Bicester Office Park,
Bicester

Updated Transport Assessment

For

Scenic Land Developments Ltd

motion

Document Control Sheet

Updated Transport Assessment

Bicester Office Park, Bicester

Scenic Land Developments Ltd

This document has been issued and amended as follows:

Date	Issue	Prepared by	Approved by
04/04/2018	Updated	KL	DL
05/07/2018	Updated Rev A	KL	DL

Motion
8 Duncannon Street
London
WC2N 4JF
T 020 7031 8141
F 020 7031 8101
E info@motion.co.uk
W www.motion.co.uk

Contents

1.0 Introduction 1
2.0 Policy Context.....3
3.0 Baseline Conditions.....5
4.0 Development Proposals 11
5.0 Assessment Methodology and Trip Attraction.....15
6.0 Effect of Development 19
7.0 Summary and Conclusions 27

Figures

3.1 Site Location Plan
3.2 Local Footpaths
3.3 Local Cycle Routes
3.4 Bus Routes and Stops
5.1 2026 BTM Traffic Flows – AM Peak
5.2 2026 BTM Traffic Flows – PM Peak
5.3 Bicester Gateway Retail Park Flows – PM Peak
5.4 Permitted McDonalds Flows – AM Peak
5.5 Permitted McDonalds Flows – PM Peak
5.6 Bicester Village Phase 4 Flows – AM Peak
5.7 Bicester Village Phase 4 Flows – PM Peak
5.8 2026 BTM Traffic Flows plus Committed Developments – AM Peak
5.9 2026 BTM Traffic Flows plus Committed Developments – PM Peak
5.10 Traffic Distribution
5.11 Office Park Traffic Flows 60,000 square metres – AM Peak
5.12 Office Park Traffic Flows 60,000 square metres – PM Peak
5.13 2026 Baseline plus Committed Developments
plus 60,000 Office Park Traffic Flows– AM Peak
5.14 2026 Baseline plus Committed Developments
plus 60,000 Office Park Traffic Flows – PM Peak

Appendices

A Oxfordshire County Council Pre-Application Response
B Oxfordshire County Council Planning Application Response
C Traffic Accident Data
D Parameters Plan
E Highways Access Plan
F Proposed Junction Mitigation
G Swept Path Analysis
H Stage 1 Road Safety Audit & Designers Response
I Bicester Traffic Model Outputs
J Census Data and Trip Distribution Calculations
K Model Output Files

1.0 Introduction

1.1 Motion has been appointed by Scenic Land Developments Ltd to prepare this Transport Assessment in relation to development proposals on land to the east of the A41 Oxford Road, Bicester within the administrative boundary of Cherwell District Council (CDC).

1.2 The site is currently undeveloped and is bound by the A41 Oxford Road to the west and Lakeview Drive to the north whilst Wyevale Garden Centre is located to the immediate south. The Bicester – Oxford railway line operates to the east and is separated from the site by undeveloped land.

1.3 The proposals comprise the redevelopment of the site to form up to 60,000 square metres (GEA) of B1(a)/B1(b) office space along with associated parking and landscaping. Vehicle access to the site would be via the two existing roundabout junctions on Lakeview Drive.

Site History

1.4 Outline planning permission was granted in 2010 for the construction of a 60,000-square metre office park comprising 53,000 square metres of B1(a)/B1(b) office space and a 7,000-square metre C1 hotel, served by circa 1,837 car parking spaces (Planning Ref: 07/01106/OUT).

1.5 Detailed planning permission was subsequently granted in November 2013 for the construction of a Tesco food store of 8,135 square metres and petrol filling station on part of the permitted office park site (Planning Ref: 12/01193/F). That planning application was supported by a Transport Assessment which considered the effect of the development proposals on the highway network local to the site. The Tesco store has since been constructed and opened in April 2016.

1.6 The S106 Deed of Variation in relation to the permitted Tesco store and office park allows for the construction of up to 45,000 square metres of the B1(a)/B1(b) office space being delivered on the remainder of the site, as part of the previous outline planning permission for an office park.

Current Planning Application

1.7 The current development proposals seek outline planning permission for the construction of an office park providing up to 60,000 square metres of B1(a)/B1(b) office space.

1.8 A planning application was submitted to CDC in December 2017 (Planning Ref: 17/02534/OUT) seeking outline planning permission of B1(a)/B1(b) office space. The development would be accessed from Lakeview Drive via two existing roundabout junctions.

1.9 The current development proposals would supersede and replace the previous outline permission for an office park on the site. In comparison with the previous outline planning permission for an office park on the site, the current site area excludes the portion of the site, north of Lakeview Drive, which has since been developed for a Tesco store. However, the site area now includes a parcel of land along the frontage of the A41 Oxford Road, south of Lakeview Drive, which was previously not within the applicant's ownership and was not part of the previous outline planning permission for an office park.

1.10 A formal pre-application submission was made to Oxfordshire County Council (OCC) in April 2017 and a pre-application response was received from OCC in May 2017. A copy of the pre-application response is attached at Appendix A.

1.11 The planning application was supported by a Transport Assessment which considered the highways and transport matters associated with the development proposals and a Framework Travel Plan which set out the principles of a Travel Plan to encourage sustainable travel choices amongst future employees at the site. Following submission of the planning application comments have been received from Oxfordshire County Council (OCC) in a letter dated 27th February 2018 and a further response dated 31st May 2018, attached at Appendix B. As such, updated versions of the Transport Assessment and Framework Travel Plan have been prepared to address comments received.

Report Structure

1.12 This Updated Transport Assessment has been prepared in accordance with national and local guidance and considers the highways and transport matters associated with the current development proposals and, in particular, the effect of the development proposals on the highway network local to the site.

1.13 This Updated Transport Assessment has been prepared with reference to the pre-application response received from OCC and subsequent planning application consultation response from OCC and addresses the matters identified within each response.

1.14 An Updated Framework Travel Plan has been prepared and is submitted under separate cover.

1.15 Following this introduction, the remainder of this report comprises the following:

- Section 2 outlines the transport planning policies that are considered pertinent to this application;
- Section 3 considers the existing use of the site and reviews the accessibility by all modes of transport;
- Section 4 provides an overview of the proposed development;
- Section 5 details the assessment methodology and the trip attraction of the development proposals;
- Section 6 outlines the results of the junction modelling undertaken; and,
- Section 7 summarises the key findings and conclusions of the report.

2.0 Policy Context

2.1 This section summarises the relevant transport policy documents against which the development proposals would be considered at a national, regional and local level. The most relevant policy documents relating to this study are detailed below:

- National Planning Policy Framework (March 2012);
- Oxfordshire Local Transport Plan 2015-2031 (July 2015); and,
- Cherwell Local Plan 2011-2031 (re-adopted December 2016).

National Planning Policy

National Planning Policy Framework (March 2012)

2.2 The National Planning Policy Framework (NPPF) was published in March 2012, and replaces the previous national planning policies that were set out in the various Planning Policy Guidance Notes / Statements. With regard to transport, the NPPF replaces policy contained within PPG13 (Transport).

2.3 The NPPF sets out a presumption in favour of sustainable development that recognises the importance of transport policies in facilitating sustainable development, and that planning decisions should have regard to local circumstances. In this regard, paragraph 29 of the NPPF states that:

"*The transport system needs to be balanced in favour of sustainable transport modes, giving people a real choice about how they travel. However, the Government recognises that different policies and measures will be required in different communities and opportunities to maximise sustainable transport solutions will vary from urban to rural areas."*

2.4 Paragraph 32 states that:

"Development should only be prevented or refused on transport grounds where the residual cumulative impacts of development are severe."

2.5 In order to promote opportunities for the use of sustainable travel, the NPPF advises that:

- *"..developments should be located and designed where practical to accommodate the efficient delivery of goods and supplies;*
- *give priority to pedestrian and cycle movements, and have access to high quality public transport facilities;*
- *create safe and secure layouts which minimise conflicts between traffic and cyclists or pedestrians, avoiding street clutter and where appropriate establishing home zones;*
- *Incorporate facilities for charging plug-in and other ultra-low emission vehicles; and consider the needs of people with disabilities by all modes of transport."*

2.6 The NPPF also details the situations in which a local authority may utilise planning conditions or obligations in order to make a development acceptable. Paragraph 204 of the NPPF states that:

"Planning obligations should only be sought where they meet all of the following tests:

- *necessary to make the development acceptable in planning terms;*
- *directly related to the development; and*
- *fairly and reasonably related in scale and kind to the development."*

Local Planning Policy

Cherwell Local Plan 2011-2031 (December 2016)

2.7 The Cherwell Local Plan is the key planning policy document within the district and sets out the overarching planning policies upon which planning applications will be determined.

2.8 Policy SLE 4 considers transport and connections and states:

"*All development where reasonable to do so, should facilitate the use of sustainable modes of transport to make the fullest possible use of public transport, walking and cycling. Encouragement will be given to solutions which support reductions in greenhouse gas emissions and reduce congestion. Development which is not suitable for the roads that serve the development and which have a severe traffic impact will not be supported.*"

2.9 The current application site is allocated within the Cherwell Local Plan under Policy Bicester 4 which sets out:

"*… This site to the south west of Bicester, bounded by the A41 to the north and west, is proposed for employment generating development in the form of a high-quality office scheme.*"

2.10 It is further stated in paragraph C.65 that:

"There is a sustainable opportunity for the provision of strategic employment space to the south of Bicester Town Centre and adjoining the A41. The Bicester Business Park site has planning permission for a 60,000m2 business park incorporating offices (B1) and hotel (C1) use. This development area is located immediately to the east of the South West Bicester (Kingsmere) urban extension, less than 1 km from Bicester Village Railway Station and close to major retail uses and town centre facilities. The site has immediate access to the strategic highway network (Oxford-Aylesbury) with Junction 9 of the M40 motorway situated about 3 km to the south. Major growth is planned nearby with the redevelopment of Graven Hill (Policy Bicester 2: Graven Hill, phase 2 of the South West Bicester extension (Policy Bicester 3: South West Bicester Phase 2 and the expansion of the centre of the town."

Summary

2.11 It is evident that the policies set out within the NPPF and the Cherwell Local Plan focus on a presumption in favour of sustainable development and that development should only be resisted or refused on transport grounds where residual impacts of development are severe.

2.12 Furthermore, the application site is allocated for office use within the Cherwell Local Plan, confirming that the principle of office development is appropriate and in accordance with local planning policies.

3.0 Baseline Conditions

3.1 The site is located to the east of the A41, Oxford Road, and to the west of the Bicester – Oxford railway line. Both Bicester Village and town centre are located to the north of the site. The surrounding land uses comprise predominantly residential and retail uses with undeveloped land located to the east of the site.

3.2 The site location in relation to the surrounding area is shown in Figure 3.1.

Local Highway Network

3.3 Lakeview Drive forms the northern boundary of the site and the site would be accessed from Lakeview Drive via two existing roundabout junctions. The two existing roundabouts on Lakeview Drive, at the eastern end of Lakeview Drive and centrally on Lakeview Drive, currently include a southern arm on each roundabout which would form the vehicle accesses to the site. The roundabout at the eastern end of Lakeview Drive also provides access to the Tesco service yard while the central roundabout on Lakeview Drive also provides customer access to the existing Tesco store. At its western end, Lakeview Drive connects via the signalled controlled junction with the A41 Oxford Road. The A41 Oxford Road runs on a broadly north-south alignment and connects north to Bicester town and south to the M40.

3.4 North-east of the application site the A41 Oxford Road connects with the A41 at a junction known as the Esso roundabout. From the Esso roundabout, the A41 connects east towards Aylesbury. North of the Esso roundabout, Oxford Road connects north towards Bicester town centre.

3.5 As part of the recent developments of Bicester Village Phase 4 and the Tesco store a significant package of highway works was approved and has been implemented. The highway works included improvements to the Oxford Road junctions with Pingle Drive, Esso roundabout and Lakeview Drive.

3.6 Planning permission has recently been granted for a retail park scheme, known as 'Bicester Gateway Retail Park' on a site to the west of the A41 Oxford Road (Planning Ref: 16/02505/OUT). The permitted development proposals at Bicester Gateway Retail Park include further improvements to the A41 junctions with Lakeview Drive and Pioneer Way. The permitted highway improvements associated with Bicester Gateway Retail Park also include the provision of a new bus stop and lay-by on the A41 Oxford Road just south of Lakeview Drive, directly adjacent to the current application site.

3.7 In addition, planning permission has recently been granted for a business park scheme known as 'Bicester Gateway Business Park' to the south of the current application site (Planning Ref: 16/02586/OUT). The permitted development proposals at Bicester Gateway Business Park included improvements to the roundabout junction between the A41 and Vendee Drive.

3.8 The Rodney House roundabout is situated to the north-east of the application site at the junction between the A41, the A4421 and London Road and currently forms a conventional roundabout. As part of permitted development proposals at Graven Hill it is proposed that the Rodney House roundabout is upgraded to a signal-controlled roundabout and it is understood that these works are scheduled to commence later this year.

Sustainable Transport Accessibility

3.9 It is generally accepted that walking and cycling provide important alternatives to the private car and should also be encouraged to form part of longer journeys via public transport. Indeed, it is noteworthy that the Institution of Highways and Transportation (IHT) has prepared several guidance documents that provide advice with respect to the provision of sustainable travel in conjunction with new developments. Within these documents it is suggested that:

- Most people will walk to a destination that is less than one mile (Planning for Walking, 2015);
- The bicycle is a potential mode of transport for all journeys under five miles (approximately 8 kilometres) (Planning for Cycling, 2015); and,

- Walking distances to bus stops should not exceed 400 metres, whilst people are prepared to walk twice as far to rail stations (Planning for Walking, 2015).

3.10 The Institution of Highways and Transportation (IHT) 'Guidelines for Providing Journeys on Foot' (2000) suggests acceptable, desirable and preferred maximum walking distances ('acceptable' walking distances would vary between individuals). Table 3.1 summarises the suggested walking distances for pedestrians without mobility impairment for some common trip purposes.

	Town Centres	Commuting/Schools	Elsewhere
Desirable	200	500	400
Acceptable	400	1,000	800
Preferred Maximum	800	2,000	1,200
Source: 'Providing for Journeys on Foot', IHT, 2000			

Table 3.1 Suggested Walking Distances (metres)

3.11 The following sections consider the opportunities for sustainable travel that are available in the vicinity of the site.

Pedestrian Facilities

3.12 Footways are provided along both sides of Lakeview Drive adjacent to the site and these connect with footway along both sides of the A41 Oxford Road. Signalised pedestrian crossing facilities are provided at the junction between the A41 Oxford Road and Lakeview Drive and these provide a convenient crossing opportunity across both Lakeview Drive and the A41 Oxford Road.

3.13 The highway improvements have recently been completed at the A41 Esso roundabout and the A41 junctions with Pingle Drive and Pioneer Way which include signal-controlled pedestrian crossing facilities which connect to the wider pedestrian network in the vicinity.

3.14 In addition, the site is well located with regard to local footpaths which offer off-road connections between the site and local villages including Wendlebury and Chesterton. Figure 3.2 attached provides details of the local footpaths in the vicinity of the site.

3.15 It is evident that the pedestrian facilities in the vicinity of the application site provide connections to local retail opportunities, residential areas and public transport facilities. It is therefore evident that the application site is well placed for future employees and visitors to undertake journeys to and from the site on foot.

Cycle Facilities

3.16 National Cycle Network Route 51 (NCN51), runs alongside the A41 Oxford Road directly past the application site and is a traffic-free shared pedestrian cycle route. NCN51 provides a signed cycle route connecting south towards Wendlebury, Kidlington and Oxford. North of the application site, NCN51 connects to Bicester Village and Bicester Town Centre.

3.17 There are further signed cycle routes in the vicinity of the site which operate throughout Bicester as well as connecting to Audley, Poundon and Langford Village. Figure 3.3 summarises the local cycle routes.

3.18 It is evident that the cycle facilities in the vicinity of the application site provide connections to local retail opportunities, residential areas and public transport facilities. It is therefore evident that the application site is well placed for future employees and visitors to undertake journeys to and from the site by cycle.

Bus Services

3.19 The nearest bus stop to the site is situated on the A41 Oxford Road northbound, just north of the junction between the A41 Oxford Road and Lakeview Drive. The northbound bus stop is an approximately 120 metre walk from the north-western corner of the application site and is accessible via the existing signal-controlled pedestrian crossing facilities at the junction between A41 Oxford Road and Lakeview Drive. The bus stop is served by the S5 and X5 services. The S5 operates every 15 minutes Monday to Friday and every 30 minutes on Saturdays and Sundays between Oxford City Centre and Launton, as well as the Bicester Park & Ride facility. The X5 operates twice an hour on weekdays and hourly on weekends between Cambridge Parkside Bus Station and Oxford City Centre via Milton Keynes Railway Station.

3.20 There is not currently a southbound bus stop directly adjacent to the site. However, as part of highways works associated with the permitted development proposals at Bicester Gateway Retail Park a new southbound bus stop and lay-by on the A41 Oxford Road would be provided. The new bus stop would be directly adjacent to the application site on the eastern side of the A41 Oxford Road. It is envisaged that the additional southbound bus stop would also be served by the S5 and X5 services

3.21 Additional bus stops are situated north of the Pingle Drive roundabout, approximately 500 metres north on Oxford Road and these are also served by the S5 and X5 services as well as the No. 26 bus service which provides a circular bus service between Bicester Town Centre, Kingsmere and Oxford Road. A further bus stop is located on Pingle Drive approximately 800 metres to the north east and is served by the Bicester Village Shuttle operating towards Bicester North Railway Station.

3.22 Table 3.2, summarises the bus routes and frequency of those routes which stop in the vicinity of the application site. Figure 3.4, attached, details the location of local bus stops and bus routes and destinations served by the bus services.

Route No.	Route	Frequency
8	Middle Barton to Bicester	2 per day (Friday only)
26	Bicester to Kingsmere	Every 30 minutes
NS5	Oxford to Gosford & Bicester	Every 60 minutes (night bus)
S5	Oxford to Gosford & Bicester	Every 10 to 20 minutes
X5	Cambridge to Bedford & Oxford	Every 30 minutes

Table 3.2 Local Bus Services

3.23 Based on the bus services accessible from the bus stops in the vicinity of the site Table 3.3 provides a summary of the frequency of services to key local destinations

Destination	Route	Peak Period Frequency
Bicester Town Centre	8, NS5, S5, X5	Every 5 to 10 minutes (6 per hour)
Bicester Village Train Station	8, 26, NS5, S5, X5	Every 5 to 10 minutes (8 per hour)
Bicester North Train Station	26, X5	Every 10 to 20 minutes (5 per hour)
Bicester Park & Ride	NS5, S5	Every 15 minutes (4 per hour)
Highfield	NS5, S5	Every 15 minutes (4 per hour)
Kingsmere	8, 26, NS5, S5	Every 10 to 15 minutes (6 per hour)
Oxford	NS5, S5	Every 15 minutes (4 per hour)

Table 3.3 Local Bus Frequency

3.24 Tables 3.2 and 3.3, along with Figure 3.4 demonstrate that the application site is well served by existing bus services. The existing bus services running adjacent to the application site on the A41 Oxford Road provide frequent connections to local destinations such as the town centre, residential areas such as Kingsmere and Highfield, as well as regular connections to both Bicester Village and Bicester North train stations.

Train Services

3.25 The nearest station is Bicester Village Railway Station located approximately 1.4 kilometres to the north east of the site. Bicester Village Station is located on the Oxford to London Marylebone line with services operating in each direction every 30 minutes.

3.26 Bicester North Railway Station is located approximately 1.8 kilometres to the north of the site and offers connections to London Marylebone, Banbury and Birmingham Moor Street and Snow Hill. Services run up to twice per hour in each direction.

3.27 As demonstrated at Table 3.3 and Figure 3.4 there are a number of bus services running directly adjacent to the site which provide a frequency connection between the application site and both Bicester Village and Bicester North railway stations.

3.28 It is evident that the application site is well placed for access to public transport facilities and provides future employees and visitors to the site to undertake journeys by public transport.

Personal Injury Accident Data

3.29 Personal Injury Accident (PIA) data recorded in the immediate vicinity of the site has been obtained from Thames Valley Police for the most recent five-year period available covering 01/07/2012 to 01/07/2017. Full details of the study area and accident records are attached at Appendix C. Over this period there were 47 incidents recorded of which 40 resulted in slight injury, 5 in serious injury and 2 resulted in fatality.

3.30 A further set of traffic accident data has been obtained from the Road Safety Officer at OCC and that data is also attached at Appendix C. The data provided by OCC is consistent with that provided by Thames Valley Police, other than the OCC covers a more recent period up to the end of December 2017.

3.31 Both the Thames Valley Police and OCC data show only one incident occurred at the junction between A41 Oxford Road and Lakeview Drive during the assessment period. The incident was slight in severity and the primary causation factor of the incident is identified by both the OCC and Thames Valley Police data as a failure to obey the traffic signals.

3.32 The Thames Valley data identified a total of 4 incidents occurred at the junction between the A41 and Pioneer Way (Kingsmere Access) and each is identified as slight in severity. The causation factors of each of the incidents relate to driver error or poor driver behaviour including failure to look properly, following too close, failed to judge other person path or speed, avoiding an animal in the carriageway and exceeding the speed limit. The OCC data indicates some further incidents of slight severity at the Pioneer Way junction all of which have causation factors relating to driver error or poor driver behaviour including failed to look properly, disobeyed automatic traffic signal and failed to judge other person path or speed.

3.33 None of the incidents recorded at the Lakeview Drive or Pioneer Way junctions have causation factors identified that relate to the design or layout of the highway in this area.

3.34 The incident reports in relation to the two incidents which result in a fatality, identify that they were as a result of a failure to judge other vehicle speeds and distraction within the vehicle. A review of the remaining incidents on the local network indicates that the identified causation factors were predominantly driver error or poor driver behaviour and, as such, are unrelated to the existing design or layout of the highway.

3.35 As such, it is concluded that there are no inherent safety issues associated with the existing highway network and junction arrangements in the vicinity of the site. Discussions with Officers at OCC have confirmed that they agree with this conclusion.

Previous Planning Consent

3.36 As previously highlighted the application site has previously been subject to a planning application for an office park development with outline planning permission granted in 2010 for the construction of a 60,000-square metre office park comprising 53,000 square metres of B1(a)/B1(b) office space and a 7,000-square metre C1 hotel, served by circa 1,837 car parking spaces (Planning Ref: 07/01106/OUT). A subsequent planning application for the Tesco development at the site allowed for the construction of up to 45,000 square metres of the B1(a)/B1(b) office space being delivered on the remainder of the site, as part of the previous outline planning permission for an office park.

3.37 Tables 3.4 to 3.7 below summaries the results of the junction modelling of the local road network with the previously consented 45,000 square metres of the B1(a)/B1(b) office space in place. Junction model output files are attached at Appendix K.

Approach	AM Peak		PM Peak	
	RFC	Queue (veh)	RFC	Queue (veh)
Middleton Stoney Road	0.74	2.9	0.76	3.1
Kings End	1.18	209.6	0.88	7.2
Oxford Road	0.50	1.0	0.86	6.0

Table 3.4: Oxford Road/ Middleton Stoney Road/ Kings End – 2026 With 45,000sqm Office Park

Junction	AM Peak		PM Peak	
	DoS	MMQ	DoS	MMQ
Oxford Road/ Pingle Drive	48.8	-	61.8%	-
Esso Roundabout	96.2	-	100.3%	-
Oxford Road/ Pioneer Way	78.3	-	91.4%	-
Oxford Road/ Lakeview Drive	88.8	-	100.8%	-
Oxford Road n/b (Ahead)	54.6	9	82.4%	33
Oxford Road n/b (Ahead)	61.1	25	83.3%	34
Oxford Road n/b (Ahead/ Right)	88.8	25	94.7%	25
Oxford Road s/b (Left)	53.1	6	27.7%	4
Oxford Road s/b (Ahead)	79.3	25	100.1%	49
Oxford Road s/b (Ahead)	83.0	31	100.7%	51
Lakeview Drive (Left/ Right)	39.4	6	100.8%	46
Lakeview Drive (Right)	76.0	5	97.9%	27
Overall PRC	-6.9%		-12.0%	

Table 3.5: Oxford Road Corridor – 2026 With 45,000sqm Office Park

Approach	AM Peak		PM Peak	
	RFC	Queue (veh)	RFC	Queue (veh)
Vendee Drive	0.33	0.5	0.26	0.3
A41 (North)	0.68	2.1	0.84	5.4
Unnamed Road	0.14	0.2	0.38	0.6
A41 (South)	0.72	2.6	0.80	3.9
Bicester Park and Ride	0.02	0.0	0.14	0.2

Table 3.6: A41/ Vendee Drive – 2026 With 45,000sqm Office Park

Approach	AM Peak		PM Peak	
	DoS	MMQ	DoS	MMQ
A41 (Left/ Ahead)	73.3%	11.6	83.1%	17.8
A41 (Ahead)	8.1%	1.1	20.2%	2.9
Graven Hill Road (Left)	58.9%	5.7	56.7%	4.7
Graven Hill Road (Ahead)	41.6%	3.5	34.8%	2.7
A41 (Left/ Ahead)	53.9%	5.9	76.4%	11.1
A41 (Ahead)	43.8%	7.2	45.7%	7.5
B4100 (Left/ Ahead)	33.3%	2.6	46.5%	3.7
B4100 (Ahead)	50.0%	4.1	61.2%	5.2
A4421 (Left/ Ahead)	63.6%	8.5	64.5%	8.4
A4421 (Ahead)	36.6%	4.6	35.7%	4.1
Overall PRC	+22.8%		+7.8%	

Table 3.7: Rodney House Roundabout – 2026 With 45,000sqm Office Park

3.38 The analysis demonstrates that if the previous consented 45,000sqm development and associated highway improvements were implemented, the junction between Oxford Road and Middleton Stoney Road would be expected to operate over capacity during the morning peak hour. The A41 corridor junctions would be expected to operate over theoretical capacity during the evening peak hour and within theoretical capacity but with negative practical reserve capacity during the morning peak hour. The junction of the A41/ Vendee Drive and the Rodney House roundabout would operate within capacity.

4.0 Development Proposals

4.1 The current planning application seeks outline planning permission, with all matters reserved except access, for the development of up to 60,000 square metres (GEA) of B1(a)/B1(b) office space. Vehicle access to the site would be via the two existing roundabout junctions on Lakeview Drive. The parameters plan of the current outline application is attached at Appendix D.

Site History

4.2 As previously highlighted, outline planning permission was granted in 2010 for the construction of a 60,000-square metre office park comprising 53,000 square metres of B1(a)/B1(b) office space and a 7,000-square metre C1 hotel, served by circa 1,837 car parking spaces (Planning Ref: 07/01106/OUT).

4.3 Detailed planning permission was subsequently granted in November 2013 for the construction of a Tesco food store of 8,135 square metres and petrol filing station on part of the permitted office park site (Planning Ref: 12/01193/F). That planning application was supported by a Transport Assessment which considered the effect of the development proposals on the highway network local to the site. The Tesco store has since been constructed and opened in April 2016.

4.4 The S106 Deed of Variation in relation to the permitted Tesco store and office park allows for the construction of up to 45,000 square metres of the B1(a)/B1(b) office space being delivered on the remainder of the site, as part of the previous outline planning permission for an office park.

Current Planning Application

4.5 The current development proposals seek outline planning permission for the construction of an office park providing up to 60,000 square metres of B1(a)/B1(b) office space.

4.6 The current development proposals would supersede and replace the previous outline permission for an office park on the site. In comparison with the previous outline planning permission for an office park on the site, the current site area excludes the portion of the site, north of Lakeview Drive, which has since been developed for a Tesco store. However, the site area now includes a parcel of land along the frontage of the A41 Oxford Road, south of Lakeview Drive, which was previously not within the applicant's ownership and was not part of the previous outline planning permission for an office park.

4.7 The previous outline planning permission on the site allows for the construction of up to 45,000 square metres of the B1(a)/B1(b) office space. The current planning application therefore provides an additional 15,000 square metres of B1(a)/B1(b) office space in comparison with the previous outline planning permission. However, this Transport Assessment consider the effect of a new 60,000 square metres of B1(a)/B1(b) office space and this assessment is presented at Sections 5 and 6.

Vehicle Access Arrangements

4.8 Lakeview Drive forms the northern boundary of the site and vehicle access to the site would be taken from Lakeview Drive via the two existing roundabout junctions. The two existing roundabouts on Lakeview Drive, at the eastern end of Lakeview Drive and centrally on Lakeview Drive, currently include a southern arm on each roundabout which would form the vehicle accesses to the site. The roundabout at the eastern end of Lakeview Drive also provides access to the Tesco service yard while the central roundabout on Lakeview Drive also provides customer access to the existing Tesco store.

Pedestrian and Cycle Access

4.9 A pedestrian footway is currently provided along both sides of Lakeview Drive adjacent to the application site and this extends along the southern arms of the existing roundabout junctions. This footway will provide the main pedestrian access to the site and connects west to existing signal-controlled pedestrian crossing facilities at the junction between Lakeview Drive at the A41 Oxford Road.

4.10 It is proposed that a further pedestrian access is provided on the western boundary of the site with A41 Oxford Road. Given that the current planning application is in outline form the position of buildings and internal street layout within the site is not known. The position and alignment of the pedestrian connection to A41 Oxford Road would be dependent on the desire line of pedestrians into the site and the position of buildings and internal street. It is envisaged that this will be positioned to provide a convenient connection with the existing pedestrian crossing facilities on the A41 Oxford Road at its junction with the Prior Way, with materials to match with existing, subject to agreement with the local highway authority. The provision of the pedestrian access from A41 Oxford Road would be delivered as part of the Section 278 agreement associated with the proposed highways works. The proposed access arrangements to the site are illustrated on the Highways Access Plan, attached at Appendix E.

4.11 Given that the current application is in outline form, the internal site layout has not been designed at this stage. A parameters plan is attached at Appendix D. Full details of the internal site layout including internal road layout and internal pedestrian network will be provided at the reserved matters stage and with consideration of local design guidance.

4.12 A shared pedestrian/ cycle route is currently provided along the eastern side of A41 Oxford Road between the junctions of Lakeview Drive and Pioneer Way along the western boundary of the site. The existing pedestrian/ cycle route is approximately 2 metres wide. As part of the Section 278 highway works the shared pedestrian/ cycle route on the eastern side of A41 Oxford Road will be widened to 3 metres wide from the junction with Lakeview Drive to the crossing at the Pioneer Way junction and this is shown on the proposed highway works drawings attached at Appendix F.

Public Transport Access

4.13 As demonstrated in Section 3 of this Transport Assessment the application site is currently well served by existing bus services. The existing bus services running adjacent to the application site on the A41 Oxford Road provide frequent connections to local destinations such as the town centre, residential areas such as Kingsmere and Highfield, as well as regular connections to both Bicester Village and Bicester North train stations.

4.14 Planning permission has recently been granted for the Bicester Gateway Retail Park on a site to the west of the A41 Oxford Road (Planning Ref: 16/02505/OUT). The permitted development proposals at Bicester Gateway Retail Park include the provision of a new bus stop and bus lay-by on the A41 Oxford Road southbound just south of Lakeview Drive, directly adjacent to the current application site. Should the current development come forward in advance of the Bicester Gateway Retail Park the it would provide the southbound bus stop on Oxford Road, as shown on the proposed highway works drawings attached at Appendix F.

4.15 As set out above, the development will provide a new pedestrian/ cycle link between the application site and the A41 Oxford Road. The position of that pedestrian connection would be dependent on the internal site layout which has not been detailed at this outline stage. However, it is envisaged that this will connect to footway/ cycleway on the A41 Oxford Road in the vicinity of the A41/ Pioneer Way junction and provide a convenient connection towards the proposed southbound bus stop.

4.16 On the basis of the proximity of the bus stops and the frequency of the bus services it is considered that the development is adequately served by bus services which connect to local destinations and railway stations.

Parking

4.17 Car parking will be provided in accordance with OCC maximum parking standards. OCC parking standards allow the provision 1 space per 30 square metres of B1 office floor space. The proposed office park will therefore provide 2,000 car parking spaces to serve the development. The proposed car parking provision is in accordance with OCC parking standards and is considered appropriate to meet the needs of the development.

4.18 Traffic Advisory Leaflet 5/95 'Parking for Disabled People' advises that for employment uses providing over 200 car parking spaces, disabled parking should be provided at a ratio of 6 bays plus 2% of total capacity. Disabled parking will be provided in accordance with this guidance and based on the provision of 2,000 car parking spaces it is envisaged that 46 disabled car parking spaces will be provided. It is proposed that a Car Park Management Plan would be secured by planning condition.

4.19 Cycle parking can be accommodated in accordance with OCC standards and will provide a mixture of long-stay parking for employees and short stay parking for visitors. For B1 employment use, OCC standards require the provision of 1 cycle parking space per 150 square metres for long stay employee cycle parking and 1 space per 500 square metres for short stay visitor parking and these could be accommodated on site, if required.

Servicing and Deliveries

4.20 Servicing and deliveries associated with the development, including refuse collection, will be undertaken on site and off the public highway.

4.21 Given that the current application is in outline form, the internal site layout has not been designed at this stage. A parameters plan is attached at Appendix D. Full details of the internal site layout including internal road layout will be provided at the reserved matters stage and with consideration of local design guidance, vehicle requirements and with swept path analysis where required.

Proposed Highways Works

4.22 Following an assessment of the effect of the development proposals on the highway network local to the site, highway mitigation works have been identified at two junctions, namely; the A41 Oxford Road/ Lakeview Drive junction and the Oxford Road/ Middleton Stoney Road junction.

4.23 Further details of the assessment of the development proposals on the local highway network and the proposed off-site highways works are detailed at Section 6 of this Transport Assessment and drawings showing the proposed highway mitigation works are provided at Appendix F.

4.24 Drawings 170221-07 and 170221-08 detail the proposed highway works at the junction between A41 Oxford Road and Lakeview Drive to provide additional capacity at the junction. The proposed highway improvement works include the provision of a southbound bus stop and layby on the A41 Oxford Road, should this not be provided by other permitted developments. The works also include widening of the foot/cycleway along the eastern side of Oxford Road to provide a 3-metre wide foot/cycleway between the Lakeview Drive junction and the Pioneer Way junction.

4.25 Swept path analysis has been undertaken for the right turn movements from Lakeview Drive to Oxford Road northbound and Oxford Road northbound to Lakeview Drive. Drawings 170221-TK02 and 170221-TK03, attached at Appendix G, show the swept path analysis and demonstrate that vehicles can undertake both movements appropriately.

4.26 For both movements the swept path analysis demonstrates that a car and an articulated vehicle can undertake the two right turn movements simultaneously. This is considered a robust assessment and unlikely to occur in reality as should an articulated vehicle and car be stationary at the stopline in adjacent lanes it is expected that the car would accelerate away from the stopline quick than the articulated vehicle and therefore reach the entry between the islands in advance of the articulated vehicle.

4.27 Swept path analysis is also provided of two cars and two transit type vans simultaneously undertaking the two right turn movements and demonstrates that both can comfortably be accommodated.

4.28 Drawings 170221-09, attached, demonstrates that the central refuge island in the vicinity of the Lakeview Drive junction is of sufficient size to accommodate traffic signal poles and heads.

4.29 The proposed highway improvement works have been subject to a Stage 1 Road Safety Audit (S1RSA), which is attached at Appendix H. The S1RSA does not raise any material concerns with the proposed highway improvements works at the junction.

Planning Obligations

4.30 With regard bus infrastructure and services, this Updated Transport Assessment has demonstrated that the site is adequately served by a number of bus services on the A41 Oxford Road including the No. 6, 26, NS5, S5 and X5 services. The existing bus routes provide a frequent connection to local key destinations including Bicester Town Centre (every 10 minutes) and Bicester Village Station (every 5-10 minutes).

4.31 There is an existing northbound bus stop on the A41 Oxford Road and a new southbound bus stop will be provided on Oxford Road directly adjacent to the site through a Section 278 Agreement, as shown on the submitted drawings. It is not proposed to provide a bus stop on Lakeview Drive as it is considered that the existing and proposed bus stops on Oxford Road provide appropriate access to bus services. Furthermore, it is highly unlikely that a bus operator will divert a bus service into the site from Oxford Road as this would add delay to bus journey times.

4.32 Bus infrastructure and services in the vicinity of the application site have been significantly improved since the time of the previous outline planning permission at the site. At that time there were no bus stops on the A41 Oxford Road in the vicinity of the application site and the nearest bus stops to the site were either located north of Pingle Drive or south of the site in the vicinity of the junction connecting towards Chesterton. Furthermore, at that time, there were 3 to 4 bus services per hour passing the application site on Oxford Road during peak periods. At present there are 8 bus services per hour passing the application site on Oxford Road during peak periods, double the frequency of service at the time of the previous outline planning permission. It is evident that the bus infrastructure and services in the vicinity of the site and are adequate to serve the development and no obligation in this regard is considered necessary or justified in planning terms.

4.33 The Section 106 Agreement in relation to the previous outline planning permission include a contribution towards strategic rail infrastructure, however, this was limited to the improvements of the railway line between Bicester Village and Oxford. These improvements have subsequently been completed and rail services from Bicester Village Station (previously known as Bicester Town) have been significantly enhanced since the time of the previous outline planning permission.

4.34 At the time of the previous outline planning permission Bicester Village Station was at the end of a local line connecting to Oxford and provided just 7 trains per day between Bicester and Oxford only. The upgraded services at Bicester Village station now provide 2 trains per hour in each direction connecting between London Marylebone and Oxford. It is evident that the enhancements to train services through Bicester Village station expected as part of the original planning permission have since been implemented and therefore no obligation in this regard is considered necessary or justified in planning terms.

4.35 The highway capacity assessment, presented at Section 6 of this Transport Assessment has concluded that, subject to the identified highway mitigation works, the development proposals would not result in a material effect on the operation of the highway network local to the site. As such, no further mitigation measures or Section 106 obligations towards further highway infrastructure schemes are considered necessary or justified in planning terms.

5.0 Assessment Methodology and Trip Attraction

5.1 This section of the report considers the expected trip attraction of the development proposals and the methodology for assessing the effect of the development proposals on the highway network local to the site.

Scope of Assessment

5.2 As part of pre-application scoping discussions, Officers at OCC have requested that the following junctions be assessed as part of the Transport Assessment:

- Oxford Road (A41) / Lakeview Drive signalised junction;
- Oxford Road / A41 signalised roundabout;
- Oxford Road / Pingle Drive roundabout;
- Oxford Road / Middleton Stoney Road mini-roundabout;
- Oxford Road (A41) / Pioneer Way signalised junction;
- A41 Oxford Road/ Vendee Drive; and
- A41/ A4421 Rodney House Roundabout.

5.3 As previously identified, highway improvement works have recently been completed at a number of the junctions listed above. In addition, further highway improvement works are permitted at some junctions listed above in association with recently permitted development proposals. The highway capacity assessment undertaken within this Transport Assessment considers the permitted junction improvements at the junctions listed above.

Baseline Traffic Flows, Committed Developments & Assessment Periods

5.4 As part of the pre-application scoping discussions Officers at OCC have requested that the assessment of the highway network local to the site be undertaken using traffic flow information provided from the Bicester Transport Model (BTM).

5.5 The BTM is based on a future assessment of 2026, 9 years in advance of the current application submission date. The assessment of a future baseline year 9 years after the submission of a planning application is considered a robust assessment of the local highway network.

5.6 The current planning application is for a B1(a)/B1(b) office park and, as such, the primary effect of the development proposals on the highway network local to the site will be during the weekday morning and evening peak periods. Given the proposed office use of the site it is considered that outside these periods and, in particular during the weekend Saturday and Sunday peak periods, the development will attract negligible vehicle trips and, as such, would not have a material effect on the operation of the highway network at these times. As such, this Transport Assessment will consider the effect of the development proposals on the highway network during the weekday morning and evening peaks.

5.7 OCC has provided outputs from the BTM for the weekday morning and evening peak hours. BTM outputs provided by OCC are attached at Appendix I. In addition, Figures 5.1 and 5.2, attached, summarises the 2026 baseline traffic flows for the weekday morning and evening peak hours which will form the base for the assessment.

5.8 Following submission of the planning application, OCC has confirmed that there are two further committed developments which are not included with the BTM base traffic flows but should be considered as part of the assessment, these are:

- Bicester Gateway Retail Park (Planning Ref: 16/02505/OUT);
- McDonalds, Lakeview Drive (Planning Ref: 17/00889/FUL); and,

- Bicester Gateway Phase 4 (Planning Ref:12/01209/F)

5.9 Details of the expected trip generation of the above permitted developments has been extracted from the respective Transport Assessment, and subsequent Addendums and Technical Notes, submitted in connection with those planning applications.

5.10 Vehicle trips associated with the permitted Bicester Gateway Retail Park use have been extracted from the Transport Assessment submitted alongside that planning application (Figure 2-18 of the Bicester Gateway submitted Transport Assessment). Where the scope of junctions considered as part of the Bicester Gateway Retail Park assessment does not cover the scope of junctions currently being assessed (Vendee Drive, Rodney House and Middleton Stoney Road roundabouts) the vehicle trips have been distributed based on the traffic distribution presented at Figure 5.10 of this Transport Assessment and agreed with Officers at OCC. The expected traffic flows for the Bicester Gateway Retail Park development are presented at Figures 5.3, attached, and include consideration of pass-by and linked trips associated with that permitted development.

5.11 Vehicle trips associated with the permitted McDonalds development have been extracted from the Transport Assessment submitted alongside that planning application. The Transport Assessment included consideration of pass-by and linked trips associated with the development. The Transport Assessment did not include a single Figure detailed the total trip attraction of the McDonalds development proposals and as such this has been calculated by subtracting the baseline traffic flows for the weekday morning and evening peaks (as presented at Figures 9 and 10 of the McDonalds Transport Assessment) from the 'With Development' baseline traffic flows for the weekday morning and evening peaks (as presented at Figures 13 and 14 of the McDonalds Transport Assessment). Figures 5.4 and 5.5, attached, show the vehicle trips associated with the McDonalds development for the weekday morning and evening peak, respectively.

5.12 Vehicle trips associated with Bicester Village Phase 4 (BV Phase 4) development have been extracted from the Transport Assessment submitted alongside that planning application. That Transport Assessment considered the weekend evening peak period but did not assess the weekday morning peak period. Traffic flows associated with the BV Phase 4 during the weekday evening peak period have been extracted from that Transport Assessment and are presented at Figure 5.6. The BV Phase 4 Transport Assessment demonstrated that that development would result in an average increase of 10% in traffic flow associated with the site across the peak periods assessed. It is therefore considered reasonable that the BV Phase 4 development would result in a 10% increase in traffic flow during the morning peak period. A 10% growth factor has therefore been applied to the baseline Bicester Village traffic flows presented at Figure 5.1. Figure 5.7, attached, shows the vehicle trips associated with the BV Phase 4 development for the weekday morning peak period.

5.13 The traffic flows associated with the Bicester Gateway Retail Park, McDonalds and BV Phase 4 developments, as shown at Figures 5.3 to 5.7 have been added to the baseline BTM traffic flows provided by OCC, as shown at Figures 5.1 and 5.2. Baseline BTM traffic inclusive of the additional developments during the weekday morning and evening peak periods are shown at Figures 5.8 and 5.9.

Trip Attraction

5.14 As previously highlighted the application site has previously been subject to a planning application for an office park development with outline planning permission granted in 2010 for the construction of a 60,000-square metre office park comprising 53,000 square metres of B1(a)/B1(b) office space and a 7,000-square metre C1 hotel, served by circa 1,837 car parking spaces (Planning Ref: 07/01106/OUT). Detailed planning permission was subsequently granted in November 2013 for the construction of a Tesco food store of 8,135 square metres and petrol filing station on part of the permitted office park site (Planning Ref: 12/01193/F). The Tesco store has since been constructed and opened in April 2016.

5.15 The planning application for the Tesco development was supported by a Transport Assessment which considered the effect of the Tesco development proposals on the highway network local to the site. The S106 Deed of Variation in relation to the permitted Tesco store and office park allows for the construction of up to 45,000 square metres of the B1(a)/B1(b) office space being delivered on the remainder of the site, as part of the previous outline planning permission for an office park.

5.16 The Transport Assessment supporting the Tesco development proposals assessed the effect of 45,000 square metres of office park development coming forward on the current application site. To this extent, the junction between Lakeview Drive and the A41 Oxford Road has been designed and was previously assessed to accommodate traffic associated with up to 45,000 square metres of the B1(a)/B1(b) office space in addition to the constructed Tesco store. Furthermore, the Tesco Transport Assessment assessed the effect of up to 45,000 square metres of the B1(a)/B1(b) office space, in addition to the constructed Tesco store, on the highway network local to site. As such the highway improvements designed and implemented as part of the Tesco development included consideration of 45,000 square metres of B1(a)/B1(b) office space on the application site.

5.17 It is therefore evident that the current outline planning application for 60,000 square metres of B1(a)/B1(b) office space comprise an additional 15,000 square metres of office space in comparison with that previous assessed on the local highway network.

5.18 Whilst planning consent has previously been granted for 45,000 square metres of the B1(a)/B1(b) office space on the application site, this Transport Assessment assesses the effect of a new 60,000 square metres of B1(a)/B1(b) of office space on the local highway network.

5.19 The pre-application response from OCC requested that the expected trip attraction of the current development proposals be considered with reference to trip rates presented within the Transport Assessment supporting the recently permitted development proposals at Bicester Gateway Business Park (Planning Ref: 16/02586/OUT).

5.20 Table 5.1 below summarises the vehicle trip rates and expected vehicle trips associated with the proposed 45,000 square metres of B1(a)/B1(b) office floorspace during the weekday morning and evening peak periods.

	Trip Rate (per 100sqm)			Total Trips (45,000sqm)		
	In	Out	Total	In	Out	Total
Morning Peak Hour	1.533	0.141	1.674	690	63	753
Evening Peak Hour	0.111	1.602	1.713	50	721	771

Table 5.1: Trip Rates and Vehicle Trips - Office Park (45,000 square metres)

5.21 Table 5.1 demonstrates that the previously permitted office park development would be expected to result in 753 vehicle trips during the morning peak hour and 771 vehicle trips during the evening peak hour.

5.22 The current planning application seeks permission for 60,000 square metres of B1(a)/B1(b) office floorspace, 15,000 square metres greater than the previously permitted scheme on the site. Table 5.2 below summarises the vehicle trip rates and expected vehicle trips associated with the proposed 15,000 square metres of B1(a)/B1(b) office floorspace during the weekday morning and evening peak periods.

	Trip Rate (per 100sqm)			Total Trips (15,000sqm)		
	In	Out	Total	In	Out	Total
Morning Peak Hour	1.533	0.141	1.674	230	21	251
Evening Peak Hour	0.111	1.602	1.713	17	240	257

Table 5.2: Trip Rates and Vehicle Trips - Office Park (15,000 square metres)

5.23 Table 5.2 demonstrates that the current office park development would be expected to result in an additional 251 vehicle trips during the morning peak hour and 257 vehicle trips during the evening peak hour in comparison with the previously permitted office park development.

5.24 Table 5.3 below summarises the vehicle trip rates and expected vehicle trips associated with the proposed 60,000 square metres of B1(a)/B1(b) office floorspace during the weekday morning and evening peak periods.

	Trip Rate (per 100sqm)			Total Trips (60,000sqm)		
	In	Out	Total	In	Out	Total
Morning Peak Hour	1.533	0.141	1.674	920	85	1,004
Evening Peak Hour	0.111	1.602	1.713	67	961	1,028

Table 5.3: Trip Rates and Vehicle Trips - Office Park (60,000 square metres)

5.25 Table 5.3 demonstrates that the entire office park development is expected to result in 1,004 vehicle trips during the morning peak hour and 1,028 vehicle trips during the evening peak hour.

Trip Distribution

5.26 In order to determine the likely distribution of vehicle trips on the local road network, reference has been made to journey to work data from the 2011 Census for the Cherwell 015 output area in which the application site is located.

5.27 Census data and trip distribution calculations are provided at Appendix J and Figure 5.10, attached, details the expected distribution of vehicle trips on the local highway network and this is summarised below:

- A41 South 27%
- Vendee Drive 12%
- Kingsmere 3%
- A41 East 23%
- A41 North 35%

5.28 Vehicle trips associated with the development proposals have been assigned on the local road network based on the distribution set out at Figure 5.10. The proposed traffic distribution has been agreed with Officers at OCC.

5.29 Figures 5.11 and 5.12 show the expected distribution of vehicle trips associated with the previously permitted 60,000 square metres of office park during the weekday morning and evening peak hours, respectively.

'With Development' Assessment

5.30 As set out above, Figures 5.8 and 5.9, attached, present 2026 baseline traffic flows from the BTM inclusive of the additional Bicester Gateway Retail Park, McDonalds and BV Phase 4 developments for the weekday morning and evening peak hours respectively.

5.31 Traffic flows associated with the proposed 60,000 square metres of office park development, as shown at Figures 5.11 and 5.12, have been added to the baseline traffic flows. Figures 5.13 and 5.14 show the traffic flows from the BTM for inclusive of the additional Bicester Gateway Retail Park, McDonalds and BV Phase 4 developments and the proposed 60,000 square metres of office park development at the site for the weekday morning and evening peak hours, respectively.

6.0 Effect of Development

6.1 This section of the report considers the effect of the development on the highway network local to the site based on junction capacity modelling of the junctions agreed with Officers at OCC during pre-application scoping discussions.

6.2 As part of pre-application scoping discussions, Officers at OCC have requested that the following junctions be assessed as part of the Transport Assessment:

- Oxford Road (A41) / Lakeview Drive signalised junction;
- Oxford Road / A41 signalised roundabout;
- Oxford Road / Pingle Drive roundabout;
- Oxford Road / Middleton Stoney Road mini-roundabout;
- Oxford Road (A41) / Pioneer Way signalised junction;
- A41 Oxford Road/ Vendee Drive; and
- A41/ A4421 Rodney House Roundabout.

6.3 As previously identified, highway improvement works have recently been completed at a number of the junctions listed above. In addition, further highway improvement works are permitted at some junctions listed above in association with recently permitted development proposals. The highway capacity assessment undertaken within this Transport Assessment considers the operation of the junctions with these improvements in place. Junction capacity modelling has been undertaken using the industry standard modelling package for each junction type i.e. ARCADY for conventional roundabouts and mini-roundabouts and LinSig for signal-controlled junctions and signal-controlled roundabouts.

6.4 The assessment has considered three scenarios at each of junctions within the scope as follows:

- Scenario 1 - 2026 BTM plus McDonalds, Bicester Gateway Retail Park and BV Phase 4
    - Traffic Flow based Figures 5.8 and 5.9
- Scenario 2 - 2026 BTM plus committed and 60,000 square metres Office Park.
    - Traffic Flows based on Figures 5.13 and 5.14
- Scenario 3 – As above. With mitigation, if required.

Oxford Road/ Middleton Stoney Road/ Kings End

6.5 The mini-roundabout junction between Oxford Road, Middleton Stoney Road and Kings End has been modelled using ARCADY. It is noted that ARCADY is subject to limitations when assessing the operation of mini-roundabouts and can be unrepresentative of observed operation. To this extent it is considered more appropriate to assess the operation of the junction as a conventional roundabout within ARCADY.

6.6 Table 6.1 shows the operation of the junction in the 2026 baseline BTM (plus committed developments) scenario. Model output files are attached at Appendix K.

Approach	AM Peak		PM Peak	
	RFC	Queue (veh)	RFC	Queue (veh)
Middleton Stoney Road	0.65	1.8	0.69	2.2
Kings End	0.94	12.5	0.87	6.3
Oxford Road	0.49	0.9	0.74	2.9

Table 6.1: Oxford Road/ Middleton Stoney Road/ Kings End – 2026 Baseline plus Committed Operation

6.7 The analysis shows that the junction is expected to operate within theoretical capacity (RFC less than 1) during the both the morning and evening peak periods, although the RFC of Kings End exceeds 0.9 during the morning peak hour.

6.8 Table 6.2 shows the operation of the junction in the 2026 baseline BTM (plus committed developments) scenario including the proposed 60,000 square metres of Office Park at the application site. Model output files are attached at Appendix K.

Approach	AM Peak		PM Peak	
	RFC	Queue (veh)	RFC	Queue (veh)
Middleton Stoney Road	0.78	3.4	0.79	3.6
Kings End	1.26	290.9	0.89	7.4
Oxford Road	0.50	1.0	0.90	8.5

Table 6.2: Oxford Road/ Middleton Stoney Road/ Kings End – 2026 Baseline Operation (including 60,000 square metres of office space)

6.9 The analysis shows that the Kings End arm of the junction would be expected to operate over capacity during the morning peak hour. During the evening peak hour, the junction would operate within capacity. On that basis it is concluded that highway mitigation would be provided at this junction to mitigate the effect of the development at this junction. The proposed highway improvement scheme is detailed at Appendix F.

6.10 Table 6.3 shows the operation of the junction in the 2026 scenario with the proposed development of 60,000 square metres of office space and the proposed highway mitigation works in place. Model output files are attached at Appendix K.

Approach	AM Peak		PM Peak	
	RFC	Queue (veh)	RFC	Queue (veh)
Middleton Stoney Road	0.78	3.4	0.79	3.6
Kings End	0.91	9.4	0.66	1.9
Oxford Road	0.50	1.0	0.90	8.5

Table 6.3: Oxford Road/ Middleton Stoney Road/ Kings End – 2026 With Development Operation (including 60,000 square metres of office space) and mitigation

6.11 The result of the analysis demonstrate that the junction would operate within theoretical capacity (RFC less than 1) during both the morning and evening peak periods. The peak RFC in the 'With Development' scenario is 0.91, less than the peak RFC of 0.94 in the baseline scenario. Furthermore, the peak queue reported in the in the 'With Development' scenario is less than the peak queue reported in the baseline scenario.

6.12 To this extent, proposed highway works provide a slight betterment to the operation of the junction, in comparison with the baseline operation of the junction. On that basis it is considered that the highway works mitigate for the effect of the development at this junction and no further mitigation works or assessment of this junction are considered necessary.

A41 Highway Network

6.13 As part of the permitted development proposals for Bicester Village Phase 4 and the constructed Tesco store, a package of highway works is under construction covering the following junctions:

- Oxford Road / Pingle Drive roundabout;
- A41 Oxford Road / Oxford Road signalised roundabout (Esso roundabout);
- A41 Oxford Road (A41) / Lakeview Drive signalised junction;
- A41 Oxford Road (A41) / Pioneer Way signalised junction;

6.14 In addition, further highway improvements have been permitted at the A41 Oxford Road junctions with Pioneer Way and Lakeview Drive as part of the recently permitted development proposals at Bicester Gateway Retail Park (Planning Ref: 16/02505/OUT).

6.15 The operation of the above junctions has been assessed using the industry standard package for signal-controlled junctions, LinSig. In line with assessments undertaken from the permitted Bicester Village Phase 4, Tesco and Bicester Gateway Retail Park schemes the four junctions have been modelled within a single LinSig model. LinSig model parameters have been based on the most recently approved LinSig model for the Bicester Gateway Retail Park development and, as such, include the permitted highway works.

6.16 The traffic signal-controlled junctions on the Oxford Road corridor operate under Microprocessor Optimised Vehicle Actuation (MOVA). MOVA responds dynamically to variations in traffic flow and to this extent has a positive effect on the operation of the junctions, reducing the potential for under-utilised green time at the junctions.

6.17 The LinSig modelling software is not able to model the benefit of adaptive traffic control such as MOVA as it assumes that signal timings remain fixed throughout the assessment period. Therefore, the results presented in this assessment will represent a worst-case scenario and, in reality, junction operation will be better due to the adaptive MOVA control already in place.

6.18 Table 6.4 shows the operation of the junctions in the 2026 baseline BTM (plus committed developments) scenario. Given the extent of model and the number of links, the below Table provides a summary of the operation of each junction and full link details for the A41/ Lakeview Drive junction. Full model output files are attached at Appendix K.

Junction	AM Peak		PM Peak	
	DoS	MMQ	DoS	MMQ
Oxford Road/ Pingle Drive	43.0%	-	58.7%	-
Esso Roundabout	91.2%	-	100.3%	-
Oxford Road/ Pioneer Way	75.1%	-	90.8%	-
Oxford Road/ Lakeview Drive	70.4%	-	85.8%	-
Oxford Road n/b (Ahead)	29.9%	2	42.8%	6
Oxford Road n/b (Ahead)	38.7%	3	47.8%	5
Oxford Road n/b (Ahead/ Right)	70.4%	30	63.7%	37
Oxford Road s/b (Left)	16.6%	3	28.5%	5
Oxford Road s/b (Ahead)	66.0%	21	79.0%	28
Oxford Road s/b (Ahead)	70.2%	20	83.9%	22
Lakeview Drive (Left/ Right)	44.4%	7	85.8%	21
Lakeview Drive (Right)	44.5%	3	68.8%	6
Overall PRC	-1.4%		-11.5%	

Table 6.4: Oxford Road Corridor – 2026 Baseline plus Committed Operation

6.19 The analysis demonstrate that the junctions are expected with negative Practical Reserve Capacity during both the morning and evening peak periods in the 2026 baseline scenario.

6.20 Table 6.5 shows the operation of the junction in the 2026 baseline BTM (plus committed developments) scenario including the proposed 60,000 square metres of Office Park at the application site. Model output files are attached at Appendix K.

Junction	AM Peak		PM Peak	
	DoS	MMQ	DoS	MMQ
Oxford Road/ Pingle Drive	50.5%	-	66.9%	-
Esso Roundabout	98.9%	-	102.5%	-
Oxford Road/ Pioneer Way	78.3%	-	90.4%	-
Oxford Road/ Lakeview Drive	93.7%	-	107.6%	-
Oxford Road n/b (Ahead)	49.3%	6	95.0%	45
Oxford Road n/b (Ahead)	63.5%	27	96.5%	48
Oxford Road n/b (Ahead/Right)	93.7%	40	97.6%	19
Oxford Road s/b (Left)	67.9%	14	28.1%	5
Oxford Road s/b (Ahead)	80.0%	29	106.5%	75
Oxford Road s/b (Ahead)	91.9%	38	107.3%	78
Lakeview Drive (Left/ Right)	61.3%	7	107.6%	83
Lakeview Drive (Right)	70.3%	4	103.4%	44
Overall PRC	-9.9%		-19.5%	

Table 6.5: Oxford Road Corridor – 2026 Baseline Operation (including 60,000 square metres of office space)

6.21 The analysis shows that with the development in place, but no highway mitigation works, the junctions are expected to operate with negative Practical Reserve Capacity during both the morning and evening peak periods in the 2026 scenario. At the Lakeview Drive junction, in particular during the evening peak period, there is an increase in expected degree of saturation and queuing in comparison with the baseline scenario.

6.22 On that basis it is concluded that highway mitigation would be provided at this junction to mitigate the effect of the development at this junction. The proposed highway improvement scheme is detailed at Appendix F.

6.23 Table 6.6 shows the operation of the junctions along the Oxford Road corridor in the 2026 scenario with the proposed development of 60,000 square metres of office space and the proposed highway works in place. Model output files are attached at Appendix K.

Junction	AM Peak		PM Peak	
	DoS	MMQ	DoS	MMQ
Oxford Road/ Pingle Drive	51.7%	-	67.5%	-
Esso Roundabout	90.4%	-	94.5%	-
Oxford Road/ Pioneer Way	75.1%	-	91.8%	-
Oxford Road/ Lakeview Drive	92.9%	-	97.7%	-
Oxford Road n/b (Ahead)	37.2%	6	78.0%	24
Oxford Road n/b (Ahead)	39.2%	7	78.8%	24
Oxford Road n/b (Ahead)	48.3%	11	78.8%	24
Oxford Road n/b (Right)	92.4%	25	80.0%	6
Oxford Road s/b (Left/ Ahead)	92.9%	24	89.5%	28
Oxford Road s/b (Ahead)	67.8%	12	89.0%	28
Oxford Road s/b (Ahead)	76.5%	24	89.8%	26
Lakeview Drive (Left/ Right)	34.0%	6	97.7%	42
Lakeview Drive (Right)	76.9%	6	89.5%	27
Overall PRC	-3.2%		-8.6%	

Table 6.6: Oxford Road Corridor – 2026 With Development Operation (including 60,000 square metres of office space) and highway mitigation.

6.24 The results of the analysis demonstrate that with the development proposals and mitigation works in place the junction is expected to operate within theoretical capacity (DoS of less than 100%) during both morning and evening peak periods. Some links are expected to operate with negative Practical Reserve Capacity with the proposed development in place, however, this is comparable with the baseline situation.

6.25 The Lakeview Drive arm of the junction would operate with negative Practical Reserve Capacity during the weekday evening peak period but it is highlighted that queuing on this arm would be accommodated on Lakeview within the site and off the public highway.

6.26 To this extent, the analysis demonstrates that the proposed highways works mitigate the effect of the development proposals a of the junction between the A41 Oxford Road during both peak periods. As such, it is concluded that, subject to the mitigation works identified, the development would not have a material effect on the operation of this junction and no further assessment or mitigation is considered necessary.

6.27 As identified above, the LinSig modelling software is not able to assess the benefit of MOVA traffic control that is already in place at the junctions. The results presented above therefore represent a worst-case scenario and, in reality, junction operation will be better due to the adaptive MOVA control.

A41 / Bicester Park & Ride / Vendee Drive

6.28 The conventional roundabout junction between the A41, Vendee Drive and Bicester Park and Ride has been assessed using the industry standard software package for roundabout junctions, ARCADY.

6.29 The permitted development proposals at Bicester Gateway Business Park (Planning Ref: 16/02586/OUT) include highway improvement works to the A41, Vendee Drive junction. The operation of the junction has been modelled inclusive of the permitted junction improvements.

6.30 Table 6.7 shows the operation of the junction in the 2026 baseline BTM (plus committed developments) scenario. Model output files are attached at Appendix K.

Approach	AM Peak		PM Peak	
	RFC	Queue (veh)	RFC	Queue (veh)
Vendee Drive	0.22	0.3	0.25	0.3
A41 (North)	0.67	2.0	0.76	3.1
Unnamed Road	0.14	0.2	0.29	0.4
A41 (South)	0.66	1.9	0.77	3.3
Bicester Park and Ride	0.02	0.0	0.12	0.1

Table 6.7: A41/ Vendee Drive – 2026 Baseline Operation plus Committed Operation

6.31 The analysis demonstrates that the junction is expected to operate within theoretical capacity during both the morning and evening peak periods in the 2026 baseline scenario.

6.32 Table 6.8 below shows the operation of the junction in the 2026 with the proposed development of 60,000 square metres of office space in place. Model output files are attached at Appendix K.

Approach	AM Peak		PM Peak	
	RFC	Queue (veh)	RFC	Queue (veh)
Vendee Drive	0.35	0.5	0.26	0.4
A41 (North)	0.68	2.1	0.87	6.8
Unnamed Road	0.14	0.2	0.42	0.7
A41 (South)	0.74	2.9	0.81	4.1
Bicester Park and Ride	0.02	0.0	0.15	0.2

Table 6.8: A41/ Vendee Drive – 2026 With Development Operation (including 60,000 square metres of office space)

6.33 The analysis demonstrates that the junction is expected to operate within theoretical capacity (RFC of less than 1) during both the morning and evening peak periods in 2026 with the proposed development in place.

6.34 The change in both RFC and expected queuing between the baseline and 'With Development' scenario is not considered to be material and, on that basis, no further analysis of the A41/ Vendee Drive junction and no highway mitigation works are considered necessary.

A41/ A4421 – Rodney House Roundabout

6.35 The Rodney House roundabout is currently a conventional roundabout. As part of permitted development proposals at Graven Hill, highway improvement works are proposed at the Rodney House roundabout which include the signalisation of the junction. Officers at OCC have provided Motion with plans of the permitted highway works at the junction. Capacity modelling for the Rodney House roundabout has therefore been undertaken using the industry standard package for signal-controlled roundabouts, LinSig. Junction geometries and parameters have been based on the permitted highways works drawing provided by OCC.

6.36 Table 6.9 below shows the operation of the junction in the 2026 baseline BTM (plus committed developments) scenario. Model output files are attached at Appendix K.

Approach	AM Peak		PM Peak	
	DoS	MMQ	DoS	MMQ
A41 (Left/ Ahead)	67.8%	7.9	82.7%	17.7
A41 (Ahead)	8.4%	1.1	20.2%	2.9
Graven Hill Road (Left)	58.9%	5.7	60.8%	4.9
Graven Hill Road (Ahead)	46.9%	4.1	36.1%	2.7
A41 (Left/ Ahead)	55.1%	5.9	69.5%	9.4
A41 (Ahead)	38.2%	5.7	44.3%	7.3
B4100 (Left/ Ahead)	42.4%	2.8	46.5%	3.7
B4100 (Ahead)	46.5%	3.1	60.3%	5.1
A4421 (Left/ Ahead)	66.3%	8.0	64.1%	8.3
A4421 (Ahead)	45.3%	5.1	35.5%	4.1
Overall PRC	+32.7%		+7.8%	

Table 6.9: Rodney House Roundabout – 2026 Baseline Operation

6.37 The results of the analysis demonstrate that the junction is expected to operate within capacity during both the morning and evening peak periods.

6.38 Table 6.10 below shows the operation of the junction in the 2026 with the proposed development of 60,000 square metres of office space in place. Model output files are attached at Appendix K.

Approach	AM Peak		PM Peak	
	DoS	MMQ	DoS	MMQ
A41 (Left/ Ahead)	74.2%	11.1	83.2%	17.9
A41 (Ahead)	8.1%	1.1	20.2%	2.9
Graven Hill Road (Left)	62.3%	5.9	60.8%	4.9
Graven Hill Road (Ahead)	47.4%	4.0	36.4%	2.8
A41 (Left/ Ahead)	52.6%	5.2	79.2%	11.9
A41 (Ahead)	39.1%	5.7	46.7%	7.8
B4100 (Left/ Ahead)	29.2%	2.5	46.5%	3.7
B4100 (Ahead)	47.4%	4.2	61.6%	5.3
A4421 (Left/ Ahead)	58.9%	7.5	64.6%	8.4
A4421 (Ahead)	47.0%	6.0	35.7%	4.1
Overall PRC	+21.3%		+7.8%	

Table 6.10: Rodney House Roundabout – 2026 With Development Operation (including 60,000 square metres of office space)

6.39 The results of the analysis demonstrate that the junction is expected to operate within capacity during both the morning and evening peak periods in the 2026 with the proposed development in place. On that basis, it is evident that the proposed development would not have a material effect on the operation of this junction and no further assessment or mitigation measures is considered necessary.

Summary

6.40 The effect of the development proposals on the local highway network has been assessed at the following junctions, as agreed with OCC:

- A41 Oxford Road / Lakeview Drive signalised junction;
- Oxford Road / A41 signalised roundabout;
- Oxford Road / Pingle Drive roundabout;
- Oxford Road / Middleton Stoney Road mini-roundabout;
- A41 Oxford Road / Pioneer Way signalised junction;
- A41 Oxford Road/ Vendee Drive; and
- A41/ A4421 Rodney House Roundabout.

6.41 The results of detailed junction capacity analysis demonstrate that, subject to the highway mitigation works identified at the junctions between A41 Oxford Road/ Lakeview Drive and at the junction between Oxford Road and Middleton Stoney Road, the development proposals would not result in a material effect in the operation of the highway network local to the site.

6.42 As such it concluded that the proposed highway works, as shown in drawings presented at Appendix F, are sufficient to mitigate the effect of the development on the local highway network. To this extent no further assessment, mitigation measures or Section 106 obligation towards further transport schemes, such as the South-Eastern Perimeter Rad (SEPR), are considered necessary or justified in planning terms.

6.43 The highway mitigation works presented at Appendix F, are to mitigate for the effect of traffic associated with the full development proposals of 60,000 square metres of B1(a)/B1(b) office space.

7.0 Summary and Conclusions

7.1 Motion has been appointed by Scenic Land Developments Ltd to prepare this Transport Assessment in relation to development proposals on land to the east of the A41 Oxford Road, Bicester within the administrative boundary of CDC.

7.2 The site is currently undeveloped and is bound by the A41 Oxford Road to the west and Lakeview Drive to the north whilst Wyevale Garden Centre is located to the immediate south. The Bicester – Oxford railway line operates to the east and is separated from the site by undeveloped land.

7.3 Outline planning permission was granted in 2010 for the construction of a 60,000-square metre office park comprising 53,000 square metres of B1(a)/B1(b) office space and a 7,000-square metre C1 hotel, served by circa 1,837 car parking spaces (Planning Ref: 07/01106/OUT).

7.4 Detailed planning permission was subsequently granted in November 2013 for the construction of a Tesco food store of 8,135 square metres and petrol filling station on part of the permitted office park site (Planning Ref: 12/01193/F). That planning application was supported by a Transport Assessment which considered the effect of the development proposals on the highway network local to the site. The Tesco store has since been constructed and opened in April 2016.

7.5 The S106 Deed of Variation in relation to the permitted Tesco store and office park allows for the construction of up to 45,000 square metres of the B1(a)/B1(b) office space being delivered on the remainder of the site, as part of the previous outline planning permission for an office park.

7.6 The current planning application seeks outline planning permission, with all matters reserved except access, for the development of up to 60,000 square metres (GEA) of B1(a)/B1(b) office space. Vehicle access to the site would be via the two existing roundabout junctions on Lakeview Drive.

7.7 The current development proposals would supersede and replace the previous outline permission for an office park on the site. In comparison with the previous outline planning permission for an office park on the site, the current site area excludes the portion of the site, north of Lakeview Drive, which has since been developed for a Tesco store. However, the site area now includes a parcel of land along the frontage of the A41 Oxford Road, south of Lakeview Drive, which was previously not within the applicant's ownership and was not part of the previous outline planning permission for an office park.

7.8 Following submission of the planning application comments have been received from OCC in relation to both the Transport Assessment and Framework Travel Plan and, as such, updated versions of those documents have been prepared to address comments received.

7.9 This Updated Transport Assessment has been prepared in accordance with national and local guidance and has considered the highways and transport matters associated with the current development proposals and, in particular, the effect of the development proposals on the highway network local to the site.

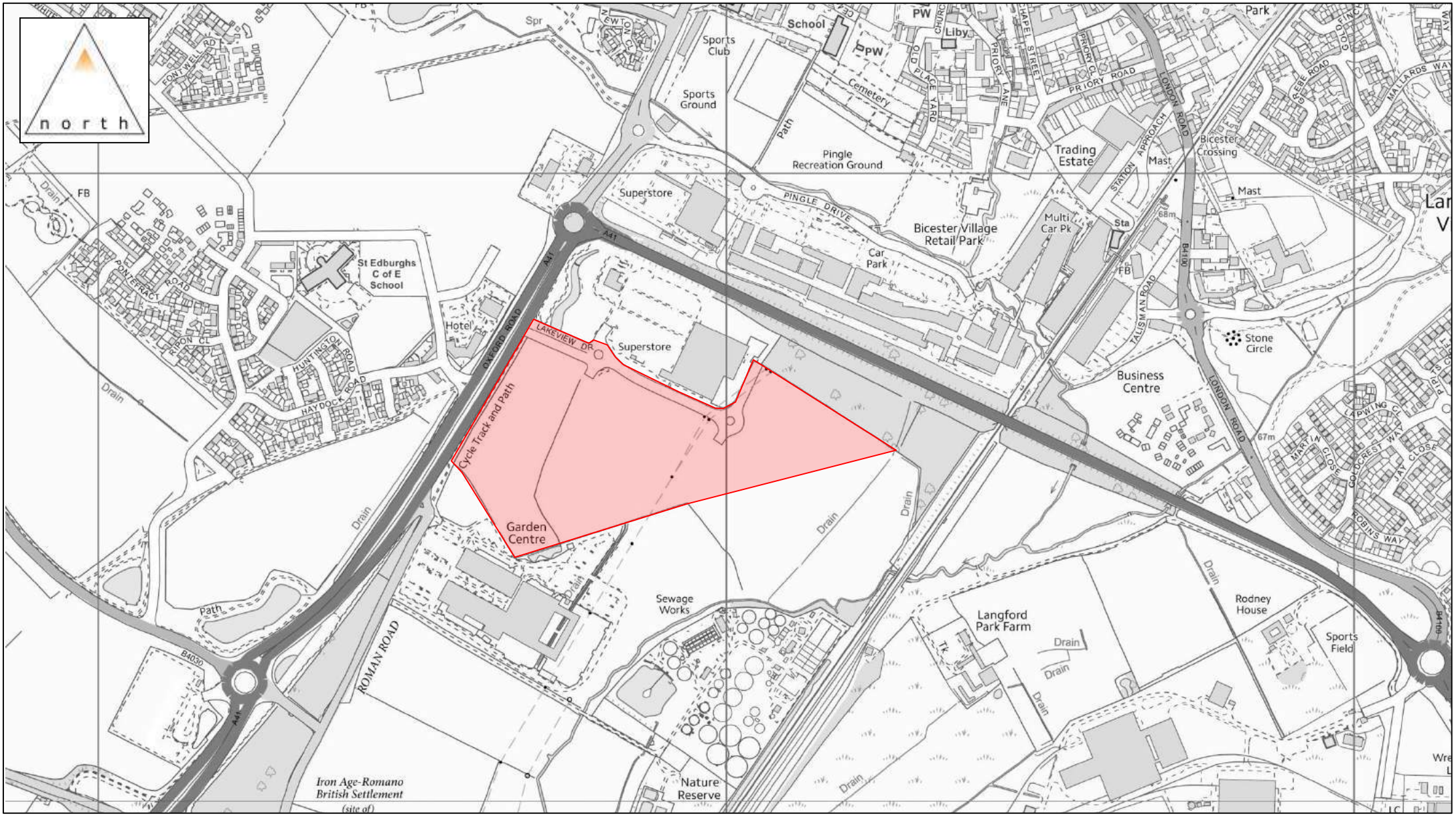
7.10 This Updated Transport Assessment demonstrates that:

- The application site is accessible by foot, cycle and by public transport;
- The application site is allocated under Bicester Policy 4 of the Cherwell Local Plan for development of a high-quality office park;
- Outline planning permission was previously granted in 2010 for the construction of a 60,000-square metre office park comprising 53,000 square metres of B1(a)/B1(b) office space and a 7,000-square metre C1 hotel, served by circa 1,837 car parking spaces (Planning Ref: 07/01106/OUT);
- The development proposals will be accessed from Lakeview Drive via two existing roundabout junctions;
- Car parking and cycle parking will be provided in accordance with local parking standards;

- The proposed highway works include the provision of a new southbound bus stop on Oxford Road adjacent to the application site and a widened foot/ cycleway on Oxford Road between Lakeview Drive and Pioneer Way;
- The effect of the development proposals on the local highway network has been assessed based on parameters agreed with OCC;
- Highway mitigation works have been identified at the junction between the A41 Oxford Road/ Lakeview drive and at the junction between Oxford Road/ Middleton Stoney Road;
- The proposed highway mitigation works have been subject to a Stage 1 Road Safety Audit which has not raised any material concerns with the proposed work and any comments have been addressed in the drawings provided and the Designers Response;
- The results of detailed junction capacity analysis demonstrate that, subject to highway mitigation works identified, the development proposals would not result in a material effect in the operation of the highway network local to the site. As such further mitigation measures or obligation towards further transport schemes is not considered necessary or justified in planning terms;
- The highway mitigation works proposed should only need to be implemented when the provision office space at the application site exceeds a threshold of 45,000 square metres as previously permitted at the application site; and,
- A Framework Workplace Travel Plan has been developed in order to promote sustainable travel choices amongst staff and visitors to the proposed development and is submitted under separate cover.

7.11 On the basis of the above it is concluded that the development proposals will not result in a material effect on the operation of the highway network local to the site. The development proposals are in accordance with national and local transport related planning policy and, as such, should not be resisted on highways or transportation grounds.

Figures



Legend:

Site Location

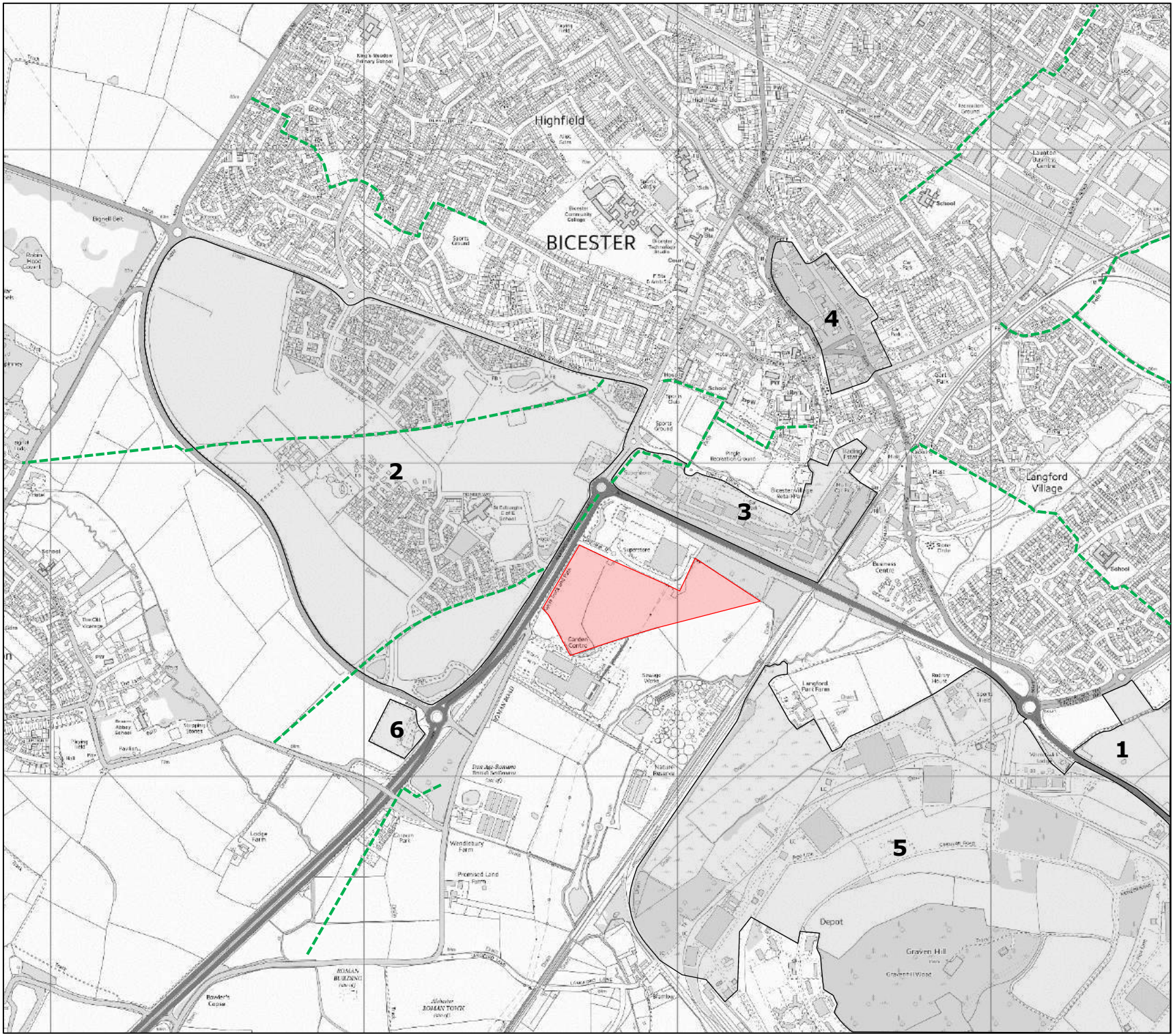
Bicester Office Park,

Bicester

Figure 3.1 Site Location Plan

Not to Scale

motion



Legend:

Local Footpath

Site Location

1 Wretchwick Green

2 Kingsmere

3 Bicester Village

4 Bicester town centre

5 Graven Hill

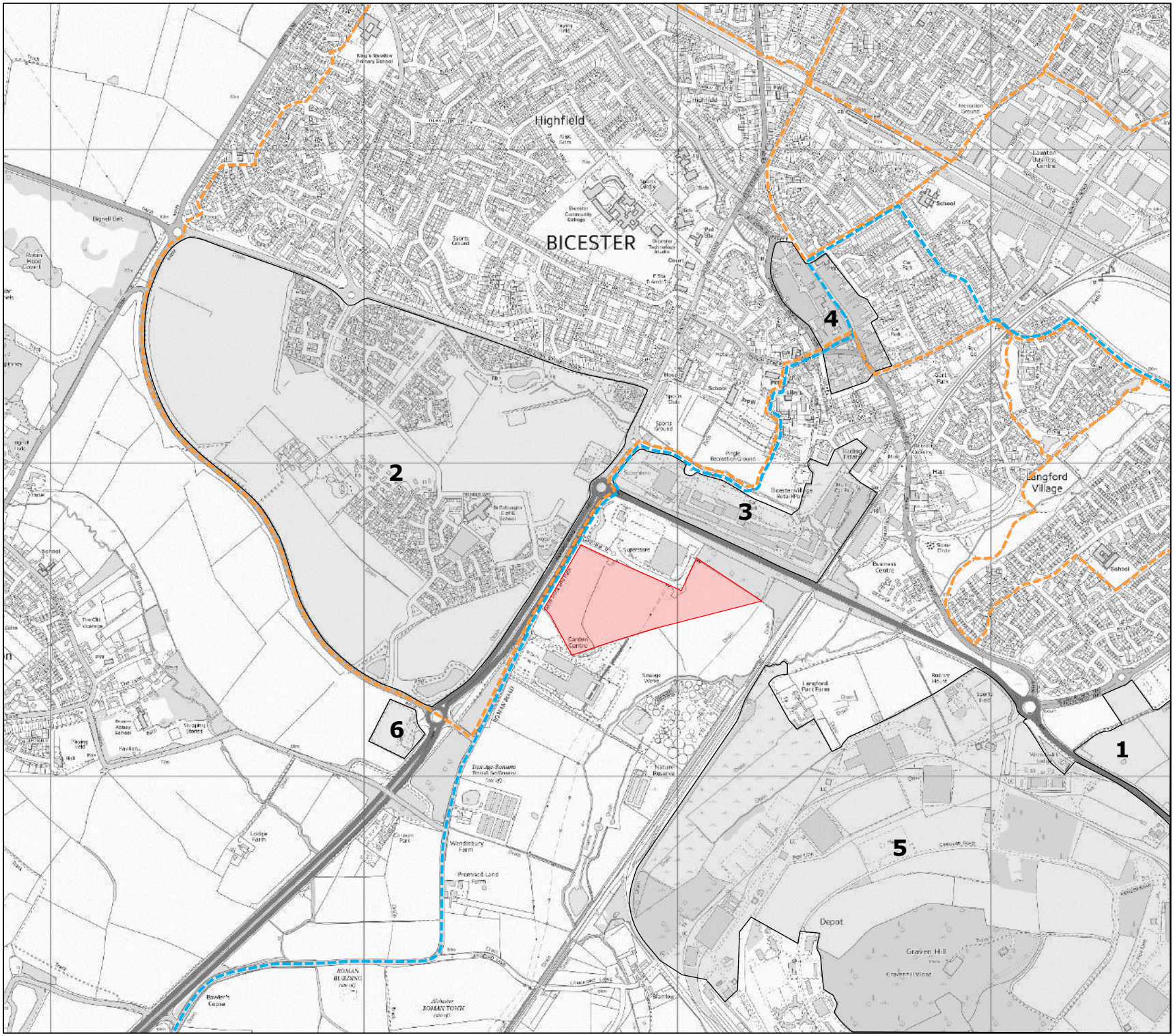
6 Bicester Park and Ride

Bicester Office Park,
Bicester

Figure 3.2 Local Footpaths

Not to Scale

motion



Legend:

- Local Signed Cycle Route
- National Cycle Network R51
- Site Location

1 Wretchwick Green

2 Kingsmere

3 Bicester Village

4 Bicester town centre

5 Graven Hill

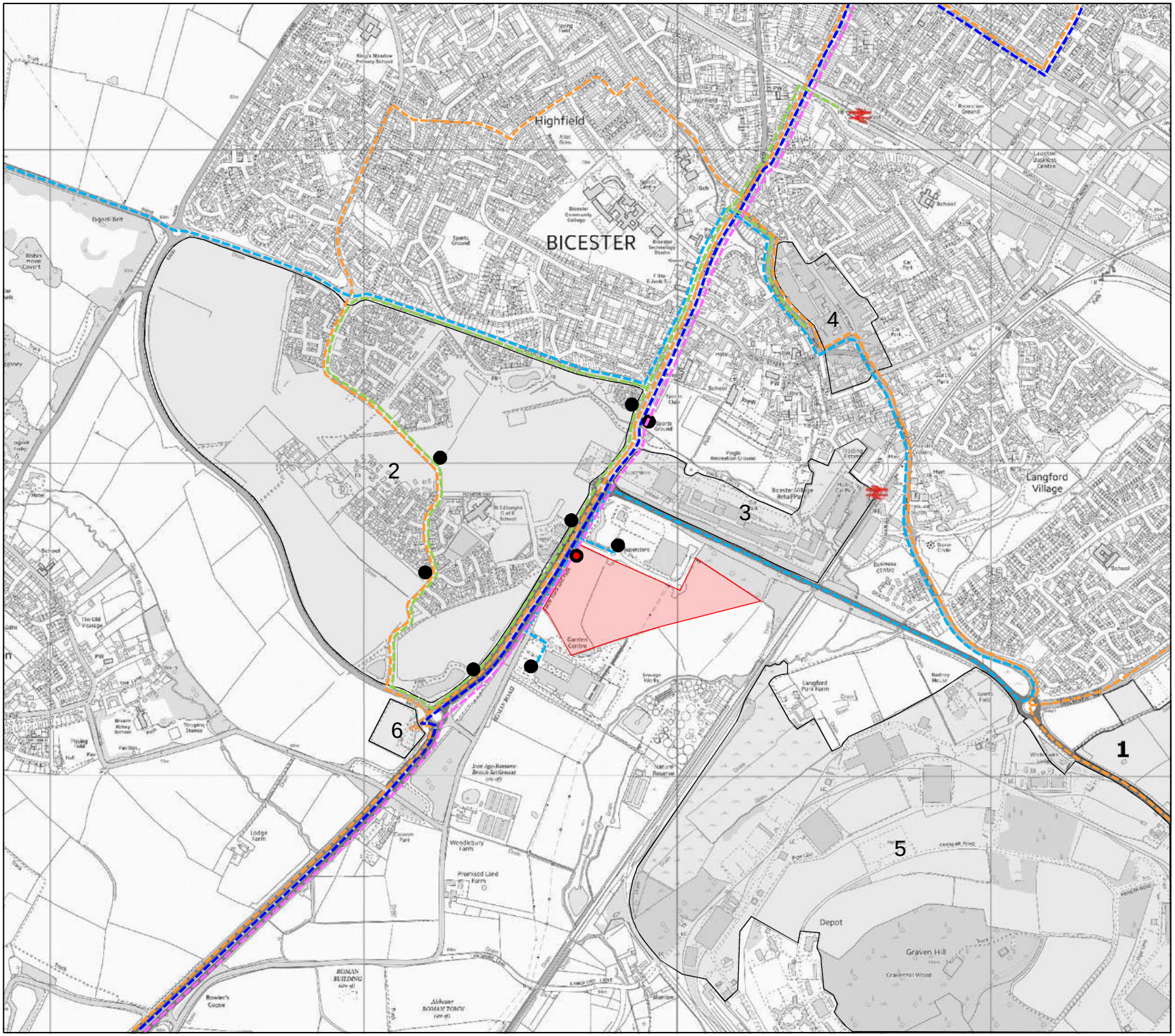
6 Bicester Park and Ride

Bicester Office Park,
Bicester

Figure 3.3 Local Cycle Routes

Not to Scale

motion



Legend:

- 8 - Middle Barton to Bicester (daily, Fridays only)
- 26 - Bicester to Kingsmere (every 30 minutes)
- NS5 - Oxford to Gosford to Bicester (every 30 minutes)
- S5 - Oxford to Gosford to Bicester (every 25 minutes)
- X5 – Cambridge to Bedford to Oxford (every 30 minutes)
- Existing Bus Stops
- Proposed Bus Stops

1 Wretchwick Green

2 Kingsmere

3 Bicester Village

4 Bicester town centre

5 Graven Hill

6 Bicester Park and Ride

Station

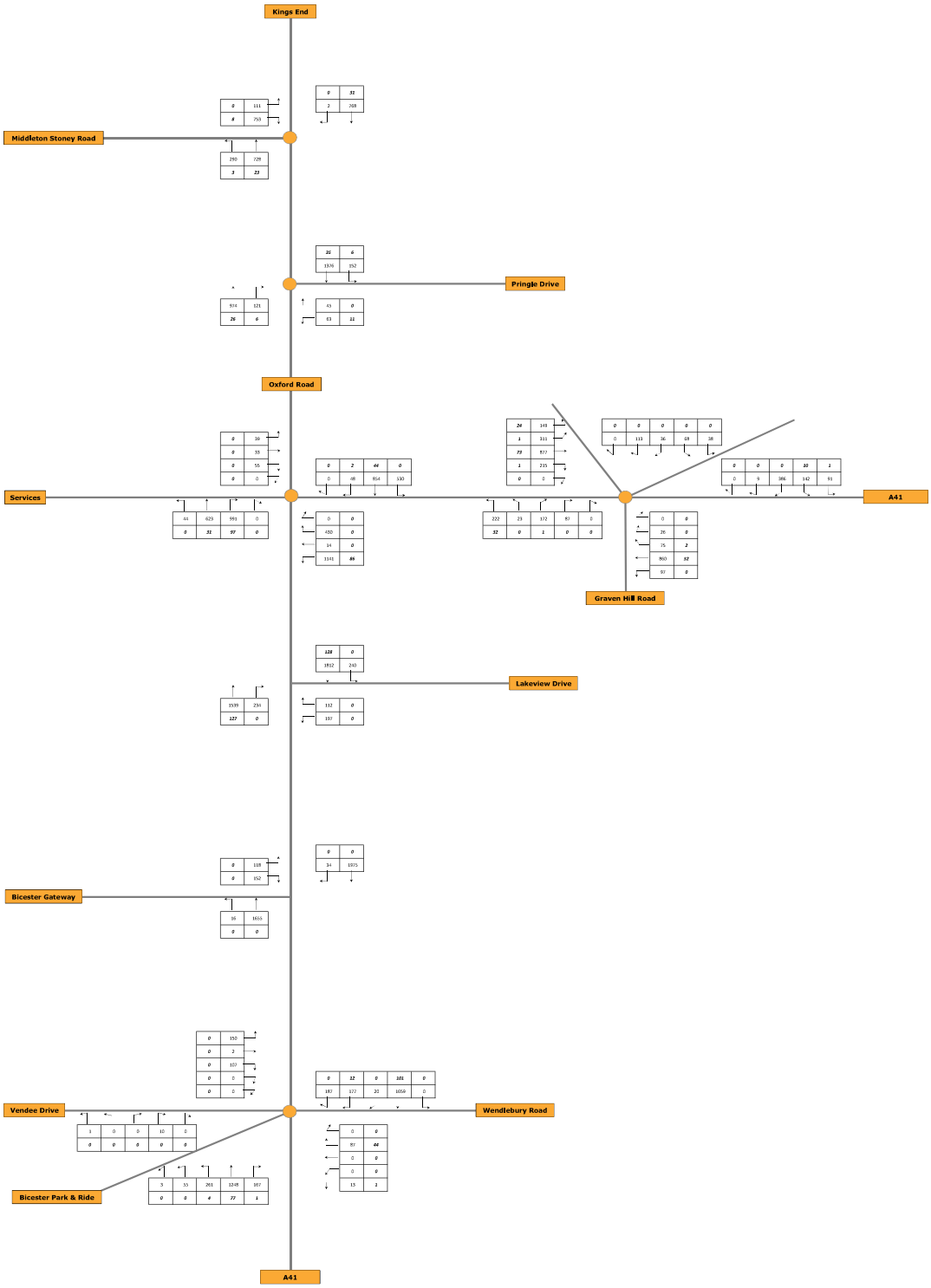
Bicester Office Park

Bicester Office Park,
Bicester

Figure 3.4 - Local Bus Services

Not to Scale

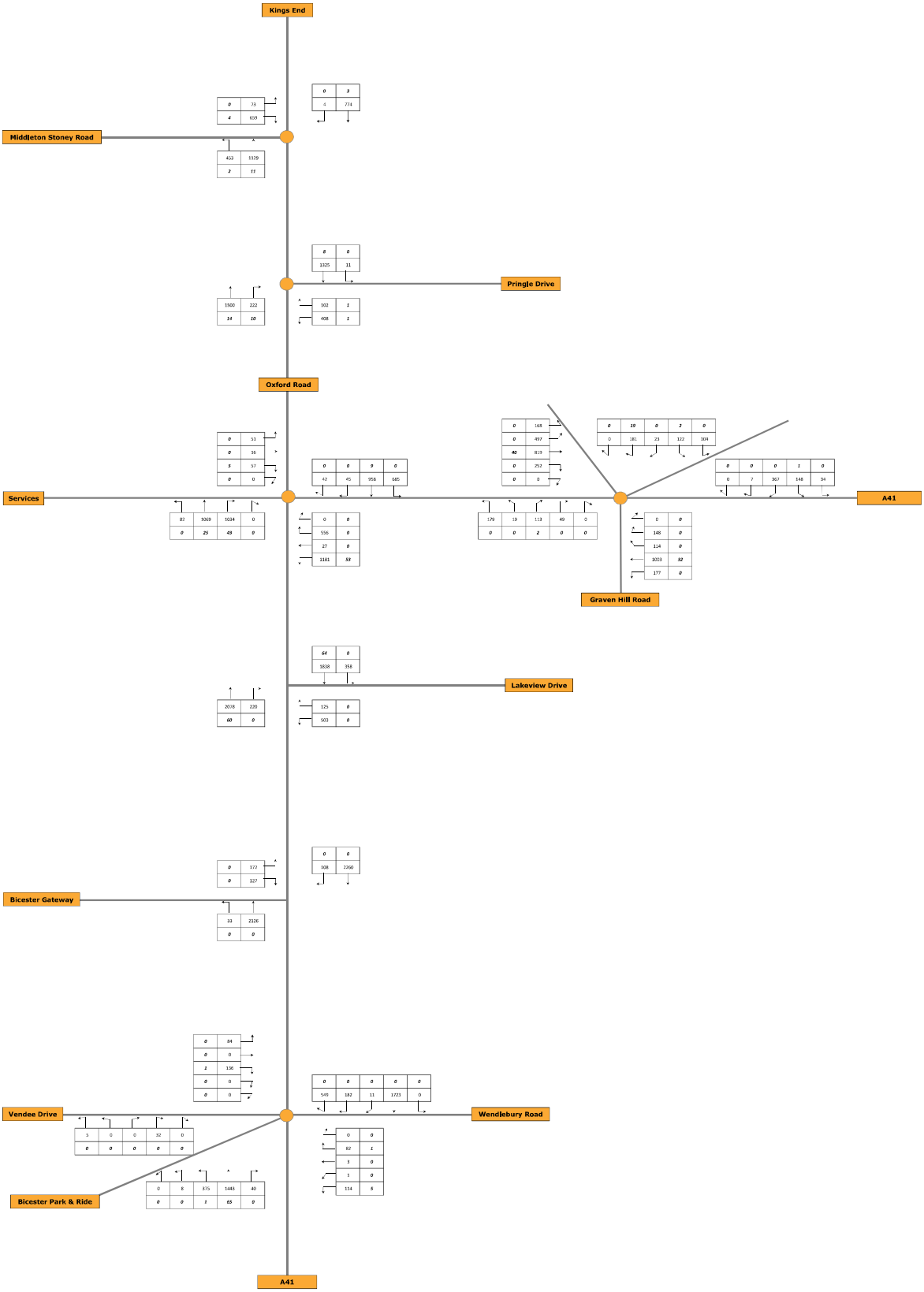
motion



motion

Bicester Business Park

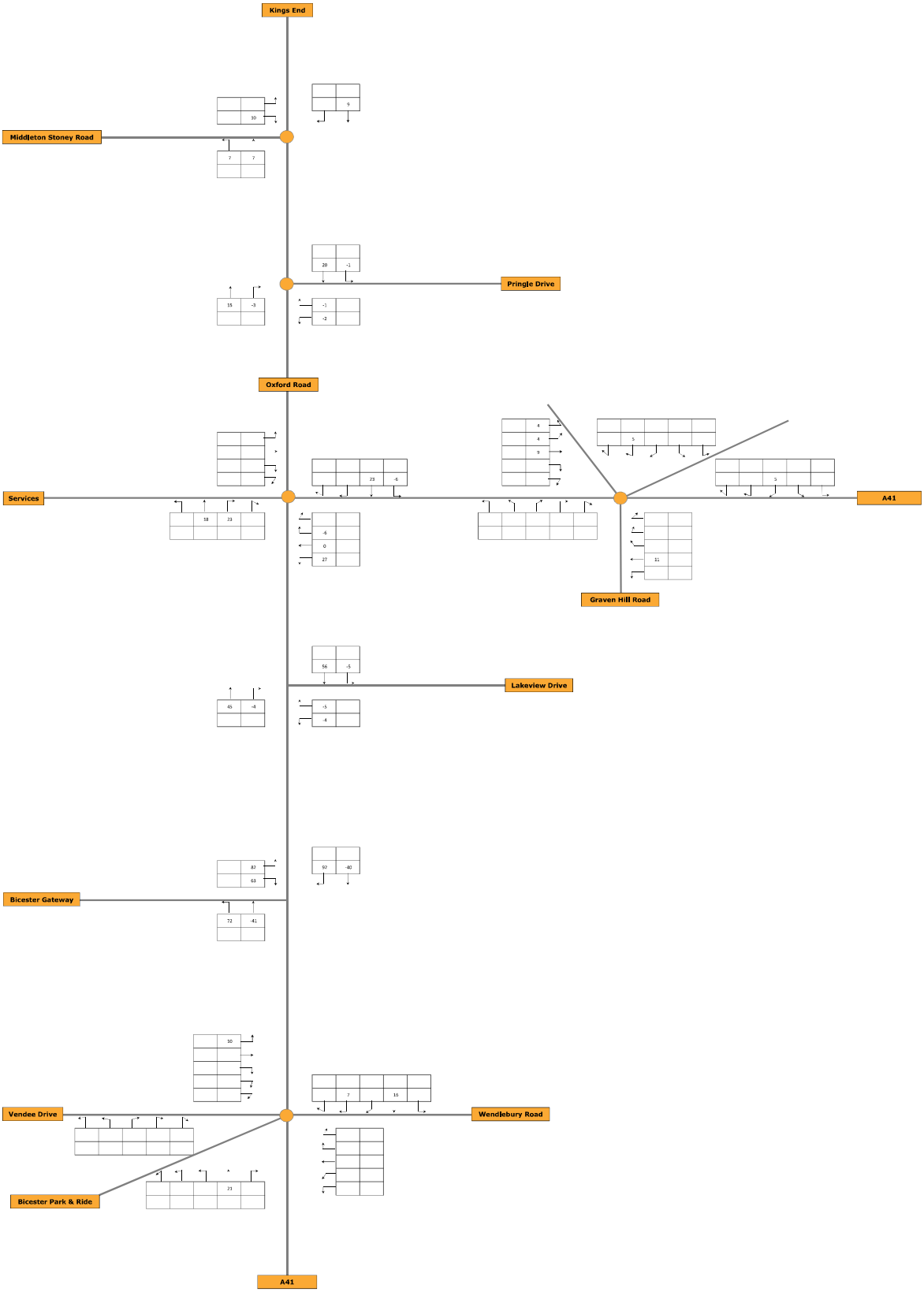
Figure 5.1: 2026 BTM Traffic Flows - AM Peak



motion

Bicester Business Park

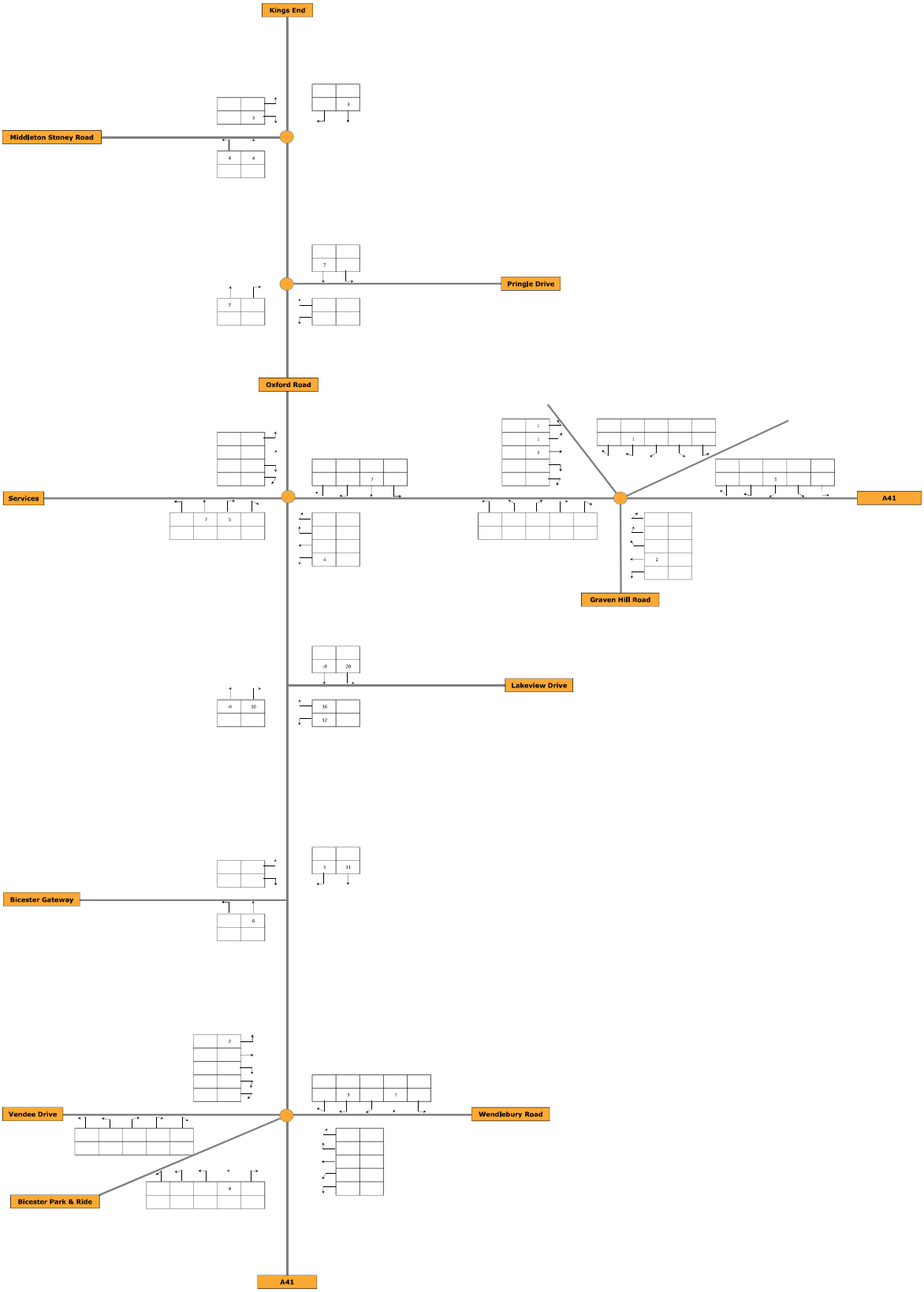
Figure 5.2: 2026 BTM Traffic Flows - PM Peak



in 151
out 146

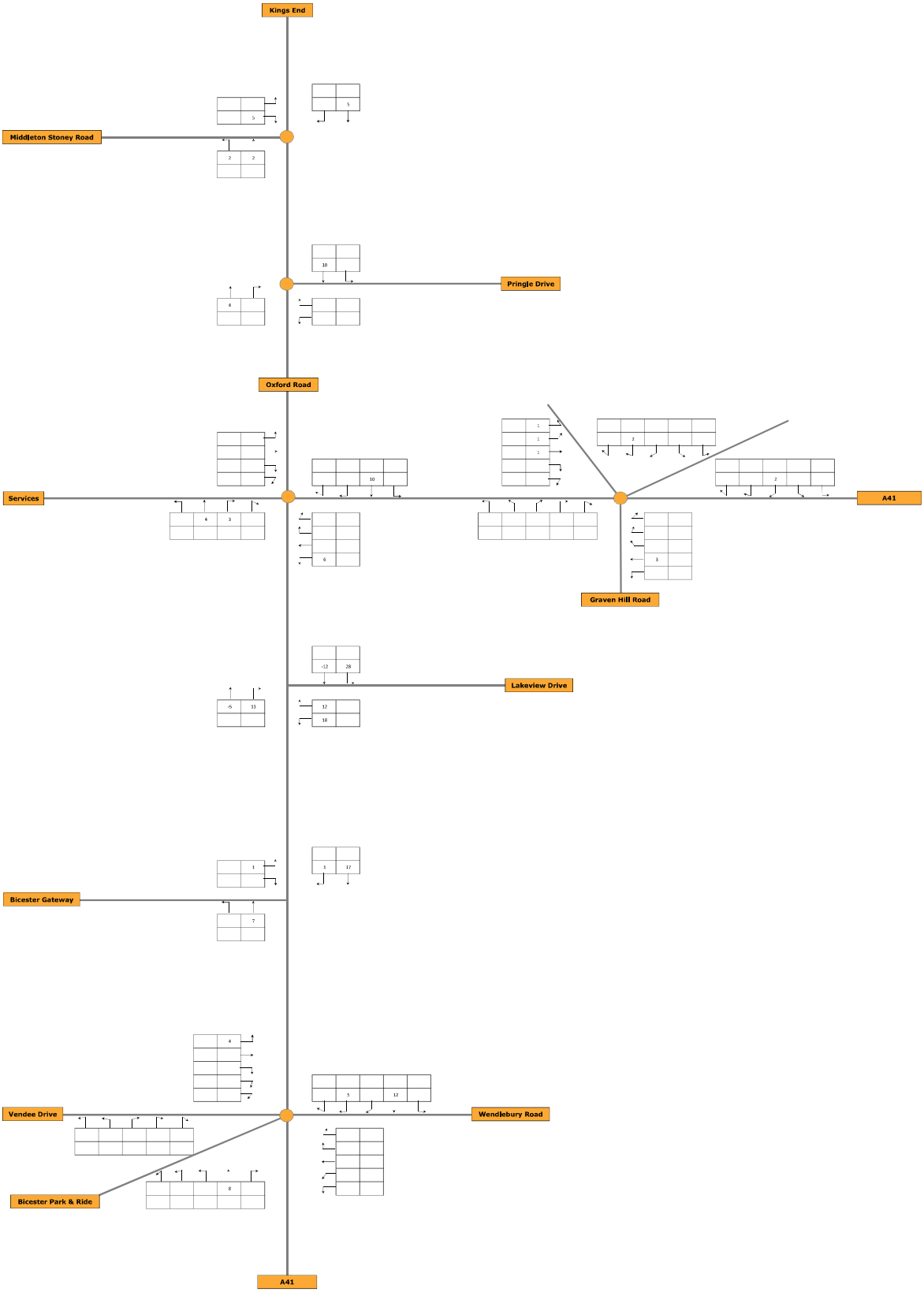
Bicseter Business Park

Figure 5.3: Consented Development - Bicester Gateway Retail Park - PM Peak



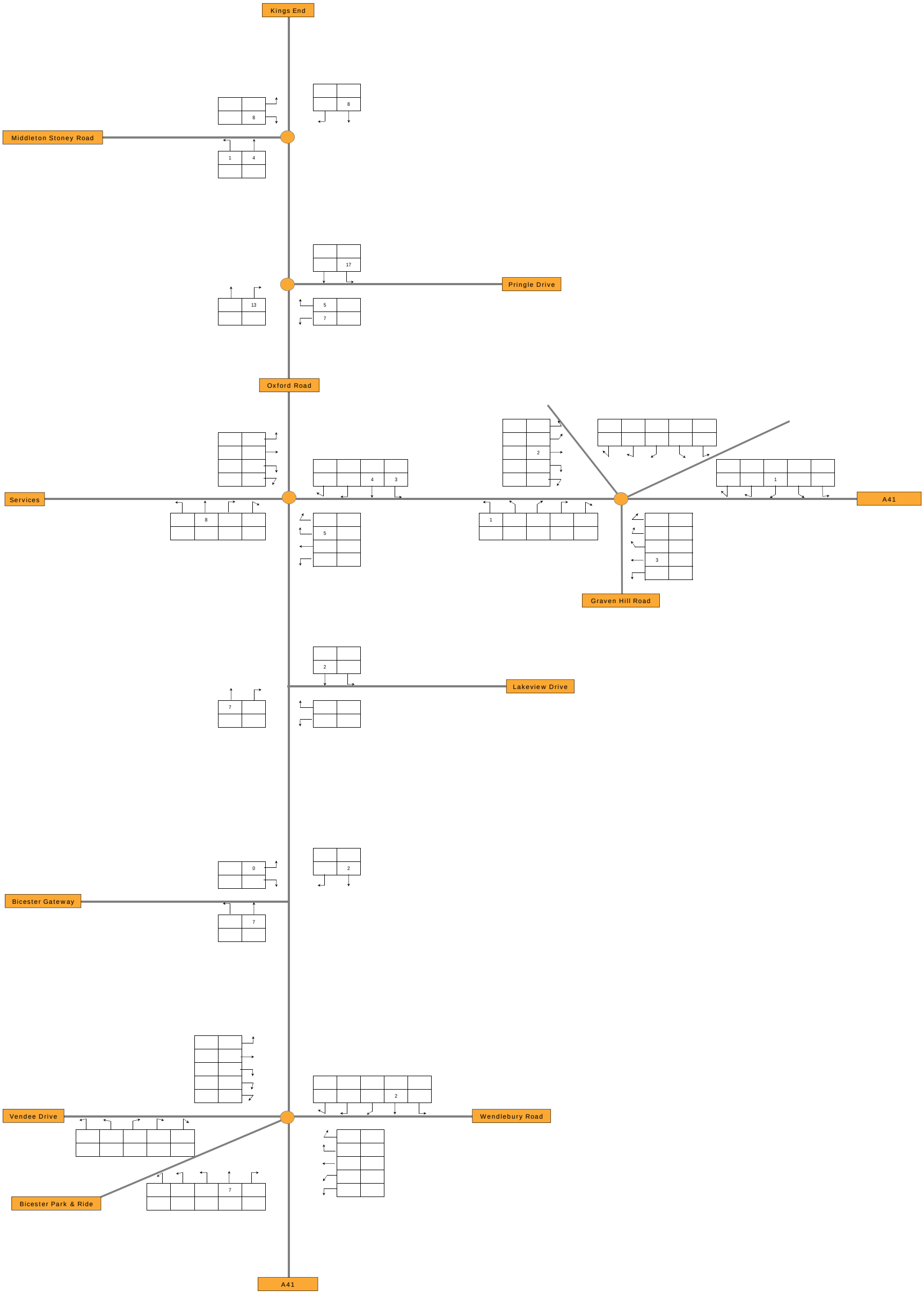
Bicseter Business Park

Figure 5.4: Committed Development Traffic - McDonalds AM Peak



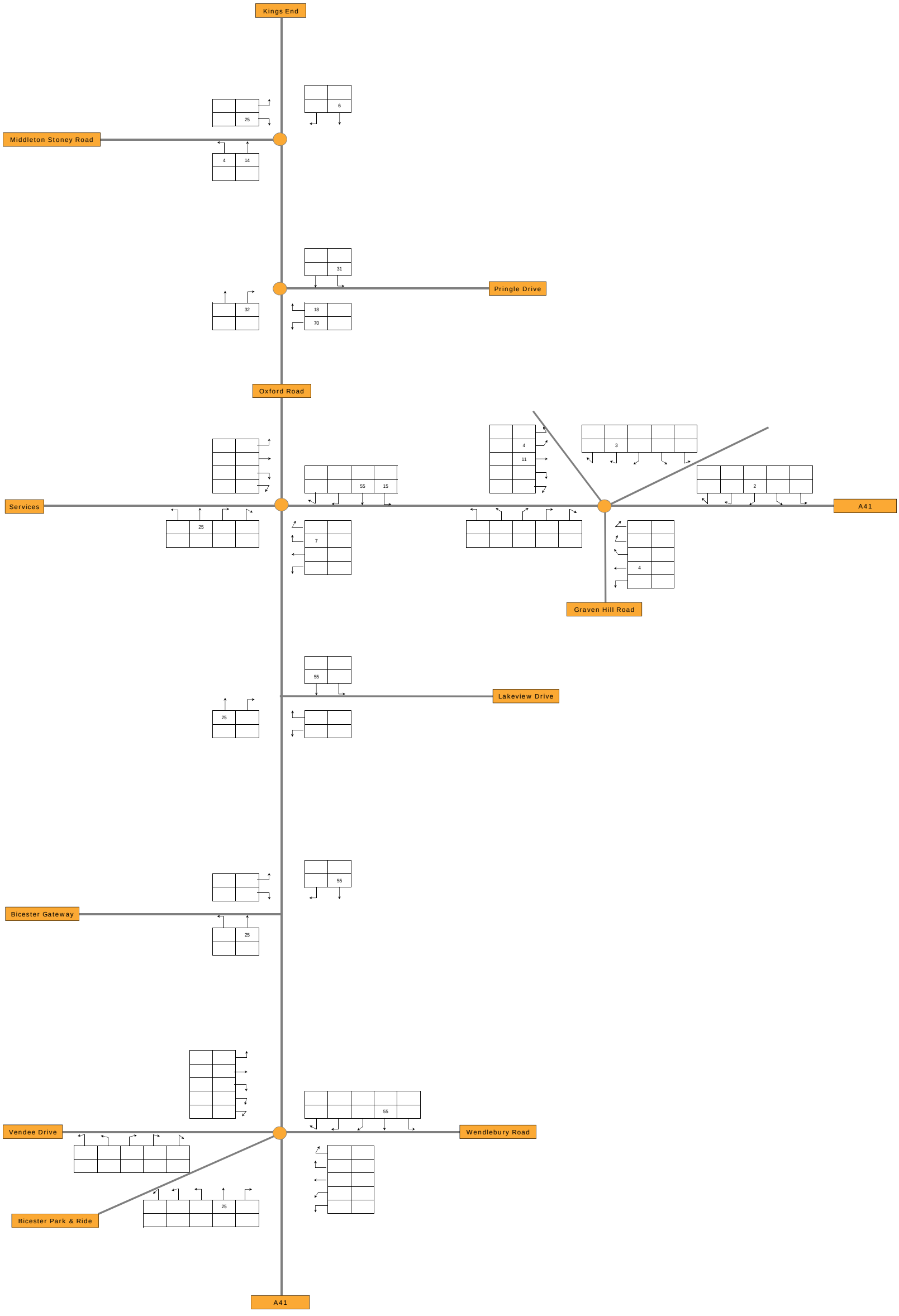
Bicseter Business Park

Figure 5.5: Committed Development Traffic - McDonalds PM Peak



Bicseter Business Park

Figure 5.6: Consented Development - Bicester Village Phase 4 - AM Peak

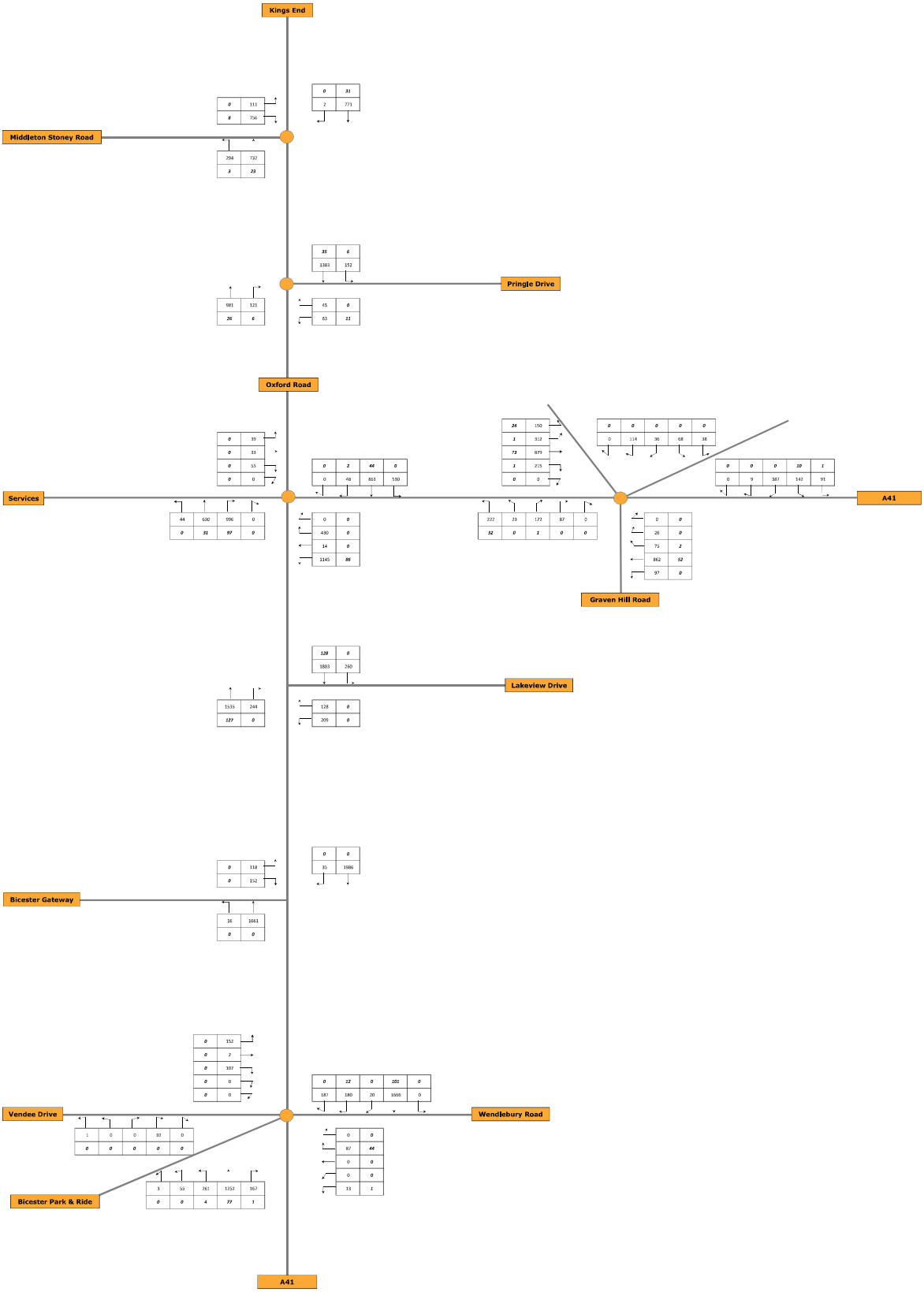


in 63

out 88

Bicseter Business Park

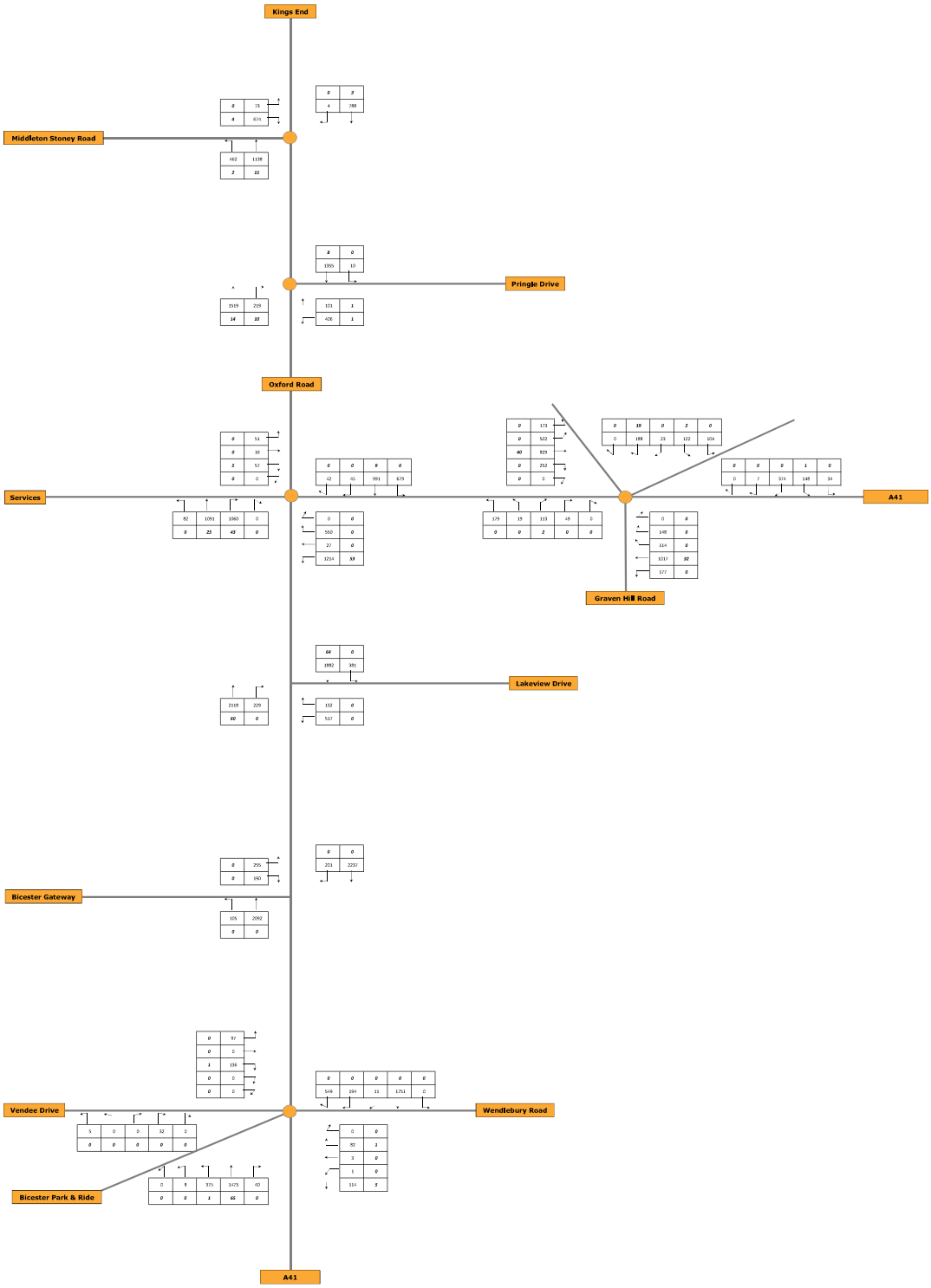
Figure 5.7: Consented Development - Bicester Village Phase 4 - PM Peak



motion

Bicseter Business Park

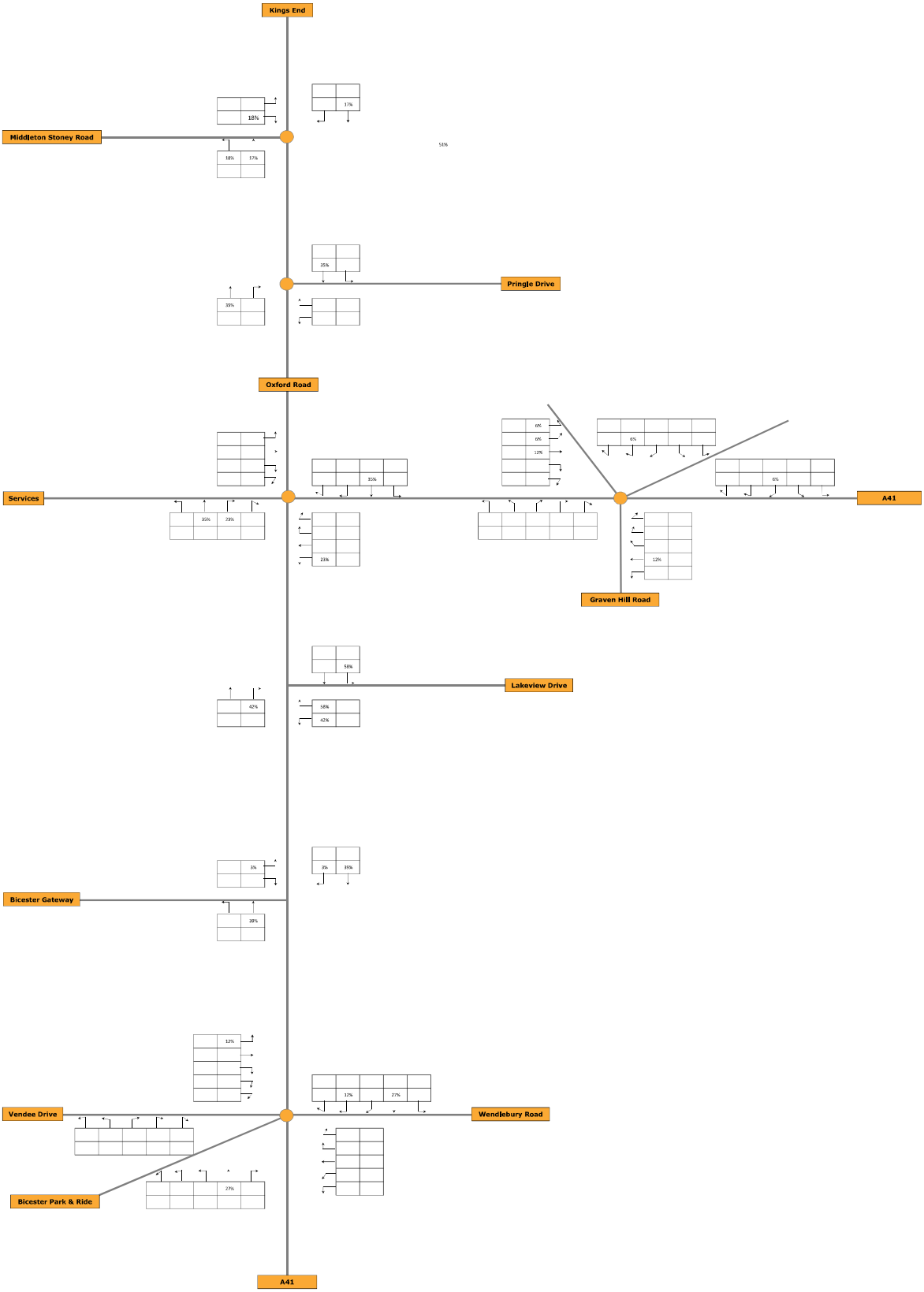
Figure 5.8: 2026 BTM Traffic Flows plus Committed Developments - AM Peak



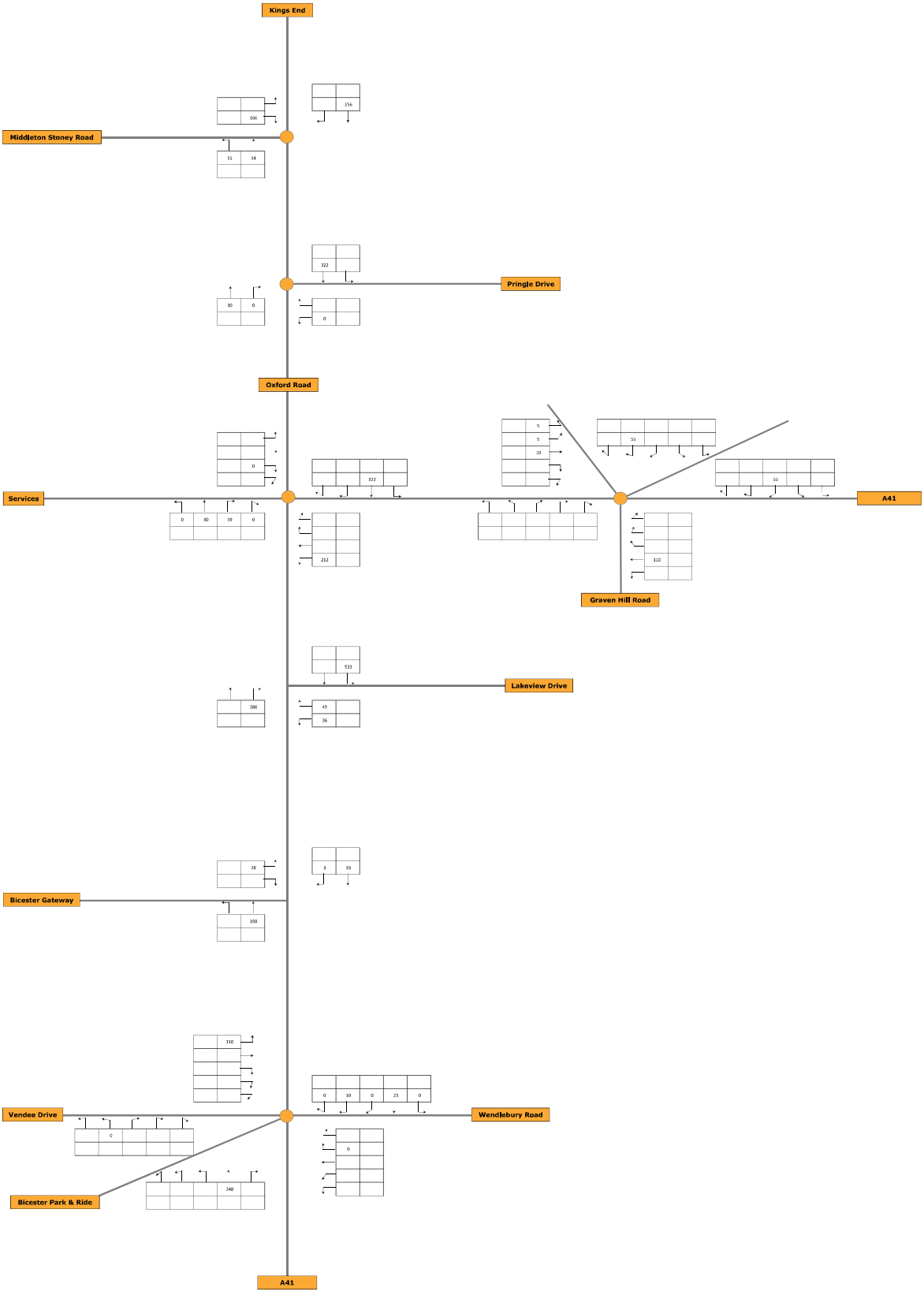
motion

Bicseter Business Park

Figure 5.9: 2026 BTM Traffic Flows plus Committed Developments - PM Peak



Bicseter Business Park
Figure 5.10: Traffic Distribution

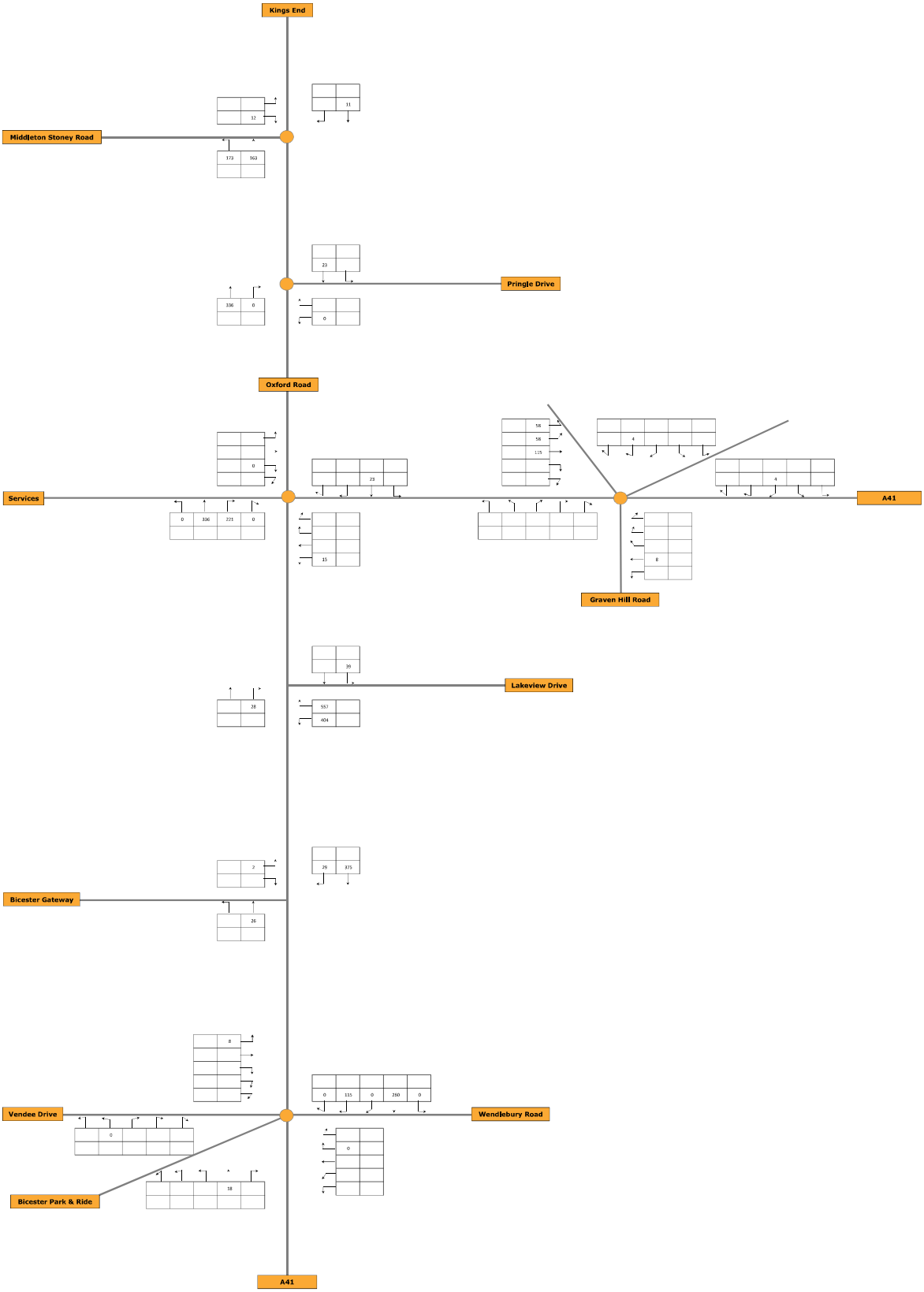


in 920
out 85

motion

Bicseter Business Park

Figure 5.11: Office Park Traffic Flows 60,000 square metres - AM Peak

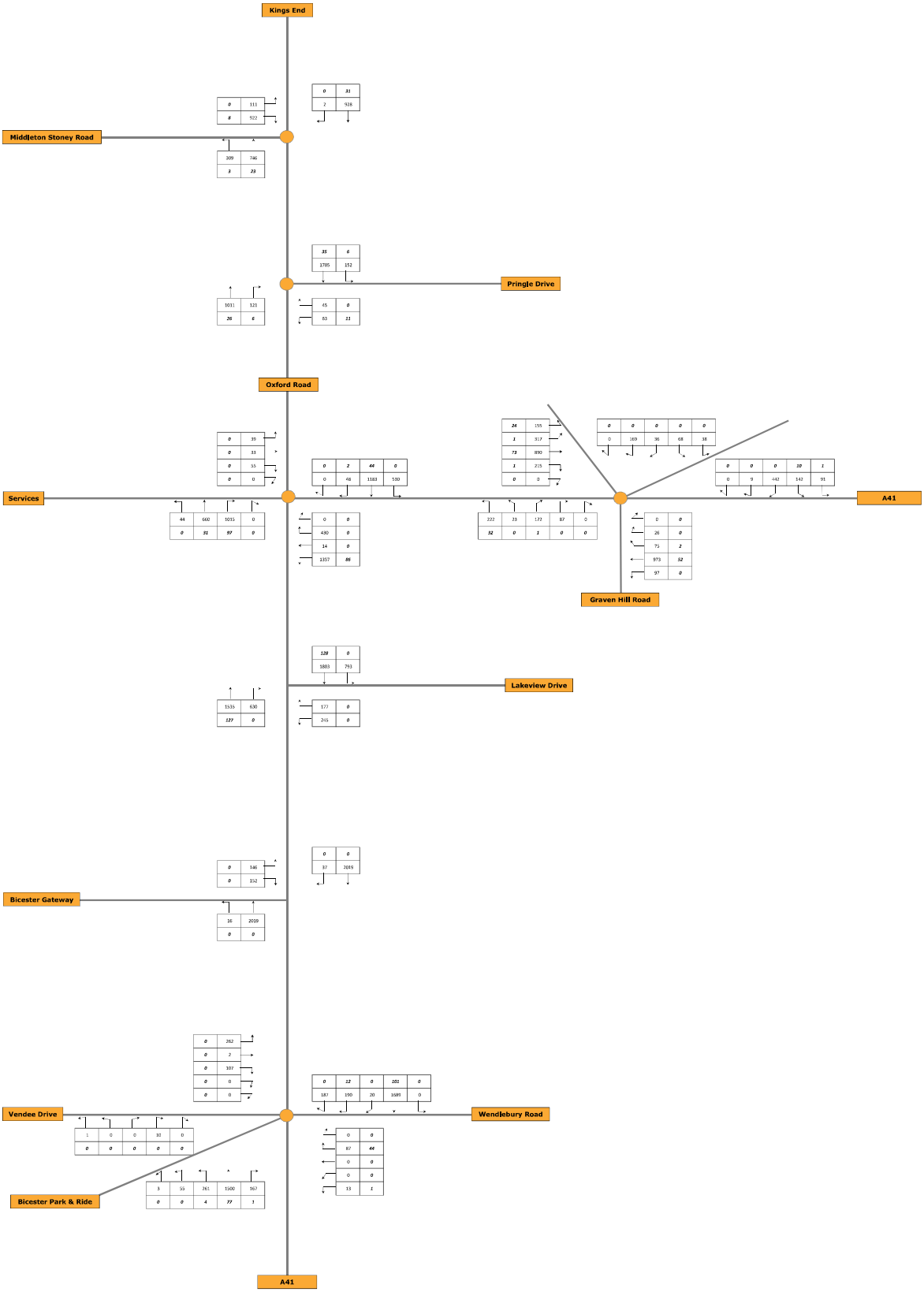


in 67
out 961

motion

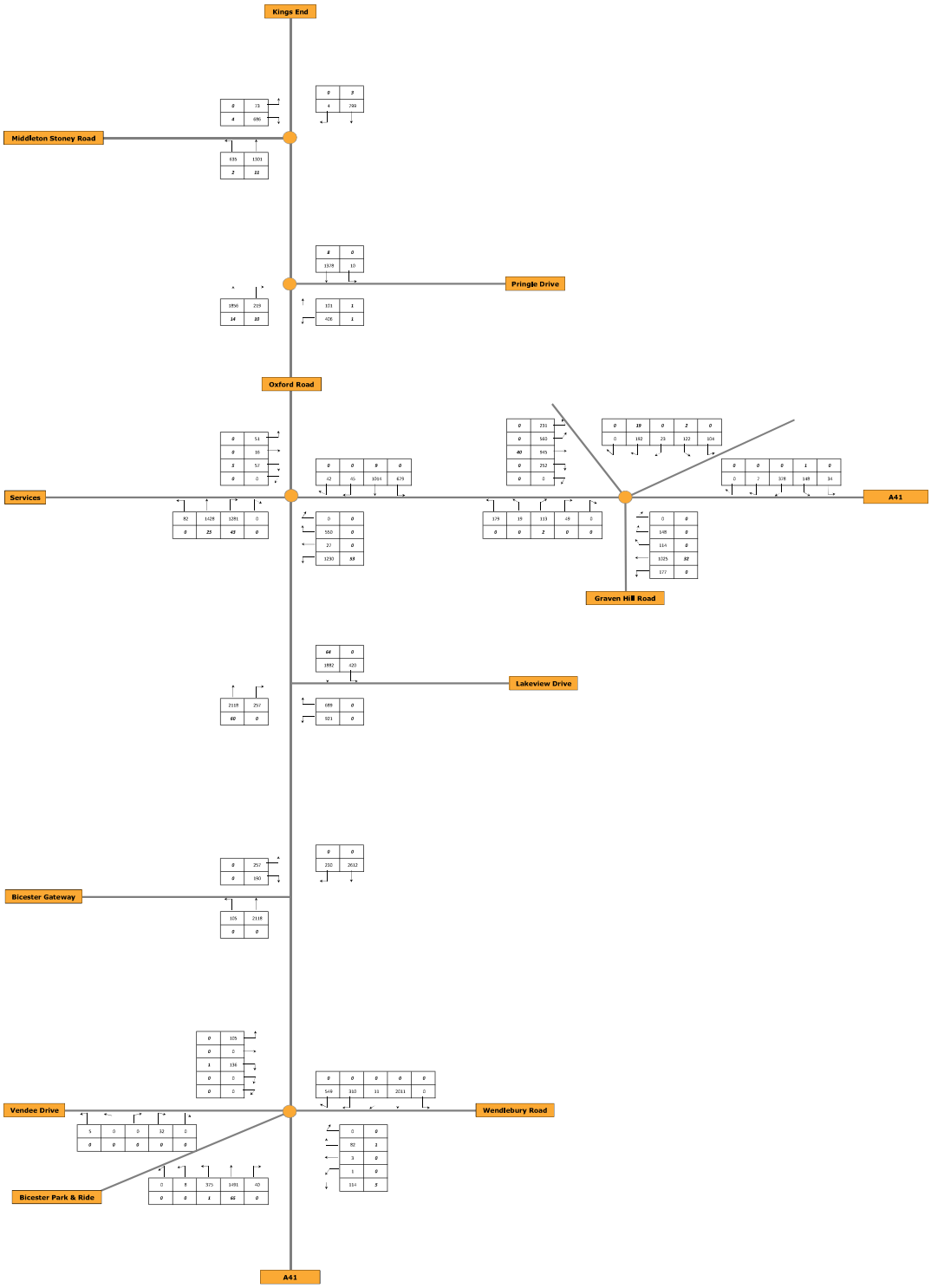
Bicseter Business Park

Figure 5.12: Office Park Traffic Flows 60,000 square metres - PM Peak



Bicseter Business Park

Figure 5.13: 2026 Baseline plus Committed Developments plus 60,000 Office Park Traffic Flows - AM Peak



motion

Bicseter Business Park

Figure 5.14: 2026 Baseline plus Committed Developments plus 60,000 Office Park Traffic Flows - PM Peak

Appendix A

Oxfordshire County Council Pre-Application Response

District: Cherwell
Application No: **17/CH0005/PREAPP**
Proposal: The construction of an office park providing up to 57,000 square metres of B1 office space.
Location: Bicester Office Park. Land To South And East Of The A41 Oxford Road, Bicester, Oxfordshire

---

Transport

Oxfordshire County Council is a consultee of the local planning authority and provides advice on the likely transport and highways impact of development where necessary.

It should be noted that the advice below represents the informal opinion of an officer of the council only, which is given entirely without prejudice to the formal consideration of any planning application, which may be submitted. Nevertheless the comments are given in good faith and fairly reflect an opinion at the time of drafting given the information submitted.

Key issues:

- Strategic contribution towards the South Eastern Perimeter Road

Legal agreement required to secure:

If a planning application were to be submitted and approved a S278 would be required to deliver any highway improvements that it was decided would be needed to make the development acceptable e.g. new site access junction, footway improvements.

A new S106 agreement would be needed to secure the S278 works and also a financial contribution towards

(i) Public transport improvements and
(ii) Strategic contribution towards the delivery of the South East Link Road- required to mitigate the development's impact on the A41 junctions

Travel Plan monitoring fees shall be required

Informatives:

Please note the Advance Payments Code (APC), Sections 219 -225 of the Highways Act, is in force in the county to ensure financial security from the developer to off-set the frontage owners' liability for private street works, typically in the form of a cash deposit or bond. Should a developer wish for a street or estate to remain private then to secure exemption from the APC procedure a 'Private Road Agreement' must be

entered into with the County Council to protect the interests of prospective frontage owners. For guidance and information on road adoptions etc. please email the County's Road Agreements Team at roadagreements@oxfordshire.gov.uk

Detailed comments:

The A41 from which the site is accessed is heavily trafficked and will be put under further pressure from Cherwell Local Plan growth allocations, including the allocation on this site (Bicester 4).

This was recognised by Bicester Village in their application for Phase 4 of their development, where they are now delivering major highway improvements at and between the Esso roundabout and Pingle Drive junctions, having also provided a Bicester Park and Ride facility.

The highway works which are currently underway on the A41 (and related to the expansion of Bicester Village) will deliver a new bus layby on the northbound side of the A41. The highway works which are related to the construction and use of the permitted Bicester Business Park would, once they are triggered (i.e. once construction begins), also provide a northbound and southbound bus layby. Clearly as the Bicester Village works are already underway, once construction of any permission granted for the business park begins, its corresponding remaining liability would be to provide the southbound layby (as the northbound will have by then been delivered).

Scoping Note
Having had a chance to look at the Scoping Note dated 19th April 2017 for a Transport Assessment, I wish to make the following comments.

Policy Consideration
Various Policies that should be considered relevant to this development are:

National Policies
- National Planning Policy Framework (NPPF)
- National Planning Practice Guidance (NPPG)

Local Policy Context include
- Connecting Oxfordshire 2015-2031 (LTP4)
- The Cherwell Local Plan (Adopted July 2015) from which the Policy Bicester 4 requires;
    - Layout that enables a high degree of integration and connectivity between new and existing development particularly the mixed use urban extension at South West Bicester to the west, the garden centre to the south, and, to the north, Bicester town centre and Bicester Village retail outlet.
    - Provision for safe pedestrian access from the A41 including facilitating the crossing of the A41 to the north and west, and the provision and upgrading of footpaths and cycleways that link to existing networks to improve connectivity generally and to develop

links between this site, nearby development sites and the town centre.
- Good accessibility to public transport services should be provided for, including the accommodation of new bus stops to link the development to the wider town.
- A Transport Assessment and Travel Plan to accompany development proposals.

Area of Impact and Junction Modelling

The scoping note accompanying this pre-application enquiry proposes to consider the following junctions for assessment

- Oxford Road / Pingle Drive Roundabout
- Oxford Road / A41 signalised roundabout
- Site Access (Oxford Road / A41 Lakeview Drive signalised junction)
- Oxford Road (A41) / Kingsmere signalised junction.

As previously mentioned in our telephone conversation on 26th April, in addition to the above junctions, the Transport Assessment will need to look at a wider study area to include;

- A41 / Vendee Drive / Oxford Road (A41) roundabout and
- Oxford Road / Middleton Stoney Road / Kings End roundabout
- Rodney House roundabout junction.

These junctions further afield are critical, likely to be impacted by the whole of Bicester 10 when it comes forward and Bicester 4 and the TA shall be expected to carry out capacity tests demonstrating the effect of the development on the highway network.

The scoping note under section 4.4 mentions that traffic surveys shall be undertaken during a weekday morning and evening peak period. The weekend peaks on the A41 approaching Bicester are very high. Owing to the adjacent land use particularly Bicester Village and Tesco superstore, in terms of the effect of the proposal on traffic at the Saturday and Sunday peak times, it would add to the already high volume of retail development traffic in the area. I would like to see further justification of not including a weekend assessment.

Future Years

Paragraph 4.5 of the Scoping Note sets a future year assessment to the fifth year after submission of the Transport Assessment – which puts it down to 2022. In my view, I feel this period should be extended to cover 2026 in line with the Bicester Transport Model which includes 2024 interim year and also includes the committed development expected to come forward at that time. We would like this to be the forecast year rather than 2022.

Committed development – Use of the Bicester Transport Model 2026 would include all development expected to come forward by that time. Consideration also needs to be given to two pending planning applications close by to the site, which are both proposing highway mitigation works along the A41. These are;

- 16-02505-OUT – Bicester Gateway (Kingsmere Retail)

- 16-02586-OUT – Bicester Gateway (Bicester 10)

The model includes significant committed developments expected to come forward and including the growth trips. Should the model be used, TEMPRO shall not be required in this case.

We shall however like to see the network tested using the flows from the model.

Trip Generation

The scoping note accompanying this pre-application enquiry proposes to use TRICS database to establish an estimate of the number of vehicles that the proposed development might generate when it is fully occupied.

I appreciate that the scoping note submitted attempts to estimate the likely number of trips generated that shall be generated by the development. However, the trip rates used appear rather low especially in the PM peak. I would further appreciate that a trip rates commensurate to the developments close by to be considered, such as ones used in planning ref: 16-02586-OUT.

Characteristics of business parks are likely to have very high levels of car use and very peaky demand for travel. The Oxford Business Park (Garsington Road) certainly displays these characteristics, which results in very long queues and delays when employees decide to leave at the same time (at 1705, for example). Arguably, similar characteristics could be expected on this site, especially when combined with the late Friday afternoon flow from the Tesco store. Will these characteristics be reflected in a TA – what mitigation can be provided – to spread the peak for example.

Other scoping matters

Public Transport - The applicant will need to robustly assess public transport accessibility between the development site and the wider network. The original application included a requirement to provide a pair of bus stops on the A41 and an agreement to provide some S106 funding to provide a bus service into the site.

The bus stops have not been fully delivered, with a new bus stop having recently been installed on the western side of the A41, to the north of the Premier Inn hotel. I guess the bus stop on the eastern side of the A41 is tied up with the Bicester Business Park Legal Agreement. In any event, it is absolutely essential that this is provided.

That being said, the walking distance to these bus stops along the A41 from some of these workplace units could be around 750 metres. I would like to see how the applicant addresses the distance in the TA.

South Eastern Perimeter Road (SEPR)

The Local Transport Plan 4 Bicester Area Strategy proposes a South East Perimeter Road in Bicester, which will ease congestion on the A41 and also mitigate the development's impact on the A41 junctions. It is partly funded, but currently requires contributions to fund the western section proposed, so contributions towards this are likely to be a consideration in terms of mitigating the Bicester Business Park

proposals. Other future developments in the area would also be expected to contribute.

The cumulative impact of development in Bicester will be severe if appropriate contributions are not secured from all development sites towards the strategic transport infrastructure required to mitigate the increased transport movements.

Strategic transport modelling demonstrates the benefits that the SEPR will bring to the A41 (Oxford Road):

- The A41 Oxford Road is a key corridor in Bicester where junctions along its length are impacted significantly as a result of the growth of Bicester, including Bicester 10. The Application Site is estimated to increase the proportion of peak hour traffic at the A41/ Vendee Drive junction by between 7% and 8% in 2024.

- The SEPR has been identified as a key piece of strategic infrastructure that will bring direct relief to the A41 corridor, thereby facilitating improved operation of junctions directly impacted by Bicester 10.

- Modelling has demonstrated the benefits that the SEPR would bring to the A41. In the AM peak:
    - Over 1000 vehicles (pcu's) that would otherwise use the A41 Oxford Rd northbound through Vendee Dve would route via SEPR (eastbound)
    - Around 930 vehicles (pcu's) that would otherwise use A41 Boundary Way and turn left on A41 Oxford Rd southbound past Bic 10, would route via SEPR (westbound)
    - Therefore, over 1930 vehicles (pcu's) would use the SEPR that would otherwise route along A41 past the Bicester 10 site.

It is acknowledged however, that the capacity released on the A41 by the SEPR will itself encourage some traffic that might otherwise choose NOT to use the A41, to divert along the corridor. When taking diverted traffic into account, the net reduction in traffic on the A41 in the vicinity of the Bicester 10 site would be around 1130 pcu's.

Car parking

Sufficient car parking will need to be provided to ensure that there is no overspill onto surrounding roads or inappropriate use of the Park and Ride site. Designs and provision should take into account areas within the development that may be subject to inappropriate parking such as on green verge areas or turning heads. OCC requires 2.4m x 4.8m parking bays and 6m width of manoeuvrable space between parking rows. OCC parking standards for B1 Office developments also require 1 parking space per 30sqm GFA, to include about 6% of DDA per development unit.

Consideration of the interaction of car parking with other sites in the area e.g. acting as an overspill car parking area for Bicester Village (rather than Bicester Village visitors using the P&R) must also be made. A robust car parking management plan should be included in the Travel Plan.

Cycle parking
The county's cycle parking standards sets out how developers should provide sufficient secure and covered cycle parking for staff and visitors. Cycle parking should be easy to locate and as close to the buildings as possible, not only to make it as attractive to potential users as possible but also to allow natural surveillance from the building itself.

Drainage
A surface water drainage scheme for the site will need to be submitted with a planning application. This will be based on sustainable drainage principles and an assessment of the hydrological and hydro-geological context of the development, The scheme will need to include:

- Discharge Rates
- Discharge Volumes
- Maintenance and management of SUDS features (including details of who will be responsible maintaining the SUDS & landowner details)
- Sizing of features – attenuation volume
- Infiltration tests to be undertaken in accordance with BRE365
- Detailed drainage layout with pipe numbers (to include direction of flow)
- SUDS (list the suds features mentioned within the FRA to ensure they are carried forward into the detailed drainage strategy)
- Network drainage calculations (to prove that the proposals will work)
- Phasing plans
- Flood Risk Assessment

Travel Plan
A Travel Plan Statement meeting the requirements set out in the Oxfordshire County Council guidance document, Transport for New Developments; Transport Assessments and Travel Plans will be required for this application. It would need to be produced and agreed prior to first occupation.

Additionally, a Travel Information Pack would need to be submitted to and approved by the Local Planning Authority prior to first occupation. The first occupants of each development unit shall be provided with a copy of the approved Travel Information Pack.

Officer's Name: Rashid Bbosa
Officer's Title: Transport Engineer
Date: 09 May 2017

Appendix B

Oxfordshire County Council Planning Application Response

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

District: Cherwell
Application No: 17/02534/OUT
Proposal: OUTLINE - The construction of a business park of up to 60,000 sq.m (GEA) of flexible Class B1(a) office / Class B1(b) research & development floorspace; parking for up to 2,000 cars; and associated highways, infrastructure and earthworks
Location: Land North Of Bicester Avenue Garden Centre Oxford Road Bicester

Response date: 27th February 2018

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.

Assessment Criteria
Proposal overview and mix /population generation

OCC's response is based on a development as set out in the table below. The development is taken from the application form

Commercial – use class	m^2
B1	58,200

Application no: 17/02534/OUT
Location: Land North Of Bicester Avenue Garden Centre Oxford Road Bicester

Strategic Comments

This application covers the majority of the Local Plan allocation site Bicester 4: Bicester Business Park. The application site covers a modified area to that consented for office use in 2010 (07/01106/OUT), in part due to the implementation of the Tesco site to the north (12/01193/F).

Whilst the principle of the development with B1(a) office / B1(b) research & development floorspace is supported, there are a number of issues with the current planning submission as outlined below.

Transport Development Control object for the following reasons:

- The Transport Assessment has not given adequate information about the traffic impact on the local network, in particular key committed development traffic is omitted;
- The proposed highway works are not considered safe and sufficient to mitigate the possible impact of the development;
- The drainage information submitted is insufficient.

There is also an archaeology objection because the site is located in an area of archaeological interest and the results of an archaeological evaluation are required prior to determination of this application.

Any new Section 106 or Deed of Variation agreed for this development site will need to maintain the remaining contributions in the existing S106 associated with permission 07/01106/OUT (as varied in November 2013) proportionately to the scale of new development.

Further details are provided in the officer responses below.

Officer's Name: David Flavin
Officer's Title: Senior Planning Officer
Date: 27th February 2018

Application no: 17/02534/OUT
Location: Land North Of Bicester Avenue Garden Centre Oxford Road Bicester

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 given an opportunity to make further representations.

Outline applications and contributions
The number and type of dwellings and/or the floor space may be set by the developer at the time of application, or if not stated in the application, a policy compliant mix will be used for assessment of the impact and mitigation in the form of s106 contributions. These are set out on the first page of this response.

In the case of outline applications, once the unit mix/floor space is confirmed by the developer a matrix (if appropriate) will be applied to assess any increase in contributions payable. The matrix will be based on an assumed policy compliant mix as if not agreed during the s106 negotiations.

Where unit mix is established prior to commencement of development, the matrix sum can be fixed based on the supplied mix (with scope for higher contribution if there is a revised reserved matters approval).

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.

- **Security of payment for deferred contributions** – An approved **bond** will be required to secure payments where the payment of S106 contributions (in aggregate) have been agreed to be deferred to post implementation and the total County contributions for the development exceed £1m (after indexation).

- **Administration and Monitoring Fee**
  An administration and monitoring fee will be required to cover the extra 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 an s106 agreement is completed or not.

CIL Regulation 123

Due to pooling constraints for local authorities set out in Regulation 123 of the Community Infrastructure Levy Regulations 2010 (as amended), OCC may choose not to seek contributions set out in this response during the s106 drafting and negotiation.

That decision is taken either because:

- OCC considers that to do so it would breach the limit of 5 obligations to that infrastructure type or that infrastructure project or
- OCC considers that it is appropriate to reserve the ability to seek contributions to that infrastructure type or that infrastructure project in relation to the impacts of another proposal.

The district planning authority should however, take into account the whole impact of the proposed development on the county infrastructure, and the lack of mitigation in making its decision.

Application no: 17/02534/OUT
Location: Land North Of Bicester Avenue Garden Centre Oxford Road Bicester

Transport Schedule

Recommendation:

Objection (for the following reasons):

- The Transport Assessment has not given adequate information about the traffic impact on the local network, in particular key committed development traffic is omitted.
- The proposed highway works are not considered safe and sufficient to mitigate the possible impact of the development
- The drainage information submitted is insufficient

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 to mitigate the impact of the development plus planning conditions as detailed below.

S106 Contributions

Contribution	**Amount £**	**Price base**	**Index**	**Towards** (details)
Highway infrastructure	**TBC**	**TBC**	Baxter	The South East Perimeter Road or scheme of similar benefit.
Strategic rail contribution	**TBC**	**TBC**	TBC	Rail improvements between Bicester and Milton Keynes
Public transport services	**TBC**	**TBC**	RPI-x	Provision of a bus service linking the development with Bicester Town Centre/station
Public transport infrastructure (*if not dealt with under S278/S38 agreement*)	**TBC**		Baxter	Provision of bus stop infrastructure within the site and on Oxford Road.
Travel Plan Monitoring	£2,040	January 2018	RPI-x	Monitoring and review of travel plan
Total	**TBC**			

Comments:

Highway Capacity Assessment

Trip generation
The proposed trip generation is considered to be sufficiently robust.

Committed Development
As part of the pre-application discussions, it was recommended that any assessment of the highway network be carried out as per the Bicester Transport Model (BTM) traffic flows.

The Transport Assessment presented as part of this application has however left out a vital committed development which did not form part of the BTM and neither was its proposal envisaged at the time pre-application scoping discussions were held.

An application for the development of a two-storey drive-through restaurant (class A3/A5) including car park has recently been permitted adjacent to the Tesco filling station (Planning Ref: **17/00889/F**). Although relatively small in scale (to the developments around) it is expected to have a significant degree of impact on the operation of the local network. Also not included in either the BTM or this TA is the recently approved development (Kingsmere Retail) on land adjoining Pioneer Way and A41/Oxford Road (planning Ref: **16/02505/OUT**). Both of these, by virtue of their proximity to the proposed development cannot be ignored in any traffic impact assessment. **(Reason for objection)**

Further to that, I am unconvinced by the applicant's approach of assessing the development impact on the local network. I would have expected a robust assessment to show the impact on the local network with and without the traffic from the complete proposed development.

The Transport Assessment should be revisited, and the following should be noted regarding the Bicester Transport Model 2026 scenario:

- Kingsmere Retail and the drive through restaurant mentioned above are NOT included (see above)
- Bicester 4 office development is NOT included
- Tesco IS included

Trip distribution
The distribution of development traffic on the local road network has been done based on Travel to Work Census data, from the MSOA Cherwell 015 output area. Paragraph 5.17 of the TA gives the expected distribution of vehicle trips in reference to the travel to work census data. However, since the 2011 Census, housing development has taken place at Kingsmere, which could affect the distribution, which could have an impact on the distribution. It is noted that the TA does not include the census data tables. **(Reason for objection)**

Trip assignment
The assumptions regarding trip assignment are not provided in the TA **(Reason for objection)**

Junction modelling and mitigation
Section 6.0 of the TA presents highway capacity assessments undertaken to inform of the likely impacts of the development on the network, together with a proposed highway mitigation strategy. Junction analysis carried out utilising the industry standard modelling packages for each type of junction demonstrated that some shall operate within the designed capacity. However, the A41/Oxford Road junction and the Middleton Stoney Road/Oxford Road/Kings End junction showed that junctions would operate over and above the theoretical capacity in the 2026 baseline scenario.

The A41 Oxford Road/Lakeview Drive mitigation measures do not appear to fully alleviate the development impact. Oxford Road NB right AM and SB left/ahead in the AM and PM at the junction are left at or over capacity. Lakeview Drive left/right is brought over capacity in the PM. There is also a residual large impact on some of the movements. At the Vendee Drive/A41 Oxford Road junction, the A41 in the PM peak is at capacity and worsened further by the development. **(Reason for objection)** However, it should be noted that these capacity assessments may vary when the TA is revised.

A41 Oxford Road
The site is accessed from Lakeview Drive via the signal controlled junction with the A41 Oxford Road. The A41/Oxford Road section between Vendee Drive and the Middleton Stoney Road junction comprises of sets of traffic signals which have been modelled using LINSIG. Model results/output files have been attached as Appendix F. However, corresponding .lsg files have not been submitted to enable us to thoroughly check the validity of the modelling work. Without the .lsg files, model parameters such as road geometry and input flows cannot be fully assessed. Until this information is submitted, the modelling results cannot be relied on. **(Reason for objection)**

The highway mitigation arrangement proposed in **Drawing 170211-02** presents a number of design issues that I consider would increase safety risk on what is already a very busy section of A41 Oxford Road. Observed notably are;

- The scheme proposes to include an additional right turning lane from A41 Oxford Road into Lakeview Drive. Lakeview Drive currently has a single flow-in lane from the northbound A41 traffic. Although the scheme attempts to create an additional flow-in lane at its mouth, lane continuity is unclear. The presence of the triangular island pedestrian refuge between the A41 Oxford Road (SB) and Lakeview Drive prevents a balance between the exit and entry lanes. The number of straight ahead entry and exit lanes for a traffic stream should be balanced to reduce conflict caused by traffic merging or diverging within the junction intervisibility zone. Where it is necessary to reduce the number of lanes on the exit arm this should be carried out beyond the junction intervisibility zone, over 100 metres for a single lane reduction, measured from the limit of the junction intervisibility zone, according to Figure 2/11 of Design Manual for Roads and Bridges (Vol 6 Sec 2, Part 3 TD/04). **(Reason for objection)**

- No vehicle tracking has been provided to demonstrate safe passage of the vehicles particularly on the turn in and out of Lakeview Drive. With the significant narrowing of carriageway lanes along the A41 Oxford Road and

bearing in mind that Lakeview Drive also serves as access to Tesco deliveries, the application must demonstrate by tracking analysis that gives consideration to long and articulate vehicles besides cars that they can reasonably use the junction. **(Reason for objection)**

- The current A41 Oxford Road layout requires some motorists to change lanes over very short distances. With the development proposing to add lanes on top of what is in existence, that leaves me concerned that this would likely lead to increased conflicts in the immediate vicinity of the development. In the event that the proposed highway works requiring carriageway widening along the A41/Oxford Road are agreed, these should be carried as per OCC specifications. We would require the surface course in the adjacent area / lane to be replaced with a stepped joint in the layers below as illustrated in drawing **HSD 700/025** via https://www.oxfordshire.gov.uk/cms/content/highway-standard-details

- The mitigation layout plan is not scaled to enable a comprehensive review of the dimensions of the proposed highway. **(Reason for objection)**

- *Triangular island pedestrian refuge* – Pedestrian refuges and traffic islands help pedestrians by enabling them to deal with one lane or direction of traffic at a time. This appears to be significantly reduced, and I would like to be certain that this is deep enough to accommodate a reasonable number of pedestrians including bicycles and/or a wheelchair – noticing that this is a busy intersection likely to be used by platoons of pedestrians such as at peak times.
  The central reservation – The proposed scheme also intends to significantly reduce the width of the central reservation along the southern arm of the A41 Oxford Road. In its existing layout the A41 Oxford Road ranges between 4.2m- 6m in width. A further reduction in width shall likely make it impossible for erection of the associated street furniture such as signage, lamp posts and traffic signal posts. These structures are accommodated within highway land between/adjacent to carriageways and it is required that any placement of such posts should be clear by 0.45m from any face of the kerb. The proposed layout does not appear to have given consideration for this. It goes without need to say that such a busy section of highway shall require significant signage and traffic signal heads to give information to motorists and control traffic respectively.

Such significant highway changes need to be accompanied by a Stage 1 Safety Audit as part of the application.

Oxford Road / Middleton Stoney Road / Kings End
This is a mini-roundabout that has been modelled using ARCADY and model output/results for the existing junction operation show that Kings End approach operates over the theoretical capacity in the AM peak period while Middleton Stoney and Oxford Road approaches operate over the recommended RFC threshold in the PM peak period.

The application proposes to make improvements to this mini-roundabout as mitigation which would involve increasing the entry width from the Kings End approach. **(Drawing No. 170211-04)**. The modelling predicts an improvement in the operation of the Kings End approach in the AM peak period in 2016. However, the same model shows a general deterioration in RFC values for all other approach arms in both peak periods. The Middleton Stoney Road and Oxford Road are seen to have rising RFC values, reading just below the recommended threshold.

Public Transport
Discussions during the original Bicester Business Park application identified the need for a bus service to this site, as some parts of the site are more than 400 metres from bus stops on the A41 Oxford Road. The amount 'agreed' in discussion was subsumed into an overall sum for the site. The understanding was to allow for a new bus service to enter the site, which would also require a new bus stop on Lakeview Drive. This service would link Bicester North to Bicester Village along Pingle Drive, London Road and into the site.

It is likely that the bus would not need to run all day, but would be needed in the peaks and lunchtimes, as at Milton Park, a similar development in Oxfordshire. Most of the cost of a bus is in the need for a 'peak vehicle'. It's probable that this service would be operated in conjunction with another service, but we still need the 'peak bus'.

As part of the Bicester Gateway Retail Park planning consent it was proposed to include a southbound bus stop adjacent to the site along the A41 Oxford Road as part of the highway improvements. However, to allow for the possibility that that consent is not implemented either wholly or earlier than this proposed development, then we will require a commitment from this development to install the same bus stop with associated infrastructure.

Pedestrian / Cycle routes
The design and access statement mentions that bicycle routes are linked into the scheme. Apart from the pedestrian and vehicular accesses, the application has not demonstrated a direct connectivity to any dedicated cycle routes. National Cycle Route 52 abuts the site along its boundary with the A41 Oxford Road. This cycle route provides a cycling infrastructure connecting south towards Wendlebury, Kidlington and Oxford. North of the application site, the route connects to Bicester Village and Bicester Town Centre.

Much as am convinced that the development is well placed for future employees and visitors to utilise this route to and from the site by foot and/or cycle, I am concerned by its width for a shared pedestrian/cycle route. On the merge to the A41/Oxford Road from Lakeview Drive, the shared infrastructure is seen to considerably narrow in width as it runs past the proposed bus stop layby. We would like to see a 3metre provision being extended further south right up to the pedestrian crossing that leads to Pioneer Way. The need for such an improvement is in part driven by the growth of the town and the need to link residential areas to employments. This is a pedestrian/cycle desire line into the wider Kingsmere residential development via Pioneer Way from the site which must be improved. **(To be incorporated into s278)**

We would like the development to provide a pedestrian/cycle only access onto the A41, along its western boundary. This connection should be informed by the pedestrian desire line that aims to enhance pedestrian connectivity and reduce walking distances. It is also thought that this would enhance multimodal travel for visitors and staff arriving by public transport from the bus stop. Rather than walking along Lakeview Drive pedestrians crossing the A41 Oxford Road from Kingsmere, and from areas south such as the Bicester Park and Ride and Wendlebury would directly access the development via this access.

Parking Strategy

The parking strategy that the TA presents is informed by OCC maximum parking level standards. Although the application sets to provide the maximum provision for the scale of the proposed development, there needs to be a careful balance between meeting the demand for parking without unduly encouraging car use, particularly given the potential for sustainable travel to the site. I strongly recommend that the level of parking provision be supported by a parking accumulation study.

That being said, it is important that the development does not lead to overspill street parking. It is thus important that the Framework Travel Plan sets off with robust measures that promote multi modal travel choices.

Consideration of the interaction of car parking with other sites in the area e.g. acting as an overspill car parking area for Bicester Village (rather than Bicester Village visitors using the P&R) has not been made. A robust car parking management plan should be included.

Personal Injury Accident Data

The TA has presented Personal Injury Accident data of reported collisions in the immediate vicinity of the site obtained from Thames Valley Police (TVP). This data reportedly covers the period between 01/07/2012 and 01/07/2017 and is appended to the TA. Although am not questioning the presented dataset, I would like clarification on how the applicant managed to retrieve information such as how a particular accident was linked to the causation factor and its location from the TVP report. Unless there is more to that report than presented here, I am not convinced by how the applicant has reached this conclusion. Could this please be clarified.

Further review of the personal injury accident data held by OCC has revealed 5 injury collisions. These incidents occurred between Pioneer Way and Lakeview Drive junctions with A41 Oxford Road (excluding Bicester Avenue and Esso Roundabout).

Three out of five of these incidents involved vehicles making right manoeuvres either into Pioneer Way or Lakeview Drive. Although these recorded incidents are of the slight category I am concerned that any additional lanes created would increase the likelihood of conflicts during lane changing manoeuvres. Should you require more detailed information on the most recent Personal Injury Accident data, please contac79t our Road Safety Officer on Anthony.Kirkwood@Oxfordshire.gov.uk

Transport Strategy

Policy Bicester 4 of the Cherwell Local Plan relating to the site requires:

- Layout that enables a high degree of integration and connectivity between new and existing development particularly the mixed use urban extension at South West Bicester to the west, the garden centre to the south, and, to the north, Bicester town centre and Bicester Village retail outlet.
- Provision for safe pedestrian access from the A41 including facilitating the crossing of the A41 to the north and west, and the provision and upgrading of footpaths and cycleways that link to existing networks to improve connectivity generally and to develop links between this site, nearby development sites and the town centre.
- Good accessibility to public transport services should be provided for, including the accommodation of new bus stops to link the development to the wider town.
- A Transport Assessment and Travel Plan to accompany development proposals.

As indicated at the pre-application stage, the A41 from which the site is accessed is heavily trafficked and will be put under further pressure from Cherwell Local Plan growth allocations, including the allocation on this site (Bicester 4).

This was recognised by Bicester Village in their application for Phase 4 of their development, where they have now delivered major highway improvements at and between the Esso roundabout and Pingle Drive junctions, having also provided a Bicester Park and Ride facility.

The highway improvements on the A41 related to the expansion of Bicester Village have delivered a new bus layby on the northbound side of the A41. The highway works which are related to the construction and use of the permitted Bicester Business Park would also have needed to provide a northbound and southbound bus layby; however, the northbound layby is now delivered and the southbound layby will now be delivered by **16/02505/OUT** – Bicester Gateway (Kingsmere Retail).

Planning consent was granted in November 2013 for the construction of a Tesco food store of 8,135 square metres and petrol filing station on part of the consented office park site (Planning Ref: **12/01193/F**). The S106 Deed of Variation in relation to the consented Tesco store and office park allows for the construction of up to 45,000 square metres of the B1(a)/B1(b) office space being delivered on the remainder of the site, as part of the previous outline planning consent for an office park.

The November 2013 deed of variation to the original Section 106 agreement (dated 26 October 2010 associated with planning permission **07/01106/OUT**) set out appropriate contributions/mitigation schemes required in order to make the development acceptable. Any new Section 106 or Deed of Variation agreed for this development site will need to maintain the remaining contribution requirements proportionate to the scale of new development and amend how these are allocated against schemes where necessary, to fit the present context.

The cumulative impact of Local Plan growth development in Bicester will be severe if appropriate contributions are not secured from all development sites towards the strategic transport infrastructure required to mitigate the increase in transport movements.

The varied Section 106 was made prior to the current adopted Cherwell Local Plan, which includes increased growth and additional infrastructure requirements within the plan period, such as a South East Perimeter Road (SEPR). The SEPR is also now detailed in Oxfordshire County Council's Local Transport Plan 4, as a scheme to ease congestion on the A41, and will therefore directly contribute towards mitigating this development proposal's impact. The scheme is partly funded, but currently requires contributions to fund the western section proposed. This development will therefore be expected to contribute towards the SEPR or a scheme of similar benefit.

The varied Section 106 made provision to support rail service improvements, now partly implemented by East West Rail phase one. Oxfordshire County Council continue to support rail improvement schemes, making this sustainable form of travel more attractive and in turn reducing single occupancy car travel. The rail contribution carried forward in the new Section 106 or Deed of Variation must therefore be allocated against supporting East West Rail Phase 2."

Strategic transport modelling demonstrates the benefits that the SEPR will bring to the A41 /Oxford Road:

- The A41 Oxford Road is a key corridor in Bicester where junctions along its length are impacted significantly as a result of the growth of Bicester, including Bicester 4. The Application Site will increase the proportion of peak hour traffic through this corridor.
- The SEPR has been identified as a key piece of strategic infrastructure that will bring direct relief to the A41 corridor, thereby facilitating improved operation of junctions directly impacted by Bicester 4.
- Modelling has demonstrated the benefits that the SEPR would bring to the A41. In the AM peak:

    - Over 1000 vehicles (pcu's) that would otherwise use the A41 Oxford Rd northbound through Vendee Drive would route via SEPR (eastbound)

    - Around 930 vehicles (pcu's) that would otherwise use A41 Boundary Way and turn left on A41 Oxford Rd southbound past Bicester 4, would route via SEPR (westbound)

    - Therefore, over 1930 vehicles (pcu's) would use the SEPR that would otherwise route along A41 past the Bicester 4 site.

It is acknowledged however, that the capacity released on the A41 by the SEPR will itself encourage some traffic that might otherwise choose NOT to use the A41, to divert along the corridor. When taking diverted traffic into account, the net reduction in traffic on the A41 in the vicinity of the Bicester 4 site would be around 1130 pcu's.

Drainage
The drainage strategy is presented in Appendix F of the Flood Risk Assessment, which is itself contained in Appendix 13.1 of Volume 2 of the Environmental Statement. It is proposed to use SuDS to manage surface water runoff across the development.

OCC as Lead Local Flood Authority considers 'soft' SuDS (e.g. Ponds, Swales etc) preferable to 'hard' SuDS (e.g. Underground Storage Tanks). The images represented in the Design and Access statement (Bennets Associates – Dec 2017) on Page 9 would be representative of the type of the amenity value that can be added to the development by the use of these 'soft' SuDS.

OCC considered that the drainage proposals were not adequately described within the strategy document. For an outline application, the proposal needs to describe the attenuation storage volumes that are required to provide mitigation and achieve compliance with the proposed allowable discharge rates. Typically the applicant must show by way of a sketch, which describes the SuDS features and demonstrates that they fit within the red line application boundary. A supporting calculation needs to be provided and for initial sizing calculations in support of outline application the toolkit provided by the 'UK Suds' website is acceptable to OCC. These considerations were absent from the application. **(Reason for objection)**

The drainage strategy will need to comply with the Defra 'Non – Statutory Technical Standards' and good practice such as the ' Preliminary rainfall runoff management for developments ' (Defra/EA R&D Technical Report SC030219 Revision E), and 'The SuDS Manual' (CIRIA C753).

In terms of the allowable discharge rates for the site, it will be required to consider the need to control and mitigate the additional runoff 'volumes' (Technical Standards S4 – S6) and 'rates' (Technical Standards S2 – S3). Therefore, QBAR greenfield rate for the site will be appropriate for the site or alternatively 'long term storage' should be provided.

The proposals to use permeable paving for parking spaces and rainwater harvesting for the site were very welcomed. Especially so, as the proposals will need to demonstrate a 'treatment train' approach is being achieved at the site, so that SuDS water quality is achieved.

No soakage testing results were provided with the application. Part infiltration in some areas of the site may be possible, therefore infiltration testing should be carried out at the site, which may form part of a condition.

A SuDS Management and Maintenance Plan will also be required for the site

Travel Plan
A framework travel plan has been submitted for the Business Park which has been checked against our guidance.

It should be noted that at this stage the submitted travel plan does not include enough detail to satisfy our guidance or to be fully assessed. For this reason, comments are very general.

This framework travel plan will act as an umbrella plan for the site as a whole and will set the travel aspirations for the site. Future occupiers will either make a commitment to take on the objectives of this travel plan or if their business is over travel plan thresholds they will be develop their own travel plan using this framework travel plan as the basis for their plan. If their individual site is above travel plan thresholds they will also be expected to pay the appropriate monitoring fees.

- It has not been explained what the purpose of this framework travel plan is i.e. that it will act as an umbrella plan for the site and that it will be the basis nor any future travel plans that future occupiers develop. Or that this plan will be adopted by future occupiers who will be expected to work towards the overall goals and targets of this plan. Further to this it is not clear from the travel plan what is being planned for this site and the makeup of the site once the project is completed. No idea of the number of employees that are likely to be based at this site, clearly the 2,00 car parking spaces are going to be used to someone?
- Para 3.2 One of the main objectives of the travel plan should be to reduce Single Occupancy Vehicle (SOV) trips made to and from the site. It should also be noted that car share is one way of reducing SOV trips made to and from the site. Oxfordshire County Council recommends Oxfordshire Lift Share as the car share provider of choice https://liftshare.com/uk/community/oxfordshire.
- Section 4 travel plan coordinator, should note that it will be the TPC's responsibility to ensure that future occupiers are informed of the framework travel plan and their travel plan responsibilities, and to ensure that they work towards the aims and targets of this plan.
- If they have to develop their own travel plans it will be the TPC's responsibility to ensure that this happens within the required timescales and to inform them of the need to use the FTP as a basis for their own plans.
- Para 4.3 TPC contact details will need to be sent to the Travel Plan Team at Oxfordshire County Council.
- The FTP contains no measurable targets for the site. The FTP contains no information which can be used to set initial FTP targets such bas the 2011 Census travel to work data.
- A target will be required for each mode of travel in percentages and numbers for each year in which a survey will take place. We will be looking for a 5-10% SOV reduction over the first five years of the FTP's operation.

Action plan requires further development. It should have a mixture of short, medium and longer term actions all with a completion date under headings such as measures to reduce the number of SOV journeys made to and from the site and measures to increase cycling and car sharing.

S278 Highway Works:

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

- Site accesses

- Pedestrian footway improvements along the A41/Oxford Road
- Bus stop adjacent to the development on the eastern side of the A41 Oxford Road subject to the event that the consented development which the bus stop forms a part of is not implemented
- Junction capacity improvements as appropriate

Notes:
These highway works shall be secured by means of S106 with restriction not to implement development (or occasionally other trigger point) 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.

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.

S38 Highway Works
An obligation to provide a spine road as part of the highway network or an on-site right of way may 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:

Site Access: Full Details
Prior to the commencement of the development hereby approved, full details of the means of access between the land and the highway including position, layout, and vision splays shall be submitted to and approved in writing by the Local Planning Authority. There shall be no obstruction of the vision splays above 0.6m high. Thereafter and prior to the first occupation of any of the development, the means of access shall be constructed and retained in accordance with the approved details.
Reason - In the interests of highway safety and to comply with Government guidance contained within the National Planning Policy Framework

Cycle Parking
The development hereby approved shall not be commenced until a plan for the car parking spaces to serve the entire development has been submitted and approved in writing by the Local Planning Authority. All car parking shall be retained unobstructed except for the parking and manoeuvring of vehicles at all times thereafter, unless otherwise agreed in writing beforehand by the local planning authority.
Reason: To ensure appropriate levels of cycle parking are available at all times to serve the development, and to comply with Government guidance contained within the National Planning Policy Framework.

Car Parking
The development hereby approved shall not be commenced until a plan for the car parking spaces to serve the entire development has been submitted and approved in writing by the Local Planning Authority. All car parking shall be retained unobstructed

except for the parking and manoeuvring of vehicles at all times thereafter, unless otherwise agreed in writing beforehand by the local planning authority.
Reason: To ensure appropriate levels of car parking are available at all times to serve the development, and to comply with Government guidance contained within the National Planning Policy Framework.

Drainage
Development shall not begin until a surface water drainage scheme for the site, based on sustainable drainage principles and an assessment of the hydrological and hydro-geological context of the development, has been submitted to and approved in writing by the local planning authority. The scheme shall subsequently be implemented in accordance with the approved details before the development is completed. The scheme shall also include:

- Discharge Rates
- Discharge Volumes
- Maintenance and management of SUDS features (this maybe secured by a Section 106 Agreement)
- Sizing of features – attenuation volume
- Infiltration in accordance with BRE365
- Detailed drainage layout with pipe numbers
- SUDS – (list the suds features mentioned within the FRA to ensure they are carried forward into the detailed drainage strategy)
- Network drainage calculations
- Phasing

Reason - To ensure satisfactory drainage of the site in the interests of public health, to avoid flooding of adjacent land and property and to comply with Government guidance contained within the National Planning Policy Framework.

Travel Plan
The submitted travel plan will be revised in line with comments received and resubmitted to the Local Planning Authority for approval before first occupation.

Construction traffic management plan
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. The CTMP shall include a commitment to deliveries only arriving at or leaving the site outside local peak traffic periods. Thereafter, the approved CTMP shall be implemented and operated in accordance with the approved details. *Reason - In the interests of highway safety and the residential amenities of neighbouring occupiers.*

Officer's Name: Rashid Bbosa
Officer's Title: Transport Engineer
Date: 23 February 2018

Application no: 17/02534/OUT
Location: Land North Of Bicester Avenue Garden Centre Oxford Road Bicester

Archaeology Schedule

Recommendation:

Objection for the following reason/s:

- The site is located in an area of archaeological interest and the results of an archaeological evaluation will need to be submitted along with this planning application prior to the determination of this application.

Comments:

The site is located in an area of archaeological interest as shown by an archaeological evaluation over part of the site which recorded a range of archaeological deposits dating from the prehistoric to Roman periods. The site is located 650m north of the site of the Roman Small Town of Alchester and is located along the line of the Roman Road heading north from this town. Iron Age and Roman settlement evidence has been recorded along the route of this road in the vicinity of this site including 300m south and 260m north east of the proposed site. A further Iron Age and Roman settlement has also been recorded 280m north of the site.

Prehistoric archaeological deposits have been recorded in the immediate area and two Bronze Age barrows are recorded 280m north east of the proposed site. The proposed site is also located immediately to the south and west of an area of Bronze Age settlement identified through archaeological excavation.

This excavation revealed a number of Bronze Age roundhouses either side of a bradded river channel. An oven was also recorded associated with one of the roundhouses along with a number of larger postholes or pits. Three cremation burials were also recorded on the site. A Roman channel was cut along the line of the braided channel. Bronze Age settlement sites such as this are relatively rare within the District and as such are of significance.

Only part of the proposed site was subject to an archaeological evaluation undertaken as part of a separate planning application. The area that was not investigated is immediately east of the line of the Roman road and immediately south of the area of Bronze Age settlement recorded by the excavation. It is therefore very likely that further aspects of this significant settlement could survive within this previously un-investigated area of the proposed development and archaeological deposits from the Roman period could survive along the line of the road as recorded elsewhere in the vicinity.

This is recognised in the submitted EIA which states in 10.64 that,

'*It is likely these remains will extend somewhat beyond the trenching area and therefore the potential for further prehistoric and Roman finds or features is considered high*.'

The EIA sets out proposed mitigation for the site. This mitigation only proposes to undertake a strip map and recording action within areas where the previous evaluation recorded archaeological deposits (10.73). The remaining area of the site, presumably including the portion of the site that was not subject to this evaluation, would only be subject to a topsoil watching brief.

As this includes the area that is likely to contain further aspects of the identified Bronze Age settlement as well as any previously unidentified Roman settlement along the line of the Roman road this proposed mitigation would not be appropriate.

A programme of archaeological evaluation will need to be undertaken on this un-investigated part of the site ahead of the determination of any planning application for the site in order to identify whether or not archaeological deposits related to the Bronze Age settlement and Roman road survive and to provide the information required to assess the significance of any surviving archaeological deposits.

The EIA also states that we were asked whether or not any archaeological investigations could be conditioned on the 15th August 2017 (10.9). The EIA states that a decision is awaited. This is not true and we responded to this email on the 18th August 2017 to Nuala C. Woodley of AOC where we stated,

'*I cannot agree that this can simply be undertaken as a condition on any planning application and I certainly do not agree with your proposal that the areas which have not been evaluated can be dealt with through a watching brief*.'

In accordance with the National Planning Policy Framework (NPPF), we would therefore recommend that, **prior to the determination** of this application the applicant should therefore be responsible for the implementation of an archaeological field evaluation. 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 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.

This evaluation must be undertaken in line with an agreed written scheme of investigation as set out in the CIfA standards and Guidance for Archaeological Field Evaluation (2014, para 3.1.11). We will need to produce a design brief which will set out the requirements for this evaluation.

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

Officer's Name: Richard Oram
Officer's Title: Planning Archaeologist
Date:11th January 2018

Application no: 17/02534/OUT
Location: Land North Of Bicester Avenue Garden Centre Oxford Road Bicester

Minerals & Waste

Recommendation:

No objection

Key issues:

This site is within 400m of a waste management facility safeguarded in the Oxfordshire Minerals and Waste Local Plan: Part 1 – Core Strategy (Bicester Sewage Treatment Works (STW)). Therefore, any potential effects of the proposed development that may directly or indirectly prevent or prejudice the operation of Bicester STW should be addressed.

Legal agreement required to secure:

N/A

Conditions:

N/A

Informatives:

N/A

Detailed comments:

Officer's Name: Elise Kinderman
Officer's Title: Principal Minerals and Waste Policy Officer
Date: 19th January 2018

Appendix C

Traffic Accident Data

Thames Valley Police
Chief Constable Francis Habgood QPM

Headquarters
Oxford Road
Kidlington
Oxfordshire
OX5 2NX

Ms K Lewis
motion
8 Duncannon Street,
LONDON
WC2N 4JF

Telephone: 101
Direct dial: 01865 542051
Email: publicaccess@thamesvalley.pnn.police.uk

Our ref: HQ/PA/001870/17
Your ref:

7 July 2017

Dear Ms Lewis

I write in response to the above-referenced Freedom of Information Act (FOIA) request submitted on 5 July 2017. Thames Valley Police has now considered this request, which for clarity, has been repeated below:

Request	**Response**
I am after the total number of slight, serious and fatal accidents over the most recent five year period to include causation factors. The area I require this for is as follows: Oxford Road between the Park & Ride/Vendee Drive roundabout and the Kings End/Middleton Stoney roundabout; A41 between the Esso Roundabout and Rodney House Roundabout; and, Lakeview Drive.	Slight – 40 Serious – 5 Fatal – 2 Please see the attached data sheet for causation factors. The causation factors listed are the initial opinion of attending officers. These may be disproven in following investigations.

Complaint Rights

If you are dissatisfied with the handling procedures or the decision made by Thames Valley Police, you can lodge a complaint with the force to have the decision reviewed within two months of the date of this response. Complaints should be made in writing to the FOI inbox; publicaccess@thamesvalley.pnn.police.uk.

If, after lodging a complaint with Thames Valley Police, you are still unhappy with the outcome, you may make application to the Information Commissioner at the Information Commissioner's Office, Wycliffe House, Water Lane, Wilmslow, Cheshire, SK9 5AF.

Thames Valley Police
Chief Constable Francis Habgood QPM

If you require any further assistance, please do not hesitate to contact this office.

Yours sincerely

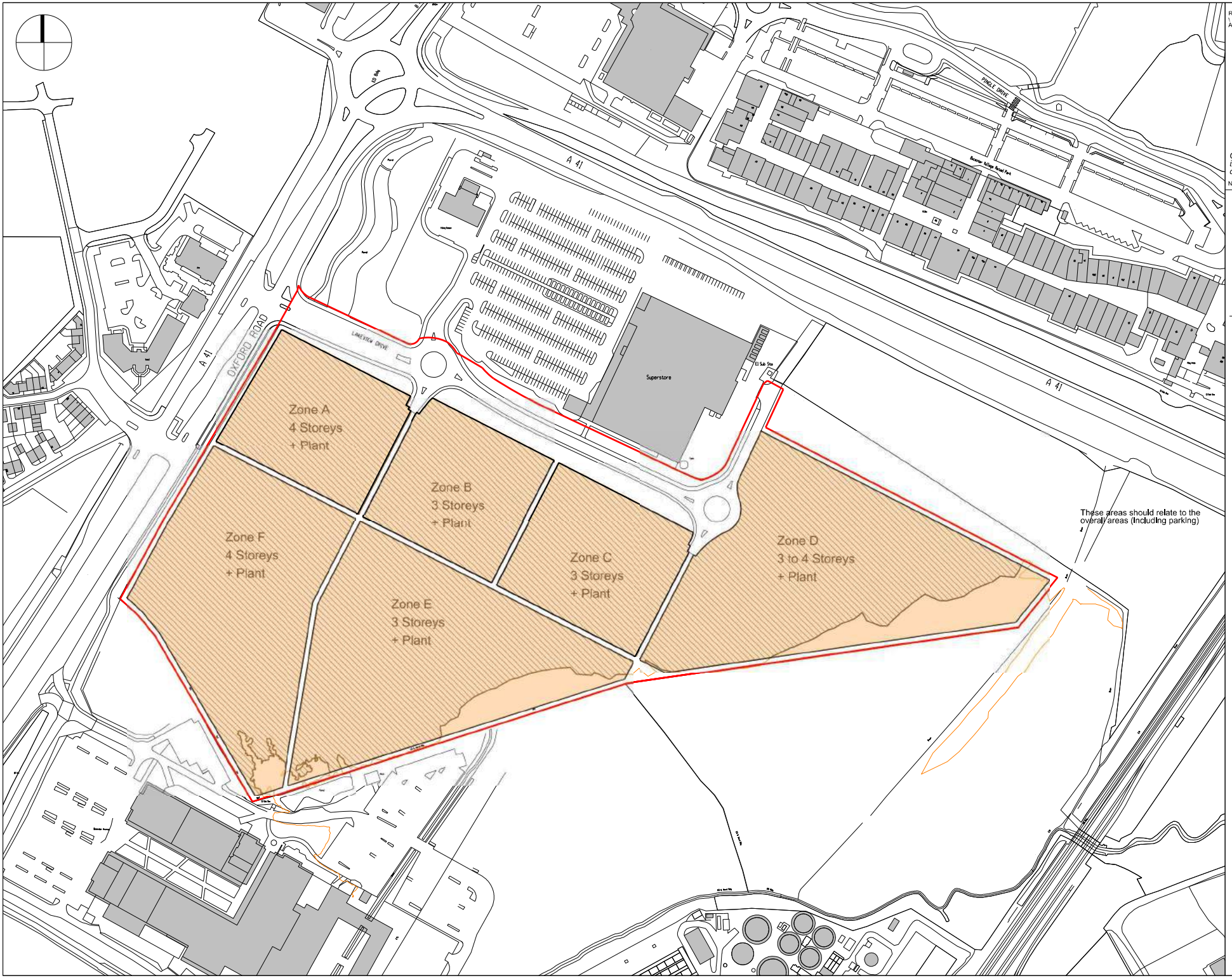
Darren Humphries
Public Access
Joint Information Management Unit


Whitelands
Fm
Hospl
PH
Cemy
A100
B
A41
51
66
esterton
Wks
Rodney
Ho
hesterton Lodge
Fm
65
57
58
LCs
Depot

Date	Severity	Number of casualties	location	CF1	CF2	CF3	CF4	CF5	CF6
16/07/2012	3. Slight	1	A41 BICESTER BYPASS J/W RBT AT J/W VENDEE DRIVE) CHESTERTON	405. Failed to look properly	509. Distraction in vehicle	. Not coded	. Not coded	. Not code	. Not coded
04/08/2012	3. Slight	2	A41 NBOUND AT RBT J/W VENDEE DRIVE AND LINK ROAD TO WENDLEBURY CHESTERTON	501. Impaired by alcohol	. Not coded	. Not coded	. Not coded	. Not code	. Not coded
04/12/2012	1. Fatal	1	A41 AT RODNEY HOUSE RBT J/W A4421 NEUNKIRCHEN WAY BICESTER	406. Failed to judge other persons path or speed	310. Cyclist entering road from pavement	. Not coded	. Not coded	. Not code	. Not coded
06/12/2012	2. Serious	1	A41 NBOUND APPROX 180M SW OF J/W A41 BICESTER BYPASS BICESTER	410. Loss of control	103. Slippery road (due to weather)	503. Fatigue	. Not coded	. Not code	. Not coded
05/01/2013	3. Slight	1	B4030 OXFORD ROAD MINI RBT J/W B4030 MIDDLETON STONEY ROAD BICESTER	405. Failed to look properly	406. Failed to judge other persons path or speed	. Not coded	. Not coded	. Not code	. Not coded
20/01/2013	2. Serious	3	A41 AT RBT J/W B4030 VENDEE DRIVE CHESTERTON	602. Careless/Reckless/In a hurry	707. Rain, sleet, snow, or fog	509. Distraction in vehicle	306. Exceeding spe	. Not code	. Not coded
03/02/2013	3. Slight	2	A41 NBOUND CWAY APPROX 40M SW OF RBT J/W VENDEE DRIVE CHESTERTON	405. Failed to look properly	509. Distraction in vehicle	602. Careless/Reckless/In a hurry	306. Exceeding spe	. Not code	. Not coded
02/03/2013	3. Slight	1	A41 OXFORD ROAD AT J/W PIONEER WAY (NEW SIGNALLED JUNCTION FOR PREMIER INN ETC) BICESTER	406. Failed to judge other persons path or speed	602. Careless/Reckless/In a hurry	405. Failed to look properly	308. Following too	. Not code	. Not coded
21/03/2013	3. Slight	2	A41 BICESTER BYPASS APPROX 1KM NW OF J/W B4100 LONDON RD BICESTER	307. Travelling too fast for conditions	406. Failed to judge other persons path or speed	. Not coded	. Not coded	. Not code	. Not coded
21/03/2013	3. Slight	1	A41 NBOUND J/W VENDEE DRIVE CHESTERTON	306. Exceeding speed limit	408. Sudden braking	401. Junction overshoot	. Not coded	. Not code	. Not coded
01/06/2013	2. Serious	1	A41 RODNEY HOUSE RBT J/W GRAVEN HILL RD & A4421 SEELSCHEID WAY AMBROSDEN	505. Illness or disability, mental or physical	. Not coded	. Not coded	. Not coded	. Not code	. Not coded
03/07/2013	3. Slight	1	A41 SBOUND AT RBT J/W VENDEE DRIVE CHESTERTON	405. Failed to look properly	308. Following too close	. Not coded	. Not coded	. Not code	. Not coded
10/08/2013	3. Slight	2	A41 OXFORD ROAD AT J/W PIONEER WAY (NEW SIGNALLED JUNCTION FOR PREMIER INN ETC) BICESTER	405. Failed to look properly	406. Failed to judge other persons path or speed	308. Following too close	. Not coded	. Not code	. Not coded
18/09/2013	3. Slight	1	A41 BICESTER BYPASS RBT AT J/W VENDEE DRIVE CHESTERTON	406. Failed to judge other persons path or speed	. Not coded	. Not coded	. Not coded	. Not code	. Not coded
21/10/2013	3. Slight	1	A41 BICESTER BYPASS APPROX 380M NW OF RBT J/W A4421 / B4100 BICESTER	103. Slippery road (due to weather)	405. Failed to look properly	406. Failed to judge other persons path or speed	308. Following too	. Not code	. Not coded
22/10/2013	3. Slight	1	KINGS END AT J/W LANE TO SPORTS CLUB JUST N OF MINI RBT J/W B4030 MIDDLETON STONEY ROAD BICESTER	405. Failed to look properly	406. Failed to judge other persons path or speed	402. Junction restart	509. Distraction in	. Not code	. Not coded
29/10/2013	3. Slight	4	A41 BICESTER BYPASS APPROX 150M W OF J/W A4421 / B4100 RODNEY HOUSE RBT BICESTER	308. Following too close	308. Following too close	406. Failed to judge other persons path or speed	406. Failed to judge	. Not code	. Not coded
17/01/2014	3. Slight	2	OXFORD RD APPROX 45M S OF MINI RBT J/W B4030 MIDDLETON STONEY RD BICESTER	999. Other	. Not coded	. Not coded	. Not coded	. Not code	. Not coded
24/01/2014	3. Slight	1	A41 OXFORD ROAD J/W PIONEER WAY BICESTER	308. Following too close	406. Failed to judge other persons path or speed	707. Rain, sleet, snow, or fog	103. Slippery road (	607. Inexpe	408. Sudden braking
05/03/2014	3. Slight	1	A41 BICESTER BYPASS APPROX 400M SE OF RBT J/W A41 OXFORD ROAD BICESTER	308. Following too close	408. Sudden braking	602. Careless/Reckless/In a hurry	406. Failed to judge	. Not code	. Not coded
15/03/2014	3. Slight	1	A41 OXFORD ROAD RBT J/W B4030 VENDEE DRIVE CHESTERTON	902. Vehicle in course of crime	. Not coded	. Not coded	. Not coded	. Not code	. Not coded
25/03/2014	3. Slight	1	A41 AT RODNEY HOUSE RBT J/W B4100 & A4421 BICESTER	407. Too close to cyclist, horse or pedestrian	. Not coded	. Not coded	. Not coded	. Not code	. Not coded
11/05/2014	3. Slight	2	A41 RBT AT J/W VENDEE DRIVE CHESTERTON	501. Impaired by alcohol	410. Loss of control	408. Sudden braking	. Not coded	. Not code	. Not coded
19/05/2014	3. Slight	3	A41 SBOUND AT RBT J/WB4030 VENDEE DRIVE CHESTERTON	408. Sudden braking	406. Failed to judge other persons path or speed	405. Failed to look properly	. Not coded	. Not code	. Not coded
31/07/2014	3. Slight	2	A41 BICESTER BYPASS APPROX 200M E OF J/W A41 / B4030 RBT BICESTER	405. Failed to look properly	. Not coded	. Not coded	. Not coded	. Not code	. Not coded
02/10/2014	3. Slight	2	A41 BICESTER BYPASS APPROX 450M SE OF RBT J/W A41 TO M40 / B4030 OXFORD ROAD JUST EAST OF RAIL BRIDGE BICESTER	405. Failed to look properly	406. Failed to judge other persons path or speed	308. Following too close	. Not coded	. Not code	. Not coded
25/10/2014	3. Slight	1	A41 BICESTER BYPASS RBT J/W OXFORD RD BICESTER	606. Inexperience of driving on the left	403. Poor turn or manoeuvre	. Not coded	. Not coded	. Not code	. Not coded
28/10/2014	3. Slight	1	A41 OXFORD ROAD AT J/W PIONEER WAY (NEW SIGNALLED JUNCTION FOR PREMIER INN ETC) BICESTER	109. Animal or object in carriageway	306. Exceeding speed limit	409. Swerved	503. Fatigue	. Not code	. Not coded
02/11/2014	3. Slight	1	A41 NBOUND RBT J/W OXFORD RD & A41 BICESTER BYPASS BICESTER	405. Failed to look properly	406. Failed to judge other persons path or speed	308. Following too close	. Not coded	. Not code	. Not coded
19/11/2014	3. Slight	1	B4100 LONDON ROAD RBT J/W A41 RODNEY HOUSE BICESTER	407. Too close to cyclist, horse or pedestrian	602. Careless/Reckless/In a hurry	. Not coded	. Not coded	. Not code	. Not coded
23/01/2015	3. Slight	1	A41 AT RODNEY HOUSE RBT J/W B4100 & A4421 BICESTER	405. Failed to look properly	. Not coded	. Not coded	. Not coded	. Not code	. Not coded
11/07/2015	3. Slight	1	A41 NBOUND RBT J/W B4030 VENDEE DRIVE & WENDLEBURY ROAD BICESTER	501. Impaired by alcohol	. Not coded	. Not coded	. Not coded	. Not code	. Not coded
26/09/2015	3. Slight	1	A41 BICESTER BYPASS APPROX 450M SE OF RBT J/W A41 TO M40 / B4030 OXFORD ROADBICESTER	405. Failed to look properly	406. Failed to judge other persons path or speed	308. Following too close	602. Careless/Reck	509. Distra	306. Exceeding speed limit
24/02/2016	3. Slight	3	B4100 LONDON ROAD APPROX 80M N OF A41 RODNEY HOUSE RBT BICESTER	505. Illness or disability, mental or physical	410. Loss of control	. Not coded	. Not coded	. Not code	. Not coded
02/03/2016	2. Serious	1	A41 BICESTER BYPASS AT TOUCAN CROSSING APPROX 70M E OF J/W A41 / B4030 RBT BICESTER	203. Defective brakes	202. Defective lights or indicators	405. Failed to look properly	406. Failed to judge	506. Not d	310. Cyclist entering road from pa
08/03/2016	3. Slight	1	A41 BICESTER BYPASS APPROX 340M SE OF RBT J/W A41 OXFORD ROAD BICESTER	508. Driver using mobile phone	. Not coded	. Not coded	. Not coded	. Not code	. Not coded
16/05/2016	2. Serious	1	A41 RBT AT J/W B4030 VENDEE DRIVE CHESTERTON	602. Careless/Reckless/In a hurry	503. Fatigue	. Not coded	. Not coded	. Not code	. Not coded
02/06/2016	1. Fatal	1	A41 BICESTER BYPASS APPROX 250M SE OF J/W A41 / B4030 RBT BICESTER	503. Fatigue	509. Distraction in vehicle	405. Failed to look properly	. Not coded	. Not code	. Not coded
15/06/2016	3. Slight	3	A41 BICESTER BYPASS APPROX 400M NW OF RBT J/W A4421 / B4100 BICESTER	405. Failed to look properly	406. Failed to judge other persons path or speed	509. Distraction in vehicle	. Not coded	. Not code	. Not coded
02/07/2016	3. Slight	2	A41 BICESTER BYPASS APPROX 380M NW OF RBT J/W A4421 / B4100 BICESTER	405. Failed to look properly	403. Poor turn or manoeuvre	710. Vehicle blind spot	. Not coded	. Not code	. Not coded
17/07/2016	3. Slight	1	A41 RBT AT J/W VENDEE DRIVE CHESTERTON	403. Poor turn or manoeuvre	410. Loss of control	. Not coded	. Not coded	. Not code	. Not coded
04/09/2016	3. Slight	1	A41 BICESTER BYPASS RBT J/W OXFORD ROAD BICESTER	302. Disobeyed Give Way or Stop sign or markings	601. Aggressive driving	602. Careless/Reckless/In a hurry	. Not coded	. Not code	. Not coded
20/11/2016	3. Slight	2	A41 J/W LAKEVIEW DRIVE (TESCO STORE) BICESTER	301. Disobeyed automatic traffic signal	406. Failed to judge other persons path or speed	403. Poor turn or manoeuvre	. Not coded	. Not code	. Not coded
05/01/2017	3. Slight	2	A41 BICESTER BYPASS BY LAYBY APPROX 200M SE OF RBT J/W A41 OXFORD ROAD BICESTER	405. Failed to look properly	403. Poor turn or manoeuvre	. Not coded	. Not coded	. Not code	. Not coded
17/01/2017	3. Slight	1	A41 BICESTER BYPASS RBT J/W A41 OXFORD ROAD BICESTER	302. Disobeyed Give Way or Stop sign or markings	405. Failed to look properly	406. Failed to judge other persons path or speed	408. Sudden brakin	602. Carele	. Not coded
26/01/2017	3. Slight	1	A41 BICESTER BYPASS BY LAYBY APPROX 200M SE OF RBT J/W A41 OXFORD ROAD BICESTER	405. Failed to look properly	403. Poor turn or manoeuvre	603. Nervous/Uncertain/Panic	308. Following too	. Not code	. Not coded
24/02/2017	3. Slight	1	A41 RBT J/W B4030 VENDEE DRIVE CHESTERTON	502. Impaired by drugs (illicit or medicinal)	602. Careless/Reckless/In a hurry	. Not coded	. Not coded	. Not code	. Not coded

Appendix D

Parameters Plan



Revisions

		By	Chk
I	170809 Issued for Comment	TP	DW
A	170814 Development Zones Amended	DW	LS

Contains Environment Agency information ©Environment Agency and/or database rights.

Notes

Key

- Development Zone
- Zone in which B1 class buildings can be built
- Site Application Area
- 1 in 100 year flood + 35%

Area Summary (GEA)

Zone A		
	Development Area	10,875
	Building Area	10,875
	Maximum floor area	5,460
Zone B		
	Development Area	10,745
	Building Area	10,745
	Maximum floor area	7,740
Zone C		
	Development Area	11,650
	Building Area	11,650
	Maximum floor area	7,740
Zone D		
	Development Area	27,730
	Building Area	23,655
	Maximum floor area	14,390
Zone E		
	Development Area	25,000
	Building Area	22,270
	Maximum floor area	11,610
Zone F		
	Development Area	22,470
	Building Area	21,800
	Maximum floor area	13,060

Total

Site Area	13.1 Ha
Development Area	108,470 sq.m
Building Area	111,995 sq.m
Maximum Floor Area	60,000 sq.m

Please Note
The areas included here are for guidance only and should be re-measured by a Chartered Surveyor prior to any valuation or feasibility exercise.

Bennetts Associates Architects

1 Rawstorne Place London EC1V 7NL
T +44 (0)20 7520 3300 F +44 (0)20 7520 3333
E mail@bennettsassociates.com

For Bennetts Associates' electronic information issue disclaimer - www.bennettsassociates.com/information/disclaimer/

Project No. 1105

Project

Bicester Business Park

Scenic Land Developments and Peverll Securities Ltd

Drawing Title

Parameters Plan

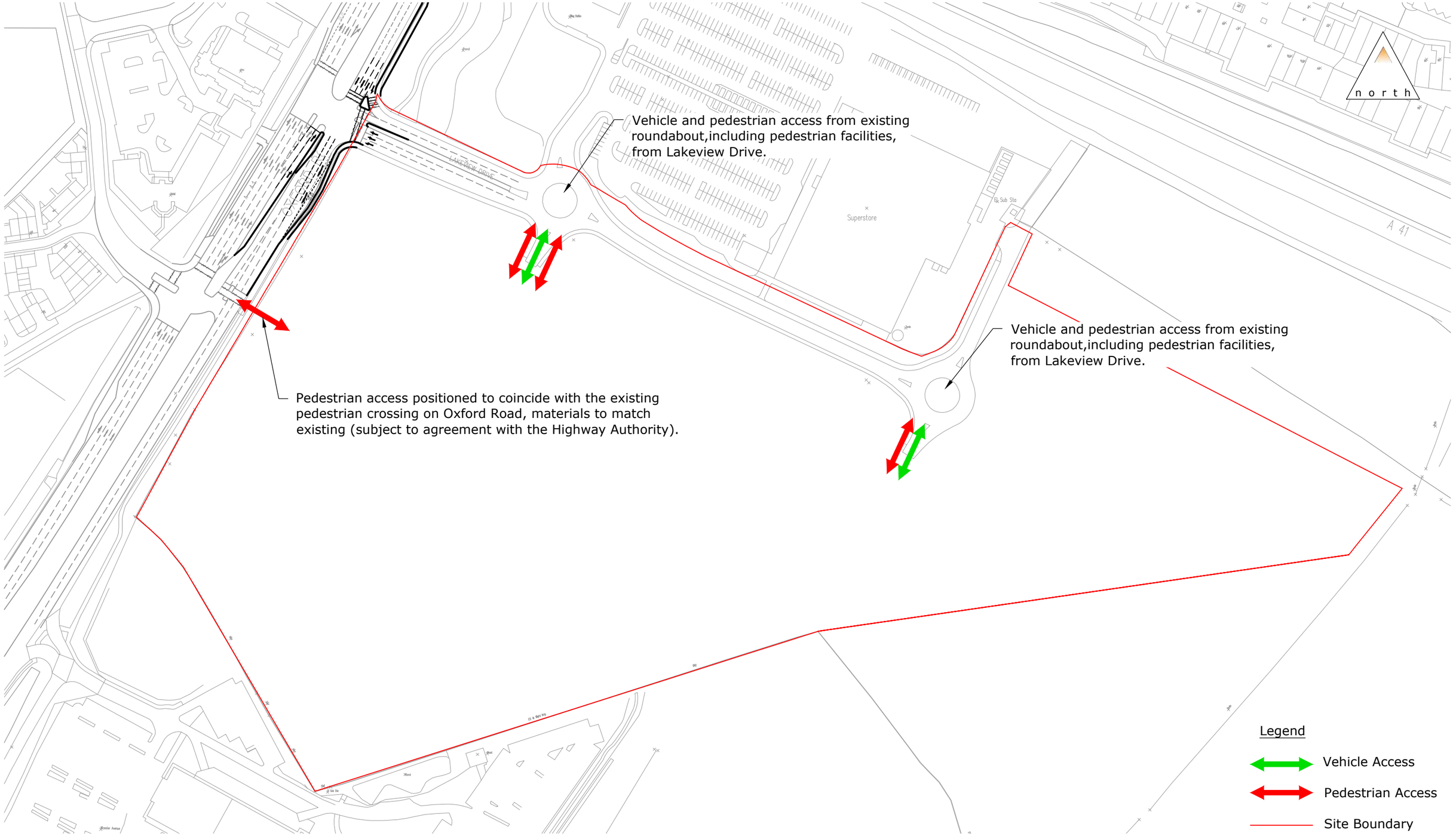
Drawing Number	Revision
1105_P_005	A

Scale @ A3	Scale @A1	Revision Date
1 : 2500	1 : 1250	170814

YY MM DD

Appendix E

Highways Access Plan



N:\Projects\mbic2 170211\Drawings\170211-06.dwg

motion

84 North Street
Guildford
Surrey
GU1 4AU

T: 01483 531 300

Golden Cross House
8 Duncannon Street
London
WC2N 4JF

T: 020 7031 8141

www.motion.co.uk

Project:
Bicester Office Park

Title:
Highway Access Plan

Scale: 1:2000 (@ A3)

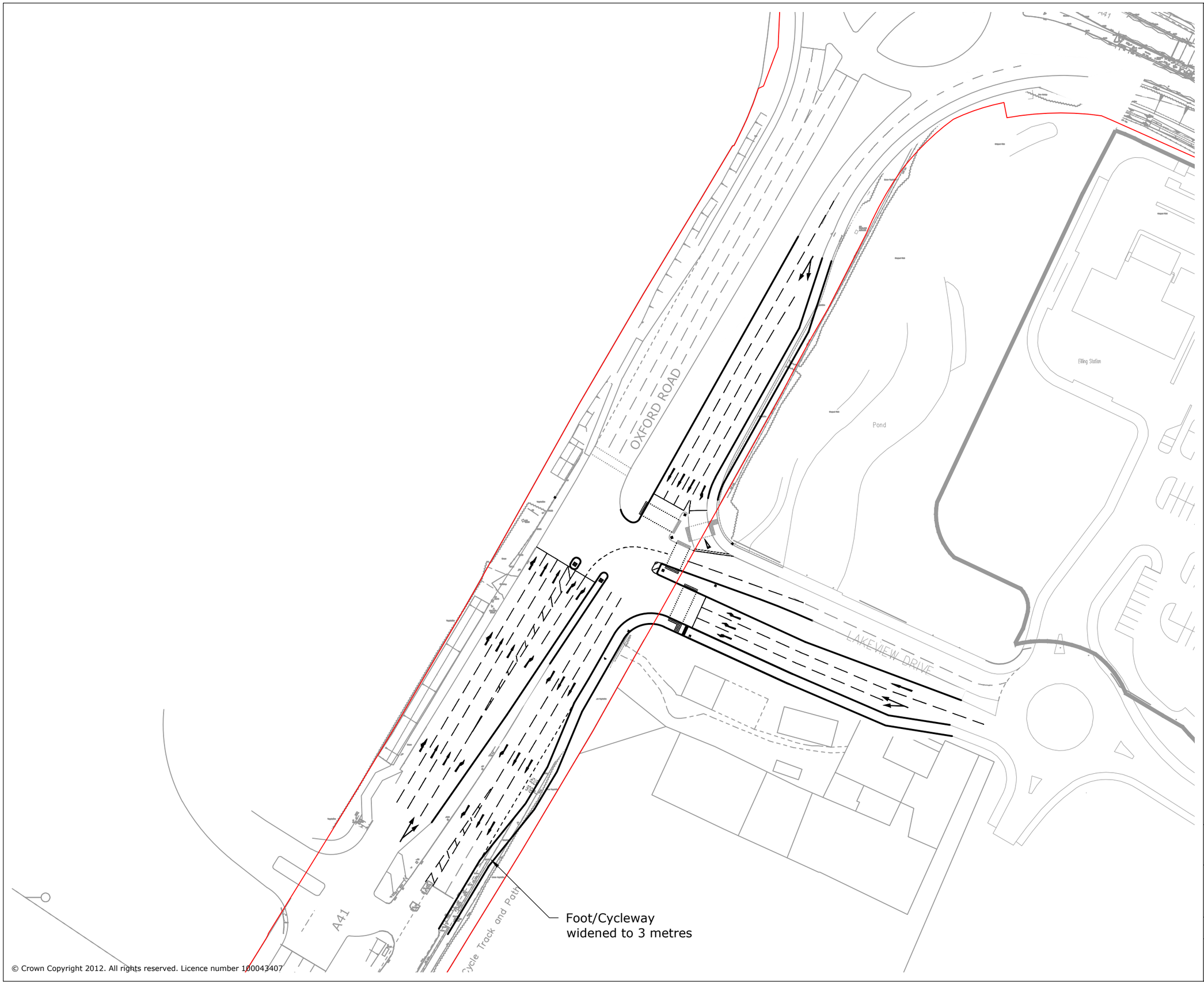
Notes:

Drawing:
170211-06

Revision:
-

Appendix F

Proposed Junction Mitigation



north

Legend

Highway Boundary

motion

84 North Street
Guildford
Surrey
GU1 4AU

T: 01483 531 300

Golden Cross House
8 Duncannon Street
London
WC2N 4JF

T: 020 7031 8141

www.motion.co.uk

Project:
Bicester Office Park

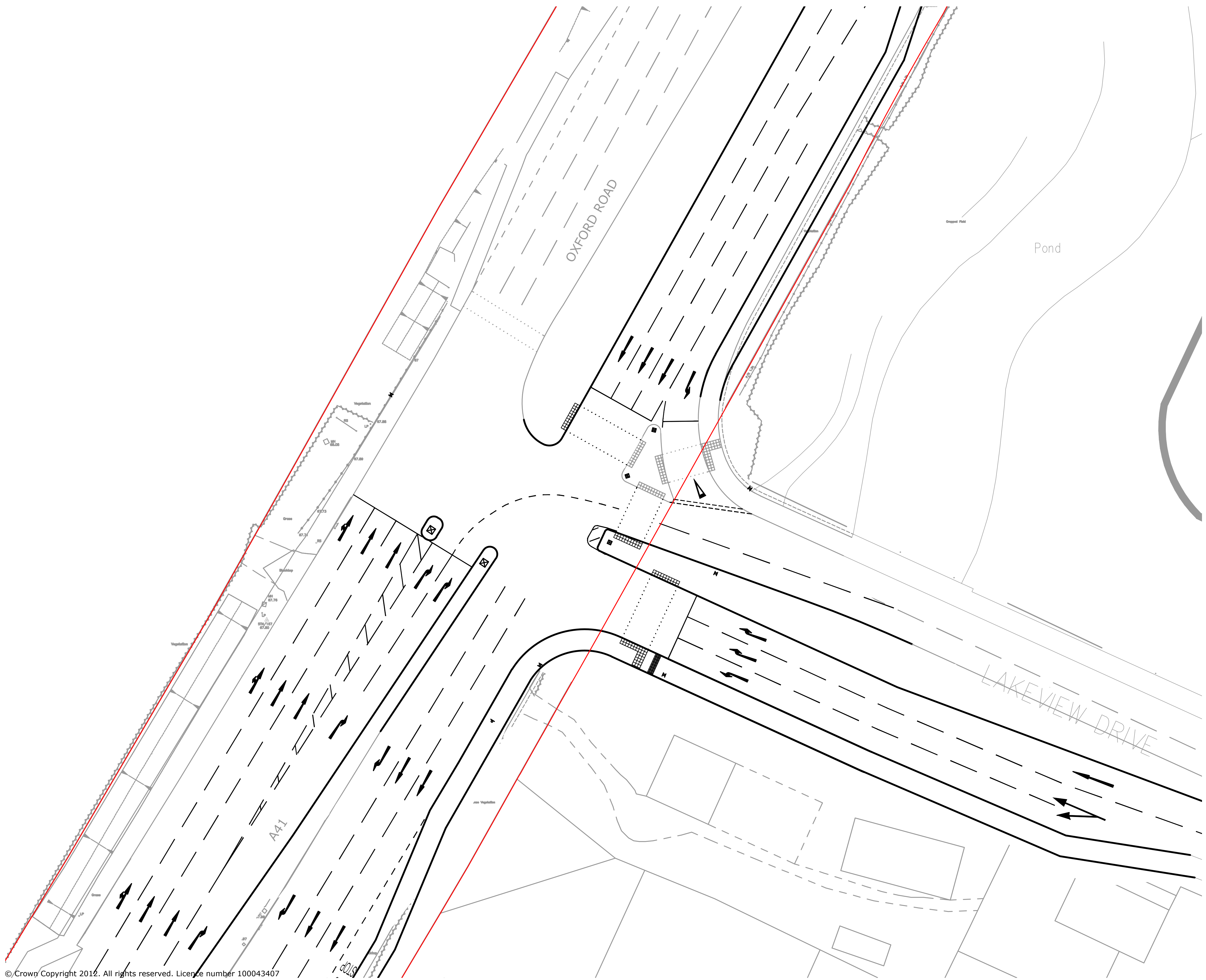
Title:
Proposed Highway Arrangement

Scale: 1:1000 (@ A3)

Drawing: 170211-07

Revision: A

N:\Projects\lmbic2 170211\Drawings\170211-07A.dwg



N:\Projects\mbic2 170211\Drawings\170211-08.dwg

north

Legend

Highway Boundary

motion

84 North Street
Guildford
Surrey
GU1 4AU

T: 01483 531 300

Golden Cross House
8 Duncannon Street
London
WC2N 4JF

T: 020 7031 8141

www.motion.co.uk

Project:
Bicester Office Park

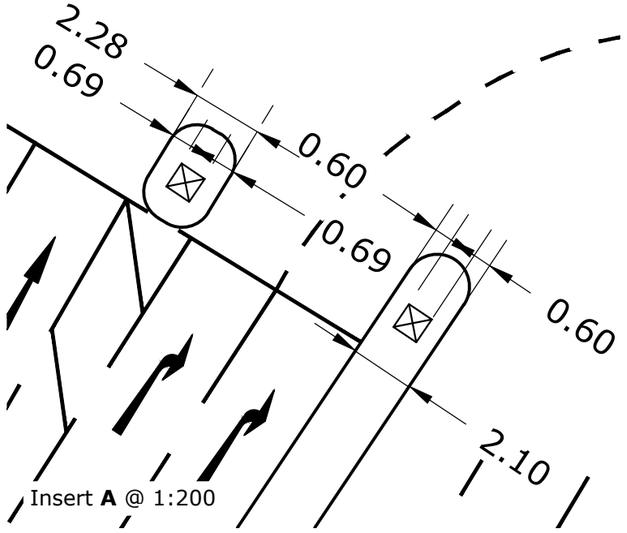
Title:
Proposed Highway Arrangement

Scale: 1:500 (@ A3)

Drawing: 170211-08

Revision: -

(Signal head assumed 900mm wide)



Insert **A** @ 1:200

N:\Projects\Imbic2 170211\Drawings\170211-09.dwg

north

Legend

Highway Boundary

motion

84 North Street
Guildford
Surrey
GU1 4AU

T: 01483 531 300

Golden Cross House
8 Duncannon Street
London
WC2N 4JF

T: 020 7031 8141

www.motion.co.uk

Project:
Bicester Office Park

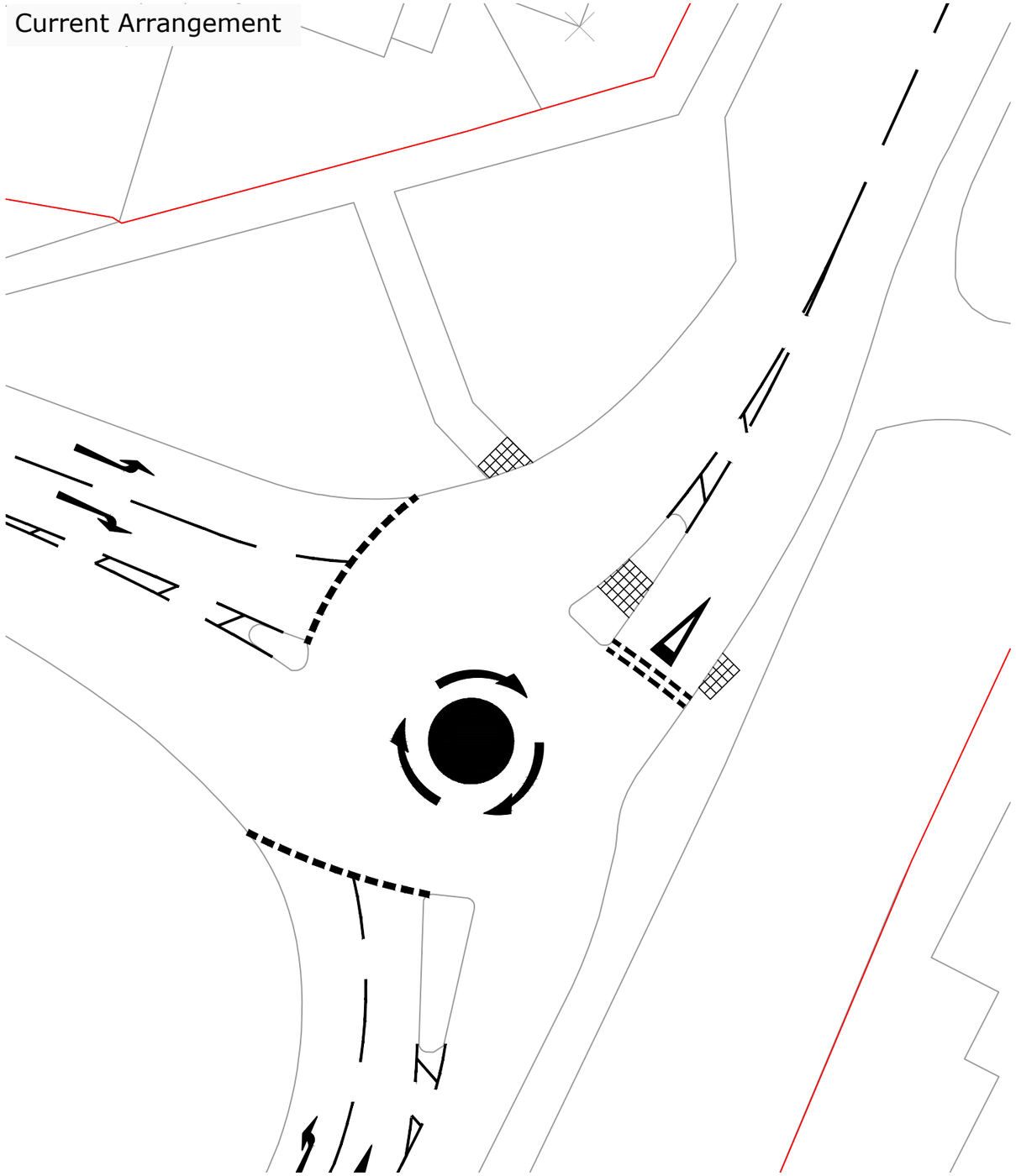
Title:
Island Dimensions

Scale: 1:500 (@ A3)

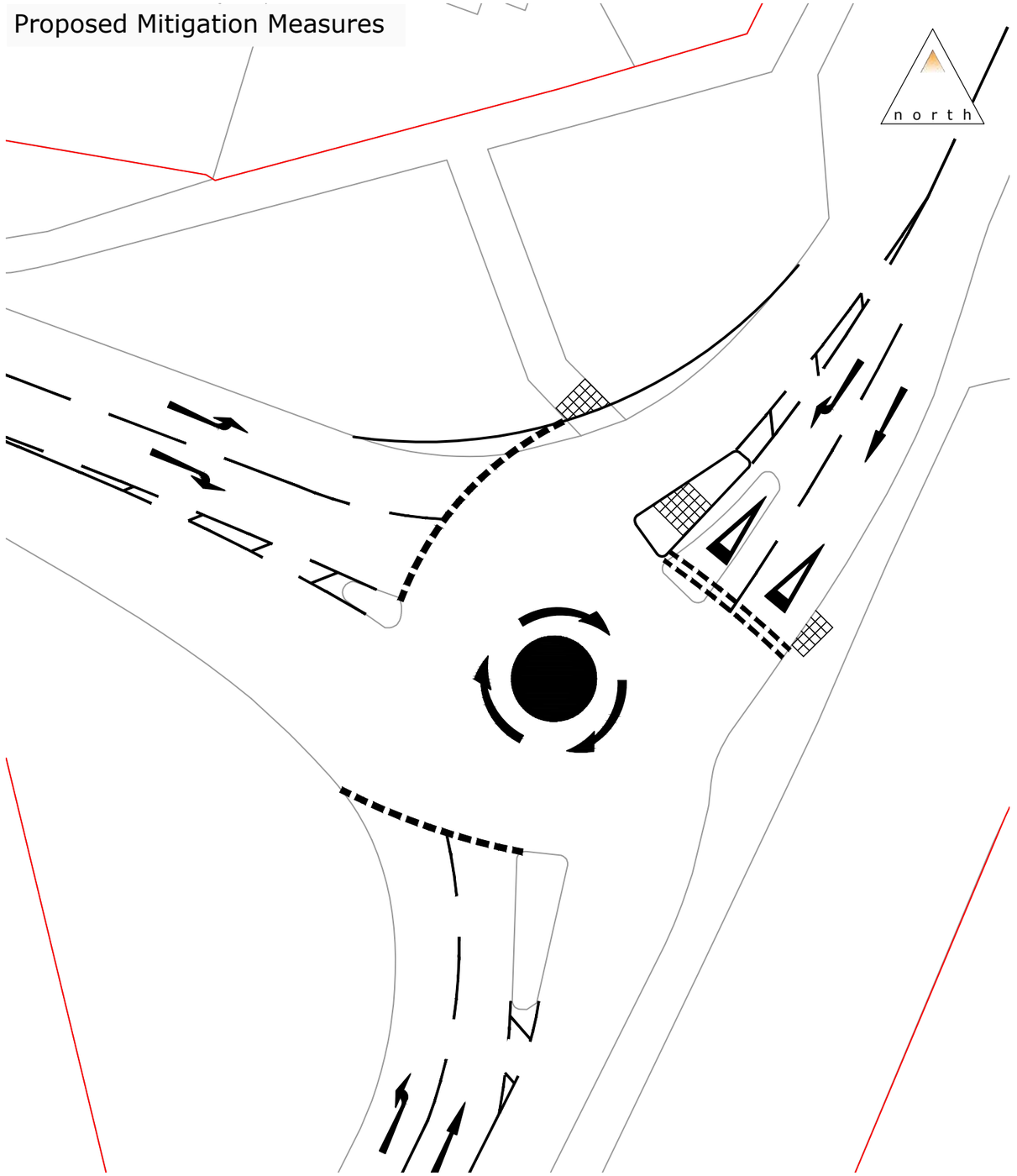
Drawing: 170211-09

Revision: -

Current Arrangement



Proposed Mitigation Measures



Legend:

Highway Boundary

motion

84 North Street
Guildford
Surrey
GU1 4AU

T: 01483 531 300

Golden Cross House
8 Duncannon Street
London
WC2N 4JF

T: 020 7031 8141

www.motion.co.uk

Project:
Bicester Office Park

Title:
Oxford Road/Middleton Stoney Mini Roundabout
Mitigation Scheme

Scale: 1:250 (@ A3)

Notes:

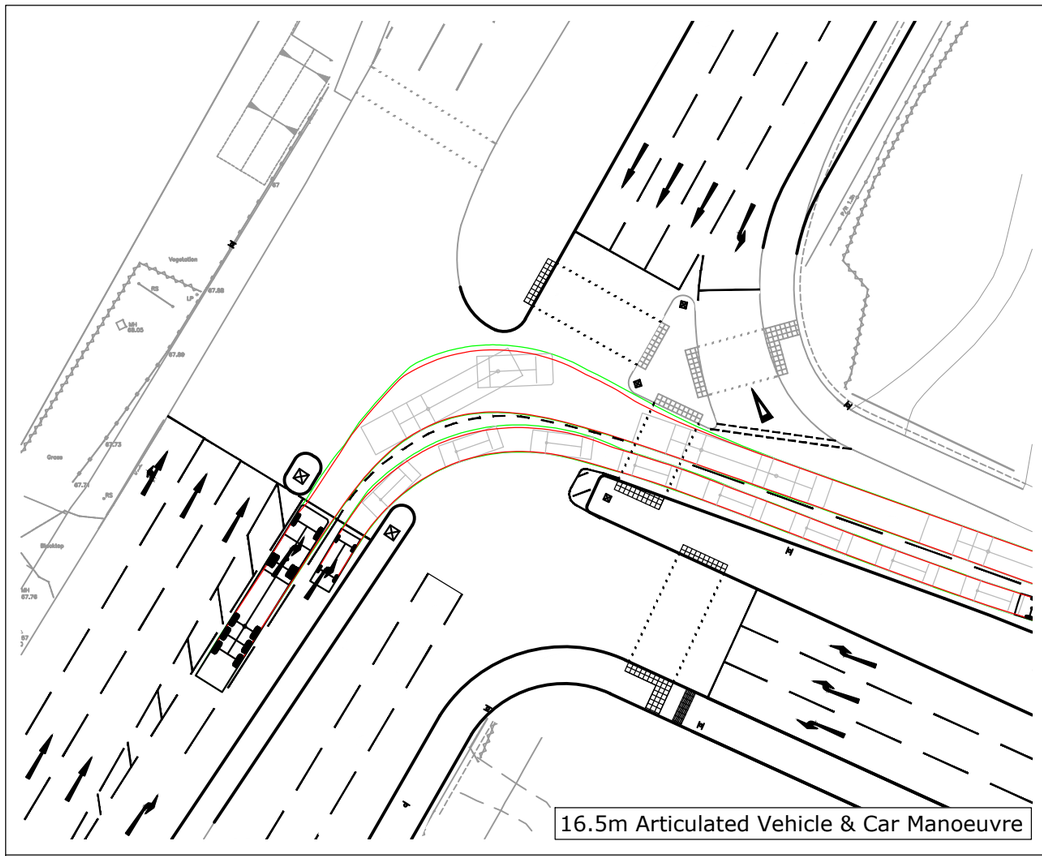
Drawing:
170211-04

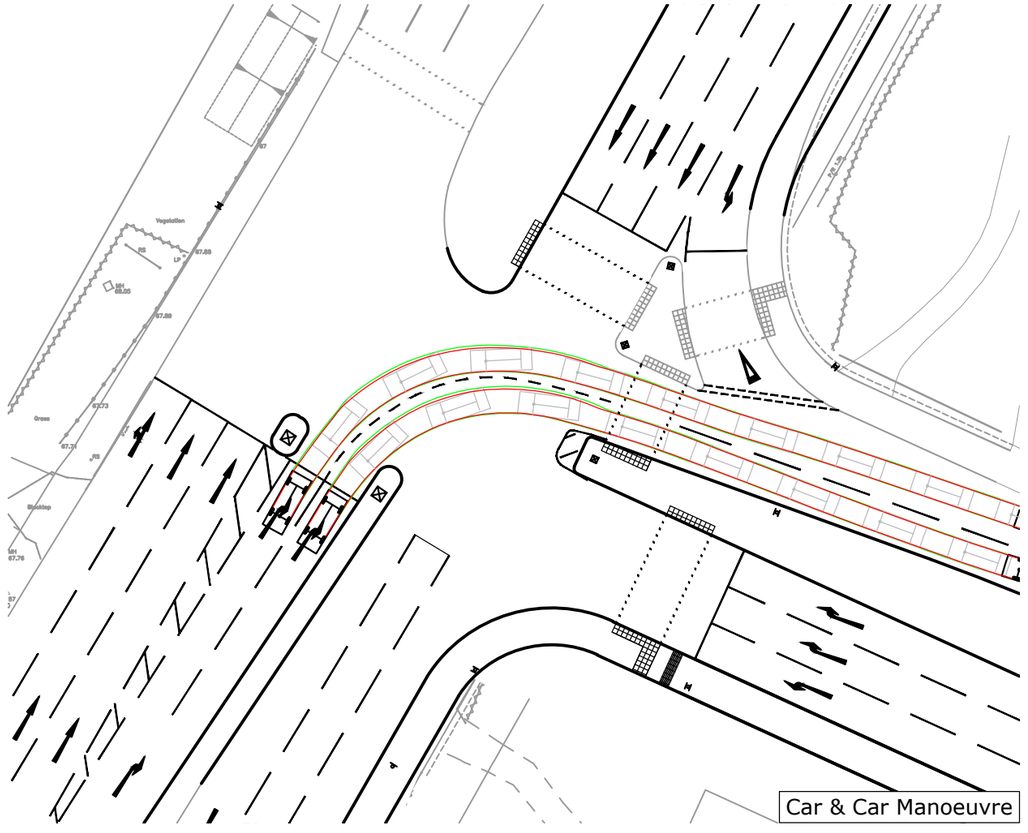
Revision:
-

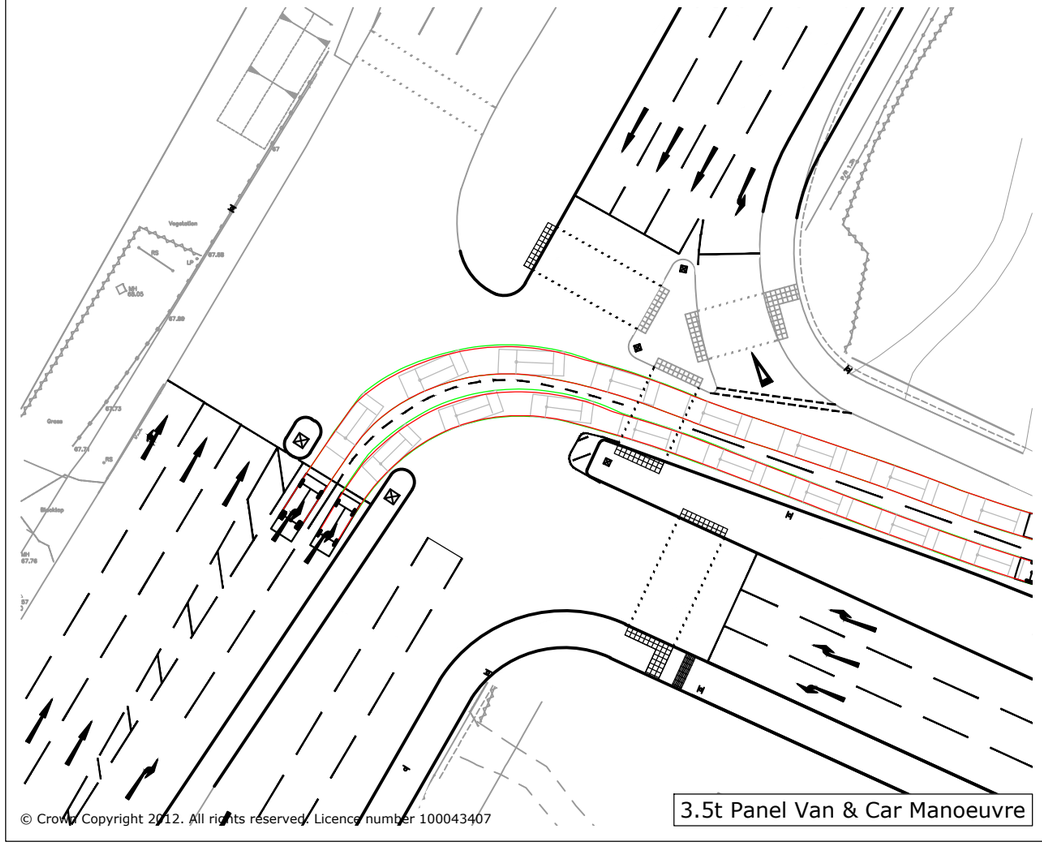
N:\Projects\lmbic2 170211\Drawings\170211-04.dwg

Appendix G

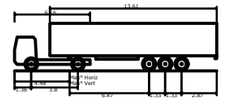
Swept Path Analysis







N



FTA Design Articulated Vehicle (1998)

Overall Length	16.480m
Overall Width	2.550m
Overall Body Height	3.870m
Min Body Ground Clearance	0.515m
Max Track Width	2.470m
Lock-to-lock time	3.00s
Curb to Curb Turning Radius	6.550m

3.5t Panel Van

Overall Length	5.350m
Overall Width	1.970m
Overall Body Height	2.562m
Min Body Ground Clearance	0.335m
Track Width	1.970m
Lock-to-lock time	4.80s
Curb to Curb Turning Radius	5.850m

Large Car

Overall Length	4.988m
Overall Width	1.793m
Overall Body Height	1.502m
Min Body Ground Clearance	0.287m
Track Width	1.700m
Lock-to-lock time	4.00s
Curb to Curb Turning Radius	6.200m

motion

84 North Street
Guildford
Surrey
GU1 4AU

T: 01483 531 300

Golden Cross House
8 Duncannon Street
London
WC2N 4JF

T: 020 7031 8141

www.motion.co.uk

Project:
Bicester Office Park

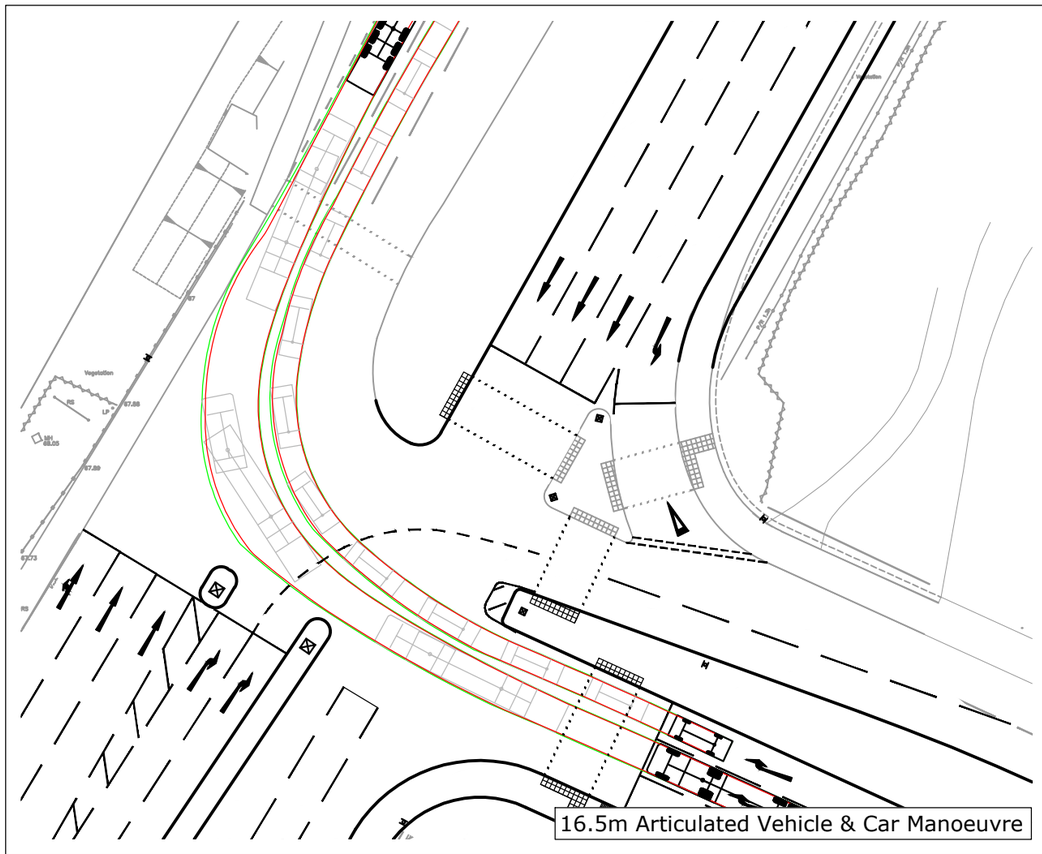
Title:
Swept Path Analysis
Right Turn Lane - Access

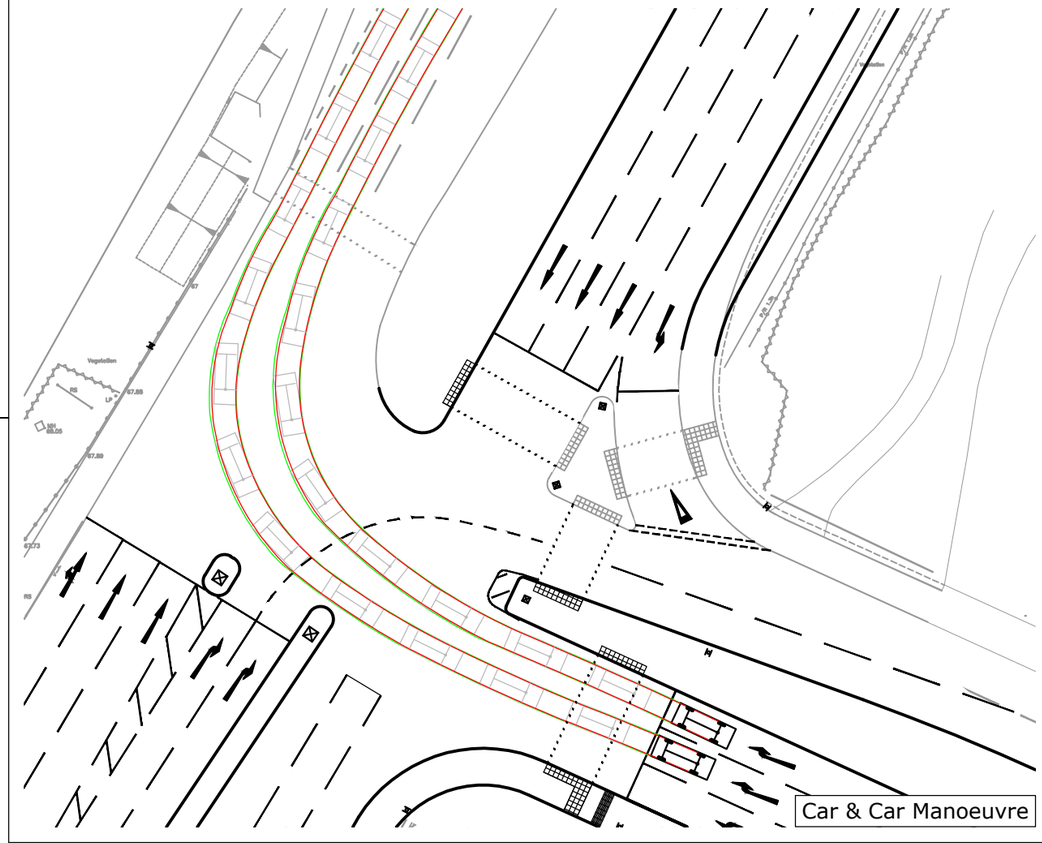
Scale: 1:500 (@ A3)

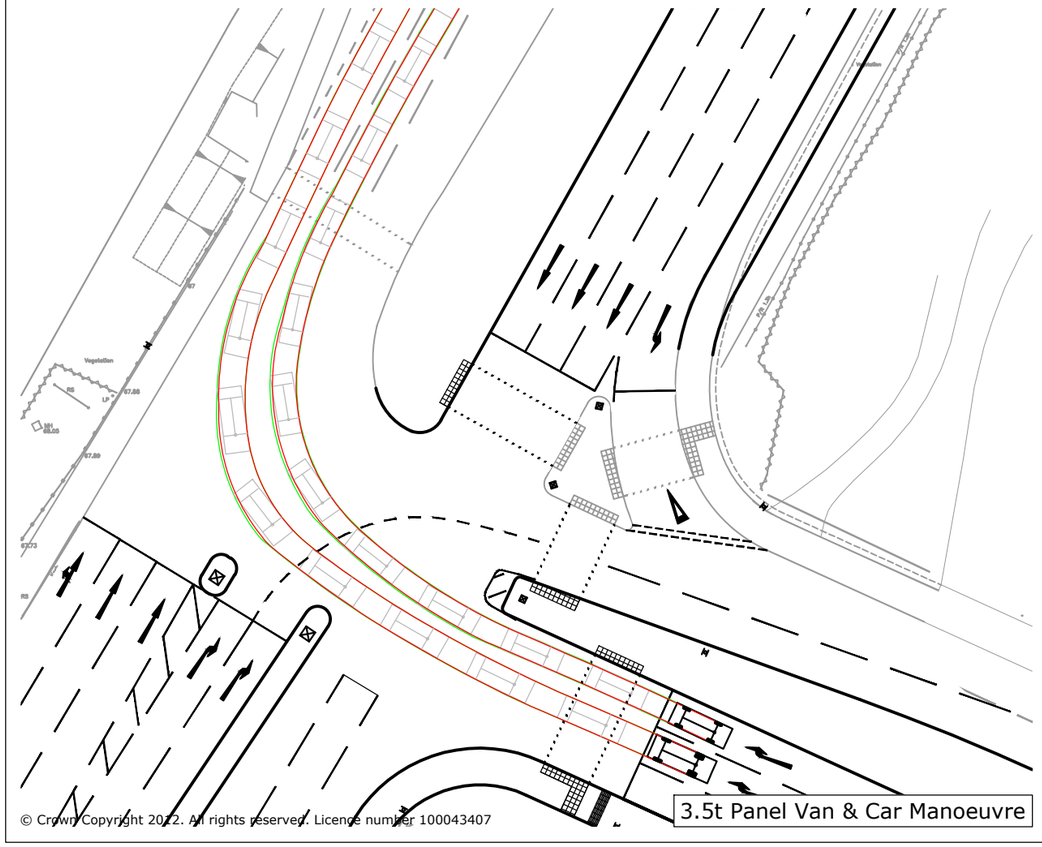
Drawing: 170211-TK02

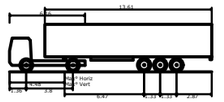
Revision: -

N:\Projects\lmbic2 170211\Drawings\170211-TK02, TK03.dwg









FTA Design Articulated Vehicle (1998)

Overall Length	16.480m
Overall Width	2.550m
Overall Body Height	3.870m
Min Body Ground Clearance	0.515m
Max Track Width	2.470m
Lock-to-lock time	3.00s
Curb to Curb Turning Radius	6.550m

3.5t Panel Van

Overall Length	5.350m
Overall Width	1.970m
Overall Body Height	2.562m
Min Body Ground Clearance	0.335m
Track Width	1.970m
Lock-to-lock time	4.80s
Curb to Curb Turning Radius	5.850m

Large Car

Overall Length	4.988m
Overall Width	1.793m
Overall Body Height	1.502m
Min Body Ground Clearance	0.287m
Track Width	1.700m
Lock-to-lock time	4.00s
Curb to Curb Turning Radius	6.200m

motion

84 North Street
Guildford
Surrey
GU1 4AU

T: 01483 531 300

Golden Cross House
8 Duncannon Street
London
WC2N 4JF

T: 020 7031 8141

www.motion.co.uk

Project:
Bicester Office Park

Title:
Swept Path Analysis
Right Turn Lane - Egress

Scale: 1:500 (@ A3)

Drawing: 170211-TK03

Revision: -

N:\Projects\lmbic2 170211\Drawings\170211-TK02, TK03.dwg

Appendix H

Stage 1 Road Safety Audit

BICESTER OFFICE PARK

A41/ Lakeview Drive, Proposed Highway Arrangement

Stage 1 Road Safety Audit
Requested by Motion

March 2018

Gateway TSP

Road Safety Engineering

Project:	Bicester Office Park A41/ Lakeview Drive, Proposed Highway Arrangement
Client:	Motion
Document:	Stage 1 Road Safety Audit
Gateway TSP ref:	WP/SG/170211 RSA1 v1.1
Issue date:	4th April 2018
Status:	Final v1.1
Authorised by:	WP

Road Safety Engineering

84 North Street
Guildford
Surrey
GU1 4AU
01483 679350
admin@gateway-tsp.co.uk
www.gateway-tsp.co.uk

Gateway TSP is part of Motion Consultants Limited, registered in England Number 05185065
Registered Office: 84 North Street, Guildford GU1 4AU

CONTENTS

1 Introduction....1
2 Items Considered by this Road Safety Audit....3
3 Collision Data....4
4 Previous Road Safety Audit....5
5 Problems Identified by this Road Safety Audit....6
6 Audit Team Statement....7

Appendices

Appendix A: Location Plan(s)
Appendix B: Designer's Response

1 INTRODUCTION

1.1 This report describes a Stage 1 Road Safety Audit (RSA) of proposed junction amendments at A41 junction with Lakeview Drive, Bicester.

1.2 The highway works considered by this Audit comprise kerb realignments and amendments to the existing signalised junction to provide additional traffic lanes on the A41 approaches to the junction, also providing an additional right turn lane into Lakeview Drive by reducing the width of the central median.

1.3 A41 Oxford Road is a dual carriageway with two lanes in each direction and a 40mph posted speed limit with double yellow lines throughout. The carriageway is lit and there are shared use pedestrian/ cycle facilities on all arms. Lakeview Drive has a three lane approach to the junction, one left turn and two right turn, and a two lane exit from the junction, with a 30mph posted speed limit.

1.4 It is understood that there are other planned improvement works consented as part of another development but not yet implemented. This will increase the number of traffic lanes on A41, which is replicated in these proposals.

1.5 This Road Safety Audit was carried out by Wendy Palmer and Steve Giles and consisted of a desktop study and a site visit, which was carried out on Thursday 29th March 2018, when the weather was raining and the road surface damp. Traffic flows were as expected for the time of day.

1.6 The terms of reference for this RSA are as described in the Design Manual for Roads and Bridges (DMRB) document HD19/15. 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.

2 ITEMS CONSIDERED BY THIS ROAD SAFETY AUDIT

Document ref.	Rev.	Originator	Title
170211-TK02	-	Motion	Swept Path Analysis Right Turn Lane Access
170211-TK03	-	Motion	Swept Path Analysis Right Turn Lane Egress
170211-07	A	Motion	Proposed Highway Arrangement
170211-08	-	Motion	Proposed Highway Arrangement
170211-09	-	Motion	Island Dimensions

Additional/background information provided to the Audit Team

- None

3 COLLISION DATA

3.1 Personal Injury Collision (PIC) information was requested from *Crashmap* (www.crashmap.co.uk) which indicated that there have been no PICs at the junction during the latest five year period.

4 PREVIOUS ROAD SAFETY AUDIT

4.1 The Audit Team is unaware of any previous road safety audits on these proposals.

5 PROBLEMS IDENTIFIED BY THIS ROAD SAFETY AUDIT

General Matters

5.1 The Audit Team raises no concerns at this Stage 1 RSA in respect of general matters.

Local Alignment

5.2 The Audit Team raises no concerns at this Stage 1 RSA in respect of local alignment.

Junctions

5.3 The Audit Team raises no concerns at this Stage 1 RSA in respect of junctions.

Non-motorised User Provision

5.4 The Audit Team raises no concerns at this Stage 1 RSA in respect of non-motorised user provision. However, full details should be prepared in detailed design, for the purposes of Stage 2 RSA.

Road Signs, Carriageway Markings and Lighting

5.5 The Audit Team raises no concerns at this Stage 1 RSA in respect of road signs, carriageway markings and lighting. However, full details should be prepared in detailed design, for the purposes of Stage 2 RSA.

6 AUDIT TEAM STATEMENT

6.1 We certify that this Road Safety Audit has been carried out in accordance with DMRB document HD 19/15.

Audit Team Leader

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

Signed: 

Date: 3rd April 2018

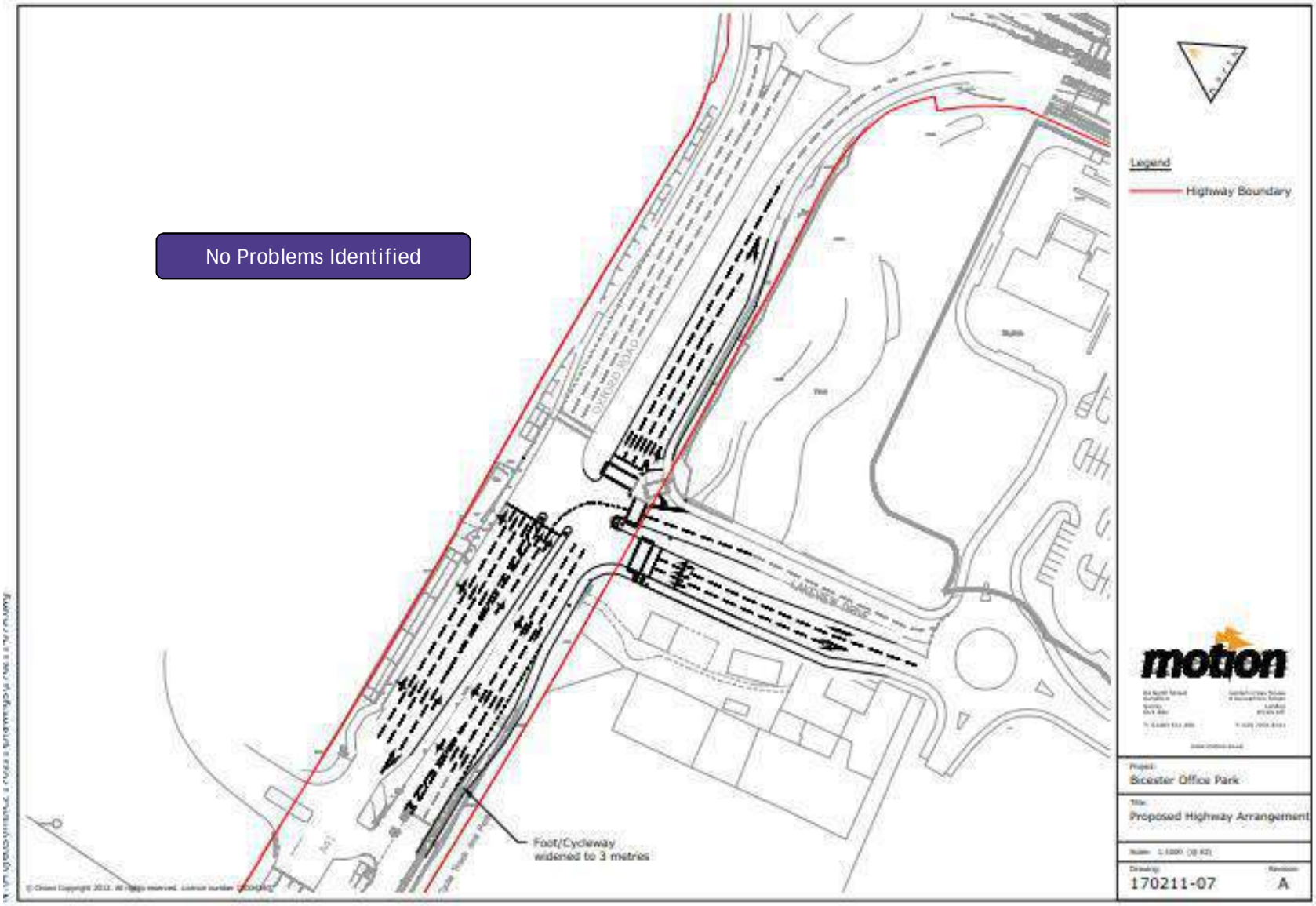
Audit Team Member(s)

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

Signed: 

Date: 3rd April 2018

APPENDIX A
Location Plan(s)


No Problems Identified
Legend
Highway Boundary
Foot/Cycleway widened to 3 metres
motion
Project:
Bicester Office Park
Title:
Proposed Highway Arrangement
Drawing:
170211-07
Revision:
A

APPENDIX B
Designer's Response

Project: Bicester Office Park
A41/ Lakeview Drive, Proposed Highway Arrangement
Client: Motion
Document: Stage 1 Road Safety Audit
Gateway TSP ref: WP/SG/170211 RSA1 v1.1
Status: Final v1.1
Issue date: 4th April 2018

Item No.	Audit Team Recommendation	Designer's Response	Audit Team's Further Comments
5.1	n/a		
5.2	n/a		
5.3	n/a		
5.4	n/a		
5.5	n/a		

Project:	Bicester Office Park A41/ Lakeview Drive, Proposed Highway Arrangement
Client:	Motion
Document:	Stage 1 Road Safety Audit
Gateway TSP ref:	WP/SG/170211 RSA1 v1.1
Status:	Final v1.1
Issue date:	4th April 2018

Designer's Statement:

I confirm that I have considered the items that have arisen in the Stage 1 Road Safety Audit Report and my response to its recommendations are set out above.

……

Designer: David Lewis

Date: 4th April 2018

Audit Team Statement:

We agree/do not agree [delete as appropriate] with the Designer's Response and our comments are provided above.

……

Audit Team Leader: Wendy Palmer

Date: 4th April 2018

Highway Authority/Project Sponsor/ Client Organisation Statement:

I accept/do not accept the Designer's Response (delete as appropriate)

……

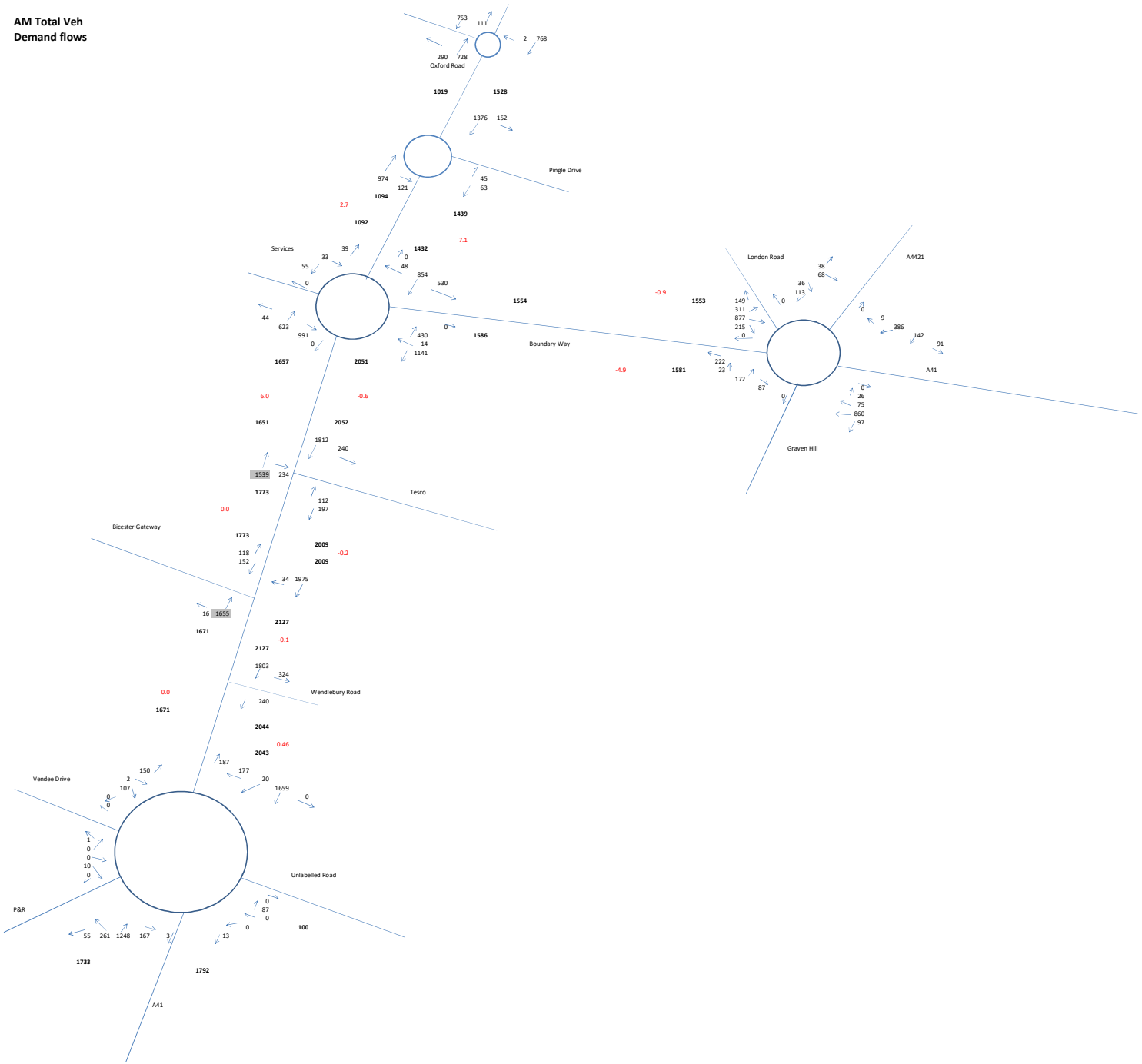
[Name], on behalf of Highway Authority/Project Sponsor/Client Organisation
(delete as appropriate)

Date:

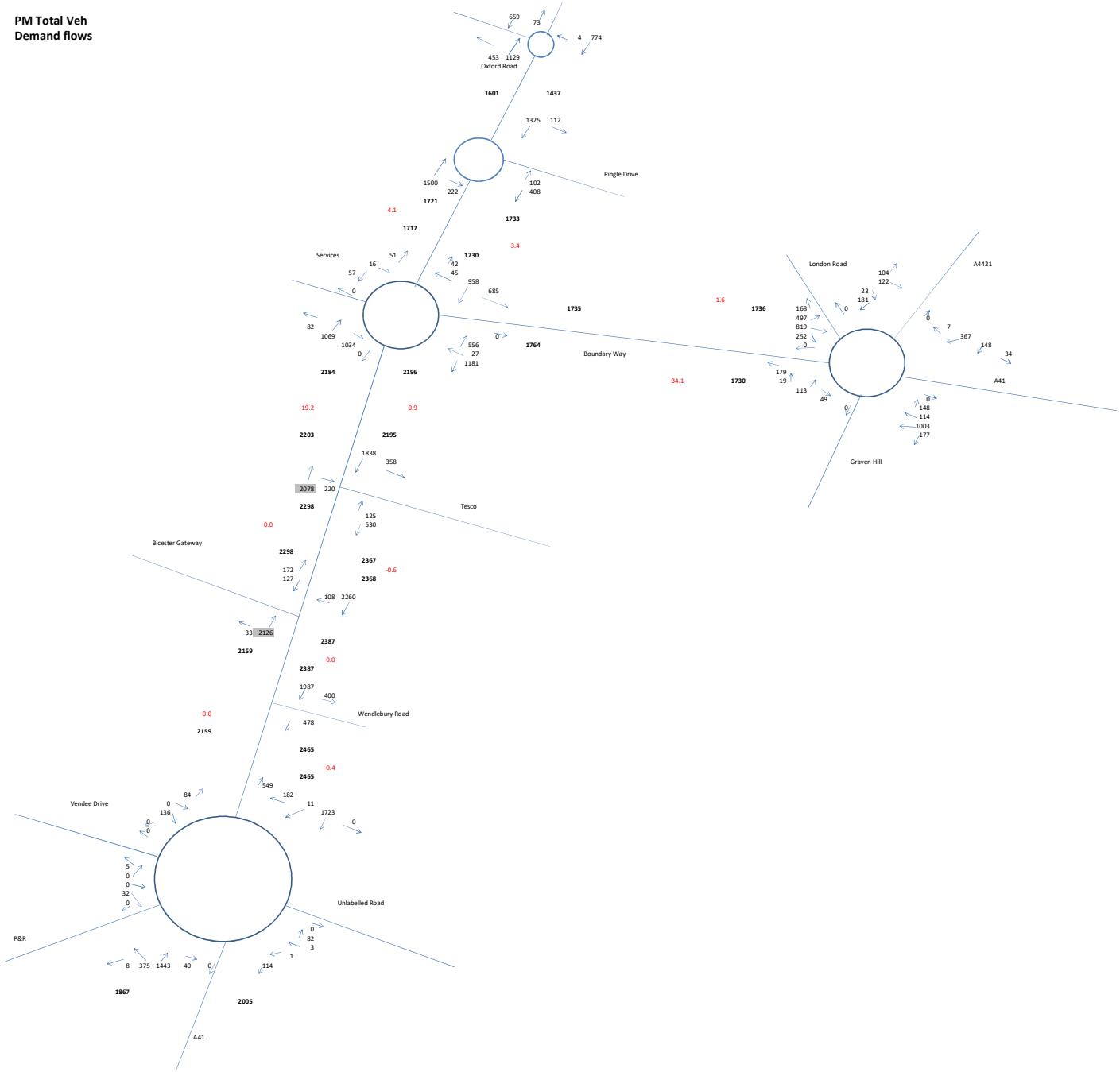
Appendix I

Bicester Traffic Model Outputs

AM Total Veh
Demand flows



PM Total Veh
Demand flows



Appendix J

Census Data and Trip Distribution Calculations

Anticipated Route	Outer Areas	Cherwell District	Total	Percentage
A41 South	904	486	1,390	27%
Vendee Drive	108	439	547	12%
Kingsmere	0	195	195	3%
A41 East	568	695	1,263	23%
Oxford Road North	274	1513	1,787	35%
Total			5,182	100%

Output Area	Location	Anticipated Route	People
E02005921 : Cherwell 001	North Banbury	A41 South	16
E02005922 : Cherwell 002	North Banbury	A41 South	37
E02005923 : Cherwell 003	Central Banbury	A41 South	22
E02005924 : Cherwell 004	North East Banbury	A41 South	36
E02005925 : Cherwell 005	West Banbury	A41 South	44
E02005926 : Cherwell 006	South West Banbury	A41 South	14
E02005927 : Cherwell 007	South Banbury	A41 South	31
E02005928 : Cherwell 008	South Banbury	A41 South	61
E02005929 : Cherwell 009	South West Banbury	A41 South	26
E02005930 : Cherwell 010	South East Banbury	Oxford Road (50%)	61
		Vendee Drive (50%)	61
E02005931 : Cherwell 011	North Bicester	A41 East (50%)	172
		Oxford Road (50%)	172
E02005932 : Cherwell 012	North Central Bicester	Oxford Road	460
E02005933 : Cherwell 013	North East Bicester	A41 East (50%)	288
		Oxford Road (50%)	287
E02005934 : Cherwell 014	West Central Bicester	Oxford Road (50%)	338
		Vendee Drive (50%)	338
E02005935 : Cherwell 015	South Central Bicester	A41 East (33%)	195
		Kingsmere (33%)	195
		Oxford Road (33%)	195
E02005936 : Cherwell 016	South Bicester	A41 East (25%)	40
		A41 South (50%)	78
		Vendee Drive (25%)	40
E02005937 : Cherwell 017	North East Kidlington	A41 South	38
E02005938 : Cherwell 018	Central Kidlingon	A41 South	49
E02005939 : Cherwell 019	South Kidlington	A41 South	34
Total			3,328

Place of Residence	Anticipated Route	People
Aylesbury Vale	A41 east	546
Dacorum	A41 east	7
Central Bedfordshire	A41 east	10
Luton	A41 east	5
Oxford	A41 south	206
West Oxfordshire	A41 south	145
Vale of White Horse	A41 south	104
Southampton	A41 south	13
Swindon	A41 south	13
West Berkshire	A41 south	8
Reading	A41 south	7
Bournemouth	A41 south	6
New Forest	A41 south	3
Portsmouth	A41 south	3
Wiltshire	A41 south	3
Eastleigh	A41 south	2
Hart	A41 south	2
Test Valley	A41 south	2
Poole	A41 south	2
East Hampshire	A41 south	1
Fareham	A41 south	1
Winchester	A41 south	1
Bristol, City of	A41 south	1
Christchurch	A41 south	1
Cornwall,Isles of Scilly	A41 south	1
East Devon	A41 south	1
South Oxfordshire	A41 south	120
Wycombe	A41 south	46
Stratford-on-Avon	A41 south	19
Birmingham	A41 south	13
Brighton and Hove	A41 south	12
Warwick	A41 south	10
Chiltern	A41 south	9
Wandsworth	A41 south	7
Windsor and Maidenhead	A41 south	7
Ealing	A41 south	6
Camden	A41 south	5
Southwark	A41 south	5
Westminster,City of London	A41 south	5
South Bucks	A41 south	5
Rugby	A41 south	5
Hammersmith and Fulham	A41 south	4
Kensington and Chelsea	A41 south	4
Richmond upon Thames	A41 south	4
Wigan	A41 south	4
Bracknell Forest	A41 south	4
Coventry	A41 south	4
Kingston upon Hull, City of	A41 south	4

Three Rivers	A41 south	3
Barking and Dagenham	A41 south	3
Brent	A41 south	3
Hounslow	A41 south	3
Basingstoke and Deane	A41 south	3
Elmbridge	A41 south	3
Cheltenham	A41 south	3
Solihull	A41 south	3
East Hertfordshire	A41 south	2
Charnwood	A41 south	2
Greenwich	A41 south	2
Haringey	A41 south	2
Hillingdon	A41 south	2
Merton	A41 south	2
Tower Hamlets	A41 south	2
Manchester	A41 south	2
Wokingham	A41 south	2
Bath and North East Somerset	A41 south	2
Herefordshire, County of	A41 south	2
Sandwell	A41 south	2
Stoke-on-Trent	A41 south	2
Wolverhampton	A41 south	2
North Hertfordshire	A41 south	1
St Albans	A41 south	1
Thurrock	A41 south	1
Watford	A41 south	1
Welwyn Hatfield	A41 south	1
Blaby	A41 south	1
Mansfield	A41 south	1
Nottingham	A41 south	1
Harrow	A41 south	1
Havering	A41 south	1
Lambeth	A41 south	1
Newham	A41 south	1
Redbridge	A41 south	1
Stockton-on-Tees	A41 south	1
Liverpool	A41 south	1
Oldham	A41 south	1
Salford	A41 south	1
South Ribble	A41 south	1
Ashford	A41 south	1
Reigate and Banstead	A41 south	1
Rushmoor	A41 south	1
Malvern Hills	A41 south	1
Redditch	A41 south	1
Shropshire	A41 south	1
Daventry	Oxford Road	13
Rotherham	Oxford Road	2
Sheffield	Oxford Road	2
Middlesbrough	Oxford Road	1

Bradford	Oxford Road	1
East Riding of Yorkshire	Oxford Road	1
Leeds	Oxford Road	1
Selby	Oxford Road	1
Leicester	Oxford Road	6
South Northamptonshire	Oxford Road	186
Northampton	Oxford Road	42
Wellingborough	Oxford Road	5
Bedford	Oxford Road	4
St Edmundsbury	Oxford Road	2
East Cambridgeshire	Oxford Road	1
Great Yarmouth	Oxford Road	1
Huntingdonshire	Oxford Road	1
Peterborough	Oxford Road	1
South Cambridgeshire	Oxford Road	1
Harborough	Oxford Road	1
Kettering	Oxford Road	1
Milton Keynes	Vendee Drive	108
Cherwell District	N/A	3,328
Total	N/A	5,182

Appendix K

Model Output Files

Oxford Road / Middleton Stoney Road / Kings End

Junctions 9

ARCADY 9 - Roundabout Module

Version: 9.0.2.5947

Filename: Middleton Stoney - Kings End - Oxford Road - 2018-06-21 (No Mitigation).j9
Path: N:\Projects\lmbic2 170211\Analysis\Modelling\Middleton Stoney
Report generation date: 03/07/2018 10:32:07

»2026 BTM, AM
»2026 BTM, PM
»2026 Baseline, AM
»2026 Baseline, PM
»2026 BTM + 60sqm, AM
»2026 BTM + 60sqm, PM

Summary of junction performance

	AM							PM						
	Queue (Veh)	Delay (s)	RFC	LOS	Junction Delay (s)	Junction LOS	Network Residual Capacity	Queue (Veh)	Delay (s)	RFC	LOS	Junction Delay (s)	Junction LOS	Network Residual Capacity
2026 BTM														
Arm 1	1.8	7.55	0.65	A	21.55	C	-4 % [Arm 2]	2.2	10.83	0.69	B	13.28	B	1 % [Arm 2]
Arm 2	12.5	60.87	0.94	F				6.3	29.47	0.87	D			
Arm 3	0.9	3.30	0.49	A				2.9	6.48	0.74	A			
2026 Baseline														
Arm 1	2.9	10.45	0.74	B	289.54	F	-17 % [Arm 2]	3.1	15.11	0.76	C	17.54	C	0 % [Arm 2]
Arm 2	209.6	925.89	1.18	F				7.2	33.23	0.88	D			
Arm 3	1.0	3.36	0.50	A				6.0	11.80	0.86	B			
2026 BTM + 60sqm														
Arm 1	3.4	11.97	0.78	B	410.61	F	-20 % [Arm 2]	3.6	17.41	0.79	C	20.61	C	0 % [Arm 2]
Arm 2	290.9	1308.81	1.26	F				7.4	34.37	0.89	D			
Arm 3	1.0	3.39	0.50	A				8.5	16.20	0.90	C			

There are warnings associated with one or more model runs - see the 'Data Errors and Warnings' tables for each Analysis or Demand Set.

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle. Junction LOS and Junction Delay are demand-weighted averages. Network Residual Capacity indicates the amount by which network flow could be increased before a user-definable threshold (see Analysis Options) is met.

File summary

File Description

Title	Middleton Stoney - Kings End - Oxford Road
Location	Bicester
Site number	
Date	15/06/2017
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	MOTION\klewis
Description	

Units

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

Analysis Options

Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Calculate residual capacity	Residual capacity criteria type	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
5.75			✓	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 period length (min)	Time segment length (min)	Run automatically
D1	2026 BTM	AM	FLAT	07:45	09:15	90	15	✓
D2	2026 BTM	PM	FLAT	17:00	18:30	90	15	✓
D3	2026 Baseline	AM	FLAT	07:45	09:15	90	15	✓
D4	2026 Baseline	PM	FLAT	17:00	18:30	90	15	✓
D5	2026 BTM + 60sqm	AM	FLAT	07:45	09:15	90	15	✓
D6	2026 BTM + 60sqm	PM	FLAT	17:00	18:30	90	15	✓

Analysis Set Details

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

2026 BTM, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout	1, 2, 3	21.55	C

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	-4	Arm 2

Arms

Arms

Arm	Name	Description
1	Middleton Stoney	
2	Kings End	
3	Oxford Road	

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit only
1	3.50	7.50	32.0	20.0	19.0	35.0	
2	3.50	4.50	10.0	80.0	19.0	35.0	
3	7.50	7.50	0.0	17.0	19.0	40.0	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
1	0.699	1893
2	0.591	1315
3	0.749	2174

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D1	2026 BTM	AM	FLAT	07:45	09:15	90	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1		FLAT	✓	875	100.000
2		FLAT	✓	773	100.000
3		FLAT	✓	1030	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		1	2	3
From	1	0	111	764
	2	2	0	771
	3	295	735	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		1	2	3
From	1	0	0	1
	2	0	0	4
	3	1	3	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1	0.65	7.55	1.8	A	875	1313
2	0.94	60.87	12.5	F	773	1159
3	0.49	3.30	0.9	A	1030	1545

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1	875	219	732	1354	0.646	868	296	0.0	1.8	7.310	A
2	773	193	758	829	0.932	740	842	0.0	8.3	32.981	D
3	1030	258	2	2121	0.486	1026	1496	0.0	0.9	3.277	A

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1	875	219	735	1352	0.647	875	297	1.8	1.8	7.544	A
2	773	193	764	826	0.936	765	846	8.3	10.2	50.484	F
3	1030	258	2	2121	0.486	1030	1527	0.9	0.9	3.298	A

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1	875	219	735	1352	0.647	875	297	1.8	1.8	7.552	A
2	773	193	764	826	0.936	769	846	10.2	11.1	55.309	F
3	1030	258	2	2121	0.486	1030	1531	0.9	0.9	3.298	A

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1	875	219	735	1352	0.647	875	297	1.8	1.8	7.552	A
2	773	193	764	826	0.936	771	846	11.1	11.7	57.953	F
3	1030	258	2	2121	0.486	1030	1533	0.9	0.9	3.298	A

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1	875	219	735	1352	0.647	875	297	1.8	1.8	7.552	A
2	773	193	764	826	0.936	771	846	11.7	12.2	59.664	F
3	1030	258	2	2121	0.486	1030	1533	0.9	0.9	3.298	A

09:00 - 09:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1	875	219	735	1352	0.647	875	297	1.8	1.8	7.552	A
2	773	193	764	826	0.936	772	846	12.2	12.5	60.873	F
3	1030	258	2	2121	0.486	1030	1534	0.9	0.9	3.298	A

2026 BTM, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout	1, 2, 3	13.28	B

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	1	Arm 2

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D2	2026 BTM	PM	FLAT	17:00	18:30	90	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1		FLAT	✓	747	100.000
2		FLAT	✓	792	100.000
3		FLAT	✓	1600	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		1	2	3
From	1	0	73	674
	2	4	0	788
	3	462	1138	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		1	2	3
From	1	0	0	1
	2	0	0	0
	3	0	1	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1	0.69	10.83	2.2	B	747	1121
2	0.87	29.47	6.3	D	792	1188
3	0.74	6.48	2.9	A	1600	2400

Main Results for each time segment

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1	747	187	1130	1085	0.689	738	463	0.0	2.1	10.157	B
2	792	198	666	917	0.864	771	1202	0.0	5.3	22.190	C
3	1600	400	4	2156	0.742	1589	1433	0.0	2.8	6.233	A

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1	747	187	1138	1079	0.692	747	466	2.1	2.2	10.802	B
2	792	198	674	913	0.868	790	1211	5.3	5.8	28.207	D
3	1600	400	4	2156	0.742	1600	1459	2.8	2.8	6.472	A

17:30 - 17:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1	747	187	1138	1079	0.692	747	466	2.2	2.2	10.820	B
2	792	198	674	913	0.868	791	1211	5.8	6.1	28.937	D
3	1600	400	4	2156	0.742	1600	1461	2.8	2.9	6.474	A

17:45 - 18:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1	747	187	1138	1079	0.692	747	466	2.2	2.2	10.825	B
2	792	198	674	912	0.868	792	1211	6.1	6.2	29.222	D
3	1600	400	4	2156	0.742	1600	1462	2.9	2.9	6.477	A

18:00 - 18:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1	747	187	1138	1079	0.692	747	466	2.2	2.2	10.827	B
2	792	198	674	912	0.868	792	1211	6.2	6.3	29.376	D
3	1600	400	4	2156	0.742	1600	1462	2.9	2.9	6.477	A

18:15 - 18:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1	747	187	1138	1079	0.692	747	466	2.2	2.2	10.827	B
2	792	198	674	912	0.868	792	1211	6.3	6.3	29.470	D
3	1600	400	4	2156	0.742	1600	1462	2.9	2.9	6.477	A

2026 Baseline, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout	1, 2, 3	289.54	F

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	-17	Arm 2

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D3	2026 Baseline	AM	FLAT	07:45	09:15	90	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1		FLAT	✓	1000	100.000
2		FLAT	✓	891	100.000
3		FLAT	✓	1051	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		1	2	3
From	1	0	111	889
	2	2	0	889
	3	306	745	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		1	2	3
From	1	0	0	1
	2	0	0	4
	3	1	3	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1	0.74	10.45	2.9	B	1000	1500
2	1.18	925.89	209.6	F	891	1337
3	0.50	3.36	1.0	A	1051	1576

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1	1000	250	742	1346	0.743	989	307	0.0	2.8	9.796	A
2	891	223	879	760	1.173	740	852	0.0	37.7	103.328	F
3	1051	263	2	2121	0.495	1047	1618	0.0	1.0	3.338	A

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1	1000	250	745	1344	0.744	1000	308	2.8	2.8	10.427	B
2	891	223	889	754	1.181	753	856	37.7	72.3	274.449	F
3	1051	263	2	2121	0.495	1051	1640	1.0	1.0	3.362	A

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1	1000	250	745	1344	0.744	1000	308	2.8	2.9	10.442	B
2	891	223	889	754	1.182	753	856	72.3	106.7	436.691	F
3	1051	263	2	2121	0.495	1051	1641	1.0	1.0	3.362	A

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1	1000	250	745	1344	0.744	1000	308	2.9	2.9	10.448	B
2	891	223	889	754	1.182	754	856	106.7	141.0	599.523	F
3	1051	263	2	2121	0.495	1051	1641	1.0	1.0	3.362	A

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1	1000	250	745	1344	0.744	1000	308	2.9	2.9	10.450	B
2	891	223	889	754	1.182	754	856	141.0	175.3	762.634	F
3	1051	263	2	2121	0.495	1051	1641	1.0	1.0	3.362	A

09:00 - 09:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1	1000	250	745	1344	0.744	1000	308	2.9	2.9	10.452	B
2	891	223	889	754	1.182	754	856	175.3	209.6	925.886	F
3	1051	263	2	2121	0.495	1051	1641	1.0	1.0	3.362	A

2026 Baseline, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout	1, 2, 3	17.54	C

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	0	Arm 2

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D4	2026 Baseline	PM	FLAT	17:00	18:30	90	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1		FLAT	✓	756	100.000
2		FLAT	✓	801	100.000
3		FLAT	✓	1852	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		1	2	3
From	1	0	73	683
	2	4	0	797
	3	592	1260	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		1	2	3
From	1	0	0	1
	2	0	0	0
	3	0	1	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1	0.76	15.11	3.1	C	756	1134
2	0.88	33.23	7.2	D	801	1202
3	0.86	11.80	6.0	B	1852	2778

Main Results for each time segment

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1	756	189	1245	1005	0.753	745	589	0.0	2.9	13.318	B
2	801	200	673	913	0.877	778	1317	0.0	5.8	23.643	C
3	1852	463	4	2156	0.859	1830	1447	0.0	5.6	10.396	B

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1	756	189	1259	994	0.760	755	596	2.9	3.0	14.966	B
2	801	200	682	907	0.883	798	1332	5.8	6.5	31.198	D
3	1852	463	4	2156	0.859	1851	1476	5.6	5.8	11.702	B

17:30 - 17:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1	756	189	1260	994	0.761	756	596	3.0	3.1	15.063	C
2	801	200	683	907	0.883	800	1333	6.5	6.8	32.345	D
3	1852	463	4	2156	0.859	1852	1479	5.8	5.9	11.760	B

17:45 - 18:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1	756	189	1260	994	0.761	756	596	3.1	3.1	15.089	C
2	801	200	683	907	0.883	800	1333	6.8	7.0	32.812	D
3	1852	463	4	2156	0.859	1852	1479	5.9	5.9	11.780	B

18:00 - 18:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1	756	189	1260	994	0.761	756	596	3.1	3.1	15.100	C
2	801	200	683	907	0.883	801	1333	7.0	7.1	33.066	D
3	1852	463	4	2156	0.859	1852	1480	5.9	6.0	11.792	B

18:15 - 18:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1	756	189	1260	994	0.761	756	596	3.1	3.1	15.107	C
2	801	200	683	907	0.883	801	1333	7.1	7.2	33.226	D
3	1852	463	4	2156	0.859	1852	1480	6.0	6.0	11.799	B

2026 BTM + 60sqm, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout	1, 2, 3	410.61	F

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	-20	Arm 2

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D5	2026 BTM + 60sqm	AM	FLAT	07:45	09:15	90	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1		FLAT	✓	1041	100.000
2		FLAT	✓	930	100.000
3		FLAT	✓	1059	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		1	2	3
From	1	0	111	930
	2	2	0	928
	3	310	749	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		1	2	3
From	1	0	0	1
	2	0	0	3
	3	1	3	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1	0.78	11.97	3.4	B	1041	1562
2	1.26	1308.81	290.9	F	930	1395
3	0.50	3.39	1.0	A	1059	1588

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1	1041	260	746	1343	0.775	1028	310	0.0	3.3	11.004	B
2	930	232	918	744	1.250	730	856	0.0	50.1	133.677	F
3	1059	265	2	2122	0.499	1055	1646	0.0	1.0	3.363	A

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1	1041	260	749	1341	0.776	1041	312	3.3	3.4	11.926	B
2	930	232	930	738	1.261	737	860	50.1	98.3	372.433	F
3	1059	265	2	2122	0.499	1059	1665	1.0	1.0	3.387	A

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1	1041	260	749	1341	0.776	1041	312	3.4	3.4	11.957	B
2	930	232	930	738	1.261	737	860	98.3	146.5	605.689	F
3	1059	265	2	2122	0.499	1059	1666	1.0	1.0	3.387	A

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1	1041	260	749	1341	0.776	1041	312	3.4	3.4	11.966	B
2	930	232	930	738	1.261	737	860	146.5	194.6	839.795	F
3	1059	265	2	2122	0.499	1059	1666	1.0	1.0	3.387	A

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1	1041	260	749	1341	0.776	1041	312	3.4	3.4	11.971	B
2	930	232	930	738	1.261	737	860	194.6	242.7	1074.224	F
3	1059	265	2	2122	0.499	1059	1666	1.0	1.0	3.387	A

09:00 - 09:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1	1041	260	749	1341	0.776	1041	312	3.4	3.4	11.973	B
2	930	232	930	738	1.261	737	860	242.7	290.9	1308.814	F
3	1059	265	2	2122	0.499	1059	1666	1.0	1.0	3.387	A

2026 BTM + 60sqm, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout	1, 2, 3	20.61	C

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	0	Arm 2

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D6	2026 BTM + 60sqm	PM	FLAT	17:00	18:30	90	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1		FLAT	✓	759	100.000
2		FLAT	✓	803	100.000
3		FLAT	✓	1936	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		1	2	3
From	1	0	73	686
	2	4	0	799
	3	635	1301	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		1	2	3
From	1	0	0	1
	2	0	0	0
	3	0	1	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1	0.79	17.41	3.6	C	759	1138
2	0.89	34.37	7.4	D	803	1205
3	0.90	16.20	8.5	C	1936	2904

Main Results for each time segment

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1	759	190	1281	980	0.775	746	629	0.0	3.2	14.721	B
2	803	201	674	912	0.880	780	1352	0.0	5.9	24.016	C
3	1936	484	4	2157	0.898	1906	1450	0.0	7.6	13.077	B

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1	759	190	1300	966	0.786	758	638	3.2	3.5	17.115	C
2	803	201	685	906	0.886	800	1373	5.9	6.7	32.032	D
3	1936	484	4	2157	0.898	1934	1481	7.6	8.1	15.816	C

17:30 - 17:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1	759	190	1300	966	0.786	759	639	3.5	3.5	17.310	C
2	803	201	686	905	0.887	802	1373	6.7	7.0	33.341	D
3	1936	484	4	2157	0.898	1935	1483	8.1	8.3	16.034	C

17:45 - 18:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1	759	190	1301	965	0.786	759	639	3.5	3.6	17.366	C
2	803	201	686	905	0.887	802	1374	7.0	7.2	33.883	D
3	1936	484	4	2157	0.898	1936	1484	8.3	8.4	16.120	C

18:00 - 18:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1	759	190	1301	965	0.786	759	639	3.6	3.6	17.392	C
2	803	201	686	905	0.887	803	1374	7.2	7.3	34.179	D
3	1936	484	4	2157	0.898	1936	1484	8.4	8.5	16.168	C

18:15 - 18:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1	759	190	1301	965	0.786	759	639	3.6	3.6	17.408	C
2	803	201	686	905	0.887	803	1374	7.3	7.4	34.366	D
3	1936	484	4	2157	0.898	1936	1485	8.5	8.5	16.196	C

Junctions 9

ARCADY 9 - Roundabout Module

Filename: Middleton Stoney - Kings End - Oxford Road - 2018-06-21 (With Mitgation).j9
Path: N:\Projects\lmbic2 170211\Analysis\Modelling\Middleton Stoney
Report generation date: 25/06/2018 14:32:59

»2026 BTM + 60sqm, AM
»2026 BTM + 60sqm, PM

Summary of junction performance

	AM							PM						
	Queue (Veh)	Delay (s)	RFC	LOS	Junction Delay (s)	Junction LOS	Network Residual Capacity	Queue (Veh)	Delay (s)	RFC	LOS	Junction Delay (s)	Junction LOS	Network Residual Capacity
	2026 BTM + 60sqm													
Arm 1	3.4	11.97	0.78	B	16.90	C	-1 % [Arm 2]	3.6	17.41	0.79	C	14.75	B	6 % [Arm 1]
Arm 2	9.4	37.61	0.91	E				1.9	8.69	0.66	A			
Arm 3	1.0	3.39	0.50	A				8.5	16.20	0.90	C			

There are warnings associated with one or more model runs - see the 'Data Errors and Warnings' tables for each Analysis or Demand Set.

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle. Junction LOS and Junction Delay are demand-weighted averages. Network Residual Capacity indicates the amount by which network flow could be increased before a user-definable threshold (see Analysis Options) is met.

File summary

File Description

Title	Middleton Stoney - Kings End - Oxford Road
Location	Bicester
Site number	
Date	15/06/2017
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	MOTION\klewis
Description	

Units

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

Analysis Options

Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Calculate residual capacity	Residual capacity criteria type	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
5.75			✓	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 period length (min)	Time segment length (min)	Run automatically
D1	2026 BTM + 60sqm	AM	FLAT	07:45	09:15	90	15	✓
D2	2026 BTM + 60sqm	PM	FLAT	17:00	18:30	90	15	✓

Analysis Set Details

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

2026 BTM + 60sqm, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout	1, 2, 3	16.90	C

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	-1	Arm 2

Arms

Arms

Arm	Name	Description
1	Middleton Stoney	
2	Kings End	
3	Oxford Road	

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit only
1	3.50	7.50	32.0	20.0	19.0	35.0	
2	3.50	7.50	12.0	80.0	19.0	35.0	
3	7.50	7.50	0.0	17.0	19.0	40.0	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
1	0.699	1893
2	0.667	1679
3	0.749	2174

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D1	2026 BTM + 60sqm	AM	FLAT	07:45	09:15	90	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1		FLAT	✓	1041	100.000
2		FLAT	✓	930	100.000
3		FLAT	✓	1059	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		1	2	3
From	1	0	111	930
	2	2	0	928
	3	310	749	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		1	2	3
From	1	0	0	1
	2	0	0	3
	3	1	3	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1	0.78	11.97	3.4	B	1041	1562
2	0.91	37.61	9.4	E	930	1395
3	0.50	3.39	1.0	A	1059	1588

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1	1041	260	746	1343	0.775	1028	311	0.0	3.3	11.003	B
2	930	232	918	1030	0.903	902	856	0.0	7.0	24.395	C
3	1059	265	2	2121	0.499	1055	1818	0.0	1.0	3.364	A

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1	1041	260	749	1341	0.776	1041	312	3.3	3.4	11.926	B
2	930	232	930	1022	0.910	925	860	7.0	8.2	34.121	D
3	1059	265	2	2121	0.499	1059	1853	1.0	1.0	3.387	A

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1	1041	260	749	1341	0.776	1041	312	3.4	3.4	11.957	B
2	930	232	930	1022	0.910	928	860	8.2	8.8	35.995	E
3	1059	265	2	2121	0.499	1059	1856	1.0	1.0	3.387	A

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1	1041	260	749	1341	0.776	1041	312	3.4	3.4	11.966	B
2	930	232	930	1022	0.910	929	860	8.8	9.0	36.829	E
3	1059	265	2	2121	0.499	1059	1857	1.0	1.0	3.387	A

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1	1041	260	749	1341	0.776	1041	312	3.4	3.4	11.971	B
2	930	232	930	1022	0.910	929	860	9.0	9.2	37.302	E
3	1059	265	2	2121	0.499	1059	1857	1.0	1.0	3.388	A

09:00 - 09:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1	1041	260	749	1341	0.776	1041	312	3.4	3.4	11.973	B
2	930	232	930	1022	0.910	929	860	9.2	9.4	37.611	E
3	1059	265	2	2121	0.499	1059	1857	1.0	1.0	3.388	A

2026 BTM + 60sqm, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout	1, 2, 3	14.75	B

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	6	Arm 1

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D2	2026 BTM + 60sqm	PM	FLAT	17:00	18:30	90	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1		FLAT	✓	759	100.000
2		FLAT	✓	803	100.000
3		FLAT	✓	1936	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		1	2	3
From	1	0	73	686
	2	4	0	799
	3	635	1301	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		1	2	3
From	1	0	0	1
	2	0	0	0
	3	0	1	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1	0.79	17.41	3.6	C	759	1138
2	0.66	8.69	1.9	A	803	1205
3	0.90	16.20	8.5	C	1936	2904

Main Results for each time segment

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1	759	190	1281	980	0.775	746	629	0.0	3.2	14.721	B
2	803	201	674	1225	0.656	796	1352	0.0	1.9	8.253	A
3	1936	484	4	2157	0.898	1906	1466	0.0	7.6	13.078	B

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1	759	190	1300	966	0.786	758	638	3.2	3.5	17.115	C
2	803	201	685	1218	0.659	803	1373	1.9	1.9	8.669	A
3	1936	484	4	2157	0.898	1934	1484	7.6	8.1	15.817	C

17:30 - 17:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1	759	190	1300	966	0.786	759	639	3.5	3.5	17.310	C
2	803	201	686	1217	0.660	803	1373	1.9	1.9	8.686	A
3	1936	484	4	2157	0.898	1935	1485	8.1	8.3	16.034	C

17:45 - 18:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1	759	190	1301	965	0.786	759	639	3.5	3.6	17.366	C
2	803	201	686	1217	0.660	803	1374	1.9	1.9	8.690	A
3	1936	484	4	2157	0.898	1936	1485	8.3	8.4	16.120	C

18:00 - 18:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1	759	190	1301	965	0.786	759	639	3.6	3.6	17.392	C
2	803	201	686	1217	0.660	803	1374	1.9	1.9	8.692	A
3	1936	484	4	2157	0.898	1936	1485	8.4	8.5	16.168	C

18:15 - 18:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1	759	190	1301	965	0.786	759	639	3.6	3.6	17.408	C
2	803	201	686	1217	0.660	803	1374	1.9	1.9	8.693	A
3	1936	484	4	2157	0.898	1936	1485	8.5	8.5	16.196	C

A41 Highway Network

Basic Results Summary

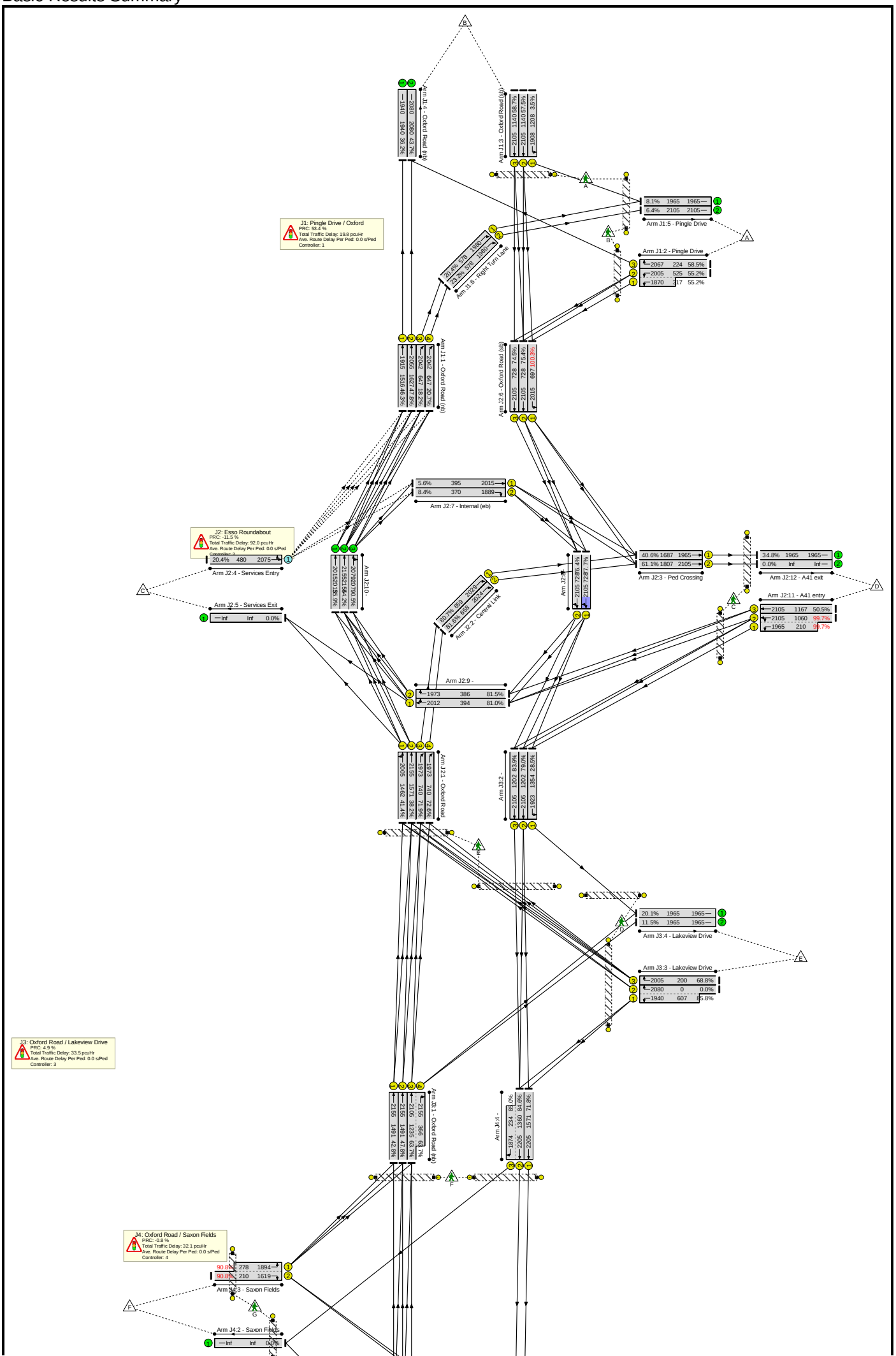
User and Project Details

Project:	**Bicester Office Park**
Title:	
Location:	
Client:	Scenic Land Developments Ltd
Additional detail:	
File name:	Oxford Road Model (inc BG Improvements) - 2018-04-30 Base (inc BV4).lsg3x
Author:	
Company:	Motion
Address:	

Basic Results Summary

Scenario 1: '2026 PM BTM + Committed' (FG11: '2026 PM BTM + Committed', Plan 1: 'Control Plan')
Network Layout Diagram

Basic Results Summary



Basic Results Summary

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	-	-	-		-	-	-	-	-	-	**100.3%**	**71**	**27**	**0**	**177.4**	-	-
J1: Pingle Drive / Oxford	-	-	-		-	-	-	-	-	-	**58.7%**	**0**	**0**	**0**	**19.8**	-	-
1/1	Oxford Road (nb) Ahead	U	C1:A		2	188	-	702	1915	1516	46.3%	-	-	-	0.8	4.0	3.6
1/2	Oxford Road (nb) Ahead	U	C1:A		2	188	-	778	2055	1627	47.8%	-	-	-	0.8	3.9	4.1
1/3	Oxford Road (nb) Right	U	C1:F		2	74	-	118	2042	647	18.2%	-	-	-	1.0	31.6	3.3
1/4	Oxford Road (nb) Right	U	C1:F		2	74	-	134	2042	647	20.7%	-	-	-	1.0	27.2	3.6
2/2+2/1	Pingle Drive Left	U	C1:E		2	88	-	465	2005:1870	525+317	55.2 : 55.2%	-	-	-	4.1	31.9	9.0
2/3	Pingle Drive Right	U	C1:D		2	24	-	131	2067	224	58.5%	-	-	-	2.5	70.1	5.0
3/1	Oxford Road (sb) Left	U	C1:C		2	150	-	42	1908	1208	3.5%	-	-	-	0.1	9.8	0.5
3/2	Oxford Road (sb) Ahead	U	C1:B		2	128	-	656	2105	1140	57.5%	-	-	-	4.0	22.0	15.6
3/3	Oxford Road (sb) Ahead	U	C1:B		2	128	-	669	2105	1140	58.7%	-	-	-	4.1	22.3	16.1
4/1	Oxford Road (nb)	U	-		-	-	-	702	1940	1940	36.2%	-	-	-	0.3	1.5	0.3
4/2	Oxford Road (nb)	U	-		-	-	-	909	2080	2080	43.7%	-	-	-	0.4	1.5	0.4
5/1	Pingle Drive	U	-		-	-	-	160	1965	1965	8.1%	-	-	-	0.0	1.0	0.0
5/2	Pingle Drive	U	-		-	-	-	134	2105	2105	6.4%	-	-	-	0.0	0.9	0.0
6/1	Right Turn Lane Right	U	C1:G		2	68	-	118	1980	578	20.4%	-	-	-	0.2	6.2	0.2
6/2	Right Turn Lane Right	U	C1:G		2	68	-	134	1980	578	23.2%	-	-	-	0.3	6.9	0.3
Ped Link: P1	Unnamed Ped Link	-	C1:H		2	56	-	0	-	0	0.0%	-	-	-	-	-	-

Basic Results Summary

Ped Link: P2	Unnamed Ped Link	-	C1:I		2	136	-	0	-	40800	0.0%	-	-	-	0.0	0.0	0.0
Ped Link: P3	Unnamed Ped Link	-	C1:J		2	116	-	0	-	0	0.0%	-	-	-	-	-	-
J2: Esso Roundabout	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**100.3%**	**71**	**27**	**0**	**92.0**	**-**	**-**
1/1	Oxford Road Left Ahead	U	C2:A		2	173	-	605	2005	1462	41.4%	-	-	-	0.5	3.1	2.4
1/2	Oxford Road Ahead	U	C2:A		2	173	-	601	2155	1571	38.2%	-	-	-	0.5	3.1	2.4
1/3	Oxford Road Right	U	C2:F		2	88	-	532	1973	740	71.9%	-	-	-	4.4	29.9	17.3
1/4	Oxford Road Right	U	C2:F		2	88	-	537	1973	740	72.6%	-	-	-	4.1	27.3	17.3
2/1	Central Link Right	U	C2:G		2	76	-	532	2029	659	80.7%	-	-	-	2.5	17.2	18.1
2/2	Central Link Right	U	C2:G		2	76	-	537	2024	658	81.6%	-	-	-	2.7	18.3	18.5
3/1	Ped Crossing Ahead	U	C2:J		2	204	-	685	1965	1687	40.6%	-	-	-	0.4	1.9	11.3
3/2	Ped Crossing Ahead	U	C2:J		2	204	-	1105	2105	1807	61.1%	-	-	-	0.8	2.6	1.0
4/1	Services Entry Left Ahead	O	-		-	-	-	98	2075	480	20.4%	71	27	0	0.1	5.3	0.5
6/1	Oxford Road (sb) Left	U	C2:B		2	81	-	699	2015	697	100.3%	-	-	-	19.8	102.0	37.6
6/2	Oxford Road (sb) Ahead	U	C2:B		2	81	-	549	2105	728	75.4%	-	-	-	5.7	37.3	17.9
6/3	Oxford Road (sb) Ahead	U	C2:B		2	81	-	542	2105	728	74.5%	-	-	-	4.8	31.9	16.2
7/1	Internal (eb) Ahead	U	C2:C		2	45	-	22	2015	395	5.6%	-	-	-	0.3	42.8	0.7
7/2	Internal (eb) Right	U	C2:C		2	45	-	31	1889	370	8.4%	-	-	-	0.4	44.3	0.9
8/1	Right Ahead	U	C2:E		2	81	-	566	2105	728	77.7%	-	-	-	2.8	18.0	4.1
8/2	Right Ahead	U	C2:E		2	81	-	556	2105	728	76.4%	-	-	-	2.8	18.2	8.6
9/1	Ahead Right	U	C2:H		2	45	-	319	2012	394	81.0%	-	-	-	5.1	57.6	12.3

Basic Results Summary

9/2	Right	U	C2:H		2	45	-	315	1973	386	81.5%	-	-	-	4.7	53.4	12.1
10/1	Ahead	U	-		-	-	-	723	2015	2015	35.9%	-	-	-	0.3	1.4	0.3
10/2	Ahead	U	-		-	-	-	953	2155	2155	44.2%	-	-	-	0.4	1.5	5.9
10/3	Ahead Right	U	-		-	-	-	11	2079	2079	0.5%	-	-	-	0.0	0.9	0.0
11/2+11/1	A41 entry Ahead Left	U	C2:D		2	131	-	1266	2105:1965	1060+210	99.7 : 99.7%	-	-	-	25.4	72.2	55.8
11/3	A41 entry Ahead	U	C2:D		2	131	-	589	2105	1167	50.5%	-	-	-	3.2	19.7	12.6
12/1	A41 exit	U	-		-	-	-	685	1965	1965	34.8%	-	-	-	0.3	1.4	0.3
Ped Link: P1	Unnamed Ped Link	-	C2:K		2	8	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P2	Unnamed Ped Link	-	C2:I		2	81	-	0	-	0	0.0%	-	-	-	-	-	-
J3: Oxford Road / Lakeview Drive	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**85.8%**	**0**	**0**	**0**	**33.5**	**-**	**-**
1/1	Oxford Road (nb) Ahead	U	C3:A		2	164	-	638	2155	1491	42.8%	-	-	-	0.7	4.1	5.8
1/2	Oxford Road (nb) Ahead	U	C3:A		2	164	-	713	2155	1491	47.8%	-	-	-	0.9	4.6	5.4
1/3+1/4	Oxford Road (nb) Ahead Right	U	C3:A C3:E		2	164:46	-	1019	2105:2155	1235+366	63.7 : 63.7%	-	-	-	5.0	17.6	36.7
2/1	Left	U	C3:C		2	167	-	386	1923	1354	28.5%	-	-	-	0.9	8.2	5.4
2/2	Ahead	U	C3:B		2	135	-	949	2105	1202	79.0%	-	-	-	7.4	28.2	28.3
2/3	Ahead	U	C3:B		2	135	-	1008	2105	1202	83.9%	-	-	-	6.4	22.9	21.9
3/2+3/1	Lakeview Drive Right Left	U	C3:D	C3:F	2	22:74	52	521	2080:1940	0+607	0.0 : 85.8%	-	-	-	8.9	61.3	21.1
3/3	Lakeview Drive Right	U	C3:D		2	22	-	138	2005	200	68.8%	-	-	-	3.1	80.2	5.7
4/1	Lakeview Drive	U	-		-	-	-	394	1965	1965	20.1%	-	-	-	0.1	1.1	0.1
4/2	Lakeview Drive	U	-		-	-	-	225	1965	1965	11.5%	-	-	-	0.1	1.1	4.6

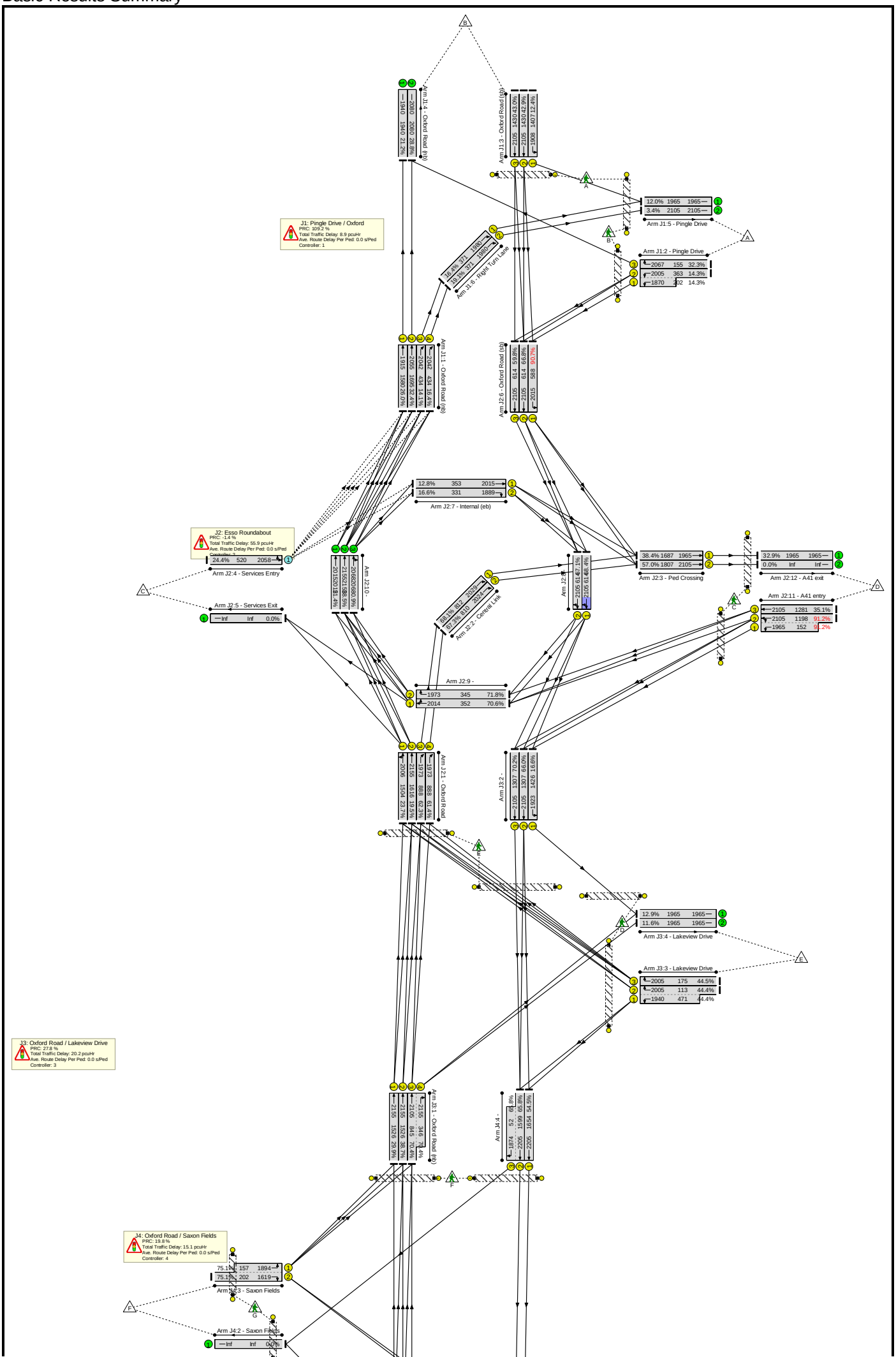
Basic Results Summary

Ped Link: P1	Unnamed Ped Link	-	C3:G		1	12	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P2	Unnamed Ped Link	-	C3:H		2	44	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P3	Unnamed Ped Link	-	C3:I		2	44	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P4	Unnamed Ped Link	-	C3:K		2	130	-	0	-	0	0.0%	-	-	-	-	-	-
J4: Oxford Road / Saxon Fields	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**90.8%**	**0**	**0**	**0**	**32.1**	**-**	**-**
1/2+1/1	Oxford Road Ahead Left	U	C4:C	C4:J	2	139	0	909	2205:1709	1180+156	68.0 : 68.0%	-	-	-	5.0	19.7	19.3
1/3	Oxford Road Ahead	U	C4:C		2	139	-	685	2205	1295	52.9%	-	-	-	3.4	17.8	14.5
1/4	Oxford Road Ahead	U	C4:C		2	139	-	630	2105	1237	50.9%	-	-	-	3.1	17.5	13.1
3/2+3/1	Saxon Fields Left Right	U	C4:D	C4:I	2	37	0	443	1619:1894	210+278	90.8 : 90.8%	-	-	-	10.1	82.5	12.5
4/1	Ahead	U	C4:A		2	169	-	1128	2205	1571	71.8%	-	-	-	3.9	12.4	30.8
4/2+4/3	Right Ahead	U	C4:A C4:B		2	169:28	-	1350	2205:1874	1360+234	84.6 : 85.0%	-	-	-	6.6	17.6	53.3
Ped Link: P1	Unnamed Ped Link	-	C4:G		2	10	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P2	Unnamed Ped Link	-	C4:H		2	35	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P3	Unnamed Ped Link	-	C4:F		2	139	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P4	Unnamed Ped Link	-	C4:E		2	25	-	0	-	0	0.0%	-	-	-	-	-	-

C1	PRC for Signalled Lanes (%):	53.4	Total Delay for Signalled Lanes (pcuHr):	19.08	Cycle Time (s): 240
C2	Stream: 1 PRC for Signalled Lanes (%):	-11.5	Total Delay for Signalled Lanes (pcuHr):	89.76	Cycle Time (s): 240
C2	Stream: 2 PRC for Signalled Lanes (%):	47.4	Total Delay for Signalled Lanes (pcuHr):	1.16	Cycle Time (s): 240
C3	PRC for Signalled Lanes (%):	4.9	Total Delay for Signalled Lanes (pcuHr):	33.28	Cycle Time (s): 240
C4	PRC for Signalled Lanes (%):	-0.8	Total Delay for Signalled Lanes (pcuHr):	32.05	Cycle Time (s): 240
	PRC Over All Lanes (%):	-11.5	Total Delay Over All Lanes(pcuHr):	177.38	

Basic Results Summary
Scenario 3: '2026 AM BTM + Committed' (FG10: '2026 AM BTM + Committed', Plan 1: 'Control Plan')
Network Layout Diagram

Basic Results Summary



Basic Results Summary

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	-	-	-		-	-	-	-	-	-	**91.2%**	**121**	**6**	**0**	**100.0**	-	-
J1: Pingle Drive / Oxford	-	-	-		-	-	-	-	-	-	**43.0%**	**0**	**0**	**0**	**8.9**	-	-
1/1	Oxford Road (nb) Ahead	U	C1:A		2	196	-	411	1915	1580	26.0%	-	-	-	0.3	3.0	2.0
1/2	Oxford Road (nb) Ahead	U	C1:A		2	196	-	549	2055	1695	32.4%	-	-	-	0.4	2.6	2.0
1/3	Oxford Road (nb) Right	U	C1:F		2	49	-	61	2042	434	14.1%	-	-	-	0.7	41.2	1.9
1/4	Oxford Road (nb) Right	U	C1:F		2	49	-	71	2042	434	16.4%	-	-	-	0.8	40.1	2.1
2/2+2/1	Pingle Drive Left	U	C1:E		2	55	-	81	2005:1870	363+202	14.3 : 14.3%	-	-	-	0.9	39.4	1.4
2/3	Pingle Drive Right	U	C1:D		2	16	-	50	2067	155	32.3%	-	-	-	1.0	69.7	1.8
3/1	Oxford Road (sb) Left	U	C1:C		2	175	-	175	1908	1407	12.4%	-	-	-	0.3	6.0	1.9
3/2	Oxford Road (sb) Ahead	U	C1:B		2	161	-	614	2105	1430	42.9%	-	-	-	1.9	11.0	10.1
3/3	Oxford Road (sb) Ahead	U	C1:B		2	161	-	615	2105	1430	43.0%	-	-	-	1.9	11.0	10.1
4/1	Oxford Road (nb)	U	-		-	-	-	411	1940	1940	21.2%	-	-	-	0.1	1.2	0.1
4/2	Oxford Road (nb)	U	-		-	-	-	599	2080	2080	28.8%	-	-	-	0.2	1.2	0.2
5/1	Pingle Drive	U	-		-	-	-	236	1965	1965	12.0%	-	-	-	0.1	1.0	0.1
5/2	Pingle Drive	U	-		-	-	-	71	2105	2105	3.4%	-	-	-	0.0	0.9	0.0
6/1	Right Turn Lane Right	U	C1:G		2	43	-	61	1980	371	16.4%	-	-	-	0.1	8.3	0.2
6/2	Right Turn Lane Right	U	C1:G		2	43	-	71	1980	371	19.1%	-	-	-	0.2	9.1	0.2
Ped Link: P1	Unnamed Ped Link	-	C1:H		2	31	-	0	-	0	0.0%	-	-	-	-	-	-

Basic Results Summary

Ped Link: P2	Unnamed Ped Link	-	C1:I		2	161	-	0	-	48300	0.0%	-	-	-	0.0	0.0	0.0
Ped Link: P3	Unnamed Ped Link	-	C1:J		2	149	-	0	-	0	0.0%	-	-	-	-	-	-
J2: Esso Roundabout	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**91.2%**	**121**	**6**	**0**	**55.9**	**-**	**-**
1/1	Oxford Road Left Ahead	U	C2:A		2	178	-	356	2006	1504	23.7%	-	-	-	0.3	2.7	1.4
1/2	Oxford Road Ahead	U	C2:A		2	178	-	315	2155	1616	19.5%	-	-	-	0.2	2.8	1.6
1/3	Oxford Road Right	U	C2:F		2	106	-	553	1973	888	62.3%	-	-	-	3.5	22.5	17.3
1/4	Oxford Road Right	U	C2:F		2	106	-	545	1973	888	61.4%	-	-	-	3.3	21.8	16.9
2/1	Central Link Right	U	C2:G		2	94	-	553	2029	812	68.1%	-	-	-	1.6	10.3	17.6
2/2	Central Link Right	U	C2:G		2	94	-	545	2024	810	67.3%	-	-	-	1.5	10.2	17.5
3/1	Ped Crossing Ahead	U	C2:J		2	204	-	647	1965	1687	38.4%	-	-	-	0.3	1.9	11.8
3/2	Ped Crossing Ahead	U	C2:J		2	204	-	1029	2105	1807	57.0%	-	-	-	0.7	2.4	0.9
4/1	Services Entry Left Ahead	O	-		-	-	-	127	2058	520	24.4%	121	6	0	0.2	4.7	0.6
6/1	Oxford Road (sb) Left	U	C2:B		2	68	-	533	2015	588	90.7%	-	-	-	9.2	62.2	23.0
6/2	Oxford Road (sb) Ahead	U	C2:B		2	68	-	410	2105	614	66.8%	-	-	-	4.5	39.2	14.2
6/3	Oxford Road (sb) Ahead	U	C2:B		2	68	-	367	2105	614	59.8%	-	-	-	3.7	36.3	12.3
7/1	Internal (eb) Ahead	U	C2:C		2	40	-	45	2015	353	12.8%	-	-	-	0.6	47.0	1.4
7/2	Internal (eb) Right	U	C2:C		2	40	-	55	1889	331	16.6%	-	-	-	0.7	48.5	1.7
8/1	Right Ahead	U	C2:E		2	68	-	420	2105	614	68.4%	-	-	-	2.1	18.1	3.2
8/2	Right Ahead	U	C2:E		2	68	-	412	2105	614	67.1%	-	-	-	2.0	17.6	3.8
9/1	Ahead Right	U	C2:H		2	40	-	249	2014	352	70.6%	-	-	-	4.1	58.8	9.2

Basic Results Summary

9/2	Right	U	C2:H		2	40	-	248	1973	345	71.8%	-	-	-	3.6	52.9	9.2
10/1	Ahead	U	-		-	-	-	432	2015	2015	21.4%	-	-	-	0.1	1.1	0.1
10/2	Ahead	U	-		-	-	-	614	2155	2155	28.5%	-	-	-	0.2	1.3	7.4
10/3	Ahead Right	U	-		-	-	-	19	2068	2068	0.9%	-	-	-	0.0	0.9	0.0
11/2+11/1	A41 entry Ahead Left	U	C2:D		2	144	-	1232	2105:1965	1198+152	91.2 : 91.2%	-	-	-	11.4	33.3	42.1
11/3	A41 entry Ahead	U	C2:D		2	144	-	449	2105	1281	35.1%	-	-	-	1.7	14.0	8.5
12/1	A41 exit	U	-		-	-	-	647	1965	1965	32.9%	-	-	-	0.2	1.4	0.2
Ped Link: P1	Unnamed Ped Link	-	C2:K		2	8	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P2	Unnamed Ped Link	-	C2:I		2	68	-	0	-	0	0.0%	-	-	-	-	-	-
J3: Oxford Road / Lakeview Drive	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**70.4%**	**0**	**0**	**0**	**20.2**	**-**	**-**
1/1	Oxford Road (nb) Ahead	U	C3:A		2	168	-	456	2155	1526	29.9%	-	-	-	0.3	2.7	1.5
1/2	Oxford Road (nb) Ahead	U	C3:A		2	168	-	590	2155	1526	38.7%	-	-	-	0.6	3.6	3.0
1/3+1/4	Oxford Road (nb) Ahead Right	U	C3:A C3:E		2	168:37	-	839	2105:2155	845+346	70.4 : 70.4%	-	-	-	5.1	22.0	30.1
2/1	Left	U	C3:C		2	176	-	237	1923	1426	16.6%	-	-	-	0.4	6.6	2.6
2/2	Ahead	U	C3:B		2	147	-	862	2105	1307	66.0%	-	-	-	4.6	19.3	21.2
2/3	Ahead	U	C3:B		2	147	-	917	2105	1307	70.2%	-	-	-	4.1	16.2	19.5
3/2+3/1	Lakeview Drive Right Left	U	C3:D	C3:F	2	19:62	43	259	2005:1940	113+471	44.4 : 44.4%	-	-	-	3.3	45.4	7.0
3/3	Lakeview Drive Right	U	C3:D		2	19	-	78	2005	175	44.5%	-	-	-	1.5	71.0	3.1
4/1	Lakeview Drive	U	-		-	-	-	254	1965	1965	12.9%	-	-	-	0.1	1.1	0.1
4/2	Lakeview Drive	U	-		-	-	-	227	1965	1965	11.6%	-	-	-	0.1	1.0	3.4

Basic Results Summary

Ped Link: P1	Unnamed Ped Link	-	C3:G		1	11	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P2	Unnamed Ped Link	-	C3:H		2	35	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P3	Unnamed Ped Link	-	C3:I		2	35	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P4	Unnamed Ped Link	-	C3:K		2	142	-	0	-	0	0.0%	-	-	-	-	-	-
J4: Oxford Road / Saxon Fields	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**75.1%**	**0**	**0**	**0**	**15.1**	**-**	**-**
1/2+1/1	Oxford Road Ahead Left	U	C4:C	C4:J	2	148	0	763	2205:1709	1362+29	54.8 : 54.8%	-	-	-	3.3	15.6	15.3
1/3	Oxford Road Ahead	U	C4:C		2	148	-	545	2205	1378	39.5%	-	-	-	2.0	13.4	9.7
1/4	Oxford Road Ahead	U	C4:C		2	148	-	475	2105	1316	36.1%	-	-	-	1.7	13.1	8.2
3/2+3/1	Saxon Fields Left Right	U	C4:D	C4:I	2	28	0	270	1619:1894	202+157	75.1 : 75.1%	-	-	-	5.2	69.4	6.4
4/1	Ahead	U	C4:A		2	178	-	901	2205	1654	54.5%	-	-	-	1.2	4.9	6.9
4/2+4/3	Right Ahead	U	C4:A C4:B		2	178:28	-	1087	2205:1874	1599+52	65.8 : 65.8%	-	-	-	1.6	5.4	21.7
Ped Link: P1	Unnamed Ped Link	-	C4:G		2	10	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P2	Unnamed Ped Link	-	C4:H		2	26	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P3	Unnamed Ped Link	-	C4:F		2	148	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P4	Unnamed Ped Link	-	C4:E		2	16	-	0	-	0	0.0%	-	-	-	-	-	-

C1	PRC for Signalled Lanes (%):	109.2	Total Delay for Signalled Lanes (pcuHr):	8.43	Cycle Time (s):	240
C2	Stream: 1 PRC for Signalled Lanes (%):	-1.4	Total Delay for Signalled Lanes (pcuHr):	54.06	Cycle Time (s):	240
C2	Stream: 2 PRC for Signalled Lanes (%):	58.0	Total Delay for Signalled Lanes (pcuHr):	1.02	Cycle Time (s):	240
C3	PRC for Signalled Lanes (%):	27.8	Total Delay for Signalled Lanes (pcuHr):	20.06	Cycle Time (s):	240
C4	PRC for Signalled Lanes (%):	19.8	Total Delay for Signalled Lanes (pcuHr):	15.11	Cycle Time (s):	240
	PRC Over All Lanes (%):	-1.4	Total Delay Over All Lanes(pcuHr):	100.03		

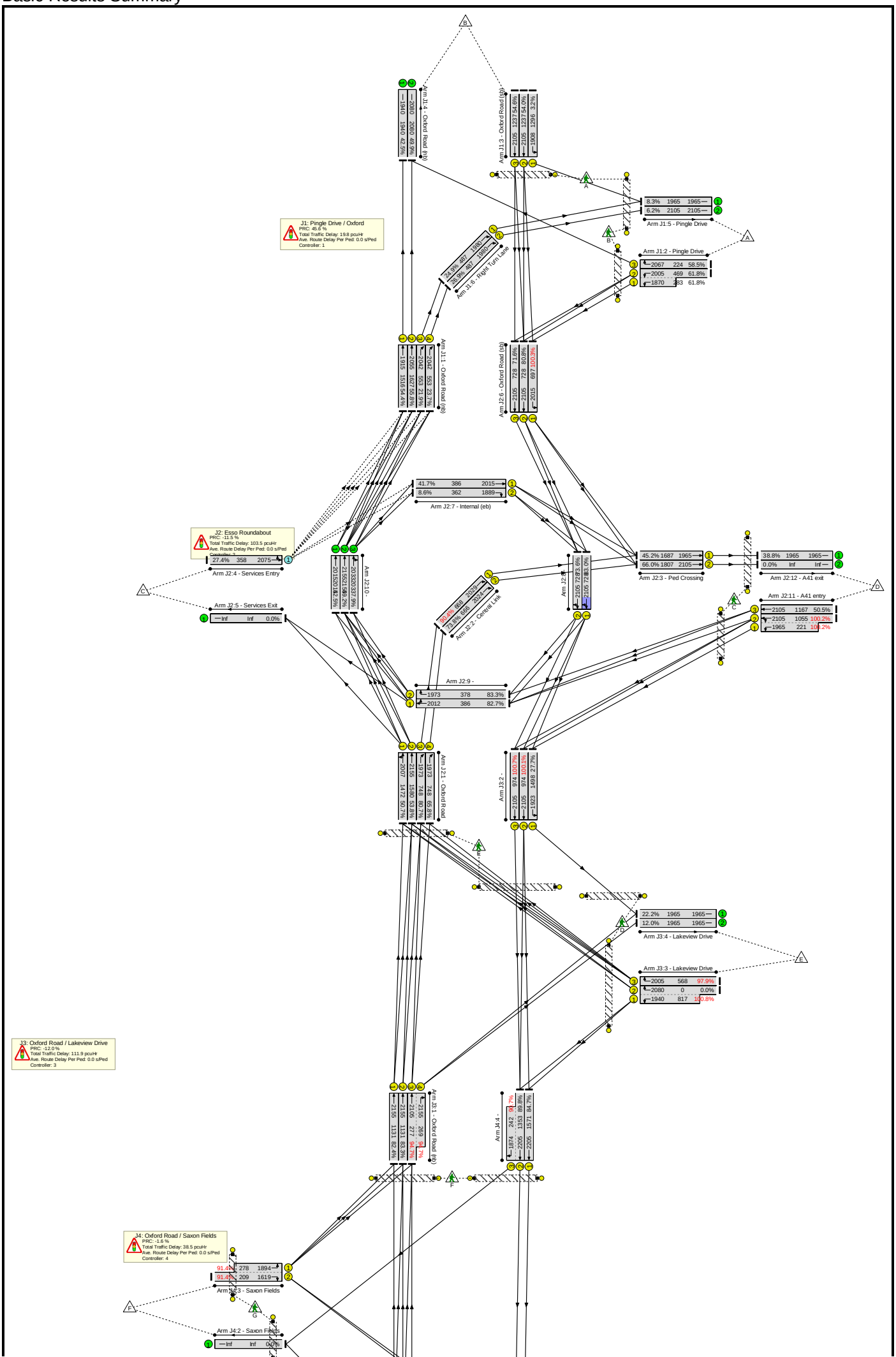
Basic Results Summary

User and Project Details

Project:	**Bicester Office Park**
Title:	
Location:	
Client:	Scenic Land Developments Ltd
Additional detail:	
File name:	Oxford Road Model (inc BG Improvements) - 2018-04-30 Base (inc BV4).lsg3x
Author:	
Company:	Motion
Address:	

Scenario 2: '2026 PM BTM + Committed + 45k' (FG13: '2026 PM BTM + Committed + 45k', Plan 1: 'Control Plan')
Network Layout Diagram

Basic Results Summary



Basic Results Summary

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	-	-	-		-	-	-	-	-	-	**100.8%**	**79**	**19**	**0**	**273.7**	-	-
J1: Pingle Drive / Oxford	-	-	-		-	-	-	-	-	-	**61.8%**	**0**	**0**	**0**	**19.8**	-	-
1/1	Oxford Road (nb) Ahead	U	C1:A		2	188	-	825	1915	1516	54.4%	-	-	-	0.9	4.0	3.4
1/2	Oxford Road (nb) Ahead	U	C1:A		2	188	-	907	2055	1627	55.8%	-	-	-	1.0	3.9	4.2
1/3	Oxford Road (nb) Right	U	C1:F		2	63	-	121	2042	553	21.9%	-	-	-	1.1	33.5	3.2
1/4	Oxford Road (nb) Right	U	C1:F		2	63	-	131	2042	553	23.7%	-	-	-	1.0	27.7	3.1
2/2+2/1	Pingle Drive Left	U	C1:E		2	77	-	465	2005:1870	469+283	61.8 : 61.8%	-	-	-	4.9	37.6	10.1
2/3	Pingle Drive Right	U	C1:D		2	24	-	131	2067	224	58.5%	-	-	-	2.6	70.2	5.1
3/1	Oxford Road (sb) Left	U	C1:C		2	161	-	42	1908	1296	3.2%	-	-	-	0.1	7.9	0.5
3/2	Oxford Road (sb) Ahead	U	C1:B		2	139	-	668	2105	1237	54.0%	-	-	-	3.4	18.1	14.1
3/3	Oxford Road (sb) Ahead	U	C1:B		2	139	-	675	2105	1237	54.6%	-	-	-	3.4	18.2	14.3
4/1	Oxford Road (nb)	U	-		-	-	-	825	1940	1940	42.5%	-	-	-	0.4	1.6	0.4
4/2	Oxford Road (nb)	U	-		-	-	-	1038	2080	2080	49.9%	-	-	-	0.5	1.7	0.5
5/1	Pingle Drive	U	-		-	-	-	163	1965	1965	8.3%	-	-	-	0.0	1.0	0.0
5/2	Pingle Drive	U	-		-	-	-	131	2105	2105	6.2%	-	-	-	0.0	0.9	0.0
6/1	Right Turn Lane Right	U	C1:G		2	57	-	121	1980	487	24.9%	-	-	-	0.3	7.9	0.3
6/2	Right Turn Lane Right	U	C1:G		2	57	-	131	1980	487	26.9%	-	-	-	0.3	9.0	0.4
Ped Link: P1	Unnamed Ped Link	-	C1:H		2	45	-	0	-	0	0.0%	-	-	-	-	-	-

Basic Results Summary

Ped Link: P2	Unnamed Ped Link	-	C1:I		2	147	-	0	-	44100	0.0%	-	-	-	0.0	0.0	0.0
Ped Link: P3	Unnamed Ped Link	-	C1:J		2	127	-	0	-	0	0.0%	-	-	-	-	-	-
J2: Esso Roundabout	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**100.3%**	**79**	**19**	**0**	**103.5**	**-**	**-**
1/1	Oxford Road Left Ahead	U	C2:A		2	174	-	746	2007	1472	50.7%	-	-	-	1.0	4.8	5.8
1/2	Oxford Road Ahead	U	C2:A		2	174	-	851	2155	1580	53.8%	-	-	-	1.1	4.6	6.2
1/3	Oxford Road Right	U	C2:F		2	89	-	604	1973	748	80.7%	-	-	-	4.8	28.4	23.2
1/4	Oxford Road Right	U	C2:F		2	89	-	492	1973	748	65.8%	-	-	-	6.3	46.0	17.2
2/1	Central Link Right	U	C2:G		2	77	-	604	2029	668	90.4%	-	-	-	4.6	27.3	22.0
2/2	Central Link Right	U	C2:G		2	77	-	492	2024	666	73.8%	-	-	-	1.6	11.7	16.2
3/1	Ped Crossing Ahead	U	C2:J		2	204	-	762	1965	1687	45.2%	-	-	-	0.5	2.5	15.8
3/2	Ped Crossing Ahead	U	C2:J		2	204	-	1194	2105	1807	66.0%	-	-	-	1.0	3.1	2.8
4/1	Services Entry Left Ahead	O	-		-	-	-	98	2075	358	27.4%	79	19	0	0.2	8.1	0.9
6/1	Oxford Road (sb) Left	U	C2:B		2	81	-	699	2015	697	100.3%	-	-	-	20.0	102.8	37.8
6/2	Oxford Road (sb) Ahead	U	C2:B		2	81	-	588	2105	728	80.8%	-	-	-	6.3	38.4	19.7
6/3	Oxford Road (sb) Ahead	U	C2:B		2	81	-	521	2105	728	71.6%	-	-	-	4.9	33.9	14.8
7/1	Internal (eb) Ahead	U	C2:C		2	44	-	161	2015	386	41.7%	-	-	-	2.0	44.2	6.4
7/2	Internal (eb) Right	U	C2:C		2	44	-	31	1889	362	8.6%	-	-	-	0.4	44.4	0.9
8/1	Right Ahead	U	C2:E		2	81	-	604	2105	728	83.0%	-	-	-	3.8	22.8	5.2
8/2	Right Ahead	U	C2:E		2	81	-	536	2105	728	73.6%	-	-	-	2.5	16.9	3.6
9/1	Ahead Right	U	C2:H		2	44	-	319	2012	386	82.7%	-	-	-	5.4	60.7	12.7

Basic Results Summary

9/2	Right	U	C2:H		2	44	-	315	1973	378	83.3%	-	-	-	5.0	56.7	12.6
10/1	Ahead	U	-		-	-	-	857	2015	2015	42.5%	-	-	-	0.4	1.6	0.4
10/2	Ahead	U	-		-	-	-	1060	2155	2155	49.2%	-	-	-	0.5	1.7	7.7
10/3	Ahead Right	U	-		-	-	-	161	2033	2033	7.9%	-	-	-	0.0	1.0	0.0
11/2+11/1	A41 entry Ahead Left	U	C2:D		2	131	-	1278	2105:1965	1055+221	100.2 : 100.2%	-	-	-	27.8	78.4	59.3
11/3	A41 entry Ahead	U	C2:D		2	131	-	589	2105	1167	50.5%	-	-	-	3.2	19.7	12.6
12/1	A41 exit	U	-		-	-	-	762	1965	1965	38.8%	-	-	-	0.3	1.5	1.4
Ped Link: P1	Unnamed Ped Link	-	C2:K		2	8	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P2	Unnamed Ped Link	-	C2:I		2	81	-	0	-	0	0.0%	-	-	-	-	-	-
J3: Oxford Road / Lakeview Drive	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**100.8%**	**0**	**0**	**0**	**111.9**	**-**	**-**
1/1	Oxford Road (nb) Ahead	U	C3:A		2	124	-	932	2155	1131	82.4%	-	-	-	5.3	20.5	33.4
1/2	Oxford Road (nb) Ahead	U	C3:A		2	124	-	943	2155	1131	83.3%	-	-	-	5.9	22.3	34.2
1/3+1/4	Oxford Road (nb) Ahead Right	U	C3:A C3:E		2	124:28	-	517	2105:2155	277+269	94.7 : 94.7%	-	-	-	10.1	70.0	24.9
2/1	Left	U	C3:C		2	185	-	416	1923	1498	27.7%	-	-	-	0.8	7.2	4.4
2/2	Ahead	U	C3:B		2	109	-	976	2105	974	100.1%	-	-	-	24.6	90.9	49.1
2/3	Ahead	U	C3:B		2	109	-	981	2105	974	100.7%	-	-	-	24.1	88.6	51.3
3/2+3/1	Lakeview Drive Right Left	U	C3:D	C3:F	2	66:100	34	824	2080:1940	0+817	0.0 : 100.8%	-	-	-	25.2	109.9	45.6
3/3	Lakeview Drive Right	U	C3:D		2	66	-	556	2005	568	97.9%	-	-	-	15.7	101.9	27.4
4/1	Lakeview Drive	U	-		-	-	-	436	1965	1965	22.2%	-	-	-	0.1	1.2	0.1
4/2	Lakeview Drive	U	-		-	-	-	235	1965	1965	12.0%	-	-	-	0.1	1.0	3.9

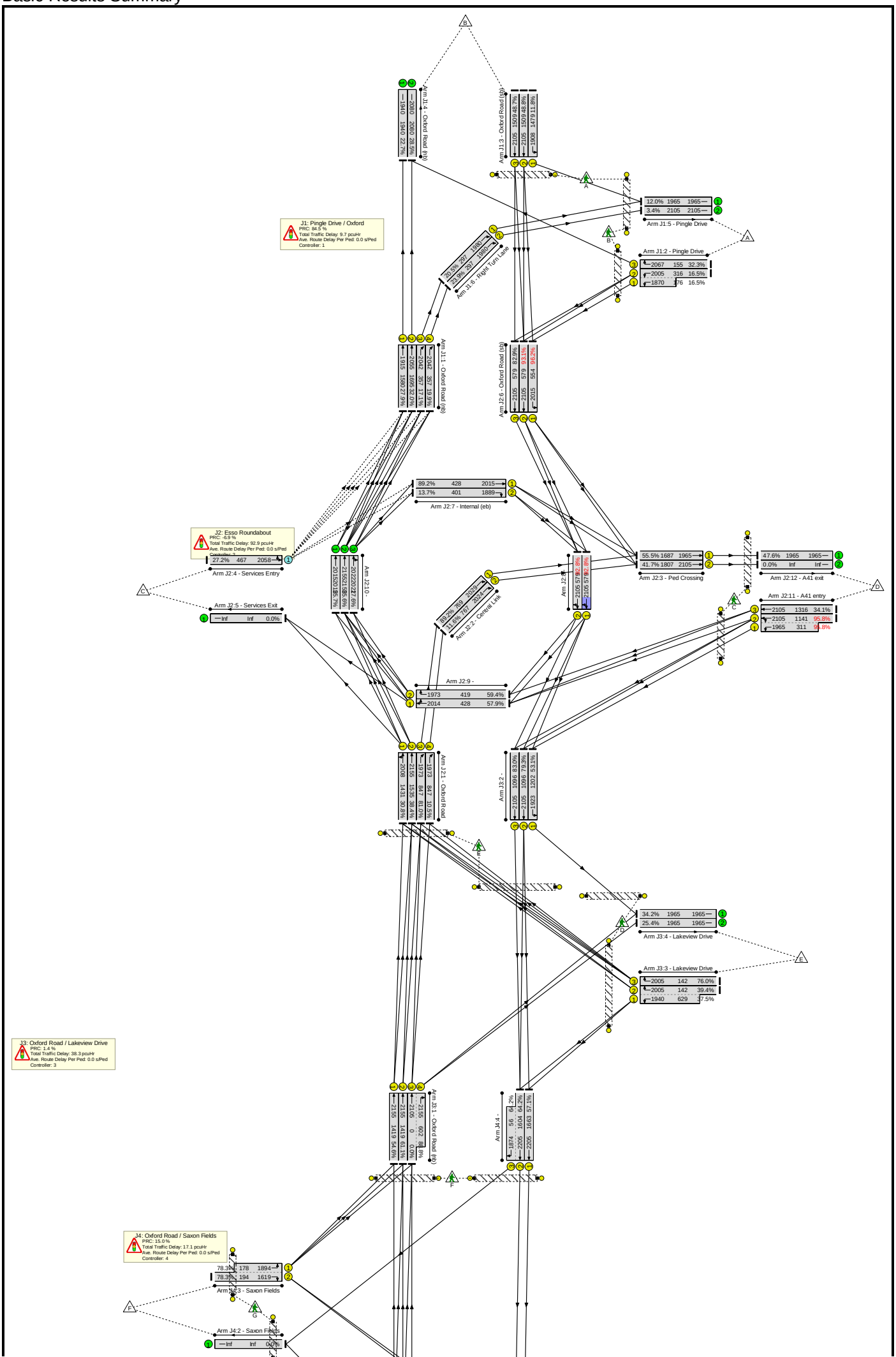
Basic Results Summary

Ped Link: P1	Unnamed Ped Link	-	C3:G		1	8	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P2	Unnamed Ped Link	-	C3:H		2	26	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P3	Unnamed Ped Link	-	C3:I		2	26	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P4	Unnamed Ped Link	-	C3:K		2	104	-	0	-	0	0.0%	-	-	-	-	-	-
J4: Oxford Road / Saxon Fields	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**91.4%**	**0**	**0**	**0**	**38.5**	**-**	**-**
1/2+1/1	Oxford Road Ahead Left	U	C4:C	C4:J	2	138	0	1004	2205:1709	1184+140	75.9 : 75.9%	-	-	-	6.4	22.8	25.7
1/3	Oxford Road Ahead	U	C4:C		2	138	-	762	2205	1286	59.2%	-	-	-	4.1	19.4	18.1
1/4	Oxford Road Ahead	U	C4:C		2	138	-	478	2105	1228	38.9%	-	-	-	2.1	16.0	9.5
3/2+3/1	Saxon Fields Left Right	U	C4:D	C4:I	2	37	0	445	1619:1894	209+278	91.4 : 91.4%	-	-	-	10.4	84.4	13.0
4/1	Ahead	U	C4:A		2	169	-	1336	2205	1571	84.7%	-	-	-	6.2	16.9	44.7
4/2+4/3	Right Ahead	U	C4:A C4:B		2	169:29	-	1445	2205:1874	1353+242	89.8 : 90.7%	-	-	-	9.2	23.1	52.1
Ped Link: P1	Unnamed Ped Link	-	C4:G		2	11	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P2	Unnamed Ped Link	-	C4:H		2	35	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P3	Unnamed Ped Link	-	C4:F		2	138	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P4	Unnamed Ped Link	-	C4:E		2	25	-	0	-	0	0.0%	-	-	-	-	-	-

C1	PRC for Signalled Lanes (%):	45.6	Total Delay for Signalled Lanes (pcuHr):	18.90	Cycle Time (s):	240
C2	Stream: 1 PRC for Signalled Lanes (%):	-11.5	Total Delay for Signalled Lanes (pcuHr):	100.55	Cycle Time (s):	240
C2	Stream: 2 PRC for Signalled Lanes (%):	36.4	Total Delay for Signalled Lanes (pcuHr):	1.53	Cycle Time (s):	240
C3	PRC for Signalled Lanes (%):	-12.0	Total Delay for Signalled Lanes (pcuHr):	111.66	Cycle Time (s):	240
C4	PRC for Signalled Lanes (%):	-1.6	Total Delay for Signalled Lanes (pcuHr):	38.47	Cycle Time (s):	240
	PRC Over All Lanes (%):	-12.0	Total Delay Over All Lanes(pcuHr):	273.71		

Basic Results Summary
Scenario 4: '2026 AM BTM + Committed + 45k' (FG12: '2026 AM BTM + Committed + 45k', Plan 1: 'Control Plan')
Network Layout Diagram

Basic Results Summary



Basic Results Summary

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	-	-	-		-	-	-	-	-	-	**96.2%**	**114**	**13**	**0**	**158.1**	-	-
J1: Pingle Drive / Oxford	-	-	-		-	-	-	-	-	-	**48.8%**	**0**	**0**	**0**	**9.7**	-	-
1/1	Oxford Road (nb) Ahead	U	C1:A		2	196	-	440	1915	1580	27.9%	-	-	-	0.4	3.6	2.7
1/2	Oxford Road (nb) Ahead	U	C1:A		2	196	-	542	2055	1695	32.0%	-	-	-	0.5	3.0	2.8
1/3	Oxford Road (nb) Right	U	C1:F		2	40	-	61	2042	357	17.1%	-	-	-	0.9	52.0	1.9
1/4	Oxford Road (nb) Right	U	C1:F		2	40	-	71	2042	357	19.9%	-	-	-	0.9	46.0	2.1
2/2+2/1	Pingle Drive Left	U	C1:E		2	46	-	81	2005:1870	316+176	16.5 : 16.5%	-	-	-	1.0	43.8	1.6
2/3	Pingle Drive Right	U	C1:D		2	16	-	50	2067	155	32.3%	-	-	-	1.0	69.8	1.9
3/1	Oxford Road (sb) Left	U	C1:C		2	184	-	175	1908	1479	11.8%	-	-	-	0.2	4.7	1.5
3/2	Oxford Road (sb) Ahead	U	C1:B		2	170	-	736	2105	1509	48.8%	-	-	-	2.0	9.7	11.3
3/3	Oxford Road (sb) Ahead	U	C1:B		2	170	-	735	2105	1509	48.7%	-	-	-	2.0	9.7	11.3
4/1	Oxford Road (nb)	U	-		-	-	-	440	1940	1940	22.7%	-	-	-	0.1	1.2	0.1
4/2	Oxford Road (nb)	U	-		-	-	-	592	2080	2080	28.5%	-	-	-	0.2	1.2	0.2
5/1	Pingle Drive	U	-		-	-	-	236	1965	1965	12.0%	-	-	-	0.1	1.0	0.1
5/2	Pingle Drive	U	-		-	-	-	71	2105	2105	3.4%	-	-	-	0.0	0.9	0.0
6/1	Right Turn Lane Right	U	C1:G		2	34	-	61	1980	297	20.5%	-	-	-	0.2	11.7	0.2
6/2	Right Turn Lane Right	U	C1:G		2	34	-	71	1980	297	23.9%	-	-	-	0.3	13.8	0.3
Ped Link: P1	Unnamed Ped Link	-	C1:H		2	22	-	0	-	0	0.0%	-	-	-	-	-	-

Basic Results Summary

Ped Link: P2	Unnamed Ped Link	-	C1:I		2	170	-	0	-	51000	0.0%	-	-	-	0.0	0.0	0.0
Ped Link: P3	Unnamed Ped Link	-	C1:J		2	158	-	0	-	0	0.0%	-	-	-	-	-	-
J2: Esso Roundabout	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**96.2%**	**114**	**13**	**0**	**92.9**	**-**	**-**
1/1	Oxford Road Left Ahead	U	C2:A		2	169	-	441	2008	1431	30.8%	-	-	-	0.6	4.8	3.4
1/2	Oxford Road Ahead	U	C2:A		2	169	-	589	2155	1535	38.4%	-	-	-	0.9	5.2	5.0
1/3	Oxford Road Right	U	C2:F		2	101	-	686	1973	847	81.0%	-	-	-	4.5	23.4	22.7
1/4	Oxford Road Right	U	C2:F		2	101	-	89	1973	847	10.5%	-	-	-	0.6	22.3	3.2
2/1	Central Link Right	U	C2:G		2	89	-	686	2029	769	89.2%	-	-	-	4.7	24.5	25.9
2/2	Central Link Right	U	C2:G		2	89	-	89	2024	767	11.6%	-	-	-	0.1	3.4	2.5
3/1	Ped Crossing Ahead	U	C2:J		2	204	-	936	1965	1687	55.5%	-	-	-	0.7	2.5	17.2
3/2	Ped Crossing Ahead	U	C2:J		2	204	-	754	2105	1807	41.7%	-	-	-	1.1	5.0	8.0
4/1	Services Entry Left Ahead	O	-		-	-	-	127	2058	467	27.2%	114	13	0	0.2	5.5	0.6
6/1	Oxford Road (sb) Left	U	C2:B		2	64	-	533	2015	554	96.2%	-	-	-	12.8	86.3	26.2
6/2	Oxford Road (sb) Ahead	U	C2:B		2	64	-	539	2105	579	93.1%	-	-	-	10.7	71.3	24.2
6/3	Oxford Road (sb) Ahead	U	C2:B		2	64	-	480	2105	579	82.9%	-	-	-	6.9	51.6	18.4
7/1	Internal (eb) Ahead	U	C2:C		2	49	-	382	2015	428	89.2%	-	-	-	7.9	74.5	16.6
7/2	Internal (eb) Right	U	C2:C		2	49	-	55	1889	401	13.7%	-	-	-	0.7	43.9	1.6
8/1	Right Ahead	U	C2:E		2	64	-	537	2105	579	92.8%	-	-	-	8.7	58.2	11.7
8/2	Right Ahead	U	C2:E		2	64	-	537	2105	579	92.8%	-	-	-	7.7	51.6	12.9
9/1	Ahead Right	U	C2:H		2	49	-	248	2014	428	57.9%	-	-	-	3.4	49.0	8.6

Basic Results Summary

9/2	Right	U	C2:H		2	49	-	249	1973	419	59.4%	-	-	-	2.9	42.4	8.5
10/1	Ahead	U	-		-	-	-	517	2015	2015	25.7%	-	-	-	0.2	1.2	0.2
10/2	Ahead	U	-		-	-	-	552	2155	2155	25.6%	-	-	-	0.2	1.3	7.0
10/3	Ahead Right	U	-		-	-	-	355	2022	2022	17.6%	-	-	-	0.1	1.1	0.1
11/2+11/1	A41 entry Ahead Left	U	C2:D		2	148	-	1391	2105:1965	1141+311	95.8 : 95.8%	-	-	-	15.7	40.6	47.6
11/3	A41 entry Ahead	U	C2:D		2	148	-	449	2105	1316	34.1%	-	-	-	1.6	12.8	7.5
12/1	A41 exit	U	-		-	-	-	936	1965	1965	47.6%	-	-	-	0.5	1.7	2.1
Ped Link: P1	Unnamed Ped Link	-	C2:K		2	8	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P2	Unnamed Ped Link	-	C2:I		2	64	-	0	-	0	0.0%	-	-	-	-	-	-
J3: Oxford Road / Lakeview Drive	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**88.8%**	**0**	**0**	**0**	**38.3**	**-**	**-**
1/1	Oxford Road (nb) Ahead	U	C3:A		2	156	-	774	2155	1419	54.6%	-	-	-	2.0	9.1	9.1
1/2	Oxford Road (nb) Ahead	U	C3:A		2	156	-	867	2155	1419	61.1%	-	-	-	2.5	10.5	25.4
1/3+1/4	Oxford Road (nb) Ahead Right	U	C3:A C3:E		2	156:65	-	534	2105:2155	0+602	0.0 : 88.8%	-	-	-	10.1	68.4	24.9
2/1	Left	U	C3:C		2	148	-	638	1923	1202	53.1%	-	-	-	1.3	7.2	5.7
2/2	Ahead	U	C3:B		2	123	-	869	2105	1096	79.3%	-	-	-	9.4	38.8	24.5
2/3	Ahead	U	C3:B		2	123	-	910	2105	1096	83.0%	-	-	-	6.5	25.6	30.8
3/2+3/1	Lakeview Drive Right Left	U	C3:D	C3:F	2	15:86	71	292	2005:1940	142+629	39.4 : 37.5%	-	-	-	2.9	36.3	6.4
3/3	Lakeview Drive Right	U	C3:D		2	15	-	108	2005	142	76.0%	-	-	-	3.1	103.7	5.2
4/1	Lakeview Drive	U	-		-	-	-	673	1965	1965	34.2%	-	-	-	0.3	1.4	0.3
4/2	Lakeview Drive	U	-		-	-	-	499	1965	1965	25.4%	-	-	-	0.2	1.4	13.4

Basic Results Summary

Ped Link: P1	Unnamed Ped Link	-	C3:G		1	27	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P2	Unnamed Ped Link	-	C3:H		2	63	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P3	Unnamed Ped Link	-	C3:I		2	63	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P4	Unnamed Ped Link	-	C3:K		2	118	-	0	-	0	0.0%	-	-	-	-	-	-
J4: Oxford Road / Saxon Fields	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**78.3%**	**0**	**0**	**0**	**17.1**	**-**	**-**
1/2+1/1	Oxford Road Ahead Left	U	C4:C	C4:J	2	149	0	950	2205:1709	1376+24	67.9 : 67.9%	-	-	-	4.8	18.3	22.6
1/3	Oxford Road Ahead	U	C4:C		2	149	-	682	2205	1387	49.2%	-	-	-	2.8	14.6	13.6
1/4	Oxford Road Ahead	U	C4:C		2	149	-	420	2105	1324	31.7%	-	-	-	1.4	12.4	7.1
3/2+3/1	Saxon Fields Left Right	U	C4:D	C4:I	2	27	0	291	1619:1894	194+178	78.3 : 78.3%	-	-	-	5.8	72.2	6.9
4/1	Ahead	U	C4:A		2	179	-	949	2205	1663	57.1%	-	-	-	0.8	3.1	2.6
4/2+4/3	Right Ahead	U	C4:A C4:B		2	179:28	-	1066	2205:1874	1604+56	64.2 : 64.2%	-	-	-	1.4	4.9	26.3
Ped Link: P1	Unnamed Ped Link	-	C4:G		2	10	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P2	Unnamed Ped Link	-	C4:H		2	25	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P3	Unnamed Ped Link	-	C4:F		2	149	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P4	Unnamed Ped Link	-	C4:E		2	15	-	0	-	0	0.0%	-	-	-	-	-	-

C1	PRC for Signalled Lanes (%):	84.5	Total Delay for Signalled Lanes (pcuHr):	9.32	Cycle Time (s):	240
C2	Stream: 1 PRC for Signalled Lanes (%):	-6.9	Total Delay for Signalled Lanes (pcuHr):	90.08	Cycle Time (s):	240
C2	Stream: 2 PRC for Signalled Lanes (%):	62.2	Total Delay for Signalled Lanes (pcuHr):	1.70	Cycle Time (s):	240
C3	PRC for Signalled Lanes (%):	1.4	Total Delay for Signalled Lanes (pcuHr):	37.81	Cycle Time (s):	240
C4	PRC for Signalled Lanes (%):	15.0	Total Delay for Signalled Lanes (pcuHr):	17.14	Cycle Time (s):	240
	PRC Over All Lanes (%):	-6.9	Total Delay Over All Lanes(pcuHr):	158.06		

Basic Results Summary

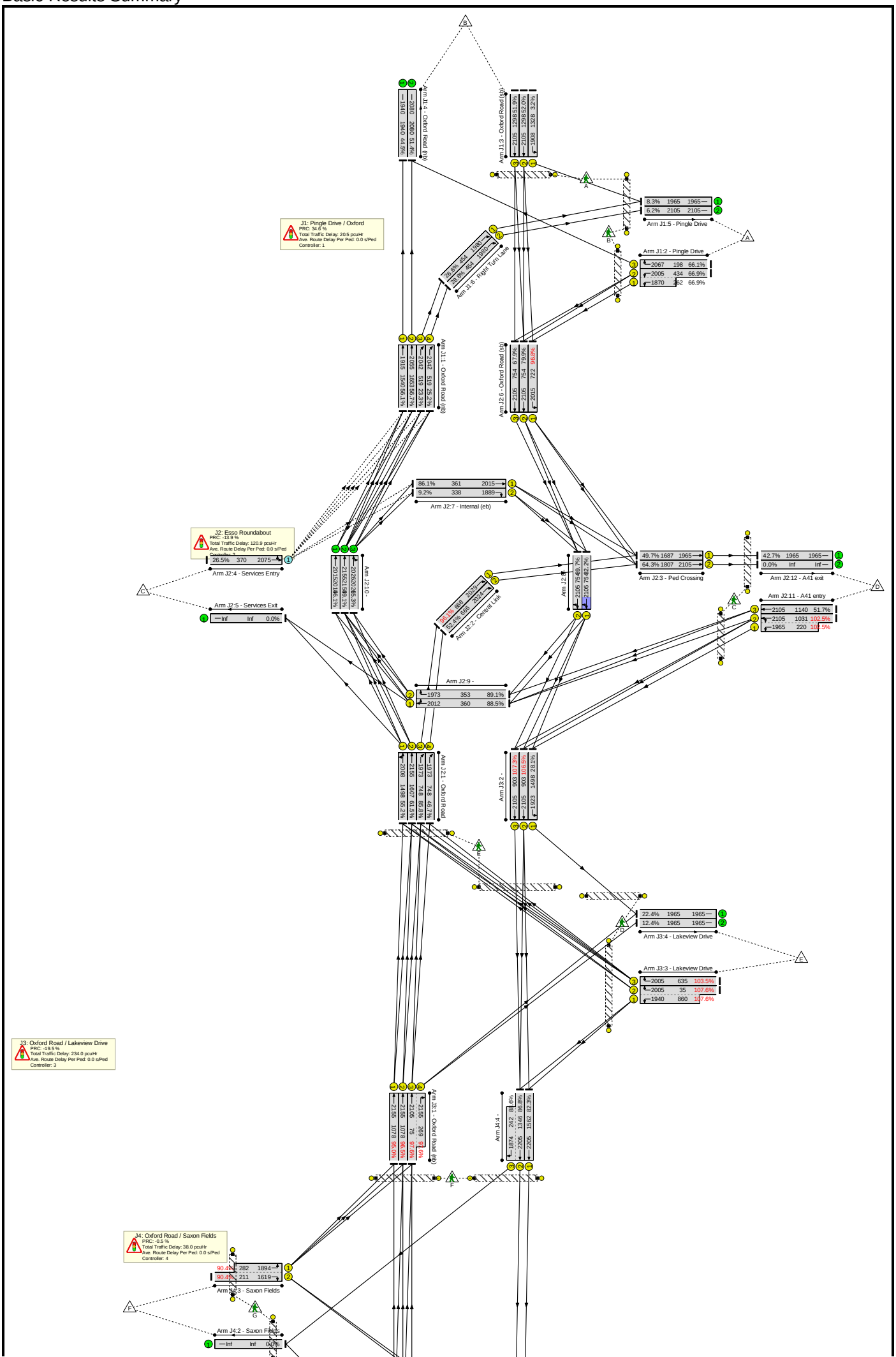
User and Project Details

Project:	**Bicester Office Park**
Title:	
Location:	
Client:	Scenic Land Developments Ltd
Additional detail:	
File name:	Oxford Road Model (inc BG Improvements) - 2018-04-30 Base (inc BV4).lsg3x
Author:	
Company:	Motion
Address:	

Scenario 5: '2026 PM BTM + Committed + Proposed' (FG19: '2026 PM BTM + Committed + Proposed', Plan 1: 'Control Plan')

Network Layout Diagram

Basic Results Summary



Basic Results Summary

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	-	-	-		-	-	-	-	-	-	**107.6%**	**62**	**36**	**0**	**413.4**	-	-
J1: Pingle Drive / Oxford	-	-	-		-	-	-	-	-	-	**66.9%**	**0**	**0**	**0**	**20.5**	-	-
1/1	Oxford Road (nb) Ahead	U	C1:A		2	191	-	871	1915	1540	56.1%	-	-	-	1.0	4.2	7.6
1/2	Oxford Road (nb) Ahead	U	C1:A		2	191	-	945	2055	1653	56.7%	-	-	-	1.1	4.3	10.5
1/3	Oxford Road (nb) Right	U	C1:F		2	59	-	121	2042	519	23.3%	-	-	-	1.2	37.2	3.2
1/4	Oxford Road (nb) Right	U	C1:F		2	59	-	131	2042	519	25.2%	-	-	-	1.1	31.0	3.3
2/2+2/1	Pingle Drive Left	U	C1:E		2	70	-	465	2005:1870	434+262	66.9 : 66.9%	-	-	-	5.4	42.2	11.2
2/3	Pingle Drive Right	U	C1:D		2	21	-	131	2067	198	66.1%	-	-	-	2.9	78.5	5.3
3/1	Oxford Road (sb) Left	U	C1:C		2	165	-	42	1908	1328	3.2%	-	-	-	0.1	7.1	0.5
3/2	Oxford Road (sb) Ahead	U	C1:B		2	146	-	675	2105	1298	52.0%	-	-	-	3.0	16.0	14.2
3/3	Oxford Road (sb) Ahead	U	C1:B		2	146	-	674	2105	1298	51.9%	-	-	-	3.0	15.9	14.2
4/1	Oxford Road (nb)	U	-		-	-	-	871	1940	1940	44.5%	-	-	-	0.4	1.7	0.4
4/2	Oxford Road (nb)	U	-		-	-	-	1076	2080	2080	51.4%	-	-	-	0.5	1.8	0.5
5/1	Pingle Drive	U	-		-	-	-	163	1965	1965	8.3%	-	-	-	0.0	1.0	0.0
5/2	Pingle Drive	U	-		-	-	-	131	2105	2105	6.2%	-	-	-	0.0	0.9	0.0
6/1	Right Turn Lane Right	U	C1:G		2	53	-	121	1980	454	26.6%	-	-	-	0.3	9.3	0.4
6/2	Right Turn Lane Right	U	C1:G		2	53	-	131	1980	454	28.8%	-	-	-	0.4	10.3	0.5
Ped Link: P1	Unnamed Ped Link	-	C1:H		2	41	-	0	-	0	0.0%	-	-	-	-	-	-

Basic Results Summary

Ped Link: P2	Unnamed Ped Link	-	C1:I		2	151	-	0	-	45300	0.0%	-	-	-	0.0	0.0	0.0
Ped Link: P3	Unnamed Ped Link	-	C1:J		2	134	-	0	-	0	0.0%	-	-	-	-	-	-
J2: Esso Roundabout	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**102.5%**	**62**	**36**	**0**	**120.9**	**-**	**-**
1/1	Oxford Road Left Ahead	U	C2:A		2	177	-	834	2008	1498	55.2%	-	-	-	1.3	5.6	7.6
1/2	Oxford Road Ahead	U	C2:A		2	177	-	997	2155	1607	61.5%	-	-	-	1.5	5.5	7.6
1/3	Oxford Road Right	U	C2:F		2	89	-	642	1973	748	85.8%	-	-	-	5.4	30.4	23.8
1/4	Oxford Road Right	U	C2:F		2	89	-	359	1973	748	46.7%	-	-	-	5.1	52.7	11.9
2/1	Central Link Right	U	C2:G		2	77	-	642	2029	668	96.1%	-	-	-	8.5	47.9	27.8
2/2	Central Link Right	U	C2:G		2	77	-	359	2024	666	52.4%	-	-	-	0.6	6.5	11.3
3/1	Ped Crossing Ahead	U	C2:J		2	204	-	839	1965	1687	49.7%	-	-	-	1.1	4.9	16.4
3/2	Ped Crossing Ahead	U	C2:J		2	204	-	1172	2105	1807	64.3%	-	-	-	1.2	3.7	5.0
4/1	Services Entry Left Ahead	O	-		-	-	-	98	2075	370	26.5%	62	36	0	0.2	7.6	0.9
6/1	Oxford Road (sb) Left	U	C2:B		2	84	-	699	2015	722	96.8%	-	-	-	14.3	73.6	32.4
6/2	Oxford Road (sb) Ahead	U	C2:B		2	84	-	603	2105	754	79.9%	-	-	-	6.2	37.1	20.8
6/3	Oxford Road (sb) Ahead	U	C2:B		2	84	-	512	2105	754	67.9%	-	-	-	4.5	31.7	15.1
7/1	Internal (eb) Ahead	U	C2:C		2	41	-	311	2015	361	86.1%	-	-	-	6.3	72.6	14.4
7/2	Internal (eb) Right	U	C2:C		2	41	-	31	1889	338	9.2%	-	-	-	0.4	46.0	0.9
8/1	Right Ahead	U	C2:E		2	84	-	620	2105	754	82.2%	-	-	-	3.7	21.7	5.5
8/2	Right Ahead	U	C2:E		2	84	-	526	2105	754	69.7%	-	-	-	2.3	15.5	3.7
9/1	Ahead Right	U	C2:H		2	41	-	319	2012	360	88.5%	-	-	-	6.5	73.3	13.8

Basic Results Summary

9/2	Right	U	C2:H		2	41	-	315	1973	353	89.1%	-	-	-	6.1	70.2	13.7
10/1	Ahead	U	-		-	-	-	937	2015	2015	46.1%	-	-	-	0.4	1.7	0.4
10/2	Ahead	U	-		-	-	-	1065	2155	2155	49.1%	-	-	-	0.5	1.7	8.4
10/3	Ahead Right	U	-		-	-	-	310	2026	2026	15.3%	-	-	-	0.1	1.0	0.1
11/2+11/1	A41 entry Ahead Left	U	C2:D		2	128	-	1282	2105:1965	1031+220	102.5 : 102.5%	-	-	-	40.7	114.3	74.2
11/3	A41 entry Ahead	U	C2:D		2	128	-	589	2105	1140	51.7%	-	-	-	3.4	20.8	13.5
12/1	A41 exit	U	-		-	-	-	839	1965	1965	42.7%	-	-	-	0.4	1.6	2.0
Ped Link: P1	Unnamed Ped Link	-	C2:K		2	8	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P2	Unnamed Ped Link	-	C2:I		2	84	-	0	-	0	0.0%	-	-	-	-	-	-
J3: Oxford Road / Lakeview Drive	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**107.6%**	**0**	**0**	**0**	**234.0**	**-**	**-**
1/1	Oxford Road (nb) Ahead	U	C3:A		2	118	-	1024	2155	1078	95.0%	-	-	-	12.1	42.5	45.4
1/2	Oxford Road (nb) Ahead	U	C3:A		2	118	-	1040	2155	1078	96.5%	-	-	-	13.6	47.1	48.4
1/3+1/4	Oxford Road (nb) Ahead Right	U	C3:A C3:E		2	118:28	-	336	2105:2155	75+269	97.6 : 97.6%	-	-	-	11.7	125.6	18.8
2/1	Left	U	C3:C		2	185	-	426	1923	1498	28.1%	-	-	-	0.8	7.1	4.6
2/2	Ahead	U	C3:B		2	101	-	977	2105	903	106.5%	-	-	-	52.5	196.3	74.8
2/3	Ahead	U	C3:B		2	101	-	980	2105	903	107.3%	-	-	-	53.8	199.7	78.3
3/2+3/1	Lakeview Drive Right Left	U	C3:D	C3:F	2	74:108	34	963	2005:1940	35+860	107.6 : 107.6%	-	-	-	59.2	221.1	82.6
3/3	Lakeview Drive Right	U	C3:D		2	74	-	657	2005	635	103.5%	-	-	-	30.1	165.1	44.0
4/1	Lakeview Drive	U	-		-	-	-	446	1965	1965	22.4%	-	-	-	0.1	1.2	0.1
4/2	Lakeview Drive	U	-		-	-	-	243	1965	1965	12.4%	-	-	-	0.1	1.1	6.7

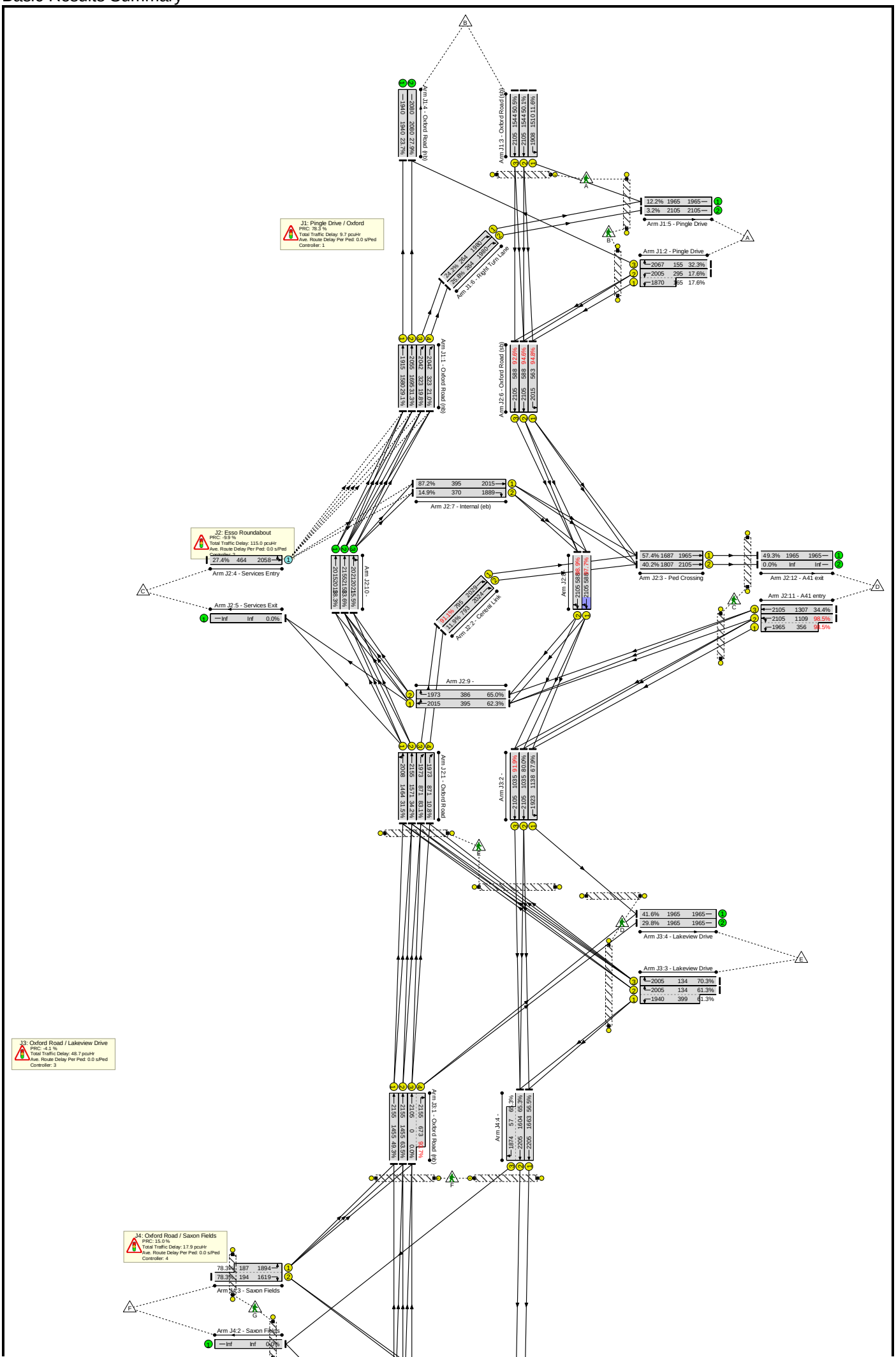
Basic Results Summary

Ped Link: P1	Unnamed Ped Link	-	C3:G		1	6	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P2	Unnamed Ped Link	-	C3:H		2	26	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P3	Unnamed Ped Link	-	C3:I		2	26	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P4	Unnamed Ped Link	-	C3:K		2	96	-	0	-	0	0.0%	-	-	-	-	-	-
J4: Oxford Road / Saxon Fields	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**90.4%**	**0**	**0**	**0**	**38.0**	**-**	**-**
1/2+1/1	Oxford Road Ahead Left	U	C4:C	C4:J	2	137	0	1078	2205:1709	1183+129	82.2 : 82.2%	-	-	-	7.9	26.3	29.4
1/3	Oxford Road Ahead	U	C4:C		2	137	-	871	2205	1277	68.2%	-	-	-	5.3	22.0	21.6
1/4	Oxford Road Ahead	U	C4:C		2	137	-	302	2105	1219	24.8%	-	-	-	1.2	14.4	5.2
3/2+3/1	Saxon Fields Left Right	U	C4:D	C4:I	2	38	0	446	1619:1894	211+282	90.4 : 90.4%	-	-	-	10.0	80.8	12.9
4/1	Ahead	U	C4:A		2	168	-	1388	2205	1562	82.3%	-	-	-	5.7	16.0	39.7
4/2+4/3	Right Ahead	U	C4:A C4:B		2	168:29	-	1494	2205:1874	1346+242	86.8 : 88.6%	-	-	-	7.8	20.4	48.2
Ped Link: P1	Unnamed Ped Link	-	C4:G		2	11	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P2	Unnamed Ped Link	-	C4:H		2	36	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P3	Unnamed Ped Link	-	C4:F		2	137	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P4	Unnamed Ped Link	-	C4:E		2	26	-	0	-	0	0.0%	-	-	-	-	-	-

C1	PRC for Signalled Lanes (%):	34.6	Total Delay for Signalled Lanes (pcuHr):	19.54	Cycle Time (s): 240
C2	Stream: 1 PRC for Signalled Lanes (%):	-13.9	Total Delay for Signalled Lanes (pcuHr):	116.96	Cycle Time (s): 240
C2	Stream: 2 PRC for Signalled Lanes (%):	39.9	Total Delay for Signalled Lanes (pcuHr):	2.34	Cycle Time (s): 240
C3	PRC for Signalled Lanes (%):	-19.5	Total Delay for Signalled Lanes (pcuHr):	233.77	Cycle Time (s): 240
C4	PRC for Signalled Lanes (%):	-0.5	Total Delay for Signalled Lanes (pcuHr):	37.95	Cycle Time (s): 240
	PRC Over All Lanes (%):	-19.5	Total Delay Over All Lanes(pcuHr):	413.38	

Basic Results Summary
Scenario 6: '2026 AM BTM + Committed + Proposed' (FG18: '2026 AM BTM + Committed + Proposed', Plan 1: 'Control Plan')
Network Layout Diagram

Basic Results Summary



Basic Results Summary

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	-	-	-		-	-	-	-	-	-	**98.9%**	**117**	**10**	**0**	**191.3**	-	-
J1: Pingle Drive / Oxford	-	-	-		-	-	-	-	-	-	**50.5%**	**0**	**0**	**0**	**9.7**	-	-
1/1	Oxford Road (nb) Ahead	U	C1:A		2	196	-	459	1915	1580	29.1%	-	-	-	0.3	2.6	1.6
1/2	Oxford Road (nb) Ahead	U	C1:A		2	196	-	530	2055	1695	31.3%	-	-	-	0.4	2.6	2.0
1/3	Oxford Road (nb) Right	U	C1:F		2	36	-	64	2042	323	19.8%	-	-	-	1.0	56.4	2.1
1/4	Oxford Road (nb) Right	U	C1:F		2	36	-	68	2042	323	21.0%	-	-	-	0.9	47.3	2.2
2/2+2/1	Pingle Drive Left	U	C1:E		2	42	-	81	2005:1870	295+165	17.6 : 17.6%	-	-	-	1.0	45.8	1.6
2/3	Pingle Drive Right	U	C1:D		2	16	-	50	2067	155	32.3%	-	-	-	1.0	69.7	1.8
3/1	Oxford Road (sb) Left	U	C1:C		2	188	-	175	1908	1510	11.6%	-	-	-	0.2	4.2	1.4
3/2	Oxford Road (sb) Ahead	U	C1:B		2	174	-	773	2105	1544	50.1%	-	-	-	2.0	9.1	11.7
3/3	Oxford Road (sb) Ahead	U	C1:B		2	174	-	779	2105	1544	50.5%	-	-	-	2.0	9.1	11.8
4/1	Oxford Road (nb)	U	-		-	-	-	459	1940	1940	23.7%	-	-	-	0.2	1.2	0.2
4/2	Oxford Road (nb)	U	-		-	-	-	580	2080	2080	27.9%	-	-	-	0.2	1.2	0.2
5/1	Pingle Drive	U	-		-	-	-	239	1965	1965	12.2%	-	-	-	0.1	1.0	0.1
5/2	Pingle Drive	U	-		-	-	-	68	2105	2105	3.2%	-	-	-	0.0	0.9	0.0
6/1	Right Turn Lane Right	U	C1:G		2	30	-	64	1980	264	24.2%	-	-	-	0.2	12.6	0.2
6/2	Right Turn Lane Right	U	C1:G		2	30	-	68	1980	264	25.8%	-	-	-	0.3	13.7	0.3
Ped Link: P1	Unnamed Ped Link	-	C1:H		2	18	-	0	-	0	0.0%	-	-	-	-	-	-

Basic Results Summary

Ped Link: P2	Unnamed Ped Link	-	C1:I		2	174	-	0	-	52200	0.0%	-	-	-	0.0	0.0	0.0
Ped Link: P3	Unnamed Ped Link	-	C1:J		2	162	-	0	-	0	0.0%	-	-	-	-	-	-
J2: Esso Roundabout	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**98.9%**	**117**	**10**	**0**	**115.0**	**-**	**-**
1/1	Oxford Road Left Ahead	U	C2:A		2	173	-	461	2008	1464	31.5%	-	-	-	0.5	3.6	4.2
1/2	Oxford Road Ahead	U	C2:A		2	173	-	538	2155	1571	34.2%	-	-	-	0.5	3.5	3.0
1/3	Oxford Road Right	U	C2:F		2	104	-	724	1973	871	83.1%	-	-	-	5.6	28.0	26.7
1/4	Oxford Road Right	U	C2:F		2	104	-	94	1973	871	10.8%	-	-	-	0.9	35.8	3.3
2/1	Central Link Right	U	C2:G		2	92	-	724	2029	795	91.1%	-	-	-	5.1	25.3	26.7
2/2	Central Link Right	U	C2:G		2	92	-	94	2024	793	11.9%	-	-	-	0.1	3.3	2.6
3/1	Ped Crossing Ahead	U	C2:J		2	204	-	968	1965	1687	57.4%	-	-	-	0.8	2.8	19.8
3/2	Ped Crossing Ahead	U	C2:J		2	204	-	727	2105	1807	40.2%	-	-	-	1.0	4.9	7.2
4/1	Services Entry Left Ahead	O	-		-	-	-	127	2058	464	27.4%	117	10	0	0.2	5.6	0.6
6/1	Oxford Road (sb) Left	U	C2:B		2	65	-	533	2015	563	94.8%	-	-	-	11.6	78.7	23.8
6/2	Oxford Road (sb) Ahead	U	C2:B		2	65	-	556	2105	588	94.6%	-	-	-	11.8	76.7	24.5
6/3	Oxford Road (sb) Ahead	U	C2:B		2	65	-	544	2105	588	92.6%	-	-	-	10.4	69.0	22.7
7/1	Internal (eb) Ahead	U	C2:C		2	45	-	344	2015	395	87.2%	-	-	-	7.4	77.4	15.4
7/2	Internal (eb) Right	U	C2:C		2	45	-	55	1889	370	14.9%	-	-	-	0.7	45.8	1.6
8/1	Right Ahead	U	C2:E		2	65	-	574	2105	588	97.7%	-	-	-	12.9	81.1	16.2
8/2	Right Ahead	U	C2:E		2	65	-	581	2105	588	98.9%	-	-	-	14.2	88.2	20.5
9/1	Ahead Right	U	C2:H		2	45	-	246	2015	395	62.3%	-	-	-	3.6	52.6	8.6

Basic Results Summary

9/2	Right	U	C2:H		2	45	-	251	1973	386	65.0%	-	-	-	3.3	46.6	8.7
10/1	Ahead	U	-		-	-	-	571	2015	2015	28.3%	-	-	-	0.2	1.2	0.2
10/2	Ahead	U	-		-	-	-	509	2155	2155	23.6%	-	-	-	0.2	1.1	3.8
10/3	Ahead Right	U	-		-	-	-	313	2021	2021	15.5%	-	-	-	0.1	1.1	0.1
11/2+11/1	A41 entry Ahead Left	U	C2:D		2	147	-	1444	2105:1965	1109+356	98.5 : 98.5%	-	-	-	21.7	54.2	56.0
11/3	A41 entry Ahead	U	C2:D		2	147	-	449	2105	1307	34.4%	-	-	-	1.6	13.1	7.5
12/1	A41 exit	U	-		-	-	-	968	1965	1965	49.3%	-	-	-	0.5	1.8	4.9
Ped Link: P1	Unnamed Ped Link	-	C2:K		2	8	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P2	Unnamed Ped Link	-	C2:I		2	65	-	0	-	0	0.0%	-	-	-	-	-	-
J3: Oxford Road / Lakeview Drive	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**93.7%**	**0**	**0**	**0**	**48.7**	**-**	**-**
1/1	Oxford Road (nb) Ahead	U	C3:A		2	160	-	717	2155	1455	49.3%	-	-	-	1.5	7.5	6.2
1/2	Oxford Road (nb) Ahead	U	C3:A		2	160	-	924	2155	1455	63.5%	-	-	-	2.4	9.5	26.7
1/3+1/4	Oxford Road (nb) Ahead Right	U	C3:A C3:E		2	160:73	-	631	2105:2155	0+673	0.0 : 93.7%	-	-	-	14.7	83.8	39.6
2/1	Left	U	C3:C		2	140	-	772	1923	1138	67.9%	-	-	-	3.5	16.2	14.2
2/2	Ahead	U	C3:B		2	116	-	828	2105	1035	80.0%	-	-	-	10.3	45.0	29.0
2/3	Ahead	U	C3:B		2	116	-	951	2105	1035	91.9%	-	-	-	9.4	35.5	37.9
3/2+3/1	Lakeview Drive Right Left	U	C3:D	C3:F	2	14:93	79	327	2005:1940	134+399	61.3 : 61.3%	-	-	-	3.8	41.4	7.0
3/3	Lakeview Drive Right	U	C3:D		2	14	-	94	2005	134	70.3%	-	-	-	2.6	97.8	4.3
4/1	Lakeview Drive	U	-		-	-	-	818	1965	1965	41.6%	-	-	-	0.4	1.6	0.4
4/2	Lakeview Drive	U	-		-	-	-	585	1965	1965	29.8%	-	-	-	0.2	1.5	20.5

Basic Results Summary

Ped Link: P1	Unnamed Ped Link	-	C3:G		1	24	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P2	Unnamed Ped Link	-	C3:H		2	71	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P3	Unnamed Ped Link	-	C3:I		2	71	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P4	Unnamed Ped Link	-	C3:K		2	111	-	0	-	0	0.0%	-	-	-	-	-	-
J4: Oxford Road / Saxon Fields	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**78.3%**	**0**	**0**	**0**	**17.9**	**-**	**-**
1/2+1/1	Oxford Road Ahead Left	U	C4:C	C4:J	2	149	0	959	2205:1709	1376+23	68.5 : 68.5%	-	-	-	4.9	18.5	23.0
1/3	Oxford Road Ahead	U	C4:C		2	149	-	712	2205	1387	51.3%	-	-	-	3.0	14.9	14.4
1/4	Oxford Road Ahead	U	C4:C		2	149	-	471	2105	1324	35.6%	-	-	-	1.7	12.8	8.3
3/2+3/1	Saxon Fields Left Right	U	C4:D	C4:I	2	27	0	298	1619:1894	194+187	78.3 : 78.3%	-	-	-	5.9	71.8	6.7
4/1	Ahead	U	C4:A		2	179	-	939	2205	1663	56.5%	-	-	-	0.9	3.5	5.0
4/2+4/3	Right Ahead	U	C4:A C4:B		2	179:28	-	1085	2205:1874	1604+57	65.3 : 65.3%	-	-	-	1.5	5.1	22.2
Ped Link: P1	Unnamed Ped Link	-	C4:G		2	10	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P2	Unnamed Ped Link	-	C4:H		2	25	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P3	Unnamed Ped Link	-	C4:F		2	149	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P4	Unnamed Ped Link	-	C4:E		2	15	-	0	-	0	0.0%	-	-	-	-	-	-

C1	PRC for Signalled Lanes (%):	78.3	Total Delay for Signalled Lanes (pcuHr):	9.22	Cycle Time (s):	240
C2	Stream: 1 PRC for Signalled Lanes (%):	-9.9	Total Delay for Signalled Lanes (pcuHr):	112.11	Cycle Time (s):	240
C2	Stream: 2 PRC for Signalled Lanes (%):	56.8	Total Delay for Signalled Lanes (pcuHr):	1.74	Cycle Time (s):	240
C3	PRC for Signalled Lanes (%):	-4.1	Total Delay for Signalled Lanes (pcuHr):	48.12	Cycle Time (s):	240
C4	PRC for Signalled Lanes (%):	15.0	Total Delay for Signalled Lanes (pcuHr):	17.95	Cycle Time (s):	240
	PRC Over All Lanes (%):	-9.9	Total Delay Over All Lanes(pcuHr):	191.30		

Basic Results Summary

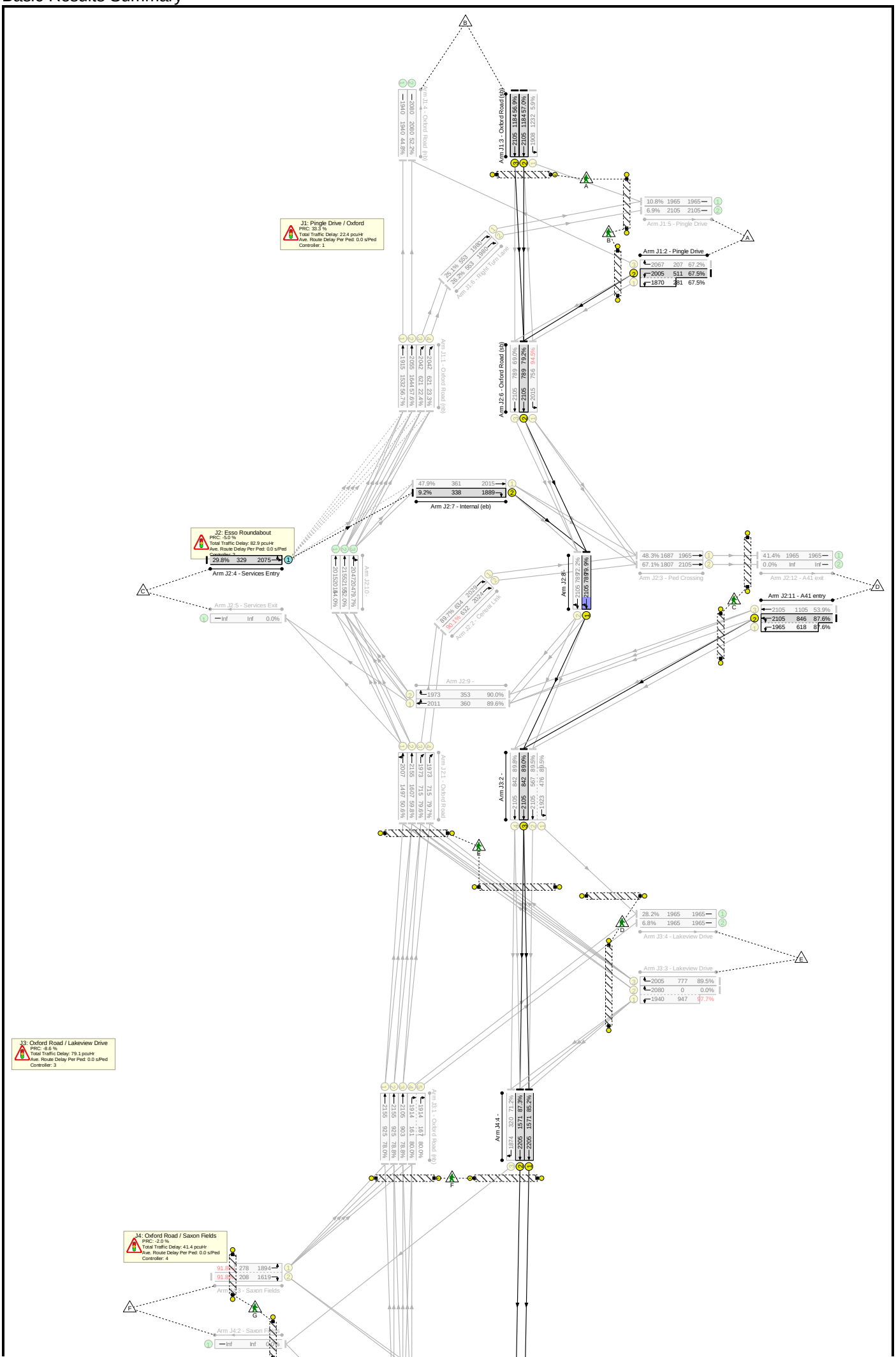
User and Project Details

Project:	**Bicester Office Park**
Title:	
Location:	
Client:	Scenic Land Developments Ltd
Additional detail:	
File name:	Oxford Road Model (inc BG Improvements) - 2018-04-30 with Mitigation (inc BV4).lsg3x
Author:	
Company:	Motion
Address:	

Basic Results Summary

Scenario 1: '2026 PM BTM + Committed + 60k' (FG17: '2026 PM BTM + Committed + 60k', Plan 1: 'Control Plan')
Network Layout Diagram

Basic Results Summary



Basic Results Summary

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	-	-	-		-	-	-	-	-	-	**97.7%**	**79**	**19**	**0**	**225.9**	-	-
J1: Pingle Drive / Oxford	-	-	-		-	-	-	-	-	-	**67.5%**	**0**	**0**	**0**	**22.4**	-	-
1/1	Oxford Road (nb) Ahead	U	C1:A		2	190	-	869	1915	1532	56.7%	-	-	-	1.1	4.4	4.1
1/2	Oxford Road (nb) Ahead	U	C1:A		2	190	-	947	2055	1644	57.6%	-	-	-	1.1	4.3	6.5
1/3	Oxford Road (nb) Right	U	C1:F		2	71	-	139	2042	621	22.4%	-	-	-	1.0	25.8	2.8
1/4	Oxford Road (nb) Right	U	C1:F		2	71	-	145	2042	621	23.3%	-	-	-	1.0	25.4	2.8
2/2+2/1	Pingle Drive Left	U	C1:E		2	83	-	535	2005:1870	511+281	67.5 : 67.5%	-	-	-	5.6	37.4	13.0
2/3	Pingle Drive Right	U	C1:D		2	22	-	139	2067	207	67.2%	-	-	-	3.0	78.1	5.7
3/1	Oxford Road (sb) Left	U	C1:C		2	153	-	73	1908	1232	5.9%	-	-	-	0.2	9.4	0.9
3/2	Oxford Road (sb) Ahead	U	C1:B		2	133	-	675	2105	1184	57.0%	-	-	-	3.8	20.4	15.5
3/3	Oxford Road (sb) Ahead	U	C1:B		2	133	-	674	2105	1184	56.9%	-	-	-	3.8	20.4	15.4
4/1	Oxford Road (nb)	U	-		-	-	-	869	1940	1940	44.8%	-	-	-	0.4	1.7	0.4
4/2	Oxford Road (nb)	U	-		-	-	-	1086	2080	2080	52.2%	-	-	-	0.5	1.8	0.5
5/1	Pingle Drive	U	-		-	-	-	212	1965	1965	10.8%	-	-	-	0.1	1.0	0.1
5/2	Pingle Drive	U	-		-	-	-	145	2105	2105	6.9%	-	-	-	0.0	0.9	0.0
6/1	Right Turn Lane Right	U	C1:G		2	65	-	139	1980	553	25.1%	-	-	-	0.3	8.6	0.4
6/2	Right Turn Lane Right	U	C1:G		2	65	-	145	1980	553	26.2%	-	-	-	0.4	9.2	0.5
Ped Link: P1	Unnamed Ped Link	-	C1:H		2	53	-	0	-	0	0.0%	-	-	-	-	-	-

Basic Results Summary

Ped Link: P2	Unnamed Ped Link	-	C1:I		2	139	-	0	-	41700	0.0%	-	-	-	0.0	0.0	0.0
Ped Link: P3	Unnamed Ped Link	-	C1:J		2	121	-	0	-	0	0.0%	-	-	-	-	-	-
J2: Esso Roundabout	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**94.5%**	**79**	**19**	**0**	**82.9**	**-**	**-**
1/1	Oxford Road Left Ahead	U	C2:A		2	177	-	757	2007	1497	50.6%	-	-	-	1.1	5.2	7.8
1/2	Oxford Road Ahead	U	C2:A		2	177	-	961	2155	1607	59.8%	-	-	-	1.3	4.8	16.9
1/3	Oxford Road Right	U	C2:F		2	85	-	569	1973	715	79.6%	-	-	-	5.1	32.4	20.3
1/4	Oxford Road Right	U	C2:F		2	85	-	570	1973	715	79.7%	-	-	-	5.4	34.4	20.3
2/1	Central Link Right	U	C2:G		2	73	-	569	2029	634	89.7%	-	-	-	4.2	26.6	21.6
2/2	Central Link Right	U	C2:G		2	73	-	570	2024	632	90.1%	-	-	-	4.4	27.5	22.1
3/1	Ped Crossing Ahead	U	C2:J		2	204	-	814	1965	1687	48.3%	-	-	-	0.5	2.3	13.2
3/2	Ped Crossing Ahead	U	C2:J		2	204	-	1212	2105	1807	67.1%	-	-	-	1.1	3.3	4.0
4/1	Services Entry Left Ahead	O	-		-	-	-	98	2075	329	29.8%	79	19	0	0.3	11.3	1.2
6/1	Oxford Road (sb) Left	U	C2:B		2	88	-	714	2015	756	94.5%	-	-	-	11.8	59.7	30.3
6/2	Oxford Road (sb) Ahead	U	C2:B		2	88	-	625	2105	789	79.2%	-	-	-	6.2	35.6	21.2
6/3	Oxford Road (sb) Ahead	U	C2:B		2	88	-	545	2105	789	69.0%	-	-	-	4.4	29.4	14.7
7/1	Internal (eb) Ahead	U	C2:C		2	41	-	173	2015	361	47.9%	-	-	-	2.4	50.7	6.4
7/2	Internal (eb) Right	U	C2:C		2	41	-	31	1889	338	9.2%	-	-	-	0.4	43.5	0.9
8/1	Right Ahead	U	C2:E		2	88	-	631	2105	789	79.9%	-	-	-	3.2	18.0	4.3
8/2	Right Ahead	U	C2:E		2	88	-	570	2105	789	72.2%	-	-	-	2.4	15.1	7.8
9/1	Ahead Right	U	C2:H		2	41	-	323	2011	360	89.6%	-	-	-	6.7	75.0	14.4

Basic Results Summary

9/2	Right	U	C2:H		2	41	-	318	1973	353	90.0%	-	-	-	6.3	71.3	14.3
10/1	Ahead	U	-		-	-	-	886	2015	2015	44.0%	-	-	-	0.4	1.6	0.4
10/2	Ahead	U	-		-	-	-	1121	2155	2155	52.0%	-	-	-	0.5	1.7	0.5
10/3	Ahead Right	U	-		-	-	-	199	2047	2047	9.7%	-	-	-	0.1	1.0	0.1
11/2+11/1	A41 entry Ahead Left	U	C2:D		2	124	-	1282	2105:1965	846+618	87.6 : 87.6%	-	-	-	10.6	29.6	24.2
11/3	A41 entry Ahead	U	C2:D		2	124	-	596	2105	1105	53.9%	-	-	-	3.7	22.4	13.7
12/1	A41 exit	U	-		-	-	-	814	1965	1965	41.4%	-	-	-	0.4	1.6	0.4
Ped Link: P1	Unnamed Ped Link	-	C2:K		2	8	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P2	Unnamed Ped Link	-	C2:I		2	88	-	0	-	0	0.0%	-	-	-	-	-	-
J3: Oxford Road / Lakeview Drive	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**97.7%**	**0**	**0**	**0**	**79.1**	**-**	**-**
1/1	Oxford Road (nb) Ahead	U	C3:A		2	101	-	721	2155	925	78.0%	-	-	-	4.5	22.6	24.1
1/2	Oxford Road (nb) Ahead	U	C3:A		2	101	-	729	2155	925	78.8%	-	-	-	4.5	22.3	24.3
1/3	Oxford Road (nb) Ahead	U	C3:A		2	101	-	712	2105	903	78.8%	-	-	-	4.6	23.4	23.8
1/4+1/5	Oxford Road (nb) Right	U	C3:E		2	19	-	263	1914:1914	161+167	80.0 : 80.0%	-	-	-	4.9	67.4	6.4
2/2+2/1	Left Ahead	U	C3:B C3:C		2	94:195	-	933	2105:1923	567+476	89.5 : 89.5%	-	-	-	10.1	39.1	27.7
2/3	Ahead	U	C3:B		2	94	-	749	2105	842	89.0%	-	-	-	13.2	63.6	28.1
2/4	Ahead	U	C3:B		2	94	-	756	2105	842	89.8%	-	-	-	7.2	34.3	26.4
3/2+3/1	Lakeview Drive Right Left	U	C3:D	C3:F	2	91:116	25	925	2080:1940	0+947	0.0 : 97.7%	-	-	-	18.6	72.3	42.3
3/3	Lakeview Drive Right	U	C3:D		2	91	-	695	2005	777	89.5%	-	-	-	11.1	57.7	27.4
4/1	Lakeview Drive	U	-		-	-	-	555	1965	1965	28.2%	-	-	-	0.2	1.3	1.3

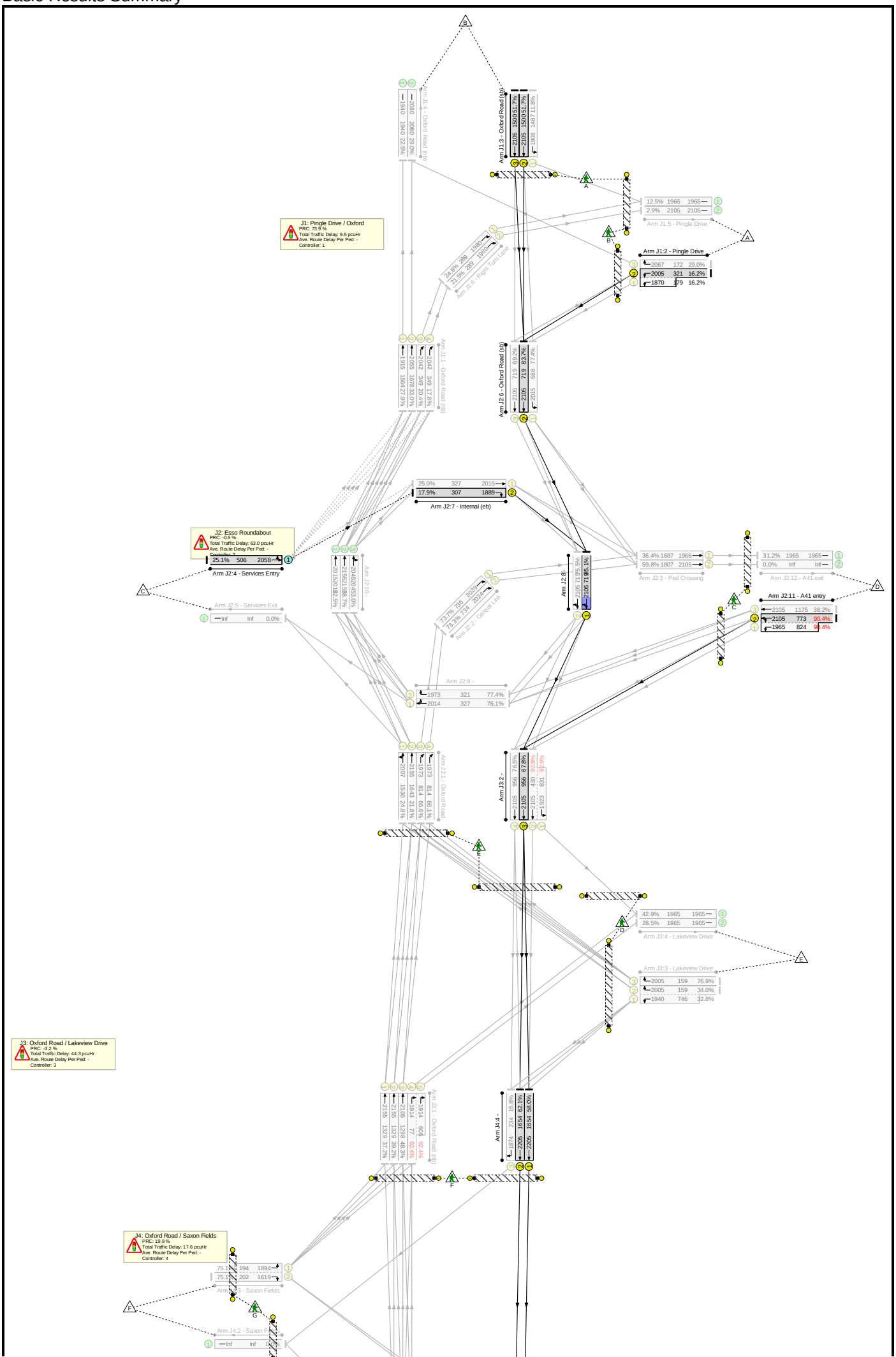
Basic Results Summary

4/2	Lakeview Drive	U	-		-	-	-	134	1965	1965	6.8%	-	-	-	0.0	1.0	0.0
Ped Link: P1	Unnamed Ped Link	-	C3:G		1	6	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P2	Unnamed Ped Link	-	C3:H		2	16	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P3	Unnamed Ped Link	-	C3:I		2	16	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P4	Unnamed Ped Link	-	C3:K		2	88	-	0	-	0	0.0%	-	-	-	-	-	-
J4: Oxford Road / Saxon Fields	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**91.8%**	**0**	**0**	**0**	**41.4**	**-**	**-**
1/2+1/1	Oxford Road Ahead Left	U	C4:C	C4:J	2	128	0	919	2205:1709	1095+143	74.3 : 74.3%	-	-	-	6.4	25.1	23.2
1/3	Oxford Road Ahead	U	C4:C		2	128	-	705	2205	1194	59.0%	-	-	-	4.4	22.3	17.4
1/4	Oxford Road Ahead	U	C4:C		2	128	-	652	2105	1140	57.2%	-	-	-	4.0	22.0	15.9
3/2+3/1	Saxon Fields Left Right	U	C4:D	C4:I	2	37	0	446	1619:1894	208+278	91.8 : 91.8%	-	-	-	10.5	85.0	13.4
4/1	Ahead	U	C4:A		2	169	-	1338	2205	1571	85.2%	-	-	-	5.9	16.0	44.8
4/2	Ahead	U	C4:A		2	169	-	1371	2205	1571	87.3%	-	-	-	6.2	16.4	30.9
4/3	Right	U	C4:B		2	39	-	228	1874	320	71.2%	-	-	-	4.0	62.6	8.7
Ped Link: P1	Unnamed Ped Link	-	C4:G		2	21	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P2	Unnamed Ped Link	-	C4:H		2	35	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P3	Unnamed Ped Link	-	C4:F		2	128	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P4	Unnamed Ped Link	-	C4:E		2	25	-	0	-	0	0.0%	-	-	-	-	-	-

C1	PRC for Signalled Lanes (%):	33.3	Total Delay for Signalled Lanes (pcuHr):	21.36	Cycle Time (s): 240
C2	Stream: 1 PRC for Signalled Lanes (%):	-5.0	Total Delay for Signalled Lanes (pcuHr):	79.64	Cycle Time (s): 240
C2	Stream: 2 PRC for Signalled Lanes (%):	34.2	Total Delay for Signalled Lanes (pcuHr):	1.62	Cycle Time (s): 240
C3	PRC for Signalled Lanes (%):	-8.6	Total Delay for Signalled Lanes (pcuHr):	78.89	Cycle Time (s): 240
C4	PRC for Signalled Lanes (%):	-2.0	Total Delay for Signalled Lanes (pcuHr):	41.41	Cycle Time (s): 240
	PRC Over All Lanes (%):	-8.6	Total Delay Over All Lanes(pcuHr):	225.85	

Basic Results Summary
Scenario 2: '2026 AM BTM + Committed + 60k' (FG16: '2026 AM BTM + Committed + 60k', Plan 1: 'Control Plan')
Network Layout Diagram

Basic Results Summary



Basic Results Summary

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	-	-	-		-	-	-	-	-	-	**92.9%**	**121**	**6**	**0**	**134.5**	-	-
J1: Pingle Drive / Oxford	-	-	-		-	-	-	-	-	-	**51.7%**	**0**	**0**	**0**	**9.5**	-	-
1/1	Oxford Road (nb) Ahead	U	C1:A		2	194	-	436	1915	1564	27.9%	-	-	-	0.3	2.2	1.5
1/2	Oxford Road (nb) Ahead	U	C1:A		2	194	-	553	2055	1678	33.0%	-	-	-	0.3	2.2	1.8
1/3	Oxford Road (nb) Right	U	C1:F		2	39	-	71	2042	349	20.4%	-	-	-	0.9	44.6	2.7
1/4	Oxford Road (nb) Right	U	C1:F		2	39	-	62	2042	349	17.8%	-	-	-	0.7	39.7	2.3
2/2+2/1	Pingle Drive Left	U	C1:E		2	47	-	81	2005:1870	321+179	16.2 : 16.2%	-	-	-	1.0	43.5	1.6
2/3	Pingle Drive Right	U	C1:D		2	18	-	50	2067	172	29.0%	-	-	-	0.9	66.6	1.9
3/1	Oxford Road (sb) Left	U	C1:C		2	185	-	175	1908	1487	11.8%	-	-	-	0.2	4.6	1.5
3/2	Oxford Road (sb) Ahead	U	C1:B		2	169	-	776	2105	1500	51.7%	-	-	-	2.2	10.3	12.4
3/3	Oxford Road (sb) Ahead	U	C1:B		2	169	-	776	2105	1500	51.7%	-	-	-	2.2	10.3	12.4
4/1	Oxford Road (nb)	U	-		-	-	-	436	1940	1940	22.5%	-	-	-	0.1	1.2	0.1
4/2	Oxford Road (nb)	U	-		-	-	-	603	2080	2080	29.0%	-	-	-	0.2	1.2	0.2
5/1	Pingle Drive	U	-		-	-	-	246	1965	1965	12.5%	-	-	-	0.1	1.0	0.1
5/2	Pingle Drive	U	-		-	-	-	62	2105	2105	2.9%	-	-	-	0.0	0.9	0.0
6/1	Right Turn Lane Right	U	C1:G		2	33	-	71	1980	289	24.6%	-	-	-	0.2	9.7	0.2
6/2	Right Turn Lane Right	U	C1:G		2	33	-	62	1980	289	21.5%	-	-	-	0.2	9.4	0.2
Ped Link: P1	Unnamed Ped Link	-	C1:H		2	21	-	0	-	0	0.0%	-	-	-	-	-	-

Basic Results Summary

Ped Link: P2	Unnamed Ped Link	-	C1:I		2	171	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P3	Unnamed Ped Link	-	C1:J		2	157	-	0	-	0	0.0%	-	-	-	-	-	-
J2: Esso Roundabout	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**90.4%**	**121**	**6**	**0**	**63.0**	**-**	**-**
1/1	Oxford Road Left Ahead	U	C2:A		2	181	-	380	2007	1530	24.8%	-	-	-	0.5	4.7	3.4
1/2	Oxford Road Ahead	U	C2:A		2	181	-	358	2155	1643	21.8%	-	-	-	0.4	4.2	2.9
1/3	Oxford Road Right	U	C2:F		2	97	-	542	1973	814	66.6%	-	-	-	2.9	19.5	8.8
1/4	Oxford Road Right	U	C2:F		2	97	-	538	1973	814	66.1%	-	-	-	2.9	19.3	9.0
2/1	Central Link Right	U	C2:G		2	85	-	542	2029	736	73.7%	-	-	-	2.2	14.8	11.0
2/2	Central Link Right	U	C2:G		2	85	-	538	2024	734	73.3%	-	-	-	2.1	14.0	10.6
3/1	Ped Crossing Ahead	U	C2:J		2	204	-	614	1965	1687	36.4%	-	-	-	0.3	1.8	4.1
3/2	Ped Crossing Ahead	U	C2:J		2	204	-	1081	2105	1807	59.8%	-	-	-	0.8	2.6	2.1
4/1	Services Entry Left Ahead	O	-		-	-	-	127	2058	506	25.1%	121	6	0	0.2	5.0	0.8
6/1	Oxford Road (sb) Left	U	C2:B		2	80	-	533	2015	688	77.4%	-	-	-	6.2	42.0	18.7
6/2	Oxford Road (sb) Ahead	U	C2:B		2	80	-	602	2105	719	83.7%	-	-	-	7.5	44.8	22.4
6/3	Oxford Road (sb) Ahead	U	C2:B		2	80	-	498	2105	719	69.2%	-	-	-	5.3	38.5	16.5
7/1	Internal (eb) Ahead	U	C2:C		2	37	-	82	2015	327	25.0%	-	-	-	1.0	44.5	2.7
7/2	Internal (eb) Right	U	C2:C		2	37	-	55	1889	307	17.9%	-	-	-	0.8	50.3	1.7
8/1	Right Ahead	U	C2:E		2	80	-	612	2105	719	85.1%	-	-	-	4.4	26.0	6.0
8/2	Right Ahead	U	C2:E		2	80	-	543	2105	719	75.5%	-	-	-	2.6	17.4	4.5
9/1	Ahead Right	U	C2:H		2	37	-	249	2014	327	76.1%	-	-	-	4.3	62.3	9.6

Basic Results Summary

9/2	Right	U	C2:H		2	37	-	248	1973	321	77.4%	-	-	-	3.9	57.0	9.7
10/1	Ahead	U	-		-	-	-	453	2015	2015	22.5%	-	-	-	0.1	1.2	0.1
10/2	Ahead	U	-		-	-	-	618	2155	2155	28.7%	-	-	-	0.2	1.3	7.5
10/3	Ahead Right	U	-		-	-	-	61	2045	2045	3.0%	-	-	-	0.0	0.9	0.0
11/2+11/1	A41 entry Ahead Left	U	C2:D		2	132	-	1444	2105:1965	773+824	90.4 : 90.4%	-	-	-	11.8	29.4	26.2
11/3	A41 entry Ahead	U	C2:D		2	132	-	449	2105	1175	38.2%	-	-	-	2.2	17.4	8.8
12/1	A41 exit	U	-		-	-	-	614	1965	1965	31.2%	-	-	-	0.2	1.3	0.2
Ped Link: P1	Unnamed Ped Link	-	C2:K		2	8	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P2	Unnamed Ped Link	-	C2:I		2	80	-	0	-	0	0.0%	-	-	-	-	-	-
J3: Oxford Road / Lakeview Drive	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**92.9%**	**0**	**0**	**0**	**44.3**	**-**	**-**
1/1	Oxford Road (nb) Ahead	U	C3:A		2	146	-	494	2155	1329	37.2%	-	-	-	1.4	10.3	5.8
1/2	Oxford Road (nb) Ahead	U	C3:A		2	146	-	521	2155	1329	39.2%	-	-	-	1.6	10.8	6.5
1/3	Oxford Road (nb) Ahead	U	C3:A		2	146	-	627	2105	1298	48.3%	-	-	-	1.9	11.1	11.0
1/4+1/5	Oxford Road (nb) Right	U	C3:E		2	80	-	631	1914:1914	77+606	92.4 : 92.4%	-	-	-	12.5	71.4	25.2
2/2+2/1	Left Ahead	U	C3:B C3:C		2	107:134	-	1172	2105:1923	430+831	92.9 : 92.9%	-	-	-	10.6	32.6	24.0
2/3	Ahead	U	C3:B		2	107	-	648	2105	956	67.8%	-	-	-	4.4	24.3	11.8
2/4	Ahead	U	C3:B		2	107	-	731	2105	956	76.5%	-	-	-	5.4	26.7	23.9
3/2+3/1	Lakeview Drive Right Left	U	C3:D	C3:F	2	17:103	86	299	2005:1940	159+746	34.0 : 32.8%	-	-	-	2.5	30.4	6.0
3/3	Lakeview Drive Right	U	C3:D		2	17	-	122	2005	159	76.9%	-	-	-	3.4	99.4	5.6
4/1	Lakeview Drive	U	-		-	-	-	843	1965	1965	42.9%	-	-	-	0.4	1.6	0.4

Basic Results Summary

4/2	Lakeview Drive	U	-		-	-	-	560	1965	1965	28.5%	-	-	-	0.2	1.3	0.2
Ped Link: P1	Unnamed Ped Link	-	C3:G		1	35	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P2	Unnamed Ped Link	-	C3:H		2	77	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P3	Unnamed Ped Link	-	C3:I		2	77	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P4	Unnamed Ped Link	-	C3:K		2	101	-	0	-	0	0.0%	-	-	-	-	-	-
J4: Oxford Road / Saxon Fields	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**75.1%**	**0**	**0**	**0**	**17.6**	**-**	**-**
1/2+1/1	Oxford Road Ahead Left	U	C4:C	C4:J	2	148	0	821	2205:1709	1364+27	59.0 : 59.0%	-	-	-	3.7	16.4	17.3
1/3	Oxford Road Ahead	U	C4:C		2	148	-	678	2205	1378	49.2%	-	-	-	2.8	14.8	13.1
1/4	Oxford Road Ahead	U	C4:C		2	148	-	644	2105	1316	49.0%	-	-	-	2.7	14.9	12.5
3/2+3/1	Saxon Fields Left Right	U	C4:D	C4:I	2	28	0	298	1619:1894	202+194	75.1 : 75.1%	-	-	-	5.6	68.0	6.4
4/1	Ahead	U	C4:A		2	178	-	960	2205	1654	58.0%	-	-	-	1.0	3.6	11.9
4/2	Ahead	U	C4:A		2	178	-	1027	2205	1654	62.1%	-	-	-	1.3	4.7	27.4
4/3	Right	U	C4:B		2	28	-	37	1874	234	15.8%	-	-	-	0.5	50.0	1.3
Ped Link: P1	Unnamed Ped Link	-	C4:G		2	10	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P2	Unnamed Ped Link	-	C4:H		2	26	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P3	Unnamed Ped Link	-	C4:F		2	148	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P4	Unnamed Ped Link	-	C4:E		2	16	-	0	-	0	0.0%	-	-	-	-	-	-

C1	PRC for Signalled Lanes (%):	73.9	Total Delay for Signalled Lanes (pcuHr):	9.10	Cycle Time (s):	240
C2	Stream: 1 PRC for Signalled Lanes (%):	-0.5	Total Delay for Signalled Lanes (pcuHr):	61.12	Cycle Time (s):	240
C2	Stream: 2 PRC for Signalled Lanes (%):	50.4	Total Delay for Signalled Lanes (pcuHr):	1.10	Cycle Time (s):	240
C3	PRC for Signalled Lanes (%):	-3.2	Total Delay for Signalled Lanes (pcuHr):	43.73	Cycle Time (s):	240
C4	PRC for Signalled Lanes (%):	19.8	Total Delay for Signalled Lanes (pcuHr):	17.63	Cycle Time (s):	240
	PRC Over All Lanes (%):	-3.2	Total Delay Over All Lanes(pcuHr):	134.49		

A41 / Bicester Park & Ride / Vendee Drive

Junctions 9

ARCADY 9 - Roundabout Module

Version: 9.0.2.5947

Filename: Vendee Drive - A41 (With Consented Improvements) - 2018-06-21.j9
Path: N:\Projects\Imbic2 170211\Analysis\Modelling\Vendee Drive
Report generation date: 03/07/2018 10:48:27

»2026 BTM, AM
»2026 BTM, PM
»2026 Baseline, AM
»2026 Baseline, PM
»2026 BTM + 60sqm, AM
»2026 BTM + 60sqm, PM

Summary of junction performance

	AM							PM						
	Queue (Veh)	Delay (s)	RFC	LOS	Junction Delay (s)	Junction LOS	Network Residual Capacity	Queue (Veh)	Delay (s)	RFC	LOS	Junction Delay (s)	Junction LOS	Network Residual Capacity
2026 BTM														
Arm 1	0.3	3.87	0.22	A	3.81	A	38 % [Arm 4]	0.3	5.10	0.25	A	5.47	A	12 % [Arm 5]
Arm 2	2.0	3.54	0.67	A				3.1	4.52	0.76	A			
Arm 3	0.2	5.67	0.14	A				0.4	7.20	0.29	A			
Arm 4	1.9	3.96	0.66	A				3.3	6.39	0.77	A			
Arm 5	0.0	6.49	0.02	A				0.1	13.19	0.12	B			
2026 Baseline														
Arm 1	0.5	4.81	0.31	A	4.29	A	28 % [Arm 4]	0.3	5.20	0.26	A	7.28	A	8 % [Arm 5]
Arm 2	2.1	3.64	0.68	A				5.4	7.00	0.84	A			
Arm 3	0.2	5.80	0.14	A				0.6	10.90	0.38	B			
Arm 4	2.6	4.79	0.72	A				3.9	7.39	0.80	A			
Arm 5	0.0	7.73	0.02	A				0.2	16.18	0.14	C			
2026 BTM + 60sqm														
Arm 1	0.5	5.28	0.35	A	4.54	A	25 % [Arm 4]	0.4	5.24	0.26	A	8.37	A	7 % [Arm 5]
Arm 2	2.1	3.66	0.68	A				6.8	8.56	0.87	A			
Arm 3	0.2	5.83	0.14	A				0.7	13.14	0.42	B			
Arm 4	2.9	5.24	0.74	A				4.1	7.80	0.81	A			
Arm 5	0.0	8.33	0.02	A				0.2	17.54	0.15	C			

There are warnings associated with one or more model runs - see the 'Data Errors and Warnings' tables for each Analysis or Demand Set.

Values shown are the highest values encountered over all time segments. Delay is the maximum value of average delay per arriving vehicle. Junction LOS and Junction Delay are demand-weighted averages. Network Residual Capacity indicates the amount by which network flow could be increased before a user-definable threshold (see Analysis Options) is met.

File summary

File Description

Title	Vemdee Drove / A41 - Improved
Location	Bicester
Site number	
Date	20/07/2017
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	MOTION\klewis
Description	

Units

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

Analysis Options

Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Calculate residual capacity	Residual capacity criteria type	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
5.75			✓	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 period length (min)	Time segment length (min)	Run automatically
D1	2026 BTM	AM	FLAT	07:45	09:15	90	15	✓
D2	2026 BTM	PM	FLAT	16:45	18:15	90	15	✓
D3	2026 Baseline	AM	FLAT	07:45	09:15	90	15	✓
D4	2026 Baseline	PM	FLAT	16:45	18:15	90	15	✓
D5	2026 BTM + 60sqm	AM	FLAT	07:45	09:15	90	15	✓
D6	2026 BTM + 60sqm	PM	FLAT	16:45	18:15	90	15	✓

Analysis Set Details

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

2026 BTM, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 2 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 3 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout	1, 2, 3, 4, 5	3.81	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	38	Arm 4

Arms

Arms

Arm	Name	Description
1	Vendee Drive	
2	A41	
3	Unnamed Road	
4	A41	
5	Park & Ride	

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit only
1	3.75	8.20	92.0	20.0	70.0	35.0	
2	7.50	12.00	38.0	36.0	70.0	18.0	
3	3.50	10.50	32.0	20.0	70.0	22.5	
4	7.00	12.00	25.0	35.0	70.0	25.0	
5	3.50	8.00	14.0	15.0	70.0	30.0	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
1	0.590	2264
2	0.799	3468
3	0.617	2368
4	0.745	3161
5	0.502	1704

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D1	2026 BTM	AM	FLAT	07:45	09:15	90	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1		FLAT	✓	261	100.000
2		FLAT	✓	2055	100.000
3		FLAT	✓	100	100.000
4		FLAT	✓	1745	100.000
5		FLAT	✓	11	100.000

Origin-Destination Data

Demand (Veh/hr)

		To				
		1	2	3	4	5
From	1	0	152	2	107	0
	2	180	187	0	1668	20
	3	0	87	0	13	0
	4	261	1259	167	3	55
	5	1	0	0	10	0

Vehicle Mix

Heavy Vehicle Percentages

		To				
		1	2	3	4	5
From	1	0	0	0	0	0
	2	6	0	0	6	0
	3	0	34	0	7	0
	4	2	6	1	0	0
	5	0	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1	0.22	3.87	0.3	A	261	392
2	0.67	3.54	2.0	A	2055	3082
3	0.14	5.67	0.2	A	100	150
4	0.66	3.96	1.9	A	1745	2617
5	0.02	6.49	0.0	A	11	17

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1	261	65	1705	1195	0.218	260	440	0.0	0.3	3.846	A
2	2055	514	288	3071	0.669	2047	1678	0.0	2.0	3.489	A
3	100	25	2166	739	0.135	99	168	0.0	0.2	5.628	A
4	1745	436	472	2655	0.657	1737	1794	0.0	1.9	3.893	A
5	11	3	2135	571	0.019	11	75	0.0	0.0	6.432	A

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1	261	65	1713	1190	0.219	261	442	0.3	0.3	3.874	A
2	2055	514	289	3070	0.669	2055	1685	2.0	2.0	3.545	A
3	100	25	2175	734	0.136	100	169	0.2	0.2	5.674	A
4	1745	436	474	2653	0.658	1745	1801	1.9	1.9	3.963	A
5	11	3	2144	566	0.019	11	75	0.0	0.0	6.489	A

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1	261	65	1713	1190	0.219	261	442	0.3	0.3	3.874	A
2	2055	514	289	3070	0.669	2055	1685	2.0	2.0	3.545	A
3	100	25	2175	734	0.136	100	169	0.2	0.2	5.674	A
4	1745	436	474	2653	0.658	1745	1801	1.9	1.9	3.963	A
5	11	3	2144	566	0.019	11	75	0.0	0.0	6.490	A

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1	261	65	1713	1190	0.219	261	442	0.3	0.3	3.874	A
2	2055	514	289	3070	0.669	2055	1685	2.0	2.0	3.545	A
3	100	25	2175	734	0.136	100	169	0.2	0.2	5.675	A
4	1745	436	474	2653	0.658	1745	1801	1.9	1.9	3.963	A
5	11	3	2144	566	0.019	11	75	0.0	0.0	6.490	A

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1	261	65	1713	1190	0.219	261	442	0.3	0.3	3.874	A
2	2055	514	289	3070	0.669	2055	1685	2.0	2.0	3.545	A
3	100	25	2175	734	0.136	100	169	0.2	0.2	5.675	A
4	1745	436	474	2653	0.658	1745	1801	1.9	1.9	3.963	A
5	11	3	2144	566	0.019	11	75	0.0	0.0	6.490	A

09:00 - 09:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1	261	65	1713	1190	0.219	261	442	0.3	0.3	3.874	A
2	2055	514	289	3070	0.669	2055	1685	2.0	2.0	3.545	A
3	100	25	2175	734	0.136	100	169	0.2	0.2	5.675	A
4	1745	436	474	2653	0.658	1745	1801	1.9	1.9	3.963	A
5	11	3	2144	566	0.019	11	75	0.0	0.0	6.490	A

2026 BTM, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 2 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 3 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout	1, 2, 3, 4, 5	5.47	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	12	Arm 5

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D2	2026 BTM	PM	FLAT	16:45	18:15	90	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1		FLAT	✓	233	100.000
2		FLAT	✓	2505	100.000
3		FLAT	✓	200	100.000
4		FLAT	✓	1896	100.000
5		FLAT	✓	37	100.000

Origin-Destination Data

Demand (Veh/hr)

		To				
		1	2	3	4	5
From	1	0	97	0	136	0
	2	194	549	0	1751	11
	3	3	82	0	114	1
	4	375	1473	40	0	8
	5	5	0	0	32	0

Vehicle Mix

Heavy Vehicle Percentages

		To				
		1	2	3	4	5
From	1	0	0	0	1	0
	2	0	0	0	0	0
	3	0	1	0	4	0
	4	0	4	0	0	0
	5	0	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1	0.25	5.10	0.3	A	233	349
2	0.76	4.52	3.1	A	2505	3758
3	0.29	7.20	0.4	A	200	300
4	0.77	6.39	3.3	A	1896	2844
5	0.12	13.19	0.1	B	37	56

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1	233	58	2162	948	0.246	232	573	0.0	0.3	5.019	A
2	2505	626	207	3302	0.759	2493	2187	0.0	3.1	4.384	A
3	200	50	2659	708	0.283	198	40	0.0	0.4	7.046	A
4	1896	474	836	2462	0.770	1883	2022	0.0	3.3	6.087	A
5	37	9	2699	319	0.116	36	20	0.0	0.1	12.728	B

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1	233	58	2176	939	0.248	233	577	0.3	0.3	5.096	A
2	2505	626	208	3301	0.759	2505	2201	3.1	3.1	4.521	A
3	200	50	2673	700	0.286	200	40	0.4	0.4	7.201	A
4	1896	474	840	2459	0.771	1896	2033	3.3	3.3	6.385	A
5	37	9	2716	310	0.119	37	20	0.1	0.1	13.182	B

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1	233	58	2176	939	0.248	233	577	0.3	0.3	5.097	A
2	2505	626	208	3301	0.759	2505	2201	3.1	3.1	4.523	A
3	200	50	2673	700	0.286	200	40	0.4	0.4	7.202	A
4	1896	474	840	2459	0.771	1896	2033	3.3	3.3	6.390	A
5	37	9	2716	310	0.119	37	20	0.1	0.1	13.187	B

17:30 - 17:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1	233	58	2176	939	0.248	233	577	0.3	0.3	5.097	A
2	2505	626	208	3301	0.759	2505	2201	3.1	3.1	4.523	A
3	200	50	2673	700	0.286	200	40	0.4	0.4	7.202	A
4	1896	474	840	2459	0.771	1896	2033	3.3	3.3	6.390	A
5	37	9	2716	310	0.119	37	20	0.1	0.1	13.188	B

17:45 - 18:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1	233	58	2176	939	0.248	233	577	0.3	0.3	5.097	A
2	2505	626	208	3301	0.759	2505	2201	3.1	3.1	4.523	A
3	200	50	2673	700	0.286	200	40	0.4	0.4	7.203	A
4	1896	474	840	2459	0.771	1896	2033	3.3	3.3	6.393	A
5	37	9	2716	310	0.119	37	20	0.1	0.1	13.188	B

18:00 - 18:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1	233	58	2176	939	0.248	233	577	0.3	0.3	5.097	A
2	2505	626	208	3301	0.759	2505	2201	3.1	3.1	4.523	A
3	200	50	2673	700	0.286	200	40	0.4	0.4	7.203	A
4	1896	474	840	2459	0.771	1896	2033	3.3	3.3	6.393	A
5	37	9	2716	310	0.119	37	20	0.1	0.1	13.189	B

2026 Baseline, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 2 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 3 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout	1, 2, 3, 4, 5	4.29	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	28	Arm 4

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D3	2026 Baseline	AM	FLAT	07:45	09:15	90	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1		FLAT	✓	343	100.000
2		FLAT	✓	2080	100.000
3		FLAT	✓	100	100.000
4		FLAT	✓	1931	100.000
5		FLAT	✓	11	100.000

Origin-Destination Data

Demand (Veh/hr)

		To				
		1	2	3	4	5
From	1	0	234	2	107	0
	2	188	187	0	1685	20
	3	0	87	0	13	0
	4	261	1445	167	3	55
	5	1	0	0	10	0

Vehicle Mix

Heavy Vehicle Percentages

		To				
		1	2	3	4	5
From	1	0	0	0	0	0
	2	6	0	0	6	0
	3	0	34	0	8	0
	4	2	4	1	0	0
	5	0	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1	0.31	4.81	0.5	A	343	515
2	0.68	3.64	2.1	A	2080	3120
3	0.14	5.80	0.2	A	100	150
4	0.72	4.79	2.6	A	1931	2897
5	0.02	7.73	0.0	A	11	17

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1	343	86	1889	1097	0.313	341	448	0.0	0.5	4.752	A
2	2080	520	287	3071	0.677	2072	1943	0.0	2.1	3.574	A
3	100	25	2191	725	0.138	99	168	0.0	0.2	5.743	A
4	1931	483	480	2684	0.719	1921	1811	0.0	2.5	4.659	A
5	11	3	2326	483	0.023	11	75	0.0	0.0	7.625	A

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1	343	86	1899	1091	0.314	343	450	0.5	0.5	4.813	A
2	2080	520	289	3070	0.678	2080	1953	2.1	2.1	3.635	A
3	100	25	2200	721	0.139	100	169	0.2	0.2	5.795	A
4	1931	483	482	2682	0.720	1931	1818	2.5	2.5	4.789	A
5	11	3	2338	477	0.023	11	75	0.0	0.0	7.727	A

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1	343	86	1899	1091	0.314	343	450	0.5	0.5	4.813	A
2	2080	520	289	3070	0.678	2080	1953	2.1	2.1	3.635	A
3	100	25	2200	721	0.139	100	169	0.2	0.2	5.795	A
4	1931	483	482	2682	0.720	1931	1818	2.5	2.6	4.791	A
5	11	3	2338	477	0.023	11	75	0.0	0.0	7.727	A

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1	343	86	1899	1091	0.314	343	450	0.5	0.5	4.814	A
2	2080	520	289	3070	0.678	2080	1953	2.1	2.1	3.635	A
3	100	25	2200	721	0.139	100	169	0.2	0.2	5.796	A
4	1931	483	482	2682	0.720	1931	1818	2.6	2.6	4.791	A
5	11	3	2338	477	0.023	11	75	0.0	0.0	7.727	A

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1	343	86	1899	1091	0.314	343	450	0.5	0.5	4.814	A
2	2080	520	289	3070	0.678	2080	1953	2.1	2.1	3.635	A
3	100	25	2200	721	0.139	100	169	0.2	0.2	5.796	A
4	1931	483	482	2682	0.720	1931	1818	2.6	2.6	4.791	A
5	11	3	2338	477	0.023	11	75	0.0	0.0	7.728	A

09:00 - 09:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1	343	86	1899	1091	0.314	343	450	0.5	0.5	4.814	A
2	2080	520	289	3070	0.678	2080	1953	2.1	2.1	3.635	A
3	100	25	2200	721	0.139	100	169	0.2	0.2	5.796	A
4	1931	483	482	2682	0.720	1931	1818	2.6	2.6	4.791	A
5	11	3	2338	477	0.023	11	75	0.0	0.0	7.728	A

2026 Baseline, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 2 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 3 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout	1, 2, 3, 4, 5	7.28	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	8	Arm 5

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D4	2026 Baseline	PM	FLAT	16:45	18:15	90	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1		FLAT	✓	239	100.000
2		FLAT	✓	2787	100.000
3		FLAT	✓	200	100.000
4		FLAT	✓	1909	100.000
5		FLAT	✓	37	100.000

Origin-Destination Data

Demand (Veh/hr)

		To				
		1	2	3	4	5
From	1	0	103	0	136	0
	2	281	549	0	1946	11
	3	3	82	0	114	1
	4	375	1486	40	0	8
	5	5	0	0	32	0

Vehicle Mix

Heavy Vehicle Percentages

		To				
		1	2	3	4	5
From	1	0	0	0	1	0
	2	0	0	0	0	0
	3	0	1	0	4	0
	4	0	4	0	0	0
	5	0	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1	0.26	5.20	0.3	A	239	359
2	0.84	7.00	5.4	A	2787	4181
3	0.38	10.90	0.6	B	200	300
4	0.80	7.39	3.9	A	1909	2863
5	0.14	16.18	0.2	C	37	56

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1	239	60	2172	942	0.254	238	659	0.0	0.3	5.103	A
2	2787	697	206	3302	0.844	2766	2203	0.0	5.2	6.491	A
3	200	50	2933	544	0.368	198	40	0.0	0.6	10.344	B
4	1909	477	920	2401	0.795	1894	2211	0.0	3.7	6.909	A
5	37	9	2794	271	0.137	36	20	0.0	0.2	15.323	C

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1	239	60	2189	932	0.257	239	664	0.3	0.3	5.197	A
2	2787	697	208	3301	0.844	2786	2220	5.2	5.3	6.981	A
3	200	50	2954	531	0.377	200	40	0.6	0.6	10.883	B
4	1909	477	927	2396	0.797	1909	2228	3.7	3.8	7.368	A
5	37	9	2815	260	0.142	37	20	0.2	0.2	16.160	C

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1	239	60	2189	931	0.257	239	664	0.3	0.3	5.198	A
2	2787	697	208	3301	0.844	2787	2220	5.3	5.3	6.995	A
3	200	50	2955	530	0.377	200	40	0.6	0.6	10.892	B
4	1909	477	927	2396	0.797	1909	2228	3.8	3.9	7.381	A
5	37	9	2816	260	0.143	37	20	0.2	0.2	16.177	C

17:30 - 17:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1	239	60	2189	931	0.257	239	664	0.3	0.3	5.199	A
2	2787	697	208	3301	0.844	2787	2220	5.3	5.4	6.998	A
3	200	50	2955	530	0.377	200	40	0.6	0.6	10.896	B
4	1909	477	927	2396	0.797	1909	2228	3.9	3.9	7.384	A
5	37	9	2816	259	0.143	37	20	0.2	0.2	16.181	C

17:45 - 18:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1	239	60	2189	931	0.257	239	664	0.3	0.3	5.199	A
2	2787	697	208	3301	0.844	2787	2220	5.4	5.4	7.000	A
3	200	50	2955	530	0.377	200	40	0.6	0.6	10.896	B
4	1909	477	927	2396	0.797	1909	2228	3.9	3.9	7.387	A
5	37	9	2816	259	0.143	37	20	0.2	0.2	16.182	C

18:00 - 18:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1	239	60	2189	931	0.257	239	664	0.3	0.3	5.199	A
2	2787	697	208	3301	0.844	2787	2220	5.4	5.4	7.003	A
3	200	50	2955	530	0.377	200	40	0.6	0.6	10.897	B
4	1909	477	927	2396	0.797	1909	2228	3.9	3.9	7.387	A
5	37	9	2816	259	0.143	37	20	0.2	0.2	16.183	C

2026 BTM + 60sqm, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 2 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 3 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout	1, 2, 3, 4, 5	4.54	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	25	Arm 4

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D5	2026 BTM + 60sqm	AM	FLAT	07:45	09:15	90	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1		FLAT	✓	371	100.000
2		FLAT	✓	2088	100.000
3		FLAT	✓	100	100.000
4		FLAT	✓	1993	100.000
5		FLAT	✓	11	100.000

Origin-Destination Data

Demand (Veh/hr)

		To				
		1	2	3	4	5
From	1	0	262	2	107	0
	2	190	187	0	1691	20
	3	0	87	0	13	0
	4	261	1507	167	3	55
	5	1	0	0	10	0

Vehicle Mix

Heavy Vehicle Percentages

		To				
		1	2	3	4	5
From	1	0	0	0	0	0
	2	6	0	0	6	0
	3	0	34	0	8	0
	4	2	4	1	0	0
	5	0	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1	0.35	5.28	0.5	A	371	557
2	0.68	3.66	2.1	A	2088	3132
3	0.14	5.83	0.2	A	100	150
4	0.74	5.24	2.9	A	1993	2990
5	0.02	8.33	0.0	A	11	17

Main Results for each time segment

07:45 - 08:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1	371	93	1950	1059	0.350	369	450	0.0	0.5	5.198	A
2	2088	522	287	3071	0.680	2080	2032	0.0	2.1	3.600	A
3	100	25	2199	722	0.139	99	168	0.0	0.2	5.779	A
4	1993	498	482	2682	0.743	1982	1816	0.0	2.8	5.063	A
5	11	3	2389	450	0.024	11	75	0.0	0.0	8.192	A

08:00 - 08:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1	371	93	1961	1053	0.352	371	452	0.5	0.5	5.279	A
2	2088	522	289	3070	0.680	2088	2043	2.1	2.1	3.665	A
3	100	25	2208	717	0.139	100	169	0.2	0.2	5.833	A
4	1993	498	484	2680	0.744	1993	1824	2.8	2.9	5.236	A
5	11	3	2402	443	0.025	11	75	0.0	0.0	8.324	A

08:15 - 08:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1	371	93	1961	1053	0.352	371	452	0.5	0.5	5.280	A
2	2088	522	289	3070	0.680	2088	2043	2.1	2.1	3.665	A
3	100	25	2208	717	0.139	100	169	0.2	0.2	5.833	A
4	1993	498	484	2680	0.744	1993	1824	2.9	2.9	5.237	A
5	11	3	2402	443	0.025	11	75	0.0	0.0	8.325	A

08:30 - 08:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1	371	93	1961	1053	0.352	371	452	0.5	0.5	5.280	A
2	2088	522	289	3070	0.680	2088	2043	2.1	2.1	3.665	A
3	100	25	2208	717	0.139	100	169	0.2	0.2	5.833	A
4	1993	498	484	2680	0.744	1993	1824	2.9	2.9	5.237	A
5	11	3	2402	443	0.025	11	75	0.0	0.0	8.325	A

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1	371	93	1961	1053	0.352	371	452	0.5	0.5	5.280	A
2	2088	522	289	3070	0.680	2088	2043	2.1	2.1	3.665	A
3	100	25	2208	717	0.139	100	169	0.2	0.2	5.833	A
4	1993	498	484	2680	0.744	1993	1824	2.9	2.9	5.237	A
5	11	3	2402	443	0.025	11	75	0.0	0.0	8.326	A

09:00 - 09:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1	371	93	1961	1053	0.352	371	452	0.5	0.5	5.280	A
2	2088	522	289	3070	0.680	2088	2043	2.1	2.1	3.665	A
3	100	25	2208	717	0.139	100	169	0.2	0.2	5.833	A
4	1993	498	484	2680	0.744	1993	1824	2.9	2.9	5.237	A
5	11	3	2402	443	0.025	11	75	0.0	0.0	8.326	A

2026 BTM + 60sqm, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 1 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 2 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Geometry	Arm 3 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	untitled	Standard Roundabout	1, 2, 3, 4, 5	8.37	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	7	Arm 5

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D6	2026 BTM + 60sqm	PM	FLAT	16:45	18:15	90	15	✓

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)
✓	✓	HV Percentages	2.00

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1		FLAT	✓	241	100.000
2		FLAT	✓	2881	100.000
3		FLAT	✓	200	100.000
4		FLAT	✓	1914	100.000
5		FLAT	✓	37	100.000

Origin-Destination Data

Demand (Veh/hr)

		To				
		1	2	3	4	5
From	1	0	105	0	136	0
	2	310	549	0	2011	11
	3	3	82	0	114	1
	4	375	1491	40	0	8
	5	5	0	0	32	0

Vehicle Mix

Heavy Vehicle Percentages

		To				
		1	2	3	4	5
From	1	0	0	0	1	0
	2	0	0	0	0	0
	3	0	1	0	4	0
	4	0	4	0	0	0
	5	0	0	0	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1	0.26	5.24	0.4	A	241	362
2	0.87	8.56	6.8	A	2881	4322
3	0.42	13.14	0.7	B	200	300
4	0.81	7.80	4.1	A	1914	2871
5	0.15	17.54	0.2	C	37	56

Main Results for each time segment

16:45 - 17:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1	241	60	2175	940	0.256	240	687	0.0	0.3	5.133	A
2	2881	720	206	3302	0.872	2855	2208	0.0	6.4	7.670	A
3	200	50	3022	490	0.408	197	40	0.0	0.7	12.191	B
4	1914	478	947	2381	0.804	1898	2272	0.0	3.9	7.233	A
5	37	9	2826	255	0.145	36	20	0.0	0.2	16.434	C

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1	241	60	2193	929	0.260	241	693	0.3	0.3	5.234	A
2	2881	720	208	3301	0.873	2880	2226	6.4	6.6	8.509	A
3	200	50	3048	474	0.422	200	40	0.7	0.7	13.099	B
4	1914	478	956	2375	0.806	1914	2292	3.9	4.0	7.777	A
5	37	9	2849	243	0.152	37	20	0.2	0.2	17.495	C

17:15 - 17:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1	241	60	2194	928	0.260	241	693	0.3	0.3	5.236	A
2	2881	720	208	3301	0.873	2881	2227	6.6	6.7	8.542	A
3	200	50	3049	474	0.422	200	40	0.7	0.7	13.130	B
4	1914	478	956	2375	0.806	1914	2293	4.0	4.1	7.794	A
5	37	9	2850	242	0.153	37	20	0.2	0.2	17.526	C

17:30 - 17:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1	241	60	2194	928	0.260	241	693	0.3	0.3	5.237	A
2	2881	720	208	3301	0.873	2881	2227	6.7	6.7	8.552	A
3	200	50	3049	474	0.422	200	40	0.7	0.7	13.137	B
4	1914	478	956	2375	0.806	1914	2293	4.1	4.1	7.799	A
5	37	9	2850	242	0.153	37	20	0.2	0.2	17.533	C

17:45 - 18:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1	241	60	2194	928	0.260	241	693	0.3	0.3	5.237	A
2	2881	720	208	3301	0.873	2881	2227	6.7	6.8	8.559	A
3	200	50	3049	474	0.422	200	40	0.7	0.7	13.141	B
4	1914	478	956	2375	0.806	1914	2293	4.1	4.1	7.805	A
5	37	9	2850	242	0.153	37	20	0.2	0.2	17.536	C

18:00 - 18:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	LOS
1	241	60	2194	928	0.260	241	693	0.3	0.4	5.237	A
2	2881	720	208	3301	0.873	2881	2227	6.8	6.8	8.562	A
3	200	50	3049	474	0.422	200	40	0.7	0.7	13.142	B
4	1914	478	956	2375	0.806	1914	2293	4.1	4.1	7.803	A
5	37	9	2850	242	0.153	37	20	0.2	0.2	17.537	C

A41 / A4421 – Rodney House Roundabout

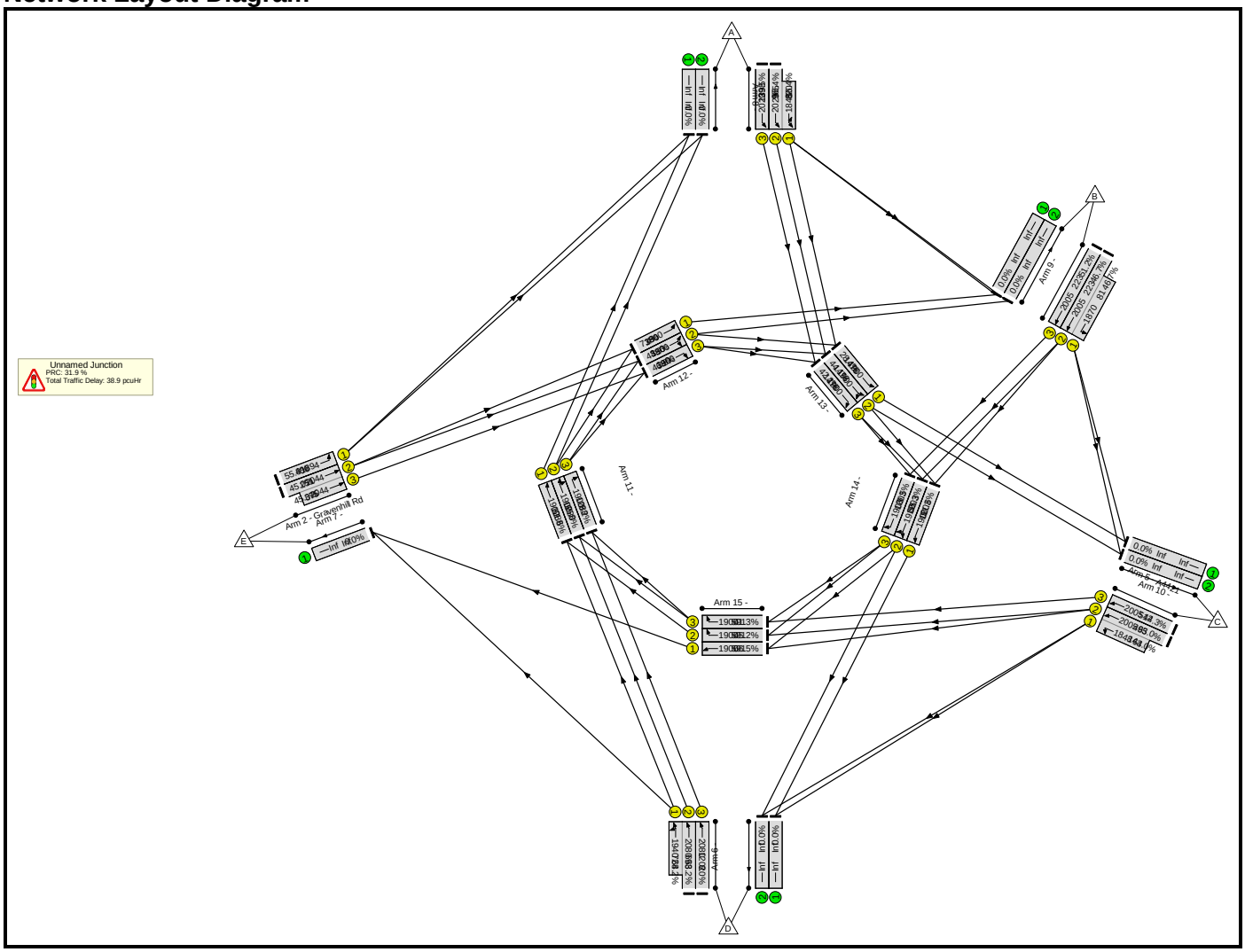
Basic Results Summary

User and Project Details

Project:	**Bicester Office Park**
Title:	**Rodney House Roundabout**
Location:	Bicester
Additional detail:	
File name:	Rodney House - 2018-06-21.lsg3x
Author:	KL
Company:	Motion
Address:	

Scenario 1: '20026 AM' (FG1: '2026 AM', Plan 1: 'Network Control Plan 1')

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	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**68.2%**	**0**	**0**	**0**	**38.9**	**-**	**-**
Unnamed Junction	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**68.2%**	**0**	**0**	**0**	**38.9**	**-**	**-**
1/2+1/1	A41 Left Ahead	U	J		1	51	-	967	2080:1940	693+724	68.2 : 68.2%	-	-	-	3.9	14.6	7.9
1/3	A41 Ahead	U	J		1	51	-	96	2080	1202	8.0%	-	-	-	0.3	10.1	1.1
2/1	Gravenhill Rd Left	U	M		1	18	-	223	1894	400	55.8%	-	-	-	2.6	41.9	5.6
2/2+2/3	Gravenhill Rd Ahead	U	M		1	18	-	282	2044:2044	251+375	45.0 : 45.0%	-	-	-	2.8	35.4	4.0
3/2+3/1	A41 U-Turn Ahead	U	A		1	61	-	1006	2029:1848	965+820	56.4 : 56.4%	-	-	-	2.3	8.2	6.4
3/3	A41 Ahead	U	A		1	61	-	552	2029	1398	39.5%	-	-	-	1.2	8.1	6.2
4/2+4/1	B4100 Left Ahead	U	D		1	9	-	142	2005:1870	223+81	46.7 : 46.7%	-	-	-	1.9	48.3	2.9
4/3	B4100 Ahead	U	D		1	9	-	114	2005	223	51.2%	-	-	-	1.7	54.1	3.2
5/2+5/1	A4421 Left Ahead	U	G		1	22	-	403	2005:1848	495+144	63.0 : 63.0%	-	-	-	4.1	36.4	7.7
5/3	A4421 Ahead	U	G		1	22	-	227	2005	512	44.3%	-	-	-	2.2	34.4	5.1
11/1	Ahead	U	N		1	60	-	664	1900	1288	51.6%	-	-	-	1.2	6.4	4.3
11/2	Ahead Right	U	N		1	60	-	708	1900	1288	55.0%	-	-	-	1.4	7.3	5.6
11/3	Right	U	N		1	60	-	105	1900	1288	8.2%	-	-	-	0.2	6.0	0.8
12/1	Ahead	U	B		1	17	-	28	1900	380	7.4%	-	-	-	0.1	16.9	0.7
12/2	Ahead Right	U	B		1	17	-	186	1900	380	48.9%	-	-	-	1.5	29.6	4.3
12/3	Right	U	B		1	17	-	178	1900	380	46.8%	-	-	-	1.1	21.7	4.8
13/1	Ahead	U	E		1	69	-	419	1900	1478	28.4%	-	-	-	0.4	3.2	3.7
13/2	Ahead Right	U	E		1	69	-	651	1900	1478	44.1%	-	-	-	0.8	4.6	7.5
13/3	Right	U	E		1	69	-	623	1900	1478	42.2%	-	-	-	0.8	4.5	7.5

Basic Results Summary

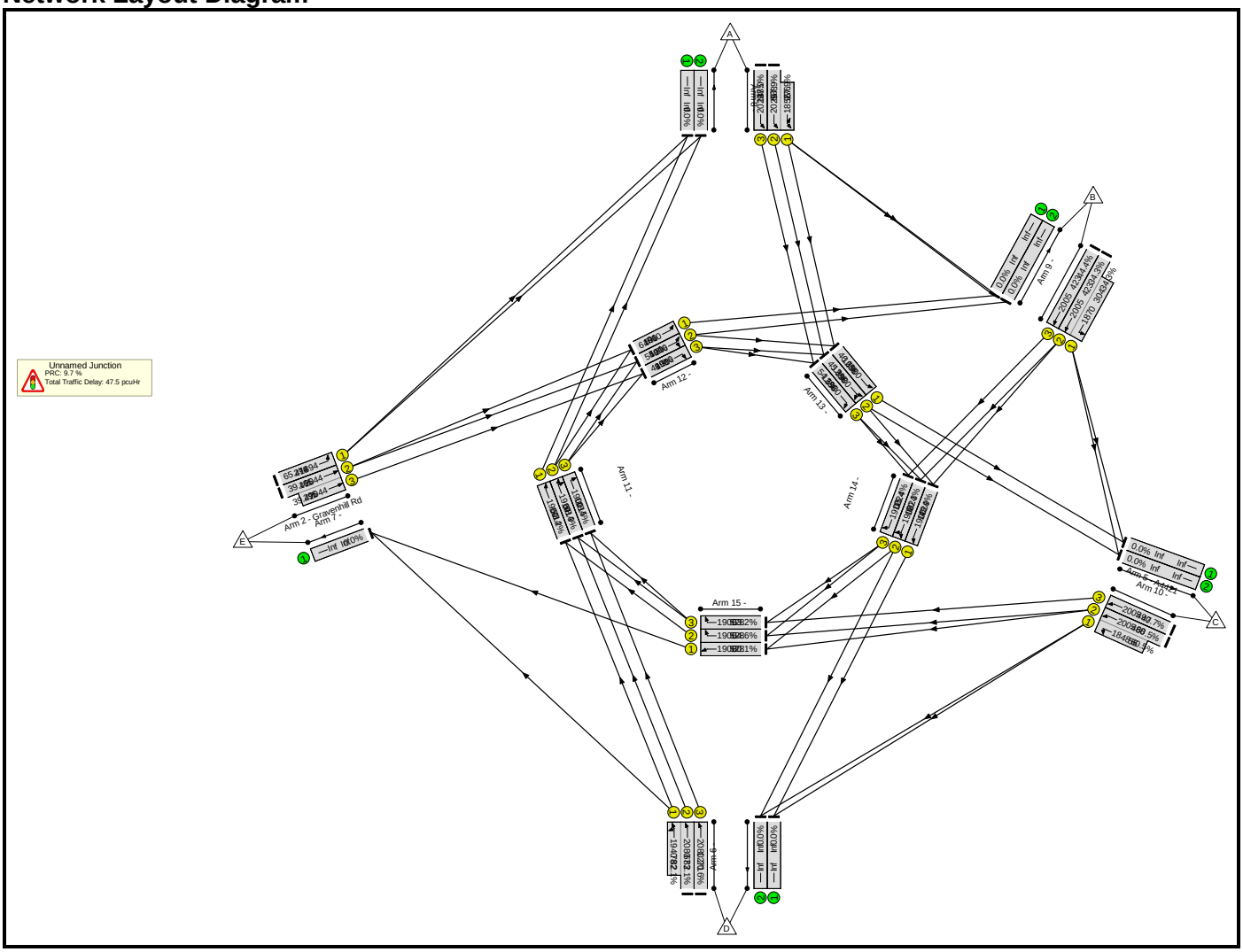
14/1	Ahead	U	H		1	56	-	621	1900	1203	51.6%	-	-	-	1.2	6.7	3.7
14/2	Ahead Right	U	H		1	56	-	666	1900	1203	55.3%	-	-	-	1.5	8.3	4.7
14/3	Right	U	H		1	56	-	114	1900	1203	9.5%	-	-	-	0.2	5.6	2.9
15/1	Ahead	U	K		1	27	-	393	1900	591	66.5%	-	-	-	4.3	39.0	9.7
15/2	Right	U	K		1	27	-	267	1900	591	45.2%	-	-	-	0.6	8.4	4.2
15/3	Right	U	K		1	27	-	244	1900	591	41.3%	-	-	-	0.7	10.4	5.5

C1	Stream: 1 PRC for Signalled Lanes (%):	59.6	Total Delay for Signalled Lanes (pcuHr):	6.27	Cycle Time (s): 90
C1	Stream: 2 PRC for Signalled Lanes (%):	75.9	Total Delay for Signalled Lanes (pcuHr):	5.60	Cycle Time (s): 90
C1	Stream: 3 PRC for Signalled Lanes (%):	42.8	Total Delay for Signalled Lanes (pcuHr):	9.12	Cycle Time (s): 90
C1	Stream: 4 PRC for Signalled Lanes (%):	31.9	Total Delay for Signalled Lanes (pcuHr):	9.76	Cycle Time (s): 90
C1	Stream: 5 PRC for Signalled Lanes (%):	61.4	Total Delay for Signalled Lanes (pcuHr):	8.16	Cycle Time (s): 90
	PRC Over All Lanes (%):	31.9	Total Delay Over All Lanes(pcuHr):	38.90	

Basic Results Summary

Scenario 2: '2026 PM' (FG2: '2026 PM', Plan 1: 'Network Control Plan 1')

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	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**82.1%**	**0**	**0**	**0**	**47.5**	**-**	**-**
Unnamed Junction	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**82.1%**	**0**	**0**	**0**	**47.5**	**-**	**-**
1/2+1/1	A41 Left Ahead	U	J		1	54	-	1194	2080:1940	673+782	82.1 : 82.1%	-	-	-	5.7	17.1	16.1
1/3	A41 Ahead	U	J		1	54	-	262	2080	1271	20.6%	-	-	-	0.7	9.6	3.0
2/1	Gravenhill Rd Left	U	M		1	12	-	179	1894	274	65.4%	-	-	-	2.7	55.0	5.2
2/2+2/3	Gravenhill Rd Ahead	U	M		1	12	-	181	2044:2044	165+295	39.4 : 39.4%	-	-	-	2.1	41.1	2.9
3/2+3/1	A41 U-Turn Ahead	U	A		1	60	-	1096	2029:1852	638+976	67.9 : 67.9%	-	-	-	3.1	10.2	9.3
3/3	A41 Ahead	U	A		1	60	-	660	2029	1375	48.0%	-	-	-	1.7	9.4	8.2
4/2+4/1	B4100 Left Ahead	U	D		1	18	-	249	2005:1870	423+304	34.3 : 34.3%	-	-	-	2.3	33.7	3.3
4/3	B4100 Ahead	U	D		1	18	-	188	2005	423	44.4%	-	-	-	2.0	38.5	4.5
5/2+5/1	A4421 Left Ahead	U	G		1	21	-	329	2005:1848	488+56	60.5 : 60.5%	-	-	-	3.5	38.0	7.2
5/3	A4421 Ahead	U	G		1	21	-	234	2005	490	47.7%	-	-	-	2.3	36.1	5.4
11/1	Ahead	U	N		1	66	-	753	1900	1414	53.2%	-	-	-	1.1	5.2	4.3
11/2	Ahead Right	U	N		1	66	-	833	1900	1414	58.9%	-	-	-	1.4	5.9	5.2
11/3	Right	U	N		1	66	-	262	1900	1414	18.5%	-	-	-	0.4	5.0	2.0
12/1	Ahead	U	B		1	18	-	26	1900	401	6.5%	-	-	-	0.2	22.0	0.5
12/2	Ahead Right	U	B		1	18	-	224	1900	401	55.8%	-	-	-	1.9	29.8	4.9
12/3	Right	U	B		1	18	-	200	1900	401	49.9%	-	-	-	1.1	20.6	4.7
13/1	Ahead	U	E		1	60	-	600	1900	1288	46.6%	-	-	-	1.2	7.1	6.4
13/2	Ahead Right	U	E		1	60	-	591	1900	1288	45.9%	-	-	-	1.7	10.3	10.0
13/3	Right	U	E		1	60	-	702	1900	1288	54.5%	-	-	-	1.1	5.4	6.6

Basic Results Summary

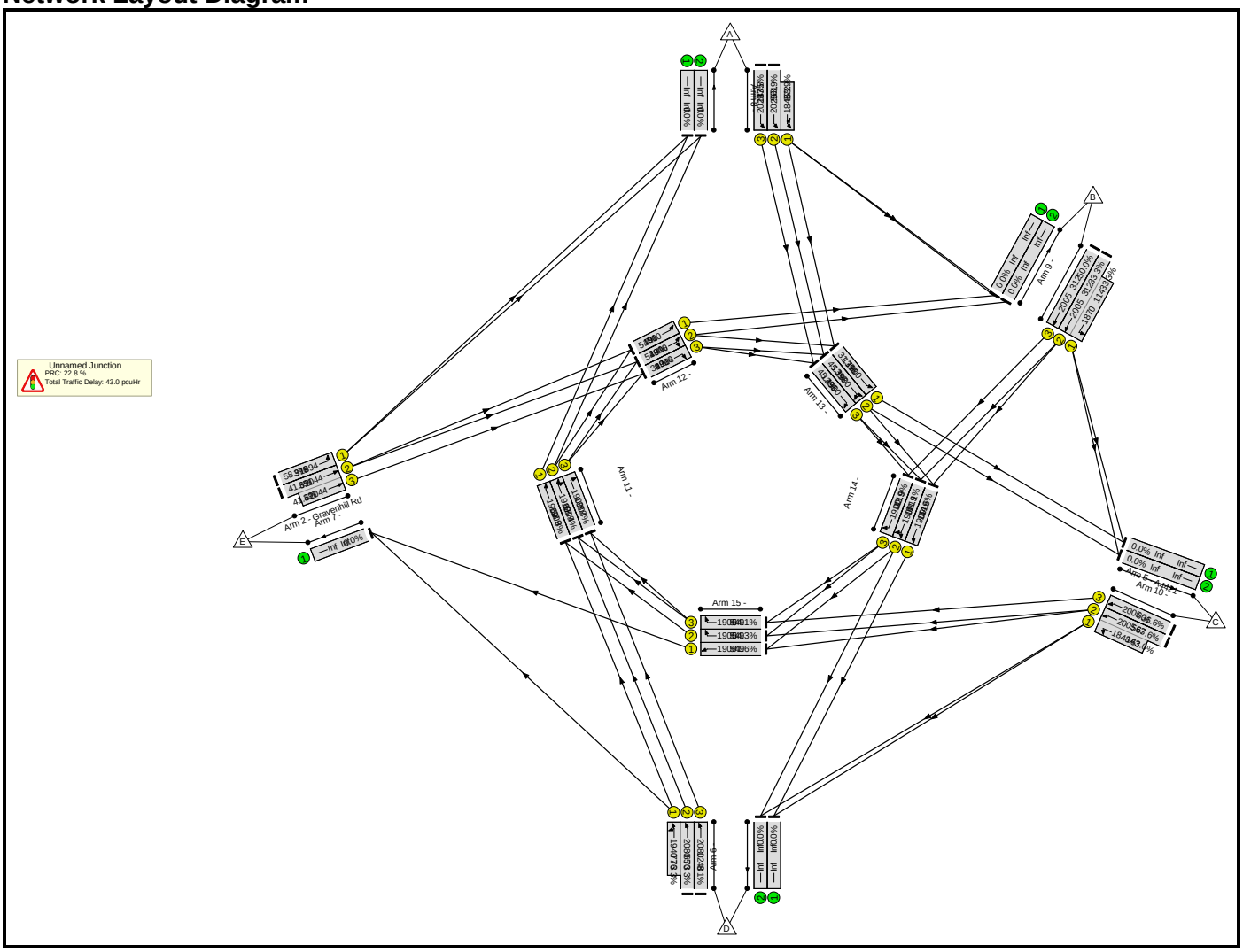
14/1	Ahead	U	H		1	57	-	537	1900	1224	43.9%	-	-	-	1.2	8.1	4.5
14/2	Ahead Right	U	H		1	57	-	738	1900	1224	60.3%	-	-	-	1.4	6.7	3.1
14/3	Right	U	H		1	57	-	188	1900	1224	15.4%	-	-	-	1.0	18.2	4.8
15/1	Ahead	U	K		1	24	-	423	1900	528	80.1%	-	-	-	5.3	45.3	11.3
15/2	Right	U	K		1	24	-	288	1900	528	54.6%	-	-	-	1.1	13.3	4.2
15/3	Right	U	K		1	24	-	281	1900	528	53.2%	-	-	-	1.5	19.3	6.5

C1	Stream: 1 PRC for Signalled Lanes (%):	32.5	Total Delay for Signalled Lanes (pcuHr):	8.00	Cycle Time (s): 90
C1	Stream: 2 PRC for Signalled Lanes (%):	65.1	Total Delay for Signalled Lanes (pcuHr):	8.28	Cycle Time (s): 90
C1	Stream: 3 PRC for Signalled Lanes (%):	48.8	Total Delay for Signalled Lanes (pcuHr):	9.36	Cycle Time (s): 90
C1	Stream: 4 PRC for Signalled Lanes (%):	9.7	Total Delay for Signalled Lanes (pcuHr):	14.25	Cycle Time (s): 90
C1	Stream: 5 PRC for Signalled Lanes (%):	37.6	Total Delay for Signalled Lanes (pcuHr):	7.61	Cycle Time (s): 90
	PRC Over All Lanes (%):	9.7	Total Delay Over All Lanes(pcuHr):	47.50	

Basic Results Summary

Scenario 3: '2026 Baseline AM' (FG3: '2026 Baseline AM', Plan 1: 'Network Control Plan 1')

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	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**73.3%**	**0**	**0**	**0**	**43.0**	**-**	**-**
Unnamed Junction	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**73.3%**	**0**	**0**	**0**	**43.0**	**-**	**-**
1/2+1/1	A41 Left Ahead	U	J		1	53	-	1045	2080:1940	650+776	73.3 : 73.3%	-	-	-	4.2	14.6	11.6
1/3	A41 Ahead	U	J		1	53	-	101	2080	1248	8.1%	-	-	-	0.3	9.2	1.1
2/1	Gravenhill Rd Left	U	M		1	17	-	223	1894	379	58.9%	-	-	-	2.7	44.1	5.7
2/2+2/3	Gravenhill Rd Ahead	U	M		1	17	-	282	2044:2044	351+327	41.6 : 41.6%	-	-	-	2.8	35.5	3.5
3/2+3/1	A41 U-Turn Ahead	U	A		1	60	-	972	2029:1848	931+872	53.9 : 53.9%	-	-	-	2.3	8.4	5.9
3/3	A41 Ahead	U	A		1	60	-	602	2029	1375	43.8%	-	-	-	1.5	9.0	7.2
4/2+4/1	B4100 Left Ahead	U	D		1	13	-	142	2005:1870	312+114	33.3 : 33.3%	-	-	-	1.6	39.9	2.6
4/3	B4100 Ahead	U	D		1	13	-	156	2005	312	50.0%	-	-	-	2.0	46.3	4.1
5/2+5/1	A4421 Left Ahead	U	G		1	26	-	452	2005:1848	567+143	63.6 : 63.6%	-	-	-	4.2	33.1	8.5
5/3	A4421 Ahead	U	G		1	26	-	220	2005	601	36.6%	-	-	-	1.8	29.5	4.6
11/1	Ahead	U	N		1	61	-	770	1900	1309	58.8%	-	-	-	1.5	6.9	5.0
11/2	Ahead Right	U	N		1	61	-	764	1900	1309	58.4%	-	-	-	1.5	6.9	5.1
11/3	Right	U	N		1	61	-	110	1900	1309	8.4%	-	-	-	0.2	5.7	0.9
12/1	Ahead	U	B		1	18	-	23	1900	401	5.7%	-	-	-	0.0	7.8	0.5
12/2	Ahead Right	U	B		1	18	-	210	1900	401	52.4%	-	-	-	1.4	24.4	5.0
12/3	Right	U	B		1	18	-	159	1900	401	39.6%	-	-	-	0.7	15.5	3.9
13/1	Ahead	U	E		1	65	-	442	1900	1393	31.7%	-	-	-	0.8	6.6	3.6
13/2	Ahead Right	U	E		1	65	-	631	1900	1393	45.3%	-	-	-	1.1	6.3	4.2
13/3	Right	U	E		1	65	-	632	1900	1393	45.4%	-	-	-	0.6	3.6	5.3

Basic Results Summary

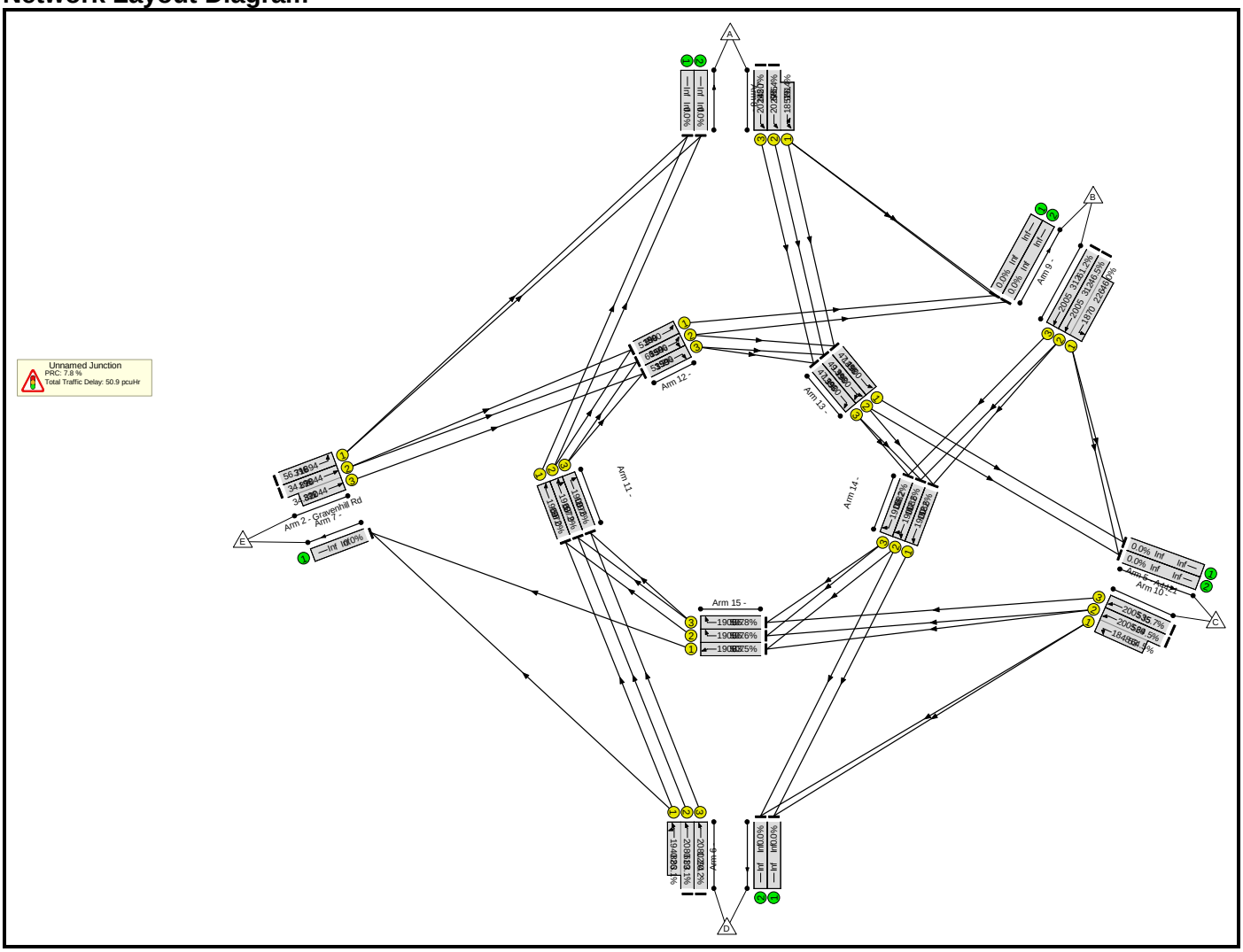
14/1	Ahead	U	H		1	52	-	611	1900	1119	54.6%	-	-	-	1.7	9.8	5.9
14/2	Ahead Right	U	H		1	52	-	684	1900	1119	61.1%	-	-	-	2.0	10.8	6.1
14/3	Right	U	H		1	52	-	156	1900	1119	13.9%	-	-	-	0.6	14.7	4.0
15/1	Ahead	U	K		1	25	-	393	1900	549	71.6%	-	-	-	3.9	35.9	8.8
15/2	Right	U	K		1	25	-	298	1900	549	54.3%	-	-	-	1.7	20.6	6.6
15/3	Right	U	K		1	25	-	297	1900	549	54.1%	-	-	-	1.8	22.3	6.6

C1	Stream: 1 PRC for Signalled Lanes (%):	67.0	Total Delay for Signalled Lanes (pcuHr):	5.93	Cycle Time (s):	90
C1	Stream: 2 PRC for Signalled Lanes (%):	79.9	Total Delay for Signalled Lanes (pcuHr):	6.14	Cycle Time (s):	90
C1	Stream: 3 PRC for Signalled Lanes (%):	41.5	Total Delay for Signalled Lanes (pcuHr):	10.29	Cycle Time (s):	90
C1	Stream: 4 PRC for Signalled Lanes (%):	22.8	Total Delay for Signalled Lanes (pcuHr):	11.98	Cycle Time (s):	90
C1	Stream: 5 PRC for Signalled Lanes (%):	52.9	Total Delay for Signalled Lanes (pcuHr):	8.62	Cycle Time (s):	90
	PRC Over All Lanes (%):	22.8	Total Delay Over All Lanes(pcuHr):	42.96		

Basic Results Summary

Scenario 4: '2026 Baseline PM' (FG4: '2026 Baseline PM', Plan 1: 'Network Control Plan 1')

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	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**83.5%**	**0**	**0**	**0**	**50.9**	**-**	**-**
Unnamed Junction	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**83.5%**	**0**	**0**	**0**	**50.9**	**-**	**-**
1/2+1/1	A41 Left Ahead	U	J		1	55	-	1200	2080:1940	619+826	83.1 : 83.1%	-	-	-	5.8	17.4	17.8
1/3	A41 Ahead	U	J		1	55	-	262	2080	1294	20.2%	-	-	-	0.7	9.1	2.9
2/1	Gravenhill Rd Left	U	M		1	14	-	179	1894	316	56.7%	-	-	-	2.4	47.6	4.7
2/2+2/3	Gravenhill Rd Ahead	U	M		1	14	-	181	2044:2044	198+322	34.8 : 34.8%	-	-	-	1.9	38.1	2.7
3/2+3/1	A41 U-Turn Ahead	U	A		1	62	-	1280	2029:1851	685+991	76.4 : 76.4%	-	-	-	3.8	10.8	11.1
3/3	A41 Ahead	U	A		1	62	-	649	2029	1420	45.7%	-	-	-	1.5	8.3	7.5
4/2+4/1	B4100 Left Ahead	U	D		1	13	-	249	2005:1870	312+226	46.5 : 46.0%	-	-	-	2.8	40.6	3.7
4/3	B4100 Ahead	U	D		1	13	-	191	2005	312	61.2%	-	-	-	2.7	50.2	5.2
5/2+5/1	A4421 Left Ahead	U	G		1	23	-	375	2005:1848	529+53	64.5 : 64.5%	-	-	-	3.9	37.4	8.4
5/3	A4421 Ahead	U	G		1	23	-	191	2005	535	35.7%	-	-	-	1.7	32.0	4.1
11/1	Ahead	U	N		1	64	-	796	1900	1372	58.0%	-	-	-	1.4	6.5	5.2
11/2	Ahead Right	U	N		1	64	-	795	1900	1372	57.9%	-	-	-	1.4	6.4	5.1
11/3	Right	U	N		1	64	-	269	1900	1372	19.6%	-	-	-	0.4	5.6	2.2
12/1	Ahead	U	B		1	16	-	19	1900	359	5.3%	-	-	-	0.1	10.4	0.4
12/2	Ahead Right	U	B		1	16	-	240	1900	359	66.9%	-	-	-	2.6	38.4	5.5
12/3	Right	U	B		1	16	-	191	1900	359	53.2%	-	-	-	1.4	25.6	4.7
13/1	Ahead	U	E		1	65	-	660	1900	1393	47.4%	-	-	-	1.0	5.6	4.3
13/2	Ahead Right	U	E		1	65	-	695	1900	1393	49.9%	-	-	-	1.6	8.4	11.2
13/3	Right	U	E		1	65	-	668	1900	1393	47.9%	-	-	-	0.7	3.7	5.8

Basic Results Summary

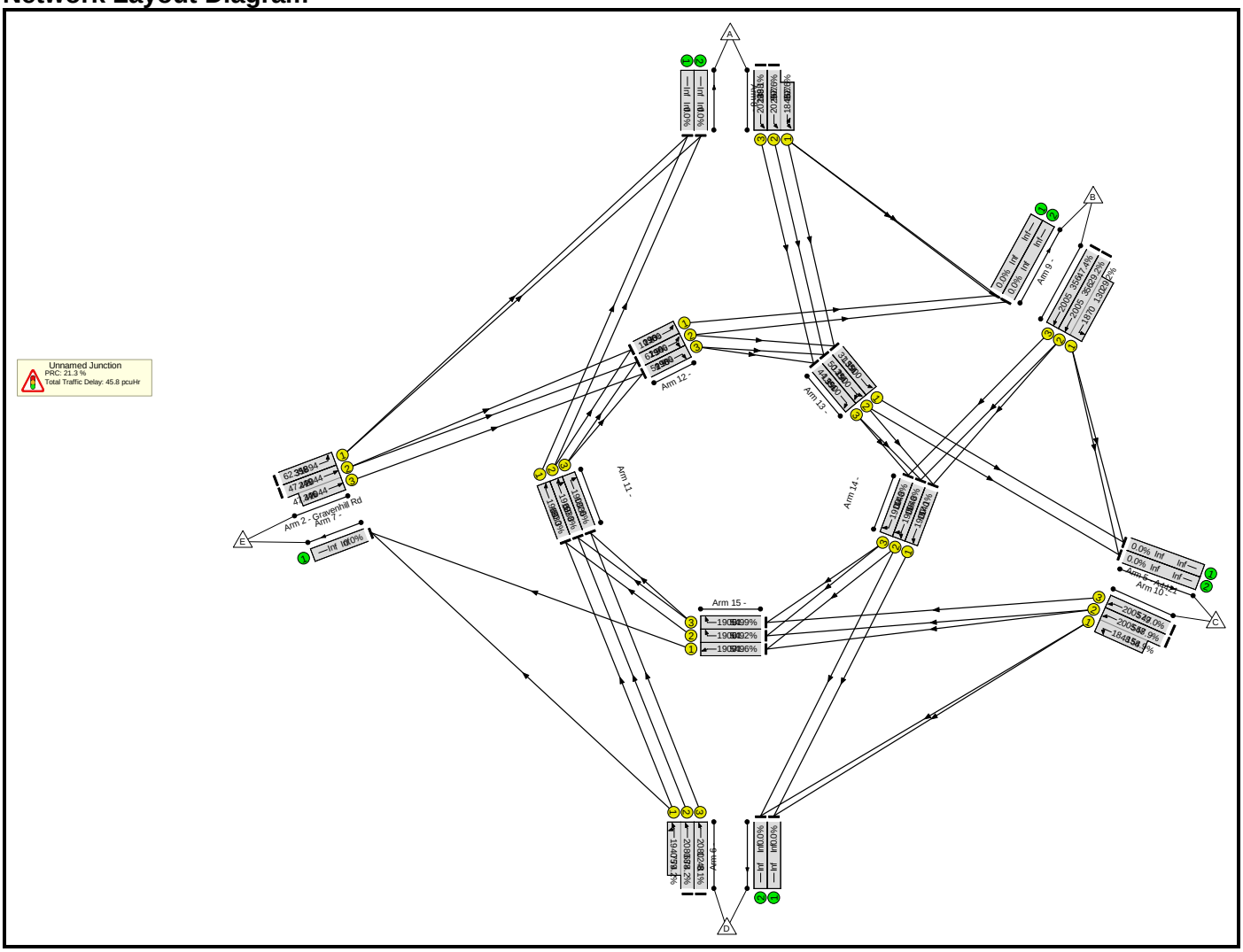
14/1	Ahead	U	H		1	55	-	622	1900	1182	52.6%	-	-	-	1.5	8.8	5.0
14/2	Ahead Right	U	H		1	55	-	740	1900	1182	62.6%	-	-	-	2.0	9.9	7.2
14/3	Right	U	H		1	55	-	191	1900	1182	16.2%	-	-	-	0.7	13.8	4.9
15/1	Ahead	U	K		1	23	-	423	1900	507	83.5%	-	-	-	6.0	51.1	12.0
15/2	Right	U	K		1	23	-	287	1900	507	56.6%	-	-	-	1.4	17.2	5.5
15/3	Right	U	K		1	23	-	288	1900	507	56.8%	-	-	-	1.5	18.7	5.4

C1	Stream: 1 PRC for Signalled Lanes (%):	17.8	Total Delay for Signalled Lanes (pcuHr):	9.31	Cycle Time (s):	90
C1	Stream: 2 PRC for Signalled Lanes (%):	47.0	Total Delay for Signalled Lanes (pcuHr):	8.79	Cycle Time (s):	90
C1	Stream: 3 PRC for Signalled Lanes (%):	39.6	Total Delay for Signalled Lanes (pcuHr):	9.89	Cycle Time (s):	90
C1	Stream: 4 PRC for Signalled Lanes (%):	7.8	Total Delay for Signalled Lanes (pcuHr):	15.32	Cycle Time (s):	90
C1	Stream: 5 PRC for Signalled Lanes (%):	55.2	Total Delay for Signalled Lanes (pcuHr):	7.54	Cycle Time (s):	90
	PRC Over All Lanes (%):	7.8	Total Delay Over All Lanes(pcuHr):	50.86		

Basic Results Summary

Scenario 5: '2026 AM + 60sqm' (FG5: '2026 AM + 60sqm ', Plan 1: 'Network Control Plan 1')

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	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**74.2%**	**0**	**0**	**0**	**45.8**	**-**	**-**
Unnamed Junction	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**74.2%**	**0**	**0**	**0**	**45.8**	**-**	**-**
1/2+1/1	A41 Left Ahead	U	J		1	53	-	1073	2080:1940	688+759	74.2 : 74.2%	-	-	-	4.4	14.8	11.1
1/3	A41 Ahead	U	J		1	53	-	101	2080	1248	8.1%	-	-	-	0.3	9.2	1.1
2/1	Gravenhill Rd Left	U	M		1	16	-	223	1894	358	62.3%	-	-	-	2.9	46.8	5.9
2/2+2/3	Gravenhill Rd Ahead	U	M		1	16	-	282	2044:2044	249+346	47.4 : 47.4%	-	-	-	2.9	37.6	4.0
3/2+3/1	A41 U-Turn Ahead	U	A		1	65	-	997	2029:1848	997+897	52.6 : 52.6%	-	-	-	1.7	6.3	5.2
3/3	A41 Ahead	U	A		1	65	-	582	2029	1488	39.1%	-	-	-	1.0	6.5	5.7
4/2+4/1	B4100 Left Ahead	U	D		1	15	-	142	2005:1870	356+130	29.2 : 29.2%	-	-	-	1.5	37.0	2.5
4/3	B4100 Ahead	U	D		1	15	-	169	2005	356	47.4%	-	-	-	2.0	42.8	4.2
5/2+5/1	A4421 Left Ahead	U	G		1	25	-	413	2005:1848	547+154	58.9 : 58.9%	-	-	-	3.7	32.6	7.5
5/3	A4421 Ahead	U	G		1	25	-	272	2005	579	47.0%	-	-	-	2.4	32.2	6.0
11/1	Ahead	U	N		1	62	-	802	1900	1330	60.3%	-	-	-	1.8	8.2	9.5
11/2	Ahead Right	U	N		1	62	-	795	1900	1330	59.8%	-	-	-	1.9	8.5	10.0
11/3	Right	U	N		1	62	-	101	1900	1330	7.6%	-	-	-	0.2	7.4	1.4
12/1	Ahead	U	B		1	13	-	32	1900	296	10.8%	-	-	-	0.2	22.8	0.8
12/2	Ahead Right	U	B		1	13	-	183	1900	296	61.9%	-	-	-	1.7	33.8	4.0
12/3	Right	U	B		1	13	-	177	1900	296	59.9%	-	-	-	1.4	28.3	5.0
13/1	Ahead	U	E		1	63	-	425	1900	1351	31.5%	-	-	-	0.6	5.4	3.0
13/2	Ahead Right	U	E		1	63	-	678	1900	1351	50.2%	-	-	-	1.3	6.8	5.8
13/3	Right	U	E		1	63	-	606	1900	1351	44.9%	-	-	-	1.3	7.9	6.5

Basic Results Summary

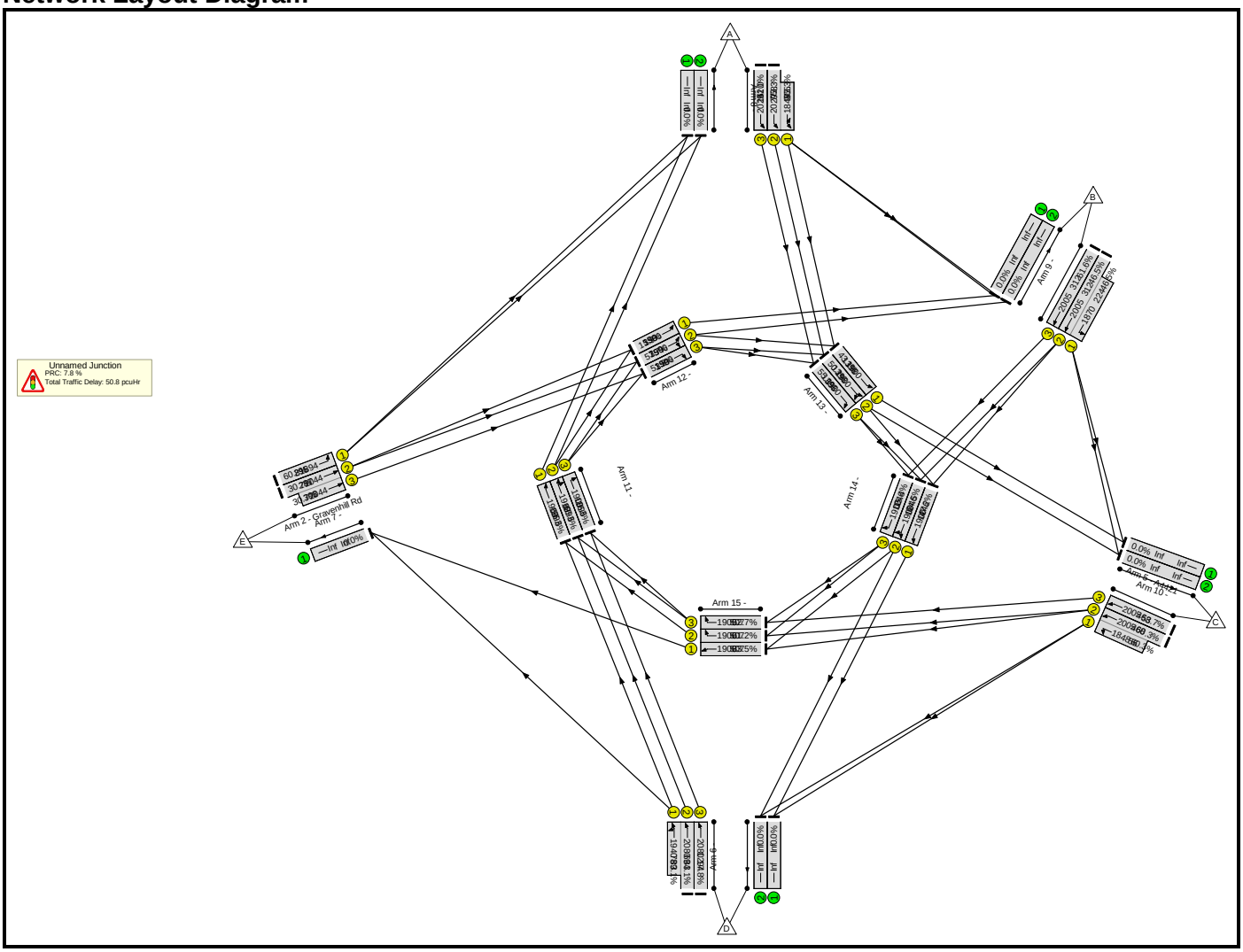
14/1	Ahead	U	H		1	53	-	651	1900	1140	57.1%	-	-	-	2.3	12.8	7.5
14/2	Ahead Right	U	H		1	53	-	647	1900	1140	56.8%	-	-	-	2.3	12.8	7.3
14/3	Right	U	H		1	53	-	169	1900	1140	14.8%	-	-	-	0.3	6.7	4.1
15/1	Ahead	U	K		1	25	-	393	1900	549	71.6%	-	-	-	3.8	34.8	8.2
15/2	Right	U	K		1	25	-	336	1900	549	61.2%	-	-	-	1.6	17.6	5.3
15/3	Right	U	K		1	25	-	285	1900	549	51.9%	-	-	-	2.1	26.0	7.5

C1	Stream: 1 PRC for Signalled Lanes (%):	45.4	Total Delay for Signalled Lanes (pcuHr):	6.11	Cycle Time (s): 90
C1	Stream: 2 PRC for Signalled Lanes (%):	79.4	Total Delay for Signalled Lanes (pcuHr):	6.71	Cycle Time (s): 90
C1	Stream: 3 PRC for Signalled Lanes (%):	52.8	Total Delay for Signalled Lanes (pcuHr):	11.11	Cycle Time (s): 90
C1	Stream: 4 PRC for Signalled Lanes (%):	21.3	Total Delay for Signalled Lanes (pcuHr):	12.15	Cycle Time (s): 90
C1	Stream: 5 PRC for Signalled Lanes (%):	44.4	Total Delay for Signalled Lanes (pcuHr):	9.76	Cycle Time (s): 90
	PRC Over All Lanes (%):	21.3	Total Delay Over All Lanes(pcuHr):	45.84	

Basic Results Summary

Scenario 6: '2026 PM + 60sqm' (FG6: '2026 PM + 60sqm', Plan 1: 'Network Control Plan 1')

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	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**83.5%**	**0**	**0**	**0**	**50.8**	**-**	**-**
Unnamed Junction	**-**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**83.5%**	**0**	**0**	**0**	**50.8**	**-**	**-**
1/2+1/1	A41 Left Ahead	U	J		1	55	-	1233	2080:1940	694+789	83.1 : 83.1%	-	-	-	5.8	16.9	16.8
1/3	A41 Ahead	U	J		1	55	-	231	2080	1294	17.8%	-	-	-	0.6	8.9	2.5
2/1	Gravenhill Rd Left	U	M		1	13	-	179	1894	295	60.8%	-	-	-	2.5	50.8	4.9
2/2+2/3	Gravenhill Rd Ahead	U	M		1	13	-	181	2044:2044	287+303	30.7 : 30.7%	-	-	-	1.9	38.0	2.3
3/2+3/1	A41 U-Turn Ahead	U	A		1	62	-	1264	2029:1848	758+965	73.3 : 73.3%	-	-	-	3.5	10.0	9.8
3/3	A41 Ahead	U	A		1	62	-	724	2029	1420	51.0%	-	-	-	1.8	8.9	8.8
4/2+4/1	B4100 Left Ahead	U	D		1	13	-	249	2005:1870	312+224	46.5 : 46.5%	-	-	-	2.8	40.6	3.7
4/3	B4100 Ahead	U	D		1	13	-	192	2005	312	61.6%	-	-	-	2.7	50.3	5.3
5/2+5/1	A4421 Left Ahead	U	G		1	20	-	316	2005:1848	468+56	60.3 : 60.3%	-	-	-	3.4	39.0	7.0
5/3	A4421 Ahead	U	G		1	20	-	251	2005	468	53.7%	-	-	-	2.7	38.5	6.0
11/1	Ahead	U	N		1	65	-	789	1900	1393	56.6%	-	-	-	1.3	5.9	7.0
11/2	Ahead Right	U	N		1	65	-	844	1900	1393	60.6%	-	-	-	1.7	7.4	10.7
11/3	Right	U	N		1	65	-	231	1900	1393	16.6%	-	-	-	0.3	5.1	1.5
12/1	Ahead	U	B		1	16	-	57	1900	359	15.9%	-	-	-	0.5	31.1	1.3
12/2	Ahead Right	U	B		1	16	-	207	1900	359	57.7%	-	-	-	2.1	36.7	5.0
12/3	Right	U	B		1	16	-	186	1900	359	51.8%	-	-	-	1.6	31.1	4.6
13/1	Ahead	U	E		1	65	-	601	1900	1393	43.1%	-	-	-	1.0	6.1	4.3
13/2	Ahead Right	U	E		1	65	-	700	1900	1393	50.2%	-	-	-	1.3	6.8	5.3
13/3	Right	U	E		1	65	-	766	1900	1393	55.0%	-	-	-	1.1	5.0	7.1

Basic Results Summary

14/1	Ahead	U	H		1	58	-	588	1900	1246	47.2%	-	-	-	1.3	8.3	5.8
14/2	Ahead Right	U	H		1	58	-	803	1900	1246	64.5%	-	-	-	1.9	8.5	4.8
14/3	Right	U	H		1	58	-	192	1900	1246	15.4%	-	-	-	0.6	10.7	4.9
15/1	Ahead	U	K		1	23	-	423	1900	507	83.5%	-	-	-	5.8	49.3	11.6
15/2	Right	U	K		1	23	-	310	1900	507	61.2%	-	-	-	1.2	13.6	4.1
15/3	Right	U	K		1	23	-	267	1900	507	52.7%	-	-	-	1.3	17.7	6.8

C1	Stream: 1 PRC for Signalled Lanes (%):	22.7	Total Delay for Signalled Lanes (pcuHr):	9.52	Cycle Time (s): 90
C1	Stream: 2 PRC for Signalled Lanes (%):	46.2	Total Delay for Signalled Lanes (pcuHr):	8.90	Cycle Time (s): 90
C1	Stream: 3 PRC for Signalled Lanes (%):	39.6	Total Delay for Signalled Lanes (pcuHr):	9.92	Cycle Time (s): 90
C1	Stream: 4 PRC for Signalled Lanes (%):	7.8	Total Delay for Signalled Lanes (pcuHr):	14.65	Cycle Time (s): 90
C1	Stream: 5 PRC for Signalled Lanes (%):	48.1	Total Delay for Signalled Lanes (pcuHr):	7.80	Cycle Time (s): 90
	PRC Over All Lanes (%):	7.8	Total Delay Over All Lanes(pcuHr):	50.78	