# Land at M40 Junction 10

# **Transport Assessment Addendum**

# May 2024

LPA References 21/03266/F, 21/03267/0UT and 21/03268/0UT



**Transport Planning Consultants** 

# Land at M40 Junction 10

#### Transport Assessment Addendum

LPA References: 21/03266/F, 21/03267/0UT and 21/03268/0UT

Job No:	17213
Report Number:	17e
Status:	Final
Prepared By:	RM
Date:	03/05/24
Checked By:	SKP
Date:	03/05/24

Prepared by:

#### **David Tucker Associates**

Forester House Doctor's Lane Henley in Arden Warwickshire B95 5AW

Tel: 01564 793598 Fax: 01564 793983 inmail@dtatransportation.co.uk www.dtatransportation.co.uk

#### **Prepared for:**

**Albion Land** 

#### © David Tucker Associates

No part of this publication may be reproduced by any means without the prior permission of David Tucker Associates

# CONTENTS

1.	INTRODUCTION	1
2.	POLICY CONTEXT	4
	National Planning Policy Framework (NPPF) (December 2023)	4
	Local Transport Connectivity Plan (LTCP) (July 2022)	5
	Circular 01/22: Strategic Road Network and the delivery of sustainable development (December 2022)	6
	Future of Freight Plan (2022)	7
3.	TRANSPORT STRATEGY	8
	Active Travel	8
	Public Transport	8
	Travel Plan	9
4.	TRAVEL DEMAND FORECASTS	10
	Baseline and Scenario Changes	10
	Construction Travel Demand	10
	Operational Travel Demand	10
5.	SITE ACCESS & LAYOUT	13
	Albion Land Eastern Access (Signals)	13
	Albion Land Western Roundabout	14
	Tritax Symmetry Site Access	15
	Parking	16
6.	TRAFFIC IMPLICATIONS	16
	Road Safety	17
	M40 Junction 10 Network	17
	Baynards Green Roundabout	19
	Bicester Area Transport Implications	20
	West Northants Area Transport Implications	24
7.	CONCLUSION	26

### **APPENDICES**

APPENDIX A	Albion Land Masterplan
APPENDIX B	National Highways Responses
APPENDIX C	Oxfordshire County Council Responses
APPENDIX D	West Northants Council Response
APPENDIX E	Tritax Symmetry Masterplan
APPENDIX F	B4100 Active Travel Route – Testing Arrangement
APPENDIX G	Bicester Traffic Model Uncertainty Log
APPENDIX H	Albion Land Eastern Parcel Access General Arrangement
APPENDIX I	Albion Land Eastern Parcel Access LINSIG
APPENDIX J	Albion Land Eastern Parcel Road Safety Audit Stage 1
APPENDIX K	Albion Land Western Parcel Access General Arrangement
APPENDIX L	Albion Land Western Parcel Access JUNCTIONS
APPENDIX M	Albion Land Western Parcel Access Road Safety Audit Stage
APPENDIX N	Personal Injury Collision Data (STATS19)
APPENDIX O	Baynards Green General Arrangement
APPENDIX P	M40 Junction 10 and Baynards Green Modelling
APPENDIX Q	Baynards Green Road Safety Audit Stage 1
APPENDIX R	Aynho Traffic Survey Reports

1



#### **INTRODUCTION** 1.

Albion Land Ltd (AL) proposes the development of 280,000m<sup>2</sup> of commercial warehousing 1.1 at Baynards Green adjacent to M40 Junction 10. The development is bisected by the A43 resulting in eastern and western development parcels. The location of the development parcels is shown on Figure 1.



**Figure 1 Location Plan** 



- 1.2 Three planning applications were made by AL to the Local Planning Authority (LPA), Cherwell District Council (CDC) in 2021. These were:
  - 21/03266/F Site clearance, construction of new site access from the B4100, permanent and temporary internal roads, an internal roundabout and a foul drainage station, diversion of an existing overhead power cable and public right of way, and soft landscaping
  - 21/03267/OUT (Eastern Parcel) Outline planning permission (all matters reserved except for access) for the erection of buildings comprising logistics (Use Class B8) and ancillary Office (Use Class E(g)(i)) floorspace and associated infrastructure; construction of new site access from the B4100; creation of internal roads and access routes; and hard and soft landscaping. (100,000m<sup>2</sup>)
  - 21/03268/OUT (Western Parcel) Outline planning permission (all matters reserved except for access) for the erection of buildings comprising logistics (Use Class B8) and ancillary office (Use Class E(g)(i)) floorspace; construction of new site access from the B4100; creation of internal roads and access routes; hard and soft landscaping including noise attenuation measures; and other associated infrastructure. (180,000m<sup>2</sup>)
- 1.3 Whilst the eastern and western development parcels are subject to separate planning applications, it is envisaged that the sites would come forward in parallel in 2026 and therefore the overall impact is assessed. The AL Masterplan is attached at **Appendix A**.
- 1.4 These applications are supported by a Transport Assessment (TA) prepared by David Tucker Associates (DTA) which considered the transport implications of the development. The applications have not, however, been determined pending additional detailed technical work on the transport implications of the development in response to consultees and cancelation of the Oxfordshire Growth Board (OGB) planned improvement works at A43 Baynards Green roundabout. Consultee responses include those from highway authorities:
  - National Highways (NH) as the authority for the strategic road network (SRN) correspondence is attached at **Appendix B**;
  - Oxfordshire County Council (OCC) as the local highway authority is attached at **Appendix C**;
  - West Northamptonshire Council (WNC) correspondence is attached at **Appendix D**.
- 1.5 This report sets out the additional work that has been progressed by DTA on behalf of AL in consultation with the LPA, Oxfordshire County Council (OCC), as local highway authority (LHA), and National Highways (NH), as highway authority responsible for the strategic road network (SRN). This should be read in conjunction with the TA as this report primarily addresses the further work that has been undertaken since the TA was prepared.



- 1.6 As set out in Section 2 there have been changes in national guidance and development management policies of the LPA and LHA relating to transport. These include national and County level freight strategies.
- 1.7 Section 3 sets out the refined transport strategy whereby sustainable transport will be encouraged including by active travel modes and public transport. These initiatives will be supported by site travel policies as set out in the Travel Plan which has been updated.
- 1.8 Section 4 sets out the areas of technical agreement with respect to demand forecasting. This technical work has been aligned with and progressed in conjunction with SLR, acting on behalf of Tritax Symmetry Limited (TSL), the promotor of a development of 300,000m<sup>2</sup> of commercial warehousing on an adjacent site. The TSL Masterplan is attached at **Appendix E**.
  - 22/01340/0UT Outline planning permission (all matters reserved except means of access (not internal roads) from B4100) for the erection of buildings comprising logistics (use class B8) and ancillary offices (use class e(g)(i)) floorspace; energy centre, HGV parking, construction of new site access from the B4100; creation of internal roads and access routes; hard and soft landscaping; the construction of parking and servicing areas; substations and other associated infrastructure." (300,000m<sup>2</sup>)
- 1.9 Section 5 considers the site access and internal layout issues including parking.
- 1.10 Section 6 considers the traffic implications of the development. The original approach adopted by SLR to their TA for the TSL proposals was broadly aligned with the DTA TA for the AL proposals whereby the development demand was manually added to a baseline reference case. This has been updated with the assessment of both proposals through NH and OCC traffic models. This has informed the development of an improvement scheme at the A43 Baynards Green roundabout.
- 1.11 Section 7 sets out the key findings and consideration of compliance with transport related policies.
- 1.12 A standalone Topic Paper prepared with SLR, advisers to TSL, considers common elements of the appraisal.



### 2. POLICY CONTEXT

2.1 Changes to prevailing policies since the original TA was prepared are set out in this section.

#### National Planning Policy Framework (NPPF) (December 2023)

2.2 NPPF sets out the Government's planning policies for England and how these are expected to be applied. Whilst the Framework has been updated and the relevant paragraphs references differ there has been no significant change in transport related requirements.

7. The purpose of the planning system is to contribute to the achievement of sustainable development, including the provision of homes, commercial development and supporting infrastructure in a sustainable manner.

2.3 Achieving sustainable development means that the planning system has three overarching objectives which are an economic objective, a social objective, and an environmental objective.

9. Planning policies and decisions should play an active role in guiding development towards sustainable solutions, but in doing so should take local circumstances into account, to reflect the character, needs and opportunities of each area.

2.4 Such local circumstances must be considered in the appraisal of the transport implications of a development.

89. Planning policies and decisions should recognise that sites to meet local business and community needs in rural areas may have to be found adjacent to or beyond existing settlements, and in locations that are not well served by public transport. In these circumstances it will be important to ensure that development is sensitive to its surroundings, does not have an unacceptable impact on local roads and exploits any opportunities to make a location more sustainable (for example by improving the scope for access on foot, by cycling or by public transport). The use of previously developed land, and sites that are physically well-related to existing settlements, should be encouraged where suitable opportunities exist.

2.5 The key transport related tests are set out in paragraph 114 and 115.

114. In assessing sites that may be allocated for development in plans, or specific applications for development, it should be ensured that:

a) appropriate opportunities to promote sustainable transport modes can be – or have been – taken up, given the type of development and its location;

b) safe and suitable access to the site can be achieved for all users;

c) the design of streets, parking areas, other transport elements and the content of associated standards reflects current national guidance, including the National Design Guide and the National Model Design Code; and



d) any significant impacts from the development on the transport network (in terms of capacity and congestion), or on highway safety, can be cost effectively mitigated to an acceptable degree.

2.6 Paragraph 115 sets a high bar for refusal of an application on highway impact grounds.

115. 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.

#### Local Transport Connectivity Plan (LTCP) (July 2022)

- 2.7 The Oxfordshire Local Transport and Connectivity Plan (LTCP), the fifth Local Transport Plan, was adopted in July 2022. It replaced the previous Local Transport Plan (LTP4). It outlines a vision to deliver a net-zero Oxfordshire transport and travel system that enables the county to thrive whilst protecting the environment. The LTCP covers the time period 2022 to 2050.
- 2.8 The LTCP has four over-arching transport goals:
  - To support jobs and housing growth and economic vitality;
  - To reduce transport emissions and meet our obligations to Government;
  - To protect, and where possible enhance Oxfordshire's environment and improve quality of life; and
  - To improve public health, air quality, safety and individual wellbeing.
- 2.9 The LTCP has three transport targets are set:
  - reduce 1 in 4 current car trips by 2030;
  - *deliver a net zero transport network by 2040;*
  - and have zero, or as close as possible, road fatalities or life changing injuries by 2050.
- 2.10 The LTCP sets out the policies that will be adopted to achieve the above goals which give an indication of the approach and priorities that will be followed. Policy 36 promotes a 'decide and provide approach'.

Policy 36 – We will:

- a) Only consider road capacity schemes after all other options have been explored.
- *b)* Where appropriate, adopt a decide and provide approach to manage and develop the county's road network.
- c) Assess opportunities for traffic reduction as part of any junction or road route improvement schemes.



- d) Require transport assessments accompanying planning applications for new development to follow the County Council's 'Implementing 'Decide & Provide': Requirements for Transport Assessments' document.
- *e) Promote the use of the 'decide and provide' approach in planning policy development to support site assessment.*
- 2.11 Policies 47 and 48 relate to the freight and logistics strategy.

*Policy* 47 – *We will develop and deliver a freight and logistics strategy based around the principles of:* 

- Appropriate movement
- Efficient movement
- Net-zero movement
- Safe movement
- Partnership working

Policy 48 – We will:

- a) Promote rail freight as our priority for the long distance movement of goods.
- b) Support a range of additional measures to improve the safety and efficiency of long distance goods movement.

# **Circular 01/22: Strategic Road Network and the delivery of sustainable development (December 2022)**

2.12 The Circular sets out how National Highways engages in plan-making and decision -taking to support the delivery of sustainable development. It replaced Circular 02/2013.

The company's licence agreement defines sustainable development as encouraging economic growth while protecting the environment and improving safety and quality of life for current and future generations.

2.13 The Strategic Road Network (SRN) includes the M40 Motorway and the A43 and A34 Trunk Roads.

5. In this regard, the SRN provides critical links between our cities and other urban areas, serves as a gateway to global markets and travel destinations, connects our communities with families and job opportunities, and binds and strengthens our union. It drives productivity and prosperity by unlocking growth, encouraging trade and attracting investment, and plays a vital role in levelling up the country.

6. The SRN also has an essential role in supporting the government's commitments in Decarbonising Transport: A Better, Greener Britain ("the transport decarbonisation plan"). In particular, the company will prepare and plan for the delivery of future transport technology on the network, such as the installation of high-powered chargepoints for electric vehicles (EV). Further, it will support initiatives that reduce the need to travel by private car and enable the necessary behavioural change to make walking, wheeling, cycling and public transport the natural first choice for all who can take it.



2.14 The needs of the Freight and Logistics sectors is emphasised.

7. These actions must be carried out alongside effective engagement in the planning system, to enable the delivery of sustainable development, support the needs of the freight and logistics sector, and mitigate the impact of growth on the natural environment. As such, the company will share evidence, data, knowledge and experience, and work collaboratively and constructively with public bodies and other key stakeholders.

2.15 It is recognised that the access to the SRN for storage and distributions operations is important and that large scale sites will be located in out-of-town locations with good SRN access.

30. The NPPF is clear that planning policies should recognise the specific locational requirements of different economic sectors, including for storage and distribution operations at a variety of scales and in suitably accessible locations. To operate efficiently, the freight and logistics sector requires land for distribution and consolidation centres at multiple stages within supply chains including the need for welfare facilities for the drivers of commercial vehicles. For instance, some hubs serve regions and tend to be located out-of-town near the SRN, while others are 'last-mile' facilities that will support more sustainable freight alternatives in urban areas. The Future of Freight Plan sets out that a joined-up approach between the planning system, local authorities and industry can safeguard and prioritise the land needed for these uses, such that all parties should work together to identify the specific requirements in their area

#### Future of Freight Plan (2022)

2.16 Future of Freight is a policy paper of 2022 which sets out a long-term cross modal plan for the freight and logistics sector. The plan sets out a vision for a freight and logistics sector that is cost efficient, reliable, resilient, environmentally sustainable and valued by society. The plan identifies that the planning system has a crucial role in promoting development that supports the efficient supply of goods by ensuring that sufficient land is being made available in the right places for freight operations.



# 3. TRANSPORT STRATEGY

#### Active Travel

3.1 The development will require localised diversion of existing PRoW 109/5/10 within the Western Parcel. This is a footway and OCC has requested that this is upgraded to a bridleway to link Stoke Lyne Bridleway 367/29 and Ardley Bridleway 109/2. This will be a 3m wide path with a bound surface.

#### An agreed contribution of £65,000 will fund improvements to the Public Rights of Way Network (PRoW) as requested by OCC. These will fund improvements to routes primarily back towards the village of Ardley with Fewcott.

- 3.2 The site accesses and Baynards Green improvement schemes incorporate a high standard of dedicated pedestrian and cycle provision to ensure that workers can access amenities at the roadside service area as well as access public transport (bus) services.
- 3.3 The scope of the Local Cycling Walking Improvement Plan (LCWIP) for Bicester, limited within its existing developed area, does not extend to its functional hinterland. Notwithstanding this, OCC is seeking improvements to the B4100 corridor to encourage cycling.
- 3.4 The feasibility of the route has been considered with respect to the construction implications. This has been informed by a topographical survey, a highway extents search, and environmental walk-over surveys. A testing arrangement is attached at **Appendix F**.
- 3.5 The route is circa 4.5 kilometres in length. The construction of the path and supporting buffer could be achieved by narrowing of the carriageway. The narrowing would provide separation of the path from the running lanes where there is insufficient room within the verge. The need for separation will be speed related and therefore a reduction in the posted speed limit would support the corridor development. Where the buffer is narrow and/or there is no reduction in the posted speed limit splitter islands would need to be provided.
- 3.6 An active travel path would be dependent on infrastructure and traffic management policies (speed reduction) within the B4100 corridor.

#### **Public Transport**

- 3.7 This bus strategy is part of a wider sustainable travel strategy for the site as supported by the Travel Plan (TP). It is envisaged that bus services would provide 7.5% demand in 2025 increasing to 10% by 2030.
- 3.8 As confirmed by the Bicester Traffic Model (BTM) the main local population centres from which employees will come are Bicester and Brackley. For the development to be independently accessible to residents without a private car the sites will be integrated with existing bus services.
- 3.9 This is as set out in the TA and TP and there is no fundamental change to the bus strategy which has been planned around the existing Brackley to Bicester service. The proposals have however been refined in consultation with OCC.



- 3.10 The inter-urban bus service, Stagecoach route 505, runs between Brackley and Bicester. It is an express service which operates along the A43 and B4100. There are no stops between Brackley and Elmsbrook on the edge of Bicester and therefore it does not directly support the functional hinterlands of either market town within this corridor. OCC notes that *'non-development related passenger flows between Brackley and Bicester are needed to secure the overall long-term financial viability of the service'*.
- 3.11 It is understood from OCC that the service is currently supported financially by development contributions from sites in Brackley. OCC does not consider the route to be secure based on current patronage when these funds are exhausted.

OCC has identified a contribution of £2,133,333 (December 2023 cost) for the provision of two buses with one operating daily between 05:00 – 22:00 and the other operating Monday to Friday 06:00 - 18:00 creating a higher frequency (every 30 minutes) at the expected peak times

- 3.12 In the long term, the service will be supported by the additional travel demand within the corridor from the employment sites.
- 3.13 Bus stops within laybys are now proposed on the B4100 between the AL eastern access and the TSL access. These will be provided with sheltered seating and service information. OCC has requested a contribution of £8,904 (per shelter Sept 2020 price base) if not delivered under S278/S38.
- 3.14 The arrangement for the western parcel is unchanged whereby buses will operate on a spur from Baynards Green and into the site.
- 3.15 Whilst the new bus stops are provided to serve the employment sites, these will benefit the local communities Baynards Green, Ardley with Fewcott, Fritwell, Bucknell and Stoke Lyne, more widely as rural mobility hubs to access employment and secondary schools in Brackley and Bicester.
- 3.16 Further consideration has been given to augmenting the bus strategy to support the overall sustainable travel aims. The associated funding requirements have been agreed with OCC.

An additional contribution of £1,796,667 (December 2023 cost) would increase the 30-minute service to a 15-minute service during peak hours through the funding of two further buses taking total additional buses to four.

3.17 In addition, as proposed within the TSL TAA, enhanced interchange opportunities, such as cycle lockers at key bus stops within Bicester, will increase the accessibility of the services to all town residents.

#### **Travel Plan**

3.18 The Travel Plan (TP) has been updated so the AL and TSL initiatives directly mirror each other. For the AL TP further cycling measures as per the TSL TP have been included such as bikeability training, cycle surgery days, health MOTs and car free days.

A contribution of £2,379 (December 2020 price base) plus additional amount for individual operator Travel Plans.



### 4. TRAVEL DEMAND FORECASTS

#### **Baseline and Scenario Changes**

- 4.1 The Oxfordshire Growth Fund (OGB) previously promoted a junction improvement scheme at Baynards Green to accommodate planned growth within the Cherwell District. £18M had been allocated for these works. Funding for this improvement was reallocated resulting in a smaller scheme of works at the Padbury Roundabout only.
- 4.2 The Oxfordshire Strategic Rail Freight Interchange (OxSRFI) proposal for 675,000m<sup>2</sup> GFA rail-connected warehousing has not progressed. The promotors announced in April 2023 an open-ended project hiatus. There have been no further updates and no application to the Planning Inspectorate has been made. It is agreed with the LHA and LPA that cumulative assessment with the OxSFRI is not required.
- 4.3 Tritax Symmetry (TSL) propose a development for 300,000m<sup>2</sup> GFA commercial warehousing on adjacent land at Baynards Green. As requested by the LHA and NH, the traffic impact in a cumulative scenario with both AL and TSL developments has been assessed.

#### **Construction Travel Demand**

- 4.4 The Enabling Works will be constructed over a period of approximately six months which includes the construction of the roundabout to the Western Site.
- 4.5 The construction of the Western Development will take access from the internal roundabout which in turn connects to a new B4100 roundabout, both of which are to be built as part of the Enabling Works. The construction of the Eastern Development will take temporary access from the B4100 with a simple priority access arrangement. Construction of the Western Development and the Eastern Development would take place concurrently.
- 4.6 Based on appraisal of other development sites of a similar nature in the Bicester area it is estimated that there will be 40 HGV deliveries and 190 car or van trips to the respective development parcels per day. These assumptions are robust and reflect the demand during the busiest stages of construction. Most of the demand will arise outside the peak network periods and as such the proportional change in flow will be negligible. As such there will be no significant change in traffic on the local road network from the construction.
- 4.7 There will be traffic management required during the road works. Details of the traffic management will be agreed with the LHA.
- 4.8 Parking for construction workers off the local roads will be provided. Measures will be put in place to avoid mud being brought on to the highways. These measures are set out in the Framework CEMP.

#### **Operational Travel Demand**

4.9 The Bicester Traffic Model (BTM) is a strategic traffic model covering the Bicester area which was developed and managed for the LHA. BTM has been extensively used in the area for development planning. The day to day running of the model is undertaken by Tetra



Tech (TT) on behalf of the LHA. BTM includes planned developments in the Bicester Area for future years of 2026 and 2031. 2026 broadly equates to the anticipated opening year of the development and is accordingly considered to be the relevant date for impact appraisal. 2031 is primarily presented as a sensitivity test which aligns with the end of the current Development Plan. Details of the development assumptions are set out in the uncertainty log (**Appendix G**).

- 4.10 The specification of BTM is defined and controlled by the LHA. The only parameters defined by DTA and SLR are the development travel demand forecasts and the HGV distribution and assignment. These parameters were agreed with the LHA and NH prior to the model runs.
- 4.11 The travel demand forecasts are as set out in Table 5 of the TA. These are based on surveys of large-scale commercial warehousing sites. The underlying data is unchanged. The reported weekday trip rates have been supplemented with an annual average trip rate (7-day) as summarised in **Table 1** below.

	HGV		Cars		Total		
							Two-
	In	Out	In	Out	In	Out	way
AM Peak (0800-0900)	0.019	0.019	0.092	0.027	0.111	0.046	0.157
AM Peak (0900-1000)	0.021	0.020	0.070	0.020	0.091	0.041	0.131
PM Peak (1600-1700)	0.018	0.016	0.021	0.114	0.039	0.129	0.168
PM Peak (1700-1800)	0.016	0.015	0.024	0.099	0.041	0.114	0.155
12 Hour (0700-1900)	0.226	0.217	0.610	0.710	0.836	0.927	1.763
16 Hour (0700-2300)	0.281	0.269	0.691	0.807	0.972	1.076	2.048
18 Hour (0600-2400)	0.305	0.299	0.787	0.903	1.092	1.202	2.294
8 Hour (2300-0700)	0.089	0.107	0.252	0.170	0.340	0.277	0.617
24 Hour (0000-2400)	0.370	0.376	0.942	0.977	1.312	1.353	2.665
24 Hour AADT	0.292	0.281	0.741	0.788	1.033	1.069	2.104

#### Table 1 Weekday Trip generation rates (per 100m<sup>2</sup>)

- 4.12 The light vehicle distribution reported in the TA is no longer used. As agreed with the LHA and NH the light vehicle distribution has been forecast within the BTM process. Within the BTM the home trip ends of employees are distributed and assigned. The BTM assignment is reported in passenger car units cumulatively with the heavy vehicle distribution.
- 4.13 The light vehicle distribution is summarised in **Table 2**.

Assignment	% demand TA	% demand BTM
	(2011 Census derived)	
B4100 (West)	8%	16.8%
B4100 (Aynho)	8%	6.8%
A43 (North)	10%	26.1%
B4100 (East)	54%	35.1%
M40 (Northwest)	3%	5.2%
B430	6%	12.2%
M40 (South)	16%	4.1%

Table 2 Light Vehicle Assignment

4.14 The HGV distribution as before is based on the National Freight Matrices. These were assigned to the local road network using network analyst within ArcGIS. This was subject



to validation, in consultation with AECOM acting on behalf of NH, to align the assignment of HGVs with observed HGV movements through M40 Junction 10. The agreed assignment, summarised in **Table 3** below, was then provided to TT as an input to the BTM runs.

Table 3 HGV Assignment						
Assignment	% HGV demand TA	% HGV demand Agreed				
B4100 (West)	0%	0%				
A43 (North)	31%	41%				
B4100 (East)	5%	6%				
M40 (Northwest)	19%	11%				
B430	0%	2%				
M40 (South)	45%	41%				

4.15 The outputs from the BTM include turning movement matrices at key local junctions. These turning movements have been used for the detailed modelling of the M40 Junction 10 network of junctions including Baynards Green (these are included at **Appendix P** as set out below).



### 5. SITE ACCESS & LAYOUT

#### **Albion Land Eastern Access (Signals)**

- 5.1 The proposed junction form of the Eastern Site Access has changed from the original application (21/03267/OUT) from a roundabout to a traffic signal-controlled T-junction. This has allowed the introduction of active travel crossings across the site access. The new General Arrangement and Vehicle Tracking Drawings are attached at **Appendix H**.
- 5.2 There are two versions of the General Arrangement plans within **Appendix H** covering the scenario where the Eastern Site Access comes forward in advance of the TSL Access and a second where both accesses come forward together. The difference between the plans relates to the tie-in. The B4100 would be realigned on approach to the TSL access which overlaps with the AL access layout. The two plans show that either scenario is covered as the AL access layout can tie into either the existing or realigned B4100.
- 5.3 The more compact junction form has allowed the access to be moved eastward removing the need for a weaving section between the access and Baynards Green. Although not required given the available separation the future co-ordination with signals at the Baynards Green junction is possible.
- 5.4 The operation of the junction has been tested in LINSIG which shows that the junction has an appropriate level of capacity to accommodate the development demand. These results assume that the junction would operate with a common cycle time with the Baynards Green roundabout (72 seconds). Pedestrian crossings on the access operate on a walk with traffic basis and hence are called every cycle.
- 5.5 A summary of the junction performance is included in **Table 4** below and additional detail (model output reports) of the operational appraisal is attached in **Appendix I**.

	AM				PM			
	Queue (PCU)	Degree of Sat.	Delay (pcuHr)	Practical Reserve Capacity	Queue (PCU)	Degree of Sat.	Delay (pcuHr)	Practical Reserve Capacity
2026 Design	2026 Design							
1. B4100 W	6.3	53.7%			3.7	35.8%		
2. B4100 E	9.0	58.2%	5.20	54.5%	12.2	69.8%	5.76	28.9%
3. Site Access	0.8	10.6%			1.5	19.5%		
2031 Design								
1. B4100 W	6.1	52.4%			4.4	41.3%		
2. B4100 E	13.1	72.8%	6.57	23.7%	16.7	81.7%	7.76	10.1%
3. Site Access	0.8	10.6%			1.5	19.5%		

 Table 4 Eastern Access Performance Summary - Albion Land Only (eastern and western parcels)

5.6 With the TSL development the ahead movements on the B4100 increase by circa 500 vehicles per hour in the peak direction resulting in a demand of 1,373 vehicles per hour in the westbound direction in the 2031 AM peak. As can be seen in **Table 5**, the junction still operates within capacity.



		AM				РМ			
	Queue (PCU)	Degree of Sat.	Delay (pcuHr)	Practical Reserve Capacity	Queue (PCU)	Degree of Sat.	Delay (pcuHr)	Practical Reserve Capacity	
2026 Design									
1. B4100 W	11.3	78.5%			0.7	57.4%			
2. B4100 E	8.4	55.3%	4.38	14.6%	13.8	76.4%	5.33	20.5%	
3. Site Access	0.7	8.2%			1.4	19.5%			
2031 Design									
1. B4100 W	20.7	89.5%			10.6	65.6%			
2. B4100 E	11.1	66.4%	6.11	0.5%	17.9	83.5%	7.22	7.7%	
3. Site Access	0.7	7.8%			1.4	16.2%			

Table 5 Eastern Access Performance Summa	ry – Albion Land and Tritax Symmetry	

5.7 The Eastern Site Access has been subject to an independent Road Safety Audit Stage 1. No fundamental issues were identified. The recommendations of the audit have been taken on board and will inform the detailed design process. In the meantime, the general arrangement drawing has been updated where appropriate. The RSA1 including the designer's response is attached at **Appendix J**.

#### **B4100 East Bus Stops**

5.8 The original AL scheme allowed for a bus set down area within the eastern site. It is now proposed to provide bus stops online on the B4100 which will be accessible by both the TSL and AL developments. These will be to the east of the AL eastern parcel access and to the west of the TSL access. Both stops will be within laybys and will have shelters etc. as set out in Section 3. To allow pedestrians to access both eastbound and westbound stops it is proposed to provide an independent traffic signal-controlled crossing immediately to the west of the laybys.

#### Albion Land Western Roundabout

- 5.9 The proposed junction form of the Western Site Access is broadly unchanged from the original application (21/03268/OUT) and remains a roundabout. OCC, in their response of 24<sup>th</sup> November 2021) requested a review the conflict angles on the B4100 as these were deemed relatively sharp. These have been updated whilst maintaining the requirements of the DMRB. The new General Arrangement and Vehicle Tracking Drawings are attached at **Appendix K**.
- 5.10 The operation of the junction has been tested in JUNCTIONS which shows an appropriate level of capacity to accommodate the development demand. A summary of the junction performance is included in **Table 6** below and additional detail of the operational appraisal is attached in **Appendix L**.



Table 6 Western A	ccess Performance Summary	- Albion Lan	d Only (easter	n and western	parcels)

	AM				PM			
	Queue (PCU)	Delay (s)	RFC	Network Residual Capacity	Queue (PCU)	Delay (s)	RFC	Network Residual Capacity
2026 Design								
1. B4100 W	1.0	6.03	0.51		0.4	4.29	0.27	
2. B4100 E	1.0	6.07	0.48	75%	0.6	4.73	0.36	156%
3. Site Access	0.2	5.18	0.12		0.3	4.72	0.23	
2031 Design	2031 Design							
1. B4100 W	1.3	6.72	0.56		0.5	4.81	0.33	
2. B4100 E	1.3	6.76	0.54	60%	0.6	4.60	0.34	134%
3. Site Access	0.2	5.31	0.12		0.3	4.61	0.23	

5.11 A summary of the junction performance including the TSL development is summarised in **Table 7**.

Гable 7 - Western Site Access	Junction Assessment - Albion a	and Tritax Symmetry Developments

	AM			РМ				
	Queue (PCU)	Delay (s)	RFC	Network Residual Capacity	Queue (PCU)	Delay (s)	RFC	Network Residual Capacity
2026 Design								
1. B4100 W	1.7	7.94	0.63		0.9	5.79	0.45	
2. B4100 E	2.0	8.86	0.64	43%	1.0	5.98	0.47	85%
3. Site Access	0.2	5.88	0.13		0.4	5.20	0.25	
2031 Design								
1. B4100 W	1.8	8.50	0.65		1.0	6.23	0.50	
2. B4100 E	2.4	9.90	0.68	34%	1.0	5.96	0.47	71%
3. Site Access	0.2	5.98	0.13		0.4	5.16	0.25	

- 5.12 The results show that the geometry has ample capacity to accommodate the development demand (TSL, AL and wider planned growth) with limited delay or queueing on any arm. All approaches to the junction are single lane entries and therefore there are no lane balance issues.
- 5.13 The Western Site Access was previously subject to an independent Road Safety Audit Stage 1. No fundamental issues were identified. The recommendations of the audit have been taken on board and will inform the detailed design stage. The general arrangement drawing has been updated where appropriate. The RSA1 including the designer's response is attached at **Appendix M**.
- 5.14 The accesses are both safe and suitable in accordance with the policy requirements set out in the NPPF at paragraph 114.

#### Tritax Symmetry Site Access

5.15 The TSL site is proposed to be accessed from a four-arm roundabout on the B4100 to the east of the Eastern AL parcel. Details of the access are set out in the SLR TA Addendum where the performance of the junction is tested both with and without the AL development. This reports that the arrangement has appropriate capacity.



5.16 In addition, the operation of the TSL access and AL access are cumulatively tested in both the BTM and the VISSIM (considered in Section 6) as reported in **Appendix P**.

#### Parking

- 5.17 The development is subject to outline planning applications and as such the internal layout is indicative.
- 5.18 As per the TA, an appropriate level of vehicle, accessible parking, and cycle parking will be provided to meet the demand within the site but within the context of the sustainable travel strategy for the site.
- 5.19 Parking provision will be assessed on a case-by-case basis with consideration of trip rates, users groups and shift patterns, as well as site location and potential implications of off-site parking.
- 5.20 Cycle parking standards are expressed as the minimum that developments are expected to achieve, albeit it is considered reasonable that the level of cycle parking provided could be monitored through the staff Travel Plan and amended in response to demands.
- 5.21 Current LHA guidance indicates that there should be a minimum requirement for 1,120 long-stay staff cycle parking spaces and 560 short-stay visitor cycle parking spaces. AL proposes to safeguard land for the level of cycle parking identified by the LHA guidelines, but only provide a proportion of this from day one. The initial level of cycle parking provided will be identified at the reserved matters stage having regard to the requirements on individual users. Usage would be monitored via a Travel Plan and increased wherever necessary based on recorded demands.
- 5.22 The level of car parking will be determined as part of future reserved matters applications with consideration for the end occupier needs as well as reference to LPA and LHA standards.
- 5.23 Notwithstanding the above, the illustrative masterplan shows the car parking spaces which reflects the Applicant's experience of what the market would require from an operational perspective.
- 5.24 The site will provide electric vehicle charging facilities in line with OCC guidance. This required 25% of spaces to be equipped.



### 6. TRAFFIC IMPLICATIONS

#### **Road Safety**

- 6.1 The performance of the road network has been assessed by a review of reported incidents (STATS19 data). The LHA records were obtained, and a summary is attached at Appendix N. The study area includes the B4100 between Elmsbrook to the East to Baynards Green including the potential area of influence of the AL-western parcel access. The data covers the most recent five-year period 2018 to 2022 plus provisional data for 2023.
- 6.2 The data shows that there were 25 reported incidents.
- 6.3 There were 15 incidents at the Baynards Green roundabout and approaches including fourteen incidents of slight severity and one of serious severity.
- 6.4 There were no incidents on the B4100 on the frontage of the western parcel.
- 6.5 Between Baynards Green (excluding roundabout) and Bicester there were twelve incidents. There are no apparent locational trends or clusters. There was one fatal incident on this section of the B4100 which involved a cyclist. There were two serious incidents including a single vehicle loss of control.
- 6.6 At the Padbury roundabout there were eight reported incidents in the most recent six-year period. All incidents were of slight severity. Given the level of demand the reported safety performance is good. The junction will be upgraded to traffic signal control by others which will have a significant effect on the operation of the junction.
- 6.7 At the Cherwell roundabout there were three reported incidents in the most recent six-year period. The three incidents, on the southbound approach were of slight severity.
- 6.8 There were two incidents on the northbound link between the Cherwell and Ardley roundabouts both of which were of serious severity.
- 6.9 There was a single incident at the Ardley roundabout on the B430 entry. The incident was of serious severity.

#### M40 Junction 10 Network

- 6.10 The M40 Junction 10 VISSIM model is a micro simulation model which covers Junction 10 including the Ardley, Cherwell and Padbury Roundabouts as well as Baynards Green. The model was provided to SLR for the purposes of testing the AL and TSL developments and the junction improvements that would be delivered in conjunction with these developments.
- 6.11 The scope of this model includes Baynards Green Roundabout, Padbury Roundabout including signalisation improvements promoted by OGB, Cherwell Roundabout from which the Motorway Service Area (MSA) is accessed, Ardley Roundabout and the M40 Junction 10 slip roads including merges and diverges.
- 6.12 The base VISSIM was reviewed by SLR in conjunction with AECOM to ensure that it was appropriate for scenario testing. The NH model was further developed with respect to its structure and the demand forecasts. Network revisions to improve lane usage and gap



acceptance (at give way lines) and agreed with NH. The forecast demand from the BTM informed the VISSIM as set out in the SLR Matrix Development Methodology Note and agreed with NH. Model output is attached within the report at **Appendix P**.

6.13 The VISSIM model confirms that the throughput of the M40 Junction network is significantly increased, and benefits of the improvement scheme are not affected by the wider network. The summarised findings of the VISSIM modelling, ordered by year and peak, are:

#### <u>2026 AM</u>

- There is an overall reduction in delay for the whole network of at least 26s per vehicle. The actual reduced delay will be greater because the number of unreleased vehicles (traffic that cannot enter the network due to blocking) reduced from 1000 to 0.
- The A43 south-bound queue to Barnards Green roundabout reduces by around 700m in the AM peak. The actual reduction in queue is greater because of unreleased vehicles (latent demand which cannot enter the network). Overall, the latent demand reduces from 1000 vehicles to 0 vehicles equivalent to a queue of circa 3km across two lanes.
- The improvement at Baynards Green roundabout allows more traffic South in the AM peak. The model reports some additional south-bound queues (displaced downstream) at the Padbury and Cherwell MSA junctions, however, these queues are contained within links.
- The additional south-bound flow increases M40 northbound off-slip queues in the AM peak to circa 340m. However, these queues are wholly contained within the slip, i.e., not beyond the back of the nose, some 460m from the ICD.

### <u>2026 PM</u>

- There is an overall reduction in delay for the whole network of at least 15s per vehicle. The B4100 East entry queue reduces by an average of nearly 400m, while the number of unreleased vehicles in the reduces from 50 (reference case) to 0 (development case).
- The Northbound queue to Barnards Green roundabout reduces by an average of c300m.
- The model reports south-bound queues (displaced from Baynards Green) to the Padbury and Cherwell MSA junctions, however, these queues are contained within links.

### <u>AM 2031</u>

- The 2031 tests are not required as set out in DfT Circular 01/2022. However, the results are included as a sensitivity test.
- There is an overall reduction in delay for the whole network of at least 4s per vehicle. The south-bound approach to Barnards Green roundabout has around 900 fewer unreleased vehicles. While these vehicles do not contribute to the overall delay



statistics and queue length statistics, this level of reduction is clearly a significant improvement.

- Queues on the B4100 West reduce by nearly 400m while those on the B4100 East reduce by around 200m.
- The model reports south-bound queues (traffic displaced downstream from Baynards Green) to the Padbury and Cherwell MSA junctions, however, these queues are contained within links.
- The additional south-bound flow does increase M40 north-bound off-slip queues in the AM peak. These queues are wholly contained within the slip, i.e. not beyond the back of the nose.

#### <u>2031 PM</u>

- There is an overall reduction in delay of 33 seconds per vehicle.
- The North-bound queue to Barnards Green roundabout reduces by an average of circa 550m. This is an improvement when compared with the reference case where queues stretched to Padbury roundabout, which could have safety implications for the M40 south-bound off-slip.
- The B4100 East entry queue reduces by an average of nearly 450m, reducing the number of unreleased vehicles by around 300, to zero. The B4100 West queues are circa 250m shorter than the reference case.
- 6.14 The slip road merge and diverge arrangements perform well within VISSIM with no evidence of blocking back.

### **Baynards Green Roundabout**

- 6.15 Baynards Green roundabout currently experiences stress during the peak hour periods. An £18M junction improvement scheme at Baynards Green was promoted by OGB to accommodate planned growth within Cherwell District including at Heyford Park. Funding for the scheme was, however, withdrawn at the concept design stage.
- 6.16 DTA and SLR have collaboratively worked to develop the concept into a deliverable scheme capable of accommodating the AL and TSL developments and the wider planned growth.

The A43 Baynards Green Improvement Scheme is to be delivered by AL and/or TSL. It will accommodate both the development and wider demands from planned growth within Cherwell District; a significant improvement to a long-identified need.

6.17 The proposed general arrangement is shown on **SLR drawing 216285/A/14 RevB** which is attached at **Appendix O**. All four arms of the roundabout will be signal controlled. Localised widening will be required on approaches to the junction and within the circulatory carriageway but where possible the scheme makes use of the existing layout to minimise disruption during construction. Vehicle tracking is shown on **SLR drawing 216285/SK12**.



6.18 Pedestrian and cycle crossings will be provided on both B4100 arms and on the A43 south. These will operate on a walk with traffic basis such that active travel demand will have no impact on overall junction performance.

The A43 Baynards Green Improvements Scheme requires land from both TSL and AL sites for the delivery of visibility splays. Without this land the scheme could not be delivered in its entirety. Agreement between TSL and AL allow for implementation by either party or together.

6.19 Performance of the junction has been tested based on BTM demands both through ARCADY, based on the current layout, LINSIG, based on the proposed layout, and within the NH M40 J10 VISSIM, in the context of the wider M40 Junction 10 network inclusive of the AL and TSL accesses. In **Table 8** is a summary of the existing arrangement, the reference case as reported in the ARCADY, and the proposed arrangement as reported in the LINSIG. This shows that in isolation the Baynards Green junction operation will significantly benefit from the improvement works both in terms of delay and queuing. Modelling output reports are attached at **Appendix P**.

	Reference Case		Design		
	Highest Ratio of	Longest Queue	Highest Ratio of	Longest Queue	
	Flow to Capacity	Longest Queue	Flow to Capacity	Longest Queue	
AM 2026	1.21	221	0.92	21	
PM 2026	1.25	95	0.88	25	
AM 2031	1.37	425	1.00	37	
PM 2031	1.58	231	0.97	36	

Table 8 Baynards Green Capacity Assessment

- 6.20 The delivery of the scheme has been tested against the requirements of the Design Manual for Roads and Bridges. No new Departures from Standards (DfS) are required. Existing DfS relating to entry path curvature are retained and have been tested in accordance with the Departures Manual (v2.1.0), subject to the GG104 Risk Assessment process and provision approval has been granted by NH Safety Engineering and Standards Directorate (SES).
- 6.21 The scheme has been subject to an Independent Road Safety Audit undertaken by Gateway Road Safety Engineering (RSE) on behalf of the applicants but instructed by NH and OCC. The brief, was agreed in advance with NH and OCC, and undertaken in strict accordance with GG119 Road Safety Audit. A representative of NH accompanied the audit team. The audit RSE Report 2309-11 RSA1, dated 13<sup>th</sup> February 2024, identifies no fundamental issues but makes several recommendations. These recommendations have been accepted and will inform the detailed design stage. The Road Safety Audit Stage 1 and designers' response are attached at **Appendix Q**.

### **Bicester Area Transport Implications**

6.22 No improvements to the Bicester Road network are required. The BTM reflects the planned growth within the Bicester Area including the proposed changes to the local road network. The BTM outputs indicate that no additional changes, in addition to those already planned, are required. Detailed micro-simulation modelling has been undertaken of the planned signalisation of the A4095/B4100 junction. This demonstrates no material change in future year performance of this junction.



6.23 Both the TSL and AL applications considered the impacts upon the Banbury Roundabout junction, which is currently a four-arm roundabout. However, as was reported in the SLR and DTA TAs, this junction is intended to be signalised. Indeed, since the respective TSL and AL applications were submitted, the LHA has granted itself planning permission under the provisions of application R3.0094/21 to construct the junction as shown in **Figure 2**.





- 6.24 Given that this junction will be constructed in the coming months, the effects of the proposed developments upon this junction have been tested. For this assessment a VISSIM model is used developed using published information in the supporting TA (LPA/LHA application R3.0094/21).
- 6.25 On the basis of this modelling, which has used the BTM model demands, that was run to assess the impacts of the proposed developments at the TSL and AL site accesses, Baynards Green roundabout and M40 J10, there would be a limited impact on the overall performance of the junction. Using the same metrics that LHA used to inform its own application, Average delay per vehicles, as shown on **Figure 3** and **Figure 4**, there will be negligible changes in vehicle delays between the 2031 Reference Case and when traffic demand associated with both the AL scheme in isolation and with TSL taken into cumulatively.









6.26 Similarly, vehicle speeds at the junction are expected to be similar to that which OCC approved pursuant to application R3.0094/21 as shown on the speed 'heat maps' shown at Figure 5 (Reference Case), Figure 6 (AL east and western parcels) and Figure 7 (AL & TSL developments).



Figure 5 A4095 - B4100 Junction Network Performance – Average Speed (2031 Reference Case)



Figure 6 A4095 - B4100 Junction Network Performance - Average Speed (2031 AL only)



Figure 7 A4095 - B4100 Junction Network Performance - Average Speed (2031 AL & TSL)





6.27 It is demonstrated above that there would be a negligible change in speeds at the junction following the inclusion of TSL and AL development trips. Overall, it is concluded that the development proposals will not have a material impact on the operation of the junction.

#### West Northants Area Transport Implications

- 6.28 WNC welcomed the use of the BTM. However, WNC requested further analysis of the transport implications for Aynho and Croughton in their letter of 14<sup>th</sup> March 2022 (**Appendix D**). Manual classified turning counts (MCC) were requested at two key junctions within Aynho to be undertaken over a period of three days. In addition, an automatic traffic counter (ATC) was installed. Full survey reports are attached at **Appendix R**.
- 6.29 The B4100 through Aynho carries around 11,000 vehicles per day two-way. The two-way peak hour flows by link are summarised in **Table 9** and **Table 10** below.
- 6.30 The development demands are derived from the BTM. These are also summarised in Table 9 and Table 10 for AL, TSL and the cumulative increase. This shows that the absolute increases are modest in all scenarios on all links within the day-to-day variations that already occurs.

Vehicles per hour (2-way)	3-day	Tritax	Albion	Land Devel	opment	
West B4100/B4031 Jct	average	Symmetry	East Parcel	West Parcel	Combined	TSL & AL
B4100 Banbury Rd (N)	SURVEY	DEV	DEV	DEV	DEV	DEV
AM Peak	762	6	2	5	7	13
PM Peak	747	6	2	14	16	22
B4031 Station Road (W)	SURVEY	DEV	DEV	DEV	DEV	DEV
AM Peak	438	9	3	8	11	20
PM Peak	425	9	3	7	10	19
B4100 Roundtown	SURVEY	DEV	DEV	DEV	DEV	DEV
AM Peak	926	18	6	13	19	37
PM Peak	942	18	6	21	27	45
Overall Change (relative)		DEV	DEV	DEV	DEV	DEV
AM Peak	1063	1.7%	0.6%	1.2%	1.8%	3.5%
PM Peak	1057	1.7%	0.6%	2.0%	2.6%	4.3%

Table 9 Aynho Assessment - Western Junction



Vehicles per hour (2-way)	3-day	Tritax	Albion Land Development			
East B4100/B4031 Jct	average	Symmetry	East Parcel	West Parcel	Combined	I SL & AL
Unnamed Rd to Charlton (N)	SURVEY	DEV	DEV	DEV	DEV	DEV
AM Peak	46	0	0	4	4	4
PM Peak	46	6	2	4	3	9
B4031 Croughton Road (E)	SURVEY	DEV	DEV	DEV	DEV	DEV
AM Peak	450	0	0	8	8	8
PM Peak	477	0	0	0	0	0
B4100 Bicester Rd(S)	SURVEY	DEV	DEV	DEV	DEV	DEV
AM Peak	648	18	6	25	31	49
PM Peak	625	24	8	25	33	57
Overall Change (relative)		DEV	DEV	DEV	DEV	DEV
AM Peak	1056	1.7%	0.6%	2.4%	2.9%	4.6%
PM Peak	1064	2.3%	0.8%	2.3%	3.1%	5.4%

#### Table 10 Aynho Assessment - Eastern Junction

- 6.31 The additional information demonstrates that there is no material impact on the operation or performance of the WNC network. The BTM routes circa 1% of traffic to Croughton via the B4100. Croughton is the destination for this demand, i.e. it is not through traffic. The BTM routes circa 4% of traffic to and/or through Aynho; the increase is one additional vehicle every one to two minutes.
- 6.32 WNC confirm that their PRoW is not affected by the development.



# 7. CONCLUSION

- 7.1 This Transport Assessment Addendum considers the development of a proposed logistics development near at M40 Junction 10 which is being promoted by Albion Land. It updates the position set out on the Transport Assessment and should be read in conjunction with it.
- 7.2 The development aligns with the needs of the logistics and distribution industry providing modern large scale commercial warehousing that is well related to the strategic road network in a location which will minimise the impact of heavy goods vehicles on the local communities. The development will provide significant employment opportunities that will be accessible to residents from the expanding communities Bicester and Brackley including by non-car modes.
- 7.3 Responding both to the initial consultation responses and contextual changes, including the withdrawal of funding for the OGB Baynards Green improvement Scheme, a significant amount of technical work has been undertaken in consultation with the LPA, LHA and NH.
- 7.4 The sustainable travel strategy for the site has been refined to allow accessibility to the employment opportunities that will be created. A transit-oriented solution is now favoured.
- 7.5 The inter-urban bus service between Brackley and Bicester would in the short term be financially secured by financial support of up to £2.1M from AL and/or TSL and in the longer term will be supported by the additional travel demand within the corridor. The new stops that will be created will be usable by local communities as rural mobility hubs. A further contribution of up to £1.7M to further increase frequency is being considered and will be discussed further with the LHA.
- 7.6 Active travel provision has been significantly improved with a new controlled crossing facility across the A43. AL also agree to funding requested by OCC of £65k for improvements to the local PRoW. A further enhancement to active travel provision on the B4100 is being considered and will be discussed further with the LHA.
- 7.7 The Travel Plan, which sets out the operational travel policies for businesses on the site, has been updated with additional measures to support sustainable travel.
- 7.8 The implications of the operational traffic and residual employee travel demand from the AL development has been extensively tested independently and in conjunction with the TSL development using the traffic models developed by the LHA and NH. The future demand forecasts are fully aligned with planned growth in the area.
- 7.9 The OGB had previously allocated £18M to upgrade the Baynards Green roundabout to a traffic signal-controlled arrangement. This funding, however, was reallocated and the OGB scheme has not progressed.
- 7.10 A scheme for the signalisation of the Baynards Green junction has been developed and supported by detailed modelling, scrutiny on compliance with design standards and independent road safety auditing. The scheme, to be delivered by AL and/or TSL will accommodate both the development demand and wider demands from planned growth



within Cherwell District. This is a significant improvement to a long-identified need and removes the need for very significant public investment at this location.

- 7.11 The Baynards Green Scheme represents a significant upgrade, accommodating both development and wider growth, both in isolation and in the context of the wider M40 Junction 10 network. No additional works to the SRN network are required.
- 7.12 No improvements to the Bicester Road network are required. Testing of the planned signalisation of the A4095/B4100 junction demonstrates no material change in future year performance of this junction.
- 7.13 Overall, the development includes a balanced package of transport improvements including the upgrade of a key junction on the SRN, in support of the development and wider growth in the District, and improvements to the local transport network including support for bus services and the active travel network. This package brings the development proposals fully in line with the requirements of prevailing transport related planning policy.



#### **APPENDIX A**

Albion Land Masterplan



# NOTES

Reproduced from the Ordnance Survey map with the permission of the Controller of Her Majesty's Stationery Office, © Crown Copyright.

C A Cornish & Associates Ltd Licence no LIG0908.

Subject to Statutory Approvals.

 

 A
 Entry to the Eastern Parcel updated
 SM
 05/12/2023

 Rev
 Description
 Chk
 Date

 27 Greville Street London EC1N 8SU

 tel +44(0)20 7400 2120

 enquiries@cornisharchitects.com www.cornisharchitects.com

RIBA 🗰 O

# JUNCTION 10 M40

# Drawing Title. ILLUSTRATIVE MASTERPLAN

Drawing Status. TOWN PLANNING Scale. 0 20 metres 200 Drawn By. Scale. S K 1:2500 @ A1 Date. 20/09/2021 C S ALBION LAND Drawing No. 20005 - TP - 020 A

Copyright of Cornish Architects C



#### **APPENDIX B**

National Highways Responses



# National Highways Planning Response (NHPR 21-09) Formal Recommendation to an Application for Planning Permission

From: Andrew Jinks (Regional Director), Operations Directorate Midlands Region Highways England <u>PlanningM@highwaysengland.co.uk</u>

To: Cherwell District Council – FAO: David Lowin

CC: <u>transportplanning@dft.gov.uk</u> <u>spatialplanning@highwaysengland.co.uk</u>

#### Council's Reference: 21/03267/OUT

**Location:** OS Parcel 0006, South East of Baynards House Adjoining A43, Baynards Green

**Proposal:** Outline planning permission (all matters reserved except for access) for the erection of buildings comprising logistics (Use Class B8) and ancillary Office (Use Class E(g)(i)) floorspace and associated infrastructure; construction of new site access from the B4100; creation of internal roads and access routes; and hard and soft landscaping

### National Highways Ref: 92857

Referring to the consultation on a planning application dated 5 Oct 2021 referenced above, in the vicinity of the A43 and M40 that form part of the Strategic Road Network, notice is hereby given that National Highways' formal recommendation is that we:

a) offer no objection (see reasons at Annex A);

- b) recommend that conditions should be attached to any planning permission that may be granted (see Annex A National Highways recommended Planning Conditions & reasons);
- c) recommend that planning permission not be granted for a specified period (see reasons at Annex A);
- d) recommend that the application be refused (see reasons at Annex A)

Highways Act 1980 Section 175B is not relevant to this application.<sup>1</sup>

This represents National Highways' formal recommendation and is copied to the Department for Transport as per the terms of our Licence.

Should the Local Planning Authority not propose to determine the application in accordance with this recommendation they are required to consult the Secretary of State for Transport, as set out in the <u>Town and Country Planning (Development Affecting Trunk Roads) Direction 2018</u>, via <u>transportplanning@dft.gov.uk</u> and may not determine the application until the consultation process is complete.

	Date: 25 January 2022
Signature:	
Name: Martin Seldon	Position: Assistant Spatial Planner
National Highways	
National Highways, The Cube, 1	199 Wharfside Street, Birmingham, B1 1RN

<sup>&</sup>lt;sup>1</sup> Where relevant, further information will be provided within Annex A.
# Annex A National Highway's assessment of the proposed development

National Highways has been appointed by the Secretary of State for Transport as a strategic highway company under the provisions of the Infrastructure Act 2015 and is the highway authority, traffic authority and street authority for the Strategic Road Network (SRN). The SRN is a critical national asset and as such we work to ensure that it operates and is managed in the public interest, both in respect of current activities and needs as well as in providing effective stewardship of its long-term operation and integrity.

# **Recommended Non-Approval**

It is recommended that the application should not be approved for a further period of three months from the date of this response to allow the applicant to provide the additional information required.

#### Reasons

National Highways has engaged with the applicant/ their consultants on this development proposal since the pre-application stage in July 2021.

Having reviewed the information submitted in support of the planning application, we are content with the anticipated trip generation and growth rates proposed. However, several concerns were noted regarding traffic related matters and geotechnical matters. As such, National Highways issued a holding recommendation response on 26 October 2021 detailing the concerns identified.

Following this a meeting was arranged by the applicant's consultant with National Highways, the Local Highway Authority (LHA) and the Local Planning Authority (LPA) on 5 November 2021. Since then the consultant has been in continuous engagement with National Highways to resolve the outstanding matters relating to trip distribution, capacity assessments, committed development, etc. The following sections provide an overview of the outstanding concerns from a National Highways perspective.

#### Traffic related matters

# Quantum of development

We noted some inconsistencies between the total floorspace proposed for the Eastern Parcel in the Application Form and that stated within the Transport Assessment (TA). While the floorspace for the Eastern Parcel is stated as 100,000 sq.m within the TA submitted, it is entered as 107,000 sq.m in the Application Form. Therefore, we require the applicant to use the floorspace stated within the Application Form for all the assessments to ensure that the worst-case scenario is considered.

# Trip distribution

The applicant previously undertook the trip distribution for light vehicles based on 2011 Census data and heavy vehicles using the 2006 freight matrices published by DfT. While we acknowledged that the freight data on DfT's website is the latest available information, we noted in our response that this data is quite old and as such, may not capture the development growth that has happened in the area over the last 15 years. Further to this, as the vehicular accesses serving the Western Parcel and Eastern Parcel of the development are different, we required additional insight on how the distributions have been undertaken for the development at each.

In line with the above, National Highways welcomed an alternative methodology to be adopted for determining trip distribution to ensure a robust assessment.

Following further discussions, it was agreed that the trip distribution and assignment would be undertaken using the Bicester Transport Model (BTM) available for the area. A modelling brief was provided in December 2021 which detailed the scope of work to be undertaken. Overall, the scope of model runs to be performed and the outputs to be extracted were agreed with the applicant.

The traffic survey data available with National Highways for the area was supplied to the consultant to help determine the proposed HGV distribution for the development, which will be fed into the BTM model for undertaking the runs. The consultant has now undertaken further assessments and has provided the outputs for our review. We are currently reviewing this information and will respond to the consultant shortly.

# Committed development

In our previous response, we welcomed clarification on whether the committed developments considered for the assessments have been finalised following the confirmation from the relevant LPAs.

Discussions are currently being held between the applicant and National Highways and Oxfordshire County Council on the need for sensitivity tests regarding development proposals in the area.

# Capacity assessments

Capacity assessments have currently been undertaken for the western and eastern site accesses and A43 Baynards Green roundabout only. We noted that the applicant has referred to the Oxfordshire Housing and Growth Deal scheme which proposes improvements at the A43 Baynards Green roundabout and the Padbury roundabout of M40 J10, amongst other improvements. However, National Highways required that the applicant undertakes junction capacity assessments at M40 J10 and A43 Baynards Green roundabout using the latest available information regarding the proposed improvement schemes.

Following the discussion in November 2021, it was agreed with the applicant that the A43 Growth Deal scheme will be incorporated into the model for assessing the development impacts with the scheme in place.

**Baseline traffic** – We note from section 8.3.6 of the Environmental Statement (ES) that the baseline data has been collated from a number of sources, including the commissioning of traffic surveys, WebTRIS data, the historic Transport Assessment for North West Bicester Masterplan (2014), freight matrices published by DfT, etc. However, it is not clear how the data has been processed and used for the assessments. As such, it was stated in our previous response that we require the applicant to include a section on this in the TA to understand the suitability of the data used.

We also recommended that the traffic flow diagrams be provided (preferably in the form of spreadsheets) for all the scenarios under consideration.

**Modelling software** – The applicant has previously undertaken the capacity assessments at the site accesses and A43 Baynards Green roundabout using ARCADY. However, no information was provided regarding the source or validation of the models.

Notwithstanding the above, we required that the applicant model the junctions in the area (including Baynards Green roundabout and M40 J10) using a linked model to capture the likely interactions between these closely placed junctions. Further to the discussion in November 2021, it was agreed that National Highways' VISSIM model developed for M40 J10 in the area will be used for undertaking the capacity assessments. Following the completion of BTM runs, National Highways' VISSIM model can be shared.

# Merge/ Diverge Assessments

While the applicant has carried out merge and diverge assessments on the slip roads at M40 J10, we are unable to undertake the checks as the flow data is unavailable. We would therefore welcome a review of this data.

# Interim mitigation scheme

The applicant has proposed an interim mitigation scheme at the A43 Baynards Green roundabout which includes widening of the B4100 entries and a standalone signal-controlled toucan (pedestrian and cycle) crossing.

As there remain outstanding concerns, and the proposed improvement scheme as part of the Growth Deal scheme at the A43 Baynards Green roundabout and M40 J10 has not been modelled into the assessments, it was stated in our previous response that National Highways is not in a position to comment on the suitability of the interim mitigation scheme.

In line with the above, a detailed review of the assessments as presented within the TA was not undertaken by National Highways.

The outstanding concerns are likely to be resolved in due course and National Highways will provide comments accordingly.

#### **Geotechnical matters**

In addition, the submitted preliminary Ground Investigation report is a geoenvironmental Phase 2 investigation for the main developments themselves. It does not include any details of the boundaries with National Highways operations, aside from a comment about excavations in (Part 1(2) (1).pdf):

## 7.5 Excavations

Excavations up to 3-4m deep are locally envisaged as part of the reprofiling works to create the required development platforms. At these depths excavations are expected to be in a combination of weathered rock strata comprising gravelly clay and clayey gravel and competent rock strength strata (limestone).

The applicant will need to advise / confirm if there will be any earthworks associated with the development(s) in relatively close proximity to National Highways boundaries (e.g. the stability of the balancing ponds, etc). In the first instance, some cross sections (to scale) through the boundaries showing the proposed extent of the development, its features and any proposed changes in elevation (excavations, landscaping) etc should be submitted for further assessment. Once received, we will review to determine the possible extent of any geotechnical reporting under the Design Manual for Roads and Bridges (DMRB) standard CD 622, which may be required to confirm the extent of any geotechnical risk to the SRN.

Once this information has been provided, we can fully assess the potential impact on the drainage of the site and whether this will be effectively mitigated.



# National Highways Planning Response (NHPR 21-09) Formal Recommendation to an Application for Planning Permission

From: Andrew Jinks (Regional Director), Operations Directorate Midlands Region Highways England <u>PlanningM@highwaysengland.co.uk</u>

To: Cherwell District Council – FAO: David Lowin

CC: <u>transportplanning@dft.gov.uk</u> <u>spatialplanning@highwaysengland.co.uk</u>

#### Council's Reference: 21/03266/F

Location: OS Parcel 2636, NW of Baynards House, Ardley

**Proposal:** Site clearance, construction of new site access from the B4100, permanent and temporary internal roads, an internal roundabout and a foul drainage station, diversion of an existing overhead power cable and public right of way, and soft landscaping

#### National Highways Ref: 92860

Referring to the consultation on a planning application dated 5 Oct 2021 referenced above, in the vicinity of the A43 and M40 that form part of the Strategic Road Network, notice is hereby given that National Highways' formal recommendation is that we:

- a) offer no objection (see reasons at Annex A);
- b) recommend that conditions should be attached to any planning permission that may be granted (see Annex A – National Highways recommended Planning Conditions & reasons);
- c) recommend that planning permission not be granted for a specified period (see reasons at Annex A);
- d) recommend that the application be refused (see reasons at Annex A)

Highways Act 1980 Section 175B is not relevant to this application.<sup>1</sup>

This represents National Highways' formal recommendation and is copied to the Department for Transport as per the terms of our Licence.

Should the Local Planning Authority not propose to determine the application in accordance with this recommendation they are required to consult the Secretary of State for Transport, as set out in the <u>Town and Country Planning (Development Affecting Trunk Roads) Direction 2018</u>, via <u>transportplanning@dft.gov.uk</u> and may not determine the application until the consultation process is complete.

Signature:	Date: 25 January 2022
Name: Martin Seldon	Position: Assistant Spatial Planner
National Highways	100 Wharfeida Street Birmingham B1 1PN
National Highways, The Cube,	199 Whanside Street, Dirmingham, DT TRN
Martin.Seldon@highwaysengla	and.co.uk

<sup>&</sup>lt;sup>1</sup> Where relevant, further information will be provided within Annex A.

# Annex A National Highway's assessment of the proposed development

National Highways has been appointed by the Secretary of State for Transport as a strategic highway company under the provisions of the Infrastructure Act 2015 and is the highway authority, traffic authority and street authority for the Strategic Road Network (SRN). The SRN is a critical national asset and as such we work to ensure that it operates and is managed in the public interest, both in respect of current activities and needs as well as in providing effective stewardship of its long-term operation and integrity.

#### **Recommended Non-Approval**

It is recommended that the application should not be approved for a further period of three months from the date of this response to allow the applicant to provide the additional information required.

#### Reasons

National Highways has engaged with the applicant/ their consultants on this development proposal since the pre-application stage in July 2021.

National Highways previously issued a holding recommendation response for this application on 26 October 2021. In our response we noted that more detailed information was required regarding the extent of proposed geotechnical activity, as well as the associated potential impact on the operation of the adjacent SRN. It was also noted that the outcome of this would, in turn, affect our review of the proposed drainage arrangements for the site.

Following the submission of this additional information, National Highways will be in a position to provide our comments regarding application 21/03266/F.



# National Highways Planning Response (NHPR 21-09) Formal Recommendation to an Application for Planning Permission

From: Andrew Jinks (Regional Director), Operations Directorate Midlands Region Highways England <u>PlanningM@highwaysengland.co.uk</u>

To: Cherwell District Council – FAO: David Lowin

CC: <u>transportplanning@dft.gov.uk</u> <u>spatialplanning@highwaysengland.co.uk</u>

## Council's Reference: 21/03268/OUT

Location: OS Parcel 2636, NW of Baynards House, Ardley

**Proposal:** Outline planning permission (all matters reserved except for access) for the erection of buildings comprising logistics (Use Class B8) and ancillary Office (Use Class E(g)(i)) floorspace; construction of new site access from the B4100; creation of internal roads and access routes; hard and soft landscaping including noise attenuation measures; and other associated infrastructure

#### National Highways Ref: 92859

Referring to the consultation on a planning application dated 5 Oct 2021 referenced above, in the vicinity of the A43 and M40 that form part of the Strategic Road Network, notice is hereby given that National Highways' formal recommendation is that we:

#### a) offer no objection (see reasons at Annex A);

- b) recommend that conditions should be attached to any planning permission that may be granted (see Annex A National Highways recommended Planning Conditions & reasons);
- c) recommend that planning permission not be granted for a specified period (see reasons at Annex A);
- d) recommend that the application be refused (see reasons at Annex A)

Highways Act 1980 Section 175B is not relevant to this application.<sup>1</sup>

This represents National Highways' formal recommendation and is copied to the Department for Transport as per the terms of our Licence.

Should the Local Planning Authority not propose to determine the application in accordance with this recommendation they are required to consult the Secretary of State for Transport, as set out in the <u>Town and Country Planning (Development Affecting Trunk Roads) Direction 2018</u>, via <u>transportplanning@dft.gov.uk</u> and may not determine the application until the consultation process is complete.

Signature:	Date: 25 January 2022
Name: Martin Seldon	Position: Assistant Spatial Planner
National Highways	
National Highways, The Cube,	199 Wharfside Street, Birmingham, B1 1RN
Martin.Seldon@highwaysengla	and.co.uk

<sup>&</sup>lt;sup>1</sup> Where relevant, further information will be provided within Annex A.

# Annex A National Highway's assessment of the proposed development

National Highways has been appointed by the Secretary of State for Transport as a strategic highway company under the provisions of the Infrastructure Act 2015 and is the highway authority, traffic authority and street authority for the Strategic Road Network (SRN). The SRN is a critical national asset and as such we work to ensure that it operates and is managed in the public interest, both in respect of current activities and needs as well as in providing effective stewardship of its long-term operation and integrity.

# **Recommended Non-Approval**

It is recommended that the application should not be approved for a further period of three months from the date of this response to allow the applicant to provide the additional information required.

#### Reasons

National Highways was has engaged with the applicant/ their consultants on this development proposal since the pre-application stage in July 2021.

Having reviewed the information submitted in support of the planning application, we are content with the anticipated trip generation and growth rates proposed. However, several concerns were noted regarding traffic related matters and geotechnical matters. As such, National Highways issued a holding recommendation response on 26 October 2021 detailing the concerns identified.

Following this, a meeting was arranged by the applicant's consultant with National Highways, the Local Highway Authority (LHA) and the Local Planning Authority (LPA) on 5 November 2021. Since then the consultant has been in continuous engagement with National Highways to resolve the outstanding matters relating to trip distribution, capacity assessments, committed development, etc. The following sections provide an overview of the outstanding concerns from a National Highways perspective.

#### Traffic related matters

# Quantum of development

We noted some inconsistencies between the total floorspace proposed for the Eastern Parcel in the Application Form and that stated within the Transport Assessment (TA). While the floorspace for the Eastern Parcel is stated as 100,000 sq.m within the TA submitted, it is entered as 107,000 sq.m in the application form. Therefore, we require that applicant to use the floorspace stated within the Application Form for all the assessments to ensure that the worst-case scenario is considered.

# Trip distribution

The applicant previously undertook the trip distribution for light vehicles based on 2011 Census data and heavy vehicles using the 2006 freight matrices published by DfT. While we acknowledged that the freight data on the DfT website is the latest available information, we noted in our response that this data is quite old and as such, may not capture the development growth that has happened in the area over the last 15 years. Further to this, as the vehicular accesses serving the Western Parcel and Eastern Parcel of the development are different, we required additional insight on how the distributions have been undertaken for the development at each.

In line with the above, National Highways welcomed an alternative methodology to be adopted for determining trip distribution to ensure a robust assessment.

Following further discussions, it was agreed that the trip distribution and assignment would be undertaken using the Bicester Transport Model (BTM) available for the area. A modelling brief was provided in December 2021 which detailed the scope of work to be undertaken. Overall, the scope of model runs to be performed and the outputs to be extracted were agreed with the applicant.

The traffic survey data available with National Highways for the area was supplied to the consultant to help determine the proposed HGV distribution for the development, which will be fed into the BTM model for undertaking the runs. The consultant has now undertaken further assessments and has provided the outputs for our review. We are currently reviewing this information and will respond to the consultant shortly.

# Committed development

In our previous response, we welcomed clarification on whether the committed developments considered for the assessments have been finalised following the confirmation from the relevant LPAs.

Discussions are currently being held between the applicant and National Highways and Oxfordshire County Council on the need for sensitivity tests regarding development proposals in the area.

# Capacity assessments

Capacity assessments have currently been undertaken for the western and eastern site accesses and A43 Baynards Green roundabout only. We noted that the applicant has referred to the Oxfordshire Housing and Growth Deal scheme which proposes improvements at the A43 Baynards Green roundabout and the Padbury roundabout of M40 J10, amongst other improvements. However, National Highways required that the applicant undertakes junction capacity assessments at M40 J10 and A43 Baynards Green roundabout using the latest available information regarding the proposed improvement schemes.

Following the discussion in November 2021, it was agreed with the applicant that the A43 Growth Deal scheme will be incorporated into the model for assessing the development impacts with the scheme in place.

**Baseline traffic** – We note from section 8.3.6 of the Environmental Statement (ES) that the baseline data has been collated from a number of sources, including the commissioning of traffic surveys, WebTRIS data, the historic Transport Assessment for North West Bicester Masterplan (2014), freight matrices published by DfT, etc. However, it is not clear how the data has been processed and used for the assessments. As such, it was stated in our previous response that we require the applicant to include a section on this in the TA to understand the suitability of the data used.

We also recommended that the traffic flow diagrams be provided (preferably in the form of spreadsheets) for all the scenarios under consideration.

**Modelling software** – The applicant has previously undertaken the capacity assessments at the site accesses and A43 Baynards Green roundabout using ARCADY. However, no information was provided regarding the source or validation of the models.

Notwithstanding the above, we required that the applicant model the junctions in the area (including Baynards Green roundabout and M40 J10) using a linked model to capture the likely interactions between these closely placed junctions. Further to the discussion in November 2021, it was agreed that National Highways' VISSIM model developed for M40 J10 in the area will be used for undertaking the capacity assessments. Following the completion of BTM runs, National Highways' VISSIM model can be shared.

# Merge/ Diverge Assessments

While the applicant has carried out merge and diverge assessments on the slip roads at M40 J10, we are unable to undertake the checks as the flow data is unavailable. We would therefore welcome a review of this data.

# Interim mitigation scheme

The applicant has proposed an interim mitigation scheme at the A43 Baynards Green roundabout which includes widening of the B4100 entries and a standalone signal-controlled toucan (pedestrian and cycle) crossing.

As there remain outstanding concerns, and the proposed improvement scheme as part of the Growth Deal scheme at the A43 Baynards Green roundabout and M40 J10 has not been modelled into the assessments, it was stated in our previous response that National Highways is not in a position to comment on the suitability of the interim mitigation scheme.

In line with the above, a detailed review of the assessments as presented within the TA was not undertaken by National Highways.

The outstanding concerns are likely to be resolved in due course and National Highways will provide comments accordingly.

#### **Geotechnical matters**

In addition, the submitted preliminary Ground Investigation report is a geoenvironmental Phase 2 investigation for the main developments themselves. It does not include any details of the boundaries with National Highways operations, aside from a comment about excavations in (Part 1(2) (1).pdf):

## 7.5 Excavations

Excavations up to 3-4m deep are locally envisaged as part of the reprofiling works to create the required development platforms. At these depths excavations are expected to be in a combination of weathered rock strata comprising gravelly clay and clayey gravel and competent rock strength strata (limestone).

The applicant will need to advise / confirm if there will be any earthworks associated with the development(s) in relatively close proximity to National Highways boundaries (e.g. the stability of the balancing ponds, etc). In the first instance, some cross sections (to scale) through the boundaries showing the proposed extent of the development, its features and any proposed changes in elevation (excavations, landscaping) etc should be submitted for further assessment. Once received, we will review to determine the possible extent of any geotechnical reporting under the Design Manual for Roads and Bridges (DMRB) standard CD 622, which may be required to confirm the extent of any geotechnical risk to the SRN.

Once this information has been provided, we can fully assess the potential impact on the drainage of the site and whether this will effectively mitigated.



# National Highways Planning Response (NHPR 21-09) Formal Recommendation to an Application for Planning Permission

From: Andrew Jinks (Regional Director) Operations Directorate Midlands Region National Highways <u>PlanningM@highwaysengland.co.uk</u>

To: Cherwell District Council – FAO: David Lowin

CC: <u>transportplanning@dft.gov.uk</u> <u>spatialplanning@highwaysengland.co.uk</u>

#### Council's Reference: 21/03266/F

Location: OS Parcel 2636, NW of Baynards House, Ardley

**Proposal:** Site clearance, construction of new site access from the B4100, permanent and temporary internal roads, an internal roundabout and a foul drainage station, diversion of an existing overhead power cable and public right of way, and soft landscaping

#### National Highways Ref: 92860

Referring to the consultation on a planning application dated 5 Oct 2021 referenced above, in the vicinity of the A43 and M40 that form part of the Strategic Road Network, notice is hereby given that National Highways' formal recommendation is that we:

a) offer no objection (see reasons at Annex A);

- b) recommend that conditions should be attached to any planning permission that may be granted (see Annex A National Highways recommended Planning Conditions & reasons);
- c) recommend that planning permission not be granted for a specified period (see reasons at Annex A);
- d) recommend that the application be refused (see reasons at Annex A)

Highways Act 1980 Section 175B is not relevant to this application.<sup>1</sup>

This represents National Highways' formal recommendation and is copied to the Department for Transport as per the terms of our Licence.

Should the Local Planning Authority not propose to determine the application in accordance with this recommendation they are required to consult the Secretary of State for Transport, as set out in the <u>Town and Country Planning (Development Affecting Trunk Roads) Direction 2018</u>, via <u>transportplanning@dft.gov.uk</u> and may not determine the application until the consultation process is complete.

	Date: 25 April 2022
Signature:	
Name: Martin Seldon	Position: Assistant Spatial Planner
National Highways	
National Highways, The Cube,	199 Wharfside Street, Birmingham, B1 1RN
Martin.Seldon@highwaysengla	and.co.uk

<sup>&</sup>lt;sup>1</sup> Where relevant, further information will be provided within Annex A.

# Annex A National Highways' assessment of the proposed development

National Highways has been appointed by the Secretary of State for Transport as a strategic highway company under the provisions of the Infrastructure Act 2015 and is the highway authority, traffic authority and street authority for the Strategic Road Network (SRN). The SRN is a critical national asset and as such we work to ensure that it operates and is managed in the public interest, both in respect of current activities and needs as well as in providing effective stewardship of its long-term operation and integrity.

#### **Recommended Non-Approval**

It is recommended that the application should not be approved for a further period of three months from the date of this response to allow the applicant to provide the additional information required.

#### Reasons

National Highways has engaged with the applicant/ their consultants on this development proposal since the pre-application stage in July 2021.

National Highways previously issued a holding recommendation response for this application on 25 January 2022. In our response we noted that more detailed information was required regarding the extent of proposed geotechnical activity, as well as the associated potential impact on the operation of the adjacent SRN. It was also noted that the outcome of this would, in turn, affect our review of the proposed drainage arrangements for the site.

Following the submission of this additional information, National Highways will be in a position to provide our comments regarding application 21/03266/F.



# National Highways Planning Response (NHPR 21-09) Formal Recommendation to an Application for Planning Permission

From: Andrew Jinks (Regional Director) Operations Directorate Midlands Region National Highways <u>PlanningM@highwaysengland.co.uk</u>

To: Cherwell District Council – FAO: David Lowin

CC: <u>transportplanning@dft.gov.uk</u> <u>spatialplanning@highwaysengland.co.uk</u>

#### Council's Reference: 21/03268/OUT

Location: OS Parcel 2636, NW of Baynards House, Ardley

**Proposal:** Outline planning permission (all matters reserved except for access) for the erection of buildings comprising logistics (Use Class B8) and ancillary Office (Use Class E(g)(i)) floorspace; construction of new site access from the B4100; creation of internal roads and access routes; hard and soft landscaping including noise attenuation measures; and other associated infrastructure

#### National Highways Ref: 92859

Referring to the consultation on a planning application dated 5 Oct 2021 referenced above, in the vicinity of the A43 and M40 that form part of the Strategic Road Network, notice is hereby given that National Highways' formal recommendation is that we:

#### a) offer no objection (see reasons at Annex A);

- b) recommend that conditions should be attached to any planning permission that may be granted (see Annex A National Highways recommended Planning Conditions & reasons);
- c) recommend that planning permission not be granted for a specified period (see reasons at Annex A);
- d) recommend that the application be refused (see reasons at Annex A)

Highways Act 1980 Section 175B is not relevant to this application.<sup>1</sup>

This represents National Highways' formal recommendation and is copied to the Department for Transport as per the terms of our Licence.

Should the Local Planning Authority not propose to determine the application in accordance with this recommendation they are required to consult the Secretary of State for Transport, as set out in the <u>Town and Country Planning (Development Affecting Trunk Roads) Direction 2018</u>, via <u>transportplanning@dft.gov.uk</u> and may not determine the application until the consultation process is complete.

Representation of the state of the second
Position: Assistant Spatial Planner
99 Wharfside Street, Birmingham, B1 1RN
d co uk

<sup>&</sup>lt;sup>1</sup> Where relevant, further information will be provided within Annex A.

# Annex A National Highways' assessment of the proposed development

National Highways has been appointed by the Secretary of State for Transport as a strategic highway company under the provisions of the Infrastructure Act 2015 and is the highway authority, traffic authority and street authority for the Strategic Road Network (SRN). The SRN is a critical national asset and as such we work to ensure that it operates and is managed in the public interest, both in respect of current activities and needs as well as in providing effective stewardship of its long-term operation and integrity.

## **Recommended Non-Approval**

It is recommended that the application should not be approved for a further period of three months from the date of this response to allow the applicant to provide the additional information required.

## Reasons

National Highways has engaged with the applicant/ their consultants on this development proposal since the pre-application stage in July 2021.

Having reviewed the information submitted in support of the planning application, we have agreed with the anticipated trip generation and growth rates proposed. However, several concerns were outstanding relating to traffic related matters and geotechnical matters. As such, National Highways issued a holding recommendation response on 25 January 2022 detailing the concerns identified.

Discussions have taken place with the applicant's consultant to resolve the outstanding issues on the trip distribution element. The following sections detail the up-to-date position of this planning application from a National Highways' perspective.

#### **Traffic related matters**

#### Quantum of development

We noted some inconsistencies between the total floorspace proposed for the Eastern Parcel in the Application Form and that stated within the Transport Assessment (TA). While the floorspace for the Eastern Parcel is stated as 100,000 sq.m within the TA submitted, it is entered as 107,000 sq.m in the Application Form. Therefore, we require the applicant to use the floorspace stated within the Application Form for all the assessments to ensure that the worst-case scenario is considered.

# Trip distribution

The applicant previously undertook the trip distribution for light vehicles based on 2011 Census data and heavy vehicles using the 2006 freight matrices published by DfT. While we acknowledged that the freight data on DfT's website is the latest available information, we noted in our response that this data is quite old and as such, may not capture the development growth that has happened in the area over the last 15 years. Further to this, as the vehicular accesses serving the Western Parcel and Eastern Parcel of the development are different, we required additional insight on how the distributions have been undertaken for the development at each.

In line with the above, National Highways welcomed an alternative methodology to be adopted for determining trip distribution to ensure a robust assessment.

Following further discussions, it was agreed that the light vehicle trip distribution and assignment would be undertaken using the Bicester Transport Model (BTM) available for the area. Based on our review of the modelling brief provided in December 2021, the scope of model runs to be performed and the outputs to be extracted were agreed with the applicant. Following the completion of the BTM runs, we request that the applicant submits the model outputs for our review and agrees with us the wider SRN junctions that are to be assessed in detail.

The traffic survey data available with National Highways for the area was supplied to the consultant to help determine the proposed HGV distribution for the development, which will be fed into the BTM model for undertaking the runs. Having reviewed the HGV trip distributions undertaken by the consultant, we are content with the proposed HGV trip distribution and have no further comment to provide on this.

# Committed development

We welcomed clarification on whether the committed developments considered for the assessments have been finalised following confirmation from the relevant Local Planning Authorities (LPA).

Discussions are ongoing between the applicant, National Highways and Oxfordshire County Council on the need for sensitivity tests regarding development proposals in the area.

# Capacity assessments

Capacity assessments have been undertaken for the western and eastern site accesses and the A43 Baynards Green roundabout only. We noted that the applicant has referred to the Oxfordshire Housing and Growth Deal scheme which proposes improvements at the A43 Baynards Green roundabout and the Padbury roundabout of M40 J10, amongst other improvements. However, National Highways requires the applicant to undertake junction capacity assessments at M40 J10 and A43 Baynards Green roundabout using the latest available information regarding the proposed improvement schemes.

Based on discussions with the applicant, it was agreed that the A43 Growth Deal scheme will be incorporated into the model for assessing the development impacts with the scheme in place.

Following the review of the outputs from BTM runs, we may also require the applicant to undertake capacity assessments at wider SRN junctions in the area.

**Baseline traffic** – We noted from section 8.3.6 of the Environmental Statement (ES) that the baseline data has been collated from a number of sources, including commissioned traffic surveys, WebTRIS data, the historic Transport Assessment for North West Bicester Masterplan (2014), freight matrices published by DfT, etc. However, it was not clear how the data has been processed and used for the assessments. As such, we require the applicant to include a section on this in the TA to understand the suitability of the data used.

It was also recommended in our previous response that the applicant provides traffic flow diagrams (preferably in the form of spreadsheets) for all the scenarios under consideration. We are still waiting for these to be provided.

**Modelling software** – The applicant has previously undertaken the capacity assessments at the site accesses and A43 Baynards Green roundabout using ARCADY. However, no information was provided regarding the source or validation of the models.

Notwithstanding the above, we required that the applicant model the junctions in the area (including Baynards Green roundabout and M40 J10) using a linked model to capture the likely interactions between these closely placed junctions. Further to the this, it was agreed that National Highways' VISSIM model developed for M40 J10 in the area will be used for undertaking the capacity assessments.

# Merge/ Diverge Assessments

While the applicant has carried out merge and diverge assessments on the slip roads at M40 J10, we are unable to undertake the checks as the flow data is unavailable. We would therefore welcome a review of this data.

# Interim mitigation scheme

The applicant has proposed an interim mitigation scheme at the A43 Baynards Green roundabout which includes widening of the B4100 entries and a standalone signal-controlled toucan (pedestrian and cycle) crossing.

As there remain outstanding concerns, and the proposed improvement scheme as part of the Growth Deal scheme at the A43 Baynards Green roundabout and M40 J10 has not been modelled into the assessments, National Highways is not in a position to comment on the suitability of the interim mitigation scheme.

In line with the above, a detailed review of the assessments as presented within the TA was not undertaken by National Highways.

The outstanding concerns are likely to be resolved in due course and National Highways will provide comments accordingly.

#### **Geotechnical matters**

In addition, the submitted preliminary Ground Investigation report is a geoenvironmental Phase 2 investigation for the main developments themselves. It does not include any details of the boundaries with National Highways operations, aside from a comment about excavations in (Part 1(2) (1).pdf):

#### 7.5 Excavations

Excavations up to 3-4m deep are locally envisaged as part of the reprofiling works to create the required development platforms. At these depths excavations are expected to be in a combination of weathered rock strata comprising gravelly clay and clayey gravel and competent rock strength strata (limestone).

The applicant will need to advise / confirm if there will be any earthworks associated with the development(s) in relatively close proximity to National Highways boundaries (e.g. the stability of the balancing ponds, etc). In the first instance, some cross sections (to scale) through the boundaries showing the proposed extent of the development, its features and any proposed changes in elevation (excavations, landscaping) etc should be submitted for further assessment. Once received, we will review to determine the possible extent of any geotechnical reporting under the Design Manual for Roads and Bridges (DMRB) standard CD 622, which may be required to confirm the extent of any geotechnical risk to the SRN.

Once this information has been provided, we can fully assess the potential impact on the drainage of the site and whether this can effectively be mitigated.



# National Highways Planning Response (NHPR 21-09) Formal Recommendation to an Application for Planning Permission

From: Andrew Jinks (Regional Director) Operations Directorate Midlands Region National Highways <u>PlanningM@highwaysengland.co.uk</u>

To: Cherwell District Council – FAO: David Lowin

CC: <u>transportplanning@dft.gov.uk</u> <u>spatialplanning@highwaysengland.co.uk</u>

# Council's Reference: 21/03267/OUT

**Location:** OS Parcel 0006, southeast of Baynards House Adjoining A43, Baynards Green

**Proposal:** Outline planning permission (all matters reserved except for access) for the erection of buildings comprising logistics (Use Class B8) and ancillary Office (Use Class E(g)(i)) floorspace and associated infrastructure; construction of new site access from the B4100; creation of internal roads and access routes; and hard and soft landscaping

# National Highways Ref: 92857

Referring to the consultation on a planning application dated 5 Oct 2021 referenced above, in the vicinity of the A43 and M40 that form part of the Strategic Road Network, notice is hereby given that National Highways' formal recommendation is that we:

#### a) offer no objection (see reasons at Annex A);

- b) recommend that conditions should be attached to any planning permission that may be granted (see Annex A National Highways recommended Planning Conditions & reasons);
- c) recommend that planning permission not be granted for a specified period (see reasons at Annex A);
- d) recommend that the application be refused (see reasons at Annex A)

Highways Act 1980 Section 175B is not relevant to this application.<sup>1</sup>

This represents National Highways' formal recommendation and is copied to the Department for Transport as per the terms of our Licence.

Should the Local Planning Authority not propose to determine the application in accordance with this recommendation they are required to consult the Secretary of State for Transport, as set out in the <u>Town and Country Planning (Development Affecting Trunk Roads) Direction 2018</u>, via <u>transportplanning@dft.gov.uk</u> and may not determine the application until the consultation process is complete.

Signature:	Date: 25 April 2022
Name: Martin Seldon	Position: Assistant Spatial Planner
National Highways	
National Highways, The Cube,	199 Wharfside Street, Birmingham, B1 1RN
Martin.Seldon@highwaysengla	and.co.uk

<sup>&</sup>lt;sup>1</sup> Where relevant, further information will be provided within Annex A.

# Annex A National Highways' assessment of the proposed development

National Highways has been appointed by the Secretary of State for Transport as a strategic highway company under the provisions of the Infrastructure Act 2015 and is the highway authority, traffic authority and street authority for the Strategic Road Network (SRN). The SRN is a critical national asset and as such we work to ensure that it operates and is managed in the public interest, both in respect of current activities and needs as well as in providing effective stewardship of its long-term operation and integrity.

## **Recommended Non-Approval**

It is recommended that the application should not be approved for a further period of three months from the date of this response to allow the applicant to provide the additional information required.

## Reasons

National Highways has engaged with the applicant/ their consultants on this development proposal since the pre-application stage in July 2021.

Having reviewed the information submitted in support of the planning application, we have agreed with the anticipated trip generation and growth rates proposed. However, several concerns were outstanding relating to traffic related matters and geotechnical matters. As such, National Highways issued a holding recommendation response on 25 January 2022 detailing the concerns identified.

Discussions have taken place with the applicant's consultant to resolve the outstanding issues on the trip distribution element. The following sections detail the up-to-date position of this planning application from a National Highways' perspective.

#### **Traffic related matters**

#### Quantum of development

We noted some inconsistencies between the total floorspace proposed for the Eastern Parcel in the Application Form and that stated within the Transport Assessment (TA). While the floorspace for the Eastern Parcel is stated as 100,000 sq.m within the TA submitted, it is entered as 107,000 sq.m in the Application Form. Therefore, we require the applicant to use the floorspace stated within the Application Form for all the assessments to ensure that the worst-case scenario is considered.

# Trip distribution

The applicant previously undertook the trip distribution for light vehicles based on 2011 Census data and heavy vehicles using the 2006 freight matrices published by DfT. While we acknowledged that the freight data on DfT's website is the latest available information, we noted in our response that this data is quite old and as such, may not capture the development growth that has happened in the area over the last 15 years. Further to this, as the vehicular accesses serving the Western Parcel and Eastern Parcel of the development are different, we required additional insight on how the distributions have been undertaken for the development at each.

In line with the above, National Highways welcomed an alternative methodology to be adopted for determining trip distribution to ensure a robust assessment.

Following further discussions, it was agreed that the light vehicle trip distribution and assignment would be undertaken using the Bicester Transport Model (BTM) available for the area. Based on our review of the modelling brief provided in December 2021, the scope of model runs to be performed and the outputs to be extracted were agreed with the applicant. Following the completion of the BTM runs, we request that the applicant submits the model outputs for our review and agrees with us the wider SRN junctions that are to be assessed in detail.

The traffic survey data available with National Highways for the area was supplied to the consultant to help determine the proposed HGV distribution for the development, which will be fed into the BTM model for undertaking the runs. Having reviewed the HGV trip distributions undertaken by the consultant, we are content with the proposed HGV trip distribution and have no further comment to provide on this.

# Committed development

We welcomed clarification on whether the committed developments considered for the assessments have been finalised following confirmation from the relevant Local Planning Authorities (LPA).

Discussions are ongoing between the applicant, National Highways and Oxfordshire County Council on the need for sensitivity tests regarding development proposals in the area.

# Capacity assessments

Capacity assessments have been undertaken for the western and eastern site accesses and the A43 Baynards Green roundabout only. We noted that the applicant has referred to the Oxfordshire Housing and Growth Deal scheme which proposes improvements at the A43 Baynards Green roundabout and the Padbury roundabout of M40 J10, amongst other improvements. However, National Highways requires the applicant to undertake junction capacity assessments at M40 J10 and A43 Baynards Green roundabout using the latest available information regarding the proposed improvement schemes.

Based on discussions with the applicant, it was agreed that the A43 Growth Deal scheme will be incorporated into the model for assessing the development impacts with the scheme in place.

Following the review of the outputs from BTM runs, we may also require the applicant to undertake capacity assessments at wider SRN junctions in the area.

**Baseline traffic** – We noted from section 8.3.6 of the Environmental Statement (ES) that the baseline data has been collated from a number of sources, including commissioned traffic surveys, WebTRIS data, the historic Transport Assessment for North West Bicester Masterplan (2014), freight matrices published by DfT, etc. However, it was not clear how the data has been processed and used for the assessments. As such, we require the applicant to include a section on this in the TA to understand the suitability of the data used.

It was also recommended in our previous response that the applicant provides traffic flow diagrams (preferably in the form of spreadsheets) for all the scenarios under consideration. We are still waiting for these to be provided.

**Modelling software** – The applicant has previously undertaken the capacity assessments at the site accesses and A43 Baynards Green roundabout using ARCADY. However, no information was provided regarding the source or validation of the models.

Notwithstanding the above, we required that the applicant model the junctions in the area (including Baynards Green roundabout and M40 J10) using a linked model to capture the likely interactions between these closely placed junctions. Further to the this, it was agreed that National Highways' VISSIM model developed for M40 J10 in the area will be used for undertaking the capacity assessments.

# Merge/ Diverge Assessments

While the applicant has carried out merge and diverge assessments on the slip roads at M40 J10, we are unable to undertake the checks as the flow data is unavailable. We would therefore welcome a review of this data.

# Interim mitigation scheme

The applicant has proposed an interim mitigation scheme at the A43 Baynards Green roundabout which includes widening of the B4100 entries and a standalone signal-controlled toucan (pedestrian and cycle) crossing.

As there remain outstanding concerns, and the proposed improvement scheme as part of the Growth Deal scheme at the A43 Baynards Green roundabout and M40 J10 has not been modelled into the assessments, National Highways is not in a position to comment on the suitability of the interim mitigation scheme.

In line with the above, a detailed review of the assessments as presented within the TA was not undertaken by National Highways.

The outstanding concerns are likely to be resolved in due course and National Highways will provide comments accordingly.

#### **Geotechnical matters**

In addition, the submitted preliminary Ground Investigation report is a geoenvironmental Phase 2 investigation for the main developments themselves. It does not include any details of the boundaries with National Highways operations, aside from a comment about excavations in (Part 1(2) (1).pdf):

#### 7.5 Excavations

Excavations up to 3-4m deep are locally envisaged as part of the reprofiling works to create the required development platforms. At these depths excavations are expected to be in a combination of weathered rock strata comprising gravelly clay and clayey gravel and competent rock strength strata (limestone).

The applicant will need to advise / confirm if there will be any earthworks associated with the development(s) in relatively close proximity to National Highways boundaries (e.g. the stability of the balancing ponds, etc). In the first instance, some cross sections (to scale) through the boundaries showing the proposed extent of the development, its features and any proposed changes in elevation (excavations, landscaping) etc should be submitted for further assessment. Once received, we will review to determine the possible extent of any geotechnical reporting under the Design Manual for Roads and Bridges (DMRB) standard CD 622, which may be required to confirm the extent of any geotechnical risk to the SRN.

Once this information has been provided, we can fully assess the potential impact on the drainage of the site and whether this can effectively be mitigated.



## **APPENDIX C**

Oxfordshire County Council Responses

# OXFORDSHIRE COUNTY COUNCIL'S RESPONSE TO CONSULTATION ON THE FOLLOWING DEVELOPMENT PROPOSAL

#### District: Cherwell Application no: 21/03267/OUT

**Proposal:** Outline planning permission (all matters reserved except for access) for the erection of buildings comprising logistics (Use Class B8) and ancillary Office (Use Class E(g)(i)) floorspace and associated infrastructure; construction of new site access from the B4100; creation of internal roads and access routes; and hard and soft landscaping **Location:** South East Of Baynards House Adjoining A43, Baynards Green

# Date: 18 November 2021

This report sets out the officer views of Oxfordshire County Council (OCC) on the above proposal. These are set out by individual service area/technical discipline and include details of any planning conditions or Informatives that should be attached in the event that permission is granted and any obligations to be secured by way of a S106 agreement. Where considered appropriate, an overarching strategic commentary is also included. If the local County Council member has provided comments on the application these are provided as a separate attachment.

# **General Information and Advice**

#### Recommendations for approval contrary to OCC objection:

If within this response an OCC officer has raised an objection but the Local Planning Authority are still minded to recommend approval, OCC would be grateful for notification (via planningconsultations@oxfordshire.gov.uk) as to why material consideration outweigh OCC's objections, and to be given an opportunity to make further representations.

## **Outline applications and contributions**

The anticipated number and type of dwellings and/or the floor space may be set by the developer at the time of application which is used to assess necessary mitigation. If not stated in the application, a policy compliant mix will be used. The number and type of dwellings used when assessing S106 planning obligations is set out on the first page of this response.

In the case of outline applications, once the unit mix/floor space is confirmed by reserved matters approval/discharge of condition a matrix (if appropriate) will be applied to establish any increase in contributions payable. A further increase in contributions may result if there is a reserved matters approval changing the unit mix/floor space.

# Where a S106/Planning Obligation is required:

- Index Linked in order to maintain the real value of S106 contributions, contributions will be index linked. Base values and the index to be applied are set out in the Schedules to this response.
- Administration and Monitoring Fee TBC
   This is an estimate of the amount required to cover the monitoring and
   administration associated with the S106 agreement. The final amount will be
   based on the OCC's scale of fees and will adjusted to take account of the
   number of obligations and the complexity of the S106 agreement.
- OCC Legal Fees The applicant will be required to pay OCC's legal fees in relation to legal agreements. Please note the fees apply whether a S106 agreement is completed or not.

**Security of payment for deferred contributions -** Applicants should be aware that an approved bond will be required to secure a payment where a S106 contribution is to be paid post implementation and

- the contribution amounts to 25% or more (including anticipated indexation) of the cost of the project it is towards and that project cost £7.5m or more
- the developer is direct delivering an item of infrastructure costing £7.5m or more
- where aggregate contributions towards bus services exceeds £1m (including anticipated indexation).

A bond will also be required where a developer is direct delivering an item of infrastructure.

The County Infrastructure Funding Team can provide the full policy and advice, on request.

# Transport Schedule

# **Recommendation:**

# **Objection for the following reasons:**

- The transport assessment provided with the application is not adequate to demonstrate that the development would not have a severe impact on the operation of the highway network.
- Further information is required to demonstrate that safe and suitable pedestrian and cycle access can be provided to the development, in accordance with NPPF.
- The geometry of the access junction has associated safety risks for all users and could affect its potential for signalisation.

If despite OCC's objection permission is proposed to be granted then OCC requires prior to the issuing of planning permission a S106 agreement including an obligation to enter into a S278 agreement and S38 agreement to mitigate the impact of the development plus planning conditions as detailed below.

Contribution	Amount £	Price base	Index	Towards (details)
Highway works	TBC		Baxter	Proportionate contribution towards imrovements to M40 J10 (which includes Baynards Green rbt)
Public transport services	£714,000	November 2021	RPI-x	Bus services serving the site
Public transport infrastructure ( <i>if</i> <i>not dealt with</i> <i>under S278/S38</i> <i>agreement</i> )	£8,904	September 2020	Baxter	Real time information unit at bus stop
Traffic Reg Order ( <i>if not</i> <i>dealt with under</i> S278/S38	Possible changes to speed limit and parking		RPI-x	

# S106 Contributions

agreement)	controls - will be part of highways agreement			
Travel Plan Monitoring	£2,379 plus additional amount for individual operator travel plans - see below.	December 2020	RPI-x	To cover the OCC cost of monitoring for the life of the travel plan.
Administration fee	TBC depending on total amount of contributio ns			To cover the cost of OCC monitoring the agreement.
Total				

Other obligations:

- Off-site highway works see below
- On site highway works Provision of suitable bus loop, shelter, flagpole plus footway/cycleway within the site
- Other:

# Key points

- The development has not taken into account the committed 'Growth Deal' scheme of capacity improvement at Baynards Green roundabout, which will involve enlarging and signalising the roundabout, both in terms of road safety, and capacity modelling.
- The transport assessment has not adequately tested the impact on the adjacent junctions, using available transport models, including the various elements of M40 J10 which are closely linked.
- The site access junction is proposed as a four arm roundabout with two arms leading into the development. This is considered to have potential safety issues due to the proximity of the arms, and the number of crossing points of the proposed pedestrian and cycle route. A single arm should suffice for this size of development.
- Further information is required to confirm that the pedestrian/cycle link to Bicester is feasible.

# No safe pedestrian access is proposed to nearby restaurant and retail facilities, which employees would want to access at lunch time/breaks. <u>Comments:</u>

This application is for 100,000sqm GIA of logistics space, located to the east of the A43, accessed via a new roundabout on the B4100, with two arms leading into the development.

A separate outline application has been received from the same applicant for a further 180,000sqm GIA of logistics space to the west of the A43, again with access via a new roundabout onto the B4100. A transport assessment has been provided, assessing the impact of each site, and the cumulative impact of the two sites together.

## Vehicular access

A new roundabout junction is proposed onto the B4100. A drawing has been provided showing how this meets DMRB standards. However, OCC has concerns about the geometry of the roundabout and considers that only one arm should be provided leading into the development. The arms are very close together, which makes it difficult for drivers to assess gaps, and could lead to potential conflicts. It also leads to more crossing points than necessary for the pedestrian/cycle route proposed along the frontage, to provide access to the western site. The geometry of the western access arm into this site in particular, will make it difficult for cyclists and pedestrians to judge when to cross safely. There does not appear to be any justification for having two arms off the roundabout, and the design should be amended to provide a single arm.

Further, it is very likely that the roundabout may need to be signalised, due to capacity constraints, and due to the proximity to Baynards Green. The layout, with arms close together, is likely to preclude future signalisation.

Drawings have been provided showing the new roundabouts in the context of the current highway network including Baynards Green Roundabout, and in the context of the proposed redesign of Baynards Green, which is being taken forward by National Highways and currently due for completion in 2024 (the 'Growth Deal' scheme referred to in the Transport Assessment). However, the Road Safety Audit has not taken into account the new accesses in conjunction with the new layout. This must be addressed.

Further discussion will be needed with OCC about the extent of adoption. Normally OCC does not adopt cul de sacs into industrial estates, but if this is to be formally part of a bus route that will need to be considered.

#### 'Growth Deal' scheme

A scheme to increase capacity at M40 J10 is planned to be delivered by National Highways in 2024, using forward funding from the Oxfordshire Growth Deal. This will

see Baynards Green roundabout enlarged and signalised, and the signalisation of the junction of the M40 northbound off slip with the A43.

In both the Oxfordshire County Council's Local Transport Plan 4 LTP4 policy document and Cherwell District Councils Local Plan and Infrastructure Delivery Plan (IDP), there is a strong emphasis on seeking the necessary contributions relating to junction capacity improvements on the M40 junction 10.

- The Cherwell District Council IDP refers to Junction capacity improvements with contributions necessary as required by the Highways England (now National Highways) see Appendix 8; no. 14b.
- The Cherwell District Council IDP refers to Junction capacity improvements with contributions necessary as required by the Highways England (now National Highways) see Appendix 8; no. 14e.
- LTP4 BIC1 Improve access and connections between key employment and residential sites and the strategic transport system by:
  - Continuing to work with HE to improve connectivity to the strategic highway. Continue to work in partnership on the A34 and A43 strategies, as well as Junction 9 and 10 of the M40 to relieve congestion particularly in the peak periods.

The modelling carried out so far shows that Baynards Green roundabout is operating over capacity and the addition of the development will make it worse. If the development is approved a S106 financial contribution must be made towards the improvement scheme. We would expect that to be proportionate in terms of peak hour trips with contributions being secured from development at Heyford. It may also be necessary to restrict development that can be occupied prior to the scheme being implemented.

Depending on further modelling results, it may be necessary to provide additional capacity to accommodate the traffic from the development. Further works or contributions may be sought.

# Sustainable transport access

The site is remote from any built up area, but is within reasonable cycling distance from Bicester, which would generate a large proportion of the potential workforce. The developer is offering to construct an off carriageway cycle route within highway land between the site and Elmsbrook, where cyclists could connect safely with the rest of Bicester. The proposed cycle route would be a 3m wide route (with slight narrowings in some places where there is insufficient highway land) shared with pedestrians. Given the likely level of usage by pedestrians and cyclists in any hour, based on the travel plan targets, and the constraint of the available highway land, this is likely to be acceptable in the context of LTN 1/20 guidance.
There would be a 1m separation from the carriageway, which should be increased where possible as it would make the route more attractive. Most of the route would not be lit, and it needs to be acknowledged that some potential cyclists would not use the route for that reason.

Having walked some of the route, I noted that the ground slopes away from the carriageway in places, which could make construction challenging. Also along part of the route there are ditches and trees on the road side of a fence. The highway boundary will need to be researched carefully to ascertain whether there is sufficient space.

Given how critical this cycle route is to the sustainability of the site, and to providing safe access via a choice of sustainable modes, more information is required to demonstrate its feasibility. The information must be based on a topographical survey and include cross sections. This should not be left to condition given how critical it is. Without a safe walking and cycling route, OCC would consider the site unsustainable.

The TA acknowledges that further work is required to assess how the cycle and pedestrian facilities can be accommodated into the Growth Deal scheme.

Along the site frontage, it would be preferable to set the pedestrian/cycle route further back into the site, particularly immediately adjacent the roundabout.

No pedestrian link is proposed to the nearby restaurant and retail facilities at Baynards Green or the Motorway service area. It is inevitable that there would be a demand to access these at break times, and walking would be unsafe. For this site, a connection across the boundary to the MSA would overcome this issue. See below under public rights of way.

## Public transport

#### Bus service requirements:

An existing bus route, 505 (Bicester – Brackley), currently passes to the north of the eastern part of the site along the B4100 from Bicester, then turns right at Barnard's Gate towards Brackley along the A43.

The route is S106 funded by West Northamptonshire using money from housing developments in Brackley. Initially the service was hourly but since Covid has been permanently reduced in frequency to eight journeys in each direction per day. The funding for the service will run out in the near future and the service is not financially viable at present without further funding. It is reasonable to assume that route 505 will no longer exist when this development commences.

Looking at the combined public transport demand from this site and the proposed western site, the transport assessment has a 7.5% bus mode share for bus equating to 564 trips per day, and a higher bus target of 10% by 2030 in the travel plan.

(However looking at the predicted 18-hour car trip generation and factoring this down base on the ratio of 'bus' to 'car driver' percentage modal shares below, I estimate 493 trips in 2025, and 763 in 2031).

To achieve this level of bus usage will require an attractive, high quality bus service with the timetable covering the majority of shift change times. The stated level of trips by bus generated by the development, 564 per day, won't alone be sufficient to support a financially sustainable bus route in the long-term. However the trips will generate revenue to form a substantial proportion of bus routes costs, which when combined with other passenger flows not related to the development (e.g. Bicester to Brackley), should be enough to financially sustain a service at the level required.

For a sufficiently attractive service, a service operating half-hourly in each direction for most of the operating day will be required. A Bicester to Brackley via Barnard's Green service will require two buses to operate at this frequency. While it is acknowledged that substantially fewer trips generated by the development will originate from Brackley compared to Bicester, we feel the proportion from Brackley will be considerably higher than the 4% stated, given the population of the town and the short distance to the development. In addition, non-development related passenger flows between Brackley and Bicester are needed to secure the overall long-term financial viability of the service. There are also bus connections at Brackley to a wide area towards Banbury, Towcester and Milton Keynes that will enable a wider range of possible bus journeys to the development.

A contribution is required towards the cost of providing two buses over an eight year period to serve the development, to provide a Bicester – Barnard's Green – Brackley route operating half-hourly most of the day and hourly in the evenings and on weekends. Costs have been calculated based on OCC's standard declining subsidy profile – subsidy costs decline each year as patronage/revenue levels rise, ultimately to the point the that service requires no subsidy after eight years.

## Costs:

Monday to Friday core service (half hourly 6am – 6pm, 2 buses): £300,000 per year Monday to Friday evenings / early am (hourly, 5am – 6am, 6pm – 10pm, 1 bus): £50,000 per year

Saturdays and Sundays (hourly, 5am – 10pm, 1 bus): £75,000 per year

Year 1 cost	£425,000	
Year 2 cost	£375,000	
Year 3 cost	£325,000	
Year 4 cost	£275,000	
Year 5 cost	£225,000	
Year 6 cost	£175,000	
Year 7 cost	£125,000	
Year 8 cost	£75,000	

	£2,000,00
Total	0

The rate of subsidy decline is £50,000 per year.

Costs have been based on bus operating costs of  $\pounds$ 50 per hour during core times and  $\pounds$ 40 per hour at other times.

OCC would endeavour to integrate the route with others to provide longer distance direct journey opportunities (e.g. Oxford – Bicester – Barnard's Green).

We have considered the situation where the western and eastern sites come forward in isolation, which is quite likely, since they are proposed via separate planning applications. The potential passenger numbers from a single site are unlikely to ever be enough for financial sustainability of a half hourly service. A lesser lower level of service would reduce the attractiveness of public transport, and it is highly unlikely the predicted modal share would be achieved.

The proportion of the contribution split based on size would be  $\pounds$ 714,000 east and  $\pounds$ 1,286,000 western, which is almost exactly the split of the differences in costs for each bus (one bus does all day and weekends, the other does just 6-6 Mon-Fri).

The eastern site contribution would pay for one bus – operating M-F core service hourl, while the western site would pay for one bus – operating M-F core service hourly + evenings and weekends hourly

This would allow OCC to be able to procure a sensible proportion of the total service if one site comes forward independently of the other.

OCC considers that the modal share target will be challenging to achieve due to the isolated location. The application does not specify the number of parking spaces. Alongside travel plan incentives to support use of the bus service, we would want parking provision to reflect modal share targets, supported by parking demand management.

#### Bus stop locations:

The two bus stop locations proposed, one within each part of the development, are well located for the development. They are however located off-line of a Bicester to Brackley bus route – to serve them will increase the overall bus journey time and lessen the attractiveness of the bus for passengers travelling that are not going to the development. This is particularly the case for the western side of the development. However, locating the stops on the B4100 would increase the walking distance to the development and lessen the attractiveness of bus for passengers travelling to the development. On balance, the proposed stop locations are probably the best within the

constraints of the current development proposal. If the layout of the development is revised, it would be beneficial to investigate whether more efficient stop locations can be found, particularly for the western part of the site, without the stops becoming too remote from the building entrances they serve.

## Bus stop facilities:

Both bus stops should have a bus shelter (at least three bays long with seating) provided and maintained by the site. In addition, a separate bus stop pole, flag and timetable cases should be provided to OCC specification. The shelters must be suitable for OCC to install real time information displays, with ducting provided. A contribution will be sought for the provision of these displays.

## Travel Plan

A draft Framework Travel Plan has been produced for this application, as part of the Environmental Statement, but it requires further site-based information before it can meet the criteria outlined within appendix 7 of the OCC guidance document 'Transport for New Developments – Transport Assessments and Travel Plans 2014'. I have added some specific points below for information.

- As the site is adjacent to another large site and employees will be travelling to a similar destination it would be advantageous to open a dialogue with the adjacent site to discuss possible joint working opportunities. It is therefore encouraged that this is included as an action for the TPC and identified within the action plan.
- Information about on site facilities should be included. Levels and type of cycle parking, changing facilities, restaurant facilities (reducing the need to leave the site during the day) etc.
- A dedicated cycle route to Bicester has been discussed within the document but this has not been included within the action plan. Similarly with information about EV charging points?
- Anticipated number of occupiers on site?
- Estimated date of occupation?
- What are the barriers to the promotion of sustainable, active travel in this location? How will these be mitigated?
- How will deliveries be managed?

It is requested that an amended travel plan is submitted as a separate document.

Cycle parking and EV charging points for both cycles and vehicles should be provided within the site boundary. Cycle parking must be covered and secure and conveniently located near to the entrance to each building.

As each of the units will be occupied independently by different organisations, a Framework Travel Plan and associated monitoring fee (£2,379 index linked) will be required for the site. Depending on the individual sizes of the units it is likely that each organisation will also be required to produce either a Full Travel Plan (with associated monitoring fee) or Travel Plan Statement. However, as I am unable to find definitive sizes, I am unable to confirm the exact requirements. I have therefore included a copy of the threshold and monitoring fee table relevant to this application for information.

<ul> <li>B8 Storage or distribution</li> <li>wholesale warehouses;</li> </ul>	<b>B8 Storage or distribution -</b> This class includes open air storage.	Over 7500m <sup>2</sup>	Travel Plan	2,379
<ul><li>distribution centres;</li><li>repositories.</li></ul>		3000-7499m 2	Travel Plan	2,379
		2000-2999m 2	Travel Plan Statement	None

## Traffic impact

A Transport Assessment has been provided, covering both the western and eastern sites, and considering them individually and cumulatively. The TA acknowledges that further modelling work is required to make use of the local, detailed VISSIM Model that National Highways holds for M40 Junction 10, including Baynards Green roundabout. This was recommended as part of our preapplication advice and is a vital part of understanding the traffic impact of the site, given the proximity of the access junctions to Baynards Green, and the complex interaction of the various junctions that form M40 Junction 10. Modelling the roundabouts individually (as has been done in this TA) is not sufficient, largely because traffic is not free flowing at each due to their proximity. Traffic queueing on the A43 at Baynards Green could lead to exit blocking for the M40 northbound off slip, which would then present a safety hazard due to queueing on the M40, so this needs to be examined carefully. Lack of this modelling in the current application is a reason for objection.

The TA also acknowledges that further modelling must be carried out to take into account the Growth Deal scheme. Again, lack of this modelling in the current application is a reason for objection.

At the time of writing, discussions are ongoing to scope out the further traffic modelling work that will be necessary, in conjunction with National Highways.

## The Highway Authority will submit further representations in due course, to take into account this work.

I have the following further comments on the TA:

*Future year baseline traffic:* Traffic counts were carried out in June 2021, when traffic volumes were still below pre-pandemic levels. No assumptions can be made that future traffic volumes will remain lower than pre-pandemic levels. These counts have then been growthed up using TEMPRO. Instead, future year flows from the Bicester Transport Model should be used, as this takes into account the concentration of development locally. This data is being used for transport assessments of other strategic developments in the area.

*Committed development:* Cumulative assessment should take into account the Oxfordshire Strategic Railfreight Interchange. It is formally registered with the Planning Inspectorate and public consultation is expected in spring 2022. It is therefore moving forward on a scale of certainty of delivery. The published scoping report provides sufficient information on land use to make assumptions about lorry movements, and additional information could be provided. OCC considers that it should be taken into account in the cumulative assessment, at least in a form of sensitivity test. Emerging proposals for significant employment development at Junction 9 should also be taken into account, as should the Great Wolf resort and other significant development proposals in the area.

*Trip generation*: The proposed trip generation is based on surveys obtained or carried out by the applicant for comparable sites. The full survey report should be provided.

*Trip distribution*: Light traffic has been distributed on the basis of 2011 Census travel to work data for an MSOA in NE Bicester. I do not follow the discussion in paragraph 5.3.5. Although I understand why the MSOA in which the proposal is located, has not been used (there is very little employment in the ward), I don't follow the justification for using a ward in Bicester, where it is very likely that employment would attract a large proportion of employees from the immediate surrounding area. A site remote from Bicester would certainly attract a high proportion of employees from Bicester, as it is the nearest town, but I think would attract more people from other settlements than would a site in Bicester.

*HGV distribution*: This has been based on DfT data using a 2006 base year, which is considered too old as it would not take into account the pattern of development since then. A more recent dataset should be used or an alternative methodology for distribution should be discussed with OCC and NH. A gravity model would be more appropriate.

*Trip assignment*: For both light and heavy traffic, tables should be provided to show how the assignment was arrived at. Given the desire to locate on the M40 corridor, the proportions predicted to travel via M40 N and S look surprisingly low.

*Junction capacity assessment:* M40 Junction 10 has not been assessed, which is unacceptable for a development of this scale, which will clearly have an impact on the junction. The TA shows that the development would increase the traffic on the A43 approaching the junction by 7%, which demonstrates a significant impact that must be assessed.

Junctions 10 software has been used to assess the site access roundabouts and Baynards Green roundabout, as well as the A4095/B4100 junction at Bicester. For reasons stated above this is not sufficient for the first three. Notwithstanding that, I query whether the assessments are reliable because the queue lengths at Baynards Green have not been validated against the traffic surveys, albeit those surveys themselves are not reliable due to the fact they were carried out when traffic conditions were not back to pre-pandemic levels. Even taking the output tables at face value, the roundabout is showing as over capacity in the base year and the development, individually and cumulatively with the eastern site, makes the RFC worse.

At the A4095/B4100 junction, the queue lengths are not validated and the queue lengths are not borne out by anecdote. The planned improvement scheme there will deliver additional capacity, but that additional capacity is intended to release housing growth at Bicester.

I will leave NH to comment on the M40 slip roads and the merge/diverge assessments.

*Interim mitigation scheme:* A slight increase in flare on the approach to Baynards Green roundabout has been proposed. This is shown to bring about only marginal benefit on some arms and makes one arm worse. The scheme would cause significant disruption to construct at this very busy junction.

## Public rights of way

A connection should be made within the site to the bridleway which runs along the southern boundary, both to enable access to the facilities at the MSA, and to help link up public rights of way in the area.

# S106 obligations and their compliance with Regulation 122(2) Community Infrastructure Levy Regulations 2010 (as amended):

**<u>£TBC Highway Works Contribution</u>** indexed from <u>TBC</u> using Baxter Index **Towards:** Capacity improvements at M40 J10 including Baynards Green Roundabout **Justification:** A high proportion of the development traffic will pass through Baynards Green and the rest of Junction 10. A scheme of improvements is planned for the junction, which is required to accommodate planned growth. Subject to further modelling, additional works may be required to accommodate the traffic from this development.

**Calculation:** TBC - Contribution towards the planned scheme will be proportionate based on contributions to be secured from development at Heyford, with additional amount as required to provide for additional capacity.

## **<u>£714,000 Public Transport Service Contribution</u> indexed from November 2021 using <u>RPI-x</u>**

Towards: Bus services serving the site.

**Justification:** A range of sustainable travel options to the site is required to make the site sustainable in planning terms. The existing bus service between Bicester and Brackley is unlikely to continue past the end of its current contract, which would leave the site with no public transport.

## Calculation: See commentary above.

## **<u>£TBC</u>** Public Transport Infrastructure Contribution indexed from <u>TBC</u> using Baxter Index

**Towards:** Provision of Real Time Information unit in the bus shelter which are to be provided by the developer.

**Justification:** To encourage public transport use, people will need the reassurance that the bus is on its way, especially given local traffic congestion.

**Calculation:** The amount will be based on the cost to OCC to provide the unit, together with a commuted sum for maintenance.

## **<u>£TBC Travel Plan Monitoring Fee</u>** indexed from December 2020 using RPI-x

**Justification:** To ensure that the travel plan is delivered and revised as required in order to be effective, OCC will need to monitor it over its life.

**Calculation:** The amount is based on the staff cost for OCC to monitor the travel plan, based on an estimate of the time it will take over the life of the plan.

## S278 Highway Works:

An obligation to enter into a S278 Agreement will be required to secure mitigation/improvement works, including:

- Access junction- details to be agreed, including bus turning facility and bus stop
- Footway/cycleway linking the site with Elmsbrook, Bicester.

#### Notes:

This is to be secured by means of S106 restriction not to implement development (until S278 agreement has been entered into. The trigger by which time S278 works are to be completed shall also be included in the S106 agreement. With this site, the safety of construction traffic access will be critical, so the junction may be required to be constructed prior to construction activity on the rest of the site. The footway/cycleway would be required prior to first occupation.

Identification of areas required to be dedicated as public highway and agreement of all relevant landowners will be necessary in order to enter into the S278 agreements. A detailed survey of the highway boundary should be carried out to ensure that the adopted highway abuts the land holding. This may not be the case where there is a ditch, and all highway record plans provided by OCC contain a caveat about this. Such 'gaps' can lead to significant delays to S278 agreements.

## S38 Highway Works – [Spine Road ][/ On-Site Rights of Way]:

An obligation to provide a bus turning loop will be required for the development. The S106 agreement will secure delivery via future completion of a S38 agreement.

## Planning Conditions:

In the event that permission is to be given, the following planning conditions should be attached:

No development shall commence unless and until full details of the means of access between the land and the highway, including, position, layout, construction, drainage and vision splays have been submitted to and approved in writing by the Local Planning Authority. The means of access shall be constructed in strict accordance with the approved details and shall be retained and maintained as such thereafter. Agreed vision splays shall be kept clear of obstructions higher than 0.6m at all times.

Reason - In the interests of highway safety and to comply with Policy ESD15 of the Cherwell Local Plan 2011-2031 Part 1 and Government guidance contained within the National Planning Policy Framework.

No development shall commence unless and until full specification details (including construction, layout, surfacing and drainage) of the turning areas and parking spaces within the curtilage of the site, arranged so that motor vehicles may enter, turn round

and leave in a forward direction and vehicles may park off the highway, have been submitted to and approved in writing by the Local Planning Authority. The turning area and car parking spaces shall be constructed in accordance with the approved details prior to the first occupation of the development shall be retained as such for the parking and manoeuvring of vehicles at all times thereafter.

Reason - In the interests of highway safety and to comply with Policy ESD15 of the Cherwell Local Plan 2011-2031 Part 1 and Government guidance contained within the National Planning Policy Framework.

Prior to the first use or occupation of the development hereby permitted, covered cycle parking facilities shall be provided on the site in accordance with details which shall be firstly submitted to and approved in writing by the Local Planning Authority. Thereafter, the covered cycle parking facilities shall be permanently retained and maintained for the parking of cycles in connection with the development.

Reason - In the interests of sustainability, to ensure a satisfactory form of development and to comply with Government guidance contained within the National Planning Policy Framework.

Prior to the first occupation of the development, a scheme for the provision of vehicular electric charging points to serve the development shall be submitted to and approved in writing by the Local Planning Authority. The vehicular electric charging points shall be provided in accordance with the approved details prior to the first occupation of the unit they serve, and retained as such thereafter.

Reason - To comply with Policies SLE 4, ESD 1, ESD 3 and ESD 5 of the adopted Cherwell Local Plan 2011-2031 Part 1 and to maximise opportunities for sustainable transport modes in accordance with paragraph 110(e) of the National Planning Policy Framework

Prior to commencement of the development hereby approved, a Construction Traffic Management Plan (CTMP) shall be submitted to and approved in writing by the Local Planning Authority. Thereafter, the development shall not be carried out other than in accordance with the approved CTMP.

Reason: In the interests of highway safety and the residential amenities of neighbouring occupiers and to comply with Government guidance contained within the National Planning Policy Framework.

Prior to the first occupation of the development hereby approved, a Travel Plan, prepared in accordance with the Department of Transport's Best Practice Guidance Note "Using the Planning Process to Secure Travel Plans", shall be submitted to and approved in writing by the Local Planning Authority. Thereafter, the development shall be implemented and operated in accordance with the approved details.

Reason - In the interests of sustainability and to ensure a satisfactory form of development, in accordance with Government guidance contained within the National Planning Policy Framework.

The development shall not be occupied until a signage strategy for the site has been

submitted and approved in writing by the Local Planning Authority. The development shall thereafter be completed and signage installed in accordance with the approved details prior to the first use of any building on the site.

Reason - To ensure that traffic is directed along the most appropriate routes and to comply with Government guidance contained within the National Planning Policy Framework.

Subject to further traffic modelling: The development shall not be occupied until the planned scheme of enlargement and signalisation of Baynards Green roundabout, or other similar capacity improvement scheme as agreed with National Highways, has been implemented at Baynards Green junction.

#### Officer's Name: Joy White

**Officer's Title:** Principal Transport Planner **Date:** 2 November 2021

## Lead Local Flood Authority

## Recommendation:

Objection

## Detailed comments:

Unable to find FRA in the submission.

Where car parking spaces and access roads are proposed, water quality standards must be met. Proposed development needs a water quality assessment in accordance with Section 4 and Section 26 of SuDS Manual.

Proposed development must meet local standards, L19, "At least one surface feature should be deployed within the drainage system for water quality purposes, or more features for runoff which may contain higher levels of pollutants in accordance with the CIRIA SuDS Manual C753. Only if surface features are demonstrated as not viable, then approved proprietary engineered pollution control features such as vortex separators, serviceable/ replaceable filter screens, or pollution interceptors may be used"

Furthermore, a detailed surface water management strategy must be submitted in accordance with the <u>Local Standards and Guidance for Surface Water Drainage on</u> <u>Major Development in Oxfordshire</u>

In line with this guidance, runoff must be managed at source (i.e. close to where it falls) with residual flows then conveyed downstream to further storage or treatment components, where required. The proposed drainage should mimic the existing drainage regime of the site as much as possible.

The applicant is required to provide a Surface Water Management Strategy in accordance with the following guidance:

The <u>Sustainable Drainage Systems (SuDS) Policy</u>, which came into force on the 6th April 2015 requires the use of sustainable drainage systems to manage runoff on all applications relating to major development. As well as dealing with surface water runoff, they are

required to provide water quality, biodiversity and amenity benefits in line with National Guidance. The <u>Sustainable Drainage Systems (SuDS) Policy</u> also implemented changes to the <u>Town and Country Planning (Development Management Procedure)</u> (England) Order 2010 to make the Lead Local Flood Authority (LLFA) a statutory Consultee for Major Applications in relation to surface water drainage. This was implemented in place of the SuDS Approval Bodies (SAB's) proposed in Schedule 3 of the Flood and Water Management Act 2010.

All full and outline planning applications for Major Development must be submitted with a Surface Water Management Strategy. A site-specific Flood Risk Assessment (FRA) is also required for developments of 1 hectare or greater in Flood Zone 1; all developments in Flood Zones 2 and 3 or in an area within Flood Zone 1 notified as having critical drainage problems; and where development or a change of use to a more vulnerable class may be subject to other sources of flooding.

Further information on flood risk in Oxfordshire, which includes access to view the existing fluvial and surface water flood maps, can be found on the <u>Oxfordshire flood tool</u> <u>kit</u> website. The site also includes specific flood risk information for developers and Planners.

The <u>National Planning Policy Framework (NPPF)</u>, which was updated in July 2021 provides specific principles on flood risk (Section 14, from page 45). <u>National Planning</u> <u>Practice Guidance</u> (NPPG) provides further advice to ensure new development will come forward in line with the NPPF.

Paragraph 159 states; "Inappropriate development in areas at risk of flooding should be avoided by directing development away from areas at highest risk (whether existing or future). Where development is necessary in such areas, the development should be made safe for its lifetime without increasing flood risk elsewhere."

As stated in Paragraph 160 and 161 of the NPPF, we will expect a sequential approach to be used in areas known to be at risk now or in the future from any form of flooding.

The <u>Non-statutory technical Standards for sustainable drainage systems</u> were produced to provide initial principles to ensure developments provide SuDS in line with the NPPF and NPPG. Oxfordshire County Council have published the "<u>Local Standards and Guidance for Surface Water Drainage on Major Development in Oxfordshire</u>" to assist developers in the design of all surface water drainage systems, and to support Local Planning Authorities in considering drainage proposals for new development in Oxfordshire. The guide sets out the standards that we apply in assessing all surface water drainage proposals to ensure they are in line with National legislation and guidance, as well as local requirements.

The SuDS philosophy and concepts within the Oxfordshire guidance are based upon and derived from the CIRIA <u>SuDS Manual (C753)</u>, and we expect all development to come forward in line with these principles.

In line with the above guidance, surface water management must be considered from the beginning of the development planning process and throughout – influencing site layout and design. The proposed drainage solution should not be limited by the proposed site layout and design.

Wherever possible, runoff must be managed at source (i.e. close to where it falls) with residual flows then conveyed downstream to further storage or treatment components, where required. The proposed drainage should mimic the existing drainage regime of the site. Therefore, we will expect existing drainage features on the site to be retained and they should be utilised and enhanced wherever possible.

Although we acknowledge it will be hard to determine all the detail of source control attenuation and conveyance features at an outline stage, we will expect the Surface Water Management Strategy to set parameters for each parcel/phase to ensure these are included when these parcels/phases come forward. Space must be made for shallow conveyance features throughout the site and by also retaining existing drainage features and flood flow routes, this will ensure that the existing drainage regime is maintained, and flood risk can be managed appropriately.

Drainage Pro-Forma

Officer's Name: Sujeenthan Jeevarangan Officer's Title: LLFA Planning Engineer Date: 18/11/2021

## <u>Archaeology</u>

## Recommendation:

Objection

## Key issues:

The site is located in an area of archaeological interest on the site of a medieval and post medieval green mentioned in historical records. An archaeological desk based assessment will need to be undertaken for the site to assess the potential of any proposed development to impact on archaeological deposits and heritage assets. The results of an archaeological field evaluation will also need to be submitted along with any planning application for the site.

## Legal agreement required to secure:

Conditions:

## Informatives:

## **Detailed comments:**

The site is located in an area of archaeological interest immediately south of the site of a medieval and post medieval green mentioned in historical records. The area of the green has been suggested to be either the site of medieval jousting or a camp site for these jousts, horse racing and a rendezvous site during the <u>C17th</u> civil war. A number of possible Bronze or Iron Age banjo enclosures have been recorded in the vicinity of the site from aerial photographs and a ring ditch has been recorded <u>500m</u> north east of the site.

An archaeological desk-based assessment will need to be undertaken for the site to assess the potential of any proposed development to impact on archaeological deposits and heritage assets.

A written scheme of investigation has been agreed for this desk-based assessment and a short statement on the historic environment has been submitted with this application. This submitted document however does not however appear to contain the whole assessment as set out in the agreed WSI. This will need to be submitted.

A programme of archaeological evaluation will need to be undertaken on the site and the report submitted ahead of the determination of any planning application. This must be carried out by a professionally qualified archaeological organisation and should aim to define the character and extent of the archaeological remains within the application area, and thus indicate the weight which should be attached to their preservation. This evaluation must be undertaken in line with the Chartered Institute for Archaeologists standards and guidance for archaeological evaluation including the submission and agreement of a suitable written scheme of investigation.

This information can be used for identifying potential options for minimising or avoiding damage to the archaeology and on this basis, an informed and reasonable decision can be taken.

Officer's Name: Richard Oram Officer's Title: Archaeology Lead Date:12-10-21

## OXFORDSHIRE COUNTY COUNCIL'S RESPONSE TO CONSULTATION ON THE FOLLOWING DEVELOPMENT PROPOSAL

#### District: Cherwell Application no: 21/03268/OUT

**Proposal:** Outline planning permission (all matters reserved except for access) for the erection of buildings comprising logistics (Use Class B8) and ancillary Office (Use Class E(g)(i)) floorspace; construction of new site access from the B4100; creation of internal roads and access routes; hard and soft landscaping including noise attenuation measures; and other associated infrastructure **Location:** NW Of Baynards House, Ardley

## Date: 19 November 2021

This report sets out the officer views of Oxfordshire County Council (OCC) on the above proposal. These are set out by individual service area/technical discipline and include details of any planning conditions or Informatives that should be attached in the event that permission is granted and any obligations to be secured by way of a S106 agreement. Where considered appropriate, an overarching strategic commentary is also included. If the local County Council member has provided comments on the application these are provided as a separate attachment.

## **General Information and Advice**

## Recommendations for approval contrary to OCC objection:

If within this response an OCC officer has raised an objection but the Local Planning Authority are still minded to recommend approval, OCC would be grateful for notification (via planningconsultations@oxfordshire.gov.uk) as to why material consideration outweigh OCC's objections, and to be given an opportunity to make further representations.

## **Outline applications and contributions**

The anticipated number and type of dwellings and/or the floor space may be set by the developer at the time of application which is used to assess necessary mitigation. If not stated in the application, a policy compliant mix will be used. The number and type of dwellings used when assessing S106 planning obligations is set out on the first page of this response.

In the case of outline applications, once the unit mix/floor space is confirmed by reserved matters approval/discharge of condition a matrix (if appropriate) will be applied to establish any increase in contributions payable. A further increase in contributions may result if there is a reserved matters approval changing the unit mix/floor space.

## Where a S106/Planning Obligation is required:

- Index Linked in order to maintain the real value of S106 contributions, contributions will be index linked. Base values and the index to be applied are set out in the Schedules to this response.
- Administration and Monitoring Fee TBC
   This is an estimate of the amount required to cover the monitoring and
   administration associated with the S106 agreement. The final amount will be
   based on the OCC's scale of fees and will adjusted to take account of the
   number of obligations and the complexity of the S106 agreement.
- OCC Legal Fees The applicant will be required to pay OCC's legal fees in relation to legal agreements. Please note the fees apply whether a S106 agreement is completed or not.

**Security of payment for deferred contributions -** Applicants should be aware that an approved bond will be required to secure a payment where a S106 contribution is to be paid post implementation and

- the contribution amounts to 25% or more (including anticipated indexation) of the cost of the project it is towards and that project cost £7.5m or more
- the developer is direct delivering an item of infrastructure costing £7.5m or more
- where aggregate contributions towards bus services exceeds £1m (including anticipated indexation).

A bond will also be required where a developer is direct delivering an item of infrastructure.

The County Infrastructure Funding Team can provide the full policy and advice, on request.

## Transport Schedule

## **Recommendation:**

## **Objection for the following reasons:**

- The transport assessment provided with the application is not adequate to demonstrate that the development would not have a severe impact on the operation of the highway network.
- Further information is required to demonstrate that safe and suitable pedestrian and cycle access can be provided to the development, in accordance with <u>NPPF</u>.
- The geometry of the access junction has associated safety risks for all users and could affect its potential for <u>signalisation</u>.

If despite  $\underline{OCC's}$  objection permission is proposed to be granted then  $\underline{OCC}$  requires prior to the issuing of planning permission a <u>S106</u> agreement including an obligation to enter into a <u>S278</u> agreement and <u>S38</u> agreement to mitigate the impact of the development plus planning conditions as detailed below.

Contribution	Amount £	Price base	Index	Towards (details)
Highway works	TBC		Baxter	Proportionate contribution towards <u>imrovements</u> to <u>M40</u> <u>J10</u> (which includes <u>Baynards</u> Green <u>rbt)</u>
Public transport services	£1,286,000	November 2021	<u>RPI</u> -x	Bus services serving the site
Public transport infrastructure (if not dealt with under S278/S38 agreement)	<u>£</u> 8 <u>,904</u>	September 2020	Baxter	Real time information unit at bus stop
Traffic <u>Reg</u> Order ( <i>if not</i>	Possible changes to		<u>RPI</u> -x	

## S106 Contributions

dealt with under <u>S278/S38</u> agreement)	speed limit and parking controls - will be part of highways agreement			
Travel Plan Monitoring	£2,379 plus additional amount for individual operator travel plans - see below.	December 2020	R <u>PI-x</u>	To cover the <u>OCC</u> cost of monitoring for the life of the travel plan <u>.</u>
Admin fee	TBC dependent on final amount agreed			Fee for the monitoring and administration of the S106 agreement
Public rights of way improvements	£65,000	November 2021	Baxter	Upgrades to PRoW between the site and Fewcott and Fritwell

Other obligations:

- Off-site highway works see below
- On site highway works Provision of suitable bus loop, shelter, flagpole plus footway/cycleway within the site
- Other:

## Key points

- The development has not taken into account the committed 'Growth Deal' scheme of capacity improvement at <u>Baynards</u> Green roundabout, which will involve enlarging and signalising the roundabout, both in terms of road safety, and capacity modelling.
- The transport assessment has not adequately tested the impact on the adjacent junctions, using available transport models, including the various elements of <u>M40 J10</u> which are closely linked.
- The site access roundabout has very straight approaches, which could be a safety hazard and should be reviewed.

## Comments:

This application is for 180,000sqm GIA of logistics space, located to the west of the A43, stretching between the M40 and the B4100, with access via a new roundabout onto the B4100. A separate full application (21/03266/F) has been submitted for the roundabout and access road into the parcel.

A separate outline application has been received from the same applicant for a further 100,000sqm GIA of logistics space to the east of the A43, again with access via a new roundabout onto the B4100. A transport assessment has been provided, assessing the impact of each site, and the cumulative impact of the two sites together.

## Vehicular access

A new roundabout junction is proposed onto the B4100. A drawing has been provided showing how this meets DMRB standards. However, OCC has concerns about the straightness of the approaches on the B4100, especially given the national speed limit. Experience of similar layouts of recently constructed roundabouts on high speed roads has shown that some drivers fail to appreciate the roundabout until the last minute, leading to collisions or driving over the roundabout. Further work is needed to adjust the alignment of the B4100 on approaches. This is challenging due to the land on the northern side of the B4100 not being available. This has not been picked up in the Road Safety Audit provided, but OCC would welcome further discussions given their experiences elsewhere. Consideration could be given to a reduction in the speed limit along the site frontage extending to Baynards Green roundabout.

Drawings have been provided showing the new roundabouts in the context of the current highway network including <u>Baynards</u> Green Roundabout, and in the context of the proposed redesign of <u>Baynards</u> Green, which is being taken forward by National Highways and currently due for completion in 2024 (the 'Growth Deal' scheme referred to in the Transport Assessment). However, the Road Safety Audit has not taken into account the new accesses in conjunction with the new layout. This must be addressed.

Further discussion will be needed with <u>OCC</u> about the extent of adoption. Normally <u>OCC</u> does not adopt <u>cul</u> de sacs into industrial estates, but if this is to be formally part of a bus route that will need to be considered.

## 'Growth Deal' scheme

A scheme to increase capacity at <u>M40</u> <u>J10</u> is planned to be delivered by National Highways in 2024, using forward funding from the <u>Oxfordshire</u> Growth Deal. This will

see <u>Baynards</u> Green roundabout enlarged and signalised, and the <u>signalisation</u> of the junction of the <u>M40</u> northbound off slip with the <u>A43</u>.

In both the <u>Oxfordshire</u> County Council's Local Transport Plan 4 <u>LTP4</u> policy document and <u>Cherwell</u> District Councils Local Plan and Infrastructure Delivery Plan (<u>IDP</u>), there is a strong emphasis on seeking the necessary contributions relating to junction capacity improvements on the <u>M40</u> junction 10.

- The <u>Cherwell</u> District Council <u>IDP</u> refers to Junction capacity improvements with contributions necessary as required by the Highways England (now National Highways) see Appendix 8; no. <u>14b</u>.
- The <u>Cherwell</u> District Council <u>IDP</u> refers to Junction capacity improvements with contributions necessary as required by the Highways England (now National Highways) see Appendix 8; no. <u>14e</u>.
- <u>LTP4</u> <u>BIC1</u> Improve access and connections between key employment and residential sites and the strategic transport system by:
  - Continuing to work with HE to improve connectivity to the strategic highway. Continue to work in partnership on the <u>A34</u> and <u>A43</u> strategies, as well as Junction 9 and 10 of the <u>M40</u> to relieve congestion particularly in the peak periods.

The modelling carried out so far shows that <u>Baynards</u> Green roundabout is operating over capacity and the addition of the development will make it worse. If the development is approved a <u>S106</u> financial contribution must be made towards the improvement scheme. We would expect that to be proportionate in terms of peak hour trips with contributions being secured from development at <u>Heyford</u>. It may also be necessary to restrict development that can be occupied prior to the scheme being implemented.

Depending on further modelling results, it may be necessary to provide additional capacity to accommodate the traffic from the development. Further works or contributions may be sought.

## Sustainable transport access

The site is remote from any built up area, but is within reasonable cycling distance from <u>Bicester</u>, which would generate a large proportion of the potential workforce. The developer is offering to construct an off carriageway cycle route within highway land between the site and <u>Elmsbrook</u>, where cyclists could connect safely with the rest of <u>Bicester</u>. The proposed cycle route would be a <u>3m</u> wide route (with slight <u>narrowings</u> in some places where there is insufficient highway land) shared with pedestrians. Given the likely level of usage by pedestrians and cyclists in any hour, based on the travel

plan targets, and the constraint of the available highway land, this is likely to be acceptable in the context of <u>LTN</u> 1/20 guidance.

There would be a  $\underline{1m}$  separation from the carriageway, which should be increased where possible as it would make the route more attractive. Most of the route would not be lit, and it needs to be acknowledged that some potential cyclists would not use the route for that reason.

Having walked some of the route, I noted that the ground slopes away from the carriageway in places, which could make construction challenging. Also along part of the route there are ditches and trees on the road side of a fence. The highway boundary will need to be researched carefully to ascertain whether there is sufficient space.

Given how critical this cycle route is to the sustainability of the site, and to providing safe access via a choice of sustainable modes, more information is required to demonstrate its feasibility. The information must be based on a topographical survey and include cross sections. This should not be left to condition given how critical it is. Without a safe walking and cycling route, <u>OCC</u> would consider the site unsustainable.

The <u>TA</u> acknowledges that further work is required to assess how the cycle and pedestrian facilities can be accommodated into the Growth Deal scheme. Without this work there is a risk that there is insufficient space within the highway boundary to accommodate the cycle link.

The TA proposes an interim scheme, which could be delivered in advance of the Growth Deal scheme, which includes a Toucan crossing of the A43. This would need to be agreed with National Highways.

Where the shared use route runs along the site frontage, it would be preferable for it to run within the site rather than adjacent the carriageway, as it would only be accessing the site. To provide a direct route to the western building in the indicative masterplan, I recommend a safe crossing point part way along the access road – this could be a parallel crossing if the access road is subject to a 30mph speed limit, or combined with some sort of traffic calming feature such as a refuge.

The crossing of the A41 across to the motorway service area should be made suitable for cycles, providing a good quality refuge and a 3m wide path on the northern side, leading into the service area track that connects to bridleway 367/29 (see Public Rights of Way below).

#### Public transport

Bus service requirements:

An existing bus route, 505 (Bicester – Brackley), currently passes to the north of the eastern part of the site along the B4100 from Bicester, then turns right at Barnard's Gate towards Brackley along the A43.

The route is S106 funded by West Northamptonshire using money from housing developments in Brackley. Initially the service was hourly but since Covid has been permanently reduced in frequency to eight journeys in each direction per day. The funding for the service will run out in the near future and the service is not financially viable at present without further funding. It is reasonable to assume that route 505 will no longer exist when this development commences.

Looking at the combined public transport demand from this site and the proposed western site, the transport assessment has a 7.5% bus mode share for bus equating to 564 trips per day, and a higher bus target of 10% by 2030 in the travel plan. (However looking at the predicted 18-hour car trip generation and factoring this down base on the ratio of 'bus' to 'car driver' percentage modal shares below, I estimate 493 trips in 2025, and 763 in 2031).

To achieve this level of bus usage will require an attractive, high quality bus service with the timetable covering the majority of shift change times. The stated level of trips by bus generated by the development, 564 per day, won't alone be sufficient to support a financially sustainable bus route in the long-term. However the trips will generate revenue to form a substantial proportion of bus routes costs, which when combined with other passenger flows not related to the development (e.g. Bicester to Brackley), should be enough to financially sustain a service at the level required.

For a sufficiently attractive service, a service operating half-hourly in each direction for most of the operating day will be required. A Bicester to Brackley via Barnard's Green service will require two buses to operate at this frequency. While it is acknowledged that substantially fewer trips generated by the development will originate from Brackley compared to Bicester, we feel the proportion from Brackley will be considerably higher than the 4% stated, given the population of the town and the short distance to the development. In addition, non-development related passenger flows between Brackley and Bicester are needed to secure the overall long-term financial viability of the service. There are also bus connections at Brackley to a wide area towards Banbury, Towcester and Milton Keynes that will enable a wider range of possible bus journeys to the development.

A contribution is required towards the cost of providing two buses over an eight year period to serve the development, to provide a Bicester – Barnard's Green – Brackley route operating half-hourly most of the day and hourly in the evenings and on weekends. Costs have been calculated based on OCC's standard declining subsidy

profile – subsidy costs decline each year as patronage/revenue levels rise, ultimately to the point the that service requires no subsidy after eight years.

Costs:

Monday to Friday core service (half hourly 6am - 6pm, 2 buses): £300,000 per year Monday to Friday evenings / early am (hourly, 5am - 6am, 6pm - 10pm, 1 bus): £50,000 per year

Saturdays and Sundays (hourly, 5am – 10pm, 1 bus): £75,000 per year

Year 1 cost	£425,000
Year 2 cost	£375,000
Year 3 cost	£325,000
Year 4 cost	£275,000
Year 5 cost	£225,000
Year 6 cost	£175,000
Year 7 cost	£125,000
Year 8 cost	£75,000
	£2,000,00
Total	0

The rate of subsidy decline is £50,000 per year.

Costs have been based on bus operating costs of  $\pounds$ 50 per hour during core times and  $\pounds$ 40 per hour at other times.

OCC would endeavour to integrate the route with others to provide longer distance direct journey opportunities (e.g. Oxford – Bicester – Barnard's Green).

We have considered the situation where the western and eastern sites come forward in isolation, which is quite likely, since they are proposed via separate planning applications. The potential passenger numbers from a single site are unlikely to ever be enough for financial sustainability of a half hourly service. A lesser lower level of service would reduce the attractiveness of public transport, and it is highly unlikely the predicted modal share would be achieved.

The proportion of the contribution split based on size would be  $\pounds$ 714,000 east and  $\pounds$ 1,286,000 western, which is almost exactly the split of the differences in costs for each bus (one bus does all day and weekends, the other does just 6-6 Mon-Fri).

The eastern site contribution would pay for one bus – operating M-F core service hourly, while the western site would pay for one bus – operating M-F core service hourly + evenings and weekends hourly

This would allow OCC to be able to procure a sensible proportion of the total service if one site comes forward independently of the other.

OCC considers that the modal share target will be challenging to achieve due to the isolated location. The application does not specify the number of parking spaces. Alongside travel plan incentives to support use of the bus service, we would want parking provision to reflect modal share targets, supported by parking demand management.

Bus stop locations:

The two bus stop locations proposed, one within each part of the development, are well located for the development. They are however located off-line of a Bicester to Brackley bus route – to serve them will increase the overall bus journey time and lessen the attractiveness of the bus for passengers travelling that are not going to the development. This is particularly the case for the western side of the development. However, locating the stops on the B4100 would increase the walking distance to the development and lessen the attractiveness of bus for passengers travelling to the development. On balance, the proposed stop locations are probably the best within the constraints of the current development proposal. If the layout of the development is revised, it would be beneficial to investigate whether more efficient stop locations can be found, particularly for the western part of the site, without the stops becoming too remote from the building entrances they serve.

Bus stop facilities:

Both bus stops should have a bus shelter (at least three bays long with seating) provided and maintained by the site. In addition, a separate bus stop pole, flag and timetable cases should be provided to OCC specification. The shelters must be suitable for OCC to install real time information displays, with ducting provided. A contribution will be sought for the provision of these displays.

## Travel Plan

A draft Framework Travel Plan has been produced for this application, as part of the Environmental Statement, but it requires further site-based information before it can meet the criteria outlined within appendix 7 of the OCC guidance document 'Transport for New Developments – Transport Assessments and Travel Plans 2014'. I have added some specific points below for information.

• As the site is adjacent to another large site and employees will be travelling to a similar destination it would be advantageous to open a dialogue with the adjacent site to discuss possible joint working opportunities. It is therefore encouraged that this is included as an action for the TPC and identified within the action plan.

- Information about on site facilities should be included. Levels and type of cycle parking, changing facillities, restaurant facillities (reducing the need to leave the site during the day) etc.
- A dedicated cycle route to Bicester has been discussed within the document but this has not been included within the action plan. Similarly with information about EV charging points?
- Anticipated number of occupiers on site?
- Estimated date of occupation?
- What are the barriers to the promotion of sustainable, active travel in this location? How will these be mitigated?
- How will deliveries be managed?

It is requested that an amended travel plan is submitted as a separate document.

Cycle parking and EV charging points for both cycles and vehicles should be provided within the site boundary. Cycle parking must be covered and secure and conveniently located near to the entrance to each building.

As each of the units will be occupied independently by different organisations, a Framework Travel Plan and associated monitoring fee (£2,379 index linked) will be required for the site. Depending on the individual sizes of the units it is likely that each organisation will also be required to produce either a Full Travel Plan (with associated monitoring fee) or Travel Plan Statement. However, as I am unable to find definitive sizes, I am unable to confirm the exact requirements. I have therefore included a copy of the threshold and monitoring fee table relevant to this application for information.

<ul><li>B8 Storage or</li><li>distribution</li><li>wholesale warehouses;</li></ul>	<b>B8 Storage or distribution</b> - This class includes open air storage.	Over 7500m <sup>2</sup>	Travel Plan	2,379
<ul> <li>distribution centres;</li> <li>repositories.</li> </ul>		3000-7499 m <sup>2</sup>	Travel Plan	2,379
		2000-2999 m <sup>2</sup>	Travel Plan Statement	None

## Traffic impact

A Transport Assessment has been provided, covering both the western and eastern sites, and considering them individually and cumulatively. The TA acknowledges that further modelling work is required to make use of the local, detailed VISSIM Model that National Highways holds for M40 Junction 10, including Baynards Green roundabout. This was recommended as part of our preapplication advice and is a vital part of understanding the traffic impact of the site, given the proximity of the access junctions to Baynards Green, and the complex interaction of the various junctions that form M40 Junction 10. Modelling the roundabouts individually (as has been done in this TA) is not sufficient, largely because traffic is not free flowing at each due to their proximity. Traffic queueing on the A43 at Baynards Green could lead to exit blocking for the M40 northbound off slip, which would then present a safety hazard due to queueing on the M40, so this needs to be examined carefully. Lack of this modelling in the current application is a reason for objection.

The TA also acknowledges that further modelling must be carried out to take into account the Growth Deal scheme. Again, lack of this modelling in the current application is a reason for objection.

At the time of writing, discussions are ongoing to scope out the further traffic modelling work that will be necessary, in conjunction with National Highways. The Highway Authority will submit further representations in due course, to take into account this work.

I have the following further comments on the TA:

*Future year baseline traffic:* Traffic counts were carried out in June 2021, when traffic volumes were still below pre-pandemic levels. No assumptions can be made that future traffic volumes will remain lower than pre-pandemic levels. These counts have then been growthed up using TEMPRO. Instead, future year flows from the Bicester Transport Model should be used, as this takes into account the concentration of development locally. This data is being used for transport assessments of other strategic developments in the area.

*Committed development:* Cumulative assessment should take into account the Oxfordshire Strategic Railfreight Interchange. It is formally registered with the Planning Inspectorate and public consultation is expected in spring 2022. It is therefore moving forward on a scale of certainty of delivery. The published scoping report provides sufficient information on land use to make assumptions about lorry movements, and additional information could be provided. OCC considers that it should be taken into account in the cumulative assessment, at least in a form of sensitivity test. Emerging proposals for significant employment development at Junction 9 should also be taken into account, as should the consented Great Wolf resort and other significant development proposed in the area.

*Trip generation*: The proposed trip generation is based on surveys obtained or carried out by the applicant for comparable sites. The full survey report should be provided.

*Trip distribution*: Light traffic has been distributed on the basis of 2011 Census travel to work data for an MSOA in NE Bicester. I do not follow the discussion in paragraph 5.3.5. Although I understand why the MSOA in which the proposal is located, has not been used (there is very little employment in the ward), I don't follow the justification for using a ward in Bicester, where it is very likely that employment would attract a large proportion of employees from the immediate surrounding area. A site remote from Bicester would certainly attract a high proportion of employees from Bicester, as it is the nearest town, but I think would attract more people from other settlements than would a site in Bicester.

*HGV distribution*: This has been based on DfT data using a 2006 base year, which is considered too old as it would not take into account the pattern of development since then. A more recent dataset should be used or an alternative methodology for distribution should be discussed with OCC and NH. A gravity model would be more appropriate.

*Trip assignment*: For both light and heavy traffic, tables should be provided to show how the assignment was arrived at. Given the desire to locate on the <u>M40</u> corridor, the proportions predicted to travel via <u>M40 N</u> and S look surprisingly low.

*Junction capacity assessment:* <u>M40</u> Junction 10 has not been assessed, which is unacceptable for a development of this scale, which will clearly have an impact on the junction. The <u>TA</u> shows that the development would increase the traffic on the <u>A43</u> approaching the junction by 7%, which demonstrates a significant impact that must be assessed.

Junctions 10 software has been used to assess the site access roundabouts and <u>Baynards</u> Green roundabout, as well as the <u>A4095/B4100</u> junction at <u>Bicester</u>. For reasons stated above this is not sufficient for the first three. Notwithstanding that, I query whether the assessments are reliable because the queue lengths at <u>Baynards</u> Green have not been validated against the traffic surveys, albeit those surveys themselves are not reliable due to the fact they were carried out when traffic conditions were not back to pre-pandemic levels. Even taking the output tables at face value, the roundabout is showing as over capacity in the base year and the development, individually and cumulatively with the eastern site, makes the <u>RFC</u> worse.

At the <u>A4095/B4100</u> junction, the queue lengths are not validated and the queue lengths are not borne out by anecdote. The planned improvement scheme there will deliver additional capacity, but that additional capacity is intended to release housing growth at <u>Bicester</u>.

I will leave NH to comment on the <u>M40</u> slip roads and the merge/diverge assessments.

*Interim mitigation scheme:* A slight increase in flare on the approach to <u>Baynards</u> Green roundabout has been proposed. This is shown to bring about only marginal benefit on some arms and makes one arm worse. The scheme would cause significant disruption to construct at this very busy junction.

## Public rights of way

Footpath 109/5/10 is proposed to be diverted as it passes through the site. OCC would like to see this dedicated as a bridleway at the same time as any diversion, which would allow for cycling, and complete a missing link between Stoke Lyne Bridleway 367/29 and Ardley Bridleway 109/2. This could be a 3m wide tarmac path with a verge on either side. See map and annotations below. This comment is made without prejudice to the desirability/outcome of any application to divert PRoW. The existing/altered footpath connection to opposite the services should be retained.

The preferred alignment would be as shown below, and make use of the 3m wide cycle connection to the site, although as stated above, it would be better within the site rather than alongside the B4100. An improved crossing point leading across the B4100 into the service area site, would provide an onward connection to brideway 367/29. As the area of highway land on the western side of the service area access is quite wide, it should be separated from the access road by a verge until it can connect with the access road at a safe point.



It is suggested that a bridleway/cyclepath margin is provided for within the red line of the site rather than trying to upgrade footpath 367/28 which has a potentially hazardous road crossing.

As part of the S278 works, it is also requested that the bridleway crossing of the B4100 at the western end of the site, is improved by creating a more level and suitably surfaced landing area on the northern side, as well as veg clearance to provide improved visibility.



A contribution of £65,000 is requested towards upgrading public rights of way to enable cycling between the site and Fewcott and/or Fritwell. This offers onward connections via quiet roads, including to Heyford Park. This contribution would be spent on OCC Countryside negotiating upgraded access rights and undertaking surface and furniture measures to provide access for cyclists/riders on a number of route options between the site and Fewcott as well as improvements for bridleway to Fritwell – plus other minor works within 3km of the site. This would further improve the possibilities of sustainable access to the site, with Heyford Park becoming a more important potential source of employees over the next few years.

## S106 obligations and their compliance with Regulation 122(2) Community Infrastructure Levy Regulations 2010 (as amended):

**<u>£TBC Highway Works Contribution</u>** indexed from <u>TBC</u> using Baxter Index **Towards:** Capacity improvements at M40 J10 including Baynards Green Roundabout

**Justification:** A high proportion of the development traffic will pass through Baynards Green and the rest of Junction 10. A scheme of improvements is planned for the junction, which is required to accommodate planned growth. Subject to further modelling, additional works may be required to accommodate the traffic from this development.

**Calculation:** TBC - Contribution towards the planned scheme will be proportionate based on contributions to be secured from development at Heyford, with additional amount as required to provide for additional capacity.

## **<u>£1,286,000 Public Transport Service Contribution</u> indexed from November 2021 using RPI-x**

Towards: Bus services serving the site.

**Justification:** A range of sustainable travel options to the site is required to make the site sustainable in planning terms. The existing bus service between Bicester and Brackley is unlikely to continue past the end of its current contract, which would leave the site with no public transport.

## Calculation: See commentary above.

## **<u>£8,904</u>** Public Transport Infrastructure Contribution indexed from Sept 2020</u> using Baxter Index

**Towards:** Provision of Real Time Information unit in the bus shelter which are to be provided by the developer.

**Justification:** To encourage public transport use, people will need the reassurance that the bus is on its way, especially given local traffic congestion.

**Calculation:** The amount will be based on the cost to <u>OCC</u> to provide the unit, together with a commuted sum for maintenance.

## **<u>£TBCTravel Plan Monitoring Fee</u>** indexed from December 2020 using <u>RPI-x</u>

**Justification:** To ensure that the travel plan is delivered and revised as required in order to be effective, OCC will need to monitor it over its life.

**Calculation:** The amount is based on the staff cost for OCC to monitor the travel plan, based on an estimate of the time it will take over the life of the plan.

<u>£65,000 Public Rights of Way Contribution</u> indexed from November 2021 using Baxter

Justification: The improvements are required to ensure that a range of sustainable travel options are provided to the site, as well as ensuring safe and suitable access from the nearest settlements. In particular this would assist in making it possible to cycle to the site from the nearby large and growing settlement at Heyford Park.

Calculation: The amount is based on a desk top estimate for negotiating upgraded access rights and undertaking surface and furniture measures. OCC would agree to a longstop of 10 years in the event that if it is not possible to negotiate upgraded rights.

## S278 Highway Works:

An obligation to enter into a S278 Agreement will be required to secure mitigation/improvement works, including:

- Access junction- details to be agreed, including bus turning facility and bus stop
- Footway/cycleway linking the site with Elmsbrook, Bicester
- Crossing facilities over the B4100 at the service area, plus minor improvements to bridleway crossing to west of site

## Notes:

This is to be secured by means of S106 restriction not to implement development (until S278 agreement has been entered into. The trigger by which time S278 works are to be completed shall also be included in the S106 agreement. With this site, the safety of construction traffic access will be critical, so the junction may be required to be constructed prior to construction activity on the rest of the site. The footway/cycleway would be required prior to first occupation.

Identification of areas required to be dedicated as public highway and agreement of all relevant landowners will be necessary in order to enter into the S278 agreements. A detailed survey of the highway boundary should be carried out to ensure that the adopted highway abuts the land holding. This may not be the case where there is a

ditch, and all highway record plans provided by OCC contain a caveat about this. Such 'gaps' can lead to significant delays to S278 agreements.

## S38 Highway Works – [Spine Road ][/ On-Site Rights of Way]:

An obligation to provide a bus turning loop will be required for the development. The S106 agreement will secure delivery via future completion of a S38 agreement.

## Planning Conditions:

In the event that permission is to be given, the following planning conditions should be attached:

No development shall commence unless and until full details of the means of access between the land and the highway, including, position, layout, construction, drainage and vision splays have been submitted to and approved in writing by the Local Planning Authority. The means of access shall be constructed in strict accordance with the approved details and shall be retained and maintained as such thereafter. Agreed vision splays shall be kept clear of obstructions higher than 0.6m at all times.

Reason - In the interests of highway safety and to comply with Policy ESD15 of the Cherwell Local Plan 2011-2031 Part 1 and Government guidance contained within the National Planning Policy Framework.

No development shall commence unless and until full specification details (including construction, layout, surfacing and drainage) of the turning areas and parking spaces within the curtilage of the site, arranged so that motor vehicles may enter, turn round and leave in a forward direction and vehicles may park off the highway, have been submitted to and approved in writing by the Local Planning Authority. The turning area and car parking spaces shall be constructed in accordance with the approved details prior to the first occupation of the development shall be retained as such for the parking and manoeuvring of vehicles at all times thereafter.

Reason - In the interests of highway safety and to comply with Policy ESD15 of the Cherwell Local Plan 2011-2031 Part 1 and Government guidance contained within the National Planning Policy Framework.

Prior to the first use or occupation of the development hereby permitted, covered cycle parking facilities shall be provided on the site in accordance with details which shall be firstly submitted to and approved in writing by the Local Planning Authority. Thereafter, the covered cycle parking facilities shall be permanently retained and maintained for the parking of cycles in connection with the development.

Reason - In the interests of sustainability, to ensure a satisfactory form of development and to comply with Government guidance contained within the National Planning Policy Framework. Prior to the first occupation of the development, a scheme for the provision of vehicular electric charging points to serve the development shall be submitted to and approved in writing by the Local Planning Authority. The vehicular electric charging points shall be provided in accordance with the approved details prior to the first occupation of the unit they serve, and retained as such thereafter.

Reason - To comply with Policies SLE 4, ESD 1, ESD 3 and ESD 5 of the adopted Cherwell Local Plan 2011-2031 Part 1 and to maximise opportunities for sustainable transport modes in accordance with paragraph 110(e) of the National Planning Policy Framework

Prior to commencement of the development hereby approved, a Construction Traffic Management Plan (CTMP) shall be submitted to and approved in writing by the Local Planning Authority. Thereafter, the development shall not be carried out other than in accordance with the approved CTMP.

Reason: In the interests of highway safety and the residential amenities of neighbouring occupiers and to comply with Government guidance contained within the National Planning Policy Framework.

Prior to the first occupation of the development hereby approved, a Travel Plan, prepared in accordance with the Department of Transport's Best Practice Guidance Note "Using the Planning Process to Secure Travel Plans", shall be submitted to and approved in writing by the Local Planning Authority. Thereafter, the development shall be implemented and operated in accordance with the approved details.

Reason - In the interests of sustainability and to ensure a satisfactory form of development, in accordance with Government guidance contained within the National Planning Policy Framework.

The development shall not be occupied until a signage strategy for the site has been submitted and approved in writing by the Local Planning Authority. The development shall thereafter be completed and signage installed in accordance with the approved details prior to the first use of any building on the site.

Reason - To ensure that traffic is directed along the most appropriate routes and to comply with Government guidance contained within the National Planning Policy Framework.

*Subject to further traffic modelling:* The development shall not be occupied until the planned scheme of enlargement and signalisation of Baynards Green roundabout, or other similar capacity improvement scheme as agreed with National Highways, has been implemented at Baynards Green junction.

## Officer's Name: Joy White

**Officer's Title:** Principal Transport Planner **Date:** 2 November 2021
### Lead Local Flood Authority

#### Recommendation:

Objection

#### Detailed comments:

Unable to find FRA in the submission.

Where car parking spaces and access roads are proposed, water quality standards must be met. Proposed development needs a water quality assessment in accordance with Section 4 and Section 26 of SuDS Manual.

Proposed development must meet local standards, L19, "At least one surface feature should be deployed within the drainage system for water quality purposes, or more features for runoff which may contain higher levels of pollutants in accordance with the CIRIA SuDS Manual C753. Only if surface features are demonstrated as not viable, then approved proprietary engineered pollution control features such as vortex separators, serviceable/ replaceable filter screens, or pollution interceptors may be used"

Furthermore, a detailed surface water management strategy must be submitted in accordance with the <u>Local Standards and Guidance for Surface Water Drainage on</u> <u>Major Development in Oxfordshire</u>

In line with this guidance, runoff must be managed at source (i.e. close to where it falls) with residual flows then conveyed downstream to further storage or treatment components, where required. The proposed drainage should mimic the existing drainage regime of the site as much as possible.

The applicant is required to provide a Surface Water Management Strategy in accordance with the following guidance:

The <u>Sustainable Drainage Systems (SuDS) Policy</u>, which came into force on the 6th April 2015 requires the use of sustainable drainage systems to manage runoff on all applications relating to major development. As well as dealing with surface water runoff, they are required to provide water quality, biodiversity and amenity benefits in line with

National Guidance. The <u>Sustainable Drainage Systems (SuDS) Policy</u> also implemented changes to the <u>Town and Country Planning (Development Management</u> <u>Procedure) (England) Order 2010</u> to make the Lead Local Flood Authority (LLFA) a statutory Consultee for Major Applications in relation to surface water drainage. This was implemented in place of the SuDS Approval Bodies (SAB's) proposed in Schedule 3 of the Flood and Water Management Act 2010.

All full and outline planning applications for Major Development must be submitted with a Surface Water Management Strategy. A site-specific Flood Risk Assessment (FRA) is also required for developments of 1 hectare or greater in Flood Zone 1; all developments in Flood Zones 2 and 3 or in an area within Flood Zone 1 notified as having critical drainage problems; and where development or a change of use to a more vulnerable class may be subject to other sources of flooding.

Further information on flood risk in Oxfordshire, which includes access to view the existing fluvial and surface water flood maps, can be found on the <u>Oxfordshire flood tool</u> <u>kit</u> website. The site also includes specific flood risk information for developers and Planners.

The <u>National Planning Policy Framework (NPPF)</u>, which was updated in July 2021 provides specific principles on flood risk (Section 14, from page 45). <u>National Planning</u> <u>Practice Guidance</u> (NPPG) provides further advice to ensure new development will come forward in line with the NPPF.

Paragraph 159 states; "Inappropriate development in areas at risk of flooding should be avoided by directing development away from areas at highest risk (whether existing or future). Where development is necessary in such areas, the development should be made safe for its lifetime without increasing flood risk elsewhere."

As stated in Paragraph 160 and 161 of the NPPF, we will expect a sequential approach to be used in areas known to be at risk now or in the future from any form of flooding.

The <u>Non-statutory technical Standards for sustainable drainage systems</u> were produced to provide initial principles to ensure developments provide SuDS in line with the NPPF and NPPG. Oxfordshire County Council have published the "<u>Local Standards and Guidance for Surface Water Drainage on Major Development in Oxfordshire</u>" to assist developers in the design of all surface water drainage systems, and to support Local Planning Authorities in considering drainage proposals for new development in Oxfordshire. The guide sets out the standards that we apply in assessing all surface water drainage proposals to ensure they are in line with National legislation and guidance, as well as local requirements.

The SuDS philosophy and concepts within the Oxfordshire guidance are based upon and derived from the CIRIA <u>SuDS Manual (C753)</u>, and we expect all development to come forward in line with these principles.

In line with the above guidance, surface water management must be considered from the beginning of the development planning process and throughout – influencing site layout and design. The proposed drainage solution should not be limited by the proposed site layout and design.

Wherever possible, runoff must be managed at source (i.e. close to where it falls) with residual flows then conveyed downstream to further storage or treatment components, where required. The proposed drainage should mimic the existing drainage regime of the site. Therefore, we will expect existing drainage features on the site to be retained and they should be utilised and enhanced wherever possible.

Although we acknowledge it will be hard to determine all the detail of source control attenuation and conveyance features at an outline stage, we will expect the Surface Water Management Strategy to set parameters for each parcel/phase to ensure these are included when these parcels/phases come forward. Space must be made for shallow conveyance features throughout the site and by also retaining existing drainage features and flood flow routes, this will ensure that the existing drainage regime is maintained, and flood risk can be managed appropriately.

Drainage Pro-Form

Officer's Name: Sujeenthan Jeevarangan Officer's Title: LLFA Planning Engineer Date: 18 November 2021 Application no: 21/03268/OUT Location: NW Of Baynards House, Ardley

#### **Archaeology**

#### Recommendation:

Objection

#### Key issues:

The site is located in an area of archaeological interest on the site of a medieval and post medieval green mentioned in historical records. An archaeological desk based assessment will need to be undertaken for the site to assess the potential of any proposed development to impact on archaeological deposits and heritage assets. The results of an archaeological field evaluation will also need to be submitted along with any planning application for the site.

#### Legal agreement required to secure:

Conditions:

Informatives:

#### **Detailed comments:**

The site is located in an area of archaeological interest immediately south of the site of a medieval and post medieval green mentioned in historical records. The area of the green has been suggested to be either the site of medieval jousting or a camp site for these jousts, horse racing and a rendezvous site during the <u>C17th</u> civil war. A number of possible Bronze or Iron Age banjo enclosures have been recorded in the vicinity of the site from aerial photographs and a ring ditch has been recorded <u>500m</u> north east of the site.

An archaeological desk-based assessment will need to be undertaken for the site to assess the potential of any proposed development to impact on archaeological deposits and heritage assets.

A written scheme of investigation has been agreed for this desk-based assessment and a short statement on the historic environment has been submitted with this application. This submitted document however does not however appear to contain the whole assessment as set out in the agreed <u>WSI</u>. This will need to be submitted.

A programme of archaeological evaluation will need to be undertaken on the site and the report submitted ahead of the determination of any planning application. This must be carried out by a professionally qualified archaeological organisation and should aim to define the character and extent of the archaeological remains within the application area, and thus indicate the weight which should be attached to their preservation. This evaluation must be undertaken in line with the Chartered Institute for Archaeologists standards and guidance for archaeological evaluation including the submission and agreement of a suitable written scheme of investigation.

This information can be used for identifying potential options for minimising or avoiding damage to the archaeology and on this basis, an informed and reasonable decision can be taken.

Officer's Name: Richard Oram Officer's Title: Archaeology Lead Date: 27 October 2021

#### Annex A National Highways' assessment of the proposed development

National Highways has been appointed by the Secretary of State for Transport as a strategic highway company under the provisions of the Infrastructure Act 2015 and is the highway authority, traffic authority and street authority for the Strategic Road Network (SRN). The SRN is a critical national asset and as such we work to ensure that it operates and is managed in the public interest, both in respect of current activities and needs as well as in providing effective stewardship of its long-term operation and integrity.

#### **Recommended Non-Approval**

It is recommended that the application should not be approved for a further period of three months from the date of this response to allow the applicant to provide the additional information required.

#### Reasons

National Highways has engaged with the applicant and their consultants on this development proposal since the pre-application stage in July 2021.

National Highways previously issued a holding recommendation response for this application on 25 July 2022. In our response, we noted that more detailed information was required regarding the extent of the proposed geotechnical activity, as well as the associated potential impact on the operation of the adjacent SRN. It was also noted that the outcome of this would, in turn, affect our review of the proposed drainage arrangements for the site.

Following the submission of this additional information, National Highways will be in a position to provide comments regarding application 21/03266/F.



#### **APPENDIX D**

West Northants Council Response



#### Town and Country Planning Act 1990 (As Amended) Local Highway Authority (LHA) Response

Application Reference	21/03266/F				
Proposal	Site clearance, construction of new and temporary internal roads, an int station, diversion of an existing over and soft landscaping. <b>Amendment</b> associated with applications 21/032 information comprising site sections information on Bio Diversity Net gain biodiversity area put forward by the	site access from the B4 ernal roundabout and a rhead power cable and p <b>details</b> Full application t 67/OUT & 21/03268/OU through Junction 10 site n for Piddington site, an applicants.	100, permanent foul drainage public right of way, for access T Further es and off-site		
Location	OS Parcel 2636 NW Of Baynards House, Ardley				
Case Officer	Joy White/David Lowin				
Date Consulted	31/03/2022 Date Sent 14/03/2022				

Further to the response made in November 2021 by West Northants Council (WNC) acting as the local highwy authotity in respect of the above planning application, the LHA have the following observations and requests to make;

We understand that a Revised Transport Assessment is currently being prepared by the applicant for this site that includes tests via the Bicester Model that should identify other traffic flows than previously assumed and considered.

This is welcomed by the LHA as it has come to our attention that a number of residents in West Northants villages; predominantly those living at Aynho, fear that significant volumes of light traffic associated with this proposed site, will be attracted to using the local highway network through and around these villages. Whilst the LHA are fully aware and supportive of the fact that all taxed and insured vehicles should be able to travel freely on the network, we would request that a data counting exercise be undertaken in order to prove or disprove this suggestion.

The LHA therefore request that the consultant undertake counts of traffic coming from the north / west / east to the site, which will then allow us to consider actual traffic flows affecting Aynho and Croughton villages, which can then be used as base model data for the Bicester Transport Model future year tests and any detailed junction capacity assessments within Aynho that are the concern WNC.

We request that monitoring using manual classified counts be undertaken over three days in three neutral weeks, as detailed on the plan section overleaf, and a report provided to evidence traffic patterns.

Planning Permission does not give or imply permission for adoption of new highway or to implement any works within the highway and / or a Public Right of Way



This will enable WNC to see through traffic from north to south and also left turners / right exits that go into Croughton. This could also identify B4031 west of the site traffic patterns

Should the residents fears prove to be founded then possibly it may be reasonable to request traffic that further horizontal traffic calming features be installed to support the residents in these villages.

#### Public Rights of Way

The application site is not affected by a Public Right of Way

HULLY

Hayley Usher Development Management Engineer

For Assistant Director for Highways and Waste One Angel Square Angel Street Northampton NN1 1ED Hayley.usher@westnorthants.gov.uk www.westnorthants.gov.uk

Planning Permission does not give or imply permission for adoption of new highway or to implement any works within the highway and / or a Public Right of Way



#### **APPENDIX E**

Tritax Symmetry Masterplan

# Symmetry Park, Ardley



# Illustrative Masterplan

RevDateByDescriptionP0818/03/24KMAccess Updated

### Key:



\*

Indicative Park Trail







#### Architects + Masterplanners

Waterfront House 2a Smith Way Grove Park Enderby Leicester LE19 1SX

t: +44 (0)116 247 0557

www.stephengeorge.co.uk

Symmetry Park, Ardley M40 Junction 10

Drawing Name: Illustrative Masterplan - Option 3 - NSA

Drawing Stage	e: P	RELIMI	NARY			
Suitability: S0 - Work In Progress						
SGP File Ref:	14-019-S	GP-XX->	XX-DR-A	∿-001010-P8 Pla	nning Iss	ue.dv
14-019	01/2023	KM	MMS	1:2000 @ A1	P8	
SGP Project No:	Date:	Drawn:	Team:	Scale:	Rev:	
Drawing Numl	per:					
14-019 -	SGP->	XX - X	X - DI	R-A- 001	010	
Project Code (	Driginator Vo	olume Le	vel Typ	pe Role Nu	mber	



#### **APPENDIX F**

B4100 Active Travel Route – Testing Arrangement

1	7213-30-GA- 1	1 (1) 7213-30-GA-1	(2) (2) Length of C	<sup>3</sup> ·30. GA = (7) 7 = 7.3 - 30. GA = 2 Or GA = 2 Cycle Path		3-30-GA-3 17213.	(1) $^{30}-G_{A-3}(2)$	7>273-30	$G_{A-4}(7)$ 17213-30-6	c 172 54-4 (2)	13-30-GA- 1;
	Widths	2.0m	2.5m	>2.5m							
	Length	~2050m	~1550m	~1050m							
Based upon the ORD THE CONTROLLER ( © Crown Copyright A	NANCE SURVEY MAPS with the per OF HER MAJESTY'S STATIONERY ( L 100030412	mission of OFFICE			-	REV	DESCRIPTION	DRAWN INITIALS D.			

© David Tucker Associates









REV	DESCRIPTION	DRAWN	INITIALS	DATE







REV	DESCRIPTION	DRAWN	INITIALS	DATE







REV	DESCRIPTION	DRAWN	INITIALS	DATE





© David Tucker Associates

REV	DESCRIPTION	DRAWN	INITIALS	DATE



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

	<u>KEY</u>
[]]]	HIGHWAY MAINTAINABLE AT PUBLIC EXPENSE
	POTENTIAL VEGETATION IMPACT
	ANCIENT WOODLAND
	PROPOSED CYCLEWAY
	EXISTING CARRIAGEWAY
	EXISTING CARRIAGEWAY EDGE WITH KERB
	CARRIAGEWAY EDGE WITHOUT KERB
	EXISTING FENCELINE
	BANK/DITCH
	PROPOSED ROAD MARKINGS

DRAWING TITLE		PROPOSED CONCEF GENERAL AF	CYCLEWAY PT PLAN RRANGEMENT	
scale	drawn by	date	drawing №	REVISION
1:500@A1	BM	APR 24	17213-30-GA-6	H



Ŷ
en e
<u> 6</u>

JOB TITLE M4	O JUNCT	10N 10		CLIEN	ALBIC	N LAND	
DRAWING TITLE		PROPO CO CRO	DSED NCEF DSS S	CYCLEV T PLAN SECTIONS	VAY S		
scale 1:100@A3	DRAWN BY		24	drawing № 17	213-30-	CS-1	REVISION H





#### **APPENDIX G**

Bicester Traffic Model Uncertainty Log

#### A099211-05 Bicester Transport Model BTM\_UncertaintyLog\_Post2022Update\_Clean\_(2026-2031)-Tritax

Summary of Spreadsheet: Uncertainty log for Bicester Transport Model (2022 Update Version)

Original Author: Sacha Pearson

Notes: This version of the uncertainty log has been created specifically in relation to the Tritax Symmetry Barnards Green project. The 2026 and 2031 Reference Case scenarios produced for that project removed the Baynards Green improvement works, as per email correspondance between Sacha Pearson (Tetra Tech) and James Bancroft (Vectos) of 18th October 2022.

	SUMMARY OF WORKSHEETS				
Tab Name	Brief Explanation				
Residential	Presents data for residential developments				
Employment	Presents data for employment developments				
Retail	Presents data for retail developments				
Education	Presents data for education developments				
Infrastructure	Presents data for infrastucture schemes				

	CHECK LOG								
Date	Initials	Description							
05/07/2022	SP	Spreadsheet created from file 'BTM_UncertaintyLog_Post2022Update_ZoneDistribution'							

	ISSUE LOG									
Date     Initials     Description										
05/07/2022	SP	Issued to Jubb in relation to Hawkwell Village development								
06/07/2022	SP	Issued to Vectos in relation to Tritax Symmetry Baynards Green development								
17/01/2023	SP	Inf144 (HPA Mitigation: M40 J10 - Signals on Baynards Green roundabout) removed								
17/01/2023	SP	Issued to Vectos in relation to Tritax Symmetry Baynards Green development								

ID	Name	Description / Planning Reference / Notes	Dev Type	2026 <sup>(2)</sup>	2031 <sup>(2)</sup>	Certainty
Res101	Bicester Community Hospital Kings End	12/00809/F	C3Dwellings	14	14	Completed (March 2017)
Res102	Former Oxfordshire County Council Highways Depot	Competed by mid 2016 so traffic is in the base model traffic counts	C3Dwellings	62	62	Completed (March 2016)
Res103	Gavray Drive (Bicester 13)	15/02074/OUT, 17/01253/REM	C3Dwellings	100	300	More Than Likely
Res104	Graven Hill (Bicester 2)	11/01494/OUT. 17/02107/LDO	C3Dwellings	846	1496	More Than Likely
Res105	Kingsmere (South West Bicester) - Phase 1	06/00967/OUT. 14/010207/OUT. 16/00192/REM. 11/01840/F. 13/00433/OUT. 17/01849/F. 18/01721/OUT.	C3Dwellings	1740	1740	Near Certain
Res106	Land at Skimmingdish Lane	14/00697/F	C3Dwellings	46	46	Completed (Sept 2019)
Res107	Land South of Church Lane (Old Place Yard and St Edburgs)	16/00043/F. 20/02405/F	C3Dwellings	14	14	Near Certain
Res108	Land South of Talisman Road	09/01592/OUT. 13/01226/REM	C3Dwellings	125	125	Completed (March 2018)
Res109	North West Bicester Eco-Town Exemplar Project	10/01780/HYBRID. 21/01227/F.	C3Dwellings	396	396	Near Certain
Res110a	North West Bicester Phase 2 (Himley Village)	14/02121/OUT. 21/02339/REM	C3Dwellings	500	500	Near Certain
Res110b	North West Bicester Phase 2 (remainder)	17/00455/HYBRID. 14/02121/OUT. 14/01641/OUT. 14/01384/OUT. 21/01630/OUT.	C3Dwellings	0	1080	More Than Likely
Res111	South East Bicester (Wretchwick Green) (Bicester 12)	16/01268/OUT	C3Dwellings	150	1050	More Than Likely
Res112	South West Bicester Phase 2 (Bicester 3)	13/00847/OUT. 18/00647/REM. 18/01777/REM. 19/02225/REM.	C3Dwellings	709	709	Near Certain
Res113	St Edburg's School, Cemetery Road	17/01578/OUT	C3Dwellings	10	10	More Than Likely
Res114	Winners Bargain Centres, Victoria Road	Completed in late 2016 so traffic will not be in the base traffic counts	C3Dwellings	42	42	Completed (Sept 2016)
Res115	Windfall Allowance (<10 dwellings)	Note: This allowance cannot be included in the model due to lack of location details.	C3Dwellings	183	208	-
Res116	Land at Bessemer Close / Launton Road	15/02074/OUT. 17/01253/REM.	C3Dwellings	70	70	Completed (Dec 2019)
Res117	Cattlemarket	01/00073/CDC	C3Dwellings	40	40	More Than Likely
Res118	Former RAF Upper Heyford	Local Plan allocation (2015) - Villages 5. 10/01642/OUT. 13/01811/OUT. 16/00627/REM. 16/00263/F. 16/00627/REM. 16/02446/F. 19/00446/F. 15/01357/F. 18/00825/HYBRID.	C3Dwellings	1374	2124	Near Certain
Res118a	Upper Heyford	These two sites (represented by different zones in the BTM)	C3Dwellings	761	761	Near Certain
Res118b	Heyford Park Allocation	comprise the total dwellings detailed in the AMR reports for	C3Dwellings	613	1363	Near Certain
Res119	Transco Depot, Launton Road	Competed by mid 2016 so traffic is in the base model traffic counts	C3Dwellings	23	23	Completed (Dec 2013)
Res120	West of Chapel St. & Bryan House	Competed by mid 2016 so traffic is in the base model traffic counts	C3Dwellings	5	5	Completed (sept 2013)
Res121	Inside Out Interiors, 85-87 Churchill Road, Bicester	16/02461/OUT. 19/01276/REM.	C3Dwellings	10	10	More Than Likely
Res122	Kings End Antiques, Kings End, Bicester	19/02311/OUT	C3Dwellings	10	10	More Than Likely
Res123	Bicester Gateway Business Park, Wendlebury Road, Bicester (Phase 1B)	20/00293/OUT	C3Dwellings	160	273	More Than Likely
Res124	The Paddocks, Chesterton	14/01737/OUT. 16/00219/REM.	C3Dwellings	45	45	More Than Likely
Res125	Land East Of Jersey Cottages Station Road, Ardley	18/01881/F	C3Dwellings	13	13	More Than Likely
Res126	Land North Of Oak View, Weston On The Green	13/01796/OUT. 16/00574/REM. 17/01458/OUT. 18/02066/F.	C3Dwellings	24	24	More Than Likely

Bicester Transport Model Uncertainty Log - 2022 Update Residential Developments

	Namo	Description / Planning Reference / Notes				Cortainty
ID	INAITIE	Description / Planning Reference / Notes	Deviype	2026	2031	Certainty
Ret1	Bicester Village Phase 4	<b>15/00082/F</b> : Demolition of existing Tesco food store, and petrol filling station to provide an extension to the Bicester Village retail outlet centre. Comprises 5,181 sqm (GIA) of class A retail floorspace. Development was completed by 2019, but after base model was validated using 2016 traffic count data.	A1	5181	5181	Completed
Ret2	Bicester Gateway (Kingsmere Retail) (Bicester 3)	<b>16/02505/OUT</b> : Bicester Gateway (Kingsmere Retail) Four Class A1 (retail) units, one Class A3 (cafe/restaurants) unit, a Class D2 (gym) unit. The planning application form sets the development quantum at 7,832sqm of A1, 443sqm of A3 and 967sqm of D2 (a total of 9,242sqm). The TA that accompanied the planning application used slightly different floor areas to calculate trips, these being 7,472sqm of non-food retail (A1), 891sqm of food retail (A1), 494sqm for a restaurant (A3) and 1,056sqm for a gym (D2) which gives a total of 9,913sqm. The development was under construction in July 2019 and open by 2021.	A1 / A3 / D2	9913	9913	Completed
Ret3	McDonalds Drive-thru	<b>17/00889/F:</b> Two storey drive-thru restaurant (class A3/A5) with flor area of 548sqm. Development was completed by 2019, but after base model was validated using 2016 traffic count data.	A1 / A5	548	548	Completed

Notes: (1) Completion rates are in square metres (sqm) of floor area.

### Bicester Transport Model Uncertainty Log - 2022 Update Retail Development

ID	Name	Description / Planning Reference / Notes	Dev Type	2026	2031	Certainty	
		20/02454/REM: Reserved Matters application to 19/00347/OUT - layout, scale, appearance and landscaping details for Phase 2 of the employment development (23,226 sqm flexible B1c and / or B2 / and/or B8 floorspace), associated	B2	15,900	15.900		
Emp101	NW Bicester (Bicester 1)	utilities and infrastructure and swale (SuDS) and strategic green infrastructure landscaping.	B8	37,100	37,100	Completed	
		19/00349/REM: Reserved Matters to 19/00347/OUT - layout, scale, appearance and landscaping details for Phase 1 of the employment development (21,584 sq.m flexible B1c / B2 / B8 floorspace) and earthworks for Phase 2 of the	Total	44,810	44,810		
		Subsequent planning applications (15/02150/01/IT 16/01802/01/IT 18/00325/01/IT 19/00327/01/IT) bave varied the planning conditions, however the quantum of B-class employment uses is unchanged	B1(a)	1,080	2,160		
			B1(b)	1,200	2,400		
Emp102	Graven Hill (Bicester 2)	1/0/1494/OLIT: Redevelopment of former MOD sites including employment floorspace comprising up to B1(a) 2 160spm B1(b) 2 400spm B1(c) and B2 20 520spm and B8 uses up to 66 960spm. The TA that accompanied the	B2	10,260	20,520	Near Certain	
		antication did not differentiate having B(c) and B(2) and user TPICS data for a combined that for a combined that have a combined to be according to the transmission of transmission of the transmission of t	B8	34,079	68,158		
			Total	46,619	93,238		
Emp103	Bicester Business Park (Bicester 4	17/02534/OUT: The erection of a business park of up to 60,000 sq.m (GEA) of flexible Class B1(a) office / Class B1(b) research & development floorspace. Outline permission was granted in May 2020. The TA that accompanied the planning application used pre-agreed trip rates and did not differentiate between B1(a) and B1(b) uses. B1(a) has therefore been used as a worst case scenario.	B1(a)	30,000	60,000	Near Certain	
Emp104	Bicester Gateway	20/00293/OUT: Outline application (Phase 1B) for approximately 4,413 sqm B1 office space (47,502 sqft) GIA, approximately 15,030 sqm (161.800 sqft) GIA of residential space (comprising approximately 273 residential units). The 273 dwellings have been included in the updated residential element of the uncertainty log, therefore the B1 area from 16/02586/OUT is superseded by the 4,413 sqm.	B1(a)	4,413	4,413	Near Certain	
	(Dicester 10)	10/00/2000/U1: Phase 1 of the proposed new business park (bloester Gateway) comprising up to 14,972 sqm (Gross External Area of B1 employment based buildings, blus a notel (up to 149 bedrooms). The application form details 10,000 sqm of B1(a) and 2,726 sqm of B1(b) [internal floor area], however the TA that accompanied the planning application calculated traffic based purely on B1(a) office trip rates from TRICS.	Hotel employees	50	50	Completed	
	NE Bicester Business Park	15/01012/OUT: Land North East Of Skimminodish Lane: Development of up to 48.308som of employment floorspace (Class B1c. B2, B8 and ancillary B1a uses). The TA that accompanied the application accounted for traffic being	B2	14,492	14,492		
Emp105	(Bicester 11)	cenerated from 14 492 som of B2 and 33 816 som of B8 land use	B8	33,816	33,816	Completed	
	, ,		Total	48,308	48,308		
Emp106	Wretchwick Green	10/01/200/D01 - Outline application for residential development including up to 1,500 dwillings, up to na or employment and for bit and / or bo uses, a local center with relation to community up to 1,500 dwillings, up to na or employment and for bit and / or bo uses, a local center with relation to community up to 1,500 dwillings, up to have the more than the transfer and to be used.	B1(c)	22,733	45,465	Near Cartain	
Empiloo	(Bicester 12)	School. Ine IA that accopanies the planning application did not specify a split or B1 / B8 use, and did not calculate trips - instead it used tranic data directly from the B1/M. The B1 / B6 floor areas from the previous Uncertainty Log nave	B8	15,913	31,826	Near Certain	
		Interforce been maintained. 9/Init 2010: Full Departments for 23 195eem of logistics floor enone within Class B8 of the Town and Country Planning Lise Classes Order 1987, including appliance Class E/o/(i) (offices) (Unit C). NOTE: This is on the same hold of	I Otal	19 204	19 204		
		Indicating termission of 20, 100 cm of 100 cm	Do (Units AT and A2)	14 200	14 200		
Emp107	SE Bicester (Symetry Park)	2/10/133/1F: Full Planning Permission for 22 986sam of logistics floor snace within class B8 of the Town and Country Planning Use Classes Order 1987. including 1 399sam ancillary Class F(n)(i) offices comprising (i) Unit C1: 15 267sam	B8 (Unit C)	23 105	23 105	Near Certain	
	(Bicester 12)	of Class B8 and 729 sum of ancillary Class F(a) forfaces. (ii) Unit C2: 7719 sum of Class B8 and 670 sum of ancillary Class F(a) (ii) offices. NOTE: These are on the same on the data by the class F(a) (iii) offices.	B8 (Phase 2)	4 635	4 635		
		20/00/53/0F: (Symmetry Park Phase 2 (9)() of the charge of the state o	Total	60 424	60 424		
Emp114	Bicester Village Phase 4	15/00082/F: Demolition of existing Tesco food store, petrol, filling station and part of the existing Bicester Village retail outlet centre, to provide an extension to provide new A class floor space. The TA accompanying the planning application for existing Bicester Village retail outlet centre, to provide an extension to provide new A class floor space. The TA accompanying the planning application for the existing Bicester Village retail outlet centre, to provide an extension to provide new A class floor space. The TA accompanying the planning application for the existing Bicester Village retail outlet centre, to provide an extension to provide new A class floor space. The TA accompanying the planning application for the existing Bicester Village retail outlet centre, to provide an extension to provide new A class floor space. The TA accompanying the planning application for the existing Bicester Village retail outlet centre, to provide an extension to provide new A class floor space. The TA accompanying the planning application for the existing Bicester Village retail outlet centre, to provide an extension to provide new A class floor space. The TA accompanying the planning application for the existing Bicester Village retail outlet centre, to provide an extension to provide new A class floor space. The TA accompanying the planning application for the existing Bicester Village retail outlet centre, to provide an extension to provide new A class floor space. The tax accompanying the planning application for the existing Bicester Village retail outlet centre, to provide an extension to provide new A class floor space. The tax accompanying the planning application for the existing Bicester Village retail outlet centre, to provide an extension to provide new A class floor space. The tax accompanying the planning application for the existing Bicester Village retail outlet centre, to provide an extension to provide an e	Retail employment	5,181	5,181	Completed	
Emp115	Bicester Gateway (Kingsmere Retail)	15/02059/20/UT: Dicester Gateway (Kingsmere - Retai) Four Dicester Gateway (Mingsmere - Retai) Four Dicester Gatew	Retail / leisure employment	9,913	9,913	Near Certain	
Emp116	McDonalds Drive-thru	Transmission in the same transmission is a transmission of a transmission. The development was dider considered in road 2015 and open by 2015.	Retail employment	548	548	Completed	
Emp117	Heyford Park Consented (2)	1700 lobs in total predicted. Already 1509 lobs in 2016. therefore scope for an additional 191 lobs.	Number of Jobs	191	191	Near Certain	
	Theytord Fark Consented		B1(a)	3165	6330		
E		18/00825/HYBRID: Hybrid planning application that includes 35175sam of new employment buildings, comprising up to 6330sam Class B1(a), 13635sam B1(b/c), 9250sam Class B2, and 5960sam B8. The TA that accompanied the		11443	22885		
Empiro	Heytord Park Allocated	planning aplication calculated employment trips based on there being B1(a), B2 and B8 development.	B8	2980	5960	Near Certain	
			Total	17,588	35,175		
Emp119	Great Wolf Lodge, Chesterton	19/02550/F: Redevelopment of part of golf course to provide new leisure resort (sui generis) incorporating waterpark, family entertainment centre, hotel, conferencing facilities and restaurants. Under the Employment section of the planning application form it is noted that the proposed development would have 460 equivalent number of full time employees.	Number of Jobs	460	460	Near Certain	
		This development was operational in 2016, so car / goods vehicle traffic flows from the development at that time will have been included in the base traffic count data, all be it that the site is not specifically modelled as a zone in the BTM. The proposed increase in waste to be processed will increase goods vehicle movements by <b>10 two-way trips per day</b> , as set out in the reports that accompanied the 2017 application.					
Emp120	Ardley Energy Recovery Facility (3)	CDC Ref 17/02104/CM, County Ref: MW/0085/17: Application seeking to increase the maximum limit of waste that can be processed by the Ardley Energy Recovery Facility (ERF) from 300,000 tonnes per annum to 326,300 tonnes per annum.	Number of Jobs	0	0	Completed	
		CDC Ref: 08/02472/CM, County Ref: MW/0044/08: The construction and operation of an energy from waste facility. The application form notes that there will be 40 employees.					
Emp121	Bicester Heritage (Hotel)	1801253/F: Erection of hotel and conference facility (Permission granted March 2020). Planning form detals a floor area of 18,003sqm, 343 bedrooms and 180 full-time equivalent employees. The TA that accompanied the planning application calculated trips based on number of bedrooms and using TRICS.	Number of Jobs	180	180	Near Certain	
Emp122	Bicester Heritage (Experience	21/01224/OUT: Outline planning application for Automotive Experience Quarter comprising Commercial, Business and Services uses (Class E), Light Industrial (Class B2), Local Community and Learning Uses (Class F) and vehicle	Number of Jobs	100	200	More than likely	
· ·	Quarter)	circuits (Sui Generis). Note: Application has not been decided yet - currently under consultation. The TA that accompanied the planning application calculates trips on a first principals basis, and assumes circa 200 full-time	Number of Visitors	313	625	More than likely	
			B1(c)	2,177	2,177		
E	Bicester Heritage (Extension to	18/01333/IF: Extension to existing Technical Site to provide new employment units comprising nexible B1(c) light industrial, B2 (general industrial), B6 (storage or distribution) uses with ancialary oncess, storage, display and sales. The TA	B2	2,177	2,177	0	
Emp123	technical site)	that accompanied the planning application details that there will be 6,530sqm of B1c / B2 / B8, but calulcates traffic generation based on traffic surveys of the existing site, and does not break the overall floor area down into individual land	B8	2,177	2.177	Completed	
		use classes. UCC have indicated that as of April 2022 the development has been built and occupied. Note: Velouiar access will be via the existing protity junction onto the A4221 Buckingham Road.	Total	6 530	6 530		
			D1(a)	0,000	7,000		
		19/07/08/01/Th Provide new employment units comprising R1 (Rusiness), R2 (Ceneral Industrial), R8 (Storage) and D1 (Education) uses with ancillary offices, storage, display and sales. The planning application form details that there will	D1(C)	3,000	7,331		
Emp124	Bicester Heritage (Innovation	be 21 994s m of non-residential floorsnace while the 1 that accompanied the policiation and policiation details that there will be 21 194s m of flort industrial workshops/while the mailtenance/Fire and	B2	3,666	7,331	Near Certain	
	Quarter)	callicates into contraction based on traffic surveys of the existing site and does not break the overall floor area down into individual and use classes	B8	3,666	7,331	Neal Certain	
			Total	10,997	21,994		
		19/01740/HYBRID: Hybrid' planning application comprising: - Outline planning permission for B1 development (Use Classes B1a and/or B1b and/or B1b;); highway works (including provision of a new roundabout at the junction between Vendee Drive and Wendlebury Road) Full planning permission for a health and racquets dub, associated access and car parking, outdoor tennis courts, air dome, outdoor swimming pool, spa garden and terrace, and associated	Number of Jobs (B1)	1,049	1,049		
Emp125	Bicester Catalyst	Iandscaping. The planning application from details that the development will employ 1159 staff. The planing statement details that the health and racquets club would generate in the order of 110 jobs. 200277978(HE: Reserved Matters application to 19(0)1740)(HYBRID - layout, scale, appearance and landscaping details for Phase 1 of the employment development (5,126 sqm GIA), enabling works for later phases and SuDS Swale delivery, with associated landscaping, utilities and access.	Number of Jobs (Health Club)	110	110	Under Construction	

Notes: (1) Completion rates are in square metres (sqm) of floor area, unless specified otherwise. (2) Heyford Park consented data is in number of jobs rather than floor area (3) This development was operational in 2016 so car / goods vehicle traffic flows will have been included in the base traffic count data. The extra 10 two-way HGV trips resulting from the increase in waste limit is not significant and will not be specifically modelled.

Bicester Transport Model Uncertainty Log - 2022 Update Employment Development

חו	Namo	Description / Planning Reference / Notes				Containty	
	Name	Description / Planning Reference / Notes	Dev Type	2026	2031		
Sch101	Bicester – SW (Kingsmere)	Due to open 2019	600 place secondary school	600	600	Near Certain	
Sch102	Bicester – SW (Kingsmere)	Possibly +420 places, most likely after 2021 but by 2026	Primary: Probably 2fe	420	420	More Than Likely	
Sch103	Bicester – S (Graven Hill)	Start delayed but still expected by 2026 (comment from CDC in October 2021)	Primary: 2 - 3fe	630	630	Near Certain	
Sch104	Bicester – NW (Ecotown)	+210 places in 2017; probably another +210 places by 2021; by 2026 say another +420 places; another +420 places possible by 2031 or might be later.	3 - 4 primaries	840	1260	More Than Likely	
Sch105	Bicester – NW (Ecotown)	Assume +600 by 2026; possibly another +600 by 2031	Secondary: size tbc	600	1200	More Than Likely	
Sch106	Bicester – SE	Possibly +420 places, most likely after 2021 but by 2026	Primary: 2fe	420	420	More Than Likely	
Sch107	Longfield	Longfield increase this year from 1.5fe to 2fe	Primary	79	101	Completed	
Sch108	Launton	Launton is looking at going up from 175 to 210 places from 2017, subject to consultation	Primary	35	35	Hypothetical	
Sch109	St Edburgs	St Edburg's is now 2fe in its new location, with actual pupil numbers still to rise.	Primary	348	528	Completed	
Sch110	Upper Heyford committed	These are additional places as part of the existing permission	Primary	0	280	Near Certain	
Sch111	Upper Heyford committed	These are additional places as part of the existing permission	Secondary	0	180	Near Certain	
Sch112	Upper Heyford allocation	These are additional places for the allocation	Primary	0	315	Reasonably Foreseeable	
Sch113	Upper Heyford allocation	These are additional places for the allocation	Secondary	0	315	Reasonably Foreseeable	

Notes: (1) Completion rates are in number of pupils.

### Bicester Transport Model Uncertainty Log - 2022 Update Education Development

ID	Name	Description / Planning Reference / Notes	Dev Type	2026	2031	Certainty
Inf101	London Road level crossing	Closure time was a total of 16 minutes during the 2016 base surveys. Do Minimum to assume total closure every hour for 31 minutes from 2026.	Infrastructure	Yes	Yes	Near Certain
Inf102	NW Bicester: Exemplar site and Himley Village (1)	linternal road network required to serve the Exemplar and Himley Village development sites.	Infrastructure	Yes	Yes	Near Certain
Inf103	NW Bicester: Strategic Link Road	This comprises the full NW Bicester Strategic Link Road	Infrastructure	No	Yes	More Than Likely
Inf104	SE Bicester Wretchwick Green	Associated Infrastructure	Infrastructure	Yes	Yes	Near Certain
Inf105	SE Bicester Additional Area	Access Arrangements	Infrastructure	Yes	Yes	More Than Likely
Inf107	Add infrastructure improvements and bus priority	(location to be determined)	Infrastructure	No	No	Hypothetical
Inf108	Vendee Drive improvements	To be determined	Infrastructure	No	No	Hypothetical
Inf109	Western peripheral corridor	Realigning the A4095 Howes Lane, including a new tunnel under the railway	Infrastructure	No	Yes	Near Certain
Inf110	Western peripheral corridor	Improvements to Lord's Lane / B4100 roundabout	Infrastructure	Yes	Yes	More Than Likely
Inf111	Eastern peripheral corridor	Replace level crossing on Charbridge Lane with a road bridge. Level crossing had been removed by April 2021 (based on google street view)	Infrastructure	Yes	Yes	Completed
Inf112	Eastern peripheral corridor	Upgrade the A4421 Charbridge Lane to dual facility plus junction improvements - to Charbridge Lane/ Bicester Rd roundabout	Infrastructure	No	No	Hypothetical
Int113	Eastern peripheral corridor	Upgrade the A4421 Skinmingdish Lane to dual facility plus junction improvements (to A4421/Bicester Rd roundabout)	Infrastructure	No	No	Hypothetical Mara Than Likely
111114	Eastern peripheral comdor:	A link through the SE development site to all connectivity and provide capacity. Design agreed and costed - fully crant funded and contract about to be lef for imminent construction start (these comments provided by CDC in October 2021). Construction	minastructure	res	res	WORE THAT LIKELY
Inf115	Pioneer Road roundabout improvements	Design agreed and obsets - uning grant contract about to be retroi miniment construction start these comments provided by CDC in October 2021). Construction funderway in November 2021 has do nonoble street view	Infrastructure	Yes	Yes	Near Certain
Inf155b	Ploughley Road	Ploughly Road / All Junction Improvements	Infrastructure	Yes	Yes	Near Certain
Inf116	Southern peripheral corridor:	A new south east link road - route options	Infrastructure	No	No	Hypothetical
Inf117	London Road level crossing solution	Hypothetial, therefore not included	Infrastructure	No	No	Hypothetical
Inf118	Oxford Rd / Pingle Drive juncrion	Upgrading of roundabout to signal controlled junction. Work completed by September 2018 (based on google street view)	Infrastructure	Yes	Yes	Completed
Inf119	A41/ Neunkirchen Way Roundabout (Rodney House)	Signalisation of priority roundabout. Construction underway in Sept 2018 and scheme complete by July 2019 (based on google street view)	Infrastructure	Yes	Yes	Completed
Inf120	A41 Oxford Rd / Boundary Way roundabout	Upgrading of priority roundabout to signal controlled 'hamburger' junction. Construction underway in Sept 2016 and scheme complete by May 2017 (based on google street	Infrastructure	Yes	Yes	Completed
Inf122	Bus Route S5/X5	Unter Lithan 8nh (2 nk via Kingsmere) Expected to be 4hnh (2hnh peak via Kingsmere) later in 2022	Infrastructure	Yes	Yes	Near Certain
Inf123	Bus Route 25A (Now renamed 250)	This is as per 2016 - Will be amended to operate Hewfords – Bicester only in early 2023. Eurofing secured to beyond 2031	Infrastructure	1ph	1ph	
Inf124	Bus Route E1	NW Biceset NE - Exists but funding expires the first and the start of the start of the bott and the bott and the start of	Infrastructure	No	No	More Than Likely
Inf125	Bus Route E2	NW Bicester SE - Dependent on progress of development north of Middleton Stoney Road	Infrastructure	No	6ph	More Than Likely
Inf126	Bus Route E3	NW Bicester NE - Likely to supersede bus service E1 – but hopefully there will not be a funding gap	Infrastructure	No	6ph	More Than Likely
Inf127	Bus Route 21	Highfield 2ph - Exists, commercial service	Infrastructure	Yes	Yes	Near Certain
Inf128	Bus Route SEB	SE Bicester 2ph - Services 29/H5 provides 2bph to Graven Hill/Ambrosden, contract until December 2024	Infrastructure	Yes	Yes	More Than Likely
Inf129	Bus Route GH	Graven Hill 2ph - See above, but likely service will exist beyond 2024 as additional funds secured from Graven Hill and Health Hub. Wretchwick Green will also provide funds for bus services once it is delivered	Infrastructure	Yes	Yes	More Than Likely
Inf130	Bus Route 26	Kingsmere 2ph - Exists – agreement was for 8 years after occupation of Phase 2 so probably until about 2028. Can be absorbed into other services (Heyford/Himley/Great Wolf) if needed	Infrastructure	Yes	Yes	More Than Likely
Inf131	Reading – Bedford with a headway of 60 minutes all day;	East West Rail comprises four new services:	Infrastructure	Yes	Yes	More Than Likely
Inf132	Reading – Milton Keynes with a headway of 60 minutes all day;	East West Rail comprises four new services:	Infrastructure	Yes	Yes	More Than Likely
Inf133	Bletchley – Milton Keynes with a headway of 60 minutes all day;	East West Rail comprises four new services:	Infrastructure	Yes	Yes	More Than Likely
Inf134	Milton Keynes – Marylebone with a headway of 60 minutes all day.	East West Rail comprises four new services:	Infrastructure	Yes	Yes	More Than Likely
Inf135	Evergreen3 from Chiltern Railway	Consists of the creation of a new service between Oxford and London Marylebone, with a headway of 30 minutes all day.	Infrastructure	N/A	N/A	Completed
Inf136	Kingsmere Retail Mitigation Scheme	16/02505/OUT: Bicester Gateway (Kingsmere Retail) Four Class A1 (retail) units, one Class A3 (cafe/restaurants) unit, a Class D2 (gym) unit. The highway improvement works set out in Appendix 6 the TA comprise changes on the A41 to the Pioneer Way, Lakeview Drive and B4030 junctions. These works were under construction in July 2019 and complete by 2021.	Infrastructure	Yes	Yes	Near Certain
Inf137	Bicester 10 transport mitigation	16/02586/OUT: TA that accompanied this application details improvements at the A41 / Vendee Drive Roundabout (increased flare lengths on Vendee Drive and Charles Shoulder Way arms) and the Vendee Drive /Wendlebury Road Priority Junction (conversion to a mini-roundabout).	Infrastructure	Yes	Yes	Near Certain
Inf138	Bicester 11 Transport Mitigation	15/01012/OUT: Land North East Of Skimmingdish Lane: Development of up to 48,308sqm of employment floorspace (Class B1c, B2, B8 and ancillary B1a uses). Highway access via a new ghost island junction onto Skimmingdish Lane. Highway mitighva mitighva pedestrian crossing on Skimmingdish Lane and alterations to A4421 / Lauton Road roundabout to increase the SE arm to two lanes at the give-way line. Development was built by Sept 2018 (based on google street view).	Infrastructure	Yes	Yes	Completed
Inf139	Skimmingdish Lane housing site mitigation	14/00697/F: Land To Rear Of Tangmere Close And Scampton Close, Skimmingdish Lane, Bicester (46 dwellings). Highway access via a new ghost island junction onto Skimmingdish Lane. Construction of development had not begun in May 2017, though access junction had been constructed. Development was built by Sept 2018 (based on access junction had been view).	Infrastructure	Yes	Yes	Completed
Inf140	A4095 / A4260 Shipton Junction	Quarry site access requirements. Signalisation of the existing A4095 / A4260 staggared priority crossraods junction.	Infrastructure	No	Yes	Near Certain
Inf141	Bicester 4	17/02534/OUT: The erection of a business park of up to 60,000 sq.m (GEA) of flexible Class B1(a) office / Class B1(b) research & development floorspace. The TA that accompanied the planning application detailed highway improvement works at the A41 / Lakeland Drive signal junction (additional right turn lane into Lakeland Drive and additional southbound ahead lane on the A41) and the Oxford Road / Middleton Stoney Road mini roundabout (additional lane at southbound give-way line). Outline permission was cranted in May 2020 and none of the improvement works were in place by 2021	Infrastructure	Yes	Yes	Near Certain
Inf142	Heyford Park Existing Permission Infrastructure	This comprises the access roads required to allow connection to the highway network only e.g. access junctions on Camp Road.	Infrastructure	Yes	Yes	Completed
Inf143	HPA Mitigation: Public transport	Increased bus services to to HPA site	Infrastructure	Yes	Yes	Near Certain
Inf145	HPA Mitigation: M40 J10	Signals on Padbury roundabout	Infrastructure	Yes	Yes	Near Certain
Inf146	HPA Mitigation: B430 / Unammed Road Junction	Existing three arm priority junction changed to signal controllled junction	Infrastructure	No	Yes	Near Certain
Inf147	HPA Mitigation:Hopcrofts Holt Junction	Increased capacity at existing signal controlled junction	Infrastructure	No	Yes	Near Certain
Inf148	HPA Mitigation: Middleton Stoney Junction	Improvements to existing four arm signal controlled junction in the centre of Middleton Stoney	Intrastructure	Yes	Yes	Near Certain
Inf150	HPA Mitigation: Ardley Village B430 Signalisation	Existing staggered priority crossroads changed to a signal junction	Intrastructure	Yes	Yes	Near Certain
Inf151	Great Wolf Lodge, Chesterton	19/02550/F: Redevelopment of part of golf course to provide new lesive resort (sui generis) incorporating waterpark, family entertainment centre, hotel, conferencing facilities and references. Vehicules are servided use a put short leberd anisity inseries a statule A005.	Infrastructure	Yes	Yes	Near Certain
Inf152	Bicester Heritage (Hotel)	jano restaurants, venicular access will be provided via a new ghost Island priority junction onto the A4095. 118/01253F: Erection of hotel and conference facility. Vehicular access will be provided via a new othost Island briority junction onto the A4221 Buckingham Road	Infrastructure	Yes	Yes	Near Certain
Inf153	Bicester Heritage (Experience Quarter)	21/01224/OUT: Outline planning application for Automotive Experience Quarter comprising Commercial, Business and Services uses (Class E), Light Industrial (Class B2), Local Community and Learning Uses (Class F) and vehicle circuits (Sui Generis). Vehicular access will be provided via a new ghost island priority junction onto the A4221 Buckingham Road.	Infrastructure	Yes	Yes	More Than Likely
Inf154	Bicester Heritage (Innovation Quarter)	19/02708/OUT: Provide new employment units comprising B1(c), B2, B8 and D1. Vehicular access will be provided via a new ghost island priority junction onto the A4221 Skimmingdish Lane. Note: Egress from the site onto Skimmingdish Lane will be left turn only.	Infrastructure	Yes	Yes	Near Certain
Inf155	Bicester Catalyst	19/01740/HYBRID: Outline planning permission for B1 development; highway works (including provision of a new roundabout at the junction between Vendee Drive and Wendlebury Road). Full planning permission for a health and racquets club. Vehicular access into the development will be via the new four-arm roundabout that will replace the existing Vendee Drive / Wendlebury Road Drive Jewer Vendee Drive / Wendlebury Road).	Infrastructure	Yes	Yes	Completed

Bicester Transport Model Uncertainty Log - 2022 Update Infrastructure Schemes



#### **APPENDIX H**

Albion Land Eastern Parcel Access General Arrangement



DRAWN	INITIALS	DATE	DRAWING STATUS	CHECKED BY	DATE

// \$ \$\$ +] ///	
	$+ \lambda / / /$
	$\langle \mathcal{V}     \rangle$
	$\mathcal{A}$
	K /////
	$ \parallel \parallel \parallel \parallel \mid $
0 50 Meters Based upon the ORDMANCE SURVEY MAPS with the permission of THE CONTROLLER OF HER MAJESTY'S STATIONERY OFFICE, 10 CONTROL	REV DESCRIPTION
0 50 Meters Based upon the ORDNANCE SURVEY MAPS with the permission of THE CONTROLLER OF HER MAJESTY'S STATIONERY OFFICE, © Corvin Copyright AL 100030412	REV DESCRIPTION
D and Tucker Associates	REV DESCRIPTION
0 50 Meters Based upon the ORDMAKE SURVEY MAPS with the permission of THE CONTROLLER OF HER MAJESTY'S STATIONERY OFFICE, © Crown Copyright AL 100030412 © David Tucker Associates	REV     DESCRIPTION
Based upon the ORDNANCE SURVEY MAPS with the permission of THE CONTROLLER OF HER MAJESTY'S STATIONERY OFFICE, © Crown Copyright AL 10003412 © David Tucker Associates	REV     DESCRIPTION



BY	DATE	
		t t
		dta





#### **APPENDIX I**

Albion Land Eastern Parcel Access LINSIG

#### Basic Results Summary Basic Results Summary

#### **User and Project Details**

Project:	M40 Junction 10
Title:	Eastern Site Access
Location:	B4100 nr Baynards Green
Client:	Albion Land
Additional detail:	
File name:	Eastern Site Access (May24).lsg3x
Author:	BM
Company:	David Tucker Associates
Address:	Henley-in-Arden

### Scenario 1: '26 AL Only AM' (FG11: '2026 BTM DEV 5 (AL Only) AM', Plan 1: 'Network Control Plan 1') Network Layout Diagram



## Basic Results Summary <u>Network Results</u>

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: Eastern Site Access	-	-	-		-	-	-	-	-	-	58.2%	0	0	0	5.2	-	-
AL Eastern Site Access	-	-	-		-	-	-	-	-	-	58.2%	0	0	0	5.2	-	-
1/1+1/2	B4100 EB Entry Ahead Right	U	ΑB		1	53:7	-	838	1980:1842	1379+181	53.7 : 53.7%	-	-	-	2.1	9.2	6.3
2/1	B4100 WB Entry Left Ahead	U	С		1	39	-	638	1972	1096	58.2%	-	-	-	2.6	14.4	9.0
3/1	Site Access Left	U	D	E	1	17	10	49	1842	461	10.6%	-	-	-	0.3	25.2	0.8
3/2	Site Access Right	U	D		1	7	-	16	1842	205	7.8%	-	-	-	0.2	38.4	0.3
			C1	PRO	C for Signalle PRC Over All	d Lanes (% Lanes (%)	b): 54.5 54.5	5 T 5	otal Delay for Si Total Delay	gnalled Lanes Over All Lanes	(pcuHr): (pcuHr):	5.20 5.20	Cycle Time (s):	72		-	

Basic Results Summary Scenario 2: '26 AL Only PM' (FG12: '2026 BTM DEV 5 (AL Only) PM', Plan 1: 'Network Control Plan 1') Network Layout Diagram



## Basic Results Summary <u>Network Results</u>

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: Eastern Site Access	-	-	-		-	-	-	-	-	-	69.8%	0	0	0	5.8	-	-
AL Eastern Site Access	-	-	-		-	-	-	-	-	-	69.8%	0	0	0	5.8	-	-
1/1+1/2	B4100 EB Entry Ahead Right	U	A B		1	53:7	-	550	1980:1842	1420+117	35.8 : 35.8%	-	-	-	1.0	6.8	3.7
2/1	B4100 WB Entry Left Ahead	U	С		1	39	-	767	1977	1098	69.8%	-	-	-	3.6	17.0	12.2
3/1	Site Access Left	U	D	Е	1	17	10	90	1842	461	19.5%	-	-	-	0.7	26.2	1.5
3/2	Site Access Right	U	D		1	7	-	39	1842	205	19.1%	-	-	-	0.4	40.0	0.8
	C1				PRC for Signalled Lanes (%): 28.9 PRC Over All Lanes (%): 28.9				Total Delay for Signalled Lanes (pcuHr): Total Delay Over All Lanes(pcuHr):			5.76 5.76	Cycle Time (s):	72	-	-	•
Basic Results Summary Scenario 3: '31 AL Only AM' (FG13: '2031 BTM DEV 5 (AL Only) AM', Plan 1: 'Network Control Plan 1') Network Layout Diagram



## Basic Results Summary <u>Network Results</u>

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: Eastern Site Access	-	-	-		-	-	-	-	-	-	72.8%	0	0	0	6.6	-	-
AL Eastern Site Access	-	-	-		-	-	-	-	-	-	72.8%	0	0	0	6.6	-	-
1/1+1/2	B4100 EB Entry Ahead Right	U	A B		1	53:7	-	819	1980:1842	1374+189	52.4 : 52.4%	-	-	-	2.1	9.2	6.1
2/1	B4100 WB Entry Left Ahead	U	С		1	39	-	798	1974	1097	72.8%	-	-	-	4.0	17.9	13.1
3/1	Site Access Left	U	D	E	1	17	10	49	1842	461	10.6%	-	-	-	0.3	25.2	0.8
3/2	Site Access Right	U	D		1	7	-	16	1842	205	7.8%	-	-	-	0.2	38.4	0.3
			C1	PR( F	C for Signalle PRC Over All	d Lanes (% Lanes (%)	a): 23. 23.	7 T 7	otal Delay for Si Total Delay	gnalled Lanes Over All Lanes	(pcuHr): (pcuHr):	6.57 6.57	Cycle Time (s):	72	•	-	-

Basic Results Summary Scenario 4: '31 AL Only PM' (FG14: '2031 BTM DEV 5 (AL Only) PM', Plan 1: 'Network Control Plan 1') Network Layout Diagram



## Basic Results Summary <u>Network Results</u>

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: Eastern Site Access	-	-	-		-	-	-	-	-	-	81.7%	0	0	0	7.8	-	-
AL Eastern Site Access	-	-	-		-	-	-	-	-	-	81.7%	0	0	0	7.8	-	-
1/1+1/2	B4100 EB Entry Ahead Right	U	A B		1	53:7	-	633	1980:1842	1427+107	41.3 : 41.3%	-	-	-	1.2	7.0	4.4
2/1	B4100 WB Entry Left Ahead	U	С		1	39	-	898	1978	1099	81.7%	-	-	-	5.4	21.8	16.7
3/1	Site Access Left	U	D	E	1	17	10	90	1842	461	19.5%	-	-	-	0.7	26.2	1.5
3/2	Site Access Right	U	D		1	7	-	39	1842	205	19.1%	-	-	-	0.4	40.0	0.8
			C1	PRO	C for Signalle PRC Over All	d Lanes (% Lanes (%)	b): 10. : 10.	1 To 1	otal Delay for Si Total Delay	gnalled Lanes Over All Lanes	(pcuHr): (pcuHr):	7.76 7.76	Cycle Time (s):	72	-	-	

## Basic Results Summary Basic Results Summary

#### **User and Project Details**

Project:	Tritax Ardley
Title:	M40 Jcn 10 Cherwell & Baynards Green
Location:	
Client:	Tritax
Model Assumptions:	Only 'with dev' flows are presented in this model. They are based upon Tetra Tech BTM Scenario 4 outputs.
Additional detail:	
File name:	216285 M40 Cherwell Jcn10 Network v1_2.lsg3x
Author:	R Bishop
Company:	Vectos SLR
Address:	

#### Scenario 1: 'AM 2026 BTM' (FG1: 'AM 2026 BTM', Plan 1: 'AM') Network Layout Diagram



#### Basic Results Summary Network Results

ltem	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: M40 Jcn 10 Cherwell && Baynards Green	-	-	-		-	-	-	-	-	-	87.8%	1828	0	0	111.5	-	-
J1: Baynards Green	-	-	-		-	-	-	-	-	-	87.8%	0	0	0	52.5	-	-
1/2+1/1	A43(N) Ahead Left	U	C1:B		1	27	-	1038	2000:1924	767+471	83.8 : 83.8%	-	-	-	7.9 (5.1+2.8)	27.5 (28.6:25.7)	14.0
1/3+1/4	A43(N) Ahead	U	C1:B		1	27	-	1352	2000:2000	778+778	86.1 : 87.7%	-	-	-	10.8 (5.4+5.5)	28.9 (28.8:29.0)	15.7
2/1+2/2	B4100(W) Ahead Left	U	C1:E		1	14	-	681	1930:1930	402+402	84.8 : 84.6%	-	-	-	7.8 (3.9+3.9)	41.4 (41.4:41.4)	9.2
3/1	A43(S) from M40 Ahead Left	U	C1:H		1	25	-	634	2000	722	87.8%	-	-	-	7.9	44.8	14.5
3/2+3/3	A43(S) from M40 Ahead	U	C1:H		1	25	-	1029	2000:1953	722+452	87.6 : 87.6%	-	-	-	10.5 (6.6+3.9)	36.7 (37.4:35.6)	14.1
4/2+4/1	B4100(E) Ahead Left	U	C1:K		1	12	-	435	1920:1859	347+199	83.1 : 74.0%	-	-	-	4.8 (3.2+1.6)	39.7 (39.6:39.8)	6.8
4/3	B4100(E) Ahead	U	C1:K		1	12	-	199	1920	347	57.4%	-	-	-	1.7	31.0	4.0
5/1	Circ (N) Ahead	U	C1:A		1	33	-	524	1990	967	54.2%	-	-	-	0.4	2.8	1.8
5/2	Circ (N) Right Ahead	U	C1:A		1	33	-	460	1990	967	47.6%	-	-	-	0.2	1.9	0.9
6/1	Circ (W) Ahead	U	C1:D		1	47	-	513	2050	1395	36.8%	-	-	-	0.0	0.1	0.4
6/2	Circ (W) Ahead	U	C1:D		1	47	-	832	2050	1395	59.6%	-	-	-	0.0	0.1	0.5
6/3	Circ (W) Right	U	C1:D		1	47	-	396	1950	1327	29.8%	-	-	-	0.0	0.3	0.5
7/1	Circ (S) Right Ahead	U	C1:G		1	35	-	399	1950	1002	39.8%	-	-	-	0.1	0.9	0.6
7/2	Circ (S) Right	U	C1:G		1	35	-	199	1950	1002	19.9%	-	-	-	0.0	0.4	0.5

8/1	Circ (E) Ahead	U	C1:J	1	49	-	703	2000	1417	49.6%	-	-	-	0.1	0.3	0.5
8/2	Circ (E) Ahead	U	C1:J	1	49	-	740	2000	1417	52.2%	-	-	-	0.1	0.3	0.6
8/3+8/4	Circ (E) Right Ahead	U	C1:J	1	49	-	723	2000:1950	1227+223	49.9 : 49.9%	-	-	-	0.0 (0.0+0.0)	0.2 (0.2:0.2)	3.0
J2: Exit X-ing Streams	-	-	-	-	-	-	-	-	-	59.1%	0	0	0	0.8	-	-
1/1		U	C2:A	1	56	-	606	2050	1623	37.3%	-	-	-	0.0	0.1	0.5
1/2		U	C2:A	1	56	-	832	2050	1623	51.3%	-	-	-	0.0	0.1	0.1
2/1	Ahead	U	C2:C	1	54	-	779	2000	1528	51.0%	-	-	-	0.2	1.0	1.6
2/2	Ahead	U	C2:C	1	54	-	811	2000	1528	53.1%	-	-	-	0.2	0.9	1.5
2/3	Ahead	U	C2:C	1	54	-	612	2000	1528	40.1%	-	-	-	0.0	0.0	0.0
3/1	to Bicester Ahead	U	C2:E	1	55	-	919	2000	1556	59.1%	-	-	-	0.2	0.9	1.5
3/2	to Bicester Ahead	U	C2:E	1	55	-	289	2000	1556	18.6%	-	-	-	0.0	0.0	0.0
4/1		U	C2:G	1	56	-	520	2000	1583	32.8%	-	-	-	0.1	0.7	1.3
J3: A43 / M40 SB Off-slip - Padbury Rbt	-	-	-	-	-	-	-	-	-	87.3%	0	0	0	18.9	-	-
1/1	Ahead	U	C3:B	1	45	-	1115	2000	1278	87.3%	-	-	-	4.3	13.9	16.2
1/2	Ahead	U	C3:B	1	45	-	1087	2000	1278	85.1%	-	-	-	3.7	12.2	17.3
2/2+2/1	Ahead Left	U	C3:C	1	15	-	538	1900:1900	229+422	82.7 : 82.7%	-	-	-	6.1 (2.1+4.1)	41.1 (39.5:42.0)	8.9
2/3	Ahead	U	C3:C	1	15	-	282	1900	422	66.8%	-	-	-	3.0	38.2	6.1
3/1	Right	U	C3:D	1	15	-	189	2000	444	42.5%	-	-	-	0.1	1.3	0.3
3/2	Right	U	C3:D	1	15	-	282	2000	444	63.5%	-	-	-	0.1	1.6	0.3
4/1	Ahead	U	C3:A	1	45	-	690	1967	1257	54.9%	-	-	-	0.8	4.3	3.3
4/2	Ahead	U	C3:A	1	45	-	624	1967	1257	49.7%	-	-	-	0.8	4.5	3.8
J4: M40 Jcn 10 - Cherwell MSA	-	-	-	-	-	-	-	-	-	87.1%	0	0	0	30.8	-	-
1/1	Ahead	U	C4:H	1	38	-	754	1886	1022	73.8%	-	-	-	4.0	19.2	12.7
1/2	Ahead	U	C4:H	1	38	-	726	1886	1022	71.1%	-	-	-	3.7	18.3	11.9

2/1	Left	U	-		-	-	-	536	1800	1800	29.8%	-	-	-	0.2	1.4	0.7
2/2	Ahead	U	C4:C		1	47	-	753	1973	1315	57.2%	-	-	-	0.0	0.1	0.2
2/3+2/4	Ahead Right	U	C4:C		1	47	-	860	1973:1995	1071+314	62.1 : 62.1%	-	-	-	0.0 (0.0+0.0)	0.0 (0.0:0.0)	0.0
2/5	Right	U	C4:D		1	47	-	760	1995	1330	57.1%	-	-	-	0.0	0.2	0.4
4/1	Left	U	C4:F		1	12	-	240	1800	325	73.8%	-	-	-	3.2	48.4	5.9
4/2	Right Left	U	C4:E		1	13	-	321	1896	369	87.1%	-	-	-	5.5	61.7	9.1
5/1	Left	U	-		-	-	-	774	1900	1900	40.7%	-	-	-	0.0	0.0	0.0
5/2+5/3	U-Turn Left	U	- C4:A		-	-	-	776	1900:1877	716+313	75.4 : 75.4%	-	-	-	1.8 (0.0+1.8)	8.2 (0.0:26.9)	4.7
8/1	Ahead	U	C4:B		1	46	-	1055	1948	1272	83.0%	-	-	-	5.7	19.4	21.6
8/2+8/3	Ahead	U	C4:B		1	46	-	1618	1948:1948	1001+887	85.7 : 85.7%	-	-	-	6.6 (4.1+2.5)	14.7 (17.1:11.9)	33.2
J5: Ardley Rbt	-	-	-		-	-	-	-	-	-	76.4%	1828	0	0	4.1	-	-
1/1	Left	U	-		-	-	-	257	1900	1900	13.5%	-	-	-	0.1	1.1	0.1
1/2	Ahead	U	-		-	-	-	949	1900	1900	49.9%	-	-	-	0.5	1.9	0.5
2/1	Ahead	U	-		-	-	-	747	1800	1800	41.5%	-	-	-	0.0	0.0	0.0
2/2	Ahead	U	-		-	-	-	733	1800	1800	40.7%	-	-	-	0.0	0.0	0.0
5/1	Right Left	0	-		-	-	-	609	1800	870	70.0%	609	0	0	1.2	6.8	2.3
5/2	Right	0	-		-	-	-	665	1800	870	76.4%	665	0	0	1.6	8.7	3.4
6/1	Ahead	0	-		-	-	-	141	1800	740	19.0%	141	0	0	0.1	3.0	0.1
6/2	Ahead Right	0	-		-	-	-	413	1800	740	55.8%	413	0	0	0.6	5.5	0.6
J6: AL Eastern Site Access	-	-	-		-	-	-	-	-	-	78.5%	0	0	0	4.4	-	-
1/1+1/2	B4100 EB Entry Ahead Right	U	C5:A C5:B		1	53:7	-	1208	1980:1842	1417+121	78.5 : 78.5%	-	-	-	1.6 (1.0+0.7)	4.8 (3.1:24.8)	11.3
2/1	B4100 WB Entry Left Ahead	U	C5:C		1	40	-	621	1972	1123	55.3%	-	-	-	2.3	13.3	8.4
3/1	Site Access Left	U	C5:D	C5:E	1	21	13	46	1842	563	8.2%	-	-	-	0.3	21.3	0.7

3/2	Site Access Right	U	C5:D		1	8	-	18	1842	230	7.8%	-	-	-	0.2	36.5	0.4
C1 - Ba C1 - Ba C1 - Ba C1 - Ba C2 - Ba C2 - Ba C2 - Ba C2 - Ba	aynards Green (Rbi aynards Green (Rbi aynards Green (Rbi aynards Green (Rbi aynards Green (Exi aynards Green (Exi aynards Green (Exi aynards Green (Exi C3 C4 - M40 J10 Che	t Streams t Streams t Streams t Streams t Streams t Streams t Streams - Padbury rwell MSA	) Strea ) Strea ) Strea ) Strea ) Strea ) Strea ) Strea	m: 1 PRC m: 2 PRC m: 3 PRC m: 4 PRC m: 1 PRC m: 2 PRC m: 3 PRC m: 4 PRC PRC PRC	for Signallec for Signallec for Signallec for Signallec for Signallec for Signallec for Signallec for Signallec for Signallec for Signallec	I Lanes (%) I Lanes (%)	): 2.6 ): 6.1 ): 2.5 ): 8.3 ): 75.6 ): 69.5 ): 52.3 ): 52.3 ): 174.0 ): 3.4	1 1 1 1 1 1 1 1 1	Total Delay for S Total Delay for S	ignalled Lanes ignalled Lanes ignalled Lanes ignalled Lanes ignalled Lanes ignalled Lanes ignalled Lanes ignalled Lanes ignalled Lanes	(pcuHr): (pcuHr): (pcuHr): (pcuHr): (pcuHr): (pcuHr): (pcuHr): (pcuHr): (pcuHr):	19.42 7.91 18.51 6.68 0.04 0.43 0.22 0.11 18.91 28.78	Cycle Time (s): Cycle Time (s):	72 72 72 72 72 72 72 72 72 72 72 72 72			
	C5 - Albio	on Access	5	PRC	for Signalleo RC Over All	d Lanes (%) Lanes (%):	): 14.6 2.5	ī	Total Delay for S Total Delay	ignalled Lanes Over All Lanes	(pcuHr): s(pcuHr):	4.38 111.46	Cycle Time (s):	72			

#### Basic Results Summary Scenario 2: 'PM 2026 BTM' (FG2: 'PM 2026 BTM', Plan 2: 'PM') Network Layout Diagram



#### Basic Results Summary **Network Results**

ltem	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: M40 Jcn 10 Cherwell && Baynards Green	-	-	-		-	-	-	-	-	-	86.4%	2246	0	0	98.8	-	-
J1: Baynards Green	-	-	-		-	-	-	-	-	-	86.4%	0	0	0	45.0	-	-
1/2+1/1	A43(N) Ahead Left	U	C1:B		1	18	-	739	2000:1924	528+372	83.4 : 80.5%	-	-	-	7.2 (4.4+2.8)	35.2 (35.9:34.0)	10.4
1/3+1/4	A43(N) Ahead	U	C1:B		1	18	-	896	2000:2000	528+528	83.4 : 86.4%	-	-	-	9.0 (4.4+4.6)	36.1 (35.9:36.2)	11.3
2/1+2/2	B4100(W) Ahead Left	U	C1:E		1	10	-	494	1930:1930	295+295	83.8 : 83.8%	-	-	-	6.5 (3.3+3.3)	47.5 (47.5:47.5)	7.2
3/1	A43(S) from M40 Ahead Left	U	C1:H		1	36	-	819	2000	1028	79.7%	-	-	-	4.7	20.7	12.0
3/2+3/3	A43(S) from M40 Ahead	U	C1:H		1	36	-	1195	2000:1953	1028+384	84.6 : 84.6%	-	-	-	6.3 (4.7+1.6)	18.9 (19.3:17.9)	31.8
4/2+4/1	B4100(E) Ahead Left	U	C1:K		1	13	-	609	1920:1859	373+361	84.4 : 81.3%	-	-	-	5.9 (3.0+2.9)	34.9 (34.7:35.1)	8.5
4/3	B4100(E) Ahead	U	C1:K		1	13	-	309	1920	373	82.8%	-	-	-	4.3	49.7	8.3
5/1	Circ (N) Ahead	U	C1:A		1	42	-	401	1990	1216	33.0%	-	-	-	0.2	1.9	0.8
5/2	Circ (N) Right Ahead	U	C1:A		1	42	-	319	1990	1216	26.2%	-	-	-	0.1	1.2	0.7
6/1	Circ (W) Ahead	U	C1:D		1	51	-	771	2050	1509	51.1%	-	-	-	0.0	0.1	0.5
6/2	Circ (W) Ahead	U	C1:D		1	51	-	1179	2050	1509	78.1%	-	-	-	0.3	0.9	2.0
6/3	Circ (W) Right	U	C1:D		1	51	-	325	1950	1435	22.6%	-	-	-	0.0	0.3	0.5
7/1	Circ (S) Right Ahead	U	C1:G		1	24	-	395	1950	704	56.1%	-	-	-	0.3	3.0	0.7
7/2	Circ (S) Right	U	C1:G		1	24	-	309	1950	704	43.9%	-	-	-	0.0	0.0	0.2

|--|

8/1	Circ (E) Ahead	U	C1:J		1	48	-	504	2000	1389	36.3%	-	-	-	0.0	0.3	0.5
8/2	Circ (E) Ahead	U	C1:J		1	48	-	490	2000	1389	35.3%	-	-	-	0.0	0.3	0.5
8/3+8/4	Circ (E) Right Ahead	U	C1:J		1	48	-	488	2000:1950	1191+233	34.3 : 34.3%	-	-	-	0.0 (0.0+0.0)	0.2 (0.2:0.3)	3.0
J2: Exit X-ing Streams	-	-	-		-	-	-	-	-	-	72.6%	0	0	0	0.6	-	-
1/1		U	C2:A		1	56	-	870	2050	1623	53.6%	-	-	-	0.2	0.7	1.9
1/2		U	C2:A		1	56	-	1179	2050	1623	72.6%	-	-	-	0.1	0.2	0.3
2/1	Ahead	U	C2:C		1	54	-	641	2000	1528	42.0%	-	-	-	0.0	0.2	0.1
2/2	Ahead	U	C2:C		1	54	-	647	2000	1528	42.3%	-	-	-	0.0	0.1	0.1
2/3	Ahead	U	C2:C		1	54	-	408	2000	1528	26.7%	-	-	-	0.0	0.1	0.0
3/1	to Bicester Ahead	U	C2:E		1	55	-	700	2000	1556	45.0%	-	-	-	0.2	1.1	2.0
3/2	to Bicester Ahead	U	C2:E		1	55	-	173	2000	1556	11.1%	-	-	-	0.1	1.3	0.5
4/1		U	C2:G		1	56	-	443	2000	1583	28.0%	-	-	-	0.0	0.3	0.2
J3: A43 / M40 SB Off-slip - Padbury Rbt	-	-	-		-	-	-	-	-	-	69.5%	0	0	0	13.6	-	-
1/1	Ahead	U	C3:B		1	46	-	898	2000	1306	68.8%	-	-	-	2.5	9.9	6.7
1/2	Ahead	U	C3:B		1	46	-	798	2000	1306	61.1%	-	-	-	1.9	8.7	5.3
2/2+2/1	Ahead Left	U	C3:C		1	14	-	503	1900:1900	396+396	58.9 : 68.2%	-	-	-	4.5 (2.1+2.4)	32.2 (31.9:32.5)	5.8
2/3	Ahead	U	C3:C		1	14	-	181	1900	396	45 7%	-	-	-	1.7	33.3	3.6
3/1										000	40.170						
	Right	U	C3:D		1	14	-	233	2000	417	55.9%	-	-	-	0.1	1.6	0.3
3/2	Right Right	U U	C3:D C3:D		1	14 14	-   -	233 181	2000 2000	417 417	43.4%	-	-	-	0.1	1.6 1.4	0.3 0.3
3/2 4/1	Right Right Ahead	U U U	C3:D C3:D C3:A		1 1 1	14 14 46	-	233 181 892	2000 2000 1967	417 417 1284	55.9%       43.4%       69.5%	-	-	-	0.1 0.1 1.4	1.6 1.4 5.8	0.3 0.3 4.5
3/2 4/1 4/2	Right Right Ahead Ahead	U U U U	C3:D C3:D C3:A C3:A		1 1 1 1	14 14 46 46	- - - -	233 181 892 852	2000 2000 1967 1967	417 417 1284 1284	43.4%       69.5%       66.4%			- - -	0.1 0.1 1.4 1.4	1.6 1.4 5.8 6.1	0.3 0.3 4.5 6.5
3/2 4/1 4/2 J4: M40 Jcn 10 - Cherwell MSA	Right Right Ahead Ahead	U U U -	C3:D C3:D C3:A C3:A -		1 1 1 1 -	14 14 46 46 -	- - - -	233 181 892 852 -	2000 2000 1967 1967 -	417 417 1284 1284 -	43.4%         69.5%         66.4%         85.7%	- - - - 0	- - - - 0	- - - 0	0.1 0.1 1.4 28.7	1.6 1.4 5.8 6.1	0.3 0.3 4.5 6.5 -
3/2 4/1 4/2 J4: M40 Jcn 10 - Cherwell MSA 1/1	Right Right Ahead Ahead - Ahead	U U U - U	C3:D C3:D C3:A C3:A - C4:H		1 1 1 1 -	14 14 46 46 - 42	- - - - - -	233 181 892 852 - 965	2000 2000 1967 - 1886	417 417 1284 1284 - 1126	43.4%         69.5%         66.4%         85.7%	- - - 0	- - - 0 -	- - - 0	0.1 0.1 1.4 28.7 6.1	1.6 1.4 5.8 6.1 - 22.7	0.3 0.3 4.5 6.5 - 18.7

2/1	Left	U	-		-	-	-	573	1800	1800	31.8%	-	-	-	0.2	1.5	1.2
2/2	Ahead	U	C4:C		1	46	-	611	1973	1288	47.4%	-	-	-	0.0	0.0	0.0
2/3+2/4	Ahead Right	U	C4:C		1	46	-	792	1973:1995	914+494	56.2 : 56.2%	-	-	-	0.0 (0.0+0.0)	0.0 (0.0:0.0)	0.0
2/5	Right	U	C4:D		1	46	-	378	1995	1302	29.0%	-	-	-	0.0	0.1	0.3
4/1	Left	U	C4:F		1	13	-	287	1800	350	82.0%	-	-	-	4.3	54.6	7.6
4/2	Right Left	U	C4:E		1	14	-	294	1900	396	74.3%	-	-	-	3.6	43.9	6.9
5/1	Left	U	-		-	-	-	981	1900	1900	51.6%	-	-	-	0.0	0.0	0.0
5/2+5/3	U-Turn Left	U	- C4:A		-	-	-	1007	1900:1877	1209+386	63.1 : 63.1%	-	-	-	1.4 (0.0+1.4)	5.0 (0.0:20.8)	4.9
8/1	Ahead	U	C4:B		1	43	-	940	1948	1190	79.0%	-	-	-	4.1	15.8	16.5
8/2+8/3	Ahead	U	C4:B		1	43	-	1170	1948:1948	1030+491	76.9 : 76.9%	-	-	-	3.6 (2.6+1.0)	11.2 (11.8:10.0)	24.6
J5: Ardley Rbt	-	-	-		-	-	-	-	-	-	81.1%	2246	0	0	5.3	-	-
1/1	Left	U	-		-	-	-	408	1900	1900	21.5%	-	-	-	0.1	1.2	0.1
1/2	Ahead	U	-		-	-	-	448	1900	1900	23.6%	-	-	-	0.2	1.2	0.2
2/1	Ahead	U	-		-	-	-	961	1800	1800	53.4%	-	-	-	0.0	0.0	0.0
2/2	Ahead	U	-		-	-	-	933	1800	1800	51.8%	-	-	-	0.0	0.0	0.0
5/1	Right Left	0	-		-	-	-	810	1800	1071	75.7%	810	0	0	1.5	6.8	2.7
5/2	Right	0	-		-	-	-	868	1800	1071	81.1%	868	0	0	2.1	8.7	4.5
6/1	Ahead	0	-		-	-	-	159	1800	579	27.5%	159	0	0	0.2	4.3	0.2
6/2	Ahead Right	0	-		-	-	-	409	1800	579	70.7%	409	0	0	1.2	10.5	1.2
J6: AL Eastern Site Access	-	-	-		-	-	-	-	-	-	74.7%	0	0	0	5.5	-	-
1/1+1/2	B4100 EB Entry Ahead Right	U	C5:A C5:B		1	53:7	-	873	1980:1842	1449+73	57.4 : 57.4%	-	-	-	0.4 (0.1+0.3)	1.6 (0.5:23.9)	0.7
2/1	B4100 WB Entry Left Ahead	U	C5:C		1	40	-	841	1978	1126	74.7%	-	-	-	4.2	17.9	13.8
3/1	Site Access Left	U	C5:D	C5:E	1	21	13	91	1842	563	16.2%	-	-	-	0.6	22.1	1.4

3/2	Site Access Right	U	C5:D		1	8	-	39	1842	230	16.9%	-	-	-	0.4	37.6	0.8
C1 - Ba C1 - Ba	aynards Green (Rbi avnards Green (Rbi	t Streams)	Strea Strea	m: 1 PRC	for Signalle	d Lanes (%) d Lanes (%)	: 4.2 · 7.4	<u>2</u> ·	Total Delay for S Total Delay for S	ignalled Lanes	(pcuHr): (pcuHr):	16.50 6.85	Cycle Time (s): Cycle Time (s):	72 72			
C1 - Ba	aynards Green (Rb	t Streams)	Strea	m: 3 PRC	for Signalle	d Lanes (%)	: 6.3	3	Total Delay for S	ignalled Lanes	(pcuHr):	11.33	Cycle Time (s):	72			
C1 - Ba	aynards Green (Rb	t Streams)	Strea	m: 4 PRC	for Signalle	d Lanes (%)	: 6.7		Total Delay for S	ignalled Lanes	(pcuHr):	10.29	Cycle Time (s):	72			
C2 - Ba	aynards Green (Exit	t Streams)	Strea	m: 1 PRC	for Signalle	d Lanes (%)	: 23.9	)	Total Delay for S	ignalled Lanes	(pcuHr):	0.23	Cycle Time (s):	72			
C2 - Ba	aynards Green (Exit	t Streams)	Strea	m: 2 PRC	for Signalle	d Lanes (%)	: 112.5	5	Total Delay for S	ignalled Lanes	(pcuHr):	0.06	Cycle Time (s):	72			
C2 - Ba	aynards Green (Exit	t Streams)	Strea	m: 3 PRC	for Signalle	d Lanes (%)	: 100.0	) .	Total Delay for S	ignalled Lanes	(pcuHr):	0.28	Cycle Time (s):	72			
C2 - Ba	aynards Green (Exit	t Streams)	Strea	m: 4 PRC	for Signalle	d Lanes (%)	: 221.7	,	Total Delay for S	ignalled Lanes	(pcuHr):	0.03	Cycle Time (s):	72			
	C3	- Padbury		PRC	for Signalle	d Lanes (%)	: 29.6	3	Total Delay for S	ignalled Lanes	(pcuHr):	13.64	Cycle Time (s):	72			
	C4 - M40 J10 Che	rwell MSA		PRC	for Signalle	d Lanes (%)	: 5.0	) .	Total Delay for S	ignalled Lanes	(pcuHr):	27.06	Cycle Time (s):	72			
	C5 - Albi	on Access		PRC	for Signalle	d Lanes (%)	: 20.5	5	Total Delay for S	ignalled Lanes	(pcuHr):	5.53	Cycle Time (s):	72			
				PF	RC Over All	Lanes (%):	4.2	2	Total Delay	Över All Lanes	s(pcuHr):	98.75					

#### Basic Results Summary Scenario 3: 'AM 2031 BTM' (FG3: 'AM 2031 BTM', Plan 1: 'AM') Network Layout Diagram



#### Basic Results Summary Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: M40 Jcn 10 Cherwell && Baynards Green	-	-	-		-	-	-	-	-	-	97.5%	1987	0	0	176.9	-	-
J1: Baynards Green	-	-	-		-	-	-	-	-	-	97.5%	0	0	0	84.5	-	-
1/2+1/1	A43(N) Ahead Left	U	C1:B		1	26	-	1149	2000:1924	750+485	93.1 : 93.1%	-	-	-	12.4 (7.8+4.6)	38.8 (40.1:36.9)	19.3
1/3+1/4	A43(N) Ahead	U	C1:B		1	26	-	1423	2000:2000	750+750	93.1 : 96.7%	-	-	-	16.3 (8.0+8.4)	41.3 (41.1:41.5)	21.8
2/1+2/2	B4100(W) Ahead Left	U	C1:E		1	13	-	731	1930:1930	375+375	97.5 : 97.3%	-	-	-	15.3 (7.7+7.7)	75.5 (75.6:75.5)	16.7
3/1	A43(S) from M40 Ahead Left	U	C1:H		1	26	-	712	2000	750	94.9%	-	-	-	12.2	61.8	20.3
3/2+3/3	A43(S) from M40 Ahead	U	C1:H		1	26	-	1195	2000:1953	750+476	97.5 : 97.5%	-	-	-	19.4 (12.0+7.4)	58.5 (59.2:57.5)	25.2
4/2+4/1	B4100(E) Ahead Left	U	C1:K		1	13	-	543	1920:1859	373+250	92.7 : 78.9%	-	-	-	6.0 (3.9+2.1)	39.8 (40.5:38.8)	9.8
4/3	B4100(E) Ahead	U	C1:K		1	13	-	217	1920	373	58.1%	-	-	-	1.7	28.5	4.6
5/1	Circ (N) Ahead	U	C1:A		1	34	-	601	1990	995	60.4%	-	-	-	0.4	2.4	1.8
5/2	Circ (N) Right Ahead	U	C1:A		1	34	-	492	1990	995	49.4%	-	-	-	0.2	1.5	0.8
6/1	Circ (W) Ahead	U	C1:D		1	48	-	607	2050	1424	42.6%	-	-	-	0.0	0.1	0.5
6/2	Circ (W) Ahead	U	C1:D		1	48	-	948	2050	1424	66.6%	-	-	-	0.0	0.1	0.5
6/3	Circ (W) Right	U	C1:D		1	48	-	464	1950	1354	34.3%	-	-	-	0.0	0.3	0.5
7/1	Circ (S) Right Ahead	U	C1:G		1	34	-	448	1950	975	45.9%	-	-	-	0.2	1.8	0.8
7/2	Circ (S) Right	U	C1:G		1	34	-	217	1950	975	22.3%	-	-	-	0.0	0.4	0.5

Basic Result	s Summary																
8/1	Circ (E) Ahead	U	C1:J		1	48	-	761	2000	1389	54.8%	-	-	-	0.1	0.4	0.6
8/2	Circ (E) Ahead	U	C1:J		1	48	-	774	2000	1389	55.7%	-	-	-	0.1	0.4	0.6
8/3+8/4	Circ (E) Right Ahead	U	C1:J		1	48	-	757	2000:1950	1228+191	53.3 : 53.3%	-	-	-	0.0 (0.0+0.0)	0.2 (0.2:0.2)	3.0
J2: Exit X-ing Streams	-	-	-		-	-	-	-	-	-	67.6%	0	0	0	1.1	-	-
1/1		U	C2:A		1	56	-	709	2050	1623	43.7%	-	-	-	0.0	0.1	0.4
1/2		U	C2:A		1	56	-	948	2050	1623	58.4%	-	-	-	0.0	0.2	0.2
2/1	Ahead	U	C2:C		1	54	-	843	2000	1528	55.2%	-	-	-	0.3	1.2	1.7
2/2	Ahead	U	C2:C		1	54	-	889	2000	1528	58.2%	-	-	-	0.4	1.6	2.3
2/3	Ahead	U	C2:C		1	54	-	655	2000	1528	42.9%	-	-	-	0.0	0.0	0.0
3/1	to Bicester Ahead	U	C2:E		1	55	-	1052	2000	1556	67.6%	-	-	-	0.3	1.1	2.0
3/2	to Bicester Ahead	U	C2:E		1	55	-	321	2000	1556	20.6%	-	-	-	0.0	0.0	0.0
4/1		U	C2:G		1	56	-	553	2000	1583	34.9%	-	-	-	0.1	0.6	0.9
J3: A43 / M40 SB Off-slip - Padbury Rbt	-	-	-		-	-	-	-	-	-	95.0%	0	0	0	34.7	-	-
1/1	Ahead	U	C3:B		1	45	-	1196	2000	1278	93.6%	-	-	-	7.6	22.8	22.7
1/2	Ahead	U	C3:B		1	45	-	1191	2000	1278	93.2%	-	-	-	7.3	21.9	22.8
2/2+2/1	Ahead Left	U	C3:C		1	15	-	542	1900:1900	148+422	95.0 : 95.0%	-	-	-	10.5 (2.6+7.9)	69.7 (66.7:70.8)	14.3
2/3	Ahead	U	C3:C		1	15	-	383	1900	422	90.7%	-	-	-	6.9	65.3	11.5
3/1	Right	U	C3:D		1	15	-	137	2000	444	30.8%	-	-	-	0.0	1.3	0.2
3/2	Right	U	C3:D		1	15	-	383	2000	444	86.2%	-	-	-	0.3	3.2	0.6
4/1	Ahead	U	C3:A		1	45	-	779	1967	1257	62.0%	-	-	-	1.0	4.8	3.6
4/2	Ahead	U	C3:A	1	1	45	-	723	1967	1257	57.5%	-	-	-	1.0	4.9	4.1
J4: M40 Jcn 10 - Cherwell MSA	-	-	-		-	-	-	-	-	-	92.9%	0	0	0	43.8	-	-
1/1	Ahead	U	C4:H		1	38	-	859	1886	1022	84.1%	-	-	-	5.8	24.3	16.9
1/2	Ahead	U	C4:H		1	38	-	830	1886	1022	81.2%	-	-	-	5.1	22.2	15.5

2/1	Left	U	_		-	-	-	583	1800	1800	32.4%	-	-	-	0.2	1.5	0.2
2/2	Ahead	U	C4:C		1	47	-	839	1973	1315	63.8%	-	-	-	0.0	0.1	0.3
2/3+2/4	Ahead Right	U	C4:C		1	47	-	936	1973:1995	1033+364	67.0 : 67.0%	-	-	-	0.0 (0.0+0.0)	0.0 (0.1:0.0)	0.1
2/5	Right	U	C4:D		1	47	-	809	1995	1330	60.8%	-	-	-	0.1	0.3	0.4
4/1	Left	U	C4:F		1	12	-	251	1800	325	77.2%	-	-	-	3.6	51.4	6.4
4/2	Right Left	U	C4:E		1	13	-	335	1896	369	90.9%	-	-	-	6.7	71.5	10.5
5/1	Left	U	_		-	-	-	867	1900	1900	45.6%	-	-	-	0.0	0.0	0.0
5/2+5/3	U-Turn Left	U	- C4:A		-	-	-	895	1900:1877	764+313	83.1 : 83.1%	-	-	-	1.9 (0.0+1.9)	7.6 (0.0:26.1)	5.2
8/1	Ahead	U	C4:B		1	46	-	1165	1948	1272	91.6%	-	-	-	8.7	27.0	27.7
8/2+8/3	Ahead	U	C4:B		1	46	-	1742	1948:1948	1004+871	92.9 : 92.9%	-	-	-	11.7 (6.2+5.5)	24.2 (23.8:24.6)	39.3
J5: Ardley Rbt	-	-	-		-	-	-	-	-	-	85.1%	1987	0	0	6.6	-	-
1/1	Left	U	_		-	-	-	322	1900	1900	16.9%	-	-	-	0.1	1.1	0.1
1/2	Ahead	U			-	-	-	993	1900	1900	52.3%	-	-	-	0.5	2.0	0.5
2/1	Ahead	U	_		-	-	-	817	1800	1800	45.4%	-	-	-	0.0	0.0	0.0
2/2	Ahead	U	-		-	-	-	872	1800	1800	48.4%	-	-	-	0.0	0.0	0.0
5/1	Right Left	0	-		-	-	-	689	1800	853	80.8%	689	0	0	2.1	11.1	5.9
5/2	Right	0			-	-	-	726	1800	853	85.1%	726	0	0	2.9	14.2	7.6
6/1	Ahead	0	_		-	-	-	136	1800	684	19.9%	136	0	0	0.1	3.3	0.1
6/2	Ahead Right	0	-		-	-	-	436	1800	684	63.8%	436	0	0	0.9	7.2	1.1
J6: AL Eastern Site Access	-	-	-		-	-	-	-	-	-	89.5%	0	0	0	6.1	-	-
1/1+1/2	B4100 EB Entry Ahead Right	U	C5:A C5:B		1	53:7	-	1373	1980:1842	1426+108	89.5 : 89.5%	-	-	-	2.4 (1.8+0.7)	6.4 (5.0:25.0)	20.7
2/1	B4100 WB Entry Left Ahead	U	C5:C		1	40	-	746	1973	1124	66.4%	-	-	-	3.2	15.5	11.1
3/1	Site Access Left	U	C5:D	C5:E	1	21	13	47	1842	563	8.4%	-	-	-	0.3	21.4	0.7

3/2	Site Access Right	U	C5:D		1	8	-	18	1842	230	7.8%	-	-	-	0.2	36.5	0.4
C1 - Ba	aynards Green (Rb	t Streams	s) Strea	am: 1 PRC	for Signalle	d Lanes (%	6): -7.4	Ļ	Total Delay for S	Signalled Lane	s (pcuHr):	29.32	Cycle Time (s)	: 72			
C1 - Ba	aynards Green (Rb	t Streams	) Strea	am: 2 PRC	for Signalle	d Lanes (%	ó): -8.4	ł	Total Delay for S	Signalled Lane	s (pcuHr):	15.43	Cycle Time (s)	: 72			
C1 - Ba	aynards Green (Rb	t Streams	s) Strea	am: 3 PRC	for Signalle	d Lanes (%	6): -8.3	5	Total Delay for S	Signalled Lane	s (pcuHr):	31.89	Cycle Time (s)	: 72			
C1 - Ba	aynards Green (Rb	t Streams	s) Strea	am: 4 PRC	for Signalle	d Lanes (%	6): -3.0	)	Total Delay for S	Signalled Lane	s (pcuHr):	7.91	Cycle Time (s)	: 72			
C2 - Ba	aynards Green (Exi	it Streams	s) Strea	am: 1 PRC	for Signalle	d Lanes (%	6): 54.1		Total Delay for S	Signalled Lane	s (pcuHr):	0.05	Cycle Time (s)	: 72			
C2 - Ba	aynards Green (Exi	it Streams	s) Strea	am: 2 PRC	for Signalle	d Lanes (%	6): 54.7	•	Total Delay for S	Signalled Lane	s (pcuHr):	0.67	Cycle Time (s)	72			
C2 - Ba	aynards Green (Exi	it Streams	s) Strea	am: 3 PRC	for Signalle	d Lanes (%	6): 33.1		Total Delay for S	Signalled Lane	s (pcuHr):	0.32	Cycle Time (s)	: 72			
C2 - Ba	aynards Green (Exi	it Streams	s) Strea	am: 4 PRC	for Signalle	d Lanes (%	6): 157.7	•	Total Delay for S	Signalled Lane	s (pcuHr):	0.09	Cycle Time (s)	: 72			
	C3	8 - Padbur	у	PRC	for Signalle	d Lanes (%	6): -5.5	5	Total Delay for S	Signalled Lane	s (pcuHr):	34.71	Cycle Time (s)	: 72			
	C4 - M40 J10 Che	erwell MS/	4	PRC	for Signalle	d Lanes (%	6): -3.2	2	Total Delay for S	Signalled Lane	s (pcuHr):	41.69	Cycle Time (s)	: 72			
	C5 - Albi	ion Acces	s	PRC	for Signalle	d Lanes (%	6): 0.5	5	Total Delay for S	Signalled Lane	s (pcuHr):	6.11	Cycle Time (s)	: 72			
				PI	RC Over All	Lanes (%)	: -8.4	ŀ	Total Delay	y Over All Lane	es(pcuHr):	176.95					

#### Basic Results Summary Scenario 4: 'PM 2031 BTM' (FG4: 'PM 2031 BTM', Plan 2: 'PM') Network Layout Diagram



#### Basic Results Summary **Network Results**

ltem	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: M40 Jcn 10 Cherwell && Baynards Green	-	-	-		-	-	-	-	-	-	96.4%	2450	0	0	156.3	-	-
J1: Baynards Green	-	-	-		-	-	-	-	-	-	96.4%	0	0	0	74.1	-	-
1/2+1/1	A43(N) Ahead Left	U	C1:B		1	18	-	782	2000:1924	528+316	92.7 : 92.7%	-	-	-	10.8 (6.9+3.9)	49.5 (50.6:47.8)	14.9
1/3+1/4	A43(N) Ahead	U	C1:B		1	18	-	998	2000:2000	528+528	96.4 : 92.7%	-	-	-	14.2 (7.3+6.9)	51.2 (51.3:51.0)	17.0
2/1+2/2	B4100(W) Ahead Left	U	C1:E		1	10	-	537	1930:1930	295+295	91.2 : 90.9%	-	-	-	8.8 (4.4+4.4)	59.3 (59.3:59.3)	9.6
3/1	A43(S) from M40 Ahead Left	U	C1:H		1	37	-	971	2000	1056	92.0%	-	-	-	10.2	37.7	21.9
3/2+3/3	A43(S) from M40 Ahead	U	C1:H		1	37	-	1392	2000:1953	1056+432	93.6 : 93.6%	-	-	-	13.3 (9.8+3.5)	34.3 (35.7:30.9)	35.5
4/2+4/1	B4100(E) Ahead Left	U	C1:K		1	13	-	671	1920:1859	373+361	92.9 : 89.6%	-	-	-	8.2 (4.2+4.0)	44.0 (43.8:44.3)	11.4
4/3	B4100(E) Ahead	U	C1:K		1	13	-	347	1920	373	92.9%	-	-	-	7.0	72.3	11.6
5/1	Circ (N) Ahead	U	C1:A		1	42	-	483	1990	1216	39.7%	-	-	-	0.3	2.1	1.5
5/2	Circ (N) Right Ahead	U	C1:A		1	42	-	335	1990	1216	27.5%	-	-	-	0.1	1.1	0.7
6/1	Circ (W) Ahead	U	C1:D		1	51	-	966	2050	1509	64.0%	-	-	-	0.1	0.3	0.7
6/2	Circ (W) Ahead	U	C1:D		1	51	-	1335	2050	1509	88.5%	-	-	-	0.6	1.6	4.9
6/3	Circ (W) Right	U	C1:D		1	51	-	404	1950	1435	28.1%	-	-	-	0.0	0.3	0.5
7/1	Circ (S) Right Ahead	U	C1:G		1	23	-	432	1950	677	63.8%	-	-	-	0.5	4.3	2.0
7/2	Circ (S) Right	U	C1:G		1	23	-	347	1950	677	51.2%	-	-	-	0.0	0.3	0.5

Basic Results	Summary			
		ii.	i.	

8/1	Circ (E) Ahead	U	C1:J	1	48	-	531	2000	1389	38.2%	-	-	-	0.0	0.3	0.5
8/2	Circ (E) Ahead	U	C1:J	1	48	-	534	2000	1389	38.4%	-	-	-	0.1	0.3	0.5
8/3+8/4	Circ (E) Right Ahead	U	C1:J	1	48	-	536	2000:1950	1198+226	37.7 : 37.7%	-	-	-	0.0 (0.0+0.0)	0.2 (0.2:0.3)	3.0
J2: Exit X-ing Streams	-	-	-	-	-	-	-	-	-	82.3%	0	0	0	0.6	-	-
1/1		U	C2:A	1	56	-	1089	2050	1623	67.1%	-	-	-	0.2	0.7	2.5
1/2		U	C2:A	1	56	-	1335	2050	1623	82.3%	-	-	-	0.1	0.3	0.6
2/1	Ahead	U	C2:C	1	54	-	667	2000	1528	43.7%	-	-	-	0.0	0.1	0.1
2/2	Ahead	U	C2:C	1	54	-	722	2000	1528	47.3%	-	-	-	0.0	0.1	0.1
2/3	Ahead	U	C2:C	1	54	-	451	2000	1528	29.5%	-	-	-	0.0	0.1	0.1
3/1	to Bicester Ahead	U	C2:E	1	55	-	776	2000	1556	49.9%	-	-	-	0.1	0.7	1.3
3/2	to Bicester Ahead	U	C2:E	1	55	-	221	2000	1556	14.2%	-	-	-	0.0	0.2	0.1
4/1		U	C2:G	1	56	-	437	2000	1583	27.6%	-	-	-	0.0	0.3	0.3
J3: A43 / M40 SB Off-slip - Padbury Rbt	-	-	-	-	-	-	-	-	-	90.5%	0	0	0	21.1	-	-
J3: A43 / M40 SB Off-slip - Padbury Rbt	- Ahead	- U	- C3:B	-	- 43	-	- 953	- 2000	- 1222	<b>90.5%</b>	0	0	0	<b>21.1</b> 2.6	- 9.8	- 10.2
J3: A43 / M40 SB Off-slip - Padbury Rbt 1/1 1/2	- Ahead Ahead	- U U	- C3:B C3:B	- 1 1	- 43 43	-	- 953 887	- 2000 2000	- 1222 1222	<b>90.5%</b> 78.0% 72.6%	0	0 - -	0 - -	<b>21.1</b> 2.6 2.0	- 9.8 8.2	- 10.2 8.1
J3: A43 / M40 SB Off-slip - Padbury Rbt 1/1 1/2 2/2+2/1	- Ahead Ahead Ahead Left	- U U	- C3:B C3:B C3:C	- 1 1 1	- 43 43 17	-	- 953 887 621	- 2000 2000 1900:1900	- 1222 1222 211+475	90.5%           78.0%           72.6%           90.5 :           90.5%	0 - - -	0 - - -	0 - - -	<b>21.1</b> 2.6 2.0 8.5 (2.5+6.1)	- 9.8 8.2 49.6 (47.0:50.7)	- 10.2 8.1 12.5
J3: A43 / M40 SB Off-slip - Padbury Rbt 1/1 1/2 2/2+2/1 2/3	- Ahead Ahead Ahead Left Ahead	- U U U	- C3:B C3:B C3:C C3:C	- 1 1 1 1	- 43 43 17 17		- 953 887 621 265	- 2000 2000 1900:1900 1900	- 1222 1222 211+475 475	90.5%           78.0%           72.6%           90.5 :           90.5%           55.8%	0 - - -	0 - - - -	0 - - - -	<b>21.1</b> 2.6 2.0 8.5 (2.5+6.1) 2.4	- 9.8 8.2 49.6 (47.0:50.7) 32.1	- 10.2 8.1 12.5 5.2
J3: A43 / M40 SB Off-slip - Padbury Rbt 1/1 1/2 2/2+2/1 2/3 3/1	- Ahead Ahead Ahead Left Ahead Right	- U U U U U	- C3:B C3:B C3:C C3:C C3:C C3:D	- 1 1 1 1 1 1	- 43 43 17 17 17		- 953 887 621 265 188	- 2000 2000 1900:1900 1900 2000	- 1222 1222 211+475 475 500	90.5%           78.0%           72.6%           90.5 :           90.5%           55.8%           37.6%	0 - - - - -	0 - - - - -	0 - - - -	<b>21.1</b> 2.6 2.0 8.5 (2.5+6.1) 2.4 0.1	- 9.8 8.2 (49.6 (47.0:50.7) 32.1 1.1	- 10.2 8.1 12.5 5.2 0.2
J3: A43 / M40 SB Off-slip - Padbury Rbt 1/1 1/2 2/2+2/1 2/3 3/1 3/2	- Ahead Ahead Ahead Left Ahead Right Right	- U U U U U U U	- C3:B C3:B C3:C C3:C C3:C C3:D C3:D	- 1 1 1 1 1 1 1 1	- 43 43 17 17 17 17		- 953 887 621 265 188 265	- 2000 2000 1900:1900 1900 2000 2000	- 1222 1222 211+475 475 500 500	90.5%         78.0%         72.6%         90.5 :         90.5 :         90.5 :         90.5%         55.8%         37.6%         53.0%	0 - - - - -	0	0 - - - - - -	<b>21.1</b> 2.6 2.0 8.5 (2.5+6.1) 2.4 0.1 0.1	- 9.8 8.2 49.6 (47.0:50.7) 32.1 1.1 1.2	- 10.2 8.1 12.5 5.2 0.2 0.3
J3: A43 / M40 SB Off-slip - Padbury Rbt 1/1 1/2 2/2+2/1 2/3 3/1 3/2 4/1	- Ahead Ahead Left Ahead Right Right Ahead	- U U U U U U U U U	- C3:B C3:B C3:C C3:C C3:C C3:D C3:D C3:A	- 1 1 1 1 1 1 1 1	- 43 43 17 17 17 17 43	- - - - - - - - -	- 953 887 621 265 188 265 982	- 2000 2000 1900:1900 1900 2000 2000 1967	- 1222 1222 211+475 475 500 500 1202	90.5%         78.0%         72.6%         90.5 :         90.5%         55.8%         37.6%         53.0%         81.7%	0 - - - - - - - -	0  - - - - - - -	0 - - - - - - - -	<b>21.1</b> 2.6 2.0 8.5 (2.5+6.1) 2.4 0.1 0.1 2.8	- 9.8 8.2 49.6 (47.0:50.7) 32.1 1.1 1.2 10.1	- 10.2 8.1 12.5 5.2 0.2 0.3 6.6
J3: A43 / M40 SB Off-slip - Padbury Rbt 1/1 1/2 2/2+2/1 2/3 3/1 3/2 4/1 4/2	- Ahead Ahead Left Ahead Left Ahead Right Right Ahead Ahead	- U U U U U U U U U U U	- C3:B C3:B C3:C C3:C C3:C C3:D C3:D C3:A C3:A	- 1 1 1 1 1 1 1 1 1 1	- 43 43 17 17 17 17 17 43 43	- - - - - - - - -	- 953 887 621 265 188 265 982 948	- 2000 2000 1900:1900 1900 2000 2000 1967 1967	- 1222 1222 211+475 475 500 500 1202 1202	90.5%         78.0%         72.6%         90.5 :         90.5%         55.8%         37.6%         53.0%         81.7%         78.9%	0 - - - - - - - - - - -	0	0 - - - - - - - - - -	21.1         2.6         2.0         8.5         (2.5+6.1)         2.4         0.1         0.1         2.8         2.6	- 9.8 8.2 49.6 (47.0:50.7) 32.1 1.1 1.2 10.1 10.0	- 10.2 8.1 12.5 5.2 0.2 0.3 6.6 7.4
J3: A43 / M40 SB Off-slip - Padbury Rbt 1/1 1/2 2/2+2/1 2/3 3/1 3/2 4/1 4/2 J4: M40 Jcn 10 - Cherwell MSA	- Ahead Ahead Left Ahead Right Right Ahead Ahead -	- U U U U U U U U U U U U	- C3:B C3:B C3:C C3:C C3:C C3:D C3:D C3:A C3:A	- 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	- 43 43 17 17 17 17 43 43 43	- - - - - - - - - - -	- 953 887 621 265 188 265 982 982 948 -	- 2000 2000 1900:1900 1900 2000 2000 1967 1967 -	- 1222 1222 211+475 475 500 500 1202 1202 -	90.5%         78.0%         72.6%         90.5 :         90.5%         55.8%         37.6%         53.0%         81.7%         78.9%         94.1%	0 - - - - - - - - - - - 0	0  - - - - - - - - 0	0 0	21.1         2.6         2.0         8.5         (2.5+6.1)         2.4         0.1         0.1         2.8         2.6         41.5	- 9.8 8.2 49.6 (47.0:50.7) 32.1 1.1 1.2 10.1 10.0 -	- 10.2 8.1 12.5 5.2 0.2 0.3 6.6 7.4
J3: A43 / M40 SB Off-slip - Padbury Rbt 1/1 1/2 2/2+2/1 2/3 3/1 3/2 4/1 4/2 J4: M40 Jcn 10 - Cherwell MSA 1/1	- Ahead Ahead Left Ahead Left Ahead Right Ahead Ahead - Ahead	- U U U U U U U U U U	- C3:B C3:B C3:C C3:C C3:C C3:D C3:A C3:A C3:A C3:A C3:A	- 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	- 43 43 17 17 17 17 43 43 43 - 43	- - - - - - - - - - - - -	- 953 887 621 265 188 265 982 982 948 - 1084	- 2000 2000 1900:1900 1900 2000 2000 1967 1967 - 1886	- 1222 1222 211+475 475 500 500 1202 1202 - 1202 - 1153	90.5%         78.0%         72.6%         90.5 :         90.5%         55.8%         37.6%         53.0%         81.7%         78.9%         94.1%	0 - - - - - - - - - - 0 -	0  - - - - - - - - 0 -	0 	21.1         2.6         2.0         8.5         (2.5+6.1)         2.4         0.1         0.1         2.8         2.6         41.5         10.4	- 9.8 8.2 49.6 (47.0:50.7) 32.1 1.1 1.2 10.1 10.0 - 34.7	- 10.2 8.1 12.5 5.2 0.2 0.3 6.6 7.4 - 26.2

2/1	Left	U	-		-	-	-	621	1800	1800	34.5%	-	-	-	0.3	1.5	1.8
2/2	Ahead	U	C4:C		1	47	-	638	1973	1315	48.5%	-	-	-	0.0	0.0	0.1
2/3+2/4	Ahead Right	U	C4:C		1	47	-	839	1973:1995	921+520	58.2 : 58.2%	-	-	-	0.0 (0.0+0.0)	0.0 (0.0:0.0)	0.0
2/5	Right	U	C4:D		1	47	-	470	1995	1330	35.3%	-	-	-	0.0	0.1	0.3
4/1	Left	U	C4:F		1	12	-	272	1800	325	83.7%	-	-	-	4.5	59.7	7.6
4/2	Right Left	U	C4:E		1	13	-	337	1899	369	91.3%	-	-	-	6.8	72.8	10.7
5/1	Left	U	-		-	-	-	1091	1900	1900	57.4%	-	-	-	0.0	0.0	0.0
5/2+5/3	U-Turn Left	U	- C4:A		-	-	-	1114	1900:1877	1180+387	71.1 : 71.1%	-	-	-	1.6 (0.0+1.6)	5.2 (0.0:21.1)	5.5
8/1	Ahead	U	C4:B		1	44	-	984	1948	1217	80.8%	-	-	-	5.0	18.4	18.9
8/2+8/3	Ahead	U	C4:B		1	44	-	1309	1948:1948	1029+577	81.5 : 81.5%	-	-	-	5.8 (4.4+1.4)	16.0 (18.9:10.8)	26.9
J5: Ardley Rbt	-	-	-		-	-	-	-	-	-	93.3%	2450	0	0	11.8	-	-
1/1	Left	U	-		-	-	-	444	1900	1900	23.4%	-	-	-	0.2	1.2	0.2
1/2	Ahead	U	-		-	-	-	567	1900	1900	29.8%	-	-	-	0.2	1.3	0.2
2/1	Ahead	U	-		-	-	-	1078	1800	1800	59.9%	-	-	-	0.0	0.0	0.0
2/2	Ahead	U	-		-	-	-	1028	1800	1800	57.1%	-	-	-	0.0	0.0	0.0
5/1	Right Left	0	-		-	-	-	887	1800	1023	86.7%	887	0	0	3.2	12.9	7.8
5/2	Right	0	-		-	-	-	955	1800	1023	93.3%	955	0	0	6.1	23.0	12.9
6/1	Ahead	0	-		-	-	-	201	1800	513	39.2%	201	0	0	0.3	5.8	0.3
6/2	Ahead Right	0	-		-	-	-	407	1800	513	79.3%	407	0	0	1.9	16.5	3.2
J6: AL Eastern Site Access	-	-	-		-	-	-	-	-	-	83.5%	0	0	0	7.2	-	-
1/1+1/2	B4100 EB Entry Ahead Right	U	C5:A C5:B		1	53:7	-	997	1980:1842	1455+64	65.6 : 65.6%	-	-	-	0.4 (0.2+0.2)	1.6 (0.9:19.0)	10.6
2/1	B4100 WB Entry Left Ahead	U	C5:C		1	40	-	941	1978	1126	83.5%	-	-	-	5.8	22.2	17.9
3/1	Site Access Left	U	C5:D	C5:E	1	21	13	91	1842	563	16.2%	-	-	-	0.6	22.1	1.4

3/2	Site Access Right	U	C5:D		1	8	-	39	1842	230	16.9%	-	-	-	0.4	37.6	0.8
C1 - Ba C1 - Ba C1 - Ba C1 - Ba C1 - Ba C2 - Ba C2 - Ba	aynards Green (Rbi aynards Green (Rbi aynards Green (Rbi aynards Green (Rbi aynards Green (Exil aynards Green (Exil	t Streams) t Streams) t Streams) t Streams) t Streams) t Streams) t Streams)	Strea Strea Strea Strea Strea Strea	m: 1 PRC m: 2 PRC m: 3 PRC m: 4 PRC m: 1 PRC m: 2 PRC	for Signalled for Signalled for Signalled for Signalled for Signalled for Signalled	d Lanes (%) d Lanes (%) d Lanes (%) d Lanes (%) d Lanes (%) d Lanes (%)	: -7.2 : -1.4 : -4.0 : -3.3 : 9.4 : 90.4		Total Delay for S Total Delay for S	ignalled Lanes ignalled Lanes ignalled Lanes ignalled Lanes ignalled Lanes ignalled Lanes	(pcuHr): (pcuHr): (pcuHr): (pcuHr): (pcuHr): (pcuHr):	25.32 9.53 23.97 15.31 0.33 0.05	Cycle Time (s): Cycle Time (s): Cycle Time (s): Cycle Time (s): Cycle Time (s): Cycle Time (s):	72 72 72 72 72 72 72			
C2 - Ba C2 - Ba	aynards Green (Exil aynards Green (Exil C3 C4 - M40 J10 Che C5 - Albio	t Streams) t Streams) - Padbury rwell MSA on Access	Strea Strea	m: 3 PRC m: 4 PRC PRC PRC PRC PRC PRC	for Signalled for Signalled for Signalled for Signalled for Signalled RC Over All	d Lanes (%) d Lanes (%) d Lanes (%) d Lanes (%) d Lanes (%) Lanes (%):	: 80.4 : 226.1 : -0.6 : -4.5 : 7.7 -7.2	-	Fotal Delay for S Fotal Delay for S Fotal Delay for S Fotal Delay for S Fotal Delay for S Total Delay	ignalled Lanes ignalled Lanes ignalled Lanes ignalled Lanes ignalled Lanes Over All Lanes	(pcuHr): (pcuHr): (pcuHr): (pcuHr): (pcuHr): s(pcuHr):	0.16 0.04 21.07 39.65 7.22 156.35	Cycle Time (s): Cycle Time (s): Cycle Time (s): Cycle Time (s): Cycle Time (s):	72 72 72 72 72 72			



### **APPENDIX J**

Albion Land Eastern Parcel Road Safety Audit Stage 1

### LAND ADJACENT TO M40 JUNCTION 10

Albion Land, B4100 East Access

Stage 1 Road Safety Audit Prepared on behalf of Albion Land

March 2024



Road Safety Engineering

Project:	Land Adjacent to M40 Junction 10 Albion Land, B4100 East Access
Document:	Stage 1 Road Safety Audit
Design Organisation:	DTA Transport Planning
Overseeing Organisation:	Oxfordshire County Council
Client:	Albion Land
Gateway RSE ref:	SG/WP/2309-10 RSA1 v2.0
Issue date:	15/03/2024
Status:	Issued as v2.0
Authorised by:	SG

© Copyright Gateway RSE 2024



Road Safety Engineering

Cheyenne House West Street Farnham GU9 7EQ 01483 679350 admin@gateway-rse.co.uk www.gateway-rse.co.uk

Gateway RSE Ltd is registered in England Number 14087123 Registered Office: Cheyenne House, West Street, Farnham GU9 7EQ





### CONTENTS

1	Introduction	1
2	Problems Identified by this Road Safety Audit	4
3	Audit Team Statement	8

### Appendices

Appendix A:	Items Considered by this RSA
Appendix B:	Location Plan(s)



#### 1 INTRODUCTION

1.1 This report describes a Stage 1 Road Safety Audit (RSA) of highway works on the B4100 south of Baynards Green, within the District of Cherwell and the County of Oxfordshire. The audit brief, dated 20<sup>th</sup> October 2023 (ref. 17213-13), describes the scheme as follows:

A development of 280,000m<sup>2</sup> commercial warehousing (GFA) is proposed by Albion Land on two sites east and west of the A43. This RSA is to consider the eastern site only.

A development of 300,000m<sup>2</sup> commercial warehousing (GFA) is proposed by Tritax Symmetry Land on land north of the B4100 and east of the A43.

The eastern site access will serve up to 100,000m<sup>2</sup> GFA B8 use. A threearm signal controlled junction is proposed in line with the requirements of DMRB CD123.

A pedestrian and cycle route will be provided between the access to and from the roadside services. The route has yet to be determined as this is to be incorporated into a wider improvement scheme at the Baynards Green roundabout. This is not therefore within the scope of this RSA.

A further pedestrian and cycle route is proposed eastwards towards the NW Bicester development. The route has yet to be determined and is not within the scope of this RSA.

- 1.2 In March 2024 the Audit Team received an amended drawing showing modifications to the signal junction, bus stops with lay-bys and shelters to the east, extended shared use paths and a signal-controlled crossing.
- 1.3 The B4100 is a rural 2-lane single carriageway road running broadly southeast from the Baynards Green roundabout on the A43. It is unlit, has verges but no footways, and is subject to the national speed limit.



- 1.4 The Audit Team is aware of the following planned works (the final designs are subject to further discussion and approval) that do not form part of this Audit, although the Audit Team has considered the Albion Land East signal junction in both the existing and planned scenarios:
  - Carriageway widening and signalisation of the Baynards Green Roundabout. It is understood that, if this scheme comes forward, the Albion East signal junction (the subject of this audit) would very likely be linked to the Baynards Green roundabout.
  - A new 4-arm roundabout to the south on the B4100, serving the Tritax North and Tritax South development sites.
  - A new 3-arm roundabout north of Baynards Green Roundabout, serving the Albion Land West development site.
- 1.5 This Road Safety Audit was carried out by Steve Giles and Wendy Palmer and consisted of a desktop study and a site visit, which was carried out between 12:00 and 12:45 on Monday 25<sup>th</sup> September 2023 (as part of a previous audit), when the weather was fine and the road surface dry. No traffic congestion was observed, and no pedestrian or cyclist movements occurred along the B4100.
- 1.6 The terms of reference for this RSA are as described in the Design Manual for Roads and Bridges (DMRB) document GG119. The Audit Team is independent of the project design team and has not been involved in the design process in any other capacity. The audit considers only the potential road safety implications of the scheme and has not verified compliance of the design with any other criteria.
- 1.7 The Audit Team has not been made aware of any Departures from Standard. Whilst reference may be made to design standards, this report is not intended to provide a design check.
- 1.8 Recommendations are aimed at addressing the identified potential road safety problems. However, there may be other acceptable ways to overcome a problem, considering wider constraints and opportunities; the Auditors would be pleased to discuss such alternative solutions as appropriate. The recommendations contained herein do not absolve the Designer of his/her responsibilities.



#### Collision Data

Personal Injury Collision (PIC) information is summarised by the Audit Brief, which described 13 collisions at or on the entry/exit lanes of the A43/B4100 roundabout. One PIC occurred close to the proposed 3-arm signal junction considered by this audit, involving two cars in a front/rear ('shunt') impact, causing slight injury to the front driver. Conditions were described as fine/dry/daylight.

#### Previous Road Safety Audit

1.10 A Stage 1 Road Safety Audit of a similar scheme was undertaken by this Audit Team in October 2023. It raised eight problems, two of which have been addressed and six are re-raised in this report. One new problem has been raised.



#### 2 PROBLEMS IDENTIFIED BY THIS ROAD SAFETY AUDIT

#### General Matters

2.1 The Audit Team raises no concerns in respect of general matters.

#### Local Alignment

2.2 The Audit Team raises no concerns in respect of local alignment.

#### Junctions

#### 2.3 <u>Problem</u>

Vehicle front/rear and loss of control collisions due to heavy braking.

Location: B4100 approaches to junction

Drivers travelling along the B4100 may be travelling at or close to the 50mph speed limit as they approach the new junction. They may need to brake hard to stop at a red/amber signal or the back of any traffic queue. This could lead to front/rear ('shunt') or loss of control type collisions.

#### Recommendation

Review the need for lighting and high friction surfacing, or a reduced speed limit.

#### 2.4 Problem

Insufficient junction manoeuvring space may lead to collisions between vehicles or with other road users.

#### Location: Site access junction

No vehicle swept path drawings have been provided and it is not clear that large vehicles would be able to complete turning manoeuvres without overrunning opposing traffic lanes or pedestrian/cyclist areas. This may lead to collisions between vehicles or with other road users.

#### Recommendation

Carry out vehicle swept path analysis and, if necessary, adjust the junction geometry.



#### Walking, Cycling and Horse Riding

#### 2.5 <u>Problem</u>

Inadequate refuge area may lead to pedestrian and cyclist injuries.

Location: Site access arm of the junction

The stagger distance on the refuge island within the development arm is limited and the Audit Team is concerned that pedestrians/cyclists may inadvertently attempt to cross the second leg without waiting for a second green signal. It is also not clear that refuge island widths will adequately protect cyclists from passing vehicles.

#### Recommendation

Increase the stagger distance on the development arm refuge island and check that refuge island width is adequate to accommodate cyclists without overhanging traffic lanes.

#### 2.6 <u>Problem</u>

Overhanging branches/foliage may obstruct cyclists and/or cause them to lose control.

#### Location: Along the B4100

Branches/foliage may occasionally encroach into or over the proposed shared path along the B4100. This is likely to obstruct cyclists using the facility, leading to loss of control or collisions with pedestrians/vehicles.

#### **Recommendation**

Branches and other foliage should be cut back clear of the shared path, with sufficient horizontal and/or vertical clearance to minimise future maintenance and reduce the risk of future obstruction.

#### 2.7 <u>Problem</u>

Level drop/ditch at back of shared path may lead to pedestrian and cyclist injuries.

Location: New sections of shared path



Finished levels are unknown at this Stage 1 Audit, but it seems likely that there will be a level drop at the rear of the proposed shared paths. In the event that pedestrians and cyclists stray from the shared path they may fall, causing injury or increased severity of injury.

#### Recommendation

The verge levels should be raised to remove the drop at the rear of the new shared paths, or a restraint system should be provided.

#### Road Signs, Carriageway Markings and Lighting

#### 2.8 Problem

Collisions due to stop line overshoots at night.

Location: Approaches to junction

In the event of a power or signal failure, the junction may be inconspicuous at night, causing drivers unfamiliar with the local highway environment to overshoot the stop lines. This could lead to collisions with other vehicles, or pedestrians/cyclists, or (in the case of the development arm) the verge/ditch opposite.

#### **Recommendation**

Provide additional clear junction signs/road markings and lighting to increase junction conspicuity, particularly at night.

#### 2.9 <u>Problem</u>

Horizontal and vertical clearances to signal heads/signs may lead to loss of control type collisions.

# Location: Proposed junction, in particular splitter islands on south-eastbound approach

Horizontal and vertical clearances to signal heads/signs are unknown at this Stage 1 RSA. Street furniture with insufficient clearances may be struck by passing vehicles, leading to loss of control type collisions.



#### **Recommendation**

Suitable horizontal and vertical clearances should be provided to signal heads and signs.

#### 2.10 Problem

Collisions due to obstruction of signal heads.

#### Location: Controlled crossing

It is not clear that forward visibility to both east-facing signal heads will be available if a bus is present in both lay-bus. In the event of bulb, this could lead to drivers striking pedestrians or cyclists on the crossing.

#### Recommendation

Check forward visibility to the east facing signal heads at the crossing when a bus is present in each lay-by. If necessary, provide additional signal heads to mitigate the risk of vehicles striking pedestrians or cyclists on the crossing.


## 3 AUDIT TEAM STATEMENT

3.1 We certify that this Road Safety Audit has been carried out in accordance with DMRB document GG119.

## Audit Team Leader

Steve Giles BEng (Hons), IEng, FIHE, MCIHT, MICE, CMILT, MSoRSA, HE Cert Comp Senior Road Safety Engineer

Signed:

Date: 15/03/2024

## Audit Team Member(s)

Wendy Palmer MCIHT, MSoRSA, FIHE, HE Cert Comp Senior Road Safety Engineer

Signed:

ned:		0	

Date: 15/03/2024



# APPENDIX A Items Considered by this RSA



## Items Considered by this Road Safety Audit

Document ref.	Rev.	Originator	Title
17213-35-GA	A	DTA Transport Planning	Eastern Access General Arrangement with B4100 Bus Stops & Crossing

## Additional/background information provided to the Audit Team

- Audit Brief Ref. 17213-13, dated 20/10/2023 (DTA Transport Planning)
- Transport Assessment Ref. 17213-03E TA (DTA Transport Planning)
- Drg. No. 20005-SK-045 Proposed Site Plan Option 10 (Cornish Architects)
- Drg. No. 216285/A/14 A43/B4100 Baynards Green Roundabout Junction Improvement, General Arrangement (SLR)



# APPENDIX B Location Plan(s)







## ROAD SAFETY AUDIT RESPONSE REPORT

## Project Details

Project:

GRSE Ref: Status: Issue date: Design Organisation: Overseeing Organisation: Client: Land Adjacent to M40 Junction 10 Albion Land, B4100 East Access SG/WP/2309-10 RSA1 v2.0 Issued as v2.0 15/03/2024 DTA Transport Planning Oxfordshire County Council Albion Land

### Authorisation

Prepared by: Name: Position: Organisation:

Approved by: Name: Position: Organisation: Signed: Richard McCulloch Associate Director DTA Transport Planning

Simon Parfitt Director DTA Transport Planning

## The Scheme

The highway works considered by the Road Safety Audit comprise:

- A signal controlled 3-arm junction on the B4100
- Bus stops with lay-bys and shelters to the east
- Shared use paths and a signal-controlled crossing

### Key Personnel

Overseeing Organisation:	Oxfordshire County Council
RSA Team:	Steve Giles, Senior Road Safety Engineer, Gateway RSE
	Wendy Palmer, Senior Road Safety Engineer, Gateway RSE
Design Organisation:	Richard McCulloch, Associate Director, DTA Transport Planning
	Simon Parfitt, Director, DTA Transport Planning



RSA Dec	RSA Decision Log								
Item No.	RSA Recommendation	Design Organisation Response	Overseeing Organisation Response	Agreed RSA Action					
2.3	Review the need for lighting and high friction surfacing, or a reduced speed limit.	Agree. Lighting, surfacing and speed limit will be reviewed at the detailed design stage.							
2.4	Carry out vehicle swept path analysis and, if necessary, adjust the junction geometry.	Agree. Swept path analysis has been undertaken as shown on DTA Drawing 17213-13i-TRK							
2.5	Increase the stagger distance on the development arm refuge island and check that refuge island width is adequate to accommodate cyclists without overhanging traffic lanes.	Agree. Stagger distances on the pedestrian/cycle crossings on the access and mainline can be increased at the detailed design stage. The refuge width can accommodate cyclists without overhang.							
2.6	Branches and other foliage should be cut back clear of the shared path, with sufficient horizontal and/or vertical clearance to minimise future maintenance and reduce the risk of future obstruction.	Agree. Realignment of the site boundaries to accommodate the access and shared path will consider future maintenance at the detailed design stage.							
2.7	The verge levels should be raised to remove the drop at the rear of the new shared paths, or a restraint system should be provided.	Agree. Level differences will be graded out or a restraint system will be provided at the detailed design stage.							
2.8	Provide additional clear junction signs/road markings and lighting to increase junction conspicuity, particularly at night.	Agree. The lighting strategy will be agreed at the detailed design stage							



RSA Deci	RSA Decision Log								
ltem No.	RSA Recommendation	Design Organisation Response	Overseeing Organisation Response	Agreed RSA Action					
2.9	Suitable horizontal and vertical clearances should be provided to signal heads and signs.	Agree. There are no identified constraints to providing suitable clearances to signal heads and signs							
2.10	Check forward visibility to the east facing signal heads at the crossing when a bus is present in each lay-by. If necessary, provide additional signal heads to mitigate the risk of vehicles striking pedestrians or cyclists on the crossing.	Agree. The need for secondary signal heads will be confirmed at the detailed design stage.							



### Design Organisation Statement:

On behalf of the design organisation, I certify that:

The RSA actions identified in response to the road safety audit problems in this road safety audit have been discussed and agreed with the Overseeing Organisation.

Simon Parfitt Name:

Organisation: DTA Transport Planning

Director Position:

19<sup>th</sup> March 2024 Date:

## Overseeing Organisation Statement:

On behalf of the overseeing organisation, I certify that: The RSA actions identified in response to the road safety audit problems in this road safety audit have been discussed and agreed with the Design Organisation. The agreed RSA actions will be progressed.

Name:

Organisation: Oxfordshire County Council

Position:

Date:



## **APPENDIX K**

Albion Land Western Parcel Access General Arrangement



					_
REV	DESCRIPTION	DRAWN	INITIALS	DATE	
					1





_		
Tra		





## APPENDIX L

Albion Land Western Parcel Access JUNCTIONS





# **Junctions 10**

### **ARCADY 10 - Roundabout Module**

Version: 10.1.1.1905

© Copyright TRL Software Limited, 2023

For sales and distribution information, program advice and maintenance, contact TRL Software:

+44 (0)1344 379777 software@trl.co.uk trlsoftware.com

The users of this computer program for the solution of an engineering problem are in no way relieved of their responsibility for the correctness of the

solution

Filename: Western Site Roundabout RevF.j10 Path: P:\17000's\17213\Junction Assessments Report generation date: 19/03/2024 15:15:16

»2026 Dev 5 (Al Only), AM
»2026 Dev 5 (Al Only), PM
»2031 Dev 5 (Al Only), AM
»2031 Dev 5 (Al Only), PM
»2026 Dev 4 (Both Developments), AM
»2026 Dev 4 (Both Developments), PM
»2031 Dev 4 (Both Developments), AM
»2031 Dev 4 (Both Developments), PM

#### Summary of junction performance

	АМ				РМ					
	Queue (PCU)	Delay (s)	RFC	Network Residual Capacity	Queue (PCU)	Delay (s)	RFC	Network Residual Capacity		
	2026 Dev 5 (Al Only)									
1 - B4100 (W)	1.0	6.03	0.51	75 %	0.4	4.29	0.27	156 %		
2 - B4100 (E)	1.0	6.07	0.48		0.6	4.73	0.36			
3 - Site Arm 3	0.2	5.18	0.12	[1 - B4100 (W)]	0.3	4.72	0.23	[2 - B4100 (E)]		
				2031 Dev	5 (Al Only)					
1 - B4100 (W)	1.3	6.72	0.56	60 %	0.5	4.81	0.33	134 %		
2 - B4100 (E)	1.3	6.76	0.54		0.6	4.60	0.34			
3 - Site Arm 3	0.2	5.31	0.12	[1 - B4100 (W)]	0.3	4.61	0.23	[1 - B4100 (W)]		
				2026 Dev 4 (Both	n Developme	ents)	-			
1 - B4100 (W)	1.7	7.94	0.62	43 %	0.9	5.79	0.45	85 %		
2 - B4100 (E)	2.0	8.86	0.64		1.0	5.98	0.47			
3 - Site Arm 3	0.2	5.88	0.13	[2 - B4100 (E)]	0.4	5.20	0.25	[1 - B4100 (W)]		
	2031 Dev 4 (Both Developments)									
1 - B4100 (W)	1.8	8.50	0.65	34 %	1.0	6.23	0.50	71 %		
2 - B4100 (E)	2.3	9.90	0.68		1.0	5.96	0.47			
3 - Site Arm 3	0.2	5.98	0.13	[2 - B4100 (E)]	0.4	5.16	0.25	[1 - B4100 (W)]		

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle. 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	Western Parcel Site Access
Location	B4100 nr Bicester
Site number	
Date	22/07/2021
Version	
Status	(new file)
Identifier	
Client	Albion Land
Jobnumber	17213
Enumerator	DTA\arcady
Description	

### Units

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

#### **Analysis Options**

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

## **Demand Set Summary**

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D25	2026 Dev 5 (Al Only)	AM	ONE HOUR	07:45	09:15	15
D26	2026 Dev 5 (Al Only)	PM	ONE HOUR	16:45	18:15	15
D27	2031 Dev 5 (Al Only)	AM	ONE HOUR	07:45	09:15	15
D28	2031 Dev 5 (Al Only)	PM	ONE HOUR	16:45	18:15	15
D29	2026 Dev 4 (Both Developments)	AM	ONE HOUR	07:45	09:15	15
D30	2026 Dev 4 (Both Developments)	PM	ONE HOUR	16:45	18:15	15
D31	2031 Dev 4 (Both Developments)	AM	ONE HOUR	07:45	09:15	15
D32	2031 Dev 4 (Both Developments)	PM	ONE HOUR	16:45	18:15	15

## **Analysis Set Details**

ID	Network flow scaling factor (%)
A1	100.000



# 2026 Dev 5 (Al Only), AM

#### **Data Errors and Warnings**

No errors or warnings

# **Junction Network**

#### Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Eastern Site Roundabout	Standard Roundabout		1, 2, 3	5.97	А

#### **Junction Network**

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	75	1 - B4100 (W)	5.97	А

## Arms

#### Arms

Arm	Name	Description	No give-way line
1	B4100 (W)		
2	B4100 (E)		
3	Site Arm 3		

#### **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
1 - B4100 (W)	3.65	4.50	10.3	20.0	40.0	35.0		
2 - B4100 (E)	3.65	4.50	4.5	20.0	40.0	26.0		
3 - Site Arm 3	3.65	4.50	8.1	25.0	40.0	27.0		

#### Slope / Intercept / Capacity

#### Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
1 - B4100 (W)	0.554	1287
2 - B4100 (E)	0.563	1284
3 - Site Arm 3	0.573	1325

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

# **Traffic Demand**

#### **Demand Set Details**

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D25	2026 Dev 5 (Al Only)	AM	ONE HOUR	07:45	09:15	15

#### **Demand overview (Traffic)**

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - B4100 (W)		~	561	100.000
2 - B4100 (E)		✓	547	100.000
3 - Site Arm 3		~	117	100.000



# **Origin-Destination Data**

#### Demand (PCU/hr)

	То					
		1 - B4100 (W)	2 - B4100 (E)	3 - Site Arm 3		
<b>F</b>	1 - B4100 (W)	0	527	34		
From	2 - B4100 (E)	346	0	201		
	3 - Site Arm 3	8	109	0		

# Vehicle Mix

#### Heavy Vehicle %

	То					
		1 - B4100 (W)	2 - B4100 (E)	3 - Site Arm 3		
-	1 - B4100 (W)	0	1	0		
From	2 - B4100 (E)	7	0	20		
	3 - Site Arm 3	0	45	0		

# Results

#### **Results Summary for whole modelled period**

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1 - B4100 (W)	0.51	6.03	1.0	А
2 - B4100 (E)	0.48	6.07	1.0	А
3 - Site Arm 3	0.12	5.18	0.2	А

#### Main Results for each time segment

#### 07:45 - 08:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - B4100 (W)	422	82	1242	0.340	420	0.5	4.413	А
2 - B4100 (E)	412	25	1270	0.324	410	0.5	4.653	A
3 - Site Arm 3	88	259	1176	0.075	88	0.1	4.648	A

#### 08:00 - 08:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - B4100 (W)	504	98	1233	0.409	504	0.7	4.978	A
2 - B4100 (E)	492	31	1267	0.388	491	0.7	5.166	A
3 - Site Arm 3	105	311	1147	0.092	105	0.1	4.860	A

#### 08:15 - 08:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - B4100 (W)	618	120	1221	0.506	616	1.0	6.000	А
2 - B4100 (E)	602	37	1263	0.477	601	1.0	6.049	A
3 - Site Arm 3	129	380	1107	0.116	129	0.2	5.176	А



#### 08:30 - 08:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - B4100 (W)	618	120	1220	0.506	618	1.0	6.027	А
2 - B4100 (E)	602	37	1263	0.477	602	1.0	6.071	А
3 - Site Arm 3	129	381	1107	0.116	129	0.2	5.178	А

#### 08:45 - 09:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - B4100 (W)	504	98	1233	0.409	506	0.7	5.006	A
2 - B4100 (E)	492	31	1267	0.388	493	0.7	5.191	А
3 - Site Arm 3	105	312	1146	0.092	105	0.1	4.867	A

#### 09:00 - 09:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - B4100 (W)	422	82	1241	0.340	423	0.5	4.443	А
2 - B4100 (E)	412	26	1270	0.324	413	0.5	4.683	А
3 - Site Arm 3	88	261	1175	0.075	88	0.1	4.657	A



# 2026 Dev 5 (Al Only), PM

#### **Data Errors and Warnings**

No errors or warnings

# **Junction Network**

#### Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Eastern Site Roundabout	Standard Roundabout		1, 2, 3	4.59	А

#### **Junction Network**

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	156	2 - B4100 (E)	4.59	А

## **Traffic Demand**

#### **Demand Set Details**

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D26	2026 Dev 5 (Al Only)	PM	ONE HOUR	16:45	18:15	15

#### **Demand overview (Traffic)**

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - B4100 (W)		✓	287	100.000
2 - B4100 (E)		√	419	100.000
3 - Site Arm 3		✓	233	100.000

# **Origin-Destination Data**

Demand (PCU/hr)

	То					
_		1 - B4100 (W)	2 - B4100 (E)	3 - Site Arm 3		
	1 - B4100 (W)	0	281	6		
From	2 - B4100 (E)	323	0	96		
	3 - Site Arm 3	44	189	0		

# Vehicle Mix

	То						
		1 - B4100 (W)	2 - B4100 (E)	3 - Site Arm 3			
	1 - B4100 (W)	0	2	0			
From	2 - B4100 (E)	0	0	44			
	3 - Site Arm 3	0	17	0			



## Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1 - B4100 (W)	0.27	4.29	0.4	А
2 - B4100 (E)	0.36	4.73	0.6	А
3 - Site Arm 3	0.23	4.72	0.3	А

## Main Results for each time segment

#### 16:45 - 17:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - B4100 (W)	216	142	1208	0.179	215	0.2	3.691	А
2 - B4100 (E)	315	4	1282	0.246	314	0.3	3.995	A
3 - Site Arm 3	175	242	1186	0.148	175	0.2	4.032	A

#### 17:00 - 17:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - B4100 (W)	258	170	1193	0.216	258	0.3	3.924	А
2 - B4100 (E)	377	5	1281	0.294	376	0.4	4.276	А
3 - Site Arm 3	209	290	1159	0.181	209	0.2	4.297	A

#### 17:15 - 17:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - B4100 (W)	316	208	1172	0.270	316	0.4	4.285	А
2 - B4100 (E)	461	7	1280	0.360	461	0.6	4.720	A
3 - Site Arm 3	257	355	1121	0.229	256	0.3	4.713	A

#### 17:30 - 17:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - B4100 (W)	316	208	1172	0.270	316	0.4	4.289	А
2 - B4100 (E)	461	7	1280	0.360	461	0.6	4.726	A
3 - Site Arm 3	257	356	1121	0.229	257	0.3	4.719	A

#### 17:45 - 18:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - B4100 (W)	258	170	1193	0.216	258	0.3	3.931	А
2 - B4100 (E)	377	5	1281	0.294	377	0.5	4.285	A
3 - Site Arm 3	209	291	1158	0.181	210	0.3	4.305	A

#### 18:00 - 18:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - B4100 (W)	216	142	1208	0.179	216	0.2	3.701	A
2 - B4100 (E)	315	5	1282	0.246	316	0.4	4.011	A
3 - Site Arm 3	175	243	1185	0.148	176	0.2	4.041	A



# 2031 Dev 5 (Al Only), AM

#### **Data Errors and Warnings**

No errors or warnings

# **Junction Network**

#### Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Eastern Site Roundabout	Standard Roundabout		1, 2, 3	6.62	А

#### **Junction Network**

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	60	1 - B4100 (W)	6.62	А

## **Traffic Demand**

#### **Demand Set Details**

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D27	2031 Dev 5 (Al Only)	AM	ONE HOUR	07:45	09:15	15

#### **Demand overview (Traffic)**

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - B4100 (W)		✓	617	100.000
2 - B4100 (E)		✓	615	100.000
3 - Site Arm 3		✓	117	100.000

# **Origin-Destination Data**

#### Demand (PCU/hr)

		То						
		1 - B4100 (W)	2 - B4100 (E)	3 - Site Arm 3				
From	1 - B4100 (W)	0	583	34				
	2 - B4100 (E)	378	0	237				
	3 - Site Arm 3	7	110	0				

# Vehicle Mix

	То							
		1 - B4100 (W)	2 - B4100 (E)	3 - Site Arm 3				
_	1 - B4100 (W)	0	1	0				
From	2 - B4100 (E)	6	0	17				
	3 - Site Arm 3	0	45	0				



## Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1 - B4100 (W)	0.56	6.72	1.3	А
2 - B4100 (E)	0.54	6.76	1.3	А
3 - Site Arm 3	0.12	5.31	0.2	А

## Main Results for each time segment

#### 07:45 - 08:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - B4100 (W)	465	82	1241	0.374	462	0.6	4.650	A
2 - B4100 (E)	463	25	1270	0.365	461	0.6	4.878	А
3 - Site Arm 3	88	283	1163	0.076	88	0.1	4.725	А

#### 08:00 - 08:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - B4100 (W)	555	99	1232	0.450	554	0.8	5.350	A
2 - B4100 (E)	553	31	1267	0.436	552	0.8	5.531	А
3 - Site Arm 3	105	339	1131	0.093	105	0.1	4.957	A

#### 08:15 - 08:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - B4100 (W)	679	121	1220	0.557	678	1.2	6.679	А
2 - B4100 (E)	677	37	1263	0.536	675	1.3	6.720	A
3 - Site Arm 3	129	415	1087	0.119	129	0.2	5.304	А

#### 08:30 - 08:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - B4100 (W)	679	121	1220	0.557	679	1.3	6.722	A
2 - B4100 (E)	677	37	1263	0.536	677	1.3	6.757	A
3 - Site Arm 3	129	416	1086	0.119	129	0.2	5.307	A

#### 08:45 - 09:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - B4100 (W)	555	99	1232	0.450	556	0.8	5.393	А
2 - B4100 (E)	553	31	1267	0.436	554	0.9	5.570	A
3 - Site Arm 3	105	341	1130	0.093	105	0.1	4.962	A

#### 09:00 - 09:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - B4100 (W)	465	83	1241	0.374	465	0.6	4.692	A
2 - B4100 (E)	463	26	1270	0.365	464	0.6	4.919	A
3 - Site Arm 3	88	285	1162	0.076	88	0.1	4.737	A



# 2031 Dev 5 (Al Only), PM

#### **Data Errors and Warnings**

No errors or warnings

# **Junction Network**

#### Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Eastern Site Roundabout	Standard Roundabout		1, 2, 3	4.68	А

#### **Junction Network**

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	134	1 - B4100 (W)	4.68	А

## **Traffic Demand**

#### **Demand Set Details**

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D28	2031 Dev 5 (Al Only)	PM	ONE HOUR	16:45	18:15	15

#### **Demand overview (Traffic)**

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - B4100 (W)		✓	355	100.000
2 - B4100 (E)		✓	393	100.000
3 - Site Arm 3		✓	233	100.000

# **Origin-Destination Data**

#### Demand (PCU/hr)

		т	0		
		1 - B4100 (W) 2 - B4100 (E)		3 - Site Arm 3	
From	1 - B4100 (W)	0	348	7	
	2 - B4100 (E)	295	0	98	
	3 - Site Arm 3	38	195	0	

# Vehicle Mix

		То							
		1 - B4100 (W)	2 - B4100 (E)	3 - Site Arm 3					
From	1 - B4100 (W)	0	4	0					
	2 - B4100 (E)	0	0	44					
	3 - Site Arm 3	0	16	0					



## Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1 - B4100 (W)	0.33	4.81	0.5	А
2 - B4100 (E)	0.34	4.60	0.6	А
3 - Site Arm 3	0.23	4.61	0.3	А

## Main Results for each time segment

#### 16:45 - 17:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - B4100 (W)	267	146	1206	0.222	266	0.3	3.975	А
2 - B4100 (E)	296	5	1281	0.231	295	0.3	3.945	А
3 - Site Arm 3	175	221	1198	0.146	175	0.2	3.974	A

#### 17:00 - 17:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - B4100 (W)	319	175	1190	0.268	319	0.4	4.291	А
2 - B4100 (E)	353	6	1281	0.276	353	0.4	4.200	А
3 - Site Arm 3	209	265	1173	0.179	209	0.2	4.221	A

#### 17:15 - 17:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - B4100 (W)	391	214	1168	0.335	390	0.5	4.806	А
2 - B4100 (E)	433	8	1280	0.338	432	0.5	4.594	A
3 - Site Arm 3	257	324	1139	0.225	256	0.3	4.609	A

#### 17:30 - 17:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - B4100 (W)	391	215	1168	0.335	391	0.5	4.813	А
2 - B4100 (E)	433	8	1280	0.338	433	0.6	4.600	А
3 - Site Arm 3	257	325	1139	0.225	257	0.3	4.612	A

#### 17:45 - 18:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - B4100 (W)	319	176	1190	0.268	320	0.4	4.304	А
2 - B4100 (E)	353	6	1281	0.276	354	0.4	4.207	А
3 - Site Arm 3	209	266	1173	0.179	210	0.2	4.227	A

#### 18:00 - 18:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - B4100 (W)	267	147	1206	0.222	268	0.3	3.991	A
2 - B4100 (E)	296	5	1281	0.231	296	0.3	3.958	А
3 - Site Arm 3	175	222	1198	0.146	176	0.2	3.984	A



# 2026 Dev 4 (Both Developments), AM

#### **Data Errors and Warnings**

No errors or warnings

# **Junction Network**

#### Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Eastern Site Roundabout	Standard Roundabout		1, 2, 3	8.22	А

#### **Junction Network**

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	43	2 - B4100 (E)	8.22	А

## **Traffic Demand**

#### **Demand Set Details**

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D29	2026 Dev 4 (Both Developments)	AM	ONE HOUR	07:45	09:15	15

#### **Demand overview (Traffic)**

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - B4100 (W)		✓	689	100.000
2 - B4100 (E)		✓	732	100.000
3 - Site Arm 3		✓	117	100.000

# **Origin-Destination Data**

#### Demand (PCU/hr)

		То							
		1 - B4100 (W)	2 - B4100 (E)	3 - Site Arm 3					
<b>F</b>	1 - B4100 (W)	0	655	34					
From	2 - B4100 (E)	531	0	201					
	3 - Site Arm 3	8	109	0					

# Vehicle Mix

		То								
		1 - B4100 (W)	2 - B4100 (E)	3 - Site Arm 3						
From	1 - B4100 (W)	0	2	0						
	2 - B4100 (E)	10	0	20						
	3 - Site Arm 3	0	45	0						



## Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1 - B4100 (W)	0.62	7.94	1.7	А
2 - B4100 (E)	0.64	8.86	2.0	А
3 - Site Arm 3	0.13	5.88	0.2	А

## Main Results for each time segment

#### 07:45 - 08:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - B4100 (W)	519	82	1242	0.418	516	0.7	5.033	А
2 - B4100 (E)	551	25	1270	0.434	548	0.9	5.588	A
3 - Site Arm 3	88	397	1097	0.080	88	0.1	5.013	A

#### 08:00 - 08:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - B4100 (W)	619	98	1233	0.502	618	1.0	5.959	А
2 - B4100 (E)	658	31	1267	0.519	657	1.2	6.627	А
3 - Site Arm 3	105	476	1052	0.100	105	0.2	5.348	A

#### 08:15 - 08:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - B4100 (W)	759	120	1221	0.622	756	1.6	7.855	A
2 - B4100 (E)	806	37	1263	0.638	803	1.9	8.754	A
3 - Site Arm 3	129	583	991	0.130	129	0.2	5.869	A

#### 08:30 - 08:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - B4100 (W)	759	120	1220	0.622	759	1.7	7.937	A
2 - B4100 (E)	806	37	1263	0.638	806	2.0	8.860	A
3 - Site Arm 3	129	585	990	0.130	129	0.2	5.880	A

#### 08:45 - 09:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - B4100 (W)	619	98	1233	0.503	622	1.0	6.032	A
2 - B4100 (E)	658	31	1267	0.519	661	1.2	6.723	A
3 - Site Arm 3	105	479	1050	0.100	105	0.2	5.362	A

#### 09:00 - 09:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - B4100 (W)	519	82	1241	0.418	520	0.7	5.094	A
2 - B4100 (E)	551	26	1270	0.434	553	0.9	5.662	A
3 - Site Arm 3	88	401	1095	0.080	88	0.1	5.030	A



# 2026 Dev 4 (Both Developments), PM

#### **Data Errors and Warnings**

No errors or warnings

# **Junction Network**

#### Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Eastern Site Roundabout	Standard Roundabout		1, 2, 3	5.76	А

#### **Junction Network**

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	85	1 - B4100 (W)	5.76	А

## **Traffic Demand**

#### **Demand Set Details**

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D30	2026 Dev 4 (Both Developments)	PM	ONE HOUR	16:45	18:15	15

#### **Demand overview (Traffic)**

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - B4100 (W)		✓	483	100.000
2 - B4100 (E)		√	545	100.000
3 - Site Arm 3		✓	233	100.000

# **Origin-Destination Data**

#### Demand (PCU/hr)

		То								
		1 - B4100 (W)	2 - B4100 (E)	3 - Site Arm 3						
<b>F</b>	1 - B4100 (W)	0	477	6						
From	2 - B4100 (E)	449	0	96						
	3 - Site Arm 3	44	189	0						

# Vehicle Mix

		То									
		1 - B4100 (W)	2 - B4100 (E)	3 - Site Arm 3							
From	1 - B4100 (W)	0	3	0							
	2 - B4100 (E)	8	0	44							
	3 - Site Arm 3	0	17	0							



## Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1 - B4100 (W)	0.45	5.79	0.9	А
2 - B4100 (E)	0.47	5.98	1.0	A
3 - Site Arm 3	0.25	5.20	0.4	А

## Main Results for each time segment

#### 16:45 - 17:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - B4100 (W)	364	142	1208	0.301	362	0.4	4.369	А
2 - B4100 (E)	410	4	1282	0.320	408	0.5	4.646	А
3 - Site Arm 3	175	336	1132	0.155	175	0.2	4.258	A

#### 17:00 - 17:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - B4100 (W)	434	170	1193	0.364	434	0.6	4.879	А
2 - B4100 (E)	490	5	1281	0.382	489	0.7	5.132	А
3 - Site Arm 3	209	403	1094	0.191	209	0.3	4.611	A

#### 17:15 - 17:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - B4100 (W)	532	208	1172	0.454	531	0.8	5.772	А
2 - B4100 (E)	600	7	1280	0.469	599	1.0	5.959	A
3 - Site Arm 3	257	493	1042	0.246	256	0.4	5.189	A

#### 17:30 - 17:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - B4100 (W)	532	208	1172	0.454	532	0.9	5.792	А
2 - B4100 (E)	600	7	1280	0.469	600	1.0	5.977	А
3 - Site Arm 3	257	494	1042	0.246	257	0.4	5.197	A

#### 17:45 - 18:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - B4100 (W)	434	170	1193	0.364	435	0.6	4.901	А
2 - B4100 (E)	490	5	1281	0.382	491	0.7	5.157	А
3 - Site Arm 3	209	405	1093	0.192	210	0.3	4.622	A

#### 18:00 - 18:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - B4100 (W)	364	142	1208	0.301	364	0.4	4.397	А
2 - B4100 (E)	410	5	1282	0.320	411	0.5	4.677	А
3 - Site Arm 3	175	339	1131	0.155	176	0.2	4.272	A



# 2031 Dev 4 (Both Developments), AM

#### **Data Errors and Warnings**

No errors or warnings

# **Junction Network**

#### Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Eastern Site Roundabout	Standard Roundabout		1, 2, 3	9.00	А

#### **Junction Network**

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	34	2 - B4100 (E)	9.00	А

## **Traffic Demand**

#### **Demand Set Details**

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D31	2031 Dev 4 (Both Developments)	AM	ONE HOUR	07:45	09:15	15

#### **Demand overview (Traffic)**

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - B4100 (W)		✓	720	100.000
2 - B4100 (E)		✓	785	100.000
3 - Site Arm 3		✓	117	100.000

# **Origin-Destination Data**

#### Demand (PCU/hr)

		То								
_		1 - B4100 (W)	2 - B4100 (E)	3 - Site Arm 3						
	1 - B4100 (W)	0	686	34						
From	2 - B4100 (E)	548	0	237						
	3 - Site Arm 3	7	110	0						

# Vehicle Mix

	То								
		1 - B4100 (W)	2 - B4100 (E)	3 - Site Arm 3					
From	1 - B4100 (W)	0	1	0					
	2 - B4100 (E)	7	0	17					
	3 - Site Arm 3	0	45	0					



## Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	
1 - B4100 (W)	0.65	8.50	1.8	А	
2 - B4100 (E)	0.68	9.90	2.3	A	
3 - Site Arm 3	0.13	5.98	0.2	А	

## Main Results for each time segment

#### 07:45 - 08:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - B4100 (W)	542	82	1241	0.437	539	0.8	5.151	A
2 - B4100 (E)	591	25	1270	0.465	587	0.9	5.763	А
3 - Site Arm 3	88	410	1090	0.081	88	0.1	5.068	А

#### 08:00 - 08:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - B4100 (W)	647	99	1232	0.525	646	1.1	6.185	А
2 - B4100 (E)	706	31	1267	0.557	704	1.4	7.003	А
3 - Site Arm 3	105	491	1043	0.101	105	0.2	5.417	A

#### 08:15 - 08:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - B4100 (W)	793	121	1220	0.650	790	1.8	8.391	A
2 - B4100 (E)	864	37	1263	0.684	861	2.3	9.729	A
3 - Site Arm 3	129	601	981	0.131	129	0.2	5.964	A

#### 08:30 - 08:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - B4100 (W)	793	121	1220	0.650	793	1.8	8.501	А
2 - B4100 (E)	864	37	1263	0.684	864	2.3	9.903	A
3 - Site Arm 3	129	603	979	0.132	129	0.2	5.976	А

#### 08:45 - 09:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - B4100 (W)	647	99	1232	0.525	650	1.1	6.277	А
2 - B4100 (E)	706	31	1267	0.557	709	1.4	7.143	А
3 - Site Arm 3	105	495	1041	0.101	105	0.2	5.435	A

#### 09:00 - 09:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - B4100 (W)	542	83	1241	0.437	543	0.8	5.219	A
2 - B4100 (E)	591	26	1270	0.465	593	1.0	5.858	A
3 - Site Arm 3	88	414	1088	0.081	88	0.1	5.085	A



# 2031 Dev 4 (Both Developments), PM

#### **Data Errors and Warnings**

No errors or warnings

# **Junction Network**

#### Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Eastern Site Roundabout	Standard Roundabout		1, 2, 3	5.93	А

#### **Junction Network**

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	71	1 - B4100 (W)	5.93	A

## **Traffic Demand**

#### **Demand Set Details**

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D32	2031 Dev 4 (Both Developments)	PM	ONE HOUR	16:45	18:15	15

#### **Demand overview (Traffic)**

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1 - B4100 (W)		✓	526	100.000
2 - B4100 (E)		√	542	100.000
3 - Site Arm 3		✓	233	100.000

# **Origin-Destination Data**

#### Demand (PCU/hr)

		т	0		
		1 - B4100 (W) 2 - B4100 (E)		3 - Site Arm 3	
<b>F</b>	1 - B4100 (W)	0	519	7	
From	2 - B4100 (E)	444	0	98	
	3 - Site Arm 3	38	195	0	

# Vehicle Mix

		То									
		1 - B4100 (W)	2 - B4100 (E)	3 - Site Arm 3							
-	1 - B4100 (W)	0	2	0							
From	2 - B4100 (E)	8	0	44							
	3 - Site Arm 3	0	16	0							



## Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1 - B4100 (W)	0.50	6.23	1.0	А
2 - B4100 (E)	0.47	5.96	1.0	А
3 - Site Arm 3	0.25	5.16	0.4	А

## Main Results for each time segment

#### 16:45 - 17:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - B4100 (W)	396	146	1206	0.328	394	0.5	4.510	A
2 - B4100 (E)	408	5	1281	0.319	406	0.5	4.641	A
3 - Site Arm 3	175	333	1134	0.155	175	0.2	4.236	A

#### 17:00 - 17:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - B4100 (W)	473	175	1190	0.397	472	0.7	5.110	А
2 - B4100 (E)	487	6	1281	0.381	487	0.7	5.124	A
3 - Site Arm 3	209	399	1097	0.191	209	0.3	4.585	A

#### 17:15 - 17:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - B4100 (W)	579	214	1168	0.496	578	1.0	6.204	А
2 - B4100 (E)	597	8	1280	0.466	596	1.0	5.943	А
3 - Site Arm 3	257	488	1045	0.245	256	0.4	5.154	A

#### 17:30 - 17:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - B4100 (W)	579	215	1168	0.496	579	1.0	6.233	А
2 - B4100 (E)	597	8	1280	0.466	597	1.0	5.961	А
3 - Site Arm 3	257	489	1045	0.246	257	0.4	5.162	A

#### 17:45 - 18:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - B4100 (W)	473	176	1190	0.397	474	0.7	5.141	А
2 - B4100 (E)	487	6	1280	0.381	488	0.7	5.147	А
3 - Site Arm 3	209	400	1096	0.191	210	0.3	4.595	A

#### 18:00 - 18:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1 - B4100 (W)	396	147	1206	0.328	397	0.5	4.544	A
2 - B4100 (E)	408	5	1281	0.319	409	0.5	4.672	A
3 - Site Arm 3	175	335	1133	0.155	176	0.2	4.251	A



## **APPENDIX M**

Albion Land Western Parcel Access Road Safety Audit Stage 1





# Land Adjacent to M40 J10, Western Access

Road Safety Audit Stage 1

12 August 2021

Mott MacDonald 10 Temple Back Bristol BS1 6FL United Kingdom

T +44 (0)117 906 9500 mottmac.com

David Tucker Associates Forester House Doctors Lane Henley in Arden Warwickshire B95 5AW

# Land Adjacent to M40 J10, Western Access

Road Safety Audit Stage 1

12 August 2021
# **Issue and Revision Record**

Revision	Date	Originator	Checker	Approver	Description
А	12/08/2021	T J Blaney	R J Collins	J T Pearson	First Issue
		Tun Blancy	farms	Sha	

### Document reference: 100414124 | TPN | ITD | 044 | 001 | A

#### Information class: Standard

This document is issued for the party which commissioned it and for specific purposes connected with the abovecaptioned project only. It should not be relied upon by any other party or used for any other purpose.

We accept no responsibility for the consequences of this document being relied upon by any other party, or being used for any other purpose, or containing any error or omission which is due to an error or omission in data supplied to us by other parties.

This document contains confidential information and proprietary intellectual property. It should not be shown to other parties without consent from us and from the party which commissioned it.

# Contents

1	Introd	luction	1
2	Items 2.1 2.2	Raised at this Stage 1 Audit Problem 1.01 Problem 1.02	3 3 4
3	Audit	Team Statement	5
Арре	endice	S	6
A.	List o	f Drawings & Documents Examined	7
В.	Loca	tion Plan – Western Access	8

# **1** Introduction

This report describes a Stage 1 Road Safety Audit carried out on the proposed access arrangements for a new 280,000m<sup>2</sup> employment development on land adjacent to the M40 J10. Two access points (eastern and western) will be provided either side of the A43 / B4100 Baynards Green roundabout junction. This audit report considers the western access.

1

The audit was carried out at the request of David Tucker Associates.

The audit took place at the Bristol office of Mott MacDonald and consisted of a detailed examination of the submitted documentation and drawings listed in **Appendix A**.

It is confirmed that this is a Stage 1 Road Safety Audit and that the audit was undertaken upon completion of the preliminary design work.

The Road Safety Audit Team, as approved by the David Tucker Associates' Project Sponsor, Simon Parfitt, consisted of:

Tim Blaney	BSc (Hons), CMILT, MCIHT, MSoRSA
	(Certificate of Competency in Road Safety Audit, July 2012)
	Audit Team Leader, Mott MacDonald
Rachael Collins	BA (Hons), MSc, MCIHT
	(Certificate of Competency in Road Safety Audit, July 2016)
	Audit Team Member, Mott MacDonald

A visit to the site was completed on Wednesday 4<sup>th</sup> August at 1100 hrs. During this visit the weather was overcast, with sunny spells and the road surface was dry. Traffic conditions were moderate and free flowing. No pedestrian or cycle activity was observed.

This Road Safety Audit was carried out in accordance with Highways England's Departmental Standard GG119 and the Road Safety Audit Brief (*Doc. Ref: 17213-05*). The Road Safety Audit Team has examined and reported only on the road safety implications of the scheme as presented and has not examined or verified the compliance of the designs to any other criteria.

The comments and suggestions for road safety improvements made in this report seek to address matters that might have an adverse effect on road safety in the context of the chosen design. No attempt has been made to comment on the justification of the scheme. Consequently, the auditors accept no responsibility for the design or construction of the scheme.

All the issues raised in this report are considered to be required for action. The comments contained in the report are based on safety related concerns and as such the design engineer will need to consider carefully how to respond to each of the issues. The Audit Response Report should be completed by the Design Team and kept on file for future reference.

A Key Plan indicating the location of any identified safety related issues is provided in **Appendix B**.

#### **Scheme Description**

#### Taken from the Audit Brief:

The western site access will serve up to 180,000m<sup>2</sup> GFA B8 use. A three-arm roundabout junction is proposed in line with the requirements of DMRB CD116. Access to plots will be taken from an internal roundabout junction within the site. A bus layby will be provided on the link between the two site roundabouts.

A pedestrian and cycle route will be provided between the B4100 accesses and will provide a safe route to and from the roadside services. The route has yet to be determined as this is likely to be incorporated into a wider HE improvement scheme at the Baynards Green roundabout. This is not therefore within the scope of this RSA.

This audit therefore considers the proposed provision of a new roundabout junction on the B4100 as well as the internal site roundabout and link road.

# 2 Items Raised at this Stage 1 Audit

This section describes road safety related issues identified by the Audit Team during the Stage 1 Road Safety Audit.

### 2.1 Problem 1.01

Location: Throughout Scheme.

Summary: Unclear impact of additional traffic on surrounding highway network.

The proposed development and its western access are in close proximity to the A43 Baynards Green roundabout. At present, no junction appraisals have been undertaken therefore it is not possible to consider the impact that this development will have on the local highway network and particularly the A43 junction. Should the junction fail to accommodate the increase in traffic, and particularly HGVs, there is an increased risk of rear end shunt or side impact type collisions associated with inappropriate turning manoeuvres resulting from driver frustration / impatience.

#### Recommendation

It is recommended that traffic modelling is undertaken to assess the impact that the proposed development will have on the surrounding highway network, and particularly the A43 Baynards Green roundabout.

### 2.2 Problem 1.02

Location: B4100 Roundabout junction.

Summary: Unclear lighting provision may lead to loss of control collisions.

The B4100 at the location of the proposed roundabout junction is a relatively straight section of single carriageway unlit rural highway. It is not clear from the information submitted if it is intended to light the roundabout. Failure to light this roundabout may result in motorists misjudging the position or geometry of the roundabout during the hours of darkness, increasing the risk of loss of control type collisions.

Figure 1: Existing B4100 on northbound approach to proposed roundabout.



Source: Mott MacDonald

#### Recommendation

Given the proximity of the illuminated A43 Baynards Green roundabout, it is considered appropriate for the proposed access roundabout to also be lit. Furthermore, the internal site roundabout is likely to also require lighting due to its close proximity. It is recommended that through the design process, a lighting assessment is carried out to confirm the need for lighting.

# 3 Audit Team Statement

We certify that this audit has been carried out in accordance with Highways England's Departmental Standard GG119.

### **Road Safety Audit Team Leader**

**T J Blaney** BSc (Hons), CMILT, MCIHT, MSoRSA (Certificate of Competency in Road Safety Audit, July 2012)

Signed:



Date: 12th August 2021

Principal Road Safety Engineer Mott MacDonald 10 Temple Back Bristol BS1 6FL

#### **Road Safety Audit Team Member**

**R J Collins** BA (Hons), MSc, MCIHT (Certificate of Competency in Road Safety Audit, July 2016)

Signed:



Date: 12th August 2021

Senior Road Safety Engineer Mott MacDonald 9 Portland Street Manchester M1 3BE

# Appendices

- A. List of Drawings & Documents Examined
- B. Location Plan Western Access

7 8 6

# A. List of Drawings & Documents Examined

### Table 3.1: Drawings

Drawing Number	Revision	Drawing Title
20005-SK-029	В	Proposed Masterplan Option 8
17213-09-GA	В	West Site Access – General Arrangement
17213-09-TRACK	В	West Site Access – Vehicle Tracking
Source: David Tucker Assoc	ciates	

#### Table 3.2: Documents

Document Number	Revision	Document Title
17213-05	-	Road Safety Audit Brief
17213-02b	-	TA Scoping Report

Source: David Tucker Associates

# **B.** Location Plan – Western Access







### **APPENDIX N**

Personal Injury Collision Data (STATS19)

TRAFFMAP AccsMap - Accident Analysis System	INTERPRETED LISTING	Run on: 29/02/2024
Accidents between dates 01/01/2018 and 31/12 Selection:	2/2023 (72) months Notes: DTA RTC data 2018-2022+provisional 2023 NON CONFIDENTIAL	
Wednesday 31/01/2018 Time 0816 SI E: 454948 N: 229248 Junction Detail: 0 Contr Fine without high winds Road surfa	ight at A43 NBOUND SBOUND APPROX 100M N OF F ol ace Wet/Damp Daylight	RBT J/W B4100 AT BAYNARDS GREEN STOKE LYNE
Vehicle Reference 1 Car	Moving from NE to S	Going ahead other
Vehicle Reference 2 Car	Moving from NE to S	Going ahead other
Casualty Reference: 1	Age: 65 Male Driver/rider	Severity: Slight Injured by vehicle: 2
Wednesday 07/02/2018 Time 1014 Se E: 457257 N: 226274 Junction Detail: 3 Contr Fine without high winds Road surfa Vehicle Reference 1 Car Casualty Reference: 1 Vehicle Reference 2 Car	rious at B4100 J/W BAINTON ROAD BUCKNE ol 4 ice Dry Daylight Age: 24 Male Driver/rider Moving from SE to NE	ELL Going ahead other Severity: Serious Injured by vehicle: 1 Turning right
Friday17/08/2018Time2005SIE: 455551N: 228708Junction Detail:0ContrFine without high windsRoad surfaVehicle Reference 1Motorcycle over 500	ight at B4100 AT BEND 140M NW OF J/W ROAD TO H ol ice Dry Daylight cc Moving from S to N	IARDWICK STOKE LYNE Going ahead left bend
Casualty Reference: 1	Age: 56 Male Driver/rider	Severity: Slight Injured by vehicle: 1
Vehicle Reference 2 Car	Moving from S to N	Going ahead other
Vehicle Reference 3 Car	Moving from N to SE	Going ahead other
Vehicle Reference 4 Car	Moving from N to SE	Going ahead other

TRAFFMAP AccsMap - Accident Analysis System		INTERPRETED LISTING	Run	on: 29/02/2024
Accidents between dates 01/01/2018 and Selection:	<b>31/12/2023</b> (72) month <b>Notes:</b> DTA R CONFI	rs TC data 2018-2022+provisional 2023 NON DENTIAL		
Saturday 18/08/2018 Time 0210 E: 455855 N: 228137 Junction Detail: 0 Eine without high winds	Serious at B41 Control	00 APPROX 20M N OF AT STOKE LYNE/	/STOKE WOOD XRDS J/W STRATTON AUDLEY	RD STOK
Vahiala Deference 1	ad surface Dry	Marine from No. to SE	Coinc shoul other	
Casualty Reference: 1	Age: 24	Female Driver/rider	Severity: Serious Injured by vehicle: 1	
Wednesday 22/08/2018 Time 0745 E: 454922 N: 229094 Junction Detail: 1 Fine without high winds Roa Vehicle Reference 1 Car	Slight at A43 Control 4 ad surface Dry	RBT J/W B4100 STOKE LYNE Daylight Moving from SE to N	Going ahead other	
Vehicle Reference 2 Car		Moving from N to S	Going ahead other	

Driver/rider

Severity: Slight

Injured by vehicle: 2

Casualty Reference:

1

26

Age:

Female

TRAFFMA	AP		
AccsMap -	Accident	Analysis	System

Accidents between dates	01/01/2018 and 31/12/2023	(72) months
Selection:		Notes:
		DTA RTC data 2

Notes: DTA RTC data 2018-2022+provisional 2023 NON CONFIDENTIAL

Sunday 02/12/2018 Time 12	241 Slight	at	B4100	APPRO	X 100M SE OF J/W ACCESS TO SW	VIFTS HOUSE OUTSI	DE STOKE LYNE V	VOOD STOKE LYNE
E: 456131 N: 227743 Junction Detail:	0 Control							
Fine without high winds	Road surface	Wet/D	amp		Daylight			
Vehicle Reference 1 Car					Moving from SE to N	Going ahead other		
Casualty Reference:	1	Age:	67	Male	Driver/rider	Severity: Slight	Injured by vehicle:	1
Casualty Reference:	2	Age:	63	Female	Passenger	Severity: Slight	Injured by vehicle:	1
Vehicle Reference 2 Car					Moving from N to SE	Going ahead other		
Casualty Reference:	3	Age:	63	Female	Driver/rider	Severity: Slight	Injured by vehicle:	2
Vehicle Reference 3 Car					Moving from SE to N	Going ahead other		
Casualty Reference:	4	Age:	46	Male	Passenger	Severity: Slight	Injured by vehicle:	3

Thursday 13/12/2018 Time 1144 Slight at A43 RBT J/W B4100 AT EXIT TO A43 SBOUND STOKE LYNE

E: 454903 N: 229092 Junction Detail: 1 Control 4 Fine without high winds Road surface Wet/Dan

Fine without high winds	Road surface	Wet/Da	amp		Daylight			
Vehicle Reference 1 Car					Moving from N to N	Turning right		
Casualty Reference:	1	Age:	22	Female	Driver/rider	Severity: Slight	Injured by vehicle:	1
Vehicle Reference 2 Car					Moving from N to S	Going ahead other		

TRAFFMA	P		
AccsMap -	Accident	Analysis	System

Accidents between dates	01/01/2018 and 31/12/2023	(72) months
Selection:		Notes:
		DTA RTC data 2018-2022+provisional 2023 NON
		CONFIDENTIAL

Sunday 1827 Slight at A43 RBT J/W B4100 BAYNARDS GREEN 25/08/2019 Time E: 454901 N: 229092 Junction Detail: 1 Control 4 Fine without high winds Dry Daylight Road surface Vehicle Reference 1 Moving from NE to S Going ahead other Car Moving from NE to S Going ahead other Vehicle Reference 2 Motorcycle over 500cc Driver/rider Severity: Slight Casualty Reference: 1 30 Male Injured by vehicle: 2 Age:

Monday	16/12/2019	Time	1045	Slight	at	A43	BAYNARI	DS GREEN RB	T J/V	$V B^2$	4100	BICESTER		
E: 454888	N: 229148 Junctio	on Detail:	1	Control	4									
Fine with	out high winds		Ro	ad surface	Wet/D	amp	]	Daylight						
	Vehicle Reference 1	Goods 3	3.5 ton	nes mgw ar	nd under			Moving from	Ν	to	SE	Going ahead other		
	Vehicle Reference 2	Car						Moving from	S	to	Ν	Going ahead other		
	Casualty	Reference:	1		Age:	26	Female	Dr	iver/r	ider		Severity: Slight	Injured by vehicle:	2

Tuesday	24/12/2019	Time	1230	Slight	a	t B4	4100 APPRO2	X 135M SE OR	BT J/W A43	STOKE LYNE		
E: 455047	N: 229015 Junc	tion Detail:	0	Control								
Fine witho	out high winds		Ro	ad surface	Dry		]	Daylight				
,	Vehicle Reference 1	Car						Moving from	SE to N	Going ahead other		
,	Vehicle Reference 2	Car						Moving from	SE to N	Going ahead other		
	Casual	ty Reference	e: 1		Age:	26	Female	Dri	iver/rider	Severity: Slight	Injured by vehicle:	2

TRAFFMA	Р		
AccsMap -	Accident A	Analysis	System

Accidents between dates	01/01/2018 and 31/12/2023	(72) months
Selection:		Notes:
		DTA RTC data 2018-2022+provisional 2023 NON
		CONFIDENTIAL

Friday Slight at B4100 J/W UNCLASSIFIED ROAD TO BUCKNELL BUCKNELL 0904 10/01/2020 Time E: 457375 N: 226152 Junction Detail: 3 Control 4 Fine without high winds Dry Road surface Daylight Moving from N to SE Going ahead other Vehicle Reference 1 Goods 7.5 tonnes mgw and over Vehicle Reference 2 Moving from N to SE Stopping Car Casualty Reference: 1 28 Male Driver/rider Severity: Slight Injured by vehicle: 2 Age: Casualty Reference: Severity: Slight Injured by vehicle: 2 2 Age: 14 Female Passenger Moving from N to S Waiting to turn right Vehicle Reference 3 Car Casualty Reference: 3 Female Driver/rider Severity: Slight Injured by vehicle: 3 45 Age:

Wednesday	15/01/2020	Time	0540	Fatal	at	B4100	APPRO	X 1.25KM SE C	OF SWIF	TS FARM	STOKE LYNE		
E: 456537	N: 227090 Junctio	n Detail:	0	Control									
Fine without	high winds		Ro	oad surface	Wet/Da	amp		Darkness: no str	eet light	ing			
Ve	hicle Reference 1	Car						Moving from	NE to	S	Going ahead other		
Ve	hicle Reference 2	Pedal (	Cycle					Moving from	NE to	S	Going ahead other		
	Casualty	Reference	: 1		Age:	39	Male	Dr	iver/ride	•	Severity: Fatal	Injured by vehicle:	2

TRAFFMAP INTERPRETED LISTING AccsMap - Accident Analysis System							
Accidents between dates 01/01/2018 and Selection:	31/12/2023	(72) months <b>Notes:</b> DTA RTC data 20 CONFIDENTIAL	018-2022+provisional 2023 NOI	N			
Saturday 01/02/2020 Time 0826 E: 454761 N: 229236 Junction Detail: 0 Fine with high winds Ro	Slight Control pad surface D	at B4100 150M N Drv	N FROM RBT JCT WITH A43 Davlight	BAYNARDS GREEN			
Vehicle Reference 1 Cor		-5	Moving from N to SE	Going ahead other			
Casualty Reference: 1	Age	e: 32 Male	Driver/rider	Severity: Slight	Injured by vehicle:	1	
Vehicle Reference 2 Car			Moving from N to SE	Going ahead but held	up		
Casualty Reference: 2	Age	e: 22 Female	Driver/rider	Severity: Slight	Injured by vehicle:	2	
Tuesday10/11/2020Time0905E: 454862N: 229022Junction Detail:0Fine without high windsRo	Slight Control pad surface D	at A43 NBOUNE	O CWAY APPROX 75M S OF F Daylight	RBT J/W B4100 STOKE LYN	ΙE		

Vehicle Reference 1 Car					Moving from S to N	Going ahead other	
Casualty Referen	nce: 1	Age:	29	Female	Driver/rider	Severity: Slight Injured by vehicle	: 1
Vehicle Reference 2 Goo	ds 3.5 tonnes mg	gw and under			Moving from <b>S</b> to <b>N</b>	Going ahead but held up	

TRAFFMAP
AccsMap - Accident Analysis System

Accidents between dates	01/01/2018 and 31/12/2023	(72) months
Selection:		Notes:
		DTA RTC data 2018-2022+provisional 2023 NON
		CONFIDENTIAL

Wednesday 04/0	8/2021 Time 2	2206 Slight	а	at A	43 BAYNAR	DS GREEN 300M NORTH FROM B	4100 STOKE LYNE		
E: 454995 N: 229444	4 Junction Detail:	0 Control							
Fine without high wind	ds	Road surface	Dry			Darkness: no street lighting			
Vehicle Refer	rence 1 Car					Moving from S to NE	Overtaking moving v	ehicle O/S	
	Casualty Reference:	1	Age:	26	Male	Driver/rider	Severity: Slight	Injured by vehicle:	1
	Casualty Reference:	2	Age:	18	Male	Passenger	Severity: Slight	Injured by vehicle:	1
Vehicle Refer	rence 2 Car					Moving from S to NE	Changing lane to left		
	Casualty Reference:	3	Age:	22	Male	Driver/rider	Severity: Slight	Injured by vehicle:	2
	Casualty Reference:	4	Age:	19	Male	Passenger	Severity: Slight	Injured by vehicle:	2
Friday 27/0	8/2021 Time	0240 Slight	а	at B4	4100 J/W A43	3 BATNARDS GREEN RDT STOKI	ELYNE		
E: 454891 N: 229143	3 Junction Detail:	1 Control	4						
Fine without high wind	ds	Road surface	Dry			Darkness: street lights present and lit			
Vehicle Refer	rence 1 Car					Moving from N to SE	Going ahead other		
	Casualty Reference:	1	Age:	4	Female	Passenger	Severity: Slight	Injured by vehicle:	1

Accidents between dates Selection:	01/01/2018 and 31/12/20	23 (72) months Notes: DTA RTC data 20 CONFIDENTIAL	018-2022+provisional 2023 NON	
Friday 04/02/2022 E: 454910 N: 229164 Juncti Fine without high winds Vehicle Reference 1	Time 1922 Slight fon Detail: 1 Control Road surface Goods 7.5 tonnes mgw a	at A43 RBT J/W	B4100 BAYNARDS GREEN STO Darkness: street lights present and 1 Moving from S to NE	KE LYNE it Going ahead left bend
Casualt	V Reference: 1	Age: 65 Male	Driver/rider	Severity: Slight Injured by vehicle: 2
Vehicle Reference 3	Car		Moving from S to NE	Going ahead left bend
Friday 25/03/2022 E: 454939 N: 229115 Junct Fine without high winds Vehicle Reference 1 Vehicle Reference 2 Casualty	Time 1650 Seriou ion Detail: 1 Control Road surface Car Motorcycle over 500cc y Reference: 1	at A43 BAYNAR 4 Dry Age: 38 Male	DS GREEN RBT J/W B4100 STOP Daylight Moving from N to S Moving from N to S Driver/rider	KE LYNE Going ahead other Going ahead other Severity: Serious Injured by vehicle: 2
Wednesday 28/09/2022 E: 454832 N: 228891 Juncti Fine without high winds Vehicle Reference 1	Time 0736 Slight ion Detail: 0 Control Road surface Car	at A43 NBOUND	D APPROX 200M S OF RBT J/W B4 Daylight Moving from S to N	100 STOKE LYNE Going ahead other
Casualty Vehicle Reference 2	y Reference: 1 Car	Age: 48 Female	Driver/rider Moving from S to N	Severity: Slight Injured by vehicle: 1 Going ahead but held up

TRAFFMAP

AccsMap - Accident Analysis System

TRAFFMAP
AccsMap - Accident Analysis System

Accidents between dates	01/01/2018 and 31/12/2	<b>23</b> (72) months
Selection:		Notes:
		DTA RTC data 2018-2022+provisional 2023 NON
		CONFIDENTIAL

Monday 02/01/	2023 Time	1706 Slight	а	t B41	00 APPROX	X 500M SE OF ARBT J/W A43	STOKE LYNE	
E: 455362 N: 228792	Junction Detail:	0 Control						
Fine without high winds	5	Road surface	Dry			Darkness: street lights present and	d lit	
Vehicle Referen	nce 1 Car					Moving from N to SE	Overtaking moving v	vehicle O/S
	Casualty Reference:	3	Age:	36	Male	Driver/rider	Severity: Slight	Injured by vehicle: 1
	Casualty Reference:	4	Age:	32	Female	Passenger	Severity: Slight	Injured by vehicle: 1
Vehicle Referen	nce 2 Goods 3	3.5 tonnes mgw a	nd under			Moving from SE to N	Going ahead other	
	Casualty Reference:	1	Age:	47	Male	Driver/rider	Severity: Slight	Injured by vehicle: 2
	Casualty Reference:	2	Age:	11	Male	Passenger	Severity: Slight	Injured by vehicle: 2
Saturday 15/04/	2023 Time	1813 Slight	а	t B41	00 APPROX	X 800M NW OF J/W BAINTON	STOKE LYNE	
E: 456679 N: 226855	Junction Detail:	0 Control						
Fine without high winds	5	Road surface	Dry			Daylight		
Vehicle Referen	nce 1 Car					Moving from SE to N	Going ahead other	
Vehicle Referen	nce 2 Car					Moving from N to SE	Going ahead other	
	Casualty Reference:	1	Age:	31	Male	Driver/rider	Severity: Slight	Injured by vehicle: 2

TRAFFMAP	
AccsMap - Accident Analysis System	n

Accidents between dates	01/01/2018 and	31/12/2023	(72) months
Selection:			Notes:
			DTA RTC data

DTA RTC data 2018-2022+provisional 2023 NON CONFIDENTIAL

Sunday	28/05/202	23 Tir	ne 1	1603	Slight		at	A43 NBOUND	ENTRY TO RE	BT J/	WΒ	4100 A	T BAYNARDS GREEEN	STOKE LYNE	
E: 454884	N: 229100 J	unction De	etail:	1	Control	4									
Fine without	ut high winds			Ro	ad surface	Dry			Daylight						
١	/ehicle Reference	1 C	ar						Moving from	S	to	Ν	Going ahead other		
١	/ehicle Reference	2 C	ar						Moving from	S	to	Ν	Going ahead other		
	Cas	sualty Refe	erence:	1		Age:	e	56 Male	Dr	iver/	ride		Severity: Slight	Injured by vehicle:	2
	Cas	sualty Refe	erence:	2		Age:	6	66 Female	Pa	sseng	ger		Severity: Slight	Injured by vehicle:	2
	Cas	sualty Refe	erence:	3		Age:	$\epsilon$	56 Male	Pa	sseng	ger		Severity: Slight	Injured by vehicle:	2

Thursday15/06/2023Time1902SlightatB4100 AT ENTRY TO A43 BAYNARDS GREEN RBTSTOKE LYNE

E: 454939 N: 229094 Junction Detail: 1 Control 4

Fine without high winds		Road surface	Dry			Daylight		
Vehicle Reference 1	Goods 7.5	tonnes mgw a	nd over			Moving from SE to N	Turning left	
Vehicle Reference 2	Car					Moving from SE to N	Stopping	
Casualty I	Reference:	1	Age:	36	Female	Driver/rider	Severity: Slight	Injured by vehicle: 2
Casualty 1	Reference:	2	Age:	36	Male	Passenger	Severity: Slight	Injured by vehicle: 2

TRAFFMAP AccsMap - Accident Analysis Sy	stem					INTERP	RETED I	LISTING			Rı
Accidents between dates Selection:	23 (72	<ul> <li>(72) months</li> <li>Notes:</li> <li>DTA RTC data 2018-2022+provisional 2023 NON</li> <li>CONFIDENTIAL</li> </ul>									
Wednesday 05/07/202 E: 455717 N: 228513 Ju Fine without high winds	3 Time 150 nction Detail: 0	09 Slight Control	Dry	at B41	00 APPRO2	X 125M SE OF	HARDW	ICK TURN	STOKE LYNE		
Vehicle Reference	1 Car	Roud Surface	DI			Moving from	SE to	N	Going ahead other		
Casi	alty Reference:	1	Age:	30	Male	Dr	iver/ride	r	Severity: Slight	Injured by vehicle:	1
Vehicle Reference	2 Car	-	6			Moving from	SE to	N	Stopping	1 <u>1</u>	-
Sunday 23/07/202 E: 454930 N: 229096 Ju Eine without high winds	3 Time 190 nction Detail: 1	00 Slight Control	4 Dmi	at A43	RBT J/W H	34100 FROM B	ICESTE	R STOKE L	YNE		
Vahiala Pafaranaa	1	Road surface	Dry			Daylight Moving from	SE to	N	Going about other		
	1 Car						SE IO	IN N			
Vehicle Reference	<sup>2</sup> Car	1		4.1	N 1	Moving from	SE to	Ν	Stopping	T · 11 1·1	•
Casi	laity Reference:	1	Age:	41	Male	Dr	iver/ride	r	Seventy: Slight	injured by venicle:	2
Cast	alty Reference:	2	Age:	41	Female	Pa	ssenger		Severity: Slight	Injured by vehicle:	2
Case	alty Reference:	3	Age:	10	Male	Pa	ssenger		Severity: Slight	Injured by vehicle:	2
Cast	alty Reference:	4	Age:	8	Female	Pa	ssenger		Severity: Slight	Injured by vehicle:	2

#### TRAFFMAP

AccsMap - Accident Analysis System

Accidents between dates 01/01/2018 and 31/12/2023 (72) months

Selection:

Notes:

DTA RTC data 2018-2022+provisional 2023 NON CONFIDENTIAL

Accidents involving:

Casualties:

	Fatal	Serious	Slight	Total
Motor vehicles only (excluding 2-wheels)	0	2	19	21
2-wheeled motor vehicles	0	1	2	3
Pedal cycles	1	0	0	1
Horses & other	0	0	0	0
Total	1	3	21	25

	Fatal	Serious	Slight	Total
Vehicle driver	0	2	23	25
Passenger	0	0	14	14
Motorcycle rider	0	1	2	3
Cyclist	1	0	0	1
Pedestrian	0	0	0	0
Other	0	0	0	0
Total	1	3	39	43

Number of casualties meeting the criteria:

43



### **APPENDIX O**

Baynards Green General Arrangement



PAR HILA PAR HI	Ives					<ul> <li>New traffic</li> <li>Pedestrian</li> <li>Highway E</li> <li>Junction in &amp; visibility s</li> <li>Areas of ag dedicated a splays</li> </ul>	signals guardrail / timber fen xtents tervisibility zones splays oplicants land that co as Highway for visibili	uld be ity		
REV.     DETAILS       A     Additional splay information	DRAWN	CHECKED JB	DATE 30.10.23	Notes: 1. This is not a construction drawing and is intended for illustrative purposes only. White lining is	Symmet	ry Park			Tritax Symmetry	
B Post RSA1 Response Amends	RB	KD	18.03.24	<ul> <li>indicative only.</li> <li>Do not scale.</li> <li>Topographical survey provided by National Highways</li> </ul>	A43 / B4 Junction General	100 Bayn Improven Arrangem	ards Gree nent ent	n Roundabout	*SLR	
				Note: The property of this drawing and design is vested in Vectos SLR. It shall not be copied or reproduced in any way without their prior written consent.	drawn: RB	CHECKED: JB	DATE: 15.05.23	scales: 1:500 @A1	DRAWING NUMBER: 216285/A/14	<sup>,ION:</sup>







### **APPENDIX P**

M40 Junction 10 and Baynards Green Modelling Report



## Proposed Logistics Development at Baynards Green M40 Junction 10 & Baynards Green – Technical Note

N02/216285/RB August 2023

## Introduction

- 1. Tritax Symmetry (TSL) has applied for planning permission for employment development on land at Baynards Green (LPA Reference: 22/01340/OUT). This application is supported by transport planning advice from Vectos SLR.
- 2. Albion Land (AL) has applied for planning permission for employment development on adjacent land at Baynards Green (LPA Reference: 21/03267/FUL, 21/03268/OUT & 21/03269/OUT). This application is supported by transport planning advice from David Tucker Associates (DTA).
- 3. Vectos SLR and DTA have prepared this technical note as a follow-up to the previous note N01/21285/RB issued in April 2023. This update covers:
  - Issue of VISSIM data.
  - Update to note N01.
- 4. The A43 Baynards Green roundabout currently experiences operational stress resulting in significant peak hour queuing. TSL and AL jointly propose improvement works here to support their proposed employment developments. This will fully signal control the roundabout and provide widening on the approaches and circulatory carriageway. A broadly equivalent scheme (the Growth Fund scheme) was promoted by the highway authorities to accommodate planned growth, but this has not progressed due to a lack of funding.
- 5. The proposed improvement works have been tested with VISSIM in the context of the wider M40 Junction 10 network to understand whether other works are required at other locations to address the development impact. However, compared to the reference case, i.e. no development or improvement at Baynards Green, the combined developments and junction improvement at Baynards Green will reduce net delay and queuing across the M40 Junction 10 network. The efficacy of the works to address the proposed developments is therefore not externally constrained and no other works are required.
- 6. The modelling demonstrates that the method of control and form of junction are appropriate, however, agreement in principle by the highway authorities to the proposed geometry parameters is sought. A detailed appraisal of the geometry against the requirements of the Design Manual for Roads and Bridges (DMRB) is set out in this report. No new departures from standard are required. There are, however, current features of the existing roundabout which are not compliant, e.g. entry path curvature, which are to be carried forward. Agreement is also sought on measures to reduce approach speeds, which are generally beneficial, but would also allow flexibility in visibility terms and benefit for active travel modes.



## **Design Flows**

- 7. The design flows are based on the 2026 scenarios with the Bicester Traffic Model (BTM) which is maintained by Tetra Tech (TT) on behalf of Oxfordshire County Council (OCC). The reference case scenarios include existing traffic demand, traffic growth and traffic demand from planned development. The design case scenarios include the reference case demands plus the development demand from the proposed TSL and AL developments. In addition, the 2031 scenarios have also been run as a sensitivity test.
- 8. The appendices in note N01 contained incorrect reference case data. **Annex B** contains the correct BTM data. Analysis of the reference case was based upon the correct flows and all previous capacity analysis remains valid.

## **Baynards Green – Junction Improvement Scheme**

- 9. National Highways (NH) kindly shared their topographical survey for the A43 and Baynards Green roundabout. The design that was shown on drg. 216285/A/07 has been updated to 216285/A/14 and included at **Annex C**.
- 10. An excerpt of drg. 216285/A/14 is shown below:



Figure 1 – A43 / B4100 Baynards Green improvement scheme



- 11. Vectos SLR and DTA met with National Highways following the initial submission of note N01. The meeting was to refine the Baynards Green improvement LINSIG model to ensure the scheme was represented appropriately in the VISSIM model. The main changes were to the A43 North and South right turn clearances.
- 12. It was agreed that the VISSIM modelling would test the implications of the developments and the suitability of the mitigation proposals. The ARCADY/LinSig junction analysis results for Baynards Green are updated below in **Table 1**. The timings used to forecast the development case reflect the changes agreed with National Highways and show the best potential results at Baynards Green using the flows agreed for use in the VISSIM development case assessment.

	Existing Layo	ut / Ref Case	Improved Layout / Dev Case		
	Highest Ratio of	Longest Queue	Highest RFC	Longest Queue	
	Flow to Capacity	(pcu)	(FKC)	(pcu)	
AM 2026	1.21	221	0.92 (-2.7%)	21	
PM 2026	1.25	95	0.88 (+2.4%)	25	
AM 2031	1.37	425	1.00 (-10.9%)	37	
PM 2031	1.58	231	0.97 (-8.1%)	36	

 Table 1 – Baynards Green capacity assessment

- 13. The values referred to in **Table 1** are Ratio of Flow to Capacity and Practical Reserve Capacity. The RFC is the highest proportion of flow to capacity for a priority-controlled roundabout. RFCs are not usually used to express performance for signal junctions, but they are presented here to allow a like-for-like comparison. For information, the RFC calculation is very similar to Degree of Saturation (DoS) although they are presented differently, e.g. 50% DoS equates to 0.5 RFC. For traffic signals, the highest DoS determines PRC, expressed as a percentage, with 90% DoS considered the highest practical value. Positive PRC values indicate a junction has spare capacity whereas a negative value indicates a deficit.
- 14. From the table above it can be seen that the improvement at Baynards Green roundabout is forecast to provide significant benefits when compared to the reference case. This is supported by the VISSIM modelling results.
- 15. The updated LinSig analysis is included at **Annex E**.



## VISSIM – Modelling Summary

16. The VISSIM report is included at **Annex A.** The data to accompany this has been issued separately. The key structural changes between the reference and development case models are the Baynards Green scheme and the introduction of the AL and TSL development access junctions. The VISSIM model confirms that the throughput of the M40 Junction network is significantly increased, and benefits of the improvement scheme are not affected by the wider network. The summarised findings of the VSSIM modelling, ordered by year and peak, are:

### 2026 AM

- There is an overall reduction in delay for the whole network of at least 26s per vehicle. The actual reduced delay will be greater because the number of unreleased vehicles (traffic that cannot enter the network due to blocking) reduced from 1000 to 0.
- The A43 south-bound queue to Barnards Green roundabout was reduced by around 700m in the AM peak. The actual reduction in queue is greater because of unreleased vehicles (latent demand which cannot enter the network). Overall, the latent demand is reduced from 1000 vehicles to 0 vehicles equivalent to a queue of circa 3km across two lanes.
- The improvement at Baynards Green roundabout proposal allowed more traffic South in the AM peak. The model reported some additional south-bound queues (displaced downstream) at the Padbury and Cherwell MSA junctions, however, these queues were contained within links.
- The additional south-bound flow increased M40 northbound off-slip queues in the AM peak to circa 340m. However, these queues were wholly contained within the slip, i.e., not beyond the back of the nose, some 460m from the ICD.

### <u>2026 PM</u>

- There was an overall reduction in delay for the whole network of at least 15s per vehicle. The B4100 East entry queue reduced by an average of nearly 400m, while the number of unreleased vehicles in the reduced from 50 (reference case) to 0 (development case).
- The Northbound queue to Barnards Green roundabout was reduced by an average of c300m.
- The model reported south-bound queues (displaced from Baynards Green) to the Padbury and Cherwell MSA junctions, however, these queues were contained within links.

### <u>AM 2031</u>

- The 2031 tests are not required as set out in DfT Circular 01/2022. However, the results are included as a sensitivity test.
- There was an overall reduction in delay for the whole network of at least 4s per vehicle. The south-bound approach to Barnards Green roundabout had around 900 fewer unreleased vehicles. While these vehicles did not contribute to the overall delay statistics and queue length statistics, this level of reduction is clearly a significant improvement.
- Queues on the B4100 West reduced by nearly 400m while those on the B4100 East reduced by around 200m.



- The model reported south-bound queues (traffic displaced downstream from Baynards Green) to the Padbury and Cherwell MSA junctions, however, these queues were contained within links.
- The additional south-bound flow did increase M40 north-bound off-slip queues in the AM peak. However, these queues were wholly contained within the slip, i.e. not beyond the back of the nose.

<u>2031 PM</u>

- There was an overall reduction in delay of 33s per vehicle.
- The North-bound queue to Barnards Green roundabout was reduced by an average of circa 550m. This was an improvement when compared with the reference case where queues stretched to Padbury roundabout, which could have safety implications for the M40 south-bound off-slip.
- The B4100 East entry queue reduced by an average of nearly 450m, reducing the number of unreleased vehicles by around 300, to zero. The B4100 West queues were circa 250m shorter than the reference case.

## **VISSIM – Queue Lengths and Journey Times**

17. The VISSIM assessment shows that the Baynards Green roundabout improvement is forecast to provide significant benefits. Management of the local network is achieved in the AM peak by balancing the reduced A43 south-bound queue to Baynards Green while maintaining acceptable conditions downstream at the Cherwell MSA and Ardley junctions. In the PM peak, the capacity increase provided at Baynards Green largely resolves the queue for A43 north-bound traffic.

Route	2026 Journey	Time Change	2031 Journey Time Change			
	AM	PM	AM	PM		
A43 North to M40 South	-331s	+39s	-87s	+37s		
A43 North to B430 South (via Ardley)	-359s	+30s	-136s	+23s		
M40 South to A43 North	+97s	-92s	+107s	-159s		

### Table 2 – A43 / M40 Journey Time Changes

- 18. In **Table 2** above, a negative figure means an improvement in journey time. The table shows the change in journey time for the A43 north and south-bound, i.e. the through-route on the SRN.
- 19. The reference case had congestion south-bound towards Baynards Green in the AM and northbound in the PM peak. The proposed scheme is forecast to improve journey times considerably for these approaches in their respective congested peak periods, i.e. >5 minutes faster south bound in the AM peak and at least 1.5 minutes better for the north-bound in the PM peak.



- 20. The Baynards Green signalisation allows delay to be balanced over all the entries. This means a slight worsening for those approaches that are not currently (or in the reference case) congested, i.e. the north-bound in the AM and the south-bound in the PM. The increase in delay is partly due to traffic waiting at a red signal which would not be the case for an existing uncongested priority entry. The net position, however, is one of significant benefit.
- 21. The queues along with the available link lengths are reported in **Table 3** and **Table 4**.

	Available Queuing Capacity (m)	2026 Ref		2026 Dev		2031 Ref		2031 Dev	
Route		Case Queue (m)		Case Queue (m)		Case Queue (m)		Case Queue (m)	
		AM	PM	AM	PM	AM	PM	AM	PM
A43 SB to Baynards (QC1)	-	769*	132	203	122	769*	182	767	144
A43 SB from Baynards to Padbury (QC7)	600	59	60	280	161	67	71	178	163
A43 SB from Padbury to Cherwell MSA (QC9)	310	124	96	286	125	150	103	261	144
A43 SB from Cherwell MSA to Ardley Rbt (QC16)	245	189	67	127	55	250	99	111	55

\*reported queues only include vehicles within the model and do not reflect significant latent demand of up to 1000 vehicles on this approach in the AM peak periods.

Table 3 – Queue length changes – A43 South-bound

	Available Queuing Capacity (m)	2026 Ref		2026 Dev		2031 Ref		2031 Dev	
		Case Queue		Case Queue		Case Queue		Case Queue	
Route		(m)		(m)		(m)		(m)	
		AM	PM	AM	PM	AM	PM	AM	PM
M40 NB Off-slip (QC17)	455	102	82	339	96	176	105	383	158
A43 NB from Ardley to Cherwell MSA (QC15)	245	57	100	84	101	109	232	134	148
A43 NB from Padbury to Baynards (QC5)	620	106	599	187	201	214	944	253	233

Table 4 – Queue length changes – A43 North-bound



- 22. A summary of **Table 3** and **Table 4** is given below:
  - The only exceedances on available stacking were in the 2031 reference case, shown in red. The 944m queue in the 2031 reference case represents an interaction between junctions and a resilience concern for the M40 south-bound off-slip to Padbury roundabout. The Baynards Green scheme resolves these exceedances.
  - The Baynards improvement is forecast to reduce the AM 2026 south-bound queue to Baynards by over 0.5km in 2026 within the modelled network. The latent demand, those that cannot gain access to the network due to queuing, i.e. sitting outside the modelled network, reduced by circa 1000 vehicles. Modest reductions in queue are forecast for the PM peak. In 2031 the south-bound queue is reported as the same, but the latent demand is considerably lower.
  - Queues between Baynards and Padbury roundabouts increased slightly but were easily contained within the link.
  - Queues between Padbury roundabout and the Cherwell MSA junction increased but did not exceed available stacking capacity.
  - Queues on the M40 north-bound off-slip increased, particularly in the AM peak. These increases
    were almost entirely due the success of the Baynards Green improvement which allowed more
    traffic south towards Ardley roundabout. The forecast slip queue lengths did not exceed the
    available stacking to the back of the nose.
  - The PM north-bound queue lengths to Baynards Green roundabout are improved considerably by the introduction of the proposed scheme.

## **DMRB Geometric Compliance**

- 23. The N01 report included an initial DMRB compliance review of the proposal for Baynards Green. An updated plan is included at **Annex D**.
- 24. Discussion is sought on the following points. It is envisaged that these will be recorded in a Safety Risk Assessment in line with the requirements of GG104.
  - A43 Entry path radius of the existing and proposed layouts.
  - The design speeds for the roundabout approaches have initially been determined as 120kph for the A43 and 100 kph for the B4100. Discussions on the nature of the approaches (rural or urban) and the potential for reducing design speed for the mainline and B4100 are sought.


## Conclusion

- 25. AL and TSL propose an improvement at A43 Baynards Green roundabout.
- 26. The VISSIM assessment supports the LINSIG appraisal which shows that the Baynards Green scheme with the AL and TSL developments operates much more efficiently when compared to the existing layout in the reference case. It also provides formal facilities for active travel on the A43 and B4100 arms.
- 27. The VISSIM assessment shows that the combined development and scheme is compelling when considered in the context of the wider M40 Junction 10 network. No further works are needed, including at the Cherwell MSA or Ardley roundabouts, to accommodate the traffic generated by the AL and TSL developments.
- 28. The modelling demonstrates that the method of control and form of junction are appropriate. Agreement is principle for the geometric parameters is sought from the highway authorities to allow further design development. A detailed appraisal of the geometry against the mandatory requirements of the DMRB is included in the report which is now based on NH land survey. No new departures from standard are required. There are, however, features of the existing roundabout which are not compliant, e.g. entry path curvature, which are to be carried forward. Agreement is also sought on measures to reduce approach speeds, which are generally beneficial, but would also allow flexibility in visibility terms and deliver benefits for active travel modes.



## Annexes

Annex A	VISSIM Modelling – M40 J10 TSL and AL Development Testing
Annex B	BTM Design Flows
Annex C	Drawing 216285/A/14 – Baynards Green Junction Improvement GA
Annex D	Drawing 216285/SK/11 – Baynards Green Junction Improvement DMRB Compliance Plan
Annex E	LinSig analysis for Baynards Green roundabout.



## Annex A

VISSIM Modelling – M40 J10 TSL and AL Development Testing



## M40 J10 Tritax and Albion Land Development Testing

VM210412.TN004 July 2023

## Introduction

- 1. Vectos Microsim, part of SLR Consulting (VM) has been commissioned to provide microsimulation modelling expertise in support of two proposed logistics developments near to M40 J10 in Cherwell District, Oxfordshire.
- 2. Symmetry Park Ardley is a proposed 3.2m sq ft development located to the east of Baynards Green Roundabout on the A43 corridor, with land on the northern and southern side of the B4100 to be accessed via a new 4-arm roundabout on B4100 east. The development is led by Tritax Symmetry (Tritax) with highway support provided by SLR Consulting's transport planning division, previously known as Vectos.
- 3. Axis J10 is a proposed 3m sq ft development located on two plots east and west of Baynards Green Roundabout on the A43 corridor. The western site is proposed to be accessed via a new 3-arm roundabout on the B4100 west, while the eastern site is proposed to be accessed via a 3-arm signalised junction. The development is led by Albion Land with highway support provided by David Tucker Associates (DTA).
- 4. This Note sets out the methodology for the microsimulation testing of these two proposed sites, and an overview of the results of the tests.

## Background

- 5. VM compiled a Matrix Development Methodology Note, issued to NH on 23<sup>rd</sup> February 2023, along with a spreadsheet which used the outputs from the Bicester Transport Model (as provided by TetraTech) and calculated the demand matrices for input into VISSIM for the updated Reference Case and With Development modelling. The Note is provided in Appendix A.
- 6. Whilst the Methodology Note was accepted, NH initially identified some discrepancies in the spreadsheet that accompanied submission of the Note.\_Through discussions between VM, NH and AECOM, the vehicle demands to be used for testing the development scenarios were agreed on 18<sup>th</sup> May 2023. The agreed demands are those as contained within spreadsheet *VM210412.Sp014 Post Audit Demands\_v7*.



- 7. Demands have been provided for a total of 4 development scenarios, for future years 2026 and 2031:
  - i. Dev Sc1: Tritax Symmetry Development Only
  - ii. Dev Sc2: Tritax Symmetry Development and Albion Land Development East
  - iii. Dev Sc3: Tritax Symmetry Development and Albion Land Development West
  - iv. Dev Sc4: Tritax Symmetry Development and Albion Land Developments East and West
- 8. Development Scenario 4 has been tested in VISSIM; this Note sets out the build and results of this test on the basis that it represents the position whereby both development sites come forward.

## **Reference Case VISSIM Modelling**

9. The development testing built upon the 2026 and 2031 Reference Case models, which were issued for agreement with NH on 23<sup>rd</sup> March 2023. The VISSIM network is provided below:

## Figure 1: Reference Case Model VISSIM Network





10. The Reference Case models remain unchanged from the March submission and are re-reported in the results spreadsheet which accompanies this submission<sup>1</sup> for comparison against the Development 4 scenario.

## **Do-Something VISSIM Modelling**

- 11. Both the 2026 and 2031 Do-Something scenarios test full build out of the Tritax and Albion Land development sites. This includes three site accesses which have been coded into the VISSIM network:
  - i. Albion Land West Access: 3-arm priority-controlled roundabout on B4100 to the west of Baynards Green Roundabout
  - ii. Albion Land East Access: Signalised 3-arm junction on B4100 to the east of Baynards Green Roundabout
  - iii. Tritax Access: 4-arm priority-controlled roundabout to the east of the Albion Lane East Access
- 12. In addition to the three site accesses, a scheme at Baynards Green has been introduced to help mitigate the impacts of the development. The scheme aims to improve the traffic flow on Baynards Green through the following highway upgrades:
  - i. Increasing the capacity on the roundabout with additional lanes on the circulatory
  - ii. Adding extra flare lanes on the northbound, southbound, and westbound approaches
  - iii. Full signalisation of the roundabout
- 13. The Baynards Green scheme and three site access arrangements are shown in the drawing in Appendix B. The 2026/2031 DS VISSIM network encompasses the Baynards Green scheme and all three accesses, and is illustrated in Figure 2 overleaf:

<sup>&</sup>lt;sup>1</sup> VM210412.Sp014 Result Spreadsheet Dev Sc4.xls





## Figure 2: 2026/2031 Development Scenario 4 VISSIM Network



## **Network Revisions**

- 14. Following initial tests of the development scenario, model observations demonstrated that with the inclusion of additional demand the model was exhibiting unusual behaviour that undermined the reliability of the testing.
- 15. A small number of network changes were therefore applied to the Do-Something models to rectify these issues. These are included in both the 2026 and 2031 Do-Something Scenarios and are listed below, followed by an image to illustrate the locations of the network elements referred to.

#### Lookback Distance Changes Adjustments:

- i. Link 10059, changed from 200m to 250m
- ii. Link 10060, changed from 200m to 250m
- iii. Link 10050, changed from 250m to 500m
- iv. Link 10051, changed from 250m to 500m

#### **Emergency Stop Distance Changes Adjustments:**

- i. Link 10050, changed from 100m to 15m
- ii. Link 10051, changed from 160m to 15m

#### **Priority Rule Changes Adjustments:**

- i. Priority Rule 88 (Lights), Min.Gap time changed from 4s to 2.4s
- ii. Priority Rule 89 (Heavies), Min.Gap time changed from 4.5s to 2.8s
- iii. Priority Rule 100 (Heavies), Min.Gap time changed from 4.5s to 2.8s
- iv. Priority Rule 101 (Lights), Min.Gap time changed from 4s to 2.4s





#### Figure 3: Link and Priority Rule Locations for Network Changes

16. Regarding connectors 10050 and 10051, the lookback distance was increased to encourage earlier lane change to prevent unrealistic lane changing on the section between Padbury and Cherwell. The emergency stop distances were reduced to prevent vehicles in Lane 2 of Link 2 stopping to change lane into Lane 1 (due to original emergency stop distance on connector 10051); originally this behaviour caused bottlenecks on Link 2 and prevented vehicles from accessing Lanes 2 and 3 of Link 36.



17. **Figures 4** and **5** below show vehicles approaching Cherwell in the incorrect lane, and bottlenecks occurring due to the original emergency stop distances:



Figure 4: Original A43 Lane Change Behaviour between Padbury and Cherwell

Figure 5: Bottleneck on Approach to Cherwell from Padbury Roundabout



18. The look back distance on connectors 10059 and 10060 was revised to prevent unrealistic lane change behaviour on the A43 bridge over the M40. The distance between these connectors and connector 10053 (the single lane connector which routes vehicles from the A43 north of Cherwell Services junction to the A43 bridge) is approximately 240m, while the original look back distance was



200m. This resulted in a number of trips joining the bridge in lane 1, changing to lane 2 and then immediately looking to change back to lane 1. This is observed in the screenshot below:



Figure 4: Original A43 Lane Change Behaviour between Cherwell and Ardley

19. Priority rules 88, 89, 100 and 101 were revised to reduce observed behaviour whereby vehicles on the A43 westbound approach to Ardley Roundabout were giving way to circulating trips exiting the roundabout at the A43 eastbound exit. This behaviour resulted in unrealistic queues on the A43 bridge, while correcting this behaviour results in a higher number of conflicting trips for the M40 northbound off-slip.



## **Demand Matrices**

- 20. Demand matrices for VISSIM are derived from outputs from the Bicester Transport Model (BTM); details on the conversion from BTM output to VISSIM input are detailed in Appendix A.
- 21. The total peak hour demands are given in **Table 1** and **Table 2** below:

#### Table 1: AM Peak Hour Demands

	AM Peak (0	7:45-08:45)	
Scenario	Lights	Heavies	Total
2016 Base	8955	1377	10332
2026 Ref	10564	948	11512
2026 Dev Sc4	11096	1238	12334
2026 Dev – Ref	532	290	821
2031 Ref	11786	1056	12842
2031 Dev Sc4	12227	1347	13573
2031 Dev – Ref	440	291	732

## **Table 2: PM Peak Hour Demands**

	PM Peak (1	6:30-17:30)	
Scenario	Lights	Heavies	Total
2016 Base	10527	1084	11611
2026 Ref	11532	907	12439
2026 Dev Sc4	11913	1133	13046
2026 Dev – Ref	381	226	607
2031 Ref	12731	959	13690
2031 Dev Sc4	13075	1182	14257
2031 Dev – Ref	344	223	567



## VISSIM Modelling Results Summary

## 2026 AM

- 22. The introduction of the Development trips, along with the associated site accesses and Baynards Green mitigation scheme, results in average delay per vehicle decreasing by 26s in 2026 for the AM peak compared to the Reference Case.
- 23. While VISSIM average queue results show a reduction of ~700m in the 2026 AM DS scenario compared with the Reference Case on the A43 southbound approach to Baynards Green, the queue reduction in reality would be far higher due to the presence of latent/unreleased demand in the Reference Case, which stands at over 1000 vehicles. Following introduction of the proposed mitigation scheme, this reduces to zero.
- 24. The mitigation at the roundabout introduces an additional ahead lane on the southbound approach and a separate left-turn filter, which, combined with the signals creating more gaps, means throughput improves and queues decrease.
- 25. As a result of the improved throughput from the north, some minor queue increases are forecast on the southbound approaches to Padbury Roundabout and Cherwell, however these are contained within the road sections between the junctions and do not reach back to upstream junctions. Queue increases are also forecast on M40 northbound off-slip due to the additional number of vehicles able to traverse the network following the unlocking of Baynards Green Roundabout, which conflict against the northbound slip give-way. These queues however reach a maximum of ~340m which is well within the road-space available on the slip road.

#### 2026 PM

- 26. Compared to the 2026 PM Reference Case, average delay per vehicle decreases by 15s in the 2026 Development Scenario.
- 27. Queues decrease by an average of nearly 400m on B4100 East at Baynards Green Roundabout, as well as releasing the ~50 vehicles of latent demand that are present within the Reference Case. Large average queue reductions of ~300m are also observed on the A43 South (northbound) approach to Baynards Green as a result of the proposed mitigation scheme.
- 28. As observed in the AM, improvements at Baynards Green result in minor queue increases on the southbound approaches to Padbury and Cherwell, however maximum queue lengths on these approaches are maintained within the available space between the upstream junction.



#### 2031 AM

- 29. In the AM 2031 testing, average delay per vehicle decreases by 4s in the AM DS Scenario in comparison to the 2031 Reference Case.
- 30. Although the average delay statistics do not indicate a major betterment on the Reference Case, the total latent demand value has decreased by ~900 vehicles indicating significant delay savings outside of the model network. The 2031 AM Development Scenario removes the small amount of latent demand from B4100 West, and significantly reduces the latent demand from A43 North. These improvements are attributable to the Baynards Green scheme improving throughput at the roundabout and mean average queue lengths on B4100 West decrease by nearly 400m compared to the 2031 Ref. Reported queues on A43 North remain similar to the Reference values due to the queues often reaching the edge of the model, however it is clear this approach to the roundabout has improved due to the significant reduction in latent demand.\_Queues on B4100 East approach to Baynards Green are also reduced by an average of ~200m.
- 31. As per the 2026 scenario, southbound approaches to Padbury and Cherwell exhibit minor queue increases but are maintained within the available road-space. Similarly, queue lengths are forecast to increase on the M40 northbound off-slip, however these are well within the available length of the slip road.

#### 2031 PM

- 32. Compared to the 2031 PM Reference Case, average delay per vehicle decreases by 33s in the DS Scenario.
- 33. Where the 2031 Reference Case model exhibits latent demand of over 300 vehicles from B4100 East, inclusion of the proposed mitigation scheme removes this entirely. Average queue lengths are ~450m shorter on this approach.
- 34. In a similar pattern to 2026, average queues decrease by ~550m on the A43 South (northbound) approach to Baynards Green, meaning that where these queues reach back to Padbury Roundabout in the Reference Case, thereby posing a risk to the southbound off-slip, delivery of the proposed mitigation scheme at Baynards Green removes this risk.
- 35. Average queue length reductions of ~250m are also observed on the western arm of the junction.



## **Summary & Conclusion**

- 36. Vectos Microsim, part of SLR Consulting (VM) has been commissioned to provide microsimulation modelling expertise in support of two proposed logistics developments near to M40 J10 in Cherwell District, Oxfordshire. The developments are promoted by Tritax Symmetry and Albion Land, with highways support provided by SLR Consulting and David Tucker Associates respectively.
- 37. VM has previously engaged with National Highways on the development of a VISSIM Reference Case, and on the development of a set of demand matrices to be used within the VISSIM modelling informed by turn count outputs from the Bicester Transport Model (BTM). Both the Reference Case and the With Development demand matrices have been agreed and signed off by National Highways.
- 38. This Note sets out how the VISSIM assessment has been carried out, and presents a proposed mitigation strategy at Baynard's Green Roundabout to facilitate delivery of the two proposed development sites.
- 39. Results of the VISSIM modelling demonstrate that the proposed mitigation results in significant improvements at the junction. In the AM period, existing queuing on the A43 southbound is significantly reduced, along with improvements on the B4100 east and west arms, particularly in 2031. In the PM period, forecast queues on the A43 northbound to Baynard's Green are significantly reduced. In 2031, where queues are forecast to extend back to the southbound off-slip at Padbury, the proposed mitigation is highly successful at mitigating this impact.
- 40. Overall the results show that the mitigation scheme put forward is more than commensurate with the forecast impact of the combined developments, resulting in a network-wide performance that far exceeds that of the respective Reference Case models in both AM and PM peak periods.



## Appendix A: Matrix Development Methodology Note



## REPORT

# M40 J10 VISSIM

Matrix Development Methodology

February 2023

Vectos South

vectos.co.uk



## Contents

1	Introduction	.4
2	Background	.4
3	Reference Case Demands	.5
4	Next Steps	.7

## vectos microsim. - PARTOF SLR®

## 1 Introduction

- 1.1 Vectos Microsim (VM) has been commissioned by Vectos South on behalf of Tritax, to provide VISSIM microsimulation modelling support regarding an on-going planning application for a proposed logistics development on land to the east and west of the A43, adjacent to M40 J10 in Cherwell District, Oxfordshire.
- 1.2 AECOM, in their capacity as Highway Consultant for National Highways (NH), undertook proposed scheme testing around M40 J10 in March 2020. VM acquired the models from AECOM via email on 5<sup>th</sup> May 2022, along with the results of those tests. These were also accompanied by a Technical Note<sup>1</sup> outlining the contents of each tested scenario. VM has utilised these models to develop new Reference Case models to become the basis for the Tritax testing.

## 2 Background

- 2.1 In addition to the models received on 5<sup>th</sup> May 2022, AECOM provided further commentary outlining that the DS3 scheme was selected as the preferred option and taken forward for delivery through the Growth Fund, but that the schemes had been updated since completion of the initial testing. As a result, VM proceeded to update the model in line with the latest drawings, as well as presenting results for scenarios that preceded the update.
- 2.2 Throughout testing however, the funds allocated for the improvements at Baynards Green roundabout were re-allocated elsewhere, resulting in this scheme no longer being considered. Following correspondence with NH, the scheme will now only comprise of the Padbury junction element, corresponding to the DS2 model provided by AECOM which VM has therefore taken as the new starting point for testing. This Note sets out the methodology for developing the Reference Case and Do-Something matrices for use within the testing.
- 2.3 This Note follows a previous Note<sup>2</sup> that was submitted to NH on 5<sup>th</sup> January 2022. The Note included a proposed methodology for the Reference Case demands, details regarding amendments required to the model network following errors noted in the models received (i.e. the DS2 scenario that has become the 'Reference Case' network for the purposes of this testing), and results of the new Reference Case tests.
- 2.4 The proposed methodology involved taking turn count outputs and converting to network matrices by a process of proportional calculations, taking trips through the network based on turning proportions calculated from the turn counts. The method in principle is accurate, however the original calculations failed to exclude the M40 southbound off-slip to Padbury to Cherwell to M40 southbound on-slip movement which distorted the matrix once these trips were removed and replaced with mainline counts.
- 2.5 NH provided comments on 5<sup>th</sup> January 2023 highlighting the issue and proposing an amendment to the methodology for calculating the Reference Case demands:

"We therefore recommend that you calculate a growth factor using the BTM flows by comparing the Base BTM flows and Reference Case BTM flows and applying these percentages on top of the base VISSIM matrices in order to develop the future year matrices. [...] Should you have an alternative approach to propose please let us know. We recommend that a matrix methodology note be provided to us for our review prior to undertaking any further assessment."

<sup>1</sup> M40 J10 TN11\_submitted.pdf

<sup>&</sup>lt;sup>2</sup> VM210412.TN002 VISSIM Methodology Note

- 2.6 Having considered this approach we do not consider this to be suitable in this instance. Applying a growth percentage to the baseline matrices removes any re-routing that is forecast within the BTM following the application of growth and/or proposed highway schemes. In addition, various development scenarios are being tested within the BTM and turn counts are being extracted for each individually. We cannot use this 'growth percentage' methodology for the development scenarios because not only will background re-routing and trip pattern changes be unaccounted for, but the development itself will also be unaccounted for (as the specific development values will become lost within the overall growth percentage).
- 2.7 The alternative could be to develop the Reference Case as per the methodology proposed by NH, and then add development trips directly onto that Reference Case (through a development-specific trip generation and distribution a 'development-only matrix'). However this maintains the Reference Case demands as they are, again discounting the possibility of background re-routing following inclusion of development and any associated mitigation thereby removing the very purpose of the BTM testing.
- 2.8 As a result, VM has revisited the original methodology and recalculated the demand matrices, but this time excluding, amongst others, the M40 southbound off-slip to M40 southbound on-slip as a possible movement. Details are provided in the section to follow.

## 3 Reference Case Demands

vectos microsim.

- 3.1 Base model turn counts were supplied by TetraTech on 6<sup>th</sup> February 2023, which supplemented the 2026 and 2031 Reference Case turn counts already received. The turn counts have been compiled into a single spreadsheet and this, alongside all BTM outputs, are contained within the package of data that accompanies this Note.
- 3.2 The broad methodology remains unchanged from the original; the number of trips entering from a particular zone are proportioned through the network based on turning proportions at downstream junctions. However, some rules are observed that prevent certain movements from being included in the calculations:
  - i) As per paragraph 2.8 above, the movement from zone 6 (M40 North) to zone 4 (M40 South) is assumed to be zero. To be clear, this refers only to movements that would take this movement via Padbury and Cherwell. Mainline counts are included separately later on (to be discussed)
  - ii) Movements from zone 6 to zone 6, and from zone 4 to zone 4 (M40 U-turns in either direction), are also assumed to be zero
- 3.3 In fixing these values, the methodology of proportioning in-bound trips through downstream junctions is insufficient in some cases, as the totals travelling to/from particular zones becomes distorted by these fixed values that are not subjected to the proportional method. Therefore calculations for some movements are revised and bespoke to that particular movement.
- 3.4 One example is as follows. As we assume the M40 South to M40 South demand movement to be zero, that means we assume all movements from the A43 bridge to M40 South to be originated from B430 west. This is highly likely to be the case in reality. This fixed value must be taken into consideration when proportioning all other trips from B430 west to the north of the network.
- 3.5 Similarly, of all trips leaving the M40 at the southbound off-slip and travelling south towards Cherwell, none of these are assumed to re-join the mainline. This therefore changes the values used to proportion every other trip through Cherwell from the north of the model.

#### 3.6 As a final step, any minor negative values resulting from the calculations are removed.

- 3.7 The calculations are provided within the spreadsheets and are therefore available for a full review. As a check that the demands are an accurate reflection of the turning movements output from the BTM, the total inbound and outbound zone totals in the calculated matrices are compared with the total turning movements at that appropriate zone location, and the majority show a close correlation. The exception is in the 2031 PM Lights calculations, where the matrix total for trips travelling to A43 north of Baynards Green and B4100 east of Baynards Green is 93 trips and 15 trips lower than the totals from the respective turn count totals. The reason this discrepancy exists is that the turn counts do not correlate between Padbury Roundabout and Baynards Green Roundabout. The recorded turn count total travelling northbound away from Padbury Roundabout (Cars + LGV) is equal to 2007 trips. The recorded turn count total travelling northbound towards Baynards Green is 2117 trips. This is the source of the difference as the total amount of traffic feeding the Baynards Green exits is lower than the recorded turn movements.
- 3.8 Having requested clarification from TetraTech, suppliers of the BTM outputs, the response was as follows:

The reason for these differences is that the turning movements for Padbury, Cherwell and Ardley are calculated by Select Link Analysis (SLA). The SLA process effectively runs one extra iteration of traffic assignment and hence the results are likely to be slightly different from the original model assignment.

This SLA process is described in detail in SATURN manual Chapter 11. Section 11.8.1.2 states:

"the routes which are reconstructed in order to carry out a select link analysis do not necessarily correspond exactly to those used within the actual assignment.....any output data at this level of disaggregation should always be taken with a large pinch of salt. We therefore recommend treating SLA outputs as representative rather than precise estimates."

- 3.9 While this presents a level of uncertainty insofar as it is impossible for us to reconcile all matrix totals with the BTM turn count outputs, we still maintain this methodology is superior to the % growth method for the reasons outlined earlier.
- 3.10 Regarding the mainline movements that do not interact with Padbury/Ardley/Cherwell, no BTM output is available. As a result, as per the NH suggestion a growth factor is calculated by comparing total demands in the Base with the total demands in the 2026 and 2031 outputs. The total traffic in each case is calculated as the total amount of traffic from the strategic model outputs that correspond to counts that would enter the VISSIM model network.
- 3.11 The resulting growth factors are provided in **Table 1** below:

	2	026	2031						
	Lights	Heavies	Lights	Heavies					
AM	116.0%	78.0%	129.4%	86.0%					
РМ	110.6%	89.8%	122.1%	94.9%					
PM	110.6%	89.8%	122.1%	94.9%					

#### Table 1: 2026 and 2031 Growth Factors

- 3.12 These growth totals are applied to the zone totals present within the Base VISSIM models, thereby providing the necessary mainline growth.
- 3.13 <u>The final proposed hourly demands for 2026 AM and PM Lights and Heavies matrices are contained within the "BTM 2026 Turning Movements" tab, cells AA32:AU54. It is proposed that these are entered into VISSIM as a single hourly matrix. Warm up and cool-down matrices will be calculated by applying the proportion present within the Base.</u>
- 3.14 Corresponding 2031 demands are contained within the same location of the "BTM 2031 Turning Movements" tab.

## **vectos** microsim.



## 4 Next Steps

4.1 Following review of this proposed methodology, VM seek agreement from National Highways that it is considered appropriate for development of a 2026 and 2031 VISSIM Reference Case. Once agreed VM will run and report the Reference Cases whilst also reviewing the approach to the development demands, which assuming the above is agreeable will follow the exact same methodology to ensure consistency through the testing.

## vectos microsim.

## Contact

#### London

Network Building, 97 Tottenham Court Road, London W1T 4TP. Tel: 020 7580 7373

#### Bristol

5th Floor, 4 Colston Avenue, Bristol BS1 4ST Tel: 0117 203 5240 www.vectos.co.uk

#### Cardiff

Helmont House, Churchill Way, Cardiff CF10 2HE Tel: 029 2072 0860

#### Exeter

6 Victory House, Dean Clarke Gardens, Exeter EX2 4AA Tel: 01392 422 315

#### Birmingham

36 Great Charles Street, Birmingham B3 3JY Tel: 0121 2895 624

#### Manchester

Oxford Place, 61 Oxford Street, Manchester M1 6EQ. Tel: 0161 228 1008

#### Leeds

7 Park Row, Leeds LS1 5HD Tel: 0113 512 0293

#### Bonn

Stockenstrasse 5, 53113, Bonn, Germany Tel: +49 176 8609 1360 www.vectos.eu

**Registered Office Vectos Microsim Limited Network Building** 97 Tottenham Court Road London W1T 4TP Company no. 9322829

8



Appendix B: Development Site Accesses and Baynards Green Scheme



AWN:	CHECKED:	DATE:	SCAL
HC	RB	21.04.23	



## Annex B

**BTM Design Flows** 

Junction Reference	Junction Description	From Arm	To Arm	Car	LGV	HGV	AM Peak HGV (Veb)	Bus (Veb)	Total Veh	Total	Car	LGV	HGV	HGV	Bus (Veb)	Total Veh	Total	Car	LGV	HGV	PM Peak HGV (Veb)	Bus (Veb)	Total Veh	Total
		A43 (E) A43 (F)	M40 NB On Slip B430	157 774	27 137	75	42 13	0	226 923	259 934	129 256	21 15	47	26 12	0	176 283	197 293	223 353	62 25	64 0	36 0	0	321 379	349 379
		A43 (E) M40 NB Off Slip	A43 (E) B430	0	0	0	0	0	0	0	0	0	0	0	0	0 16	0 20	0	0	0	0	0	9	0
1	M40 J10 (Ardley roundabout)	M40 NB Off Slip M40 NB Off Slip	A43 (E) M40 NB Off Slip	908 0	154 0	96 0	53 0	0 0	1115 0	1157 0	608 0	145 0	212 0	118 0	0 0	872 0	965 0	1143 0	253 0	174 0	98 0	0 0	1494	1570 0
		B430 B430	A43 (E) M40 NB On Slip	132 209	5 39	26 0	15 0	0 0	151 248	163 248	153 98	6 22	4 84	2 47	0 0	162 167	164 204	273 231	7 15	0 53	0 30	0 0	280 276	280 299
		B430 A43 (N)	B430 Services	0 127	0 52	0	0 57	0	0 237	0 282	0 114	0	0	0 37	0	0 182	0 212	0 201	0 39	0 89	0 50	0	290	0
		A43 (N) A43 (N)	M40 SB On Slip A43 (W)	857 807	165 112	189 23	105 13	0 0	1128 933	1212 943	496 300	110 23	218 22	122 12	0 0	728 336	824 345	770 455	168 73	109 0	61 0	0 0	999 528	1047 528
		A43 (N) Services	A43 (N) M40 SB On Slip	0 124	0 23	0 94	0 52	0 0	0 199	0 240	0 109	0 29	0 54	0 30	0 0	0 168	0 191	0 189	0 18	0 79	0 45	0 0	0 252	0 287
2	M40 J10 (Cherwell signal junction)	Services Services	A43 (W) A43 (N)	123 44	51 6	75 21	42 12	0 0	216 61	250 70	85 38	13 5	47 15	26 8	0 0	124 51	145 57	122 65	15 7	64 22	36 12	0 0	172 85	200 94
		Services A43 (W)	Services A43 (N)	0 851	0 139	0 95	0 53	0 0	0 1043	0 1085	0 646	0 139	0 174	0 97	0 0	0 882	0 959	0 1266	0 243	0 99	0 55	0 0	0 1564	0 1608
		A43 (W) A43 (W)	Services M40 SB On Slip	184 5	19 0	27 0	15 0	0 0	219 5	231 5	115 0	13 0	42 0	23 0	0	151 0	169 0	148 1	17 0	75 0	42 0	0 0	208 1	241 1
<u> </u>		A43 (W) M40 SB Off Slip	A43 (W) A43 (N)	0 205	0 49	0 42	0 23	0	0 278	0 296	0	0 15	0 82	0 46	0	0	0 206	0 217	0 43	0	0	0	0 260	0 260
3	M40 J10 (Padbury signal iunction)	A43 (N)	A43 (S) A43 (S)	306 1486	292	122	68 107	0	411 1886	465 1971	183 726	30 136	85 221	47 123	0	261 985	298 1083	250 1176	43 236	87 112	49 63	0	342 1475	380 1524
<u> </u>		A43 (S) A43 (N)	A43 (N) A43 (S) B4100 (E)	0	0 40	0	0	0	0 356	0 356	0	0	0	0	0	0	0 200	0	0	0	0	0	0	0
		A43 (N) A43 (N)	A43 (S) B4100 (W)	1301 25	275 8	193 0	107 0	0	1683 33	1769 33	588 27	128 1	219 0	122 0	0	838 28	935 28	982 53	185 0	112 0	63 0	0 0	1230 53	1279 53
		A43 (N) B4100 (E)	A43 (N) A43 (S)	0 78	0 18	0	0	0	0 95	0 95	0 72	0 8	0 2	0	0	0 82	0 82	0 118	0 51	0	0	0	0 168	0 168
	A43 / B4100	B4100 (E) B4100 (E) B4100 (E)	B4100 (W) A43 (N) B4100 (E)	188 206	49 17 0	44 27 0	24 15 0	0	262 238	281 250 0	150 190	19 15 0	37 8 0	21 5 0	0	189 210 0	206 213 0	285 324 0	14 24 0	0	1 0 0	0	300 348 0	301 348 0
4	(Baynards Green) junction	A43 (S) A43 (S)	B4100 (W) A43 (N)	61 854	0 144	0 115	0 64	0	61 1062	61 1114	64 620	0 144	0 185	0 103	0	64 867	64 949	16 1313	0 248	0 120	0 67	0	16 1628	16 1680
		A43 (S) A43 (S)	B4100 (E) A43 (S)	185 0	50 0	42 0	23 0	0 0	258 0	277 0	108 0	15 0	86 0	48 0	0 0	171 0	209 0	222 0	43 0	0 0	0 0	0 0	265 0	265 0
		B4100 (W) B4100 (W)	A43 (N) B4100 (E)	55 308	0 43	0 12	0 7	0	55 357	55 362	23 173	0 13	0	0	0	24 186	24 186	26 198 77	1 11	0 8	0 5	0	27 214 77	27 217 77
		B4100 (W) B4100 (N)	B4100 (W) Unnamed Road (E)	0	0	0	0	0	0	0	0 8	0	0	0	0	0 8	0	0	0	0	0	0	0	0
5	B4100 / Unnamed	B4100 (N) Unnamed Road (E)	B4100 (S) B4100 (S)	803 0	133 0	54 0	30 0	0 0	965 0	989 0	441 0	50 0	96 0	54 0	0 0	545 0	588 0	633 0	77 0	24 0	14 0	0 0	723 0	734 0
	Road priority junction	Unnamed Road (E) B4100 (S) B4100 (S)	B4100 (N) B4100 (N) Unnamed Road (E)	7 464	0 84 0	0 70	0 39	0	7 588	7 619 0	12 400	0 42 0	0 48 0	0 27 0	0	12 468	12 489 0	6 720	0 89 0	0 2 0	0 1 0	0	6 810	6 811
		B4100 (N) B4100 (N)	The Green (E) B4100 (S)	105 698	5 127	0 54	0 30	0	110 855	110 879	103 339	11 39	4 93	2 52	0	115 429	117 471	136 497	8 69	0 24	0 14	0	144 579	144 590
6	B4100 / The Green priority junction	The Green (E) The Green (E)	B4100 (S) B4100 (N)	19 67	7 22	0 0	0 0	0 0	25 89	25 89	6 83	0 6	0 2	0 1	0 0	6 90	6 91	27 117	15 28	0 0	0 0	0 0	42 145	42 145
		B4100 (S) B4100 (S) B4100 (N)	B4100 (N) The Green (E)	397 18	62 11 0	0	39 0	0	498 29	530 29	317 10	36 0	45 0	25 0	0	378 10	398 10	603 31	61 12 0	2 0	1 0 0	0	665 43	43
7	B4100 / Unnamed	B4100 (N) Unnamed Road (E)	B4100 (S) B4100 (S)	716 36	134 7	54 0	30 0	0	880 43	904 43	345 10	39 7	93 0	52 0	0	436 17	477 17	524 44	84 0	24 0	14 0	0	622 44	632 44
	Road priority junction	Unnamed Road (E) B4100 (S)	B4100 (N) B4100 (N)	0 415	0 73	0 70	0 39	0	0 528	0 559	0 326	0 36	0 45	0 25	0	0 388	0 408	0 634	0 73	0 2	0	0	0 708	0 709
		B4100 (S) B4100 (N) B4100 (N)	Unnamed Road (E) B4100 (S) Bainton Road	9 729 23	0 136 5	0 54 0	30 0	2	9 897 28	9 923 28	9 353 2	11 44 2	93 0	0 52 0	2	20 451 4	20 494 4	38 563 6	6 84 0	0 24 0	0 14 0	0 2 0	44 662 6	44 675 6
8	B4100 / Bainton Road priority junction	B4100 (S) B4100 (S)	Bainton Road B4100 (N)	19 419	2 73	0 70	0 39	0	21 534	21 567	5 334	0 45	0 45	0 25	0	5 406	5 429	7 654	1 77	0	0	0	8 733	8 736
		Bainton Road Bainton Road	B4100 (N) B4100 (S)	5 3	0 2	0	0	0	5 5	5 5	2 6	2	0	0 0	0	4 6	4 6	18 11	3	0 0	0	0	21 12	21 12
	B4100 / Braeburn	B4100 (N) B4100 (N) B4100 (S)	Braeburn Avenue Braeburn Avenue	3	0	0 0	0	0	3	925 3 8	8 24	44 0 0	93 0 0	52 0 0	0	449 8 24	492 8 24	19 41	0 0	24 0 0	0	0	19 41	19 41
9	Avenue priority junction	B4100 (S) Braeburn Avenue	B4100 (N) B4100 (N)	428 11	75 0	70 0	39 0	2 0	545 11	578 11	331 8	45 0	45 0	25 0	2 0	404 8	426 8	650 10	78 0	2 0	1 0	2 0	731 10	734 10
<u> </u>		Braeburn Avenue B4100 (N)	B4100 (S) Aunt Elms Lane (E)	43 50	0	0	0	0	43 50	43 50	24 28	0	0	0	0	24 28	24 28	27 35	0	0	0	0	27 35	27 35
10	B4100 / Aunt Ems Lane priority junction	Aunt Elms Lane (E) Aunt Elms Lane (E)	B4100 (S) B4100 (N)	91 20	1	0	0	0	935 92 21	92 21	1 19	0	0	0	0	443 1 19	402 1 19	23 28	0	24 0 0	0	0	23 28	23 28
		B4100 (S) B4100 (S)	B4100 (N) Aunt Elms Lane (E)	422 1	73 0	70 0	39 0	2 0	536 1	570 1	340 3	54 0	34 0	19 0	2 0	414 3	431 3	691 5	84 0	2 0	1 0	2 0	778 5	781 5
	B4100 / Charlotte	B4100 (N) B4100 (N) B4100 (S)	B4100 (S) Charlotte Avenue	759 85 331	152 0	54 0	30 0	2 0	942 85 331	968 85 331	342 7 36	44 0	85 0	47 0	2 0	436 7 36	476 7 36	590 8 45	84 0	24 0	14 0	2 0	689 8 45	702 8
11	Avenue priority junction	B4100 (S) Charlotte Avenue	B4100 (N) B4100 (N)	415 8	73 0	70 0	39 0	2 0	530 8	563 8	312 30	54 0	34 0	19 0	2 0	387 30	404 30	670 26	84 0	2 0	1 0	2 0	757 26	760 26
		Charlotte Avenue B4100 (N)	B4100 (S) A4095 (E)	68 389	0 96	0 54	0 30	0	68 514	68 538	88 177	0 27	0 80	0 45	0	88 249	88 285	66 334	0 50	0 24	0	0	66 398	66 408
		B4100 (N) B4100 (N) B4100 (N)	Banbury Road (S) A4095 (W)	300 137	43 13	0	0	2	346 150	348 150	144 109	15 2	5	3	2 0	164 111	168 111	142 180	33 0	0	0	2 0	177 180	179 180
		A4095 (E) A4095 (E)	Banbury Road (S) A4095 (W)	72 354	0 54	0	0 89	0	72 498	72 569	44 371	2 89	0	0 98	0	46 558	46 636	66 596	0 76	0	0 59	0	66 731	66 777
12	A4095 / B4100 / Baphury Road	A4095 (E) A4095 (E)	B4100 (N) A4095 (E)	380 1	56 0	70 0	39 0	0	475 1	506 1	153 1	34 0	26 0	15 0	0	202 1	214 1	427 2	60 0	2 0	1 0	0	488 2	489 2
12	roundabout	Banbury Road (S) Banbury Road (S)	A4095 (W) B4100 (N)	42 158	0 17	0	0	0 2	42 177	42 179	23 117	0 20	3 7	2 4	0 2	24 142	26 148	40 193	0 15	0	0	0 2	40 210	40 212
		Banbury Road (S) Banbury Road (S)	A4095 (E) Banbury Road (S)	69 0	0	9 0	5	0	74 0	78 0 200	53 0 79	3	0	0	0	56 0 79	56 0 79	127 0	4	0	0	0	131 0	131 0
		A4095 (W) A4095 (W)	A4095 (E) Banbury Road (S)	505 15	51 0	177 0	99 0	0	654 15	733 15	414 21	58 0	158 3	88 2	0	559 23	629 24	634 47	64 0	118 0	66 0	0	764 47	816 47
		A4095 (W) A4095 (W)	A4095 (W) A4095 (E)	0 693	0 50	0	0 99	0	0 842	0 920	0 497	0 54	0 161	0 90	0	0 641	0 712	0 759	0 73	0 118	0 66	0	0 898	0 950
13	A4095 / Germander Way priority junction	A4095 (W) A4095 (E)	Germander Way Germander Way	0 18 515	0 0 67	0 0 160	0 0	0 0	0 18 672	0 18 743	0 18	03	0	0 0 100	0	0 20 673	0 20 753	0 53 762	0 1 76	0 0 105	0 0	0	0 53 897	0 53
	way priority junction	Germander Way Germander Way	A4095 (W) A4095 (E)	0 36	0	0	0	0	0 37	0 37	485 0 16	0	0	0	0	0	0 19	0	0	0	0	0	0	943 0 17
	A4095 / Lucerne	A4095 (W) A4095 (W)	A4095 (E) Lucerne Avenue	615 115	50 7	177 0	99 0	0 0	764 122	842 122	460 64	54 4	161 0	90 0	0 0	604 68	675 68	721 100	58 0	118 0	66 0	0 0	845 101	897 101
14	Avenue priority junction	A4095 (E) A4095 (E)	Lucerne Avenue A4095 (W)	46 470	10 57	0 160	0 89	0 0	56 616	56 687	42 443	1 87	0 180	0 100	0	43 630	43 710	94 668	0 76 7	0 105	0 59	0	94 803	94 849
		Lucerne Avenue A4095 (W)	A4095 (E) A4095 (E)	78 688	0	0	0 99	0	78 843	78 922	37	0 58	0	0 90	0	37 655	37	38 801	14 59	0	0	0	53 926	53 977
15	A4095 / Purslane	A4095 (W) A4095 (E)	Purslane Drive Purslane Drive	0 13	0 0	0 0	0 0	0 0	0 13	0 13	0 15	0 0	0 0	0 0	0 0	0 15	0 15	0 42	0 0	0 0	0 0	0 0	0 42	0 42
	Drive priority junction	A4095 (E) Purslane Drive Purslane Drive	A4095 (W) A4095 (W) A4095 (E)	537 0 43	70 0	160 0	89 0	0	697 0 43	768 0 43	535 0	95 0	180 0	100 0	0	730 0 17	810 0 17	716 1 20	83 0	105 0	59 0	0	858 1 20	904 1 20
		A4095 (W) A4095 (W)	A4095 (E) Trefoil Drive	687 18	57 0	177 0	99 0	0	843 18	922 18	506 36	58 0	161 0	90 0	0	654 36	726	800 80	59 10	118 0	66 0	0	926 89	977 89
16	A4095 / Trefoil Drive priority junction	A4095 (E) A4095 (E)	Trefoil Drive A4095 (W)	0 537	0 70	0 160	0 89	0 0	0 697	0 768	0 535	0 95	0 180	0 100	0 0	0 730	0 810	1 716	0 83	0 105	0 59	0 0	1 858	1 904
		Trefoil Drive Trefoil Drive Bucknell Boad (N)	A4095 (W) A4095 (E)	64 0	14 0	0	0 0 22	0	78 0	78 0	32 0	0	0	0 0 17	0	32 0	32 0	41 1	0	0	0	0	41 1	41
		Bucknell Road (N) Bucknell Road (N) Bucknell Road (N)	Bucknell Road (S) Bucknell Road (N)	28 0	8 19 0	23 0	13 0	0	60 0	70 0	25 0	5 12 0	20 0	11 0	0	48 0	93 57 0	43 0	17 0	25 7 0	4	0	63 0	66 0
17	A4095 / Bucknell Road roundabout	A4095 (E) A4095 (E)	Bucknell Road (S) Bucknell Road (N)	489 113	60 24	160 0	89 0	0	638 137	709 137	560 6	94 2	115 65	64 36	0	718 44	768 73	708 49	78 5	57 49	32 27	0 0	817 81	842 102
		A4095 (E) Bucknell Road (S) Bucknell Road (S)	A4095 (E) Bucknell Road (N) A4095 (E)	0 79 575	0 33 49	0 26 139	0 14 77	0	0 126 702	0 138 763	0 30 486	0 17 54	0 22 130	0 12 72	0	0 59 612	0 69	0 72 800	0 15 58	0 6 92	0 3 52	0	0 90 910	0 93 950
		Bucknell Road (S) Bucknell Road (N)	Bucknell Road (S) Bucknell Road (S)	0	0	0	0	0	0	0	0	0 20	0	0	0	0	0	0	0	0	0	0	0 272	0
18	Bucknell Road / Howes Lane priority	Bucknell Road (N) Bucknell Road (S)	Howes Lane (W) Howes Lane (W)	426 205	60 96	183 12	102 7	0 0	588 308	669 313	451 45	86 0	134 10	75 6	0 0	612 51	672 56	497 170	75 36	63 10	36 6	0 0	608 211	636 216
	junction	Bucknell Road (S) Howes Lane (W) Howes Lane (W)	Bucknell Road (N) Bucknell Road (N) Bucknell Road (S)	280 375 12	32 49 1	2 162 0	1 90 0	0 0	313 514 14	314 586 14	131 385 18	14 56 1	2 150 0	1 83 0	0 0	146 525 19	147 591 19	259 613 6	19 54 0	2 96 3	1 54 2	0 0	279 721 7	280 764 9

Bicester Transport Model Junction Turning Movements (2026 Reference Case Scenario)

Junction Reference	Junction Description	From Arm	To Arm	Car	LGV	HGV	AM Peak HGV	Bus ()(ch)	Total Veh	Total	Car	LGV	HGV	Inter Peak HGV	Bus	Total Veh	Total	Car	LGV	HGV	PM Peak HGV	Bus (Vob)	Total Veh	Total
		A43 (E) A43 (E)	M40 NB On Slip B430	201 829	53 126	80 24	44 14	0	299 969	334 980	134 268	34 16	49 7	27 4	0	194 289	216 291	318 402	73 85	66 0	37 0	0	428 488	457 488
1	M40 J10	A43 (E) M40 NB Off Slip M40 NB Off Slip	A43 (E) B430 A43 (E)	0 3 1017	0 4 185	0 0 103	0 0 57	0 0	0 8 1259	0 8 1305	0 10 797	0 0 165	0 11 218	0 6 122	0 0	0 16 1083	0 21 1180	0 9 1216	0 0 296	0 0 191	0 0 108	0 0	9 1619	0 9 1702
	(Ardley roundabout)	M40 NB Off Slip B430	M40 NB Off Slip A43 (E)	0 254	0	0	0	0	0 263	0 263	0 249	0	0	0	0	0 270	0 272	0 334	0	0	0	0	339	0 339
		B430 B430	M40 NB On Slip B430	186 0	17 0	0 0	0	0	203 0	203 0	96 0	15 0	77 0	43 0	0	155 0	189 0	232 0	9 0	55 0	31 0	0	272	296 0
		A43 (N) A43 (N) A43 (N)	Services M40 SB On Slip A43 (W)	139 917 903	57 180 125	110 253 25	61 141 14	0	257 1238 1042	305 1350 1052	120 684 312	34 122 37	68 225 7	38 125 4	0	192 931 353	222 1031 356	212 819 573	41 147 136	92 113 0	52 63 0	0	306 1030 709	346 1079 709
		A43 (N) Services	A43 (N) M40 SB On Slip	0	0 24	0 96	0 54	0	0 209	0 251	0	0 30	0 55	0 31	0	0 176	0 201	0 181	0	0 82	0 46	0	0 239	0 275
2	M40 J10 (Cherwell signal junction)	Services Services	A43 (W) A43 (N)	130 46	54 6	77 22	43 12	0	227 64	262 74	90 40	13 5	49 15	27 8	0	130 53	152 60	147 69	22 7	66 23	37 13	0	207 89	235 99
		A43 (W) A43 (W)	A43 (N) Services	0 1058 199	0 171 21	0 73 29	0 41 16	0	0 1270 236	0 1303 249	0 921 121	0 171 13	0 179 43	0 100 24	0	0 1191 158	0 1270 178	0 1386 164	0 279 19	0 108 82	0 61 46	0 0	0 1726 229	0 1773 265
		A43 (W) A43 (W)	M40 SB On Slip A43 (W)	11 0	0 0	0 0	0 0	0	11 0	11 0	3 0	0 0	0 0	0 0	0	3 0	3 0	1 0	0 0	0 0	0 0	0 0	1 0	1 0
3	M40 J10 (Padbury signal	M40 SB Off Slip M40 SB Off Slip A43 (N)	A43 (N) A43 (S) A43 (S)	251 338 1623	53 39 324	43 126 259	24 70 144	0 0	328 447 2090	347 502 2205	130 171 945	21 27 165	93 71 228	52 40 127	0 0	202 238 1237	244 270 1338	210 288 1318	56 46 279	0 89 115	0 50 65	0 0	266 383 1661	266 422 1712
	junction)	A43 (S) A43 (S)	A43 (N) A43 (S)	1104 0	177 0	95 0	53 0	0	1334 0	1377 0	961 0	175 0	194 0	108 0	0	1244 0	1330 0	1455 0	286 0	131 0	74 0	0	1815 0	1872 0
		A43 (N) A43 (N) A43 (N)	B4100 (E) A43 (S) B4100 (W)	335 1414 31	43 269 8	0 249 0	0 138 0	0 0 0	378 1822 40	378 1932 40	152 787 29	23 145 1	11 226 0	6 126 0	0 0 0	181 1057 30	186 1157 30	246 1074 61	23 218 0	17 115 0	9 65 0	0 0 0	279 1356 61	286 1406 61
		A43 (N) B4100 (E)	A43 (N) A43 (S)	0 117	0 42	0	0	0	0 159	0 159	0 72	0 20	0 2	0 1	0	0 94	0 95	0 209	0 60	0	0	0	0 269	0 269
4	A43 / B4100 (Boymanda Groop)	B4100 (E) B4100 (E) B4100 (E)	A43 (N) B4100 (E)	203 207 0	18 0	45 54 0	25 30 0	0	295 256 0	280 0	155 191 0	18 16 0	47 9 0	26 5 0	0	199 211 0	220 215 0	278 377 0	15 25 0	2 0 0	0	0	294 402 0	402 0
	junction	A43 (S) A43 (S) A43 (S)	B4100 (W) A43 (N) B4100 (E)	60 1060 242	0 172 54	0 92 43	0 51 24	0 0	60 1282 320	60 1323 339	63 894 134	0 175 20	0 191 96	0 106 54	0 0 0	63 1176 208	63 1260 251	12 1538 238	0 272 56	0 123 0	0 69 0	0 0	12 1880 294	12 1933 294
		A43 (S) B4100 (W)	A43 (S) A43 (N)	0 77	0	0	0	0	0 77	0 77	0 30	0	0	0	0	0 31	0 31	0 50	0	0	0	0	0 56	0 56
		B4100 (W) B4100 (W) B4100 (W)	B4100 (E) A43 (S) B4100 (W)	342 111 0	60 0 0	13 0 0	7 0 0	0 0	410 111 0	416 111 0	167 87 0	22 0 0	0 0	0 0	0 0	188 87 0	188 87 0	230 36 0	14 0 0	14 0 0	8 0 0	0 0	251 36 0	257 36 0
	B4400 / Unnemed	B4100 (N) B4100 (N)	Unnamed Road (E) B4100 (S) B4100 (S)	8 912	0 156	0 56	0 31	0	8 1099	8 1124	8 445	0 65	0 107	0 60	0	8 569	8 617	8 706	0 94	0 30	0 17	0	8 816	8 829
5	Road priority junction	Unnamed Road (E) B4100 (S)	B4100 (N) B4100 (N)	9 518	0 128	0 99	0 55	0	9 701	9 745	10 407	0 55	0 58	0 32	0	10 494	10 519	7 858	24 77	0	0 1	0	31 936	31 937
		B4100 (S) B4100 (N) B4100 (N)	Unnamed Road (E) The Green (E) B4100 (S)	0 115 797	0 6 151	0 0 56	0 0 31	0 0 0	0 120 979	0 120 1004	0 109 336	0 18 47	0 4 104	0 2 58	0 0 0 0	0 129 440	0 131 486	0 125 581	0 18 76	0 0 30	0 0 17	0 0 0 0	0 143 673	0 143 687
6	B4100 / The Green priority junction	The Green (E) The Green (E)	B4100 (S) B4100 (N) B4100 (N)	12 70	0 23	0	0	0	12 94	12 94	6 89 318	0 5	0 2	0 1 21	0	6 96	6 97	27 120 737	16 6 71	0	0	0	43 126 810	43 126
		B4100 (S) B4100 (N)	The Green (E) Unnamed Road (E)	16 0	8	0	0	0	24 0	24	10 0	0	0	0	0	10 0	10	32 0	12 0	0	0	0	45	45
7	B4100 / Unnamed Road priority junction	B4100 (N) Unnamed Road (E) Unnamed Road (E)	B4100 (S) B4100 (S) B4100 (N)	809 48 0	151 14 0	56 0 0	31 0 0	0 0 0	991 62 0	1016 62 0	342 9 0	47 3 0	104 0 0	58 0 0	0 0 0	447 12 0	493 12 0	608 39 0	92 0 0	30 0 0	17 0 0	0 0 0	717 39 0	730 39 0
		B4100 (S) B4100 (S)	B4100 (N) Unnamed Road (E)	463 28	112 1	99 0	55 0	0	631 28	675 28	327 10	49 11	56 0	31 0	0	408 22	432 22	770 242	84 7	2	1	0	855 249	855 249
8	B4100 / Bainton Road	B4100 (N) B4100 (N) B4100 (S)	Bainton Road Bainton Road	825 31 37	160 5 14	0	0 0	2 0 0	1019 37 51	1046 37 51	346 5 13	47 2 0	104 0 0	58 0 0	2 0 0	453 7 13	7 13	10 16	92 0 1	30 0 0	0	2 0 0	10 17	10 17
	priority junction	B4100 (S) Bainton Road Bainton Road	B4100 (N) B4100 (N) B4100 (S)	466 25 19	112 1 7	99 0 0	55 0 0	2 0 0	635 26 26	681 26 26	334 3 21	59 2 0	56 0 0	31 0 0	2 0 0	426 5 21	453 5 21	766 245 25	88 3 6	2 0 0	1 0 0	2 0 0	857 248 31	860 248 31
	B4100 / Braeburn	B4100 (N) B4100 (N)	B4100 (S) Braeburn Avenue	841 4	167 0	56 0	31 0	2	1041 4	1068 4	358 9	47 0	104 0	58 0	2 0	465 9	513 9	642 20	98 0	30 0	17 0	2 0	758 20	773 20
9	Avenue priority junction	B4100 (S) B4100 (S) Braeburn Avenue	Braeburn Avenue B4100 (N) B4100 (N)	7 489 14	0 127 0	0 99 0	0 55 0	0 2 0	7 672 14	7 718 14	23 339 8	0 59 0	0 56 0	0 31 0	0 2 0	23 431 8	23 458 8	40 771 12	0 89 0	0 2 0	0 1 0	0 2 0	40 863 12	40 865 12
		Braeburn Avenue B4100 (N) B4100 (N)	B4100 (S) Aunt Elms Lane (E) B4100 (S)	40 76 829	0	0	0	0	40 76 1030	40 76 1057	24 35 347	0 0 47	0	0	0	24 35 449	24 35 494	25 39 652	0	0	0 0 17	0	25 39 762	25 39 777
10	B4100 / Aunt Ems Lane priority junction	Aunt Elms Lane (E) Aunt Elms Lane (E)	B4100 (S) B4100 (N)	125 29	1 2	0	0	0	127 31	127 31	1 30	0	0	0	0	1 30	1 30	30 41	0	0	0	0	30 41	30 41
		B4100 (S) B4100 (S) B4100 (N)	B4100 (N) Aunt Elms Lane (E) B4100 (S)	465 2 823	112 0 169	99 0 56	55 0 31	2 0 2	635 2 1026	681 2 1053	334 4 333	68 0 47	44 0 96	24 0 53	2 0 2	429 4 436	450 4 480	794 4 654	90 0 92	2 0 30	1 0 17	2 0 2	888 4 765	890 4 780
11	B4100 / Charlotte Avenue priority	B4100 (N) B4100 (S) B4100 (S)	Charlotte Avenue Charlotte Avenue B4100 (N)	131 339 456	0 21 112	0 0	0 0 55	0 0 2	131 360 625	131 360 671	15 52 291	0 1 68	0 67 44	0 37 24	0 0 2	15 91 386	15 121 407	27 100 757	0 5 90	0 51 2	0 28 1	0 0 2	27 133 850	27 155 853
	Junction	Charlotte Avenue Charlotte Avenue	B4100 (N) B4100 (S)	11 113	0	0 39	0 22	0	11 140	11 164	47	0	0 32	0 18	0	47 146	47 166	42 106	0 7	0 26	0 15	0	42 133	42
		B4100 (N) B4100 (N) B4100 (N)	A4095 (E) Banbury Road (S) A4095 (W)	429 377 130	115 53 1	95 0 0	53 0 0	0 2 6	597 432 137	639 434 143	232 150 68	29 19 5	122 5 0	68 3 0	0 2 6	329 174 80	383 178 86	433 165 163	60 38 0	56 0 0	32 0 0	0 2 6	524 205 169	549 207 175
		B4100 (N) A4095 (E) A4095 (E)	B4100 (N) Banbury Road (S) A4095 (W)	0 72 334	0 0 47	0 0 115	0 0 64	0 0	0 72 446	0 72 496	0 64 182	0 2 28	0 0 109	0 0 61	0 0	0 67 270	0 67 318	0 76 410	0 0 25	0 0 50	0 0 28	0 0	0 76 463	0 76 485
12	A4095 / B4100 / Banbury Road	A4095 (E) A4095 (E)	B4100 (N) A4095 (E)	520 0	85 0	72 0	40 0	0	645 0	677 0	191 0	39 0	103 0	57 0	0	287 0	333 0	572 2	70	53 0	30 0	0	672 2	695 2
	roundabout	Banbury Road (S) Banbury Road (S) Banbury Road (S)	A4095 (W) B4100 (N) A4095 (E)	49 224 105	0 48 0	0 0 10	0 0 5	0 2 0	49 274 111	49 276 115	20 103 82	0 31 20	3 7 0	2 4 0	0 2 0	22 140 102	24 145 102	47 222 149	0 25 4	0 0 0	0 0 0	0 2 0	47 248 153	47 250 153
		Banbury Road (S) A4095 (W) A4095 (W)	Banbury Road (S) B4100 (N) A4095 (E)	0 51 291	0 0 20	0 27 130	0 15 72	0 0 0	0 66 383	0 78 441	0 49 147	0 0 14	0 0 111	0 0 62	0 0 0	0 49 223	0 49 272	0 62 386	0 0 56	0 0 70	0 0 39	0 0 0	0 62 481	0 62 512
		A4095 (W) A4095 (W)	Banbury Road (S) A4095 (W)	18 0	0	0	0	0	18 0	18 0	19 0	0	3	2 0	0	21 0	22 0	49 0	0	0	0	0	49 0	49 0
12	A4095 / Germander	A4095 (W) A4095 (W) A4095 (E)	A4095 (E) Germander Way Germander Way	286 0 18	19 0 0	156 0 0	87 0 0	0 0 0	392 0 18	461 0 18	171 0 17	10 0 3	115 0 0	64 0 0	0 0 0	246 0 20	296 0 20	451 0 48	56 0 1	70 0 0	39 0 0	0 0 0	547 0 48	577 0 48
13	Way priority junction	A4095 (E) Germander Way Germander Way	A4095 (W) A4095 (W) A4095 (E)	486 0 34	49 0 1	115 0 0	64 0	6 0 0	605 0 35	661 0 35	230 0 16	30 0 4	112 0 0	62 0 0	6 0 0	329 0 20	384 0 20	527 0 18	25 0	50 0	28 0 0	6 0	586 0 18	614 0 18
	A4095 / Lucerne	A4095 (W) A4095 (W)	A4095 (E) Lucerne Avenue	242 60	19 1	156 0	87 0	0	348 62	417 62	148 35	10 1	115 0	64 0	0	222 36	273 36	440 87	41 0	70 0	39 0	0	520 88	550 88
14	Avenue priority junction	A4095 (E) A4095 (E) Lucerne Avenue	Lucerne Avenue A4095 (W) A4095 (W)	47 484 113	38 1	0 115 0	64 0	6 0	58 591 115	58 648 115	45 204 49	1 29 3	0 112 0	62 0	6 0	46 301 52	46 357 52	99 450 79	25 3	50 0	28 0	6 0	99 509 82	99 537 82
		Lucerne Avenue A4095 (W) A4095 (W)	A4095 (E) A4095 (E) Purslane Drive	72 150 0	0 10 0	0 2 0	0	0	72 161 0	72 162 0	38 100 0	0	0 2 0	0 1 0	0 0 0	38 101 0	38 102 0	38 186 0	15 2 0	0 2 0	0	0	53 190 0	53 191 0
15	A4095 / Purslane Drive priority junction	A4095 (E) A4095 (E)	Purslane Drive A4095 (W)	16 177	0	0	0	0	16 177	16 177	18 117	0	0	0	0	18 132	18 132	48 244	0 13	0	0	0	48 257	48 257
		Purslane Drive Purslane Drive A4095 (W)	A4095 (W) A4095 (E) A4095 (E)	36 150	0	0	0	0	36 161	36 162	16 100	0	0	0	0	16 101	16 102	18 186	0	0	0	0	18 190	18 191
16	A4095 / Trefoil Drive priority junction	A4095 (W) A4095 (E) A4095 (E)	Trefoil Drive Trefoil Drive A4095 (W)	11 0 177	0 0	0 0	0 0	0 0	11 0 177	11 0 177	28 1 116	0 0 16	0 0	0 0	0 0 0	28 1 132	28 1 132	67 1 244	10 0 13	0 0	0 0	0 0	77 1 257	77 1 257
	, ,,	Trefoil Drive Trefoil Drive	A4095 (W) A4095 (E)	79 0	14 0	0	0	0	93 0	93 0	34 0	0	0	0	0	34 0	34 0	43	0	0	0	0	43	43 0
17	A4095 / Bucknell	Bucknell Road (N) Bucknell Road (N) A4095 (E)	A4095 (E) Bucknell Road (S) Bucknell Road (S)	0 0 256	0 0 15	0 0 0	0 0 0	0 12 0	0 12 270	0 24 270	0 0 150	0 0 16	0 0 0	0 0 0	0 12 0	0 12 166	0 24 166	0 0 287	0 0 13	0 0 0	0 0 0	0 12 0	0 12 300	0 24 300
	Road priority junction	A4095 (E) Bucknell Road (S) Bucknell Road (S)	Bucknell Road (N) Bucknell Road (N) A4095 (E)	0 0 162	0 0 10	0 0 2	0 0 1	0 12 0	0 12 173	0 24 174	0 0 128	0 0	0 0 2	0 0 1	0 12 0	0 12 129	0 24 130	0 0 253	0 0 13	0 0 2	0 0 1	0 12 0	0 12 267	0 24 268
	Bucknell Road /	Bucknell Road (N) Bucknell Road (N)	Bucknell Road (S) Howes Lane (W)	73 183	0 14	0	0	12 0	85 197	97 197	37 113	5 10	0	0	12 0	55 123	67 123	95 192	0 13	0	0	12 0	107 205	119 205
18	Howes Lane priority junction	Bucknell Road (S) Bucknell Road (S) Howes Lane (W)	Howes Lane (W) Bucknell Road (N) Bucknell Road (N)	55 106	1 9	2 0	1 0	12 0	69 115	82 115	20 25 103	0	2	1 0	12 0	26 38 103	51 51 103	46 208	2 10	2	0 1 0	12 0	61 218	48 74 218
		Howes Lane (W) SLR	Bucknell Road (S) A4095 (E)	16 127 2	0	0	0 86	0	16 223 2	16 292	21 70	0	0	0 63	0	21 143	21 193	40 327	0 41	3 67	2 38	0	42 406	43 436
19	SLR / A4095 signal junction	A4095 (E) A4095 (E)	A4095 (W) A4095 (W) SLR	190 407	0 39	0 115	0 64	0	190 516	190 573	134 119	16 16	0 112	0 62	0	149 204	149 260	291 238	13 15	0 50	0 28	0	304 287	304 315
		A4095 (W) A4095 (W)	SLR A4095 (E)	11 176	1 9	0 2	0	0	11 186	11 187	2 114	0	0 2	0 1	0	2 115	2 116	4 200	2	0 2	0	0	7 201	7 202
		NWB Access Road	ગામ (E) Bucknell Road (S) SLR (W)	34 0 46	0	0 24	0 13	0	0 74	0 84	0 41	0	0	0	0	0 42	0 42	20 0 45	0 7	0	0	0	0 52	0 52
	SLR / Bucknell Road /	SLR (E) SLR (E)	Bucknell Road (S) SLR (W)	0 381	0 39	0 115	0 64	6 0	6 484	12 535	0 106	0 16	0 112	0 62	6 0	6 185	12 234	0 213	0 12	0 50	0 28	6 0	6 253	12 275
20	NWB Access signal junction	અત્ત (E) Bucknell Road (S) Bucknell Road (S)	SLR (W) NWB Access Road	0 0	0	0	0	6 6	37 6 6	37 12 12	0	0	0	0	6 6	6 6	15 12 12	29 0 0	0	0	0	6 6	35 6 6	35 12 12
		Bucknell Road (S) SLR (W)	SLR (E) NWB Access Road	0 99	0 10	0	0	0 0	0 109	0 109	0 23	0 6	0 14	0 8	0	0 36	0 42	0 48	0 6	0 6	0 4	0	0 58	0 61
		SLR (W) SLR (W)	SLR (E) Bucknell Road (S)	95 0	10 0	154 0	86 0	0 6	190 6	259 12	53 0	11 0	112 0	63 0	0 6	126 6	176 12	308 0	41 0	67 0	38 0	0 6	388 6	417 12

Bicester Transport Model Junction Turning Movements (2031 Reference Case Scenario)



## Annex C

Drawing 216285/A/14 – Baynards Green Junction Improvement GA



		Trus	The second of th	<ul> <li>Highway Extents</li> <li>Land under control of either OCC or NH (highway status unkown)</li> <li>Northerm Crossing Alignment - to be delivered if land on PFS corner is confirmed as highway and/or owned by NH</li> <li>Junction intervisibility zone &amp; visibility splays</li> </ul>
REV. DETAILS DR	AWN CHECKED	DATE	Notes:	Symmetry Park Tritax Symmetry
			<ul> <li>indicative only.</li> <li>2. Do not scale.</li> <li>3. Topographical survey provided by National Highways</li> </ul>	A43 / B4100 Baynards Green Roundabout Junction Improvement General Arrangement
			Note: The property of this drawing and design is vested in Vectos SLR. It shall not be copied or reproduced in any way without their prior written consent.	DRAWN:     CHECKED:     DATE:     SCALES:     1:500 @A1     DRAWING NUMBER:     216285/A/14     REVISION:



## Annex D

Drawing 216285/A/16 – Baynards Green Junction Improvement DMRB Compliance Plan



				av•\ 8,110,77	_\ / / \		/		/ / 🤊	/// 6/ NSFI					Trees
		NSET A - SW	VEPT PAT	HANAL	YSIS - DESIGN	N VEHICLE (1	6.5M ARTIC) ALL MOVE	MENTS (1:500	)) (/ <b>/</b> //////////////////////////////////	////	s/scrub				
					Gross		• H16				š I	$\downarrow$ .	2 17.42		}
							R (HI4 • UII781								
						And a state of the			N				8.7.23 7.5e		
		Trees		164		Ci 118.46		X .	5						
						É. 118.10					A				Trees
		ares			H K							X	Desk.	RJ-1	
			Brombles					CT17.67	Gross	V	2			K	
		s	and a second			Cross	ATK K				RS				
							Light		~~~~	CL117.26					
			Å	Gr Poort				<i>, , , , , , , , , ,</i>							
				p	•RS •ER OCLN8.28			Trees		~	<				Trees
					2118.20 X 118		KO {				$\sum_{i=1}^{n}$				
					Bushes						2		KO T		
				\					<u>`</u>	Trees	}	Cross			
								``	and the second s		لحر	/ '		+11-444	
		Trees		Trees		•LP		♦ MH CL117.45	Ň						
							CALL CALLON				1	< /			
					W/M HULO					•	RS Light	$\rightarrow$			diam'r
									Gross						
					(	*LP			+					Gross	
									4	V				A CONTRACTOR OF THE OWNER OWNER OF THE OWNER OWNE OWNER OWNE OWNER OWNE	E 116, per 1
			т	rees				LIT	V			$\mathcal{H}$			
								$\lambda$						J.	
					{	CL117.69					CK		103	76.85	
					K	Gross		Store 1							
													Bushes		D. i
				av. S.18.77		}		M. KANK		X					
		INSET B - DI	MENSION	S (1:500	))		~	PEO	O 6_117.54	i p	FCING	11.4			Trees
		26118.71			Gross		Н	1.00			Const,	80 3.7	2 3.88	3.65	,
							NN Contraction	LP	/ ,		h K		CE		-713
				H.	18.42 <sup>6</sup> 185		Cityat C		$\mathcal{N}$	y		4.00	GL117.23 C		R71.5
				114		Conc Call 18.45 MH	20-2	//	25						Kure
					H.				-	45 4.5(		1	7 - 1		Irea
				1. 1		₹ <u>6</u> 9	A A A A A A A A A A A A A A A A A A A		-	95 9.	-	<u> </u>	'.	XIII	
		aner 1	A Constant		i, A	<b>4</b>			Gross	14		41.90		KT_L	
			anges Brancies	3.		Cross Constitution	- 1	C(117.67			RS Light		13.61	13.00	
			Ĭ				4.30 4 30			Юн Сі.117.26			$\langle , \rangle$		
				G. Power		$\Delta$	18 - 4.83					• //		1 ml	
			(		ofR CINE 28		The area of the second	Traps					'HT		Trees
				0.68	CL118.		Ко				}				
				X	Bushes	N I	Gross	$\sim$	78.86				ко	6	
					3.00			H			}	Gran	,   .		
									18.8		}	/ 1	<b>' '/!</b> / .		
				Trees	15				1		, , , , , , , , , , , , , , , , , , ,			(0.1	made
					Rbi		A A A A A A A A A A A A A A A A A A A	CL117.45				4 - 1		/ <b>/</b> Å	
						$\langle \rangle \rangle$					/	X	24		
					W/M Htt.0		23.4° 1		Grass	•	RSLight	/	4.30 A	H H	CLUE 78
						olb.					V	- 	_	· · · · ·	
								00 K0			56			Cross	
			1	rees		$\left\{ \right\} \left[ \left\{ \right\} \right]$			$\overline{\Sigma}$		8			4.00 401	anapa M
(EI)									Y					50	K F
A Charles					R69.9	ČL117.69	3.85 3.85 3.85	1V	/			UP CH			
	A.				<	S	11.55	N 1	9 <sup>NODE</sup>				In Alternation	HA I	16.83
1						ing /	Pa112.54 a	9.94 3.0-		K		<i>/</i>	Bushes	5	1 10
									46	Series					the set
	CALL OF	/				} / //		######################################		Trees/bushes		Dense bushes - u	unable to survey		122
	1997 -		1		0'14	} / ///s	117 ACE	on an existing			2	3 8	/		ANT.
37	Forward visibility on approach (SSD) On a 7.3 metres wide dual carriageway, SSD shall be measured way line (5.5 metres from the traffic island) as shown on Figur	to the position of an object at the give 3.37.	Visibility shown to signal head in line with CD 123 requirements	Visibility shown to signal head in line with CD 123 requirements	Visibility shown to signal head in line with CD 123 requirements CD 123 requirements	7.3	roundabout, as defined and measured according to this document cannot be ac conventional design measures. Non-physical SDIs shall not be used on sections of highway / road where pedest equestrians are known to cross.	criteved through	N/A	Yes N/A	N/A N/A	N/A N/A	7.4	An Intervisibility zone shall arm from a distance of 2.5	be provided that incorporates an area that ex metres back from each stop line, as illustrated
40 NOTE 3	Visibility on the approach, 'a', to the roundabout shall conform The visibility on the approach is measured from a vehicle posi measured from the centre of the lane as shown on Figures 3.3	to CD 109 [Ref 3.N].	Noted	Noted	Noted Noted Noted	7.4	Physical SDIs shall only be used at street it junctions. Where the SDI is situated on an abnormal load route, the use of physical SDIs sh demonstrate unificated wave and the strength of the	shall be assessed to	Yes - junction is currently lit	Yes - junction is currently lit N/A	N/A N/A	N/A	7.5	Where an advance stop-line cyclists' stop-line. No substantial fixed obstru	e (ASL) is provided, the intervisibility zone sha
\$1	Where chevron signs are located on the central island, they sh lanes from a distance equal to the desirable minimum SSD me from the give way line.	all be visible to approaching drivers in all ssured back along the approach lanes	Noted, signage to be dealt with at detailed design stage	Noted, signage to be dealt with at detailed design stage	Noted, signage to be dealt with at detailed design stage	7.6	Physical SDIs shall be a minimum width of 1.6 metres. The width of a physical SDI is subject to the non-inclusive for example.	affic and equestrians-	Yes - min. width = 2.0n Noted, although sin	Yes - min. width = 2.0m	N/A N/A	N/A N/A		Entry lanes, exit lanes and Lane Widths	storage capacity
NOTE 42	The desirable minimum SSD is measured back from the give w which road users need to be able to reduce speed. Where chevron signs are used, the signs shall not be stacked.	ay line as this is the point at or before	Noted Noted, signage to be dealt with at detailed	Noted Noted, signage to be dealt with at detailed	Noted Noted Noted	7.7 7.8	Non-physical SDIs shall be offset a minimum of 2.4 metres (Maintained over 5m 1	length back from give-way line) e-way line to avoid the lit	expected for peds/	N/A	N/A	N/A	7.8	At existing junctions, the m 1) 3.0 metres; or, 2) 2.5 metres where the 85 for HGVs; or, 3) 2.25 metres where the	ninimum width of straight ahead lanes shall sa Sth percentile approach speed exceeds 56 kph 35th percentile approach speed door of the
43	Forward visibility at entry Drivers of all vehicles anenastics	e to see objects of bainty known o an	design stage	design stage	design stage design stage	7.9	uomaro obstructing visibility. The island shall be a minimum total length of 5 metres. Where an SN is revealed, the activity of 5 metres.	dance with the mide	N/A Yes - 22.5m	ry A Yes - 13.4m	N/A	N/A N/A	7.9	Dedicated lanes for left or r	right turning traffic shall be a minimum of 3.0
44	metres and 2 metres approaching the roundabout shall be abl metres and 2 metres on the full width of the circulatory carria at a distance of 15 metres back from the give way line, for the For visibility to the right, the envelope of visibility shall be obta- betwase 1 for the second secon	visibility distance as shown in Table 3.43.	No significant change	es are proposed to vertica checked at detai es are proposed to vertica	al alignment, however vertical visibility will be led design stage al alignment, however vertical visibility will be the design stage.	7.11	contained in Section 3 of this document and as shown on Figure 7.10. Where a physical SDI is proposed and cycle traffic is anticipated on road, a mini- width of 4.5 metrics shall be maintained between carriageway edge kerbs or am	imum carriageway ny carriageway edge	Yes - 84.6m	Yes - 85.41	N/A	N/A	7.10	Dedicated lanes for left-or i Storage length The storage length	measured from the stop line to the form
45	oetween 1.05 metres and 2 metres to an object height of bety Drivers of all vehicles approaching the roundabout shall be abl carriageway to their right, from the centre of the offside lane distance provided in Table 3.43 and as shown in Fieure 3.45	e to see the full width of the circulatory it the give way line, for the visibility	Full review of e	checked at detai	red design stage	7.12	road markings.		N/A	N/A	nyA N/A	n/A p//	7,12	Exit lane continuity	lustrated in Figure 7.10.2.
46	Visibility to the right shall conform to Table 3.43 and be measu a distance of 15 metres back from the give way line, as shown	red from the centre of the offside lane at in Figure 3.46.	Full review of e	entry visibility to be under	rtaken at detailed design stage	7.13	Areas of solid marking material shall not be used (with the exception of coloure areas of hatching).	ed surfacing used under	N/A N/A	n/A N/A	n/A N/A	N/A		where it is necessary to rec offside depending on the p Other geometrical element	
47	circulatory visibility     For circulatory visibility, the envelope of visibility shall be obta     between 1.05 metres and 2 metres to an object height of betw	inable from a driver's eye height of eeen 1.05 metres and 2 metres.	Full review of a	irculatory visibility to be	undertaken at detailed design stage	7.14	Road markings to TSRGD [Ref 8.N] diagram 1041 (Schedule 11 Part 4 Item 27) sh vehicles past the physical sland, as shown in Figure 7.9Na. The approach hatching for both physical and non-physical SDIs shall be in accorr	shall be used to guide	Yes	Yes No - Current design	N/A N/A	N/A	7.13	Swept path and corner rad The design of a signal-contr be made for large goods ve	nolled junction shall allow for the swept turnin thicles.
48	This (circulatory) visibility shall be checked at a distance of 2 m 3.48. Drivers on the circulatory carriageway shall be able to see the ahead of them for the visibility distance.	etres in from the central island, as shown in Figure full width of the circulatory carriageway	Full review of a	irculatory visibility to be	undertaken at detailed design stage undertaken at detailed design stage	7.16	The approach hatching for SDIs shall be developed symmetrically.		Yes - 1:50	based on SLTL layout at 70kph, may need increasing to 1:45 to accord with requirement,	N/A	N/A	7.14	Where provision is to be mass for a priority junction (re Traffic islands (including at	ade for large goods vehicles, the values for co efer to Section 5). t left-turn slips)
50	Exit Visibility On the circulatory carriageway, the exit visibility chall conference of the circulatory carriageway.	to Table 3.43.	Full review of	irculatory visibility to be	undertaken at detailed desien stann		Guidance on the provision of approach hatching is provided in TSM Chapter 5 [R The approach hatching for aboviral SDM to TSM to a 10 are	Ref 13.N]. edule 11 Part 4 Item	Noted	Noted	N/A	N/A	7.15	The nosing of central reser carriageway of the intersec A minimum clearance of 45	ves and pedestrian refuges shall be set back a cting road. 50 mm shall be provided between the edge of
NOTE	Once a vehicle has crossed the inscribed circle at the exit from requirements and advice provided in CD 109 [Ref 3.N].	the roundabout, the SSD is to follow the	Noted	Noted	Noted Noted	7.18	27) shall continue at full width from the end of the island up to the roundabout Where a physical SDI is to be provided, a plain faced it bollard shall be installed island.	t give way. d at the start of the	Width maintained to stop line Noted, to be dealt with at detailed design stag	Yes Noted, to be dealt with e at detailed design stage	N/A N/A	N/A	7.17	Traffic islands shall be prov	vided to separate uncontrolled traffic from cor
NOTE	urvers approaching a roundabout with a signal-controlled cro signal head for desirable minimum SSD for the design speed of Requirements and advice for visibility to crossings for a signali 2.N].	usang snail be able to see at least one the roundabout approach. Led roundabout are given in CD 123 [Ref	Yes - see main drawing for forward visibility Noted	res - see main drawing for forward visibility Noted	res - see main drawing for forward visibility         Yes - see main drawing for forward visibility           Noted         Noted	7.19	Red reflecting road studs shall be used in conjunction with road markings to TSR 1041 (Schedule 11 Part 4 Item 27) along the chevron marking, on both sides of t Designing for pedestrians, cyclists and ecuverrians at	RGD [Ref 8.N] diagram the marking.	Noted, to be dealt with at detailed design stag	Noted, to be dealt with e at detailed design stage	N/A	N/A			
54	Hard strips, shoulders, kerbs and verge areas Hard strips and hard shoulders on each approach shall terminu	te where entry widening begins.	Yes	Yes	Yes Yes	8.1	roundabouts Where there is demand or the desire to encourage pedestrians, cyclists, and / or roundabouts, these users shall be provided for.	or equestrians at	No pedestrian / cycle crossing provided on this arm, however jct	Yes - pedestrian / cycle 1 crossings incorporated into signal design i inter-	(es - pedestrian / cycle rossings incorporated nto signal design unction	Yes - pedestrian / cycle crossings incorporated into signal design junction			
DTE 3 DTE 4	Cycle provision requirements and advice for signal-controlled [Ref 2.1] The geometric design of a through shows for the second former to	oundabouts are provided within CD 195 metric requirements and artoire و	Noted	Noted	Noted Noted	NOTE 4	Additional requirements and advice for the design of pedestrian and cycling faci are provided in the National Application Annexes.	cilities at roundabouts	Noted	Noted j	Noted	,uncertain Noted			
	normal roundabouts in this document for the roundabout spe geometric requirements and advice as signal-controlled juncti signal-controlled elements are considered.	cific elements, and follows the same ns in CD 123 [Ref 2.N] where	N/A	N/A	N/A N/A		-summume requirements for visibility at crossings are provided in Section 3, "Peer visibility". Controlled crossings	successing	Noted	Noted	Noted	Noted			
2	Jurect and Indirect signal control Signal-controlled roundabouts shall be designed incorporating configuration.	direct and/or indirect signal	Noted	Noted	Noted Noted	8.2	Zigzag markings shall not be used where the crossing is part of a signal-controlle Uncontrolled crossings at roundabouts	led roundabout.	Noted, yes	Noted, yes	Noted, yes	Noted, yes			
3	Additional approach lane capacity on signal-controlled round	abouts ane capacity is needed on a ovided adjacent to either the offside or	Noted	Noted	Noted Noted	8.3	Kerbed islands provided to assist pedestrians crossing the roundabout shall be k metres of the give way line at the nearest point. Cyclist crossings on SLTL/SDI	located within 20	N/A	N/A	N/A	N/A			
	signal-controlled roundabout, the additional lane(s) shall be or nearrise					8.4	On an SLTL, where a pedestrian refuge or physical SLTL is provided, it shall be a r metres. On an SLTL, where a pedestrian refuge or physical SLTL is provided the hart-hime	minimum width of 2.0	N/A	N/A - Island 2.3m in width but not expected for pedestrians to wait.	N/A	N/A			
4	winer an assessment demonstrates that additional approach signal-controlled roundabout, the additional lane(s) shall be pr nearside carriageway edge. General geometry at signal-controlled roundabouts On signal-controlled roundabouts	nes are provided. traffic islands shall be		1	I N/A N/A		width of 2.6 metres (or 2.3 metres where the speed limit is 40mph or less) adjac allow for the appropriate offset, as illustrated in Figure 6.37.2.	scent to the refuge to	N/A	Yes - 2.9m to suit 2.3m island width	N/A	N/A			
4 5	When an another increases that additional approach in means the carriageway edge. In the source of	ines are provided, traffic islands shall be shown in Figure 4.4. rect full-time signal control.	Yes Yes - stop line provided	Yes Yes - stop line provided	Yes - stop line provided Yes - stop line provided	8.6	On a junction where either an SLTL or an SDI is present, a combination of both c uncontrolled facilities shall not be used on the same and if a binari	controlled and	N/A	Noted yes	N/A	N/A			
4 5 5 97E	when an association demonstrates that additional approach meansible carriageway edge.	nes are provided, traffic islands shall be shown in Figure 4.4. exect full-line signal control. e swept turning paths of the design ted traffic islands and pedestrian refinea-	Yes Yes - stop line provideo Yes - please refer to	Yes I Yes - stop line provided o swept path analysis show tested with des	Yes - stop line provided Yes - stop line provided wing all movements through the junction sign vehicle	8.6 8.7 8.8	On a junction where either an SLTL or an SDI is present, a combination of both c uncontrolled facilities shall not be used on the same arm of a junction. SDIs shall be physical islands where they are intended to be used by pedestrian When designing for cycle traffic at new SLTLs, cycle tracks shall be provided.	controlled and	N/A N/A	Noted, yes Noted, yes	N/A N/A	N/A N/A			
4 5 5 5 7 7	When an association demonstrates that additional approach mension curringeway edge.  General geometry at signal-controlled roundabouts  In signal-controlled roundabouts, where dedicated left turn l uses to separate uncontrolled traffic. For controlled traffic, Give way markings shall not be provided at any entries with di The design of signal-controlled roundabouts datal slow for th vehicle on all entry, circulatory and esit lanes.  The nature of the signal-controlled roundabout and its associate ran restrict the movement of vehicles, particularly HOVs.  Visibility of signals	nes am provided, traffic islands shall be shown in figure 4.4. eet full-time signal control. er swept turning paths of the design ted traffic islands and pedestrian refuges	Ves Ves Ves - stop line provided Ves - please refer to N/A - see above	Yes Yes - stop line provided swept path analysis show tested with des N/A - see above	Vis - stop line provided Vis - stop line provided Vis - stop line provided Vis - stop line provided N/A - sce above N/A - sce above	8.6 8.7 8.8 8.8 9 9 9 9 9 9	One junction where either an STL or an SOI is present, a combination of babin uncontrolled facilities shall not be used on the same arm of a junction. SOIs shall be physical lands where they are intended to be used by pedestrian When designing for cycle traffic at new STLs, cycle tracks shall be provided.	ns	N/A N/A N/A	Noted, yes Noted, yes N/A - this is not a SLTL	N/A N/A N/A	N/A N/A			
4	A ment in another end extension times into aduttional approach ments an another end extension times into aduttional approach mentsion curriteries were dependent into the pro- demonstration of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the en	ne: are provided, traffic islands shall be shown in Figure 4.4. rect full-time signal control. e swept turning paths of the design ted traffic islands and pedestrian refuges ch traffic lane shall have clear visibility of at least one p thatmare equivalent to the desirable minimum SSD of the greavy are provided in Section 3,	Yes           Yes - stop line provide           Yes - please refer to           N/A - see above           rimary           Yes - 255m SSD           extra-r	Yes Yes - stop line provided swept path analysis shon tested with der N/A - see above Yes - 295m SSD	Yes - stop line provided           Yes - stop line provided           wing all movements through the junction gin vehicle           N/A - sce above           Yes - 295m SSD           Yes - 295m SSD           Yes - 295m SSD	86 87 88 88 89 810	On junction where either an STL or an ODI junces, a combination of both curcontrolled facilities shall not be used on the same arm of a junction. Studies and a studies and the same arm of a junction. Studies and a studies where they are intended to be used by pedestrian. When designing for cycle traffic at new STLs, cycle tracks shall be provided. Where cycle traffic is expected to cross physical STL islands (as shown on Figure SD, a minimum refuge island width of 3.0 metres shall be provided. Stagement crossing, shall be designed to that central refuge label can accommon parameters for the role data motion and accommon parameters for the role data.	ns re 8.9), or a physical outsite the design	N/A N/A N/A Yes	Noted, yes Noted, yes N/A - this is not a SLTL N/A - Crossing is single phase, no expectation for cycles to wait. Yes	N/A N/A N/A N/A Yes	N/A N/A N/A N/A Yes			
ι ι πε πε 1 πε 2 ι	Writer in adobted resolution (see Soft additional approach menssive carrier) and soft and soft additional approach menssive carrier) as a soft additional and (s) and be per- deneral generative additional and (s) and be per- deneral additional additional additional additional additional additional additional additional additional approach read addition of the provision of additional signal Addition with the additional additional additional additional approach read- ments and addition for the provision of additional signal Addition with the additional additional additional signal Additional additional additional additional signal Additional additional additional signal Addition with the additional signal Addition of additional signal Addition of additional signal Additional signal Additional additional additional signal Additional additional additional signal Additional additional additional signal Additional additional signal Additional additional signal Additional additional additional signal Additional additional additional signal Additional additional additional signal Additional additional additional signal Additional addi	nes are provided, traffic islands shall be shown in Figure 4.4. exet full-time signal control. e swept turning paths of the design ted traffic islands and pedestrian refuges ch traffic lane shall have clear visibility of at least one p paths and the second second second second second general are provided in Section 3, heads are provided in CD 123 [Ref 2.N]. D 109 [Ref 3.1] Visitus counters. L-1	Ves           Ves - stop line provided           Ves - please refer to           N/A - see above           rrimary           Ves - 255m SSD           Full review of set	Yes Yes - stop line provided sweet path analysis show tested with der N/A - see above Yes - 295m SSD inculatory visibility to be	Yes - stop line provided Yes - stop line provided Wes - stop line provided N/A - see above N/A - see above Yes - 295m SSD Yes - 295m SSD Yes - 295m SSD	86 87 88 89 80 80 80 80 80 80 80 80 80 80 80 80 80	On jarvellinn where either an STL or an 2014 greenet, a combination of both curcontrolled facilities shall not be used on the same arm of a junction. Studies and the same arm of a junction. Studies and the same arm of a junction. When designing for cycle traffic at new STLs, cycle tracks shall be provided. Where cycle traffic is expected to cross physical SLI islands (as shown on Figure SD, a minimum refuge label of which of 3.0 meters shall be provided. Staggered crossings shall be design vehicle and two-way cycle track. with reference to DMRB CD 1233 Geometers.	ns re 8.9), or a physical oddate the design tric design of at-grade	N/A N/A N/A Yes Priority and	Noted, yes Noted, yes N/A - this is not a J/TL N/A - Crossing is single phase, no spectration for cycles to wait. Yes J signal-contra	N/A N/A N/A Ves Olled junctio	N/A N/A N/A Yes DDNS			
4 5 5 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	Writer in advancement of experiments and advanced approach meansing carriering way edge. General generating energy edge. Generating engelse energy edge. Generating engelse energy edge. Generating engelse	nes are provided, traffic islands shall be shown in Figure 4.4. exect full-time signal control. e swept turning paths of the design ted traffic islands and pedestrian refuges ch traffic lane shall have clear visibility of at least one p straffic lane shall have clear visibility of at least one p peava are provided in Section 3, heads are provided in Section 3, heads are provided in CO 123 [kef 2.N]. Do 109 [kef 3.N] visibility envelope, but head where this exceeds 2 metres, as	Ves           Ves - stop line provided           Ves - please refer to           N/A - see above           rimary           Ves - 285m SSD           Full review of significant           Significant	Yes Yes - stop line provided osverpt path analysis shone texted with des N/A - see above Yes - 295m SSD irculatory visibility to be werifical visibility to be un changes to vertical aligne		86 87 88 89 810 Review undertaken Clause No:	On jarvellen where either an STL or an 2014 greenet, a combination of both c uncontrolled facilities shall not be used on the same arm of a junction. Stols shall be physical islands where they are intended to be used by prefestion When designing for cycle traffic at new STLs, cycle tracks shall be provided. Where cycle traffic is expected to cross physical SLTL islands (as shown on Figur 20), a minimum refuge island width of 3.0 metres shall be provided. Staggered crossings shall be designed to that central refuge island can accomme are metric for the cycle design vehicle and two-way cycle track. with reference to DMRB CD 123 Geome Clause: Shall' Requirement Visibility at Signals	re 8.9), or a physical modate the design thric design of at-grade	N/A N/A N/A Yes Priority and	Noted, yes Noted, yes N/A - this is not a SITI N/A - Crossing is single phase, no expectation to crycles to wait. Yes Uses	N/A N/A N/A Ves Olled junctio	N/A N/A N/A Yes DDNS			





## Annex E

Updated Baynards Green LinSig Analysis.

#### Full Input Data And Results Full Input Data And Results

#### **User and Project Details**

Project:	Tritax Bicester
Title:	A43 / B4100 Baynards Green - Junction Improvement
Location:	
Client:	Tritax Group
Design Layout Ref:	216285/A/14
Flow Details:	BTM refers to Bicester Traffic Model issued by Tetra Tech on behalf of OCC. V7 flows reflect the agreed demand sets used in the VISSIM model with a heavy PCU factor of 2.0.
Additional detail:	Circulatory phases mins allow entry peds to time off when demanded. Exit stream ped leaving intergreens reflect O/C detection (maximums are also included).
File name:	216285 Baynards Green Rbt v1_8b (Drg A-14).lsg3x
Author:	R Bishop
Company:	Vectos SLR
Address:	

#### **Network Layout Diagram**



## C1 - Rbt Streams Phase Diagram



## Full Input Data And Results

### Phase Input Data

Phase Name	Phase Type	Stage Stream	Assoc. Phase	Street Min	Cont Min
А	Traffic	1		-9999	15
В	Traffic	1		-9999	7
С	Pedestrian	1		-9999	5
D	Traffic	2		-9999	9
E	Traffic	2		-9999	7
F	Pedestrian	2		-9999	5
G	Traffic	3		-9999	12
Н	Traffic	3		-9999	7
I	Pedestrian	3		-9999	5
J	Traffic	4		-9999	15
К	Traffic	4		-9999	6
L	Pedestrian	4		-9999	5

## Phase Intergreens Matrix

	Starting Phase												
Terminating Phase		А	В	С	D	Е	F	G	Н	Ι	J	K	L
	Α		5	-	-	-	-	-	-	-	-	-	-
	В	6		6	-	-	-	-	-	-	-	-	-
	С	-	17		-	-	-	-	-	-	-	-	-
	D	-	-	-		5	-	-	-	-	-	-	-
	Е	-	-	-	6		5	-	-	-	-	-	-
	F	-	-	-	-	10		-	-	-	-	-	-
	G	-	-	-	-	-	-		5	-	-	-	-
	Н	-	-	-	-	-	-	6		6	-	-	-
	Ι	-	-	-	-	-	-	-	12		-	-	-
	J	-	-	-	-	-	-	-	-	-		5	-
	к	-	-	-	-	-	-	-	-	-	6		5
	L	-	-	-	-	-	-	-	-	-	-	16	

#### Phases in Stage

Stream	Stage No.	Phases in Stage
1	1	А
1	2	В
1	3	AC
2	1	D
2	2	E
2	3	DF
3	1	G
3	2	Н
3	3	GI
4	1	J
---	---	----
4	2	к
4	3	JL





## Stage Stream: 3



## Stage Stream: 4



## Phase Delays Stage Stream: 1

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

### Stage Stream: 2

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

Stage Stream: 3

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

### Stage Stream: 4

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

## Prohibited Stage Change Stage Stream: 1



### Stage Stream: 2

	To Stage					
		1	2	3		
From	1		5	0		
Stage	2	6		6		
	3	0	10			

### Stage Stream: 3

	To Stage					
		1	2	3		
From	1		5	0		
Stage	2	6		6		
	3	0	12			

### Stage Stream: 4

	To Stage					
		1	2	3		
From	1		5	0		
Stage	2	6		6		
	3	0	16			

### C2 - Exit Streams Phase Diagram



### Phase Input Data

Phase Name	Phase Type	Stage Stream	Assoc. Phase	Street Min	Cont Min
А	Traffic	1		-9999	7
В	Pedestrian	1		-9999	5
С	Traffic	2		-9999	7
D	Pedestrian	2		-9999	5
E	Traffic	3		-9999	7
F	Pedestrian	3		-9999	5
G	Traffic	4		-9999	7
Н	Pedestrian	4		-9999	5

### Phase Intergreens Matrix

		Starting Phase							
		А	В	С	D	Е	F	G	Н
	Α		6	-	-	-	-	-	-
	в	8		-	-	-	-	-	-
	С	-	-		6	-	-	-	-
Terminating Phase	D	-	-	6		-	-	-	-
	Е	-	-	-	-		6	-	-
	F	-	-	-	-	5		-	-
	G	-	-	-	-	-	-		6
	Н	-	-	-	-	-	-	5	

### Phases in Stage

Stream	Stage No.	Phases in Stage
1	1	А
1	2	В
2	1	С
2	2	D
3	1	E
3	2	F
4	1	G
4	2	Н

# Stage Diagram Stage Stream: 1





## Stage Stream: 3





### Phase Delays Stage Stream: 1

Stage Stream. T								
Term. Stage	Start Stage	Phase	Туре	Value	Cont value			
There are no Phase Delays defined								

Stage Stream: 2

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

### Stage Stream: 3

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

### Stage Stream: 4

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

### Prohibited Stage Change



### Full Input Data And Results **Stage Stream: 2**

etage et eta in i						
	To Stage					
		1	2			
From Stage	1		6			
Ū	2	6				

### Stage Stream: 3

	To Stage				
		1	2		
From Stage	1		6		
	2	5			

### Stage Stream: 4

	To Stage				
From Stage		1	2		
	1		6		
Ĵ	2	5			

## Full Input Data And Results **Give-Way Lane Input Data**

Junction: J1: Baynards Green

There are no Opposed Lanes in this Junction

Junction: J2: Exit X-ing Streams

There are no Opposed Lanes in this Junction

## Full Input Data And Results <u>Lane Input Data</u>

Junction: J1:	Junction: J1: Baynards Green											
Lane	Lane Type	Phases	Start Disp.	End Disp.	Physical Length (PCU)	Sat Flow Type	Def User Saturation Flow (PCU/Hr)	Lane Width (m)	Gradient	Nearside Lane	Turns	Turning Radius (m)
J1:1/1 (A43(N))	U	В	2	3	20.0	Geom	-	3.50	0.00	Y	Arm J2:4 Left	70.00
J1:1/2 (A43(N))	U	В	2	3	60.0	User	2000	-	-	-	-	-
J1:1/3 (A43(N))	U	В	2	3	60.0	User	2000	-	-	-	-	-
J1:1/4 (A43(N))	U	В	2	3	21.0	User	2000	-	-	-	-	-
J1:2/1 (B4100(W))	U	E	2	3	60.0	User	1930	-	-	-	-	-
J1:2/2 (B4100(W))	U	E	2	3	10.5	User	1930	-	-	-	-	-
J1:3/1 (A43(S) from M40)	U	н	2	3	60.0	User	2000	-	-	-	-	-
J1:3/2 (A43(S) from M40)	U	н	2	3	60.0	User	2000	-	-	-	-	-
J1:3/3 (A43(S) from M40)	U	н	2	3	28.0	Geom	-	3.80	0.00	Y	Arm J1:6 Ahead	70.00
J1:4/1 (B4100(E))	U	к	2	3	14.0	Geom	-	3.60	0.00	Y	Arm J2:2 Left	24.00
J1:4/2 (B4100(E))	U	К	2	3	60.0	User	1920	-	-	-	-	-
J1:4/3 (B4100(E))	U	К	2	3	60.0	User	1920	-	-	-	-	-
J1:5/1 (Circ (N))	U	Α	1	3	2.5	User	1990	-	-	-	-	-
J1:5/2 (Circ (N))	U	Α	1	3	3.0	User	1990	-	-	-	-	-
J1:6/1 (Circ (W))	U	D	1	3	5.0	User	2050	-	-	-	-	-
J1:6/2 (Circ (W))	U	D	1	3	5.0	User	2050	-	-	-	-	-
J1:6/3 (Circ (W))	U	D	1	3	5.0	User	1950	-	-	-	-	-
J1:7/1 (Circ (S))	U	G	1	3	3.0	User	1950	-	-	-	-	-
J1:7/2 (Circ (S))	U	G	1	3	4.0	User	1950	-	-	-	-	-
J1:8/1 (Circ (E))	U	J	1	3	3.0	User	2000	-	-	-	-	-
J1:8/2 (Circ (E))	U	J	1	3	5.0	User	2000	-	-	-	-	-
J1:8/3 (Circ (E))	U	J	1	3	5.0	User	2000	-	-	-	-	-

J1:8/4 (Circ (E))	U	J	2	3	3.0	User	1950	-	-	-	-	-

Junction: J2	Junction: J2: Exit X-ing Streams											
Lane	Lane Type	Phases	Start Disp.	End Disp.	Physical Length (PCU)	Sat Flow Type	Def User Saturation Flow (PCU/Hr)	Lane Width (m)	Gradient	Nearside Lane	Turns	Turning Radius (m)
J2:1/1	U	G	2	3	4.0	User	2050	-	-	-	-	-
J2:1/2	U	G	2	3	4.0	User	2050	-	-	-	-	-
J2:2/1	U	А	2	3	2.0	User	2000	-	-	-	-	-
J2:2/2	U	А	2	3	2.0	User	2000	-	-	-	-	-
J2:2/3	U	А	2	3	2.0	User	2000	-	-	-	-	-
J2:3/1	U		2	3	60.0	Inf	-	-	-	-	-	-
J2:3/2	U		2	3	60.0	Inf	-	-	-	-	-	-
J2:4/1 (to Bicester)	U	С	2	3	3.0	User	2000	-	-	-	-	-
J2:4/2 (to Bicester)	U	С	2	3	2.0	User	2000	-	-	-	-	-
J2:5/1	U	E	2	3	2.6	User	2000	-	-	-	-	-

### Traffic Flow Groups

Flow Group	Start Time	End Time	Duration	Formula
1: 'AM 2026 Tritax + Albion (BTM Dev4)'	08:00	09:00	01:00	
2: 'IP 2026 Tritax + Albion (BTM Dev4)'	13:00	14:00	01:00	
3: 'PM 2026 Tritax + Albion (BTM Dev4)'	17:00	18:00	01:00	
4: 'AM 2031 Tritax + Albion (BTM Dev4)'	08:00	09:00	01:00	
5: 'IP 2031 Tritax + Albion (BTM Dev4)'	13:00	14:00	01:00	
6: 'PM 2031 Tritax + Albion (BTM Dev4)'	17:00	18:00	01:00	
7: 'AM 2026 Tritax + Albion (VISSIM v7 Dev4)'	07:45	08:45	01:00	
8: 'PM 2026 Tritax + Albion (VISSIM v7 Dev4)'	16:30	17:30	01:00	
9: 'AM 2031 Tritax + Albion (VISSIM v7 Dev4)'	07:45	08:45	01:00	
10: 'PM 2031 Tritax + Albion (VISSIM v7 Dev4)'	16:30	17:30	01:00	

Scenario 1: 'AM 2026 Tritax & Albion (BTM Dev4)' (FG1: 'AM 2026 Tritax + Albion (BTM Dev4)', Plan 1: 'Seq. 1') Traffic Flows, Desired Desired Flow :

		Destination						
		А	В	С	D	Tot.		
	А	0	395	1882	111	2388		
Origin	В	201	0	147	287	635		
Ongin	С	1145	397	0	122	1664		
	D	93	417	171	0	681		
	Tot.	1439	1209	2200	520	5368		

Lane	Scenario 1: AM 2026 Tritax & Albion (BTM Dev4)				
Junction: J1:	Baynards Green				
J1:1/1 (short)	395				
J1:1/2 (with short)	1060(In) 665(Out)				
J1:1/3 (with short)	1328(In) 664(Out)				
J1:1/4 (short)	664				
J1:2/1 (with short)	681(In) 341(Out)				
J1:2/2 (short)	340				
J1:3/1	633				
J1:3/2 (with short)	1031(ln) 634(Out)				
J1:3/3 (short)	397				
J1:4/1 (short)	147				
J1:4/2 (with short)	434(In) 287(Out)				
J1:4/3	201				
J1:5/1	446				
J1:5/2	539				
J1:6/1	511				
J1:6/2	835				
J1:6/3	397				
J1:7/1	398				
J1:7/2	201				
J1:8/1	708				
J1:8/2	750				
J1:8/3 (with short)	706(In) 595(Out)				
J1:8/4 (short)	111				
Junction: J2:	Exit X-ing Streams				
J2:1/1	604				
J2:1/2	835				
J2:2/1	855				
J2:2/2	750				
J2:2/3	595				
J2:3/1	1230				
J2:3/2	970				
J2:4/1	841				

J2:4/2	368				
J2:5/1	520				

Junction: J1: Baynards Green								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
J1:1/1 (A43(N))	3.50	0.00	Y	Arm J2:4 Left	70.00	100.0 %	1924	1924
J1:1/2 (A43(N) Lane 2)		This lane	e uses a dire	ectly entered Satur	ation Flow	1	2000	2000
J1:1/3 (A43(N) Lane 3)		This lane	e uses a dire	ectly entered Satur	ation Flow	1	2000	2000
J1:1/4 (A43(N) Lane 4)		This lane	e uses a dire	ectly entered Satur	ation Flow	1	2000	2000
J1:2/1 (B4100(W) Lane 1)		This lane	e uses a dire	ectly entered Satur	ation Flow	,	1930	1930
J1:2/2 (B4100(W) Lane 2)		This lane	e uses a dire	ectly entered Satur	ation Flow	,	1930	1930
J1:3/1 (A43(S) from M40 Lane 1)		This lane	e uses a dire	ectly entered Satur	ation Flow	1	2000	2000
J1:3/2 (A43(S) from M40 Lane 2)		This lane	e uses a dire	ectly entered Satur	ation Flow	1	2000	2000
J1:3/3 (A43(S) from M40)	3.80	0.00	Y	Arm J1:6 Ahead	70.00	100.0 %	1953	1953
J1:4/1 (B4100(E))	3.60	0.00	Y	Arm J2:2 Left	24.00	100.0 %	1859	1859
J1:4/2 (B4100(E) Lane 2)		This lane	e uses a dire	ectly entered Satur	ation Flow	1	1920	1920
J1:4/3 (B4100(E) Lane 3)		This lane	e uses a dire	ectly entered Satur	ation Flow	1	1920	1920
J1:5/1 (Circ (N) Lane 1)		This lane	e uses a dire	ectly entered Satur	ation Flow	1	1990	1990
J1:5/2 (Circ (N) Lane 2)		This lane	e uses a dire	ectly entered Satur	ation Flow	1	1990	1990
J1:6/1 (Circ (W) Lane 1)		This lane	e uses a dire	ectly entered Satur	ation Flow	1	2050	2050
J1:6/2 (Circ (W) Lane 2)		This lane	e uses a dire	ectly entered Satur	ation Flow	,	2050	2050
J1:6/3 (Circ (W) Lane 3)		This lane	e uses a dire	ectly entered Satur	ation Flow	1	1950	1950
J1:7/1 (Circ (S) Lane 1)		This lane	e uses a dire	ectly entered Satur	ation Flow	,	1950	1950
J1:7/2 (Circ (S) Lane 2)		This lane	e uses a dire	ectly entered Satur	ation Flow	1	1950	1950
J1:8/1 (Circ (E) Lane 1)		This lane	e uses a dire	ectly entered Satur	ation Flow	1	2000	2000
J1:8/2 (Circ (E) Lane 2)		This lane	e uses a dire	ectly entered Satur	ation Flow	1	2000	2000
J1:8/3 (Circ (E) Lane 3)		This lane	e uses a dire	ectly entered Satur	ation Flow		2000	2000

J1:8/4 (Circ (E) Lane 4)

1950

1950

Junction: J2: Exit X-ing Streams									
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)	
J2:1/1	Т	his lane use	es a directly	entered S	aturation F	low	2050	2050	
J2:1/2	Т	his lane use	es a directly	entered S	aturation F	low	2050	2050	
J2:2/1	Т	his lane use	es a directly	low	2000	2000			
J2:2/2	Т	his lane use	es a directly	2000	2000				
J2:2/3	Т	his lane use	es a directly	2000	2000				
J2:3/1			Infinite Sat	Inf	Inf				
J2:3/2		Infinite Saturation Flow						Inf	
J2:4/1 (to Bicester Lane 1)	Т	This lane uses a directly entered Saturation Flow						2000	
J2:4/2 (to Bicester Lane 2)	Т	his lane use	2000	2000					
J2:5/1	Т	his lane use	es a directly	entered S	aturation F	low	2000	2000	

Scenario 2: 'IP 2026 Tritax & Albion (BTM Dev4)' (FG2: 'IP 2026 Tritax + Albion (BTM Dev4)', Plan 1: 'Seq. 1') Traffic Flows, Desired Desired Flow :

	Destination									
		А	В	С	D	Tot.				
	А	0	218	948	41	1207				
	В	125	0	64	196	385				
Ongin	С	968	185	0	86	1239				
	D	30	181	90	0	301				
	Tot.	1123	584	1102	323	3132				

Lane	Scenario 2: IP 2026 Tritax & Albion (BTM Dev4)					
Junction: J1:	Baynards Green					
J1:1/1 (short)	218					
J1:1/2 (with short)	547(In) 329(Out)					
J1:1/3 (with short)	660(In) 330(Out)					
J1:1/4 (short)	330					
J1:2/1 (with short)	301(In) 151(Out)					
J1:2/2 (short)	150					
J1:3/1	527					
J1:3/2 (with short)	712(In) 527(Out)					
J1:3/3 (short)	185					
J1:4/1 (short)	64					
J1:4/2 (with short)	260(In) 196(Out)					
J1:4/3	125					
J1:5/1	213					
J1:5/2	243					
J1:6/1	441					
J1:6/2	652					
J1:6/3	185					
J1:7/1	237					
J1:7/2	125					
J1:8/1	352					
J1:8/2	375					
J1:8/3 (with short)	352(In) 311(Out)					
J1:8/4 (short)	41					
Junction: J2:	Exit X-ing Streams					
J2:1/1	471					
J2:1/2	652					
J2:2/1	416					
J2:2/2	375					
J2:2/3	311					
J2:3/1	604					
J2:3/2	498					
J2:4/1	431					

J2:4/2	153
J2:5/1	323

Junction: J1: Baynards Green								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
J1:1/1 (A43(N))	3.50	0.00	Y	Arm J2:4 Left	70.00	100.0 %	1924	1924
J1:1/2 (A43(N) Lane 2)		This lane	e uses a dire	ectly entered Satur	ation Flow	1	2000	2000
J1:1/3 (A43(N) Lane 3)		This lane	e uses a dire	ectly entered Satur	ation Flow	1	2000	2000
J1:1/4 (A43(N) Lane 4)		This lane	e uses a dire	ectly entered Satur	ation Flow	1	2000	2000
J1:2/1 (B4100(W) Lane 1)		This lane	e uses a dire	ectly entered Satur	ation Flow	,	1930	1930
J1:2/2 (B4100(W) Lane 2)		This lane	e uses a dire	ectly entered Satur	ation Flow	,	1930	1930
J1:3/1 (A43(S) from M40 Lane 1)		This lane	e uses a dire	ectly entered Satur	ation Flow	,	2000	2000
J1:3/2 (A43(S) from M40 Lane 2)		This lane	e uses a dire	ectly entered Satur	ation Flow	,	2000	2000
J1:3/3 (A43(S) from M40)	3.80	0.00	Y	Arm J1:6 Ahead	70.00	100.0 %	1953	1953
J1:4/1 (B4100(E))	3.60	0.00	Y	Arm J2:2 Left	24.00	100.0 %	1859	1859
J1:4/2 (B4100(E) Lane 2)		This lane	e uses a dire	ectly entered Satur	ation Flow	,	1920	1920
J1:4/3 (B4100(E) Lane 3)		This lane	e uses a dire	ectly entered Satur	ation Flow	1	1920	1920
J1:5/1 (Circ (N) Lane 1)		This lane	e uses a dire	ectly entered Satur	ation Flow	,	1990	1990
J1:5/2 (Circ (N) Lane 2)		This lane	e uses a dire	ectly entered Satur	ation Flow	1	1990	1990
J1:6/1 (Circ (W) Lane 1)		This lane	e uses a dire	ectly entered Satur	ation Flow	,	2050	2050
J1:6/2 (Circ (W) Lane 2)		This lane	e uses a dire	ectly entered Satur	ation Flow	1	2050	2050
J1:6/3 (Circ (W) Lane 3)		This lane	e uses a dire	ectly entered Satur	ation Flow	,	1950	1950
J1:7/1 (Circ (S) Lane 1)		This lane	e uses a dire	ectly entered Satur	ation Flow	1	1950	1950
J1:7/2 (Circ (S) Lane 2)		This lane	e uses a dire	ectly entered Satur	ation Flow	,	1950	1950
J1:8/1 (Circ (E) Lane 1)		This lane	e uses a dire	ectly entered Satur	ation Flow	,	2000	2000
J1:8/2 (Circ (E) Lane 2)		This lane	e uses a dire	ectly entered Satur	ation Flow		2000	2000
J1:8/3 (Circ (E) Lane 3)		This lane	e uses a dire	ectly entered Satur	ation Flow		2000	2000

J1:8/4 (Circ (E) Lane 4)

1950

1950

Junction: J2: Exit X-ing Streams									
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)	
J2:1/1	Т	his lane use	es a directly	entered S	aturation F	low	2050	2050	
J2:1/2	Т	his lane use	es a directly	entered S	aturation F	low	2050	2050	
J2:2/1	Т	his lane use	es a directly	low	2000	2000			
J2:2/2	Т	his lane use	es a directly	2000	2000				
J2:2/3	Т	his lane use	es a directly	2000	2000				
J2:3/1		Infinite Saturation Flow						Inf	
J2:3/2		Infinite Saturation Flow						Inf	
J2:4/1 (to Bicester Lane 1)	Т	This lane uses a directly entered Saturation Flow						2000	
J2:4/2 (to Bicester Lane 2)	Т	his lane use	2000	2000					
J2:5/1	Т	his lane use	es a directly	entered S	aturation F	low	2000	2000	

# Scenario 3: 'PM 2026 Tritax & Albion (BTM Dev4)' (FG3: 'PM 2026 Tritax + Albion (BTM Dev4)', Plan 1: 'Seq. 1') Traffic Flows, Desired Desired Flow :

2001100										
	Destination									
		A	В	С	D	Tot.				
	А	0	298	1256	80	1634				
Origin	В	308	0	294	314	916				
Ongin	С	1644	326	0	48	2018				
	D	99	249	146	0	494				
	Tot.	2051	873	1696	442	5062				

Lane	Scenario 3: PM 2026 Tritax & Albion (BTM Dev4)					
Junction: J1:	Baynards Green					
J1:1/1 (short)	298					
J1:1/2 (with short)	743(In) 445(Out)					
J1:1/3 (with short)	891(In) 446(Out)					
J1:1/4 (short)	445					
J1:2/1 (with short)	494(In) 247(Out)					
J1:2/2 (short)	247					
J1:3/1	846					
J1:3/2 (with short)	1172(In) 846(Out)					
J1:3/3 (short)	326					
J1:4/1 (short)	294					
J1:4/2 (with short)	609(In) 315(Out)					
J1:4/3	307					
J1:5/1	311					
J1:5/2	410					
J1:6/1	799					
J1:6/2	1153					
J1:6/3	326					
J1:7/1	395					
J1:7/2	307					
J1:8/1	482					
J1:8/2	519					
J1:8/3 (with short)	481(In) 401(Out)					
J1:8/4 (short)	80					
Junction: J2:	Exit X-ing Streams					
J2:1/1	898					
J2:1/2	1153					
J2:2/1	776					
J2:2/2	519					
J2:2/3	401					
J2:3/1	1036					
J2:3/2	660					
J2:4/1	609					

J2:4/2	264
J2:5/1	442

Junction: J1: Baynards G	Freen							
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
J1:1/1 (A43(N))	3.50	0.00	Y	Arm J2:4 Left	70.00	100.0 %	1924	1924
J1:1/2 (A43(N) Lane 2)		This lane	e uses a dire	ectly entered Satur	ation Flow	1	2000	2000
J1:1/3 (A43(N) Lane 3)		This lane	e uses a dire	ectly entered Satur	ation Flow	1	2000	2000
J1:1/4 (A43(N) Lane 4)		This lane	e uses a dire	ectly entered Satur	ation Flow	/	2000	2000
J1:2/1 (B4100(W) Lane 1)		This lane	e uses a dire	ectly entered Satur	ation Flow	1	1930	1930
J1:2/2 (B4100(W) Lane 2)		This lane	e uses a dire	ectly entered Satur	ation Flow	/	1930	1930
J1:3/1 (A43(S) from M40 Lane 1)		This lane	e uses a dire	ectly entered Satur	ation Flow	/	2000	2000
J1:3/2 (A43(S) from M40 Lane 2)		This lane	e uses a dire	ectly entered Satur	ation Flow	1	2000	2000
J1:3/3 (A43(S) from M40)	3.80	0.00	Y	Arm J1:6 Ahead	70.00	100.0 %	1953	1953
J1:4/1 (B4100(E))	3.60	0.00	Y	Arm J2:2 Left	24.00	100.0 %	1859	1859
J1:4/2 (B4100(E) Lane 2)		This lane	e uses a dire	ectly entered Satur	ation Flow	1	1920	1920
J1:4/3 (B4100(E) Lane 3)		This lane	e uses a dire	ectly entered Satur	ation Flow	1	1920	1920
J1:5/1 (Circ (N) Lane 1)		This lane	e uses a dire	ectly entered Satur	ation Flow	1	1990	1990
J1:5/2 (Circ (N) Lane 2)		This lane	e uses a dire	ectly entered Satur	ation Flow	I	1990	1990
J1:6/1 (Circ (W) Lane 1)		This lane	e uses a dire	ectly entered Satur	ation Flow	1	2050	2050
J1:6/2 (Circ (W) Lane 2)		This lane	e uses a dire	ectly entered Satur	ation Flow	1	2050	2050
J1:6/3 (Circ (W) Lane 3)		This lane	e uses a dire	ectly entered Satur	ation Flow	1	1950	1950
J1:7/1 (Circ (S) Lane 1)		This lane	e uses a dire	ectly entered Satur	ation Flow	1	1950	1950
J1:7/2 (Circ (S) Lane 2)		This lane	e uses a dire	ectly entered Satur	ation Flow	I	1950	1950
J1:8/1 (Circ (E) Lane 1)		This lane	e uses a dire	ectly entered Satur	ation Flow	I	2000	2000
J1:8/2 (Circ (E) Lane 2)		This lane	e uses a dire	ectly entered Satur	ation Flow	1	2000	2000
J1:8/3 (Circ (E) Lane 3)		This lane	e uses a dire	ectly entered Satur	ation Flow	1	2000	2000

J1:8/4 (Circ (E) Lane 4)

1950

1950

Junction: J2: Exit X-ing Streams											
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)			
J2:1/1	Т	his lane use	es a directly	entered S	aturation F	low	2050	2050			
J2:1/2	Т	his lane use	es a directly	entered S	aturation F	low	2050	2050			
J2:2/1	Т	his lane use	es a directly	entered S	aturation F	low	2000	2000			
J2:2/2	Т	his lane use	es a directly	low	2000	2000					
J2:2/3	Т	his lane use	es a directly	entered S	aturation F	low	2000	2000			
J2:3/1			Infinite Sat	uration Flow	V		Inf	Inf			
J2:3/2			Infinite Sat	uration Flow	V		Inf	Inf			
J2:4/1 (to Bicester Lane 1)	Т	his lane use	es a directly	entered S	aturation F	low	2000	2000			
J2:4/2 (to Bicester Lane 2)	Т	his lane use	2000	2000							
J2:5/1	Т	his lane use	es a directly	entered S	aturation F	low	2000	2000			

# Scenario 4: 'AM 2031 Tritax & Albion (BTM Dev4)' (FG4: 'AM 2031 Tritax + Albion (BTM Dev4)', Plan 1: 'Seq. 1') Traffic Flows, Desired Desired Flow :

	-											
	Destination											
		А	В	С	D	Tot.						
	А	0	449	2000	100	2549						
Origin	В	221	0	190	349	760						
Ongin	С	1334	464	0	105	1903						
	D	102	460	159	0	721						
	Tot.	1657	1373	2349	554	5933						

Lane	Scenario 4: AM 2031 Tritax & Albion (BTM Dev4)
Junction: J1:	Baynards Green
J1:1/1 (short)	449
J1:1/2 (with short)	1149(In) 700(Out)
J1:1/3 (with short)	1400(In) 700(Out)
J1:1/4 (short)	700
J1:2/1 (with short)	721(In) 360(Out)
J1:2/2 (short)	361
J1:3/1	720
J1:3/2 (with short)	1183(In) 719(Out)
J1:3/3 (short)	464
J1:4/1 (short)	190
J1:4/2 (with short)	539(In) 349(Out)
J1:4/3	221
J1:5/1	490
J1:5/2	593
J1:6/1	615
J1:6/2	940
J1:6/3	464
J1:7/1	449
J1:7/2	221
J1:8/1	740
J1:8/2	780
J1:8/3 (with short)	739(In) 639(Out)
J1:8/4 (short)	100
Junction: J2:	Exit X-ing Streams
J2:1/1	717
J2:1/2	940
J2:2/1	930
J2:2/2	780
J2:2/3	639
J2:3/1	1320
J2:3/2	1029
J2:4/1	939

J2:4/2	434
J2:5/1	554

Junction: J1: Baynards Green										
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)		
J1:1/1 (A43(N))	3.50	0.00	Y	Arm J2:4 Left	70.00	100.0 %	1924	1924		
J1:1/2 (A43(N) Lane 2)		This lane	e uses a dire	ectly entered Satur	ation Flow	1	2000	2000		
J1:1/3 (A43(N) Lane 3)		This lane	e uses a dire	ectly entered Satur	ation Flow	1	2000	2000		
J1:1/4 (A43(N) Lane 4)		This lane	e uses a dire	ectly entered Satur	ation Flow	1	2000	2000		
J1:2/1 (B4100(W) Lane 1)		This lane	e uses a dire	ectly entered Satur	ation Flow	,	1930	1930		
J1:2/2 (B4100(W) Lane 2)		This lane	e uses a dire	ectly entered Satur	ation Flow	,	1930	1930		
J1:3/1 (A43(S) from M40 Lane 1)		This lane	e uses a dire	ectly entered Satur	ation Flow	,	2000	2000		
J1:3/2 (A43(S) from M40 Lane 2)		This lane	e uses a dire	ectly entered Satur	ation Flow	,	2000	2000		
J1:3/3 (A43(S) from M40)	3.80	0.00	Y	Arm J1:6 Ahead	70.00	100.0 %	1953	1953		
J1:4/1 (B4100(E))	3.60	0.00	Y	Arm J2:2 Left	24.00	100.0 %	1859	1859		
J1:4/2 (B4100(E) Lane 2)		This lane	e uses a dire	ectly entered Satur	ation Flow	,	1920	1920		
J1:4/3 (B4100(E) Lane 3)		This lane	e uses a dire	ectly entered Satur	ation Flow	1	1920	1920		
J1:5/1 (Circ (N) Lane 1)		This lane	e uses a dire	ectly entered Satur	ation Flow	,	1990	1990		
J1:5/2 (Circ (N) Lane 2)		This lane	e uses a dire	ectly entered Satur	ation Flow	1	1990	1990		
J1:6/1 (Circ (W) Lane 1)		This lane	e uses a dire	ectly entered Satur	ation Flow	,	2050	2050		
J1:6/2 (Circ (W) Lane 2)		This lane	e uses a dire	ectly entered Satur	ation Flow	1	2050	2050		
J1:6/3 (Circ (W) Lane 3)		This lane	e uses a dire	ectly entered Satur	ation Flow	,	1950	1950		
J1:7/1 (Circ (S) Lane 1)		This lane	e uses a dire	ectly entered Satur	ation Flow	1	1950	1950		
J1:7/2 (Circ (S) Lane 2)		This lane	e uses a dire	ectly entered Satur	ation Flow	,	1950	1950		
J1:8/1 (Circ (E) Lane 1)		This lane	e uses a dire	ectly entered Satur	ation Flow	,	2000	2000		
J1:8/2 (Circ (E) Lane 2)		This lane	e uses a dire	ectly entered Satur	ation Flow		2000	2000		
J1:8/3 (Circ (E) Lane 3)		This lane	e uses a dire	ectly entered Satur	ation Flow		2000	2000		

J1:8/4 (Circ (E) Lane 4)

1950

1950

Junction: J2: Exit X-ing Streams											
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)			
J2:1/1	Т	his lane use	es a directly	entered S	aturation F	low	2050	2050			
J2:1/2	Т	his lane use	es a directly	entered S	aturation F	low	2050	2050			
J2:2/1	Т	his lane use	es a directly	entered S	aturation F	low	2000	2000			
J2:2/2	Т	his lane use	es a directly	low	2000	2000					
J2:2/3	Т	his lane use	es a directly	entered S	aturation F	low	2000	2000			
J2:3/1			Infinite Sat	uration Flov	N		Inf	Inf			
J2:3/2			Infinite Sat	uration Flow	N		Inf	Inf			
J2:4/1 (to Bicester Lane 1)	Т	his lane use	es a directly	low	2000	2000					
J2:4/2 (to Bicester Lane 2)	Т	his lane use	2000	2000							
J2:5/1	Т	his lane use	es a directly	entered S	aturation F	low	2000	2000			

### Scenario 5: 'IP 2031 Tritax & Albion (BTM Dev4)' (FG5: 'IP 2031 Tritax + Albion (BTM Dev4)', Plan 1: 'Seq. 1') Traffic Flows, Desired Desired Flow :

	-											
	Destination											
		A	В	С	D	Tot.						
	А	0	208	1166	46	1420						
Origin	В	211	0	102	204	517						
Ongin	С	1273	223	0	80	1576						
	D	38	195	102	0	335						
	Tot.	1522	626	1370	330	3848						

Lane	Scenario 5: IP 2031 Tritax & Albion (BTM Dev4)				
Junction: J1:	Baynards Green				
J1:1/1 (short)	208				
J1:1/2 (with short)	612(In) 404(Out)				
J1:1/3 (with short)	808(In) 404(Out)				
J1:1/4 (short)	404				
J1:2/1 (with short)	335(In) 168(Out)				
J1:2/2 (short)	167				
J1:3/1	677				
J1:3/2 (with short)	899(In) 676(Out)				
J1:3/3 (short)	223				
J1:4/1 (short)	102				
J1:4/2 (with short)	310(In) 208(Out)				
J1:4/3	207				
J1:5/1	241				
J1:5/2	279				
J1:6/1	601				
J1:6/2	883				
J1:6/3	223				
J1:7/1	254				
J1:7/2	207				
J1:8/1	430				
J1:8/2	455				
J1:8/3 (with short)	429(In) 383(Out)				
J1:8/4 (short)	46				
Junction: J2:	Exit X-ing Streams				
J2:1/1	639				
J2:1/2	883				
J2:2/1	532				
J2:2/2	455				
J2:2/3	383				
J2:3/1	760				
J2:3/2	610				
J2:4/1	449				

J2:4/2	177
J2:5/1	330

Junction: J1: Baynards Green										
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)		
J1:1/1 (A43(N))	3.50	0.00	Y	Arm J2:4 Left	70.00	100.0 %	1924	1924		
J1:1/2 (A43(N) Lane 2)		This lane	e uses a dire	ectly entered Satur	ation Flow	1	2000	2000		
J1:1/3 (A43(N) Lane 3)		This lane	e uses a dire	ectly entered Satur	ation Flow	1	2000	2000		
J1:1/4 (A43(N) Lane 4)		This lane	e uses a dire	ectly entered Satur	ation Flow	/	2000	2000		
J1:2/1 (B4100(W) Lane 1)		This lane	e uses a dire	ectly entered Satur	ation Flow	1	1930	1930		
J1:2/2 (B4100(W) Lane 2)		This lane	e uses a dire	ectly entered Satur	ation Flow	/	1930	1930		
J1:3/1 (A43(S) from M40 Lane 1)		This lane	e uses a dire	ectly entered Satur	ation Flow	/	2000	2000		
J1:3/2 (A43(S) from M40 Lane 2)		This lane	e uses a dire	ectly entered Satur	ation Flow	1	2000	2000		
J1:3/3 (A43(S) from M40)	3.80	0.00	Y	Arm J1:6 Ahead	70.00	100.0 %	1953	1953		
J1:4/1 (B4100(E))	3.60	0.00	Y	Arm J2:2 Left	24.00	100.0 %	1859	1859		
J1:4/2 (B4100(E) Lane 2)		This lane	e uses a dire	ectly entered Satur	ation Flow	1	1920	1920		
J1:4/3 (B4100(E) Lane 3)		This lane	e uses a dire	ectly entered Satur	ation Flow	1	1920	1920		
J1:5/1 (Circ (N) Lane 1)		This lane	e uses a dire	ectly entered Satur	ation Flow	1	1990	1990		
J1:5/2 (Circ (N) Lane 2)		This lane	e uses a dire	ectly entered Satur	ation Flow	I	1990	1990		
J1:6/1 (Circ (W) Lane 1)		This lane	e uses a dire	ectly entered Satur	ation Flow	1	2050	2050		
J1:6/2 (Circ (W) Lane 2)		This lane	e uses a dire	ectly entered Satur	ation Flow	1	2050	2050		
J1:6/3 (Circ (W) Lane 3)		This lane	e uses a dire	ectly entered Satur	ation Flow	1	1950	1950		
J1:7/1 (Circ (S) Lane 1)		This lane	e uses a dire	ectly entered Satur	ation Flow	1	1950	1950		
J1:7/2 (Circ (S) Lane 2)		This lane	e uses a dire	ectly entered Satur	ation Flow	I	1950	1950		
J1:8/1 (Circ (E) Lane 1)		This lane	e uses a dire	ectly entered Satur	ation Flow	I	2000	2000		
J1:8/2 (Circ (E) Lane 2)		This lane	e uses a dire	ectly entered Satur	ation Flow	1	2000	2000		
J1:8/3 (Circ (E) Lane 3)		This lane	e uses a dire	ectly entered Satur	ation Flow	1	2000	2000		

J1:8/4 (Circ (E) Lane 4)

1950

1950

Junction: J2: Exit X-ing Streams											
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)			
J2:1/1	Т	his lane use	es a directly	entered S	aturation F	low	2050	2050			
J2:1/2	Т	his lane use	es a directly	entered S	aturation F	low	2050	2050			
J2:2/1	Т	his lane use	es a directly	entered S	aturation F	low	2000	2000			
J2:2/2	Т	his lane use	es a directly	low	2000	2000					
J2:2/3	Т	his lane use	es a directly	entered S	aturation F	low	2000	2000			
J2:3/1			Infinite Satu	uration Flow	V		Inf	Inf			
J2:3/2			Infinite Sat	uration Flow	V		Inf	Inf			
J2:4/1 (to Bicester Lane 1)	Т	his lane use	es a directly	entered S	aturation F	low	2000	2000			
J2:4/2 (to Bicester Lane 2)	Т	his lane use	2000	2000							
J2:5/1	Т	his lane use	es a directly	entered S	aturation F	low	2000	2000			

# Scenario 6: 'PM 2031 Tritax & Albion (BTM Dev4)' (FG6: 'PM 2031 Tritax + Albion (BTM Dev4)', Plan 1: 'Seq. 1') Traffic Flows, Desired Desired Flow :

	-											
	Destination											
		A	В	С	D	Tot.						
	А	0	293	1402	85	1780						
Origin	В	394	0	323	299	1016						
Ongin	С	1907	405	0	52	2364						
	D	123	300	115	0	538						
	Tot.	2424	998	1840	436	5698						

Lane	Scenario 6: PM 2031 Tritax & Albion (BTM Dev4)					
Junction: J1:	Baynards Green					
J1:1/1 (short)	293					
J1:1/2 (with short)	788(In) 495(Out)					
J1:1/3 (with short)	992(In) 496(Out)					
J1:1/4 (short)	496					
J1:2/1 (with short)	538(In) 269(Out)					
J1:2/2 (short)	269					
J1:3/1	980					
J1:3/2 (with short)	1384(In) 979(Out)					
J1:3/3 (short)	405					
J1:4/1 (short)	323					
J1:4/2 (with short)	670(In) 347(Out)					
J1:4/3	346					
J1:5/1	348					
J1:5/2	472					
J1:6/1	976					
J1:6/2	1325					
J1:6/3	405					
J1:7/1	432					
J1:7/2	346					
J1:8/1	524					
J1:8/2	554					
J1:8/3 (with short)	524(In) 439(Out)					
J1:8/4 (short)	85					
Junction: J2:	Exit X-ing Streams					
J2:1/1	1099					
J2:1/2	1325					
J2:2/1	847					
J2:2/2	554					
J2:2/3	439					
J2:3/1	1124					
J2:3/2	716					
J2:4/1	641					

J2:4/2	357
J2:5/1	436

Junction: J1: Baynards Green								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
J1:1/1 (A43(N))	3.50	0.00	Y	Arm J2:4 Left	70.00	100.0 %	1924	1924
J1:1/2 (A43(N) Lane 2)		This lane	e uses a dire	ectly entered Satur	ation Flow	1	2000	2000
J1:1/3 (A43(N) Lane 3)		This lane	e uses a dire	ectly entered Satur	ation Flow	1	2000	2000
J1:1/4 (A43(N) Lane 4)		This lane	e uses a dire	ectly entered Satur	ation Flow	1	2000	2000
J1:2/1 (B4100(W) Lane 1)		This lane	e uses a dire	ectly entered Satur	ation Flow	,	1930	1930
J1:2/2 (B4100(W) Lane 2)		This lane	e uses a dire	ectly entered Satur	ation Flow	1	1930	1930
J1:3/1 (A43(S) from M40 Lane 1)		This lane	e uses a dire	ectly entered Satur	ation Flow	,	2000	2000
J1:3/2 (A43(S) from M40 Lane 2)		This lane	e uses a dire	ectly entered Satur	ation Flow	,	2000	2000
J1:3/3 (A43(S) from M40)	3.80	0.00	Y	Arm J1:6 Ahead	70.00	100.0 %	1953	1953
J1:4/1 (B4100(E))	3.60	0.00	Y	Arm J2:2 Left	24.00	100.0 %	1859	1859
J1:4/2 (B4100(E) Lane 2)		This lane	e uses a dire	ectly entered Satur	ation Flow	,	1920	1920
J1:4/3 (B4100(E) Lane 3)		This lane	e uses a dire	ectly entered Satur	ation Flow	1	1920	1920
J1:5/1 (Circ (N) Lane 1)		This lane	e uses a dire	ectly entered Satur	ation Flow	,	1990	1990
J1:5/2 (Circ (N) Lane 2)		This lane	e uses a dire	ectly entered Satur	ation Flow	1	1990	1990
J1:6/1 (Circ (W) Lane 1)		This lane	e uses a dire	ectly entered Satur	ation Flow	,	2050	2050
J1:6/2 (Circ (W) Lane 2)		This lane	e uses a dire	ectly entered Satur	ation Flow	1	2050	2050
J1:6/3 (Circ (W) Lane 3)		This lane	e uses a dire	ectly entered Satur	ation Flow	,	1950	1950
J1:7/1 (Circ (S) Lane 1)		This lane	e uses a dire	ectly entered Satur	ation Flow	1	1950	1950
J1:7/2 (Circ (S) Lane 2)		This lane	e uses a dire	ectly entered Satur	ation Flow	,	1950	1950
J1:8/1 (Circ (E) Lane 1)		This lane	e uses a dire	ectly entered Satur	ation Flow	,	2000	2000
J1:8/2 (Circ (E) Lane 2)		This lane	e uses a dire	ectly entered Satur	ation Flow		2000	2000
J1:8/3 (Circ (E) Lane 3)		This lane	e uses a dire	ectly entered Satur	ation Flow		2000	2000

J1:8/4 (Circ (E) Lane 4)

1950

1950

Junction: J2: Exit X-ing Streams									
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)	
J2:1/1	Т	his lane use	es a directly	entered S	aturation F	low	2050	2050	
J2:1/2	Т	his lane use	es a directly	entered S	aturation F	low	2050	2050	
J2:2/1	Т	his lane use	es a directly	entered S	aturation F	low	2000	2000	
J2:2/2	Т	This lane uses a directly entered Saturation Flow						2000	
J2:2/3	Т	his lane use	es a directly	entered S	aturation F	low	2000	2000	
J2:3/1			Infinite Satu	uration Flov	N		Inf	Inf	
J2:3/2			Infinite Satu	uration Flov	N		Inf	Inf	
J2:4/1 (to Bicester Lane 1)	Т	This lane uses a directly entered Saturation Flow						2000	
J2:4/2 (to Bicester Lane 2)	Т	This lane uses a directly entered Saturation Flow   2000   2000							
J2:5/1	Т	his lane use	es a directly	entered S	aturation F	low	2000	2000	

Scenario 7: 'AM 2026 Tritax & Albion (V7 Dev4)' (FG7: 'AM 2026 Tritax + Albion (VISSIM v7 Dev4)', Plan 1: 'Seq. 1') Traffic Flows, Desired

Desired Flow :

	Destination									
		А	В	С	D	Tot.				
	А	0	404	1918	115	2437				
Origin	В	213	0	176	289	678				
Ongin	С	1157	411	0	122	1690				
	D	88	438	179	0	705				
	Tot.	1458	1253	2273	526	5510				

Lane	Scenario 7: AM 2026 Tritax & Albion (V7 Dev4)					
Junction: J1:	Baynards Green					
J1:1/1 (short)	404					
J1:1/2 (with short)	1081(In) 677(Out)					
J1:1/3 (with short)	1356(In) 678(Out)					
J1:1/4 (short)	678					
J1:2/1 (with short)	705(In) 353(Out)					
J1:2/2 (short)	352					
J1:3/1	640					
J1:3/2 (with short)	1050(In) 639(Out)					
J1:3/3 (short)	411					
J1:4/1 (short)	176					
J1:4/2 (with short)	465(In) 289(Out)					
J1:4/3	213					
J1:5/1	470					
J1:5/2	558					
J1:6/1	518					
J1:6/2	852					
J1:6/3	411					
J1:7/1	404					
J1:7/2	213					
J1:8/1	722					
J1:8/2	768					
J1:8/3 (with short)	722(In) 607(Out)					
J1:8/4 (short)	115					
Junction: J2:	Exit X-ing Streams					
J2:1/1	606					
J2:1/2	852					
J2:2/1	898					
J2:2/2	768					
J2:2/3	607					
J2:3/1	1282					
J2:3/2	991					
J2:4/1	874					
J2:4/2	379					

526

Junction: J1: Baynards Green									
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)	
J1:1/1 (A43(N))	3.50	0.00	Y	Arm J2:4 Left	70.00	100.0 %	1924	1924	
J1:1/2 (A43(N) Lane 2)		This lane	e uses a dire	ectly entered Satur	ation Flow	,	2000	2000	
J1:1/3 (A43(N) Lane 3)		This lane	e uses a dire	ectly entered Satur	ation Flow		2000	2000	
J1:1/4 (A43(N) Lane 4)		This lane	e uses a dire	ectly entered Satur	ation Flow		2000	2000	
J1:2/1 (B4100(W) Lane 1)		This lane	e uses a dire	ectly entered Satur	ation Flow		1930	1930	
J1:2/2 (B4100(W) Lane 2)		This lane	e uses a dire	ectly entered Satur	ation Flow		1930	1930	
J1:3/1 (A43(S) from M40 Lane 1)		This lane	e uses a dire	ectly entered Satur	ation Flow		2000	2000	
J1:3/2 (A43(S) from M40 Lane 2)		This lane	e uses a dire	ectly entered Satur	ation Flow		2000	2000	
J1:3/3 (A43(S) from M40)	3.80	0.00	Y	Arm J1:6 Ahead	70.00	100.0 %	1953	1953	
J1:4/1 (B4100(E))	3.60	0.00	Y	Arm J2:2 Left	24.00	100.0 %	1859	1859	
J1:4/2 (B4100(E) Lane 2)		This lane	e uses a dire	ectly entered Satur	ation Flow		1920	1920	
J1:4/3 (B4100(E) Lane 3)		This lane	e uses a dire	ectly entered Satur	ation Flow	,	1920	1920	
J1:5/1 (Circ (N) Lane 1)		This lane	e uses a dire	ectly entered Satur	ation Flow	,	1990	1990	
J1:5/2 (Circ (N) Lane 2)		This lane	e uses a dire	ectly entered Satur	ation Flow	,	1990	1990	
J1:6/1 (Circ (W) Lane 1)		This lane	e uses a dire	ectly entered Satur	ation Flow	,	2050	2050	
J1:6/2 (Circ (W) Lane 2)		This lane	e uses a dire	ectly entered Satur	ation Flow	,	2050	2050	
J1:6/3 (Circ (W) Lane 3)		This lane	e uses a dire	ectly entered Satur	ation Flow	,	1950	1950	
J1:7/1 (Circ (S) Lane 1)		This lane	e uses a dire	ectly entered Satur	ation Flow	,	1950	1950	
J1:7/2 (Circ (S) Lane 2)		This lane	e uses a dire	ectly entered Satur	ation Flow	,	1950	1950	
J1:8/1 (Circ (E) Lane 1)		This lane uses a directly entered Saturation Flow						2000	
J1:8/2 (Circ (E) Lane 2)		This lane	e uses a dire	ectly entered Satur	ation Flow	,	2000	2000	
J1:8/3 (Circ (E) Lane 3)		This lane	e uses a dire	ectly entered Satur	ation Flow	,	2000	2000	
J1:8/4 (Circ (E) Lane 4)		This lane	e uses a dire	ectly entered Satur	ation Flow		1950	1950	

Junction: J2: Exit X-ing Streams									
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)	
J2:1/1	Т	his lane use	es a directly	entered S	aturation F	low	2050	2050	
J2:1/2	Т	his lane use	es a directly	entered S	aturation F	low	2050	2050	
J2:2/1	Т	his lane use	es a directly	entered S	aturation F	low	2000	2000	
J2:2/2	Т	his lane use	es a directly	entered S	aturation F	low	2000	2000	
J2:2/3	Т	his lane use	es a directly	entered S	aturation F	low	2000	2000	
J2:3/1			Infinite Satu	uration Flov	N		Inf	Inf	
J2:3/2			Infinite Satu	uration Flov	N		Inf	Inf	
J2:4/1 (to Bicester Lane 1)	т	This lane uses a directly entered Saturation Flow					2000	2000	
J2:4/2 (to Bicester Lane 2)	т	This lane uses a directly entered Saturation Flow						2000	
J2:5/1	Т	his lane use	es a directly	entered S	aturation F	low	2000	2000	

## Scenario 8: 'PM 2026 Tritax & Albion (V7 Dev4)' (FG8: 'PM 2026 Tritax + Albion (VISSIM v7 Dev4)', Plan 1: 'Seq. 1') Traffic Flows, Desired Desired Flow :

	Destination									
		А	В	С	D	Tot.				
	A	0	308	1280	83	1671				
Origin	В	317	0	308	315	940				
Ongin	С	1637	331	0	52	2020				
	D	94	271	153	0	518				
	Tot.	2048	910	1741	450	5149				

Lane	Scenario 8: PM 2026 Tritax & Albion (V7 Dev4)					
Junction: J1:	Baynards Green					
J1:1/1 (short)	308					
J1:1/2 (with short)	763(In) 455(Out)					
J1:1/3 (with short)	908(In) 454(Out)					
J1:1/4 (short)	454					
J1:2/1 (with short)	518(In) 259(Out)					
J1:2/2 (short)	259					
J1:3/1	845					
J1:3/2 (with short)	1175(In) 844(Out)					
J1:3/3 (short)	331					
J1:4/1 (short)	308					
J1:4/2 (with short)	625(In) 317(Out)					
J1:4/3	315					
J1:5/1	330					
J1:5/2	425					
J1:6/1	795					
J1:6/2	1159					
J1:6/3	331					
J1:7/1	400					
J1:7/2	315					
J1:8/1	493					
J1:8/2	530					
J1:8/3 (with short)	493(In) 410(Out)					
J1:8/4 (short)	83					
Junction: J2:	Exit X-ing Streams					
J2:1/1	889					
J2:1/2	1159					
J2:2/1	801					
J2:2/2	530					
J2:2/3	410					
J2:3/1	1066					
J2:3/2	675					
J2:4/1	638					
J2:4/2	272					

450

:5/1

Junction: J1: Baynards Green								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
J1:1/1 (A43(N))	3.50	0.00	Y	Arm J2:4 Left	70.00	100.0 %	1924	1924
J1:1/2 (A43(N) Lane 2)		This lane	e uses a dire	ectly entered Satur	ation Flow		2000	2000
J1:1/3 (A43(N) Lane 3)		This lane	uses a dire	ectly entered Satur	ation Flow		2000	2000
J1:1/4 (A43(N) Lane 4)		This lane	uses a dire	ectly entered Satur	ation Flow		2000	2000
J1:2/1 (B4100(W) Lane 1)		This lane	uses a dire	ectly entered Satur	ation Flow		1930	1930
J1:2/2 (B4100(W) Lane 2)		This lane	e uses a dire	ectly entered Satur	ation Flow	,	1930	1930
J1:3/1 (A43(S) from M40 Lane 1)		This lane	e uses a dire	ectly entered Satur	ation Flow	,	2000	2000
J1:3/2 (A43(S) from M40 Lane 2)		This lane	uses a dire	ectly entered Satur	ation Flow	1	2000	2000
J1:3/3 (A43(S) from M40)	3.80	0.00	Y	Arm J1:6 Ahead	70.00	100.0 %	1953	1953
J1:4/1 (B4100(E))	3.60	0.00	Y	Arm J2:2 Left	24.00	100.0 %	1859	1859
J1:4/2 (B4100(E) Lane 2)		This lane	e uses a dire	ectly entered Satur	ation Flow	,	1920	1920
J1:4/3 (B4100(E) Lane 3)		This lane	e uses a dire	ectly entered Satur	ation Flow	,	1920	1920
J1:5/1 (Circ (N) Lane 1)		This lane	uses a dire	ectly entered Satur	ation Flow		1990	1990
J1:5/2 (Circ (N) Lane 2)		This lane	e uses a dire	ectly entered Satur	ation Flow	,	1990	1990
J1:6/1 (Circ (W) Lane 1)		This lane	e uses a dire	ectly entered Satur	ation Flow	,	2050	2050
J1:6/2 (Circ (W) Lane 2)		This lane	e uses a dire	ectly entered Satur	ation Flow	,	2050	2050
J1:6/3 (Circ (W) Lane 3)		This lane	e uses a dire	ectly entered Satur	ation Flow	,	1950	1950
J1:7/1 (Circ (S) Lane 1)		This lane	e uses a dire	ectly entered Satur	ation Flow	,	1950	1950
J1:7/2 (Circ (S) Lane 2)		This lane	e uses a dire	ectly entered Satur	ation Flow	,	1950	1950
J1:8/1 (Circ (E) Lane 1)		This lane uses a directly entered Saturation Flow						2000
J1:8/2 (Circ (E) Lane 2)		This lane	e uses a dire	ectly entered Satur	ation Flow	,	2000	2000
J1:8/3 (Circ (E) Lane 3)		This lane	uses a dire	ectly entered Satur	ation Flow	,	2000	2000
J1:8/4 (Circ (E) Lane 4)		This lane	uses a dire	ectly entered Satur	ation Flow		1950	1950

Junction: J2: Exit X-ing Streams									
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)	
J2:1/1	Т	his lane use	es a directly	entered S	aturation F	low	2050	2050	
J2:1/2	Т	his lane use	es a directly	entered S	aturation F	low	2050	2050	
J2:2/1	Т	his lane use	es a directly	entered S	aturation F	low	2000	2000	
J2:2/2	Т	This lane uses a directly entered Saturation Flow						2000	
J2:2/3	Т	his lane use	es a directly	entered S	aturation F	low	2000	2000	
J2:3/1			Infinite Satu	uration Flov	N		Inf	Inf	
J2:3/2			Infinite Satu	uration Flov	N		Inf	Inf	
J2:4/1 (to Bicester Lane 1)	т	This lane uses a directly entered Saturation Flow					2000	2000	
J2:4/2 (to Bicester Lane 2)	Т	This lane uses a directly entered Saturation Flow						2000	
J2:5/1	Т	his lane use	es a directly	entered S	aturation F	low	2000	2000	

### Scenario 9: 'AM 2031 Tritax & Albion (V7 Dev4)' (FG9: 'AM 2031 Tritax + Albion (VISSIM v7 Dev4)', Plan 1: 'Seq. 1') Traffic Flows, Desired

Desired Flow :

	Destination					
Origin		А	В	С	D	Tot.
	А	0	457	2071	104	2632
	В	233	0	227	352	812
	С	1349	481	0	106	1936
	D	98	480	169	0	747
	Tot.	1680	1418	2467	562	6127

Lane	Scenario 9: AM 2031 Tritax & Albion (V7 Dev4)				
Junction: J1: Baynards Green					
J1:1/1 (short)	457				
J1:1/2 (with short)	1181(ln) 724(Out)				
J1:1/3 (with short)	1451(ln) 726(Out)				
J1:1/4 (short)	725				
J1:2/1 (with short)	747(In) 373(Out)				
J1:2/2 (short)	374				
J1:3/1	728				
J1:3/2 (with short)	1208(In) 727(Out)				
J1:3/3 (short)	481				
J1:4/1 (short)	227				
J1:4/2 (with short)	579(In) 352(Out)				
J1:4/3	233				
J1:5/1	515				
J1:5/2	615				
J1:6/1	622				
J1:6/2	960				
J1:6/3	481				
J1:7/1	456				
J1:7/2	233				
J1:8/1	766				
J1:8/2	810				
J1:8/3 (with short)	768(In) 664(Out)				
J1:8/4 (short)	104				
Junction: J2: Exit X-ing Streams					
J2:1/1	720				
J2:1/2	960				
J2:2/1	993				
J2:2/2	810				
J2:2/3	664				
J2:3/1	1398				
J2:3/2	1069				
J2:4/1	972				
J2:4/2	446				
562

:5/1

#### Lane Saturation Flows

Junction: J1: Baynards Green								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
J1:1/1 (A43(N))	3.50	0.00	Y	Arm J2:4 Left	70.00	100.0 %	1924	1924
J1:1/2 (A43(N) Lane 2)		This lane	e uses a dire	ectly entered Satur	ation Flow		2000	2000
J1:1/3 (A43(N) Lane 3)		This lane	uses a dire	ectly entered Satur	ation Flow		2000	2000
J1:1/4 (A43(N) Lane 4)		This lane	uses a dire	ectly entered Satur	ation Flow		2000	2000
J1:2/1 (B4100(W) Lane 1)		This lane	uses a dire	ectly entered Satur	ation Flow		1930	1930
J1:2/2 (B4100(W) Lane 2)		This lane	e uses a dire	ectly entered Satur	ation Flow	,	1930	1930
J1:3/1 (A43(S) from M40 Lane 1)		This lane	e uses a dire	ectly entered Satur	ation Flow	,	2000	2000
J1:3/2 (A43(S) from M40 Lane 2)		This lane uses a directly entered Saturation Flow						2000
J1:3/3 (A43(S) from M40)	3.80	0.00	Y	Arm J1:6 Ahead	70.00	100.0 %	1953	1953
J1:4/1 (B4100(E))	3.60	0.00	Y	Arm J2:2 Left	24.00	100.0 %	1859	1859
J1:4/2 (B4100(E) Lane 2)		This lane uses a directly entered Saturation Flow						1920
J1:4/3 (B4100(E) Lane 3)	This lane uses a directly entered Saturation Flow					1920	1920	
J1:5/1 (Circ (N) Lane 1)		This lane uses a directly entered Saturation Flow					1990	1990
J1:5/2 (Circ (N) Lane 2)		This lane uses a directly entered Saturation Flow					1990	1990
J1:6/1 (Circ (W) Lane 1)		This lane uses a directly entered Saturation Flow						2050
J1:6/2 (Circ (W) Lane 2)		This lane	e uses a dire	ectly entered Satur	ation Flow	,	2050	2050
J1:6/3 (Circ (W) Lane 3)		This lane uses a directly entered Saturation Flow					1950	1950
J1:7/1 (Circ (S) Lane 1)		This lane uses a directly entered Saturation Flow					1950	1950
J1:7/2 (Circ (S) Lane 2)	This lane uses a directly entered Saturation Flow					1950	1950	
J1:8/1 (Circ (E) Lane 1)	This lane uses a directly entered Saturation Flow					2000	2000	
J1:8/2 (Circ (E) Lane 2)	This lane uses a directly entered Saturation Flow						2000	2000
J1:8/3 (Circ (E) Lane 3)		This lane	uses a dire	ectly entered Satur	ation Flow	,	2000	2000
J1:8/4 (Circ (E) Lane 4)		This lane	uses a dire	ectly entered Satur	ation Flow		1950	1950

Junction: J2: Exit X-ing Streams								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
J2:1/1	Т	his lane use	es a directly	entered S	aturation F	low	2050	2050
J2:1/2	Т	his lane use	es a directly	entered S	aturation F	low	2050	2050
J2:2/1	Т	This lane uses a directly entered Saturation Flow						2000
J2:2/2	Т	This lane uses a directly entered Saturation Flow					2000	2000
J2:2/3	Т	This lane uses a directly entered Saturation Flow					2000	2000
J2:3/1		Infinite Saturation Flow				Inf	Inf	
J2:3/2		Infinite Saturation Flow					Inf	Inf
J2:4/1 (to Bicester Lane 1)	This lane uses a directly entered Saturation Flow				2000	2000		
J2:4/2 (to Bicester Lane 2)	This lane uses a directly entered Saturation Flow					2000	2000	
J2:5/1	Т	his lane use	es a directly	entered S	aturation F	low	2000	2000

## Scenario 10: 'PM 2031 Tritax & Albion (V7 Dev4)' (FG10: 'PM 2031 Tritax + Albion (VISSIM v7 Dev4)', Plan 1: 'Seq. 1') Traffic Flows, Desired

## **Desired Flow**:

	Destination							
		А	В	С	D	Tot.		
	А	0	303	1426	88	1817		
B	В	382	0	338	282	1002		
Uligin	С	1800	395	0	58	2253		
	D	118	317	122	0	557		
	Tot.	2300	1015	1886	428	5629		

### Traffic Lane Flows

Lane	Scenario 10: PM 2031 Tritax & Albion (V7 Dev4)
Junction: J1:	Baynards Green
J1:1/1 (short)	303
J1:1/2 (with short)	808(In) 505(Out)
J1:1/3 (with short)	1009(In) 504(Out)
J1:1/4 (short)	505
J1:2/1 (with short)	557(In) 279(Out)
J1:2/2 (short)	278
J1:3/1	929
J1:3/2 (with short)	1324(In) 929(Out)
J1:3/3 (short)	395
J1:4/1 (short)	338
J1:4/2 (with short)	670(In) 332(Out)
J1:4/3	332
J1:5/1	358
J1:5/2	476
J1:6/1	921
J1:6/2	1261
J1:6/3	395
J1:7/1	420
J1:7/2	332
J1:8/1	536
J1:8/2	565
J1:8/3 (with short)	535(In) 447(Out)
J1:8/4 (short)	88
Junction: J2:	Exit X-ing Streams
J2:1/1	1039
J2:1/2	1261
J2:2/1	874
J2:2/2	565
J2:2/3	447
J2:3/1	1157
J2:3/2	729
J2:4/1	661
J2:4/2	354

5/1

428

#### Lane Saturation Flows

Junction: J1: Baynards Green								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
J1:1/1 (A43(N))	3.50	0.00	Y	Arm J2:4 Left	70.00	100.0 %	1924	1924
J1:1/2 (A43(N) Lane 2)		This lane	e uses a dire	ectly entered Satur	ation Flow		2000	2000
J1:1/3 (A43(N) Lane 3)		This lane	e uses a dire	ectly entered Satur	ation Flow		2000	2000
J1:1/4 (A43(N) Lane 4)		This lane	e uses a dire	ectly entered Satur	ation Flow		2000	2000
J1:2/1 (B4100(W) Lane 1)		This lane	uses a dire	ectly entered Satur	ation Flow		1930	1930
J1:2/2 (B4100(W) Lane 2)		This lane	e uses a dire	ectly entered Satur	ation Flow	,	1930	1930
J1:3/1 (A43(S) from M40 Lane 1)		This lane	e uses a dire	ectly entered Satur	ation Flow	,	2000	2000
J1:3/2 (A43(S) from M40 Lane 2)		This lane uses a directly entered Saturation Flow						2000
J1:3/3 (A43(S) from M40)	3.80	0.00	Y	Arm J1:6 Ahead	70.00	100.0 %	1953	1953
J1:4/1 (B4100(E))	3.60	0.00	Y	Arm J2:2 Left	24.00	100.0 %	1859	1859
J1:4/2 (B4100(E) Lane 2)		This lane uses a directly entered Saturation Flow						1920
J1:4/3 (B4100(E) Lane 3)	This lane uses a directly entered Saturation Flow					1920	1920	
J1:5/1 (Circ (N) Lane 1)		This lane uses a directly entered Saturation Flow					1990	1990
J1:5/2 (Circ (N) Lane 2)		This lane uses a directly entered Saturation Flow					1990	1990
J1:6/1 (Circ (W) Lane 1)		This lane uses a directly entered Saturation Flow						2050
J1:6/2 (Circ (W) Lane 2)		This lane	e uses a dire	ectly entered Satur	ation Flow	,	2050	2050
J1:6/3 (Circ (W) Lane 3)		This lane uses a directly entered Saturation Flow					1950	1950
J1:7/1 (Circ (S) Lane 1)		This lane uses a directly entered Saturation Flow					1950	1950
J1:7/2 (Circ (S) Lane 2)	This lane uses a directly entered Saturation Flow					1950	1950	
J1:8/1 (Circ (E) Lane 1)	This lane uses a directly entered Saturation Flow					2000	2000	
J1:8/2 (Circ (E) Lane 2)	This lane uses a directly entered Saturation Flow						2000	2000
J1:8/3 (Circ (E) Lane 3)		This lane	uses a dire	ectly entered Satur	ation Flow	,	2000	2000
J1:8/4 (Circ (E) Lane 4)		This lane	uses a dire	ectly entered Satur	ation Flow		1950	1950

Junction: J2: Exit X-ing Streams								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
J2:1/1	Т	his lane use	es a directly	entered S	aturation F	low	2050	2050
J2:1/2	Т	his lane use	es a directly	entered S	aturation F	low	2050	2050
J2:2/1	Т	This lane uses a directly entered Saturation Flow						2000
J2:2/2	Т	This lane uses a directly entered Saturation Flow					2000	2000
J2:2/3	Т	This lane uses a directly entered Saturation Flow						2000
J2:3/1		Infinite Saturation Flow					Inf	Inf
J2:3/2		Infinite Saturation Flow					Inf	Inf
J2:4/1 (to Bicester Lane 1)	т	This lane uses a directly entered Saturation Flow					2000	2000
J2:4/2 (to Bicester Lane 2)	This lane uses a directly entered Saturation Flow					2000	2000	
J2:5/1	Т	his lane use	es a directly	entered S	aturation F	low	2000	2000

### Scenario 1: 'AM 2026 Tritax & Albion (BTM Dev4)' (FG1: 'AM 2026 Tritax + Albion (BTM Dev4)', Plan 1: 'Seq. 1') C1 - Rbt Streams

### Stage Sequence Diagram









### Stage Timings Stage Stream: 1

Stage	1	2	3
Duration	45	35	5
Change Point	51	0	40

#### Stage Stream: 2

Stage	1	2	3
Duration	63	18	4
Change Point	66	33	56

Stage	1	2	3
Duration	47	33	5
Change Point	2	49	87

Stage	1	2	3
Duration	63	18	4
Change Point	17	80	7

### Signal Timings Diagram



### C2 - Exit Streams Stage Sequence Diagram Stage Stream: 1





## Stage Stream: 3



## Stage Stream: 4



# Stage Timings Stage Stream: 1

Stage	1	2
Duration	77	5
Change Point	77	66

### Stage Stream: 2

Stage	1	2
Duration	79	5
Change Point	43	32

Stage	1	2
Duration	80	5
Change Point	60	49

Stage	1	2
Duration	80	5
Change Point	38	27



#### **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: A43 / B4100 Baynards Green - Junction Improvement	-	-	N/A	-	-		-	-	-	-	-	-	89.5%
J1: Baynards Green	-	-	N/A	-	-		-	-	-	-	-	-	89.5%
1/2+1/1	A43(N) Ahead Left	U	1:1	N/A	C1:B		1	35	-	1060	2000:1924	750+445	88.7 : 88.7%
1/3+1/4	A43(N) Ahead	U	1:1	N/A	C1:B		1	35	-	1328	2000:2000	750+750	88.5 : 88.5%
2/1+2/2	B4100(W) Ahead Left	U	1:2	N/A	C1:E		1	18	-	681	1930:1930	382+382	89.3 : 89.0%
3/1	A43(S) from M40 Ahead Left	U	1:3	N/A	C1:H		1	33	-	633	2000	708	89.4%
3/2+3/3	A43(S) from M40 Ahead	U	1:3	N/A	C1:H		1	33	-	1031	2000:1953	708+444	89.5 : 89.5%
4/2+4/1	B4100(E) Ahead Left	U	1:4	N/A	C1:K		1	18	-	434	1920:1859	380+195	75.5 : 75.5%
4/3	B4100(E) Ahead	U	1:4	N/A	C1:K		1	18	-	201	1920	380	52.9%
5/1	Circ (N) Ahead	U	1:1	N/A	C1:A		1	50	-	446	1990	1078	41.4%
5/2	Circ (N) Right Ahead	U	1:1	N/A	C1:A		1	50	-	539	1990	1078	50.0%
6/1	Circ (W) Ahead	U	1:2	N/A	C1:D		1	67	-	511	2050	1473	34.7%
6/2	Circ (W) Ahead	U	1:2	N/A	C1:D		1	67	-	835	2050	1473	56.7%
6/3	Circ (W) Right	U	1:2	N/A	C1:D		1	67	-	397	1950	1402	28.3%
7/1	Circ (S) Right Ahead	U	1:3	N/A	C1:G		1	52	-	398	1950	1097	36.3%
7/2	Circ (S) Right	U	1:3	N/A	C1:G		1	52	-	201	1950	1097	18.3%
8/1	Circ (E) Ahead	U	1:4	N/A	C1:J		1	67	-	708	2000	1438	49.3%
8/2	Circ (E) Ahead	U	1:4	N/A	C1:J		1	67	-	750	2000	1438	52.2%
8/3+8/4	Circ (E) Right Ahead	U	1:4	N/A	C1:J		1	67	-	706	2000:1950	1232+230	48.3 : 48.3%

Full Input Data And Results													
J2: Exit X-ing Streams	-	-	N/A	-	-		-	-	-	-	-	-	52.6%
1/1		U	2:4	N/A	C2:G		1	80	-	604	2050	1730	34.9%
1/2		U	2:4	N/A	C2:G		1	80	-	835	2050	1730	48.3%
2/1	Ahead	U	2:1	N/A	C2:A		1	77	-	855	2000	1625	52.6%
2/2	Ahead	U	2:1	N/A	C2:A		1	77	-	750	2000	1625	46.2%
2/3	Ahead	U	2:1	N/A	C2:A		1	77	-	595	2000	1625	36.6%
3/1		U	N/A	N/A	-		-	-	-	1230	Inf	Inf	0.0%
3/2		U	N/A	N/A	-		-	-	-	970	Inf	Inf	0.0%
4/1	to Bicester	U	2:2	N/A	C2:C		1	79	-	841	2000	1667	50.5%
4/2	to Bicester	U	2:2	N/A	C2:C		1	79	-	368	2000	1667	22.1%
5/1		U	2:3	N/A	C2:E		1	80	-	520	2000	1688	30.8%

ltem	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: A43 / B4100 Baynards Green - Junction Improvement	-	-	0	0	0	45.8	21.1	0.0	66.8	-	-	-	-
J1: Baynards Green	-	-	0	0	0	45.4	21.1	0.0	66.4	-	-	-	-
1/2+1/1	1060	1060	-	-	-	7.8	3.7	-	11.5 (7.5+4.0)	39.0 (40.7:36.2)	16.4	3.7	20.1
1/3+1/4	1328	1328	-	-	-	10.4	3.7	-	14.1 (7.0+7.0)	38.1 (38.1:38.1)	16.4	3.7	20.1
2/1+2/2	681	681	-	-	-	7.1	3.8	-	10.9 (5.4+5.4)	57.4 (57.4:57.4)	8.8	3.8	12.6
3/1	633	633	-	-	-	5.2	3.8	-	9.0	51.0	15.8	3.8	19.6
3/2+3/3	1031	1031	-	-	-	7.9	4.0	-	11.9 (7.6+4.3)	41.7 (43.3:39.1)	15.8	4.0	19.8
4/2+4/1	434	434	-	-	-	4.3	1.5	-	5.8 (3.9+1.9)	47.9 (48.8:46.1)	7.2	1.5	8.7
4/3	201	201	-	-	-	1.9	0.6	-	2.5	44.5	4.8	0.6	5.4
5/1	446	446	-	-	-	0.0	0.0	-	0.0	0.3	0.4	0.0	0.4
5/2	539	539	-	-	-	0.1	0.0	-	0.1	0.7	0.6	0.0	0.6
6/1	511	511	-	-	-	0.0	0.0	-	0.0	0.1	0.4	0.0	0.4
6/2	835	835	-	-	-	0.1	0.0	-	0.1	0.5	0.6	0.0	0.6
6/3	397	397	-	-	-	0.1	0.0	-	0.1	0.8	0.6	0.0	0.6
7/1	398	398	-	-	-	0.1	0.0	-	0.1	0.8	0.6	0.0	0.6
7/2	201	201	-	-	-	0.0	0.0	-	0.0	0.8	0.5	0.0	0.5
8/1	708	708	-	-	-	0.2	0.0	-	0.2	0.9	0.6	0.0	0.6
8/2	750	750	-	-	-	0.2	0.0	-	0.2	0.8	0.6	0.0	0.6
8/3+8/4	706	706	-	-	-	0.0	0.0	-	0.0 (0.0+0.0)	0.1 (0.1:0.2)	3.1	0.0	3.1
J2: Exit X-ing Streams	-	-	0	0	0	0.4	0.0	0.0	0.4	-	-	-	-
1/1	604	604	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

Full Input Data And	I Results												
1/2	835	835	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
2/1	855	855	-	-	-	0.1	0.0	-	0.1	0.2	0.3	0.0	0.3
2/2	750	750	-	-	-	0.1	0.0	-	0.1	0.5	0.6	0.0	0.6
2/3	595	595	-	-	-	0.1	0.0	-	0.1	0.3	0.3	0.0	0.3
3/1	1230	1230	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
3/2	970	970	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/1	841	841	-	-	-	0.1	0.0	-	0.1	0.6	1.1	0.0	1.1
4/2	368	368	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	520	520	-	-	-	0.0	0.0	-	0.0	0.3	0.8	0.0	0.8
	C1 - Rbt Streams C1 - Rbt Streams C1 - Rbt Streams C1 - Rbt Streams C2 - Exit Streams C2 - Exit Streams C2 - Exit Streams C2 - Exit Streams	Stream: Stream: Stream: Stream: Stream: Stream:	1 PRC for Signall 2 PRC for Signall 3 PRC for Signall 4 PRC for Signall 1 PRC for Signall 2 PRC for Signal 3 PRC for Signal 4 PRC for Signal PRC Over A	led Lanes (%): led Lanes (%): led Lanes (%): led Lanes (%): led Lanes (%): led Lanes (%): lled Lanes (%):	1.5 0.8 0.6 19.2 71.1 78.4 192.1 86.4 0.6	Total Delay for S Total Delay	ignalled Lanes (  ignalled Lanes () ignalled Lanes () ignalled Lanes () ignalled Lanes () ignalled Lanes () ignalled Lanes () Over All Lanes()	pcuHr):     25.68       pcuHr):     11.07       pcuHr):     21.03       pcuHr):     21.03       pcuHr):     0.14       pcuHr):     0.14       pcuHr):     0.14       pcuHr):     0.05       pcuHr):     0.06       pcuHr):     0.06       pcuHr):     0.06       pcuHr):     0.06	Cycle Cycle Cycle Cycle Cycle Cycle Cycle Cycle Cycle Cycle	Time (s):   96     Time (s):   96			

#### Full Input Data And Results Scenario 2: 'IP 2026 Tritax & Albion (BTM Dev4)' (FG2: 'IP 2026 Tritax + Albion (BTM Dev4)', Plan 1: 'Seq. 1') C1 - Rbt Streams Stage Sequence Diagram







### Stage Stream: 4



#### **Stage Timings** Stage Stream: 1

Stage	1	2	3
Duration	44	20	5
Change Point	36	0	25

Stage	1	2	3
Duration	47	18	4
Change Point	51	18	41

Stage	1	2	3	
Duration	32	32	5	
Change Point	2	34	71	

#### Stage Stream: 4

Stage	1	2	3
Duration	47	18	4
Change Point	17	64	7



### C2 - Exit Streams Stage Sequence Diagram





## Stage Stream: 3



## Stage Stream: 4



## Stage Timings Stage Stream: 1

otago otroann i							
Stage	1	2					
Duration	61	5					
Change Point	7	76					

Stage	1	2	
Duration	63	5	
Change Point	0	69	

Stage	1	2
Duration	64	5
Change Point	42	31

#### Stage Stream: 4

Stage	1	2	
Duration	64	5	
Change Point	45	34	



#### **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: A43 / B4100 Baynards Green - Junction Improvement	-	-	N/A	-	-		-	-	-	-	-	-	63.9%
J1: Baynards Green	-	-	N/A	-	-		-	-	-	-	-	-	63.9%
1/2+1/1	A43(N) Ahead Left	U	1:1	N/A	C1:B		1	20	-	547	2000:1924	525+449	62.7 : 48.6%
1/3+1/4	A43(N) Ahead	U	1:1	N/A	C1:B		1	20	-	660	2000:2000	525+525	62.9 : 62.9%
2/1+2/2	B4100(W) Ahead Left	U	1:2	N/A	C1:E		1	18	-	301	1930:1930	458+458	32.9 : 32.7%
3/1	A43(S) from M40 Ahead Left	U	1:3	N/A	C1:H		1	32	-	527	2000	825	63.9%
3/2+3/3	A43(S) from M40 Ahead	U	1:3	N/A	C1:H		1	32	-	712	2000:1953	825+290	63.9 : 63.9%
4/2+4/1	B4100(E) Ahead Left	U	1:4	N/A	C1:K		1	18	-	260	1920:1859	456+149	43.0 : 43.0%
4/3	B4100(E) Ahead	U	1:4	N/A	C1:K		1	18	-	125	1920	456	27.4%
5/1	Circ (N) Ahead	U	1:1	N/A	C1:A		1	49	-	213	1990	1269	16.8%
5/2	Circ (N) Right Ahead	U	1:1	N/A	C1:A		1	49	-	243	1990	1269	19.2%
6/1	Circ (W) Ahead	U	1:2	N/A	C1:D		1	51	-	441	2050	1358	32.5%
6/2	Circ (W) Ahead	U	1:2	N/A	C1:D		1	51	-	652	2050	1358	48.0%
6/3	Circ (W) Right	U	1:2	N/A	C1:D		1	51	-	185	1950	1292	14.3%
7/1	Circ (S) Right Ahead	U	1:3	N/A	C1:G		1	37	-	237	1950	951	24.9%
7/2	Circ (S) Right	U	1:3	N/A	C1:G		1	37	-	125	1950	951	13.1%
8/1	Circ (E) Ahead	U	1:4	N/A	C1:J		1	51	-	352	2000	1325	26.6%
8/2	Circ (E) Ahead	U	1:4	N/A	C1:J		1	51	-	375	2000	1325	28.3%
8/3+8/4	Circ (E) Right Ahead	U	1:4	N/A	C1:J		1	51	-	352	2000:1950	1192+157	26.1 : 26.1%

Full Input Data And	Full Input Data And Results												
J2: Exit X-ing Streams	-	-	N/A	-	-		-	-	-	-	-	-	39.1%
1/1		U	2:4	N/A	C2:G		1	64	-	471	2050	1666	28.3%
1/2		U	2:4	N/A	C2:G		1	64	-	652	2050	1666	39.1%
2/1	Ahead	U	2:1	N/A	C2:A		1	61	-	416	2000	1550	26.8%
2/2	Ahead	U	2:1	N/A	C2:A		1	61	-	375	2000	1550	24.2%
2/3	Ahead	U	2:1	N/A	C2:A		1	61	-	311	2000	1550	20.1%
3/1		U	N/A	N/A	-		-	-	-	604	Inf	Inf	0.0%
3/2		U	N/A	N/A	-		-	-	-	498	Inf	Inf	0.0%
4/1	to Bicester	U	2:2	N/A	C2:C		1	63	-	431	2000	1600	26.9%
4/2	to Bicester	U	2:2	N/A	C2:C		1	63	-	153	2000	1600	9.6%
5/1		U	2:3	N/A	C2:E		1	64	-	323	2000	1625	19.9%

ltem	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: A43 / B4100 Baynards Green - Junction Improvement	-	-	0	0	0	20.4	4.0	0.0	24.4	-	-	-	-
J1: Baynards Green	-	-	0	0	0	20.2	4.0	0.0	24.3	-	-	-	-
1/2+1/1	547	547	-	-	-	3.9	0.6	-	4.5 (2.8+1.7)	29.7 (30.3:28.8)	6.4	0.6	7.0
1/3+1/4	660	660	-	-	-	4.8	0.8	-	5.6 (2.8+2.8)	30.7 (30.7:30.7)	6.4	0.8	7.3
2/1+2/2	301	301	-	-	-	2.1	0.2	-	2.4 (1.2+1.2)	28.2 (28.2:28.1)	2.8	0.2	3.0
3/1	527	527	-	-	-	2.7	0.9	-	3.6	24.8	9.2	0.9	10.1
3/2+3/3	712	712	-	-	-	3.5	0.9	-	4.4 (3.4+1.0)	22.3 (23.2:19.7)	9.2	0.9	10.1
4/2+4/1	260	260	-	-	-	1.8	0.4	-	2.2 (1.7+0.5)	30.7 (31.1:29.3)	3.6	0.4	4.0
4/3	125	125	-	-	-	0.9	0.2	-	1.1	30.3	2.3	0.2	2.4
5/1	213	213	-	-	-	0.0	0.0	-	0.0	0.4	0.5	0.0	0.5
5/2	243	243	-	-	-	0.0	0.0	-	0.0	0.6	0.6	0.0	0.6
6/1	441	441	-	-	-	0.0	0.0	-	0.0	0.1	0.5	0.0	0.5
6/2	652	652	-	-	-	0.1	0.0	-	0.1	0.5	0.6	0.0	0.6
6/3	185	185	-	-	-	0.0	0.0	-	0.0	0.7	0.5	0.0	0.5
7/1	237	237	-	-	-	0.1	0.0	-	0.1	0.8	0.5	0.0	0.5
7/2	125	125	-	-	-	0.0	0.0	-	0.0	0.8	0.5	0.0	0.5
8/1	352	352	-	-	-	0.1	0.0	-	0.1	0.8	0.6	0.0	0.6
8/2	375	375	-	-	-	0.1	0.0	-	0.1	0.8	0.6	0.0	0.6
8/3+8/4	352	352	-	-	-	0.0	0.0	-	0.0 (0.0+0.0)	0.3 (0.3:0.2)	3.0	0.0	3.0
J2: Exit X-ing Streams	-	-	0	0	0	0.2	0.0	0.0	0.2	-	-	-	-
1/1	471	471	-	-	-	0.0	0.0	-	0.0	0.1	0.1	0.0	0.1

Full Input Data And	I Results													
1/2	652	652	-	-		-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
2/1	416	416	-	-		-	0.0	0.0	-	0.0	0.3	0.2	0.0	0.2
2/2	375	375	-	-		-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
2/3	311	311	-	-		-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
3/1	604	604	-	-		-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
3/2	498	498	-	-		-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/1	431	431	-	-		-	0.0	0.0	-	0.0	0.4	0.4	0.0	0.4
4/2	153	153	-	-		-	0.0	0.0	-	0.0	1.0	0.4	0.0	0.4
5/1	323	323	-	-		-	0.0	0.0	-	0.0	0.2	0.4	0.0	0.4
	C1 - Rbt Streams C1 - Rbt Streams C1 - Rbt Streams C1 - Rbt Streams C2 - Exit Streams C2 - Exit Streams C2 - Exit Streams C2 - Exit Streams	Stream: Stream: Stream: Stream: Stream: Stream:	1 PRC for Signal 2 PRC for Signal 3 PRC for Signal 4 PRC for Signal 1 PRC for Signal 2 PRC for Signal 3 PRC for Signal 4 PRC for Signal PRC Over <i>I</i>	led Lanes (%): led Lanes (%): led Lanes (%): led Lanes (%): led Lanes (%): led Lanes (%): led Lanes (%):	43.2 87.5 40.9 109.4 235.3 234.1 352.8 129.9 40.9	Τα Τα Τα Τα Τα Τα Τα Τα	otal Delay for Si otal Delay for Si Total Delay	gnalled Lanes (p gnalled Lanes (p Over All Lanes(p	bouHr):     10.19       bouHr):     2.50       bouHr):     8.11       bouHr):     3.46       bouHr):     0.03       bouHr):     0.03       bouHr):     0.02       bouHr):     0.02       bouHr):     0.02       bouHr):     0.02       bouHr):     0.02       bouHr):     0.04       bouHr):     0.04       bouHr):     0.04       bouHr):     0.04       bouHr):     0.04       bouHr):     0.04	O Cycle   O Cycle   I Cycle   O Cycle   O Cycle   O Cycle   O Cycle   I Cycle   I Cycle   I Cycle   I Cycle	Time (s):   80     Time (s):   80			

#### Full Input Data And Results Scenario 3: 'PM 2026 Tritax & Albion (BTM Dev4)' (FG3: 'PM 2026 Tritax + Albion (BTM Dev4)', Plan 1: 'Seq. 1') C1 - Rbt Streams Stage Sequence Diagram







### Stage Stream: 4



#### **Stage Timings** Stage Stream: 1

Stage	1	2	3
Duration	62	26	5
Change Point	42	0	31

Stage	1	2	3
Duration	71	18	4
Change Point	57	24	47

Stage	1	2	3
Duration	39	49	5
Change Point	1	40	94

#### Stage Stream: 4

Stage	1	2	3
Duration	70	19	4
Change Point	17	87	7

### Signal Timings Diagram



#### C2 - Exit Streams Stage Sequence Diagram Stage Stream: 1





## Stage Stream: 3





# Stage Timings Stage Stream: 1

Stage	1	2		
Duration	85	5		
Change Point	84	73		

### Stage Stream: 2

Stage	1	2
Duration	87	5
Change Point	100	89

Stage	1	2
Duration	88	5
Change Point	98	87

Stage	1	2
Duration	88	5
Change Point	31	20



#### **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: A43 / B4100 Baynards Green - Junction Improvement	-	-	N/A	-	-		-	-	-	-	-	-	88.0%
J1: Baynards Green	-	-	N/A	-	-		-	-	-	-	-	-	88.0%
1/2+1/1	A43(N) Ahead Left	U	1:1	N/A	C1:B		1	26	-	743	2000:1924	519+348	85.7 : 85.7%
1/3+1/4	A43(N) Ahead	U	1:1	N/A	C1:B		1	26	-	891	2000:2000	519+519	85.9 : 85.7%
2/1+2/2	B4100(W) Ahead Left	U	1:2	N/A	C1:E		1	18	-	494	1930:1930	353+353	70.1 : 70.1%
3/1	A43(S) from M40 Ahead Left	U	1:3	N/A	C1:H		1	49	-	846	2000	962	88.0%
3/2+3/3	A43(S) from M40 Ahead	U	1:3	N/A	C1:H		1	49	-	1172	2000:1953	962+371	88.0 : 88.0%
4/2+4/1	B4100(E) Ahead Left	U	1:4	N/A	C1:K		1	19	-	609	1920:1859	369+358	85.3 : 82.2%
4/3	B4100(E) Ahead	U	1:4	N/A	C1:K		1	19	-	307	1920	369	83.1%
5/1	Circ (N) Ahead	U	1:1	N/A	C1:A		1	67	-	311	1990	1320	23.6%
5/2	Circ (N) Right Ahead	U	1:1	N/A	C1:A		1	67	-	410	1990	1320	31.1%
6/1	Circ (W) Ahead	U	1:2	N/A	C1:D		1	75	-	799	2050	1518	52.6%
6/2	Circ (W) Ahead	U	1:2	N/A	C1:D		1	75	-	1153	2050	1518	76.0%
6/3	Circ (W) Right	U	1:2	N/A	C1:D		1	75	-	326	1950	1444	22.6%
7/1	Circ (S) Right Ahead	U	1:3	N/A	C1:G		1	44	-	395	1950	862	45.8%
7/2	Circ (S) Right	U	1:3	N/A	C1:G		1	44	-	307	1950	862	35.6%
8/1	Circ (E) Ahead	U	1:4	N/A	C1:J		1	74	-	482	2000	1462	33.0%
8/2	Circ (E) Ahead	U	1:4	N/A	C1:J		1	74	-	519	2000	1462	35.5%
8/3+8/4	Circ (E) Right Ahead	U	1:4	N/A	C1:J		1	74	-	481	2000:1950	1237+247	32.4 : 32.4%

Full Input Data And Results													
J2: Exit X-ing Streams	-	-	N/A	-	-		-	-	-	-	-	-	65.7%
1/1		U	2:4	N/A	C2:G		1	88	-	898	2050	1754	51.2%
1/2		U	2:4	N/A	C2:G		1	88	-	1153	2050	1754	65.7%
2/1	Ahead	U	2:1	N/A	C2:A		1	85	-	776	2000	1654	46.9%
2/2	Ahead	U	2:1	N/A	C2:A		1	85	-	519	2000	1654	31.4%
2/3	Ahead	U	2:1	N/A	C2:A		1	85	-	401	2000	1654	24.2%
3/1		U	N/A	N/A	-		-	-	-	1036	Inf	Inf	0.0%
3/2		U	N/A	N/A	-		-	-	-	660	Inf	Inf	0.0%
4/1	to Bicester	U	2:2	N/A	C2:C		1	87	-	609	2000	1692	36.0%
4/2	to Bicester	U	2:2	N/A	C2:C		1	87	-	264	2000	1692	15.6%
5/1		U	2:3	N/A	C2:E		1	88	-	442	2000	1712	25.8%

ltem	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: A43 / B4100 Baynards Green - Junction Improvement	-	-	0	0	0	46.0	18.7	0.0	64.6	-	-	-	-
J1: Baynards Green	-	-	0	0	0	45.8	18.7	0.0	64.4	-	-	-	-
1/2+1/1	743	743	-	-	-	7.3	2.9	-	10.2 (6.2+3.9)	49.4 (50.5:47.6)	12.2	2.9	15.1
1/3+1/4	891	891	-	-	-	9.1	2.9	-	12.0 (6.0+6.0)	48.4 (48.4:48.4)	12.3	2.9	15.2
2/1+2/2	494	494	-	-	-	5.5	1.2	-	6.6 (3.3+3.3)	48.3 (48.3:48.3)	6.7	1.2	7.8
3/1	846	846	-	-	-	5.7	3.5	-	9.2	39.0	21.9	3.5	25.3
3/2+3/3	1172	1172	-	-	-	7.2	3.5	-	10.7 (8.2+2.5)	33.0 (35.1:27.6)	21.9	3.5	25.4
4/2+4/1	609	609	-	-	-	6.8	2.5	-	9.3 (4.8+4.5)	55.1 (55.3:55.0)	8.8	2.5	11.2
4/3	307	307	-	-	-	3.4	2.3	-	5.7	67.3	8.4	2.3	10.7
5/1	311	311	-	-	-	0.0	0.0	-	0.0	0.0	0.3	0.0	0.3
5/2	410	410	-	-	-	0.1	0.0	-	0.1	0.5	0.5	0.0	0.5
6/1	799	799	-	-	-	0.0	0.0	-	0.0	0.1	0.5	0.0	0.5
6/2	1153	1153	-	-	-	0.1	0.0	-	0.1	0.3	0.6	0.0	0.6
6/3	326	326	-	-	-	0.1	0.0	-	0.1	0.6	0.5	0.0	0.5
7/1	395	395	-	-	-	0.1	0.0	-	0.1	0.8	0.6	0.0	0.6
7/2	307	307	-	-	-	0.1	0.0	-	0.1	0.8	0.5	0.0	0.5
8/1	482	482	-	-	-	0.1	0.0	-	0.1	0.9	0.6	0.0	0.6
8/2	519	519	-	-	-	0.1	0.0	-	0.1	0.8	0.6	0.0	0.6
8/3+8/4	481	481	-	-	-	0.0	0.0	-	0.0 (0.0+0.0)	0.2 (0.1:0.2)	3.1	0.0	3.1
J2: Exit X-ing Streams	-	-	0	0	0	0.2	0.0	0.0	0.2	-	-	-	-
1/1	898	898	-	-	-	0.0	0.0	-	0.0	0.0	0.2	0.0	0.2

Full Input Data And	d Results												
1/2	1153	1153	-	-	-	0.0	0.0	-	0.0	0.1	0.3	0.0	0.3
2/1	776	776	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
2/2	519	519	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
2/3	401	401	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
3/1	1036	1036	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
3/2	660	660	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/1	609	609	-	-	-	0.1	0.0	-	0.1	0.4	0.7	0.0	0.7
4/2	264	264	-	-	-	0.1	0.0	-	0.1	0.8	0.7	0.0	0.7
5/1	442	442	-	-	-	0.0	0.0	-	0.0	0.2	0.2	0.0	0.2
	C1 - Rbt Streams C1 - Rbt Streams C1 - Rbt Streams C1 - Rbt Streams C2 - Exit Streams C2 - Exit Streams C2 - Exit Streams C2 - Exit Streams	Stream: Stream: Stream: Stream: Stream: Stream: Stream:	1 PRC for Signal 2 PRC for Signal 3 PRC for Signal 4 PRC for Signal 1 PRC for Signal 2 PRC for Signal 3 PRC for Signal PRC Over <i>P</i>	led Lanes (%): led Lanes (%): led Lanes (%): led Lanes (%): led Lanes (%): led Lanes (%): led Lanes (%):	4.8 18.5 2.3 5.5 91.8 150.1 248.5 36.9 2.3	Total Delay for S Total Delay for S	ignalled Lanes (  ignalled Lanes () ignalled Lanes () ignalled Lanes () ignalled Lanes () ignalled Lanes () ignalled Lanes () Over All Lanes()	pcuHr):     22.23       pcuHr):     6.82       pcuHr):     20.07       pcuHr):     15.32       pcuHr):     0.12       pcuHr):     0.12       pcuHr):     0.12       pcuHr):     0.02       pcuHr):     0.04       pcuHr):     0.02       pcuHr):     0.04       pcuHr):     0.04       pcuHr):     0.04       pcuHr):     0.04       pcuHr):     0.04	Cycle Cycle Cycle Cycle Cycle Cycle Cycle Cycle Cycle Cycle	Time (s): 104 Time (s): 104			

#### Full Input Data And Results Scenario 4: 'AM 2031 Tritax & Albion (BTM Dev4)' (FG4: 'AM 2031 Tritax + Albion (BTM Dev4)', Plan 1: 'Seq. 1') C1 - Rbt Streams Stage Sequence Diagram







### Stage Stream: 4



#### **Stage Timings** Stage Stream: 1

Stage	1	2	3
Duration	46	34	5
Change Point	50	0	39

Stage	1	2	3
Duration	63	18	4
Change Point	65	32	55

Stage	1	2	3	
Duration	44	34	7	
Change Point	4	48	87	

#### Stage Stream: 4

Stage	1	2	3
Duration	63	18	4
Change Point	17	80	7



C2 - Exit Streams Stage Sequence Diagram Stage Stream: 1





## Stage Stream: 3





## Stage Timings Stage Stream: 1

Stage	1	2
Duration	77	5
Change Point	77	66

#### Stage Stream: 2

Stage	1	2
Duration	79	5
Change Point	41	30

Stage	1	2
Duration	80	5
Change Point	63	52

Stage	1	2
Duration	80	5
Change Point	38	27


### **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: A43 / B4100 Baynards Green - Junction Improvement	-	-	N/A	-	-		-	-	-	-	-	-	98.7%
J1: Baynards Green	-	-	N/A	-	-		-	-	-	-	-	-	98.7%
1/2+1/1	A43(N) Ahead Left	U	1:1	N/A	C1:B		1	34	-	1149	2000:1924	729+468	96.0 : 96.0%
1/3+1/4	A43(N) Ahead	U	1:1	N/A	C1:B		1	34	-	1400	2000:2000	729+729	96.0 : 96.0%
2/1+2/2	B4100(W) Ahead Left	U	1:2	N/A	C1:E		1	18	-	721	1930:1930	382+382	94.2 : 94.5%
3/1	A43(S) from M40 Ahead Left	U	1:3	N/A	C1:H		1	34	-	720	2000	729	98.7%
3/2+3/3	A43(S) from M40 Ahead	U	1:3	N/A	C1:H		1	34	-	1183	2000:1953	729+471	98.6 : 98.6%
4/2+4/1	B4100(E) Ahead Left	U	1:4	N/A	C1:K		1	18	-	539	1920:1859	380+207	91.8 : 91.8%
4/3	B4100(E) Ahead	U	1:4	N/A	C1:K		1	18	-	221	1920	380	58.2%
5/1	Circ (N) Ahead	U	1:1	N/A	C1:A		1	51	-	490	1990	1099	44.6%
5/2	Circ (N) Right Ahead	U	1:1	N/A	C1:A		1	51	-	593	1990	1099	54.0%
6/1	Circ (W) Ahead	U	1:2	N/A	C1:D		1	67	-	615	2050	1473	41.7%
6/2	Circ (W) Ahead	U	1:2	N/A	C1:D		1	67	-	940	2050	1473	63.8%
6/3	Circ (W) Right	U	1:2	N/A	C1:D		1	67	-	464	1950	1402	33.1%
7/1	Circ (S) Right Ahead	U	1:3	N/A	C1:G		1	51	-	449	1950	1077	41.7%
7/2	Circ (S) Right	U	1:3	N/A	C1:G		1	51	-	221	1950	1077	20.5%
8/1	Circ (E) Ahead	U	1:4	N/A	C1:J		1	67	-	740	2000	1438	51.5%
8/2	Circ (E) Ahead	U	1:4	N/A	C1:J		1	67	-	780	2000	1438	54.3%

Full	Input	Data And	Results
------	-------	----------	---------

8/3+8/4	Circ (E) Right Ahead	U	1:4	N/A	C1:J	1	67	-	739	2000:1950	1261+197	50.7: 50.7%
J2: Exit X-ing Streams	-	-	N/A	-	-	-	-	-	-	-	-	57.2%
1/1		U	2:4	N/A	C2:G	1	80	-	717	2050	1730	41.5%
1/2		U	2:4	N/A	C2:G	1	80	-	940	2050	1730	54.3%
2/1	Ahead	U	2:1	N/A	C2:A	1	77	-	930	2000	1625	57.2%
2/2	Ahead	U	2:1	N/A	C2:A	1	77	-	780	2000	1625	48.0%
2/3	Ahead	U	2:1	N/A	C2:A	1	77	-	639	2000	1625	39.3%
3/1		U	N/A	N/A	-	-	-	-	1320	Inf	Inf	0.0%
3/2		U	N/A	N/A	-	-	-	-	1029	Inf	Inf	0.0%
4/1	to Bicester	U	2:2	N/A	C2:C	1	79	-	939	2000	1667	56.3%
4/2	to Bicester	U	2:2	N/A	C2:C	1	79	-	434	2000	1667	26.0%
5/1		U	2:3	N/A	C2:E	1	80	-	554	2000	1688	32.8%

### Full Input Data And Results

ltem	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: A43 / B4100 Baynards Green - Junction Improvement	-	-	0	0	0	52.5	54.6	0.0	107.1	-	-	-	-
J1: Baynards Green	-	-	0	0	0	52.1	54.6	0.0	106.7	-	-	-	-
1/2+1/1	1149	1149	-	-	-	9.0	8.8	-	17.7 (11.1+6.6)	55.6 (57.3:52.8)	18.1	8.8	26.9
1/3+1/4	1400	1400	-	-	-	11.6	9.1	-	20.7 (10.4+10.4)	53.3 (53.3:53.3)	18.1	9.1	27.2
2/1+2/2	721	721	-	-	-	7.6	6.5	-	14.1 (7.0+7.0)	70.2 (70.2:70.2)	9.4	6.5	15.9
3/1	720	720	-	-	-	6.1	11.3	-	17.4	86.9	19.0	11.3	30.3
3/2+3/3	1183	1183	-	-	-	9.3	13.5	-	22.8 (14.3+8.6)	69.5 (71.4:66.6)	19.0	13.5	32.5
4/2+4/1	539	539	-	-	-	5.5	4.7	-	10.2 (6.7+3.5)	68.0 (69.2:65.8)	9.1	4.7	13.8
4/3	221	221	-	-	-	2.1	0.7	-	2.8	46.1	5.3	0.7	6.0
5/1	490	490	-	-	-	0.0	0.0	-	0.0	0.3	0.4	0.0	0.4
5/2	593	593	-	-	-	0.1	0.0	-	0.1	0.7	0.6	0.0	0.6
6/1	615	615	-	-	-	0.0	0.0	-	0.0	0.1	0.5	0.0	0.5
6/2	940	940	-	-	-	0.1	0.0	-	0.1	0.4	0.6	0.0	0.6
6/3	464	464	-	-	-	0.1	0.0	-	0.1	0.9	0.6	0.0	0.6
7/1	449	449	-	-	-	0.1	0.0	-	0.1	0.8	0.6	0.0	0.6
7/2	221	221	-	-	-	0.1	0.0	-	0.1	0.8	0.5	0.0	0.5
8/1	740	740	-	-	-	0.2	0.0	-	0.2	0.9	0.6	0.0	0.6
8/2	780	780	-	-	-	0.2	0.0	-	0.2	0.9	0.6	0.0	0.6
8/3+8/4	739	739	-	-	-	0.0	0.0	-	0.0 (0.0+0.0)	0.1 (0.1:0.1)	3.1	0.0	3.1
J2: Exit X-ing Streams	-	-	0	0	0	0.4	0.0	0.0	0.4	-	-	-	-
1/1	717	717	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
1/2	940	940	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

Full Input Data And	Results												
2/1	930	930		-		0.0	0.0	-	0.0	0.2	0.3	0.0	0.3
2/2	780	780	-	-	-	0.1	0.0	-	0.1	0.4	0.6	0.0	0.6
2/3	639	639	-	-	-	0.0	0.0	-	0.0	0.3	0.3	0.0	0.3
3/1	1320	1320	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
3/2	1029	1029	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/1	939	939	-	-	-	0.2	0.0	-	0.2	0.6	1.4	0.0	1.4
4/2	434	434	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	554	554	-	-	-	0.1	0.0	-	0.1	0.4	0.8	0.0	0.8
	C1 - Rbt Streams C1 - Rbt Streams C1 - Rbt Streams C1 - Rbt Streams C2 - Exit Streams C2 - Exit Streams C2 - Exit Streams C2 - Exit Streams	Stream: Stream: Stream: Stream: Stream: Stream: Stream:	1 PRC for Signal 2 PRC for Signal 3 PRC for Signal 4 PRC for Signal 2 PRC for Signal 3 PRC for Signal 4 PRC for Signa 4 PRC for Signa	led Lanes (%): led Lanes (%): led Lanes (%): led Lanes (%): led Lanes (%): led Lanes (%): led Lanes (%): All Lanes (%):	-6.7 -5.0 -9.7 -2.0 57.3 59.7 174.1 65.6 -9.7	Total Delay for S Total Delay for S	Signalled Lanes Signalled Lanes Signalled Lanes Signalled Lanes Signalled Lanes Signalled Lanes Signalled Lanes Signalled Lanes y Over All Lanes	(pcuHr): ( (pcuHr): ( (pcuHr): ( (pcuHr): ( (pcuHr): ( (pcuHr): ( (pcuHr): ( (pcuHr): ( (pcuHr): 1)	38.61         Cycle           14.30         Cycle           40.36         Cycle           13.42         Cycle           0.19         Cycle           0.17         Cycle           0.06         Cycle           0.00         Cycle           07.11         Cycle	Time (s):       96         Time (s):       96			

### Full Input Data And Results Scenario 5: 'IP 2031 Tritax & Albion (BTM Dev4)' (FG5: 'IP 2031 Tritax + Albion (BTM Dev4)', Plan 1: 'Seq. 1') C1 - Rbt Streams Stage Sequence Diagram







### Stage Stream: 4



### **Stage Timings** Stage Stream: 1

Stage	1	2	3
Duration	45	19	5
Change Point	35	0	24

Stage	1	2	3
Duration	47	18	4
Change Point	50	17	40

Stage	1	2	3
Duration	31	33	5
Change Point	2	33	71

### Stage Stream: 4

Stage	1	2	3
Duration	47	18	4
Change Point	17	64	7



### C2 - Exit Streams Stage Sequence Diagram





## Stage Stream: 3



## Stage Stream: 4



## Stage Timings Stage Stream: 1

Stage	1	2
Duration	61	5
Change Point	62	51

Stage	1	2
Duration	63	5
Change Point	0	69

Stage	1	2
Duration	64	5
Change Point	75	64

### Stage Stream: 4

Stage	1	2
Duration	64	5
Change Point	44	33



### **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: A43 / B4100 Baynards Green - Junction Improvement	-	-	N/A	-	-		-	-	-	-	-	-	80.8%
J1: Baynards Green	-	-	N/A	-	-		-	-	-	-	-	-	80.8%
1/2+1/1	A43(N) Ahead Left	U	1:1	N/A	C1:B		1	19	-	612	2000:1924	500+257	80.8 : 80.8%
1/3+1/4	A43(N) Ahead	U	1:1	N/A	C1:B		1	19	-	808	2000:2000	500+500	80.8 : 80.8%
2/1+2/2	B4100(W) Ahead Left	U	1:2	N/A	C1:E		1	18	-	335	1930:1930	458+458	36.7 : 36.4%
3/1	A43(S) from M40 Ahead Left	U	1:3	N/A	C1:H		1	33	-	677	2000	850	79.6%
3/2+3/3	A43(S) from M40 Ahead	U	1:3	N/A	C1:H		1	33	-	899	2000:1953	850+280	79.5 : 79.5%
4/2+4/1	B4100(E) Ahead Left	U	1:4	N/A	C1:K		1	18	-	310	1920:1859	456+224	45.6 : 45.6%
4/3	B4100(E) Ahead	U	1:4	N/A	C1:K		1	18	-	207	1920	456	45.4%
5/1	Circ (N) Ahead	U	1:1	N/A	C1:A		1	50	-	241	1990	1294	18.6%
5/2	Circ (N) Right Ahead	U	1:1	N/A	C1:A		1	50	-	279	1990	1294	21.6%
6/1	Circ (W) Ahead	U	1:2	N/A	C1:D		1	51	-	601	2050	1358	44.3%
6/2	Circ (W) Ahead	U	1:2	N/A	C1:D		1	51	-	883	2050	1358	65.0%
6/3	Circ (W) Right	U	1:2	N/A	C1:D		1	51	-	223	1950	1292	17.3%
7/1	Circ (S) Right Ahead	U	1:3	N/A	C1:G		1	36	-	254	1950	926	27.4%
7/2	Circ (S) Right	U	1:3	N/A	C1:G		1	36	-	207	1950	926	22.3%
8/1	Circ (E) Ahead	U	1:4	N/A	C1:J		1	51	-	430	2000	1325	32.5%
8/2	Circ (E) Ahead	U	1:4	N/A	C1:J		1	51	-	455	2000	1325	34.3%
8/3+8/4	Circ (E) Right Ahead	U	1:4	N/A	C1:J		1	51	-	429	2000:1950	1203+145	31.8 : 31.8%

Full Input Data And Results													
J2: Exit X-ing Streams	-	-	N/A	-	-		-	-	-	-	-	-	53.0%
1/1		U	2:4	N/A	C2:G		1	64	-	639	2050	1666	38.4%
1/2		U	2:4	N/A	C2:G		1	64	-	883	2050	1666	53.0%
2/1	Ahead	U	2:1	N/A	C2:A		1	61	-	532	2000	1550	34.3%
2/2	Ahead	U	2:1	N/A	C2:A		1	61	-	455	2000	1550	29.4%
2/3	Ahead	U	2:1	N/A	C2:A		1	61	-	383	2000	1550	24.7%
3/1		U	N/A	N/A	-		-	-	-	760	Inf	Inf	0.0%
3/2		U	N/A	N/A	-		-	-	-	610	Inf	Inf	0.0%
4/1	to Bicester	U	2:2	N/A	C2:C		1	63	-	449	2000	1600	28.1%
4/2	to Bicester	U	2:2	N/A	C2:C		1	63	-	177	2000	1600	11.1%
5/1		U	2:3	N/A	C2:E		1	64	-	330	2000	1625	20.3%

### Full Input Data And Results

ltem	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: A43 / B4100 Baynards Green - Junction Improvement	-	-	0	0	0	26.3	9.1	0.0	35.3	-	-	-	-
J1: Baynards Green	-	-	0	0	0	26.1	9.1	0.0	35.1	-	-	-	-
1/2+1/1	612	612	-	-	-	4.6	2.0	-	6.7 (4.5+2.2)	39.2 (40.2:37.3)	8.4	2.0	10.5
1/3+1/4	808	808	-	-	-	6.3	2.1	-	8.4 (4.2+4.2)	37.4 (37.4:37.4)	8.4	2.1	10.5
2/1+2/2	335	335	-	-	-	2.4	0.3	-	2.7 (1.3+1.3)	28.6 (28.6:28.6)	3.1	0.3	3.4
3/1	677	677	-	-	-	3.8	1.9	-	5.7	30.2	13.0	1.9	14.9
3/2+3/3	899	899	-	-	-	4.7	1.9	-	6.6 (5.2+1.4)	26.4 (27.6:22.6)	13.0	1.9	14.9
4/2+4/1	310	310	-	-	-	2.2	0.4	-	2.6 (1.8+0.8)	30.5 (31.0:29.5)	3.9	0.4	4.3
4/3	207	207	-	-	-	1.5	0.4	-	1.9	33.3	3.9	0.4	4.3
5/1	241	241	-	-	-	0.0	0.0	-	0.0	0.3	0.4	0.0	0.4
5/2	279	279	-	-	-	0.0	0.0	-	0.0	0.6	0.6	0.0	0.6
6/1	601	601	-	-	-	0.0	0.0	-	0.0	0.1	0.5	0.0	0.5
6/2	883	883	-	-	-	0.2	0.0	-	0.2	0.6	0.6	0.0	0.6
6/3	223	223	-	-	-	0.0	0.0	-	0.0	0.7	0.5	0.0	0.5
7/1	254	254	-	-	-	0.1	0.0	-	0.1	0.8	0.5	0.0	0.5
7/2	207	207	-	-	-	0.0	0.0	-	0.0	0.8	0.5	0.0	0.5
8/1	430	430	-	-	-	0.1	0.0	-	0.1	0.9	0.6	0.0	0.6
8/2	455	455	-	-	-	0.1	0.0	-	0.1	0.8	0.6	0.0	0.6
8/3+8/4	429	429	-	-	-	0.0	0.0	-	0.0 (0.0+0.0)	0.3 (0.3:0.2)	3.0	0.0	3.0
J2: Exit X-ing Streams	-	-	0	0	0	0.2	0.0	0.0	0.2	-	-	-	-
1/1	639	639	-	-	-	0.0	0.0	-	0.0	0.1	0.1	0.0	0.1

Full Input Data And	I Results													
1/2	883	883	-	-	-		0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
2/1	532	532	-	-	-		0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
2/2	455	455	-	-	-		0.0	0.0	-	0.0	0.1	0.1	0.0	0.1
2/3	383	383	-	-	-		0.0	0.0	-	0.0	0.1	0.0	0.0	0.0
3/1	760	760	-	-	-		0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
3/2	610	610	-	-	-		0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/1	449	449	-	-	-		0.1	0.0	-	0.1	0.4	0.5	0.0	0.5
4/2	177	177	-	-	-		0.1	0.0	-	0.1	1.1	0.5	0.0	0.5
5/1	330	330	-	-	-		0.0	0.0	-	0.0	0.5	0.3	0.0	0.3
	C1 - Rbt Streams C1 - Rbt Streams C1 - Rbt Streams C1 - Rbt Streams C2 - Exit Streams C2 - Exit Streams C2 - Exit Streams C2 - Exit Streams	Stream: Stream: Stream: Stream: Stream: Stream:	1 PRC for Signall 2 PRC for Signall 3 PRC for Signal 4 PRC for Signal 1 PRC for Signal 2 PRC for Signal 3 PRC for Signal 4 PRC for Signal PRC Over <i>F</i>	led Lanes (%): led Lanes (%): led Lanes (%): led Lanes (%): led Lanes (%): led Lanes (%): led Lanes (%):	11.4 38.4 13.0 97.3 162.2 220.7 343.2 69.8 11.4	Tot Tot Tot Tot Tot Tot Tot	tal Delay for Si tal Delay for Si	gnalled Lanes (p gnalled Lanes (p Over All Lanes(p	bouHr):         15.13           bouHr):         2.87           bouHr):         12.36           bouHr):         12.36           bouHr):         4.76           bouHr):         0.03           bouHr):         0.11           bouHr):         0.14           bouHr):         0.04           bouHr):         0.04           bouHr):         0.04           bouHr):         0.04           bouHr):         0.04           bouHr):         0.02           bouHr):         35.34	Cycle Cycle Cycle Cycle Cycle Cycle Cycle Cycle Cycle Cycle Cycle	Time (s):       80         Time (s):       80			

### Full Input Data And Results Scenario 6: 'PM 2031 Tritax & Albion (BTM Dev4)' (FG6: 'PM 2031 Tritax + Albion (BTM Dev4)', Plan 1: 'Seq. 1') C1 - Rbt Streams Stage Sequence Diagram







### Stage Stream: 4



### **Stage Timings** Stage Stream: 1

Stage	1	2	3
Duration	63	25	5
Change Point	41	0	30

Stage	1	2	3
Duration	71	18	4
Change Point	56	23	46

Stage	1	2	3
Duration	37	51	5
Change Point	2	39	95

### Stage Stream: 4

Stage	1	2	3
Duration	71	18	4
Change Point	17	88	7

### Signal Timings Diagram



### C2 - Exit Streams Stage Sequence Diagram Stage Stream: 1





## Stage Stream: 3



## Stage Stream: 4



# Stage Timings Stage Stream: 1

Stage	1	2
Duration	85	5
Change Point	85	74

### Stage Stream: 2

Stage	1	2
Duration	87	5
Change Point	100	89

Stage	1	2
Duration	88	5
Change Point	55	44

Stage	1	2
Duration	88	5
Change Point	35	24



### **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: A43 / B4100 Baynards Green - Junction Improvement	-	-	N/A	-	-		-	-	-	-	-	-	99.2%
J1: Baynards Green	-	-	N/A	-	-		-	-	-	-	-	-	99.2%
1/2+1/1	A43(N) Ahead Left	U	1:1	N/A	C1:B		1	25	-	788	2000:1924	500+296	99.0 : 99.0%
1/3+1/4	A43(N) Ahead	U	1:1	N/A	C1:B		1	25	-	992	2000:2000	500+500	99.2 : 99.2%
2/1+2/2	B4100(W) Ahead Left	U	1:2	N/A	C1:E		1	18	-	538	1930:1930	353+353	76.3 : 76.3%
3/1	A43(S) from M40 Ahead Left	U	1:3	N/A	C1:H		1	51	-	980	2000	1000	98.0%
3/2+3/3	A43(S) from M40 Ahead	U	1:3	N/A	C1:H		1	51	-	1384	2000:1953	996+412	98.3 : 98.3%
4/2+4/1	B4100(E) Ahead Left	U	1:4	N/A	C1:K		1	18	-	670	1920:1859	351+340	98.9 : 95.1%
4/3	B4100(E) Ahead	U	1:4	N/A	C1:K		1	18	-	346	1920	351	98.6%
5/1	Circ (N) Ahead	U	1:1	N/A	C1:A		1	68	-	348	1990	1339	26.0%
5/2	Circ (N) Right Ahead	U	1:1	N/A	C1:A		1	68	-	472	1990	1339	35.2%
6/1	Circ (W) Ahead	U	1:2	N/A	C1:D		1	75	-	976	2050	1518	64.3%
6/2	Circ (W) Ahead	U	1:2	N/A	C1:D		1	75	-	1325	2050	1518	87.3%
6/3	Circ (W) Right	U	1:2	N/A	C1:D		1	75	-	405	1950	1444	28.1%
7/1	Circ (S) Right Ahead	U	1:3	N/A	C1:G		1	42	-	432	1950	825	52.4%
7/2	Circ (S) Right	U	1:3	N/A	C1:G		1	42	-	346	1950	825	41.9%
8/1	Circ (E) Ahead	U	1:4	N/A	C1:J		1	75	-	524	2000	1481	35.4%
8/2	Circ (E) Ahead	U	1:4	N/A	C1:J		1	75	-	554	2000	1481	37.4%

Full	Input	Data A	And R	esults
------	-------	--------	-------	--------

8/3+8/4	Circ (E) Right Ahead	U	1:4	N/A	C1:J	1	75	-	524	2000:1950	1259+244	34.9 : 34.9%
J2: Exit X-ing Streams	-	-	N/A	-	-	-	-	-	-	-	-	75.5%
1/1		U	2:4	N/A	C2:G	1	88	-	1099	2050	1754	62.6%
1/2		U	2:4	N/A	C2:G	1	88	-	1325	2050	1754	75.5%
2/1	Ahead	U	2:1	N/A	C2:A	1	85	-	847	2000	1654	51.2%
2/2	Ahead	U	2:1	N/A	C2:A	1	85	-	554	2000	1654	33.5%
2/3	Ahead	U	2:1	N/A	C2:A	1	85	-	439	2000	1654	26.5%
3/1		U	N/A	N/A	-	-	-	-	1124	Inf	Inf	0.0%
3/2		U	N/A	N/A	-	-	-	-	716	Inf	Inf	0.0%
4/1	to Bicester	U	2:2	N/A	C2:C	1	87	-	641	2000	1692	37.9%
4/2	to Bicester	U	2:2	N/A	C2:C	1	87	-	357	2000	1692	21.1%
5/1		U	2:3	N/A	C2:E	1	88	-	436	2000	1712	25.5%

### Full Input Data And Results

ltem	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: A43 / B4100 Baynards Green - Junction Improvement	-	-	0	0	0	53.6	69.5	0.0	123.2	-	-	-	-
J1: Baynards Green	-	-	0	0	0	53.4	69.5	0.0	122.9	-	-	-	-
1/2+1/1	788	788	-	-	-	8.2	12.2	-	20.3 (13.0+7.3)	92.9 (94.5:90.2)	14.2	12.2	26.3
1/3+1/4	992	992	-	-	-	10.7	13.9	-	24.6 (12.3+12.3)	89.3 (89.3:89.3)	14.2	13.9	28.1
2/1+2/2	538	538	-	-	-	6.0	1.6	-	7.6 (3.8+3.8)	50.9 (50.9:50.9)	7.3	1.6	8.9
3/1	980	980	-	-	-	6.9	11.4	-	18.4	67.5	27.5	11.4	38.9
3/2+3/3	1384	1384	-	-	-	8.8	13.5	-	22.2 (16.5+5.8)	57.9 (60.5:51.5)	27.5	13.5	40.9
4/2+4/1	670	670	-	-	-	7.9	8.8	-	16.7 (8.7+8.0)	89.6 (89.7:89.4)	9.9	8.8	18.7
4/3	346	346	-	-	-	4.1	8.2	-	12.3	127.5	9.9	8.2	18.1
5/1	348	348	-	-	-	0.0	0.0	-	0.0	0.2	0.3	0.0	0.3
5/2	472	472	-	-	-	0.1	0.0	-	0.1	0.6	0.6	0.0	0.6
6/1	976	976	-	-	-	0.0	0.0	-	0.0	0.1	0.5	0.0	0.5
6/2	1325	1325	-	-	-	0.1	0.0	-	0.1	0.3	0.6	0.0	0.6
6/3	405	405	-	-	-	0.1	0.0	-	0.1	0.6	0.6	0.0	0.6
7/1	432	432	-	-	-	0.1	0.0	-	0.1	1.2	0.6	0.0	0.6
7/2	346	346	-	-	-	0.1	0.0	-	0.1	0.9	0.5	0.0	0.5
8/1	524	524	-	-	-	0.1	0.0	-	0.1	0.9	0.6	0.0	0.6
8/2	554	554	-	-	-	0.1	0.0	-	0.1	0.9	0.6	0.0	0.6
8/3+8/4	524	524	-	-	-	0.0	0.0	-	0.0 (0.0+0.0)	0.2 (0.2:0.2)	3.1	0.0	3.1
J2: Exit X-ing Streams	-	-	0	0	0	0.2	0.0	0.0	0.2	-	-	-	-
1/1	1099	1099	-	-	-	0.1	0.0	-	0.1	0.2	2.2	0.0	2.2
1/2	1325	1325	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

Full Input Data And	d Results													
2/1	847	847	-	-	-	0.0	0.0	-		0.0	0.0	0.0	0.0	0.0
2/2	554	554	-	-	-	0.0	0.0	-		0.0	0.0	0.0	0.0	0.0
2/3	439	439	-	-	-	0.0	0.0	-		0.0	0.0	0.0	0.0	0.0
3/1	1124	1124	-	-	-	0.0	0.0	-		0.0	0.0	0.0	0.0	0.0
3/2	716	716	-	-	-	0.0	0.0	-		0.0	0.0	0.0	0.0	0.0
4/1	641	641	-	-	-	0.1	0.0	-		0.1	0.4	0.9	0.0	0.9
4/2	357	357	-	-	-	0.1	0.0	-		0.1	0.8	0.9	0.0	0.9
5/1	436	436	-	-	-	0.0	0.0	-		0.0	0.2	0.3	0.0	0.3
	C1 - Rbt Streams C1 - Rbt Streams C1 - Rbt Streams C1 - Rbt Streams C2 - Exit Streams C2 - Exit Streams C2 - Exit Streams C2 - Exit Streams	Stream: Stream: Stream: Stream: Stream: Stream: Stream: Stream:	1 PRC for Signa 2 PRC for Signa 3 PRC for Signa 4 PRC for Signa 2 PRC for Signa 3 PRC for Signa 4 PRC for Signa PRC Over	lled Lanes (%): lled Lanes (%): lled Lanes (%): lled Lanes (%): lled Lanes (%): lled Lanes (%): lled Lanes (%):	-10.2 3.1 -9.2 -9.9 75.7 137.6 253.3 19.2 -10.2	Total Delay for Total Delay	Signalled Lanes Signalled Lanes Signalled Lanes Signalled Lanes Signalled Lanes Signalled Lanes Signalled Lanes Signalled Lanes y Over All Lanes	(pcuHr): (pcuHr): (pcuHr): (pcuHr): (pcuHr): (pcuHr): (pcuHr): (pcuHr): (pcuHr):	45.04 7.83 40.85 29.23 0.00 0.15 0.02 0.07 123.19	Cycle T Cycle T Cycle T Cycle T Cycle T Cycle T Cycle T Cycle T	Time (s):       104         Time (s):       104			

Full Input Data And Results Scenario 7: 'AM 2026 Tritax & Albion (V7 Dev4)' (FG7: 'AM 2026 Tritax + Albion (VISSIM v7 Dev4)', Plan 1: 'Seq. 1')

### C1 - Rbt Streams Stage Sequence Diagram







### Stage Stream: 4



### **Stage Timings** Stage Stream: 1

Stage	1	2	3	
Duration	45	35	5	
Change Point	51	0	40	

Stage	1	2	3
Duration	63	18	4
Change Point	66	33	56

Stage	1	2	3
Duration	47	33	5
Change Point	2	49	87

### Stage Stream: 4

Stage	1	2	3
Duration	63	18	4
Change Point	17	80	7



C2 - Exit Streams Stage Sequence Diagram Stage Stream: 1



### Full Input Data And Results



## Stage Stream: 3





## Stage Timings

Stage Stream: 1							
Stage	1	2					
Duration	77	5					
Change Point	77	66					

### Stage Stream: 2

Stage	1	2
Duration	79	5
Change Point	42	31

Stage	1	2
Duration	80	5
Change Point	61	50

Stage	1	2
Duration	80	5
Change Point	38	27



### **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: A43 / B4100 Baynards Green - Junction Improvement	-	-	N/A	-	-		-	-	-	-	-	-	92.4%
J1: Baynards Green	-	-	N/A	-	-		-	-	-	-	-	-	92.4%
1/2+1/1	A43(N) Ahead Left	U	1:1	N/A	C1:B		1	35	-	1081	2000:1924	750+448	90.3 : 90.3%
1/3+1/4	A43(N) Ahead	U	1:1	N/A	C1:B		1	35	-	1356	2000:2000	750+750	90.4 : 90.4%
2/1+2/2	B4100(W) Ahead Left	U	1:2	N/A	C1:E		1	18	-	705	1930:1930	382+382	92.4 : 92.2%
3/1	A43(S) from M40 Ahead Left	U	1:3	N/A	C1:H		1	33	-	640	2000	708	90.4%
3/2+3/3	A43(S) from M40 Ahead	U	1:3	N/A	C1:H		1	33	-	1050	2000:1953	708+456	90.2 : 90.2%
4/2+4/1	B4100(E) Ahead Left	U	1:4	N/A	C1:K		1	18	-	465	1920:1859	380+231	76.1 : 76.1%
4/3	B4100(E) Ahead	U	1:4	N/A	C1:K		1	18	-	213	1920	380	56.1%
5/1	Circ (N) Ahead	U	1:1	N/A	C1:A		1	50	-	470	1990	1078	43.6%
5/2	Circ (N) Right Ahead	U	1:1	N/A	C1:A		1	50	-	558	1990	1078	51.8%
6/1	Circ (W) Ahead	U	1:2	N/A	C1:D		1	67	-	518	2050	1473	35.2%
6/2	Circ (W) Ahead	U	1:2	N/A	C1:D		1	67	-	852	2050	1473	57.8%
6/3	Circ (W) Right	U	1:2	N/A	C1:D		1	67	-	411	1950	1402	29.3%
7/1	Circ (S) Right Ahead	U	1:3	N/A	C1:G		1	52	-	404	1950	1097	36.8%
7/2	Circ (S) Right	U	1:3	N/A	C1:G		1	52	-	213	1950	1097	19.4%
8/1	Circ (E) Ahead	U	1:4	N/A	C1:J		1	67	-	722	2000	1438	50.2%
8/2	Circ (E) Ahead	U	1:4	N/A	C1:J		1	67	-	768	2000	1438	53.4%
8/3+8/4	Circ (E) Right Ahead	U	1:4	N/A	C1:J		1	67	-	722	2000:1950	1229+233	49.4 : 49.4%

Full Input Data And Results													
J2: Exit X-ing Streams	-	-	N/A	-	-		-	-	-	-	-	-	55.3%
1/1		U	2:4	N/A	C2:G		1	80	-	606	2050	1730	35.0%
1/2		U	2:4	N/A	C2:G		1	80	-	852	2050	1730	49.3%
2/1	Ahead	U	2:1	N/A	C2:A		1	77	-	898	2000	1625	55.3%
2/2	Ahead	U	2:1	N/A	C2:A		1	77	-	768	2000	1625	47.3%
2/3	Ahead	U	2:1	N/A	C2:A		1	77	-	607	2000	1625	37.4%
3/1		U	N/A	N/A	-		-	-	-	1282	Inf	Inf	0.0%
3/2		U	N/A	N/A	-		-	-	-	991	Inf	Inf	0.0%
4/1	to Bicester	U	2:2	N/A	C2:C		1	79	-	874	2000	1667	52.4%
4/2	to Bicester	U	2:2	N/A	C2:C		1	79	-	379	2000	1667	22.7%
5/1		U	2:3	N/A	C2:E		1	80	-	526	2000	1688	31.2%

### Full Input Data And Results

ltem	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: A43 / B4100 Baynards Green - Junction Improvement	-	-	0	0	0	47.4	24.5	0.0	71.9	-	-	-	-
J1: Baynards Green	-	-	0	0	0	47.0	24.5	0.0	71.5	-	-	-	-
1/2+1/1	1081	1081	-	-	-	8.0	4.3	-	12.3 (8.0+4.3)	41.0 (42.7:38.1)	16.9	4.3	21.2
1/3+1/4	1356	1356	-	-	-	10.7	4.4	-	15.1 (7.6+7.6)	40.1 (40.1:40.1)	16.9	4.4	21.4
2/1+2/2	705	705	-	-	-	7.4	5.1	-	12.5 (6.3+6.2)	63.8 (63.8:63.8)	9.2	5.1	14.3
3/1	640	640	-	-	-	5.2	4.2	-	9.4	52.9	16.2	4.2	20.4
3/2+3/3	1050	1050	-	-	-	8.1	4.3	-	12.4 (7.8+4.6)	42.5 (44.1:40.1)	16.2	4.3	20.4
4/2+4/1	465	465	-	-	-	4.6	1.6	-	6.1 (3.9+2.3)	47.5 (48.4:46.1)	7.2	1.6	8.8
4/3	213	213	-	-	-	2.1	0.6	-	2.7	45.4	5.1	0.6	5.7
5/1	470	470	-	-	-	0.0	0.0	-	0.0	0.3	0.5	0.0	0.5
5/2	558	558	-	-	-	0.1	0.0	-	0.1	0.7	0.6	0.0	0.6
6/1	518	518	-	-	-	0.0	0.0	-	0.0	0.1	0.4	0.0	0.4
6/2	852	852	-	-	-	0.1	0.0	-	0.1	0.5	0.6	0.0	0.6
6/3	411	411	-	-	-	0.1	0.0	-	0.1	0.8	0.6	0.0	0.6
7/1	404	404	-	-	-	0.1	0.0	-	0.1	0.8	0.6	0.0	0.6
7/2	213	213	-	-	-	0.0	0.0	-	0.0	0.8	0.5	0.0	0.5
8/1	722	722	-	-	-	0.2	0.0	-	0.2	0.9	0.6	0.0	0.6
8/2	768	768	-	-	-	0.2	0.0	-	0.2	0.8	0.6	0.0	0.6
8/3+8/4	722	722	-	-	-	0.0	0.0	-	0.0 (0.0+0.0)	0.1 (0.1:0.2)	3.1	0.0	3.1
J2: Exit X-ing Streams	-	-	0	0	0	0.4	0.0	0.0	0.4	-	-	-	-
1/1	606	606	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

Full Input Data And	Results												
1/2	852	852	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
2/1	898	898	-	-	-	0.1	0.0	-	0.1	0.2	0.4	0.0	0.4
2/2	768	768	-	-	-	0.1	0.0	-	0.1	0.6	0.7	0.0	0.7
2/3	607	607	-	-	-	0.1	0.0	-	0.1	0.3	0.4	0.0	0.4
3/1	1282	1282	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
3/2	991	991	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/1	874	874	-	-	-	0.1	0.0	-	0.1	0.6	1.2	0.0	1.2
4/2	379	379	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	526	526	-	-	-	0.1	0.0	-	0.1	0.4	0.9	0.0	0.9
	C1 - Rbt Streams C1 - Rbt Streams C1 - Rbt Streams C1 - Rbt Streams C2 - Exit Streams C2 - Exit Streams C2 - Exit Streams C2 - Exit Streams	Stream: 2 Stream: 3 Stream: 4 Stream: 5 Stream: 5 Stream: 5 Stream: 5	<ol> <li>PRC for Signall</li> <li>PRC for Signall</li> <li>PRC for Signall</li> <li>PRC for Signal</li> </ol>	ed Lanes (%): led Lanes (%): led Lanes (%): led Lanes (%): led Lanes (%): iled Lanes (%): iled Lanes (%):	-0.4 -2.7 -0.4 18.3 62.9 71.6 188.7 82.7 -2.7	Total Delay for S Total Delay for S	ignalled Lanes (p ignalled Lanes (p ignalled Lanes (p ignalled Lanes (p ignalled Lanes (p ignalled Lanes (p ignalled Lanes (p Over All Lanes(p	bouHr):         27.57           bouHr):         12.71           bouHr):         21.95           pcuHr):         9.22           pcuHr):         0.24           pcuHr):         0.15           pcuHr):         0.16           pcuHr):         0.06           pcuHr):         0.06           pcuHr):         0.17	Cycle Cycle Cycle Cycle Cycle Cycle Cycle Cycle Cycle Cycle	Time (s): 96 Time (s): 96			

Full Input Data And Results Scenario 8: 'PM 2026 Tritax & Albion (V7 Dev4)' (FG8: 'PM 2026 Tritax + Albion (VISSIM v7 Dev4)', Plan 1: 'Seq. 1')

### C1 - Rbt Streams Stage Sequence Diagram







### Stage Stream: 4



### **Stage Timings** Stage Stream: 1

Stage	1	2	3
Duration	62	26	5
Change Point	42	0	31

Stage	1	2	3
Duration	71	18	4
Change Point	57	24	47

Stage	1	2	3
Duration	39	49	5
Change Point	1	40	94

### Stage Stream: 4

Stage	1	2	3
Duration	66	19	8
Change Point	21	87	7

### Signal Timings Diagram



### C2 - Exit Streams Stage Sequence Diagram Stage Stream: 1





## Stage Stream: 3



## Stage Stream: 4



# Stage Timings Stage Stream: 1

Stage	1	2
Duration	85	5
Change Point	84	73

### Stage Stream: 2

Stage	1	2
Duration	87	5
Change Point	100	89

Stage	1	2
Duration	88	5
Change Point	53	42

Stage	1	2
Duration	88	5
Change Point	32	21


### **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: A43 / B4100 Baynards Green - Junction Improvement	-	-	N/A	-	-		-	-	-	-	-	-	87.9%
J1: Baynards Green	-	-	N/A	-	-		-	-	-	-	-	-	87.9%
1/2+1/1	A43(N) Ahead Left	U	1:1	N/A	C1:B		1	26	-	763	2000:1924	519+351	87.6 : 87.6%
1/3+1/4	A43(N) Ahead	U	1:1	N/A	C1:B		1	26	-	908	2000:2000	519+519	87.4 : 87.4%
2/1+2/2	B4100(W) Ahead Left	U	1:2	N/A	C1:E		1	18	-	518	1930:1930	353+353	73.5 : 73.5%
3/1	A43(S) from M40 Ahead Left	U	1:3	N/A	C1:H		1	49	-	845	2000	962	87.9%
3/2+3/3	A43(S) from M40 Ahead	U	1:3	N/A	C1:H		1	49	-	1175	2000:1953	962+377	87.8 : 87.8%
4/2+4/1	B4100(E) Ahead Left	U	1:4	N/A	C1:K		1	19	-	625	1920:1859	369+358	85.9 : 86.2%
4/3	B4100(E) Ahead	U	1:4	N/A	C1:K		1	19	-	315	1920	369	85.3%
5/1	Circ (N) Ahead	U	1:1	N/A	C1:A		1	67	-	330	1990	1320	25.0%
5/2	Circ (N) Right Ahead	U	1:1	N/A	C1:A		1	67	-	425	1990	1320	32.2%
6/1	Circ (W) Ahead	U	1:2	N/A	C1:D		1	75	-	795	2050	1518	52.4%
6/2	Circ (W) Ahead	U	1:2	N/A	C1:D		1	75	-	1159	2050	1518	76.4%
6/3	Circ (W) Right	U	1:2	N/A	C1:D		1	75	-	331	1950	1444	22.9%
7/1	Circ (S) Right Ahead	U	1:3	N/A	C1:G		1	44	-	400	1950	862	46.4%
7/2	Circ (S) Right	U	1:3	N/A	C1:G		1	44	-	315	1950	862	36.5%
8/1	Circ (E) Ahead	U	1:4	N/A	C1:J		1	74	-	493	2000	1462	33.7%
8/2	Circ (E) Ahead	U	1:4	N/A	C1:J		1	74	-	530	2000	1462	36.3%
8/3+8/4	Circ (E) Right Ahead	U	1:4	N/A	C1:J		1	74	-	493	2000:1950	1234+250	33.2 : 33.2%

Full Input Data And	ull Input Data And Results												
J2: Exit X-ing Streams	-	-	N/A	-	-		-	-	-	-	-	-	66.1%
1/1		U	2:4	N/A	C2:G		1	88	-	889	2050	1754	50.7%
1/2		U	2:4	N/A	C2:G		1	88	-	1159	2050	1754	66.1%
2/1	Ahead	U	2:1	N/A	C2:A		1	85	-	801	2000	1654	48.4%
2/2	Ahead	U	2:1	N/A	C2:A		1	85	-	530	2000	1654	32.0%
2/3	Ahead	U	2:1	N/A	C2:A		1	85	-	410	2000	1654	24.8%
3/1		U	N/A	N/A	-		-	-	-	1066	Inf	Inf	0.0%
3/2		U	N/A	N/A	-		-	-	-	675	Inf	Inf	0.0%
4/1	to Bicester	U	2:2	N/A	C2:C		1	87	-	638	2000	1692	37.7%
4/2	to Bicester	U	2:2	N/A	C2:C		1	87	-	272	2000	1692	16.1%
5/1		U	2:3	N/A	C2:E		1	88	-	450	2000	1712	26.3%

### Full Input Data And Results

ltem	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: A43 / B4100 Baynards Green - Junction Improvement	-	-	0	0	0	47.1	20.4	0.0	67.5	-	-	-	-
J1: Baynards Green	-	-	0	0	0	46.9	20.4	0.0	67.3	-	-	-	-
1/2+1/1	763	763	-	-	-	7.6	3.3	-	10.9 (6.7+4.3)	51.4 (52.6:49.7)	12.5	3.3	15.8
1/3+1/4	908	908	-	-	-	9.3	3.3	-	12.6 (6.3+6.3)	50.0 (50.0:50.0)	12.5	3.3	15.8
2/1+2/2	518	518	-	-	-	5.8	1.4	-	7.1 (3.6+3.6)	49.6 (49.6:49.6)	7.1	1.4	8.4
3/1	845	845	-	-	-	5.7	3.4	-	9.1	38.9	21.8	3.4	25.3
3/2+3/3	1175	1175	-	-	-	7.2	3.4	-	10.7 (8.2+2.5)	32.7 (34.8:27.4)	21.8	3.4	25.2
4/2+4/1	625	625	-	-	-	7.1	2.9	-	10.0 (5.1+4.9)	57.4 (57.4:57.4)	8.8	2.9	11.7
4/3	315	315	-	-	-	3.6	2.6	-	6.2	70.8	8.7	2.6	11.4
5/1	330	330	-	-	-	0.0	0.0	-	0.0	0.0	0.3	0.0	0.3
5/2	425	425	-	-	-	0.1	0.0	-	0.1	0.5	0.5	0.0	0.5
6/1	795	795	-	-	-	0.0	0.0	-	0.0	0.1	0.5	0.0	0.5
6/2	1159	1159	-	-	-	0.1	0.0	-	0.1	0.3	0.6	0.0	0.6
6/3	331	331	-	-	-	0.1	0.0	-	0.1	0.6	0.6	0.0	0.6
7/1	400	400	-	-	-	0.1	0.0	-	0.1	0.8	0.6	0.0	0.6
7/2	315	315	-	-	-	0.1	0.0	-	0.1	0.8	0.5	0.0	0.5
8/1	493	493	-	-	-	0.1	0.0	-	0.1	0.9	0.6	0.0	0.6
8/2	530	530	-	-	-	0.1	0.0	-	0.1	0.8	0.6	0.0	0.6
8/3+8/4	493	493	-	-	-	0.0	0.0	-	0.0 (0.0+0.0)	0.2 (0.1:0.2)	3.1	0.0	3.1
J2: Exit X-ing Streams	-	-	0	0	0	0.2	0.0	0.0	0.2	-	-	-	-
1/1	889	889	-	-	-	0.0	0.0	-	0.0	0.0	0.4	0.0	0.4

Full Input Data And	l Results												
1/2	1159	1159	-	-	-	0.0	0.0	-	0.0	0.1	0.2	0.0	0.2
2/1	801	801	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
2/2	530	530	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
2/3	410	410	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
3/1	1066	1066	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
3/2	675	675	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/1	638	638	-	-	-	0.1	0.0	-	0.1	0.4	0.7	0.0	0.7
4/2	272	272	-	-	-	0.1	0.0	-	0.1	0.8	0.7	0.0	0.7
5/1	450	450	-	-	-	0.0	0.0	-	0.0	0.2	0.3	0.0	0.3
	C1 - Rbt Streams C1 - Rbt Streams C1 - Rbt Streams C1 - Rbt Streams C2 - Exit Streams C2 - Exit Streams C2 - Exit Streams C2 - Exit Streams	Stream: Stream: Stream: Stream: Stream: Stream:	1 PRC for Signal 2 PRC for Signal 3 PRC for Signal 4 PRC for Signal 1 PRC for Signal 2 PRC for Signal 3 PRC for Signal 4 PRC for Signal PRC Over <i>I</i>	led Lanes (%): led Lanes (%): led Lanes (%): led Lanes (%): led Lanes (%): led Lanes (%): led Lanes (%):	2.7 17.9 2.4 4.5 85.8 138.7 242.3 36.2 2.4	Total Delay for S Total Delay	ignalled Lanes (  ignalled Lanes () ignalled Lanes () ignalled Lanes () ignalled Lanes () ignalled Lanes () ignalled Lanes () Over All Lanes()	pcuHr):   23.58     pcuHr):   7.34     pcuHr):   19.97     pcuHr):   16.42     pcuHr):   0.00     pcuHr):   0.12     pcuHr):   0.12     pcuHr):   0.02     pcuHr):   0.02     pcuHr):   0.03     pcuHr):   0.74	Cycle Cycle Cycle Cycle Cycle Cycle Cycle Cycle Cycle Cycle Cycle	Time (s): 104   Time (s): 104			

Full Input Data And Results Scenario 9: 'AM 2031 Tritax & Albion (V7 Dev4)' (FG9: 'AM 2031 Tritax + Albion (VISSIM v7 Dev4)', Plan 1: 'Seq. 1')

# C1 - Rbt Streams Stage Sequence Diagram







# Stage Stream: 4



#### **Stage Timings** Stage Stream: 1

Stage	1	2	3
Duration	46	34	5
Change Point	50	0	39

# Stage Stream: 2

Stage	1	2	3
Duration	63	18	4
Change Point	65	32	55

Full Input Data And Results **Stage Stream: 3** 

Stage	1	2	3
Duration	44	34	7
Change Point	4	48	87

#### Stage Stream: 4

Stage	1	2	3
Duration	63	18	4
Change Point	17	80	7

# **Signal Timings Diagram**



C2 - Exit Streams Stage Sequence Diagram Stage Stream: 1



### Full Input Data And Results



# Stage Stream: 3





# Stage Timings Stage Stream: 1

Stage 1					
Duration	77	5			
Change Point	77	66			

# Stage Stream: 2

Stage	1	2
Duration	79	5
Change Point	41	30

#### Stage Stream: 3

Stage	1	2
Duration	80	5
Change Point	64	53

# Full Input Data And Results Stage Stream: 4

Stage	1	2
Duration	80	5
Change Point	38	27

# Signal Timings Diagram



### **Network Layout Diagram**



# Full Input Data And Results **Network Results**

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: A43 / B4100 Baynards Green - Junction Improvement	-	-	N/A	-	-		-	-	-	-	-	-	99.8%
J1: Baynards Green	-	-	N/A	-	-		-	-	-	-	-	-	99.8%
1/2+1/1	A43(N) Ahead Left	U	1:1	N/A	C1:B		1	34	-	1181	2000:1924	729+460	99.3 : 99.3%
1/3+1/4	A43(N) Ahead	U	1:1	N/A	C1:B		1	34	-	1451	2000:2000	729+729	99.6 : 99.4%
2/1+2/2	B4100(W) Ahead Left	U	1:2	N/A	C1:E		1	18	-	747	1930:1930	382+382	97.6 : 97.9%
3/1	A43(S) from M40 Ahead Left	U	1:3	N/A	C1:H		1	34	-	728	2000	729	99.8%
3/2+3/3	A43(S) from M40 Ahead	U	1:3	N/A	C1:H		1	34	-	1208	2000:1953	729+482	99.7 : 99.7%
4/2+4/1	B4100(E) Ahead Left	U	1:4	N/A	C1:K		1	18	-	579	1920:1859	380+245	92.6 : 92.6%
4/3	B4100(E) Ahead	U	1:4	N/A	C1:K		1	18	-	233	1920	380	61.3%
5/1	Circ (N) Ahead	U	1:1	N/A	C1:A		1	51	-	515	1990	1099	46.9%
5/2	Circ (N) Right Ahead	U	1:1	N/A	C1:A		1	51	-	615	1990	1099	56.0%
6/1	Circ (W) Ahead	U	1:2	N/A	C1:D		1	67	-	622	2050	1473	42.2%
6/2	Circ (W) Ahead	U	1:2	N/A	C1:D		1	67	-	960	2050	1473	65.2%
6/3	Circ (W) Right	U	1:2	N/A	C1:D	1	1	67	-	481	1950	1402	34.3%
7/1	Circ (S) Right Ahead	U	1:3	N/A	C1:G		1	51	-	456	1950	1077	42.4%
7/2	Circ (S) Right	U	1:3	N/A	C1:G		1	51	-	233	1950	1077	21.6%
8/1	Circ (E) Ahead	U	1:4	N/A	C1:J		1	67	-	766	2000	1438	53.3%
8/2	Circ (E) Ahead	U	1:4	N/A	C1:J		1	67	-	810	2000	1438	56.3%

Full	Input	Data And	Results
------	-------	----------	---------

8/3+8/4	Circ (E) Right Ahead	U	1:4	N/A	C1:J	1	67	-	768	2000:1950	1261+198	52.6 : 52.6%
J2: Exit X-ing Streams	-	-	N/A	-	-	-	-	-	-	-	-	61.1%
1/1		U	2:4	N/A	C2:G	1	80	-	720	2050	1730	41.6%
1/2		U	2:4	N/A	C2:G	1	80	-	960	2050	1730	55.5%
2/1	Ahead	U	2:1	N/A	C2:A	1	77	-	993	2000	1625	61.1%
2/2	Ahead	U	2:1	N/A	C2:A	1	77	-	810	2000	1625	49.8%
2/3	Ahead	U	2:1	N/A	C2:A	1	77	-	664	2000	1625	40.9%
3/1		U	N/A	N/A	-	-	-	-	1398	Inf	Inf	0.0%
3/2		U	N/A	N/A	-	-	-	-	1069	Inf	Inf	0.0%
4/1	to Bicester	U	2:2	N/A	C2:C	1	79	-	972	2000	1667	58.3%
4/2	to Bicester	U	2:2	N/A	C2:C	1	79	-	446	2000	1667	26.8%
5/1		U	2:3	N/A	C2:E	1	80	-	562	2000	1688	33.3%

# Full Input Data And Results

ltem	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: A43 / B4100 Baynards Green - Junction Improvement	-	-	0	0	0	54.9	78.2	0.0	133.1	-	-	-	-
J1: Baynards Green	-	-	0	0	0	54.5	78.2	0.0	132.7	-	-	-	-
1/2+1/1	1181	1181	-	-	-	9.3	15.2	-	24.5 (15.4+9.1)	74.8 (76.7:71.8)	19.1	15.2	34.3
1/3+1/4	1451	1451	-	-	-	12.3	17.3	-	29.6 (14.8+14.8)	73.3 (73.3:73.3)	19.2	17.3	36.5
2/1+2/2	747	747	-	-	-	7.9	10.1	-	18.0 (9.0+9.0)	86.8 (86.8:86.8)	9.9	10.1	19.9
3/1	728	728	-	-	-	6.2	13.2	-	19.4	95.8	19.2	13.2	32.4
3/2+3/3	1208	1208	-	-	-	9.6	16.5	-	26.1 (16.1+10.0)	77.7 (79.6:74.9)	19.2	16.5	35.7
4/2+4/1	579	579	-	-	-	5.9	5.1	-	11.1 (6.8+4.2)	68.7 (69.8:67.1)	9.2	5.1	14.3
4/3	233	233	-	-	-	2.3	0.8	-	3.1	47.3	5.6	0.8	6.4
5/1	515	515	-	-	-	0.0	0.0	-	0.0	0.3	0.5	0.0	0.5
5/2	615	615	-	-	-	0.1	0.0	-	0.1	0.7	0.6	0.0	0.6
6/1	622	622	-	-	-	0.0	0.0	-	0.0	0.1	0.5	0.0	0.5
6/2	960	960	-	-	-	0.1	0.0	-	0.1	0.4	0.6	0.0	0.6
6/3	481	481	-	-	-	0.1	0.0	-	0.1	0.9	0.6	0.0	0.6
7/1	456	456	-	-	-	0.1	0.0	-	0.1	1.0	0.6	0.0	0.6
7/2	233	233	-	-	-	0.1	0.0	-	0.1	0.8	0.5	0.0	0.5
8/1	766	766	-	-	-	0.2	0.0	-	0.2	0.9	0.6	0.0	0.6
8/2	810	810	-	-	-	0.2	0.0	-	0.2	0.9	0.6	0.0	0.6
8/3+8/4	768	768	-	-	-	0.0	0.0	-	0.0 (0.0+0.0)	0.1 (0.1:0.1)	3.1	0.0	3.1
J2: Exit X-ing Streams	-	-	0	0	0	0.4	0.0	0.0	0.4	-	-	-	-
1/1	720	720	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
1/2	960	960	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

Full Input Data And	Results												
2/1	993	993	-	-	-	0.1	0.0	-	0.1	0.2	0.3	0.0	0.3
2/2	810	810	-	-	-	0.1	0.0	-	0.1	0.5	0.6	0.0	0.6
2/3	664	664	-	-	-	0.1	0.0	-	0.1	0.3	0.3	0.0	0.3
3/1	1398	1398	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
3/2	1069	1069	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
4/1	972	972	-	-	-	0.2	0.0	-	0.2	0.6	1.4	0.0	1.4
4/2	446	446	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	562	562	-	-	-	0.1	0.0	-	0.1	0.4	0.9	0.0	0.9
	C1 - Rbt Streams C1 - Rbt Streams C1 - Rbt Streams C1 - Rbt Streams C2 - Exit Streams C2 - Exit Streams C2 - Exit Streams C2 - Exit Streams	Stream: Stream: Stream: Stream: Stream: Stream: Stream:	1 PRC for Signal 2 PRC for Signal 3 PRC for Signal 4 PRC for Signal 2 PRC for Signal 3 PRC for Signal 4 PRC for Signa 4 PRC for Signa	led Lanes (%): led Lanes (%): led Lanes (%): led Lanes (%): led Lanes (%): led Lanes (%): led Lanes (%): All Lanes (%):	-10.6 -8.8 -10.9 -2.9 47.3 54.3 170.2 62.2 -10.9	Total Delay for S Total Delay for S	Signalled Lanes Signalled Lanes Signalled Lanes Signalled Lanes Signalled Lanes Signalled Lanes Signalled Lanes Signalled Lanes y Over All Lanes	(pcuHr): (pcuHr): (pcuHr): (pcuHr): (pcuHr): (pcuHr): (pcuHr): (pcuHr): (pcuHr): (pcuHr):	54.26 Cycle 18.26 Cycle 45.63 Cycle 14.55 Cycle 0.21 Cycle 0.17 Cycle 0.06 Cycle 0.00 Cycle 33.15	Time (s): 96   Time (s): 96			

Full Input Data And Results Scenario 10: 'PM 2031 Tritax & Albion (V7 Dev4)' (FG10: 'PM 2031 Tritax + Albion (VISSIM v7 Dev4)', Plan 1: 'Seq. 1')

# C1 - Rbt Streams Stage Sequence Diagram







# Stage Stream: 4



#### **Stage Timings** Stage Stream: 1

Stage	1	2	3
Duration	62	26	5
Change Point	42	0	31

# Stage Stream: 2

Stage	1	2	3
Duration	71	18	4
Change Point	57	24	47

# Full Input Data And Results **Stage Stream: 3**

Stage	1	2	3
Duration	39	49	5
Change Point	1	40	94

#### Stage Stream: 4

Stage	1	2	3
Duration	70	19	4
Change Point	17	87	7

# Signal Timings Diagram



#### C2 - Exit Streams Stage Sequence Diagram Stage Stream: 1





# Stage Stream: 3



# Stage Stream: 4



# Stage Timings Stage Stream: 1

# Stage 1 2

-		
Duration	85	5
Change Point	84	73

# Stage Stream: 2

Stage	1	2
Duration	87	5
Change Point	33	22

# Stage Stream: 3

Stage	1	2
Duration	88	5
Change Point	56	45

# Full Input Data And Results Stage Stream: 4

Stage	1	2
Duration	88	5
Change Point	33	22

# Signal Timings Diagram



### **Network Layout Diagram**



# Full Input Data And Results **Network Results**

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: A43 / B4100 Baynards Green - Junction Improvement	-	-	N/A	-	-		-	-	-	-	-	-	97.3%
J1: Baynards Green	-	-	N/A	-	-		-	-	-	-	-	-	97.3%
1/2+1/1	A43(N) Ahead Left	U	1:1	N/A	C1:B		1	26	-	808	2000:1924	519+312	97.3 : 97.3%
1/3+1/4	A43(N) Ahead	U	1:1	N/A	C1:B		1	26	-	1009	2000:2000	519+519	97.1 : 97.3%
2/1+2/2	B4100(W) Ahead Left	U	1:2	N/A	C1:E		1	18	-	557	1930:1930	353+353	79.1 : 78.8%
3/1	A43(S) from M40 Ahead Left	U	1:3	N/A	C1:H		1	49	-	929	2000	962	96.6%
3/2+3/3	A43(S) from M40 Ahead	U	1:3	N/A	C1:H		1	49	-	1324	2000:1953	962+409	96.6 : 96.6%
4/2+4/1	B4100(E) Ahead Left	U	1:4	N/A	C1:K		1	19	-	670	1920:1859	369+358	89.9 : 94.5%
4/3	B4100(E) Ahead	U	1:4	N/A	C1:K		1	19	-	332	1920	369	89.9%
5/1	Circ (N) Ahead	U	1:1	N/A	C1:A		1	67	-	358	1990	1320	27.1%
5/2	Circ (N) Right Ahead	U	1:1	N/A	C1:A		1	67	-	476	1990	1320	36.1%
6/1	Circ (W) Ahead	U	1:2	N/A	C1:D		1	75	-	921	2050	1518	60.7%
6/2	Circ (W) Ahead	U	1:2	N/A	C1:D		1	75	-	1261	2050	1518	83.1%
6/3	Circ (W) Right	U	1:2	N/A	C1:D	1	1	75	-	395	1950	1444	27.4%
7/1	Circ (S) Right Ahead	U	1:3	N/A	C1:G		1	44	-	420	1950	862	48.7%
7/2	Circ (S) Right	U	1:3	N/A	C1:G		1	44	-	332	1950	862	38.5%
8/1	Circ (E) Ahead	U	1:4	N/A	C1:J		1	74	-	536	2000	1462	36.7%
8/2	Circ (E) Ahead	U	1:4	N/A	C1:J		1	74	-	565	2000	1462	38.7%

Full	Input	Data A	And R	esults
------	-------	--------	-------	--------

8/3+8/4	Circ (E) Right Ahead	U	1:4	N/A	C1:J	1	74	-	535	2000:1950	1240+244	36.1 : 36.1%
J2: Exit X-ing Streams	-	-	N/A	-	-	-	-	-	-	-	-	71.9%
1/1		U	2:4	N/A	C2:G	1	88	-	1039	2050	1754	59.2%
1/2		U	2:4	N/A	C2:G	1	88	-	1261	2050	1754	71.9%
2/1	Ahead	U	2:1	N/A	C2:A	1	85	-	874	2000	1654	52.8%
2/2	Ahead	U	2:1	N/A	C2:A	1	85	-	565	2000	1654	34.2%
2/3	Ahead	U	2:1	N/A	C2:A	1	85	-	447	2000	1654	27.0%
3/1		U	N/A	N/A	-	-	-	-	1157	Inf	Inf	0.0%
3/2		U	N/A	N/A	-	-	-	-	729	Inf	Inf	0.0%
4/1	to Bicester	U	2:2	N/A	C2:C	1	87	-	661	2000	1692	39.1%
4/2	to Bicester	U	2:2	N/A	C2:C	1	87	-	354	2000	1692	20.9%
5/1		U	2:3	N/A	C2:E	1	88	-	428	2000	1712	25.0%

# Full Input Data And Results

ltem	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: A43 / B4100 Baynards Green - Junction Improvement	-	-	0	0	0	53.0	49.4	0.0	102.4	-	-	-	-
J1: Baynards Green	-	-	0	0	0	52.8	49.4	0.0	102.3	-	-	-	-
1/2+1/1	808	808	-	-	-	8.2	9.6	-	17.8 (11.4+6.5)	79.4 (81.0:76.7)	14.4	9.6	24.1
1/3+1/4	1009	1009	-	-	-	10.7	10.1	-	20.8 (10.4+10.4)	74.3 (74.3:74.3)	14.4	10.1	24.6
2/1+2/2	557	557	-	-	-	6.3	1.8	-	8.1 (4.1+4.0)	52.5 (52.5:52.4)	7.7	1.8	9.5
3/1	929	929	-	-	-	6.8	9.1	-	15.9	61.6	25.8	9.1	34.9
3/2+3/3	1324	1324	-	-	-	8.7	10.0	-	18.7 (13.8+4.9)	50.7 (53.3:44.7)	25.8	10.0	35.8
4/2+4/1	670	670	-	-	-	7.7	5.0	-	12.7 (6.3+6.4)	68.2 (68.0:68.4)	9.6	5.0	14.6
4/3	332	332	-	-	-	3.8	3.7	-	7.5	81.3	9.3	3.7	13.0
5/1	358	358	-	-	-	0.0	0.0	-	0.0	0.0	0.3	0.0	0.3
5/2	476	476	-	-	-	0.1	0.0	-	0.1	0.4	0.5	0.0	0.5
6/1	921	921	-	-	-	0.0	0.0	-	0.0	0.1	0.5	0.0	0.5
6/2	1261	1261	-	-	-	0.1	0.0	-	0.1	0.3	0.6	0.0	0.6
6/3	395	395	-	-	-	0.1	0.0	-	0.1	0.7	0.6	0.0	0.6
7/1	420	420	-	-	-	0.1	0.0	-	0.1	0.9	0.6	0.0	0.6
7/2	332	332	-	-	-	0.1	0.0	-	0.1	0.8	0.5	0.0	0.5
8/1	536	536	-	-	-	0.1	0.0	-	0.1	0.9	0.6	0.0	0.6
8/2	565	565	-	-	-	0.1	0.0	-	0.1	0.9	0.6	0.0	0.6
8/3+8/4	535	535	-	-	-	0.0	0.0	-	0.0 (0.0+0.0)	0.2 (0.2:0.2)	3.1	0.0	3.1
J2: Exit X-ing Streams	-	-	0	0	0	0.2	0.0	0.0	0.2	-	-	-	-
1/1	1039	1039	-	-	-	0.0	0.0	-	0.0	0.1	0.7	0.0	0.7
1/2	1261	1261	-	-	-	0.0	0.0	-	0.0	0.0	0.1	0.0	0.1

Full Input Data And	l Results													
2/1	874	874	-	-	-	0.0	0.0	-		0.0	0.0	0.0	0.0	0.0
2/2	565	565	-	-	-	0.0	0.0	-		0.0	0.0	0.0	0.0	0.0
2/3	447	447	-	-	-	0.0	0.0	-		0.0	0.0	0.0	0.0	0.0
3/1	1157	1157	-	-	-	0.0	0.0	-		0.0	0.0	0.0	0.0	0.0
3/2	729	729	-	-	-	0.0	0.0	-		0.0	0.0	0.0	0.0	0.0
4/1	661	661	-	-	-	0.1	0.0	-		0.1	0.6	0.9	0.0	0.9
4/2	354	354	-	-	-	0.0	0.0	-		0.0	0.0	0.0	0.0	0.0
5/1	428	428	-	-	-	0.0	0.0	-		0.0	0.2	0.4	0.0	0.4
	C1 - Rbt Streams C1 - Rbt Streams C1 - Rbt Streams C1 - Rbt Streams C2 - Exit Streams C2 - Exit Streams C2 - Exit Streams C2 - Exit Streams	Stream: Stream: Stream: Stream: Stream: Stream: Stream:	1 PRC for Signa 2 PRC for Signa 3 PRC for Signa 4 PRC for Signa 1 PRC for Signa 2 PRC for Signa 3 PRC for Signa 4 PRC for Signa PRC Over,	iled Lanes (%): iled Lanes (%): iled Lanes (%): iled Lanes (%): iled Lanes (%): iled Lanes (%): iled Lanes (%): All Lanes (%):	-8.1 8.3 -7.4 -5.1 70.3 130.4 259.9 25.2 -8.1	Total Delay for S Total Delay for S	Signalled Lanes Signalled Lanes Signalled Lanes Signalled Lanes Signalled Lanes Signalled Lanes Signalled Lanes y Over All Lanes	(pcuHr): (pcuHr): (pcuHr): (pcuHr): (pcuHr): (pcuHr): (pcuHr): (pcuHr): (pcuHr):	38.70 8.33 34.74 20.50 0.00 0.10 0.02 0.03 102.42	Cycle 1 Cycle 1 Cycle 1 Cycle 1 Cycle 1 Cycle 1 Cycle 1 Cycle 1	Time (s): 104   Time (s): 104			



# APPENDIX Q

Baynards Green Road Safety Audit Stage 1

LAND ADJACENT TO M40 JUNCTION 10

A43/B4100 Baynards Green Roundabout Improvements

Stage 1 Road Safety Audit Overseeing Organisation: National Highways

February 2024



Road Safety Engineering

Project:	Land Adjacent to M40 Junction 10 A43/B4100 Baynards Green Roundabout Improvements
Document:	Stage 1 Road Safety Audit
Design Organisation:	David Tucker Associates & SLR Consulting
Overseeing Organisation:	National Highways
Client:	Albion Land & Tritax Symmetry
Gateway RSE ref:	SG/JS/2309-11 RSA1 v1.0
Issue date:	13/02/2024
Status:	Issued as Version 1.0
Authorised by:	SG

© Copyright Gateway RSE 2024



Road Safety Engineering

Cheyenne House West Street Farnham GU9 7EQ 01483 679350 admin@gateway-rse.co.uk www.gateway-rse.co.uk





# CONTENTS

1	Introduction	1
2	Problems Identified by this Road Safety Audit	3
3	Audit Team Statement	7

# Appendices

Appendix A:	Items Considered by this RSA
Appendix B:	Location Plan(s)



# 1 INTRODUCTION

- 1.1 This report describes a Stage 1 Road Safety Audit (RSA) of proposed roundabout improvement works on the A43 at Baynards Green, within the District of Cherwell and the County of Oxfordshire. The Road Safety Audit has been undertaken at the request of Martin Seldon, Assistant Spatial Planner at the Overseeing Organisation, National Highways. The audit was carried out in February 2024.
- 1.2 The Road Safety Audit Team membership approved by Martin Seldon was as follows:

Steve Giles*	Senior Road Safety Engineer Gateway RSE Audit Team Leader
Julian Smith	Senior Road Safety Engineer Gateway RSE Audit Team Member

\*Steve Giles holds an Approved Certificate of Competency (CoC) in Road Safety Audit, in accordance with Article (1-3) of EC Directive 2008/96/EC.

- 1.3 The audit took place at the Farnham office of Gateway RSE on 8<sup>th</sup> February 2024. It was undertaken in accordance with the Road Safety Audit Brief provided by Martin Seldon, and comprised an examination of the documents provided in the Brief, as set out within Appendix A.
- 1.4 The Audit Team visited the site together between 12:00 and 13:00 on Wednesday 7<sup>th</sup> February 2024 when the weather was overcast/cold and the road surface dry. Traffic flows were steady and no congestion was observed, whilst no pedestrian or cyclist movements were seen.
- 1.5 The terms of reference for this RSA are as described in the Design Manual for Roads and Bridges (DMRB) document GG119. The Audit Team is independent of the project design team and has not been involved in the design process in any other capacity. The audit considers only the potential road safety implications of the scheme and has not verified compliance of the design with any other criteria. This Road Safety Audit has been undertaken based on the Road Safety Audit Team's previous experience and knowledge in undertaking collision investigation, road safety engineering and road safety audits.



- 1.6 The Audit Team has been made aware of the following Departures from Standard and Relaxations:
  - i) Entry path curvature on A43 north approach (departure)
  - ii) Entry path curvature on A43 south approach (departure)
  - iii) Visibility 2 steps below DMSSD A43 north arm exit (relaxation)
  - iv) Visibility 2 steps below DMSSD A43 south arm exit (relaxation)
- 1.7 Whilst reference may be made within this audit report to design standards, it is not intended to provide a design check.
- 1.8 Recommendations are aimed at addressing the identified potential road safety problems. However, there may be other acceptable ways to overcome a problem, considering wider constraints and opportunities; the Auditors would be pleased to discuss such alternative solutions as appropriate. The recommendations contained herein do not absolve the Designers of their responsibilities.
- 1.9 An audit team led by Steve Giles has carried out two Stage 1 road safety audits of proposed site access schemes on the B4100, to the east of the A43. The first, in April 2022, considered a 50m ICD 4-arm roundabout intended to serve the Tritax sites north and south of the B4100. That audit is being updated for the latest design concurrently with this audit of the A43 roundabout. The second audit, in October 2023, relates to a signal-controlled junction providing access only to the Albion Land East site, south of the B4100 and between the A43 and the Tritax roundabout referred to above.
- 1.10 This audit relates solely to the proposed A43 roundabout improvements but considers potential safety problems that might arise with and without the proposed signal junction and 4-arm roundabout to the east.
- 1.11 The Audit Team is also aware of the proposed Albion Land West access, a 3-arm roundabout on the B4100, west of the A43. It was the subject of a Stage 1 RSA by others in 2021 and is outside the scope of this audit.



# 2 PROBLEMS IDENTIFIED BY THIS ROAD SAFETY AUDIT

# General Matters

### 2.1 <u>Problem</u>

Collisions during maintenance operations.

### Location: North and east arms of roundabout / general

No provision is made for an operative to stop a vehicle and carry out maintenance of the traffic signals. This could cause inappropriate parking on the carriageway, footway, or verge, which may in turn lead to vehicle collisions, or pedestrian/cycle injuries if they divert into the carriageway.

Furthermore, maintenance of the signal equipment on the narrow refuge/traffic islands at the segregated left turn lanes may leave operatives vulnerable to vehicle strikes.

### **Recommendation**

Provide a suitable highway maintenance bay and identify safe arrangements for maintenance of signal equipment on the left turn segregation islands.

# Local Alignment

2.2 The Audit Team raises no concerns in respect of local alignment.

# Junctions

# 2.3 <u>Problem</u>

Insufficient queue storage may lead to vehicle collisions at upstream traffic link/node.

# Location: Short links within signal-controlled network

No junction model has been provided and the Audit Team is concerned that vehicle queues on short links, including at the signal-controlled crossings on the exit arms, might extend to upstream nodes. This could lead to vehicle collisions.

#### **Recommendation**

Review the junction model to ensure that the risk of vehicles queuing to the upstream node is reasonably minimised. If necessary, adjust signal timings or increase queuing capacity.



# 2.4 <u>Problem</u>

Insufficient visibility to signal heads.

# Location: Circulatory stop line on east side of roundabout

The two middle lanes may not have good visibility of the primary signal heads, and only one secondary signal head is provided. This may cause uncertainty and hesitation, particularly if one of the secondary signal aspects is out, leading to vehicle collisions.

# Recommendation

Provide an additional secondary signal head to assist drivers in the middle two lanes of the internal stop line on the east side of the circulatory carriageway.

# 2.5 <u>Problem</u>

Vehicle collisions due to signal 'see-through'

# Location: East, south and west entry nodes

Vehicles approaching stop lines at nodes incorporating a pedestrian crossing may see a secondary green signal intended for the other stop line and inadvertently contravene a red light, leading to vehicle collisions on the roundabout.

# **Recommendation**

Provide cowls on secondary signal heads at nodes incorporating pedestrian crossing facilities.

# 2.6 Problem

Potential collisions due to foliage/boundary treatments obscuring visibility splays.

Location: Throughout, but particularly the east arm exit

It is not clear to what extent foliage will be removed to provide visibility splays (forward, exit, and signal heads), particularly from the left turn lane to the pedestrian crossing on the east arm exit. If foliage clearance is insufficient, it could in future grow back and obstruct visibility, which could lead to vehicle turning or vehicle/pedestrian collisions.

# **Recommendation**

Cut back foliage with sufficient clearance behind the visibility splays to minimise future maintenance and limit the risk of obstruction to the drivers' view.



# 2.7 <u>Problem</u>

Vehicle nose/tail collisions due to high speeds/heavy braking.

Location: All arms of the proposed roundabout

Drivers approaching the roundabout may be travelling at high speeds, requiring hard braking at stop lines or the back of traffic queues. This could lead to nose/tail ('shunt'), loss of control, or vehicle/pedestrian (at crossing stop lines) collisions.

# Recommendation

Review the need for extended lighting, additional signs/markings, high friction surfacing and a reduced speed limit on the roundabout approaches.

# Walking, Cycling and Horse Riding

### 2.8 <u>Problem</u>

Pedestrians/cyclists using staggered signal crossings at roundabout may stray and collide with vehicles.

### Location: Refuge islands on east, south and west arms

Sight impaired pedestrians may cross the exit arm and then turn right on the refuge island to complete the crossing movement, but then miss the tactile paving and stray into the circulating carriageway. This would lead to collisions between the pedestrian and circulating vehicles.

#### **Recommendation**

Provide a barrier on refuge/splitter islands accommodating staggered pedestrian crossings to prevent sight impaired pedestrians from straying into the circulating carriageway.

#### 2.9 Problem

Vehicle/pedestrian collisions.

# Location: A43 north arm

The Audit Team notes the Tritax development proposals on the northeast quadrant of the junction and is concerned that pedestrians travelling between it and the service area may find a way through any boundary treatment and attempt to cross the A43 on the north side of the junction, rather than use the formal crossings on the other three arms. This could lead to collisions between pedestrians and vehicles.



# Recommendation

Install strong deterrent barriers to prevent pedestrians from the Tritax site from reaching the A43 north carriageway; or provide a formal crossing on the north side of the junction and a route to it from within the development.

# Road Signs, Carriageway Markings and Lighting

# 2.10 <u>Problem</u>

Collisions due to inadequate horizontal clearances to signals/signs/lighting.

Location: Traffic islands separating left turns on north and west arms of roundabout

Signals, signage and lighting details are not available at this Stage 1 RSA, but the audit team is concerned that the left turn refuge/traffic islands on the north and west arms may not be sufficiently sized to accommodate street furniture with appropriate horizontal clearances. This may lead to vehicle strikes or collisions between pedestrians, cyclists and vehicles.

The Audit Team considers it unlikely that the segregated left turn lanes would be separately staged because they would then conflict with circulating traffic in the same way as the ahead entry lanes.

# Recommendation

Review the layout of refuge/traffic islands to ensure that (a) left turn segregation is appropriate and (b) if so, sufficient space will be available to accommodate signals, signs, and lighting columns with appropriate horizontal clearances from the carriageway and any pedestrian/cycle routes. If the islands are omitted, review the need for and location of any alternative signal heads.

# 2.11 Problem

Collisions due to misinterpretation of right turn arrow markings.

# Location: Roundabout approaches

Right turn arrows are proposed on the roundabout approaches, which could potentially mislead drivers, leading to collisions on the circulating carriageway.

# **Recommendation**

Change right turn arrows on approach arms to ahead arrows and clarify lane destinations with advance direction signs and lane destination carriageway markings.



# 3 AUDIT TEAM STATEMENT

3.1 We certify that this Road Safety Audit has been carried out in accordance with DMRB document GG119.

# Audit Team Leader

Steve Giles BEng (Hons), IEng, FIHE, MCIHT, MICE, CMILT, MSoRSA, HE Cert Comp Senior Road Safety Engineer

Signed:

Date: 09/02/2024

### Audit Team Member(s)

Julian Smith BEng, MCIHT, MSoRSA Senior Road Safety Engineer

Signed:

Date: 09/02/2024



# APPENDIX A Items Considered by this RSA



# Drawings and Documents Provided for this Road Safety Audit

Document ref.	Rev.	Originator	Title
RJM/17213-15	В	DTA	Stage 1 Road Safety Audit Brief
216285/A/14	A	SLR	A43/B4100 Baynards Green Roundabout Junction Improvement. General Arrangement.
216285/SK12	-	SLR	A43/B4100 Baynards Green. Vehicle Swept Paths.

# Additional information provided to the Audit Team

- Albion Land Transport Assessment ref. 17213-03E TA (David Tucker Associates)
- Tritax Symmetry Transport Assessment ref. R01-BH-Transport Assessment 200413 (Final) (SLR)
- Albion Land Site Masterplan ref. 20005-SK-029 (Cornish)
- Tritax Symmetry Site Masterplan ref. 14-019-XX-XX-DR-A-001011-03 (SGP)


## APPENDIX B Location Plan(s)





2.5, 2.6, 2.7, 2.11 Various locations



# 尜SLR

## **RSA Designers Response**

## A43 / B4100 Baynards Green Roundabout

## **Tritax Symmetry & Albion Land**

Prepared by: SLR Consulting Limited The Cursitor, 38 Chancery Lane, London, WC2A 1EN

SLR Project No.: 216285 Audit Reference: SG/JS/2309-11 RSA1 v1.0

11 March 2024

Revision: 02

Making Sustainability Happen

## 1 Project Summary

RSA REPORT TITLE	LAND ADJACENT TO M40 JUNCTION 10						
Date	February 2024						
Document Reference and Revision:	SG/JS/2309-11 RSA1 v1.0						
Prepared by:	Steve Giles – Gateway RSE						
On behalf of:	National Highways						
AUTHORISATION SHEET							
Project:	A43 / B4100 Baynards Green Roundabout						
Report Title	Stage 1 Road Safety Audit Designer Response						
DESIGNERS RESPONSE PR	REPARED BY						
Name:	Richard Bishop						
Signed:							
Organisation:	SLR Consulting						
Date:	11.03.24						

## 2 General Details

	G	GENERAL DETAILS:											
Highway scheme name	and road number:		A43 / B4100, Bay	ynards Green Round	about.								
Type of scheme:	Junction Improveme	unction Improvement - signalisation of an existing priority junction											
RSA Stage:	⊠ Stage 1 □		Stage 2	□ Stage 3	□ Stage 4								
			Interim										
Overseeing Organisati	on details:		National Highways										
Design organisation de	tails:		Martin Seldon (martin.seldon@nationalhighways.co.uk)										
Police contact details:			N/A										
Maintaining agent cont	act details:		N/A										
RSA team membership	:		Steve Giles (Team Lead), Julian Smith (Team Member)										
Terms of reference:													

## 3 Road Safety Audit Decision Log

RSA PROBLEM	RSA RECOMMENDATION	DESIGN ORGANISATION RESPONSE	OVERSEEING ORGANISATION RESPONSE	AGREED RSA ACTION
2.1	Provide a suitable highway maintenance bay and identify safe arrangements for maintenance of signal equipment on the left turn segregation islands.	Accepted. An appropriate maintenance access will be included at detailed design.	Noted.	To be considered during detailed design.
2.2	No comments on local alignment.	No response required.	N/A	N/A
2.3	Review the junction model to ensure that the risk of vehicles queuing to the upstream] node is reasonably minimised. If necessary, adjust signal timings or increase queuing capacity.	Accepted. The method of control is deliberately designed to minimise queues on the circulatory carriageway. A LinSig analysis excerpt is included at <b>Appendix B</b> .	Noted.	Review to be continued during detailed design to ensure queuing is minimised.
2.4	Provide an additional secondary signal head to assist drivers in the middle two lanes of the internal stop line on the east side of the circulatory carriageway.	Accepted. To be incorporated at detailed design.	Noted.	To be considered during detailed design.

2.5	Provide cowls on secondary signal heads at nodes incorporating pedestrian crossing facilities.	Accepted. To be incorporated at detailed design.	Noted.	To be considered during detailed design.
2.6	Cut back foliage with sufficient clearance behind the visibility splays to minimise future maintenance and limit the risk of obstruction to the drivers' view.	Accepted. Refer to the GA included at <b>Appendix A</b> .	Noted. The Designer has submitted a GA drawing which includes a note that, vegetation will be cut back, with boundary treatment considered during detailed design.	To be considered during detailed design.
2.7	Review the need for extended lighting, additional signs/markings, high friction surfacing and a reduced speed limit on the roundabout approaches.	Accepted. To be investigated at detailed design.	Noted.	To be considered during detailed design.
2.8	Provide a barrier on refuge/splitter islands accommodating staggered pedestrian crossings to prevent sight impaired pedestrians from straying into the circulating carriageway.	Accepted. Guardrails are shown on the GA. A revised GA will be supplied that clarifies intended guardrail and fencing provision.	Noted. Revised GA drawing, emphasising the guardrails, has been submitted.	To be considered during detailed design.

2.9	Install strong deterrent barriers to prevent pedestrians from the Tritax site from reaching the A43 north carriageway; or provide a formal crossing on the north side of the junction and a route to it from within the development.	Accepted, with clarification. A crossing over the A43 north cannot be provided due to land ownership and highway extent. Strong deterrent barriers, as suggested, to be incorporated at detailed design.	Noted.	To be considered during detailed design.
2.10	Review the layout of refuge/traffic islands to ensure that (a) left turn segregation is appropriate and (b) if so, sufficient space will be available to accommodate signals, signs, and lighting columns with appropriate horizontal clearances from the carriageway and any pedestrian/cycle routes. If the islands are omitted, review the need for and location of any alternative signal heads.	Accepted. The proposed traffic islands are intended to benefit entry deflection. Dimensions are sufficient to accommodate signal equipment and give appropriate clearances. Dimensions to be further reviewed at detailed design once more information is known about road sign provision and positioning.	Noted. The Designer has clarified that the splitter islands are needed to provide the appropriate entry path curvature, associated with the provisional approval of the related Departure from Standard.	To be considered during detailed design. To ensure that the islands are able to accommodate the equipment.

2.11 Change right turn arrows on approach arms to ahead arrows and clarify lane destinations with advance direction signs and lane destination carriageway markings	Accepted. The signing strategy will be reviewed at detailed design to ensure drivers are appropriately informed as to the correct lane choice.	Noted. The Designer has clarified that right turn markings will not be used. Increasing driver comprehension, through signing for lane destinations and appropriate ADS, will be considered.	To be considered during detailed design.
---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	---------------------------------------------------------------------------------------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	------------------------------------------------

### 4 Design Organisation and Overseeing Organisation Statements

#### ON BEHALF OF THE DESIGN ORGANISATION I CERTIFY THAT:

THE RSA ACTIONS IDENTIFIED IN RESPONSE TO THE ROAD SAFETY AUDIT PROBLEMS IN THE ROAD SAFETY AUDIT HAVE BEEN DISCUSSED AND AGREED WITH THE OVERSEEING ORGANISATION.

Name	Richard Bishop
Signed	
Position	Associate Director
Organisation	SLR Consulting Ltd
Date	11.03.2024

ON BEHALF OF THE OVERSEEING ORGANISATION I CERTIFY THAT: THE RSA ACTIONS IDENTIFIED IN RESPONSE TO THE ROAD SAFETY AUDIT PROBLEMS IN THE ROAD SAFETY AUDIT HAVE BEEN DISCUSSED AND AGREED WITH THE DESIGN ORGANISATION; AND THE AGREED RSA ACTIONS WILL BE PROGRESSED.										
Name	Martin Seldon									
Signed										
Position	Assistant Spatial Planner									
Organisation	National Highways									
Date	12.03.2024									

## Appendix A

General Arrangement and RSA1 Response Plan







## Appendix B

LinSig Analysis Excerpt







Making Sustainability Happen



#### **APPENDIX R**

Aynho Traffic Survey Reports

		DATE:					
SITE: 1	SURVEYS LTD	28TH TO 30TH JUNE 2022					
LOCATION:	APPRILS DOP DOT 12 miles	DAY:					
ROUNDTOWN (S) / STATION ROAD / ROUNDTOWN (N)		TUESDAY TO THURSDAY					
		<image/>					

JOB TITLE: AYNHO

JOB NUMBER: 11430

JOB REF: 11430

JOB NAME: AYNHO

SITE: 1

#### LOCATION: ROUNDTOWN (S) / STATION ROAD / ROUNDTOWN (N)



DATE: 28/06/2022

TIME					D B				A TO C FROM ROUNDTOWN (S) TO ROUNDTOWN (N)							
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	тот	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	тот
07:00	21	11	2	0	0	1	0	35	22	11	4	1	1	0	0	39
07:15	31	14	2	0	1	0	0	48	38	9	2	1	2	0	1	53
07:30	26	13	4	1	1	2	0	47	57	10	0	0	1	1	0	69
07:45	25	14	1	1	0	0	0	41	61	15	5	1	0	0	0	82
н/тот	103	52	9	2	2	3	0	171	178	45	11	3	4	1	1	243
08:00	37	11	2	1	0	0	0	51	39	9	1	1	2	1	0	53
08:15	25	8	3	0	0	0	0	36	51	12	0	1	0	0	0	64
08:30	25	9	0	0	0	0	0	34	66	9	2	0	0	0	0	77
08:45	19	7	1	0	0	1	0	28	51	12	1	1	0	0	0	65
н/тот	106	35	6	1	0	1	0	149	207	42	4	3	2	1	0	259
09:00	25	8	3	0	0	0	0	36	37	5	5	3	0	1	0	51
09:15	17	6	2	0	0	0	0	25	43	7	1	2	0	0	1	54
09:30	21	5	2	0	0	0	0	28	35	6	9	3	0	0	0	53
09:45	16	3	0	0	1	0	0	20	37	7	0	1	0	0	0	45
н/тот	79	22	7	0	1	0	0	109	152	25	15	9	0	1	1	203
10:00	24	3	1	0	0	0	0	28	18	8	2	1	0	1	0	30
10:15	18	1	0	0	0	0	0	19	32	9	2	0	0	0	0	43
10:30	14	5	1	0	0	0	0	20	28	3	3	0	0	0	0	34
10:45	15	4	1	0	0	0	0	20	33	11	1	0	0	0	0	45
н/тот	71	13	3	0	0	0	0	87	111	31	8	1	0	1	0	152
11:00	16	7	2	1	0	0	0	26	21	9	3	1	0	0	0	34
11:15	20	2	1	0	0	0	0	23	20	6	3	3	0	0	0	32
11:30	16	4	2	0	0	1	0	23	35	5	5	3	0	0	0	48
11:45	16	1	0	0	0	1	0	18	28	10	5	0	0	0	0	43
н/тот	68	14	5	1	0	2	0	90	104	30	16	7	0	0	0	157
12:00	14	3	1	0	0	0	0	18	30	3	2	0	0	1	0	36
12:15	16	4	1	0	0	0	0	21	34	14	4	1	1	0	0	54
12:30	18	4	1	0	0	0	0	23	27	6	1	1	0	0	0	35
12:45	5	2	0	0	0	0	0	7	41	7	4	1	0	0	0	53
н/тот	53	13	3	0	0	0	0	69	132	30	11	3	1	1	0	178

JOB REF: 11430

JOB NAME: AYNHO

SITE: 1

#### LOCATION: ROUNDTOWN (S) / STATION ROAD / ROUNDTOWN (N)

TOWN (N)

A TO C A TO B TIME FROM ROUNDTOWN (S) TO STATION ROAD FROM ROUNDTOWN (S) TO ROUNDTOWN (N) CAR LGV OGV1 OGV2 PSV MCL PCL тот CAR LGV OGV1 OGV2 **PSV** MCL PCL тот 13:00 13:15 13:30 13:45 н/тот 14:00 14:15 14:30 14:45 H/TOT 15:00 15:15 15:30 15:45 н/тот 16:00 16:15 16:30 16:45 н/тот 17:00 17:15 17:30 17:45 H/TOT 18:00 18:15 18:30 18:45 H/TOT P/TOT 



DATE: 28/06/2022

JOB REF: 11430

JOB NAME: AYNHO

SITE: 1

#### LOCATION: ROUNDTOWN (S) / STATION ROAD / ROUNDTOWN (N)

SURVEYS LTD

DATE: 28/06/2022

TIMF	B TO A FROM STATION ROAD TO ROUNDTOWN (S)										FROM ST		O C TO ROUND	TOWN (N)		
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	тот	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	тот
07:00	22	7	2	0	0	1	0	32	2	1	0	0	0	0	0	3
07:15	24	9	0	0	0	0	0	33	7	1	1	0	0	0	0	9
07:30	36	7	0	0	0	1	0	44	6	4	0	0	0	0	0	10
07:45	32	4	1	0	1	0	0	38	10	0	0	0	0	0	0	10
н/тот	114	27	3	0	1	2	0	147	25	6	1	0	0	0	0	32
08:00	36	14	3	0	0	0	0	53	15	5	0	0	0	0	0	20
08:15	41	14	4	0	0	0	0	59	18	3	0	0	0	0	1	22
08:30	28	4	6	0	0	1	0	39	6	3	0	0	0	0	0	9
08:45	17	6	3	0	0	0	0	26	4	1	0	0	0	0	0	5
н/тот	122	38	16	0	0	1	0	177	43	12	0	0	0	0	1	56
09:00	18	4	0	0	0	0	0	22	3	1	1	0	0	0	0	5
09:15	20	2	0	0	0	0	0	22	6	0	0	0	0	0	0	6
09:30	13	1	1	0	0	1	0	16	2	3	0	0	0	0	0	5
09:45	19	3	1	0	0	1	0	24	5	0	0	0	0	0	0	5
н/тот	70	10	2	0	0	2	0	84	16	4	1	0	0	0	0	21
10:00	13	2	1	1	0	1	0	18	5	4	0	0	0	0	0	9
10:15	18	7	0	0	0	0	0	25	6	1	0	0	0	0	0	7
10:30	16	6	2	0	0	0	0	24	5	6	1	0	0	0	0	12
10:45	13	2	0	0	0	0	0	15	3	4	1	0	0	0	0	8
н/тот	60	17	3	1	0	1	0	82	19	15	2	0	0	0	0	36
11:00	13	4	1	1	0	0	0	19	3	1	0	0	0	0	0	4
11:15	9	3	0	0	0	0	0	12	7	2	0	0	0	0	0	9
11:30	16	7	0	0	0	1	0	24	2	1	3	0	0	0	2	8
11:45	14	3	2	0	0	0	0	19	5	2	3	0	0	0	0	10
н/тот	52	17	3	1	0	1	0	74	17	6	6	0	0	0	2	31
12:00	18	6	2	0	0	0	0	26	10	0	0	0	0	0	0	10
12:15	17	3	0	0	0	1	0	21	5	2	2	0	0	0	0	9
12:30	27	4	1	0	0	1	0	33	3	2	0	0	0	0	0	5
12:45	14	3	1	0	0	0	0	18	8	1	0	0	0	0	0	9
н/тот	76	16	4	0	0	2	0	98	26	5	2	0	0	0	0	33

CAR

JOB REF: 

JOB NAME: AYNHO

SITE: 

TIME

13:00

13:15

13:30

13:45

н/тот

#### LOCATION: ROUNDTOWN (S) / STATION ROAD / ROUNDTOWN (N)

B TO A PCL OGV2 PSV MCL тот CAR LGV OGV1 

FROM STATION ROAD TO ROUNDTOWN (S) FROM STATION ROAD TO ROUNDTOWN (N) LGV OGV1 OGV2 **PSV** 





PCL

тот

DATE: 28/06/2022

MCL

DAY: TUESDAY

B TO C

JOB REF: 11430

JOB NAME: AYNHO

SITE: 1

#### LOCATION: ROUNDTOWN (S) / STATION ROAD / ROUNDTOWN (N)

AUTO SURVEYS LTD

DATE: 28/06/2022

				СТС	AC							C TI	О В			
TIME			FROM ROL	JNDTOWN (N	I) TO ROUN	DTOWN (S)			FROM ROUNDTOWN (N) TO STATION ROAD							
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	тот	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	тот
07:00	57	15	0	1	0	2	0	75	5	3	0	0	0	0	1	9
07:15	92	10	2	2	0	0	0	106	19	7	0	0	0	0	0	26
07:30	87	19	2	0	0	1	0	109	18	5	0	0	0	0	0	23
07:45	101	22	4	0	0	0	1	128	25	4	3	0	0	0	0	32
н/тот	337	66	8	3	0	3	1	418	67	19	3	0	0	0	1	90
08:00	81	15	2	2	1	1	0	102	25	4	1	0	0	0	0	30
08:15	98	13	5	2	0	0	0	118	22	4	0	0	0	0	0	26
08:30	60	9	4	2	2	1	0	78	11	2	3	0	0	0	0	16
08:45	60	14	2	2	1	0	0	79	19	4	1	0	0	0	0	24
н/тот	299	51	13	8	4	2	0	377	77	14	5	0	0	0	0	96
09:00	50	8	1	2	3	0	1	65	16	3	1	0	0	0	0	20
09:15	47	10	1	1	1	0	0	60	14	3	0	0	0	0	1	18
09:30	49	9	3	2	1	1	0	65	7	1	0	0	0	0	0	8
09:45	50	9	6	3	0	0	0	68	9	1	0	0	0	0	0	10
н/тот	196	36	11	8	5	1	1	258	46	8	1	0	0	0	1	56
10:00	34	12	1	1	0	1	0	49	4	2	0	0	0	1	0	7
10:15	34	6	5	1	0	0	0	46	6	0	0	0	0	0	0	6
10:30	37	10	4	0	0	0	0	51	3	1	1	0	0	0	0	5
10:45	30	9	1	2	0	0	0	42	3	1	2	0	0	0	0	6
н/тот	135	37	11	4	0	1	0	188	16	4	3	0	0	1	0	24
11:00	38	11	7	0	0	1	0	57	2	1	1	0	0	0	0	4
11:15	30	8	0	0	0	0	0	38	5	0	1	0	0	0	0	6
11:30	21	9	1	0	0	0	0	31	8	1	0	0	0	0	0	9
11:45	34	7	2	1	0	0	1	45	6	2	0	0	0	0	0	8
н/тот	123	35	10	1	0	1	1	171	21	4	2	0	0	0	0	27
12:00	25	9	3	2	0	2	0	41	6	0	0	0	0	0	0	6
12:15	30	5	2	1	0	0	0	38	9	2	2	0	0	0	0	13
12:30	27	10	2	1	0	0	0	40	4	1	1	0	0	0	0	6
12:45	24	5	1	0	0	0	0	30	6	0	3	0	0	0	0	9
Н/ТОТ	106	29	8	4	0	2	0	149	25	3	6	0	0	0	0	34

JOB REF: 11430

JOB NAME: AYNHO

SITE: 1

#### LOCATION: ROUNDTOWN (S) / STATION ROAD / ROUNDTOWN (N)

WN (N)

C TO A С ТО В TIME FROM ROUNDTOWN (N) TO ROUNDTOWN (S) FROM ROUNDTOWN (N) TO STATION ROAD CAR LGV OGV1 OGV2 PSV MCL PCL тот CAR LGV OGV1 OGV2 **PSV** MCL PCL тот 13:00 13:15 13:30 13:45 н/тот 14:00 14:15 14:30 14:45 н/тот 15:00 15:15 15:30 15:45 н/тот 16:00 16:15 16:30 16:45 н/тот 17:00 17:15 17:30 17:45 H/TOT 18:00 18:15 18:30 18:45 H/TOT P/TOT 



DATE: 28/06/2022

JOB REF: 11430

JOB NAME: AYNHO

SITE: 1

#### LOCATION: ROUNDTOWN (S) / STATION ROAD / ROUNDTOWN (N)



DATE: 28/06/2022

TIME					RM A				FROM ARM A ROUNDTOWN (S)								
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	тот	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	тот	
07:00	79	22	2	1	0	3	0	107	43	22	6	1	1	1	0	74	
07:15	116	19	2	2	0	0	0	139	69	23	4	1	3	0	1	101	
07:30	123	26	2	0	0	2	0	153	83	23	4	1	2	3	0	116	
07:45	133	26	5	0	1	0	1	166	86	29	6	2	0	0	0	123	
н/тот	451	93	11	3	1	5	1	565	281	97	20	5	6	4	1	414	
08:00	117	29	5	2	1	1	0	155	76	20	3	2	2	1	0	104	
08:15	139	27	9	2	0	0	0	177	76	20	3	1	0	0	0	100	
08:30	88	13	10	2	2	2	0	117	91	18	2	0	0	0	0	111	
08:45	77	20	5	2	1	0	0	105	70	19	2	1	0	1	0	93	
н/тот	421	89	29	8	4	3	0	554	313	77	10	4	2	2	0	408	
09:00	68	12	1	2	3	0	1	87	62	13	8	3	0	1	0	87	
09:15	67	12	1	1	1	0	0	82	60	13	3	2	0	0	1	79	
09:30	62	10	4	2	1	2	0	81	56	11	11	3	0	0	0	81	
09:45	69	12	7	3	0	1	0	92	53	10	0	1	1	0	0	65	
н/тот	266	46	13	8	5	3	1	342	231	47	22	9	1	1	1	312	
10:00	47	14	2	2	0	2	0	67	42	11	3	1	0	1	0	58	
10:15	52	13	5	1	0	0	0	71	50	10	2	0	0	0	0	62	
10:30	53	16	6	0	0	0	0	75	42	8	4	0	0	0	0	54	
10:45	43	11	1	2	0	0	0	57	48	15	2	0	0	0	0	65	
н/тот	195	54	14	5	0	2	0	270	182	44	11	1	0	1	0	239	
11:00	51	15	8	1	0	1	0	76	37	16	5	2	0	0	0	60	
11:15	39	11	0	0	0	0	0	50	40	8	4	3	0	0	0	55	
11:30	37	16	1	0	0	1	0	55	51	9	7	3	0	1	0	71	
11:45	48	10	4	1	0	0	1	64	44	11	5	0	0	1	0	61	
н/тот	175	52	13	2	0	2	1	245	172	44	21	8	0	2	0	247	
12:00	43	15	5	2	0	2	0	67	44	6	3	0	0	1	0	54	
12:15	47	8	2	1	0	1	0	59	50	18	5	1	1	0	0	75	
12:30	54	14	3	1	0	1	0	73	45	10	2	1	0	0	0	58	
12:45	38	8	2	0	0	0	0	48	46	9	4	1	0	0	0	60	
Н/ТОТ	182	45	12	4	0	4	0	247	185	43	14	3	1	1	0	247	

P/TOT

JOB REF: 11430

JOB NAME: AYNHO

SITE: 1

#### LOCATION: ROUNDTOWN (S) / STATION ROAD / ROUNDTOWN (N)

TO ARM A FROM ARM A TIME **ROUNDTOWN (S) ROUNDTOWN (S)** CAR LGV OGV1 OGV2 PSV MCL PCL тот CAR LGV OGV1 OGV2 **PSV** MCL PCL тот 13:00 13:15 13:30 13:45 н/тот 14:00 14:15 14:30 14:45 H/TOT 15:00 15:15 15:30 15:45 н/тот 16:00 16:15 16:30 16:45 н/тот 17:00 17:15 17:30 17:45 H/TOT 18:00 18:15 18:30 18:45 H/TOT 



DATE: 28/06/2022

DAY: TUESDAY

JOB REF: 11430

JOB NAME: AYNHO

SITE: 1

#### LOCATION: ROUNDTOWN (S) / STATION ROAD / ROUNDTOWN (N)



DATE: 28/06/2022

TIMAT				TO AF	RM B							FROM	ARM B			
IIME				STATION	ROAD							STATIO	NROAD			
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	тот	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	тот
07:00	26	14	2	0	0	1	1	44	24	8	2	0	0	1	0	35
07:15	50	21	2	0	1	0	0	74	31	10	1	0	0	0	0	42
07:30	44	18	4	1	1	2	0	70	42	11	0	0	0	1	0	54
07:45	50	18	4	1	0	0	0	73	42	4	1	0	1	0	0	48
н/тот	170	71	12	2	2	3	1	261	139	33	4	0	1	2	0	179
08:00	62	15	3	1	0	0	0	81	51	19	3	0	0	0	0	73
08:15	47	12	3	0	0	0	0	62	59	17	4	0	0	0	1	81
08:30	36	11	3	0	0	0	0	50	34	7	6	0	0	1	0	48
08:45	38	11	2	0	0	1	0	52	21	7	3	0	0	0	0	31
н/тот	183	49	11	1	0	1	0	245	165	50	16	0	0	1	1	233
09:00	41	11	4	0	0	0	0	56	21	5	1	0	0	0	0	27
09:15	31	9	2	0	0	0	1	43	26	2	0	0	0	0	0	28
09:30	28	6	2	0	0	0	0	36	15	4	1	0	0	1	0	21
09:45	25	4	0	0	1	0	0	30	24	3	1	0	0	1	0	29
Н/ТОТ	125	30	8	0	1	0	1	165	86	14	3	0	0	2	0	105
10:00	28	5	1	0	0	1	0	35	18	6	1	1	0	1	0	27
10:15	24	1	0	0	0	0	0	25	24	8	0	0	0	0	0	32
10:30	17	6	2	0	0	0	0	25	21	12	3	0	0	0	0	36
10:45	18	5	3	0	0	0	0	26	16	6	1	0	0	0	0	23
н/тот	87	17	6	0	0	1	0	111	79	32	5	1	0	1	0	118
11:00	18	8	3	1	0	0	0	30	16	5	1	1	0	0	0	23
11:15	25	2	2	0	0	0	0	29	16	5	0	0	0	0	0	21
11:30	24	5	2	0	0	1	0	32	18	8	3	0	0	1	2	32
11:45	22	3	0	0	0	1	0	26	19	5	5	0	0	0	0	29
н/тот	89	18	7	1	0	2	0	117	69	23	9	1	0	1	2	105
12:00	20	3	1	0	0	0	0	24	28	6	2	0	0	0	0	36
12:15	25	6	3	0	0	0	0	34	22	5	2	0	0	1	0	30
12:30	22	5	2	0	0	0	0	29	30	6	1	0	0	1	0	38
12:45	11	2	3	0	0	0	0	16	22	4	1	0	0	0	0	27
н/тот	78	16	9	0	0	0	0	103	102	21	6	0	0	2	0	131

JOB REF: 11430

JOB NAME: AYNHO

SITE: 1

#### LOCATION: ROUNDTOWN (S) / STATION ROAD / ROUNDTOWN (N)



DATE: 28/06/2022

TIME				TO AF STATION	RM B				FROM ARM B STATION ROAD								
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	тот	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	тот	
13:00	19	1	1	0	0	0	1	22	14	4	1	0	0	0	0	19	
13:15	21	4	0	1	0	1	0	27	15	6	1	0	0	0	0	22	
13:30	14	4	1	0	0	0	0	19	22	4	6	0	0	0	0	32	
13:45	19	2	0	0	0	0	0	21	21	5	2	0	0	0	0	28	
н/тот	73	11	2	1	0	1	1	89	72	19	10	0	0	0	0	101	
14:00	18	8	2	1	1	0	0	30	23	3	3	0	0	2	0	31	
14:15	20	5	1	0	0	1	0	27	26	9	1	0	0	0	0	36	
14:30	26	8	2	0	0	1	1	38	23	8	2	0	0	2	0	35	
14:45	16	6	2	1	0	0	0	25	28	6	1	0	0	0	0	35	
н/тот	80	27	7	2	1	2	1	120	100	26	7	0	0	4	0	137	
15:00	21	4	1	0	0	0	0	26	20	7	0	0	0	2	0	29	
15:15	22	11	1	0	0	1	0	35	31	13	1	0	0	0	0	45	
15:30	23	6	3	0	0	0	0	32	36	13	0	0	1	0	0	50	
15:45	30	8	3	0	0	0	0	41	27	11	1	0	0	3	0	42	
н/тот	96	29	8	0	0	1	0	134	114	44	2	0	1	5	0	166	
16:00	25	3	1	0	0	0	0	29	42	10	2	0	0	1	0	55	
16:15	33	11	1	0	0	0	0	45	24	16	0	0	1	0	1	42	
16:30	40	9	0	0	0	0	0	49	50	20	0	0	1	2	0	73	
16:45	32	8	2	0	0	0	0	42	31	11	1	0	0	0	0	43	
н/тот	130	31	4	0	0	0	0	165	147	57	3	0	2	3	1	213	
17:00	33	16	0	0	0	1	0	50	47	9	1	0	0	0	0	57	
17:15	45	6	0	0	0	0	0	51	44	13	0	0	0	1	0	58	
17:30	44	5	1	0	0	0	0	50	51	5	1	0	0	1	0	58	
17:45	38	5	0	1	0	3	0	47	55	12	0	0	1	0	0	68	
н/тот	160	32	1	1	0	4	0	198	197	39	2	0	1	2	0	241	
18:00	43	6	0	0	1	0	1	51	29	4	0	0	0	2	0	35	
18:15	30	2	0	0	0	5	0	37	41	3	0	0	0	0	0	44	
18:30	32	1	0	0	0	0	0	33	18	6	0	0	0	0	0	24	
18:45	33	3	0	0	0	1	0	37	15	2	0	0	0	1	1	19	
н/тот	138	12	0	0	1	6	1	158	103	15	0	0	0	3	1	122	
P/TOT	1409	343	75	8	5	21	5	1866	1373	373	67	2	5	26	5	1851	

JOB REF: 11430

JOB NAME: AYNHO

SITE: 1

#### LOCATION: ROUNDTOWN (S) / STATION ROAD / ROUNDTOWN (N)

DAY: TUESDAY

DATE: 28/06/2022

TIME		TO ARM C ROUNDTOWN (N)									FROM ARM C ROUNDTOWN (N)								
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	тот	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	тот			
07:00	24	12	4	1	1	0	0	42	62	18	0	1	0	2	1	84			
07:15	45	10	3	1	2	0	1	62	111	17	2	2	0	0	0	132			
07:30	63	14	0	0	1	1	0	79	105	24	2	0	0	1	0	132			
07:45	71	15	5	1	0	0	0	92	126	26	7	0	0	0	1	160			
н/тот	203	51	12	3	4	1	1	275	404	85	11	3	0	3	2	508			
08:00	54	14	1	1	2	1	0	73	106	19	3	2	1	1	0	132			
08:15	69	15	0	1	0	0	1	86	120	17	5	2	0	0	0	144			
08:30	72	12	2	0	0	0	0	86	71	11	7	2	2	1	0	94			
08:45	55	13	1	1	0	0	0	70	79	18	3	2	1	0	0	103			
н/тот	250	54	4	3	2	1	1	315	376	65	18	8	4	2	0	473			
09:00	40	6	6	3	0	1	0	56	66	11	2	2	3	0	1	85			
09:15	49	7	1	2	0	0	1	60	61	13	1	1	1	0	1	78			
09:30	37	9	9	3	0	0	0	58	56	10	3	2	1	1	0	73			
09:45	42	7	0	1	0	0	0	50	59	10	6	3	0	0	0	78			
н/тот	168	29	16	9	0	1	1	224	242	44	12	8	5	1	2	314			
10:00	23	12	2	1	0	1	0	39	38	14	1	1	0	2	0	56			
10:15	38	10	2	0	0	0	0	50	40	6	5	1	0	0	0	52			
10:30	33	9	4	0	0	0	0	46	40	11	5	0	0	0	0	56			
10:45	36	15	2	0	0	0	0	53	33	10	3	2	0	0	0	48			
н/тот	130	46	10	1	0	1	0	188	151	41	14	4	0	2	0	212			
11:00	24	10	3	1	0	0	0	38	40	12	8	0	0	1	0	61			
11:15	27	8	3	3	0	0	0	41	35	8	1	0	0	0	0	44			
11:30	37	6	8	3	0	0	2	56	29	10	1	0	0	0	0	40			
11:45	33	12	8	0	0	0	0	53	40	9	2	1	0	0	1	53			
н/тот	121	36	22	7	0	0	2	188	144	39	12	1	0	1	1	198			
12:00	40	3	2	0	0	1	0	46	31	9	3	2	0	2	0	47			
12:15	39	16	6	1	1	0	0	63	39	7	4	1	0	0	0	51			
12:30	30	8	1	1	0	0	0	40	31	11	3	1	0	0	0	46			
12:45	49	8	4	1	0	0	0	62	30	5	4	0	0	0	0	39			
Н/ТОТ	158	35	13	3	1	1	0	211	131	32	14	4	0	2	0	183			



JOB REF: 11430

JOB NAME: AYNHO

SITE: 1

18:30

18:45

H/TOT

P/TOT

#### LOCATION: ROUNDTOWN (S) / STATION ROAD / ROUNDTOWN (N)

TO ARM C FROM ARM C TIME **ROUNDTOWN (N) ROUNDTOWN (N)** CAR LGV OGV1 OGV2 PSV MCL PCL тот CAR LGV OGV1 OGV2 **PSV** MCL PCL 13:00 13:15 13:30 13:45 н/тот 14:00 14:15 14:30 14:45 H/TOT 15:00 15:15 15:30 15:45 н/тот 16:00 16:15 16:30 16:45 н/тот 17:00 17:15 17:30 17:45 H/TOT 18:00 18:15 



тот

DATE: 28/06/2022

#### QUEUE LENGTHS

JOB REF: 11430

JOB NAME: AYNHO

1

SITE:

DATE: 28/06/2022

DAY:

LOCATION: ROUNDTOWN (S) / STATION ROAD / ROUNDTOWN (N)

28/06/2022 TUESDAY

AUTO SURVEYS LTD

NOTE: Queue Lengths recorded by the number of vehicles queuing at each 5-minute interval, by lane

	ARM A	ARM B	ARM C		ARM A	ARM B	ARM C
TIME	ROUNDTOWN (S)	STATION ROAD	ROUNDTOWN (N)	TIME	ROUNDTOWN (S)	STATION ROAD	ROUNDTOWN (N)
	LANE 1	LANE 1	LANE 1		LANE 1	LANE 1	LANE 1
07:30	0	0	0	16:30	0	0	0
07:35	0	0	0	16:35	0	1	0
07:40	0	2	0	16:40	0	3	0
07:45	0	0	0	16:45	0	0	0
07:50	0	0	0	16:50	0	0	0
07:55	0	2	0	16:55	0	0	0
08:00	0	3	0	17:00	0	1	0
08:05	0	0	0	17:05	0	0	0
08:10	0	0	0	17:10	0	2	0
08:15	0	5	0	17:15	0	3	0
08:20	0	0	0	17:20	0	0	0
08:25	0	3	0	17:25	0	1	0
08:30	0	2	0	17:30	0	0	0
08:35	0	0	0	17:35	0	5	0
08:40	0	1	0	17:40	0	0	0
08:45	0	0	0	17:45	0	0	0
08:50	0	0	0	17:50	0	1	0
08:55	0	2	0	17:55	0	0	0
09:00	0	0	0	18:00	0	0	0
09:05	0	0	0	18:05	0	7	0
09:10	0	0	0	18:10	0	1	0
09:15	0	1	0	18:15	0	0	0
09:20	0	0	0	18:20	0	0	0
09:25	0	0	0	18:25	0	0	0

JOB REF: 11430

JOB NAME: AYNHO

SITE: 1

#### LOCATION: ROUNDTOWN (S) / STATION ROAD / ROUNDTOWN (N)



DATE: 29/06/2022

DAY: WEDNESDAY

TIME			FROM RC	A TO	) B S) TO STATI	ON ROAD		A TO C FROM ROUNDTOWN (S) TO ROUNDTOWN (N)								
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	тот	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	тот
07:00	24	18	0	0	0	0	0	42	19	7	1	0	3	0	0	30
07:15	26	14	0	0	1	1	0	42	38	6	4	0	0	1	0	49
07:30	23	14	4	0	1	1	0	43	49	14	1	1	1	1	0	67
07:45	32	15	2	0	0	0	0	49	67	12	4	2	0	0	0	85
н/тот	105	61	6	0	2	2	0	176	173	39	10	3	4	2	0	231
08:00	28	12	1	0	0	0	0	41	52	10	4	0	2	0	0	68
08:15	22	5	0	0	0	0	0	27	57	12	0	0	0	0	0	69
08:30	21	4	2	1	0	0	0	28	61	7	2	2	0	0	0	72
08:45	27	5	1	1	0	0	0	34	57	6	3	2	0	0	0	68
н/тот	98	26	4	2	0	0	0	130	227	35	9	4	2	0	0	277
09:00	15	4	2	0	0	0	0	21	42	8	4	0	0	0	0	54
09:15	19	4	1	0	0	0	0	24	39	5	5	3	0	1	0	53
09:30	26	8	1	0	0	0	0	35	29	14	0	2	0	0	0	45
09:45	10	7	3	0	0	1	0	21	31	12	1	2	0	0	0	46
н/тот	70	23	7	0	0	1	0	101	141	39	10	7	0	1	0	198
10:00	16	1	0	0	0	0	1	18	23	9	7	2	0	0	0	41
10:15	18	1	2	0	0	0	0	21	26	4	3	2	0	0	0	35
10:30	14	7	0	0	0	0	0	21	34	9	1	2	0	1	1	48
10:45	10	4	2	0	0	1	0	17	28	9	4	0	0	1	0	42
н/тот	58	13	4	0	0	1	1	77	111	31	15	6	0	2	1	166
11:00	10	6	1	0	0	0	0	17	32	12	7	1	0	2	0	54
11:15	24	4	2	0	0	1	0	31	25	6	1	5	0	0	0	37
11:30	19	8	2	0	0	0	0	29	38	5	4	0	0	0	0	47
11:45	23	2	1	0	0	0	0	26	35	4	3	0	0	0	0	42
н/тот	76	20	6	0	0	1	0	103	130	27	15	6	0	2	0	180
12:00	12	4	2	0	0	0	0	18	35	9	2	1	0	0	0	47
12:15	20	4	0	1	0	1	0	26	29	5	7	4	0	0	0	45
12:30	14	2	0	0	0	0	0	16	32	7	0	2	0	0	0	41
12:45	11	7	0	0	0	0	1	19	31	3	1	1	0	0	0	36
н/тот	57	17	2	1	0	1	1	79	127	24	10	8	0	0	0	169

18:15

18:30

18:45

H/TOT

P/TOT

JOB REF: 11430

JOB NAME: AYNHO

SITE: 1

TIME

#### LOCATION: ROUNDTOWN (S) / STATION ROAD / ROUNDTOWN (N)

 A TO B

 FROM ROUNDTOWN (S) TO STATION ROAD

 OGV1
 OGV2
 PSV
 MCL
 PCL
 TOT
 CAR
 LGV

 0
 0
 0
 0
 18
 44
 6

CAR LGV OGV1 OGV2 OGV1 OGV2 **PSV** MCL PCL 13:00 13:15 13:30 13:45 н/тот 14:00 14:15 14:30 14:45 H/TOT 15:00 15:15 15:30 15:45 н/тот 16:00 16:15 16:30 16:45 н/тот 17:00 17:15 17:30 17:45 H/TOT 18:00 



тот

DATE: 29/06/2022

DAY: WEDNESDAY

A TO C

FROM ROUNDTOWN (S) TO ROUNDTOWN (N)

JOB REF: 11430

JOB NAME: AYNHO

SITE: 1

#### LOCATION: ROUNDTOWN (S) / STATION ROAD / ROUNDTOWN (N)



DATE: 29/06/2022

DAY: WEDNESDAY

				B T(	AC			B TO C								
TIME			FROM ST	ATION ROAD	TO ROUND	TOWN (S)					FROM ST	TION ROAD	TO ROUND	rown (n)		
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	тот	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	тот
07:00	22	5	0	0	0	0	0	27	4	1	1	0	0	0	0	6
07:15	30	2	0	0	0	1	0	33	1	1	0	0	0	0	0	2
07:30	38	4	1	0	0	0	0	43	9	1	0	0	0	0	1	11
07:45	40	6	1	0	1	0	0	48	11	2	0	0	0	0	0	13
н/тот	130	17	2	0	1	1	0	151	25	5	1	0	0	0	1	32
08:00	43	6	0	0	0	0	0	49	14	3	0	0	0	0	0	17
08:15	34	5	1	0	0	0	0	40	11	5	0	0	0	0	0	16
08:30	39	2	1	0	0	0	0	42	11	2	1	0	0	0	0	14
08:45	20	6	2	0	0	0	0	28	5	1	0	0	0	0	0	6
н/тот	136	19	4	0	0	0	0	159	41	11	1	0	0	0	0	53
09:00	20	4	2	0	0	0	0	26	2	1	4	0	0	0	0	7
09:15	15	3	1	0	0	2	0	21	9	1	1	0	0	0	0	11
09:30	29	12	2	1	0	0	0	44	3	1	1	0	0	0	0	5
09:45	17	5	4	0	0	0	0	26	6	1	0	0	0	0	1	8
н/тот	81	24	9	1	0	2	0	117	20	4	6	0	0	0	1	31
10:00	17	3	2	0	0	0	0	22	6	2	0	0	0	0	0	8
10:15	10	8	0	0	0	0	0	18	6	2	0	0	0	0	0	8
10:30	27	1	1	0	0	0	0	29	6	0	0	0	0	0	0	6
10:45	17	5	1	0	0	0	0	23	2	1	1	0	0	0	0	4
н/тот	71	17	4	0	0	0	0	92	20	5	1	0	0	0	0	26
11:00	7	4	1	0	0	0	0	12	4	3	0	0	0	0	0	7
11:15	13	1	2	0	0	0	0	16	4	1	0	0	0	0	0	5
11:30	21	6	1	0	0	1	0	29	6	0	0	0	0	0	0	6
11:45	16	5	1	0	0	1	0	23	6	1	0	0	0	0	0	7
н/тот	57	16	5	0	0	2	0	80	20	5	0	0	0	0	0	25
12:00	21	5	1	0	0	1	0	28	5	2	0	0	0	0	0	7
12:15	18	4	0	0	0	0	0	22	6	5	1	1	0	0	0	13
12:30	17	4	1	0	0	1	0	23	8	2	1	0	0	0	0	11
12:45	16	5	2	0	0	0	0	23	3	0	0	0	0	0	1	4
H/TOT	72	18	4	0	0	2	0	96	22	9	2	1	0	0	1	35

JOB REF: 

JOB NAME: AYNHO

SITE: 

#### LOCATION: ROUNDTOWN (S) / STATION ROAD / ROUNDTOWN (N)

B TO A PCL OGV2 PSV MCL тот CAR LGV OGV1 





DATE: 29/06/2022

DAY: WEDNESDAY
JOB REF: 11430

JOB NAME: AYNHO

SITE: 1

#### LOCATION: ROUNDTOWN (S) / STATION ROAD / ROUNDTOWN (N)



DATE: 29/06/2022

				C T C	AC							C T C	О В			
TIME			FROM ROU	JNDTOWN (N	I) TO ROUN	DTOWN (S)					FROM RO	UNDTOWN (	Ν) ΤΟ STATI	ON ROAD		
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	тот	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	тот
07:00	56	18	3	1	0	2	0	80	5	3	0	0	0	0	0	8
07:15	85	24	1	0	0	0	0	110	13	5	0	0	0	0	0	18
07:30	115	22	8	1	0	0	0	146	12	6	0	0	0	0	0	18
07:45	89	18	2	0	0	1	0	110	32	4	1	0	0	0	0	37
н/тот	345	82	14	2	0	3	0	446	62	18	1	0	0	0	0	81
08:00	81	12	2	1	1	0	0	97	20	5	0	0	0	0	0	25
08:15	90	13	5	0	0	3	0	111	12	4	1	0	0	0	0	17
08:30	59	9	4	4	5	0	0	81	19	6	1	0	0	0	0	26
08:45	53	17	5	1	0	0	1	77	11	3	1	0	0	0	0	15
н/тот	283	51	16	6	6	3	1	366	62	18	3	0	0	0	0	83
09:00	45	9	3	2	0	0	0	59	12	2	2	0	0	0	0	16
09:15	51	3	5	1	0	1	0	61	9	4	0	0	0	0	0	13
09:30	46	8	3	0	0	0	0	57	11	1	1	0	0	0	0	13
09:45	35	7	2	2	0	0	0	46	8	2	0	0	0	0	0	10
н/тот	177	27	13	5	0	1	0	223	40	9	3	0	0	0	0	52
10:00	26	11	2	1	0	0	1	41	6	0	1	0	0	0	0	7
10:15	23	5	2	0	0	0	0	30	5	0	0	0	0	0	0	5
10:30	36	3	1	3	0	0	0	43	8	2	0	0	0	0	0	10
10:45	33	10	4	1	0	0	0	48	4	2	0	0	0	0	0	6
н/тот	118	29	9	5	0	0	1	162	23	4	1	0	0	0	0	28
11:00	44	7	6	3	0	0	0	60	5	1	1	0	0	0	0	7
11:15	34	9	5	1	0	0	0	49	4	0	0	0	0	0	0	4
11:30	43	7	0	2	0	1	0	53	7	0	0	0	0	0	0	7
11:45	40	8	3	1	0	0	0	52	7	3	3	0	0	0	0	13
н/тот	161	31	14	7	0	1	0	214	23	4	4	0	0	0	0	31
12:00	36	2	1	1	0	1	0	41	12	3	0	0	0	1	0	16
12:15	45	10	2	3	0	2	0	62	8	2	0	0	0	0	0	10
12:30	39	7	3	1	0	0	0	50	5	1	0	0	0	0	0	6
12:45	30	8	1	1	0	1	0	41	3	1	0	0	0	0	1	5
н/тот	150	27	7	6	0	4	0	194	28	7	0	0	0	1	1	37

JOB REF: 11430

JOB NAME: AYNHO

SITE: 1

#### LOCATION: ROUNDTOWN (S) / STATION ROAD / ROUNDTOWN (N)



DATE: 29/06/2022

				C T C	AC							C T C	О В			
TIME			FROM ROU	INDTOWN (N	I) TO ROUN	DTOWN (S)					FROM RO	UNDTOWN (	N) TO STAT	ION ROAD		
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	тот	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	тот
13:00	36	4	1	3	0	0	0	44	6	1	1	0	0	0	0	8
13:15	29	9	3	3	0	1	0	45	6	3	0	0	0	0	0	9
13:30	38	6	3	5	0	1	0	53	6	0	0	0	0	0	0	6
13:45	39	7	1	2	0	2	1	52	6	1	1	0	0	0	0	8
н/тот	142	26	8	13	0	4	1	194	24	5	2	0	0	0	0	31
14:00	35	6	1	4	0	1	0	47	3	1	0	0	0	0	0	4
14:15	35	11	5	0	0	1	0	52	5	3	0	0	0	0	1	9
14:30	43	10	2	1	2	1	0	59	9	4	1	0	0	0	0	14
14:45	36	8	6	0	0	1	0	51	6	3	2	0	0	0	0	11
н/тот	149	35	14	5	2	4	0	209	23	11	3	0	0	0	1	38
15:00	44	4	1	0	1	3	0	53	9	2	0	0	0	0	0	11
15:15	48	10	3	1	0	1	1	64	5	2	2	1	0	0	0	10
15:30	41	9	0	1	0	0	0	51	8	1	0	0	0	0	0	9
15:45	29	6	1	2	1	0	0	39	5	1	0	0	0	0	0	6
н/тот	162	29	5	4	2	4	1	207	27	6	2	1	0	0	0	36
16:00	58	13	1	0	0	1	0	73	2	1	0	0	0	0	0	3
16:15	60	12	0	1	0	0	0	73	8	2	0	0	0	0	0	10
16:30	59	18	0	0	0	0	0	77	11	4	0	0	0	1	0	16
16:45	54	10	0	0	0	0	0	64	13	2	0	0	0	0	0	15
н/тот	231	53	1	1	0	1	0	287	34	9	0	0	0	1	0	44
17:00	81	11	1	1	0	0	0	94	10	2	2	0	0	0	0	14
17:15	63	4	1	0	1	1	0	70	13	2	0	0	0	0	0	15
17:30	65	6	0	1	0	1	0	73	12	1	1	0	0	0	0	14
17:45	34	5	0	0	0	1	0	40	10	2	0	0	0	0	0	12
н/тот	243	26	2	2	1	3	0	277	45	7	3	0	0	0	0	55
18:00	57	5	2	0	0	0	0	64	9	2	0	0	0	0	0	11
18:15	42	1	0	0	0	0	0	43	9	0	0	0	0	0	0	9
18:30	38	3	1	0	0	0	2	44	6	1	0	0	0	0	0	7
18:45	31	2	1	0	0	0	0	34	4	0	0	0	0	0	0	4
н/тот	168	11	4	0	0	0	2	185	28	3	0	0	0	0	0	31
P/TOT	2329	427	107	56	11	28	6	2964	419	101	22	1	0	2	2	547

JOB REF: 11430

JOB NAME: AYNHO

SITE: 1

#### LOCATION: ROUNDTOWN (S) / STATION ROAD / ROUNDTOWN (N)

D / ROUNDTOWN (N)

FROM ARM A TIME **ROUNDTOWN (S) ROUNDTOWN (S)** CAR LGV OGV1 OGV2 PSV MCL PCL тот CAR LGV OGV1 OGV2 **PSV** MCL PCL тот 07:00 07:15 07:30 07:45 н/тот 08:00 08:15 08:30 08:45 H/TOT 09:00 09:15 09:30 09:45 н/тот 10:00 10:15 10:30 10:45 н/тот 11:00 11:15 11:30 11:45 н/тот 12:00 12:15 12:30 12:45 H/TOT



DATE: 29/06/2022

JOB REF: 11430

JOB NAME: AYNHO

SITE: 1

#### LOCATION: ROUNDTOWN (S) / STATION ROAD / ROUNDTOWN (N)



DATE: 29/06/2022

TIME				TO AF	RM A DWN (S)							FROM A	ARM A OWN (S)			
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	тот	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	тот
13:00	55	13	3	3	0	0	0	74	61	7	1	4	0	0	0	73
13:15	49	16	3	3	0	1	0	72	54	10	4	2	0	2	0	72
13:30	65	9	5	5	0	1	0	85	49	13	2	0	2	0	0	66
13:45	56	10	4	2	0	2	1	75	45	10	3	1	1	0	0	60
н/тот	225	48	15	13	0	4	1	306	209	40	10	7	3	2	0	271
14:00	53	12	2	4	0	1	0	72	42	8	6	2	0	1	0	59
14:15	51	18	7	0	0	1	0	77	66	11	4	2	0	1	1	85
14:30	60	12	3	1	2	1	0	79	64	16	6	5	0	1	0	92
14:45	62	14	8	0	0	1	0	85	61	6	3	2	0	0	0	72
н/тот	226	56	20	5	2	4	0	313	233	41	19	11	0	3	1	308
15:00	70	7	3	0	2	4	0	86	66	14	7	4	0	2	0	93
15:15	72	17	4	1	0	1	1	96	59	18	2	1	0	0	0	80
15:30	56	17	2	1	0	0	0	76	70	22	1	4	1	2	0	100
15:45	54	14	3	2	2	0	0	75	76	14	3	1	1	2	0	97
н/тот	252	55	12	4	4	5	1	333	271	68	13	10	2	6	0	370
16:00	88	24	3	0	0	1	0	116	89	17	5	1	0	0	0	112
16:15	80	23	0	1	0	0	0	104	90	19	2	1	0	0	0	112
16:30	102	27	2	2	0	1	0	134	89	19	3	2	0	0	0	113
16:45	81	16	0	1	0	0	0	98	116	24	1	1	0	0	1	143
н/тот	351	90	5	4	0	2	0	452	384	79	11	5	0	0	1	480
17:00	113	20	1	1	1	1	0	137	95	15	1	0	0	1	0	112
17:15	87	13	1	0	1	1	0	103	104	10	0	0	0	0	0	114
17:30	97	8	0	1	0	1	0	107	105	14	2	0	0	1	0	122
17:45	66	10	0	0	1	2	0	79	101	9	1	0	0	1	0	112
н/тот	363	51	2	2	3	5	0	426	405	48	4	0	0	3	0	460
18:00	79	10	4	0	0	0	0	93	103	5	1	0	0	1	0	110
18:15	63	5	1	0	0	0	0	69	98	6	0	0	0	3	1	108
18:30	55	7	1	0	0	0	2	65	67	8	0	1	1	0	0	77
18:45	41	3	1	0	0	0	0	45	81	10	2	0	0	0	1	94
н/тот	238	25	7	0	0	0	2	272	349	29	3	1	1	4	2	389
P/TOT	3436	683	162	60	16	39	6	4402	3224	660	158	71	14	31	7	4165

JOB REF: 11430

JOB NAME: AYNHO

SITE: 1

#### LOCATION: ROUNDTOWN (S) / STATION ROAD / ROUNDTOWN (N)



DATE: 29/06/2022

TIME				TO AF STATION	RM B I ROAD							FROM A	ARM B N ROAD			
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	тот	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	тот
07:00	29	21	0	0	0	0	0	50	26	6	1	0	0	0	0	33
07:15	39	19	0	0	1	1	0	60	31	3	0	0	0	1	0	35
07:30	35	20	4	0	1	1	0	61	47	5	1	0	0	0	1	54
07:45	64	19	3	0	0	0	0	86	51	8	1	0	1	0	0	61
н/тот	167	79	7	0	2	2	0	257	155	22	3	0	1	1	1	183
08:00	48	17	1	0	0	0	0	66	57	9	0	0	0	0	0	66
08:15	34	9	1	0	0	0	0	44	45	10	1	0	0	0	0	56
08:30	40	10	3	1	0	0	0	54	50	4	2	0	0	0	0	56
08:45	38	8	2	1	0	0	0	49	25	7	2	0	0	0	0	34
н/тот	160	44	7	2	0	0	0	213	177	30	5	0	0	0	0	212
09:00	27	6	4	0	0	0	0	37	22	5	6	0	0	0	0	33
09:15	28	8	1	0	0	0	0	37	24	4	2	0	0	2	0	32
09:30	37	9	2	0	0	0	0	48	32	13	3	1	0	0	0	49
09:45	18	9	3	0	0	1	0	31	23	6	4	0	0	0	1	34
н/тот	110	32	10	0	0	1	0	153	101	28	15	1	0	2	1	148
10:00	22	1	1	0	0	0	1	25	23	5	2	0	0	0	0	30
10:15	23	1	2	0	0	0	0	26	16	10	0	0	0	0	0	26
10:30	22	9	0	0	0	0	0	31	33	1	1	0	0	0	0	35
10:45	14	6	2	0	0	1	0	23	19	6	2	0	0	0	0	27
н/тот	81	17	5	0	0	1	1	105	91	22	5	0	0	0	0	118
11:00	15	7	2	0	0	0	0	24	11	7	1	0	0	0	0	19
11:15	28	4	2	0	0	1	0	35	17	2	2	0	0	0	0	21
11:30	26	8	2	0	0	0	0	36	27	6	1	0	0	1	0	35
11:45	30	5	4	0	0	0	0	39	22	6	1	0	0	1	0	30
н/тот	99	24	10	0	0	1	0	134	77	21	5	0	0	2	0	105
12:00	24	7	2	0	0	1	0	34	26	7	1	0	0	1	0	35
12:15	28	6	0	1	0	1	0	36	24	9	1	1	0	0	0	35
12:30	19	3	0	0	0	0	0	22	25	6	2	0	0	1	0	34
12:45	14	8	0	0	0	0	2	24	19	5	2	0	0	0	1	27
н/тот	85	24	2	1	0	2	2	116	94	27	6	1	0	2	1	131

JOB REF: 11430

JOB NAME: AYNHO

SITE: 1

#### LOCATION: ROUNDTOWN (S) / STATION ROAD / ROUNDTOWN (N)



DATE: 29/06/2022

719.45				TO A	RM B							FROM	ARM B			
TIME	CAR	LGV	OGV1	OGV2	N ROAD PSV	MCL	PCL	тот	CAR	LGV	OGV1	OGV2	N ROAD PSV	MCL	PCL	тот
13:00	23	2	1	0	0	0	0	26	25	10	2	0	0	0	0	37
13:15	26	6	1	0	0	1	0	34	28	8	0	0	0	0	1	37
13:30	32	4	1	0	0	0	0	37	34	5	2	0	0	0	0	41
13:45	21	5	3	0	0	0	0	29	26	4	3	0	0	0	0	33
н/тот	102	17	6	0	0	1	0	126	113	27	7	0	0	0	1	148
14:00	12	2	2	1	0	0	0	17	28	6	2	0	0	0	0	36
14:15	25	6	0	0	0	0	1	32	20	9	3	1	0	0	0	33
14:30	27	9	3	1	0	1	0	41	21	3	2	0	0	0	0	26
14:45	21	4	3	0	0	0	0	28	37	9	2	0	0	0	0	48
н/тот	85	21	8	2	0	1	1	118	106	27	9	1	0	0	0	143
15:00	23	6	1	1	0	0	0	31	34	4	2	0	1	1	0	42
15:15	13	4	2	2	0	0	0	21	27	10	2	0	0	0	0	39
15:30	32	7	0	1	1	0	0	41	28	8	2	0	0	0	0	38
15:45	26	2	2	0	1	0	0	31	34	9	4	1	1	0	0	49
н/тот	94	19	5	4	2	0	0	124	123	31	10	1	2	1	0	168
16:00	26	5	3	0	0	0	0	34	45	16	2	0	0	1	0	64
16:15	35	10	1	0	0	0	0	46	27	18	0	0	0	0	0	45
16:30	38	9	0	1	0	1	0	49	60	13	3	2	0	1	0	79
16:45	47	7	0	0	0	0	1	55	43	13	0	1	0	0	0	57
н/тот	146	31	4	1	0	1	1	184	175	60	5	3	0	2	0	245
17:00	42	3	2	0	0	0	0	47	49	10	0	0	1	1	0	61
17:15	36	4	0	0	0	0	0	40	40	12	1	0	0	0	0	53
17:30	40	6	1	0	0	1	0	48	45	3	0	0	0	0	0	48
17:45	41	5	0	0	0	1	0	47	47	6	1	0	1	1	0	56
н/тот	159	18	3	0	0	2	0	182	181	31	2	0	2	2	0	218
18:00	48	3	1	0	0	0	0	52	41	5	2	0	0	0	0	48
18:15	32	3	0	0	0	2	1	38	30	4	1	0	0	0	0	35
18:30	26	2	0	0	1	0	0	29	27	4	0	0	0	0	0	31
18:45	38	2	2	0	0	0	1	43	13	1	0	0	0	0	0	14
н/тот	144	10	3	0	1	2	2	162	111	14	3	0	0	0	0	128
P/TOT	1432	336	70	10	5	14	7	1874	1504	340	75	7	5	12	4	1947

JOB REF: 11430

JOB NAME: AYNHO

SITE: 1

#### LOCATION: ROUNDTOWN (S) / STATION ROAD / ROUNDTOWN (N)

SURVEYS LTD

DATE: 29/06/2022

				TO A	RM C							FROM	ARM C			
TIME				ROUNDT	OWN (N)							ROUNDT	OWN (N)			
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	тот	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	тот
07:00	23	8	2	0	3	0	0	36	61	21	3	1	0	2	0	88
07:15	39	7	4	0	0	1	0	51	98	29	1	0	0	0	0	128
07:30	58	15	1	1	1	1	1	78	127	28	8	1	0	0	0	164
07:45	78	14	4	2	0	0	0	98	121	22	3	0	0	1	0	147
н/тот	198	44	11	3	4	2	1	263	407	100	15	2	0	3	0	527
08:00	66	13	4	0	2	0	0	85	101	17	2	1	1	0	0	122
08:15	68	17	0	0	0	0	0	85	102	17	6	0	0	3	0	128
08:30	72	9	3	2	0	0	0	86	78	15	5	4	5	0	0	107
08:45	62	7	3	2	0	0	0	74	64	20	6	1	0	0	1	92
н/тот	268	46	10	4	2	0	0	330	345	69	19	6	6	3	1	449
09:00	44	9	8	0	0	0	0	61	57	11	5	2	0	0	0	75
09:15	48	6	6	3	0	1	0	64	60	7	5	1	0	1	0	74
09:30	32	15	1	2	0	0	0	50	57	9	4	0	0	0	0	70
09:45	37	13	1	2	0	0	1	54	43	9	2	2	0	0	0	56
н/тот	161	43	16	7	0	1	1	229	217	36	16	5	0	1	0	275
10:00	29	11	7	2	0	0	0	49	32	11	3	1	0	0	1	48
10:15	32	6	3	2	0	0	0	43	28	5	2	0	0	0	0	35
10:30	40	9	1	2	0	1	1	54	44	5	1	3	0	0	0	53
10:45	30	10	5	0	0	1	0	46	37	12	4	1	0	0	0	54
н/тот	131	36	16	6	0	2	1	192	141	33	10	5	0	0	1	190
11:00	36	15	7	1	0	2	0	61	49	8	7	3	0	0	0	67
11:15	29	7	1	5	0	0	0	42	38	9	5	1	0	0	0	53
11:30	44	5	4	0	0	0	0	53	50	7	0	2	0	1	0	60
11:45	41	5	3	0	0	0	0	49	47	11	6	1	0	0	0	65
н/тот	150	32	15	6	0	2	0	205	184	35	18	7	0	1	0	245
12:00	40	11	2	1	0	0	0	54	48	5	1	1	0	2	0	57
12:15	35	10	8	5	0	0	0	58	53	12	2	3	0	2	0	72
12:30	40	9	1	2	0	0	0	52	44	8	3	1	0	0	0	56
12:45	34	3	1	1	0	0	1	40	33	9	1	1	0	1	1	46
н/тот	149	33	12	9	0	0	1	204	178	34	7	6	0	5	1	231

CAR

P/TOT

JOB REF: 

JOB NAME: AYNHO

SITE: 

TIME

13:00

13:15

#### LOCATION: ROUNDTOWN (S) / STATION ROAD / ROUNDTOWN (N)

LGV

TO ARM C **ROUNDTOWN (N) ROUNDTOWN (N)** OGV1 MCL PCL тот CAR LGV OGV1 OGV2 PSV OGV2 Ω лл . .

13:30	30	11	1	0	2	0	0	44	44	6	з	5	0	1	0	59
13:45	39	7	1	1	-	0	0	49	45	8	2	2	0	- 2	1	60
Н/ТОТ	161	33	6	7	3	1	1	212	166	31	10	13	0	4	1	225
14:00	43	7	5	1	0	1	0	57	38	7	1	4	0	1	0	51
14:15	50	10	5	3	0	1	1	70	40	14	5	0	0	1	1	61
14:30	50	12	5	4	0	0	0	71	52	14	3	1	2	1	0	73
14:45	57	8	2	2	0	0	0	69	42	11	8	0	0	1	0	62
н/тот	200	37	17	10	0	2	1	267	172	46	17	5	2	4	1	247
15:00	60	11	6	3	0	2	0	82	53	6	1	0	1	3	0	64
15:15	54	19	3	0	0	0	0	76	53	12	5	2	0	1	1	74
15:30	59	16	1	3	0	2	0	81	49	10	0	1	0	0	0	60
15:45	64	14	3	2	0	2	0	85	34	7	1	2	1	0	0	45
н/тот	237	60	13	8	0	6	0	324	189	35	7	5	2	4	1	243
16:00	80	18	2	1	0	1	0	102	60	14	1	0	0	1	0	76
16:15	70	18	1	1	0	0	0	90	68	14	0	1	0	0	0	83
16:30	79	18	4	1	0	0	0	102	70	22	0	0	0	1	0	93
16:45	98	26	1	1	0	0	0	126	67	12	0	0	0	0	0	79
н/тот	327	80	8	4	0	1	0	420	265	62	1	1	0	2	0	331
17:00	80	15	1	0	0	1	0	97	91	13	3	1	0	0	0	108
17:15	97	11	1	0	0	0	0	109	76	6	1	0	1	1	0	85
17:30	90	10	2	0	0	0	0	102	77	7	1	1	0	1	0	87
17:45	85	7	2	0	0	0	0	94	44	7	0	0	0	1	0	52
н/тот	352	43	6	0	0	1	0	402	288	33	5	2	1	3	0	332
18:00	83	4	0	0	0	1	0	88	66	7	2	0	0	0	0	75
18:15	84	3	0	0	0	1	0	88	51	1	0	0	0	0	0	52
18:30	57	7	0	1	0	0	0	65	44	4	1	0	0	0	2	51
18:45	50	8	0	0	0	0	0	58	35	2	1	0	0	0	0	38
н/тот	274	22	0	1	0	2	0	299	196	14	4	0	0	0	2	216



PCL

тот

DATE: 29/06/2022

DAY: WEDNESDAY

MCL

FROM ARM C

PSV

### QUEUE LENGTHS

JOB REF: 11430

JOB NAME: AYNHO

1

SITE:

DATE: 29/06/2022

DAY:

LOCATION: ROUNDTOWN (S) / STATION ROAD / ROUNDTOWN (N)

WEDNESDAY

AUTO SURVEYS LTD

NOTE: Queue Lengths recorded by the number of vehicles queuing at each 5-minute interval, by lane

TIME	ARM A ROUNDTOWN (S)	ARM B STATION ROAD	ARM C ROUNDTOWN (N)	TIME	ARM A ROUNDTOWN (S)	ARM B STATION ROAD	ARM C ROUNDTOWN (N)
	LANE 1	LANE 1	LANE 1		LANE 1	LANE 1	LANE 1
07:30	0	3	0	16:30	0	0	0
07:35	0	0	0	16:35	0	1	0
07:40	0	1	0	16:40	0	1	0
07:45	0	0	0	16:45	0	0	0
07:50	0	1	0	16:50	0	0	0
07:55	0	1	0	16:55	0	1	0
08:00	0	0	0	17:00	0	0	0
08:05	0	0	0	17:05	0	0	0
08:10	0	1	0	17:10	0	0	0
08:15	0	0	0	17:15	0	0	0
08:20	0	0	0	17:20	0	2	0
08:25	0	1	0	17:25	0	0	0
08:30	0	2	0	17:30	0	1	0
08:35	0	0	0	17:35	0	0	0
08:40	0	0	0	17:40	0	0	0
08:45	0	0	0	17:45	0	1	0
08:50	0	0	0	17:50	0	0	0
08:55	0	0	2	17:55	0	0	0
09:00	0	0	0	18:00	0	0	0
09:05	0	1	0	18:05	0	0	0
09:10	0	0	0	18:10	0	0	0
09:15	0	0	0	18:15	0	0	0
09:20	0	0	0	18:20	0	1	0
09:25	0	0	0	18:25	0	0	0

JOB REF: 11430

JOB NAME: AYNHO

SITE: 1

#### LOCATION: ROUNDTOWN (S) / STATION ROAD / ROUNDTOWN (N)



DATE: 30/06/2022

				A TO	О В							A T	С			
TIME			FROM RO	UNDTOWN (	S) TO STATI	ON ROAD					FROM ROL	JNDTOWN (S	) TO ROUNE	DTOWN (N)		
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	тот	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	тот
07:00	17	9	1	0	0	0	0	27	24	7	3	1	2	0	0	37
07:15	22	22	3	0	1	0	0	48	36	10	2	2	1	1	0	52
07:30	26	22	2	0	1	0	0	51	55	19	2	2	1	1	0	80
07:45	20	13	3	0	0	0	0	36	65	11	0	1	0	0	0	77
н/тот	85	66	9	0	2	0	0	162	180	47	7	6	4	2	0	246
08:00	31	6	2	0	0	0	0	39	49	8	1	1	2	1	0	62
08:15	26	5	2	0	0	0	0	33	46	7	2	0	0	0	0	55
08:30	27	2	2	0	0	0	0	31	57	6	4	1	1	0	0	69
08:45	18	6	1	1	0	0	0	26	62	7	5	0	1	0	0	75
н/тот	102	19	7	1	0	0	0	129	214	28	12	2	4	1	0	261
09:00	25	6	4	1	0	1	0	37	41	6	3	0	0	0	0	50
09:15	14	4	0	0	0	1	0	19	37	11	3	2	1	0	0	54
09:30	23	2	2	0	0	0	0	27	38	7	1	1	0	0	0	47
09:45	20	5	3	0	0	0	0	28	37	10	5	5	0	0	0	57
н/тот	82	17	9	1	0	2	0	111	153	34	12	8	1	0	0	208
10:00	24	5	1	0	0	2	0	32	24	13	2	3	0	2	0	44
10:15	23	6	0	0	0	0	0	29	49	7	3	0	0	0	0	59
10:30	20	6	2	0	0	0	0	28	42	10	3	0	0	0	0	55
10:45	10	6	0	1	0	1	0	18	25	11	1	3	0	0	0	40
н/тот	77	23	3	1	0	3	0	107	140	41	9	6	0	2	0	198
11:00	20	8	3	0	0	0	0	31	25	13	1	1	0	0	0	40
11:15	14	3	1	0	0	0	0	18	30	12	6	2	0	0	0	50
11:30	22	1	2	0	0	1	0	26	25	9	3	2	0	0	0	39
11:45	18	7	0	0	0	0	1	26	35	4	1	2	0	0	0	42
Н/ТОТ	74	19	6	0	0	1	1	101	115	38	11	7	0	0	0	171
12:00	23	5	2	0	0	0	0	30	32	7	4	2	0	1	0	46
12:15	16	6	1	0	0	0	0	23	30	4	2	2	0	0	0	38
12:30	16	7	2	0	0	0	0	25	35	5	3	1	0	0	1	45
12:45	13	4	0	0	0	0	0	17	29	11	0	1	0	0	0	41
н/тот	68	22	5	0	0	0	0	95	126	27	9	6	0	1	1	170

JOB REF: 11430

JOB NAME: AYNHO

SITE: 1

#### LOCATION: ROUNDTOWN (S) / STATION ROAD / ROUNDTOWN (N)

DAY: THURSDAY

DATE: 30/06/2022

				A T	ОВ							A T	0 C			
TIME			FROM RO	UNDTOWN (	S) TO STATI	ION ROAD					FROM ROL	JNDTOWN (S	) TO ROUNI	DTOWN (N)		
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	тот	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	тот
13:00	21	2	0	0	0	0	0	23	24	7	2	2	0	0	0	35
13:15	16	5	2	0	0	0	0	23	31	9	2	2	1	1	0	46
13:30	14	3	1	0	0	1	0	19	38	3	0	5	0	1	0	47
13:45	12	6	1	0	0	0	0	19	29	12	2	0	0	0	0	43
н/тот	63	16	4	0	0	1	0	84	122	31	6	9	1	2	0	171
14:00	14	6	0	0	0	0	0	20	32	11	2	0	0	1	0	46
14:15	19	4	0	0	0	0	0	23	43	15	6	2	0	0	0	66
14:30	14	1	0	1	0	0	0	16	34	13	6	1	2	0	0	56
14:45	15	7	1	1	0	0	0	24	38	10	2	3	1	0	0	54
н/тот	62	18	1	2	0	0	0	83	147	49	16	6	3	1	0	222
15:00	21	3	1	0	0	0	0	25	27	14	3	1	0	0	0	45
15:15	20	6	0	0	0	0	1	27	44	9	4	1	0	0	0	58
15:30	15	7	2	0	0	0	0	24	48	14	2	0	1	0	0	65
15:45	30	5	2	0	0	0	0	37	64	13	0	1	1	1	0	80
н/тот	86	21	5	0	0	0	1	113	183	50	9	3	2	1	0	248
16:00	32	8	0	0	0	0	0	40	70	18	2	1	0	0	0	91
16:15	30	3	0	0	0	0	0	33	64	18	0	0	0	0	0	82
16:30	20	6	0	0	0	0	0	26	67	22	2	0	0	1	0	92
16:45	32	7	0	0	0	0	0	39	82	16	1	1	0	2	0	102
н/тот	114	24	0	0	0	0	0	138	283	74	5	2	0	3	0	367
17:00	30	2	0	0	0	0	0	32	60	12	1	0	0	1	0	74
17:15	27	3	0	0	0	0	0	30	77	10	1	0	0	0	0	88
17:30	29	4	0	0	0	0	0	33	90	14	1	1	0	1	0	107
17:45	33	7	0	0	0	0	0	40	73	11	0	0	0	0	0	84
н/тот	119	16	0	0	0	0	0	135	300	47	3	1	0	2	0	353
18:00	33	3	0	1	0	0	0	37	53	13	0	0	0	1	0	67
18:15	31	3	0	0	1	1	0	36	67	9	0	0	0	0	0	76
18:30	38	5	2	0	0	0	0	45	53	6	0	0	0	0	0	59
18:45	21	2	0	0	0	2	0	25	51	7	1	0	0	1	0	60
н/тот	123	13	2	1	1	3	0	143	224	35	1	0	0	2	0	262
P/TOT	1055	274	51	6	3	10	2	1401	2187	501	100	56	15	17	1	2877



JOB REF: 11430

JOB NAME: AYNHO

SITE: 1

#### LOCATION: ROUNDTOWN (S) / STATION ROAD / ROUNDTOWN (N)



DATE: 30/06/2022

TIME			FROM ST	B TO ATION ROAD	) A TO ROUND	TOWN (S)					FROM STA	B TO	D C TO ROUND	TOWN (N)		
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	тот	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	тот
07:00	22	5	1	0	0	0	0	28	1	0	0	0	0	0	0	1
07:15	17	7	2	0	0	0	0	26	5	1	0	0	0	1	0	7
07:30	27	3	0	0	0	0	0	30	4	2	0	0	0	0	0	6
07:45	34	5	4	0	1	0	0	44	9	3	0	0	0	0	0	12
н/тот	100	20	7	0	1	0	0	128	19	6	0	0	0	1	0	26
08:00	36	6	0	0	0	0	0	42	9	1	0	0	0	0	0	10
08:15	35	7	2	0	0	0	0	44	13	2	2	0	0	0	0	17
08:30	36	9	5	0	1	0	0	51	5	3	0	0	0	0	0	8
08:45	17	5	2	0	0	0	0	24	3	2	0	0	0	0	0	5
н/тот	124	27	9	0	1	0	0	161	30	8	2	0	0	0	0	40
09:00	19	4	0	0	0	0	0	23	0	2	2	0	0	0	0	4
09:15	16	3	0	0	0	0	0	19	1	0	1	0	0	0	0	2
09:30	33	7	3	1	0	0	0	44	3	0	0	0	0	0	0	3
09:45	15	5	1	0	0	0	1	22	4	1	0	0	0	0	0	5
н/тот	83	19	4	1	0	0	1	108	8	3	3	0	0	0	0	14
10:00	21	3	2	0	0	0	0	26	8	2	1	0	0	0	0	11
10:15	14	2	0	1	0	0	0	17	8	3	0	0	0	0	0	11
10:30	36	6	0	0	0	0	0	42	4	1	0	0	0	0	0	5
10:45	23	6	0	0	0	0	0	29	5	0	0	0	0	0	0	5
н/тот	94	17	2	1	0	0	0	114	25	6	1	0	0	0	0	32
11:00	17	4	0	0	0	0	0	21	5	1	0	0	0	0	0	6
11:15	25	10	1	0	0	0	0	36	10	3	0	0	0	0	0	13
11:30	20	7	2	0	0	0	0	29	3	1	2	0	0	0	0	6
11:45	20	2	1	0	0	0	0	23	5	3	0	0	0	0	0	8
н/тот	82	23	4	0	0	0	0	109	23	8	2	0	0	0	0	33
12:00	20	6	2	0	0	0	0	28	11	3	0	0	0	0	0	14
12:15	20	5	0	0	0	0	1	26	5	0	1	0	0	0	0	6
12:30	17	8	0	0	0	1	0	26	6	1	0	0	0	0	1	8
12:45	16	10	0	0	0	0	0	26	4	0	0	0	0	0	0	4
н/тот	73	29	2	0	0	1	1	106	26	4	1	0	0	0	1	32

JOB REF: 11430

JOB NAME: AYNHO

SITE: 1

#### LOCATION: ROUNDTOWN (S) / STATION ROAD / ROUNDTOWN (N)

B TO A FROM STATION ROAD TO ROUNDTOWN (S) OGV1 OGV2 PSV MCL PCL TOT CAR LGV

TIME FROM STATION ROAD TO ROUNDTOWN (N) CAR LGV OGV1 OGV2 OGV1 OGV2 **PSV** MCL PCL тот 13:00 13:15 13:30 13:45 н/тот 14:00 14:15 14:30 14:45 н/тот 15:00 15:15 15:30 15:45 н/тот 16:00 16:15 16:30 16:45 н/тот 17:00 17:15 17:30 17:45 H/TOT 18:00 18:15 18:30 18:45 H/TOT P/TOT



DATE: 30/06/2022

DAY: THURSDAY

B TO C

JOB REF: 11430

JOB NAME: AYNHO

SITE: 1

#### LOCATION: ROUNDTOWN (S) / STATION ROAD / ROUNDTOWN (N)



DATE: 30/06/2022

				C T C	AC							C T C	О В			
TIME			FROM ROL	JNDTOWN (N	I) TO ROUN	DTOWN (S)					FROM RO	UNDTOWN (	N) TO STAT	ION ROAD		
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	тот	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	тот
07:00	64	17	2	0	0	1	0	84	7	4	1	0	0	0	0	12
07:15	75	25	1	0	0	1	0	102	8	4	0	0	0	0	0	12
07:30	105	30	0	0	0	1	0	136	14	9	1	0	1	0	0	25
07:45	91	18	3	1	0	0	0	113	15	3	1	0	0	0	0	19
н/тот	335	90	6	1	0	3	0	435	44	20	3	0	1	0	0	68
08:00	90	15	4	1	1	0	0	111	22	1	2	0	0	0	0	25
08:15	73	10	7	2	0	0	1	93	13	7	1	0	0	0	0	21
08:30	49	6	4	1	2	1	0	63	10	4	0	0	0	0	0	14
08:45	58	12	5	2	2	0	2	81	18	4	1	0	0	0	0	23
Н/ТОТ	270	43	20	6	5	1	3	348	63	16	4	0	0	0	0	83
09:00	61	12	1	2	1	0	0	77	11	4	1	0	0	0	0	16
09:15	43	3	2	2	0	0	0	50	10	5	2	0	0	0	0	17
09:30	39	12	4	1	0	0	0	56	7	1	1	0	0	0	0	9
09:45	31	12	4	0	0	0	0	47	11	3	1	0	0	0	0	15
н/тот	174	39	11	5	1	0	0	230	39	13	5	0	0	0	0	57
10:00	43	11	2	1	0	0	1	58	10	4	0	0	0	0	0	14
10:15	34	9	2	1	0	1	0	47	8	4	1	0	0	0	0	13
10:30	27	15	1	2	1	0	0	46	4	1	0	0	0	0	0	5
10:45	27	8	2	2	0	1	0	40	10	0	0	0	0	0	0	10
н/тот	131	43	7	6	1	2	1	191	32	9	1	0	0	0	0	42
11:00	36	5	4	1	0	0	0	46	11	0	0	0	0	0	0	11
11:15	40	6	2	3	0	0	0	51	7	2	1	0	0	0	0	10
11:30	33	4	1	0	0	0	0	38	8	3	0	0	0	0	0	11
11:45	36	7	6	1	0	1	0	51	3	3	0	0	0	0	0	6
н/тот	145	22	13	5	0	1	0	186	29	8	1	0	0	0	0	38
12:00	37	8	0	0	0	0	0	45	9	1	1	0	0	0	0	11
12:15	28	10	2	2	0	0	1	43	7	3	0	0	0	0	0	10
12:30	36	4	3	2	0	3	0	48	5	1	1	0	0	0	0	7
12:45	41	12	3	3	0	0	0	59	4	1	0	0	0	0	1	6
Н/ТОТ	142	34	8	7	0	3	1	195	25	6	2	0	0	0	1	34

JOB REF: 11430

JOB NAME: AYNHO

SITE: 1

#### LOCATION: ROUNDTOWN (S) / STATION ROAD / ROUNDTOWN (N)



DATE: 30/06/2022

				C T (	AC							C T C	О В			
TIME			FROM ROL	JNDTOWN (N	I) TO ROUN	DTOWN (S)					FROM RO	UNDTOWN (	N) TO STAT	ION ROAD		
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	тот	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	тот
13:00	33	9	2	0	0	0	0	44	5	1	1	0	0	0	0	7
13:15	38	5	0	0	0	0	0	43	6	0	0	0	0	0	0	6
13:30	27	7	2	0	0	0	0	36	10	1	0	0	0	1	0	12
13:45	39	4	2	1	1	0	0	47	11	2	0	0	0	0	0	13
н/тот	137	25	6	1	1	0	0	170	32	4	1	0	0	1	0	38
14:00	31	8	2	1	0	0	0	42	4	1	0	0	0	0	0	5
14:15	36	6	2	3	0	0	0	47	3	0	1	0	0	0	0	4
14:30	42	6	4	1	0	0	0	53	5	1	0	0	0	0	0	6
14:45	44	6	2	0	1	0	0	53	9	1	0	0	0	0	0	10
н/тот	153	26	10	5	1	0	0	195	21	3	1	0	0	0	0	25
15:00	29	6	7	2	0	0	0	44	11	1	0	0	0	0	0	12
15:15	35	13	2	2	0	1	0	53	9	2	0	0	0	0	0	11
15:30	47	12	1	0	3	0	0	63	4	0	0	0	0	0	0	4
15:45	48	5	1	0	1	0	0	55	4	2	0	0	0	0	0	6
н/тот	159	36	11	4	4	1	0	215	28	5	0	0	0	0	0	33
16:00	39	11	1	0	0	0	0	51	8	3	0	0	0	0	0	11
16:15	58	13	1	2	0	1	0	75	3	4	0	0	0	0	0	7
16:30	53	12	1	1	0	1	0	68	7	2	0	0	0	0	0	9
16:45	61	13	1	0	0	0	0	75	9	1	0	0	0	0	0	10
н/тот	211	49	4	3	0	2	0	269	27	10	0	0	0	0	0	37
17:00	66	9	0	0	0	0	0	75	7	1	0	0	0	0	0	8
17:15	63	8	0	0	0	1	0	72	17	2	0	0	0	0	0	19
17:30	73	18	1	1	0	0	0	93	15	2	0	0	0	0	0	17
17:45	43	7	0	0	1	0	0	51	6	0	0	0	0	0	0	6
н/тот	245	42	1	1	1	1	0	291	45	5	0	0	0	0	0	50
18:00	52	10	0	0	0	0	0	62	10	1	0	0	0	0	0	11
18:15	35	2	0	0	0	1	0	38	7	2	0	0	0	0	0	9
18:30	40	4	0	1	0	1	0	46	7	1	0	0	0	0	0	8
18:45	26	2	0	0	0	0	0	28	8	0	0	0	0	0	0	8
н/тот	153	18	0	1	0	2	0	174	32	4	0	0	0	0	0	36
P/TOT	2255	467	97	45	14	16	5	2899	417	103	18	0	1	1	1	541

JOB REF: 11430

JOB NAME: AYNHO

SITE: 1

#### LOCATION: ROUNDTOWN (S) / STATION ROAD / ROUNDTOWN (N)



DATE: 30/06/2022

TIME				TO AF	RM A							FROM	ARM A			
TIME	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	тот	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	тот
07:00	86	22	3	0	0	1	0	112	41	16	4	1	2	0	0	64
07:15	92	32	3	0	0	1	0	128	58	32	5	2	2	1	0	100
07:30	132	33	0	0	0	1	0	166	81	41	4	2	2	1	0	131
07:45	125	23	7	1	1	0	0	157	85	24	3	1	0	0	0	113
н/тот	435	110	13	1	1	3	0	563	265	113	16	6	6	2	0	408
08:00	126	21	4	1	1	0	0	153	80	14	3	1	2	1	0	101
08:15	108	17	9	2	0	0	1	137	72	12	4	0	0	0	0	88
08:30	85	15	9	1	3	1	0	114	84	8	6	1	1	0	0	100
08:45	75	17	7	2	2	0	2	105	80	13	6	1	1	0	0	101
н/тот	394	70	29	6	6	1	3	509	316	47	19	3	4	1	0	390
09:00	80	16	1	2	1	0	0	100	66	12	7	1	0	1	0	87
09:15	59	6	2	2	0	0	0	69	51	15	3	2	1	1	0	73
09:30	72	19	7	2	0	0	0	100	61	9	3	1	0	0	0	74
09:45	46	17	5	0	0	0	1	69	57	15	8	5	0	0	0	85
н/тот	257	58	15	6	1	0	1	338	235	51	21	9	1	2	0	319
10:00	64	14	4	1	0	0	1	84	48	18	3	3	0	4	0	76
10:15	48	11	2	2	0	1	0	64	72	13	3	0	0	0	0	88
10:30	63	21	1	2	1	0	0	88	62	16	5	0	0	0	0	83
10:45	50	14	2	2	0	1	0	69	35	17	1	4	0	1	0	58
н/тот	225	60	9	7	1	2	1	305	217	64	12	7	0	5	0	305
11:00	53	9	4	1	0	0	0	67	45	21	4	1	0	0	0	71
11:15	65	16	3	3	0	0	0	87	44	15	7	2	0	0	0	68
11:30	53	11	3	0	0	0	0	67	47	10	5	2	0	1	0	65
11:45	56	9	7	1	0	1	0	74	53	11	1	2	0	0	1	68
н/тот	227	45	17	5	0	1	0	295	189	57	17	7	0	1	1	272
12:00	57	14	2	0	0	0	0	73	55	12	6	2	0	1	0	76
12:15	48	15	2	2	0	0	2	69	46	10	3	2	0	0	0	61
12:30	53	12	3	2	0	4	0	74	51	12	5	1	0	0	1	70
12:45	57	22	3	3	0	0	0	85	42	15	0	1	0	0	0	58
H/TOT	215	63	10	7	0	4	2	301	194	49	14	6	0	1	1	265

JOB REF: 11430

JOB NAME: AYNHO

SITE: 1

18:45

H/TOT

P/TOT

#### LOCATION: ROUNDTOWN (S) / STATION ROAD / ROUNDTOWN (N)

TO ARM A FROM ARM A TIME **ROUNDTOWN (S) ROUNDTOWN (S)** CAR LGV OGV1 OGV2 PSV MCL PCL тот CAR LGV OGV1 OGV2 **PSV** MCL PCL тот 13:00 13:15 13:30 13:45 н/тот 14:00 14:15 14:30 14:45 H/TOT 15:00 15:15 15:30 15:45 н/тот 16:00 16:15 16:30 16:45 н/тот 17:00 17:15 17:30 17:45 H/TOT 18:00 18:15 18:30 



30/06/2022

DATE:

JOB REF: 11430

JOB NAME: AYNHO

SITE: 1

#### LOCATION: ROUNDTOWN (S) / STATION ROAD / ROUNDTOWN (N)

AUTO SURVEYS LTD

DATE: 30/06/2022

				TO A	RM B							FROM	ARM B			
TIME				STATIO	NROAD							STATION	NROAD			
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	тот	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	тот
07:00	24	13	2	0	0	0	0	39	23	5	1	0	0	0	0	29
07:15	30	26	3	0	1	0	0	60	22	8	2	0	0	1	0	33
07:30	40	31	3	0	2	0	0	76	31	5	0	0	0	0	0	36
07:45	35	16	4	0	0	0	0	55	43	8	4	0	1	0	0	56
н/тот	129	86	12	0	3	0	0	230	119	26	7	0	1	1	0	154
08:00	53	7	4	0	0	0	0	64	45	7	0	0	0	0	0	52
08:15	39	12	3	0	0	0	0	54	48	9	4	0	0	0	0	61
08:30	37	6	2	0	0	0	0	45	41	12	5	0	1	0	0	59
08:45	36	10	2	1	0	0	0	49	20	7	2	0	0	0	0	29
н/тот	165	35	11	1	0	0	0	212	154	35	11	0	1	0	0	201
09:00	36	10	5	1	0	1	0	53	19	6	2	0	0	0	0	27
09:15	24	9	2	0	0	1	0	36	17	3	1	0	0	0	0	21
09:30	30	3	3	0	0	0	0	36	36	7	3	1	0	0	0	47
09:45	31	8	4	0	0	0	0	43	19	6	1	0	0	0	1	27
н/тот	121	30	14	1	0	2	0	168	91	22	7	1	0	0	1	122
10:00	34	9	1	0	0	2	0	46	29	5	3	0	0	0	0	37
10:15	31	10	1	0	0	0	0	42	22	5	0	1	0	0	0	28
10:30	24	7	2	0	0	0	0	33	40	7	0	0	0	0	0	47
10:45	20	6	0	1	0	1	0	28	28	6	0	0	0	0	0	34
н/тот	109	32	4	1	0	3	0	149	119	23	3	1	0	0	0	146
11:00	31	8	3	0	0	0	0	42	22	5	0	0	0	0	0	27
11:15	21	5	2	0	0	0	0	28	35	13	1	0	0	0	0	49
11:30	30	4	2	0	0	1	0	37	23	8	4	0	0	0	0	35
11:45	21	10	0	0	0	0	1	32	25	5	1	0	0	0	0	31
н/тот	103	27	7	0	0	1	1	139	105	31	6	0	0	0	0	142
12:00	32	6	3	0	0	0	0	41	31	9	2	0	0	0	0	42
12:15	23	9	1	0	0	0	0	33	25	5	1	0	0	0	1	32
12:30	21	8	3	0	0	0	0	32	23	9	0	0	0	1	1	34
12:45	17	5	0	0	0	0	1	23	20	10	0	0	0	0	0	30
н/тот	93	28	7	0	0	0	1	129	99	33	3	0	0	1	2	138

JOB REF: 11430

JOB NAME: AYNHO

SITE: 1

#### LOCATION: ROUNDTOWN (S) / STATION ROAD / ROUNDTOWN (N)



DATE: 30/06/2022

TIME				TO AF								FROM	ARM B			
TIME	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	тот	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	тот
13:00	26	3	1	0	0	0	0	30	25	5	1	0	0	2	0	33
13:15	22	5	2	0	0	0	0	29	19	8	0	0	0	0	0	27
13:30	24	4	1	0	0	2	0	31	34	8	2	0	0	1	1	46
13:45	23	8	1	0	0	0	0	32	24	7	2	0	0	0	0	33
н/тот	95	20	5	0	0	2	0	122	102	28	5	0	0	3	1	139
14:00	18	7	0	0	0	0	0	25	17	8	1	0	0	0	1	27
14:15	22	4	1	0	0	0	0	27	31	10	0	0	0	0	1	42
14:30	19	2	0	1	0	0	0	22	32	9	4	0	0	0	0	45
14:45	24	8	1	1	0	0	0	34	35	7	0	0	0	0	0	42
н/тот	83	21	2	2	0	0	0	108	115	34	5	0	0	0	2	156
15:00	32	4	1	0	0	0	0	37	38	10	5	0	0	0	1	54
15:15	29	8	0	0	0	0	1	38	43	14	0	0	0	0	0	57
15:30	19	7	2	0	0	0	0	28	48	10	1	0	1	0	0	60
15:45	34	7	2	0	0	0	0	43	45	14	2	0	0	0	0	61
н/тот	114	26	5	0	0	0	1	146	174	48	8	0	1	0	1	232
16:00	40	11	0	0	0	0	0	51	52	21	1	0	0	0	0	74
16:15	33	7	0	0	0	0	0	40	42	22	1	0	0	0	0	65
16:30	27	8	0	0	0	0	0	35	50	14	2	0	0	0	1	67
16:45	41	8	0	0	0	0	0	49	66	20	1	0	0	0	0	87
н/тот	141	34	0	0	0	0	0	175	210	77	5	0	0	0	1	293
17:00	37	3	0	0	0	0	0	40	69	10	2	0	0	0	0	81
17:15	44	5	0	0	0	0	0	49	50	12	1	0	0	1	0	64
17:30	44	6	0	0	0	0	0	50	47	12	2	0	0	0	0	61
17:45	39	7	0	0	0	0	0	46	50	5	1	0	0	0	0	56
н/тот	164	21	0	0	0	0	0	185	216	39	6	0	0	1	0	262
18:00	43	4	0	1	0	0	0	48	49	7	0	0	1	0	0	57
18:15	38	5	0	0	1	1	0	45	31	7	0	0	0	0	0	38
18:30	45	6	2	0	0	0	0	53	45	8	1	0	0	0	0	54
18:45	29	2	0	0	0	2	0	33	29	4	0	0	0	0	0	33
н/тот	155	17	2	1	1	3	0	179	154	26	1	0	1	0	0	182
P/TOT	1472	377	69	6	4	11	3	1942	1658	422	67	2	4	6	8	2167

JOB REF: 11430

JOB NAME: AYNHO

SITE: 1

#### LOCATION: ROUNDTOWN (S) / STATION ROAD / ROUNDTOWN (N)

SURVEYS LTD

DATE: 30/06/2022

				TO A	RM C							FROM	ARM C			
TIME				ROUNDT	OWN (N)							ROUNDT	OWN (N)			
	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	тот	CAR	LGV	OGV1	OGV2	PSV	MCL	PCL	тот
07:00	25	7	3	1	2	0	0	38	71	21	3	0	0	1	0	96
07:15	41	11	2	2	1	2	0	59	83	29	1	0	0	1	0	114
07:30	59	21	2	2	1	1	0	86	119	39	1	0	1	1	0	161
07:45	74	14	0	1	0	0	0	89	106	21	4	1	0	0	0	132
н/тот	199	53	7	6	4	3	0	272	379	110	9	1	1	3	0	503
08:00	58	9	1	1	2	1	0	72	112	16	6	1	1	0	0	136
08:15	59	9	4	0	0	0	0	72	86	17	8	2	0	0	1	114
08:30	62	9	4	1	1	0	0	77	59	10	4	1	2	1	0	77
08:45	65	9	5	0	1	0	0	80	76	16	6	2	2	0	2	104
н/тот	244	36	14	2	4	1	0	301	333	59	24	6	5	1	3	431
09:00	41	8	5	0	0	0	0	54	72	16	2	2	1	0	0	93
09:15	38	11	4	2	1	0	0	56	53	8	4	2	0	0	0	67
09:30	41	7	1	1	0	0	0	50	46	13	5	1	0	0	0	65
09:45	41	11	5	5	0	0	0	62	42	15	5	0	0	0	0	62
н/тот	161	37	15	8	1	0	0	222	213	52	16	5	1	0	0	287
10:00	32	15	3	3	0	2	0	55	53	15	2	1	0	0	1	72
10:15	57	10	3	0	0	0	0	70	42	13	3	1	0	1	0	60
10:30	46	11	3	0	0	0	0	60	31	16	1	2	1	0	0	51
10:45	30	11	1	3	0	0	0	45	37	8	2	2	0	1	0	50
н/тот	165	47	10	6	0	2	0	230	163	52	8	6	1	2	1	233
11:00	30	14	1	1	0	0	0	46	47	5	4	1	0	0	0	57
11:15	40	15	6	2	0	0	0	63	47	8	3	3	0	0	0	61
11:30	28	10	5	2	0	0	0	45	41	7	1	0	0	0	0	49
11:45	40	7	1	2	0	0	0	50	39	10	6	1	0	1	0	57
н/тот	138	46	13	7	0	0	0	204	174	30	14	5	0	1	0	224
12:00	43	10	4	2	0	1	0	60	46	9	1	0	0	0	0	56
12:15	35	4	3	2	0	0	0	44	35	13	2	2	0	0	1	53
12:30	41	6	3	1	0	0	2	53	41	5	4	2	0	3	0	55
12:45	33	11	0	1	0	0	0	45	45	13	3	3	0	0	1	65
н/тот	152	31	10	6	0	1	2	202	167	40	10	7	0	3	2	229

CAR

JOB REF: 

JOB NAME: AYNHO

SITE: 

TIME

13:00

13:15

13:30

13:45

н/тот

14:00

#### LOCATION: ROUNDTOWN (S) / STATION ROAD / ROUNDTOWN (N)

TO ARM C

**ROUNDTOWN (N) ROUNDTOWN (N)** LGV OGV1 MCL PCL тот CAR LGV OGV1 OGV2 PSV OGV2 PSV 

AUTO SURVEYS LTD

PCL

тот

DATE: 30/06/2022

DAY: THURSDAY

MCL

FROM ARM C

14:15	53	18	6	2	0	0	1	80	39	6	3	3	0	0	0	51
14:30	39	15	6	1	2	0	0	63	47	7	4	1	0	0	0	59
14:45	47	11	2	3	1	0	0	64	53	7	2	0	1	0	0	63
н/тот	175	57	16	6	3	1	1	259	174	29	11	5	1	0	0	220
15:00	35	16	3	1	0	0	1	56	40	7	7	2	0	0	0	56
15:15	49	10	4	1	0	0	0	64	44	15	2	2	0	1	0	64
15:30	55	15	3	0	1	0	0	74	51	12	1	0	3	0	0	67
15:45	77	15	1	1	1	1	0	96	52	7	1	0	1	0	0	61
н/тот	216	56	11	3	2	1	1	290	187	41	11	4	4	1	0	248
16:00	89	25	2	1	0	0	0	117	47	14	1	0	0	0	0	62
16:15	74	24	0	0	0	0	0	98	61	17	1	2	0	1	0	82
16:30	84	27	3	0	0	1	0	115	60	14	1	1	0	1	0	77
16:45	96	24	1	1	0	2	0	124	70	14	1	0	0	0	0	85
н/тот	343	100	6	2	0	3	0	454	238	59	4	3	0	2	0	306
17:00	77	13	1	0	0	1	0	92	73	10	0	0	0	0	0	83
17:15	90	11	1	0	0	0	0	102	80	10	0	0	0	1	0	91
17:30	102	17	2	1	0	1	0	123	88	20	1	1	0	0	0	110
17:45	83	12	0	0	0	0	0	95	49	7	0	0	1	0	0	57
н/тот	352	53	4	1	0	2	0	412	290	47	1	1	1	1	0	341
18:00	69	14	0	0	0	1	0	84	62	11	0	0	0	0	0	73
18:15	73	10	0	0	0	0	0	83	42	4	0	0	0	1	0	47
18:30	67	8	0	0	0	0	0	75	47	5	0	1	0	1	0	54
18:45	59	7	1	0	0	1	0	68	34	2	0	0	0	0	0	36
н/тот	268	39	1	0	0	2	0	310	185	22	0	1	0	2	0	210
P/TOT	2558	589	115	56	15	19	5	3357	2672	570	115	45	15	17	6	3440

### QUEUE LENGTHS

JOB REF: 11430

JOB NAME: AYNHO

1

SITE:

DATE: 30/06/2022

DAY:

LOCATION: ROUNDTOWN (S) / STATION ROAD / ROUNDTOWN (N)

THURSDAY

AUTO SURVEYS LTD

NOTE: Queue Lengths recorded by the number of vehicles queuing at each 5-minute interval, by lane

	ARM A	ARM B	ARM C		ARM A	ARM B	ARM C
TIME	ROUNDTOWN (S)	STATION ROAD	ROUNDTOWN (N)	TIME	ROUNDTOWN (S)	STATION ROAD	ROUNDTOWN (N)
	LANE 1	LANE 1	LANE 1		LANE 1	LANE 1	LANE 1
07:30	0	0	0	16:30	0	0	0
07:35	0	0	0	16:35	0	1	0
07:40	0	0	0	16:40	0	0	0
07:45	0	3	0	16:45	0	0	0
07:50	0	0	0	16:50	0	2	0
07:55	0	0	0	16:55	0	0	0
08:00	0	2	0	17:00	0	0	0
08:05	0	0	0	17:05	0	1	0
08:10	0	0	0	17:10	0	3	0
08:15	0	1	0	17:15	0	0	0
08:20	0	0	0	17:20	0	2	0
08:25	0	0	0	17:25	0	0	0
08:30	0	1	0	17:30	0	0	0
08:35	0	2	0	17:35	0	0	0
08:40	0	0	0	17:40	0	5	0
08:45	0	0	0	17:45	0	1	0
08:50	0	2	0	17:50	0	0	0
08:55	0	0	0	17:55	0	0	0
09:00	0	0	0	18:00	0	1	0
09:05	0	3	0	18:05	0	0	0
09:10	0	0	0	18:10	0	0	0
09:15	0	0	0	18:15	0	0	0
09:20	0	0	0	18:20	0	0	0
09:25	0	2	0	18:25	0	1	0

		DATE:
SITE: 2	AUTO SURVEYS LTD	28TH TO 30TH JUNE 2022
LOCATION:	Awardshi Jouge and The same	DAY:
B4031 / B4100 (SE) / B4100 (NW) / UN-NAMED ROAD		TUESDAY TO THURSDAY
	APM D	
and the sale		
		学家 一
And a state		
1 Manuferto	B4031	Contraction of the
ARM C		4031
	0,000	
and the second s		
- A ALLAND	BATO	
1 0 2	2.00	
on In Practice	- ARM B	
And - the	1	
	113	A Carlos
	Real Street	
	B	Google
JOB TITLE:		
ΑΥΝΗΟ		JUB NUMBER: 11430

JOB REF: 11430

JOB NAME: AYNHO

SITE:

12:45

#### LOCATION: B4031 / B4100 (SE) / B4100 (NW) / UN-NAMED ROAD

A TO B A TO C TIME FROM B4031 TO B4100 (SE) FROM B4031 TO B4100 (NW) CAR LGV OGV1 CAR OGV2 **PSV** MCL PCL тот LGV OGV1 OGV2 PSV MCL PCL TOT 07:00 07:15 07:30 07:45 H/TOT 08:00 08:15 08:30 08:45 H/TOT 09:00 09:15 09:30 09:45 H/TOT 10:00 10:15 10:30 10:45 н/тот 11:00 11:15 11:30 11:45 н/тот 12:00 12:15 12:30 

S



DAY: TUESDAY

DATE: 28/06/2022

H/TOT

P/TOT

JOB REF: 11430

JOB NAME: AYNHO

SITE:

н/тот

#### LOCATION: B4031 / B4100 (SE) / B4100 (NW) / UN-NAMED ROAD

13:00 13:15 13:30 13:45 H/TOT 14:00 14:15 14:30 14:45 н/тот 15:00 15:15 15:30 15:45 H/TOT 16:00 16:15 16:30 16:45 H/TOT 17:00 17:15 17:30 17:45 H/TOT 18:00 18:15 18:30 18:45 



DATE: 28/06/2022

DAY: TUESDAY

JOB REF: 11430

JOB NAME: AYNHO

SITE:

12:45

#### LOCATION: B4031 / B4100 (SE) / B4100 (NW) / UN-NAMED ROAD

A TO D B TO A TIME FROM B4031 TO UN-NAMED ROAD FROM B4100 (SE) TO B4031 CAR LGV OGV1 CAR LGV OGV2 **PSV** MCL PCL тот OGV1 OGV2 PSV MCL PCL TOT 07:00 07:15 07:30 07:45 H/TOT 08:00 08:15 08:30 08:45 H/TOT 09:00 09:15 09:30 09:45 H/TOT 10:00 10:15 10:30 10:45 н/тот 11:00 11:15 11:30 11:45 н/тот 12:00 12:15 12:30 



DATE: 28/06/2022

2

JOB REF: 11430

JOB NAME: AYNHO

SITE:

### LOCATION: B4031 / B4100 (SE) / B4100 (NW) / UN-NAMED ROAD



DATE: 28/06/2022

н/тот	3	0	0	0	0	0	1	4	9	3	0	0	0	0	0	12
13:00	1	0	0	0	0	0	0	1	2	0	0	0	0	0	0	2
13:15	1	0	0	0	0	0	0	1	2	0	0	0	0	0	0	2
13:30	0	1	0	0	0	0	0	1	1	0	0	0	0	0	0	1
13:45	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2
н/тот	2	1	0	0	0	0	0	3	7	0	0	0	0	0	0	7
14:00	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1
14:15	1	0	0	0	0	1	0	2	3	0	0	0	0	0	0	3
14:30	0	0	0	0	0	0	0	0	8	0	0	0	0	0	0	8
14:45	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	3
н/тот	2	0	0	0	0	1	0	3	15	0	0	0	0	0	0	15
15:00	0	0	0	0	0	0	0	0	6	1	0	0	0	0	0	7
15:15	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	4
15:30	1	0	0	0	1	0	0	2	5	0	0	0	0	0	0	5
15:45	2	0	0	0	0	0	0	2	6	1	0	0	0	0	0	7
н/тот	3	0	0	0	1	0	0	4	21	2	0	0	0	0	0	23
16:00	0	0	0	0	0	0	0	0	3	1	0	0	0	0	0	4
16:15	0	0	1	0	0	0	0	1	7	0	0	0	0	0	0	7
16:30	1	0	0	0	0	0	0	1	4	0	0	0	0	0	0	4
16:45	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	2
н/тот	1	0	1	0	0	0	0	2	15	2	0	0	0	0	0	17
17:00	0	0	0	0	0	0	0	0	8	2	0	0	0	0	0	10
17:15	0	0	0	0	0	0	0	0	9	0	0	0	0	0	0	9
17:30	0	0	0	0	0	0	0	0	4	2	0	0	0	0	0	6
17:45	1	0	0	0	0	0	0	1	6	0	0	0	0	0	0	6
н/тот	1	0	0	0	0	0	0	1	27	4	0	0	0	0	0	31
18:00	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	3
18:15	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
18:30	1	0	0	0	0	0	0	1	4	0	0	0	0	0	0	4
18:45	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2
н/тот	1	0	0	0	0	0	0	1	10	0	0	0	0	0	0	10
P/TOT	30	4	1	0	1	1	2	39	134	23	3	0	0	1	0	161

JOB REF: 11430

JOB NAME: AYNHO

SITE:

12:45

#### LOCATION: B4031 / B4100 (SE) / B4100 (NW) / UN-NAMED ROAD

B TO C B TO D TIME FROM B4100 (SE) TO B4100 (NW) FROM B4100 (SE) TO UN-NAMED ROAD CAR LGV CAR LGV OGV1 OGV2 **PSV** MCL PCL тот OGV1 OGV2 PSV MCL PCL TOT 07:00 07:15 07:30 07:45 H/TOT 08:00 08:15 08:30 08:45 H/TOT 09:00 09:15 09:30 09:45 H/TOT 10:00 10:15 10:30 10:45 н/тот 11:00 11:15 11:30 11:45 н/тот 12:00 12:15 12:30 



DATE: 28/06/2022

2

JOB REF: 11430

JOB NAME: AYNHO

SITE:

### LOCATION: B4031 / B4100 (SE) / B4100 (NW) / UN-NAMED ROAD



DATE: 28/06/2022

н/тот	111	32	13	2	1	1	0	160	7	4	0	1	0	0	0	12
13:00	23	4	1	0	0	1	0	29	1	0	0	0	0	0	0	1
13:15	38	5	2	2	0	1	0	48	3	0	0	1	0	0	0	4
13:30	35	4	4	0	0	0	0	43	3	0	0	0	0	0	0	3
13:45	38	11	2	2	0	0	0	53	1	0	0	0	0	0	0	1
н/тот	134	24	9	4	0	2	0	173	8	0	0	1	0	0	0	9
14:00	19	9	3	2	0	0	0	33	3	1	1	0	0	0	0	5
14:15	39	14	5	1	1	1	0	61	0	1	0	0	0	0	0	1
14:30	34	6	4	1	2	0	0	47	1	2	0	0	0	0	0	3
14:45	35	7	6	0	1	0	0	49	7	0	0	0	0	0	0	7
н/тот	127	36	18	4	4	1	0	190	11	4	1	0	0	0	0	16
15:00	37	7	3	3	0	0	0	50	3	0	1	0	0	0	0	4
15:15	45	9	1	2	0	1	0	58	4	2	0	0	0	0	0	6
15:30	37	8	2	0	0	0	0	47	2	2	3	0	0	0	0	7
15:45	58	12	2	1	0	1	0	74	1	0	0	0	0	0	0	1
н/тот	177	36	8	6	0	2	0	229	10	4	4	0	0	0	0	18
16:00	42	13	1	0	0	0	0	56	2	2	0	2	0	0	0	6
16:15	66	9	3	0	0	0	0	78	9	5	0	0	0	0	0	14
16:30	49	14	1	0	0	2	0	66	6	0	0	0	0	0	0	6
16:45	53	21	0	0	1	0	1	76	5	1	1	0	0	0	1	8
н/тот	210	57	5	0	1	2	1	276	22	8	1	2	0	0	1	34
17:00	61	16	1	0	0	1	0	79	3	1	1	0	0	1	0	6
17:15	82	7	4	1	0	0	1	95	10	0	0	0	0	0	0	10
17:30	68	13	2	1	0	2	0	86	2	0	1	0	0	0	0	3
17:45	66	9	1	0	0	0	0	76	6	0	2	0	0	0	0	8
н/тот	277	45	8	2	0	3	1	336	21	1	4	0	0	1	0	27
18:00	69	7	2	0	0	0	0	78	5	0	0	0	0	0	0	5
18:15	42	7	2	0	0	4	0	55	4	1	0	0	0	0	0	5
18:30	50	5	0	0	0	1	0	56	0	0	0	0	0	0	0	0
18:45	51	9	3	0	0	1	0	64	4	1	0	0	0	0	0	5
н/тот	212	28	7	0	0	6	0	253	13	2	0	0	0	0	0	15
P/TOT	1895	438	124	33	12	21	4	2527	134	35	16	5	0	1	1	192

JOB REF: 11430

JOB NAME: AYNHO

SITE:

12:45

#### LOCATION: B4031 / B4100 (SE) / B4100 (NW) / UN-NAMED ROAD

С ТО В C TO A TIME FROM B4100 (NW) TO B4031 FROM B4100 (NW) TO B4100 (SE) CAR OGV1 CAR LGV LGV OGV2 **PSV** MCL PCL тот OGV1 OGV2 PSV MCL PCL TOT 07:00 07:15 07:30 07:45 H/TOT 08:00 08:15 08:30 08:45 H/TOT 09:00 09:15 09:30 09:45 H/TOT 10:00 10:15 10:30 10:45 н/тот 11:00 11:15 11:30 11:45 н/тот 12:00 12:15 12:30 



DATE: 28/06/2022

2

JOB REF: 11430

JOB NAME: AYNHO

SITE:

### LOCATION: B4031 / B4100 (SE) / B4100 (NW) / UN-NAMED ROAD



DATE: 28/06/2022

н/тот	75	17	5	0	0	1	0	98	110	27	10	4	0	3	0	154
13:00	16	8	3	0	0	0	0	27	32	5	2	2	0	0	0	41
13:15	13	10	2	0	0	0	0	25	29	6	1	1	0	1	0	38
13:30	20	3	1	0	0	0	0	24	29	4	2	1	0	0	0	36
13:45	17	2	4	0	0	0	0	23	27	10	2	2	0	0	0	41
н/тот	66	23	10	0	0	0	0	99	117	25	7	6	0	1	0	156
14:00	17	1	2	0	0	1	0	21	24	3	1	0	1	2	0	31
14:15	18	6	1	1	0	0	0	26	30	5	2	1	0	0	1	39
14:30	21	7	1	0	0	1	0	30	40	8	3	2	0	1	0	54
14:45	19	4	2	0	0	0	0	25	33	5	0	1	0	1	0	40
н/тот	75	18	6	1	0	2	0	102	127	21	6	4	1	4	1	164
15:00	17	4	0	0	0	1	0	22	28	11	4	3	0	1	0	47
15:15	25	13	1	1	0	1	0	41	36	13	2	1	0	0	0	52
15:30	25	10	0	0	0	0	0	35	40	10	1	1	4	0	0	56
15:45	36	4	0	0	0	3	0	43	36	5	4	0	1	0	1	47
н/тот	103	31	1	1	0	5	0	141	140	39	11	5	5	1	1	202
16:00	27	9	0	0	0	0	0	36	41	15	4	0	1	1	0	62
16:15	28	15	1	0	0	0	0	44	39	16	1	0	1	0	1	58
16:30	33	14	2	0	0	0	0	49	48	13	2	0	0	0	0	63
16:45	32	10	2	0	0	1	0	45	42	8	1	0	0	0	0	51
н/тот	120	48	5	0	0	1	0	174	170	52	8	0	2	1	1	234
17:00	47	9	2	0	0	0	0	58	60	8	0	0	0	0	0	68
17:15	38	8	0	0	0	2	0	48	45	8	2	0	0	0	0	55
17:30	48	5	0	0	1	0	0	54	52	4	1	0	0	0	0	57
17:45	39	10	0	0	1	0	0	50	36	4	0	0	0	0	0	40
н/тот	172	32	2	0	2	2	0	210	193	24	3	0	0	0	0	220
18:00	35	2	0	0	0	1	0	38	38	3	1	1	0	1	0	44
18:15	40	1	0	0	0	0	0	41	32	4	0	0	0	1	0	37
18:30	19	1	0	1	0	0	0	21	27	5	2	0	0	0	0	34
18:45	15	1	0	0	0	1	0	17	23	2	1	0	0	0	0	26
Н/ТОТ	109	5	0	1	0	2	0	117	120	14	4	1	0	2	0	141
P/TOT	1362	283	47	5	4	20	2	1723	1935	418	113	40	13	21	5	2545

JOB REF: 11430

JOB NAME: AYNHO

SITE:

12:45

#### LOCATION: B4031 / B4100 (SE) / B4100 (NW) / UN-NAMED ROAD

C TO D D TO A TIME FROM B4100 (NW) TO UN-NAMED ROAD FROM UN-NAMED ROAD TO B4031 CAR LGV CAR LGV OGV1 OGV2 **PSV** MCL PCL тот OGV1 OGV2 PSV MCL PCL тот 07:00 07:15 07:30 07:45 H/TOT 08:00 08:15 08:30 08:45 H/TOT 09:00 09:15 09:30 09:45 H/TOT 10:00 10:15 10:30 10:45 н/тот 11:00 11:15 11:30 11:45 н/тот 12:00 12:15 12:30 

.....

DATE:

DAY: TUESDAY

SURVEYS LTD

28/06/2022

2

JOB REF: 11430

JOB NAME: AYNHO

SITE:

### LOCATION: B4031 / B4100 (SE) / B4100 (NW) / UN-NAMED ROAD



DATE: 28/06/2022

н/тот	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	2
13:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:45	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
н/тот	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
14:00	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0
14:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:30	1	1	1	0	0	0	0	3	0	1	0	0	0	0	0	1
14:45	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	2
Н/ТОТ	1	1	2	0	0	0	0	4	1	1	1	0	0	0	0	3
15:00	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2
15:15	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
15:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Н/ТОТ	1	0	0	0	0	0	0	1	2	0	0	0	0	0	0	2
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15	2	0	0	1	0	0	0	3	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1
н/тот	3	0	0	1	0	0	0	4	1	0	0	0	0	0	0	1
17:00	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2
17:15	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
17:30	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0
17:45	1	0	0	0	0	0	0	1	2	0	0	0	0	0	0	2
н/тот	2	1	0	0	0	0	0	3	4	0	0	0	0	0	0	4
18:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18:15	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0
18:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
н/тот	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0
P/TOT	15	5	3	1	0	0	0	24	16	2	3	0	0	0	1	22

JOB REF: 11430

JOB NAME: AYNHO

SITE:

12:45

#### LOCATION: B4031 / B4100 (SE) / B4100 (NW) / UN-NAMED ROAD

D TO C D TO B TIME FROM UN-NAMED ROAD TO B4100 (SE) FROM UN-NAMED ROAD TO B4100 (NW) CAR LGV CAR LGV OGV1 OGV2 **PSV** MCL PCL TOT OGV1 OGV2 PSV MCL PCL TOT 07:00 07:15 07:30 07:45 H/TOT 08:00 08:15 08:30 08:45 H/TOT 09:00 09:15 09:30 09:45 H/TOT 10:00 10:15 10:30 10:45 н/тот 11:00 11:15 11:30 11:45 н/тот 12:00 12:15 12:30 



DATE: 28/06/2022

2

JOB REF: 11430

JOB NAME: AYNHO

SITE:

### LOCATION: B4031 / B4100 (SE) / B4100 (NW) / UN-NAMED ROAD



DATE: 28/06/2022

н/тот	5	3	1	1	0	0	0	10	0	0	0	0	0	0	0	0
13:00	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0
13:15	3	0	1	1	0	0	0	5	0	0	0	0	0	0	0	0
13:30	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0
13:45	3	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0
н/тот	8	0	1	1	0	1	0	11	0	0	0	0	0	0	0	0
14:00	1	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1
14:15	4	2	0	0	0	0	0	6	0	1	0	0	0	0	0	1
14:30	2	2	0	0	0	0	0	4	0	0	0	0	0	0	0	0
14:45	1	1	0	0	0	0	0	2	0	0	0	0	0	0	0	0
н/тот	8	5	0	0	0	0	0	13	0	2	0	0	0	0	0	2
15:00	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
15:15	4	0	1	0	0	0	0	5	0	0	0	0	0	0	0	0
15:30	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0
15:45	1	2	0	0	0	0	0	3	0	0	0	0	0	0	0	0
Н/ТОТ	6	3	1	0	0	0	0	10	0	0	0	0	0	0	0	0
16:00	4	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0
16:15	1	1	0	0	0	0	0	2	0	0	0	0	0	0	0	0
16:30	5	2	0	0	0	0	0	7	0	0	0	0	0	0	0	0
16:45	6	1	0	0	0	0	0	7	0	0	0	0	0	0	0	0
н/тот	16	4	0	0	0	0	0	20	0	0	0	0	0	0	0	0
17:00	4	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0
17:15	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0
17:30	4	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0
17:45	3	1	0	0	0	0	0	4	1	0	0	0	0	0	0	1
н/тот	13	1	0	0	0	0	0	14	1	0	0	0	0	0	0	1
18:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18:15	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0
18:30	3	1	0	0	0	0	0	4	0	0	0	0	0	0	0	0
18:45	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
н/тот	6	1	0	0	0	0	0	7	0	0	0	0	0	0	0	0
P/TOT	127	31	7	3	0	3	0	171	7	4	0	2	0	0	0	13

JOB REF: 11430

JOB NAME: AYNHO

SITE:

12:45

#### LOCATION: B4031 / B4100 (SE) / B4100 (NW) / UN-NAMED ROAD

TO ARM A FROM ARM A TIME B4031 B4031 CAR LGV OGV1 OGV2 PSV MCL PCL тот CAR LGV OGV1 OGV2 PSV MCL PCL TOT 07:00 07:15 07:30 07:45 H/TOT 08:00 08:15 08:30 08:45 H/TOT 09:00 09:15 09:30 09:45 H/TOT 10:00 10:15 10:30 10:45 н/тот 11:00 11:15 11:30 11:45 H/TOT 12:00 12:15 12:30 



DATE: 28/06/2022
JOB REF: 11430

JOB NAME: AYNHO

SITE:

н/тот

#### LOCATION: B4031 / B4100 (SE) / B4100 (NW) / UN-NAMED ROAD

# 0 1 0 112 80 18 3 0 0 0 29 30 1 1

13:00 13:15 13:30 13:45 H/TOT 14:00 14:15 14:30 14:45 н/тот 15:00 15:15 15:30 15:45 H/TOT 16:00 16:15 16:30 16:45 H/TOT 17:00 17:15 17:30 17:45 H/TOT 18:00 18:15 18:30 18:45 H/TOT P/TOT 



DATE: 28/06/2022

DAY: TUESDAY

JOB REF: 11430

JOB NAME: AYNHO

SITE:

12:45

#### LOCATION: B4031 / B4100 (SE) / B4100 (NW) / UN-NAMED ROAD

TO ARM B FROM ARM B TIME B4100 (SE) B4100 (SE) CAR CAR LGV LGV OGV1 OGV2 **PSV** MCL PCL TOT OGV1 OGV2 PSV MCL PCL TOT 07:00 07:15 07:30 07:45 H/TOT 08:00 08:15 08:30 08:45 H/TOT 09:00 09:15 09:30 09:45 H/TOT 10:00 10:15 10:30 10:45 н/тот 11:00 11:15 11:30 11:45 H/TOT 12:00 12:15 12:30 



DAY: TUESDAY

DATE: 28/06/2022

2

JOB REF: 11430

JOB NAME: AYNHO

SITE:

#### LOCATION: B4031 / B4100 (SE) / B4100 (NW) / UN-NAMED ROAD



DATE: 28/06/2022

DAY: TUESDAY

Н/ТОТ	124	32	12	5	0	3	1	177	127	39	13	3	1	1	0	184
13:00	33	5	2	2	0	1	0	43	26	4	1	0	0	1	0	32
13:15	34	7	2	2	0	1	0	46	43	5	2	3	0	1	0	54
13:30	35	4	2	1	0	0	0	42	39	4	4	0	0	0	0	47
13:45	32	11	2	2	0	0	1	48	41	11	2	2	0	0	0	56
н/тот	134	27	8	7	0	2	1	179	149	24	9	5	0	2	0	189
14:00	28	3	1	0	1	2	0	35	23	10	4	2	0	0	0	39
14:15	35	7	2	1	0	0	1	46	42	15	5	1	1	1	0	65
14:30	43	11	3	2	0	1	0	60	43	8	4	1	2	0	0	58
14:45	35	7	0	1	0	1	0	44	45	7	6	0	1	0	0	59
н/тот	141	28	6	4	1	4	1	185	153	40	19	4	4	1	0	221
15:00	31	11	4	3	0	1	0	50	46	8	4	3	0	0	0	61
15:15	40	13	3	1	0	0	0	57	53	11	1	2	0	1	0	68
15:30	44	11	1	1	4	0	0	61	44	10	5	0	0	0	0	59
15:45	40	7	4	0	1	0	1	53	65	13	2	1	0	1	0	82
н/тот	155	42	12	5	5	1	1	221	208	42	12	6	0	2	0	270
16:00	46	15	4	0	1	1	0	67	47	16	1	2	0	0	0	66
16:15	47	17	1	0	1	0	1	67	82	14	3	0	0	0	0	99
16:30	57	15	2	0	0	1	0	75	59	14	1	0	0	2	0	76
16:45	50	9	1	0	0	0	0	60	59	23	1	0	1	0	2	86
н/тот	200	56	8	0	2	2	1	269	247	67	6	2	1	2	2	327
17:00	68	8	0	0	0	0	0	76	72	19	2	0	0	2	0	95
17:15	51	8	2	0	0	0	0	61	101	7	4	1	0	0	1	114
17:30	61	6	2	0	0	0	0	69	74	15	3	1	0	2	0	95
17:45	42	5	0	0	0	0	0	47	78	9	3	0	0	0	0	90
н/тот	222	27	4	0	0	0	0	253	325	50	12	2	0	4	1	394
18:00	42	4	1	1	0	1	0	49	77	7	2	0	0	0	0	86
18:15	35	4	0	0	0	1	0	40	47	8	2	0	0	4	0	61
18:30	31	7	3	0	0	0	0	41	54	5	0	0	0	1	0	60
18:45	25	2	1	0	0	0	0	28	57	10	3	0	0	1	0	71
н/тот	133	17	5	1	0	2	0	158	235	30	7	0	0	6	0	278
P/TOT	2199	470	124	43	13	28	7	2884	2163	496	143	38	12	23	5	2880

JOB REF: 

JOB NAME: AYNHO

SITE:

12:45

#### B4031 / B4100 (SE) / B4100 (NW) / UN-NAMED ROAD LOCATION:

TO ARM C FROM ARM C TIME B4100 (NW) B4100 (NW) CAR CAR LGV OGV1 OGV2 **PSV** MCL PCL TOT LGV OGV1 OGV2 PSV MCL PCL TOT 07:00 07:15 07:30 07:45 H/TOT 08:00 08:15 08:30 08:45 H/TOT 09:00 09:15 09:30 09:45 H/TOT 10:00 10:15 10:30 10:45 н/тот 11:00 11:15 11:30 11:45 H/TOT 12:00 12:15 12:30 

DATE: 28/06/2022

TUESDAY DAY:

AUTO SURVEYS LTD

P/TOT

JOB REF: 

JOB NAME: AYNHO

SITE:

#### B4031 / B4100 (SE) / B4100 (NW) / UN-NAMED ROAD LOCATION:

#### н/тот 13:00 13:15 13:30 13:45 H/TOT 14:00 14:15 14:30 14:45 н/тот 15:00 15:15 15:30 15:45 H/TOT 16:00 16:15 16:30 16:45 H/TOT 17:00 17:15 17:30 17:45 H/TOT 18:00 18:15 18:30 18:45 H/TOT



DAY: TUESDAY

DATE: 28/06/2022

JOB REF: 11430

JOB NAME: AYNHO

SITE: 2

12:45

#### LOCATION: B4031 / B4100 (SE) / B4100 (NW) / UN-NAMED ROAD

TO ARM D FROM ARM D TIME **UN-NAMED ROAD UN-NAMED ROAD** CAR LGV OGV1 OGV2 PSV MCL PCL тот CAR LGV OGV1 OGV2 PSV MCL PCL тот 07:00 07:15 07:30 07:45 H/TOT 08:00 08:15 08:30 08:45 H/TOT 09:00 09:15 09:30 09:45 H/TOT 10:00 10:15 10:30 10:45 н/тот 11:00 11:15 11:30 11:45 н/тот 12:00 12:15 12:30 



DATE: 28/06/2022

DAY: TUESDAY

JOB REF: 11430

JOB NAME: AYNHO

SITE: 2

#### LOCATION: B4031 / B4100 (SE) / B4100 (NW) / UN-NAMED ROAD



DATE: 28/06/2022

DAY: TUESDAY

н/тот	10	4	0	1	0	0	1	16	6	4	1	1	0	0	0	12
13:00	2	0	0	0	0	0	0	2	0	0	0	0	0	1	0	1
13:15	4	0	0	1	0	0	0	5	3	0	1	1	0	0	0	5
13:30	3	1	0	0	0	0	0	4	2	0	0	0	0	0	0	2
13:45	2	0	0	0	0	0	0	2	3	0	0	0	0	0	0	3
н/тот	11	1	0	1	0	0	0	13	8	0	1	1	0	1	0	11
14:00	4	1	2	0	0	0	0	7	1	1	0	0	0	0	0	2
14:15	1	1	0	0	0	1	0	3	4	3	0	0	0	0	0	7
14:30	2	3	1	0	0	0	0	6	2	3	0	0	0	0	0	5
14:45	7	0	0	0	0	0	0	7	2	1	1	0	0	0	0	4
н/тот	14	5	3	0	0	1	0	23	9	8	1	0	0	0	0	18
15:00	3	0	1	0	0	0	0	4	3	0	0	0	0	0	0	3
15:15	5	2	0	0	0	0	0	7	4	0	1	0	0	0	0	5
15:30	3	2	3	0	1	0	0	9	0	1	0	0	0	0	0	1
15:45	3	0	0	0	0	0	0	3	1	2	0	0	0	0	0	3
н/тот	14	4	4	0	1	0	0	23	8	3	1	0	0	0	0	12
16:00	2	2	0	2	0	0	0	6	4	0	0	0	0	0	0	4
16:15	11	5	1	1	0	0	0	18	1	1	0	0	0	0	0	2
16:30	7	0	0	0	0	0	0	7	5	2	0	0	0	0	0	7
16:45	6	1	1	0	0	0	1	9	7	1	0	0	0	0	0	8
н/тот	26	8	2	3	0	0	1	40	17	4	0	0	0	0	0	21
17:00	3	1	1	0	0	1	0	6	6	0	0	0	0	0	0	6
17:15	11	0	0	0	0	0	0	11	2	0	0	0	0	0	0	2
17:30	2	1	1	0	0	0	0	4	4	0	0	0	0	0	0	4
17:45	8	0	2	0	0	0	0	10	6	1	0	0	0	0	0	7
н/тот	24	2	4	0	0	1	0	31	18	1	0	0	0	0	0	19
18:00	5	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0
18:15	4	1	1	0	0	0	0	6	2	0	0	0	0	0	0	2
18:30	1	0	0	0	0	0	0	1	3	1	0	0	0	0	0	4
18:45	4	1	0	0	0	0	0	5	1	0	0	0	0	0	0	1
н/тот	14	2	1	0	0	0	0	17	6	1	0	0	0	0	0	7
P/TOT	179	44	20	6	1	2	3	255	150	37	10	5	0	3	1	206

**QUEUE LENGTHS** 

JOB REF: 11430

JOB NAME: AYNHO

SITE: 2

#### LOCATION: B4031 / B4100 (SE) / B4100 (NW) / UN-NAMED ROAD

NOTE: Queue Lengths recorded by the number of vehicles queuing at each 5-minute interval, by lane

	ARI	AN	AR	M B	ARM C	ARM D		ARI	AN	ARI	VI B	ARM C
TIME	B40	)31	B410	0 (SE)	B4100 (NW)	UN-NAMED ROAD	TIME	B40	31	B4100	) (SE)	B4100 (NW)
	LANE 1	LANE 2	LANE 1	LANE 2	LANE 1	LANE 1		LANE 1	LANE 2	LANE 1	LANE 2	LANE 1
07:30	0	1	0	0	0	0	16:30	0	0	0	0	0
07:35	0	0	0	0	0	0	16:35	0	0	0	0	0
07:40	0	0	0	0	0	1	16:40	0	0	0	0	0
07:45	0	0	0	0	0	0	16:45	0	0	0	0	0
07:50	0	4	0	0	0	0	16:50	0	1	0	0	0
07:55	0	0	0	0	0	0	16:55	0	0	0	0	0
08:00	0	0	0	0	0	0	17:00	0	0	0	0	0
08:05	0	0	0	0	0	1	17:05	0	0	0	0	0
08:10	0	0	0	0	0	0	17:10	0	0	0	0	0
08:15	0	0	0	0	0	0	17:15	0	1	0	0	0
08:20	0	1	0	0	0	0	17:20	0	4	0	0	0
08:25	0	0	0	0	0	0	17:25	0	0	0	0	0
08:30	0	0	0	0	0	0	17:30	0	1	0	0	0
08:35	0	2	0	0	0	0	17:35	0	1	0	1	0
08:40	0	0	0	0	0	0	17:40	0	0	0	0	0
08:45	0	0	0	0	0	0	17:45	0	0	0	0	0
08:50	0	0	0	0	0	0	17:50	0	0	0	0	0
08:55	0	0	0	0	0	0	17:55	0	0	0	0	0
09:00	0	5	0	0	0	0	18:00	0	0	0	0	0
09:05	0	0	0	0	0	0	18:05	0	0	0	0	0
09:10	0	0	0	0	0	0	18:10	0	0	0	0	0
09:15	2	0	0	0	0	0	18:15	0	0	0	0	0
09:20	0	0	0	0	0	0	18:20	0	0	0	0	0
09:25	0	1	0	0	0	0	18:25	0	0	0	0	0

SURVEY

DATE:

DAY:

JOB REF: 11430

JOB NAME: AYNHO

SITE:

12:45

#### LOCATION: B4031 / B4100 (SE) / B4100 (NW) / UN-NAMED ROAD

A TO B A TO C TIME FROM B4031 TO B4100 (SE) FROM B4031 TO B4100 (NW) CAR LGV OGV1 CAR OGV2 **PSV** MCL PCL тот LGV OGV1 OGV2 PSV MCL PCL TOT 07:00 07:15 07:30 07:45 H/TOT 08:00 08:15 08:30 08:45 H/TOT 09:00 09:15 09:30 09:45 H/TOT 10:00 10:15 10:30 10:45 н/тот 11:00 11:15 11:30 11:45 н/тот 12:00 12:15 12:30 



DATE: 29/06/2022

P/TOT

JOB REF: 

JOB NAME: AYNHO

SITE:

н/тот

#### B4031 / B4100 (SE) / B4100 (NW) / UN-NAMED ROAD LOCATION:

13:00 13:15 13:30 13:45 H/TOT 14:00 14:15 14:30 14:45 н/тот 15:00 15:15 15:30 15:45 H/TOT 16:00 16:15 16:30 16:45 H/TOT 17:00 17:15 17:30 17:45 H/TOT 18:00 18:15 18:30 18:45 H/TOT 



DAY: WEDNESDAY

DATE: 29/06/2022

JOB REF: 11430

JOB NAME: AYNHO

SITE:

12:45

#### LOCATION: B4031 / B4100 (SE) / B4100 (NW) / UN-NAMED ROAD

A TO D B TO A TIME FROM B4031 TO UN-NAMED ROAD FROM B4100 (SE) TO B4031 CAR LGV OGV1 CAR LGV OGV2 **PSV** MCL PCL тот OGV1 OGV2 PSV MCL PCL тот 07:00 07:15 07:30 07:45 H/TOT 08:00 08:15 08:30 08:45 H/TOT 09:00 09:15 09:30 09:45 H/TOT 10:00 10:15 10:30 10:45 н/тот 11:00 11:15 11:30 11:45 н/тот 12:00 12:15 12:30 



ATE: 29/06/2022

DAY: WEDNESDAY

DATE: 29/06/2022

2

JOB REF: 11430

JOB NAME: AYNHO

SITE:

#### LOCATION: B4031 / B4100 (SE) / B4100 (NW) / UN-NAMED ROAD



DATE: 29/06/2022

н/тот	0	1	0	0	0	0	0	1	14	2	0	0	0	0	0	16
13:00	0	0	0	0	0	0	7	7	1	0	0	0	0	0	0	1
13:15	0	2	0	0	0	0	0	2	0	2	0	0	0	0	0	2
13:30	1	0	0	0	0	0	0	1	3	0	0	0	0	0	0	3
13:45	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2
н/тот	1	2	0	0	0	0	7	10	6	2	0	0	0	0	0	8
14:00	0	0	0	0	0	0	0	0	5	1	0	0	0	0	0	6
14:15	1	0	0	0	0	0	0	1	3	1	0	0	0	0	0	4
14:30	1	0	0	0	0	0	0	1	0	1	0	0	0	0	0	1
14:45	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	6
н/тот	2	0	0	0	0	0	0	2	14	3	0	0	0	0	0	17
15:00	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	4
15:15	4	0	0	0	0	0	0	4	5	1	0	0	0	0	0	6
15:30	1	0	0	0	0	0	0	1	5	2	0	0	0	0	0	7
15:45	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	2
н/тот	5	0	0	0	0	0	0	5	15	4	0	0	0	0	0	19
16:00	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	2
16:15	1	0	0	0	0	0	0	1	5	0	0	0	0	0	0	5
16:30	0	0	0	0	0	0	0	0	2	1	0	0	0	0	0	3
16:45	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2
н/тот	1	0	0	0	0	0	0	1	10	2	0	0	0	0	0	12
17:00	1	0	0	0	0	0	0	1	6	2	0	0	0	0	0	8
17:15	0	0	0	0	0	0	0	0	7	0	0	0	0	0	0	7
17:30	2	0	0	0	0	0	0	2	5	1	0	0	0	0	0	6
17:45	1	0	0	0	0	0	0	1	7	0	0	0	0	0	0	7
н/тот	4	0	0	0	0	0	0	4	25	3	0	0	0	0	0	28
18:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18:15	2	0	0	0	0	0	0	2	3	1	0	0	0	0	0	4
18:30	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	3
18:45	0	0	0	0	0	0	0	0	2	1	0	0	0	0	0	3
н/тот	2	0	0	0	0	0	0	2	8	2	0	0	0	0	0	10
P/TOT	29	3	0	0	0	0	7	39	129	28	1	0	0	1	0	159

JOB REF: 11430

JOB NAME: AYNHO

SITE:

12:45

#### LOCATION: B4031 / B4100 (SE) / B4100 (NW) / UN-NAMED ROAD

B TO C

TIME FROM B4100 (SE) TO B4100 (NW) FROM B4100 (SE) TO UN-NAMED ROAD CAR LGV CAR LGV OGV1 OGV2 **PSV** MCL PCL тот OGV1 OGV2 PSV MCL PCL TOT 07:00 07:15 07:30 07:45 H/TOT 08:00 08:15 08:30 08:45 H/TOT 09:00 09:15 09:30 09:45 H/TOT 10:00 10:15 10:30 10:45 н/тот 11:00 11:15 11:30 11:45 н/тот 12:00 12:15 12:30 



DATE: 29/06/2022

DAY: WEDNESDAY

B TO D

2

JOB REF: 11430

JOB NAME: AYNHO

SITE:

#### LOCATION: B4031 / B4100 (SE) / B4100 (NW) / UN-NAMED ROAD



DATE: 29/06/2022

Н/ТОТ	114	29	9	6	0	0	0	158	8	5	0	0	0	0	0	13
13:00	46	7	0	4	0	0	0	57	2	1	0	0	0	0	0	3
13:15	39	9	3	2	0	1	0	54	2	1	0	0	0	0	0	3
13:30	24	6	2	0	2	0	0	34	2	0	0	0	0	0	0	2
13:45	28	8	1	0	1	0	0	38	3	1	0	0	0	0	0	4
н/тот	137	30	6	6	3	1	0	183	9	3	0	0	0	0	0	12
14:00	32	4	7	1	0	1	1	46	3	0	0	0	0	0	0	3
14:15	40	7	3	2	0	1	0	53	2	1	1	0	0	0	0	4
14:30	47	8	4	4	0	0	0	63	2	0	0	1	0	0	0	3
14:45	42	4	4	2	0	0	0	52	3	0	0	1	0	0	0	4
н/тот	161	23	18	9	0	2	1	214	10	1	1	2	0	0	0	14
15:00	52	9	3	1	0	1	0	66	3	1	1	0	0	0	0	5
15:15	38	13	2	0	0	0	0	53	5	1	0	0	0	0	0	6
15:30	55	15	1	4	0	2	0	77	3	0	1	0	0	0	0	4
15:45	47	12	3	1	0	2	0	65	3	0	1	0	0	0	0	4
н/тот	192	49	9	6	0	5	0	261	14	2	3	0	0	0	0	19
16:00	55	11	2	1	0	0	0	69	5	3	0	0	0	0	0	8
16:15	65	11	2	1	0	0	0	79	8	5	0	0	0	0	0	13
16:30	54	16	2	1	0	0	0	73	5	1	1	0	0	0	0	7
16:45	63	13	2	1	0	0	1	80	4	1	0	0	0	0	0	5
н/тот	237	51	8	4	0	0	1	301	22	10	1	0	0	0	0	33
17:00	53	12	0	0	0	1	0	66	6	1	0	0	0	1	0	8
17:15	64	6	0	0	0	0	0	70	7	3	0	0	0	0	0	10
17:30	67	10	2	0	0	0	0	79	2	0	3	0	0	0	0	5
17:45	58	6	1	0	0	0	0	65	5	1	0	0	0	0	0	6
н/тот	242	34	3	0	0	1	0	280	20	5	3	0	0	1	0	29
18:00	58	3	1	0	0	2	0	64	3	0	0	0	0	0	0	3
18:15	58	6	0	0	0	0	1	65	4	2	0	0	0	0	0	6
18:30	45	6	0	1	1	0	0	53	5	0	0	0	0	0	1	6
18:45	49	9	1	0	0	0	0	59	2	0	0	0	0	0	0	2
Н/ТОТ	210	24	2	1	1	2	1	241	14	2	0	0	0	0	1	17
Р/ТОТ	1980	415	115	53	10	15	4	2592	136	39	10	4	0	1	2	192

CAR

JOB REF: 

JOB NAME: AYNHO

SITE:

TIME

12:45

#### B4031 / B4100 (SE) / B4100 (NW) / UN-NAMED ROAD LOCATION:

OGV1

LGV

#### C TO A FROM B4100 (NW) TO B4031 FROM B4100 (NW) TO B4100 (SE) CAR LGV OGV2 **PSV** MCL PCL тот OGV1 OGV2

07:00 07:15 07:30 07:45 H/TOT 08:00 08:15 08:30 08:45 H/TOT 09:00 09:15 09:30 09:45 H/TOT 10:00 10:15 10:30 10:45 н/тот 11:00 11:15 11:30 11:45 н/тот 12:00 12:15 12:30 



DATE: 29/06/2022

DAY: WEDNESDAY

MCL

PCL

TOT

С ТО В

PSV

2

JOB REF: 11430

JOB NAME: AYNHO

SITE:

#### LOCATION: B4031 / B4100 (SE) / B4100 (NW) / UN-NAMED ROAD



DATE: 29/06/2022

Н/ТОТ	82	24	2	0	0	2	0	110	142	25	9	5	0	4	0	185
13:00	17	5	4	0	0	0	0	26	39	9	1	2	0	0	0	51
13:15	22	5	0	0	0	0	0	27	23	6	1	2	0	1	0	33
13:30	26	5	2	0	0	0	0	33	43	6	2	6	0	1	0	58
13:45	22	2	3	0	0	0	0	27	42	6	0	1	0	2	0	51
н/тот	87	17	9	0	0	0	0	113	147	27	4	11	0	4	0	193
14:00	24	2	1	0	0	0	0	27	37	8	2	5	0	0	0	52
14:15	19	5	1	0	0	1	0	26	33	10	5	0	0	1	0	49
14:30	22	5	0	0	0	0	0	27	40	11	3	1	2	1	0	58
14:45	30	4	3	0	0	0	0	37	31	8	5	0	0	1	0	45
н/тот	95	16	5	0	0	1	0	117	141	37	15	6	2	3	0	204
15:00	36	4	2	0	0	0	0	42	42	5	1	0	2	2	0	52
15:15	28	7	2	0	0	0	1	38	46	8	3	0	0	1	0	58
15:30	20	10	1	0	0	0	0	31	39	7	0	1	0	0	0	47
15:45	26	8	2	0	0	0	0	36	31	9	2	2	1	0	0	45
н/тот	110	29	7	0	0	0	1	147	158	29	6	3	3	3	0	202
16:00	34	15	0	0	0	1	0	50	52	14	3	0	0	0	0	69
16:15	32	16	0	0	0	0	0	48	57	7	0	1	0	0	0	65
16:30	48	16	0	0	0	0	0	64	59	12	2	1	0	0	0	74
16:45	36	7	1	0	0	1	0	45	39	7	0	0	0	0	0	46
н/тот	150	54	1	0	0	2	0	207	207	40	5	2	0	0	0	254
17:00	50	9	0	0	1	1	0	61	63	14	1	1	0	0	0	79
17:15	37	7	1	0	1	1	0	47	64	6	0	0	0	0	0	70
17:30	40	2	0	0	0	0	0	42	42	3	0	0	0	0	0	45
17:45	40	6	0	0	1	1	0	48	37	5	0	1	0	1	0	44
н/тот	167	24	1	0	3	3	0	198	206	28	1	2	0	1	0	238
18:00	27	3	2	0	0	0	0	32	38	7	2	0	0	0	0	47
18:15	25	3	1	0	0	0	0	29	33	4	0	0	0	0	0	37
18:30	22	3	1	0	0	0	2	28	35	2	0	0	0	0	0	37
18:45	18	2	0	0	0	0	0	20	25	2	1	0	0	0	0	28
н/тот	92	11	4	0	0	0	2	109	131	15	3	0	0	0	0	149
P/TOT	1421	276	52	3	4	17	3	1776	2120	410	112	51	9	20	1	2723

JOB REF: 

JOB NAME: AYNHO

SITE:

TIME

07:00

07:15

07:30

07:45

H/TOT

08:00

08:15

08:30

08:45

H/TOT

09:00

09:15

09:30

09:45

H/TOT

10:00

10:15

10:30

10:45

н/тот

11:00

11:15

11:30

11:45

н/тот

12:00

12:15

12:30

12:45

#### B4031 / B4100 (SE) / B4100 (NW) / UN-NAMED ROAD LOCATION:

C TO D

FROM B4100 (NW) TO UN-NAMED ROAD FROM UN-NAMED ROAD TO B4031 CAR LGV CAR LGV OGV1 OGV2 **PSV** MCL PCL тот OGV1 OGV2 PSV MCL 



PCL

TOT

DATE: 29/06/2022

DAY: WEDNESDAY

D TO A

2

JOB REF: 11430

JOB NAME: AYNHO

SITE:

#### LOCATION: B4031 / B4100 (SE) / B4100 (NW) / UN-NAMED ROAD



DATE: 29/06/2022

н/тот	3	0	1	0	0	0	0	4	0	0	0	0	0	0	0	0
13:00	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
13:15	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2
13:30	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1	2
13:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
н/тот	1	0	0	0	0	0	0	1	2	1	0	0	0	0	1	4
14:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:30	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
14:45	1	1	1	0	0	0	0	3	1	0	0	0	0	0	0	1
н/тот	2	1	1	0	0	0	0	4	1	0	0	0	0	0	0	1
15:00	1	1	0	0	0	1	0	3	0	0	0	0	0	0	0	0
15:15	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1
15:30	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2
15:45	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
н/тот	2	1	0	0	0	1	0	4	4	0	0	0	0	0	0	4
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
16:30	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
16:45	1	0	0	0	0	0	0	1	2	0	0	0	0	0	0	2
н/тот	2	0	0	0	0	0	0	2	3	0	0	0	0	0	0	3
17:00	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2
17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
17:45	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
Н/ТОТ	1	0	0	0	0	0	0	1	3	0	0	0	0	0	0	3
18:00	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0
18:15	3	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0
18:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
н/тот	3	1	0	0	0	0	0	4	0	0	0	0	0	0	0	0
P/TOT	25	5	2	1	0	1	0	34	21	1	0	0	0	0	1	23

JOB REF: 11430

JOB NAME: AYNHO

SITE:

12:45

#### LOCATION: B4031 / B4100 (SE) / B4100 (NW) / UN-NAMED ROAD

D TO C D TO B TIME FROM UN-NAMED ROAD TO B4100 (SE) FROM UN-NAMED ROAD TO B4100 (NW) CAR LGV CAR LGV OGV1 OGV2 **PSV** MCL PCL тот OGV1 OGV2 PSV MCL PCL TOT 07:00 07:15 07:30 07:45 H/TOT 08:00 08:15 08:30 08:45 H/TOT 09:00 09:15 09:30 09:45 H/TOT 10:00 10:15 10:30 10:45 н/тот 11:00 11:15 11:30 11:45 н/тот 12:00 12:15 12:30 



AIL. 23,00,2022

DAY: WEDNESDAY

DATE: 29/06/2022

DATE:

2

JOB REF: 11430

JOB NAME: AYNHO

SITE:

#### LOCATION: B4031 / B4100 (SE) / B4100 (NW) / UN-NAMED ROAD



DATE: 29/06/2022

н/тот	12	3	0	1	0	0	0	16	0	0	0	0	0	0	0	0
13:00	1	2	0	1	0	0	0	4	0	0	0	0	0	0	0	0
13:15	0	2	0	0	0	0	0	2	0	0	0	0	0	0	0	0
13:30	2	1	0	0	0	0	0	3	0	0	0	0	0	0	0	0
13:45	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0
н/тот	5	5	0	1	0	0	0	11	0	0	0	0	0	0	0	0
14:00	2	1	0	0	0	0	0	3	0	0	0	0	0	0	0	0
14:15	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0
14:30	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0
14:45	1	1	0	0	0	0	0	2	0	0	0	0	0	0	0	0
н/тот	7	2	0	0	0	0	0	9	0	0	0	0	0	0	0	0
15:00	3	2	0	0	0	0	0	5	0	1	0	0	0	0	0	1
15:15	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0
15:30	4	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0
15:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
н/тот	9	2	0	0	0	0	0	11	0	1	0	0	0	0	0	1
16:00	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0
16:15	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
16:30	5	1	0	0	0	0	0	6	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
н/тот	8	1	0	0	0	0	0	9	0	0	0	0	0	0	0	0
17:00	5	0	0	0	0	0	0	5	1	0	0	0	0	0	0	1
17:15	1	1	0	0	0	0	0	2	0	0	0	0	0	0	0	0
17:30	4	0	0	0	0	0	0	4	0	0	0	0	0	0	0	0
17:45	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
н/тот	11	1	0	0	0	0	0	12	1	0	0	0	0	0	0	1
18:00	6	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0
18:15	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1
18:30	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0
18:45	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
н/тот	10	0	0	0	0	0	0	10	1	0	0	0	0	0	0	1
P/TOT	133	33	5	3	0	2	1	177	4	4	1	1	0	0	0	10

JOB REF: 11430

JOB NAME: AYNHO

SITE:

12:45

#### LOCATION: B4031 / B4100 (SE) / B4100 (NW) / UN-NAMED ROAD

TO ARM A FROM ARM A TIME B4031 B4031 CAR CAR LGV OGV1 OGV2 PSV MCL PCL TOT LGV OGV1 OGV2 PSV MCL PCL TOT 07:00 07:15 07:30 07:45 H/TOT 08:00 08:15 08:30 08:45 H/TOT 09:00 09:15 09:30 09:45 H/TOT 10:00 10:15 10:30 10:45 н/тот 11:00 11:15 11:30 11:45 H/TOT 12:00 12:15 12:30 



DATE: 29/06/2022

2

JOB REF: 11430

JOB NAME: AYNHO

SITE:

P/TOT

#### B4031 / B4100 (SE) / B4100 (NW) / UN-NAMED ROAD LOCATION:

н/тот	96	26	2	0	0	2	0	126	68	19	3	1	0	1	1	93
13:00	18	5	4	0	0	0	0	27	26	3	1	0	0	0	7	37
13:15	24	7	0	0	0	0	0	31	15	5	1	0	0	1	0	22
13:30	29	6	2	0	0	0	1	38	28	6	2	0	0	0	0	36
13:45	24	2	3	0	0	0	0	29	21	6	1	2	0	0	0	30
н/тот	95	20	9	0	0	0	1	125	90	20	5	2	0	1	7	125
14:00	29	3	1	0	0	0	0	33	13	3	1	0	0	0	0	17
14:15	22	6	1	0	0	1	0	30	19	8	0	0	0	0	0	27
14:30	22	6	0	0	0	0	0	28	26	6	0	1	0	1	0	34
14:45	37	4	3	0	0	0	0	44	18	5	1	0	0	0	0	24
н/тот	110	19	5	0	0	1	0	135	76	22	2	1	0	1	0	102
15:00	40	4	2	0	0	0	0	46	18	7	3	2	0	0	0	30
15:15	34	8	2	0	0	0	1	45	25	6	0	1	0	0	0	32
15:30	27	12	1	0	0	0	0	40	25	8	0	0	1	0	0	34
15:45	28	9	2	0	0	0	0	39	30	2	1	0	0	0	0	33
н/тот	129	33	7	0	0	0	1	170	98	23	4	3	1	0	0	129
16:00	35	16	0	0	0	1	0	52	39	5	2	0	0	1	0	47
16:15	38	16	0	0	0	0	0	54	32	16	0	0	0	0	0	48
16:30	50	17	0	0	0	0	0	67	40	7	1	1	0	1	0	50
16:45	40	7	1	0	0	1	0	49	46	13	1	0	0	1	0	61
Н/ТОТ	163	56	1	0	0	2	0	222	157	41	4	1	0	3	0	206
17:00	58	11	0	0	1	1	0	71	43	4	0	0	0	0	0	47
17:15	44	7	1	0	1	1	0	54	57	6	0	0	0	0	0	63
17:30	46	3	0	0	0	0	0	49	47	2	0	0	0	0	0	49
17:45	47	6	0	0	1	1	0	55	43	8	0	0	0	1	0	52
н/тот	195	27	1	0	3	3	0	229	190	20	0	0	0	1	0	211
18:00	27	3	2	0	0	0	0	32	53	4	0	0	1	0	0	58
18:15	28	4	1	0	0	0	0	33	52	3	0	0	0	0	0	55
18:30	25	3	1	0	0	0	2	31	30	5	0	0	0	0	0	35
18:45	20	3	0	0	0	0	0	23	27	1	1	0	0	0	0	29
Н/ТОТ	100	13	4	0	0	0	2	119	162	13	1	0	1	0	0	177
P/TOT	1571	305	53	3	4	18	4	1958	1414	347	50	13	3	14	8	1849



DATE: 29/06/2022

DAY: WEDNESDAY

1849

JOB REF: 11430

JOB NAME: AYNHO

SITE:

12:45

#### LOCATION: B4031 / B4100 (SE) / B4100 (NW) / UN-NAMED ROAD

TO ARM B FROM ARM B TIME B4100 (SE) B4100 (SE) CAR CAR LGV OGV1 OGV2 **PSV** MCL PCL TOT LGV OGV1 OGV2 PSV MCL PCL TOT 07:00 07:15 07:30 07:45 H/TOT 08:00 08:15 08:30 08:45 H/TOT 09:00 09:15 09:30 09:45 H/TOT 10:00 10:15 10:30 10:45 н/тот 11:00 11:15 11:30 11:45 H/TOT 12:00 12:15 12:30 



DATE: 29/06/2022

2

JOB REF: 11430

JOB NAME: AYNHO

SITE:

#### LOCATION: B4031 / B4100 (SE) / B4100 (NW) / UN-NAMED ROAD

# SURVEYS LTD

DATE: 29/06/2022

Н/ТОТ	160	30	10	6	0	4	0	210	136	36	9	6	0	0	0	187
13:00	46	11	1	3	0	0	0	61	49	8	0	4	0	0	0	61
13:15	25	8	1	2	0	1	0	37	41	12	3	2	0	1	0	59
13:30	47	7	2	6	0	1	0	63	29	6	2	0	2	0	0	39
13:45	48	8	0	1	0	2	0	59	33	9	1	0	1	0	0	44
н/тот	166	34	4	12	0	4	0	220	152	35	6	6	3	1	0	203
14:00	42	9	2	5	0	0	0	58	40	5	7	1	0	1	1	55
14:15	35	12	5	0	0	1	0	53	45	9	4	2	0	1	0	61
14:30	45	12	3	1	2	1	0	64	49	9	4	5	0	0	0	67
14:45	33	11	5	0	0	1	0	50	51	4	4	3	0	0	0	62
н/тот	155	44	15	6	2	3	0	225	185	27	19	11	0	2	1	245
15:00	47	7	1	0	2	2	0	59	59	10	4	1	0	1	0	75
15:15	52	8	3	0	0	1	0	64	48	15	2	0	0	0	0	65
15:30	47	8	0	1	0	0	0	56	63	17	2	4	0	2	0	88
15:45	34	9	2	2	1	0	0	48	51	13	4	1	0	2	0	71
н/тот	180	32	6	3	3	3	0	227	221	55	12	6	0	5	0	299
16:00	56	15	3	0	0	0	0	74	61	15	2	1	0	0	0	79
16:15	59	8	0	1	0	0	0	68	78	16	2	1	0	0	0	97
16:30	64	13	2	1	0	1	0	81	61	18	3	1	0	0	0	83
16:45	39	7	1	0	0	1	0	48	69	14	2	1	0	0	1	87
н/тот	218	43	6	2	0	2	0	271	269	63	9	4	0	0	1	346
17:00	69	14	1	1	0	0	0	85	65	15	0	0	0	2	0	82
17:15	70	7	0	0	0	0	0	77	78	9	0	0	0	0	0	87
17:30	49	3	0	0	0	0	0	52	74	11	5	0	0	0	0	90
17:45	41	6	0	1	0	1	0	49	70	7	1	0	0	0	0	78
Н/ТОТ	229	30	1	2	0	1	0	263	287	42	6	0	0	2	0	337
18:00	45	8	2	0	1	0	0	56	61	3	1	0	0	2	0	67
18:15	37	4	0	0	0	0	0	41	65	9	0	0	0	0	1	75
18:30	38	2	0	0	0	0	0	40	53	6	0	1	1	0	1	62
18:45	28	3	1	0	0	0	0	32	53	10	1	0	0	0	0	64
Н/ТОТ	148	17	3	0	1	0	0	169	232	28	2	1	1	2	2	268
P/TOT	2375	472	121	54	10	24	2	3058	2245	482	126	57	10	17	6	2943

JOB REF: 11430

JOB NAME: AYNHO

SITE:

12:45

#### LOCATION: B4031 / B4100 (SE) / B4100 (NW) / UN-NAMED ROAD

TO ARM C FROM ARM C TIME B4100 (NW) B4100 (NW) CAR LGV OGV1 OGV2 **PSV** MCL PCL тот CAR LGV OGV1 OGV2 PSV MCL PCL TOT 07:00 07:15 07:30 07:45 H/TOT 08:00 08:15 08:30 08:45 H/TOT 09:00 09:15 09:30 09:45 H/TOT 10:00 10:15 10:30 10:45 н/тот 11:00 11:15 11:30 11:45 H/TOT 12:00 12:15 12:30 



DATE: 29/06/2022

2

JOB REF: 11430

JOB NAME: AYNHO

SITE:

#### LOCATION: B4031 / B4100 (SE) / B4100 (NW) / UN-NAMED ROAD



DATE: 29/06/2022

Н/ТОТ	176	45	11	7	0	1	1	241	227	49	12	5	0	6	0	299
13:00	66	10	1	4	0	0	0	81	57	14	5	2	0	0	0	78
13:15	52	12	4	2	0	2	0	72	45	11	1	2	0	1	0	60
13:30	49	12	4	0	2	0	0	67	69	11	4	6	0	1	0	91
13:45	45	12	2	2	1	0	0	62	64	8	3	1	0	2	0	78
н/тот	212	46	11	8	3	2	0	282	235	44	13	11	0	4	0	307
14:00	42	7	8	1	0	1	1	60	61	10	3	5	0	0	0	79
14:15	58	13	3	2	0	1	0	77	52	15	6	0	0	2	0	75
14:30	69	13	4	5	0	1	0	92	63	16	3	1	2	1	0	86
14:45	59	7	5	2	0	0	0	73	62	13	9	0	0	1	0	85
н/тот	228	40	20	10	0	3	1	302	238	54	21	6	2	4	0	325
15:00	68	17	6	3	0	1	0	95	79	10	3	0	2	3	0	97
15:15	55	19	2	1	0	0	0	77	75	15	5	0	0	1	1	97
15:30	75	22	1	4	1	2	0	105	59	17	1	1	0	0	0	78
15:45	74	14	4	1	0	2	0	95	57	17	4	2	1	0	0	81
н/тот	272	72	13	9	1	5	0	372	270	59	13	3	3	4	1	353
16:00	92	15	4	1	0	1	0	113	86	29	3	0	0	1	0	119
16:15	95	26	2	1	0	0	0	124	89	23	0	1	0	0	0	113
16:30	94	23	3	2	0	0	0	122	108	28	2	1	0	0	0	139
16:45	109	26	2	1	0	0	1	139	76	14	1	0	0	1	0	92
н/тот	390	90	11	5	0	1	1	498	359	94	6	2	0	2	0	463
17:00	95	16	0	0	0	1	0	112	113	23	1	1	1	1	0	140
17:15	116	12	0	0	0	0	0	128	101	13	1	0	1	1	0	117
17:30	109	12	2	0	0	0	0	123	82	5	0	0	0	0	0	87
17:45	97	13	1	0	0	1	0	112	78	11	0	1	1	2	0	93
н/тот	417	53	3	0	0	2	0	475	374	52	2	2	3	4	0	437
18:00	110	6	1	0	0	2	0	119	65	11	4	0	0	0	0	80
18:15	106	9	0	0	0	0	1	116	61	7	1	0	0	0	0	69
18:30	74	11	0	1	1	0	0	87	57	5	1	0	0	0	2	65
18:45	74	9	2	0	0	0	0	85	43	4	1	0	0	0	0	48
Н/ТОТ	364	35	3	1	1	2	1	407	226	27	7	0	0	0	2	262
P/TOT	3247	734	162	67	12	27	5	4254	3566	691	166	55	13	38	4	4533

JOB REF: 11430

JOB NAME: AYNHO

SITE:

12:45

#### LOCATION: B4031 / B4100 (SE) / B4100 (NW) / UN-NAMED ROAD

TO ARM D FROM ARM D TIME **UN-NAMED ROAD UN-NAMED ROAD** CAR LGV OGV1 CAR LGV OGV2 PSV MCL PCL TOT OGV1 OGV2 PSV MCL PCL TOT 07:00 07:15 07:30 07:45 H/TOT 08:00 08:15 08:30 08:45 H/TOT 09:00 09:15 09:30 09:45 H/TOT 10:00 10:15 10:30 10:45 н/тот 11:00 11:15 11:30 11:45 н/тот 12:00 12:15 12:30 



DATE: 29/06/2022

2

JOB REF: 11430

JOB NAME: AYNHO

SITE:

#### LOCATION: B4031 / B4100 (SE) / B4100 (NW) / UN-NAMED ROAD



DATE: 29/06/2022

н/тот	11	6	1	0	0	0	0	18	12	3	0	1	0	0	0	16
13:00	3	1	0	0	0	0	7	11	1	2	0	1	0	0	0	4
13:15	2	3	0	0	0	0	0	5	2	2	0	0	0	0	0	4
13:30	3	0	0	0	0	0	0	3	2	2	0	0	0	0	1	5
13:45	3	1	0	0	0	0	0	4	2	0	0	0	0	0	0	2
н/тот	11	5	0	0	0	0	7	23	7	6	0	1	0	0	1	15
14:00	3	0	0	0	0	0	0	3	2	1	0	0	0	0	0	3
14:15	3	1	1	0	0	0	0	5	2	0	0	0	0	0	0	2
14:30	4	0	0	1	0	0	0	5	2	0	0	0	0	0	0	2
14:45	4	1	1	1	0	0	0	7	2	1	0	0	0	0	0	3
н/тот	14	2	2	2	0	0	0	20	8	2	0	0	0	0	0	10
15:00	4	2	1	0	0	1	0	8	3	3	0	0	0	0	0	6
15:15	10	1	0	0	0	0	0	11	3	0	0	0	0	0	0	3
15:30	4	0	1	0	0	0	0	5	6	0	0	0	0	0	0	6
15:45	3	0	1	0	0	0	0	4	1	0	0	0	0	0	0	1
н/тот	21	3	3	0	0	1	0	28	13	3	0	0	0	0	0	16
16:00	5	3	0	0	0	0	0	8	2	0	0	0	0	0	0	2
16:15	9	5	0	0	0	0	0	14	2	0	0	0	0	0	0	2
16:30	6	1	1	0	0	0	0	8	5	1	0	0	0	0	0	6
16:45	5	1	0	0	0	0	0	6	2	0	0	0	0	0	0	2
н/тот	25	10	1	0	0	0	0	36	11	1	0	0	0	0	0	12
17:00	7	1	0	0	0	1	0	9	8	0	0	0	0	0	0	8
17:15	7	3	0	0	0	0	0	10	1	1	0	0	0	0	0	2
17:30	4	0	3	0	0	0	0	7	5	0	0	0	0	0	0	5
17:45	7	1	0	0	0	0	0	8	1	0	0	0	0	0	0	1
н/тот	25	5	3	0	0	1	0	34	15	1	0	0	0	0	0	16
18:00	3	1	0	0	0	0	0	4	6	0	0	0	0	0	0	6
18:15	9	2	0	0	0	0	0	11	2	0	0	0	0	0	0	2
18:30	5	0	0	0	0	0	1	6	2	0	0	0	0	0	0	2
18:45	2	0	0	0	0	0	0	2	1	0	0	0	0	0	0	1
н/тот	19	3	0	0	0	0	1	23	11	0	0	0	0	0	0	11
P/TOT	190	47	12	5	0	2	9	265	158	38	6	4	0	2	2	210

**QUEUE LENGTHS** 

JOB REF: 11430

JOB NAME: AYNHO

SITE: 2

#### LOCATION: B4031 / B4100 (SE) / B4100 (NW) / UN-NAMED ROAD

NOTE: Queue Lengths recorded by the number of vehicles queuing at each 5-minute interval, by lane

	ARM A ARM B ARM		ARM C	ARM D		ARI	AN	ARI	VI B	ARM C			
TIME	B40	)31	B410	0 (SE)	B4100 (NW)	UN-NAMED ROAD	TIME	B40	)31	B410	D (SE)	B4100 (NW)	
	LANE 1	LANE 2	LANE 1	LANE 2	LANE 1	LANE 1		LANE 1	LANE 2	LANE 1	LANE 2	LANE 1	
07:30	0	0	0	0	0	0 16:30		0	0	0	0	0	
07:35	0	1	0	0	0	0	16:35	0	0	0	0	0	
07:40	0	0	0	0	0	0	16:40	0	0	0	0	0	
07:45	0	0	0	0	0	0	16:45	0	0	0	0	0	
07:50	0	0	0	0	0	0	16:50	0	5	0	1	0	
07:55	0	0	0	0	0	0	16:55	0	0	0	0	0	
08:00	0	0	0	0	0	0	17:00	0	0	0	0	0	
08:05	0	0	0	0	0	0	17:05	0	0	0	0	0	
08:10	0	0	0	0	0	0	17:10	0	0	0	0	0	
08:15	0	0	0	0	0	0	17:15	0	0	0	0	0	
08:20	0	0	0	0	0	0	17:20	0		0	0	0	
08:25	0	2	0	0	0	0	17:25	0	0	0	1	0	
08:30	0	0	0	0	0	0	17:30	0	0	0	0	0	
08:35	0	0	0	0	0	0	17:35	0	0	0	0	0	
08:40	0	0	0	0	0	0	17:40	0	0	0	0	0	
08:45	0	0	0	0	0	0	17:45	0	3	0	0	0	
08:50	0	0	0	0	0	0	17:50	0	0	0	0	0	
08:55	0	0	0	0	0	0	17:55	0	0	0	0	0	
09:00	0	0	0	0	0	0	18:00	0	0	0	0	0	
09:05	0	0	0	0	0	0	18:05	0	0	0	0	0	
09:10	0	0	0	0	0	0	18:10	0	0	0	0	0	
09:15	0	0	0	0	0	0	18:15	0	1	0	0	0	
09:20	0	0	0	0	0	0	18:20	0	1	0	0	0	
09:25	0	0	0	0	0	0	18:25	0	0 0		0	0	

SURVEY

DATE:

DAY:

#### DTA OUTPUT

AM PEAK 07:30 - 08:30 PM PEAK 16:30 - 17:30

		Existing											
SITE:	2				AM	AL	L VEHICLES				AM		HGV
LOCATION:	B4031 / B4100 (SE) / B4100 (NW) / U												
			А	В	С	D	Total		А	В	С	D	Total
Α	B4031	А	0	30	216	3	249	А	0	1	11	0	12
В	B4100 (SE)	В	13	0	242	8	263	В	0	0	12	1	13

B4100 (NW) С D

UN-NAMED ROAD

	A	В	C	D	Total
А	0	30	216	3	249
В	13	0	242	8	263
С	268	399	0	2	669
D	0	35	1	0	36
Total	281	464	459	13	1217

С 21 0 3 0 24 D 0 2 0 0 2 3 24 23 Total 1 51

В

1

0

5

0

6

А

0

0

4

0

4

А

В

С

D

Total

ΡM

С

2

6

0

0

8

PM

ALL VEHICLES

D

0

1

0

0

1

HGV	
Total	

3

7

9

0

19

	Α	В	С	D	Total
А	0	7	211	1	219
В	20	0	287	29	336
С	214	269	0	2	485
D	4	13	1	0	18
Total	238	289	499	32	1058

AM PEAK 07:30 - 08:30 PM PEAK 16:30 - 17:30

JOB REF: 11430

JOB NAME: AYNHO

SITE:

12:45

#### LOCATION: B4031 / B4100 (SE) / B4100 (NW) / UN-NAMED ROAD

A TO B A TO C FROM B4031 TO B4100 (NW) TIME FROM B4031 TO B4100 (SE) CAR LGV OGV1 OGV2 PSV MCL PCL TOT CAR LGV OGV1 OGV2 PSV MCL PCL TOT 07:00 07:15 07:30 07:45 н/тот 08:00 08:15 08:30 08:45 H/TOT 09:00 09:15 09:30 09:45 H/TOT 10:00 10:15 10:30 10:45 н/тот 11:00 11:15 11:30 11:45 н/тот 12:00 12:15 12:30 

DATE: 30/06/2022

DAY: THURSDAY



JOB REF: 11430

JOB NAME: AYNHO

SITE:

H/TOT

P/TOT

#### LOCATION: B4031 / B4100 (SE) / B4100 (NW) / UN-NAMED ROAD

13:00 13:15 13:30 13:45 н/тот 14:00 14:15 14:30 14:45 H/TOT 15:00 15:15 15:30 15:45 H/TOT 16:00 16:15 16:30 16:45 H/TOT 17:00 17:15 17:30 17:45 H/TOT 18:00 18:15 18:30 18:45 н/тот 



DATE: 30/06/2022

DAY: THURSDAY

JOB REF: 11430

JOB NAME: AYNHO

SITE:

12:45

#### LOCATION: B4031 / B4100 (SE) / B4100 (NW) / UN-NAMED ROAD

A TO D **B TO A** FROM B4031 TO UN-NAMED ROAD FROM B4100 (SE) TO B4031 TIME CAR LGV OGV1 OGV2 PSV MCL PCL TOT CAR LGV OGV1 OGV2 PSV MCL PCL TOT 07:00 07:15 07:30 07:45 н/тот 08:00 08:15 08:30 08:45 H/TOT 09:00 09:15 09:30 09:45 H/TOT 10:00 10:15 10:30 10:45 н/тот 11:00 11:15 11:30 11:45 н/тот 12:00 12:15 12:30 



ATE: 30/06/2022

DAY: THURSDAY

DATE: 30/06/2022

2

JOB REF: 11430

JOB NAME: AYNHO

SITE:

#### LOCATION: B4031 / B4100 (SE) / B4100 (NW) / UN-NAMED ROAD



DATE: 30/06/2022

DAY: THURSDAY

н/тот	2	3	0	0	0	0	0	5	4	5	0	0	0	0	0	9
13:00	0	0	0	0	0	0	0	0	6	2	0	0	0	0	0	8
13:15	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
13:30	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
13:45	0	0	0	0	0	0	0	0	2	1	0	0	0	0	0	3
н/тот	0	0	0	0	0	0	0	0	9	4	0	0	0	0	0	13
14:00	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2
14:15	1	0	0	0	0	0	0	1	2	0	0	0	0	0	0	2
14:30	1	0	0	0	0	0	0	1	1	1	0	0	0	0	0	2
14:45	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	6
Н/ТОТ	2	0	0	0	0	0	0	2	11	1	0	0	0	0	0	12
15:00	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	5
15:15	0	0	0	0	0	0	0	0	7	1	0	0	0	0	0	8
15:30	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1
15:45	0	1	0	0	0	0	0	1	4	1	0	0	0	0	0	5
н/тот	1	1	0	0	0	0	0	2	17	2	0	0	0	0	0	19
16:00	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2
16:15	1	0	0	0	0	0	0	1	4	2	0	0	0	0	0	6
16:30	0	0	0	0	0	0	0	0	3	1	0	0	0	0	0	4
16:45	0	0	0	0	0	0	0	0	6	0	0	0	0	0	0	6
н/тот	1	0	0	0	0	0	0	1	15	3	0	0	0	0	0	18
17:00	0	0	0	0	0	0	0	0	5	0	0	0	0	0	0	5
17:15	1	0	0	0	0	0	0	1	1	1	0	0	0	0	0	2
17:30	0	0	0	0	0	0	0	0	2	0	0	0	0	0	0	2
17:45	2	0	0	0	0	0	0	2	4	1	0	0	0	0	0	5
н/тот	3	0	0	0	0	0	0	3	12	2	0	0	0	0	0	14
18:00	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	3
18:15	0	0	0	0	0	0	0	0	4	0	0	0	0	0	0	4
18:30	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	2
18:45	2	0	0	0	0	0	0	2	3	0	0	0	0	0	0	3
н/тот	2	0	0	0	0	0	0	2	11	1	0	0	0	0	0	12
P/TOT	29	8	0	0	0	0	2	39	110	22	0	0	0	2	0	134

JOB REF: 

JOB NAME: AYNHO

SITE:

12:45

#### B4031 / B4100 (SE) / B4100 (NW) / UN-NAMED ROAD LOCATION:

B TO C B TO D FROM B4100 (SE) TO B4100 (NW) FROM B4100 (SE) TO UN-NAMED ROAD TIME CAR LGV OGV1 OGV2 PSV MCL PCL TOT CAR LGV OGV1 OGV2 PSV MCL PCL TOT 07:00 07:15 07:30 07:45 н/тот 08:00 08:15 08:30 08:45 H/TOT 09:00 09:15 09:30 09:45 H/TOT 10:00 10:15 10:30 10:45 н/тот 11:00 11:15 11:30 11:45 н/тот 12:00 12:15 12:30 



DAY: THURSDAY

30/06/2022 DATE:

2

JOB REF: 11430

JOB NAME: AYNHO

SITE:

#### LOCATION: B4031 / B4100 (SE) / B4100 (NW) / UN-NAMED ROAD



DATE: 30/06/2022

DAY: THURSDAY

н/тот	107	28	15	3	0	1	0	154	7	4	0	0	0	0	0	11
13:00	22	8	3	2	0	0	0	35	0	0	0	0	0	0	0	0
13:15	34	10	3	1	1	0	0	49	1	1	0	0	0	0	0	2
13:30	33	5	3	5	0	1	0	47	1	0	0	0	0	0	0	1
13:45	19	13	2	0	0	0	0	34	4	1	0	0	0	0	0	5
н/тот	108	36	11	8	1	1	0	165	6	2	0	0	0	0	0	8
14:00	33	11	3	0	0	0	0	47	5	0	1	0	0	0	0	6
14:15	34	12	8	2	0	0	0	56	3	0	0	0	0	0	0	3
14:30	33	10	5	2	2	0	0	52	2	0	0	0	0	0	0	2
14:45	30	12	2	3	0	0	0	47	3	1	0	0	0	0	0	4
н/тот	130	45	18	7	2	0	0	202	13	1	1	0	0	0	0	15
15:00	27	11	4	1	0	0	0	43	2	0	0	0	0	0	0	2
15:15	43	8	3	1	0	0	0	55	5	3	0	0	0	0	0	8
15:30	39	17	4	0	0	0	0	60	9	3	1	0	0	0	0	13
15:45	66	10	1	1	0	1	0	79	5	0	3	0	0	0	0	8
н/тот	175	46	12	3	0	1	0	237	21	6	4	0	0	0	0	31
16:00	62	19	2	1	0	0	0	84	6	1	0	0	0	0	0	7
16:15	43	18	1	0	0	1	0	63	5	4	1	0	0	0	0	10
16:30	61	27	0	0	0	0	0	88	2	1	1	0	0	0	0	4
16:45	68	14	1	1	0	2	0	86	6	1	0	0	0	0	1	8
н/тот	234	78	4	2	0	3	0	321	19	7	2	0	0	0	1	29
17:00	51	10	1	0	0	0	0	62	1	1	0	0	0	0	0	2
17:15	67	9	1	0	0	0	0	77	3	1	0	0	0	0	0	4
17:30	75	9	1	1	0	1	0	87	4	0	0	0	0	0	0	4
17:45	66	13	0	1	0	0	0	80	6	4	0	0	0	0	0	10
н/тот	259	41	3	2	0	1	0	306	14	6	0	0	0	0	0	20
18:00	45	10	0	0	0	1	0	56	6	1	1	0	0	0	1	9
18:15	57	9	0	0	0	1	0	67	4	2	0	0	0	0	0	6
18:30	53	4	1	0	0	0	0	58	4	0	1	0	0	0	0	5
18:45	49	6	0	0	0	1	0	56	7	2	0	0	0	1	0	10
н/тот	204	29	1	0	0	3	0	237	21	5	2	0	0	1	1	30
P/TOT	1892	506	122	51	11	16	0	2598	135	41	9	0	0	1	2	188
JOB REF: 

JOB NAME: AYNHO

SITE:

12:45

#### LOCATION: B4031 / B4100 (SE) / B4100 (NW) / UN-NAMED ROAD

C TO A СТОВ FROM B4100 (NW) TO B4031 FROM B4100 (NW) TO B4100 (SE) TIME CAR LGV OGV1 OGV2 PSV MCL PCL TOT CAR LGV OGV1 OGV2 PSV MCL PCL тот 07:00 07:15 07:30 07:45 н/тот 08:00 08:15 08:30 08:45 H/TOT 09:00 09:15 09:30 09:45 H/TOT 10:00 10:15 10:30 10:45 н/тот 11:00 11:15 11:30 11:45 н/тот 12:00 12:15 12:30 



30/06/2022

DAY: THURSDAY

н/тот

P/TOT

JOB REF: 

JOB NAME: AYNHO

SITE:

H/TOT

#### B4031 / B4100 (SE) / B4100 (NW) / UN-NAMED ROAD LOCATION:

13:00 13:15 13:30 13:45 н/тот 14:00 14:15 14:30 14:45 H/TOT 15:00 15:15 15:30 15:45 н/тот 16:00 16:15 16:30 16:45 H/TOT 17:00 17:15 17:30 17:45 H/TOT 18:00 18:15 18:30 18:45 



DAY: THURSDAY

30/06/2022 DATE:

JOB REF: 11430

JOB NAME: AYNHO

SITE:

12:45

## LOCATION: B4031 / B4100 (SE) / B4100 (NW) / UN-NAMED ROAD

C TO D D TO A FROM B4100 (NW) TO UN-NAMED ROAD FROM UN-NAMED ROAD TO B4031 TIME CAR LGV OGV1 OGV2 PSV MCL PCL TOT CAR LGV OGV1 OGV2 PSV MCL PCL TOT 07:00 07:15 07:30 07:45 н/тот 08:00 08:15 08:30 08:45 H/TOT 09:00 09:15 09:30 09:45 H/TOT 10:00 10:15 10:30 10:45 н/тот 11:00 11:15 11:30 11:45 н/тот 12:00 12:15 12:30 



ATE: 30/06/2022

DAY: THURSDAY

DATE: 30/06/2022

2

JOB REF: 11430

JOB NAME: AYNHO

SITE:

## LOCATION: B4031 / B4100 (SE) / B4100 (NW) / UN-NAMED ROAD



DATE: 30/06/2022

н/тот	1	1	1	0	0	0	0	3	3	0	0	0	0	0	0	3
13:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:15	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
13:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
н/тот	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
14:00	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
14:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
14:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Н/ТОТ	0	0	0	0	0	0	0	0	0	1	0	0	0	0	0	1
15:00	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
15:15	1	0	0	1	0	0	0	2	0	0	0	0	0	0	0	0
15:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
15:45	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
Н/ТОТ	3	0	0	1	0	0	0	4	0	0	0	0	0	0	0	0
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15	0	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
16:45	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
н/тот	1	1	0	0	0	0	0	2	1	0	0	0	0	0	0	1
17:00	1	0	0	0	0	0	0	1	2	0	0	0	0	0	0	2
17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1
н/тот	2	0	0	0	0	0	0	2	3	0	0	0	0	0	0	3
18:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18:15	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1
18:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
н/тот	1	0	0	0	0	0	0	1	1	0	0	0	0	0	0	1
P/TOT	18	4	1	1	0	0	0	24	16	1	0	0	0	0	0	17

JOB REF: 11430

JOB NAME: AYNHO

SITE:

12:45

## LOCATION: B4031 / B4100 (SE) / B4100 (NW) / UN-NAMED ROAD

D TO B D TO C FROM UN-NAMED ROAD TO B4100 (NW) TIME FROM UN-NAMED ROAD TO B4100 (SE) CAR LGV OGV1 OGV2 PSV MCL PCL TOT CAR LGV OGV1 OGV2 PSV MCL PCL TOT 07:00 07:15 07:30 07:45 н/тот 08:00 08:15 08:30 08:45 H/TOT 09:00 09:15 09:30 09:45 H/TOT 10:00 10:15 10:30 10:45 н/тот 11:00 11:15 11:30 11:45 н/тот 12:00 12:15 12:30 



ATL. 50/00/2022

DAY: THURSDAY

DATE: 30/06/2022

2

JOB REF: 11430

JOB NAME: AYNHO

SITE:

## LOCATION: B4031 / B4100 (SE) / B4100 (NW) / UN-NAMED ROAD



DATE: 30/06/2022

н/тот	7	0	0	0	0	1	0	8	1	0	0	0	0	0	0	1
13:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:15	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0
13:30	3	1	1	1	0	0	0	6	1	0	0	0	0	0	0	1
13:45	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
н/тот	4	1	2	1	0	0	0	8	1	0	0	0	0	0	0	1
14:00	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0
14:15	4	0	0	0	0	0	0	4	1	0	0	0	0	0	0	1
14:30	1	2	1	0	0	0	0	4	2	0	0	0	0	0	0	2
14:45	4	2	0	0	0	0	0	6	0	0	0	0	0	0	0	0
н/тот	11	4	1	0	0	0	0	16	3	0	0	0	0	0	0	3
15:00	4	1	0	0	0	0	0	5	0	0	0	0	0	0	0	0
15:15	2	1	1	0	0	0	0	4	0	0	0	0	0	0	0	0
15:30	0	2	1	0	0	0	0	3	0	0	0	0	0	0	0	0
15:45	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
н/тот	7	4	2	0	0	0	0	13	0	0	0	0	0	0	0	0
16:00	4	3	0	0	0	0	0	7	0	0	0	0	0	0	0	0
16:15	2	0	0	0	0	0	0	2	0	0	0	0	0	0	0	0
16:30	3	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0
16:45	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
Н/ТОТ	10	3	0	0	0	0	0	13	0	0	0	0	0	0	0	0
17:00	3	1	0	0	0	0	0	4	0	0	0	0	0	0	0	0
17:15	5	0	0	0	0	0	0	5	0	0	0	0	0	0	0	0
17:30	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	1
17:45	1	1	0	0	0	0	0	2	1	0	0	0	0	0	0	1
н/тот	9	2	0	0	0	0	0	11	2	0	0	0	0	0	0	2
18:00	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
18:15	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0
18:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
18:45	2	1	0	0	0	0	0	3	0	0	0	0	0	0	0	0
Н/ТОТ	4	1	0	0	0	0	0	5	0	0	0	0	0	0	0	0
Р/ТОТ	120	33	7	1	0	2	0	163	9	2	1	1	0	0	0	13

JOB REF: 

JOB NAME: AYNHO

SITE:

12:45

### B4031 / B4100 (SE) / B4100 (NW) / UN-NAMED ROAD LOCATION:

TO ARM A FROM ARM A B4031 B4031 TIME CAR LGV OGV1 OGV2 PSV MCL PCL TOT CAR LGV OGV1 OGV2 PSV MCL PCL тот 07:00 07:15 07:30 07:45 н/тот 08:00 08:15 08:30 08:45 H/TOT 09:00 09:15 09:30 09:45 H/TOT 10:00 10:15 10:30 10:45 н/тот 11:00 11:15 11:30 11:45 н/тот 12:00 12:15 12:30 

AUTO SURVEYS LTD

DAY: THURSDAY

30/06/2022 DATE:

JOB REF: 11430

JOB NAME: AYNHO

SITE:

H/TOT

18:45

н/тот

P/TOT

## LOCATION: B4031 / B4100 (SE) / B4100 (NW) / UN-NAMED ROAD

13:00 13:15 13:30 13:45 н/тот 14:00 14:15 14:30 14:45 H/TOT 15:00 15:15 15:30 15:45 н/тот 16:00 16:15 16:30 16:45 H/TOT 17:00 17:15 17:30 17:45 H/TOT 18:00 18:15 18:30 



DATE: 30/06/2022

DAY: THURSDAY

JOB REF: 

JOB NAME: AYNHO

SITE:

12:45

### B4031 / B4100 (SE) / B4100 (NW) / UN-NAMED ROAD LOCATION:

TO ARM B FROM ARM B TIME B4100 (SE) B4100 (SE) CAR LGV OGV1 OGV2 PSV MCL PCL TOT CAR LGV OGV1 OGV2 PSV MCL PCL TOT 07:00 07:15 07:30 07:45 н/тот 08:00 08:15 08:30 08:45 H/TOT 09:00 09:15 09:30 09:45 H/TOT 10:00 10:15 10:30 10:45 н/тот 11:00 11:15 11:30 11:45 н/тот 12:00 12:15 12:30 

AUTO SURVEYS LTD

DAY: THURSDAY

30/06/2022 DATE:

2

JOB REF: 11430

JOB NAME: AYNHO

SITE:

## LOCATION: B4031 / B4100 (SE) / B4100 (NW) / UN-NAMED ROAD



DATE: 30/06/2022

Н/ТОТ	154	37	12	8	0	5	0	216	118	37	15	3	0	1	0	174
13:00	29	10	3	0	0	0	0	42	28	10	3	2	0	0	0	43
13:15	35	9	1	0	0	0	0	45	36	11	3	1	1	0	0	52
13:30	41	8	4	1	0	0	0	54	34	6	3	5	0	1	0	49
13:45	38	7	1	1	1	0	0	48	25	15	2	0	0	0	0	42
н/тот	143	34	9	2	1	0	0	189	123	42	11	8	1	1	0	186
14:00	34	10	2	0	0	0	0	46	40	11	4	0	0	0	0	55
14:15	45	6	2	4	0	0	0	57	39	12	8	2	0	0	0	61
14:30	47	12	5	0	0	0	0	64	36	11	5	2	2	0	0	56
14:45	51	8	2	0	1	0	0	62	39	13	2	3	0	0	0	57
н/тот	177	36	11	4	1	0	0	229	154	47	19	7	2	0	0	229
15:00	33	7	6	2	0	0	0	48	34	11	4	1	0	0	0	50
15:15	40	12	3	1	0	0	0	56	55	12	3	1	0	0	0	71
15:30	30	20	2	0	3	0	0	55	49	20	5	0	0	0	0	74
15:45	51	15	1	0	1	0	0	68	75	11	4	1	0	1	0	92
н/тот	154	54	12	3	4	0	0	227	213	54	16	3	0	1	0	287
16:00	51	16	2	0	0	1	0	70	70	20	2	1	0	0	0	93
16:15	50	11	1	2	0	3	0	67	52	24	2	0	0	1	0	79
16:30	51	11	2	1	0	1	0	66	66	29	1	0	0	0	0	96
16:45	57	10	2	0	0	0	0	69	80	15	1	1	0	2	1	100
н/тот	209	48	7	3	0	5	0	272	268	88	6	2	0	3	1	368
17:00	77	13	0	0	0	0	0	90	57	11	1	0	0	0	0	69
17:15	60	12	0	0	0	0	0	72	71	11	1	0	0	0	0	83
17:30	69	12	2	1	0	0	0	84	81	9	1	1	0	1	0	93
17:45	43	9	0	0	0	0	0	52	76	18	0	1	0	0	0	95
н/тот	249	46	2	1	0	0	0	298	285	49	3	2	0	1	0	340
18:00	57	9	0	0	0	0	0	66	54	11	1	0	0	1	1	68
18:15	34	3	1	0	0	1	0	39	65	11	0	0	0	1	0	77
18:30	39	4	1	1	0	1	0	46	58	5	2	0	0	0	0	65
18:45	31	2	0	0	0	0	0	33	59	8	0	0	0	2	0	69
н/тот	161	18	2	1	0	2	0	184	236	35	3	0	0	4	1	279
P/TOT	2331	528	115	47	12	19	1	3053	2137	569	131	51	11	19	2	2920

JOB REF: 

JOB NAME: AYNHO

SITE:

#### LOCATION: B4031 / B4100 (SE) / B4100 (NW) / UN-NAMED ROAD

TO ARM C FROM ARM C TIME B4100 (NW) B4100 (NW) CAR LGV OGV1 OGV2 PSV MCL PCL TOT CAR LGV OGV1 OGV2 PSV MCL PCL тот 07:00 07:15 07:30 07:45 H/TOT 08:00 08:15 08:30 08:45 H/TOT 09:00 09:15 09:30 09:45 H/TOT 10:00 10:15 10:30 10:45 н/тот 11:00 11:15 11:30 11:45 н/тот 12:00 12:15 12:30 12:45 



DAY: THURSDAY

30/06/2022

JOB REF: 11430

JOB NAME: AYNHO

SITE:

P/TOT

## LOCATION: B4031 / B4100 (SE) / B4100 (NW) / UN-NAMED ROAD

#### H/TOT 13:00 13:15 13:30 13:45 н/тот 14:00 14:15 14:30 14:45 н/тот 15:00 15:15 15:30 15:45 H/TOT 16:00 16:15 16:30 16:45 H/TOT 17:00 17:15 17:30 17:45 H/TOT 18:00 18:15 18:30 18:45 н/тот



30/06/2022

DAY: THURSDAY

JOB REF: 

JOB NAME: AYNHO

SITE:

12:45

### B4031 / B4100 (SE) / B4100 (NW) / UN-NAMED ROAD LOCATION:

TO ARM D FROM ARM D **UN-NAMED ROAD** TIME **UN-NAMED ROAD** CAR LGV OGV1 OGV2 PSV MCL PCL TOT CAR LGV OGV1 OGV2 PSV MCL PCL TOT 07:00 07:15 07:30 07:45 н/тот 08:00 08:15 08:30 08:45 H/TOT 09:00 09:15 09:30 09:45 H/TOT 10:00 10:15 10:30 10:45 н/тот 11:00 11:15 11:30 11:45 н/тот 12:00 12:15 12:30 

AUTO SURVEYS LTD

30/06/2022

DAY: THURSDAY

2

JOB REF: 11430

JOB NAME: AYNHO

SITE:

## LOCATION: B4031 / B4100 (SE) / B4100 (NW) / UN-NAMED ROAD

# SURVEYS LTD

DATE: 30/06/2022

н/тот	10	8	1	0	0	0	0	19	11	0	0	0	0	1	0	12
13:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:15	1	1	0	0	0	0	0	2	1	0	1	0	0	0	0	2
13:30	1	0	0	0	0	0	0	1	4	1	1	1	0	0	0	7
13:45	4	1	0	0	0	0	0	5	1	0	0	0	0	0	0	1
н/тот	6	2	0	0	0	0	0	8	6	1	2	1	0	0	0	10
14:00	5	0	1	0	0	0	0	6	2	1	0	0	0	0	0	3
14:15	4	0	0	0	0	0	0	4	5	0	0	0	0	0	0	5
14:30	3	0	0	0	0	0	0	3	3	2	1	0	0	0	0	6
14:45	3	1	0	0	0	0	0	4	4	2	0	0	0	0	0	6
н/тот	15	1	1	0	0	0	0	17	14	5	1	0	0	0	0	20
15:00	3	0	0	0	0	0	0	3	4	1	0	0	0	0	0	5
15:15	6	3	0	1	0	0	0	10	2	1	1	0	0	0	0	4
15:30	10	3	1	0	0	0	0	14	0	2	1	0	0	0	0	3
15:45	6	1	3	0	0	0	0	10	1	0	0	0	0	0	0	1
н/тот	25	7	4	1	0	0	0	37	7	4	2	0	0	0	0	13
16:00	6	1	0	0	0	0	0	7	4	3	0	0	0	0	0	7
16:15	6	5	1	0	0	0	0	12	2	0	0	0	0	0	0	2
16:30	2	1	1	0	0	0	0	4	4	0	0	0	0	0	0	4
16:45	7	1	0	0	0	0	1	9	1	0	0	0	0	0	0	1
н/тот	21	8	2	0	0	0	1	32	11	3	0	0	0	0	0	14
17:00	2	1	0	0	0	0	0	3	5	1	0	0	0	0	0	6
17:15	4	1	0	0	0	0	0	5	5	0	0	0	0	0	0	5
17:30	4	0	0	0	0	0	0	4	1	0	0	0	0	0	0	1
17:45	9	4	0	0	0	0	0	13	3	1	0	0	0	0	0	4
н/тот	19	6	0	0	0	0	0	25	14	2	0	0	0	0	0	16
18:00	6	1	1	0	0	0	1	9	1	0	0	0	0	0	0	1
18:15	5	2	0	0	0	0	0	7	2	0	0	0	0	0	0	2
18:30	4	0	1	0	0	0	0	5	0	0	0	0	0	0	0	0
18:45	9	2	0	0	0	1	0	12	2	1	0	0	0	0	0	3
н/тот	24	5	2	0	0	1	1	33	5	1	0	0	0	0	0	6
P/TOT	182	53	10	1	0	1	4	251	145	36	8	2	0	2	0	193

**QUEUE LENGTHS** 

JOB REF: 11430

JOB NAME: AYNHO

SITE: 2

## LOCATION: B4031 / B4100 (SE) / B4100 (NW) / UN-NAMED ROAD

NOTE: Queue Lengths recorded by the number of vehicles queuing at each 5-minute interval, by lane

	ARM A ARM B A		ARM C	ARM D		ARI	A N	ARI	VI B	ARM C		
TIME	B40	)31	B410	0 (SE)	B4100 (NW)	UN-NAMED ROAD	TIME	B40	031	B4100	) (SE)	B4100 (NW)
	LANE 1	LANE 2	LANE 1	LANE 2	LANE 1	LANE 1		LANE 1	LANE 2	LANE 1	LANE 2	LANE 1
07:30	0	0	0	0	0	0	16:30	0	0	0	0	0
07:35	0	1	0	0	0	0	16:35	0	0	0	0	0
07:40	1	2	0	0	0	0	16:40	0	1	0	0	0
07:45	0	2	0	0	0	1	16:45	0	0	0	0	0
07:50	0	1	0	0	0	0	16:50	0	1	0	0	0
07:55	0	0	0	0	0	0	16:55	0	0	0	0	0
08:00	0	2	0	0	0	0	17:00	0	1	0	0	0
08:05	0	0	0	0	0	0	17:05	0	0	0	0	0
08:10	0	0	0	1	0	0	17:10	0	0	0	0	0
08:15	0	0	0	0	0	0	17:15	0	0	0	0	0
08:20	0	0	0	0	0	0	17:20	0	0	0	0	0
08:25	0	4	0	0	0	2	17:25	0	0	0	0	0
08:30	0	0	0	0	0	0	17:30	0	0	0	0	0
08:35	0	0	0	0	0	0	17:35	0	0	0	0	0
08:40	0	1	0	0	0	0	17:40	0	1	0	0	0
08:45	0	0	0	0	0	0	17:45	0	5	0	0	0
08:50	0	0	0	0	0	0	17:50	0	1	0	0	0
08:55	0	1	0	0	0	0	17:55	0	1	0	0	0
09:00	0	0	0	0	0	0	18:00	0	2	0	0	0
09:05	0	0	0	0	0	0	18:05	0	0	0	0	0
09:10	0	0	0	0	0	0	18:10	0	2	0	0	0
09:15	0	0	0	0	0	0	18:15	0	0	0	0	0
09:20	0	0	0	0	0	0	18:20	0	0	0	0	0
09:25	0	0	0	0	0	0	18:25	0	3	0	0	0

SURVEY

DATE:

DAY:

Forester House Doctor's Lane i Henley-in-Arden Warwickshire B95 5AW

Tel: +44(O)1564 793598 inmail@dtatransportation.co.uk www.dtatransportation.co.uk