8
9/2	598	598	-	-	-	0.6	0.6	-	1.2	7.4	3.0	0.6	3.6
9/3	274	274	-	-	-	0.7	0.2	-	0.9	11.8	3.3	0.2	3.5
10/1	427	427	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
10/2	360	360	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
11/1	509	509	-	-	-	0.1	0.6	-	0.7	5.2	0.3	0.6	0.9
11/2	549	549	-	-	-	0.2	0.7	-	0.9	6.1	1.1	0.7	1.8
12/1	150	150	-	-	-	0.2	0.1	-	0.3	8.4	0.6	0.1	0.7
12/2	407	407	-	-	-	0.1	0.8	-	0.8	7.4	0.1	0.8	0.9
12/3	364	364	-	-	-	0.1	0.6	-	0.7	6.5	0.1	0.6	0.7
C1 Stream: 1 PRC for Signalled Lanes (%): -46.5 Total Delay for Signalled Lanes (pcuHr): 141.95 Cycle Time (s): 45 C1 Stream: 2 PRC for Signalled Lanes (%): 22.2 Total Delay for Signalled Lanes (pcuHr): 6.52 Cycle Time (s): 45 C1 Stream: 3 PRC for Signalled Lanes (%): 37.3 Total Delay for Signalled Lanes (pcuHr): 5.34 Cycle Time (s): 45 C1 Stream: 4 PRC for Signalled Lanes (%): -0.2 Total Delay for Signalled Lanes (pcuHr): 13.46 Cycle Time (s): 45 C1 Stream: 5 PRC for Signalled Lanes (%): 25.6 Total Delay for Signalled Lanes (pcuHr): 1.96 Cycle Time (s): 45 PRC Over All Lanes (%): -46.5 Total Delay Over All Lanes(pcuHr): 169.24													

Full Input Data And Results

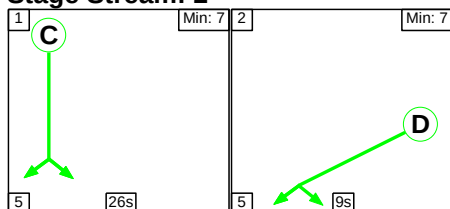
Scenario 6: '2026 Base + Development PM' (FG6: 'Capricorn TA - 2026 Base + Committed + Consented + Proposed PM', Plan 1: 'Existing Signal Specification')

Stage Sequence Diagram

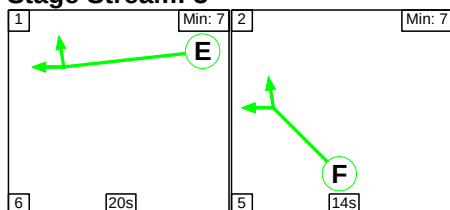
Stage Stream: 1



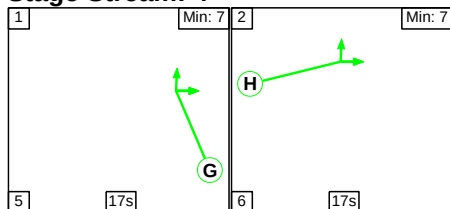
Stage Stream: 2



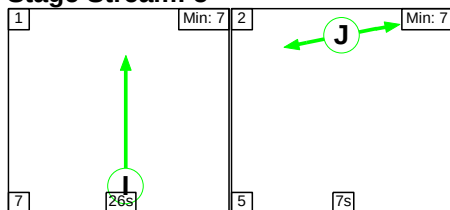
Stage Stream: 3



Stage Stream: 4



Stage Stream: 5



Stage Timings

Stage Stream: 1

Stage	1	2
Duration	17	15
Change Point	3	26

Stage Stream: 2

Stage	1	2
Duration	26	9
Change Point	4	35

Full Input Data And Results

Stage Stream: 3

Stage	1	2
Duration	20	14
Change Point	37	18

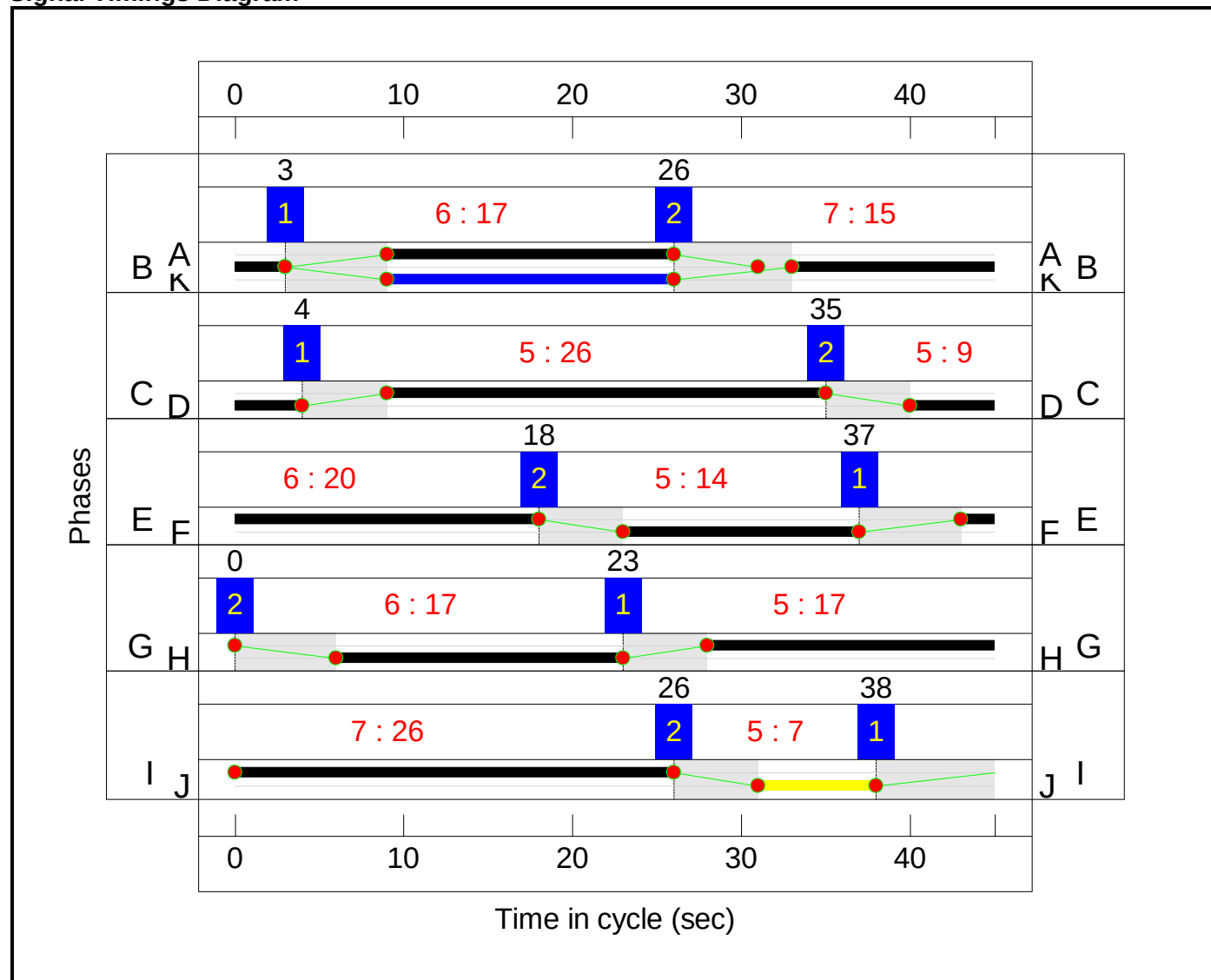
Stage Stream: 4

Stage	1	2
Duration	17	17
Change Point	23	0

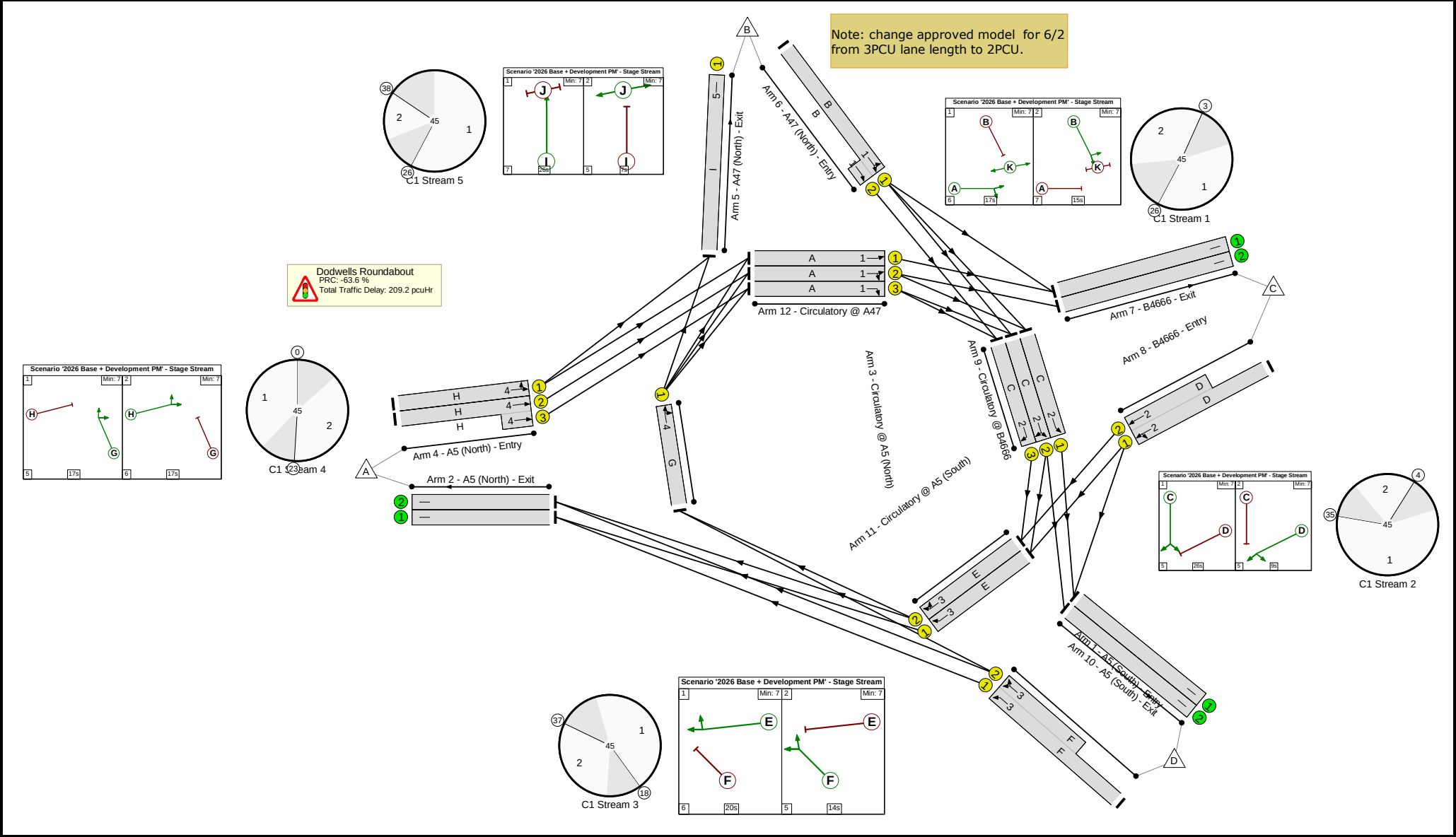
Stage Stream: 5

Stage	1	2
Duration	26	7
Change Point	38	26

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	-	-		-	-	-	-	-	-	147.2%
Dodwells Roundabout	-	-	N/A	-	-		-	-	-	-	-	-	147.2%
1/1+1/2	A5 (South) - Entry Ahead Ahead2	U	3	N/A	F		1	14	-	797	1800:1800	600+600	66.5 : 66.3%
2/1	A5 (North) - Exit	U	N/A	N/A	-		-	-	-	990	Inf	Inf	0.0%
2/2	A5 (North) - Exit	U	N/A	N/A	-		-	-	-	599	Inf	Inf	0.0%
3/1	Circulatory @ A5 (North) Ahead Right	U	4	N/A	G		1	17	-	431	1900	760	56.7%
4/1	A5 (North) - Entry Left Ahead	U	4	N/A	H		1	17	-	565	1800	720	78.5%
4/2+4/3	A5 (North) - Entry Ahead	U	4	N/A	H		1	17	-	704	1800:1800	526+356	79.8 : 79.8%
5/1	A47 (North) - Exit	U	5	N/A	I		1	26	-	912	1965	1179	77.4%
6/1+6/2	A47 (North) - Entry Left Ahead	U	1	N/A	B		1	15	-	1056	1800:1800	484+234	147.2 : 147.2%
7/1	B4666 - Exit	U	N/A	N/A	-		-	-	-	162	Inf	Inf	0.0%
7/2	B4666 - Exit	U	N/A	N/A	-		-	-	-	419	Inf	Inf	0.0%
8/1+8/2	B4666 - Entry Left Ahead	U	2	N/A	D		1	9	-	611	1800:1800	400+400	81.5 : 71.3%
9/1	Circulatory @ B4666 Ahead	U	2	N/A	C		1	26	-	306	1900	1140	18.3%
9/2	Circulatory @ B4666 Ahead Right	U	2	N/A	C		1	26	-	610	1900	1140	44.3%
9/3	Circulatory @ B4666 Right	U	2	N/A	C		1	26	-	347	1900	1140	20.8%
10/1	A5 (South) - Exit	U	N/A	N/A	-		-	-	-	374	Inf	Inf	0.0%
10/2	A5 (South) - Exit	U	N/A	N/A	-		-	-	-	277	Inf	Inf	0.0%

Full Input Data And Results

11/1	Circulatory @ A5 (South) Ahead	U	3	N/A	E		1	20	-	591	1900	887	54.8%
11/2	Circulatory @ A5 (South) Ahead Right	U	3	N/A	E		1	20	-	632	1900	887	58.8%
12/1	Circulatory @ A47 Ahead	U	1	N/A	A		1	17	-	84	1900	760	11.1%
12/2	Circulatory @ A47 Ahead Right	U	1	N/A	A		1	17	-	420	1900	760	55.3%
12/3	Circulatory @ A47 Right	U	1	N/A	A		1	17	-	284	1900	760	37.4%

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	-	-	0	0	0	26.8	182.4	0.0	209.2	-	-	-	-
Dodwells Roundabout	-	-	0	0	0	26.8	182.4	0.0	209.2	-	-	-	-
1/1+1/2	797	797	-	-	-	2.8	1.0	-	3.8	17.3	4.2	1.0	5.2
2/1	884	884	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
2/2	489	489	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
3/1	431	431	-	-	-	0.6	0.7	-	1.2	10.2	1.7	0.7	2.4
4/1	565	565	-	-	-	1.9	1.8	-	3.6	23.2	6.1	1.8	7.9
4/2+4/3	704	704	-	-	-	2.1	1.9	-	4.0	20.4	5.2	1.9	7.1
5/1	912	912	-	-	-	1.3	1.7	-	3.0	11.8	5.1	1.7	6.8
6/1+6/2	1056	717	-	-	-	12.8	170.9	-	183.7	626.2	18.9	170.9	189.8
7/1	137	137	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/2	419	419	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1+8/2	611	611	-	-	-	2.8	1.6	-	4.4	25.8	3.8	1.6	5.4
9/1	208	208	-	-	-	0.6	0.1	-	0.7	12.6	2.6	0.1	2.7
9/2	504	504	-	-	-	0.7	0.4	-	1.1	7.7	2.9	0.4	3.3
9/3	237	237	-	-	-	0.7	0.1	-	0.9	13.2	2.9	0.1	3.0
10/1	276	276	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
10/2	277	277	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
11/1	485	485	-	-	-	0.1	0.6	-	0.7	5.3	0.2	0.6	0.8
11/2	522	522	-	-	-	0.1	0.7	-	0.8	5.8	0.3	0.7	1.0
12/1	84	84	-	-	-	0.2	0.1	-	0.2	9.4	0.5	0.1	0.5
12/2	420	420	-	-	-	0.1	0.6	-	0.7	5.9	0.1	0.6	0.7
12/3	284	284	-	-	-	0.0	0.3	-	0.3	4.4	0.1	0.3	0.4
C1 Stream: 1 PRC for Signalled Lanes (%): -63.6 C1 Stream: 2 PRC for Signalled Lanes (%): 10.4 C1 Stream: 3 PRC for Signalled Lanes (%): 35.3 C1 Stream: 4 PRC for Signalled Lanes (%): 12.8 C1 Stream: 5 PRC for Signalled Lanes (%): 16.3 PRC Over All Lanes (%): -63.6 Total Delay for Signalled Lanes (pcuHr): 184.95 Total Delay for Signalled Lanes (pcuHr): 7.06 Total Delay for Signalled Lanes (pcuHr): 5.38 Total Delay for Signalled Lanes (pcuHr): 8.86 Total Delay for Signalled Lanes (pcuHr): 3.00 Total Delay Over All Lanes(pcuHr): 209.24 Cycle Time (s): 45 Cycle Time (s): 45 Cycle Time (s): 45 Cycle Time (s): 45 Cycle Time (s): 45													

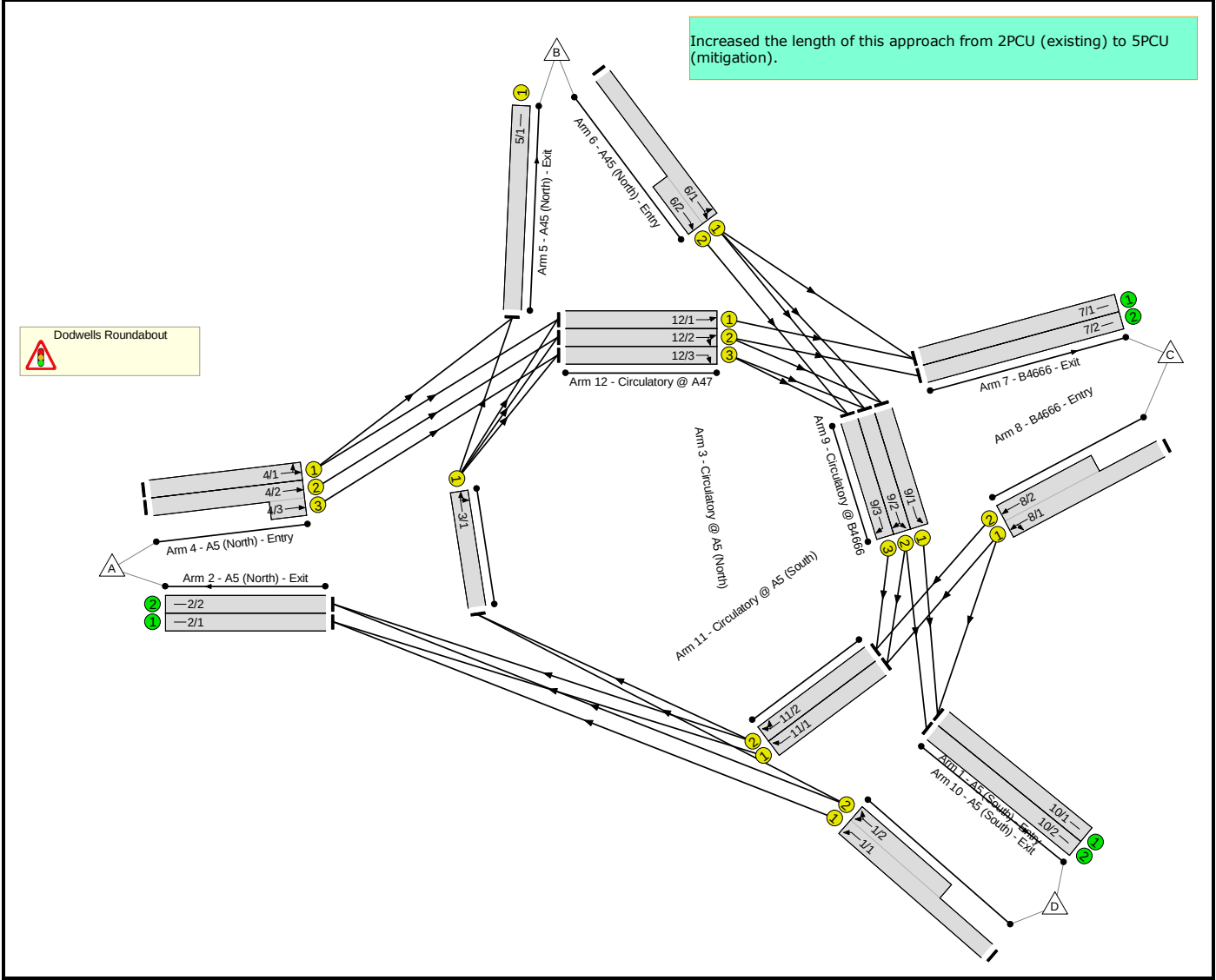
Full Input Data And Results

Full Input Data And Results

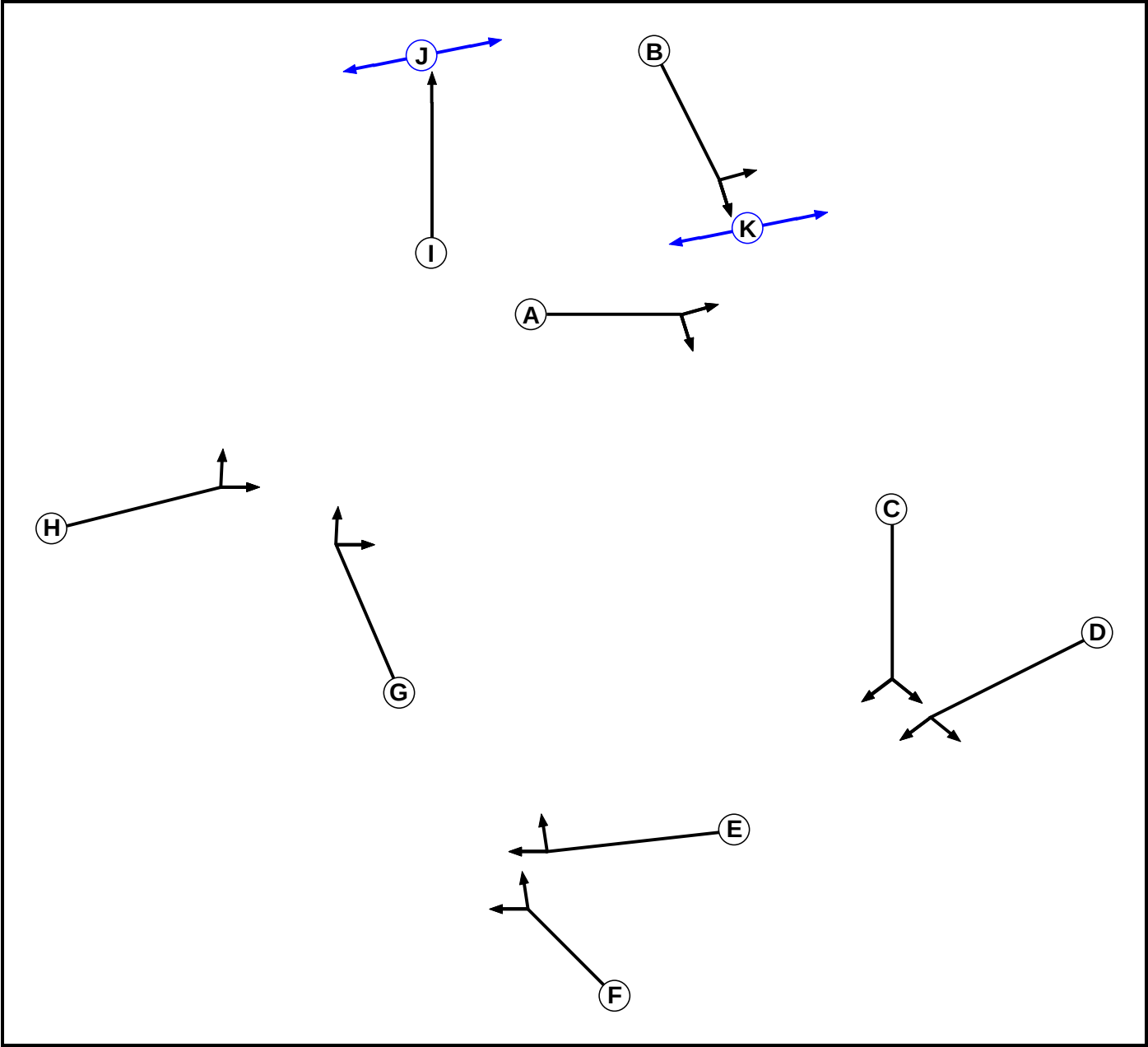
User and Project Details

Project:	
Title:	
Location:	
Additional detail:	
File name:	Hinckley - Existing Layout with Bloor Mitigation.lsg3x
Author:	
Company:	
Address:	

Network Layout Diagram



Phase Diagram



Full Input Data And Results

Phase Input Data

Phase Name	Phase Type	Stage Stream	Assoc. Phase	Street Min	Cont Min
A	Traffic	1		7	7
B	Traffic	1		7	7
C	Traffic	2		7	7
D	Traffic	2		7	7
E	Traffic	3		7	7
F	Traffic	3		7	7
G	Traffic	4		7	7
H	Traffic	4		7	7
I	Traffic	5		7	7
J	Pedestrian	5		7	7
K	Pedestrian	1		7	7

Phase Intergreens Matrix

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

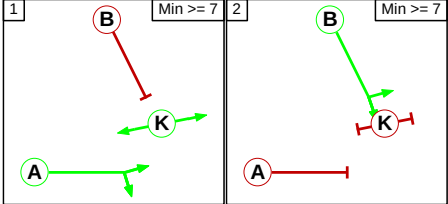
Phases in Stage

Stream	Stage No.	Phases in Stage
1	1	A K
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

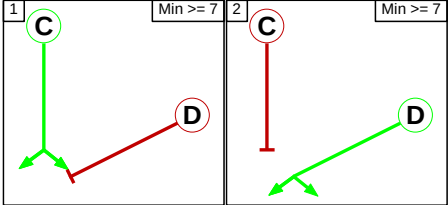
Stage Diagram

Full Input Data And Results

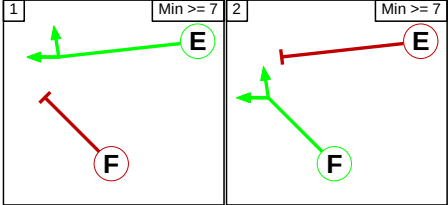
Stage Stream: 1



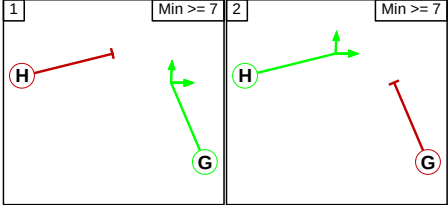
Stage Stream: 2



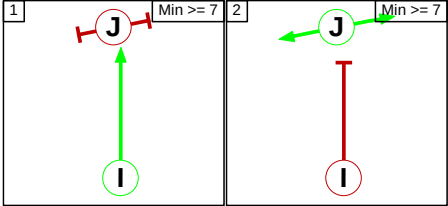
Stage Stream: 3



Stage Stream: 4



Stage Stream: 5



Phase Delays

Stage Stream: 1

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

Stage Stream: 2

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

Stage Stream: 3

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

Full Input Data And Results

Stage Stream: 4

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

Stage Stream: 5

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

Prohibited Stage Change

Stage Stream: 1

From Stage	To Stage		
		1	2
	1		7
	2	6	

Stage Stream: 2

From Stage	To Stage		
		1	2
	1		5
	2	5	

Stage Stream: 3

From Stage	To Stage		
		1	2
	1		5
	2	6	

Stage Stream: 4

From Stage	To Stage		
		1	2
	1		6
	2	5	

Stage Stream: 5

From Stage	To Stage		
		1	2
	1		5
	2	7	

Full Input Data And Results

Give-Way Lane Input Data

Junction: Dodwells Roundabout
There are no Opposed Lanes in this Junction

Full Input Data And Results

Lane Input Data

Junction: Dodwells Roundabout												
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 (A5 (South) - Entry)	U	F	2	3	60.0	User	1800	-	-	-	-	-
1/2 (A5 (South) - Entry)	U	F	2	3	10.0	User	1800	-	-	-	-	-
2/1 (A5 (North) - Exit)	U		2	3	5.0	Inf	-	-	-	-	-	-
2/2 (A5 (North) - Exit)	U		2	3	5.0	Inf	-	-	-	-	-	-
3/1 (Circulatory @ A5 (North))	U	G	2	3	13.9	User	1900	-	-	-	-	-
4/1 (A5 (North) - Entry)	U	H	2	3	60.0	User	1800	-	-	-	-	-
4/2 (A5 (North) - Entry)	U	H	2	3	60.0	User	1800	-	-	-	-	-
4/3 (A5 (North) - Entry)	U	H	2	3	3.0	User	1800	-	-	-	-	-
5/1 (A45 (North) - Exit)	U	I	2	3	6.1	Geom	-	3.50	0.00	Y		
6/1 (A45 (North) - Entry)	U	B	2	3	60.0	User	1800	-	-	-	-	-
6/2 (A45 (North) - Entry)	U	B	2	3	5.0	User	1800	-	-	-	-	-
7/1 (B4666 - Exit)	U		2	3	5.0	Inf	-	-	-	-	-	-
7/2 (B4666 - Exit)	U		2	3	5.0	Inf	-	-	-	-	-	-
8/1 (B4666 - Entry)	U	D	2	3	60.0	User	1800	-	-	-	-	-
8/2 (B4666 - Entry)	U	D	2	3	9.0	User	1800	-	-	-	-	-
9/1 (Circulatory @ B4666)	U	C	2	3	8.7	User	1900	-	-	-	-	-
9/2 (Circulatory @ B4666)	U	C	2	3	8.7	User	1900	-	-	-	-	-
9/3 (Circulatory @ B4666)	U	C	2	3	8.7	User	1900	-	-	-	-	-

Full Input Data And Results

10/1 (A5 (South) - Exit)	U		2	3	5.0	Inf	-	-	-	-	-	-
10/2 (A5 (South) - Exit)	U		2	3	5.0	Inf	-	-	-	-	-	-
11/1 (Circulatory @ A5 (South))	U	E	2	3	6.1	User	1900	-	-	-	-	-
11/2 (Circulatory @ A5 (South))	U	E	2	3	6.1	User	1900	-	-	-	-	-
12/1 (Circulatory @ A47)	U	A	2	3	7.5	User	1900	-	-	-	-	-
12/2 (Circulatory @ A47)	U	A	2	3	7.5	User	1900	-	-	-	-	-
12/3 (Circulatory @ A47)	U	A	2	3	7.5	User	1900	-	-	-	-	-

Traffic Flow Groups

Flow Group	Start Time	End Time	Duration	Formula
5: 'Capricorn TA - 2026 Base + Committed + Consented + Proposed AM'	08:00	09:00	01:00	
6: 'Capricorn TA - 2026 Base + Committed + Consented + Proposed PM'	17:00	18:00	01:00	

Scenario 5: '2026 Base + Development AM' (FG5: 'Capricorn TA - 2026 Base + Committed + Consented + Proposed AM', Plan 1: 'Existing Signal Specification')

Traffic Flows, Desired

Desired Flow :

	Destination					
		A	B	C	D	Tot.
Origin	A	8	450	352	524	1334
	B	665	0	114	277	1056
	C	444	102	0	53	599
	D	403	293	37	0	733
	Tot.	1520	845	503	854	3722

Traffic Lane Flows

Lane	Scenario 5: 2026 Base + Development AM
Junction: Dodwells Roundabout	
1/1 (with short)	733(In) 366(Out)
1/2 (short)	367
2/1	959
2/2	561
3/1	432
4/1	565
4/2 (with short)	769(In) 409(Out)
4/3 (short)	360
5/1	845
6/1 (with short)	1056(In) 707(Out)
6/2 (short)	349
7/1	266
7/2	237
8/1 (with short)	599(In) 326(Out)
8/2 (short)	273
9/1	445
9/2	676
9/3	353
10/1	498
10/2	356
11/1	593
11/2	626
12/1	152
12/2	409
12/3	360

Lane Saturation Flows

Junction: Dodwells Roundabout								
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 (A5 (South) - Entry Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800
1/2 (A5 (South) - Entry Lane 2)	This lane uses a directly entered Saturation Flow						1800	1800
2/1 (A5 (North) - Exit Lane 1)	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

2/2 (A5 (North) - Exit Lane 2)	Infinite Saturation Flow					Inf	Inf
3/1 (Circulatory @ A5 (North) Lane 1)	This lane uses a directly entered Saturation Flow					1900	1900
4/1 (A5 (North) - Entry Lane 1)	This lane uses a directly entered Saturation Flow					1800	1800
4/2 (A5 (North) - Entry Lane 2)	This lane uses a directly entered Saturation Flow					1800	1800
4/3 (A5 (North) - Entry Lane 3)	This lane uses a directly entered Saturation Flow					1800	1800
5/1 (A45 (North) - Exit)	3.50	0.00	Y			1965	1965
6/1 (A45 (North) - Entry Lane 1)	This lane uses a directly entered Saturation Flow					1800	1800
6/2 (A45 (North) - Entry Lane 2)	This lane uses a directly entered Saturation Flow					1800	1800
7/1 (B4666 - Exit Lane 1)	Infinite Saturation Flow					Inf	Inf
7/2 (B4666 - Exit Lane 2)	Infinite Saturation Flow					Inf	Inf
8/1 (B4666 - Entry Lane 1)	This lane uses a directly entered Saturation Flow					1800	1800
8/2 (B4666 - Entry Lane 2)	This lane uses a directly entered Saturation Flow					1800	1800
9/1 (Circulatory @ B4666 Lane 1)	This lane uses a directly entered Saturation Flow					1900	1900
9/2 (Circulatory @ B4666 Lane 2)	This lane uses a directly entered Saturation Flow					1900	1900
9/3 (Circulatory @ B4666 Lane 3)	This lane uses a directly entered Saturation Flow					1900	1900
10/1 (A5 (South) - Exit Lane 1)	Infinite Saturation Flow					Inf	Inf
10/2 (A5 (South) - Exit Lane 2)	Infinite Saturation Flow					Inf	Inf
11/1 (Circulatory @ A5 (South) Lane 1)	This lane uses a directly entered Saturation Flow					1900	1900
11/2 (Circulatory @ A5 (South) Lane 2)	This lane uses a directly entered Saturation Flow					1900	1900
12/1 (Circulatory @ A47 Lane 1)	This lane uses a directly entered Saturation Flow					1900	1900
12/2 (Circulatory @ A47 Lane 2)	This lane uses a directly entered Saturation Flow					1900	1900
12/3 (Circulatory @ A47 Lane 3)	This lane uses a directly entered Saturation Flow					1900	1900

Full Input Data And Results

Scenario 6: '2026 Base + Development PM' (FG6: 'Capricorn TA - 2026 Base + Committed + Consented + Proposed PM', Plan 1: 'Existing Signal Specification')

Traffic Flows, Desired

Desired Flow :

Origin	Destination					
		A	B	C	D	Tot.
	A	7	518	466	278	1269
	B	673	0	78	305	1056
	C	445	98	0	68	611
	D	464	296	37	0	797
	Tot.	1589	912	581	651	3733

Traffic Lane Flows

Lane	Scenario 6: 2026 Base + Development PM
Junction: Dodwells Roundabout	
1/1 (with short)	797(In) 399(Out)
1/2 (short)	398
2/1	994
2/2	595
3/1	431
4/1	566
4/2 (with short)	703(In) 419(Out)
4/3 (short)	284
5/1	912
6/1 (with short)	1056(In) 718(Out)
6/2 (short)	338
7/1	163
7/2	418
8/1 (with short)	611(In) 328(Out)
8/2 (short)	283
9/1	306
9/2	612
9/3	345
10/1	374
10/2	277
11/1	595
11/2	628
12/1	85
12/2	419
12/3	284

Lane Saturation Flows

Junction: Dodwells Roundabout								
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 (A5 (South) - Entry Lane 1)	This lane uses a directly entered Saturation Flow						1800	1800
1/2 (A5 (South) - Entry Lane 2)	This lane uses a directly entered Saturation Flow						1800	1800
2/1 (A5 (North) - Exit Lane 1)	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results

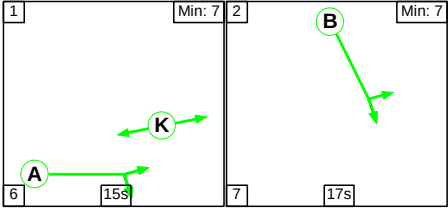
2/2 (A5 (North) - Exit Lane 2)	Infinite Saturation Flow					Inf	Inf
3/1 (Circulatory @ A5 (North) Lane 1)	This lane uses a directly entered Saturation Flow					1900	1900
4/1 (A5 (North) - Entry Lane 1)	This lane uses a directly entered Saturation Flow					1800	1800
4/2 (A5 (North) - Entry Lane 2)	This lane uses a directly entered Saturation Flow					1800	1800
4/3 (A5 (North) - Entry Lane 3)	This lane uses a directly entered Saturation Flow					1800	1800
5/1 (A45 (North) - Exit)	3.50	0.00	Y			1965	1965
6/1 (A45 (North) - Entry Lane 1)	This lane uses a directly entered Saturation Flow					1800	1800
6/2 (A45 (North) - Entry Lane 2)	This lane uses a directly entered Saturation Flow					1800	1800
7/1 (B4666 - Exit Lane 1)	Infinite Saturation Flow					Inf	Inf
7/2 (B4666 - Exit Lane 2)	Infinite Saturation Flow					Inf	Inf
8/1 (B4666 - Entry Lane 1)	This lane uses a directly entered Saturation Flow					1800	1800
8/2 (B4666 - Entry Lane 2)	This lane uses a directly entered Saturation Flow					1800	1800
9/1 (Circulatory @ B4666 Lane 1)	This lane uses a directly entered Saturation Flow					1900	1900
9/2 (Circulatory @ B4666 Lane 2)	This lane uses a directly entered Saturation Flow					1900	1900
9/3 (Circulatory @ B4666 Lane 3)	This lane uses a directly entered Saturation Flow					1900	1900
10/1 (A5 (South) - Exit Lane 1)	Infinite Saturation Flow					Inf	Inf
10/2 (A5 (South) - Exit Lane 2)	Infinite Saturation Flow					Inf	Inf
11/1 (Circulatory @ A5 (South) Lane 1)	This lane uses a directly entered Saturation Flow					1900	1900
11/2 (Circulatory @ A5 (South) Lane 2)	This lane uses a directly entered Saturation Flow					1900	1900
12/1 (Circulatory @ A47 Lane 1)	This lane uses a directly entered Saturation Flow					1900	1900
12/2 (Circulatory @ A47 Lane 2)	This lane uses a directly entered Saturation Flow					1900	1900
12/3 (Circulatory @ A47 Lane 3)	This lane uses a directly entered Saturation Flow					1900	1900

Full Input Data And Results

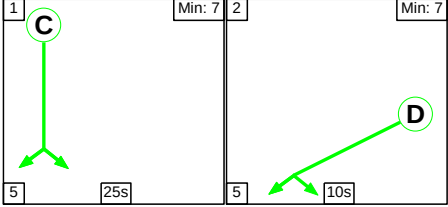
Scenario 5: '2026 Base + Development AM' (FG5: 'Capricorn TA - 2026 Base + Committed + Consented + Proposed AM', Plan 1: 'Existing Signal Specification')

Stage Sequence Diagram

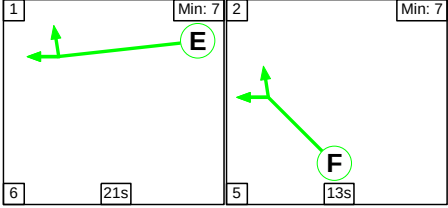
Stage Stream: 1



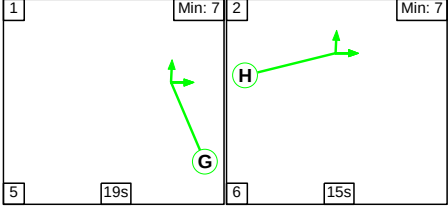
Stage Stream: 2



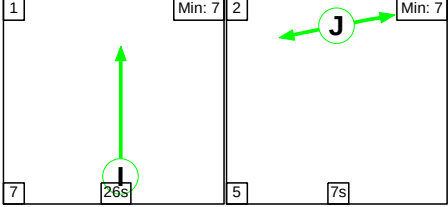
Stage Stream: 3



Stage Stream: 4



Stage Stream: 5



Stage Timings

Stage Stream: 1

Stage	1	2
Duration	15	17
Change Point	3	24

Stage Stream: 2

Stage	1	2
Duration	25	10
Change Point	1	31

Full Input Data And Results

Stage Stream: 3

Stage	1	2
Duration	21	13
Change Point	33	15

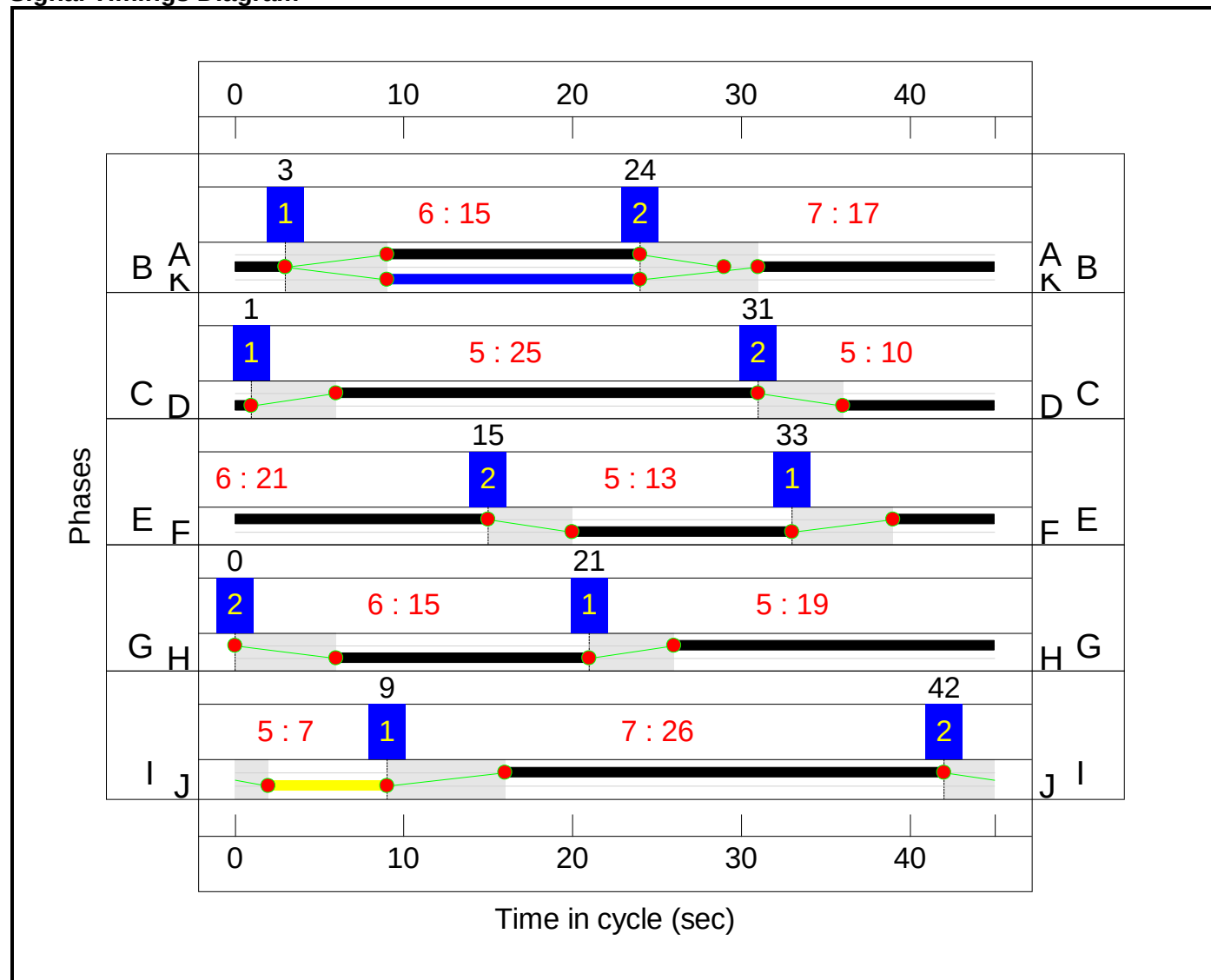
Stage Stream: 4

Stage	1	2
Duration	19	15
Change Point	21	0

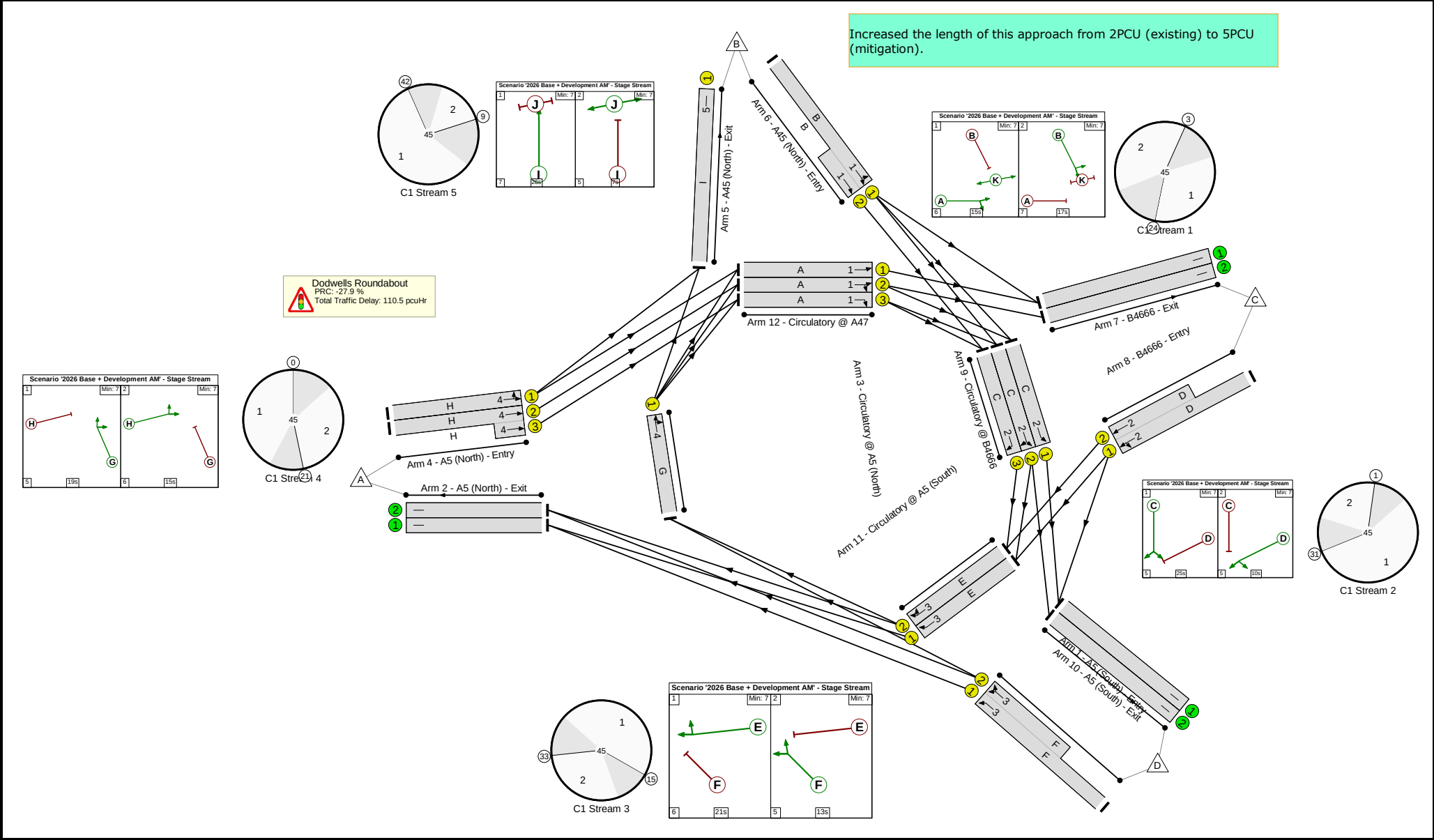
Stage Stream: 5

Stage	1	2
Duration	26	7
Change Point	9	42

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	-	-		-	-	-	-	-	-	115.1%
Dodwells Roundabout	-	-	N/A	-	-		-	-	-	-	-	-	115.1%
1/1+1/2	A5 (South) - Entry Ahead Ahead2	U	3	N/A	F		1	13	-	733	1800:1800	560+560	65.4 : 65.5%
2/1	A5 (North) - Exit	U	N/A	N/A	-		-	-	-	959	Inf	Inf	0.0%
2/2	A5 (North) - Exit	U	N/A	N/A	-		-	-	-	561	Inf	Inf	0.0%
3/1	Circulatory @ A5 (North) Ahead Right	U	4	N/A	G		1	19	-	432	1900	844	51.2%
4/1	A5 (North) - Entry Left Ahead	U	4	N/A	H		1	15	-	565	1800	640	88.3%
4/2+4/3	A5 (North) - Entry Ahead	U	4	N/A	H		1	15	-	769	1800:1800	453+399	90.3 : 90.3%
5/1	A45 (North) - Exit	U	5	N/A	I		1	26	-	845	1965	1179	71.7%
6/1+6/2	A45 (North) - Entry Left Ahead	U	1	N/A	B		1	17	-	1056	1800:1800	614+303	115.1 : 115.1%
7/1	B4666 - Exit	U	N/A	N/A	-		-	-	-	266	Inf	Inf	0.0%
7/2	B4666 - Exit	U	N/A	N/A	-		-	-	-	237	Inf	Inf	0.0%
8/1+8/2	B4666 - Entry Left Ahead	U	2	N/A	D		1	10	-	599	1800:1800	440+440	74.1 : 62.0%
9/1	Circulatory @ B4666 Ahead	U	2	N/A	C		1	25	-	445	1900	1098	37.3%
9/2	Circulatory @ B4666 Ahead Right	U	2	N/A	C		1	25	-	676	1900	1098	57.8%
9/3	Circulatory @ B4666 Right	U	2	N/A	C		1	25	-	353	1900	1098	28.0%
10/1	A5 (South) - Exit	U	N/A	N/A	-		-	-	-	498	Inf	Inf	0.0%
10/2	A5 (South) - Exit	U	N/A	N/A	-		-	-	-	356	Inf	Inf	0.0%

Full Input Data And Results

11/1	Circulatory @ A5 (South) Ahead	U	3	N/A	E		1	21	-	593	1900	929	59.4%
11/2	Circulatory @ A5 (South) Ahead Right	U	3	N/A	E		1	21	-	626	1900	929	62.5%
12/1	Circulatory @ A47 Ahead	U	1	N/A	A		1	15	-	152	1900	676	22.5%
12/2	Circulatory @ A47 Ahead Right	U	1	N/A	A		1	15	-	409	1900	676	60.5%
12/3	Circulatory @ A47 Right	U	1	N/A	A		1	15	-	360	1900	676	53.3%

Full Input Data And Results

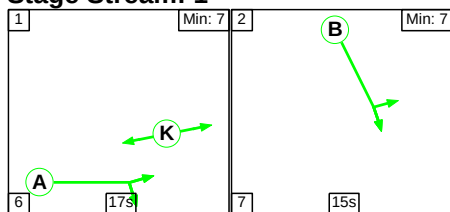
Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	-	-	0	0	0	21.9	88.6	0.0	110.5	-	-	-	-
Dodwells Roundabout	-	-	0	0	0	21.9	88.6	0.0	110.5	-	-	-	-
1/1+1/2	733	733	-	-	-	2.7	0.9	-	3.7	18.0	3.9	0.9	4.8
2/1	918	918	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
2/2	515	515	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
3/1	432	432	-	-	-	0.6	0.5	-	1.1	9.5	2.7	0.5	3.3
4/1	565	565	-	-	-	2.1	3.4	-	5.6	35.6	6.6	3.4	10.0
4/2+4/3	769	769	-	-	-	2.6	4.2	-	6.9	32.2	6.1	4.2	10.4
5/1	845	845	-	-	-	0.7	1.3	-	2.0	8.3	5.9	1.3	7.1
6/1+6/2	1056	917	-	-	-	7.2	72.9	-	80.1	273.1	13.9	72.9	86.8
7/1	251	251	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/2	237	237	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1+8/2	599	599	-	-	-	2.6	1.1	-	3.6	21.8	3.7	1.1	4.8
9/1	409	409	-	-	-	0.6	0.3	-	0.9	8.1	2.9	0.3	3.2
9/2	634	634	-	-	-	0.8	0.7	-	1.5	8.3	3.5	0.7	4.2
9/3	307	307	-	-	-	1.0	0.2	-	1.2	13.8	3.8	0.2	4.0
10/1	462	462	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
10/2	355	355	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
11/1	552	552	-	-	-	0.2	0.7	-	1.0	6.3	0.7	0.7	1.4
11/2	580	580	-	-	-	0.4	0.8	-	1.2	7.3	3.2	0.8	4.0
12/1	152	152	-	-	-	0.2	0.1	-	0.4	8.3	0.6	0.1	0.7
12/2	409	409	-	-	-	0.1	0.8	-	0.8	7.5	0.1	0.8	0.9
12/3	360	360	-	-	-	0.1	0.6	-	0.6	6.4	0.1	0.6	0.7
C1 Stream: 1 PRC for Signalled Lanes (%): -27.9 C1 Stream: 2 PRC for Signalled Lanes (%): 21.5 C1 Stream: 3 PRC for Signalled Lanes (%): 37.3 C1 Stream: 4 PRC for Signalled Lanes (%): -0.4 C1 Stream: 5 PRC for Signalled Lanes (%): 25.6 PRC Over All Lanes (%): -27.9 Total Delay for Signalled Lanes (pcuHr): 81.94 Total Delay for Signalled Lanes (pcuHr): 7.19 Total Delay for Signalled Lanes (pcuHr): 5.82 Total Delay for Signalled Lanes (pcuHr): 13.61 Total Delay for Signalled Lanes (pcuHr): 1.96 Total Delay Over All Lanes(pcuHr): 110.51 Cycle Time (s): 45 Cycle Time (s): 45 Cycle Time (s): 45 Cycle Time (s): 45 Cycle Time (s): 45													

Full Input Data And Results

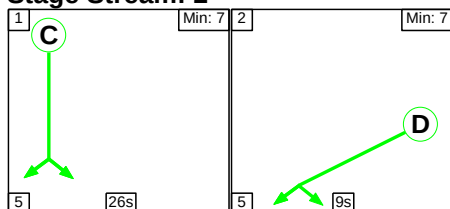
Scenario 6: '2026 Base + Development PM' (FG6: 'Capricorn TA - 2026 Base + Committed + Consented + Proposed PM', Plan 1: 'Existing Signal Specification')

Stage Sequence Diagram

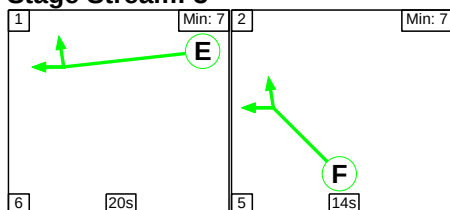
Stage Stream: 1



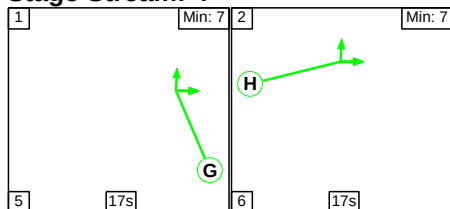
Stage Stream: 2



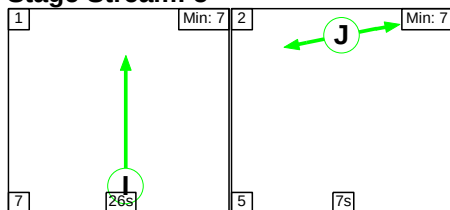
Stage Stream: 3



Stage Stream: 4



Stage Stream: 5



Stage Timings

Stage Stream: 1

Stage	1	2
Duration	17	15
Change Point	3	26

Stage Stream: 2

Stage	1	2
Duration	26	9
Change Point	4	35

Full Input Data And Results

Stage Stream: 3

Stage	1	2
Duration	20	14
Change Point	37	18

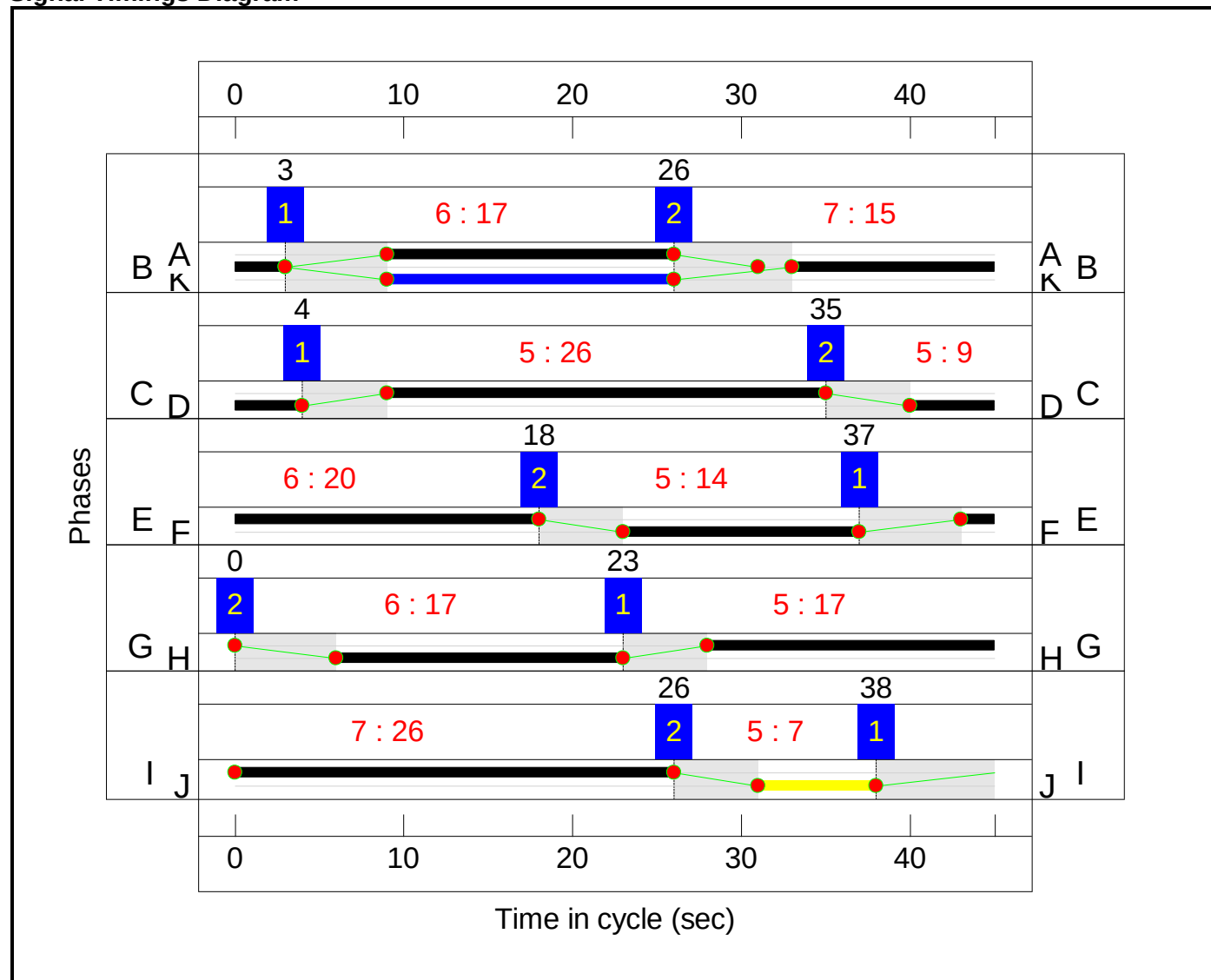
Stage Stream: 4

Stage	1	2
Duration	17	17
Change Point	23	0

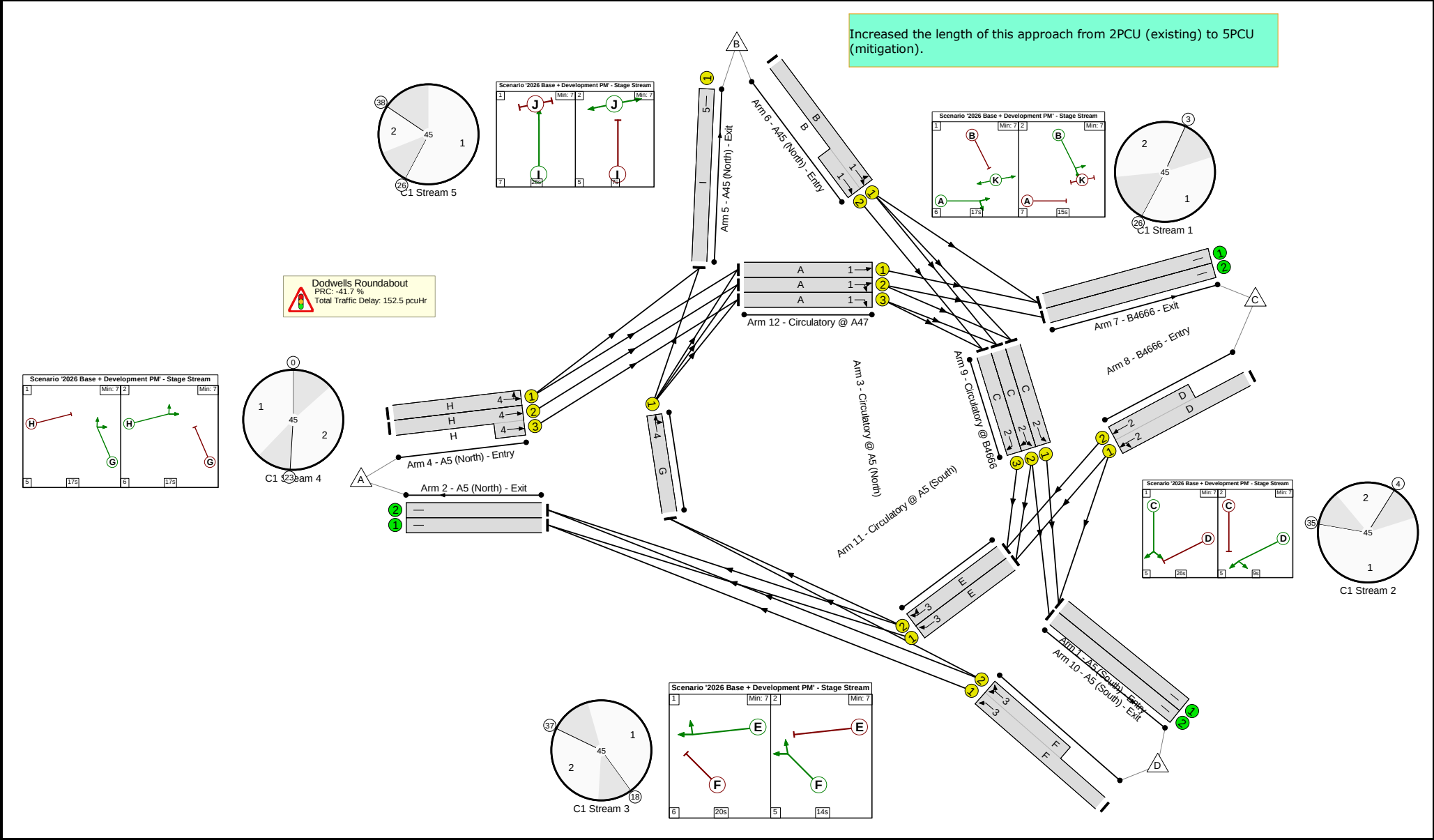
Stage Stream: 5

Stage	1	2
Duration	26	7
Change Point	38	26

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	-	-		-	-	-	-	-	-	127.5%
Dodwells Roundabout	-	-	N/A	-	-		-	-	-	-	-	-	127.5%
1/1+1/2	A5 (South) - Entry Ahead Ahead2	U	3	N/A	F		1	14	-	797	1800:1800	600+600	66.5 : 66.3%
2/1	A5 (North) - Exit	U	N/A	N/A	-		-	-	-	994	Inf	Inf	0.0%
2/2	A5 (North) - Exit	U	N/A	N/A	-		-	-	-	595	Inf	Inf	0.0%
3/1	Circulatory @ A5 (North) Ahead Right	U	4	N/A	G		1	17	-	431	1900	760	56.7%
4/1	A5 (North) - Entry Left Ahead	U	4	N/A	H		1	17	-	566	1800	720	78.6%
4/2+4/3	A5 (North) - Entry Ahead	U	4	N/A	H		1	17	-	703	1800:1800	526+357	79.6 : 79.6%
5/1	A45 (North) - Exit	U	5	N/A	I		1	26	-	912	1965	1179	77.4%
6/1+6/2	A45 (North) - Entry Left Ahead	U	1	N/A	B		1	15	-	1056	1800:1800	563+265	127.5 : 127.5%
7/1	B4666 - Exit	U	N/A	N/A	-		-	-	-	163	Inf	Inf	0.0%
7/2	B4666 - Exit	U	N/A	N/A	-		-	-	-	418	Inf	Inf	0.0%
8/1+8/2	B4666 - Entry Left Ahead	U	2	N/A	D		1	9	-	611	1800:1800	400+400	82.0 : 70.8%
9/1	Circulatory @ B4666 Ahead	U	2	N/A	C		1	26	-	306	1900	1140	21.1%
9/2	Circulatory @ B4666 Ahead Right	U	2	N/A	C		1	26	-	612	1900	1140	47.3%
9/3	Circulatory @ B4666 Right	U	2	N/A	C		1	26	-	345	1900	1140	23.9%
10/1	A5 (South) - Exit	U	N/A	N/A	-		-	-	-	374	Inf	Inf	0.0%
10/2	A5 (South) - Exit	U	N/A	N/A	-		-	-	-	277	Inf	Inf	0.0%

Full Input Data And Results

11/1	Circulatory @ A5 (South) Ahead	U	3	N/A	E		1	20	-	595	1900	887	59.0%
11/2	Circulatory @ A5 (South) Ahead Right	U	3	N/A	E		1	20	-	628	1900	887	62.6%
12/1	Circulatory @ A47 Ahead	U	1	N/A	A		1	17	-	85	1900	760	11.2%
12/2	Circulatory @ A47 Ahead Right	U	1	N/A	A		1	17	-	419	1900	760	55.1%
12/3	Circulatory @ A47 Right	U	1	N/A	A		1	17	-	284	1900	760	37.4%

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	-	-	0	0	0	24.5	128.0	0.0	152.5	-	-	-	-
Dodwells Roundabout	-	-	0	0	0	24.5	128.0	0.0	152.5	-	-	-	-
1/1+1/2	797	797	-	-	-	2.8	1.0	-	3.8	17.3	4.2	1.0	5.2
2/1	922	922	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
2/2	522	522	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
3/1	431	431	-	-	-	0.6	0.7	-	1.2	10.2	1.7	0.7	2.4
4/1	566	566	-	-	-	1.9	1.8	-	3.7	23.2	6.1	1.8	7.9
4/2+4/3	703	703	-	-	-	2.1	1.9	-	4.0	20.3	5.2	1.9	7.1
5/1	912	912	-	-	-	1.3	1.7	-	3.0	11.8	5.1	1.7	6.8
6/1+6/2	1056	828	-	-	-	9.8	116.1	-	125.9	429.3	15.2	116.1	131.3
7/1	146	146	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/2	418	418	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1+8/2	611	611	-	-	-	2.8	1.6	-	4.4	25.8	3.8	1.6	5.4
9/1	240	240	-	-	-	0.7	0.1	-	0.9	13.1	3.0	0.1	3.1
9/2	540	540	-	-	-	0.9	0.4	-	1.3	8.7	4.3	0.4	4.8
9/3	272	272	-	-	-	1.0	0.2	-	1.1	15.0	3.3	0.2	3.5
10/1	308	308	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
10/2	277	277	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
11/1	523	523	-	-	-	0.2	0.7	-	0.9	6.1	0.5	0.7	1.3
11/2	555	555	-	-	-	0.2	0.8	-	1.0	6.8	0.7	0.8	1.5
12/1	85	85	-	-	-	0.2	0.1	-	0.2	9.3	0.5	0.1	0.5
12/2	419	419	-	-	-	0.1	0.6	-	0.7	5.9	0.1	0.6	0.7
12/3	284	284	-	-	-	0.0	0.3	-	0.3	4.4	0.1	0.3	0.4
C1 Stream: 1 PRC for Signalled Lanes (%): -41.7 C1 Stream: 2 PRC for Signalled Lanes (%): 9.8 C1 Stream: 3 PRC for Signalled Lanes (%): 35.3 C1 Stream: 4 PRC for Signalled Lanes (%): 13.0 C1 Stream: 5 PRC for Signalled Lanes (%): 16.3 PRC Over All Lanes (%): -41.7 Total Delay for Signalled Lanes (pcuHr): 127.18 Total Delay for Signalled Lanes (pcuHr): 7.69 Total Delay for Signalled Lanes (pcuHr): 5.77 Total Delay for Signalled Lanes (pcuHr): 8.85 Total Delay for Signalled Lanes (pcuHr): 3.00 Total Delay Over All Lanes(pcuHr): 152.50 Cycle Time (s): 45 Cycle Time (s): 45 Cycle Time (s): 45 Cycle Time (s): 45 Cycle Time (s): 45													

Capricorn Transport Planning

Transport Planning
Traffic Engineering
Sustainable Travel
Road Safety

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APPENDIX D

REVISED TRAFFIC IMPACT ASSESSMENT

21021 HINKLEY WEST

TRANSPORT ASSESSMENT

TRIP DISTRIBUTION

WU03EW - Location of usual residence and place of work by method of travel to work (MSOA level)
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population All usual residents aged 16 and over in employment the week before the census
units Persons
date 2011
usual residence E02005387 Hinkley and Bosworth 011 (2011 super output area - middle layer)

Usual Residence	Hinkley and Bosworth 011	%	A	B	C	D	E	F	G	H	I	J	K	L	M	TOTAL	A	B	C	D	E	F	G	H	I	J	K	L	M	TOTAL	CHECK
Place of work: 2011 census merged local authority district	CODE	Driving a car or van	STOKE ROAD	A447 NORTH	A47 NORTH	M69 NORTH	A5 SOUTH	M69 SOUTH	A47 SOUTH	A5 WEST	OUTLANDS DRIVE	ROSTON DRIVE	WYKIN ROAD WEST	WYKIN ROAD EAST	B4666 COVENTRY ROAD		STOKE ROAD	A447 NORTH	A47 NORTH	M69 NORTH	A5 SOUTH	M69 SOUTH	A47 SOUTH	A5 WEST	OUTLANDS DRIVE	ROSTON DRIVE	WYKIN ROAD WEST	WYKIN ROAD EAST	B4666 COVENTRY ROAD		
Gateshead	E41000276	2	0.06%													100%	0.00%	0.00%	0.00%	0.06%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.06%	OK
North Tyneside	E41000278	1	0.03%													100%	0.00%	0.00%	0.00%	0.03%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.03%	OK
Warrington	E41000007	1	0.03%													100%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.03%	OK
Cheshire East	E41000049	1	0.03%													100%	0.00%	0.00%	0.00%	0.01%	0.00%	0.00%	0.00%	0.02%	0.00%	0.00%	0.00%	0.00%	0.00%	0.03%	OK
Preston	E41000155	1	0.03%													100%	0.00%	0.00%	0.00%	0.01%	0.00%	0.00%	0.00%	0.02%	0.00%	0.00%	0.00%	0.00%	0.00%	0.03%	OK
Bolton	E41000257	1	0.03%													100%	0.00%	0.00%	0.00%	0.01%	0.00%	0.00%	0.00%	0.02%	0.00%	0.00%	0.00%	0.00%	0.00%	0.03%	OK
Bury	E41000266	1	0.03%													100%	0.00%	0.00%	0.00%	0.01%	0.00%	0.00%	0.00%	0.02%	0.00%	0.00%	0.00%	0.00%	0.00%	0.03%	OK
Salford	E41000262	2	0.06%													100%	0.00%	0.00%	0.00%	0.02%	0.00%	0.00%	0.00%	0.04%	0.00%	0.00%	0.00%	0.00%	0.00%	0.06%	OK
Kingston upon Hull, City of	E41000010	1	0.03%													100%	0.00%	0.00%	0.00%	0.03%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.03%	OK
Barnsley	E41000272	1	0.03%			30%										100%	0.00%	0.01%	0.00%	0.02%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.03%	OK
Doncaster	E41000275	1	0.03%			30%										100%	0.00%	0.01%	0.00%	0.02%	0.00%	0.00%	0.00%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.03%	OK
Rotherham	E41000274	1	0.03%			30%										100%	0.00%	0.01%	0.00%	0.02%	0.00%	0.00%	0.00%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.03%	OK
Leeds	E41000281	2	0.06%			30%										100%	0.00%	0.02%	0.00%	0.03%	0.00%	0.00%	0.00%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.06%	OK
Wakefield	E41000292	3	0.09%			30%										100%	0.00%	0.03%	0.00%	0.05%	0.00%	0.00%	0.00%	0.02%	0.00%	0.00%	0.00%	0.00%	0.00%	0.09%	OK
Derby	E41000015	9	0.28%			30%	30%									100%	0.00%	0.08%	0.08%	0.11%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.28%	OK
Leicester	E41000016	213	6.56%			50%										100%	0.00%	0.00%	3.28%	3.28%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	6.56%	OK
Rutland	E41000017	2	0.06%			70%										100%	0.00%	0.00%	0.02%	0.04%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.06%	OK
Nottingham	E41000018	6	0.18%			20%										100%	0.00%	0.04%	0.04%	0.11%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.18%	OK
Amber Valley	E41000071	3	0.09%			40%										100%	0.00%	0.04%	0.00%	0.06%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.09%	OK
Bolsover	E41000072	1	0.03%			40%										100%	0.00%	0.01%	0.00%	0.02%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.03%	OK
Erewash	E41000076	3	0.09%			40%										100%	0.00%	0.04%	0.00%	0.06%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.09%	OK
Blaby	E41000161	186	5.72%			50%										100%	0.00%	0.00%	2.86%	1.72%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	5.72%	OK
Charnwood	E41000162	47	1.45%			30%										100%	0.00%	0.43%	0.43%	0.58%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	1.45%	OK
Hatfield Moor	E41000163	219	6.74%			20%										100%	0.00%	0.00%	1.35%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	6.74%	OK
Hinkley and Bosworth 001	E02005377	6	0.18%	40%	60%											100%	0.07%	0.11%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.18%	OK
Hinkley and Bosworth 002	E02005378	6	0.18%			40%										100%	0.00%	0.00%	0.07%	0.11%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.18%	OK
Hinkley and Bosworth 003	E02005379	5	0.15%			30%										100%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.15%	OK
Hinkley and Bosworth 004	E02005380	19	0.58%	50%												100%	0.29%	0.29%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.58%	OK
Hinkley and Bosworth 005	E02005381	31	0.95%			20%										100%	0.19%	0.19%	0.57%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.95%	OK
Hinkley and Bosworth 006	E02005382	40	1.23%			100%										100%	0.00%	0.00%	1.23%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	1.23%	OK
Hinkley and Bosworth 007	E02005383	67	1.73%			100%										100%	0.00%	0.00%	0.70%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	1.73%	OK
Hinkley and Bosworth 008	E02005384	88	3.02%			40%										100%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	1.81%	0.00%	0.00%	1.21%	0.00%	0.00%	3.02%	OK
Hinkley and Bosworth 009	E02005385	139	4.28%			60%										100%	0.00%	0.00%	2.57%	0.00%	0.00%	0.00%	0.00%	0.00%	0.86%	0.00%	0.00%	0.00%	0.00%	4.28%	OK
Hinkley and Bosworth 010	E02005386	315	9.70%													100%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	3.88%	3.88%	0.00%	1.94%	0.00%	0.00%	9.70%	OK
Hinkley and Bosworth 011	E02005387	345	10.62%													100%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	5.31%	0.00%	0.00%	4.25%	0.00%	0.00%	10.62%	OK
Hinkley and Bosworth 012	E02005388	163	5.02%													100%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	5.02%	0.00%	0.00%	0.00%	0.00%	0.00%	5.02%	OK
Hinkley and Bosworth 013	E02005389	32	0.98%													100%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.59%	0.20%	0.00%	0.00%	0.00%	0.00%	0.98%	OK
Hinkley and Bosworth 014	E02005390	61	2.60%													100%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.84%	0.00%	0.00%	0.00%	0.00%	0.00%	2.60%	OK
Melton	E41000165	8	0.25%			10%										100%	0.00%	0.02%	0.05%	0.17%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.25%	OK
North West Leicestershire	E41000166	64	1.97%			60%										100%	0.00%	1.18%	0.00%	0.59%	0.00%	0.00%	0.00%	0.20%	0.00%	0.00%	0.00%	0.00%	0.00%	1.97%	OK
Oadby and Wigston	E41000167	24	0.74%			40%										100%	0.00%	0.00%	0.30%	0.44%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%					

C21021 HINCKLEY WEST

TRANSPORT ASSESSMENT

DEVELOPMENT TRAFFIC FLOWS
VEHICLES

OPA SCHEME ONLY

2023 SWORD DRIVE TRIP RATES

Direction	AM PEAK	
	RATE	VEH
IN	0.167	142
OUT	0.384	326
2-WAY	0.551	468

850 Dwellings

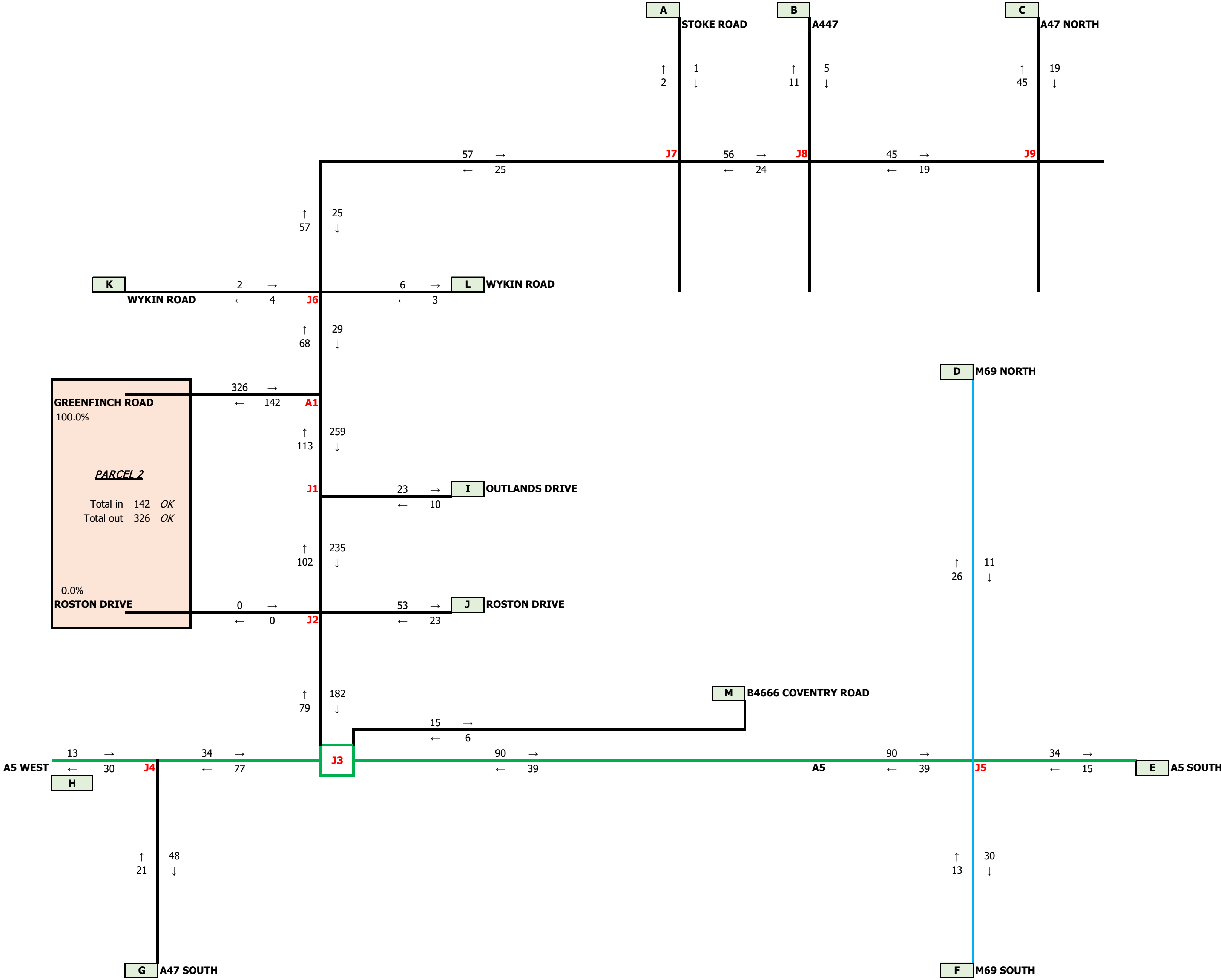
ROUTE		AM PEAK HOUR		
		IN	OUT	2-WAY
A	0.6%	1	2	3
B	3.4%	5	11	16
C	13.6%	19	45	64
D	8.0%	11	26	38
E	10.5%	15	34	49
F	9.2%	13	30	43
G	14.6%	21	48	68
H	9.1%	13	30	43
I	7.1%	10	23	33
J	16.3%	23	53	76
K	1.2%	2	4	6
L	1.9%	3	6	9
M	4.4%	6	15	21
TOTAL	100%	142	326	468
Cordon totals		142	326	
		OK	OK	

JUNCTION IMPACTS

- A1 NORMANDY WAY/GREENFINCH ROAD
- J1 NORMANDY WAY/OUTLANDS DRIVE
- J2 NORMANDY WAY/ROSTON DRIVE
- J3 A5/A47 DODWELL'S ROUNDABOUT
- J4 A5/A47 THE LONG SHOOT SIGNALS
- J5 M69 JUNCTION 1
- J6 A47/WYKIN ROAD ROUNDABOUT
- J7 A47/STOKE ROAD ROUNDABOUT
- J8 A47/A447 JUNCTION
- J9 A47/LEICESTER ROAD JUNCTION, EARL SHILTON

Total Inflow (Vehicles)

- 468 LESS TRAFFIC REASSIGNED TO NEW ACCESS
- 371
- 338 PLUS TRAFFIC REASSIGNED TO NEW ACCESS
- 262
- 111
- 130
- 97
- 82
- 80
- 64



C21021 HINCKLEY WEST

TRANSPORT ASSESSMENT

DEVELOPMENT TRAFFIC FLOWS
VEHICLES

OPA SCHEME ONLY

2023 SWORD DRIVE TRIP RATES

Direction	PM PEAK	
	RATE	VEH
IN	0.246	209
OUT	0.210	179
2-WAY	0.456	388

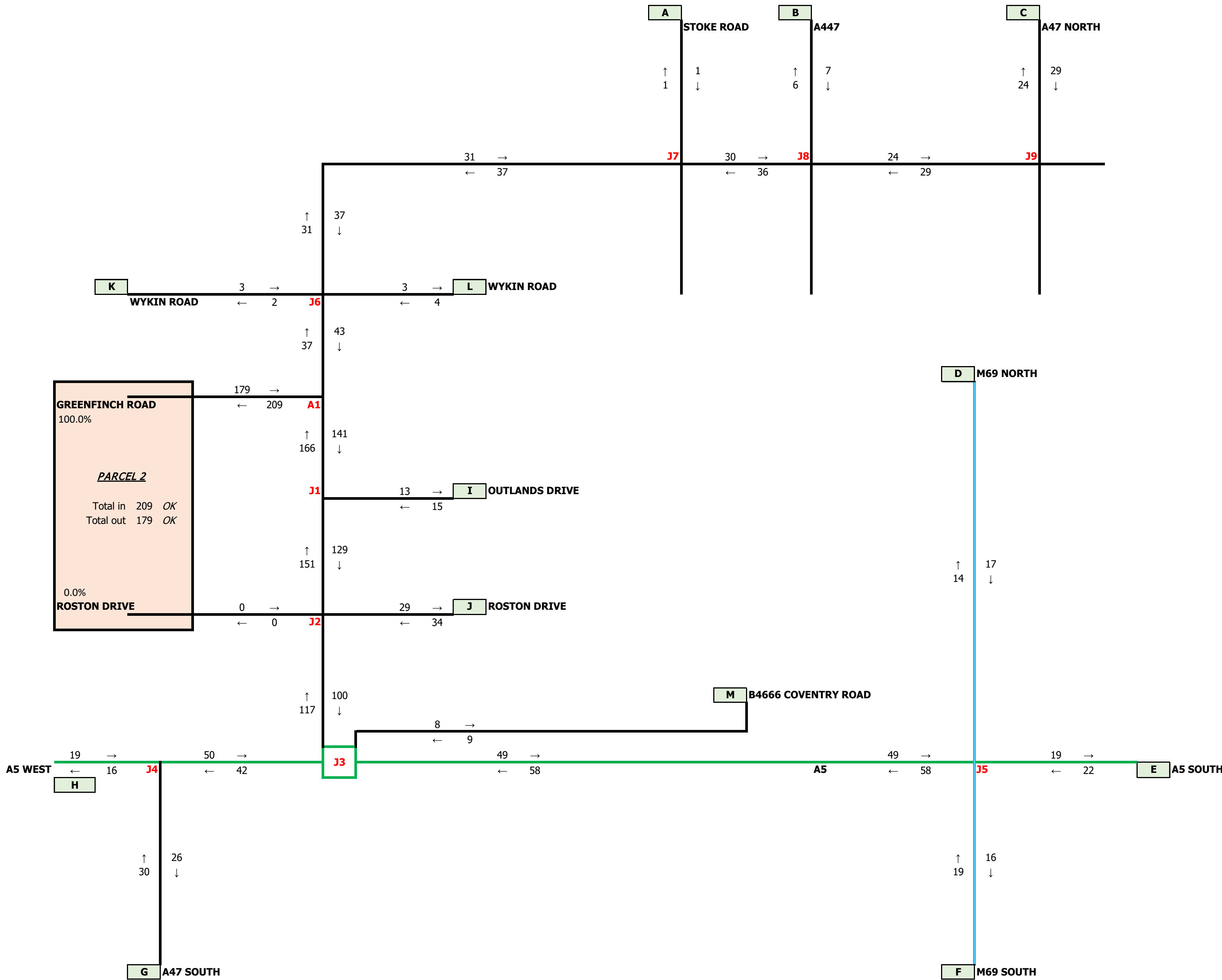
850 Dwellings

ROUTE		PM PEAK HOUR		
		IN	OUT	2-WAY
A	0.6%	1	1	2
B	3.4%	7	6	13
C	13.6%	29	24	53
D	8.0%	17	14	31
E	10.5%	22	19	41
F	9.2%	19	16	36
G	14.6%	30	26	57
H	9.1%	19	16	35
I	7.1%	15	13	28
J	16.3%	34	29	63
K	1.2%	3	2	5
L	1.9%	4	3	8
M	4.4%	9	8	17
TOTAL	100%	209	179	388
Cordon totals		209	179	
		OK	OK	

JUNCTION IMPACTS

A1	NORMANDY WAY/GREENFINCH ROAD	388	LESS TRAFFIC REASSIGNED TO NEW ACCESS
J1	NORMANDY WAY/OUTLANDS DRIVE	307	
J2	NORMANDY WAY/ROSTON DRIVE	280	PLUS TRAFFIC REASSIGNED TO NEW ACCESS
J3	A5/A47 DODWELL'S ROUNDABOUT	217	
J4	A5/A47 THE LONG SHOOT SIGNALS	92	
J5	M69 JUNCTION 1	107	
J6	A47/WYKIN ROAD ROUNDABOUT	80	
J7	A47/STOKE ROAD ROUNDABOUT	68	
J8	A47/A447 JUNCTION	66	
J9	A47/LEICESTER ROAD JUNCTION, EARL SHILTON	53	

Total Inflow (Vehicles)



C21021 HINCKLEY WEST

TRANSPORT ASSESSMENT

DEVELOPMENT TRAFFIC FLOWS
VEHICLES

FPA SCHEME ONLY

2023 SWORD DRIVE TRIP RATES

Direction	AM PEAK	
	RATE	VEH
IN	0.167	26
OUT	0.384	59
2-WAY	0.551	84

153 Dwellings (Net additional)

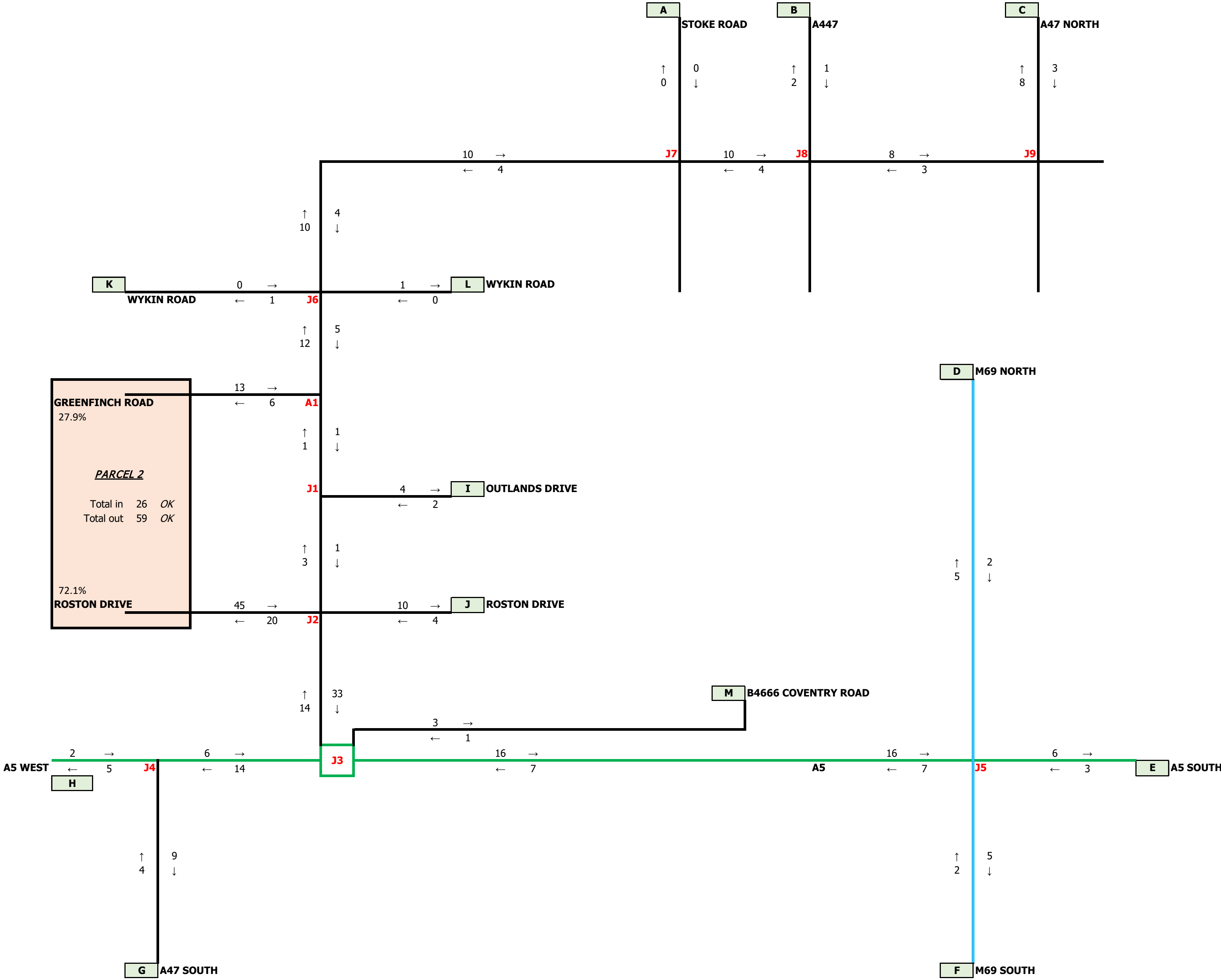
ROUTE	AM PEAK HOUR		
	IN	OUT	2-WAY
A	0.6%	0	0
B	3.4%	1	2
C	13.6%	3	8
D	8.0%	2	5
E	10.5%	3	6
F	9.2%	2	5
G	14.6%	4	9
H	9.1%	2	5
I	7.1%	2	4
J	16.3%	4	10
K	1.2%	0	1
L	1.9%	0	1
M	4.4%	1	3
TOTAL	100%	26	59
Cordon totals			
		26	59
		OK	OK

JUNCTION IMPACTS

- A1 NORMANDY WAY/GREENFINCH ROAD
- J1 NORMANDY WAY/OUTLANDS DRIVE
- J2 NORMANDY WAY/ROSTON DRIVE
- J3 A5/A47 DODWELL'S ROUNDABOUT
- J4 A5/A47 THE LONG SHOOT SIGNALS
- J5 M69 JUNCTION 1
- J6 A47/WYKIN ROAD ROUNDABOUT
- J7 A47/STOKE ROAD ROUNDABOUT
- J8 A47/A447 JUNCTION
- J9 A47/LEICESTER ROAD JUNCTION, EARL SHILTON

Total Inflow (Vehicles)

- 19 LESS TRAFFIC REASSIGNED TO NEW ACCESS
- 6
- 65 PLUS TRAFFIC REASSIGNED TO NEW ACCESS
- 47
- 20
- 23
- 17
- 15
- 14
- 12



C21021 HINCKLEY WEST

TRANSPORT ASSESSMENT

DEVELOPMENT TRAFFIC FLOWS
VEHICLES

FPA SCHEME ONLY

2023 SWORD DRIVE TRIP RATES

Direction	PM PEAK	
	RATE	VEH
IN	0.246	38
OUT	0.210	32
2-WAY	0.456	70

153 Dwellings (Net additional)

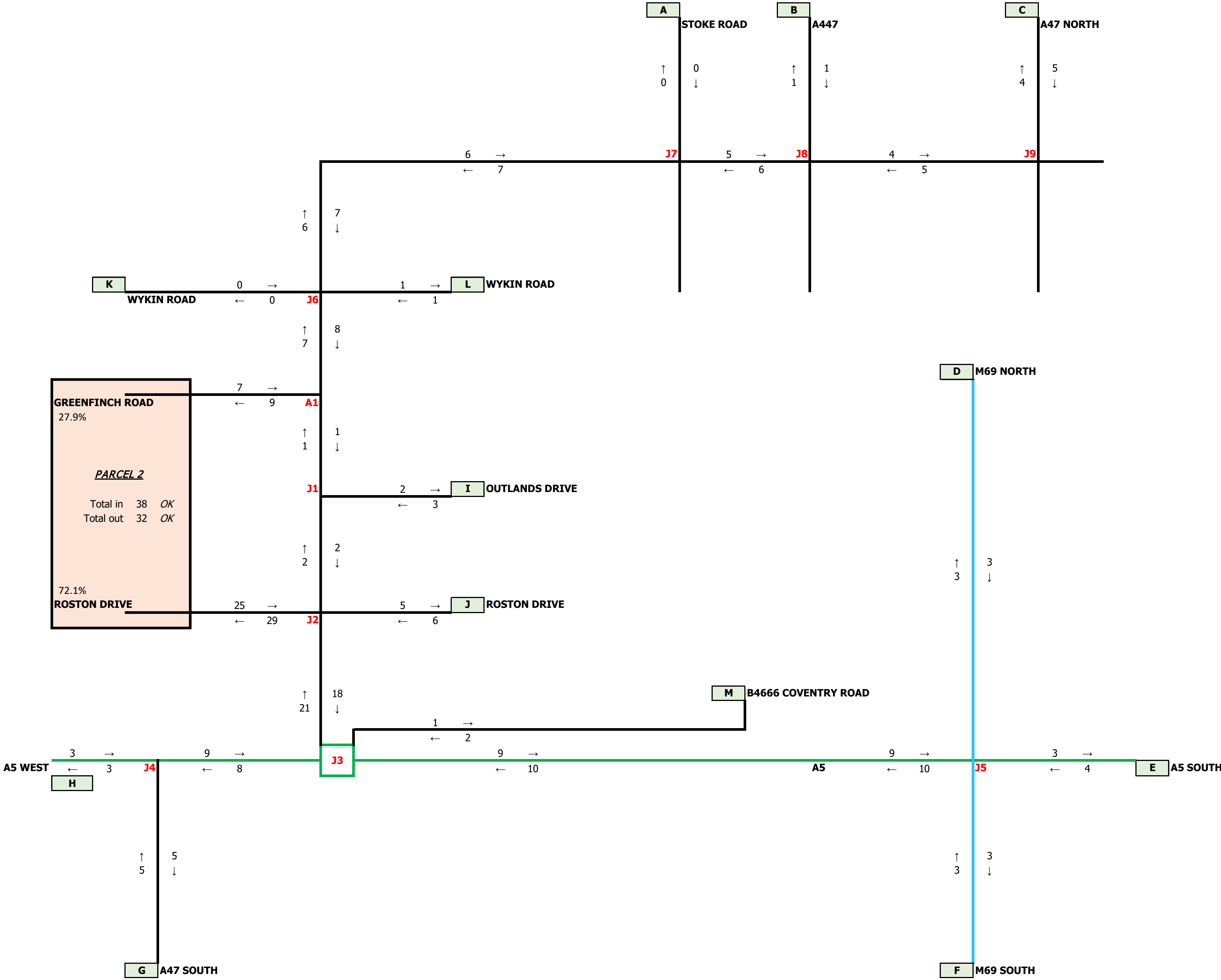
ROUTE	PM PEAK HOUR		
	IN	OUT	2-WAY
A	0.6%	0	0
B	3.4%	1	2
C	13.6%	5	10
D	8.0%	3	6
E	10.5%	4	7
F	9.2%	3	6
G	14.6%	5	10
H	9.1%	3	6
I	7.1%	3	5
J	16.3%	6	11
K	1.2%	0	1
L	1.9%	1	1
M	4.4%	2	3
TOTAL	100%	38	70
Cordon totals			
	38	32	
	OK	OK	

JUNCTION IMPACTS

- A1 NORMANDY WAY/GREENFINCH ROAD
- J1 NORMANDY WAY/OUTLANDS DRIVE
- J2 NORMANDY WAY/ROSTON DRIVE
- J3 A5/A47 DODWELL'S ROUNDABOUT
- J4 A5/A47 THE LONG SHOOT SIGNALS
- J5 M69 JUNCTION 1
- J6 A47/WYKIN ROAD ROUNDABOUT
- J7 A47/STOKE ROAD ROUNDABOUT
- J8 A47/A447 JUNCTION
- J9 A47/LEICESTER ROAD JUNCTION, EARL SHILTON

Total Inflow (Vehicles)

- 16 LESS TRAFFIC REASSIGNED TO NEW ACCESS
- 5
- 54 PLUS TRAFFIC REASSIGNED TO NEW ACCESS
- 39
- 17
- 19
- 14
- 12
- 12
- 10



C21021 HINCKLEY WEST

TRANSPORT ASSESSMENT

DEVELOPMENT TRAFFIC FLOWS
VEHICLES

OPA + FPA SCHEMES

2023 SWORD DRIVE TRIP RATES

Direction	AM PEAK	
	RATE	VEH
IN	0.167	168
OUT	0.384	385
2-WAY	0.551	553

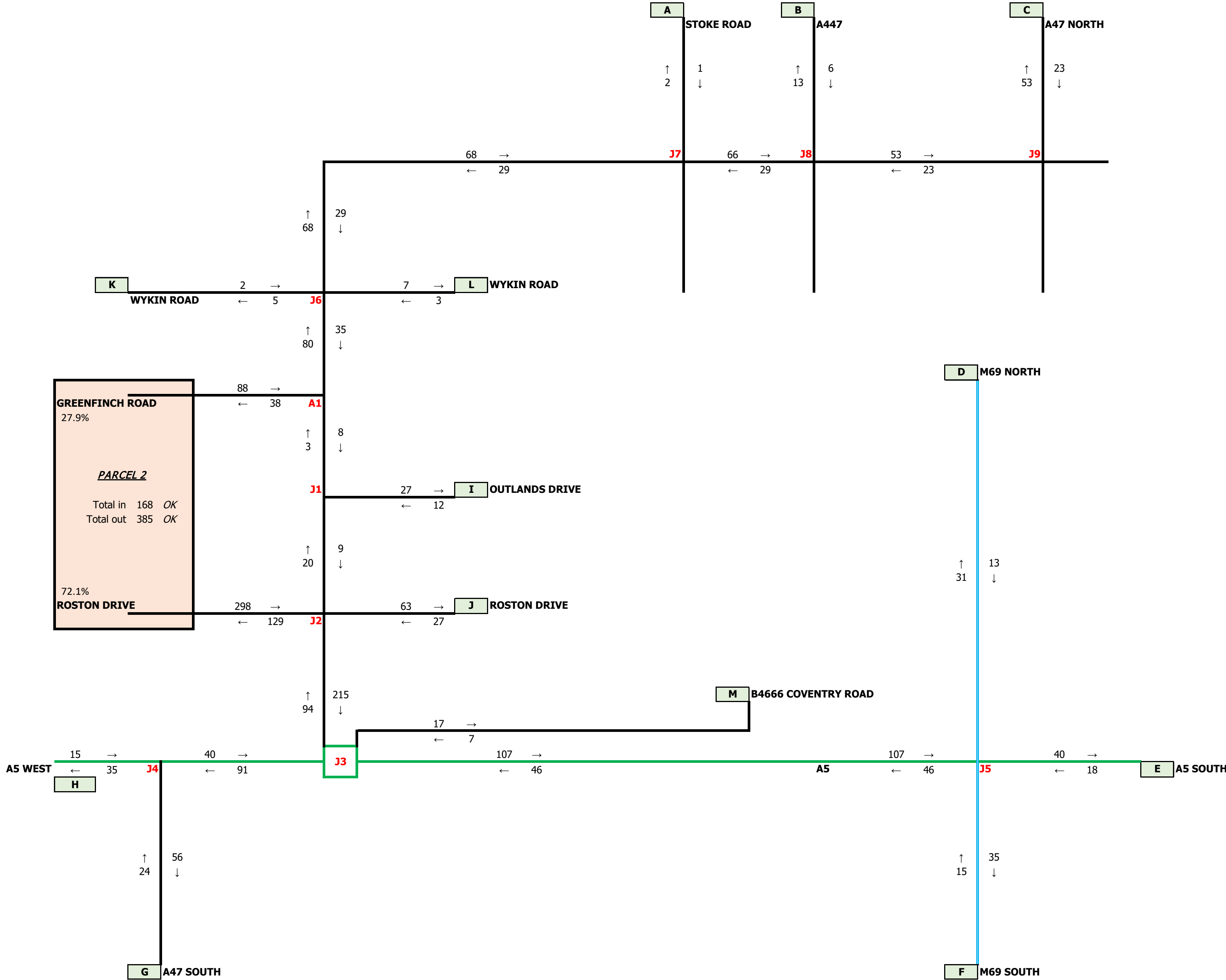
1003 Dwellings

ROUTE	AM PEAK HOUR		
	IN	OUT	2-WAY
A	0.6%	1	2
B	3.4%	6	13
C	13.6%	23	53
D	8.0%	13	31
E	10.5%	18	40
F	9.2%	15	35
G	14.6%	24	56
H	9.1%	15	35
I	7.1%	12	27
J	16.3%	27	63
K	1.2%	2	5
L	1.9%	3	7
M	4.4%	7	17
TOTAL	100%	168	385
Cordon totals		168	385
		OK	OK

JUNCTION IMPACTS

A1	NORMANDY WAY/GREENFINCH ROAD	126	LESS TRAFFIC REASSIGNED TO NEW ACCESS
J1	NORMANDY WAY/OUTLANDS DRIVE	39	
J2	NORMANDY WAY/ROSTON DRIVE	427	PLUS TRAFFIC REASSIGNED TO NEW ACCESS
J3	A5/A47 DODWELL'S ROUNDABOUT	309	
J4	A5/A47 THE LONG SHOOT SIGNALS	131	
J5	M69 JUNCTION 1	153	
J6	A47/WYKIN ROAD ROUNDABOUT	115	
J7	A47/STOKE ROAD ROUNDABOUT	97	
J8	A47/A447 JUNCTION	94	
J9	A47/LEICESTER ROAD JUNCTION, EARL SHILTON	75	

Total Inflow (Vehicles)



C21021 HINCKLEY WEST

TRANSPORT ASSESSMENT

DEVELOPMENT TRAFFIC FLOWS
VEHICLES

OPA + FPA SCHEMES

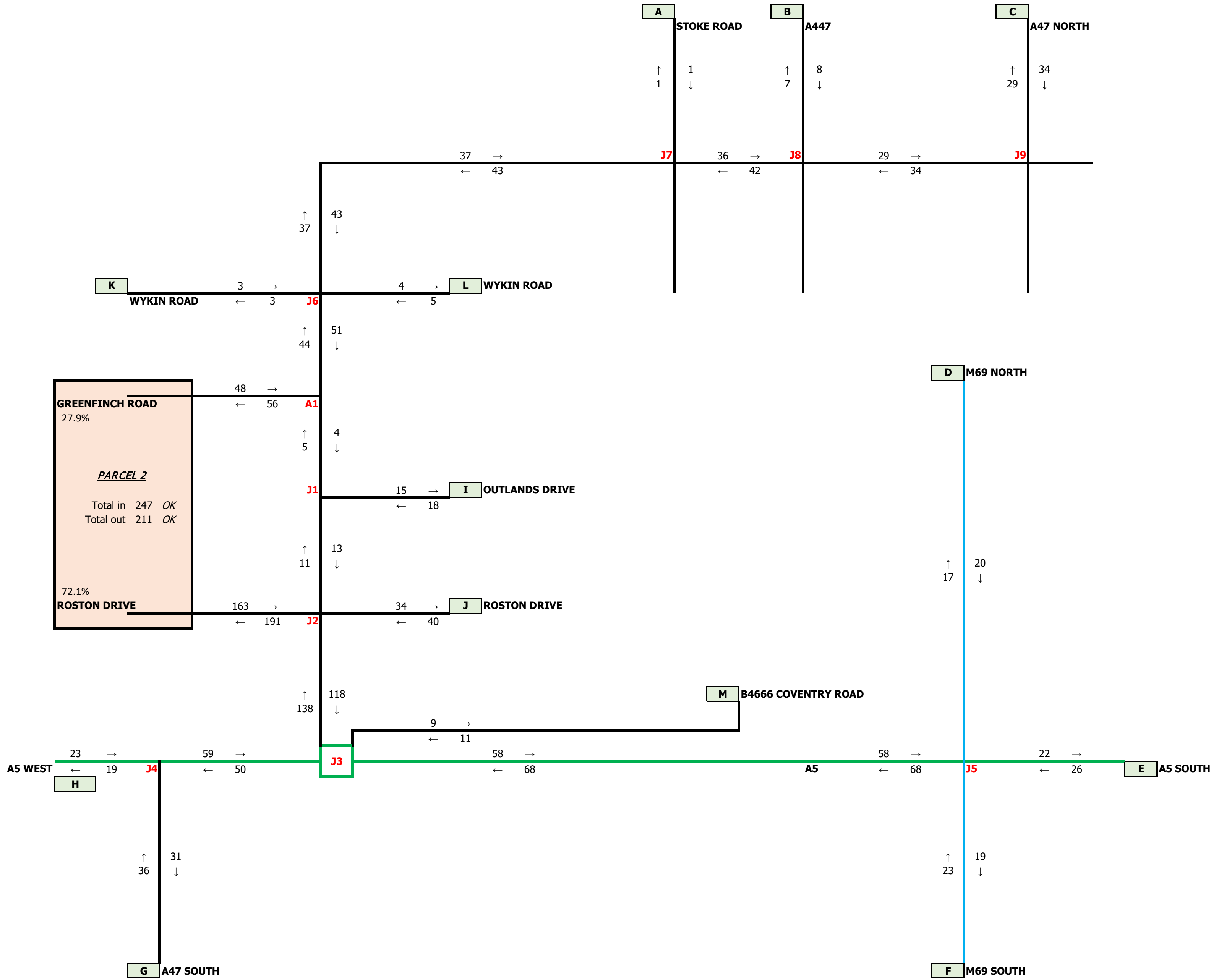
2023 SWORD DRIVE TRIP RATES

Direction	PM PEAK	
	RATE	VEH
IN	0.246	247
OUT	0.210	211
2-WAY	0.456	457

1003 Dwellings

ROUTE		AM PEAK HOUR		
		IN	OUT	2-WAY
A	0.6%	1	1	3
B	3.4%	8	7	15
C	13.6%	34	29	62
D	8.0%	20	17	37
E	10.5%	26	22	48
F	9.2%	23	19	42
G	14.6%	36	31	67
H	9.1%	23	19	42
I	7.1%	18	15	33
J	16.3%	40	34	74
K	1.2%	3	3	6
L	1.9%	5	4	9
M	4.4%	11	9	20
TOTAL	100%	247	211	457
Cordon totals		247	211	
		OK	OK	

JUNCTION IMPACTS		Total Inflow (Vehicles)	
A1	NORMANDY WAY/GREENFINCH ROAD	104	LESS TRAFFIC REASSIGNED TO NEW ACCESS
J1	NORMANDY WAY/OUTLANDS DRIVE	33	
J2	NORMANDY WAY/ROSTON DRIVE	353	PLUS TRAFFIC REASSIGNED TO NEW ACCESS
J3	A5/A47 DODWELL'S ROUNDABOUT	256	
J4	A5/A47 THE LONG SHOOT SIGNALS	108	
J5	M69 JUNCTION 1	127	
J6	A47/WYKIN ROAD ROUNDABOUT	95	
J7	A47/STOKE ROAD ROUNDABOUT	80	
J8	A47/A447 JUNCTION	78	
J9	A47/LEICESTER ROAD JUNCTION, EARL SHILTON	62	



Capricorn Transport Planning

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Traffic Engineering
Sustainable Travel
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APPENDIX E

REVISED A47/ROSTON DRIVE CAPACITY ASSESSMENT

C21021 NORMANDY WAY, HINCKLEY**ARCADY MODEL: JUNCTION 2****PROPOSED LAYOUT****INTERCEPT CORRECTIONS****ARM****4**

Intercept corrections are required because of traffic demands and entry layout, which may result in unequal lane and flare use at some entries. The following methodology has been used to derive the necessary intercept corrections, as recommended in:

"ARCADY Health Warning: Account for unequal lane usage or risk damaging the public purse!", B. Chard, published in Traffic Engineering and Control, March 1997.

Formulae

$$F=303X2k$$

$$f=0.210tDk(1+0.2X2)$$

$$Q_e=F-fQ_c \text{ (at grade roundabouts)}$$

$$k=1-0.00347(\Phi-30)-0.0978(1/r-0.05)$$

$$tD=1+0.5/\{1+\exp[D-60]/10\}$$

$$X2=v+\{(e-v)/(1+2S)\}$$

$$S=1.6\{(e-v)/l'\}$$

Calculations**TEST FUNCTION OF SPREADSHEET:**

Example given in B. Chard paper (see above). Results correct: spreadsheet validated.

v	e	l'	r	D	Φ	S	X2	tD	k	f	F	F
3	3.65	10	20	40	40	0.104	3.538	1.440	0.965	0.499 ✓	1035 pcu/h ✓	17.25 pcu/m ✓

PROBLEM: 2-lane entry. Lane 2 will become RT only but carries less than 50% of flow. Unequal lane use will result. Main lane (Lane 1) carries most of traffic.

SOLUTION: Calculate intercept of full entry width; then calculate intercept of main lane. Factor intercept value by ratio of total flow to main flow. Difference between resulting intercept and the intercept for the full entry width gives the intercept correction to be applied.

	v	e	l'	r	D	Φ	S	X2	tD	k	f	F	F
Full	3.8	7.5	34.1	27.1	50.0	33.3	0.176	6.52	1.366	1.001	0.662	1979	32.99
L1	3.8	4.5	6.8	27.1	50.0	33.3	0	4.30	1.366	1.001	0.534	1306 pcu/h	21.77 pcu/m
			Est pro-rata										

Intercept weightings	DS3 2036		-		-		-		-		-		AVERAGE	
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
Main flow	610	975	-	-	-	-	-	-	-	-	-	-	-	-
Other flows	0	112	-	-	-	-	-	-	-	-	-	-	-	-
Total flow	610	1087	-	-	-	-	-	-	-	-	-	-	-	-
Weighting	1.000	1.115	-	-	-	-	-	-	-	-	-	-	-	-
New F value	1306	1456	-	-	-	-	-	-	-	-	-	-	-	-
Correction	-673.3	-523.3	-	-	-	-	-	-	-	-	-	-	-	-
ARCADY value:	-673.3	-523.3	-	-	-	-	-	-	-	-	-	-	-	-
% Change	-34%	-26%	-	-	-	-	-	-	-	-	-	-	-	-
% of full	66%	74%	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####	#####

NB: Positive intercept corrections ignored and no adjustment made, as recommended in Chard paper.

Junctions 10		
ARCADY 10 - Roundabout Module		
Version: 10.1.1.1905		
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Filename: 21021-J2-TA2_01.j10

Path: D:\OneDrive - Capricorn Transport Planning Ltd\PROJECTS\C21021 Hinckley West\WORK\Calculations\TA2

Report generation date: 27/02/2024 12:48:56

-
- »EXISTING ROUNDABOUT - DM2 2036, AM
 - »EXISTING ROUNDABOUT - DM2 2036, PM
 - »EXISTING ROUNDABOUT - DS3 2036, AM
 - »EXISTING ROUNDABOUT - DS3 2036, PM
 - »PROPOSED ROUNDABOUT (AM) - DS3 2036, AM
 - »PROPOSED ROUNDABOUT (PM) - DS3 2036, PM

Summary of junction performance

	AM							PM						
	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Network Residual Capacity	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Network Residual Capacity
	EXISTING ROUNDABOUT - DM2 2036													
Arm A	A1 D5	0.0	3.51	0.02	A	6.34	33 % [Arm B]	A1 D6	0.4	6.83	0.26	A	6.05	34 % [Arm D]
Arm B		2.8	7.01	0.72	A				1.6	5.16	0.59	A		
Arm C		0.9	8.20	0.46	A				0.5	5.50	0.32	A		
Arm D		0.7	3.82	0.39	A				2.2	6.90	0.67	A		
	EXISTING ROUNDABOUT - DS3 2036													
Arm A	A1 D7	0.4	4.55	0.29	A	5.95	32 % [Arm C]	A1 D8	0.8	7.85	0.43	A	6.47	31 % [Arm D]
Arm B		2.2	6.52	0.66	A				1.4	5.07	0.55	A		
Arm C		1.0	8.74	0.48	A				0.6	5.71	0.34	A		
Arm D		0.7	3.92	0.40	A				2.4	7.38	0.69	A		

AM							
	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Network Residual Capacity
PROPOSED ROUNDABOUT (AM) - DS3 2036							
Arm A	A2 D7	0.4	4.55	0.29	A	8.21	24 % [Arm D]
Arm B		2.4	7.17	0.69	A		
Arm C		1.0	8.74	0.48	A		
Arm D		2.1	11.69	0.67	B		

PM							
	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Network Residual Capacity
PROPOSED ROUNDABOUT (PM) - DS3 2036							
Arm A	A3 D8	0.8	7.68	0.43	A	29.89	-6 % [Arm D]
Arm B		1.5	5.59	0.58	A		
Arm C		0.6	5.71	0.34	A		
Arm D		20.6	63.76	0.98	F		

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. Junction LOS and Junction Delay are demand-weighted averages. Network Residual Capacity indicates the amount by which network flow could be increased before a user-definable threshold (see Analysis Options) is met.

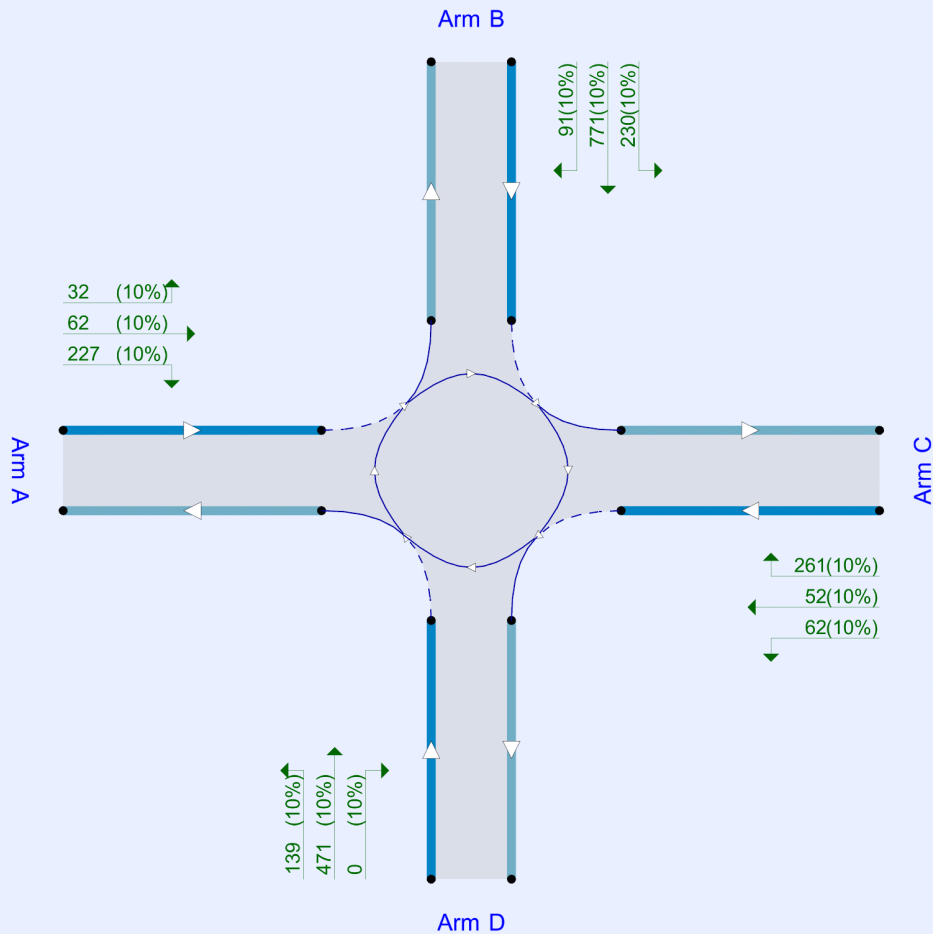
File summary

File Description

Title	HINCKLEY WEST PHASE 4
Location	A47/ROSTON DRIVE ROUNDABOUT
Site number	2
Date	27/02/2024
Version	01
Status	PRELIMINARY
Identifier	
Client	BLOOR HOMES
Jobnumber	C21021
Enumerator	PC-CAPRICORN-01\seanm
Description	

Units

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



Flows show original traffic demand (PCU/hr).

The junction diagram reflects the last run of Junctions.

Analysis Options

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

Demand Set Summary

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D5	DM2 2036	AM	FROM SUBMITTED TA. 850 DWELLINGS@2015 TRIP RATES. TEMPRO 8.1 GROWTH PLUS RICHBOROUGH DEV.	ONE HOUR	07:30	09:00	15	✓
D6	DM2 2036	PM	FROM SUBMITTED TA. 850 DWELLINGS@2015 TRIP RATES. TEMPRO 8.1 GROWTH PLUS RICHBOROUGH DEV.	ONE HOUR	16:15	17:45	15	✓
D7	DS3 2036	AM	FOR REVISED TA. 1003 DWELLINGS@SWORD DRIVE TRIP RATES. TEMPRO 8.1 GROWTH PLUS RICHBOROUGH DEV.	ONE HOUR	07:30	09:00	15	✓
D8	DS3 2036	PM	FOR REVISED TA. 1003 DWELLINGS@SWORD DRIVE TRIP RATES. TEMPRO 8.1 GROWTH PLUS RICHBOROUGH DEV.	ONE HOUR	16:15	17:45	15	✓

EXISTING ROUNDABOUT - DM2 2036, AM

Data Errors and Warnings

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

Analysis Set Details

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

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		A, B, C, D	6.34	A

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	33	Arm B	6.34	A

Arms

Arms

Arm	Name	Description	No give-way line
A	Triumph Access		
B	A47 Normandy Way (North)		
C	Roston Drive		
D	A47 Dodwells Road (South)		

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Entry only	Exit only
A	3.65	7.30	11.4	52.2	50.0	24.8		
B	3.65	7.50	36.8	36.3	50.0	29.5		
C	3.10	6.50	28.9	10.9	50.0	45.8		
D	3.75	7.50	34.1	27.1	50.0	33.3		

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
A	0.629	1733
B	0.677	2027
C	0.548	1526
D	0.662	1979

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D5	DM2 2036	AM	FROM SUBMITTED TA. 850 DWELLINGS@2015 TRIP RATES. TEMPRO 8.1 GROWTH PLUS RICHBOROUGH DEV.	ONE HOUR	07:30	09:00	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	24	100.000
B		ONE HOUR	✓	1318	100.000
C		ONE HOUR	✓	374	100.000
D		ONE HOUR	✓	595	100.000

Origin-Destination Data

Demand (PCU/hr)

	To				
		A	B	C	D
From	A	0	12	0	12
	B	82	0	283	953
	C	25	284	3	62
	D	45	550	0	0

Proportions

	To				
		A	B	C	D
From	A	0.00	0.50	0.00	0.50
	B	0.06	0.00	0.21	0.72
	C	0.07	0.76	0.01	0.17
	D	0.08	0.92	0.00	0.00

Vehicle Mix

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

Heavy Vehicle %

	To				
		A	B	C	D
From	A	10	10	10	10
	B	10	10	10	10
	C	10	10	10	10
	D	10	10	10	10

Average PCU Per Veh

	To				
		A	B	C	D
From	A	1.100	1.100	1.100	1.100
	B	1.100	1.100	1.100	1.100
	C	1.100	1.100	1.100	1.100
	D	1.100	1.100	1.100	1.100

Detailed Demand Data

Demand for each time segment

Time Segment	Arm	Demand (PCU/hr)	Demand in PCU (PCU/hr)
07:30-07:45	A	18	18
	B	992	992
	C	282	282
	D	448	448
07:45-08:00	A	22	22
	B	1185	1185
	C	336	336
	D	535	535
08:00-08:15	A	26	26
	B	1451	1451
	C	412	412
	D	655	655
08:15-08:30	A	26	26
	B	1451	1451
	C	412	412
	D	655	655
08:30-08:45	A	22	22
	B	1185	1185
	C	336	336
	D	535	535
08:45-09:00	A	18	18
	B	992	992
	C	282	282
	D	448	448

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A	0.02	3.51	0.0	A	22	33
B	0.72	7.01	2.8	A	1209	1814
C	0.46	8.20	0.9	A	343	515
D	0.39	3.82	0.7	A	546	819

Main Results for each time segment

07:30 - 07:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	18	5	628	1338	0.014	18	114	0.0	0.0	2.999	A
B	992	248	11	2019	0.491	988	634	0.0	1.1	3.825	A
C	282	70	785	1096	0.257	280	214	0.0	0.4	4.844	A
D	448	112	295	1784	0.251	446	770	0.0	0.4	2.958	A

07:45 - 08:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	22	5	752	1260	0.017	22	136	0.0	0.0	3.196	A
B	1185	296	13	2018	0.587	1183	760	1.1	1.5	4.732	A
C	336	84	940	1011	0.333	336	257	0.4	0.5	5.855	A
D	535	134	354	1745	0.306	534	922	0.4	0.5	3.270	A

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	26	7	920	1155	0.023	26	167	0.0	0.0	3.509	A
B	1451	363	16	2016	0.720	1446	930	1.5	2.8	6.896	A
C	412	103	1149	896	0.459	410	314	0.5	0.9	8.121	A
D	655	164	432	1693	0.387	654	1127	0.5	0.7	3.807	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	26	7	922	1153	0.023	26	167	0.0	0.0	3.512	A
B	1451	363	17	2016	0.720	1451	931	2.8	2.8	7.009	A
C	412	103	1153	894	0.460	412	315	0.9	0.9	8.203	A
D	655	164	434	1692	0.387	655	1131	0.7	0.7	3.816	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	22	5	754	1258	0.017	22	137	0.0	0.0	3.200	A
B	1185	296	14	2018	0.587	1190	762	2.8	1.6	4.811	A
C	336	84	945	1008	0.333	338	258	0.9	0.6	5.920	A
D	535	134	356	1744	0.307	536	927	0.7	0.5	3.281	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	18	5	631	1336	0.014	18	115	0.0	0.0	3.004	A
B	992	248	11	2019	0.491	994	638	1.6	1.1	3.871	A
C	282	70	790	1093	0.258	282	216	0.6	0.4	4.886	A
D	448	112	297	1783	0.251	448	775	0.5	0.4	2.970	A

EXISTING ROUNDABOUT - DM2 2036, PM

Data Errors and Warnings

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

Analysis Set Details

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

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		A, B, C, D	6.05	A

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	34	Arm D	6.05	A

Arms

Arms

Arm	Name	Description	No give-way line
A	Triumph Access		
B	A47 Normandy Way (North)		
C	Roston Drive		
D	A47 Dodwells Road (South)		

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Entry only	Exit only
A	3.65	7.30	11.4	52.2	50.0	24.8		
B	3.65	7.50	36.8	36.3	50.0	29.5		
C	3.10	6.50	28.9	10.9	50.0	45.8		
D	3.75	7.50	34.1	27.1	50.0	33.3		

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
A	0.629	1733
B	0.677	2027
C	0.548	1526
D	0.662	1979

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D6	DM2 2036	PM	FROM SUBMITTED TA. 850 DWELLINGS@2015 TRIP RATES. TEMPRO 8.1 GROWTH PLUS RICHBOROUGH DEV.	ONE HOUR	16:15	17:45	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	189	100.000
B		ONE HOUR	✓	993	100.000
C		ONE HOUR	✓	312	100.000
D		ONE HOUR	✓	1066	100.000

Origin-Destination Data

Demand (PCU/hr)

	To				
		A	B	C	D
From	A	0	83	43	63
	B	7	0	288	698
	C	4	303	5	0
	D	8	946	112	0

Proportions

	To				
		A	B	C	D
From	A	0.00	0.44	0.23	0.33
	B	0.01	0.00	0.29	0.70
	C	0.01	0.97	0.02	0.00
	D	0.01	0.89	0.11	0.00

Vehicle Mix

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

Heavy Vehicle %

	To				
		A	B	C	D
From	A	10	10	10	10
	B	10	10	10	10
	C	10	10	10	10
	D	10	10	10	10

Average PCU Per Veh

	To				
		A	B	C	D
From	A	1.100	1.100	1.100	1.100
	B	1.100	1.100	1.100	1.100
	C	1.100	1.100	1.100	1.100
	D	1.100	1.100	1.100	1.100

Detailed Demand Data

Demand for each time segment

Time Segment	Arm	Demand (PCU/hr)	Demand in PCU (PCU/hr)
16:15-16:30	A	142	142
	B	748	748
	C	235	235
	D	803	803
16:30-16:45	A	170	170
	B	893	893
	C	280	280
	D	958	958
16:45-17:00	A	208	208
	B	1093	1093
	C	344	344
	D	1174	1174
17:00-17:15	A	208	208
	B	1093	1093
	C	344	344
	D	1174	1174
17:15-17:30	A	170	170
	B	893	893
	C	280	280
	D	958	958
17:30-17:45	A	142	142
	B	748	748
	C	235	235
	D	803	803

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A	0.26	6.83	0.4	A	173	260
B	0.59	5.16	1.6	A	911	1367
C	0.32	5.50	0.5	A	286	429
D	0.67	6.90	2.2	A	978	1467

Main Results for each time segment

16:15 - 16:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	142	36	1024	1089	0.131	142	14	0.0	0.2	4.177	A
B	748	187	167	1914	0.391	745	998	0.0	0.7	3.379	A
C	235	59	576	1211	0.194	234	336	0.0	0.3	4.050	A
D	803	201	239	1821	0.441	799	571	0.0	0.9	3.861	A

16:30 - 16:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	170	42	1226	962	0.177	170	17	0.2	0.2	4.997	A
B	893	223	200	1891	0.472	892	1196	0.7	1.0	3.957	A
C	280	70	690	1148	0.244	280	402	0.3	0.4	4.559	A
D	958	240	286	1790	0.535	957	683	0.9	1.3	4.744	A

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	208	52	1500	790	0.263	207	21	0.2	0.4	6.790	A
B	1093	273	245	1861	0.587	1091	1462	1.0	1.5	5.127	A
C	344	86	844	1064	0.323	343	492	0.4	0.5	5.489	A
D	1174	293	351	1747	0.672	1170	836	1.3	2.2	6.812	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	208	52	1504	787	0.264	208	21	0.4	0.4	6.835	A
B	1093	273	246	1861	0.588	1093	1466	1.5	1.6	5.161	A
C	344	86	846	1063	0.323	344	493	0.5	0.5	5.505	A
D	1174	293	351	1747	0.672	1174	838	2.2	2.2	6.903	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	170	42	1232	958	0.177	171	17	0.4	0.2	5.034	A
B	893	223	201	1890	0.472	895	1202	1.6	1.0	3.986	A
C	280	70	692	1147	0.245	281	404	0.5	0.4	4.579	A
D	958	240	287	1789	0.536	962	686	2.2	1.3	4.808	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	142	36	1030	1085	0.131	143	14	0.2	0.2	4.204	A
B	748	187	168	1913	0.391	749	1005	1.0	0.7	3.406	A
C	235	59	579	1209	0.194	235	338	0.4	0.3	4.068	A
D	803	201	241	1820	0.441	804	574	1.3	0.9	3.904	A

EXISTING ROUNDABOUT - DS3 2036, AM

Data Errors and Warnings

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

Analysis Set Details

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

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		A, B, C, D	5.95	A

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	32	Arm C	5.95	A

Arms

Arms

Arm	Name	Description	No give-way line
A	Triumph Access		
B	A47 Normandy Way (North)		
C	Roston Drive		
D	A47 Dodwells Road (South)		

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Entry only	Exit only
A	3.65	7.30	11.4	52.2	50.0	24.8		
B	3.65	7.50	36.8	36.3	50.0	29.5		
C	3.10	6.50	28.9	10.9	50.0	45.8		
D	3.75	7.50	34.1	27.1	50.0	33.3		

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
A	0.629	1733
B	0.677	2027
C	0.548	1526
D	0.662	1979

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D7	DS3 2036	AM	FOR REVISED TA. 1003 DWELLINGS@SWORD DRIVE TRIP RATES. TEMPRO 8.1 GROWTH PLUS RICHBOROUGH DEV.	ONE HOUR	07:30	09:00	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	321	100.000
B		ONE HOUR	✓	1092	100.000
C		ONE HOUR	✓	378	100.000
D		ONE HOUR	✓	610	100.000

Origin-Destination Data

Demand (PCU/hr)

	To				
		A	B	C	D
From	A	0	32	62	227
	B	91	0	230	771
	C	52	261	3	62
	D	139	471	0	0

Proportions

	To				
		A	B	C	D
From	A	0.00	0.10	0.19	0.71
	B	0.08	0.00	0.21	0.71
	C	0.14	0.69	0.01	0.16
	D	0.23	0.77	0.00	0.00

Vehicle Mix

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

Heavy Vehicle %

	To				
		A	B	C	D
From	A	10	10	10	10
	B	10	10	10	10
	C	10	10	10	10
	D	10	10	10	10

Average PCU Per Veh

	To				
		A	B	C	D
From	A	1.100	1.100	1.100	1.100
	B	1.100	1.100	1.100	1.100
	C	1.100	1.100	1.100	1.100
	D	1.100	1.100	1.100	1.100

Detailed Demand Data

Demand for each time segment

Time Segment	Arm	Demand (PCU/hr)	Demand in PCU (PCU/hr)
07:30-07:45	A	242	242
	B	822	822
	C	285	285
	D	459	459
07:45-08:00	A	289	289
	B	982	982
	C	340	340
	D	548	548
08:00-08:15	A	353	353
	B	1202	1202
	C	416	416
	D	672	672
08:15-08:30	A	353	353
	B	1202	1202
	C	416	416
	D	672	672
08:30-08:45	A	289	289
	B	982	982
	C	340	340
	D	548	548
08:45-09:00	A	242	242
	B	822	822
	C	285	285
	D	459	459

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A	0.29	4.55	0.4	A	295	442
B	0.66	6.52	2.2	A	1002	1503
C	0.48	8.74	1.0	A	347	520
D	0.40	3.92	0.7	A	560	840

Main Results for each time segment

07:30 - 07:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	242	60	551	1386	0.174	241	211	0.0	0.2	3.453	A
B	822	206	219	1878	0.438	819	573	0.0	0.8	3.724	A
C	285	71	817	1079	0.264	283	221	0.0	0.4	4.969	A
D	459	115	305	1778	0.258	458	795	0.0	0.4	2.998	A

07:45 - 08:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	289	72	660	1318	0.219	288	253	0.2	0.3	3.845	A
B	982	245	262	1849	0.531	980	686	0.8	1.2	4.548	A
C	340	85	978	990	0.343	339	265	0.4	0.6	6.074	A
D	548	137	365	1738	0.316	548	952	0.4	0.5	3.326	A

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	353	88	807	1225	0.288	353	310	0.3	0.4	4.537	A
B	1202	301	321	1809	0.664	1199	839	1.2	2.1	6.445	A
C	416	104	1196	871	0.478	415	324	0.6	1.0	8.648	A
D	672	168	446	1684	0.399	671	1164	0.5	0.7	3.905	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	353	88	809	1224	0.289	353	310	0.4	0.4	4.548	A
B	1202	301	321	1809	0.665	1202	841	2.1	2.2	6.523	A
C	416	104	1199	869	0.479	416	325	1.0	1.0	8.743	A
D	672	168	448	1683	0.399	672	1167	0.7	0.7	3.915	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	289	72	663	1316	0.219	289	254	0.4	0.3	3.857	A
B	982	245	263	1849	0.531	985	689	2.2	1.3	4.605	A
C	340	85	982	988	0.344	341	266	1.0	0.6	6.141	A
D	548	137	368	1736	0.316	549	956	0.7	0.5	3.338	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	242	60	554	1384	0.175	242	213	0.3	0.2	3.469	A
B	822	206	220	1878	0.438	824	576	1.3	0.9	3.764	A
C	285	71	821	1076	0.264	285	222	0.6	0.4	5.012	A
D	459	115	307	1776	0.259	460	799	0.5	0.4	3.011	A

EXISTING ROUNDABOUT - DS3 2036, PM

Data Errors and Warnings

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

Analysis Set Details

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

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		A, B, C, D	6.47	A

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	31	Arm D	6.47	A

Arms

Arms

Arm	Name	Description	No give-way line
A	Triumph Access		
B	A47 Normandy Way (North)		
C	Roston Drive		
D	A47 Dodwells Road (South)		

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Entry only	Exit only
A	3.65	7.30	11.4	52.2	50.0	24.8		
B	3.65	7.50	36.8	36.3	50.0	29.5		
C	3.10	6.50	28.9	10.9	50.0	45.8		
D	3.75	7.50	34.1	27.1	50.0	33.3		

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
A	0.629	1733
B	0.677	2027
C	0.548	1526
D	0.662	1979

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D8	DS3 2036	PM	FOR REVISED TA. 1003 DWELLINGS@SWORD DRIVE TRIP RATES. TEMPRO 8.1 GROWTH PLUS RICHBOROUGH DEV.	ONE HOUR	16:15	17:45	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	352	100.000
B		ONE HOUR	✓	877	100.000
C		ONE HOUR	✓	318	100.000
D		ONE HOUR	✓	1087	100.000

Origin-Destination Data

Demand (PCU/hr)

	To				
		A	B	C	D
From	A	0	94	77	181
	B	20	0	259	598
	C	44	269	5	0
	D	146	829	112	0

Proportions

	To				
		A	B	C	D
From	A	0.00	0.27	0.22	0.51
	B	0.02	0.00	0.30	0.68
	C	0.14	0.85	0.02	0.00
	D	0.13	0.76	0.10	0.00

Vehicle Mix

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

Heavy Vehicle %

	To				
		A	B	C	D
From	A	10	10	10	10
	B	10	10	10	10
	C	10	10	10	10
	D	10	10	10	10

Average PCU Per Veh

	To				
		A	B	C	D
From	A	1.100	1.100	1.100	1.100
	B	1.100	1.100	1.100	1.100
	C	1.100	1.100	1.100	1.100
	D	1.100	1.100	1.100	1.100

Detailed Demand Data

Demand for each time segment

Time Segment	Arm	Demand (PCU/hr)	Demand in PCU (PCU/hr)
16:15-16:30	A	265	265
	B	660	660
	C	239	239
	D	818	818
16:30-16:45	A	316	316
	B	788	788
	C	286	286
	D	977	977
16:45-17:00	A	388	388
	B	966	966
	C	350	350
	D	1197	1197
17:00-17:15	A	388	388
	B	966	966
	C	350	350
	D	1197	1197
17:15-17:30	A	316	316
	B	788	788
	C	286	286
	D	977	977
17:30-17:45	A	265	265
	B	660	660
	C	239	239
	D	818	818

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A	0.43	7.85	0.8	A	323	485
B	0.55	5.07	1.4	A	805	1207
C	0.34	5.71	0.6	A	292	438
D	0.69	7.38	2.4	A	997	1496

Main Results for each time segment

16:15 - 16:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	265	66	911	1160	0.228	264	157	0.0	0.3	4.410	A
B	660	165	281	1836	0.360	658	893	0.0	0.6	3.352	A
C	239	60	599	1198	0.200	238	340	0.0	0.3	4.123	A
D	818	205	253	1812	0.452	815	584	0.0	0.9	3.957	A

16:30 - 16:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	316	79	1090	1047	0.302	316	188	0.3	0.5	5.409	A
B	788	197	336	1799	0.438	787	1070	0.6	0.9	3.912	A
C	286	71	717	1133	0.252	285	407	0.3	0.4	4.670	A
D	977	244	303	1779	0.549	975	699	0.9	1.3	4.921	A

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	388	97	1333	895	0.433	386	230	0.5	0.8	7.768	A
B	966	241	411	1748	0.552	964	1308	0.9	1.3	5.035	A
C	350	88	878	1045	0.335	349	497	0.4	0.5	5.685	A
D	1197	299	371	1734	0.690	1193	856	1.3	2.4	7.260	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	388	97	1338	892	0.435	388	231	0.8	0.8	7.850	A
B	966	241	413	1747	0.553	966	1312	1.3	1.4	5.066	A
C	350	88	880	1044	0.335	350	499	0.5	0.6	5.706	A
D	1197	299	372	1733	0.691	1197	858	2.4	2.4	7.376	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	316	79	1097	1043	0.303	318	189	0.8	0.5	5.468	A
B	788	197	339	1797	0.439	790	1076	1.4	0.9	3.939	A
C	286	71	720	1131	0.253	287	409	0.6	0.4	4.691	A
D	977	244	305	1778	0.550	981	702	2.4	1.4	4.998	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	265	66	917	1157	0.229	266	158	0.5	0.3	4.447	A
B	660	165	283	1835	0.360	661	899	0.9	0.6	3.377	A
C	239	60	603	1196	0.200	240	342	0.4	0.3	4.142	A
D	818	205	255	1811	0.452	820	587	1.4	0.9	4.004	A

PROPOSED ROUNDABOUT (AM) - DS3 2036, AM

Data Errors and Warnings

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

Analysis Set Details

ID	Name	Description	Include in report	Use specific Demand Set(s)	Specific Demand Set(s)	Network flow scaling factor (%)	Network capacity scaling factor (%)
A2	PROPOSED ROUNDABOUT (AM)	WIDTH OF A47 N/B EXIT REDUCED TO SINGLE LANE	✓	✓	D7	100.000	100.000

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		A, B, C, D	8.21	A

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	24	Arm D	8.21	A

Arms

Arms

Arm	Name	Description	No give-way line
A	Triumph Access		
B	A47 Normandy Way (North)		
C	Roston Drive		
D	A47 Dodwells Road (South)		

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Entry only	Exit only
A	3.65	7.30	11.4	52.2	50.0	24.8		
B	3.65	7.50	36.8	36.3	50.0	29.5		
C	3.10	6.50	28.9	10.9	50.0	45.8		
D	3.75	7.50	34.1	27.1	50.0	33.3		

Pelican/Puffin Crossings

Arm	Space between crossing and junc. entry (Signalised) (PCU)	Amber time preceding red (s)	Amber time regarded as green (s)	Time from traffic red start to green man start (s)	Time period green man shown (s)	Clearance Period (s)	Traffic minimum green (s)
B	20.00	3.00	2.90	1.00	6.00	6.00	7.00

Slope / Intercept / Capacity

Arm Intercept Adjustments

Arm	Type	Reason	Percentage intercept adjustment (%)
A	None		
B	None		
C	None		
D	Percentage	UNEQUAL LANE USE	66.00

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
A	0.629	1733
B	0.677	2027
C	0.548	1526
D	0.662	1306

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D7	DS3 2036	AM	FOR REVISED TA. 1003 DWELLINGS@SWORD DRIVE TRIP RATES. TEMPRO 8.1 GROWTH PLUS RICHBOROUGH DEV.	ONE HOUR	07:30	09:00	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	321	100.000
B		ONE HOUR	✓	1092	100.000
C		ONE HOUR	✓	378	100.000
D		ONE HOUR	✓	610	100.000

Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
A		
B	[ONEHOUR]	37.00
C		
D		

Origin-Destination Data

Demand (PCU/hr)

	To				
	A	B	C	D	
From	A	0	32	62	227
	B	91	0	230	771
	C	52	261	3	62
	D	139	471	0	0

Proportions

	To				
	A	B	C	D	
From	A	0.00	0.10	0.19	0.71
	B	0.08	0.00	0.21	0.71
	C	0.14	0.69	0.01	0.16
	D	0.23	0.77	0.00	0.00

Vehicle Mix

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

Heavy Vehicle %

	To				
		A	B	C	D
	A	10	10	10	10
	B	10	10	10	10
	C	10	10	10	10
	D	10	10	10	10

Average PCU Per Veh

	To				
		A	B	C	D
	A	1.100	1.100	1.100	1.100
	B	1.100	1.100	1.100	1.100
	C	1.100	1.100	1.100	1.100
	D	1.100	1.100	1.100	1.100

Detailed Demand Data

Demand for each time segment

Time Segment	Arm	Demand (PCU/hr)	Demand in PCU (PCU/hr)	Pedestrian Demand (Ped/hr)
07:30-07:45	A	242	242	
	B	822	822	27.86
	C	285	285	
	D	459	459	
07:45-08:00	A	289	289	
	B	982	982	33.26
	C	340	340	
	D	548	548	
08:00-08:15	A	353	353	
	B	1202	1202	40.74
	C	416	416	
	D	672	672	
08:15-08:30	A	353	353	
	B	1202	1202	40.74
	C	416	416	
	D	672	672	
08:30-08:45	A	289	289	
	B	982	982	33.26
	C	340	340	
	D	548	548	
08:45-09:00	A	242	242	
	B	822	822	27.86
	C	285	285	
	D	459	459	

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A	0.29	4.55	0.4	A	295	442
B	0.69	7.17	2.4	A	1002	1503
C	0.48	8.74	1.0	A	347	520
D	0.67	11.69	2.1	B	560	840

Main Results for each time segment

07:30 - 07:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	242	60	550		1387	0.174	241	211	0.0	0.2	3.451	A
B	822	206	219	27.86	1796	0.458	818	572	0.0	0.9	4.034	A
C	285	71	816		1079	0.264	283	221	0.0	0.4	4.969	A
D	459	115	305		1105	0.416	456	795	0.0	0.8	6.076	A

07:45 - 08:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	289	72	659		1318	0.219	288	253	0.2	0.3	3.843	A
B	982	245	262	33.26	1774	0.553	980	685	0.9	1.3	4.978	A
C	340	85	977		990	0.343	339	265	0.4	0.6	6.073	A
D	548	137	365		1065	0.515	547	951	0.8	1.1	7.622	A

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	353	88	805		1227	0.288	353	309	0.3	0.4	4.529	A
B	1202	301	321	40.74	1746	0.689	1198	837	1.3	2.4	7.171	A
C	416	104	1195		871	0.478	415	324	0.6	1.0	8.644	A
D	672	168	446		1011	0.664	668	1164	1.1	2.1	11.412	B

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	353	88	809		1224	0.289	353	310	0.4	0.4	4.547	A
B	1202	301	321	40.74	1764	0.682	1202	841	2.4	2.4	7.053	A
C	416	104	1199		869	0.479	416	325	1.0	1.0	8.743	A
D	672	168	448		1010	0.665	671	1167	2.1	2.1	11.686	B

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	289	72	665		1315	0.219	289	255	0.4	0.3	3.862	A
B	982	245	263	33.26	1794	0.547	986	691	2.4	1.3	4.922	A
C	340	85	983		988	0.344	341	266	1.0	0.6	6.143	A
D	548	137	368		1063	0.516	552	956	2.1	1.2	7.808	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	242	60	555		1384	0.175	242	213	0.3	0.2	3.468	A
B	822	206	220	27.86	1812	0.454	824	577	1.3	0.9	4.012	A
C	285	71	821		1076	0.264	285	223	0.6	0.4	5.014	A
D	459	115	307		1103	0.416	461	800	1.2	0.8	6.182	A

PROPOSED ROUNDABOUT (PM) - DS3 2036, PM

Data Errors and Warnings

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

Analysis Set Details

ID	Name	Description	Include in report	Use specific Demand Set(s)	Specific Demand Set(s)	Network flow scaling factor (%)	Network capacity scaling factor (%)
A3	PROPOSED ROUNDABOUT (PM)	WIDTH OF A47 N/B EXIT REDUCED TO SINGLE LANE	✓	✓	D8	100.000	100.000

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout		A, B, C, D	29.89	D

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	-6	Arm D	29.89	D

Arms

Arms

Arm	Name	Description	No give-way line
A	Triumph Access		
B	A47 Normandy Way (North)		
C	Roston Drive		
D	A47 Dodwells Road (South)		

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Entry only	Exit only
A	3.65	7.30	11.4	52.2	50.0	24.8		
B	3.65	7.50	36.8	36.3	50.0	29.5		
C	3.10	6.50	28.9	10.9	50.0	45.8		
D	3.75	7.50	34.1	27.1	50.0	33.3		

Pelican/Puffin Crossings

Arm	Space between crossing and junc. entry (Signalised) (PCU)	Amber time preceding red (s)	Amber time regarded as green (s)	Time from traffic red start to green man start (s)	Time period green man shown (s)	Clearance Period (s)	Traffic minimum green (s)
B	20.00	3.00	2.90	1.00	6.00	6.00	7.00

Slope / Intercept / Capacity

Arm Intercept Adjustments

Arm	Type	Reason	Percentage intercept adjustment (%)
A	None		
B	None		
C	None		
D	Percentage	UNEQUAL L;ANE USE	74.00

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
A	0.629	1733
B	0.677	2027
C	0.548	1526
D	0.662	1465

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Description	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D8	DS3 2036	PM	FOR REVISED TA. 1003 DWELLINGS@SWORD DRIVE TRIP RATES. TEMPRO 8.1 GROWTH PLUS RICHBOROUGH DEV.	ONE HOUR	16:15	17:45	15	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	352	100.000
B		ONE HOUR	✓	877	100.000
C		ONE HOUR	✓	318	100.000
D		ONE HOUR	✓	1087	100.000

Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
A		
B	[ONEHOUR]	37.00
C		
D		

Origin-Destination Data

Demand (PCU/hr)

		To			
		A	B	C	D
From	A	0	94	77	181
	B	20	0	259	598
	C	44	269	5	0
	D	146	829	112	0

Proportions

		To			
		A	B	C	D
From	A	0.00	0.27	0.22	0.51
	B	0.02	0.00	0.30	0.68
	C	0.14	0.85	0.02	0.00
	D	0.13	0.76	0.10	0.00

Vehicle Mix

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

Heavy Vehicle %

	To				
		A	B	C	D
	A	10	10	10	10
	B	10	10	10	10
	C	10	10	10	10
	D	10	10	10	10

Average PCU Per Veh

	To				
		A	B	C	D
	A	1.100	1.100	1.100	1.100
	B	1.100	1.100	1.100	1.100
	C	1.100	1.100	1.100	1.100
	D	1.100	1.100	1.100	1.100

Detailed Demand Data

Demand for each time segment

Time Segment	Arm	Demand (PCU/hr)	Demand in PCU (PCU/hr)	Pedestrian Demand (Ped/hr)
16:15-16:30	A	265	265	
	B	660	660	27.86
	C	239	239	
	D	818	818	
16:30-16:45	A	316	316	
	B	788	788	33.26
	C	286	286	
	D	977	977	
16:45-17:00	A	388	388	
	B	966	966	40.74
	C	350	350	
	D	1197	1197	
17:00-17:15	A	388	388	
	B	966	966	40.74
	C	350	350	
	D	1197	1197	
17:15-17:30	A	316	316	
	B	788	788	33.26
	C	286	286	
	D	977	977	
17:30-17:45	A	265	265	
	B	660	660	27.86
	C	239	239	
	D	818	818	

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
A	0.43	7.68	0.8	A	323	485
B	0.58	5.59	1.5	A	805	1207
C	0.34	5.71	0.6	A	292	438
D	0.98	63.76	20.6	F	997	1496

Main Results for each time segment

16:15 - 16:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	265	66	907		1162	0.228	264	157	0.0	0.3	4.400	A
B	660	165	281	27.86	1754	0.376	658	891	0.0	0.7	3.602	A
C	239	60	599		1198	0.200	238	339	0.0	0.3	4.123	A
D	818	205	253		1297	0.631	811	584	0.0	1.8	8.031	A

16:30 - 16:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	316	79	1086		1050	0.301	316	188	0.3	0.5	5.389	A
B	788	197	336	33.26	1717	0.459	787	1066	0.7	0.9	4.255	A
C	286	71	717		1133	0.252	285	406	0.3	0.4	4.670	A
D	977	244	303		1264	0.773	970	699	1.8	3.5	13.185	B

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	388	97	1296		918	0.422	386	225	0.5	0.8	7.427	A
B	966	241	407	40.74	1670	0.578	963	1275	0.9	1.5	5.586	A
C	350	88	877		1045	0.335	349	493	0.4	0.5	5.685	A
D	1197	299	371		1219	0.982	1149	856	3.5	15.5	41.075	E

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	388	97	1320		903	0.429	387	228	0.8	0.8	7.681	A
B	966	241	411	40.74	1677	0.576	966	1297	1.5	1.5	5.562	A
C	350	88	880		1044	0.335	350	497	0.5	0.6	5.706	A
D	1197	299	372		1218	0.982	1176	858	15.5	20.6	63.758	F

17:15 - 17:30

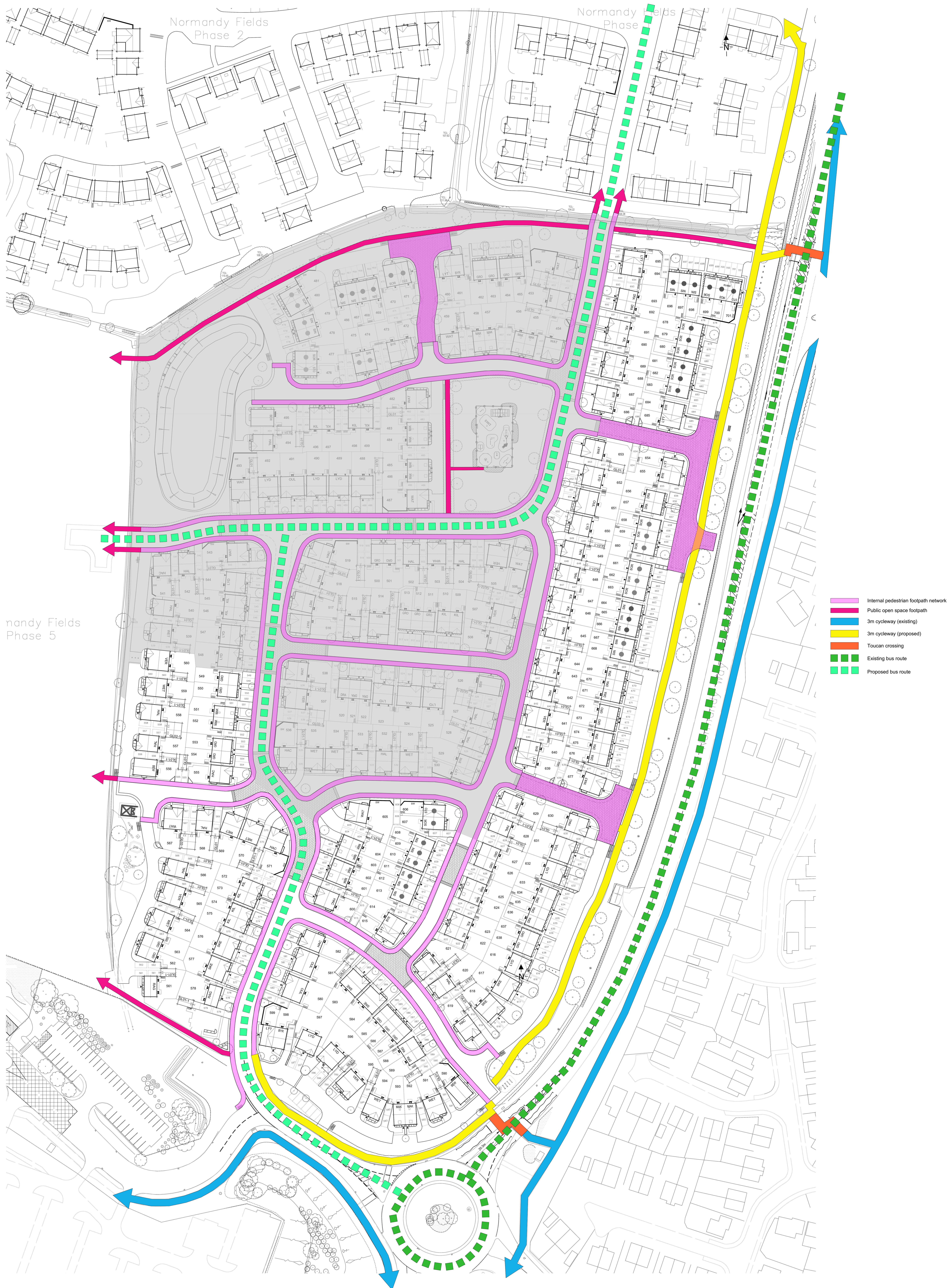
Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	316	79	1150		1010	0.313	318	198	0.8	0.5	5.731	A
B	788	197	345	33.26	1724	0.457	791	1123	1.5	0.9	4.255	A
C	286	71	720		1131	0.253	287	415	0.6	0.4	4.693	A
D	977	244	305		1263	0.774	1043	702	20.6	4.0	22.509	C

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
A	265	66	922		1153	0.230	266	159	0.5	0.3	4.466	A
B	660	165	284	27.86	1763	0.374	661	904	0.9	0.7	3.595	A
C	239	60	603		1196	0.200	240	342	0.4	0.3	4.144	A
D	818	205	255		1296	0.631	827	588	4.0	1.9	8.586	A

APPENDIX F

SITE LAYOUT – REVISED PROPOSALS BY BLOOR HOMES



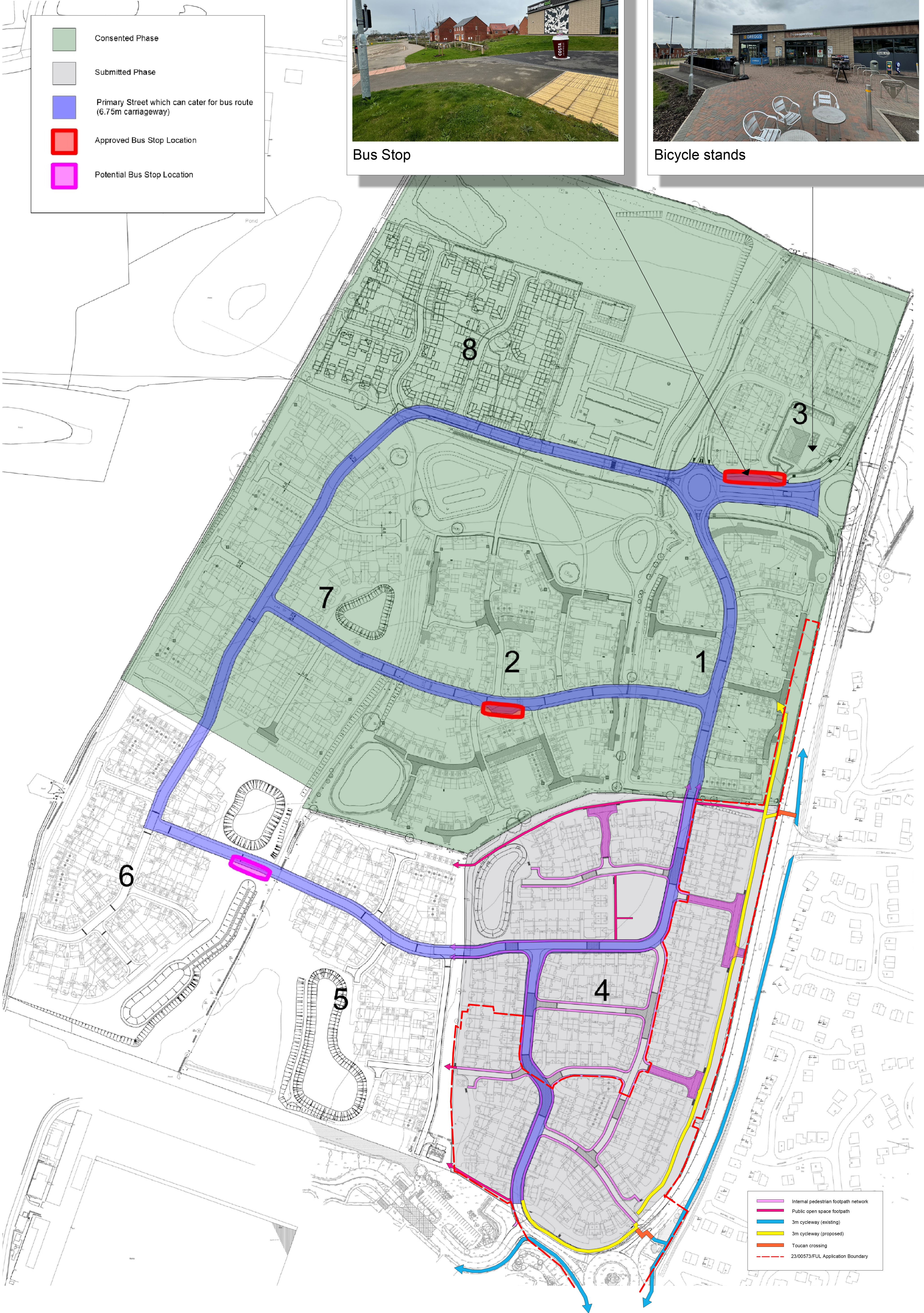
Local Centre - 300m to north of development with bus stop and bicycle stands encouraging multi modal travel



Bus Stop



Bicycle stands



Key:

	Road Type Annotation
	Radius Annotation
	Road Dimension
	Road Centre Line
	Vehicular Visibility Splay
	Pedestrian Visibility Splay
	Speed Reducing Feature



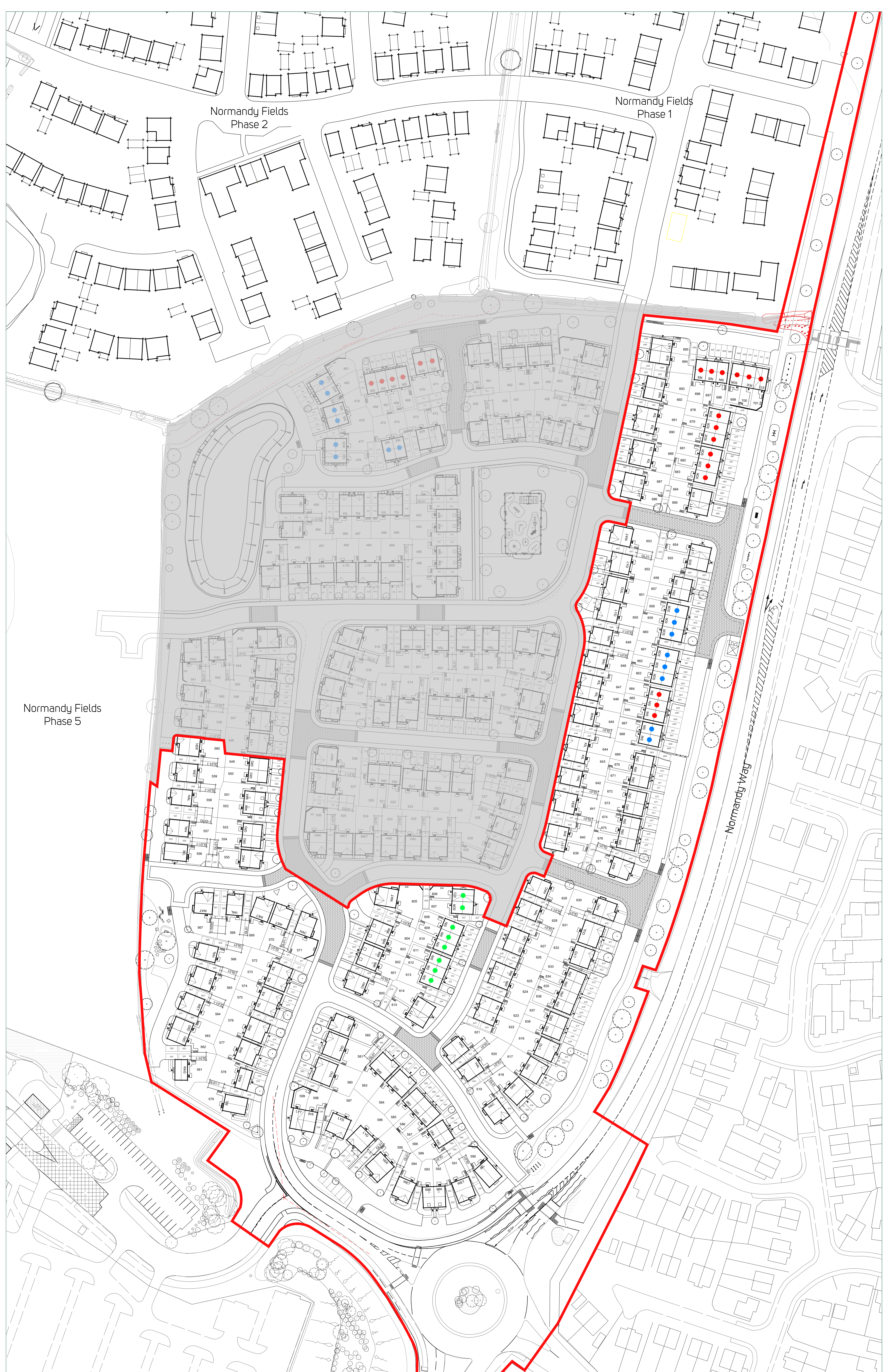
Hinckley West
Normanday Way

**Highways Layout
(Full)**

DATE: **11.01.24**
SCALE: **1:500 @ A1**
DRAWN:
CHECKED: -

BLOOR HOMES®

Drawing No. MI100-HL-101FUL-A



Key

- Proposed Tree
- Existing Tree
- BCP
- Bin Storage Area
- Increased Spec Private Drive
- Affordable Housing (Rented)
- Affordable Housing (Shared Ownership)
- Affordable Housing (First Homes)
- Area under separate application

Material	Quantity	Unit	Value
Concrete	100	m³	100
Brick	100	m³	100
Steel	100	m³	100
Timber	100	m³	100
Plaster	100	m³	100
Paint	100	m³	100
Roofing	100	m³	100
Landscaping	100	m³	100
Drainage	100	m³	100
Electrical	100	m³	100
Plumbing	100	m³	100
Heating	100	m³	100
Lighting	100	m³	100
Security	100	m³	100
Other	100	m³	100
Total	1000	m³	1000

BLOOR HOMES

nineteen47
CHARTERED TOWN PLANNERS & URBAN DESIGNERS

Project: Hinckley West - Normandy Fields (South)
Drawing No: F-008
Scale: 1:500 @ A0



Key

- Proposed Tree
- Existing Tree
- BCP
- Bin Storage Area
- Increased Spec Private Drive
- Affordable Housing (Rented)
- Affordable Housing (Shared Ownership)
- Affordable Housing (First Homes)
- Area under separate application

Normandy Fields
Phase 5

Normandy Way

House Type Name		House Type Code	Units	No.
Affordable				
One-bed	ONE	1	2	10
Two-bed	TWO	3	3	15
Three-bed	THREE	3	3	15
Sub Total				30
Private				
One-bed	ONE	1	2	10
Two-bed	TWO	3	3	15
Three-bed	THREE	3	3	15
Four-bed	FOUR	3	3	15
Five-bed	FIVE	3	3	15
Sub Total				150
Total				180

BLOOR HOMES

nineteen47
CHARTERED Town Planners & Urban Designers

Project: Hinckley West - Normandy Fields (South)
Drawing: Presentation Layout

Project Code: n1787
Drawing No: F-009
Rev: 1
Drawing Scale: 1:500 @ A0