West Cambridge Development

2020 Transport Assessment Appendices

On behalf of **University of Cambridge**

Project Ref: 45339/5516 | Rev: 3.0 | Date: October 2020

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WEST CAMBRIDGE DEVELOPMENT

STRATEGIC SITE LOCATION PLAN

Mark	Revision	Date	Drawn	Chkd	Appd

Drawing Status
TRANSPORT ASSESSMENT

Date of 1st Issue	DEC 19		
A3 Scale	NTS		
Design		Drawn	DS
Chkd	JH	Appd	JH

Drawing Number: FIGURE 2.1
Revision: -

user name: tamas, panna

File Location: \\pba.int\npt\projects\45339 - west cambridge 2018\cad\dwgs\transport\transport assessment\45339_ta_figure 2.1.dwg

KEY

- WEST CAMBRIDGE DEVELOPMENT
- NORTH WEST CAMBRIDGE DEVELOPMENT
- DARWIN GREEN DEVELOPMENT

GIRTON
A14
M11 JUNCTION 14
GIRTON ROAD
A428
HISTON ROAD
ARBURY
M11
HUNTINGDON ROAD
MADINGLEY ROAD PARK & RIDE
STOREY'S WAY
MADINGLEY RISE
CONDUIT HEAD ROAD
AMERICAN CEMETERY
MADINGLEY ROAD
M11 JUNCTION 13
MADINGLEY MULCH ROUNDABOUT
CHURCHILL ROAD
MOUNT PLEASANT
CLERK MAXWELL ROAD
HIGH CROSS
JJ THOMSON AVENUE
GRANGE ROAD
COTON
MADINGLEY ROAD
LANSDOWNE ROAD
ADAMS ROAD
CITY CENTRE
WILBERFORCE ROAD
WEST ROAD
SIDGWICK AVENUE
BARTON ROAD

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LOCAL CONTEXT PLAN

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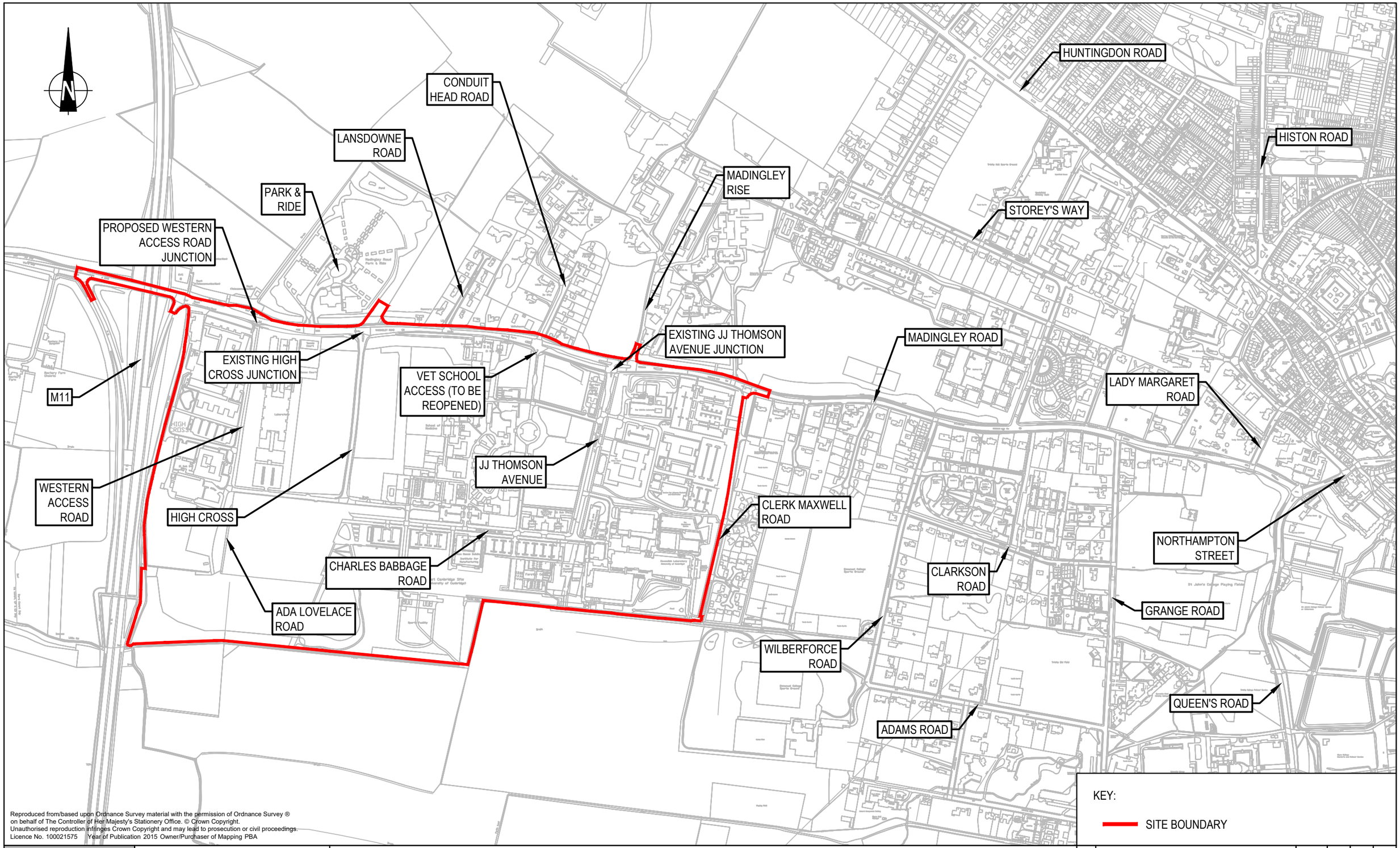
Date of 1st Issue	DEC 19	Drawing Number	Revision
A3 Scale	NTS	FIGURE 2.2	-
Design	Drawn DS		
Chkd JH	Appd JH		



KEY:

SITE BOUNDARY

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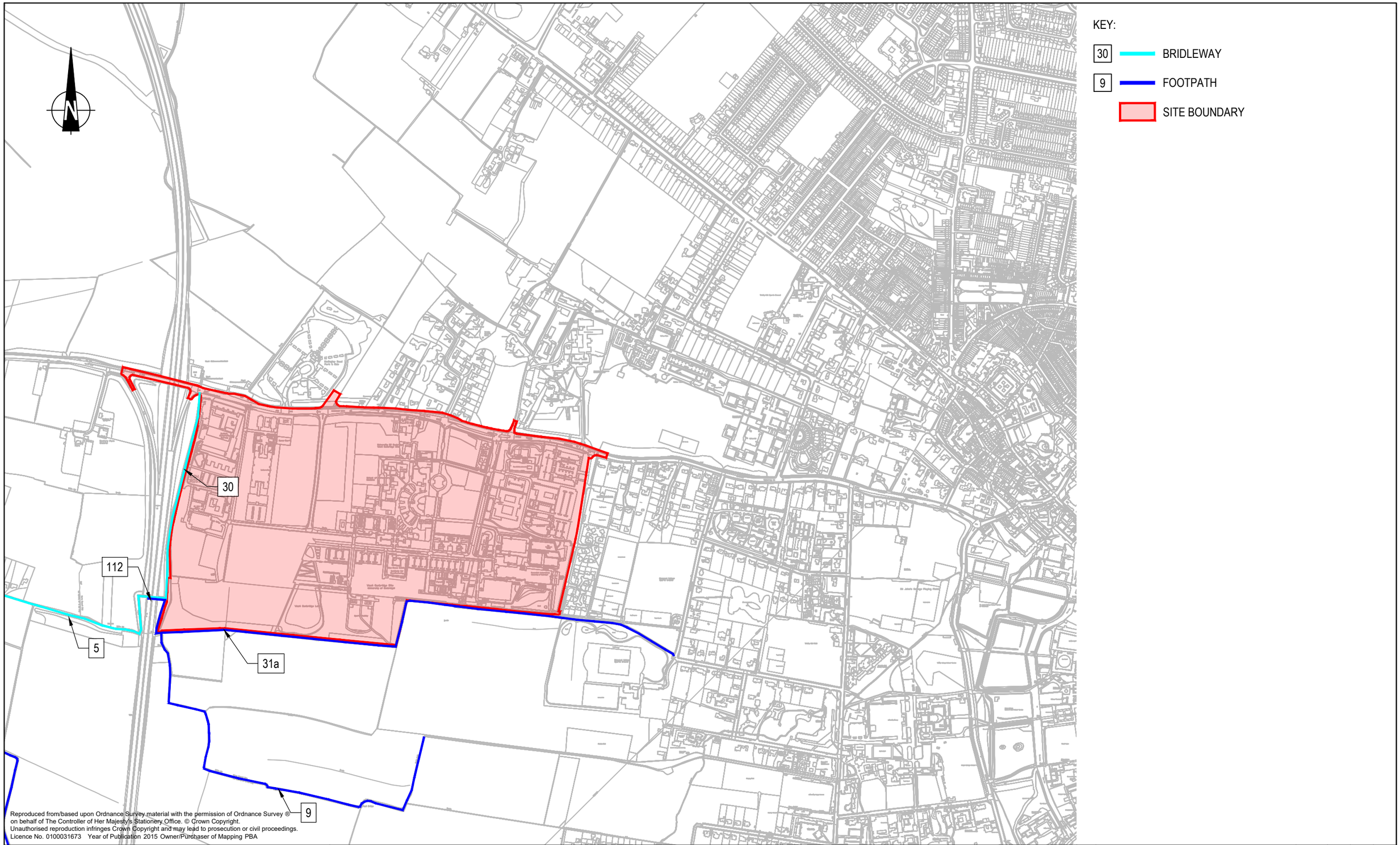
WEST CAMBRIDGE

LOCAL ROAD NETWORK

Mark	Revision	Date	Drawn	Chkd	Appd

Drawing Status: TRANSPORT ASSESSMENT

Date of 1st Issue	DEC 19	Drawing Number	Revision
A3 Scale	NTS	FIGURE 2.3	-
Design	Drawn DS		
Chkd PC	Appd		



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WEST CAMBRIDGE DEVELOPMENT

PUBLIC RIGHTS OF WAY

Mark	Revision	Date	Drawn	Chkd	Appd
-					

Drawing Status: TRANSPORT ASSESSMENT

Date of 1st Issue	DEC 19	Drawing Number	Revision
A3 Scale	NTS	FIGURE 3.1	-
Design -	Drawn DS		
Chkd PC	Appd		

Notes:

1. Area between central green link and JJ Thomson Avenue could be shared if deemed appropriate by the Council.
2. Cycle Hubs will provide fully enclosed, secure parking, as well as facilities such as showers, changing rooms, storage lockers and potentially cycle repair, coffee points and delivery services. These would contain 500-1000 spaces each and have been located along the main cycle routes.
3. The section of cycle track along The Green and through the Cavendish Laboratory IIII site will be a more shared provision to reflect the proposals for The Green as agreed in the Planning Application for this site.

LEGEND

- SITE BOUNDARY
- SHARED ON ROAD ROUTE
- SHARED OFF ROAD ROUTE
- TWO WAY CYCLE TRACK
- SHARED USE FOOTWAY

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Drawing Issue Status

DRAFT FOR COMMENT

EXISTING ON SITE WALKING AND CYCLING FACILITIES

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Date of 1st Issue	Designed	Drawn
21/01/2019	JAD	JAD
Scale	Checked	Approved
1:1250	GD	GD
Drawing Number		Revision
FIGURE 3.2		B

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LONDON
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Madingley Road
park&ride

To Coton Hardwick and Madingley

To Coton

West Cambridge

City Centre

Newnham

Cambridge Rail Station

Madingley Road
park&ride

Coton and Madingley

Madingley

Coton

Kilometres 0 0.2 0.4 0.8 1
Miles 0 0.2 0.4 0.6

- Signed primary network on road
- Signed primary network separate from traffic
- Local links and links to villages on road
- Local links and links to villages separate from traffic
- On-road cycle lane
- Cycle and bus lane
- Cycling prohibited at all times
- Cycling prohibited Mon-Sat 10am-4pm
- Bridleway (useable when dry)
- National Cycle Network (Sustrans)
- Regional Cycle Route (Sustrans)
- Cycle Park
- Busy roundabout or junctions. Take care
- Railway line
- Cambridge University locations
- University / College locations
- Other university locations
- Hospital
- Bike shops *(see other side for details)*
- Pinch points. Restricted width for trailers
- Blue sign destinations
- Colleges and secondary schools
- One-way street
- Temporary route diversion

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WEST CAMBRIDGE

LOCAL CYCLE FACILITIES
EXTRACTED FROM CAMBRIDGE CITY COUNCIL'S WEBSITE

Mark	Revision	Date	Drawn	Chkd	Appd

Drawing Status: TRANSPORT ASSESSMENT

Date of 1st Issue	DEC 19	Drawing Number	Revision
A3 Scale	NTS	FIGURE 3.3	-
Design	Drawn DS		
Chkd PC	Appd JH		

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WEST CAMBRIDGE ROUTE OF CAMBRIDGESHIRE GUIDED BUSWAY

Mark	Revision	Date	Drawn	Chkd	Appd

Drawing Status: TRANSPORT ASSESSMENT

Date of 1st Issue	SEP 2017	Drawing Number	Revision
A4 Scale	NTS	FIGURE 3.4	-
Design	Drawn DS		
Chkd PC	Appd		

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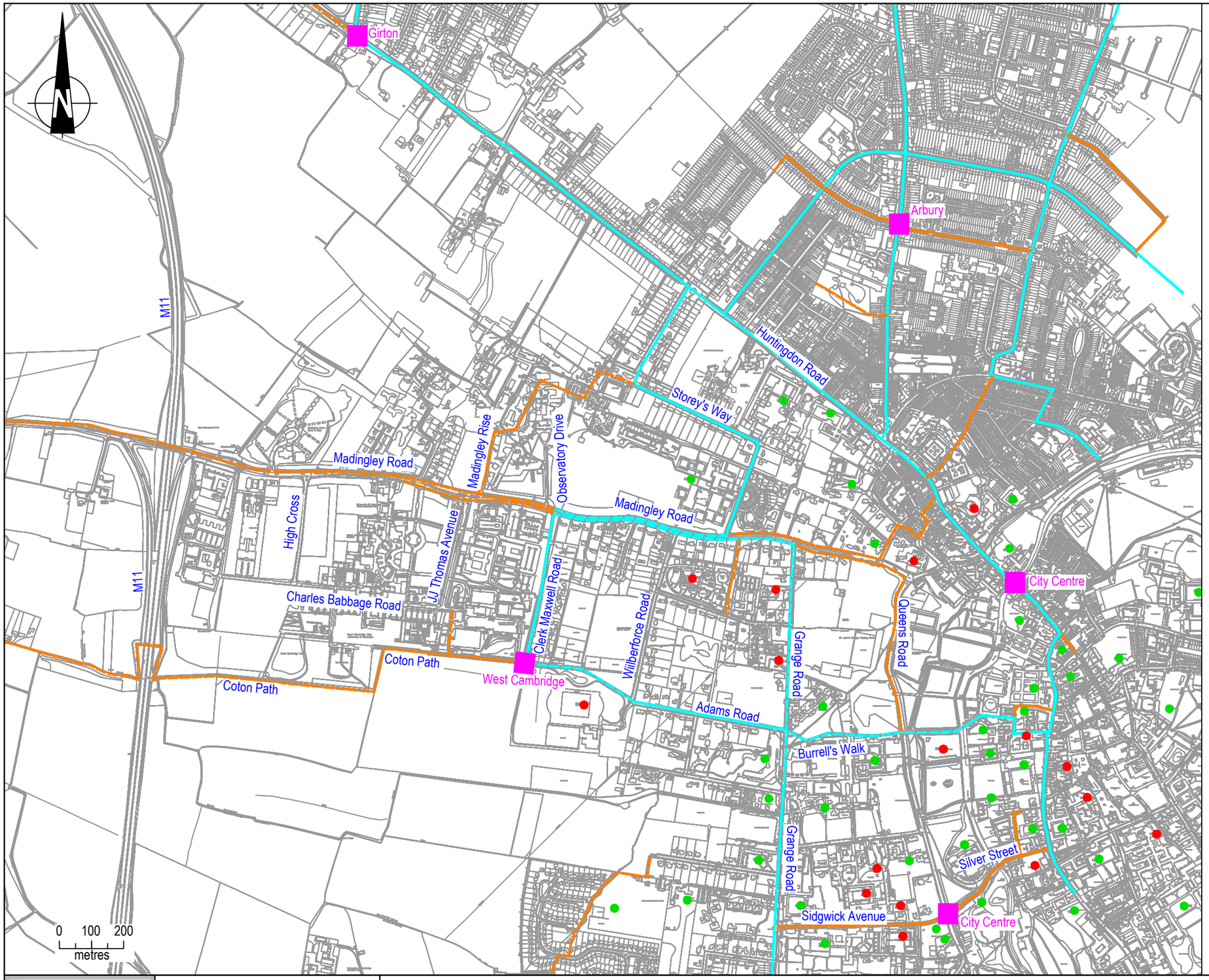

Key

- Signed primary network (on road)
- Signed primary network (separate from traffic)
- Local links & links to villages (on road)
- Local links & links to villages (separate from traffic)
- University Facilities
- Colleges & Associated Facilities
- Blue Sign Destination

Note

Existing routes taken from the Cambridge Cycle Maps produced by Cambridgeshire County Council and information from www.cyclestreets.net

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WEST CAMBRIDGE DEVELOPMENT

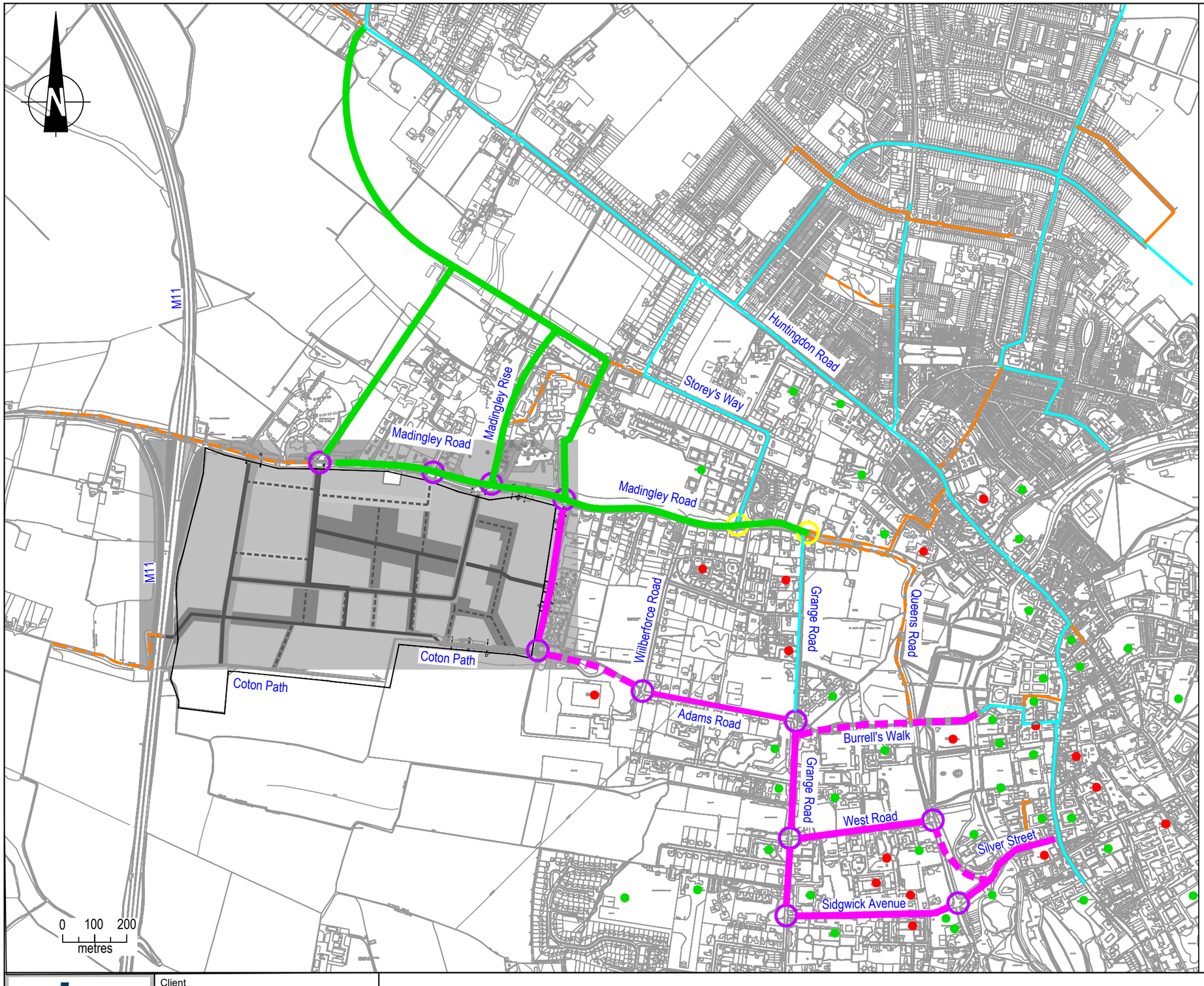
EXISTING CYCLE NETWORK

Mark	Revision	Date	Drawn	Chkd	Appd

Drawing Status: TRANSPORT ASSESSMENT

Date of 1st Issue	DEC 19			Drawing Number	Revision
A3 Scale	1:12500			FIGURE 6.1	-
Design	AI	Drawn	AI		
Chkd	GD	Appd	GD		

File Location: \\pba.int\bgl\projects\31500 w cambridge\technical\cad\dwgs\transport\transport assessment final\45339-figure 6.1 - existing cycle route network.dwg



Existing Network

- Signed primary network (on road)
- Signed primary network (separate from traffic)
- Local links & links to villages (on road)
- Local links & links to villages (separate from traffic)
- University Facilities
- Colleges & Associated Facilities

Proposed Network

- Junction Improvement & Access Point
- Road Safety Scheme
- Enhanced Link (on road)
- Enhanced Link (off road)
- Enhanced Link By Others
- For On-Site Cycle Network across West Cambridge, refer to Figure 6.1

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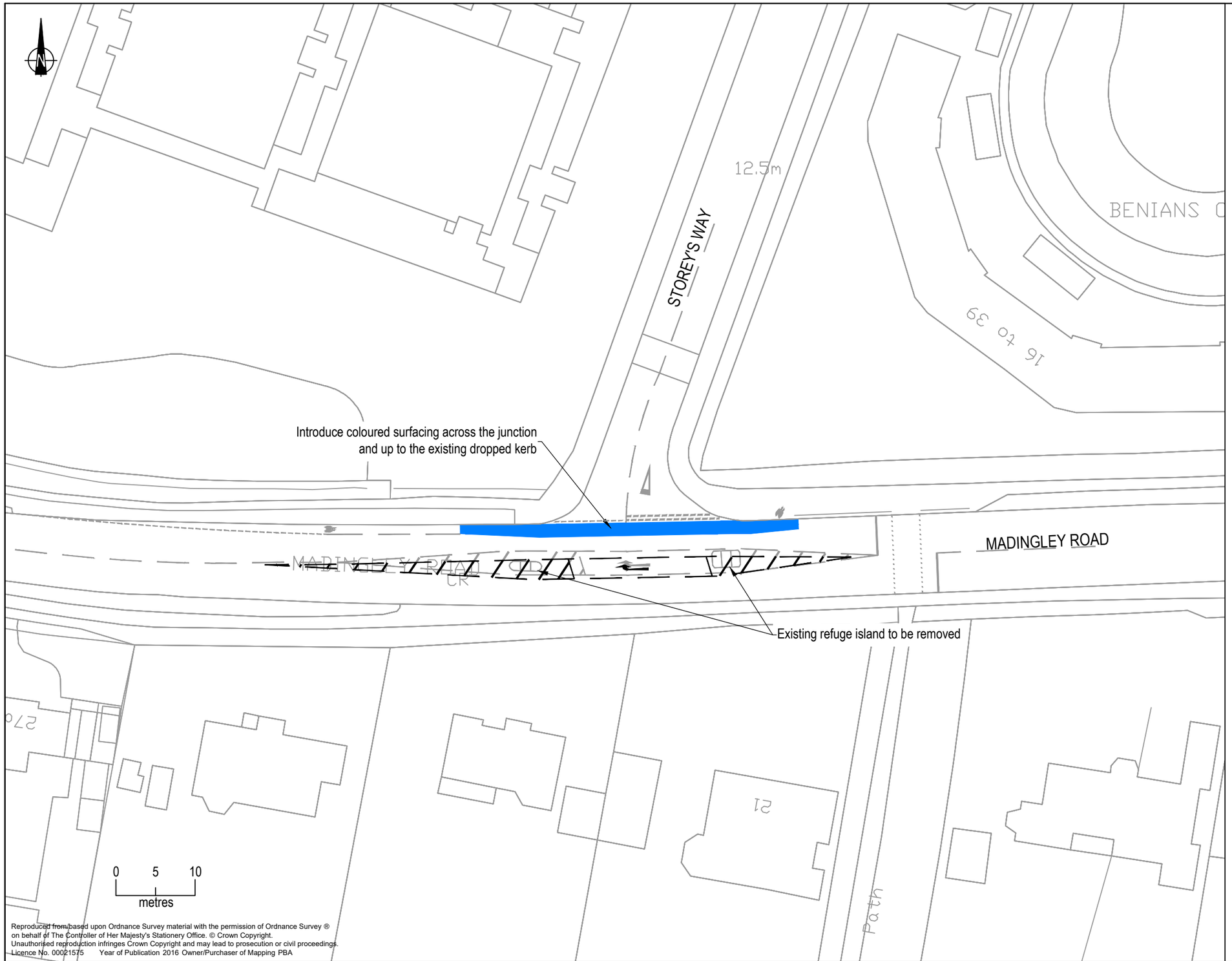
WEST CAMBRIDGE DEVELOPMENT
PROPOSED ENHANCEMENT TO CYCLE ROUTE NETWORK

Mark	Revision	Date	Drawn	Chkd	Appd

Drawing Status: TRANSPORT ASSESSMENT

Date of 1st Issue	DEC 19	Drawing Number	Revision
A3 Scale	1:12500	FIGURE 6.2	-
Design PLM	Drawn PLM		
Chkd GD	Appd GD		

File Location: \\pba.int\bgl\projects\31500 w cambridge\technical\cad\dwgs\transport\transport assessment final\45339-figure 6.2 - proposed external network proposals with parameter plan.dwg



Coloured Road Surfacing

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WEST CAMBRIDGE
MADINGLEY ROAD - STOREY'S WAY
POTENTIAL ENHANCEMENT

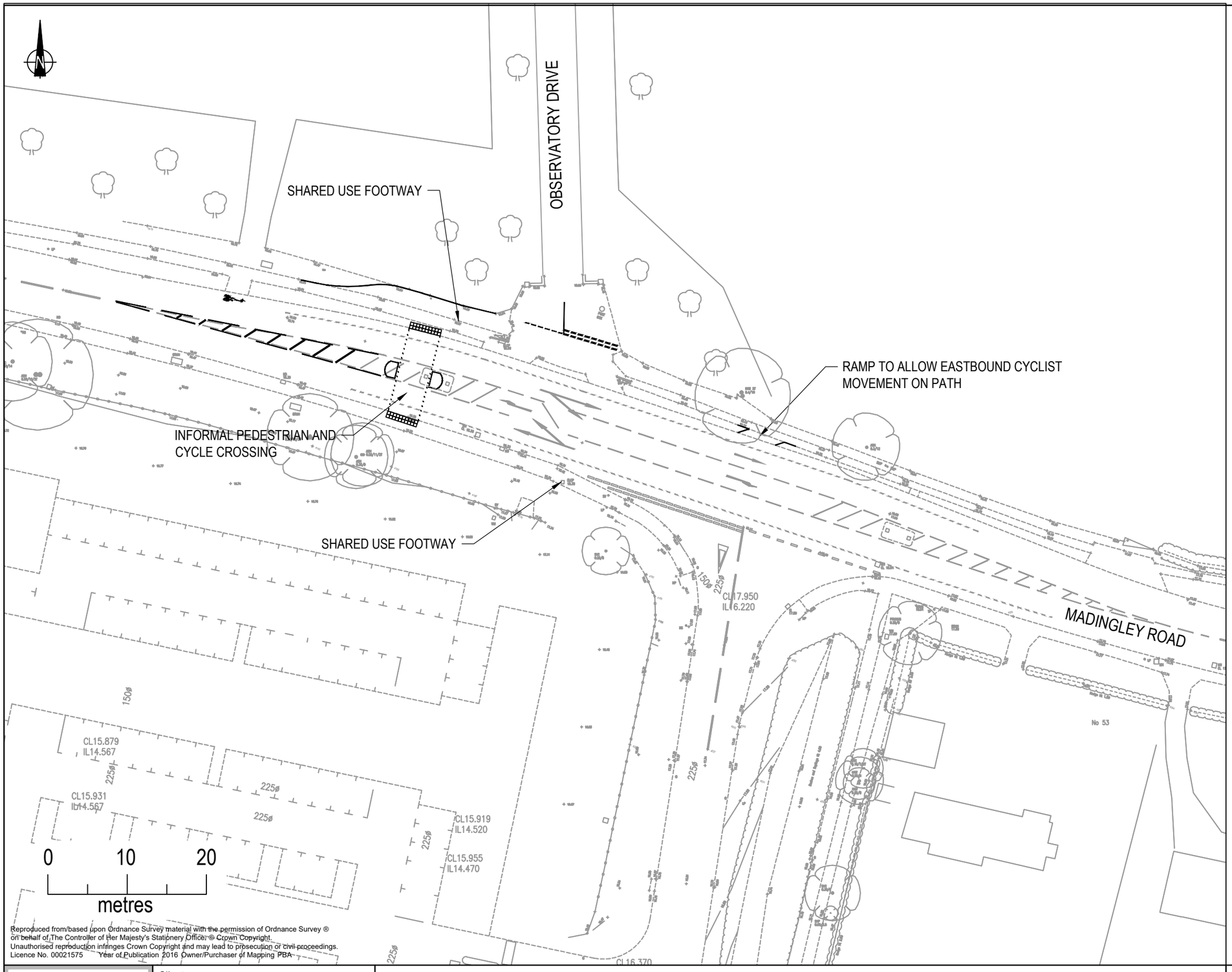
Mark	Revision	Date	Drawn	Chkd	Appd
A	COLOURED SURFACING ADJUSTED	30/08/17	JS	GD	GD

Drawing Status: TRANSPORT ASSESSMENT

Date of 1st Issue	DEC 19			Drawing Number	Revision
A3 Scale	1:500			FIGURE 6.3	A
Design	JH	Drawn	BC		
Chkd	GD	Appd	GD		

user name: tamas, panna

File Location: \\pba.int\bgl\projects\31500 w cambridge\technical\cad\dwgs\transport\transport assessment final\45339-figure 6.3 - madingley road - storey's way – potential enhancement rev a.dwg



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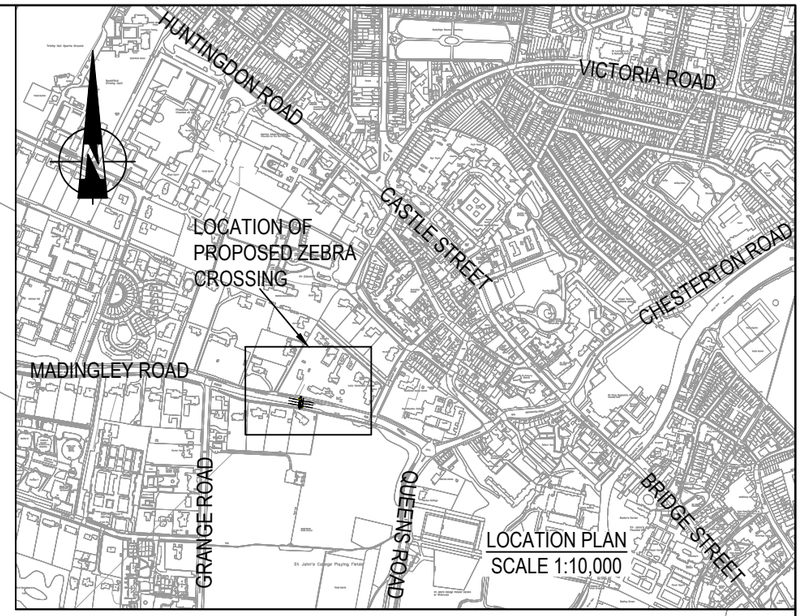
WEST CAMBRIDGE
MADINGLEY ROAD - OBSERVATORY DRIVE - CLERK MAXWELL ROAD
POTENTIAL ENHANCED INFRORMAL CROSSING LAYOUT

Mark	Revision	Date	Drawn	Chkd	Appd

Drawing Status: TRANSPORT ASSESSMENT

Date of 1st Issue	DEC 19	Drawing Number	Revision
A3 Scale	1:500	FIGURE 6.4	-
Design REM	Drawn AI		
Chkd -	Appd GD		



BELISHA BEACON

PROPOSED EXTENSION
TO FOOTWAY / CYCLEWAY

MADINGLEY ROAD

MADINGLEY ROAD

BELISHA BEACON

PROPOSED EXTENSION
TO FOOTWAY

5.0 0.0 10.0 20.0 30.0

Scale = 1 : 250

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WEST CAMBRIDGE
MADINGLEY ROAD
PROPOSED SHARED USE PEDESTRIAN / CYCLIST CROSSING GENERAL ARRANGEMENT

Mark	Revision	Date	Drawn	Chkd	Appd

Drawing Status: TRANSPORT ASSESSMENT

Date of 1st Issue	DEC 19	Drawing Number	Revision
A3 Scale	1:250	FIGURE 6.5	-
Design JPH	Drawn SB		
Chkd GD	Appd GD		

Coton Path
1
Adams Road
2
Burrells Walk
The Backs
To the north of the city
Grange Road
3
West Road
4
Queen's Green
5
Silver Street
To the south of the city
St John's College Playing Fields
0 40 80
metres

Key

1. Coton Path - Adams Road
2. Adams Road - Grange Road
3. Grange Road - West Road
4. West Road - Queens Road
5. Queens Green - Silver Street

Cycle Street/Path

Junction Enhancement

Cross Sections (See Figure 6.17 for cross-sections

Typical Cycle Street - with parking

Typical Cycle Street - with a median strip

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WEST CAMBRIDGE DEVELOPMENT
EXISTING AND PROPOSED CYCLE LINKS TO THE CITY

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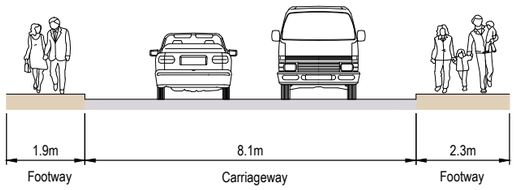
Drawing Status: TRANSPORT ASSESSMENT

Date of 1st Issue	DEC 19			Drawing Number	Revision
A3 Scale	1:200			FIGURE 6.6	-
Design	PLM	Drawn	PLM		
Chkd	GD	Appd	GD		

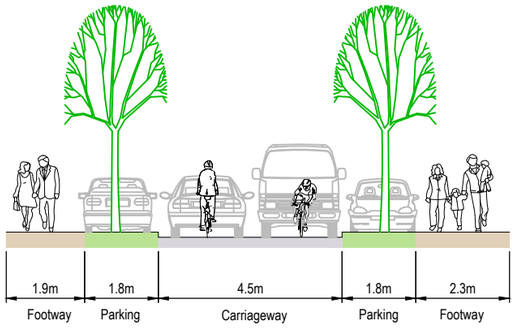
File Location: \\pba.int\bgl\projects\31500 w cambridge\technical\cad\dwgs\transport\transport assessment final\45339 figure 6.6+6.7.dwg

EXISTING STREET CROSS-SECTIONS

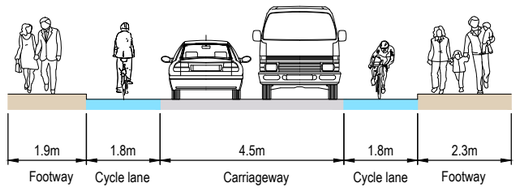


SECTION A-A - ADAMS ROAD

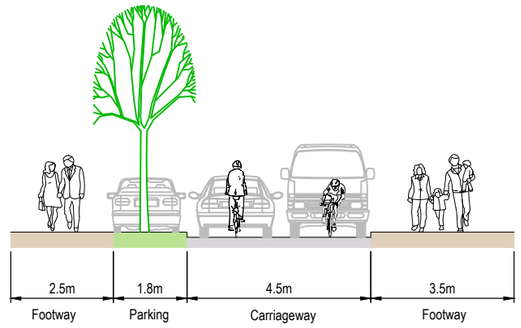
TYPICAL PROPOSED STREET CROSS-SECTIONS



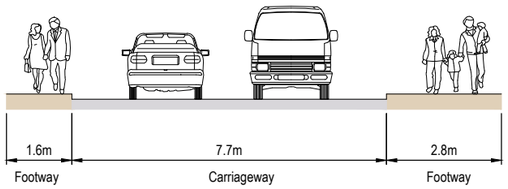
SECTION A-A - ADAMS ROAD: CYCLE STREET WITH PARKING RETAINED



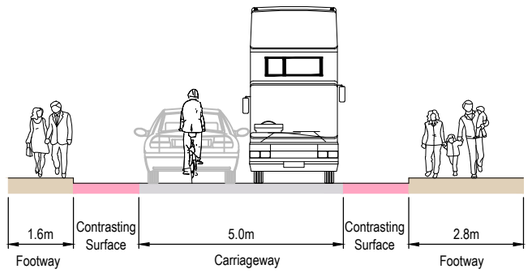
SECTION A-A - ADAMS ROAD
CYCLE LANES WITH PARKING REMOVED



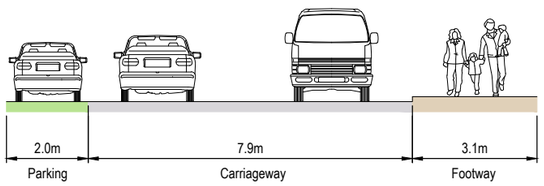
SECTION A-A - ADAMS ROAD
CYCLE STREET WITH WIDENED FOOTWAYS
AND SOME PARKING REMOVED



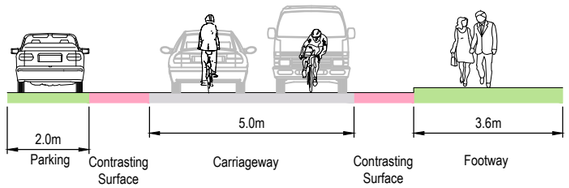
SECTION B-B - GRANGE ROAD



SECTION B-B - GRANGE ROAD



SECTION C-C - WEST ROAD



SECTION C-C - WEST ROAD

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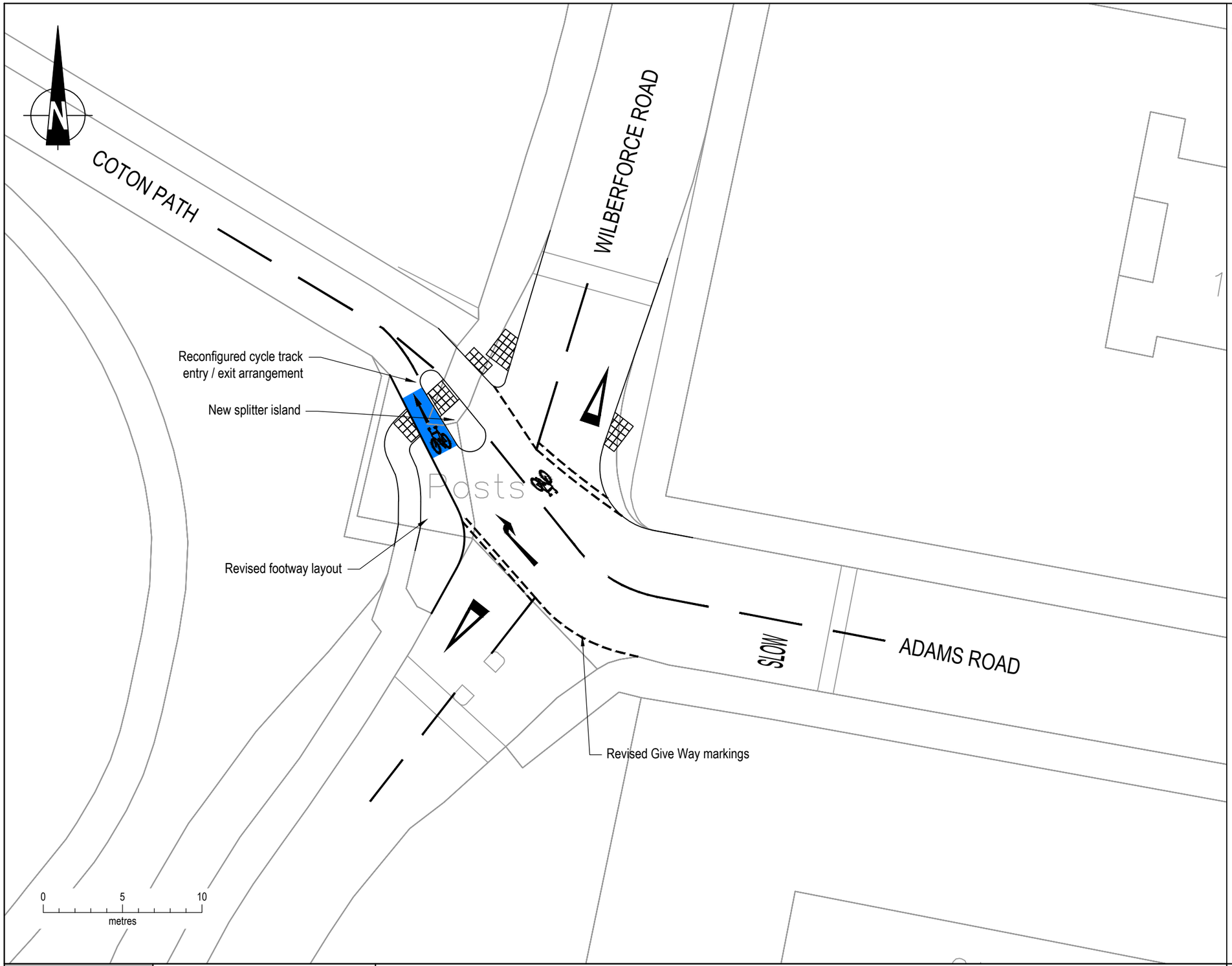
WEST CAMBRIDGE DEVELOPMENT
PROPOSED CROSS SECTIONS

Mark	Revision	Date	Drawn	Chkd	Appd
A	Scale changed and Adams Road cross sections added	11.08.20	REM	GD	GD

Drawing Status: TRANSPORT ASSESSMENT

Date of 1st Issue	DEC 2019	Drawing Number	Revision
A3 Scale	1:150	FIGURE 6.7	A
Design PLM	Drawn PLM		
Chkd GD	Appd GD		

File Location: c:\temp\45339 figure 6.6+6.7a.dwg



Note:
Exit from Wilberforce Road partially meets Manual for Streets visibility splay for a 20mph road (2.4m x 25m)

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WEST CAMBRIDGE DEVELOPMENT
COTON PATH JUNCTION WITH ADAMS ROAD
POTENTIAL ENHANCEMENT

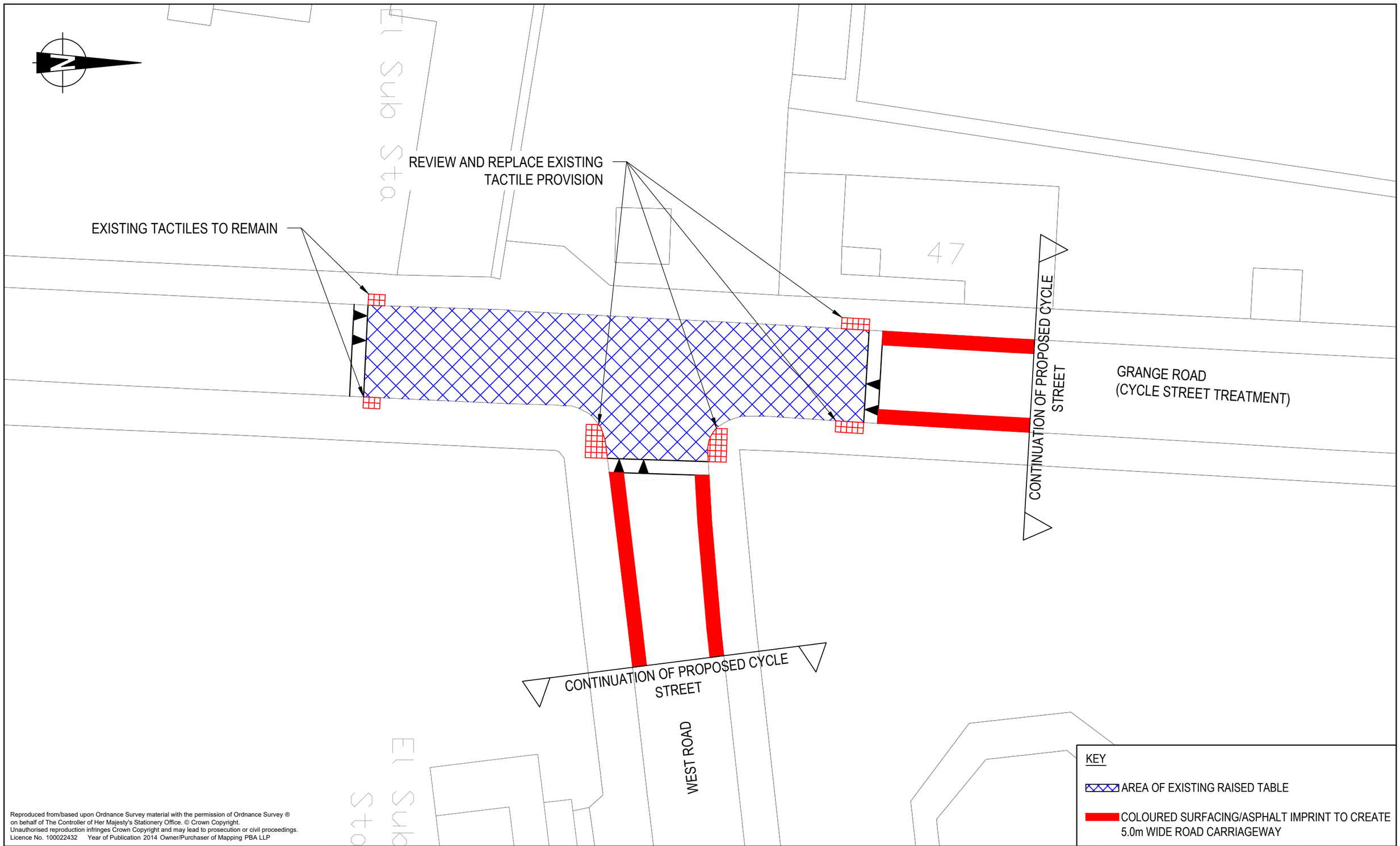
Mark	Revision	Date	Drawn	Chkd	Appd

Drawing Status: TRANSPORT ASSESSMENT

Date of 1st Issue	DEC 19	Drawing Number		Revision
A3 Scale	1:250	FIGURE 6.8		-
Design REM	Drawn REM			
Chkd GD	Appd GD			

user name: tamas, panna

File Location: \\pba.int\bgl\projects\31500 w cambridge\technical\cad\dwgs\transport\transport assessment final\figure 6.18 - coton path - adams road.proposed layout.dwg



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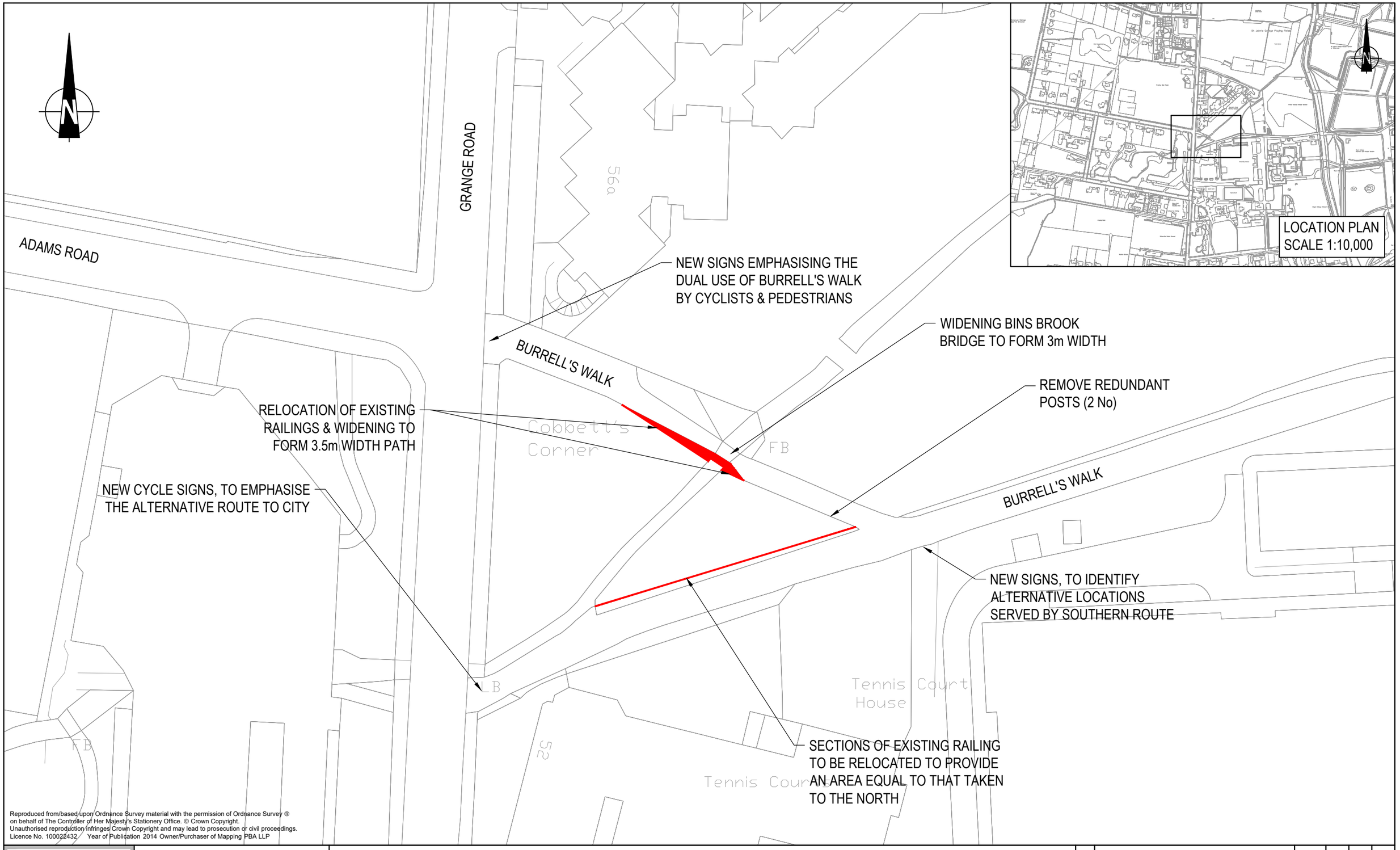
WEST CAMBRIDGE

GRANGE ROAD / WEST ROAD - POTENTIAL ENHANCEMENT

Mark	Revision	Date	Drawn	Chkd	Appd

Drawing Status: INFORMATION

Date of 1st Issue	DEC 19	Drawing Number	Revision
A3 Scale	1:250	FIGURE 6.9	-
Design -	Drawn JC	31500/5523/001	
Chkd JPH	Appd JPH		



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WEST CAMBRIDGE

POTENTIAL BURRELL'S WALK ENHANCEMENTS - SECTION 106 CONTRIBUTION TOWARDS WORKS BY OTHERS

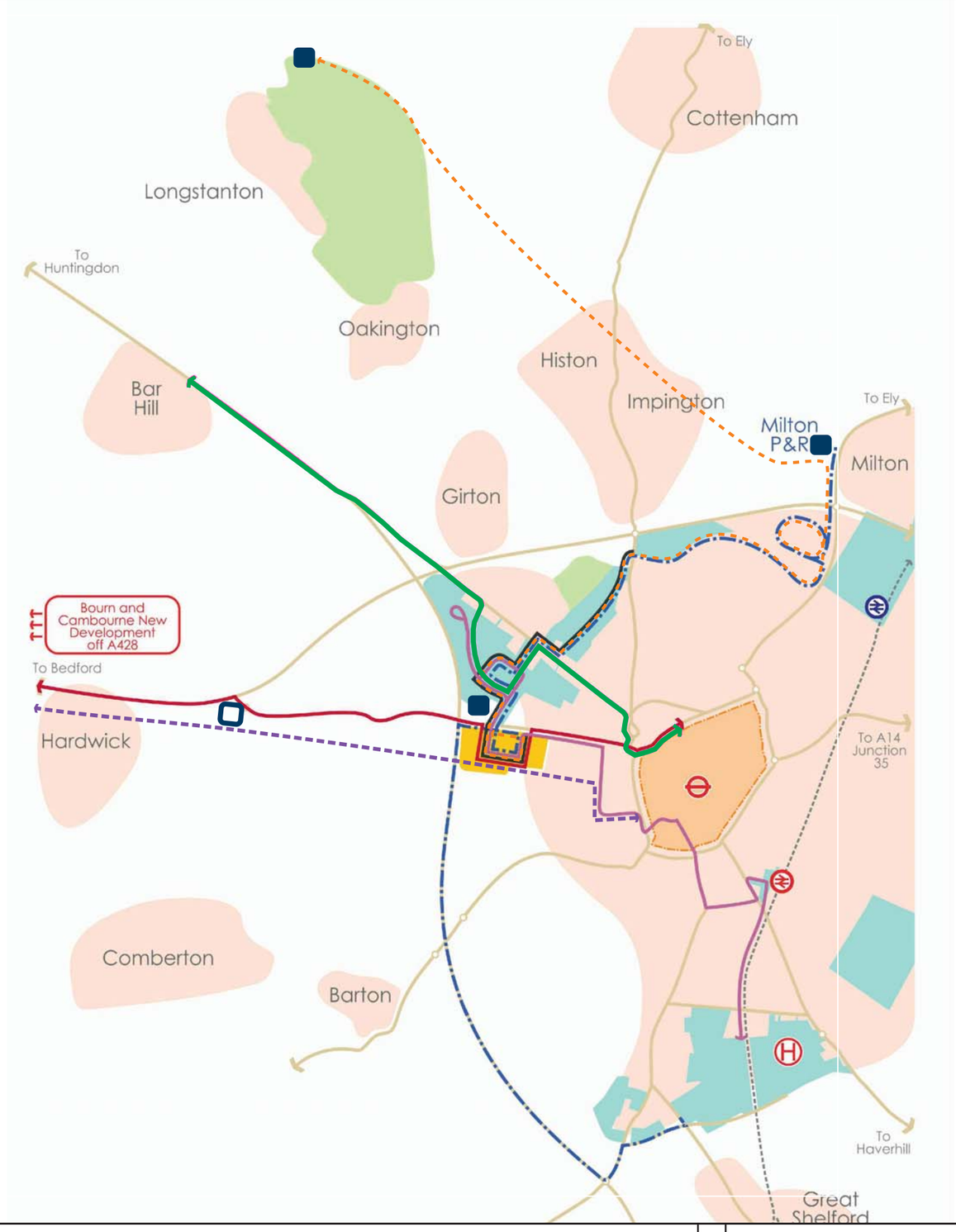
Mark	Revision	Date	Drawn	Chkd	Appd

Drawing Status: TRANSPORT ASSESSMENT

Date of 1st Issue	DEC 19	Drawing Number	Revision
A3 Scale	1:500	FIGURE 6.10	-
Design ST	Drawn ST		
Chkd JPH	Appd JPH		

user name: tamas, panna

File Location: \\pba.int\npt\projects\45339 - west cambridge 2018\cad\dwgs\transport\transport assessment\31500_ta_figure 6.20.dwg



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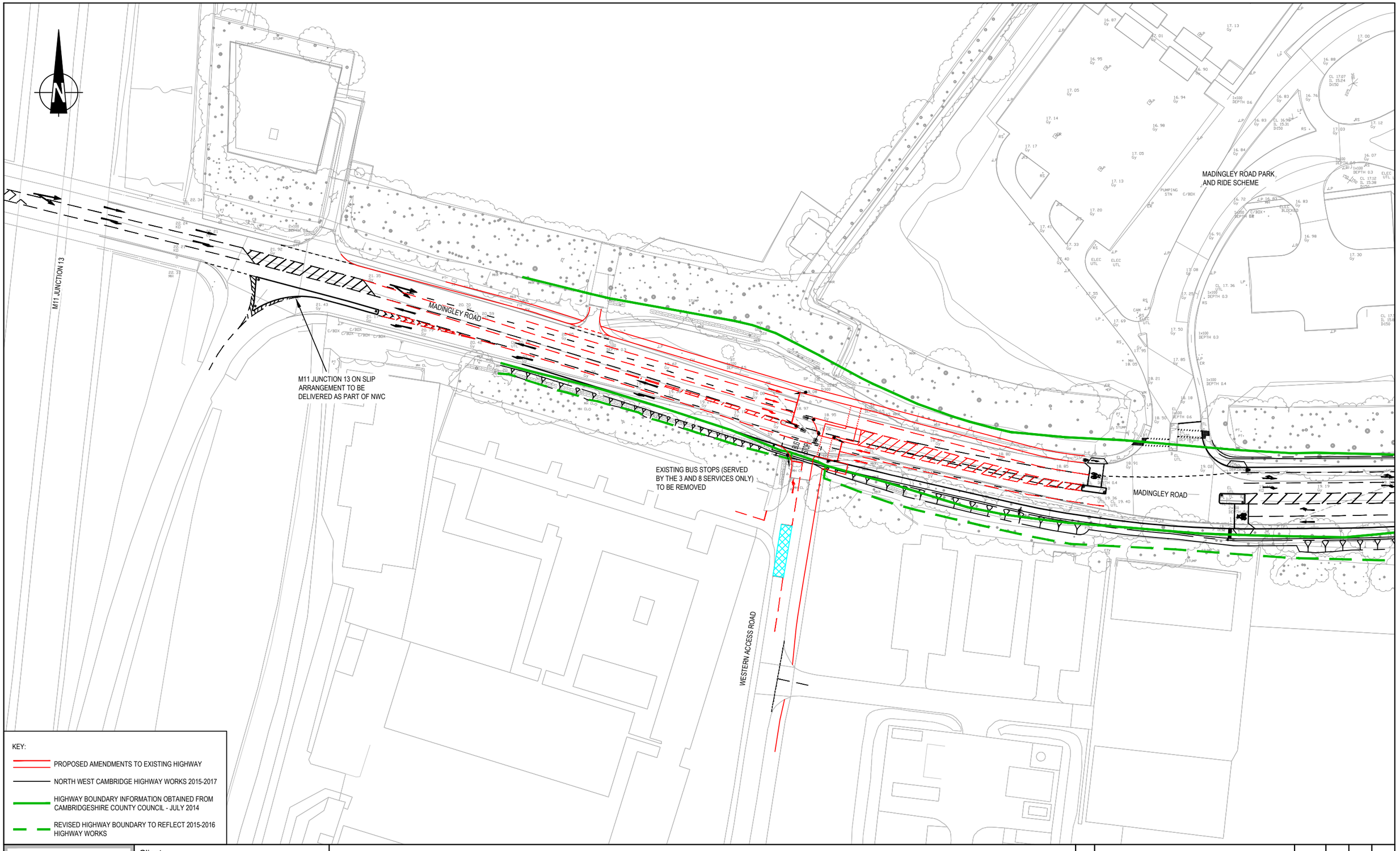
WEST CAMBRIDGE

OUTLINE WEST CAMBRIDGE PUBLIC TRANSPORT STRATEGY

Mark	Revision	Date	Drawn	Chkd	Appd

Drawing Status: TRANSPORT ASSESSMENT

Date of 1st Issue	AUG 2020	Drawing Number	Revision
A3 Scale	NTS	FIGURE 7.1	-
Design -	Drawn DS		
Chkd PC	Appd -		



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WEST CAMBRIDGE

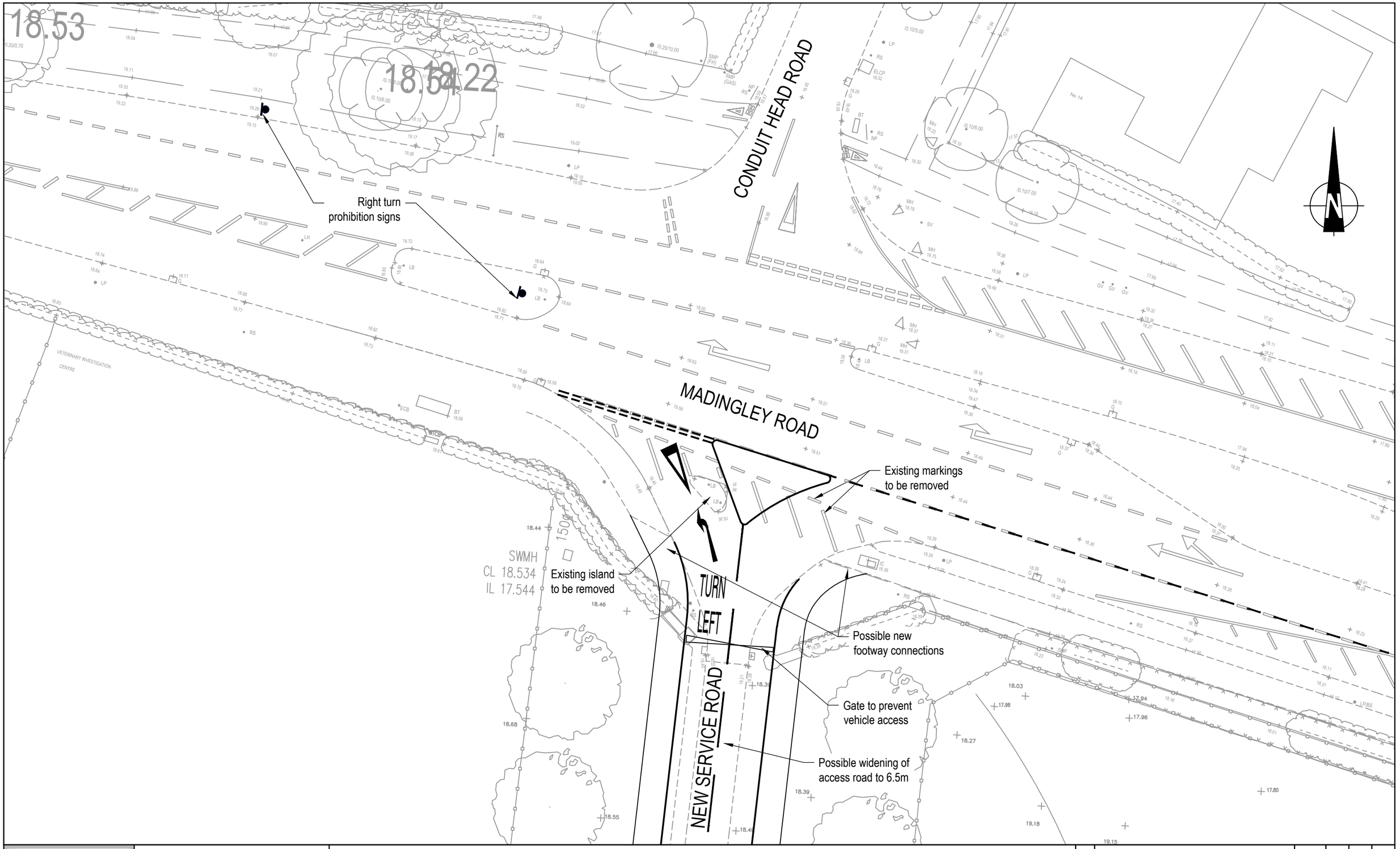
MADINGLEY ROAD - WESTERN ACCESS ROAD - POTENTIAL LAYOUT

Mark	Revision	Date	Drawn	Chkd	Appd

Drawing Status: TRANSPORT ASSESSMENT

Date of 1st Issue	DEC 19	Drawing Number	Revision
A3 Scale	1:1000	FIGURE 8.1	-
Design MA	Drawn ST		
Chkd JSH	Appd JSH		

File Location: \\pba.int\npt\projects\45339 - west cambridge 2018\cad\dwgs\transport\transport assessment\45339_ta_figure 8.1.dwg



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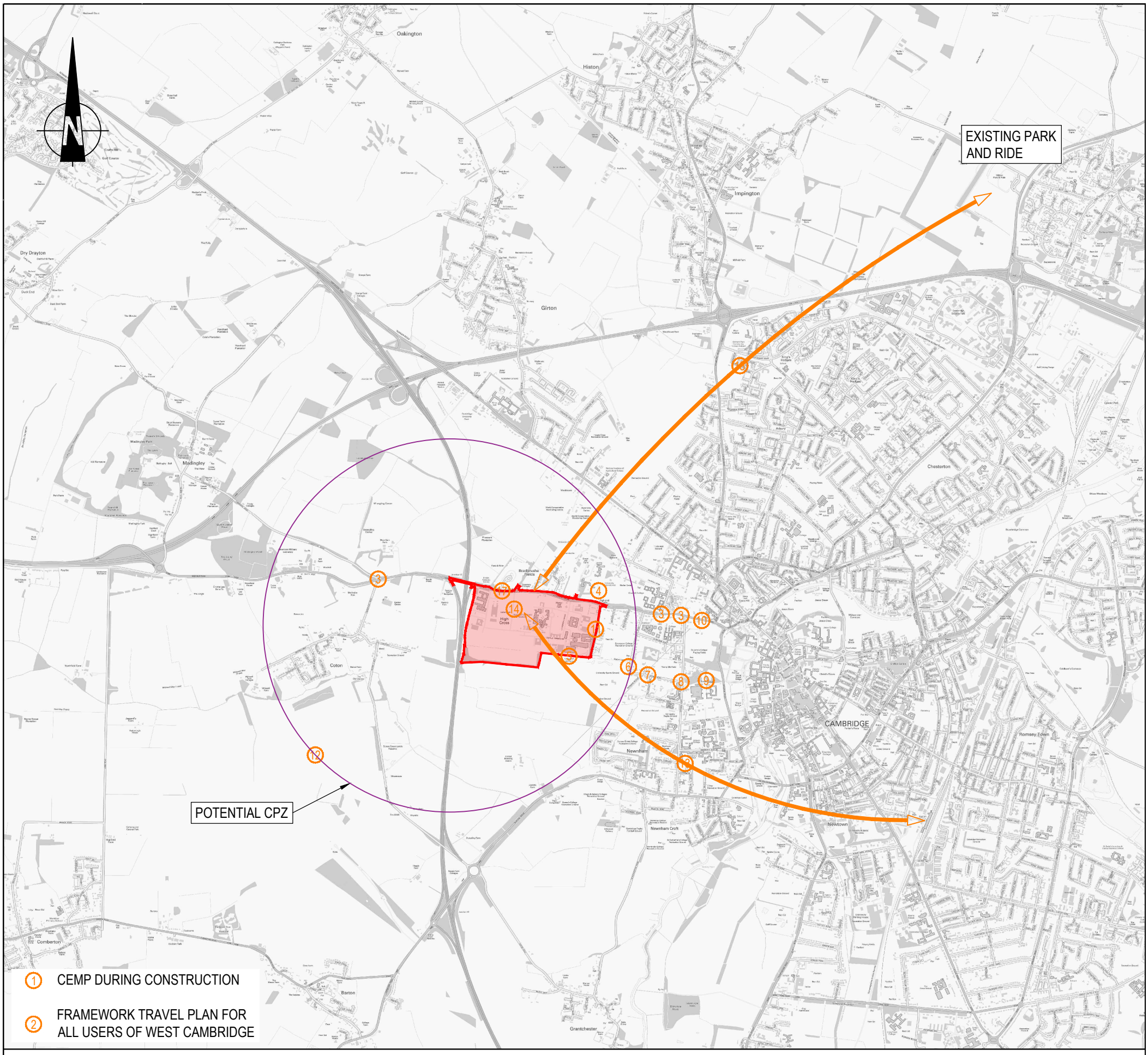
WEST CAMBRIDGE DEVELOPMENT
MADINGLEY ROAD - VET SCHOOL SERVICE ACCESS - POTENTIAL LAYOUT

Mark	Revision	Date	Drawn	Chkd	Appd

Drawing Status: TRANSPORT ASSESSMENT

Date of 1st Issue	DEC 19				
A3 Scale	1:250				
Design	REM	Drawn	REM	Drawing Number: FIGURE 8.2	Revision: -
Chkd	JH	Appd	JH		

File Location: \\pba.int\bgl\projects\31500 w cambridge\technicalcad\dwgs\transport\figure 8.1 - madingley road – vet school access.dwg



THE REFERENCES MADE BELOW (SHOWN IN BRACKETS) REFER TO THE SECTION OF THE TRANSPORT ASSESSMENT IN WHICH THE MEASURE IS DETAILED.

KEY

DEVELOPMENT

PROPOSED PHASE 1 MEASURES

1. CEMP DURING CONSTRUCTION (10.2)
2. FRAMEWORK TRAVEL PLAN FOR EXISTING AND FUTURE USERS (9.3)
3. RESOLVING ROAD SAFETY ISSUES (6.7)
4. PEDESTRIAN / CYCLE LINKS TO OBSERVATORY DRIVE (6.8)
5. PEDESTRIAN / CYCLE LINKS ALONG COTON PATH (6.9)
6. COTON PATH / ADAMS ROAD IMPROVEMENTS (6.9)
7. ADAMS ROAD PEDESTRIAN / CYCLE IMPROVEMENTS (6.9)
8. GRANGE ROAD / ADAMS ROAD / BURRELL'S WALK TOUCAN UPGRADE (6.9)
9. BURRELL'S WALK ENVIRONMENTAL IMPROVEMENTS (6.9)
10. MADINGLEY ROAD CYCLE ZEBRA (6.8)
11. CYCLE LANE ON CLERK MAXWELL ROAD (6.8)
12. REVIEW OF CPZ TO SURROUNDING AREAS
13. RECENTLY UPGRADED UNIVERSAL SERVICE(7.3)
14. IMPROVEMENTS TO CITI 4 - DIVERSION (7.3)
15. IMPROVEMENTS TO ARC SERVICE FREQUENCY (7.3)
16. SPEED LIMIT REDUCTION ON MADINGLEY ROAD (6.7)
17. AMENDMENTS TO M11J13 OFF SLIP SIGNALS (15.5 AND APPENDIX 15.2)

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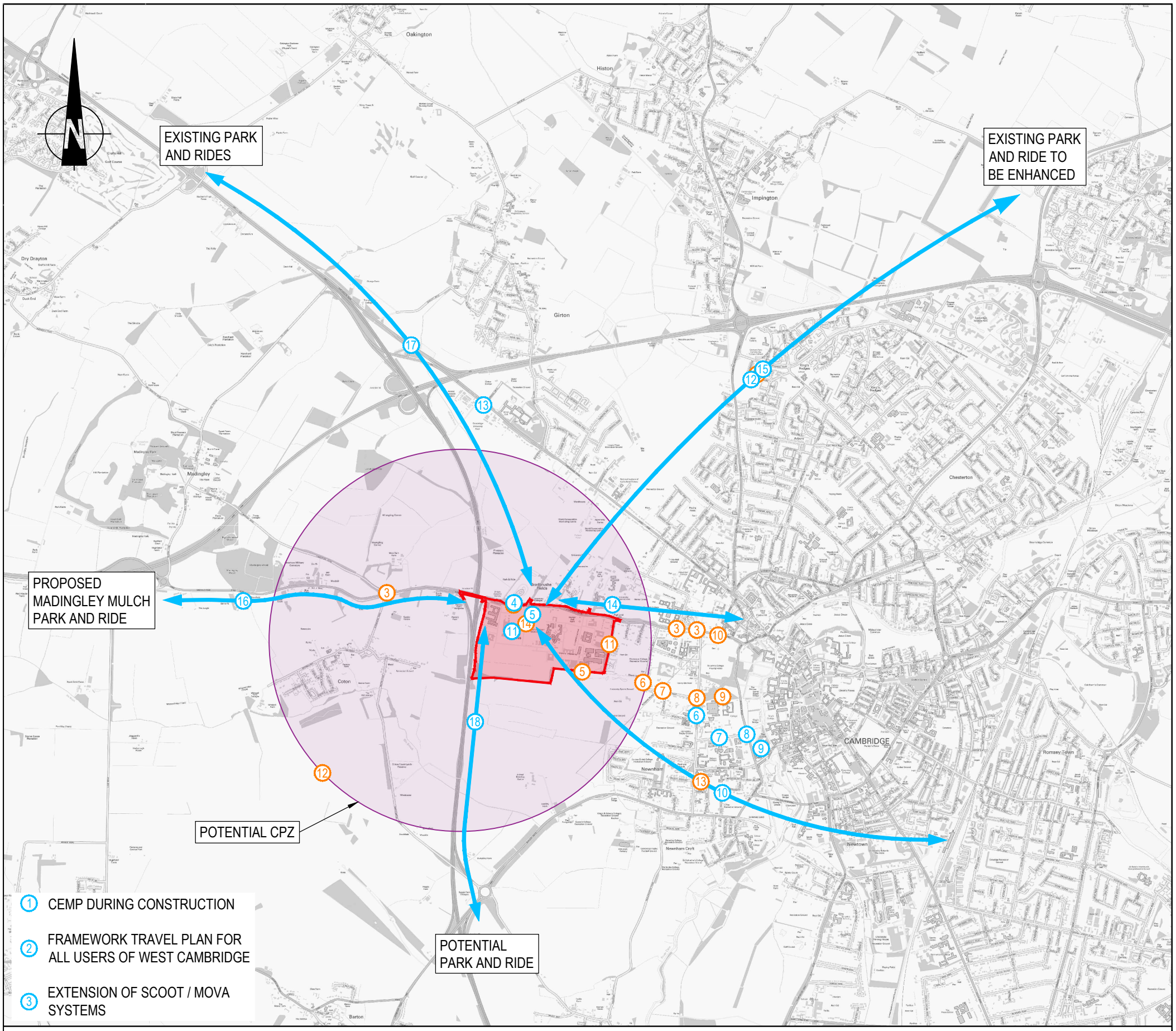
WEST CAMBRIDGE ILLUSTRATIVE TRANSPORT MANAGEMENT STRATEGY KEY PHASE 1

Mark	Revision	Date	Drawn	Chkd	Appd
A	Transport Assessment References Added	14.12.17	SB	MB	-

Drawing Status: TRANSPORT ASSESSMENT

Date of 1st Issue	DEC 19	Drawing Number	Revision
A3 Scale	NTS	FIGURE 17.1	A
Design TPA	Drawn TPA		
Chkd JPH	Appd JPH		



KEY

DEVELOPMENT

(1) REFERENCE IN ORANGE - KEY PHASE 1 MEASURES (REFER TO FIG. 17.1)

POST - KEY PHASE 1 INDICATIVE MEASURES (WITH REFERENCES TO THE TRANSPORT ASSESSMENT)

(1) CEMP DURING CONSTRUCTION (10.2)

(2) FRAMEWORK TRAVEL PLAN (9.3)

(3) EXTENSION OF SCOOT / MOVA SYSTEMS (APPENDIX 18.1)

(4) SECOND SPEED LIMIT REDUCTION ON MADINGLEY ROAD (6.7)

(5) PEDESTRIAN / CYCLE LINKS TO THE NORTH (6.8)

(6) PEDESTRIAN / CYCLE LINKS ALONG GRANGE ROAD (6.10)

(7) PEDESTRIAN / CYCLE LINKS ALONG WEST ROAD (6.10)

(8) PEDESTRIAN / CYCLE LINKS TO QUEEN'S ROAD / WEST ROAD JUNCTION (6.10)

(9) PEDESTRIAN / CYCLE LINKS ACROSS QUEEN'S GREEN (6.10)

(10) IMPROVEMENT TO UNIVERSAL SERVICE FREQUENCY (7.4)

(11) IMPROVEMENTS TO CITI 4 FREQUENCY (7.4)

(12) IMPROVEMENTS TO ARC SERVICE FREQUENCY (7.5)

(13) IMPROVEMENTS TO HUNTINGDON ROAD WEST (IN CONJUNCTION WITH NORTH WEST CAMBRIDGE PHASE 2)

(14) CONTRIBUTIONS TO GREATER CAMBRIDGE PARTNERSHIPS MADINGLEY ROAD CYCLE SCHEME (2.8)

(15) IMPROVED CONNECTIONS TO MILTON PARK AND RIDE (7.2 AND 7.3)

(16) CONTRIBUTIONS TO GREATER CAMBRIDGESHIRE PARTNERSHI'S CAMBOURNE TO CAMBRIDGE SCHEME (2.8)

(17) CONTRIBUTIONS TO POTENTIAL NEW GUIDED BUSWAY SERVICE (18.3 / APPENDIX 18.1)

(18) NEW CONNECTION TO THE BARTON ROAD PARK AND RIDE (DELIVERED BY GREATER CAMBRIDGESHIRE PARTNERSHIP) (18.3 / APPENDIX 18.1)

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WEST CAMBRIDGE ILLUSTRATIVE POTENTIAL TRANSPORT MANAGEMENT MEASURES TO BE CONSIDERED POST - KEY PHASE 1

Mark	Revision	Date	Drawn	Chkd	Appd
A	Transport Assessment References Added	14.12.17	SB	MB	

Drawing Status: TRANSPORT ASSESSMENT

Date of 1st Issue	DEC 19	Drawing Number	Revision
A3 Scale	NTS	FIGURE 18.1	A
Design JC	Drawn JC		
Chkd JPH	Appd JPH		

Appendix 2.1 – Extant Consent Section 106 Highway Works

95044-M / 16 – Proposed S106 Works Sheet 1 of 2

95044-M / 17 – Proposed S106 Works Sheet 2 of 2

Clause 4: Prior to the occupation of any buildings, to pay for:

i) widening of the eastbound side of Madingley Road between the M11 off-slip road and the entrance to the Park & Ride site to create two eastbound lanes;

ii) improvement of the traffic signal controlled junction between M11 off-slip road and Madingley Road; and

iii) remedial works for the benefit of pedestrians and cyclists along Burrell's Walk.

This obligation was fulfilled in 2002.

Clause 5: To introduce traffic signals and related junction improvements at the junction of Northampton Street and Madingley Road when the total traffic flow to and from the east turning into and out of the High Cross and JJ Thomson Avenue (formerly Cavendish) access roads (Station 1 and Station 2) exceeds 250 vehicles per hour during the AM peak.

Whilst triggered, this obligation was deferred at the specific request of Cambridgeshire County Council

Clause 6: To introduce traffic signals at the junction of the High Cross access road and Madingley Road when the total traffic flow to and from the west turning into and out of the High Cross access road (Station 1) exceeds 300 vehicles per hour during the AM peak.

Although not triggered, this obligation was fulfilled in 2015.

Clause 7: To widen the eastbound side of Madingley Road between the Park and Ride and the High Cross junction, to create two eastbound lanes, when the total traffic flow to and from west turning into and out of the High Cross access road (Station 1) exceeds 400 vehicles per hour during the AM peak.

Although not triggered, this obligation was fulfilled in 2015.

Clause 8: To widen the westbound side of Madingley Road between the High Cross access road and the M11 on-slip road, to create two westbound lanes, when the total traffic flows to and from the west turning into and out of the High Cross access road (Station 1) exceeds 400 vehicles per hour during the PM peak.

Although not triggered, this obligation was fulfilled in 2015.

Clause 9: To pay for:

i) improvements to pedestrian and cycle facilities at the junction of Queen's Road and West Road; and

ii) improvements to the route between West Road and Silver Street across Queen's Green. when the total cumulative number of two-way pedestrian and cycle movements between the City Centre and the Land measured at the junction of Adams Road, Wilberforce Road and Coton footpath (Station 3) exceeds 500 in any one hour between 8am and 10am.

The trigger was activated by flows measured in 2008 and projected flows at that time. Whilst the University's obligation is to pay for these improvements works as per the terms of the S106, the obligation for the implementation of the scheme lies with the City Council. The University of Cambridge is therefore a consultee on this process and currently awaits receipt of final design proposals for this scheme from CCC and notification of its subsequent implementation.

Clause 10: To pay for the creation of a cycle route running east from the junction of the Rifle Range access road and Grange Road connecting the West Cambridge Site, including Grange Road junction improvements, when the total cumulative number of two-way pedestrian and cycle movements between the City Centre and the Land measured at the junction of Adams Road, Wilberforce Road and the Coton footpath (Station 3) exceeds 700 in any one hour between 8am and 10am.

This has been triggered, and University has entered into negotiations with the three landowners regarding land purchase for the creation of the new cycle link although its provision remains to be finalised. Grange Road junction improvements have been completed under Clause 11.ii.

Clause 11: Following the provision of Clause 10, to pay for:

i) upgrading the pedestrian/cycle crossing on Queen's Road at Burrell's Walk - *triggered but dependent on Clause 10 implementation - partially fulfilled as one toucan crossing has been provided*;

ii) provision of a pedestrian/cycle crossing on Grange Road at Burrell's Walk to the north of the Rugby Ground - *Grange Road junction improvements were completed in October 2001 under Clause 11 ii. The proposed bridge at Burrell's Walk, also as part of clause 11.ii, is currently in abeyance*;

iii) improvements to the junction of Wilberforce Road / Adams Road and the Coton footpath - *Obligation fulfilled in December 2008*; and

iv) improvements to the Coton footpath. when the total cumulative number of two-way pedestrian and cycle movements between the City Centre and the Land measured at the junction of Adams Road, Wilberforce Road and Coton footpath (Station 3) exceeds 500 in any one hour between 8am and 10am - *Triggered but dependent on Clause 10 implementation*.

Clause 12: Following the provision of Clause 10, to pay a contribution not exceeding £20,000 towards cycle and pedestrian improvements on Adams Road when the total cumulative number of two-way pedestrian and cycle movements between the City Centre and the Land measured at the junction of Adams Road, Grange Road and the Burrell's Walk (Station 4) exceeds 500 in any one hour between 8am and 10am.

Obligation fulfilled. Payment made in September 2004. At the request of the Highway Authority, the University contributed to improvements at the junction of Grange Road and Adams Road against the works detailed under Clause 12 of the Section 106 Agreement.

Clause 13: To pay a contribution not exceeding £30,000 towards cycle and pedestrian improvements on Silver Street, including signage, when the total number of two-way pedestrian and cycle movements between the City Centre and the Land measured at the junction of Adams Road, Wilberforce Road and the Coton footpath (Station 3) exceeds 500 in any one hour between 8am and 10am.

Obligation fulfilled in October 2009.

Clause 14: Following the provision of Clause 10, to pay for:

i) improvements to pedestrian and cycle facilities along Sidgwick Avenue and West Road;

ii) improvements to the Coton Footpath and cycle way; and

iii) a contribution not exceeding £10,000 towards the production of updated cycle route guides prior to occupation of any buildings erected on the Land when the two-way pedestrian and cycle movements measured at a point at which the cycle route constructed pursuant to Clause 10 joins the route shown coloured red on Plans Two of the Section 106 agreement (Station 5) exceeds 1,000 in any one hour between 8am and 10am.

The obligations under 14.ii have been fulfilled in December 2008, 14i triggered but dependent on Clause 10 implementation.

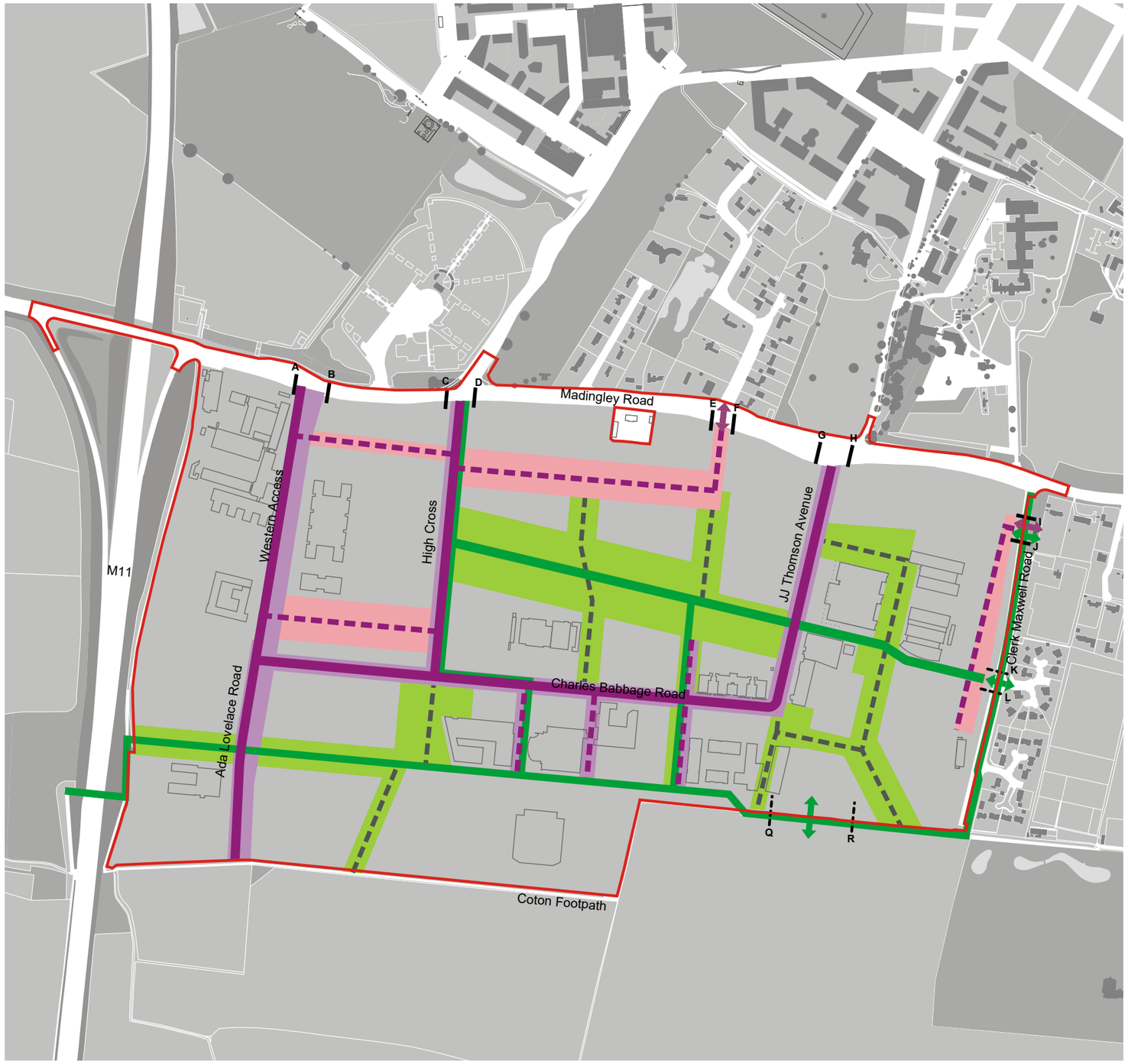
Clause 15: When 50 per cent of the academic floor space has been constructed, to:

i) introduce traffic signals at the junction of Madingley Road and JJ Thomson Avenue (formerly Cavendish Access Road); and

ii) upgrade the existing cycle route between Huntingdon Road and Madingley Road.

Requirement i) triggered in 2016. Traffic signals have been installed on Madingley Road at the crossing between Madingley Rise and JJ Thomson Avenue, other measures being considered and addressed as part of West Cambridge Masterplan Review.

Appendix 2.2 – Access Parameter Plan



KEY

Contextual Information:
- Primary street
- Secondary street
- Primary pedestrian/cycle route
- Secondary pedestrian/cycle route

For Approval:
- Application site boundary
- Intervention zone for street
- Flexible zone for street
- Secondary Vehicular access/egress points
- Secondary Vehicular egress only
- Secondary pedestrian and cycle only access/egress points
- Flexible zone for pedestrian and cycle routes
- A B Zones of access points
- Q R General access points for pedestrians and cyclists

All information other than that identified as being for approval is shown for contextual purposes only.

West Cambridge

WC/OPA/PAR/03/REV02
- Access and Movement Parameter Plan

December 2019

UNIVERSITY OF CAMBRIDGE

0 10 50 100m
Scale 1:2500@A1

06. Parameter Plan 3: Access and Movement

Appendix 2.3 – Development Status

Development	Local Planning Authority	Application Status	Growth 2011-2031	Growth 2011-2021	Development Trajectory CCC AMR Dec 2015/ SCDC AMR Jan 2016 / ECDC Housing Supply Paper Feb 2015 / HDC AMR Dec 2015																	Core Assumption Test
					Built	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020	2020-2021	2021-2022	2022-2023	2023-2024	2024-2025	2025-2026	2026-2027	2027-2028	2028-2029	2029-2030	2030-2031	Post 2031	
Clifton Road Industrial Estate	Cambridge City Council	No Application - New Allocation in Local Plan - Statement of Common Ground agreed	550	0									50	60	70	70	60	60	60	60	60		Hypothetical
Clay Farm and Showground	Cambridge City Council	Consented (07/0620/OUT) + RMAs/Conditions - Applied for up to 2,300 (2,165 to be built)	2165	2165	680	163	431	559	303	14	15												Near certain
North West Cambridge	Cambridge City Council	Consented (11/1114/OUT & S/2036/13/VC) + RMAs/Conditions - 3,000	1850	1435			520	225	230	255	205	215	160	40									Near certain
North West Cambridge	South Cambridgeshire District Council	Consented (11/1114/OUT & S/2036/13/VC) + RMAs/Conditions - 3,000	1155	665		20	70	195	105	90	185	150	250	90									Near certain
NIAB Main/Darwin Green 1	Cambridge City Council	Consented (07/0003/OUT) + RMAs/Conditions - 1,593	1593	800				100	200	250	250	250	250	250	43								Near certain
NIAB Frontage	Cambridge City Council	Consented (07/1124/REM) - 187 - Remaining 34 units to be built in line with NIAB Main (2025/26)	187	153	153											34							Near certain
Eastern Gateway, Soham	East Cambridgeshire District Council	No Application (In preparation - Concept Masterplan completed 2012 - Currently being updated with view to submission of an outline application) 600	600	360			60	80	80	80	60	60	60	60	60								Reasonably foreseeable
North Ely, Ely	East Cambridgeshire District Council	Two Outline Consents (11/01077/ESO - 800), (13/00785/ESO - 1,200)	2960	960			160	200	200	200	200	200	200	200	200	200	200	200	200	200	200		More than likely
Cambridge East - Land at Coldham's Lane	Cambridge City Council	Consented (14/0028/OUT) - 57	57	57				10	30	17													Near certain
Cambridge East - Land North of Cherry Hinton	Cambridge City Council	No Application - allocated in CCC Local Plan and Cambridge East AAP (CCC and SCDC are proposing modifications to replace existing allocations with a new larger allocation of 1,200 dwellings, resulting in these updated allocation figures)	780	540				53	180	153	154	100	100	40									Reasonably foreseeable
Cambridge East - Land North of Cherry Hinton	South Cambridgeshire District Council	No Application - allocated in SCDC Local Plan and Cambridge East AAP (CCC and SCDC are proposing modifications to replace existing allocations with a new larger allocation of 1,200 dwellings, resulting in these updated allocation figures)	420	260				147	20	47	46	100	60										Reasonably foreseeable
Cambridge East - North of Newmarket Road	South Cambridgeshire District Council	Application submitted for Outline Planning S/2682/13/OL (Awaiting Decision) Allocated in SCDC Local Plan and Cambridge East AAP	1300	365					85	140	140	140	140	140	140	140	140	95					More than likely
Land between Huntingdon Rd and A14 (NIAB2 or Darwin Green 2 and NIAB 3/Darwin Green 3)	South Cambridgeshire District Council	No Application - allocated in SCDC Site Specific Policies DPD and Local Plan	1000	75							75	150	150	150	150	150	150	25					Hypothetical
Trumpington Meadows (Cambridge Southern Fringe)	Cambridge City Council	Consented (08/0048/OUT & S/0054/08/O) - 1,200	558	558	322	129	9	36	25	0	37												Near certain
Trumpington Meadows (Cambridge Southern Fringe)	South Cambridgeshire District Council	Consented (08/0048/OUT & S/0054/08/O) - 1,200	615	615	29		119	108	120	148	91												Near certain
Cambourne	South Cambridgeshire District Council	Outline Consent for up to 950 dwellings (S/6438/07/O) Decision Date October 2011	499	499		175	175	149															Near certain
Northstowe Phase 1	South Cambridgeshire District Council	Consented (S/0388/12/OL) + (S/0390/12) + RMAs/Conditions - 1,500	1500	945			32	163	250	250	250	250	250	55									Near certain
Northstowe Phase 2	South Cambridgeshire District Council	Consented (S/0390/12 - site wide masterplan), Resolved to Grant (S/2011/14/OL - outline) - 3,500	1945	0										195	250	250	250	250	250	250	250	1555	More than likely
Northstowe Phase 3 and later	South Cambridgeshire District Council	Consented Site Wide Masterplan (S/0390/12)	0	0																		5000	Reasonably foreseeable
Waterbeach New Town	South Cambridgeshire District Council	Policy for 8,000 dwellings in Local Plan & Waterbeach AAP - No Application	2050	0									100	200	250	250	250	250	250	250	250	5950	Reasonably foreseeable
Bourn Airfield New Village	South Cambridgeshire District Council	Policy for 3,500 dwellings in Local Plan and Bourn Airfield AAP - No Application	1360	0								60	100	150	150	150	150	150	150	150	150	2140	Reasonably foreseeable
Cambourne West	South Cambridgeshire District Council	Application submitted for Outline Planning S/2903/14/OL (Awaiting Decision) for 2,350 dwellings (Council taken a more cautious approach to delivery)	1200	350					70	130	150	150	150	150	150	150	100						More than likely
Alconbury Weald	Huntingdonshire District Council	Outline Consent (1201158OUT) for 5,000 dwellings + 1st RMA (15/01117/REM) for 128 units	3485	925			125	200	200	200	200	200	200	200	200	200	300	300	320	320	320	1515	Near certain
Eastern Expansion, St. Neots (Loves Farm East)	Huntingdonshire District Council	Application submitted for Outline Planning (1300388OUT) for 1,020 dwellings + 120 C2 units (equiv. 72 dwellings) - Awaiting Decision	1092	551				50	95	185	221	221	115	115	65	25							More than likely
Eastern Expansion, St. Neots (Wintringham Park)	Huntingdonshire District Council	Application submitted for Outline Planning (1300178OUT) for 2,800 dwellings - Awaiting Decision	2570	290					55	55	180	220	230	230	230	230	230	230	230	220	230		More than likely
Wyton Airfield & Wyton on the Hill	Huntingdonshire District Council	Draft Local Plan Allocation for 4,560 dwellings - No Application	2540	0								222	278	255	255	255	255	255	255	255	255	1278	Reasonably foreseeable
Bearscroft Farm	Huntingdonshire District Council	Outline Consent (1200685OUT) for 753 dwellings + Approval of 1st RMA (15/01158/REM) for 223 dwellings	753	500			60	110	110	110	110	110	110	33									Near certain
The Paddocks Trading Estate	Cambridge City Council		123	0									30	30	30	33							Near certain
379-381 Milton Road	Cambridge City Council		95	0									10	10	10	10		13	13	13	16		Near certain
Cambridge City Football Ground, Milton Road	Cambridge City Council		106	106				25	25	25	31												Near certain
Wilcrowft, Histon Road	Cambridge City Council		78	78				19	19	19	21												Near certain
Travis Perkins, Devonshire Road	Cambridge City Council		43	43				10	10	10	13												Near certain
Police Station, Parkside	Cambridge City Council		50	50				12	12	12	14												Near certain
Housing allocation, at Henry Giles House, Chesterton Road, Cambridge, CB4	Cambridge City Council		48	20				5	5	5	5		7	7	7	7							Near certain
295 Histon Road	Cambridge City Council		55	32				8	8	8	8		5	5	5	8							Near certain
New Street/ Newmarket Road	Cambridge City Council		89	89		14		18	18	18	21												Near certain
Betjeman House, Hills Road	Cambridge City Council		156	0														39	39	39	39		Near certain
Land around 16 Mill Lane	Cambridge City Council		30	0									7	7	7	9							Near certain
Station Area	Cambridge City Council		396	396	150	6		60	60	60	60												Near certain
Camfields Resource Centre and Oil Depot 137-139 Ditton Walk	Cambridge City Council		35	15				4	4	4	3		5	5	5	5							Near certain
315-349 Mill Road and Brookfields	Cambridge City Council		64	0									16	16	16	16							Near certain
Glebe Farm 1 & 2	Cambridge City Council		287	287	287																		Near certain
Bell School Site	Cambridge City Council		270	270				67	67	67	69												Near certain
Cambridge Water Company	Cambridge City Council		143	143		35		27	27	27	27												Near certain
Campkin Court, Cambridge	Cambridge City Council		32	32		32																	Near certain
Land at northwest of Scotland Road and southwest of Elmfield Road, Elmfield Close	Cambridge City Council		40	40		40																	Near certain
Downing College Athletic Ground, 24 Long Road, Cambridge	Cambridge City Council		50	50		50																	Near certain
Neath Farm Business Park, 154 Church End, Cambridge, Cambridgeshire	Cambridge City Council		25	25		25																	Near certain
Land at Simons House and 18-25 Rackham Close, Histon Road, Cambridge	Cambridge City Council		40	40		40																	Near certain
Land at the junction of Hills Road and Cherry Hilton Road, Cambridge, CB1	Cambridge City Council		133	133	133																		Near certain
Cambridgeshire Fire and Rescue Service, Parkside, Cambridge, CB1 1JF	Cambridge City Council		98	98	98																		Near certain
Land rear of Clarendon House and Fitzwilliam Road, Clarendon Road	Cambridge City Council		315	315		315																	Near certain
Foster Mill, Station Road, Cambridge, Cambridgeshire, CB1 2JL	Cambridge City Council		150	150		150																	Near certain
Seymour Court, Seymour Street, Cambridge, CB1 3DL	Cambridge City Council		34	34		34																	Near certain
Development Site, Former Government Building, Brooklands Avenue, CB2	Cambridge City Council		30	30		30																	Near certain
Land at George Nuttall Close, Cambridge, CB4	Cambridge City Council		76	76		76																	Near certain
171-211 Cromwell Road, Cambridge, CB1 3BA	Cambridge City Council		127	127		127																	Near certain
149 Cherry Hilton Road and Telephone Exchange, Coleridge Road	Cambridge City Council		35	0														9	9	9	8		Near certain

Development	Local Planning Authority	Application Status	Growth 2011-2031	Growth 2011-2021	Development Trajectory CCC AMR Dec 2015/ SCDC AMR Jan 2016 / ECDC Housing Supply Paper Feb 2015 / HDC AMR Dec 2015																	Core Assumption Test
					Built	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020	2020-2021	2021-2022	2022-2023	2023-2024	2024-2025	2025-2026	2026-2027	2027-2028	2028-2029	2029-2030	2030-2031	Post 2031	
Mill Road Depot and adjoining properties, Mill Road	Cambridge City Council		167	0									34	34	34	35		7	7	7	9		Near certain
Horizon Resource Centre, 285 Coldham's Lane	Cambridge City Council		40	0														10	10	10	10		Near certain
British Telecom, Long Road	Cambridge City Council		76	0														19	19	19	19		Near certain
Cambridge Professional Development Centre, Foster Road	Cambridge City Council		67	0														17	17	17	16		Near certain
Mount Pleasant House, Mount Pleasant	Cambridge City Council		50	0									12	12	12	14							Near certain
Michael Young Centre, Purbeck Road	Cambridge City Council		95	95		95																	Near certain
636-656 Newmarket Road, Holy Cross Church Hall, East Barnwell Community Centre	Cambridge City Council		75	0														19	19	19	18		Near certain
Ridgeons, Cromwell Road	Cambridge City Council		245	0									54	54	54	56		7	7	7	6		Near certain
Land north of Wort's Causeway	Cambridge City Council		200	200				50	50	50	50												Near certain
Land south of Wort's Causeway	Cambridge City Council		230	230				57	57	57	59												Near certain
Site at Cambridge Regional College, Newmarket Road, Cambridge	Cambridge City Council		205	205		205																	Near certain
Land at Southgate Farm, Chesterton Fen Road, Milton	South Cambridgeshire District Council		26	26		26																	Near certain
Land north of Challis Green, Barrington	South Cambridgeshire District Council		39	39		39																	Near certain
Land north of Wellbrook Way, Girton	South Cambridgeshire District Council		76	76		76																	Near certain
Land parcel B1, Arbury Camp, Kings Hedges Road, Impington	South Cambridgeshire District Council		33	33		33																	Near certain
Land Parcel UC09, Cambourne	South Cambridgeshire District Council		47	47		47																	Near certain
Land to the west of Ermine Street South, Papworth Everard	South Cambridgeshire District Council		124	124	124																		Near certain
Phase 3A, land west of Striplands Farm, High Street, Longstanton	South Cambridgeshire District Council		72	72		72																	Near certain
Phase 3B, Home Farm, Longstanton	South Cambridgeshire District Council		159	159		159																	Near certain
South East part of area UC01, Halifax Road, Cambourne	South Cambridgeshire District Council		36	36		36																	Near certain
UC08, off Sterling Way, Cambourne	South Cambridgeshire District Council		35	35		35																	Near certain
UC11, Sterling Way, Cambourne	South Cambridgeshire District Council		27	27		27																	Near certain
Windmill Estate, Phase 2B, Windmill Estate, Fulbourn	South Cambridgeshire District Council		50	50		50																	Near certain
Land parcel cell 1A, Cambourne	South Cambridgeshire District Council		87	87		87																	Near certain
Land parcels 1C and 2A, on the eastern s, Parcels 1C and 2A, Upper Cambourne	South Cambridgeshire District Council		114	114		114																	Near certain
Land West of Merrington Place, off Impington Lane, Impington, Cambridge, CB24 9LT	South Cambridgeshire District Council		31	31		31																	Near certain
Land Parcel H1, Orchard Park	South Cambridgeshire District Council		34	34		34																	Near certain
Land south of Station Road, Gamlingay, Cambridgeshire, SG19 3HE	South Cambridgeshire District Council		71	71	71																		Near certain
S C A Packaging Ltd, Villa Road, Histon, Cambridge, CB24 9NZ	South Cambridgeshire District Council		72	72		72																	Near certain
Former EDF Depot & Training Centre, Ely Road, Milton, Cambridge, Cambridgeshire, CB4	South Cambridgeshire District Council		89	89	89																		Near certain
Phase 2 Land to the west of Ermine Street South, Papworth Everard	South Cambridgeshire District Council		108	108	108																		Near certain
Parcels 3B and 3C, Land at Upper Cambourne, Cambridgeshire	South Cambridgeshire District Council		56	56		56																	Near certain
Parcels 3B, 3C and 4C, Upper Cambourne, Cambridge	South Cambridgeshire District Council		43	43		43																	Near certain
Land parcels known as cell 2B and 2C off Vickers Way and Hudson Way, Upper Cambourne	South Cambridgeshire District Council		39	39		39																	Near certain
Brace Dien, Upper Cambourne, Cambridgeshire	South Cambridgeshire District Council		91	91		91																	Near certain
Land at Former Monsanto Site, west of Hauxton Road, Trumpington, Cambridge	South Cambridgeshire District Council		29	29		29																	Near certain
Site A, Orchard Park, Ring Fort Road, Cambridge CB4 2GW	South Cambridgeshire District Council		40	40		40																	Near certain
Site A (Q & HRCC) land off Ring Fort Road and site B (E3, 2a, 2b and E4	South Cambridgeshire District Council		28	28		28																	Near certain
McFarlane Grieve House, Church Lane, Papworth Everard, Cambridge	South Cambridgeshire District Council		28	28		28																	Near certain
Land to the south of Southbrook Field, Papworth Everard, Cambridge, CB3 8UW	South Cambridgeshire District Council		65	65		65																	Near certain
Orchard Park - parcels Q, Com2 and the former HRCC site	South Cambridgeshire District Council		65	65		39		6	6	6	8												Near certain
Orchard Park - parcel K1	South Cambridgeshire District Council		38	38				9	9	9	11												Near certain
Fulbourn & Ida Darwin Hospitals	South Cambridgeshire District Council		230	230				57	57	57	59												Near certain
Papworth West Central - south of Church Lane	South Cambridgeshire District Council		66	66				16	16	16	18												Near certain
Former Bayer Cropscience site, Hauxton	South Cambridgeshire District Council		285	285		30		64	64	64	63												Near certain
West of Ermine Street South, Papworth Everard	South Cambridgeshire District Council		50	50	50																		Near certain
Dales Manor Business Park, Sawston	South Cambridgeshire District Council		200	130				32	32	32	34		17	17	17	19							Near certain
Land north of Babraham Road, Sawston	South Cambridgeshire District Council		80	80				20	20	20	20												Near certain
Land south of Babraham Road, Sawston	South Cambridgeshire District Council		260	160				40	40	40	40		25	25	25	25							Near certain
Land north of Impington Lane, Impington	South Cambridgeshire District Council		18	18				6	6	6													Near certain
Land west of New Road, Melbourn (land southwest of Victoria Way)	South Cambridgeshire District Council		64	64		10		13	13	13	15												Near certain
Green End Industrial Estate, Gamlingay	South Cambridgeshire District Council		90	90				22	22	22	24												Near certain
East of Rockmill Road	South Cambridgeshire District Council		50	50				12	12	12	14												Near certain
Land at Bennell Farm, West Street, Comberton	South Cambridgeshire District Council		90	90				22	22	22	24												Near certain
Land at Linton Road, Great Abington	South Cambridgeshire District Council		35	35				9	9	9	8												Near certain

Development	Local Planning Authority	Application Status	Growth 2011-2031	Growth 2011-2021	Development Trajectory CCC AMR Dec 2015/ SCDC AMR Jan 2016 / ECDC Housing Supply Paper Feb 2015 / HDC AMR Dec 2015																		Core Assumption Test
					Built	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020	2020-2021	2021-2022	2022-2023	2023-2024	2024-2025	2025-2026	2026-2027	2027-2028	2028-2029	2029-2030	2030-2031	Post 2031	
Land at junction of High Street & Pampisford Road, Great Abington	South Cambridgeshire District Council		25	25		25																	Near certain
Land at London Road, Great Shelford & Granta Terrace, Stapleford	South Cambridgeshire District Council		58	58	4	10		11	11	11	11												Near certain
Land west of Cody Road, Waterbeach	South Cambridgeshire District Council		60	60				15	15	15	15												Near certain
Land north of Bannold Road, Waterbeach	South Cambridgeshire District Council		90	90				22	22	22	24												Near certain
Land at Bannold Road & Bannold Drove, Waterbeach	South Cambridgeshire District Council		57	57				14	14	14	15												Near certain
Land to the east of Cody Road and north of Bannold Road, Waterbeach	South Cambridgeshire District Council		36	36				9	9	9	9												Near certain
Former CEMEX Cement Works, Haslingfield Road, Barrington	South Cambridgeshire District Council		220	220				55	55	55	55												Near certain
Windfall sites (<25 units below) including a deduction of 72 units as set out in CSRM	South Cambridgeshire District Council		1273	1273	29	1244																	Near certain
Windfall (Site not determined)	South Cambridgeshire District Council		2879	2879	2879																		Near certain
Windfall (Site not determined)	Cambridge City Council		1755	1755	676	1079																	
Windfall sites (<25units)	Cambridge City Council		503	460		390		17	17	17	19		23	20									
Total			**49,813**	**26,590**	**5,882**	**5,945**	**1,761**	**3,218**	**3,191**	**3,157**	**3,436**	**2,798**	**3,198**	**2,855**	**2,435**	**2,341**	**2,085**	**1,955**	**1,855**	**1,855**	**1,846**	**17,668**	

43,931 **Total unbuilt dwellings 2011-2031**

Huntingdonshire Total	10,440
East Cambs Total	3,560
Sub-Total	**14,000**

Cambs City Total	14,701
South Cambs Total	21,112
Sub-Total	**35,813**

Total	**49,813**

Appendix 2.4 – Cambridgeshire Local Transport Plan - The Long Term Transport Strategy

Figure 4.8. Cambridge area inset: Public Transport

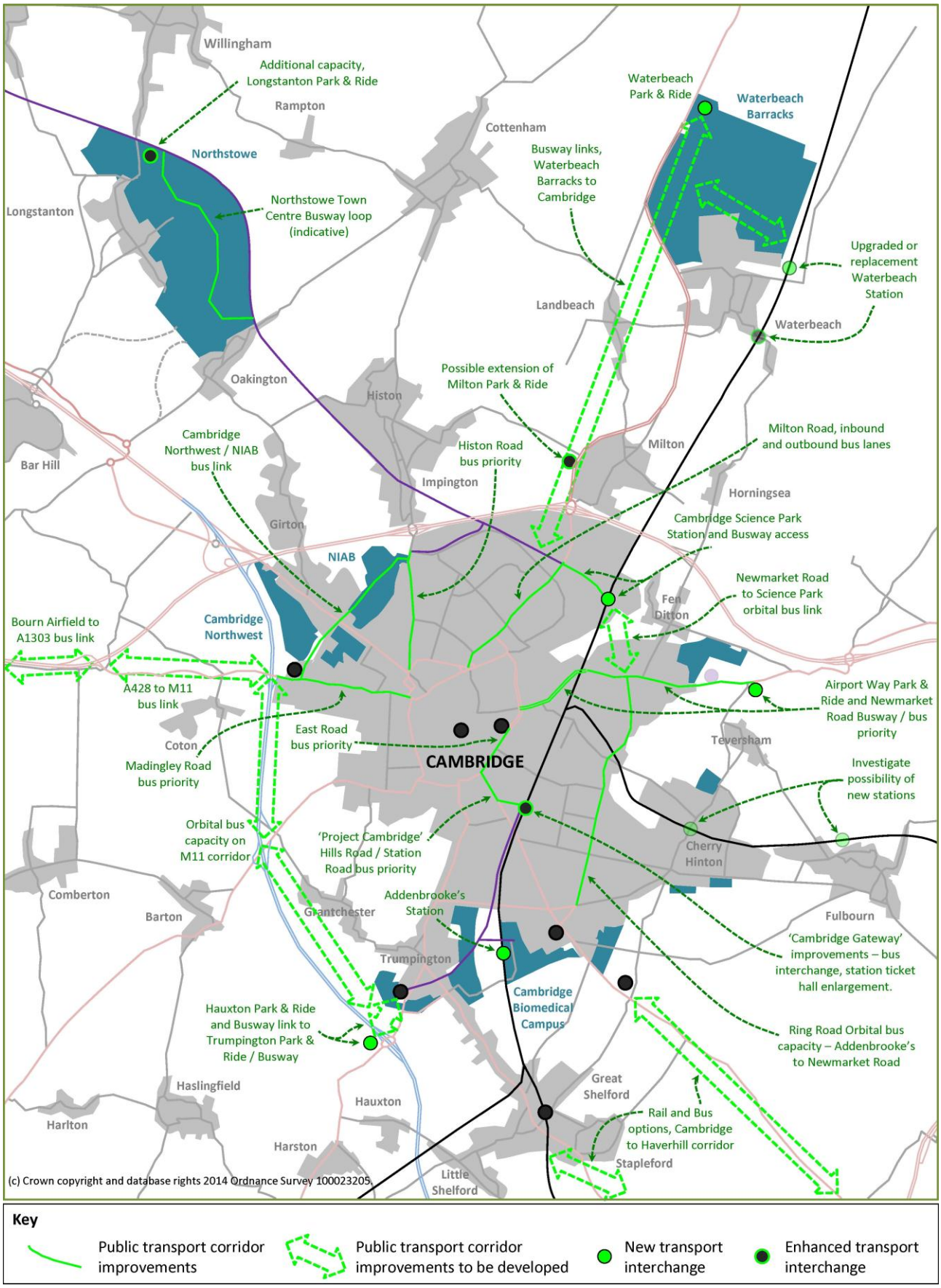
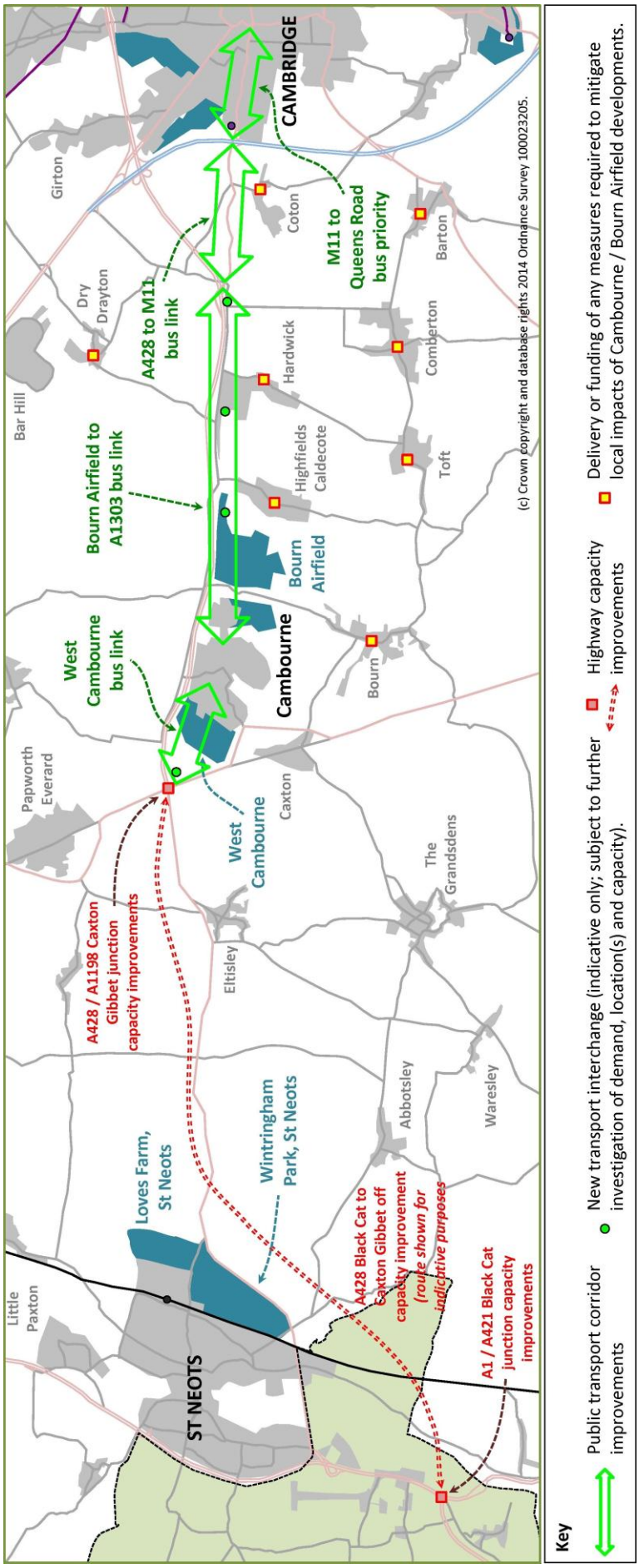


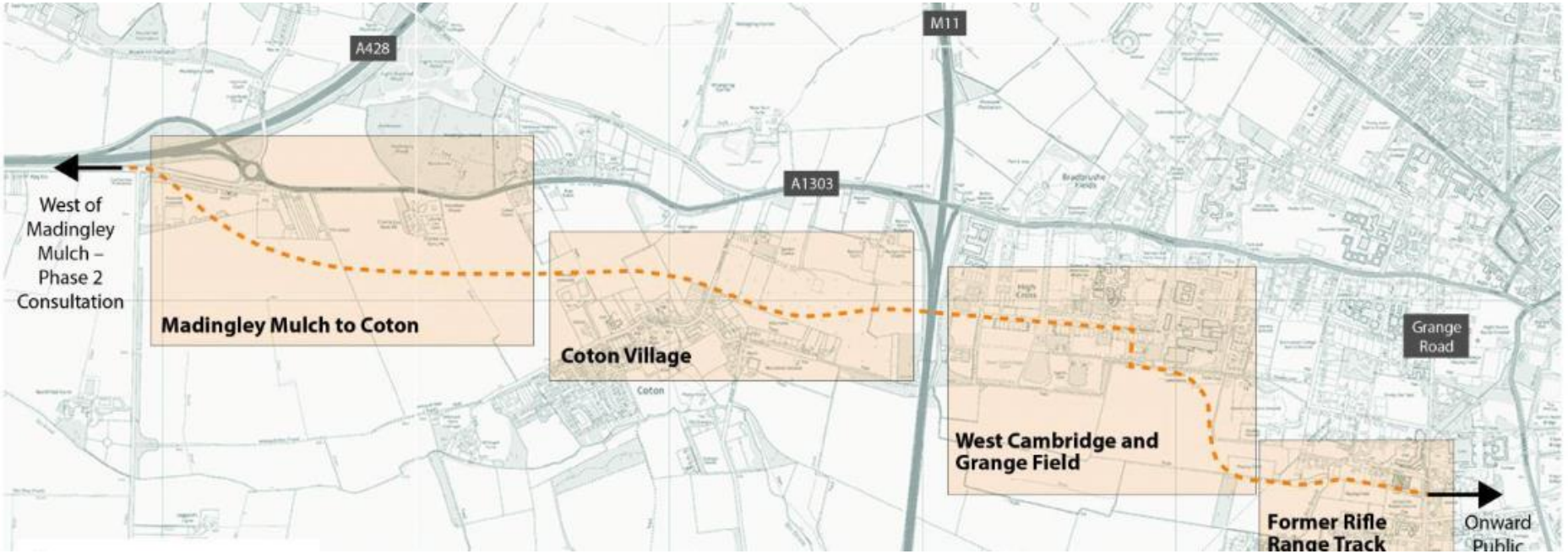
Figure 4.10. St Neots and Cambourne to Cambridge corridor inset



Appendix 2.5 – Greater Cambridge Partnerships Transport Proposals Plan

Greater Cambridge Partnerships

Cambourne to Cambridge Scheme - Phase 1



Rev P01

Drawing Number 5020112-SKA-HGN-ZZ-DR-CH-0011

Status S2

DO NOT SCALE

A1

0 10 100

PARK AND PARK RIDE
0.5m KERBED SEPARATION MARGIN
EDDINGTON AVENUE
CAMBRIDGE KERB SEPARATION
LANSDOWNE ROAD
LEFT TURN LANE REMOVED
LANDSCAPED EMBANKMENT
RAISED CROSSING FOR FOOTWAY
CONDUIT HEAD ROAD
CAMBRIDGE KERB SEPARATION
PROPOSED SPEED LIMIT CHANGE
BRITISH ANTARCTIC SURVEY
HIGH CROSS JUNCTION
ADDITIONAL CROSSING
CYCLEWAY WIDENS TO 2.5m
2.5m SHARED USE FACILITY
WEST CAMBRIDGE
CUT LINE
Merton Hall Farm House

ADDITIONAL CROSSING
MADINGLEY RISE
RAISED TABLE FOR PEDESTRIAN AND CYCLIST PRIORITY
EXISTING DITCH TO BE RETAINED
CAMBRIDGE KERB SEPERATION
CAMBRIDGE KERB SEPERATION
CUT LINE
JJ THOMSON AVENUE
RAISED TABLE FOR PEDESTRIAN AND CYCLIST PRIORITY
CYCLEWAY WIDENS TO 2.5m
CLERK MAXWELL ROAD
HEDGERLEY CLOSE
CHURCHILL COURT
BULSTRODE GARDENS
WILBERFORCE ROAD
CUT LINE

RAISED COPENHAGEN STYLE CROSSING FOR PEDESTRIANS
STOREY'S WAY
FOOTWAY WIDENED TO REDUCE USER CONFLICT
CYCLEWAY WIDENS TO 2.5m
CAMBRIDGE KERB SEPARATION
CYCLEWAY WIDENS TO 2.5m
CUT LINE
RIGHT TURN LANE REMOVED
CAMBRIDGE KERB SEPARATION
FOOTPATH ENTRANCE WIDENED AND DE-CLUTTERED
GRANGE ROAD
CYCLEWAY WIDENS TO 2.5m
LADY MARGARET ROAD
PEDESTRIAN CROSSING REMOVED
SHARED USE SECTION TO TIE INTO EXISTING ARRANGEMENT
NORTHAMPTON STREET

KEY

- PROPOSED EARTHWORKS/VERGE
- PROPOSED/AMENDED CARRIAGEWAY
- PROPOSED FOOTWAY
- PROPOSED SHARED USE PATH
- PROPOSED CYCLEWAY
- HB — EXISTING INDICATIVE HIGHWAY BOUNDARY
- EXISTING/PROPOSED TRAFFIC SIGNALS
- A — OPTION CROSS SECTION (SEE NOTE 1)
- EXISTING/PROPOSED TREE
- EXISTING/PROPOSED HEDGE
- EXISTING DITCH

NOTES

1. FOR OPTION CROSS SECTIONS REFER TO DRAWING 5020112-SKA-HGN-ZZ-DR-CH-0012-S2.

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION
IN ADDITION TO THE HAZARDS/RISKS NORMALLY ASSOCIATED WITH THE TYPES OF WORK DETAILED ON THIS DRAWING, NOTE THE FOLLOWING SIGNIFICANT RESIDUAL RISKS
CONSTRUCTION
NONE
MAINTENANCE/CLEANING
NONE
USE
NONE
DECOMMISSIONING/DEMOLITION
NONE

Rev	Description	By	Date	Chk'd	Auth
S2	FOR INFORMATION		07/19	ARPT	

Stat	Purpose of Issue	Date	Auth

Client: GREATER CAMBRIDGE PARTNERSHIP
Growing and sharing prosperity
Delivering our City Deal

Cambridgeshire Highways ©
Unit 1A, Vantage House
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Tel: (01223) 785165
cambridgeshirehighways@skanska.co.uk

Project: MADINGLEY ROAD CYCLE AND WALKING SCHEME

Title: OPTION 1 LAYOUT SHEET 1 OF 1

DRAFT

Original Scale	Designed	Drawn	Checked	Authorised
1:1000	CL	JC	JC	ARPT
	Date 23/07/19	Date 23/07/19	Date 23/07/19	

Status	Drawing Number	Rev
S2	5020112-SKA-HGN-ZZ-DR-CH-0011	P01

File Location: P:\GBIPD\ESol\05 Cambridgeshire Highways\5100951 Madingley Road Cycle Scheme\8 CAD\8.1 Preliminary\8.1.1 DWG\
Drawing Name: 5020112 Madingley Road Option 1 A1 DRAFT STAMP.dwg
Date: Aug 20, 2019 - 8:15am
Plotted by: bc968204

P:\GBIPD\ESol\05 Cambridgeshire Highways\5100951 Madingley Road Cycle Scheme\8 CAD\8.1 Preliminary\8.1.1 DWG\5020112 Madingley Road Option 1 A1 DRAFT STAMP.dwg

Rev P01

Drawing Number 5020112-SKA-HGN-ZZ-DR-CH-0013

Status S2

DO NOT SCALE

A1

0 10 100

PARK AND PRIDE
RAISED TABLE FOR PEDESTRIAN AND CYCLIST PRIORITY
0.5m KERBED SEPARATION MARGIN
PROPOSED SPEED LIMIT CHANGE
BRITISH ANTARCTIC SURVEY
ADDITIONAL TOUCAN CROSSING
LAND TAKE REQUIRED
EDDINGTON AVENUE
WEST CAMBRIDGE
HIGH CROSS JUNCTION
SIMULTANEOUS GREEN JUNCTION
LANSDOWNE ROAD
LEFT TURN LANE REMOVED
LANDSCAPED EMBANKMENT
CONDUIT HEAD ROAD
CYCLEWAY WIDENS TO 2.5m
CUT LINE

ADDITIONAL OPTION FOR BI-DIRECTIONAL CYCYCLEWAY ON NORTH SIDE OF MADINGLEY ROAD BETWEEN EDDINTON AVENUE TO CROSSING TO MATHEMATIC FOOTPATH BY STOREY'S WAY

CYCLEWAY WIDENS TO 2.5m
MADINGLEY RISE
RIGHT TURN LANE REMOVED
JJ THOMSON AVENUE
CLERK MAXWELL ROAD
HEDGERLEY CLOSE
CHURCHILL COURT
BULSTRODE GARDENS
WILBERFORCE ROAD
EXISTING DITCH TO BE RELOCATED - LAND TAKE REQUIRED

EXISTING RAISED TABLE TO BE REMOVED
VEGETATION TO BE CLEARED FOR INCREASED VISIBILITY
STOREY'S WAY
WIDER CROSSING TO FOR INCREASED CAPACITY DESIRE LINE MOVEMENTS
FOOTPATH ENTRANCE WIDENED AND DE-CLUTTERED
GRANGE ROAD
ADDITIONAL TOUCAN CROSSINGS
SHARED USE SECTION TO TIE INTO EXISTING ARRANGEMENT
PEDESTRIAN CROSSING REMOVED
3.4-4.7m WIDE SHARED USE SECTION TO TIE INTO EXISTING ARRANGEMENT
NORTHAMPTON STREET

KEY
- PROPOSED EARTHWORKS/VERGE
- PROPOSED/AMENDED CARRIAGEWAY
- PROPOSED FOOTWAY
- PROPOSED SHARED USE PATH
- PROPOSED CYCLEWAY
- HB — EXISTING INDICATIVE HIGHWAY BOUNDARY
- EXISTING/PROPOSED TRAFFIC SIGNALS
- A — OPTION CROSS SECTION (SEE NOTE 1)
- EXISTING/PROPOSED TREE
- EXISTING/PROPOSED HEDGE
- EXISTING DITCH

NOTES
1. FOR OPTION CROSS SECTIONS REFER TO DRAWING 5020112-SKA-HGN-ZZ-DR-CH-0014-S2.

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION
IN ADDITION TO THE HAZARDS/RISKS NORMALLY ASSOCIATED WITH THE TYPES OF WORK DETAILED ON THIS DRAWING, NOTE THE FOLLOWING SIGNIFICANT RESIDUAL RISKS
CONSTRUCTION
NONE
MAINTENANCE/CLEANING
NONE
USE
NONE
DECOMMISSIONING/DEMOLITION
NONE

Rev	Description	By	Date	Chk'd	Auth

Stat	Purpose of Issue	Date	Auth
S2	FOR INFORMATION	07/19	ARPT

Client: GREATER CAMBRIDGE PARTNERSHIP
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Washingley Road
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Tel: (01223) 785165
cambridgeshirehighways@skanska.co.uk

Project: MADINGLEY ROAD CYCLE AND WALKING SCHEME

Title: OPTION 2 LAYOUT SHEET 1 OF 1

DRAFT

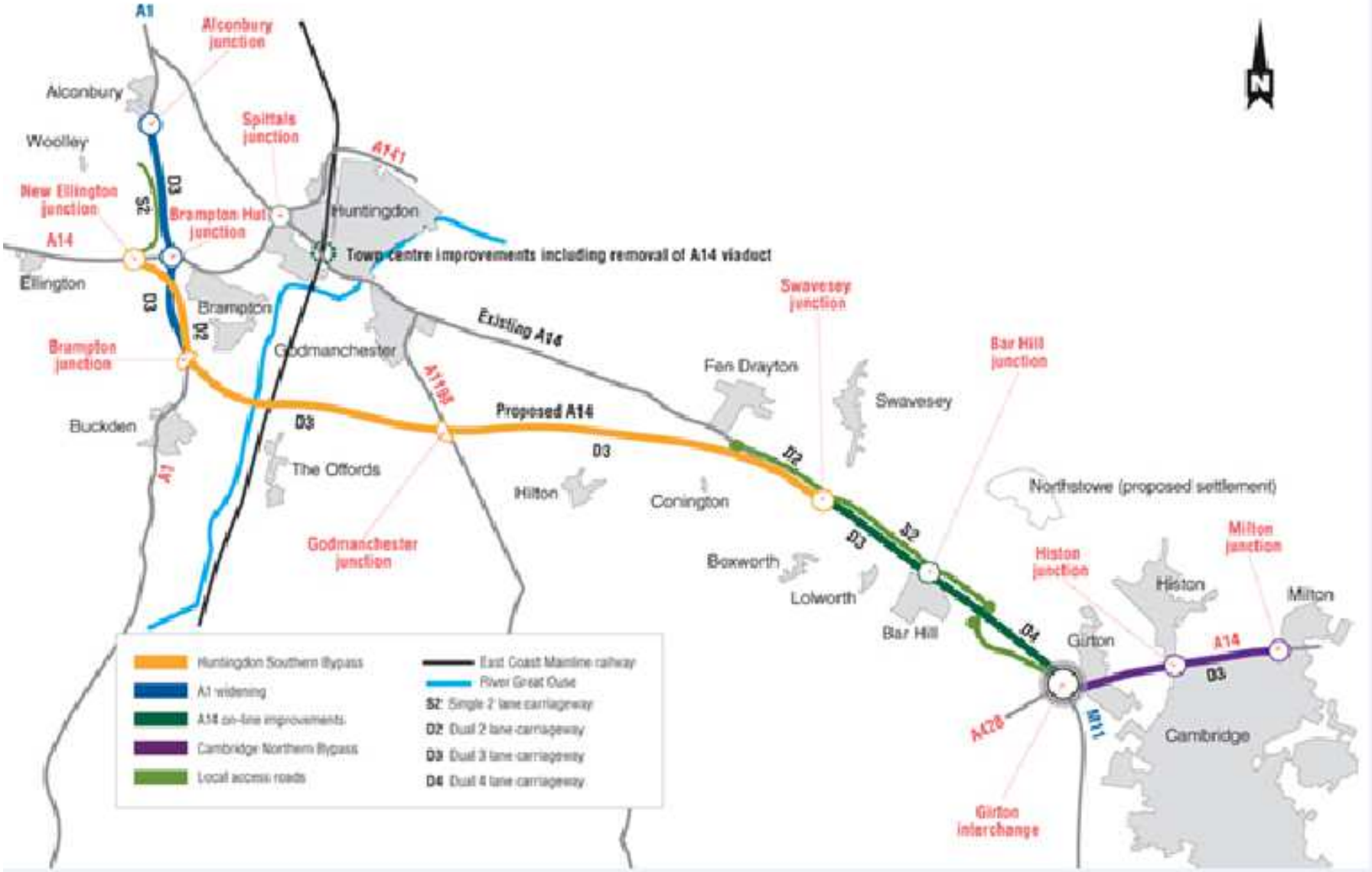
Original Scale	Designed	Drawn	Checked	Authorised
1:1000	CL	CL	JC	ARPT
	Date 23/07/19	Date 23/07/19	Date 23/07/19	

Status	Drawing Number	Rev
S2	5020112-SKA-HGN-ZZ-DR-CH-0013	P01

File Location: P:\GBIPD\ESol\05 Cambridgeshire Highways\5100951 Madingley Road Cycle Scheme\8 CAD\8.1 Preliminary\8.1.1 DWG\
Drawing Name: 5020112 Madingley Road Option 2 A1.dwg Date: Aug 20, 2019 - 8:31am Plotted by: bc968204

P:\GBIPD\ESol\05 Cambridgeshire Highways\5100951 Madingley Road Cycle Scheme\8 CAD\8.1 Preliminary\8.1.1 DWG\5020112 Madingley Road Option 2 A1.dwg

Appendix 2.6 – A14 Huntingdon – Cambridge Scheme plans


A1
Alconbury junction
Alconbury
Spittals junction
A141
Woolley
New Ellington junction
S2
D3
Brampton Hut junction
A14
Huntingdon
Town centre improvements including removal of A14 viaduct
Ellington
D3
D2
Brampton
Existing A14
Swavesey junction
Bar Hill junction
Brampton junction
Godmanchester
A1198
Fen Drayton
Swavesey
Proposed A14
D3
D2
Buckden
D3
A1
The Offords
Hilton
Conington
Northstowe (proposed settlement)
Godmanchester junction
D3
S2
Boxworth
Histon junction
Milton junction
Histon
Milton
Lolworth
Bar Hill
D4
Girton
A14
D3
A428
M11
Cambridge
Girton interchange
Huntingdon Southern Bypass
A1 widening
A14 on-line improvements
Cambridge Northern Bypass
Local access roads
East Coast Mainline railway
River Great Ouse
S2 Single 2 lane carriageway
D2 Dual 2 lane carriageway
D3 Dual 3 lane carriageway
D4 Dual 4 lane carriageway

Appendix 3.1 – CCC Madingley Road Cyclepath Enhancements

Rev A
Drawing Number 5086456/HW/CP/001
Status I

DO NOT SCALE

A0

ON-ROAD CYCLE LANE TO MERGE INTO OFF-ROAD COMBINED USE CYCLEWAY/FOOTWAY

CYCLE PRIORITY CROSSING

LOW TREE BRANCH TO BE REMOVED

3.0m COMBINED CYCLEWAY/FOOTWAY

1.5m ADVISORY CYCLE LANE

INDICATIVE CYCLE PRIORITY CROSSING

PICTURE COURTESY OF PATRICK LINGWOOD (CYCLING ENGLAND)

EXISTING MANDATORY CYCLE LANE TO BE INTEGRATED WITH NEW ADVISORY LANE

EXISTING MANDATORY CYCLE LANE

TELECOMMS CABINET & MOBILE PHONE MAST

TREES TO BE FELLED ARE TO BE REPLACED BY SEMI-MATURED SAPLINGS

EXISTING MANDATORY CYCLE LANE TO BE INTEGRATED WITH NEW ADVISORY LANE

Madingley Road Park & Ride
Rosemary Cottages
Merton Farm Cottages
Transport House
Merton Hall Farm
Whitehouse
Salix
Tennis Courts
Tennis Tennis Court Court
The Whittle Laboratory
Churchill Court
Blenheim Court
Gilling House
Sub Sta
Stone
BM 18.16m
LB

LANSDOWNE ROAD
CORBUTT HEAD ROAD
CHARLES BABBAGE ROAD
UNIVERSITY ACCESS
J.J. THOMSON AVENUE
MADINGLEY ROAD
CLERK MAXWELL ROAD
HEDGERLEY CLOSE
BOLTSTRUDE GARDENS
WILBERFORCE ROAD
CUTLINE 1
CUTLINE 2

KEY

- COMBINED CYCLEWAY/FOOTWAY
- ON-ROAD ADVISORY CYCLE LANE
- EXISTING COMBINED CYCLEWAY/FOOTWAY
- RED CYCLEWAY SURFACING

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION

Rev	Description	By	Date	Chk'd	Auth
A	ORIGINAL ISSUE	GS	01/10	GM	RLB
A	FOR CONSULTATION		01/10		RLB

Cambridgeshire Highways
Design and Engineering Services
SJ'S Wellbeck Court
Clifton Road
Cambridge
CB83 0NA
Fax: (01223) 814500
Tel: (01223) 814400
cambridgeshirehighways@atkinsglobal.com

Client: Cambridgeshire Highways working for

Project: MADINGLEY ROAD PHASE 1

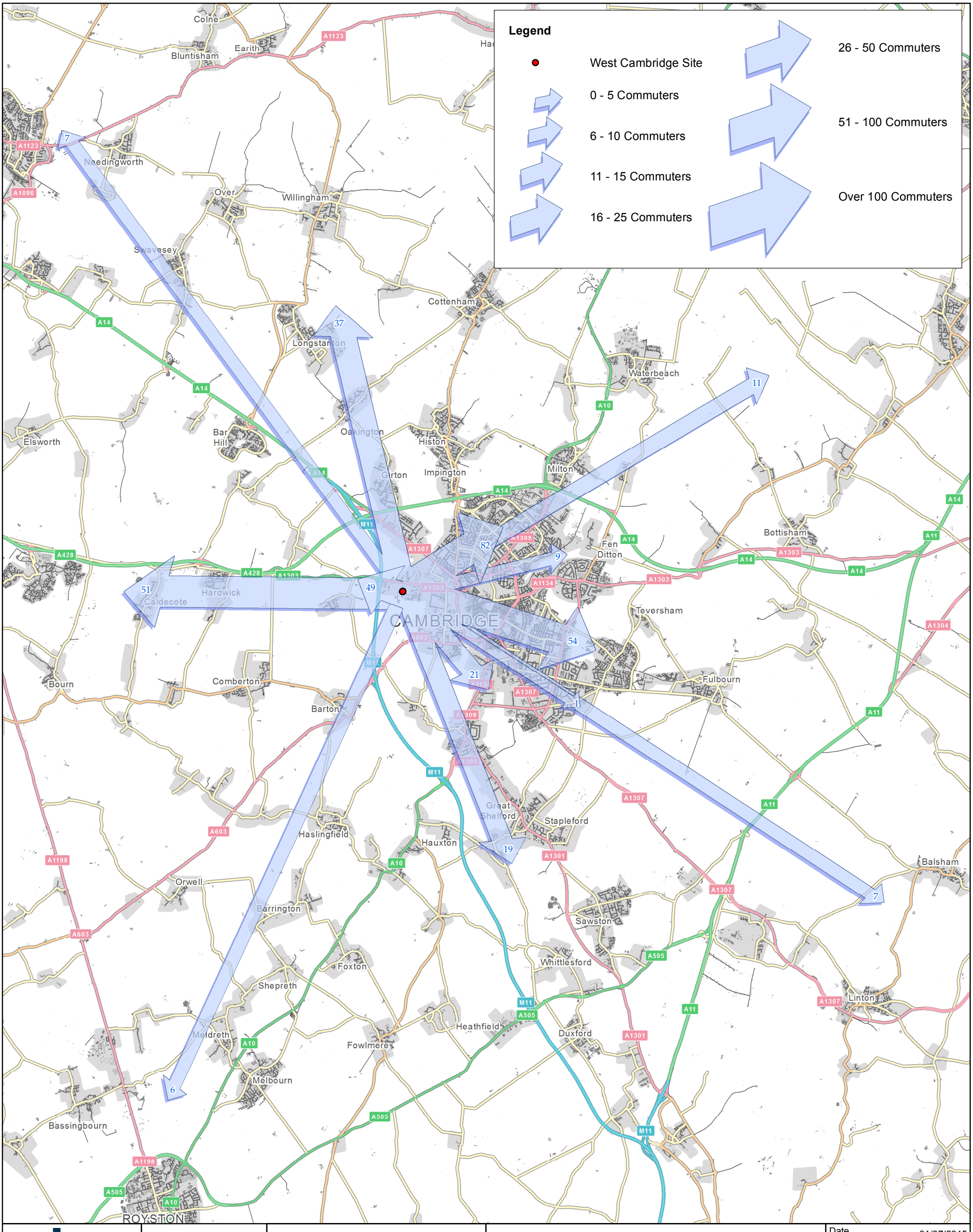
Title: CONSULTATION PLAN

Original Scale	Designed/Drawn/Checked	Authorised
1:500	GS / GM	RLB
	Date 08/01/10 / Date 08/01/10	Date 08/01/10

Status: I | Drawing Number: 5086456/HW/CP/001 | Rev: A

P:\(GB3M)\Hoof\Cambridgeshire Highways\Projects\5086456 - Madingley Road Phase 1\200 CAD\Current Working drawings\CP\CONSULTATION PLAN1.dwg

Appendix 3.2 – Analysis of Post Code data



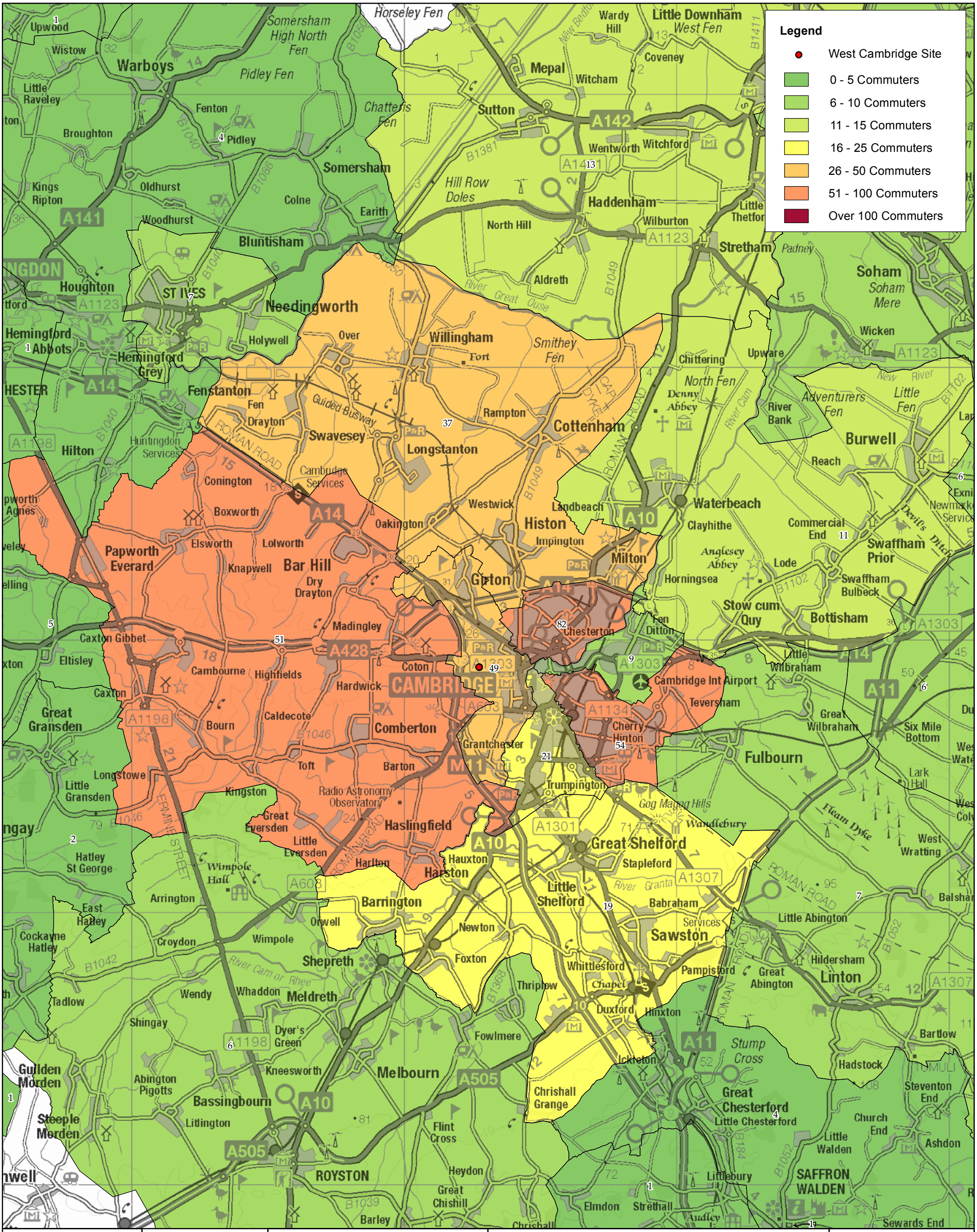
pba peterbrett
www.pba.co.uk
Peter Brett Associates LLP
READING
Tel: 0118 950 0761 Fax: 0118 959 7498

West Cambridge Travel Flows

All Staff who regularly visit the West Cambridge Site

Date	01/07/2015
Scale	1:100,000 @ A3
Drawn By	DRL
Checked By	CL
Revision Number	01
Figure Number	**Figure 03**

Document Path: J:\GIS_central\Projects\31500\Staff_All.mxd



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Peter Brett Associates LLP
READING
Tel: 0118 950 0761 Fax: 0118 959 7498

0 2.5 5 Km

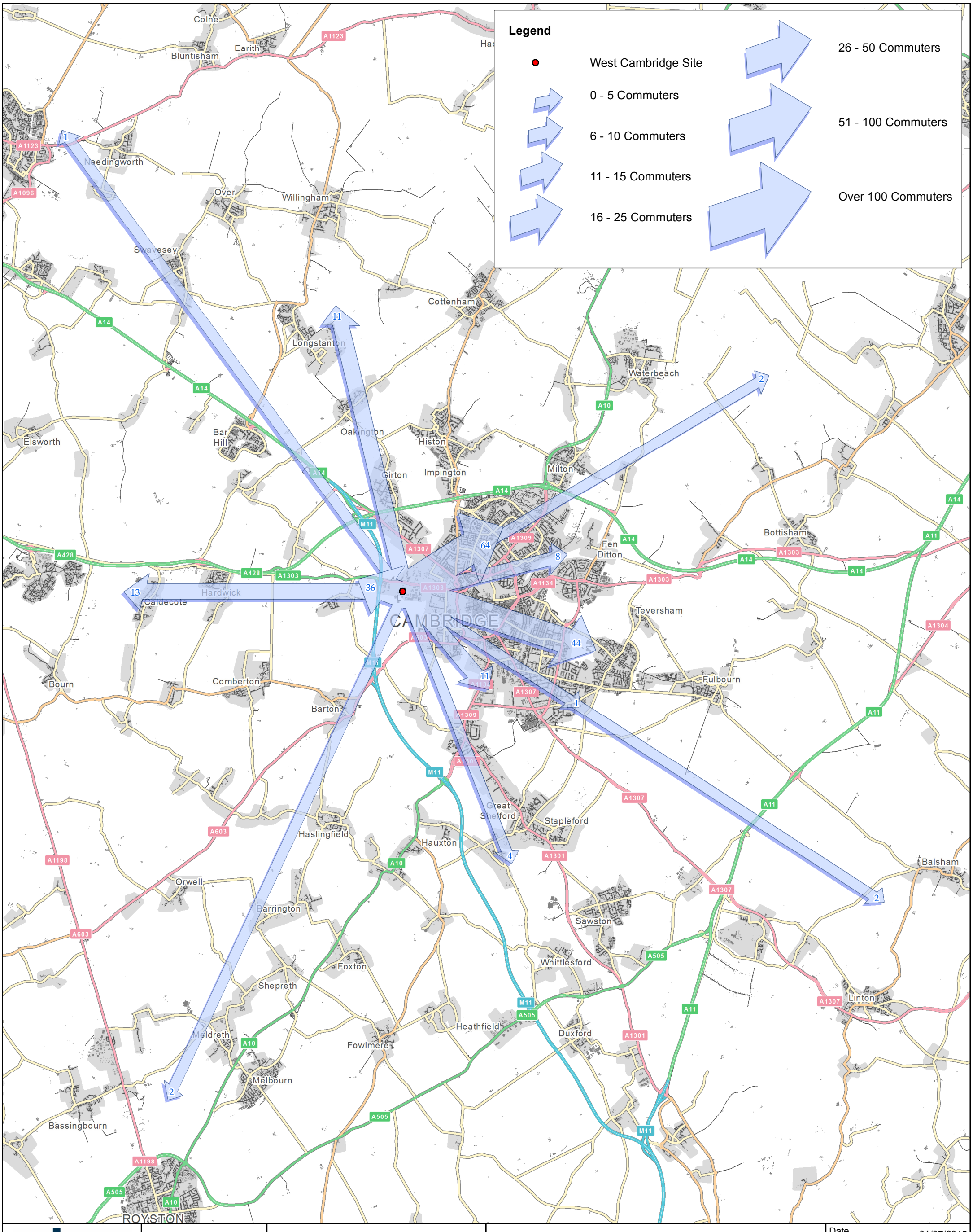
N

West Cambridge Travel Flows

All Staff who regularly visit the West Cambridge Site by postcode district

Date	01/07/2015
Scale	1:125,000 @ A3
Drawn By	DRL
Checked By	CL
Revision Number	01
Figure Number	**Figure 07**

Document Path: J:\GIS_central\Projects\31500\Staff_All_PC.mxd



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Peter Brett Associates LLP
READING
Tel: 0118 950 0761 Fax: 0118 959 7498

0 2.5 5 Km

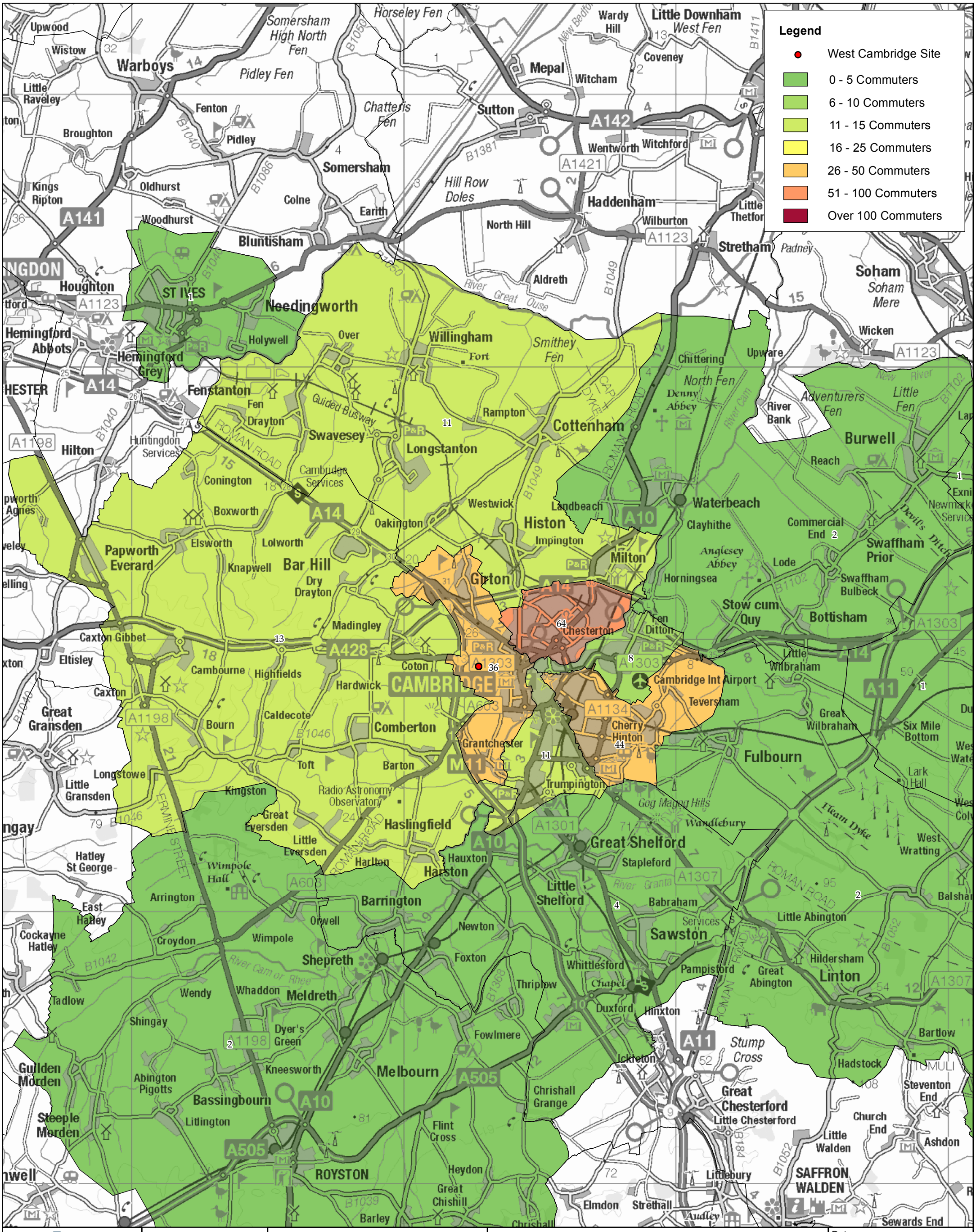
N

West Cambridge Travel Flows

Staff who cycle to the West Cambridge Site

Date	01/07/2015
Scale	1:100,000 @ A3
Drawn By	DRL
Checked By	CL
Revision Number	01
Figure Number	**Figure 01**

Document Path: J:\GIS_central\Projects\31500\Staff_cycling.mxd



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Peter Brett Associates LLP
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Tel: 0118 950 0761 Fax: 0118 959 7498

West Cambridge Travel Flows

Staff who cycle to the West Cambridge Site by postcode district

Date	01/07/2015
Scale	1:125,000 @ A3
Drawn By	DRL
Checked By	CL
Revision Number	01
Figure Number	**Figure 05**

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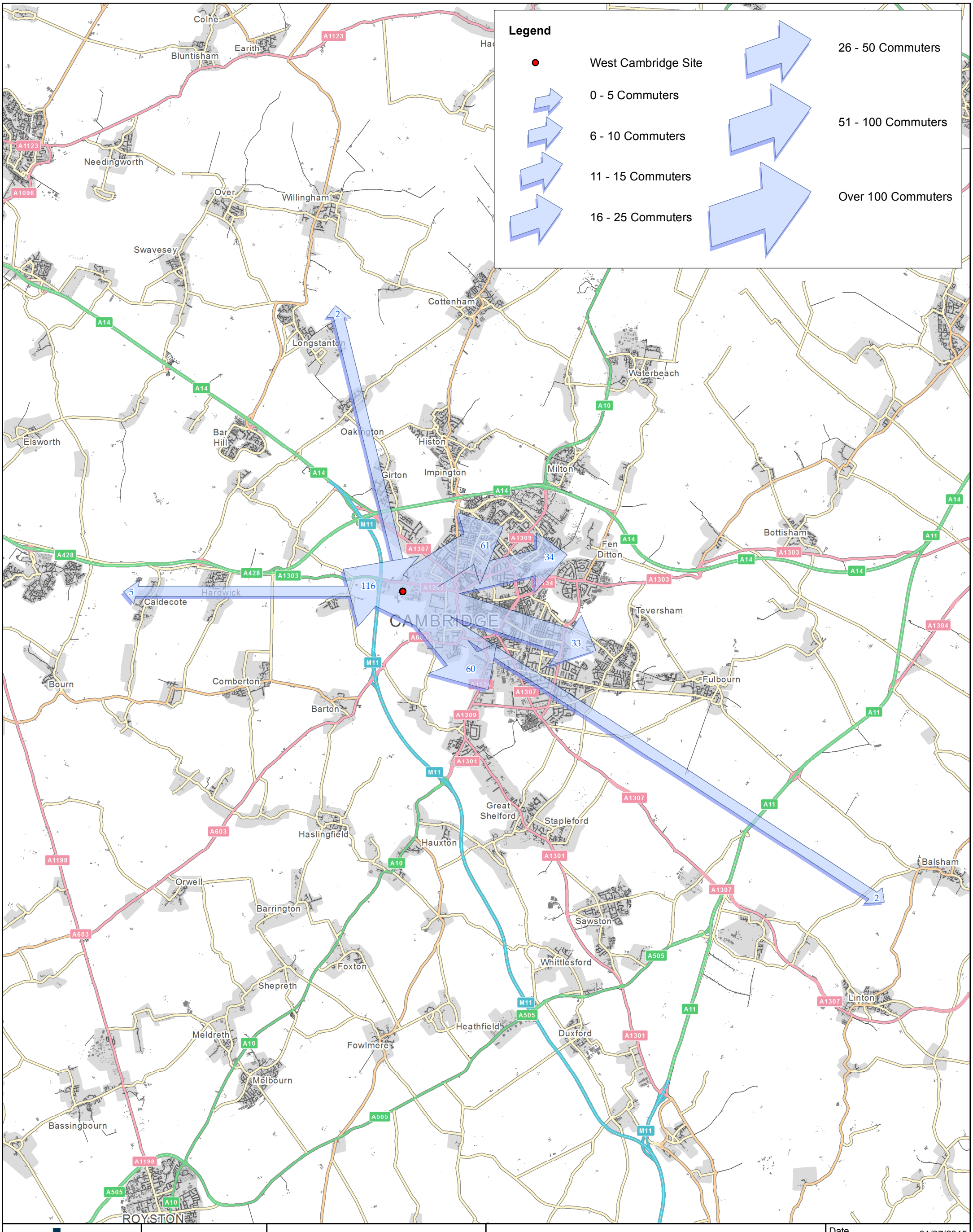

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Tel: 0118 950 0761 Fax: 0118 959 7498

0 2.5 5 Km

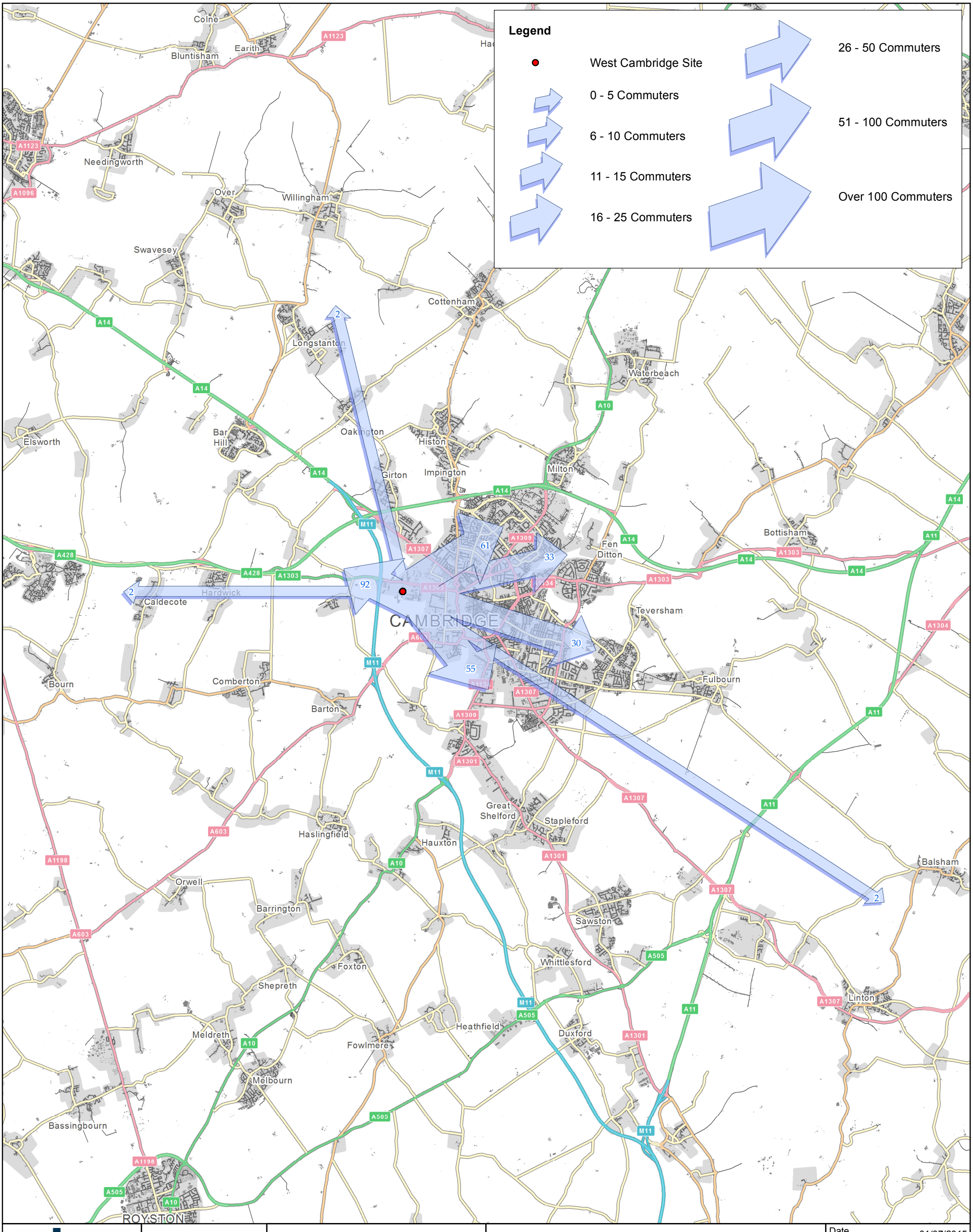
N

West Cambridge Travel Flows

All Students who regularly visit the West Cambridge Site

Date	01/07/2015
Scale	1:100,000 @ A3
Drawn By	DRL
Checked By	CL
Revision Number	01
Figure Number	**Figure 04**

Document Path: J:\GIS_central\Projects\31500\Student_All.mxd



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Peter Brett Associates LLP
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Tel: 0118 950 0761 Fax: 0118 959 7498

West Cambridge Travel Flows

Students who cycle to the West Cambridge Site

Date	01/07/2015
Scale	1:100,000 @ A3
Drawn By	DRL
Checked By	CL
Revision Number	01
Figure Number	**Figure 02**

Document Path: J:\GIS_central\Projects\31500\Student_cycling.mxd

Legend

- West Cambridge Site
- 0 - 5 Commuters
- 6 - 10 Commuters
- 11 - 15 Commuters
- 16 - 25 Commuters
- 26 - 50 Commuters
- 51 - 100 Commuters
- Over 100 Commuters

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Peter Brett Associates LLP
READING
Tel: 0118 950 0761 Fax: 0118 959 7498

0 2.5 5 Km

N

West Cambridge Travel Flows

Students who cycle to the
West Cambridge Site
by postcode district

Date	01/07/2015
Scale	1:125,000 @ A3
Drawn By	DRL
Checked By	CL
Revision Number	01
Figure Number	**Figure 06**

Document Path: J:\GIS_central\Projects\31500\Student_cycling_PC.mxd

Appendix 3.3 – Ward Plan and Supporting Census data

WD703EW - Method of travel to work (2001 specification) (Workday population)

population	All usual residents aged 16-74 either in employment in the area, or not in emplo
units	Persons
date	2011

Method of travel to work (2001 specification)	msoa2011:Cambridge 007	msoa2011:Cambridge 005	gor:East
All categories: Method of travel	35,260	13,032	4,046,867
Work mainly at or from home	902	506	304,889
Underground, metro, light rail o	33	8	12,456
Train	1,286	182	63,911
Bus, minibus or coach	3,347	484	107,452
Taxi	45	14	11,685
Motorcycle, scooter or moped	331	73	19,492
Driving a car or van	9,162	3,417	1,627,144
Passenger in a car or van	1,063	217	138,139
Bicycle	7,049	1,533	97,154
On foot	3,162	651	258,151
Other method of travel to work	65	15	10,362

In order to protect against disclosure of personal information, records have been swapped between different ge

oyment but live there

eographic areas. Some counts will be affected, particularly small counts at the lowest geographies.

WD703EW - Method of travel to work (2001 specification) (Workday population)

population	All usual residents aged 16-74 either in employment in the area, or not in employment but live there
units	Persons
date	2011

Method of travel to work (2001 specification)	msoa2011:Cambridge 007	msoa2011:Cambridge 005	gor:East
All categories: Method of travel to v	35,260	13,032	4,046,867
Work mainly at or from home	902	506	304,889
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Train	1,286	182	63,911
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Taxi	45	14	11,685
Motorcycle, scooter or moped	331	73	19,492
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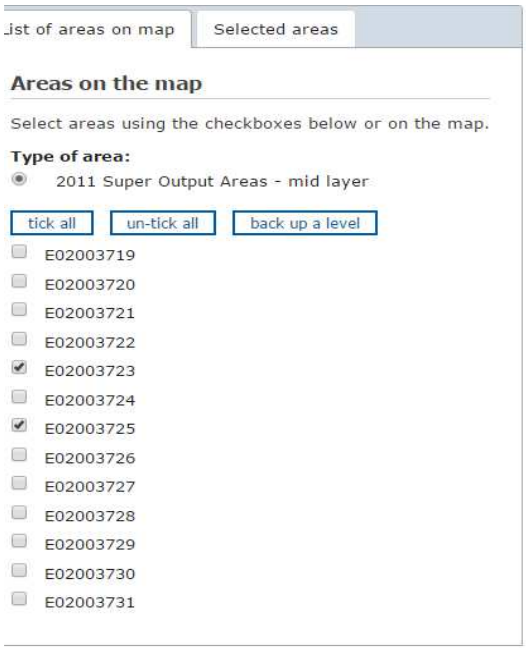
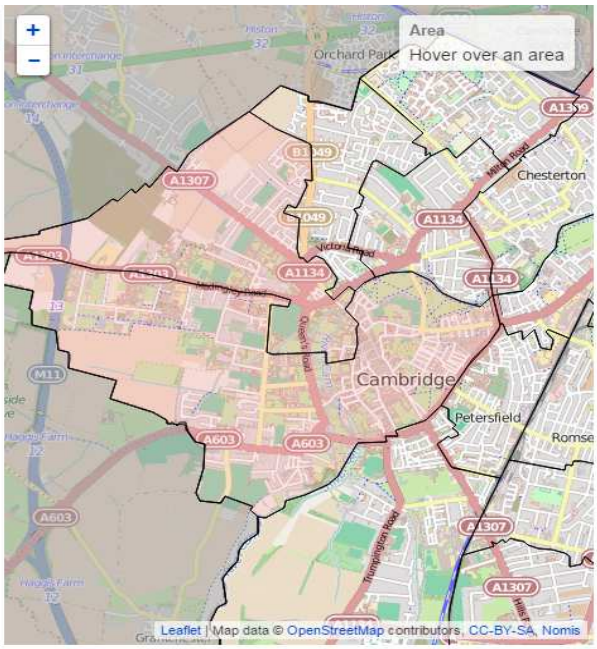
Passenger in a car or van	1,063	217	138,139
Bicycle	7,049	1,533	97,154
On foot	3,162	651	258,151
Other method of travel to work	65	15	10,362

In order to protect against disclosure of personal information, records have been swapped between different geographic areas. Some counts will be affected, par

	Total	%
Work mainly at or from home	1,408	4.2
Underground, metro, light rail or tra	0	0.0
Train	1,468	4.4
Bus, minibus or coach	3,831	11.5
Taxi	0	0.0
Motorcycle, scooter or moped	404	1.2
Driving a car or van	12,579	37.7
Passenger in a car or van	1,280	3.8
Bicycle	8,582	25.7
On foot	3,813	11.4
Total	33,365	100





ticularly small counts at the lowest geographies.

Appendix 3.4 – Travel for Work Partnership Survey data

Travel to Work Survey Report 2015

produced for

University of Cambridge

by Travel for Cambridgeshire

Helping Cambridgeshire get there!

Contents

Introduction

This is the sixteenth annual Travel for Work survey in its online format. Based on employee responses, the survey provides you with a picture of the way your employees get to work.

The results are useful in monitoring the effect of your workplace travel initiatives. If you are in the early stages of looking at travel issues, these results will help you prioritise the actions to take and help set targets.

As a member of Travel for Cambridgeshire (TfC), formerly the Travel for Work Partnership, you currently receive this report free of charge. Further analysis of the survey is possible. Should you require this, TfC may need to charge for this work. Please contact us to discuss your requirements.

Please refer to the TfC Analysis section of the report, which details our interpretation of your results in light of the characteristics of your company; this section highlights what is going well and not so well and suggestions for future consideration. We will be in touch shortly to arrange a meeting to discuss your results and our analysis.

Detailed TfC results, compiled from the results of all 2015 participating companies, can be accessed by visiting the TfC website (www.tfw.org.uk/servicesSurvey.php).

The 2015 survey

We asked commuters about their journeys to work from Saturday 10th October to Friday 16th October 2015.

Please consider how you may use your results; to capitalise on any interest generated by the survey, we encourage you to share them with your employees wherever possible. You may notice that the Average distance by mode has changed slightly, this is due to an improved data collation process than previous year's surveys have allowed.

If you are writing a travel plan, it is a good idea to include this data in your plan, or update data contained within an existing plan. To support you, we have developed our own Travel Plan Template and Guidance documents for you to use as a basis for your Travel Plan (www.TfW.org.uk/plans.php).

You may also wish to use your results as part of your travel promotions, supporting specific travel initiatives.

Questions or Queries

If you have any questions or queries regarding your results or the survey in general please contact us:

Tel (01223) 715550
Email: info@tfw.org.uk

Modal Split Results 2015
(5 days – Monday 12th October to Friday 16th October 2015)

The following table compares your 2015 results to any previous data for your organisation, as well as the Travel for Work survey as a whole. If it is of interest, the most up to date regional and national travel to work survey figures are given with the TfC overall results, which can be found on the TfC website (www.tfw.org.uk/Survey%202015/Overall%20TfC_TPPlus%20High%20Level%20Report.pdf).

We have reported the five days, Monday to Friday, in this table.

Mode	*2003*	*2004*	*2005*	*2006*	*2007*	*2008*	*2009*	*2010*	*2011*	*2012*	*2013*	*2014*	*2015*	*All TfC & TP+ Employers 2015*
Bicycle	39.14%	37.55%	38.09%	41.94%	39.32%	39.97%	39.09%	40.30%	41.12%	40.88%	39.61 %	41.91%	**42.16%**	**25.19%**
Car Share	9.34%	10.38%	8.62%	7.61%	6.70%	7.73%	7.22%	8.13%	7.87%	7.04%	6.77%	7.67%	**8.03%**	**10.14%**
Drive (alone)	29.02%	27.22%	25.04%	23.34%	24.15%	22.12%	22.40%	23.19%	23.69%	24.23%	25.85 %	24.29%	**24.95%**	**40.46%**
Home working	n/a	0.97%	1.37%	1.29%	1.54%	1.85%	1.66%	1.03%	1.12%	1.36%	1.71%	0.90%	**1.66%**	**1.90%**
Motorbike	1.62%	1.29%	2.18%	1.21%	1.47%	1.90%	1.33%	1.03%	1.00%	1.08%	0.92%	0.83%	**1.06%**	**0.89%**
Other	n/a	0.50%	1.78%	0.37%	0.56%	0.32%	2.04%	0.15%	0.04%	0.05%	-	-	**-**	**-**
Other Workplace	n/a	1.37%	1.39%	1.11%	1.30%	1.64%	1.45%	1.32%	1.80%	1.51%	1.60%	0.39%	**-**	**-**
Public Bus	6.22%	8.01%	7.08%	9.97%	10.38%	8.71%	9.20%	8.76%	8.53%	8.10%	8.00%	8.05%	**6.09%**	**6.54%**
Staff Bus/Uni 4	0.06%	0.24%	0.18%	0.11%	0.07%	0.08%	0.01%	0.09%	0.03%	0.00%	0.12%	0.01%	**0.54%**	**1.51%**
Train	3.86%	3.80%	4.48%	4.47%	5.26%	5.57%	4.98%	6.56%	5.76%	6.06%	5.59%	5.77%	**5.86%**	**6.50%**
Walk	8.84%	8.66%	9.60%	8.75%	9.26%	10.11%	10.61%	9.43%	9.04%	9.70%	9.83%	10.18%	**9.65%**	**6.87%**
Number of one way trips	8,723	8,911	4,957	6,216	5,705	7,693	8,478	6,904	7,997	10,986	13104	9684	**13,173**	**11,821**
Participation	-			-	-	18%	20%	16%	18%	24%	29%	21%	**24%**	**26%**

The Saturday and Sunday results can be found in **Appendix A** which includes the full results for your employees.

TfC Analysis of your 2015 Survey Results

Comments contained in this section are specific to your company and are based on our interpretation of your 2015 survey results plus any background information provided by you previously.

NO OF STAFF /RESPONDENTS /PARTICIPATION:	The participation rate was good at 24%, whilst lower than the average of all participating TfC member employers in Cambridgeshire, this year the sheer number of responses was at an all-time high. This is useful data for your travel plan upon which to base your actions for 2016.
POSITIVE AREAS:	• Car Share has risen by just over 1% from last year. • Cycling is at an all-time high of over 42%. • Drive alone figures have reduced by 1% from 2014.
IMPROVEMENT AREAS & SUGGESTIONS:	Appendix A shows that 20% of single occupancy car drivers are driving less than 5 miles to work - indicating there is potential to convert this cohort to cycling or walking to work. **Bicycle** Your cycling percentage continues to improve rising to 42%. This is a very promising figure that demonstrates your work towards solidifying your cycling culture in the workplace. For those who already cycle, keep your eye on the TfC Newsletter as there will be some cycling initiatives during the next year. In the meantime, contact TfC 01223 715550 to help you: • **Free Bicycle Training** and **Bicycle Maintenance Training** for staff available as part of your travel plan initiatives www.TfW.org.uk/Discounts.php#OutspokenDiscount • **Bicycle User Group (BUG) -** these can be very effective in supporting existing cyclists and encouraging new ones. We have funding available to support/establish a BUG in-house or possibly with neighbouring businesses if this if of interest. Also consider: • Encouraging people to use the **TfC Bike Discounts**. See www.TfW.org.uk/Discounts.php#CycleShops for a listing of cycle shops that offer discounts and for a downloadable poster • Running a **Cycling Breakfast Promotion** or similar events by applying for a **Workplace Event Grant** in 2015-16 for events before 1st March 2016. More information available on our website at www.TfW.org.uk/services.php#eventgrant. • Promote your existing facilities e.g. showers and lockers, if available. • Promote the **cycle journey planner** to staff, see www.cyclestreets.net/ • Use www.camshare.co.uk to help people find a cycle buddy for **free**. • Consider setting up a **cyclist's kit** in reception, including items such as a pump, spare locks and puncture repair kits in case one of your cyclists forgets an item or has a mechanical problem while at work. • For all general maintenance problems such as potholes, gritting

	cycle routes and overgrown hedgerows, please contact Cambridgeshire Direct on 0345 045 5200 or use the on-line reporting form at www.cambridgeshire.gov.uk/info/20081/roads_and_pathways/10/roadworks_and_faults **Car Sharing** Car sharing is up to 8% (7% in 2014) but could still be improved since the average for all TfC employers is 10%. This is a relatively easy area to improve by: • Promoting the **free** online car sharing matching service www.camshare.co.uk • Use CamShare to help administer and monitor car sharing figures. Target informal car sharers to sign onto CamShare and find possible stories to help promote car sharing • Keep an eye on future TfC newsletters, for **CamShare** promotions including prize draws and initiatives • **Free TfC postcode mapping** to help your staff locate possible car sharing matches at your workplace • Use your postcode maps to run a car sharing **event**. TfC can assist you to plan and run these events, or put you in touch with other employers that have already run such events. Use the **Event Grant** to fund your event www.TfW.org.uk/services.php#eventgrant. • Use the **car share calculator** available on www.camshare.co.uk **Public Bus** Bus use appears to have dropped to 6% from 8% last year which may be worth investigating. There are multiple Bus Stops within 0.5 miles of your various sites and should continue to be promoted: • Encourage staff to visit www.cambridgeshirebus.info where they can get an extensive range of bus information, such as locations of bus stops near work and home, as well as route and timetable information. • It is also possible to get real-time bus information on your smartphone using the **My Bus Trip app**, or on your desktop/laptop computer. See: www.cambridgeshire.gov.uk/info/20017/buses/12/real_time_bus_information • You may wish to consider installing an actual or virtual travel information board for staff. Alternatively a travel information page with live links could be created as part of your intranet system on your 'Location' page. **The Busway** For those who live or are travelling in convenient vicinity of The Busway, it offers commuters and staff travelling on business, a reliable, fast and frequent way of travelling between Huntingdon, St Ives and Cambridge. Service routes, timetables and fares are available at www.thebusway.info/ **Train** About 23% of drive alone respondents live more than 20 miles from the office and may be able to take the train (current figure for train travel is 6%); though some respondents may not live near a convenient rail route. Your workplace has access to **Cambridge Station** and your staff are eligible for **10% discounts** on monthly through to annual season tickets.

	It is worth promoting the train for the following reasons: • TfC has 10% discounts on season tickets, with both Great Northern Rail and Greater Anglia. If interested, please visit http://www.TfW.org.uk/Discounts.php#TrainDiscount. • Carnet tickets, where 10 tickets can be purchased for the price of 9, are also available from both Great Northern Rail and Greater Anglia. • It is possible to buy tickets with a **PLUS bus** element so that it is not necessary to buy additional bus tickets. See: www.plusbus.info • Staff can **work whilst travelling on the train**. **Walking** Walking continues to remain above the average for all TfC employers. There are a number of ways to promote walking such as the walking route planner www.walkit.com, and by holding workplace led walks during the lunch hour. **Home Working** Home working accounted for 2% of respondents. Is there any additional capacity for flexible working for this or does the nature of the work require attendance at the office? **Journey** The shortest journey recorded is 0.1 miles by walking c. The longest journey was travelled by train at 250miles. **Travel Information Board** Alternatively, a travel information page with live links could be created as part of your intranet system on your 'Location' page. For further information about what links to use, see www.TfW.org.uk/links.php#Howtofindus, which, includes information on creating a bespoke Transport Direct link for your workplace. **Event Organisation** If you want to put on a promotional event TfC can help with the organisation and the funding of attractions including things like Dr Bike or Cycle Smoothie though our **Event Grant** http://www.TfW.org.uk/services.php#eventgrant.
COMMUTER COMMENTS	Comments from your employees may be extremely helpful in identifying common traits, areas of deficiency or ideas for future initiatives. If you are interested in receiving anonymous comments from your survey respondents please contact the TfC team.
SURVEY RESULTS DISTRIBUTED: **- Internally (Newsletter, etc)** **Externally (E.g. Press & PR)**	We suggest that you make the survey results known to your staff as they will be interested. As you ran a prize draw, please consider publicising the winner in your own communications to encourage participation next year if you have not already done so.
STAFF AWARENESS OF Travel initiatives:	27% of respondents know you have a travel plan and 36% know who to contact regarding travel issues. The latter could be linked to the recent change in staff holding this position but overall these figures could be improved.

	Your promotion of travel initiatives will give staff a positive awareness of travel initiatives in 2016, and will help to encourage responses to next year's survey. As you develop or promote initiatives, ensure that on any promotions (leaflets, web info and flyers) that you have included an internal contact name, as well as details.
NEXT STEPS SUGGESTIONS:	**Further improvements could be achieved by** • Circulate to your staff the **Commuter Section** of our bimonthly TfC newsletter, for latest travel initiatives promotional ideas and **CamShare prize draws**. • Promoting the **free** online matching service www.camshare.co.uk • Consider promoting TfC **10% train season ticket discounts** • Updating and promoting your **travel plan**. TfC has the resources available and can help guide you through the process. Also look out for our travel plan best practice workshops to increase your knowledge and understanding.

Appendix A - Employer Results for 2015

Appendix A - Employer Results	University of Cambridge		
Reporting area	**Results**		
Number of respondents	2515		
Percentage of workforce	24%		
Number of trips recorded	13173		
Average number of trips per respondent	5.24		
Average distance travelled (miles)	8.73		
Longest distance travelled by mode (miles)	Train	250	
Shortest distance travelled by mode (miles)	Walk	0.1	
Average distance travelled by mode (miles)	Walk	1.64	
	Public bus	8.85	8.83
	Guided Busway	13.89	
	Park & Ride	3.76	
	Drive on your own	15.44	
	Cycle	2.94	
	Company staff bus	2.76	
	Car share (Driver)	15.36	15.01
	Car share (Non Driver)	14.66	
	Motorbike	11.38	
	Train	31.36	
	Worked at home	8.04	
Drive alone - percentage of respondents and distance	Less than 2 miles	4.41%	
	2.1 - 5 miles	15.32%	
	5.1 - 10 miles	22.95%	
	10.1 - 20 miles	34.08%	
	20.1 - 30 miles	13.30%	
	30.1 - 40 miles	5.26%	
	More than 40 miles	4.67%	
Modal split Monday - Friday	Walk	9.65%	
	Public bus	4.29%	6.09%
	Guided Busway	1.61%	
	Park & Ride	0.19%	
	Drive on your own	24.95%	
	Cycle	42.16%	
	Company staff bus	0.54%	
	Car share (Driver)	5.08%	8.03%
	Car share (Non Driver)	2.95%	
	Motorbike	1.06%	
	Train	5.86%	
	Worked at home	1.66%	
Modal split Saturday - Sunday	Walk	12.69%	
	Drive on your own	17.35%	
	Public bus	2.26%	2.81%
	Guided Busway	0.55%	
	Park & Ride	0.00%	
	Cycle	46.50%	

	Company staff bus	0.00%	
	Car share (Driver)	2.54%	3.77%
	Car share (Non Driver)	1.23%	
	Motorbike	0.82%	
	Train	1.23%	
	Worked at home	14.81%	
Does my employer have a travel plan?	Yes	681	27.08%
	No	135	5.37%
	Don't know	1705	67.79%
Do you know who to contact for information on travel issues?	Yes	901	35.83%
	No	1620	64.41%
Did you travel on the A14 just north of the M11?	Yes	224	8.91%
	No	2297	91.33%
Do you wish to receive travel information from the University	Yes	951	37.81%
	No	1500	59.64%

Appendix B - 2015 Responses by Site

1	Academic Division	72
2	Administrative Services	30
3	African Studies	2
4	Anglo-Saxon, Norse and Celtic	0
5	Applied Mathematics and Theoretical Physics	58
6	Archaeology and Anthropology (Faculty Office)	0
7	Archaeology and Anthropology Department	23
8	Architecture and History of Art	5
9	Arts and Humanities (Councils of the School)	2
10	Asian and Middle Eastern Studies	14
11	Biochemistry	16
12	Biological Anthropology	4
13	Biological Sciences	19
14	Biomedical Support Services	8
15	Biotechnology	3
16	Board of Graduate Studies	5
17	Botanic Gardens	4
18	CAPE 53 Cape 1 Park Cycle	0
19	CARET	0
20	CRASSH	16
21	CRUK Cambridge Institute	85
22	Cambridge Admissions Office	18
23	Cambridge Archaeology Unit	11
24	Cambridge Assessment (Individuals)	0
25	Cambridge Commonwealth Trust	7
26	Cambridge Enterprise	34
27	Cambridge Institute for Medical Research	35
28	Cambridge Institute for Sustainability Leadership	7
29	Cambridge Schools Classics Project	6
30	Cambridge Sports Centre	0

31	Cambridge Students Union	0
32	Careers Service	10
33	Central Bio-medical Services (Individual Contact)	24
34	Central Offices	12
35	Central Science Library	0
36	Centre for Business Research	0
37	Centre for Family Research	1
38	Centre for Mathematical Sciences	28
39	Chemical Engineering and Biotechnology	44
40	Chemistry	103
41	Classics	12
42	Clinical Biochemistry (Individual Contacts)	10
43	Clinical Medicine (Individual Contacts)	63
44	Clinical School	43
45	College Park Cycle Individual Contacts x11)	0
46	Computer Laboratory	59
47	Computing Service	3
48	Continuing Education	23
49	Counselling Service	15
50	Criminology	11
51	Department of Politics and International Studies	15
52	Department of Public Health and Primary Care	18
53	Dental Service	0
54	Development Office (Individual Contacts)	1
55	Development Studies Committee	1
56	Developmental Psychiatry (Individual Contact)	0
57	Disability Resource Centre	4
58	Divinity	11
59	Earth Sciences	4
60	Economics	14
61	Education Section (Individual Contact)	19

62	Engineering	6
63	English	3
64	English and Applied Linguistics	0
65	Estate Management	125
66	Experimental Psychology	2
67	Faculty of Education	43
68	Finance Division	59
69	Fitzwilliam Museum	36
70	Gates Cambridge Trust	0
71	Genetics	56
72	Geography	28
73	Graduate Union	0
74	Gurdon Institute	40
75	Health and Safety Division	4
76	History	1
77	History and Philosophy of Science	14
78	Hitachi Cape	0
79	Human, Social, and Political Science (Faculty Office)	9
80	Humanities and Social Sciences (Councils of the School)	2
81	Institute of Medical Research (Individual Contact) P&C	17
82	Institute of Public Health	47
83	Judge Business School plus Entrepreneurial Learning	17
84	Kings College Hostel	1
85	Land Economy	19
86	Language Centre	6
87	Latin-American Studies	1
88	Law	26
89	Library	12
90	Magnetic Resonance Research Centre Cape	0
91	Manufacturing Engineering/ Old Press	0
92	Materials Science and Metallurgy	43

93	McDonald Institute for Archaeological Research	3
94	Modern and Medieval Languages	2
95	Moore Library	3
96	Museum of Archaeology and Anthropology	0
97	Music	17
98	Nanoscience	5
99	Nursery	0
100	Occupational Health and Safety Service	6
101	Other	136
102	Pathology	5
103	Pharmacology	4
104	Philosophy	10
105	Physical Sciences	3
106	Physics	62
107	Physiology, Development and Neuroscience	57
108	Plant Sciences	72
109	Psychiatry	19
110	Psychology	18
111	Pure Mathematics	34
112	Registrary's Office	9
113	Residences	1
114	Sainsbury Laboratory	8
115	Scott Polar Research Institute	2
116	Social Anthropology	10
117	Social and Political Science	9
118	South Asian Studies	1
119	Stem Cell Research Institute	33
120	Sustainability Leadership	9
121	Technology	3
122	Unit for Landscape Modelling	0
123	University Card Office	0

124	University Information Services	105
125	University Library	85
126	University Sports and Social Club	0
127	University of Cambridge Primary School	5
128	Veterinary Medicine	72
129	Veterinary Medicine Students Park and Cycle	0
130	Zoology	64

Appendix C - 2015 Site by Site Results

Site name	Academic Division	
Number of respondents	72	
Modal split Monday - Friday	Walk	14.87%
	Public bus	0.58%
	Drive on your own	25.07%
	Cycle	32.94%
	Car share (Driver)	3.79%
	Car Share (Non Driver)	2.33%
	Motor bike	2.62%
	Train	13.99%
	Worked at home	0.29%
	Guided Busway	2.92%
	Park & Ride	0.58%
	Uni 4 Bus	0.29%
Modal split Saturday - Sunday	Walk	16.67%
	Public bus	0.00%
	Drive on your own	41.67%
	Cycle	41.67%
	Car share (Driver)	0.00%
	Car Share (Non Driver)	0.00%
	Motor bike	0.00%
	Train	0.00%
	Worked at home	0.00%
	Guided Busway	0.00%
	Park & Ride	0.00%
	Uni 4 Bus	0.00%

Site name	Administrative Services	
Number of respondents	30	
Modal split Monday - Friday	Walk	10.85%
	Public bus	7.75%
	Drive on your own	27.91%
	Cycle	31.78%
	Car share (Driver)	3.88%
	Car Share (Non Driver)	0.00%
	Motor bike	1.55%
	Train	11.63%
	Worked at home	0.78%
	Guided Busway	3.88%
	Park & Ride	0.00%
	Uni 4 Bus	0.00%
Modal split Saturday - Sunday	Walk	0.00%
	Public bus	0.00%
	Drive on your own	18.18%
	Cycle	81.82%
	Car share (Driver)	0.00%

	Car Share (Non Driver)	0.00%
	Motor bike	0.00%
	Train	0.00%
	Worked at home	0.00%
	Guided Busway	0.00%
	Park & Ride	0.00%
	Uni 4 Bus	0.00%

Site name	Applied Mathematics and Theoretical Physics	
Number of respondents	58	
Modal split Monday - Friday	Walk	13.81%
	Public bus	2.24%
	Drive on your own	4.48%
	Cycle	63.43%
	Car share (Driver)	1.12%
	Car Share (Non Driver)	5.97%
	Motor bike	0.00%
	Train	8.21%
	Worked at home	0.75%
	Guided Busway	0.00%
	Park & Ride	0.00%
	Uni 4 Bus	0.00%
Modal split Saturday - Sunday	Walk	9.52%
	Public bus	0.00%
	Drive on your own	9.52%
	Cycle	71.43%
	Car share (Driver)	0.00%
	Car Share (Non Driver)	0.00%
	Motor bike	0.00%
	Train	0.00%
	Worked at home	9.52%
	Guided Busway	0.00%
	Park & Ride	0.00%
	Uni 4 Bus	0.00%

Site name	Archaeology and Anthropology Department	
Number of respondents	23	
Modal split Monday - Friday	Walk	27.10%
	Public bus	0.00%
	Drive on your own	9.35%
	Cycle	42.99%
	Car share (Driver)	10.28%
	Car Share (Non Driver)	2.80%
	Motor bike	0.00%
	Train	0.93%
	Worked at home	6.54%
	Guided Busway	0.00%

	Park & Ride	0.00%
	Uni 4 Bus	0.00%
Modal split Saturday - Sunday	Walk	20.69%
	Public bus	0.00%
	Drive on your own	10.34%
	Cycle	48.28%
	Car share (Driver)	3.45%
	Car Share (Non Driver)	0.00%
	Motor bike	0.00%
	Train	0.00%
	Worked at home	17.24%
	Guided Busway	0.00%
	Park & Ride	0.00%
	Uni 4 Bus	0.00%

Site name	Asian and Middle Eastern Studies	
Number of respondents	14	
Modal split Monday - Friday	Walk	22.81%
	Public bus	5.26%
	Drive on your own	33.33%
	Cycle	29.82%
	Car share (Driver)	0.00%
	Car Share (Non Driver)	8.77%
	Motor bike	0.00%
	Train	0.00%
	Worked at home	0.00%
	Guided Busway	0.00%
	Park & Ride	0.00%
	Uni 4 Bus	0.00%
Modal split Saturday - Sunday	Walk	33.33%
	Public bus	0.00%
	Drive on your own	0.00%
	Cycle	16.67%
	Car share (Driver)	0.00%
	Car Share (Non Driver)	16.67%
	Motor bike	0.00%
	Train	0.00%
	Worked at home	33.33%
	Guided Busway	0.00%
	Park & Ride	0.00%
	Uni 4 Bus	0.00%

Site name	Biochemistry	
Number of respondents	16	
Modal split Monday - Friday	Walk	15.79%
	Public bus	0.00%
	Drive on your own	7.89%

	Cycle	47.37%
	Car share (Driver)	2.63%
	Car Share (Non Driver)	6.58%
	Motor bike	6.58%
	Train	13.16%
	Worked at home	0.00%
	Guided Busway	0.00%
	Park & Ride	0.00%
	Uni 4 Bus	0.00%
Modal split Saturday - Sunday	Walk	18.75%
	Public bus	0.00%
	Drive on your own	12.50%
	Cycle	50.00%
	Car share (Driver)	0.00%
	Car Share (Non Driver)	0.00%
	Motor bike	0.00%
	Train	6.25%
	Worked at home	12.50%
	Guided Busway	0.00%
	Park & Ride	0.00%
	Uni 4 Bus	0.00%

Site name	Biological Sciences	
Number of respondents	19	
Modal split Monday - Friday	Walk	5.38%
	Public bus	4.30%
	Drive on your own	7.53%
	Cycle	43.01%
	Car share (Driver)	10.75%
	Car Share (Non Driver)	0.00%
	Motor bike	0.00%
	Train	16.13%
	Worked at home	7.53%
	Guided Busway	5.38%
	Park & Ride	0.00%
	Uni 4 Bus	0.00%
Modal split Saturday - Sunday	Walk	20.00%
	Public bus	0.00%
	Drive on your own	10.00%
	Cycle	40.00%
	Car share (Driver)	10.00%
	Car Share (Non Driver)	0.00%
	Motor bike	0.00%
	Train	0.00%
	Worked at home	20.00%
	Guided Busway	0.00%
	Park & Ride	0.00%

	Uni 4 Bus	0.00%

Site name	Cambridge Admissions Office	
Number of respondents	18	
Modal split Monday - Friday	Walk	14.87%
	Public bus	0.58%
	Drive on your own	25.07%
	Cycle	32.94%
	Car share (Driver)	3.79%
	Car Share (Non Driver)	2.33%
	Motor bike	2.62%
	Train	13.99%
	Worked at home	0.29%
	Guided Busway	2.92%
	Park & Ride	0.58%
	Uni 4 Bus	0.29%
Modal split Saturday - Sunday	Walk	16.67%
	Public bus	0.00%
	Drive on your own	41.67%
	Cycle	41.67%
	Car share (Driver)	0.00%
	Car Share (Non Driver)	0.00%
	Motor bike	0.00%
	Train	0.00%
	Worked at home	0.00%
	Guided Busway	0.00%
	Park & Ride	0.00%
	Uni 4 Bus	0.00%

Site name	Cambridge Archaeology Unit	
Number of respondents	11	
Modal split Monday - Friday	Walk	0.00%
	Public bus	0.00%
	Drive on your own	46.30%
	Cycle	25.93%
	Car share (Driver)	20.37%
	Car Share (Non Driver)	7.41%
	Motor bike	0.00%
	Train	0.00%
	Worked at home	0.00%
	Guided Busway	0.00%
	Park & Ride	0.00%
	Uni 4 Bus	0.00%
Modal split Saturday - Sunday	Walk	0.00%
	Public bus	0.00%
	Drive on your own	33.33%
	Cycle	50.00%

	Car share (Driver)	16.67%
	Car Share (Non Driver)	0.00%
	Motor bike	0.00%
	Train	0.00%
	Worked at home	0.00%
	Guided Busway	0.00%
	Park & Ride	0.00%
	Uni 4 Bus	0.00%

Site name	Cambridge Enterprise	
Number of respondents	34	
Modal split Monday - Friday	Walk	3.33%
	Public bus	3.33%
	Drive on your own	45.33%
	Cycle	38.00%
	Car share (Driver)	2.67%
	Car Share (Non Driver)	0.67%
	Motor bike	0.00%
	Train	3.33%
	Worked at home	0.67%
	Guided Busway	2.67%
	Park & Ride	0.00%
	Uni 4 Bus	0.67%
Modal split Saturday - Sunday	Walk	0.00%
	Public bus	0.00%
	Drive on your own	0.00%
	Cycle	100.00%
	Car share (Driver)	0.00%
	Car Share (Non Driver)	0.00%
	Motor bike	0.00%
	Train	0.00%
	Worked at home	0.00%
	Guided Busway	0.00%
	Park & Ride	0.00%
	Uni 4 Bus	0.00%

Site name	Cambridge Institute for Medical Research	
Number of respondents	35	
Modal split Monday - Friday	Walk	4.46%
	Public bus	3.82%
	Drive on your own	33.76%
	Cycle	40.13%
	Car share (Driver)	3.82%
	Car Share (Non Driver)	7.01%
	Motor bike	0.00%
	Train	5.10%
	Worked at home	1.27%

	Guided Busway	0.64%
	Park & Ride	0.00%
	Uni 4 Bus	0.00%
Modal split Saturday - Sunday	Walk	0.00%
	Public bus	0.00%
	Drive on your own	14.29%
	Cycle	64.29%
	Car share (Driver)	0.00%
	Car Share (Non Driver)	0.00%
	Motor bike	0.00%
	Train	0.00%
	Worked at home	21.43%
	Guided Busway	0.00%
	Park & Ride	0.00%
	Uni 4 Bus	0.00%

Site name	CRASSH	
Number of respondents	16	
Modal split Monday - Friday	Walk	14.80%
	Public bus	9.21%
	Drive on your own	6.91%
	Cycle	51.64%
	Car share (Driver)	3.29%
	Car Share (Non Driver)	3.29%
	Motor bike	2.30%
	Train	7.57%
	Worked at home	0.99%
	Guided Busway	0.00%
	Park & Ride	0.00%
	Uni 4 Bus	0.00%
Modal split Saturday - Sunday	Walk	10.81%
	Public bus	16.22%
	Drive on your own	10.81%
	Cycle	40.54%
	Car share (Driver)	0.00%
	Car Share (Non Driver)	5.41%
	Motor bike	5.41%
	Train	0.00%
	Worked at home	10.81%
	Guided Busway	0.00%
	Park & Ride	0.00%
	Uni 4 Bus	0.00%

Site name	CRUK Cambridge Institute	
Number of respondents	85	
Modal split Monday - Friday	Walk	14.80%
	Public bus	9.21%

	Drive on your own	6.91%
	Cycle	51.64%
	Car share (Driver)	3.29%
	Car Share (Non Driver)	3.29%
	Motor bike	2.30%
	Train	7.57%
	Worked at home	0.99%
	Guided Busway	0.00%
	Park & Ride	0.00%
	Uni 4 Bus	0.00%
Modal split Saturday - Sunday	Walk	10.81%
	Public bus	16.22%
	Drive on your own	10.81%
	Cycle	40.54%
	Car share (Driver)	0.00%
	Car Share (Non Driver)	5.41%
	Motor bike	5.41%
	Train	0.00%
	Worked at home	10.81%
	Guided Busway	0.00%
	Park & Ride	0.00%
	Uni 4 Bus	0.00%

Site name	Central Bio-medical Services (Individual Contact)	
Number of respondents	24	
Modal split Monday - Friday	Walk	0.00%
	Public bus	4.63%
	Drive on your own	42.59%
	Cycle	17.59%
	Car share (Driver)	12.96%
	Car Share (Non Driver)	7.41%
	Motor bike	4.63%
	Train	9.26%
	Worked at home	0.93%
	Guided Busway	0.00%
	Park & Ride	0.00%
	Uni 4 Bus	0.00%
Modal split Saturday - Sunday	Walk	0.00%
	Public bus	0.00%
	Drive on your own	36.36%
	Cycle	27.27%
	Car share (Driver)	0.00%
	Car Share (Non Driver)	18.18%
	Motor bike	0.00%
	Train	0.00%
	Worked at home	18.18%
	Guided Busway	0.00%

	Park & Ride	0.00%
	Uni 4 Bus	0.00%

Site name	Central Offices	
Number of respondents	12	
Modal split Monday - Friday	Walk	0.00%
	Public bus	0.00%
	Drive on your own	73.68%
	Cycle	10.53%
	Car share (Driver)	8.77%
	Car Share (Non Driver)	7.02%
	Motor bike	0.00%
	Train	0.00%
	Worked at home	0.00%
	Guided Busway	0.00%
	Park & Ride	0.00%
	Uni 4 Bus	0.00%
Modal split Saturday - Sunday	Walk	0.00%
	Public bus	0.00%
	Drive on your own	14.29%
	Cycle	85.71%
	Car share (Driver)	0.00%
	Car Share (Non Driver)	0.00%
	Motor bike	0.00%
	Train	0.00%
	Worked at home	0.00%
	Guided Busway	0.00%
	Park & Ride	0.00%
	Uni 4 Bus	0.00%

Site name	Centre for Mathematical Sciences	
Number of respondents	28	
Modal split Monday - Friday	Walk	14.87%
	Public bus	0.58%
	Drive on your own	23.91%
	Cycle	34.11%
	Car share (Driver)	3.79%
	Car Share (Non Driver)	2.33%
	Motor bike	2.62%
	Train	13.99%
	Worked at home	0.29%
	Guided Busway	2.92%
	Park & Ride	0.58%
	Uni 4 Bus	0.29%
Modal split Saturday - Sunday	Walk	16.67%
	Public bus	0.00%
	Drive on your own	41.67%

	Cycle	41.67%
	Car share (Driver)	0.00%
	Car Share (Non Driver)	0.00%
	Motor bike	0.00%
	Train	0.00%
	Worked at home	0.00%
	Guided Busway	0.00%
	Park & Ride	0.00%
	Uni 4 Bus	0.00%

Site name	Chemical Engineering and Biotechnology	
Number of respondents	44	
Modal split Monday - Friday	Walk	11.17%
	Public bus	11.17%
	Drive on your own	10.68%
	Cycle	39.81%
	Car share (Driver)	11.17%
	Car Share (Non Driver)	1.94%
	Motor bike	0.00%
	Train	6.31%
	Worked at home	0.97%
	Guided Busway	6.80%
	Park & Ride	0.00%
	Uni 4 Bus	0.00%
Modal split Saturday - Sunday	Walk	22.50%
	Public bus	0.00%
	Drive on your own	7.50%
	Cycle	47.50%
	Car share (Driver)	2.50%
	Car Share (Non Driver)	0.00%
	Motor bike	0.00%
	Train	2.50%
	Worked at home	17.50%
	Guided Busway	0.00%
	Park & Ride	0.00%
	Uni 4 Bus	0.00%

Site name	Chemistry	
Number of respondents	103	
Modal split Monday - Friday	Walk	17.04%
	Public bus	3.04%
	Drive on your own	12.98%
	Cycle	49.29%
	Car share (Driver)	4.06%
	Car Share (Non Driver)	1.62%
	Motor bike	0.00%
	Train	6.29%

	Worked at home	2.84%
	Guided Busway	1.83%
	Park & Ride	1.01%
	Uni 4 Bus	0.00%
Modal split Saturday - Sunday	Walk	37.21%
	Public bus	2.33%
	Drive on your own	0.00%
	Cycle	30.23%
	Car share (Driver)	0.00%
	Car Share (Non Driver)	0.00%
	Motor bike	0.00%
	Train	0.00%
	Worked at home	30.23%
	Guided Busway	0.00%
	Park & Ride	0.00%
	Uni 4 Bus	0.00%

Site name	Classics	
Number of respondents	12	
Modal split Monday - Friday	Walk	28.07%
	Public bus	0.00%
	Drive on your own	8.77%
	Cycle	56.14%
	Car share (Driver)	0.00%
	Car Share (Non Driver)	0.00%
	Motor bike	0.00%
	Train	7.02%
	Worked at home	0.00%
	Guided Busway	0.00%
	Park & Ride	0.00%
	Uni 4 Bus	0.00%
Modal split Saturday - Sunday	Walk	50.00%
	Public bus	0.00%
	Drive on your own	0.00%
	Cycle	33.33%
	Car share (Driver)	0.00%
	Car Share (Non Driver)	0.00%
	Motor bike	0.00%
	Train	0.00%
	Worked at home	16.67%
	Guided Busway	0.00%
	Park & Ride	0.00%
	Uni 4 Bus	0.00%

Site name	Clinical Medicine (Individual Contacts)	
Number of respondents	63	
Modal split Monday - Friday	Walk	6.00%

	Public bus	5.67%
	Drive on your own	32.00%
	Cycle	43.00%
	Car share (Driver)	5.67%
	Car Share (Non Driver)	3.00%
	Motor bike	0.00%
	Train	0.00%
	Worked at home	1.67%
	Guided Busway	3.00%
	Park & Ride	0.00%
	Uni 4 Bus	0.00%
Modal split Saturday - Sunday	Walk	10.71%
	Public bus	7.14%
	Drive on your own	25.00%
	Cycle	35.71%
	Car share (Driver)	0.00%
	Car Share (Non Driver)	0.00%
	Motor bike	0.00%
	Train	0.00%
	Worked at home	21.43%
	Guided Busway	0.00%
	Park & Ride	0.00%
	Uni 4 Bus	0.00%

Site name	Clinical School	
Number of respondents	43	
Modal split Monday - Friday	Walk	11.17%
	Public bus	11.17%
	Drive on your own	10.68%
	Cycle	39.81%
	Car share (Driver)	11.17%
	Car Share (Non Driver)	1.94%
	Motor bike	0.00%
	Train	6.31%
	Worked at home	0.97%
	Guided Busway	6.80%
	Park & Ride	0.00%
	Uni 4 Bus	0.00%
Modal split Saturday - Sunday	Walk	22.50%
	Public bus	0.00%
	Drive on your own	7.50%
	Cycle	47.50%
	Car share (Driver)	2.50%
	Car Share (Non Driver)	0.00%
	Motor bike	0.00%
	Train	2.50%
	Worked at home	17.50%

	Guided Busway	0.00%
	Park & Ride	0.00%
	Uni 4 Bus	0.00%

Site name	Computer Laboratory	
Number of respondents	59	
Modal split Monday - Friday	Walk	4.80%
	Public bus	1.11%
	Drive on your own	22.51%
	Cycle	52.40%
	Car share (Driver)	5.54%
	Car Share (Non Driver)	3.69%
	Motor bike	1.11%
	Train	5.17%
	Worked at home	3.32%
	Guided Busway	0.00%
	Park & Ride	0.37%
	Uni 4 Bus	0.37%
Modal split Saturday - Sunday	Walk	3.92%
	Public bus	1.96%
	Drive on your own	7.84%
	Cycle	54.90%
	Car share (Driver)	3.92%
	Car Share (Non Driver)	3.92%
	Motor bike	0.00%
	Train	0.00%
	Worked at home	23.53%
	Guided Busway	0.00%
	Park & Ride	0.00%
	Uni 4 Bus	0.00%

Site name	Continuing Education	
Number of respondents	23	
Modal split Monday - Friday	Walk	0.00%
	Public bus	3.70%
	Drive on your own	80.56%
	Cycle	11.11%
	Car share (Driver)	0.00%
	Car Share (Non Driver)	4.63%
	Motor bike	0.00%
	Train	0.00%
	Worked at home	0.00%
	Guided Busway	0.00%
	Park & Ride	0.00%
	Uni 4 Bus	0.00%
Modal split Saturday - Sunday	Walk	0.00%
	Public bus	0.00%

	Drive on your own	70.00%
	Cycle	30.00%
	Car share (Driver)	0.00%
	Car Share (Non Driver)	0.00%
	Motor bike	0.00%
	Train	0.00%
	Worked at home	0.00%
	Guided Busway	0.00%
	Park & Ride	0.00%
	Uni 4 Bus	0.00%

Site name	Counselling Service	
Number of respondents	15	
Modal split Monday - Friday	Walk	0.00%
	Public bus	8.82%
	Drive on your own	29.41%
	Cycle	47.06%
	Car share (Driver)	0.00%
	Car Share (Non Driver)	7.35%
	Motor bike	0.00%
	Train	7.35%
	Worked at home	0.00%
	Guided Busway	0.00%
	Park & Ride	0.00%
	Uni 4 Bus	0.00%
Modal split Saturday - Sunday	Walk	0.00%
	Public bus	0.00%
	Drive on your own	0.00%
	Cycle	0.00%
	Car share (Driver)	0.00%
	Car Share (Non Driver)	0.00%
	Motor bike	0.00%
	Train	0.00%
	Worked at home	0.00%
	Guided Busway	0.00%
	Park & Ride	0.00%
	Uni 4 Bus	0.00%

Site name	CRASSH	
Number of respondents	16	
Modal split Monday - Friday	Walk	26.67%
	Public bus	5.33%
	Drive on your own	2.67%
	Cycle	57.33%
	Car share (Driver)	0.00%
	Car Share (Non Driver)	0.00%
	Motor bike	0.00%

	Train	8.00%
	Worked at home	0.00%
	Guided Busway	0.00%
	Park & Ride	0.00%
	Uni 4 Bus	1.33%
Modal split Saturday - Sunday	Walk	33.33%
	Public bus	0.00%
	Drive on your own	0.00%
	Cycle	50.00%
	Car share (Driver)	0.00%
	Car Share (Non Driver)	0.00%
	Motor bike	0.00%
	Train	0.00%
	Worked at home	16.67%
	Guided Busway	0.00%
	Park & Ride	0.00%
	Uni 4 Bus	0.00%

Site name	CRUK Cambridge Institute	
Number of respondents	85	
Modal split Monday - Friday	Walk	4.90%
	Public bus	3.43%
	Drive on your own	20.10%
	Cycle	50.25%
	Car share (Driver)	8.58%
	Car Share (Non Driver)	3.19%
	Motor bike	2.94%
	Train	1.47%
	Worked at home	1.96%
	Guided Busway	3.19%
	Park & Ride	0.00%
	Uni 4 Bus	0.25%
Modal split Saturday - Sunday	Walk	10.26%
	Public bus	2.56%
	Drive on your own	25.64%
	Cycle	23.08%
	Car share (Driver)	5.13%
	Car Share (Non Driver)	0.00%
	Motor bike	0.00%
	Train	0.00%
	Worked at home	33.33%
	Guided Busway	0.00%
	Park & Ride	0.00%
	Uni 4 Bus	0.00%

Site name	Department of Politics and International Studies
Number of respondents	15

Modal split Monday - Friday	Walk	12.33%
	Public bus	0.00%
	Drive on your own	21.92%
	Cycle	45.21%
	Car share (Driver)	0.00%
	Car Share (Non Driver)	0.00%
	Motor bike	0.00%
	Train	20.55%
	Worked at home	0.00%
	Guided Busway	0.00%
	Park & Ride	0.00%
	Uni 4 Bus	0.00%
Modal split Saturday - Sunday	Walk	20.00%
	Public bus	0.00%
	Drive on your own	20.00%
	Cycle	60.00%
	Car share (Driver)	0.00%
	Car Share (Non Driver)	0.00%
	Motor bike	0.00%
	Train	0.00%
	Worked at home	0.00%
	Guided Busway	0.00%
	Park & Ride	0.00%
	Uni 4 Bus	0.00%

Site name	Department of Public Health and Primary Care	
Number of respondents	18	
Modal split Monday - Friday	Walk	4.08%
	Public bus	0.29%
	Drive on your own	2.92%
	Cycle	88.05%
	Car share (Driver)	0.00%
	Car Share (Non Driver)	0.00%
	Motor bike	0.00%
	Train	3.21%
	Worked at home	1.46%
	Guided Busway	0.00%
	Park & Ride	0.00%
	Uni 4 Bus	0.00%
Modal split Saturday - Sunday	Walk	0.00%
	Public bus	0.00%
	Drive on your own	0.00%
	Cycle	98.20%
	Car share (Driver)	0.00%
	Car Share (Non Driver)	0.00%
	Motor bike	0.00%
	Train	0.00%

	Worked at home	1.80%
	Guided Busway	0.00%
	Park & Ride	0.00%
	Uni 4 Bus	0.00%

Site name	Divinity	
Number of respondents	11	
Modal split Monday - Friday	Walk	15.69%
	Public bus	0.00%
	Drive on your own	7.84%
	Cycle	52.94%
	Car share (Driver)	5.88%
	Car Share (Non Driver)	3.92%
	Motor bike	0.00%
	Train	13.73%
	Worked at home	0.00%
	Guided Busway	0.00%
	Park & Ride	0.00%
	Uni 4 Bus	0.00%
Modal split Saturday - Sunday	Walk	18.18%
	Public bus	0.00%
	Drive on your own	0.00%
	Cycle	45.45%
	Car share (Driver)	0.00%
	Car Share (Non Driver)	0.00%
	Motor bike	0.00%
	Train	18.18%
	Worked at home	18.18%
	Guided Busway	0.00%
	Park & Ride	0.00%
	Uni 4 Bus	0.00%

Site name	Economics	
Number of respondents	14	
Modal split Monday - Friday	Walk	32.31%
	Public bus	0.00%
	Drive on your own	15.38%
	Cycle	47.69%
	Car share (Driver)	0.00%
	Car Share (Non Driver)	0.00%
	Motor bike	0.00%
	Train	4.62%
	Worked at home	0.00%
	Guided Busway	0.00%
	Park & Ride	0.00%
	Uni 4 Bus	1.54%
Modal split Saturday -	Walk	33.33%

Sunday	Public bus	0.00%
	Drive on your own	0.00%
	Cycle	33.33%
	Car share (Driver)	0.00%
	Car Share (Non Driver)	0.00%
	Motor bike	0.00%
	Train	0.00%
	Worked at home	33.33%
	Guided Busway	0.00%
	Park & Ride	0.00%
	Uni 4 Bus	0.00%

Site name	Education Section (Individual Contact)	
Number of respondents	19	
Modal split Monday - Friday	Walk	10.87%
	Public bus	0.00%
	Drive on your own	52.17%
	Cycle	33.70%
	Car share (Driver)	1.09%
	Car Share (Non Driver)	0.00%
	Motor bike	0.00%
	Train	0.00%
	Worked at home	2.17%
	Guided Busway	0.00%
	Park & Ride	0.00%
	Uni 4 Bus	0.00%
Modal split Saturday - Sunday	Walk	0.00%
	Public bus	0.00%
	Drive on your own	58.82%
	Cycle	35.29%
	Car share (Driver)	5.88%
	Car Share (Non Driver)	0.00%
	Motor bike	0.00%
	Train	0.00%
	Worked at home	0.00%
	Guided Busway	0.00%
	Park & Ride	0.00%
	Uni 4 Bus	0.00%

Site name	Estate Management	
Number of respondents	122	
Modal split Monday - Friday	Walk	6.07%
	Public bus	5.03%
	Drive on your own	33.28%
	Cycle	27.90%
	Car share (Driver)	8.67%
	Car Share (Non Driver)	5.20%

	Motor bike	5.55%
	Train	6.41%
	Worked at home	0.52%
	Guided Busway	0.69%
	Park & Ride	0.69%
	Uni 4 Bus	0.00%
Modal split Saturday - Sunday	Walk	3.03%
	Public bus	1.52%
	Drive on your own	22.73%
	Cycle	57.58%
	Car share (Driver)	3.03%
	Car Share (Non Driver)	0.00%
	Motor bike	6.06%
	Train	0.00%
	Worked at home	6.06%
	Guided Busway	0.00%
	Park & Ride	0.00%
	Uni 4 Bus	0.00%

Site name	Faculty of Education	
Number of respondents	43	
Modal split Monday - Friday	Walk	10.53%
	Public bus	4.09%
	Drive on your own	39.77%
	Cycle	26.32%
	Car share (Driver)	5.85%
	Car Share (Non Driver)	0.58%
	Motor bike	0.58%
	Train	11.70%
	Worked at home	0.58%
	Guided Busway	0.00%
	Park & Ride	0.00%
	Uni 4 Bus	0.58%
Modal split Saturday - Sunday	Walk	16.67%
	Public bus	0.00%
	Drive on your own	25.00%
	Cycle	0.00%
	Car share (Driver)	8.33%
	Car Share (Non Driver)	0.00%
	Motor bike	0.00%
	Train	0.00%
	Worked at home	50.00%
	Guided Busway	0.00%
	Park & Ride	0.00%
	Uni 4 Bus	0.00%

Site name	Finance Division	
Number of respondents	59	
Modal split Monday - Friday	Walk	1.87%
	Public bus	1.87%
	Drive on your own	55.60%
	Cycle	19.03%
	Car share (Driver)	7.84%
	Car Share (Non Driver)	5.22%
	Motor bike	0.00%
	Train	3.36%
	Worked at home	3.36%
	Guided Busway	1.87%
	Park & Ride	0.00%
	Uni 4 Bus	0.37%
Modal split Saturday - Sunday	Walk	28.57%
	Public bus	0.00%
	Drive on your own	28.57%
	Cycle	14.29%
	Car share (Driver)	0.00%
	Car Share (Non Driver)	28.57%
	Motor bike	0.00%
	Train	0.00%
	Worked at home	0.00%
	Guided Busway	0.00%
	Park & Ride	0.00%
	Uni 4 Bus	0.00%

Site name	Fitzwilliam Museum	
Number of respondents	36	
Modal split Monday - Friday	Walk	10.71%
	Public bus	16.07%
	Drive on your own	22.02%
	Cycle	22.62%
	Car share (Driver)	2.98%
	Car Share (Non Driver)	1.19%
	Motor bike	4.76%
	Train	17.86%
	Worked at home	1.79%
	Guided Busway	0.00%
	Park & Ride	0.00%
	Uni 4 Bus	0.00%
Modal split Saturday - Sunday	Walk	0.00%
	Public bus	0.00%
	Drive on your own	9.09%
	Cycle	36.36%
	Car share (Driver)	9.09%
	Car Share (Non Driver)	0.00%

	Motor bike	18.18%
	Train	0.00%
	Worked at home	27.27%
	Guided Busway	0.00%
	Park & Ride	0.00%
	Uni 4 Bus	0.00%

Site name	Genetics	
Number of respondents	56	
Modal split Monday - Friday	Walk	6.30%
	Public bus	8.15%
	Drive on your own	14.81%
	Cycle	59.26%
	Car share (Driver)	1.48%
	Car Share (Non Driver)	0.74%
	Motor bike	0.00%
	Train	7.41%
	Worked at home	0.00%
	Guided Busway	1.85%
	Park & Ride	0.00%
	Uni 4 Bus	0.00%
Modal split Saturday - Sunday	Walk	10.53%
	Public bus	7.02%
	Drive on your own	21.05%
	Cycle	50.88%
	Car share (Driver)	0.00%
	Car Share (Non Driver)	0.00%
	Motor bike	0.00%
	Train	3.51%
	Worked at home	7.02%
	Guided Busway	0.00%
	Park & Ride	0.00%
	Uni 4 Bus	0.00%

Site name	Geography	
Number of respondents	28	
Modal split Monday - Friday	Walk	3.15%
	Public bus	11.81%
	Drive on your own	22.05%
	Cycle	51.18%
	Car share (Driver)	3.15%
	Car Share (Non Driver)	0.79%
	Motor bike	0.79%
	Train	3.15%
	Worked at home	0.00%
	Guided Busway	3.94%
	Park & Ride	0.00%
	Uni 4 Bus	0.00%

Modal split Saturday - Sunday	Walk	0.00%
	Public bus	0.00%
	Drive on your own	0.00%
	Cycle	0.00%
	Car share (Driver)	33.33%
	Car Share (Non Driver)	0.00%
	Motor bike	0.00%
	Train	0.00%
	Worked at home	66.67%
	Guided Busway	0.00%
	Park & Ride	0.00%
	Uni 4 Bus	0.00%

Site name	Gurdon Institute	
Number of respondents	40	
Modal split Monday - Friday	Walk	7.94%
	Public bus	0.00%
	Drive on your own	20.63%
	Cycle	57.14%
	Car share (Driver)	3.70%
	Car Share (Non Driver)	2.65%
	Motor bike	0.00%
	Train	7.94%
	Worked at home	0.00%
	Guided Busway	0.00%
	Park & Ride	0.00%
	Uni 4 Bus	0.00%
Modal split Saturday - Sunday	Walk	27.78%
	Public bus	0.00%
	Drive on your own	16.67%
	Cycle	55.56%
	Car share (Driver)	0.00%
	Car Share (Non Driver)	0.00%
	Motor bike	0.00%
	Train	0.00%
	Worked at home	0.00%
	Guided Busway	0.00%
	Park & Ride	0.00%
	Uni 4 Bus	0.00%

Site name	History and Philosophy of Science	
Number of respondents	14	
Modal split Monday - Friday	Walk	15.87%
	Public bus	17.46%
	Drive on your own	11.11%
	Cycle	39.68%
	Car share (Driver)	0.00%

	Car Share (Non Driver)	0.00%
	Motor bike	0.00%
	Train	14.29%
	Worked at home	1.59%
	Guided Busway	0.00%
	Park & Ride	0.00%
	Uni 4 Bus	0.00%
Modal split Saturday - Sunday	Walk	12.50%
	Public bus	0.00%
	Drive on your own	0.00%
	Cycle	62.50%
	Car share (Driver)	0.00%
	Car Share (Non Driver)	0.00%
	Motor bike	0.00%
	Train	0.00%
	Worked at home	25.00%
	Guided Busway	0.00%
	Park & Ride	0.00%
	Uni 4 Bus	0.00%

Site name	Institute of Medical Research (Individual Contact) P&C	
Number of respondents	17	
Modal split Monday - Friday	Walk	6.10%
	Public bus	6.10%
	Drive on your own	31.71%
	Cycle	43.90%
	Car share (Driver)	0.00%
	Car Share (Non Driver)	0.00%
	Motor bike	0.00%
	Train	4.88%
	Worked at home	4.88%
	Guided Busway	2.44%
	Park & Ride	0.00%
	Uni 4 Bus	0.00%
Modal split Saturday - Sunday	Walk	0.00%
	Public bus	0.00%
	Drive on your own	33.33%
	Cycle	33.33%
	Car share (Driver)	0.00%
	Car Share (Non Driver)	0.00%
	Motor bike	0.00%
	Train	0.00%
	Worked at home	33.33%
	Guided Busway	0.00%
	Park & Ride	0.00%
	Uni 4 Bus	0.00%

Site name	Institute of Public Health	
Number of respondents	47	
Modal split Monday - Friday	Walk	4.06%
	Public bus	0.51%
	Drive on your own	43.15%
	Cycle	33.50%
	Car share (Driver)	3.05%
	Car Share (Non Driver)	0.00%
	Motor bike	0.00%
	Train	7.61%
	Worked at home	8.12%
	Guided Busway	0.00%
	Park & Ride	0.00%
	Uni 4 Bus	0.00%
Modal split Saturday - Sunday	Walk	0.00%
	Public bus	0.00%
	Drive on your own	33.33%
	Cycle	0.00%
	Car share (Driver)	0.00%
	Car Share (Non Driver)	0.00%
	Motor bike	0.00%
	Train	0.00%
	Worked at home	66.67%
	Guided Busway	0.00%
	Park & Ride	0.00%
	Uni 4 Bus	0.00%

Site name	Judge Business School plus Entrepreneurial Learning	
Number of respondents	17	
Modal split Monday - Friday	Walk	14.83%
	Public bus	0.87%
	Drive on your own	23.84%
	Cycle	34.01%
	Car share (Driver)	3.78%
	Car Share (Non Driver)	2.33%
	Motor bike	2.62%
	Train	13.95%
	Worked at home	0.29%
	Guided Busway	2.91%
	Park & Ride	0.58%
	Uni 4 Bus	0.29%
Modal split Saturday - Sunday	Walk	14.83%
	Public bus	0.87%
	Drive on your own	23.84%
	Cycle	34.01%
	Car share (Driver)	3.78%
	Car Share (Non Driver)	2.33%

	Motor bike	2.62%
	Train	13.95%
	Worked at home	0.29%
	Guided Busway	2.91%
	Park & Ride	0.58%
	Uni 4 Bus	0.29%

Site name	Land Economy	
Number of respondents	19	
Modal split Monday - Friday	Walk	22.73%
	Public bus	2.27%
	Drive on your own	22.73%
	Cycle	31.82%
	Car share (Driver)	5.68%
	Car Share (Non Driver)	0.00%
	Motor bike	1.14%
	Train	6.82%
	Worked at home	1.14%
	Guided Busway	5.68%
	Park & Ride	0.00%
	Uni 4 Bus	0.00%
Modal split Saturday - Sunday	Walk	60.00%
	Public bus	0.00%
	Drive on your own	0.00%
	Cycle	0.00%
	Car share (Driver)	0.00%
	Car Share (Non Driver)	0.00%
	Motor bike	0.00%
	Train	0.00%
	Worked at home	40.00%
	Guided Busway	0.00%
	Park & Ride	0.00%
	Uni 4 Bus	0.00%

Site name	Law	
Number of respondents	26	
Modal split Monday - Friday	Walk	18.49%
	Public bus	0.00%
	Drive on your own	27.73%
	Cycle	50.42%
	Car share (Driver)	1.68%
	Car Share (Non Driver)	0.00%
	Motor bike	0.00%
	Train	0.00%
	Worked at home	1.68%
	Guided Busway	0.00%
	Park & Ride	0.00%
	Uni 4 Bus	0.00%

Modal split Saturday - Sunday	Walk	31.25%
	Public bus	0.00%
	Drive on your own	0.00%
	Cycle	31.25%
	Car share (Driver)	6.25%
	Car Share (Non Driver)	0.00%
	Motor bike	0.00%
	Train	0.00%
	Worked at home	31.25%
	Guided Busway	0.00%
	Park & Ride	0.00%
	Uni 4 Bus	0.00%

Site name	Library	
Number of respondents	12	
Modal split Monday - Friday	Walk	9.09%
	Public bus	3.64%
	Drive on your own	16.36%
	Cycle	47.27%
	Car share (Driver)	10.91%
	Car Share (Non Driver)	12.73%
	Motor bike	0.00%
	Train	0.00%
	Worked at home	0.00%
	Guided Busway	0.00%
	Park & Ride	0.00%
	Uni 4 Bus	0.00%
Modal split Saturday - Sunday	Walk	0.00%
	Public bus	0.00%
	Drive on your own	0.00%
	Cycle	100.00%
	Car share (Driver)	0.00%
	Car Share (Non Driver)	0.00%
	Motor bike	0.00%
	Train	0.00%
	Worked at home	0.00%
	Guided Busway	0.00%
	Park & Ride	0.00%
	Uni 4 Bus	0.00%

Site name	Materials Science and Metallurgy	
Number of respondents	43	
Modal split Monday - Friday	Walk	1.98%
	Public bus	0.00%
	Drive on your own	7.92%
	Cycle	76.73%
	Car share (Driver)	6.93%

	Car Share (Non Driver)	1.49%
	Motor bike	0.00%
	Train	2.48%
	Worked at home	0.00%
	Guided Busway	2.48%
	Park & Ride	0.00%
	Uni 4 Bus	0.00%
Modal split Saturday - Sunday	Walk	17.65%
	Public bus	0.00%
	Drive on your own	0.00%
	Cycle	76.47%
	Car share (Driver)	0.00%
	Car Share (Non Driver)	0.00%
	Motor bike	0.00%
	Train	0.00%
	Worked at home	5.88%
	Guided Busway	0.00%
	Park & Ride	0.00%
	Uni 4 Bus	0.00%

Site name	Music	
Number of respondents	17	
Modal split Monday - Friday	Walk	21.13%
	Public bus	0.00%
	Drive on your own	29.58%
	Cycle	38.03%
	Car share (Driver)	7.04%
	Car Share (Non Driver)	0.00%
	Motor bike	0.00%
	Train	0.00%
	Worked at home	4.23%
	Guided Busway	0.00%
	Park & Ride	0.00%
	Uni 4 Bus	0.00%
Modal split Saturday - Sunday	Walk	0.00%
	Public bus	0.00%
	Drive on your own	40.00%
	Cycle	60.00%
	Car share (Driver)	0.00%
	Car Share (Non Driver)	0.00%
	Motor bike	0.00%
	Train	0.00%
	Worked at home	0.00%
	Guided Busway	0.00%
	Park & Ride	0.00%
	Uni 4 Bus	0.00%

Site name	Other	
Number of respondents	136	
Modal split Monday - Friday	Walk	9.21%
	Public bus	5.65%
	Drive on your own	31.83%
	Cycle	38.61%
	Car share (Driver)	4.85%
	Car Share (Non Driver)	2.26%
	Motor bike	0.00%
	Train	3.07%
	Worked at home	1.78%
	Guided Busway	2.75%
	Park & Ride	0.00%
	Uni 4 Bus	0.00%
Modal split Saturday - Sunday	Walk	16.46%
	Public bus	7.59%
	Drive on your own	21.52%
	Cycle	48.10%
	Car share (Driver)	2.53%
	Car Share (Non Driver)	0.00%
	Motor bike	0.00%
	Train	0.00%
	Worked at home	3.80%
	Guided Busway	0.00%
	Park & Ride	0.00%
	Uni 4 Bus	0.00%

Site name	Physics	
Number of respondents	62	
Modal split Monday - Friday	Walk	9.79%
	Public bus	3.85%
	Drive on your own	20.98%
	Cycle	57.34%
	Car share (Driver)	5.94%
	Car Share (Non Driver)	1.05%
	Motor bike	0.00%
	Train	1.05%
	Worked at home	0.00%
	Guided Busway	0.00%
	Park & Ride	0.00%
	Uni 4 Bus	0.00%
Modal split Saturday - Sunday	Walk	25.00%
	Public bus	0.00%
	Drive on your own	8.33%
	Cycle	66.67%
	Car share (Driver)	0.00%
	Car Share (Non Driver)	0.00%

	Motor bike	0.00%
	Train	0.00%
	Worked at home	0.00%
	Guided Busway	0.00%
	Park & Ride	0.00%
	Uni 4 Bus	0.00%

Site name	Physiology, Development and Neuroscience	
Number of respondents	57	
Modal split Monday - Friday	Walk	11.85%
	Public bus	0.37%
	Drive on your own	8.52%
	Cycle	55.93%
	Car share (Driver)	4.44%
	Car Share (Non Driver)	5.56%
	Motor bike	1.48%
	Train	5.93%
	Worked at home	1.11%
	Guided Busway	4.81%
	Park & Ride	0.00%
	Uni 4 Bus	0.00%
Modal split Saturday - Sunday	Walk	9.62%
	Public bus	0.00%
	Drive on your own	7.69%
	Cycle	48.08%
	Car share (Driver)	5.77%
	Car Share (Non Driver)	3.85%
	Motor bike	0.00%
	Train	5.77%
	Worked at home	19.23%
	Guided Busway	0.00%
	Park & Ride	0.00%
	Uni 4 Bus	0.00%

Site name	Plant Sciences	
Number of respondents	72	
Modal split Monday - Friday	Walk	14.87%
	Public bus	0.58%
	Drive on your own	25.07%
	Cycle	32.94%
	Car share (Driver)	3.79%
	Car Share (Non Driver)	2.33%
	Motor bike	2.62%
	Train	13.99%
	Worked at home	0.29%
	Guided Busway	2.92%
	Park & Ride	0.58%
	Uni 4 Bus	0.29%

Modal split Saturday - Sunday	Walk	16.67%
	Public bus	0.00%
	Drive on your own	41.67%
	Cycle	41.67%
	Car share (Driver)	0.00%
	Car Share (Non Driver)	0.00%
	Motor bike	0.00%
	Train	0.00%
	Worked at home	0.00%
	Guided Busway	0.00%
	Park & Ride	0.00%
	Uni 4 Bus	0.00%

Site name	Psychiatry	
Number of respondents	19	
Modal split Monday - Friday	Walk	14.87%
	Public bus	0.58%
	Drive on your own	25.07%
	Cycle	32.94%
	Car share (Driver)	3.79%
	Car Share (Non Driver)	2.33%
	Motor bike	2.62%
	Train	13.99%
	Worked at home	0.29%
	Guided Busway	2.92%
	Park & Ride	0.58%
	Uni 4 Bus	0.29%
Modal split Saturday - Sunday	Walk	16.67%
	Public bus	0.00%
	Drive on your own	41.67%
	Cycle	41.67%
	Car share (Driver)	0.00%
	Car Share (Non Driver)	0.00%
	Motor bike	0.00%
	Train	0.00%
	Worked at home	0.00%
	Guided Busway	0.00%
	Park & Ride	0.00%
	Uni 4 Bus	0.00%

Site name	Psychology	
Number of respondents	17	
Modal split Monday - Friday	Walk	14.87%
	Public bus	0.58%
	Drive on your own	25.07%
	Cycle	32.94%
	Car share (Driver)	3.79%

	Car Share (Non Driver)	2.33%
	Motor bike	2.62%
	Train	13.99%
	Worked at home	0.29%
	Guided Busway	2.92%
	Park & Ride	0.58%
	Uni 4 Bus	0.29%
Modal split Saturday - Sunday	Walk	16.67%
	Public bus	0.00%
	Drive on your own	41.67%
	Cycle	41.67%
	Car share (Driver)	0.00%
	Car Share (Non Driver)	0.00%
	Motor bike	0.00%
	Train	0.00%
	Worked at home	0.00%
	Guided Busway	0.00%
	Park & Ride	0.00%
	Uni 4 Bus	0.00%

Site name	Pure Mathematics	
Number of respondents	34	
Modal split Monday - Friday	Walk	14.87%
	Public bus	0.58%
	Drive on your own	25.07%
	Cycle	32.94%
	Car share (Driver)	3.79%
	Car Share (Non Driver)	2.33%
	Motor bike	2.62%
	Train	13.99%
	Worked at home	0.29%
	Guided Busway	2.92%
	Park & Ride	0.58%
	Uni 4 Bus	0.29%
Modal split Saturday - Sunday	Walk	16.67%
	Public bus	0.00%
	Drive on your own	41.67%
	Cycle	41.67%
	Car share (Driver)	0.00%
	Car Share (Non Driver)	0.00%
	Motor bike	0.00%
	Train	0.00%
	Worked at home	0.00%
	Guided Busway	0.00%
	Park & Ride	0.00%
	Uni 4 Bus	0.00%

Site name	Stem Cell Research Institute	
Number of respondents	33	
Modal split Monday - Friday	Walk	0.00%
	Public bus	6.25%
	Drive on your own	13.75%
	Cycle	51.88%
	Car share (Driver)	6.25%
	Car Share (Non Driver)	5.63%
	Motor bike	0.00%
	Train	6.25%
	Worked at home	3.75%
	Guided Busway	3.13%
	Park & Ride	3.13%
	Uni 4 Bus	0.00%
Modal split Saturday - Sunday	Walk	0.00%
	Public bus	6.90%
	Drive on your own	13.79%
	Cycle	27.59%
	Car share (Driver)	6.90%
	Car Share (Non Driver)	3.45%
	Motor bike	0.00%
	Train	3.45%
	Worked at home	31.03%
	Guided Busway	6.90%
	Park & Ride	0.00%
	Uni 4 Bus	0.00%

Site name	University Information Services	
Number of respondents	105	
Modal split Monday - Friday	Walk	0.80%
	Public bus	2.00%
	Drive on your own	44.89%
	Cycle	33.07%
	Car share (Driver)	8.22%
	Car Share (Non Driver)	2.61%
	Motor bike	0.40%
	Train	4.21%
	Worked at home	1.00%
	Guided Busway	2.81%
	Park & Ride	0.00%
	Uni 4 Bus	0.20%
Modal split Saturday - Sunday	Walk	0.00%
	Public bus	3.85%
	Drive on your own	34.62%
	Cycle	50.00%
	Car share (Driver)	3.85%
	Car Share (Non Driver)	1.92%

	Motor bike	0.00%
	Train	0.00%
	Worked at home	1.92%
	Guided Busway	3.85%
	Park & Ride	0.00%
	Uni 4 Bus	0.00%

Site name	University Library	
Number of respondents	84	
Modal split Monday - Friday	Walk	12.96%
	Public bus	7.14%
	Drive on your own	15.34%
	Cycle	41.80%
	Car share (Driver)	9.26%
	Car Share (Non Driver)	6.08%
	Motor bike	0.00%
	Train	7.41%
	Worked at home	0.00%
	Guided Busway	0.00%
	Park & Ride	0.00%
	Uni 4 Bus	0.26%
Modal split Saturday - Sunday	Walk	5.88%
	Public bus	3.53%
	Drive on your own	15.29%
	Cycle	56.47%
	Car share (Driver)	7.06%
	Car Share (Non Driver)	0.00%
	Motor bike	0.00%
	Train	0.00%
	Worked at home	11.76%
	Guided Busway	0.00%
	Park & Ride	0.00%
	Uni 4 Bus	0.00%

Site name	Veterinary Medicine	
Number of respondents	72	
Modal split Monday - Friday	Walk	2.63%
	Public bus	2.92%
	Drive on your own	51.75%
	Cycle	29.82%
	Car share (Driver)	7.89%
	Car Share (Non Driver)	0.29%
	Motor bike	0.58%
	Train	1.75%
	Worked at home	2.34%
	Guided Busway	0.00%
	Park & Ride	0.00%
	Uni 4 Bus	0.00%

Modal split Saturday - Sunday	Walk	4.48%
	Public bus	0.00%
	Drive on your own	29.85%
	Cycle	44.78%
	Car share (Driver)	0.00%
	Car Share (Non Driver)	0.00%
	Motor bike	1.49%
	Train	0.00%
	Worked at home	19.40%
	Guided Busway	0.00%
	Park & Ride	0.00%
	Uni 4 Bus	0.00%

Site name	Zoology	
Number of respondents	64	
Modal split Monday - Friday	Walk	14.80%
	Public bus	9.21%
	Drive on your own	6.91%
	Cycle	51.64%
	Car share (Driver)	3.29%
	Car Share (Non Driver)	3.29%
	Motor bike	2.30%
	Train	7.57%
	Worked at home	0.99%
	Guided Busway	0.00%
	Park & Ride	0.00%
	Uni 4 Bus	0.00%
Modal split Saturday - Sunday	Walk	10.81%
	Public bus	16.22%
	Drive on your own	10.81%
	Cycle	40.54%
	Car share (Driver)	0.00%
	Car Share (Non Driver)	5.41%
	Motor bike	5.41%
	Train	0.00%
	Worked at home	10.81%
	Guided Busway	0.00%
	Park & Ride	0.00%
	Uni 4 Bus	0.00%

Appendix 3.5 – 2019 Base Flows

No.	Link	2019 Base	
		AM	PM
1.0	M11 - J12 - J13 - Nbd	3,582	3,702
1.0	M11 - J12 - J13 - Sbd	3,699	3,585
1.1	M11 J13 -J14 - Nbd	2,329	3,066
1.1	M11 J13 -J14 - Sbd	2,808	2,502
1.2	M11 between A14 Ebd on-slip / Huntingdon Rd on slip - Nbd	1,507	2,222
1.2	M11 between A14 Ebd on-slip / Huntingdon Rd on slip - Sbd	2,207	1,589
1.3	M11 J13 off-slip - Nbd	1,152	996
1.3	M11 J13 on-slip - Sbd	505	1,015
2.0	A14 West of J30 (Bar Hill) - Ebd	3,913	3,540
2.0	A14 West of J30 (Bar Hill) - Wbd	3,271	4,474
2.1	A14 North West of M11 J14 - Ebd	3,881	3,483
2.1	A14 North West M11 J14 - Wbd	3,143	4,199
2.2	A14 West of J32 Interchange - Ebd	3,928	3,834
2.2	A14 West of J32 Interchange - Wbd	3,831	3,932
2.3	A428 -West of M11 J14 - Ebd	1,654	759
2.3	A428 - West of M11 J14 - Wbd	798	1,267
3.0	A1303 East of Madingley Mulch R'bout Ebd	498	540
3.0	A1303 East of Madingley Mulch R'bout Wbd	542	1,252
3.1	Madingley Rd - East of Cambridge Rd Crossroads Wbd	669	1,678
3.1	Madingley Rd - East of Cambridge Rd Crossroads Ebd	932	755
3.2	Madingley Rd on Over Bridge M11 Ebd	1,705	993
3.2	Madingley Rd on Over Bridge M11 Wbd	292	924
3.3	Madingley Rd between M11 Sbd On Slip - Proposed Madingley Rd West Access Ebd	1,474	581
3.3	Madingley Rd between M11 Sbd On Slip - Proposed Madingley Rd West Access Wbd	565	1,524
3.4	Madingley Rd - West of P&R Access Wbd	580	1,545

No.	Link	2019 Base	
		AM	PM
3.4	Madingley Rd - West of P&R Access Ebd	1,485	600
3.5	Madingley Rd - East of P&R Access Wbd	602	1,392
3.5	Madingley Rd - East of P&R Access Ebd	1,358	629
3.6	Madingley Rd - East of Proposed High Cross Access Ebd	1,089	502
3.6	Madingley Rd - East of Proposed High Cross Access Wbd	542	1,109
3.7	Madingley Rd - East of JJ Thomson Ave Ebd	812	559
3.7	Madingley Rd - East of JJ Thomson Ave Wbd	614	853
3.8	Madingley Rd - East of Clerk Maxwell Rd Ebd	746	589
3.8	Madingley Rd - East of Clerk Maxwell Rd Wbd	643	789
3.9	Madingley Rd - East of Storey's Way Ebd	716	591
3.9	Madingley Rd - East of Storey's Way Wbd	656	626
3.10	Madingley Rd - East of Grange Road Ebd	716	591
3.10	Madingley Rd - East of Grange Road Wbd	656	626
3.11	Madingley Rd - West of Queen's Rd / Northampton St R'bout Ebd	843	598
3.11	Madingley Rd - West of Queen's Rd / Northampton St R'bout Wbd	614	739
3.12	Northampton St - West of Pound Hill Ebd	484	681
3.12	Northampton St - West of Pound Hill Wbd	582	600
4.0	Huntingdon Rd - West of Proposed NWC HRW Access NWbd	340	719
4.0	Huntingdon Rd - West of Proposed NWC HRW Access SEbd	417	346
4.1	Huntingdon Rd - South East of Grange Drive opposite Girton College NWbd	340	719
4.1	Huntingdon Rd - South East of Grange Drive opposite Girton College SEbd	417	346
4.2	Huntingdon Rd - East of NWC HRW Access NWbd	406	986
4.2	Huntingdon Rd - East of NWC HRW Access SEbd	698	472
4.3	Huntingdon Rd - East of Darwin Green Access NWbd	463	1,038
4.3	Huntingdon Rd - East of Darwin Green Access SEbd	984	541
4.4	Huntingdon Rd - East of Storey's Way NWbd	483	928
4.4	Huntingdon Rd - East of Storey's Way SEbd	828	572
5.0	Barton Rd - West of Grantchester Rd Ebd	1,160	508

No.	Link	2019 Base	
		AM	PM
5.0	Barton Rd - West of Grantchester Rd Wbd	315	1,007
5.1	Barton Rd - East of Grantchester Rd Ebd	649	458
5.1	Barton Rd - East of Grantchester Rd Wbd	296	971
6.0	Queen's Rd - North of West Rd Nbd	484	683
6.0	Queen's Rd - North of West Rd Sbd	816	574
7.0	Histon Road - South of A14 Nbd	988	1,691
7.0	Histon Road - South of A14 Sbd	1,907	1,270
8.0	Grange Rd - South of Madingley Rd Nbd	204	210
8.0	Grange Rd - South of Madingley Rd Sbd	335	158
9.0	Storey's Way - between Madingley Rd and Huntingdon Rd Ebd	272	86
9.0	Storey's Way - between Madingley Rd and Huntingdon Rd Wbd	95	227
10.0	Girton Rd - North of Huntingdon Rd Nbd	143	350
10.0	Girton Rd - North of Huntingdon Rd Sbd	357	211
11.0	Proposed Darwin Green Access - between Huntingdon Rd and Histon Rd Nbd		
11.0	Proposed Darwin Green Access - between Huntingdon Rd and Histon Rd Sbd		
11.1	Proposed Madingley Rd West Access to NWC Nbd		
11.1	Proposed Madingley Rd West Access to NWC Sbd		
11.2	Proposed Huntingdon Rd West Access to NWC Nbd		
11.2	Proposed Huntingdon Rd West Access to NWC Sbd		
11.3	Proposed Huntingdon Rd East Access to NWC Sbd		
11.3	Proposed Huntingdon Rd East Access to NWC Nbd		
12.0	Western Access to Madingley Rd Nbd		
12.0	Western Access to Madingley Rd Sbd		
12.1	High Cross Access to Madingley Rd Nbd	246	228
12.1	High Cross Access to Madingley Rd Sbd	144	285
12.2	JJ Thomson Ave Access to Madingley Rd Nbd	73	196
12.2	JJ Thomson Ave Access to Madingley Rd Sbd	220	65
12.3	Clerk Maxwell Rd Nbd – South of Car Park Access	10	32

No.	Link	2019 Base	
		AM	PM
12.3	Clerk Maxwell Rd Sbd – South of Car Park Access	38	9
12.4	Clerk Maxwell Rd Sbd – North of Car Park Access	18	103
12.4	Clerk Maxwell Rd Nbd – North of Car Park Access	114	11

Appendix 3.6 – 2018 Observed Junction Capacity Assessment

M11 J13 Off Slip Signalised Junction

1.1.1 The existing signalised junction has been assessed within LinSig using the 2018 Observed traffic flows. The results are summarised in Table 3.1, with the computer output is contained in Appendix 14.2.

Table 3.1 – Summary of LinSig Results – M11 J13 Off Slip Signalised Junction – 2018 Observed Flows

Arm / Stream	2018 Observed			
	AM Peak (0800 – 0900)		PM Peak (1700 – 1800)	
	DOS (%)	MMQ	DOS (%)	MMQ
1/1 – Madingley Rd (W) Ahead	0.9	0	1.3	0
1/2 – Madingley Rd (W) Ahead	97.2	40	79.0	22
2/1 – Madingley Rd (E) Ahead	30.1	6	96.3	37
3/1 – M11 Off Slip (S) Left	55.2	11	97.9	34
3/2 – M11 Off Slip (S) Right	97.4	33	28.9	5
PRC (%)	-8.3		-8.7	
Total Delay (PCU/Hr)	39.47		42.12	
Cycle Time (s)	113		113	

1.1.2 The assessment above show that the existing junction is forecast to operate at capacity in 2018 in both the AM and PM peaks.

M11 J13 On Slip Priority Junction

1.1.3 The existing priority junction has been assessed within PICADY using the 2018 Observed traffic flows. The results are summarised in Table 3.2, with the computer output is contained in Appendix 14.2.

Table 3.2 – Summary of Junctions 9 Results – M11 J13 On Slip Priority Junction – 2018 Observed Flows

Arm / Stream	2018 Observed			
	AM Peak (0800 – 0900)		PM Peak (1700 – 1800)	
	RFC	Queue	RFC	MMQ
M11 Off Slip to Madingley Road East and West	0.00	0	0.00	0
Madingley Road West to M11 Off Slip and Madingley Road East	0.43	1	0.94	12
Junction Delay (s)	1.27		15.21	

1.1.4 The assessment above show that the existing junction is forecast to operate within capacity in 2018 in the AM peak and operates over capacity in the PM peak.

Madingley Road / Park and Ride / High Cross Signalised Junctions

1.1.5 The existing signalised junctions have been assessed within LinSig using the 2018 Observed traffic flows. These junctions have been modelled together due to their close proximity. The results are summarised in Table 3.3, with the computer output is contained in Appendix 14.2.

Table 3.3 – Summary of LinSig Results – Madingley Road / Park and Ride / High Cross Signalised Junctions – 2018 Observed Flows

Arm / Stream	2018 Observed			
	AM Peak (0800 – 0900)		PM Peak (1700 – 1800)	
	DOS (%)	MMQ	DOS (%)	MMQ
Junction 1 – Madingley Road / Park and Ride Signalised Junction				
1/1 – Madingley Rd (EB) Left	11.4	2	2.0	0
1/2 – Madingley Rd (EB) Ahead	99.7	80	42.7	13
2/1 – Madingley Rd (WB) Ahead	33.9	16	85.9	23
2/2 – Madingley Rd (WB) Right	15.0	2	25.1	1
3/2 + 3/1 – Park & Ride Right Left	37.8	2	78.1	10
Junction 2 – High Cross Signalised Junction				
1/1 – Madingley Rd (EB) Left Ahead	99.8	4	45.5	10
1/2 – Madingley Rd (EB) Right	99.8	5	95.3	7
2/1 + 2/2 – Madingley Rd (WB) Right Left Ahead	80.0	12	102.4	80
3/2 + 3/1 – NWC Access Ahead Right Left	52.7	3	101.9	22
4/2 + 4/1 – High Cross Ahead Right Left	94.4	11	98.6	15
PRC (%)	-10.9		-13.7	
Total Delay (PCU/Hr)	49.43		84.08	
Cycle Time (s)	170		170	

1.1.6 The assessment above show that the existing junctions is forecast to operate at capacity in 2018.

Madingley Road / JJ Thomson Avenue Priority Junction

1.1.7 The existing priority junction has been assessed within PICADY using the 2018 Observed traffic flows. The results are summarised in Table 3.4, with the computer output is contained in Appendix 14.2.

Table 3.4 – Summary of Junctions 9 Results – Madingley Road / JJ Thomson Avenue Priority Junction – 2018 Observed Flows

Arm / Stream	2019 Observed			
	AM Peak (0800 – 0900)		PM Peak (1700 – 1800)	
	RFC	Queue	RFC	MMQ
JJ Thomson Av to Madingley Road (W)	0.02	0	0.23	0
JJ Thomson Av to Madingley Road (E)	0.24	0	0.38	1
Madingley Road (W) to JJ Thomson Av	0.14	0	0.03	0
All movements from Madingley Road (E)	0.39	1	0.58	1
Junction Delay (s)	2.50		5.11	

1.1.8 The assessment above show that the existing junctions is forecast to operate within capacity in 2018.

Madingley Road / Madingley Rise Priority Junction

1.1.9 The existing priority junction has been assessed within PICADY using the 2018 Observed traffic flows. The results are summarised in Table 3.5, with the computer output is contained in Appendix 14.2.

Table 3.5 – Summary of Junctions 9 Results – Madingley Road / Madingley Rise Priority Junction – 2018 Observed Flows

Arm / Stream	2019 Observed			
	AM Peak (0800 – 0900)		PM Peak (1700 – 1800)	
	RFC	Queue	RFC	MMQ
Madingley Rise to Madingley Road (E)	0.04	0	0.08	0
Madingley Rise to Madingley Road (W)	0.03	0	0.14	0
Madingley Road (E) to Madingley Rise	0.08	0	0.01	0
All movements from Madingley Road (W)	0.55	1	0.33	1
Junction Delay (s)	2.98		1.70	

1.1.10 The assessment above show that the existing junctions is forecast to operate within capacity in 2018.

Madingley Road / Clerk Maxwell Priority Junction

1.1.11 The existing priority junction has been assessed within PICADY using the 2018 Observed traffic flows. The results are summarised in Table 3.6, with the computer output is contained in Appendix 14.2.

Table 3.6 – Summary of Junctions 9 Results – Madingley Road / Clerk Maxwell Priority Junction – 2018 Observed Flows

Arm / Stream	2019 Observed			
	AM Peak (0800 – 0900)		PM Peak (1700 – 1800)	
	RFC	Queue	RFC	MMQ
Clerk Maxwell Rd to Madingley Road (W)	0.03	0	0.18	0
Clerk Maxwell Rd to Madingley Road (E)	0.04	0	0.19	0
Madingley Road (W) to Clerk Maxwell Rd	0.16	0	0.01	0
Junction Delay (s)	0.53		0.99	

1.1.12 The assessment above show that the existing junctions is forecast to operate within capacity in 2018.

Appendix 3.7 – Cambridgeshire County Council and Green Signal Approval to Base Model

From: Blower Linda <Linda.Blower@cambridgeshire.gov.uk>
Sent: 20 September 2019 15:43
To: Althorpe, Tom <tom.althorpe@stantec.com>
Subject: FW: 45339 - West Cambridge - Madingley Road Corridor

Hi Tom,

Please see the comment below from Green Signals on your latest models. They are happy for you to carry on with the proposed development flow models and submit for review.

Kind regards

Linda

Linda, Dan
I've checked through the latest submission with the separate models for both the M11/J13 off slip and Highcross junction.

The correct intergreens have been used and the correct (current) stage sequence. I have not checked turning radii, lane widths of things like that. I will have to check these when the proposed models are submitted so will do that then.

Both models are now showing the congestion we know is there for eastbound movements on a morning with a queue of about 250m into the off slip junction, whilst this is lower than what actually occurs I suspect this is because of the traffic flows undercounting because the vehicles aren't moving.

There is a similar negative capacity for westbound vehicles on an evening.

This is the most accurate model we have had so far.

I would suggest they can now proceed with the propsed development flows.

Paul

Appendix 3.8 – PIC Data and Analysis

Job Name:	West Cambridge
Job Number:	45339
Title	2019 Observed Flows - Accident Analysis

	Growth Factor
	Factor 1
	Madingley Rd
Combined AM / PM to AADT	6.70

Accidents on Links

		Observed Data										Anticipated (National) Data			
Link Reference	Link Description	Total Observed Accidents	AM Peak	PM Peak	Combined AM / PM	Approx AADT	Link Length (Km)	Rate (PIA/MV-km)	DMRB Link No.	Speed Limit	DMRB Description	Link only Accident Rate	Link & Junction Accident Rate	Link only Accident Rate	Link & Junction Accident Rate
1	Madingley Road - M11 Off-slip to west of JJ Thomson Ave*	1	2065	2144	4209	28183	1.1	0.02	8	30	Older S2 A Roads	0.24	0.67	13	38
2	Madingley Road - west of JJ Thomson Avenue to east of Grange Road**	6	1426	1412	2838	19002	1.0	0.17	8	30	Older S2 A Roads	0.24	0.67	8	23
3	High Cross	0	390	514	904	6049	0.3	0.00	4	30	Modern S2 Roads	0.24	0.67	1	2
4	JJ Thomson Avenue	1	293	261	554	3709	0.3	0.43	4	30	Modern S2 Roads	0.24	0.67	1	2
5	Clerk Maxwell	0	180	155	335	2243	0.5	0.00	8	30	Older S2 A Roads	0.24	0.67	0	1
6	Grange Road	0	539	368	907	6071	1.6	0.00	8	30	Older S2 A Roads	0.24	0.67	4	12

Prepared by:	P Cullen
Checked by:	J Hopkins
Date of 1st Issue:	
Revision:	

Rev Mark	Revision Description	Date	Check

Job Name:	West Cambridge
Job Number	45339
Title	2019 Observed Flows - Accident Analysis

	Growth Factor		TEMPRO 2013 -2015		TEMPRO 2014 -2015		TEMPRO 2014 -2016	
	Factor 1	Factor 2	AM	PM	AM	PM	AM	PM
	Madingley Rd	**0**						
Combined AM / PM to AADT	6.70	0.00						

Year of Count Data			**2019**

Observed Accidents at Junctions

Junction Reference	Junction Description	Total Observed Accidents	Junction Type	Coba Junction type	Coeff 'a'	Power 'b'	Formula Type	AM & PM peak inflow - Major Arm (s)	AM & PM peak inflow - Minor Arm (s)	Major Arm AADT	Minor Arm AADT	(f)	2019 BASE		Junction Type		Accident Rate (β)	2024	
													(A) Predicted accidents per year	Total Anticipated accidents in 5 years	COBA Junction Types Classification (A, B, C or D)	Desc.		(A) Predicted accidents per year	Total Anticipated accidents in 5 years
1	Madingley Road – M11 off-slip signalised junction	1	3 Arm Signalised	37	0.223	0.61	I	2861	0	19156	0	19.16	1.4	7	C	Major, NBU	0.984	1	6
2	Madingley Road – M11 on-slip priority junction	0	3 Arm Signalised	37	0.223	0.61	I	4717	1493	31583	9996	41.58	2.2	11	C	Major, NBU	0.984	2	10
3	Madingley Road – Park & Ride signalised junction	1	3 Arm Signalised	37	0.223	0.61	I	4019	249	26909	1667	28.58	1.7	9	A	Major BU	0.991	2	8
4	Madingley Road – High Cross priority junction	0	3 Arm Priority Jct	1	0.195	0.46	C	3585	302	24003	2022	48.54	1.2	6	B	Minor, BU	0.976	1	5
5	Madingley Road - JJ Thomson Avenue priority junction	1	3 Arm Priority Jct	1	0.195	0.46	C	2751	269	18419	1801	33.18	1.0	5	B	Minor, BU	0.976	1	4
6	Madingley Road – Clerk Maxwell priority junction	3	3 Arm Priority Jct	1	0.195	0.46	C	2806	121	18788	810	15.22	0.7	3	B	Minor, BU	0.976	1	3
7	Madingley Road –Wilberforce Road priority junction***	0	3 Arm Priority Jct	1	0.195	0.46	C	2806	121	18788	810	15.22	0.7	3	B	Minor, BU	0.976	1	3
8	Madingley Road – Storey's Way priority junction***	4	3 Arm Priority Jct	1	0.195	0.46	C	2806	121	18788	810	15.22	0.7	3	B	Minor, BU	0.976	1	3
9	Madingley Road - Grange Road signalised junction***	4	3 Arm Signalised	37	0.223	0.61	I	2806	121	18788	810	19.60	1.4	7	A	Major BU	0.991	1	7

FORMULA

Anticipated Accidents

$A_N = A_0 \times \beta^N$

where:

β	Accident Rate (Table XX)
N =	number of years
A =	$a\ (f)^b$

FORMULA TYPE

Reference		Description
C =	Cross product	combined inflow from two major opposing links multiplied by the sum of inflows on other one or two minor links in thousands of vehicles per annual average day
I =	Inflow	value of total inflow from all links in thousands of vehicles per annual average day

Rev Mark	Revision Description	Date	Check

Prepared by:	P Cullen
Checked by:	J Hopkins
Date of 1st Issue:	
Revision:	

Date	Police_ref	Type	Easting	Northing	Severity	Road_cond	Visibility	Casualties	Pedestrian	Cycles
20140425	14726	Junction	542385	259302	3. Slight	2. Wet/Damp	1. Daylight	2	0	0
20140515	14751	Junction	543831	259104	3. Slight	1. Dry	1. Daylight	1	0	0
20140604	14892	Link	543708	259105	3. Slight	1. Dry	1. Daylight	1	0	0
20140617	141248	Link	542342	259308	3. Slight	1. Dry	1. Daylight	1	0	0
20141023	141867	Junction	544006	259089	3. Slight	1. Dry	1. Daylight	1	0	1
20141121	142075	Link	542740	259290	2. Serious	2. Wet/Damp	s: street lights pre	1	0	1
20150402	15417	Junction	544026	259067	3. Slight	1. Dry	1. Daylight	1	0	1
20150504	15561	Junction	543275	259178	2. Serious	1. Dry	1. Daylight	1	0	0
20150729	151152	Link	542298	259313	3. Slight	1. Dry	1. Daylight	1	0	1
20150806	151156	Link	544002	259096	3. Slight	1. Dry	1. Daylight	1	0	1
20150903	151394	Junction	543820	259094	3. Slight	1. Dry	1. Daylight	1	0	0
20151103	151915	Junction	543282	259175	3. Slight	1. Dry	1. Daylight	1	0	1
20151210	152090	Junction	543829	259114	3. Slight	2. Wet/Damp	s: street lights pre	1	0	1
20160130	16162	Junction	543812	259095	2. Serious	1. Dry	s: street lights pre	2	0	1
20160405	1655372	Link	543426	259155	2. Serious	1. Dry	1. Daylight	4	2	1
20161005	16120421	Junction	543275	259168	3. Slight	1. Dry	1. Daylight	1	0	1
20161020	16160805	Link	543005	259222	3. Slight	1. Dry	1. Daylight	1	0	1
20170912	17225157	Link	542087	259376	3. Slight	1. Dry	1. Daylight	1	0	1
20170930	17227327	Link	543992	259095	3. Slight	1. Dry	1. Daylight	1	0	0
20171023	17235722	Junction	542992	259132	3. Slight	1. Dry	1. Daylight	1	0	1
20180207	18267638	Junction	543960	259102	3. Slight	1. Dry	1. Daylight	1	0	1
20171120	17242723	Junction	541958	259377	3. Slight	2. Wet/Damp	1. Daylight	1	0	0

P2W	OAPs	Children	Manoeuvre	Time	Vehicles	Roadclass1	Roadnum1	Road_Type	Speed_Lim
0	0	0	0. No turn	16:00	2	3. A	1303	Single carriagev	40
1	1	0	1. Left turn	17:00	2	3. A	1303	Single carriagev	30
0	0	0	0. No turn	12:04	2	3. A	1303	Single carriagev	30
0	0	0	0. No turn	17:02	3	3. A	1303	Single carriagev	40
0	1	0	0. No turn	11:00	2	3. A	1303	Single carriagev	30
0	0	0	0. No turn	16:02	2	6. Unclassified	0	Single carriagev	30
0	0	0	1. Left turn	09:01	2	3. A	1303	Single carriagev	30
1	1	0	2. Right turn	18:04	2	3. A	1303	Single carriagev	30
0	0	0	0. No turn	08:05	2	3. A	1303	Single carriagev	40
0	0	0	0. No turn	19:01	2	3. A	1303	Single carriagev	30
1	0	0	2. Right turn	16:03	2	3. A	1303	Single carriagev	30
0	0	0	0. No turn	13:01	2	3. A	1303	Single carriagev	30
0	0	0	0. No turn	18:03	3	3. A	1303	Single carriagev	30
1	0	0	2. Right turn	21:03	2	3. A	1303	Single carriagev	30
0	0	0	0. No turn	07:03	2	3. A	1303	Single carriagev	30
0	0	0	2. Right turn	17:02	2	6. Unclassified	0	Single carriagev	30
0	0	0	2. Right turn	10:02	2	6. Unclassified	0	Single carriagev	30
0	0	0	1. Left turn	18:02	2	1. Motorway	11	Single carriagev	30
0	0	0	0. No turn	11:04	3	3. A	1303	Single carriagev	30
0	0	0	2. Right turn	07:00	2	6. Unclassified	0	Single carriagev	30
0	0	1	2. Right turn	08:01	2	3. A	1303	Single carriagev	40
0	1	0	0. No turn	10:04	1	1. Motorway	11	7. Slip road	60

Junct_det	Junct_ctrl	Roadclass2	Roadnum2	Cross_ctrl
3. T & Stag Jct	2. Automatic traffic signal	6. Unclassified	0	0. None
3. T & Stag Jct	4. Give way or Uncontrolled	6. Unclassified	0	0. None
0. Not within 20m of junction	. Not applicable	. Not applicable	0	0. None
0. Not within 20m of junction	. Not applicable	. Not applicable	0	0. None
3. T & Stag Jct	2. Automatic traffic signal	6. Unclassified	0	0. None
8. Pri Drive	4. Give way or Uncontrolled	6. Unclassified	0	0. None
3. T & Stag Jct	2. Automatic traffic signal	6. Unclassified	0	0. None
3. T & Stag Jct	4. Give way or Uncontrolled	6. Unclassified	0	0. None
0. Not within 20m of junction	. Not applicable	. Not applicable	0	0. None
8. Pri Drive	2. Automatic traffic signal	6. Unclassified	0	0. None
3. T & Stag Jct	4. Give way or Uncontrolled	6. Unclassified	0	0. None
3. T & Stag Jct	4. Give way or Uncontrolled	6. Unclassified	0	0. None
3. T & Stag Jct	4. Give way or Uncontrolled	6. Unclassified	0	0. None
3. T & Stag Jct	4. Give way or Uncontrolled	6. Unclassified	0	0. None
0. Not within 20m of junction	. Not applicable	. Not applicable	0	0. None
3. T & Stag Jct	4. Give way or Uncontrolled	3. A	1303	0. None
9. Other	4. Give way or Uncontrolled	6. Unclassified	0	0. None
0. Not within 20m of junction	. Not applicable	. Not applicable	0	0. None
0. Not within 20m of junction	. Not applicable	. Not applicable	0	0. None
3. T & Stag Jct	4. Give way or Uncontrolled	6. Unclassified	0	0. None
3. T & Stag Jct	4. Give way or Uncontrolled	6. Unclassified	0	0. None
5. Slip Road	4. Give way or Uncontrolled	3. A	1303	0. None

Cross_fac	Weather	SpCond	Carr_haz
5. Ped. phase at traffic signal junction	1. Fine without high winds	2. Automatic traffic signal partially defective	0. None
4. Pelican, puffin, toucan etc.	1. Fine without high winds	4. Road works	0. None
0. None within 50m	1. Fine without high winds		0. None
0. None within 50m	1. Fine without high winds		0. None
5. Ped. phase at traffic signal junction	1. Fine without high winds	2. Automatic traffic signal partially defective	0. None
0. None within 50m	2. Raining without high winds	4. Road works	0. None
5. Ped. phase at traffic signal junction	1. Fine without high winds	2. Automatic traffic signal partially defective	0. None
0. None within 50m	1. Fine without high winds	4. Road works	0. None
0. None within 50m	1. Fine without high winds		0. None
5. Ped. phase at traffic signal junction	1. Fine without high winds	2. Automatic traffic signal partially defective	0. None
0. None within 50m	1. Fine without high winds	4. Road works	0. None
0. None within 50m	1. Fine without high winds	4. Road works	0. None
0. None within 50m	1. Fine without high winds	4. Road works	0. None
0. None within 50m	1. Fine without high winds	4. Road works	0. None
0. None within 50m	1. Fine without high winds		0. None
0. None within 50m	1. Fine without high winds	4. Road works	0. None
0. None within 50m	1. Fine without high winds	4. Road works	0. None
0. None within 50m	1. Fine without high winds	0. None	0. None
0. None within 50m	1. Fine without high winds	0. None	0. None
0. None within 50m	1. Fine without high winds	0. None	0. None
0. None within 50m	1. Fine without high winds	0. None	0. None
0. None within 50m	1. Fine without high winds	0. None	0. None

Day	Location
6. Friday	A1303 MADINGLEY RD JUNCTION MADINGLEY PARK AND RIDE
5. Thursday	A1303 MADINGLEY RD JUNCTION STOREYS WAY CAMBRIDGE
4. Wednesday	OUTSIDE NO 29 MADINGLEY RD CAMBRIDGE
3. Tuesday	MADINGLEY RD 60M WEST OF PARK AND RIDE
5. Thursday	A1303 MADINGLEY RD JUNCTION GRANGE RD CAMBRIDGE
6. Friday	MADINGLEY RD OUTSIDE NO 101 CAMBRIDGE
5. Thursday	MADINGLEY RD JUNCTION GRANGE RD CAMBRIDGE
2. Monday	MADINGLEY RD JUNCTION CLERK MAXWELL RD CAMBRIDGE
4. Wednesday	MADINGLEY RD NR JUNCTION M11
5. Thursday	MADINGLEY RD 10M NW OF GRANGE RD CAMBRIDGE
5. Thursday	A1303 MADINGLEY RD JUNCTION STOREYS WAY CAMBRIDGE
3. Tuesday	MADINGLEY ROAD JUNCTION CLERK MAXWELL CAMBRIDGE
5. Thursday	A1303 MADINGLEY RD JUNCTION STOREYS WAY CAMBRIDGE
7. Saturday	A1303 MADINGLEY RD JUNCTION STOREYS WAY CAMBRIDGE
3. Tuesday	MADINGLEY ROAD A1303 NEAR HEDGERLEY CLOSE
4. Wednesday	CLERKMAXWELL ROAD JUNCTION WITH MADINGLEY ROAD A1303
5. Thursday	JJ THOMSON AVENUE UNSPECIFIED ROAD OR LOCATION WHITTLE LABORATORY UNIVERSITY OF CAMBRIDGE
3. Tuesday	MADINGLEY ROAD
7. Saturday	MADINGLEY ROAD A1303 NEAR JN WITH GRANGE ROAD
2. Monday	JJ THOMPSON AVENUE AT JN WITH WHITTLE LABORATORY ROAD
4. Wednesday	MADINGLY ROAD A1303 AT JN WITH UN-NAMED SIDE STREET, NEAR STOREYS WAY
2. Monday	JUNCTION 13 SLIP ROAD M11 NEAR JN WITH MADINGLEY ROAD A1303

Local_Auth	ReportedAt	Parish
E07000008	1. Yes	37
E07000008	1. Yes	37
E07000008	1. Yes	37
E07000008	1. Yes	37
E07000008	1. Yes	37
E07000008	1. Yes	37
E07000008	nt was reported 'ove	37
E07000008	1. Yes	37
E07000008	1. Yes	37
E07000008	nt was reported 'ove	37
E07000008	nt was reported 'ove	37
E07000008	1. Yes	37
E07000008	nt was reported 'ove	37
E07000008	1. Yes	37
E07000008	1. Yes	37
E07000008	1. Yes	37
E07000008	1. Yes	37
E07000008	nt was reported 'ove	37
E07000008	1. Yes	37
E07000008	1. Yes	37
E07000008	nt was reported 'ove	37
E07000008	1. Yes	37

Appendix 4.1 – Detailed summary of current policy, guidance and emerging strategies and how these relate to West Cambridge

National Policy and Guidance

National Planning Policy Framework

The National Planning Policy Framework (NPPF) replaced all Planning Policy Guidance notes (PPG) and Planning Policy Statements (PPS) when it was first published in March 2012.

The NPPF was updated in February 2019 following a consultation exercise.

The NPPF promotes sustainable development and states:

"So that sustainable development is pursued in a positive way, at the heart of the Framework is a presumption in favour of sustainable development.

Plans and decisions should apply a presumption in favour of sustainable development.

For decision-making, this means…Approving development proposals that accord with an up-to-date development plan without delay."

Section 9 of the NPPF 'Promoting Sustainable Transport' states:

"Transport issues should be considered from the earliest stages of plan-making and development proposals, so that:

…opportunities to promote walking, cycling and public transport use are identified and pursued."

In respect of considering development proposals, paragraph 108 states inter alia:

"In assessing sites…specific applications for development, it should be ensured that:

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

- *safe and suitable access to the site can be achieved for all users.*

Paragraph 110, states the following requirements for development applications inter alia:

- *"give priority first to pedestrian and cycle movements, both within the scheme and with neighbouring areas; and second – so far as possible – to facilitating access to high quality public transport, with layouts that maximise the catchment area for bus or other public transport services, and appropriate facilities that encourage public transport use;*

- *address the needs of people with disabilities and reduced mobility in relation to all modes of transport;*

- *create places that are safe, secure and attractive – which minimise the scope for conflicts between pedestrians, cyclists and vehicles, avoid unnecessary street clutter, and respond to local character and design standards."*

Paragraph 109 states:

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

Planning Practice Guidance – (Travel Plans, Transport Assessments and Statements in Decision Taking – Updated 06/03/2014)

This guidance, in part, supersedes earlier guidance published by the Department for Transport in 2009 ('Good Practice Guidelines: Delivering Travel Plans through the Planning Process') and has been prepared in consultation with Department for Communities and Local Government (DCLG), bringing together current practice from examples from around the country.

The guidelines cover, in particular:

- when is a Transport Assessment required;
- how should the need for and scope of a Transport Assessment be established; and
- what information should be included in Transport Assessments.

The planning practice guidance provides advice on what information should be included in Transport Assessments it states that:

"Paragraph 32 of the National Planning Policy Framework sets out that all developments that generate significant amounts of transport movement should be supported by a Transport Statement or Transport Assessment

- *Key issues to consider at the start of preparing a Transport Assessment or Statement may include:*
- *The planning context of the development proposal;*
- *Appropriate study parameters (i.e. area, scope and duration of study);*
- *Assessment of public transport capacity, walking/ cycling capacity and road network capacity;*
- *Road trip generation and trip distribution methodologies and/ or assumptions about the development proposal;*
- *Measures to promote sustainable travel;*
- *Safety implications of development; and*
- *Mitigation measures (where applicable) – including scope and implementation strategy*."

The Planning Practice Guidance also states that:

"The scope and level of detail in a Transport Assessment or Statement will vary from site to site but the following should be considered when settling the scope of the proposed assessment:

- *Information about the proposed development and site layout;*

- *Information about neighbouring uses, amenity and character, existing functional classification of the nearby road network;*
- *Data about existing public transport provision;*
- *A qualitative and quantitative description of the travel characteristics of the proposed development;*
- *An assessment of trips from all directly relevant committed development in the area;*
- *Data about current traffic flows on links and at junctions within the study area and identification of critical links and junctions on the highways network;*
- *An analysis of the accident records on the public highway in the vicinity of the site access for the most recent three-year period, or five-year period if the proposed site has been identified as within a high accident area;*
- *An assessment of the likely associated environmental impacts of transport related to the development;*
- *Measures to improve the accessibility of the location, where these are necessary to make the development acceptable in planning terms;*
- *A description of parking facilities in the area and the parking strategy of the development;*
- *Ways of encouraging environmental sustainability by reducing the need to travel; and*
- *Measures to mitigate the residual impacts of development such as improvements to the public transport network, introducing walking and cycling facilities, physical improvements to existing roads.*"

Highways England (HE) Circular 02/2013: The Strategic Road Network and the Delivery of Sustainable Development

Relevant policy is also set out in Circular 02/2013 'The Strategic Road Network and the Delivery of Sustainable Development' published by Highways England (then operating as the Highways Agency) in September 2013.

Circular 02/2013 sets out the role of the Highways Agency in engaging with communities and developers to deliver sustainable development and economic growth.

Paragraph 9 sets out the broad policy aims of the circular as it relates to development proposals, stating that:

"Development proposals are likely to be acceptable if they can be accommodated within the existing capacity of a section (link or junction) …or they do not increase demand for use of a section that is already operating at over-capacity levels, taking account of any travel plan, traffic management and/or capacity enhancement measures that may be agreed".

However, with reference to decision making regarding developments, paragraph 9 goes on to state:

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

The circular also sets out the Highways Agency's commitment to the local plan process through involvement in the development of local plans, influencing the location, patterns and scale of development, the promotion of sustainable travel solutions and finally the

identification of necessary capacity enhancements and infrastructure required to deliver strategic growth within the local plan.

Circular 02/2013 places an emphasis on the role of sustainable travel modes and travel planning as a means of managing the impact of development on the road network, acknowledging the role that area-wide travel plan initiatives can play to 'free-up' additional capacity so that travel demand created by a new development can be accommodated.

In assessing development impact, the circular states in paragraph 33:

"only after travel plan and demand management measure have been fully explored and applied will capacity enhancement measures be considered".

In terms of mitigation of development impact, paragraph 34 states:

"Where insufficient capacity exists to provide for overall forecast demand at the time of opening, the impact of the development will be mitigated to ensure that at that time, the strategic road network is able to accommodate existing and development generated traffic".

The key emphasis of this document reflects national guidance, stressing the obligation placed on every developer to 'manage down' traffic generation from new development, and to provide evidence that proposals for measures to reduce traffic generation from the site have been considered.

Local Policy and Guidance

Cambridge Local Plan 2014-2031 (October 2018)

The Cambridge Local Plan replaces the 2006 Local Plan and sets out the policies and proposals for future development and spatial planning requirements up to 2031.

15 strategic objectives are identified for the implementation of the Local Plan under the spatial vision for Cambridge, with the following relevant to the West Cambridge Development:

- *"promote and support economic growth in environmentally sustainable and accessible locations, facilitating innovation... while maintaining the quality of life and place that contribute to economic success;*

- *be located to help minimise the distance people need to travel, and be designed to make it easy for everyone to move around the city and access jobs and services by sustainable modes of transport".*

The second section of the Local Plan sets out the spatial strategy for Cambridge, with a number of policies in place to assist in "*planning for the compact city through focusing on new development in accessible locations, reusing previously developed land*".

Policy 2 of the spatial strategy regards the location of employment development, and states:

"*Proposals that help reinforce the existing high technology and research cluster of Cambridge will be supported. The Council will work with relevant partners, including the universities …to attract employment in such activities*".

Supportive text of this policy states:

"economic growth has been predicated on the close links that have built up between businesses locating near similar businesses and close to the University of Cambridge. The sharing of ideas, staff, equipment and data, and collaborative working that has taken place have contributed to the dynamism, prosperity and further expansion of the local economy".

The West Cambridge Development accords well with this policy particularly in the context of the supportive text, and will allow these benefits to develop further.

Policy 5 of the spatial strategy regards strategic transport infrastructure, placing emphasis on modal shift and greater use of sustainable transport. In particular, the following points will be supported, with the ones relevant to West Cambridge identified:

- *"Promoting greater pedestrian and cycle priority through and to the city centre, district centres and potentially incorporating public real and cycle parking improvements;*
- *Promoting sustainable transport and access for all to and from major employers, education and research clusters…;*

In April 2015 the University and Cambridge City Council agreed a Statement of Common Ground setting out proposed amendments to draft Policy 19. Included within the amended text is the following commitment:

3. *"Any densification of development on the site that results in a significant increase in floorspace, over that already approved, will be supported providing that: ….*

    g. *It includes a comprehensive transport strategy for the site, incorporating a sustainable transport plan to minimise reliance on private cars. This should include assessing the level, form and type of car parking on the site;*

    h. *That walking, cycling and public transport links (including access for all) to the city centre, railway station(s), other principal educational and employment sites, and other key locations within the city are enhanced to support sustainable development; … "*

Greater Cambridge Partnership

1.1.13 The Greater Cambridge Partnership (formerly the Cambridge City Deal) is the local delivery body for a City Deal with central Government, bringing powers and investment, worth up to £1 billion over 15 years, to vital improvements in infrastructure, supporting and accelerating the creation of 44,000 new jobs, 33,500 new homes and 420 additional apprenticeships. The four partners are; Cambridge City Council, Cambridgeshire County Council, South Cambridgeshire District Council and the University of Cambridge.

1.1.14 With regards to transport, the aims of The Greater Cambridge Partnership Vision is to:

- ease congestion and prioritise greener and active travel, making it easier for people to travel by bus, rail, cycle or on foot to improve average journey time;
- keep the Greater Cambridge area well connected to the regional and national transport network, opening up opportunities by working closely with strategic partners;
- reallocate limited road space in the city centre and invest public transport (including Park & Ride) to make bus travel quicker and more reliable;
- build an extensive network of new cycleways, directly connecting people to homes, jobs, study and opportunity, across the city and neighbouring villages;
- help make people's journeys and lives easier by making use of research and investing in cutting-edge technology; and
- connect Cambridge with strategically important towns and cities by improving our rail stations, supporting the creation of new ones and financing new rail links.

1.1.15 Of relevance to West Cambridge the West of Cambridge Package (originally titled the 'Western Orbital' scheme). The West of Cambridge package would provide an improved Park & Ride, cycling and pedestrian facilities from the west of the city. These facilities would provide better access to employment sites such as the Cambridge Biomedical Campus and the West Cambridge site as well as the North West Cambridge site.

1.1.16 The West of Cambridge package, along with a new public transport link from Cambourne to Cambridge, could also ensure better journeys by public transport between Cambourne and Addenbrooke's, which could take under half an hour on a traffic-free route. As a part of this package, a new Park & Ride site could be built at Junction 11 of the M11.

Local Transport Policy and Guidance

Cambridge Local Transport Plan 2011-2031 (July 2015)

Cambridgeshire's Third Local Transport Plan (also referred to as the LTP3) covers the period 2011-2031.

Eight challenges are identified for Transport, a strategy is set out to address them.

Challenge 2 - Reducing the length of the commute and the need to travel by private car – states:

> *"Our transport strategy supports the development strategy for Cambridgeshire by aiming to reduce the need to travel and by providing sustainable travel options for new developments. We will focus on securing school, workplace and residential travel plans and support and encourage employers to adopt smarter choices measures to help reduce the need to travel. We will also support and encourage journey planning tools to improve information available for journeys by sustainable modes."*

In Section 4 - Meeting the Challenges - the summary of the LTP strategy to respond to this Challenge 2 states:

> *The strategy … focuses on a wide range of smarter choices including workplace and residential travel planning, raising awareness of the different transport choices available to people, and promoting car sharing and car clubs….*
>
> - *Support the development strategy for Cambridgeshire by aiming to reduce the need to travel and by providing sustainable travel options for new developments.*
> - *Focus on securing school, workplace and residential travel plans and support and encourage employers to adopt smarter choices measures to help reduce the need to travel.*
> - *Support and encourage journey planning tools to improve information available for journeys by sustainable modes.*

The document later identifies "*The need for more … workplace … travel plans*" as a barrier. CCC commits to overcoming this barrier by processes that would

- *Encourage and promote the adoption of …. workplace … travel plans;*
- *Support the development and adoption of local guidance and policies that promote travel planning, such as the upcoming Cambridgeshire Residential Travel Plan Guidance*
- *Encourage employers to introduce Travel for Work Partnerships (*now known as Travel for Cambridgeshire*) in offices*

- *Promote journey planning tools such as walkit (*the urban walking route planner*) and CamShare*

Transport Strategy for Cambridge / South Cambridgeshire (April 2014)

The Transport Strategy for Cambridge / South Cambridgeshire identified that this area has a dynamic economy, with a growth in jobs and population that will continue. In the period between 2013 and 2031, some 44,000 jobs are expected to be created and around 35,000 new dwellings will be built in and around the city.

It identifies that the transport network would support this growth and provides capacity to allow for the additional transport demands of new residents and workers, whilst protecting the area's distinctive character and environment.

To achieve this, sustainable transport capacity would need to be provided and enhanced in the city region between key economic hubs in and around the city, and to where people live and access services. The sustainable transport network will strengthen the employment hubs and High-Tec clusters in Cambridge and South Cambridgeshire, and in the surrounding towns, by making movement between them straightforward and convenient.

The strategy identifies:

- a high quality passenger transport network of bus, guided bus and rail services;
- comprehensive pedestrian and cycle networks;
- highways capacity enhancements to ensure that traffic can move efficiently in appropriate locations without interfering with passenger transport corridor in Cambridge and its fringes.

Whilst trips into the city will be possible by all modes of transport, priority will be given to passenger transport services, cyclists and pedestrians. It is acknowledged that the permeability of the city will vary depending on the mode of transport chosen.

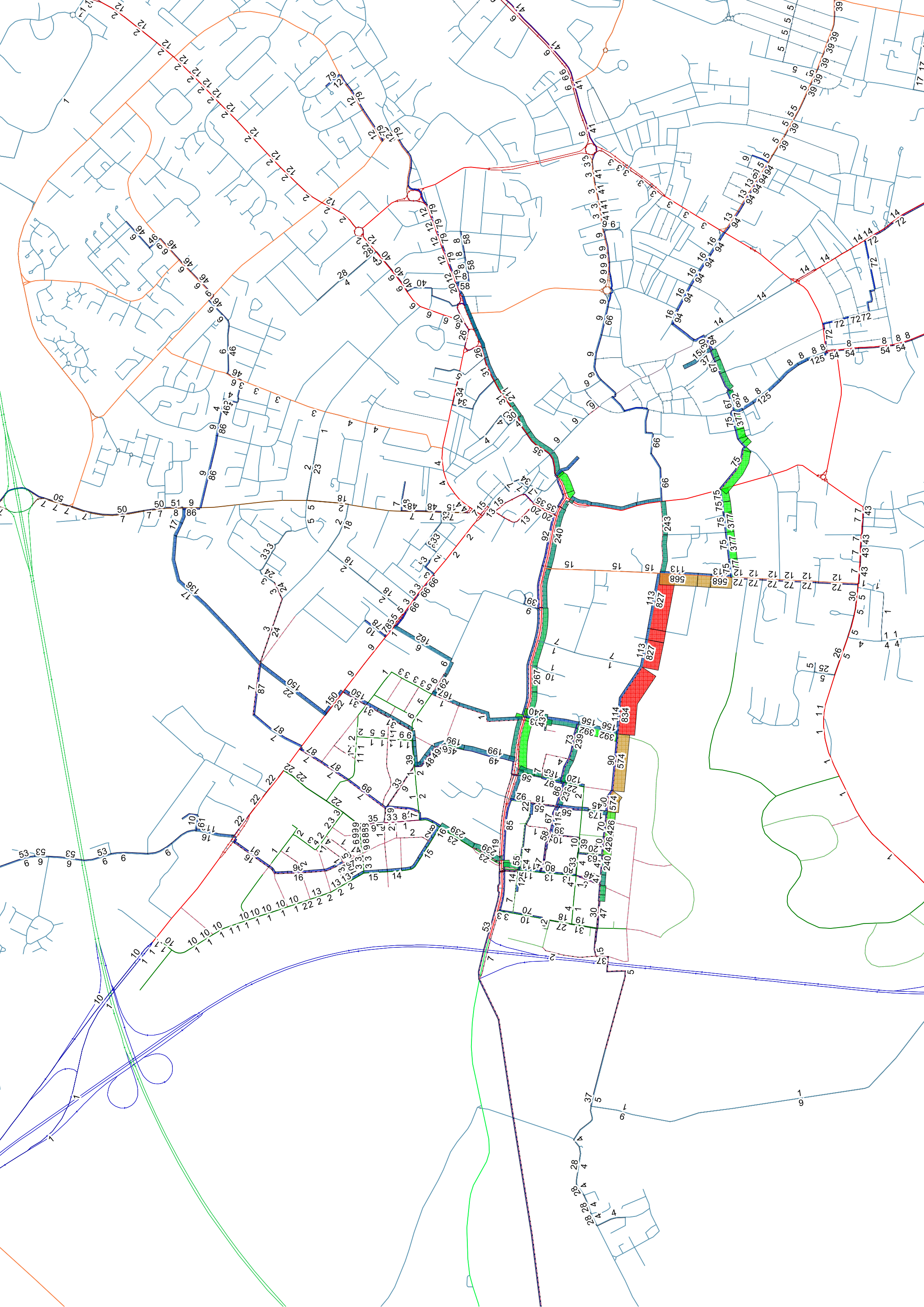
All areas of the city will be highly accessible by passenger transport, cycling and walking. Movements along radial routes and Arc routes will be prioritised and it will be easy and direct to travel between different areas of the city.

General vehicular traffic will still be able to travel between most areas, however it will not receive priority at pinch points.

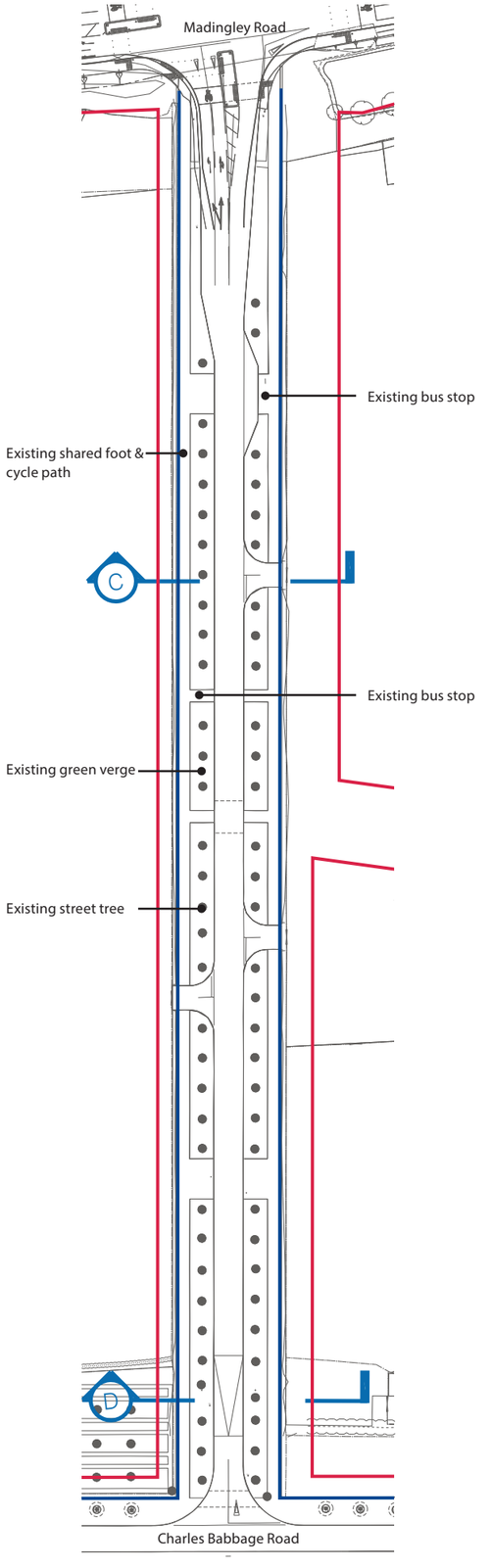
To enable priority to be given to passenger transport, road space will need to be reallocated from general vehicular traffic. In the case of Arc movements however, it will mean that more capacity for general traffic will need to be provided to enable this to happen. In the short to medium term, the strategy will focus on overcoming pinch points on the passenger transport network as well as creating a comprehensive and coherent cycle and pedestrian network that connects key economic hubs to transport interchanges and residential areas.

In the longer term, investment will be sought to transform whole routes through filling key gaps in the network and introducing high quality facilities. Further demand management measures will be considered in the form of more widespread parking restrictions and extending the principles of the core traffic scheme to the wider city.

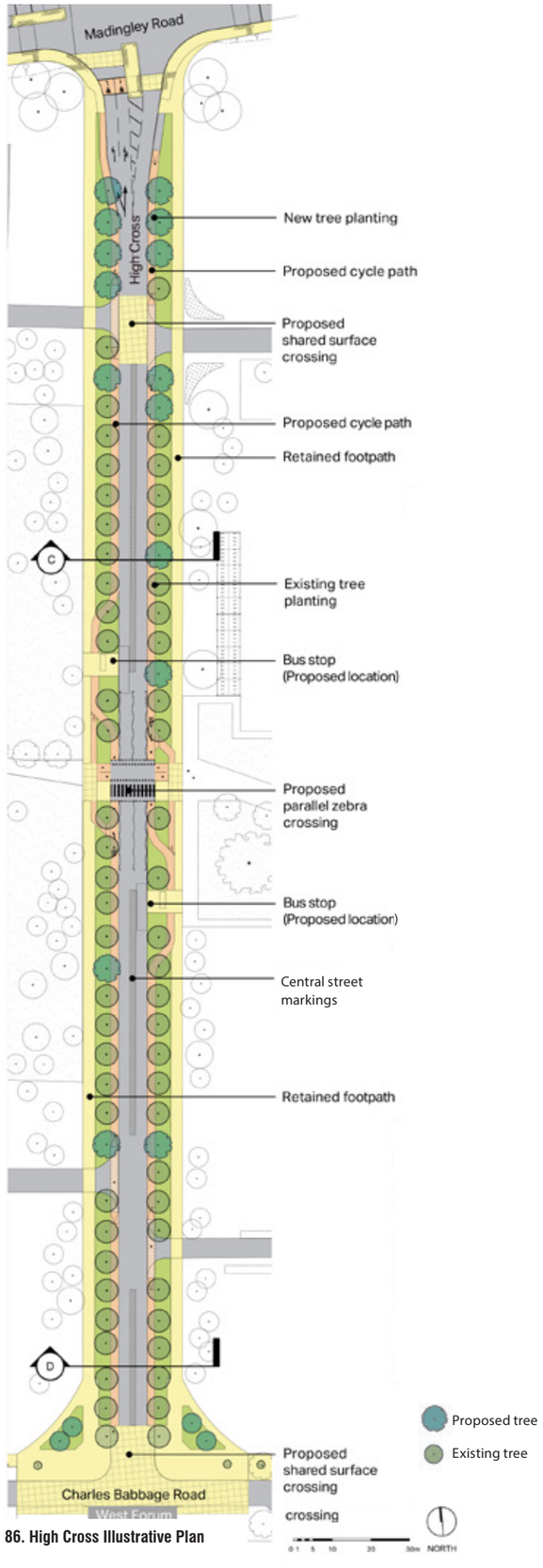
Appendix 6.1 – Likely Future Cycle Movements



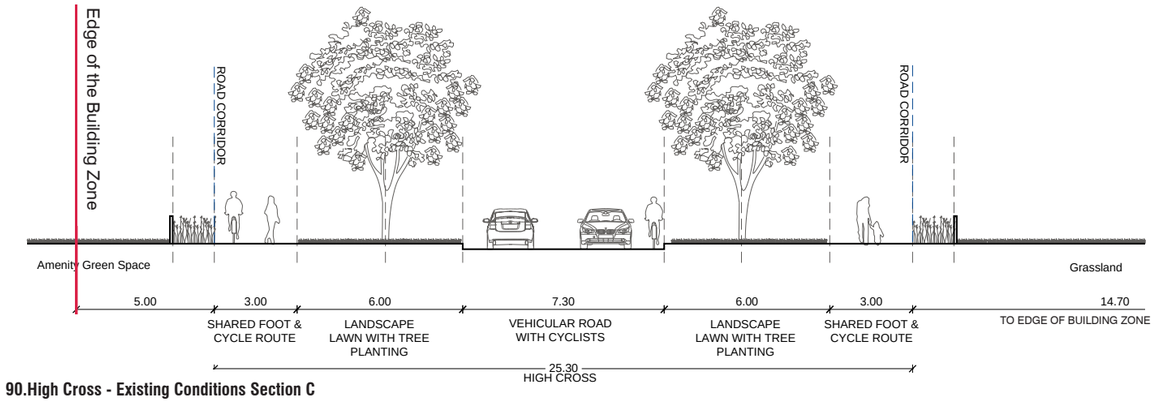
Appendix 6.2 – Design Guidelines Cross Sections



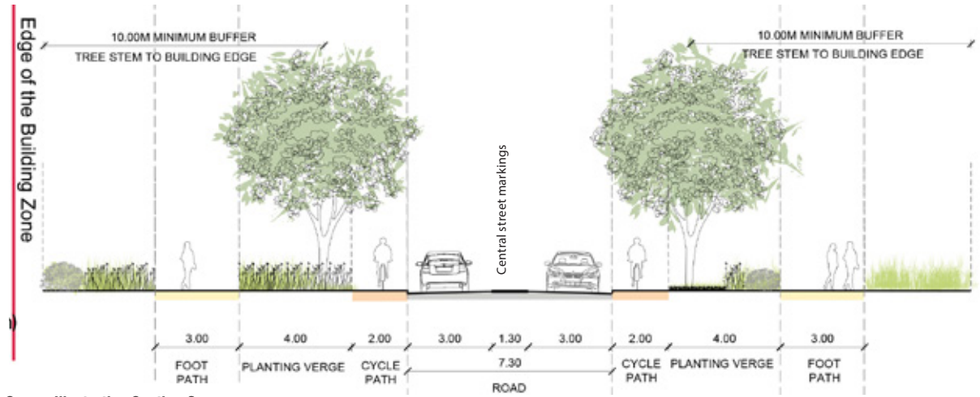
85. High Cross Existing Conditions Plan



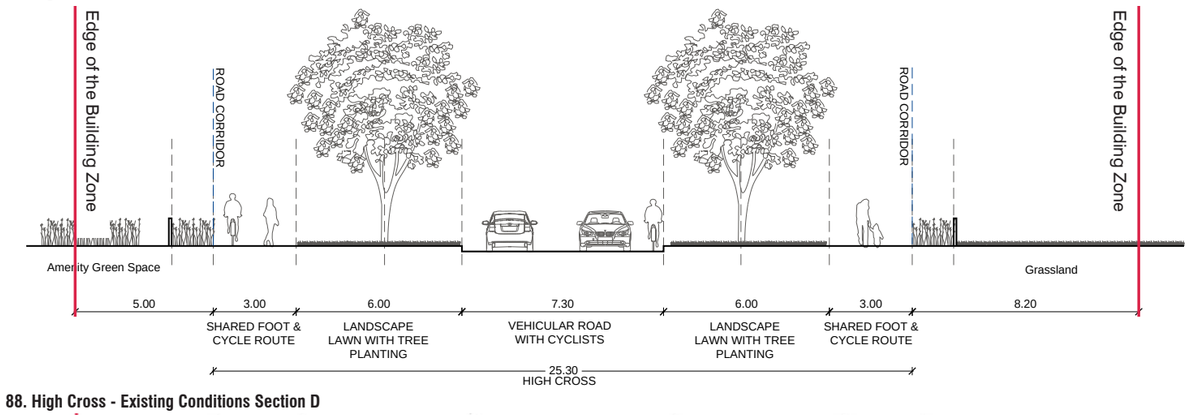
86. High Cross Illustrative Plan



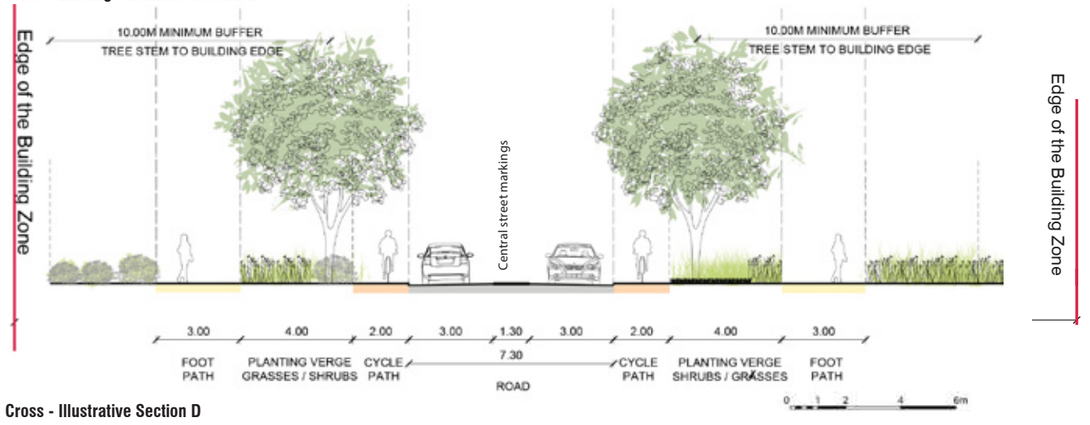
90.High Cross - Existing Conditions Section C



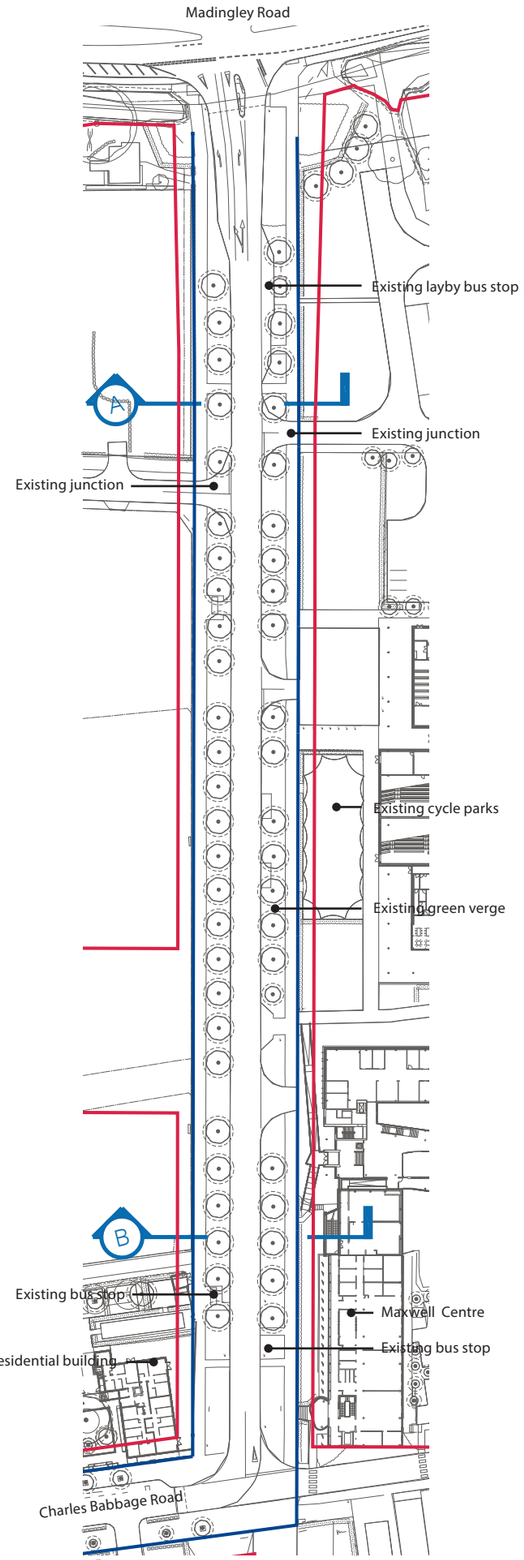
87. High Cross- Illustrative Section C



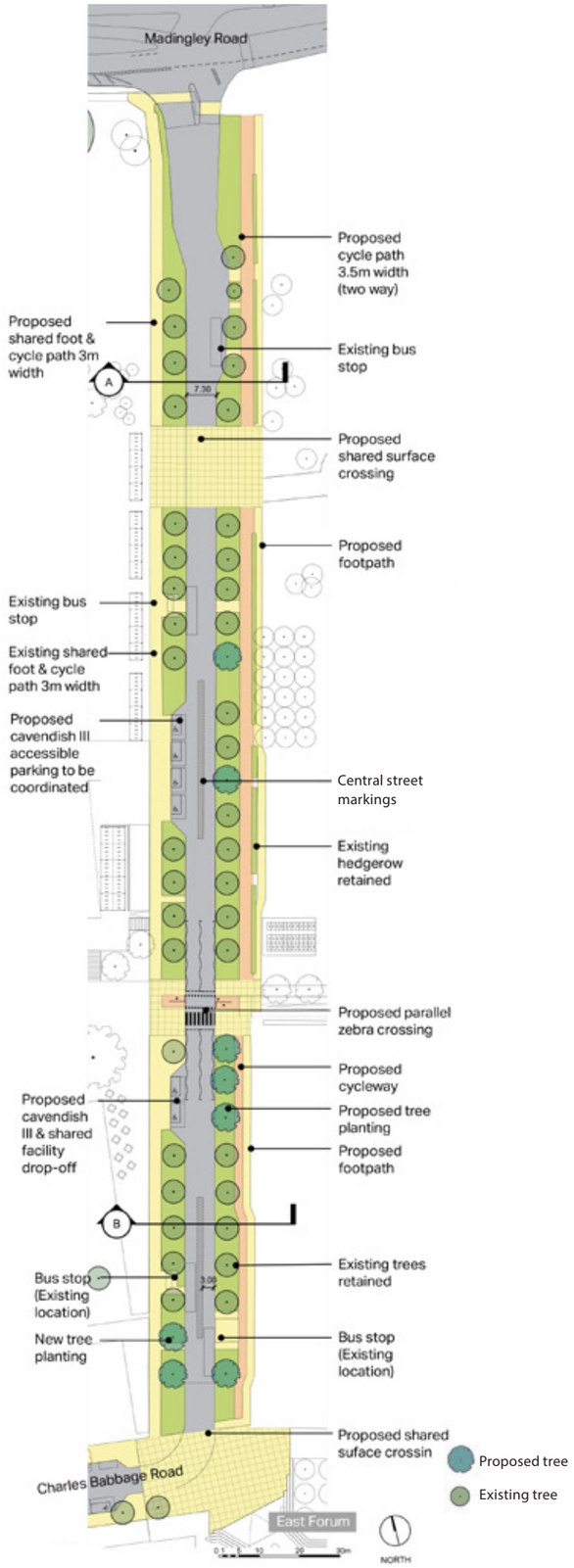
88. High Cross - Existing Conditions Section D



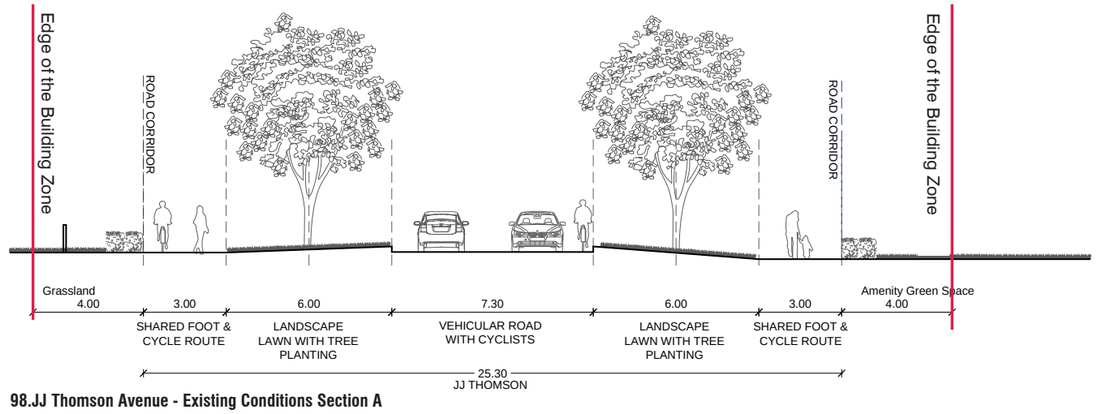
89. High Cross - Illustrative Section D



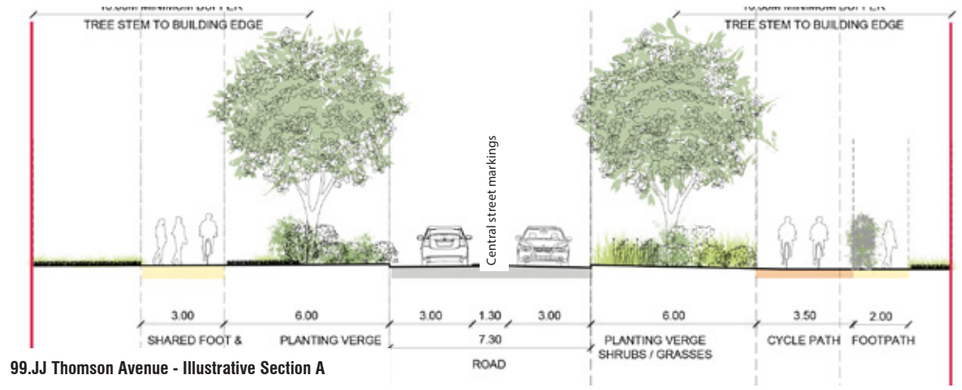
96.JJ Thomson Avenue Existing Conditions Plan



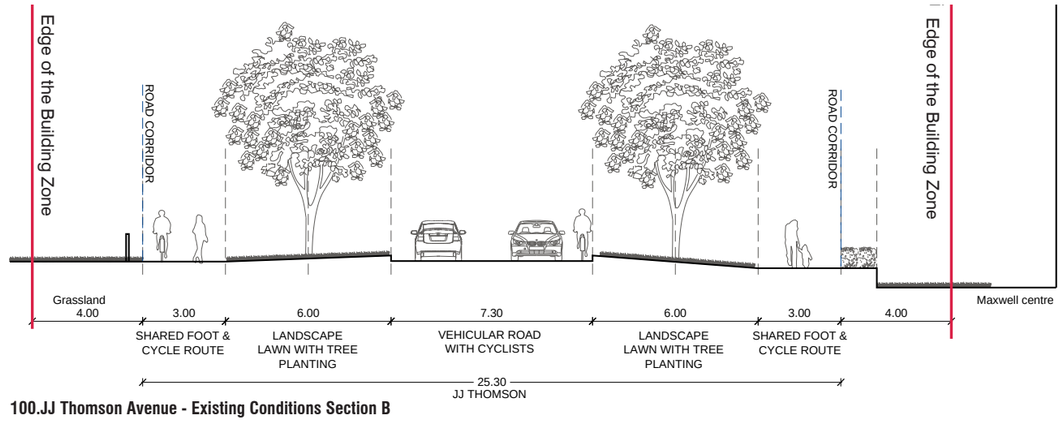
97.JJ Thomson Avenue Illustrative Plan



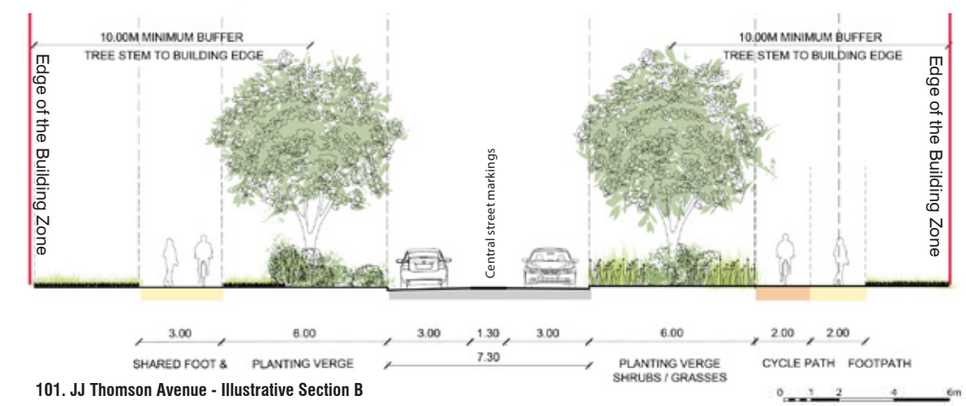
98.JJ Thomson Avenue - Existing Conditions Section A



99.JJ Thomson Avenue - Illustrative Section A



100.JJ Thomson Avenue - Existing Conditions Section B



101. JJ Thomson Avenue - Illustrative Section B

Heights and street frontage

3.4.7 The following provides the requirements for heights and street frontage along Charles Babbage Road. On the plan in Figure 111, the darker green colour denotes zones of open space secured through Parameter Plan 04. Other requirements for Charles Babbage Road are set out in the Parameter Statement.

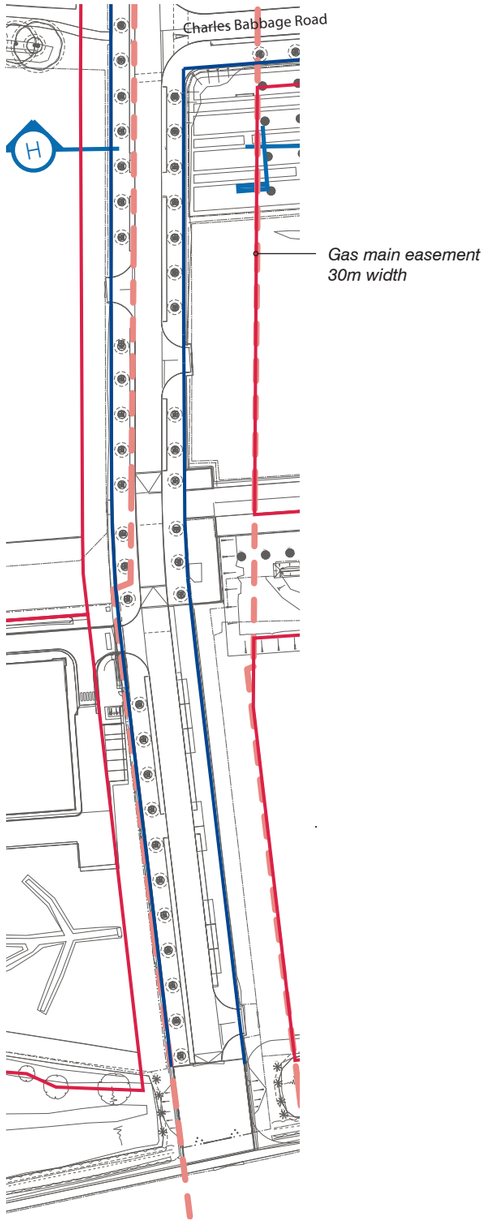
3.4.8 The guidelines for heights and street frontage are as follows:

M

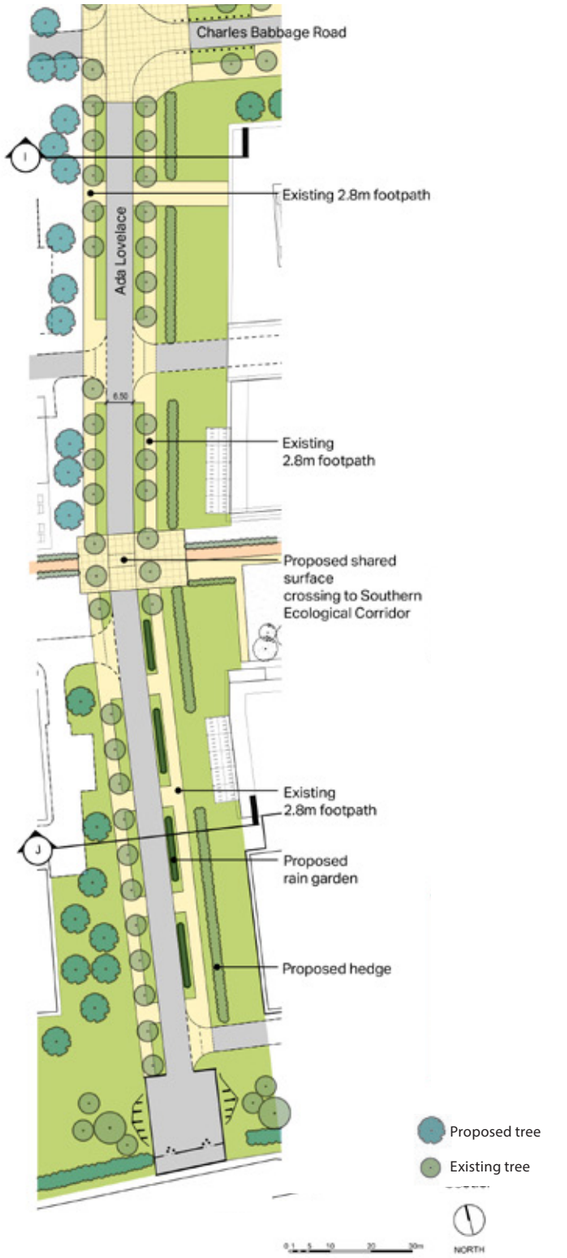
- The heights on the southern side of the street shall be lower to allow good daylight/sunlight penetration into the street, in accordance with approved height parameters;
- Building Zones are set to allow for a 8m buffer between the stems of the existing trees and the proposed building faces (maximum Build to Line). Thus, the total road corridor width and the width between buildings along Charles Babbage Road shall be a minimum of 30.5m;
- In addition to the 8m buffer, additional pocket spaces shall be provided to allow large species trees to grow to maturity. These spaces shall be a minimum 20m wide and minimum 16m deep from the edge of the Building Zones. The pocket spaces shall be distributed as shown in Figure 111: min. of 2 spaces between L1 and L1; min. of 1 space between L2 and L2; min. of 1 space between L3 and L3; and 1 space between L4 and L4. Planting shall be added to these pocket spaces;
- These spaces shall be located to provide a minimum 12m buffer from at least one of the existing street trees;
- The street frontage shall not exceed the set height of 35m (in the north) and 33m (in the south). From the frontage set height, the building heights shall stay within the envelopes which rise to the heights set in parameter plans with angles of 45° (North) or 38° (South);
- Long frontages dedicated to servicing, car parking and/or blank façades shall be avoided. External plant and storage structures (on frontage or separate structures) shall be minimised;

- The heights on the northern side of the street should have variation in roof-line;
- The setbacks within plots along the road corridor should be treated with a hard landscape (as a continuation of the street treatment) or should be planted to provide additional greenery in the street. Cycle parking areas may also be located within this zone;
- Activity along the street should be promoted by locating main entrances to buildings directly onto the street.

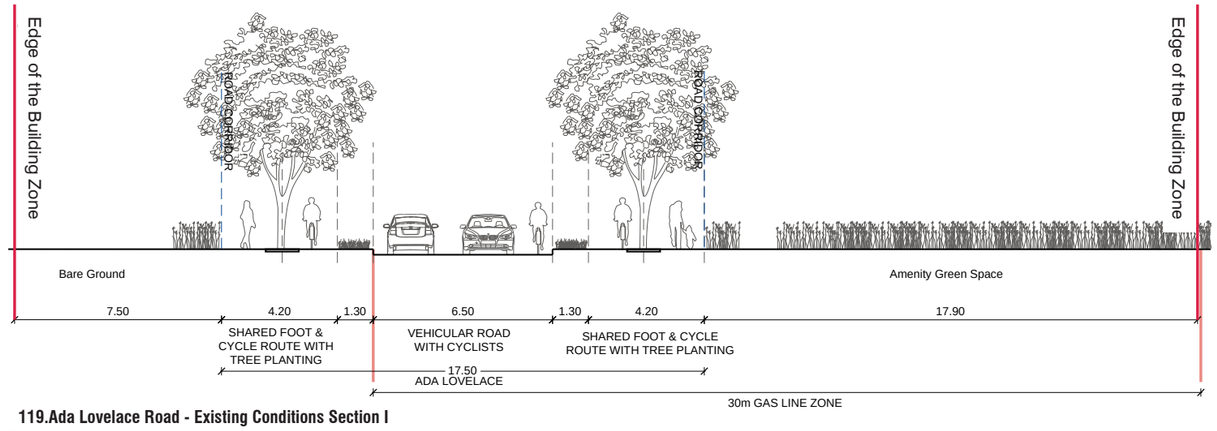
108. Charles Babbage Road



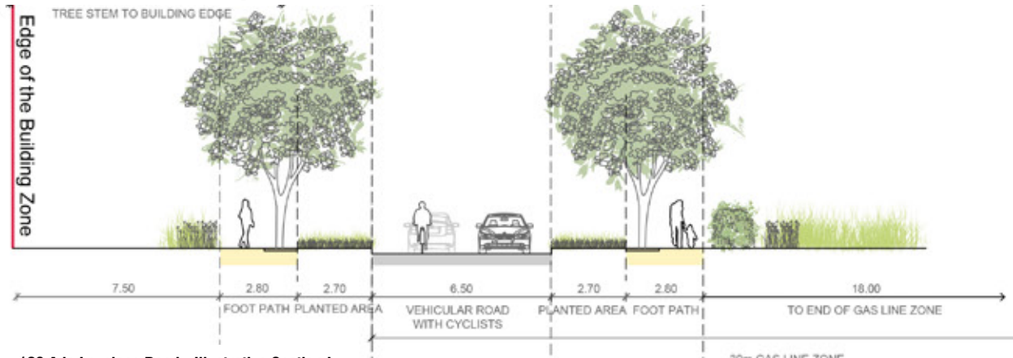
117.Ada Lovelace Road Existing Conditions Plan



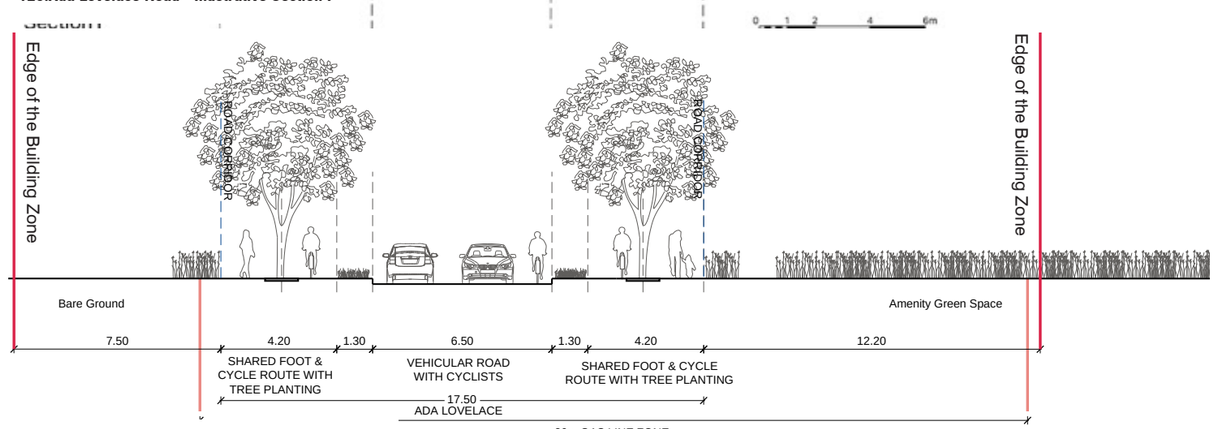
118.Ada Lovelace Road Illustrative Plan



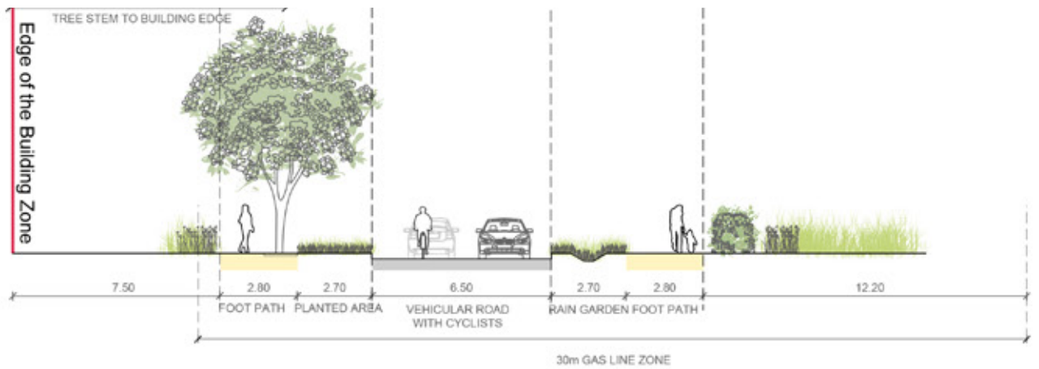
119.Ada Lovelace Road - Existing Conditions Section I



120.Ada Lovelace Road - Illustrative Section I

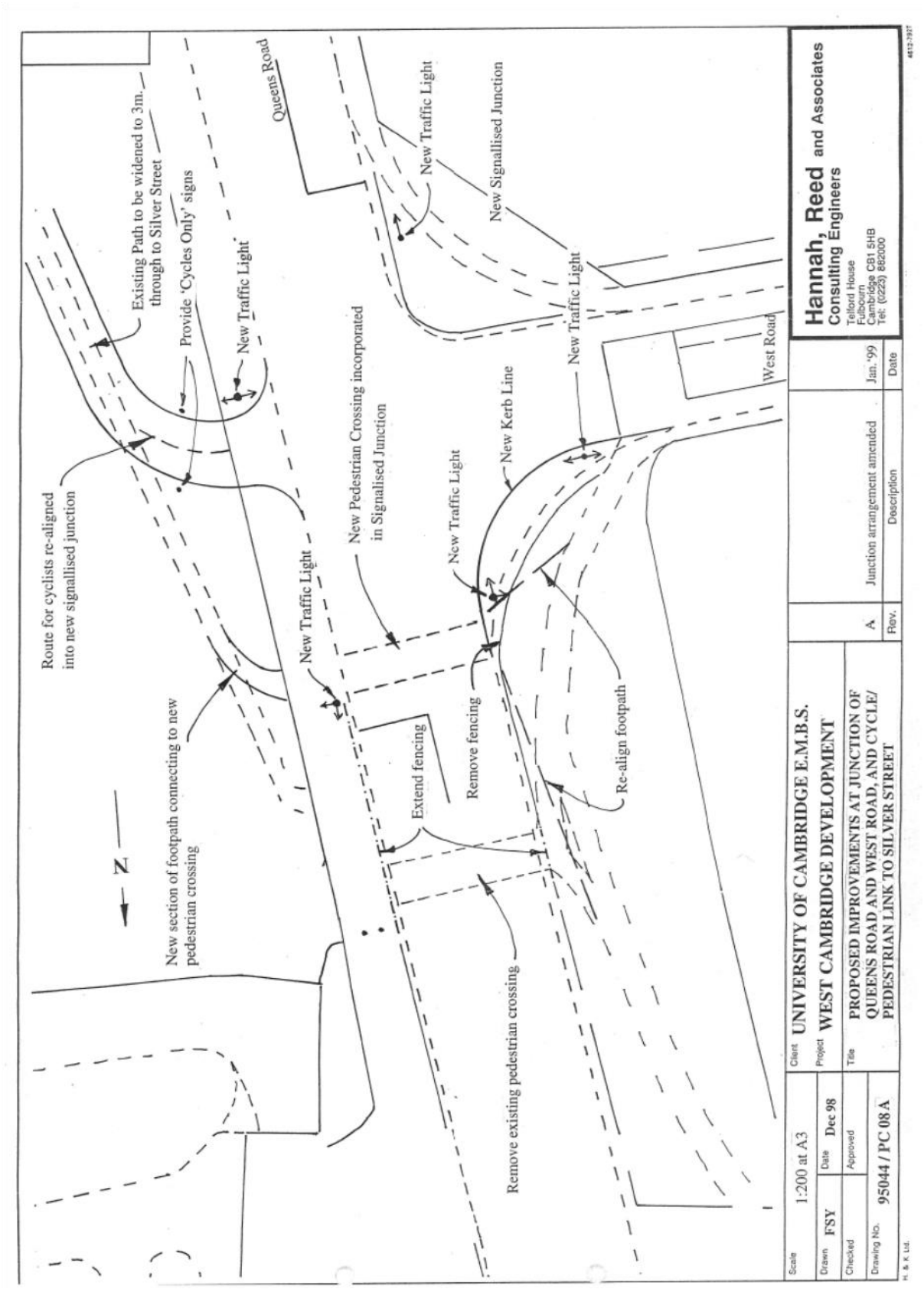


121.Ada Lovelace Road - Existing Conditions Section J



122.Ada Lovelace Road - Illustrative Section J

Appendix 6.3 – Hannah Reed Drawing 95044 PC08A



Appendix 7.1 – Assessment of Potential Occupant Post Code data and Bus route services

Zone Population Centroids

Services

- Within Walking Distance
- Citi
- Universal
- Shared Space - Universal / Citi
- Arc
- Busway

HUNTINGDON
GODMANCHESTER
CAMBRIDGE
Sapley
Stukeley
Hinchingbrooke
Brampton Park
Wyton
RAF Wyton
Needingworth
Hemingford Abbots
Hemingford Grey
Fenstanton
Swavesey
Fen Drayton
Willingham
Cottenham
Longstanton
Oakington
Aldreth
Histon
Landbeach
Denny End
Clayhithe
Horningsea
Orchard Park
Fen Ditton
Quy Waters
Romsey
Cherry Hinton
Newnham Croft
Madingley
Offord Cluny
Offord D'Arcy
Papworth St Agnes
Great Paxton
Toseland
Yelling
Papworth Everard
Elsworth
Knapwell
Boxworth
Lolworth
Bar Hill
Dry Drayton
Childerley
Upper Cambourne
Lower Cambourne
Childerley Gate
Eltisley
Caxton
Crow End
Bourn
Abbotsley
Great Gransden
Little Gransden
Longstowe
Great Eversden
Little Eversden
Wandlebury
Grantchester
Roman Hill
Trumpington

0 2.5 5 km

N

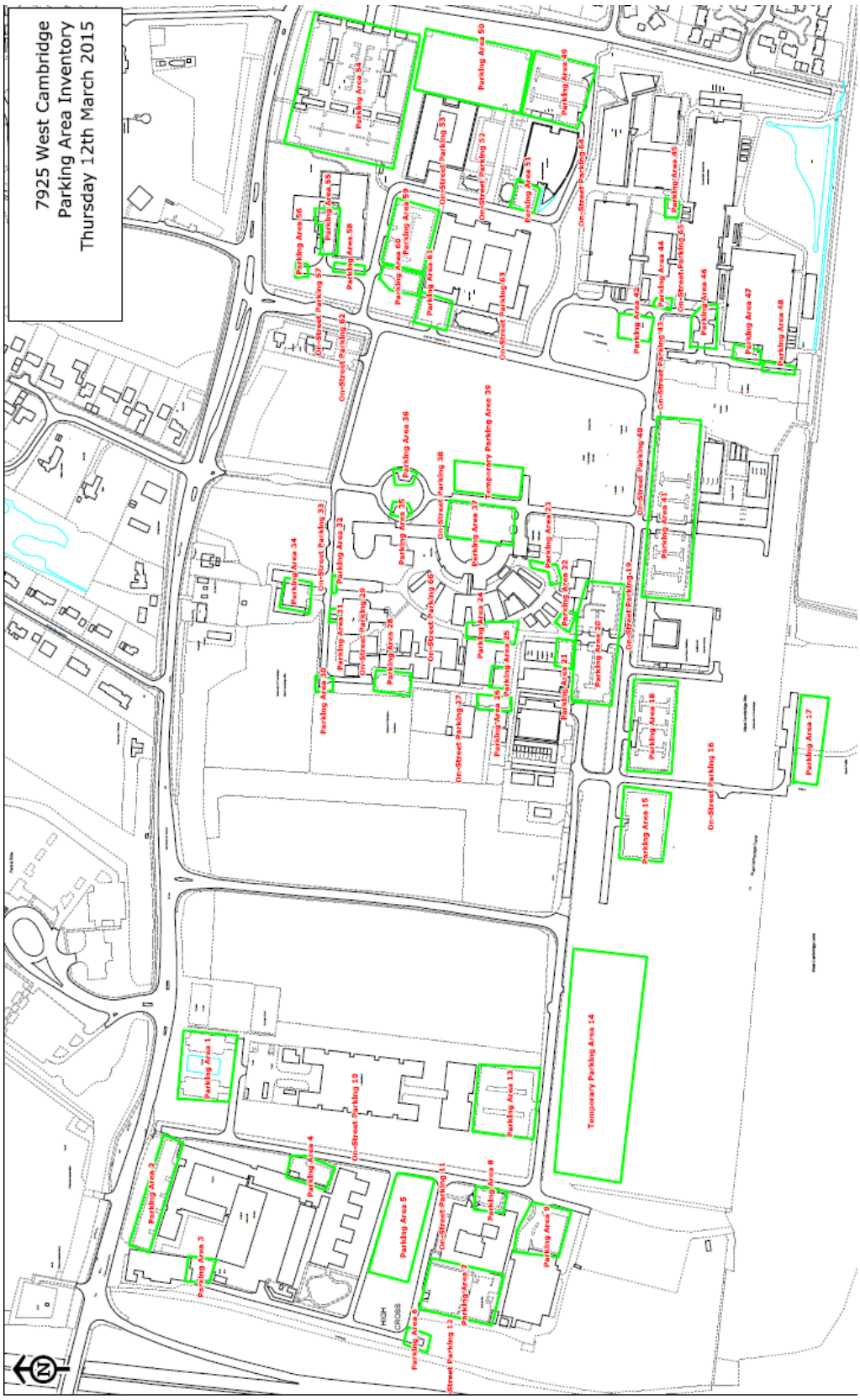
West Cambridge		pba peterbrett	Client	1:80,000 @ A3 01/09/17 Drawn: initials Checked: initials	Buffer Analysis Figure 1 | Rev A

Document Path: Z:\Projects\31500\Job_3\31500_BufferAnalysis.mxd

2031 AM Peak 3-hr

	Potential Users	Current Modelled Mode			
	All Modes	Walk	Cycle	Bus	Car
Arc	486	28	269	50	140
Universal	1263	472	517	39	192
Citi	1329	239	892	118	136
Within Walking Distance	146	103	17	0	17
Shared Space - Universal / Citi	267	100	134	6	22
Busway	1064	4	77	92	725

Appendix 8.1 – Car Parking Survey Results



EXISTING ON-SITE CAR PARKING PROVISION

Key

Parking Use Type	Car Parking Spaces (No)
University Parking	**1,164**
Private Parking	**407**
University Park and Cycle	**290**

Car Parking Area Reference taken from ATR Survey	Car Parking Spaces (No)	Parking Use Type
1	9	Private
2	51	Private
3	13	Private
4	0	Private
5	148	Private
6	6	Private
7	75	Private
8	7	Private
9	26	Private
10	0	University
11	0	Private
12	0	Private
13	72	Private
14	159	University
15	59	University
16	0	University
17	12	University
18	80	University
19	0	University
20	92	University
21	7	University
22	2	University
23	7	University
24	0	University
25	4	University
26	6	University
27	0	University
28	21	University
29	0	University
30	2	University
31	0	University
32	0	University
33	3	University
34	15	University
35	4	University
36	5	University
37	74	University
38	0	University
39	0	University
40	4	University
41	142	University
42	14	University
43	0	University
44	0	University

Car Parking Area Reference taken from ATR Survey	Car Parking Spaces (No)	Parking Use Type
45	0	University
46	11	University
47	5	University
48	4	University
49	275	University
50		University
51	4	University
52	0	University
53	0	University
54	290	Park and Cycle
55	11	University
56	2	University
57	0	University
58	8	University
59	66	University
60	7	University
61	19	University
62	0	University
63	0	University
64	0	University
65	0	University
66	40	University
Total	1,861	

Appendix 8.2 – Car Parking Delivery Framework

PETER BRETT ASSOCIATES LLP

UNIVERSITY OF CAMBRIDGE

WEST CAMBRIDGE DEVELOPMENT

FRAMEWORK - CAR PARKING DELIVERY – Version 1

1. Introduction

1.1 This document forms the Car Parking Delivery Framework for West Cambridge Development.

1.2 It summarises the information for future car parking requirements to be submitted to the Joint Authorities on an agreed cyclic basis. This is to provide the Joint Authorities with certainty that the West Cambridge Development would deliver an appropriate level of car parking in a reasonable and timely manner reflecting the identified development programme.

1.3 The Car Parking Delivery Framework consists of the following sections:

- Background
- Proposed Car Parking provision
- Timescales
- Document Contents

2. Background

2.1 The University of Cambridge has submitted an outline planning application relating to the intensification of development of an extant site at West Cambridge for academic and commercial research, and various associated facilities providing a mix of teaching and research space.

2.2 The Proposed Development will achieve the University's Development Vision through a series of parameter plans and a broadly defined description. This will allow flexibility in the description of the development. This reflects a key aim of the Proposed Development, to build in flexibility into the planning consent, so that the University can respond to changes in academic and commercial demand over the next twenty years or so, without needing to revisit the outline planning permission.

2.3 The University is committed to delivering a high quality development. Under-provision of car parking within the Site could be detrimental to the street-scene, with "fly-parking" occurring across the area. Similarly, an over-generous provision would be equally likely to be detrimental to the sustainability credentials of the Development, with excessive numbers of car driver trips attracted by the easy car parking provision.

2.4 Similarly, to reflect that car use demand will decrease as the various transport mitigation measures are implemented as the Development progresses – such as public transport services increasing in frequency and coverage – and that non-car travel becomes easier, a less generous car parking provision will become less essential: it is proposed that the maximum car parking provision decreases towards the later phases of delivery of the West Cambridge Development. Any future reduction in car parking provision over time will need to be carefully managed and timed to follow wider transport improvements, and the University will need to ensure that any loss of provision reflects a demonstrable improvement in accessibility by non-car modes.

2.5 Whilst the Joint Authorities support this approach, they require certainty that the West Cambridge Development would deliver an appropriate level of car parking in a reasonable manner.

2.6 As such, the University has sought that this requirement be resolved by a planning condition referencing this Car Parking Delivery Framework, that such information be provided on a regular basis and to support each individual Reserved Matters application.

3. Car parking provision

3.1 The proposed maximum car parking standards to be applied at West Cambridge are summarised in Section 8 of the West Cambridge Development Transport Assessment.

3.2 These have been derived with initial reference to the maximum car parking standard applied at the adjacent North West Cambridge Development, and the current car parking patronage at West Cambridge. The proposed car parking maximum standards through the life of the West Cambridge Development are summarised in Table 1.

Table 1: Car Parking Maximum Provision Proposals

Land-Use	Development Phase	Car Parking Provision (Maxima)
Academic Research	Initial	1 car parking space per 4 staff
		No provision for students
	Later	1 car parking space per 5 staff
		No provision for students
Commercial Research	Initial	1 car parking space per 40m^2 GFA
	Later	1 car parking space per 70m^2 GFA

3.3 Using the above standards, the following car parking provision is identified, and compared to that consented in 1999:

Table 2: Car Parking Provision

Development Phase	Car Parking Provision (spaces)
Current Car Parking Provision (excluding Park and Cycle)	*1,571*
Stated Extant Consent Car Parking Provision	*3,150*
Initial Phase	2,570
Full Development	4,390

3.4 The University will review the car parking provision, and seek to reduce the provision as appropriate and in agreement with the Joint Authorities as West Cambridge progresses.

4. Timescales

4.1 A Car Parking Delivery document will be submitted:

i) in support of each Reserved Matters Application for all individual plots; and

ii) in the event of no Reserved Matters Applications being made for two years after the previous one until West Cambridge has completed to an agreed level.

5. Review document contents

5.1 The contents of the Car Parking Delivery review document will be scoped and agreed with the Joint Authorities before each submission to ensure that all aspects are responded to. It is anticipated to include:

i) Introduction – including:

- document control;
- the driver for this Car Parking Review;
- details of the Car Parking Review Scoping with the Joint Authorities;

Monitoring of the existing situation

ii) Existing Estate car park provision;

iii) Existing car park occupation. This will be informed with a “beat” survey to an agreed specification, undertaken throughout the day in question on an hourly basis, and will be undertaken within a year of the Review;

iv) Existing car park permit allocations;

v) General commentary on car parking conditions – including feedback from (inter alia):

- Cambridge City Council, the Local Planning Authority;
- local residents’ groups;
- the on-site Annual Travel Surveys;
- the Estate Management.

Changes to the Existing Development car parking provision:

vi) Temporary changes to the on-site car parking requirements, including:

- future building work on the existing car park provision;

- construction activity on the existing car park provision;
- update on the previously committed building floor space closures / occupation timescales;

vii) Long-term proposed changes to the on-site car parking requirements, including:

- completion of new car parking spaces;
- proposed building floor space changes;
- proposed amendments to the car parking provision;
- the car park management regime;

v) Accessibility car parking issues; and

vi) Construction car parking management proposals.

Version 1

31500 / NTN / GLC / JPH May 1st 2017

Appendix 11.1 – Assessment of Construction Movements

Summary of Assessment

11.1 The construction activities that generate the highest volume of daily trips normally relate to:

i) removal of material off-site;

ii) the construction of a carriageway; or

iii) the casting of foundations for a major building.

11.2 As the majority of these could occur during the Initial Phase, the peak construction movements generated during this phase have been considered.

11.3 It has been assumed that the following major elements of the Development will be constructed in Year 1 of the Initial Phase:

i) on-site earthworks and landscaping – including construction of balancing ponds, and excavation of building foundations;

ii) construction of the on-site drainage;

iii) construction of a secondary access road and at-grade car parking;

iv) an initial construction phase of a major building.

11.4 The traffic generation of the remainder of the Development to be implemented in other phases would be less.

11.5 As further activities could not occur simultaneously (for example, the construction of the secondary site access carriageway may prevent other construction activities on site that day), this assessment considers a realistic peak construction movement.

11.6 The movements generated by these activities are considered individually.

Earthworks

11.7 As there is no requirement for the construction of large noise bunds, nor is land available for landscaping, the material arising during excavation will need to be removed off-site. Until a contractor is appointed and the disposal site identified, it is uncertain unto where this material will be removed to.

11.8 This operation is likely to be programmed away from the winter months, to minimise the days lost to poor weather.

11.9 The daily movements are assumed to include:

i) fuel deliveries and maintenance - assumed to be 2 heavy vehicle trips per day;

ii) a total of ten heavy vehicles, serving two excavators, each making eight journeys per day – a total of 80 heavy movements per day;

iii) operatives' journeys to work trips - assumed to be 20 operatives, 10 car trips per day with 2 occupants per vehicle.

On-site drainage

11.10 The majority of the on-site drainage construction works are assumed to be undertaken during the first year. As on-site storage of materials will be limited, most of the drainage construction works are unlikely to generate high volumes of light or heavy vehicle movements on the surrounding highway network.

11.11 The daily movements are assumed to include:

i) deliveries of aggregate, pipe materials and concrete supplies for drainage chambers – assumed to be 4 heavy vehicle trips per day;

ii) operatives' journeys to work trips - assumed to be 8 operatives, 4 car trips per day with 2 occupants per vehicle.

Carriageway Construction

11.12 For the purposes of deriving a reasonable worst case assessment, it is assumed that there would be a total of 12 operatives on site, with one paving machine receiving deliveries every 10 minutes through the day for ten hours. The daily movements are assumed to include:

i) a total of 60 heavy vehicle trips delivering the bitumen;

ii) operatives' journeys to work trips - assumed to be 12 operatives, 6 car trips per day with 2 occupants per vehicle.

11.13 The number of days when the carriageway construction operation is on-going at full capacity and generating these higher levels of flow are anticipated to be limited due to the limited area of carriageway construction required. It is thought that these flows would be generated on carriageway construction work on around 10 days in total across the whole project.

Initial construction works to a major building

11.14 The main construction of the buildings is assumed to start after the first year. However, it has been assumed that initial groundworks would start to one building in the first year.

11.15 For the purposes of deriving a reasonable worst case assessment, the works are assumed to consist of the casting of an average 750mm slab, across an area of 2,000m^2. This base is assumed to be cast in 5 days.

11.16 it is assumed that there would be a total of 20 operatives on site, receiving concrete deliveries every 10 minutes through the day for ten hours. The daily movements are assumed to include:

i) a total of 50 heavy vehicle trips delivering the concrete (6m^3 per wagon);

ii) operatives' journeys to work trips (assumed to be 20 operatives, 10 car trips per day with 2 occupants per vehicle).

Total movements

11.17 As part of the Construction Access Strategy, a Construction Environment Management Plan (CEMP) will be prepared. The CEMP will set out the University's aim to reduce the transport impacts of the construction traffic servicing the Site, and the movements associated with construction waste. This CEMP will apply to all the individual construction sites within the Development, and will manage when activities generating significant levels of movement on the network may occur.

11.18 As such, the peak movements associated with each of the above activities will be managed: the University will manage when the carriageway and building construction peak delivery days may occur, only one of these may occur on one day.

11.19 As such, for the purposes of this assessment it is assumed that the CEMP would programme the works so that the initial construction works (the concrete casting) would not occur at the same time as the carriageway construction.

11.20 The assumed Initial Phase Peak Daily Construction traffic flows are summarised in Table 11.1:

Table 11.1 – Peak Daily Construction Movements

Activity	Max Light Vehicle Movts / day			Max Heavy Vehicle Movts / day			Max Total Vehicle Movts / day		
Earthworks	10	10	20	82	82	164	92	92	184
On-Site Drainage	4	4	8	4	4	8	8	8	16
Carriageway construction	6	6	12	60	60	120	66	66	132
Building construction	10	10	20	0	0	0	10	10	20
Total	**30**	**30**	**60**	**146**	**146**	**292**	**176**	**176**	**352**

11.21 These flows are used to assess the impact of the Development on the surrounding highway network.

Appendix 12.1 – Technical Note 7 – Summary of Transport Modelling to support the West Cambridge Application

Appendix 13.1 – Network flows – 2021 Do Minimum

No.	Link	2021 Do Minimum	
		AM	PM
1.0	M11 - J12 - J13 - Nbd	3,857	3,935
1.0	M11 - J12 - J13 - Sbd	3,882	3,931
1.1	M11 J13 -J14 - Nbd	2,452	3,141
1.1	M11 J13 -J14 - Sbd	2,879	2,643
1.2	M11 between A14 Ebd on-slip / Huntingdon Rd on slip - Nbd	1,603	2,284
1.2	M11 between A14 Ebd on-slip / Huntingdon Rd on slip - Sbd	2,265	1,690
1.3	M11 J13 off-slip - Nbd	1,305	1,153
1.3	M11 J13 on-slip - Sbd	617	1,221
2.0	A14 West of J30 (Bar Hill) - Ebd	4,049	3,639
2.0	A14 West of J30 (Bar Hill) - Wbd	3,349	4,619
2.1	A14 North West of M11 J14 - Ebd	4,157	3,834
2.1	A14 North West M11 J14 - Wbd	3,473	4,467
2.2	A14 West of J32 Interchange - Ebd	4,029	3,988
2.2	A14 West of J32 Interchange - Wbd	3,980	4,039
2.3	A428 -West of M11 J14 - Ebd	1,687	791
2.3	A428 - West of M11 J14 - Wbd	827	1,297
3.0	A1303 East of Madingley Mulch R'bout Ebd	587	609
3.0	A1303 East of Madingley Mulch R'bout Wbd	594	1,345
3.1	Madingley Rd - East of Cambridge Rd Crossroads Wbd	708	1,672
3.1	Madingley Rd - East of Cambridge Rd Crossroads Ebd	949	825
3.2	Madingley Rd on Over Bridge M11 Ebd	1,855	1,195
3.2	Madingley Rd on Over Bridge M11 Wbd	312	892
3.3	Madingley Rd between M11 Sbd On Slip - Proposed Madingley Rd West Access Ebd	1,600	757
3.3	Madingley Rd between M11 Sbd On Slip - Proposed Madingley Rd West Access Wbd	673	1,671
3.4	Madingley Rd - West of P&R Access Wbd	687	1,692
3.4	Madingley Rd - West of P&R Access Ebd	1,612	775

No.	Link	2021 Do Minimum	
		AM	PM
3.5	Madingley Rd - East of P&R Access Wbd	710	1,539
3.5	Madingley Rd - East of P&R Access Ebd	1,485	805
3.6	Madingley Rd - East of Proposed High Cross Access Ebd	1,213	710
3.6	Madingley Rd - East of Proposed High Cross Access Wbd	795	1,249
3.7	Madingley Rd - East of JJ Thomson Ave Ebd	977	922
3.7	Madingley Rd - East of JJ Thomson Ave Wbd	980	1,053
3.8	Madingley Rd - East of Clerk Maxwell Rd Ebd	905	941
3.8	Madingley Rd - East of Clerk Maxwell Rd Wbd	999	982
3.9	Madingley Rd - East of Storey's Way Ebd	878	956
3.9	Madingley Rd - East of Storey's Way Wbd	1,061	829
3.10	Madingley Rd - East of Grange Road Ebd	867	946
3.10	Madingley Rd - East of Grange Road Wbd	1,052	817
3.11	Madingley Rd - West of Queen's Rd / Northampton St R'bout Ebd	971	806
3.11	Madingley Rd - West of Queen's Rd / Northampton St R'bout Wbd	820	906
3.12	Northampton St - West of Pound Hill Ebd	551	867
3.12	Northampton St - West of Pound Hill Wbd	754	690
4.0	Huntingdon Rd - West of Proposed NWC HRW Access NWbd	479	1,006
4.0	Huntingdon Rd - West of Proposed NWC HRW Access SEbd	684	498
4.1	Huntingdon Rd - South East of Grange Drive opposite Girton College NWbd	411	753
4.1	Huntingdon Rd - South East of Grange Drive opposite Girton College SEbd	413	413
4.2	Huntingdon Rd - East of NWC HRW Access NWbd	609	1,224
4.2	Huntingdon Rd - East of NWC HRW Access SEbd	846	743
4.3	Huntingdon Rd - East of Darwin Green Access NWbd	612	1,299
4.3	Huntingdon Rd - East of Darwin Green Access SEbd	1,172	763
4.4	Huntingdon Rd - East of Storey's Way NWbd	592	1,176
4.4	Huntingdon Rd - East of Storey's Way SEbd	1,042	761
5.0	Barton Rd - West of Grantchester Rd Ebd	1,175	529
5.0	Barton Rd - West of Grantchester Rd Wbd	325	1,017

No.	Link	2021 Do Minimum	
		AM	PM
5.1	Barton Rd - East of Grantchester Rd Ebd	663	479
5.1	Barton Rd - East of Grantchester Rd Wbd	306	980
6.0	Queen's Rd - North of West Rd Nbd	572	813
6.0	Queen's Rd - North of West Rd Sbd	929	648
7.0	Histon Road - South of A14 Nbd	1,130	1,898
7.0	Histon Road - South of A14 Sbd	2,092	1,437
8.0	Grange Rd - South of Madingley Rd Nbd	217	226
8.0	Grange Rd - South of Madingley Rd Sbd	349	172
9.0	Storey's Way - between Madingley Rd and Huntingdon Rd Ebd	222	73
9.0	Storey's Way - between Madingley Rd and Huntingdon Rd Wbd	91	212
10.0	Girton Rd - North of Huntingdon Rd Nbd	159	393
10.0	Girton Rd - North of Huntingdon Rd Sbd	399	236
11.0	Proposed Darwin Green Access - between Huntingdon Rd and Histon Rd Nbd	14	105
11.0	Proposed Darwin Green Access - between Huntingdon Rd and Histon Rd Sbd	107	33
11.1	Proposed Madingley Rd West Access to NWC Nbd	149	634
11.1	Proposed Madingley Rd West Access to NWC Sbd	589	240
11.2	Proposed Huntingdon Rd West Access to NWC Nbd	69	254
11.2	Proposed Huntingdon Rd West Access to NWC Sbd	271	86
11.3	Proposed Huntingdon Rd East Access to NWC Sbd	197	257
11.3	Proposed Huntingdon Rd East Access to NWC Nbd	193	276
12.0	Western Access to Madingley Rd Nbd	0	0
12.0	Western Access to Madingley Rd Sbd	0	0
12.1	High Cross Access to Madingley Rd Nbd	352	760
12.1	High Cross Access to Madingley Rd Sbd	839	383
12.2	JJ Thomson Ave Access to Madingley Rd Nbd	97	304
12.2	JJ Thomson Ave Access to Madingley Rd Sbd	309	86
12.3	Clerk Maxwell Rd Nbd – South of Car Park Access	26	43
12.3	Clerk Maxwell Rd Sbd – South of Car Park Access	45	25

No.	Link	2021 Do Minimum	
		AM	PM
12.4	Clerk Maxwell Rd Sbd – North of Car Park Access	125	33
12.4	Clerk Maxwell Rd Nbd – North of Car Park Access	37	111

Appendix 13.2 – Network Flows 2021 Do Something

No.	Link	2021 Do Something	
		AM	PM
1.0	M11 - J12 - J13 - Nbd	3,855	3,929
1.0	M11 - J12 - J13 - Sbd	3,875	3,929
1.1	M11 J13 -J14 - Nbd	2,447	3,138
1.1	M11 J13 -J14 - Sbd	2,875	2,637
1.2	M11 between A14 Ebd on-slip / Huntingdon Rd on slip - Nbd	1,599	2,281
1.2	M11 between A14 Ebd on-slip / Huntingdon Rd on slip - Sbd	2,262	1,686
1.3	M11 J13 off-slip - Nbd	1,307	1,150
1.3	M11 J13 on-slip - Sbd	613	1,223
2.0	A14 West of J30 (Bar Hill) - Ebd	4,055	3,638
2.0	A14 West of J30 (Bar Hill) - Wbd	3,347	4,629
2.1	A14 North West of M11 J14 - Ebd	4,157	3,823
2.1	A14 North West M11 J14 - Wbd	3,461	4,473
2.2	A14 West of J32 Interchange - Ebd	4,025	3,982
2.2	A14 West of J32 Interchange - Wbd	3,974	4,036
2.3	A428 -West of M11 J14 - Ebd	1,686	790
2.3	A428 - West of M11 J14 - Wbd	826	1,296
3.0	A1303 East of Madingley Mulch R'bout Ebd	587	607
3.0	A1303 East of Madingley Mulch R'bout Wbd	592	1,348
3.1	Madingley Rd - East of Cambridge Rd Crossroads Wbd	705	1,666
3.1	Madingley Rd - East of Cambridge Rd Crossroads Ebd	940	822
3.2	Madingley Rd on Over Bridge M11 Ebd	1,849	1,190
3.2	Madingley Rd on Over Bridge M11 Wbd	310	887
3.3	Madingley Rd between M11 Sbd On Slip - Proposed Madingley Rd West Access Ebd	1,596	753
3.3	Madingley Rd between M11 Sbd On Slip - Proposed Madingley Rd West Access Wbd	668	1,670
3.4	Madingley Rd - West of P&R Access Wbd	705	1,688

No.	Link	2021 Do Something	
		AM	PM
3.4	Madingley Rd - West of P&R Access Ebd	1,607	779
3.5	Madingley Rd - East of P&R Access Wbd	736	1,544
3.5	Madingley Rd - East of P&R Access Ebd	1,490	816
3.6	Madingley Rd - East of Proposed High Cross Access Ebd	1,354	715
3.6	Madingley Rd - East of Proposed High Cross Access Wbd	711	1,358
3.7	Madingley Rd - East of JJ Thomson Ave Ebd	964	716
3.7	Madingley Rd - East of JJ Thomson Ave Wbd	709	1,012
3.8	Madingley Rd - East of Clerk Maxwell Rd Ebd	873	839
3.8	Madingley Rd - East of Clerk Maxwell Rd Wbd	868	948
3.9	Madingley Rd - East of Storey's Way Ebd	845	855
3.9	Madingley Rd - East of Storey's Way Wbd	932	795
3.10	Madingley Rd - East of Grange Road Ebd	836	849
3.10	Madingley Rd - East of Grange Road Wbd	927	785
3.11	Madingley Rd - West of Queen's Rd / Northampton St R'bout Ebd	945	723
3.11	Madingley Rd - West of Queen's Rd / Northampton St R'bout Wbd	724	880
3.12	Northampton St - West of Pound Hill Ebd	534	797
3.12	Northampton St - West of Pound Hill Wbd	684	675
4.0	Huntingdon Rd - West of Proposed NWC HRW Access NWbd	476	1,016
4.0	Huntingdon Rd - West of Proposed NWC HRW Access SEbd	689	495
4.1	Huntingdon Rd - South East of Grange Drive opposite Girton College NWbd	408	752
4.1	Huntingdon Rd - South East of Grange Drive opposite Girton College SEbd	412	410
4.2	Huntingdon Rd - East of NWC HRW Access NWbd	575	1,216
4.2	Huntingdon Rd - East of NWC HRW Access SEbd	836	715
4.3	Huntingdon Rd - East of Darwin Green Access NWbd	591	1,291
4.3	Huntingdon Rd - East of Darwin Green Access SEbd	1,162	745
4.4	Huntingdon Rd - East of Storey's Way NWbd	586	1,170
4.4	Huntingdon Rd - East of Storey's Way SEbd	1,034	756
5.0	Barton Rd - West of Grantchester Rd Ebd	1,173	524

No.	Link	2021 Do Something	
		AM	PM
5.0	Barton Rd - West of Grantchester Rd Wbd	325	1,016
5.1	Barton Rd - East of Grantchester Rd Ebd	662	474
5.1	Barton Rd - East of Grantchester Rd Wbd	306	980
6.0	Queen's Rd - North of West Rd Nbd	543	800
6.0	Queen's Rd - North of West Rd Sbd	918	633
7.0	Histon Road - South of A14 Nbd	1,127	1,908
7.0	Histon Road - South of A14 Sbd	2,100	1,434
8.0	Grange Rd - South of Madingley Rd Nbd	212	224
8.0	Grange Rd - South of Madingley Rd Sbd	348	168
9.0	Storey's Way - between Madingley Rd and Huntingdon Rd Ebd	221	73
9.0	Storey's Way - between Madingley Rd and Huntingdon Rd Wbd	90	211
10.0	Girton Rd - North of Huntingdon Rd Nbd	157	380
10.0	Girton Rd - North of Huntingdon Rd Sbd	383	233
11.0	Proposed Darwin Green Access - between Huntingdon Rd and Histon Rd Nbd	12	93
11.0	Proposed Darwin Green Access - between Huntingdon Rd and Histon Rd Sbd	92	32
11.1	Proposed Madingley Rd West Access to NWC Nbd	139	576
11.1	Proposed Madingley Rd West Access to NWC Sbd	514	230
11.2	Proposed Huntingdon Rd West Access to NWC Nbd	68	264
11.2	Proposed Huntingdon Rd West Access to NWC Sbd	276	85
11.3	Proposed Huntingdon Rd East Access to NWC Sbd	149	247
11.3	Proposed Huntingdon Rd East Access to NWC Nbd	181	237
12.0	Western Access to Madingley Rd Nbd	0	0
12.0	Western Access to Madingley Rd Sbd	0	0
12.1	High Cross Access to Madingley Rd Nbd	318	587
12.1	High Cross Access to Madingley Rd Sbd	516	350
12.2	JJ Thomson Ave Access to Madingley Rd Nbd	64	201
12.2	JJ Thomson Ave Access to Madingley Rd Sbd	272	43
12.3	Clerk Maxwell Rd Nbd – South of Car Park Access	22	13

No.	Link	2021 Do Something	
		AM	PM
12.3	Clerk Maxwell Rd Sbd – South of Car Park Access	10	21
12.4	Clerk Maxwell Rd Sbd – North of Car Park Access	295	51
12.4	Clerk Maxwell Rd Nbd – North of Car Park Access	58	255

Appendix 13.3 – Network flows – 2031 Do Minimum

No.	Link	2031 Do Minimum	
		AM	PM
1.0	M11 - J12 - J13 - Nbd	3,895	4,123
1.0	M11 - J12 - J13 - Sbd	4,078	4,019
1.1	M11 J13 -J14 - Nbd	2,480	3,264
1.1	M11 J13 -J14 - Sbd	3,006	2,698
1.2	M11 between A14 Ebd on-slip / Huntingdon Rd on slip - Nbd	1,631	2,394
1.2	M11 between A14 Ebd on-slip / Huntingdon Rd on slip - Sbd	2,372	1,742
1.3	M11 J13 off-slip - Nbd	1,314	1,218
1.3	M11 J13 on-slip - Sbd	686	1,253
2.0	A14 West of J30 (Bar Hill) - Ebd	4,096	3,677
2.0	A14 West of J30 (Bar Hill) - Wbd	3,380	4,672
2.1	A14 North West of M11 J14 - Ebd	4,384	4,017
2.1	A14 North West M11 J14 - Wbd	3,595	4,711
2.2	A14 West of J32 Interchange - Ebd	4,132	4,126
2.2	A14 West of J32 Interchange - Wbd	4,102	4,143
2.3	A428 -West of M11 J14 - Ebd	1,725	852
2.3	A428 - West of M11 J14 - Wbd	888	1,332
3.0	A1303 East of Madingley Mulch R'bout Ebd	645	662
3.0	A1303 East of Madingley Mulch R'bout Wbd	639	1,403
3.1	Madingley Rd - East of Cambridge Rd Crossroads Wbd	752	1,728
3.1	Madingley Rd - East of Cambridge Rd Crossroads Ebd	1,005	878
3.2	Madingley Rd on Over Bridge M11 Ebd	1,908	1,287
3.2	Madingley Rd on Over Bridge M11 Wbd	344	922
3.3	Madingley Rd between M11 Sbd On Slip - Proposed Madingley Rd West Access Ebd	1,623	832
3.3	Madingley Rd between M11 Sbd On Slip - Proposed Madingley Rd West Access Wbd	743	1,717
3.4	Madingley Rd - West of P&R Access Wbd	779	1,734
3.4	Madingley Rd - West of P&R Access Ebd	1,638	859

No.	Link	2031 Do Minimum	
		AM	PM
3.5	Madingley Rd - East of P&R Access Wbd	810	1,590
3.5	Madingley Rd - East of P&R Access Ebd	1,521	896
3.6	Madingley Rd - East of Proposed High Cross Access Ebd	1,271	625
3.6	Madingley Rd - East of Proposed High Cross Access Wbd	678	1,319
3.7	Madingley Rd - East of JJ Thomson Ave Ebd	1,111	1,304
3.7	Madingley Rd - East of JJ Thomson Ave Wbd	1,454	1,164
3.8	Madingley Rd - East of Clerk Maxwell Rd Ebd	1,035	1,302
3.8	Madingley Rd - East of Clerk Maxwell Rd Wbd	1,448	1,096
3.9	Madingley Rd - East of Storey's Way Ebd	916	971
3.9	Madingley Rd - East of Storey's Way Wbd	1,068	876
3.10	Madingley Rd - East of Grange Road Ebd	903	963
3.10	Madingley Rd - East of Grange Road Wbd	1,064	861
3.11	Madingley Rd - West of Queen's Rd / Northampton St R'bout Ebd	1,009	823
3.11	Madingley Rd - West of Queen's Rd / Northampton St R'bout Wbd	837	949
3.12	Northampton St - West of Pound Hill Ebd	560	924
3.12	Northampton St - West of Pound Hill Wbd	808	710
4.0	Huntingdon Rd - West of Proposed NWC HRW Access NWbd	531	1,073
4.0	Huntingdon Rd - West of Proposed NWC HRW Access SEbd	737	565
4.1	Huntingdon Rd - South East of Grange Drive opposite Girton College NWbd	462	811
4.1	Huntingdon Rd - South East of Grange Drive opposite Girton College SEbd	465	479
4.2	Huntingdon Rd - East of NWC HRW Access NWbd	685	1,341
4.2	Huntingdon Rd - East of NWC HRW Access SEbd	964	841
4.3	Huntingdon Rd - East of Darwin Green Access NWbd	637	1,445
4.3	Huntingdon Rd - East of Darwin Green Access SEbd	1,332	815
4.4	Huntingdon Rd - East of Storey's Way NWbd	616	1,318
4.4	Huntingdon Rd - East of Storey's Way SEbd	1,197	811
5.0	Barton Rd - West of Grantchester Rd Ebd	1,187	535
5.0	Barton Rd - West of Grantchester Rd Wbd	329	1,029

No.	Link	2031 Do Minimum	
		AM	PM
5.1	Barton Rd - East of Grantchester Rd Ebd	676	485
5.1	Barton Rd - East of Grantchester Rd Wbd	310	993
6.0	Queen's Rd - North of West Rd Nbd	595	910
6.0	Queen's Rd - North of West Rd Sbd	1,020	681
7.0	Histon Road - South of A14 Nbd	1,198	1,944
7.0	Histon Road - South of A14 Sbd	2,127	1,509
8.0	Grange Rd - South of Madingley Rd Nbd	217	233
8.0	Grange Rd - South of Madingley Rd Sbd	357	174
9.0	Storey's Way - between Madingley Rd and Huntingdon Rd Ebd	223	74
9.0	Storey's Way - between Madingley Rd and Huntingdon Rd Wbd	91	213
10.0	Girton Rd - North of Huntingdon Rd Nbd	163	397
10.0	Girton Rd - North of Huntingdon Rd Sbd	402	239
11.0	Proposed Darwin Green Access - between Huntingdon Rd and Histon Rd Nbd	31	215
11.0	Proposed Darwin Green Access - between Huntingdon Rd and Histon Rd Sbd	219	69
11.1	Proposed Madingley Rd West Access to NWC Nbd	164	759
11.1	Proposed Madingley Rd West Access to NWC Sbd	702	272
11.2	Proposed Huntingdon Rd West Access to NWC Nbd	69	261
11.2	Proposed Huntingdon Rd West Access to NWC Sbd	272	87
11.3	Proposed Huntingdon Rd East Access to NWC Sbd	248	349
11.3	Proposed Huntingdon Rd East Access to NWC Nbd	284	341
12.0	Western Access to Madingley Rd Nbd	75	469
12.0	Western Access to Madingley Rd Sbd	696	81
12.1	High Cross Access to Madingley Rd Nbd	280	291
12.1	High Cross Access to Madingley Rd Sbd	137	304
12.2	JJ Thomson Ave Access to Madingley Rd Nbd	94	297
12.2	JJ Thomson Ave Access to Madingley Rd Sbd	305	84
12.3	Clerk Maxwell Rd Nbd – South of Car Park Access	14	34
12.3	Clerk Maxwell Rd Sbd – South of Car Park Access	38	12

No.	Link	2031 Do Minimum	
		AM	PM
12.4	Clerk Maxwell Rd Sbd – North of Car Park Access	119	20
12.4	Clerk Maxwell Rd Nbd – North of Car Park Access	24	103

Appendix 13.4 – Network Flows 2031 Do Something

No.	Link	2031 Do Something	
		AM	PM
1.0	M11 - J12 - J13 - Nbd	4,081	4,125
1.0	M11 - J12 - J13 - Sbd	4,081	4,194
1.1	M11 J13 -J14 - Nbd	2,473	3,257
1.1	M11 J13 -J14 - Sbd	2,997	2,691
1.2	M11 between A14 Ebd on-slip / Huntingdon Rd on slip - Nbd	1,626	2,387
1.2	M11 between A14 Ebd on-slip / Huntingdon Rd on slip - Sbd	2,365	1,737
1.3	M11 J13 off-slip - Nbd	1,508	1,228
1.3	M11 J13 on-slip - Sbd	697	1,435
2.0	A14 West of J30 (Bar Hill) - Ebd	4,322	3,689
2.0	A14 West of J30 (Bar Hill) - Wbd	3,396	4,863
2.1	A14 North West of M11 J14 - Ebd	4,637	4,021
2.1	A14 North West M11 J14 - Wbd	3,602	4,927
2.2	A14 West of J32 Interchange - Ebd	4,124	4,116
2.2	A14 West of J32 Interchange - Wbd	4,092	4,135
2.3	A428 -West of M11 J14 - Ebd	1,722	849
2.3	A428 - West of M11 J14 - Wbd	885	1,329
3.0	A1303 East of Madingley Mulch R'bout Ebd	720	665
3.0	A1303 East of Madingley Mulch R'bout Wbd	641	1,471
3.1	Madingley Rd - East of Cambridge Rd Crossroads Wbd	754	1,797
3.1	Madingley Rd - East of Cambridge Rd Crossroads Ebd	1,081	880
3.2	Madingley Rd on Over Bridge M11 Ebd	2,178	1,301
3.2	Madingley Rd on Over Bridge M11 Wbd	347	993
3.3	Madingley Rd between M11 Sbd On Slip - Proposed Madingley Rd West Access Ebd	1,895	847
3.3	Madingley Rd between M11 Sbd On Slip - Proposed Madingley Rd West Access Wbd	759	1,970
3.4	Madingley Rd - West of P&R Access Wbd	755	1,732

No.	Link	2031 Do Something	
		AM	PM
3.4	Madingley Rd - West of P&R Access Ebd	1,315	794
3.5	Madingley Rd - East of P&R Access Wbd	786	1,588
3.5	Madingley Rd - East of P&R Access Ebd	1,198	831
3.6	Madingley Rd - East of Proposed High Cross Access Ebd	1,266	801
3.6	Madingley Rd - East of Proposed High Cross Access Wbd	873	1,417
3.7	Madingley Rd - East of JJ Thomson Ave Ebd	1,211	1,635
3.7	Madingley Rd - East of JJ Thomson Ave Wbd	1,755	1,303
3.8	Madingley Rd - East of Clerk Maxwell Rd Ebd	1,135	1,633
3.8	Madingley Rd - East of Clerk Maxwell Rd Wbd	1,749	1,196
3.9	Madingley Rd - East of Storey's Way Ebd	941	1,153
3.9	Madingley Rd - East of Storey's Way Wbd	1,277	891
3.10	Madingley Rd - East of Grange Road Ebd	928	1,142
3.10	Madingley Rd - East of Grange Road Wbd	1,269	876
3.11	Madingley Rd - West of Queen's Rd / Northampton St R'bout Ebd	992	907
3.11	Madingley Rd - West of Queen's Rd / Northampton St R'bout Wbd	925	927
3.12	Northampton St - West of Pound Hill Ebd	560	971
3.12	Northampton St - West of Pound Hill Wbd	825	703
4.0	Huntingdon Rd - West of Proposed NWC HRW Access NWbd	549	1,298
4.0	Huntingdon Rd - West of Proposed NWC HRW Access SEbd	1,002	580
4.1	Huntingdon Rd - South East of Grange Drive opposite Girton College NWbd	451	807
4.1	Huntingdon Rd - South East of Grange Drive opposite Girton College SEbd	461	469
4.2	Huntingdon Rd - East of NWC HRW Access NWbd	680	1,312
4.2	Huntingdon Rd - East of NWC HRW Access SEbd	923	834
4.3	Huntingdon Rd - East of Darwin Green Access NWbd	634	1,402
4.3	Huntingdon Rd - East of Darwin Green Access SEbd	1,273	811
4.4	Huntingdon Rd - East of Storey's Way NWbd	612	1,276
4.4	Huntingdon Rd - East of Storey's Way SEbd	1,140	806
5.0	Barton Rd - West of Grantchester Rd Ebd	1,186	539

No.	Link	2031 Do Something	
		AM	PM
5.0	Barton Rd - West of Grantchester Rd Wbd	329	1,028
5.1	Barton Rd - East of Grantchester Rd Ebd	674	489
5.1	Barton Rd - East of Grantchester Rd Wbd	310	992
6.0	Queen's Rd - North of West Rd Nbd	651	884
6.0	Queen's Rd - North of West Rd Sbd	987	707
7.0	Histon Road - South of A14 Nbd	1,221	2,029
7.0	Histon Road - South of A14 Sbd	2,219	1,528
8.0	Grange Rd - South of Madingley Rd Nbd	219	232
8.0	Grange Rd - South of Madingley Rd Sbd	355	175
9.0	Storey's Way - between Madingley Rd and Huntingdon Rd Ebd	222	73
9.0	Storey's Way - between Madingley Rd and Huntingdon Rd Wbd	91	212
10.0	Girton Rd - North of Huntingdon Rd Nbd	162	398
10.0	Girton Rd - North of Huntingdon Rd Sbd	404	238
11.0	Proposed Darwin Green Access - between Huntingdon Rd and Histon Rd Nbd	30	196
11.0	Proposed Darwin Green Access - between Huntingdon Rd and Histon Rd Sbd	196	67
11.1	Proposed Madingley Rd West Access to NWC Nbd	203	959
11.1	Proposed Madingley Rd West Access to NWC Sbd	942	304
11.2	Proposed Huntingdon Rd West Access to NWC Nbd	99	490
11.2	Proposed Huntingdon Rd West Access to NWC Sbd	541	111
11.3	Proposed Huntingdon Rd East Access to NWC Sbd	249	318
11.3	Proposed Huntingdon Rd East Access to NWC Nbd	240	340
12.0	Western Access to Madingley Rd Nbd	139	775
12.0	Western Access to Madingley Rd Sbd	1,173	141
12.1	High Cross Access to Madingley Rd Nbd	443	1,017
12.1	High Cross Access to Madingley Rd Sbd	993	433
12.2	JJ Thomson Ave Access to Madingley Rd Nbd	239	962
12.2	JJ Thomson Ave Access to Madingley Rd Sbd	965	204
12.3	Clerk Maxwell Rd Nbd – South of Car Park Access	22	13

No.	Link	2031 Do Something	
		AM	PM
12.3	Clerk Maxwell Rd Sbd – South of Car Park Access	10	21
12.4	Clerk Maxwell Rd Sbd – North of Car Park Access	148	36
12.4	Clerk Maxwell Rd Nbd – North of Car Park Access	40	130

Appendix 13.5 – 2031 Do Something Mitigated Flows

No.	Link	2031 Do Something Mitigated	
		AM	PM
1.0	M11 - J12 - J13 - Nbd	4,081	4,125
1.0	M11 - J12 - J13 - Sbd	4,081	4,194
1.1	M11 J13 -J14 - Nbd	2,473	3,257
1.1	M11 J13 -J14 - Sbd	2,997	2,691
1.2	M11 between A14 Ebd on-slip / Huntingdon Rd on slip - Nbd	1,626	2,387
1.2	M11 between A14 Ebd on-slip / Huntingdon Rd on slip - Sbd	2,365	1,737
1.3	M11 J13 off-slip - Nbd	1,508	1,228
1.3	M11 J13 on-slip - Sbd	697	1,435
2.0	A14 West of J30 (Bar Hill) - Ebd	4,322	3,689
2.0	A14 West of J30 (Bar Hill) - Wbd	3,396	4,863
2.1	A14 North West of M11 J14 - Ebd	4,637	4,021
2.1	A14 North West M11 J14 - Wbd	3,602	4,927
2.2	A14 West of J32 Interchange - Ebd	4,124	4,116
2.2	A14 West of J32 Interchange - Wbd	4,092	4,135
2.3	A428 -West of M11 J14 - Ebd	1,722	849
2.3	A428 - West of M11 J14 - Wbd	885	1,329
3.0	A1303 East of Madingley Mulch R'bout Ebd	720	665
3.0	A1303 East of Madingley Mulch R'bout Wbd	641	1,471
3.1	Madingley Rd - East of Cambridge Rd Crossroads Wbd	754	1,797
3.1	Madingley Rd - East of Cambridge Rd Crossroads Ebd	1,081	880
3.2	Madingley Rd on Over Bridge M11 Ebd	2,178	1,301
3.2	Madingley Rd on Over Bridge M11 Wbd	347	993
3.3	Madingley Rd between M11 Sbd On Slip - Proposed Madingley Rd West Access Ebd	1,895	847
3.3	Madingley Rd between M11 Sbd On Slip - Proposed Madingley Rd West Access Wbd	759	1,970
3.4	Madingley Rd - West of P&R Access Wbd	755	1,732
3.4	Madingley Rd - West of P&R Access Ebd	1,315	794

No.	Link	2031 Do Something Mitigated	
		AM	PM
3.5	Madingley Rd - East of P&R Access Wbd	786	1,588
3.5	Madingley Rd - East of P&R Access Ebd	1,198	831
3.6	Madingley Rd - East of Proposed High Cross Access Ebd	1,266	801
3.6	Madingley Rd - East of Proposed High Cross Access Wbd	873	1,417
3.7	Madingley Rd - East of JJ Thomson Ave Ebd	1,211	1,635
3.7	Madingley Rd - East of JJ Thomson Ave Wbd	1,755	1,303
3.8	Madingley Rd - East of Clerk Maxwell Rd Ebd	1,135	1,633
3.8	Madingley Rd - East of Clerk Maxwell Rd Wbd	1,749	1,196
3.9	Madingley Rd - East of Storey's Way Ebd	941	1,153
3.9	Madingley Rd - East of Storey's Way Wbd	1,277	891
3.10	Madingley Rd - East of Grange Road Ebd	928	1,142
3.10	Madingley Rd - East of Grange Road Wbd	1,269	876
3.11	Madingley Rd - West of Queen's Rd / Northampton St R'bout Ebd	992	907
3.11	Madingley Rd - West of Queen's Rd / Northampton St R'bout Wbd	925	927
3.12	Northampton St - West of Pound Hill Ebd	560	971
3.12	Northampton St - West of Pound Hill Wbd	825	703
4.0	Huntingdon Rd - West of Proposed NWC HRW Access NWbd	549	1,298
4.0	Huntingdon Rd - West of Proposed NWC HRW Access SEbd	1,002	580
4.1	Huntingdon Rd - South East of Grange Drive opposite Girton College NWbd	451	807
4.1	Huntingdon Rd - South East of Grange Drive opposite Girton College SEbd	461	469
4.2	Huntingdon Rd - East of NWC HRW Access NWbd	680	1,312
4.2	Huntingdon Rd - East of NWC HRW Access SEbd	923	834
4.3	Huntingdon Rd - East of Darwin Green Access NWbd	634	1,402
4.3	Huntingdon Rd - East of Darwin Green Access SEbd	1,273	811
4.4	Huntingdon Rd - East of Storey's Way NWbd	612	1,276
4.4	Huntingdon Rd - East of Storey's Way SEbd	1,140	806
5.0	Barton Rd - West of Grantchester Rd Ebd	1,186	539
5.0	Barton Rd - West of Grantchester Rd Wbd	329	1,028

No.	Link	2031 Do Something Mitigated	
		AM	PM
5.1	Barton Rd - East of Grantchester Rd Ebd	674	489
5.1	Barton Rd - East of Grantchester Rd Wbd	310	992
6.0	Queen's Rd - North of West Rd Nbd	651	884
6.0	Queen's Rd - North of West Rd Sbd	987	707
7.0	Histon Road - South of A14 Nbd	1,221	2,029
7.0	Histon Road - South of A14 Sbd	2,219	1,528
8.0	Grange Rd - South of Madingley Rd Nbd	219	232
8.0	Grange Rd - South of Madingley Rd Sbd	355	175
9.0	Storey's Way - between Madingley Rd and Huntingdon Rd Ebd	222	73
9.0	Storey's Way - between Madingley Rd and Huntingdon Rd Wbd	91	212
10.0	Girton Rd - North of Huntingdon Rd Nbd	162	398
10.0	Girton Rd - North of Huntingdon Rd Sbd	404	238
11.0	Proposed Darwin Green Access - between Huntingdon Rd and Histon Rd Nbd	30	196
11.0	Proposed Darwin Green Access - between Huntingdon Rd and Histon Rd Sbd	196	67
11.1	Proposed Madingley Rd West Access to NWC Nbd	203	959
11.1	Proposed Madingley Rd West Access to NWC Sbd	942	304
11.2	Proposed Huntingdon Rd West Access to NWC Nbd	99	490
11.2	Proposed Huntingdon Rd West Access to NWC Sbd	541	111
11.3	Proposed Huntingdon Rd East Access to NWC Sbd	249	318
11.3	Proposed Huntingdon Rd East Access to NWC Nbd	240	340
12.0	Western Access to Madingley Rd Nbd	139	775
12.0	Western Access to Madingley Rd Sbd	1,173	141
12.1	High Cross Access to Madingley Rd Nbd	443	1,017
12.1	High Cross Access to Madingley Rd Sbd	993	433
12.2	JJ Thomson Ave Access to Madingley Rd Nbd	239	962
12.2	JJ Thomson Ave Access to Madingley Rd Sbd	965	204
12.3	Clerk Maxwell Rd Nbd – South of Car Park Access	22	13
12.3	Clerk Maxwell Rd Sbd – South of Car Park Access	10	21

No.	Link	2031 Do Something Mitigated	
		AM	PM
12.4	Clerk Maxwell Rd Sbd – North of Car Park Access	148	36
12.4	Clerk Maxwell Rd Nbd – North of Car Park Access	40	130

Appendix 14.1 – Summary and comparisons of 2019, 2021 Do Minimum and 2021 Do Something flows

Table 14.1: Comparison of the 2019 and 2021 Do Minimum flows

No.	Link	2019 Base		2021 TA Do Minimum		Percentage difference	
		AM	PM	AM	PM	AM	PM
1.0	M11 - J12 - J13 - Nbd	3,582	3,702	3,857	3,935	8%	6%
1.0	M11 - J12 - J13 - Sbd	3,699	3,585	3,882	3,931	5%	10%
1.1	M11 J13 -J14 - Nbd	2,329	3,066	2,452	3,141	5%	2%
1.1	M11 J13 -J14 - Sbd	2,808	2,502	2,879	2,643	3%	6%
1.2	M11 between A14 Ebd on-slip / Huntingdon Rd on slip - Nbd	1,507	2,222	1,603	2,284	6%	3%
1.2	M11 between A14 Ebd on-slip / Huntingdon Rd on slip - Sbd	2,207	1,589	2,265	1,690	3%	6%
1.3	M11 J13 off-slip - Nbd	1,152	996	1,305	1,153	13%	16%
1.3	M11 J13 on-slip – Sbd	505	1,015	617	1,221	22%	20%
2.0	A14 West of J30 (Bar Hill) - Ebd	3,913	3,540	4,049	3,639	3%	3%
2.0	A14 West of J30 (Bar Hill) - Wbd	3,271	4,474	3,349	4,619	2%	3%
2.1	A14 North West of M11 J14 - Ebd	3,881	3,483	4,157	3,834	7%	10%
2.1	A14 North West M11 J14 - Wbd	3,143	4,199	3,473	4,467	10%	6%
2.2	A14 West of J32 Interchange - Ebd	3,928	3,834	4,029	3,988	3%	4%
2.2	A14 West of J32 Interchange - Wbd	3,831	3,932	3,980	4,039	4%	3%
2.3	A428 -West of M11 J14 - Ebd	1,654	759	1,687	791	2%	4%
2.3	A428 - West of M11 J14 - Wbd	798	1,267	827	1,297	4%	2%
3.0	A1303 East of Madingley Mulch R'bout Ebd	498	540	587	609	18%	13%
3.0	A1303 East of Madingley Mulch R'bout Wbd	542	1,252	594	1,345	10%	7%
3.1	Madingley Rd - East of Cambridge Rd Crossroads Wbd	669	1,678	708	1,672	6%	0%
3.1	Madingley Rd - East of Cambridge Rd Crossroads Ebd	932	755	949	825	2%	9%
3.2	Madingley Rd on Over Bridge M11 Ebd	1,705	993	1,855	1,195	9%	20%
3.2	Madingley Rd on Over Bridge M11 Wbd	292	924	312	892	7%	-3%
3.3	Madingley Rd between M11 Sbd On Slip - Proposed Madingley Rd West Access Ebd	1,474	581	1,600	757	9%	30%

No.	Link	2019 Base		2021 TA Do Minimum		Percentage difference	
		AM	PM	AM	PM	AM	PM
3.3	Madingley Rd between M11 Sbd On Slip - Proposed Madingley Rd West Access Wbd	565	1,524	673	1,671	19%	10%
3.4	Madingley Rd - West of P&R Access Wbd	580	1,545	687	1,692	18%	10%
3.4	Madingley Rd - West of P&R Access Ebd	1,485	600	1,612	775	9%	29%
3.5	Madingley Rd - East of P&R Access Wbd	602	1,392	710	1,539	18%	11%
3.5	Madingley Rd - East of P&R Access Ebd	1,358	629	1,485	805	9%	28%
3.6	Madingley Rd - East of Proposed High Cross Access Ebd	1,089	502	1,213	710	11%	41%
3.6	Madingley Rd - East of Proposed High Cross Access Wbd	542	1,109	795	1,249	47%	13%
3.7	Madingley Rd - East of JJ Thomson Ave Ebd	812	559	977	922	20%	65%
3.7	Madingley Rd - East of JJ Thomson Ave Wbd	614	853	980	1,053	60%	23%
3.8	Madingley Rd - East of Clerk Maxwell Rd Ebd	746	589	905	941	21%	60%
3.8	Madingley Rd - East of Clerk Maxwell Rd Wbd	643	789	999	982	55%	24%
3.9	Madingley Rd - East of Storey's Way Ebd	716	591	878	956	23%	62%
3.9	Madingley Rd - East of Storey's Way Wbd	656	626	1,061	829	62%	32%
3.10	Madingley Rd - East of Grange Road Ebd	716	591	867	946	21%	60%
3.10	Madingley Rd - East of Grange Road Wbd	656	626	1,052	817	60%	31%
3.11	Madingley Rd - West of Queen's Rd / Northampton St R'bout Ebd	843	598	971	806	15%	35%
3.11	Madingley Rd - West of Queen's Rd / Northampton St R'bout Wbd	614	739	820	906	34%	23%
3.12	Northampton St - West of Pound Hill Ebd	484	681	551	867	14%	27%
3.12	Northampton St - West of Pound Hill Wbd	582	600	754	690	30%	15%
4.0	Huntingdon Rd - West of Proposed NWC HRW Access NWbd	340	719	479	1,006	41%	40%
4.0	Huntingdon Rd - West of Proposed NWC HRW Access SEbd	417	346	684	498	64%	44%
4.1	Huntingdon Rd - South East of Grange Drive opposite Girton College NWbd	340	719	411	753	21%	5%
4.1	Huntingdon Rd - South East of Grange Drive opposite Girton College SEbd	417	346	413	413	-1%	19%
4.2	Huntingdon Rd - East of NWC HRW Access NWbd	406	986	609	1,224	50%	24%
4.2	Huntingdon Rd - East of NWC HRW Access SEbd	698	472	846	743	21%	57%

No.	Link	2019 Base		2021 TA Do Minimum		Percentage difference	
		AM	PM	AM	PM	AM	PM
4.3	Huntingdon Rd - East of Darwin Green Access NWbd	463	1,038	612	1,299	32%	25%
4.3	Huntingdon Rd - East of Darwin Green Access SEbd	984	541	1,172	763	19%	41%
4.4	Huntingdon Rd - East of Storey's Way NWbd	483	928	592	1,176	23%	27%
4.4	Huntingdon Rd - East of Storey's Way SEbd	828	572	1,042	761	26%	33%
5.0	Barton Rd - West of Grantchester Rd Ebd	1,160	508	1,175	529	1%	4%
5.0	Barton Rd - West of Grantchester Rd Wbd	315	1,007	325	1,017	3%	1%
5.1	Barton Rd - East of Grantchester Rd Ebd	649	458	663	479	2%	5%
5.1	Barton Rd - East of Grantchester Rd Wbd	296	971	306	980	3%	1%
6.0	Queen's Rd - North of West Rd Nbd	484	683	572	813	18%	19%
6.0	Queen's Rd - North of West Rd Sbd	816	574	929	648	14%	13%
7.0	Histon Road - South of A14 Nbd	988	1,691	1,130	1,898	14%	12%
7.0	Histon Road - South of A14 Sbd	1,907	1,270	2,092	1,437	10%	13%
8.0	Grange Rd - South of Madingley Rd Nbd	204	210	217	226	6%	8%
8.0	Grange Rd - South of Madingley Rd Sbd	335	158	349	172	4%	9%
9.0	Storey's Way - between Madingley Rd and Huntingdon Rd Ebd	272	86	222	73	-18%	-15%
9.0	Storey's Way - between Madingley Rd and Huntingdon Rd Wbd	95	227	91	212	-4%	-7%
10.0	Girton Rd - North of Huntingdon Rd Nbd	143	350	159	393	11%	12%
10.0	Girton Rd - North of Huntingdon Rd Sbd	357	211	399	236	12%	12%
11.0	Proposed Darwin Green Access - between Huntingdon Rd and Histon Rd Nbd			14	105	N/A	N/A
11.0	Proposed Darwin Green Access - between Huntingdon Rd and Histon Rd Sbd			107	33	N/A	N/A
11.1	Proposed Madingley Rd West Access to NWC Nbd			149	634	N/A	N/A
11.1	Proposed Madingley Rd West Access to NWC Sbd			589	240	N/A	N/A
11.2	Proposed Huntingdon Rd West Access to NWC Nbd			69	254	N/A	N/A
11.2	Proposed Huntingdon Rd West Access to NWC Sbd			271	86	N/A	N/A
11.3	Proposed Huntingdon Rd East Access to NWC Sbd			197	257	N/A	N/A
11.3	Proposed Huntingdon Rd East Access to NWC Nbd			193	276	N/A	N/A

No.	Link	2019 Base		2021 TA Do Minimum		Percentage difference	
		AM	PM	AM	PM	AM	PM
12.0	Western Access to Madingley Rd Nbd			0	0	N/A	N/A
12.0	Western Access to Madingley Rd Sbd			0	0	N/A	N/A
12.1	High Cross Access to Madingley Rd Nbd	246	228	352	760	43%	233%
12.1	High Cross Access to Madingley Rd Sbd	144	285	839	383	483%	34%
12.2	JJ Thomson Ave Access to Madingley Rd Nbd	73	196	97	304	33%	55%
12.2	JJ Thomson Ave Access to Madingley Rd Sbd	220	65	309	86	40%	32%
12.3	Clerk Maxwell Rd Nbd – South of Car Park Access	10	32	26	43	160%	34%
12.3	Clerk Maxwell Rd Sbd – South of Car Park Access	38	9	45	25	18%	178%
12.4	Clerk Maxwell Rd Sbd – North of Car Park Access	18	103	125	33	594%	-68%
12.4	Clerk Maxwell Rd Nbd – North of Car Park Access	114	11	37	111	-68%	909%

Table 14.2: Comparison of the 2021 TA Do Minimum and 2021 Do Something flows

No.	Link	2021 TA Do Minimum		2021 Do Something		Percentage difference	
		AM	PM	AM	PM	AM	PM
1.0	M11 - J12 - J13 - Nbd	3,857	3,935	3,855	3,929	0%	0%
1.0	M11 - J12 - J13 - Sbd	3,882	3,931	3,875	3,929	0%	0%
1.1	M11 J13 -J14 - Nbd	2,452	3,141	2,447	3,138	0%	0%
1.1	M11 J13 -J14 - Sbd	2,879	2,643	2,875	2,637	0%	0%
1.2	M11 between A14 Ebd on-slip / Huntingdon Rd on slip - Nbd	1,603	2,284	1,599	2,281	0%	0%
1.2	M11 between A14 Ebd on-slip / Huntingdon Rd on slip - Sbd	2,265	1,690	2,262	1,686	0%	0%
1.3	M11 J13 off-slip - Nbd	1,305	1,153	1,307	1,150	0%	0%
1.3	M11 J13 on-slip - Sbd	617	1,221	613	1,223	-1%	0%
2.0	A14 West of J30 (Bar Hill) - Ebd	4,049	3,639	4,055	3,638	0%	0%
2.0	A14 West of J30 (Bar Hill) - Wbd	3,349	4,619	3,347	4,629	0%	0%
2.1	A14 North West of M11 J14 - Ebd	4,157	3,834	4,157	3,823	0%	0%
2.1	A14 North West M11 J14 - Wbd	3,473	4,467	3,461	4,473	0%	0%
2.2	A14 West of J32 Interchange - Ebd	4,029	3,988	4,025	3,982	0%	0%
2.2	A14 West of J32 Interchange - Wbd	3,980	4,039	3,974	4,036	0%	0%
2.3	A428 -West of M11 J14 - Ebd	1,687	791	1,686	790	0%	0%
2.3	A428 - West of M11 J14 - Wbd	827	1,297	826	1,296	0%	0%
3.0	A1303 East of Madingley Mulch R'bout Ebd	587	609	587	607	0%	0%
3.0	A1303 East of Madingley Mulch R'bout Wbd	594	1,345	592	1,348	0%	0%
3.1	Madingley Rd - East of Cambridge Rd Crossroads Wbd	708	1,672	705	1,666	0%	0%
3.1	Madingley Rd - East of Cambridge Rd Crossroads Ebd	949	825	940	822	-1%	0%
3.2	Madingley Rd on Over Bridge M11 Ebd	1,855	1,195	1,849	1,190	0%	0%
3.2	Madingley Rd on Over Bridge M11 Wbd	312	892	310	887	-1%	-1%
3.3	Madingley Rd between M11 Sbd On Slip - Proposed Madingley Rd West Access Ebd	1,600	757	1,596	753	0%	-1%
3.3	Madingley Rd between M11 Sbd On Slip - Proposed Madingley Rd West Access Wbd	673	1,671	668	1,670	-1%	0%
3.4	Madingley Rd - West of P&R Access Wbd	687	1,692	705	1,688	3%	0%

No.	Link	2021 TA Do Minimum		2021 Do Something		Percentage difference	
		AM	PM	AM	PM	AM	PM
3.4	Madingley Rd - West of P&R Access Ebd	1,612	775	1,607	779	0%	1%
3.5	Madingley Rd - East of P&R Access Wbd	710	1,539	736	1,544	4%	0%
3.5	Madingley Rd - East of P&R Access Ebd	1,485	805	1,490	816	0%	1%
3.6	Madingley Rd - East of Proposed High Cross Access Ebd	1,213	710	1,354	715	12%	1%
3.6	Madingley Rd - East of Proposed High Cross Access Wbd	795	1,249	711	1,358	-11%	9%
3.7	Madingley Rd - East of JJ Thomson Ave Ebd	977	922	964	716	-1%	-22%
3.7	Madingley Rd - East of JJ Thomson Ave Wbd	980	1,053	709	1,012	-28%	-4%
3.8	Madingley Rd - East of Clerk Maxwell Rd Ebd	905	941	873	839	-4%	-11%
3.8	Madingley Rd - East of Clerk Maxwell Rd Wbd	999	982	868	948	-13%	-3%
3.9	Madingley Rd - East of Storey's Way Ebd	878	956	845	855	-4%	-11%
3.9	Madingley Rd - East of Storey's Way Wbd	1,061	829	932	795	-12%	-4%
3.10	Madingley Rd - East of Grange Road Ebd	867	946	836	849	-4%	-10%
3.10	Madingley Rd - East of Grange Road Wbd	1,052	817	927	785	-12%	-4%
3.11	Madingley Rd - West of Queen's Rd / Northampton St R'bout Ebd	971	806	945	723	-3%	-10%
3.11	Madingley Rd - West of Queen's Rd / Northampton St R'bout Wbd	820	906	724	880	-12%	-3%
3.12	Northampton St - West of Pound Hill Ebd	551	867	534	797	-3%	-8%
3.12	Northampton St - West of Pound Hill Wbd	754	690	684	675	-9%	-2%
4.0	Huntingdon Rd - West of Proposed NWC HRW Access NWbd	479	1,006	476	1,016	-1%	1%
4.0	Huntingdon Rd - West of Proposed NWC HRW Access SEbd	684	498	689	495	1%	-1%
4.1	Huntingdon Rd - South East of Grange Drive opposite Girton College NWbd	411	753	408	752	-1%	0%
4.1	Huntingdon Rd - South East of Grange Drive opposite Girton College SEbd	413	413	412	410	0%	-1%
4.2	Huntingdon Rd - East of NWC HRW Access NWbd	609	1,224	575	1,216	-6%	-1%
4.2	Huntingdon Rd - East of NWC HRW Access SEbd	846	743	836	715	-1%	-4%
4.3	Huntingdon Rd - East of Darwin Green Access NWbd	612	1,299	591	1,291	-3%	-1%
4.3	Huntingdon Rd - East of Darwin Green Access SEbd	1,172	763	1,162	745	-1%	-2%
4.4	Huntingdon Rd - East of Storey's Way NWbd	592	1,176	586	1,170	-1%	-1%

No.	Link	2021 TA Do Minimum		2021 Do Something		Percentage difference	
		AM	PM	AM	PM	AM	PM
4.4	Huntingdon Rd - East of Storey's Way SEbd	1,042	761	1,034	756	-1%	-1%
5.0	Barton Rd - West of Grantchester Rd Ebd	1,175	529	1,173	524	0%	-1%
5.0	Barton Rd - West of Grantchester Rd Wbd	325	1,017	325	1,016	0%	0%
5.1	Barton Rd - East of Grantchester Rd Ebd	663	479	662	474	0%	-1%
5.1	Barton Rd - East of Grantchester Rd Wbd	306	980	306	980	0%	0%
6.0	Queen's Rd - North of West Rd Nbd	572	813	543	800	-5%	-2%
6.0	Queen's Rd - North of West Rd Sbd	929	648	918	633	-1%	-2%
7.0	Histon Road - South of A14 Nbd	1,130	1,898	1,127	1,908	0%	1%
7.0	Histon Road - South of A14 Sbd	2,092	1,437	2,100	1,434	0%	0%
8.0	Grange Rd - South of Madingley Rd Nbd	217	226	212	224	-2%	-1%
8.0	Grange Rd - South of Madingley Rd Sbd	349	172	348	168	0%	-2%
9.0	Storey's Way - between Madingley Rd and Huntingdon Rd Ebd	222	73	221	73	0%	0%
9.0	Storey's Way - between Madingley Rd and Huntingdon Rd Wbd	91	212	90	211	-1%	0%
10.0	Girton Rd - North of Huntingdon Rd Nbd	159	393	157	380	-1%	-3%
10.0	Girton Rd - North of Huntingdon Rd Sbd	399	236	383	233	-4%	-1%
11.0	Proposed Darwin Green Access - between Huntingdon Rd and Histon Rd Nbd	14	105	12	93	-14%	-11%
11.0	Proposed Darwin Green Access - between Huntingdon Rd and Histon Rd Sbd	107	33	92	32	-14%	-3%
11.1	Proposed Madingley Rd West Access to NWC Nbd	149	634	139	576	-7%	-9%
11.1	Proposed Madingley Rd West Access to NWC Sbd	589	240	514	230	-13%	-4%
11.2	Proposed Huntingdon Rd West Access to NWC Nbd	69	254	68	264	-1%	4%
11.2	Proposed Huntingdon Rd West Access to NWC Sbd	271	86	276	85	2%	-1%
11.3	Proposed Huntingdon Rd East Access to NWC Sbd	197	257	149	247	-24%	-4%
11.3	Proposed Huntingdon Rd East Access to NWC Nbd	193	276	181	237	-6%	-14%
12.0	Western Access to Madingley Rd Nbd	0	0	0	0	N/A	N/A
12.0	Western Access to Madingley Rd Sbd	0	0	0	0	N/A	N/A
12.1	High Cross Access to Madingley Rd Nbd	352	760	318	587	-10%	-23%

No.	Link	2021 TA Do Minimum		2021 Do Something		Percentage difference	
		AM	PM	AM	PM	AM	PM
12.1	High Cross Access to Madingley Rd Sbd	839	383	516	350	-38%	-9%
12.2	JJ Thomson Ave Access to Madingley Rd Nbd	97	304	64	201	-34%	-34%
12.2	JJ Thomson Ave Access to Madingley Rd Sbd	309	86	272	43	-12%	-50%
12.3	Clerk Maxwell Rd Nbd – South of Car Park Access	26	43	22	13	-15%	-70%
12.3	Clerk Maxwell Rd Sbd – South of Car Park Access	45	25	10	21	-78%	-16%
12.4	Clerk Maxwell Rd Sbd – North of Car Park Access	125	33	295	51	136%	55%
12.4	Clerk Maxwell Rd Nbd – North of Car Park Access	37	111	58	255	57%	130%

Appendix 14.2 – 2021 Madingley Road Corridor Junction Capacity Assessments

Junctions 9

PICADY 9 - Priority Intersection Module

Version: 9.5.1.7462

For sales and distribution information, program advice and maintenance, contact TRL:
+44 (0)1344 379777 software@trl.co.uk www.trlsoftware.co.uk

Filename: 191113 - Madingley Rise - Madingley Road.j9
Path: J:\45339 - West Cambridge 2018\Junctions 9\2019 Work\Madingley Rise - Madingley Road
Report generation date: 22/11/2019 11:11:49

Summary of junction performance

	AM					PM				
	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)
	2019 Observed									
Stream B-C	0.0	9.19	0.04	A	2.98	0.1	8.59	0.08	A	1.70
Stream B-A	0.0	17.06	0.03	C		0.2	14.19	0.14	B	
Stream C-B	0.1	7.52	0.08	A		0.0	5.81	0.01	A	
Stream A-BC	1.3	4.60	0.55	A		0.5	3.06	0.33	A	
	2021 Do Minimum									
Stream B-C	0.1	9.76	0.05	A	3.29	0.1	9.26	0.09	A	1.92
Stream B-A	0.0	20.90	0.03	C		0.2	17.86	0.17	C	
Stream C-B	0.1	8.05	0.08	A		0.0	6.24	0.01	A	
Stream A-BC	1.6	5.34	0.61	A		0.7	3.49	0.41	A	
	2021 Do Something									
Stream B-C	0.1	9.84	0.05	A	3.66	0.1	9.15	0.09	A	1.88
Stream B-A	0.0	19.36	0.03	C		0.2	17.45	0.16	C	
Stream C-B	0.1	8.13	0.08	A		0.0	6.18	0.01	A	
Stream A-BC	1.7	5.47	0.62	A		0.7	3.42	0.40	A	
	2031 Do Minimum									
Stream B-C	0.1	10.65	0.06	B	3.59	0.2	12.60	0.17	B	3.05
Stream B-A	0.1	28.25	0.06	D		0.6	29.27	0.36	D	
Stream C-B	0.1	8.92	0.12	A		0.0	6.97	0.01	A	
Stream A-BC	2.1	6.24	0.67	A		1.2	4.32	0.53	A	
	2031 Do Something									
Stream B-C	0.1	10.59	0.06	B	3.88	0.2	11.43	0.16	B	2.57
Stream B-A	0.1	24.01	0.05	C		0.5	25.55	0.33	D	
Stream C-B	0.1	8.90	0.12	A		0.0	6.58	0.01	A	
Stream A-BC	2.1	6.20	0.66	A		0.9	3.84	0.47	A	
	2031 Do Something Mitigation									
Stream B-C	0.1	9.75	0.05	A	3.08	0.2	11.24	0.15	B	2.64
Stream B-A	0.0	20.73	0.04	C		0.4	22.83	0.30	C	
Stream C-B	0.1	8.14	0.11	A		0.0	6.58	0.01	A	
Stream A-BC	1.5	5.07	0.59	A		0.9	3.84	0.47	A	

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.

File summary

File Description

Title	Madingley Rise / Madingley Road
Location	West Cambridge
Site number	
Date	17/07/2019
Version	
Status	Exisitng
Identifier	
Client	
Jobnumber	46357
Enumerator	
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	PCU	perHour	s	-Min	perMin

Analysis Options

Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
5.75				0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2019 Observed	AM	ONE HOUR	08:00	09:30	15	✓
D2	2019 Observed	PM	ONE HOUR	16:15	17:45	15	✓
D3	2021 Do Minimum	AM	ONE HOUR	08:00	09:30	15	✓
D4	2021 Do Minimum	PM	ONE HOUR	16:15	17:45	15	✓
D5	2021 Do Something	AM	ONE HOUR	08:00	09:30	15	✓
D6	2021 Do Something	PM	ONE HOUR	16:15	17:45	15	✓
D7	2031 Do Minimum	AM	ONE HOUR	08:00	09:30	15	✓
D8	2031 Do Minimum	PM	ONE HOUR	16:15	17:45	15	✓
D9	2031 Do Something	AM	ONE HOUR	08:00	09:30	15	✓
D10	2031 Do Something	PM	ONE HOUR	16:15	17:45	15	✓
D11	2031 Do Something Mitigation	AM	ONE HOUR	08:00	09:30	15	✓
D12	2031 Do Something Mitigation	PM	ONE HOUR	16:15	17:45	15	✓

Analysis Set Details

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

2019 Observed, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	Madingley Rise / Madingley Road	T-Junction	Two-way		2.98	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	Madingley Road (W)		Major
B	Madingley Rise		Minor
C	Madingley Road (E)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width for right turn (m)	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C - Madingley Road (E)	8.37	✓	5.00	✓	4.70	85.0		-

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

Minor Arm Geometry

Arm	Minor arm type	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate flare length	Flare length (PCU)	Visibility to left (m)	Visibility to right (m)
B - Madingley Rise	One lane plus flare	5.00	5.00	4.25	3.50	3.25	✓	1.00	31	37

Pelican/Puffin Crossings

Arm	Space between crossing and junc. entry (Signalised) (PCU)	Amber time preceding red (s)	Amber time regarded as green (s)	Time from traffic red start to green man start (s)	Time period green man shown (s)	Clearance Period (s)	Traffic minimum green (s)
A - Madingley Road (W)	1.00	3.00	2.90	1.00	4.00	6.00	7.00

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
B-A	461	0.068	0.171	0.108	0.244
B-C	700	0.096	0.243	-	-
C-B	793	0.275	0.275	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

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

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2019 Observed	AM	ONE HOUR	08:00	09:30	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 (%)
A - Madingley Road (W)		ONE HOUR	✓	859	100.000
B - Madingley Rise		ONE HOUR	✓	19	100.000
C - Madingley Road (E)		ONE HOUR	✓	614	100.000

Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
A - Madingley Road (W)	[ONEHOUR]	116.00
B - Madingley Rise		
C - Madingley Road (E)		

Origin-Destination Data

Demand (Veh/hr)

		To		
		A - Madingley Road (W)	B - Madingley Rise	C - Madingley Road (E)
From	A - Madingley Road (W)	0	61	798
	B - Madingley Rise	5	0	14
	C - Madingley Road (E)	578	36	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - Madingley Road (W)	B - Madingley Rise	C - Madingley Road (E)
From	A - Madingley Road (W)	0	2	5
	B - Madingley Rise	0	0	14
	C - Madingley Road (E)	4	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-C	0.04	9.19	0.0	A	15	22
B-A	0.03	17.06	0.0	C	5	7
C-A					552	827
C-B	0.08	7.52	0.1	A	33	50
A-BC	0.55	4.60	1.3	A	826	1239

Main Results for each time segment

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	12	3		540	0.022	12	0.0	0.0	7.772	A
B-A	4	0.94		294	0.013	4	0.0	0.0	12.394	B
C-A	453	113				453				
C-B	27	7		606	0.045	27	0.0	0.0	6.214	A
A-B-C	678	169	87.33	1868	0.363	675	0.0	0.6	3.155	A

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	14	4		508	0.028	14	0.0	0.0	8.311	A
B-A	4	1		262	0.017	4	0.0	0.0	14.005	B
C-A	540	135				540				
C-B	32	8		569	0.057	32	0.0	0.1	6.705	A
A-B-C	809	202	104.28	1843	0.439	808	0.6	0.8	3.642	A

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	18	4		465	0.038	18	0.0	0.0	9.176	A
B-A	6	1		217	0.025	5	0.0	0.0	17.040	C
C-A	662	165				662				
C-B	40	10		519	0.076	40	0.1	0.1	7.511	A
A-B-C	991	248	127.72	1811	0.547	989	0.8	1.3	4.579	A

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	18	4		464	0.038	18	0.0	0.0	9.189	A
B-A	6	1		216	0.025	6	0.0	0.0	17.064	C
C-A	662	165				662				
C-B	40	10		518	0.076	40	0.1	0.1	7.519	A
A-B-C	991	248	127.72	1811	0.547	991	1.3	1.3	4.597	A

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	14	4		507	0.028	14	0.0	0.0	8.330	A
B-A	4	1		261	0.017	5	0.0	0.0	14.027	B
C-A	540	135				540				
C-B	32	8		568	0.057	32	0.1	0.1	6.719	A
A-B-C	809	202	104.28	1843	0.439	811	1.3	0.8	3.660	A

09:15 - 09:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	12	3		539	0.022	12	0.0	0.0	7.791	A
B-A	4	0.94		294	0.013	4	0.0	0.0	12.413	B
C-A	453	113				453				
C-B	27	7		605	0.045	27	0.1	0.0	6.230	A
A-B-C	678	169	87.33	1868	0.363	679	0.8	0.6	3.172	A

2019 Observed, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	Madingley Rise / Madingley Road	T-Junction	Two-way		1.70	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D2	2019 Observed	PM	ONE HOUR	16:15	17:45	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 (%)
A - Madingley Road (W)		ONE HOUR	✓	529	100.000
B - Madingley Rise		ONE HOUR	✓	73	100.000
C - Madingley Road (E)		ONE HOUR	✓	853	100.000

Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
A - Madingley Road (W)	[ONEHOUR]	90.00
B - Madingley Rise		
C - Madingley Road (E)		

Origin-Destination Data

Demand (Veh/hr)

		To		
		A - Madingley Road (W)	B - Madingley Rise	C - Madingley Road (E)
From	A - Madingley Road (W)	0	4	525
	B - Madingley Rise	39	0	34
	C - Madingley Road (E)	849	4	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - Madingley Road (W)	B - Madingley Rise	C - Madingley Road (E)
From	A - Madingley Road (W)	0	25	5
	B - Madingley Rise	0	0	0
	C - Madingley Road (E)	3	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-C	0.08	8.59	0.1	A	31	47
B-A	0.14	14.19	0.2	B	36	54
C-A					802	1204
C-B	0.01	5.81	0.0	A	4	6
A-BC	0.33	3.06	0.5	A	510	766

Main Results for each time segment

16:15 - 16:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	26	6		506	0.051	25	0.0	0.1	7.486	A
B-A	29	7		375	0.078	29	0.0	0.1	10.394	B
C-A	658	165				658				
C-B	3	0.75		677	0.004	3	0.0	0.0	5.337	A
A-BC	419	105	67.76	1901	0.220	418	0.0	0.3	2.549	A

16:30 - 16:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	31	8		486	0.063	31	0.1	0.1	7.910	A
B-A	35	9		342	0.102	35	0.1	0.1	11.719	B
C-A	786	197				786				
C-B	4	0.90		655	0.005	4	0.0	0.0	5.528	A
A-BC	500	125	80.91	1878	0.266	500	0.3	0.4	2.746	A

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	37	9		457	0.082	37	0.1	0.1	8.582	A
B-A	43	11		297	0.145	43	0.1	0.2	14.164	B
C-A	963	241				963				
C-B	4	1		624	0.007	4	0.0	0.0	5.813	A
A-BC	612	153	99.09	1850	0.331	612	0.4	0.5	3.056	A

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	37	9		456	0.082	37	0.1	0.1	8.593	A
B-A	43	11		297	0.145	43	0.2	0.2	14.187	B
C-A	963	241				963				
C-B	4	1		623	0.007	4	0.0	0.0	5.814	A
A-BC	612	153	99.09	1850	0.331	612	0.5	0.5	3.058	A

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	31	8		485	0.063	31	0.1	0.1	7.927	A
B-A	35	9		342	0.102	35	0.2	0.1	11.739	B
C-A	786	197				786				
C-B	4	0.90		654	0.005	4	0.0	0.0	5.530	A
A-BC	500	125	80.91	1878	0.266	501	0.5	0.4	2.750	A

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	26	6		505	0.051	26	0.1	0.1	7.507	A
B-A	29	7		375	0.078	29	0.1	0.1	10.422	B
C-A	658	165				658				
C-B	3	0.75		677	0.004	3	0.0	0.0	5.341	A
A-BC	419	105	67.76	1901	0.220	419	0.4	0.3	2.556	A

2021 Do Minimum, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	Madingley Rise / Madingley Road	T-Junction	Two-way		3.29	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D3	2021 Do Minimum	AM	ONE HOUR	08:00	09:30	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 (%)
A - Madingley Road (W)		ONE HOUR	✓	957	100.000
B - Madingley Rise		ONE HOUR	✓	21	100.000
C - Madingley Road (E)		ONE HOUR	✓	749	100.000

Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
A - Madingley Road (W)	[ONEHOUR]	116.00
B - Madingley Rise		
C - Madingley Road (E)		

Origin-Destination Data

Demand (Veh/hr)

		To		
		A - Madingley Road (W)	B - Madingley Rise	C - Madingley Road (E)
From	A - Madingley Road (W)	0	62	895
	B - Madingley Rise	5	0	16
	C - Madingley Road (E)	713	36	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - Madingley Road (W)	B - Madingley Rise	C - Madingley Road (E)
From	A - Madingley Road (W)	0	2	5
	B - Madingley Rise	0	0	14
	C - Madingley Road (E)	4	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-C	0.05	9.76	0.1	A	17	25
B-A	0.03	20.90	0.0	C	5	7
C-A					680	1021
C-B	0.08	8.05	0.1	A	33	50
A-BC	0.61	5.34	1.6	A	920	1381

Main Results for each time segment

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	14	3		527	0.026	14	0.0	0.0	7.996	A
B-A	4	0.94		266	0.014	4	0.0	0.0	13.735	B
C-A	558	140				558				
C-B	27	7		585	0.046	27	0.0	0.0	6.452	A
A-BC	755	189	87.33	1868	0.404	752	0.0	0.7	3.372	A

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	16	4		491	0.033	16	0.0	0.0	8.652	A
B-A	4	1		229	0.020	4	0.0	0.0	16.044	C
C-A	667	167				667				
C-B	32	8		544	0.060	32	0.0	0.1	7.041	A
A-BC	902	225	104.28	1843	0.489	901	0.7	1.0	3.996	A

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	20	5		441	0.046	20	0.0	0.1	9.738	A
B-A	6	1		178	0.031	5	0.0	0.0	20.848	C
C-A	816	204				816				
C-B	40	10		487	0.081	40	0.1	0.1	8.035	A
A-BC	1104	276	127.72	1810	0.610	1102	1.0	1.6	5.304	A

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	20	5		441	0.046	20	0.1	0.1	9.758	A
B-A	6	1		178	0.031	6	0.0	0.0	20.898	C
C-A	816	204				816				
C-B	40	10		487	0.081	40	0.1	0.1	8.051	A
A-BC	1104	276	127.72	1810	0.610	1104	1.6	1.6	5.343	A

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	16	4		489	0.034	16	0.1	0.0	8.679	A
B-A	4	1		228	0.020	5	0.0	0.0	16.085	C
C-A	667	167				667				
C-B	32	8		543	0.060	32	0.1	0.1	7.057	A
A-BC	902	225	104.28	1843	0.489	904	1.6	1.0	4.027	A

09:15 - 09:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	14	3		525	0.026	14	0.0	0.0	8.022	A
B-A	4	0.94		265	0.014	4	0.0	0.0	13.769	B
C-A	558	140				558				
C-B	27	7		584	0.046	27	0.1	0.0	6.469	A
A-BC	755	189	87.33	1868	0.404	756	1.0	0.7	3.395	A

2021 Do Minimum, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	Madingley Rise / Madingley Road	T-Junction	Two-way		1.92	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D4	2021 Do Minimum	PM	ONE HOUR	16:15	17:45	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 (%)
A - Madingley Road (W)		ONE HOUR	✓	661	100.000
B - Madingley Rise		ONE HOUR	✓	73	100.000
C - Madingley Road (E)		ONE HOUR	✓	992	100.000

Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
A - Madingley Road (W)	[ONEHOUR]	90.00
B - Madingley Rise		
C - Madingley Road (E)		

Origin-Destination Data

Demand (Veh/hr)

		To		
		A - Madingley Road (W)	B - Madingley Rise	C - Madingley Road (E)
From	A - Madingley Road (W)	0	5	656
	B - Madingley Rise	37	0	36
	C - Madingley Road (E)	988	4	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - Madingley Road (W)	B - Madingley Rise	C - Madingley Road (E)
From	A - Madingley Road (W)	0	25	5
	B - Madingley Rise	0	0	0
	C - Madingley Road (E)	3	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-C	0.09	9.26	0.1	A	33	50
B-A	0.17	17.86	0.2	C	34	51
C-A					934	1401
C-B	0.01	6.24	0.0	A	4	6
A-BC	0.41	3.49	0.7	A	638	957

Main Results for each time segment

16:15 - 16:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	27	7		491	0.055	27	0.0	0.1	7.750	A
B-A	28	7		336	0.083	27	0.0	0.1	11.674	B
C-A	766	192				766				
C-B	3	0.75		649	0.005	3	0.0	0.0	5.575	A
A-BC	523	131	67.76	1901	0.275	522	0.0	0.4	2.742	A

16:30 - 16:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	32	8		466	0.070	32	0.1	0.1	8.309	A
B-A	33	8		296	0.112	33	0.1	0.1	13.668	B
C-A	915	229				915				
C-B	4	0.90		620	0.006	4	0.0	0.0	5.837	A
A-BC	625	156	80.91	1878	0.333	624	0.4	0.5	3.016	A

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	40	10		429	0.092	40	0.1	0.1	9.246	A
B-A	41	10		242	0.168	40	0.1	0.2	17.805	C
C-A	1120	280				1120				
C-B	4	1		581	0.008	4	0.0	0.0	6.238	A
A-BC	765	191	99.09	1850	0.414	764	0.5	0.7	3.482	A

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	40	10		428	0.093	40	0.1	0.1	9.264	A
B-A	41	10		242	0.168	41	0.2	0.2	17.859	C
C-A	1120	280				1120				
C-B	4	1		581	0.008	4	0.0	0.0	6.241	A
A-BC	765	191	99.09	1850	0.414	765	0.7	0.7	3.488	A

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	32	8		465	0.070	32	0.1	0.1	8.333	A
B-A	33	8		296	0.112	34	0.2	0.1	13.709	B
C-A	915	229				915				
C-B	4	0.90		620	0.006	4	0.0	0.0	5.843	A
A-BC	625	156	80.91	1878	0.333	626	0.7	0.5	3.025	A

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	27	7		490	0.055	27	0.1	0.1	7.780	A
B-A	28	7		335	0.083	28	0.1	0.1	11.717	B
C-A	766	192				766				
C-B	3	0.75		648	0.005	3	0.0	0.0	5.583	A
A-BC	523	131	67.76	1901	0.275	524	0.5	0.4	2.751	A

2021 Do Something, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	Madingley Rise / Madingley Road	T-Junction	Two-way		3.66	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D5	2021 Do Something	AM	ONE HOUR	08:00	09:30	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 (%)
A - Madingley Road (W)		ONE HOUR	✓	971	100.000
B - Madingley Rise		ONE HOUR	✓	21	100.000
C - Madingley Road (E)		ONE HOUR	✓	613	100.000

Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
A - Madingley Road (W)	[ONEHOUR]	116.00
B - Madingley Rise		
C - Madingley Road (E)		

Origin-Destination Data

Demand (Veh/hr)

		To		
		A - Madingley Road (W)	B - Madingley Rise	C - Madingley Road (E)
From	A - Madingley Road (W)	0	62	909
	B - Madingley Rise	5	0	16
	C - Madingley Road (E)	577	36	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - Madingley Road (W)	B - Madingley Rise	C - Madingley Road (E)
From	A - Madingley Road (W)	0	2	5
	B - Madingley Rise	0	0	14
	C - Madingley Road (E)	4	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-C	0.05	9.84	0.1	A	17	25
B-A	0.03	19.36	0.0	C	5	7
C-A					551	826
C-B	0.08	8.13	0.1	A	33	50
A-BC	0.62	5.47	1.7	A	934	1401

Main Results for each time segment

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	14	3		524	0.026	14	0.0	0.0	8.037	A
B-A	4	0.94		275	0.014	4	0.0	0.0	13.257	B
C-A	452	113				452				
C-B	27	7		582	0.047	27	0.0	0.0	6.488	A
A-BC	766	192	87.33	1868	0.410	763	0.0	0.7	3.406	A

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	16	4		488	0.034	16	0.0	0.0	8.710	A
B-A	4	1		240	0.019	4	0.0	0.0	15.281	C
C-A	539	135				539				
C-B	32	8		540	0.060	32	0.0	0.1	7.091	A
A-BC	915	229	104.28	1843	0.496	914	0.7	1.0	4.053	A

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	20	5		438	0.046	20	0.0	0.1	9.824	A
B-A	6	1		192	0.029	5	0.0	0.0	19.310	C
C-A	661	165				661				
C-B	40	10		483	0.082	40	0.1	0.1	8.117	A
A-BC	1120	280	127.72	1810	0.619	1118	1.0	1.7	5.429	A

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	20	5		437	0.046	20	0.1	0.1	9.844	A
B-A	6	1		191	0.029	6	0.0	0.0	19.355	C
C-A	661	165				661				
C-B	40	10		482	0.082	40	0.1	0.1	8.133	A
A-BC	1120	280	127.72	1810	0.619	1120	1.7	1.7	5.470	A

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	16	4		486	0.034	16	0.1	0.0	8.735	A
B-A	4	1		240	0.019	5	0.0	0.0	15.320	C
C-A	539	135				539				
C-B	32	8		539	0.060	32	0.1	0.1	7.112	A
A-BC	915	229	104.28	1843	0.496	917	1.7	1.0	4.087	A

09:15 - 09:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	14	3		523	0.026	14	0.0	0.0	8.063	A
B-A	4	0.94		275	0.014	4	0.0	0.0	13.292	B
C-A	452	113				452				
C-B	27	7		581	0.047	27	0.1	0.0	6.505	A
A-BC	766	192	87.33	1868	0.410	767	1.0	0.7	3.432	A

2021 Do Something, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	Madingley Rise / Madingley Road	T-Junction	Two-way		1.88	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D6	2021 Do Something	PM	ONE HOUR	16:15	17:45	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 (%)
A - Madingley Road (W)		ONE HOUR	✓	643	100.000
B - Madingley Rise		ONE HOUR	✓	73	100.000
C - Madingley Road (E)		ONE HOUR	✓	988	100.000

Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
A - Madingley Road (W)	[ONEHOUR]	90.00
B - Madingley Rise		
C - Madingley Road (E)		

Origin-Destination Data

Demand (Veh/hr)

		To		
		A - Madingley Road (W)	B - Madingley Rise	C - Madingley Road (E)
From	A - Madingley Road (W)	0	5	638
	B - Madingley Rise	37	0	36
	C - Madingley Road (E)	984	4	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - Madingley Road (W)	B - Madingley Rise	C - Madingley Road (E)
From	A - Madingley Road (W)	0	25	5
	B - Madingley Rise	0	0	0
	C - Madingley Road (E)	3	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-C	0.09	9.15	0.1	A	33	50
B-A	0.16	17.45	0.2	C	34	51
C-A					930	1395
C-B	0.01	6.18	0.0	A	4	6
A-BC	0.40	3.42	0.7	A	620	931

Main Results for each time segment

16:15 - 16:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	27	7		494	0.055	27	0.0	0.1	7.700	A
B-A	28	7		339	0.082	28	0.0	0.1	11.553	B
C-A	763	191				763				
C-B	3	0.75		653	0.005	3	0.0	0.0	5.542	A
A-BC	509	127	67.76	1901	0.268	508	0.0	0.4	2.714	A

16:30 - 16:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	32	8		469	0.069	32	0.1	0.1	8.238	A
B-A	33	8		300	0.111	33	0.1	0.1	13.470	B
C-A	911	228				911				
C-B	4	0.90		625	0.006	4	0.0	0.0	5.793	A
A-BC	608	152	80.91	1878	0.324	607	0.4	0.5	2.978	A

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	40	10		434	0.091	40	0.1	0.1	9.135	A
B-A	41	10		247	0.165	40	0.1	0.2	17.400	C
C-A	1116	279				1116				
C-B	4	1		587	0.008	4	0.0	0.0	6.177	A
A-BC	744	186	99.09	1850	0.402	744	0.5	0.7	3.420	A

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	40	10		433	0.092	40	0.1	0.1	9.152	A
B-A	41	10		247	0.165	41	0.2	0.2	17.449	C
C-A	1116	279				1116				
C-B	4	1		587	0.008	4	0.0	0.0	6.179	A
A-BC	744	186	99.09	1850	0.402	744	0.7	0.7	3.422	A

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	32	8		468	0.069	32	0.1	0.1	8.261	A
B-A	33	8		300	0.111	34	0.2	0.1	13.512	B
C-A	911	228				911				
C-B	4	0.90		625	0.006	4	0.0	0.0	5.799	A
A-BC	608	152	80.91	1878	0.324	609	0.7	0.5	2.984	A

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	27	7		493	0.055	27	0.1	0.1	7.728	A
B-A	28	7		339	0.082	28	0.1	0.1	11.595	B
C-A	763	191				763				
C-B	3	0.75		652	0.005	3	0.0	0.0	5.546	A
A-BC	509	127	67.76	1901	0.268	510	0.5	0.4	2.720	A

2031 Do Minimum, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	Madingley Rise / Madingley Road	T-Junction	Two-way		3.59	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D7	2031 Do Minimum	AM	ONE HOUR	08:00	09:30	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 (%)
A - Madingley Road (W)		ONE HOUR	✓	1045	100.000
B - Madingley Rise		ONE HOUR	✓	25	100.000
C - Madingley Road (E)		ONE HOUR	✓	985	100.000

Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
A - Madingley Road (W)	[ONEHOUR]	116.00
B - Madingley Rise		
C - Madingley Road (E)		

Origin-Destination Data

Demand (Veh/hr)

		To		
		A - Madingley Road (W)	B - Madingley Rise	C - Madingley Road (E)
From	A - Madingley Road (W)	0	81	964
	B - Madingley Rise	7	0	18
	C - Madingley Road (E)	935	50	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - Madingley Road (W)	B - Madingley Rise	C - Madingley Road (E)
From	A - Madingley Road (W)	0	2	5
	B - Madingley Rise	0	0	14
	C - Madingley Road (E)	4	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-C	0.06	10.65	0.1	B	19	28
B-A	0.06	28.25	0.1	D	6	10
C-A					892	1338
C-B	0.12	8.92	0.1	A	46	69
A-BC	0.67	6.24	2.1	A	1005	1507

Main Results for each time segment

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	15	4		502	0.031	15	0.0	0.0	8.434	A
B-A	5	1		240	0.022	5	0.0	0.0	15.307	C
C-A	732	183				732				
C-B	38	9		566	0.067	37	0.0	0.1	6.811	A
A-BC	824	206	87.33	1869	0.441	821	0.0	0.8	3.590	A

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	18	5		463	0.040	18	0.0	0.0	9.231	A
B-A	6	2		196	0.032	6	0.0	0.0	18.949	C
C-A	874	219				874				
C-B	45	11		521	0.086	45	0.1	0.1	7.562	A
A-BC	984	246	104.28	1843	0.534	983	0.8	1.2	4.376	A

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	23	6		409	0.055	23	0.0	0.1	10.607	B
B-A	8	2		136	0.057	8	0.0	0.1	28.103	D
C-A	1071	268				1071				
C-B	55	14		459	0.120	55	0.1	0.1	8.896	A
A-BC	1205	301	127.72	1809	0.666	1202	1.2	2.0	6.172	A

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	23	6		408	0.055	23	0.1	0.1	10.647	B
B-A	8	2		135	0.057	8	0.1	0.1	28.246	D
C-A	1071	268				1071				
C-B	55	14		458	0.120	55	0.1	0.1	8.924	A
A-BC	1205	301	127.72	1809	0.666	1205	2.0	2.1	6.241	A

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	18	5		461	0.040	19	0.1	0.0	9.276	A
B-A	6	2		196	0.032	6	0.1	0.0	19.028	C
C-A	874	219				874				
C-B	45	11		519	0.087	45	0.1	0.1	7.595	A
A-BC	984	246	104.28	1843	0.534	988	2.1	1.2	4.424	A

09:15 - 09:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	15	4		500	0.031	15	0.0	0.0	8.470	A
B-A	5	1		240	0.022	5	0.0	0.0	15.360	C
C-A	732	183				732				
C-B	38	9		564	0.067	38	0.1	0.1	6.839	A
A-BC	824	206	87.33	1869	0.441	826	1.2	0.8	3.623	A

2031 Do Minimum, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	Madingley Rise / Madingley Road	T-Junction	Two-way		3.05	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D8	2031 Do Minimum	PM	ONE HOUR	16:15	17:45	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 (%)
A - Madingley Road (W)		ONE HOUR	✓	841	100.000
B - Madingley Rise		ONE HOUR	✓	117	100.000
C - Madingley Road (E)		ONE HOUR	✓	1064	100.000

Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
A - Madingley Road (W)	[ONEHOUR]	90.00
B - Madingley Rise		
C - Madingley Road (E)		

Origin-Destination Data

Demand (Veh/hr)

		To		
		A - Madingley Road (W)	B - Madingley Rise	C - Madingley Road (E)
From	A - Madingley Road (W)	0	9	832
	B - Madingley Rise	63	0	54
	C - Madingley Road (E)	1058	6	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - Madingley Road (W)	B - Madingley Rise	C - Madingley Road (E)
From	A - Madingley Road (W)	0	25	5
	B - Madingley Rise	0	0	0
	C - Madingley Road (E)	3	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-C	0.17	12.60	0.2	B	50	74
B-A	0.36	29.27	0.6	D	58	87
C-A					1000	1500
C-B	0.01	6.97	0.0	A	6	8
A-BC	0.53	4.32	1.2	A	812	1218

Main Results for each time segment

16:15 - 16:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	41	10		444	0.091	40	0.0	0.1	8.900	A
B-A	47	12		305	0.156	47	0.0	0.2	13.898	B
C-A	820	205				820				
C-B	5	1		609	0.007	4	0.0	0.0	5.952	A
A-BC	666	167	67.76	1901	0.350	664	0.0	0.6	3.056	A

16:30 - 16:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	49	12		408	0.119	48	0.1	0.1	10.009	B
B-A	57	14		258	0.220	56	0.2	0.3	17.827	C
C-A	980	245				980				
C-B	5	1		573	0.009	5	0.0	0.0	6.341	A
A-BC	795	199	80.91	1879	0.423	795	0.6	0.8	3.492	A

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	59	15		347	0.171	59	0.1	0.2	12.483	B
B-A	69	17		192	0.361	68	0.3	0.5	28.765	D
C-A	1200	300				1200				
C-B	7	2		524	0.013	7	0.0	0.0	6.963	A
A-BC	974	244	99.09	1851	0.526	973	0.8	1.2	4.304	A

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	59	15		345	0.172	59	0.2	0.2	12.596	B
B-A	69	17		192	0.361	69	0.5	0.6	29.268	D
C-A	1200	300				1200				
C-B	7	2		523	0.013	7	0.0	0.0	6.969	A
A-BC	974	244	99.09	1851	0.526	974	1.2	1.2	4.319	A

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	49	12		406	0.120	49	0.2	0.1	10.094	B
B-A	57	14		258	0.220	58	0.6	0.3	18.076	C
C-A	980	245				980				
C-B	5	1		572	0.009	5	0.0	0.0	6.351	A
A-BC	795	199	80.91	1879	0.423	797	1.2	0.8	3.504	A

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	41	10		443	0.092	41	0.1	0.1	8.962	A
B-A	47	12		305	0.156	48	0.3	0.2	14.035	B
C-A	820	205				820				
C-B	5	1		608	0.007	5	0.0	0.0	5.963	A
A-BC	666	167	67.76	1901	0.350	667	0.8	0.6	3.072	A

2031 Do Something, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	Madingley Rise / Madingley Road	T-Junction	Two-way		3.88	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D9	2031 Do Something	AM	ONE HOUR	08:00	09:30	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 (%)
A - Madingley Road (W)		ONE HOUR	✓	1042	100.000
B - Madingley Rise		ONE HOUR	✓	25	100.000
C - Madingley Road (E)		ONE HOUR	✓	809	100.000

Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
A - Madingley Road (W)	[ONEHOUR]	116.00
B - Madingley Rise		
C - Madingley Road (E)		

Origin-Destination Data

Demand (Veh/hr)

		To		
		A - Madingley Road (W)	B - Madingley Rise	C - Madingley Road (E)
From	A - Madingley Road (W)	0	81	961
	B - Madingley Rise	7	0	18
	C - Madingley Road (E)	759	50	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - Madingley Road (W)	B - Madingley Rise	C - Madingley Road (E)
From	A - Madingley Road (W)	0	2	5
	B - Madingley Rise	0	0	14
	C - Madingley Road (E)	4	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-C	0.06	10.59	0.1	B	19	28
B-A	0.05	24.01	0.1	C	6	10
C-A					724	1086
C-B	0.12	8.90	0.1	A	46	69
A-BC	0.66	6.20	2.1	A	1002	1503

Main Results for each time segment

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	15	4		503	0.031	15	0.0	0.0	8.421	A
B-A	5	1		256	0.021	5	0.0	0.0	14.367	B
C-A	594	149				594				
C-B	38	9		566	0.066	37	0.0	0.1	6.803	A
A-BC	822	205	87.33	1869	0.440	819	0.0	0.8	3.582	A

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	18	5		464	0.040	18	0.0	0.0	9.209	A
B-A	6	2		215	0.029	6	0.0	0.0	17.280	C
C-A	710	177				710				
C-B	45	11		521	0.086	45	0.1	0.1	7.553	A
A-BC	981	245	104.28	1843	0.532	980	0.8	1.2	4.361	A

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	23	6		411	0.055	23	0.0	0.1	10.559	B
B-A	8	2		158	0.049	8	0.0	0.0	23.911	C
C-A	869	217				869				
C-B	55	14		460	0.120	55	0.1	0.1	8.875	A
A-BC	1202	300	127.72	1809	0.664	1199	1.2	2.0	6.139	A

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	23	6		410	0.055	23	0.1	0.1	10.594	B
B-A	8	2		158	0.049	8	0.0	0.1	24.013	C
C-A	869	217				869				
C-B	55	14		459	0.120	55	0.1	0.1	8.903	A
A-BC	1202	300	127.72	1809	0.664	1202	2.0	2.1	6.205	A

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	18	5		462	0.040	19	0.1	0.0	9.249	A
B-A	6	2		214	0.029	6	0.1	0.0	17.346	C
C-A	710	177				710				
C-B	45	11		520	0.086	45	0.1	0.1	7.583	A
A-BC	981	245	104.28	1843	0.532	985	2.1	1.2	4.411	A

09:15 - 09:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	15	4		501	0.031	15	0.0	0.0	8.455	A
B-A	5	1		255	0.021	5	0.0	0.0	14.415	B
C-A	594	149				594				
C-B	38	9		565	0.067	38	0.1	0.1	6.830	A
A-BC	822	205	87.33	1869	0.440	823	1.2	0.8	3.615	A

2031 Do Something, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	Madingley Rise / Madingley Road	T-Junction	Two-way		2.57	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D10	2031 Do Something	PM	ONE HOUR	16:15	17:45	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 (%)
A - Madingley Road (W)		ONE HOUR	✓	746	100.000
B - Madingley Rise		ONE HOUR	✓	115	100.000
C - Madingley Road (E)		ONE HOUR	✓	1106	100.000

Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
A - Madingley Road (W)	[ONEHOUR]	90.00
B - Madingley Rise		
C - Madingley Road (E)		

Origin-Destination Data

Demand (Veh/hr)

		To		
		A - Madingley Road (W)	B - Madingley Rise	C - Madingley Road (E)
From	A - Madingley Road (W)	0	9	737
	B - Madingley Rise	62	0	53
	C - Madingley Road (E)	1100	6	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - Madingley Road (W)	B - Madingley Rise	C - Madingley Road (E)
From	A - Madingley Road (W)	0	25	5
	B - Madingley Rise	0	0	0
	C - Madingley Road (E)	3	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-C	0.16	11.43	0.2	B	49	73
B-A	0.33	25.55	0.5	D	57	85
C-A					1040	1559
C-B	0.01	6.58	0.0	A	6	8
A-BC	0.47	3.84	0.9	A	720	1081

Main Results for each time segment

16:15 - 16:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	40	10		460	0.087	40	0.0	0.1	8.544	A
B-A	47	12		316	0.148	46	0.0	0.2	13.290	B
C-A	853	213				853				
C-B	5	1		630	0.007	4	0.0	0.0	5.755	A
A-BC	591	148	67.76	1901	0.311	589	0.0	0.5	2.884	A

16:30 - 16:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	48	12		428	0.111	48	0.1	0.1	9.460	A
B-A	56	14		271	0.205	55	0.2	0.3	16.675	C
C-A	1019	255				1019				
C-B	5	1		598	0.009	5	0.0	0.0	6.076	A
A-BC	706	176	80.91	1879	0.376	705	0.5	0.6	3.226	A

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	58	15		375	0.156	58	0.1	0.2	11.358	B
B-A	68	17		209	0.327	67	0.3	0.5	25.266	D
C-A	1247	312				1247				
C-B	7	2		554	0.012	7	0.0	0.0	6.576	A
A-BC	864	216	99.09	1851	0.467	863	0.6	0.9	3.833	A

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	58	15		373	0.156	58	0.2	0.2	11.428	B
B-A	68	17		209	0.327	68	0.5	0.5	25.555	D
C-A	1247	312				1247				
C-B	7	2		554	0.012	7	0.0	0.0	6.580	A
A-BC	864	216	99.09	1851	0.467	864	0.9	0.9	3.841	A

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	48	12		426	0.112	48	0.2	0.1	9.525	A
B-A	56	14		271	0.205	57	0.5	0.3	16.822	C
C-A	1019	255				1019				
C-B	5	1		597	0.009	5	0.0	0.0	6.083	A
A-BC	706	176	80.91	1879	0.376	707	0.9	0.6	3.235	A

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	40	10		459	0.087	40	0.1	0.1	8.597	A
B-A	47	12		316	0.148	47	0.3	0.2	13.400	B
C-A	853	213				853				
C-B	5	1		629	0.007	5	0.0	0.0	5.762	A
A-BC	591	148	67.76	1901	0.311	592	0.6	0.5	2.896	A

2031 Do Something Mitigation, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	Madingley Rise / Madingley Road	T-Junction	Two-way		3.08	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D11	2031 Do Something Mitigation	AM	ONE HOUR	08:00	09:30	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 (%)
A - Madingley Road (W)		ONE HOUR	✓	925	100.000
B - Madingley Rise		ONE HOUR	✓	25	100.000
C - Madingley Road (E)		ONE HOUR	✓	809	100.000

Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
A - Madingley Road (W)	[ONEHOUR]	116.00
B - Madingley Rise		
C - Madingley Road (E)		

Origin-Destination Data

Demand (Veh/hr)

		To		
		A - Madingley Road (W)	B - Madingley Rise	C - Madingley Road (E)
From	A - Madingley Road (W)	0	81	844
	B - Madingley Rise	7	0	18
	C - Madingley Road (E)	759	50	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - Madingley Road (W)	B - Madingley Rise	C - Madingley Road (E)
From	A - Madingley Road (W)	0	2	5
	B - Madingley Rise	0	0	14
	C - Madingley Road (E)	4	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-C	0.05	9.75	0.1	A	19	28
B-A	0.04	20.73	0.0	C	6	10
C-A					724	1086
C-B	0.11	8.14	0.1	A	46	69
A-BC	0.59	5.07	1.5	A	889	1334

Main Results for each time segment

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	15	4		525	0.029	15	0.0	0.0	8.052	A
B-A	5	1		272	0.019	5	0.0	0.0	13.508	B
C-A	594	149				594				
C-B	38	9		592	0.064	37	0.0	0.1	6.490	A
A-BC	729	182	87.33	1868	0.390	727	0.0	0.7	3.296	A

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	18	5		491	0.038	18	0.0	0.0	8.686	A
B-A	6	2		234	0.027	6	0.0	0.0	15.824	C
C-A	710	177				710				
C-B	45	11		552	0.081	45	0.1	0.1	7.097	A
A-BC	871	218	104.28	1843	0.473	870	0.7	0.9	3.870	A

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	23	6		444	0.051	23	0.0	0.1	9.730	A
B-A	8	2		182	0.042	8	0.0	0.0	20.683	C
C-A	869	217				869				
C-B	55	14		498	0.111	55	0.1	0.1	8.124	A
A-BC	1067	267	127.72	1811	0.589	1064	0.9	1.5	5.037	A

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	23	6		444	0.051	23	0.1	0.1	9.749	A
B-A	8	2		181	0.043	8	0.0	0.0	20.731	C
C-A	869	217				869				
C-B	55	14		497	0.111	55	0.1	0.1	8.140	A
A-BC	1067	267	127.72	1811	0.589	1067	1.5	1.5	5.067	A

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	18	5		490	0.038	19	0.1	0.0	8.711	A
B-A	6	2		233	0.027	6	0.0	0.0	15.861	C
C-A	710	177				710				
C-B	45	11		551	0.082	45	0.1	0.1	7.117	A
A-BC	871	218	104.28	1843	0.473	873	1.5	0.9	3.897	A

09:15 - 09:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	15	4		524	0.030	15	0.0	0.0	8.079	A
B-A	5	1		271	0.019	5	0.0	0.0	13.537	B
C-A	594	149				594				
C-B	38	9		591	0.064	38	0.1	0.1	6.512	A
A-BC	729	182	87.33	1868	0.390	730	0.9	0.7	3.316	A

2031 Do Something Mitigation, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	Madingley Rise / Madingley Road	T-Junction	Two-way		2.64	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D12	2031 Do Something Mitigation	PM	ONE HOUR	16:15	17:45	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 (%)
A - Madingley Road (W)		ONE HOUR	✓	746	100.000
B - Madingley Rise		ONE HOUR	✓	115	100.000
C - Madingley Road (E)		ONE HOUR	✓	989	100.000

Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
A - Madingley Road (W)	[ONEHOUR]	90.00
B - Madingley Rise		
C - Madingley Road (E)		

Origin-Destination Data

Demand (Veh/hr)

		To		
		A - Madingley Road (W)	B - Madingley Rise	C - Madingley Road (E)
From	A - Madingley Road (W)	0	9	737
	B - Madingley Rise	62	0	53
	C - Madingley Road (E)	983	6	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - Madingley Road (W)	B - Madingley Rise	C - Madingley Road (E)
From	A - Madingley Road (W)	0	25	5
	B - Madingley Rise	0	0	0
	C - Madingley Road (E)	3	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-C	0.15	11.24	0.2	B	49	73
B-A	0.30	22.83	0.4	C	57	85
C-A					929	1394
C-B	0.01	6.58	0.0	A	6	8
A-BC	0.47	3.84	0.9	A	720	1081

Main Results for each time segment

16:15 - 16:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	40	10		461	0.087	40	0.0	0.1	8.528	A
B-A	47	12		328	0.142	46	0.0	0.2	12.748	B
C-A	762	191				762				
C-B	5	1		630	0.007	4	0.0	0.0	5.755	A
A-BC	591	148	67.76	1901	0.311	589	0.0	0.5	2.884	A

16:30 - 16:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	48	12		430	0.111	48	0.1	0.1	9.419	A
B-A	56	14		285	0.196	55	0.2	0.2	15.655	C
C-A	910	228				910				
C-B	5	1		598	0.009	5	0.0	0.0	6.076	A
A-BC	706	176	80.91	1879	0.376	705	0.5	0.6	3.226	A

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	58	15		380	0.154	58	0.1	0.2	11.179	B
B-A	68	17		226	0.302	68	0.2	0.4	22.624	C
C-A	1115	279				1115				
C-B	7	2		554	0.012	7	0.0	0.0	6.576	A
A-BC	864	216	99.09	1851	0.467	863	0.6	0.9	3.833	A

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	58	15		379	0.154	58	0.2	0.2	11.236	B
B-A	68	17		226	0.302	68	0.4	0.4	22.827	C
C-A	1115	279				1115				
C-B	7	2		554	0.012	7	0.0	0.0	6.580	A
A-BC	864	216	99.09	1851	0.467	864	0.9	0.9	3.841	A

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	48	12		428	0.111	48	0.2	0.1	9.476	A
B-A	56	14		285	0.196	56	0.4	0.2	15.791	C
C-A	910	228				910				
C-B	5	1		597	0.009	5	0.0	0.0	6.083	A
A-BC	706	176	80.91	1879	0.376	707	0.9	0.6	3.235	A

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	40	10		460	0.087	40	0.1	0.1	8.579	A
B-A	47	12		328	0.142	47	0.2	0.2	12.843	B
C-A	762	191				762				
C-B	5	1		629	0.007	5	0.0	0.0	5.762	A
A-BC	591	148	67.76	1901	0.311	592	0.6	0.5	2.896	A

Junctions 9

PICADY 9 - Priority Intersection Module

Version: 9.5.1.7462

For sales and distribution information, program advice and maintenance, contact TRL:
+44 (0)1344 379777 software@trl.co.uk www.trlsoftware.co.uk

Filename: 191112 - JJ Thomson Avenue - Madingley Road.j9
Path: J:\45339 - West Cambridge 2018\Junctions 9\2019 Work\JJ Thomson Avenue - Madingley Road
Report generation date: 26/11/2019 12:56:50

Junctions 9

PICADY 9 - Priority Intersection Module

Version: 9.5.1.7462

For sales and distribution information, program advice and maintenance, contact TRL:
+44 (0)1344 379777 software@trl.co.uk www.trlsoftware.co.uk

Filename: 191112 Clerk Maxwell Road - Madingley Road.j9
Path: J:\45339 - West Cambridge 2018\Junctions 9\2019 Work\Clerk Maxwell Road
Report generation date: 26/11/2019 12:44:55

Summary of junction performance

	AM					PM				
	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)
	2019 Observed									
Stream B-C	0.0	7.87	0.03	A	0.53	0.2	10.31	0.18	B	0.99
Stream B-A	0.0	20.86	0.04	C		0.2	23.72	0.19	C	
Stream C-B	0.2	8.40	0.16	A		0.0	7.64	0.01	A	
	2021 Do Minimum									
Stream B-C	0.1	10.94	0.05	B	0.82	0.3	14.93	0.25	B	1.66
Stream B-A	0.2	56.82	0.19	F		0.7	64.68	0.43	F	
Stream C-B	0.3	11.29	0.21	B		0.0	8.87	0.03	A	
	2021 Do Something									
Stream B-C	0.1	12.07	0.10	B	1.60	9.2	376.52	1.15	F	40.95
Stream B-A	0.6	37.36	0.38	E		15.8	325.41	1.15	F	
Stream C-B	0.3	10.23	0.22	B		0.1	8.91	0.05	A	
	2021 Do Something Mitigated									
Stream B-C	0.1	11.23	0.08	B	1.14	2.3	147.86	0.80	F	14.09
Stream B-A	0.4	27.87	0.29	D		5.2	118.77	0.89	F	
Stream C-B	0.2	9.41	0.15	A		0.0	8.21	0.03	A	
	2031 Do Minimum									
Stream B-C	9.4	1425.19	9999999999.00	F	16.64	13.9	479.10	1.41	F	21.52
Stream B-A	7.4	1555.35	9999999999.00	F		7.4	569.67	1.36	F	
Stream C-B	0.4	18.98	0.31	C		0.0	9.47	0.03	A	
	2031 Do Something									
Stream B-C	17.0	3297.58	9999999999.00	F	32.93	41.8	1526.41	9999999999.00	F	62.56
Stream B-A	14.2	3315.51	9999999999.00	F		31.1	1551.39	9999999999.00	F	
Stream C-B	0.8	36.60	0.47	E		0.0	10.23	0.03	B	
	2031 Do Something Mitigation									
Stream B-C	9.4	1594.23	9999999999.00	F	17.88	20.6	4025.37	3.77	F	149.68
Stream B-A	8.0	1627.75	9999999999.00	F		21.7	4034.09	3.64	F	
Stream C-B	0.3	19.16	0.24	C		0.0	9.52	0.03	A	

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.

File summary

File Description

Title	Clerk Maxwell Road / Madingley Road
Location	West Cambridge
Site number	
Date	18/07/2019
Version	
Status	Existing
Identifier	
Client	
Jobnumber	46357
Enumerator	PBA\pcullen
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	PCU	perHour	s	-Min	perMin

Analysis Options

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

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D6	2021 Do Something	PM	ONE HOUR	16:15	17:45	15

2021 Do Something, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	Clerk Maxwell Road / Madingley Road	T-Junction	Two-way		40.95	E

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	Madingley Road east		Major
B	Clerk Maxwell Road		Minor
C	Madingley Road west		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right turn bay	Width for right turn (m)	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C - Madingley Road west	8.00		✓	2.80	152.0		-

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

Minor Arm Geometry

Arm	Minor arm type	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate flare length	Flare length (PCU)	Visibility to left (m)	Visibility to right (m)
B - Clerk Maxwell Road	One lane plus flare	5.00	5.00	4.00	4.00	4.00	✓	1.00	41	32

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
B-A	520	0.087	0.219	0.138	0.312
B-C	562	0.079	0.199	-	-
C-B	705	0.249	0.249	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

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

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

Traffic Demand

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A - Madingley Road east		✓	988	100.000
B - Clerk Maxwell Road		✓	240	100.000
C - Madingley Road west		✓	724	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		A - Madingley Road east	B - Clerk Maxwell Road	C - Madingley Road west
From	A - Madingley Road east	0	53	935
	B - Clerk Maxwell Road	157	0	83
	C - Madingley Road west	704	20	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - Madingley Road east	B - Clerk Maxwell Road	C - Madingley Road west
From	A - Madingley Road east	0	0	3
	B - Clerk Maxwell Road	0	0	0
	C - Madingley Road west	5	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	1.15	376.52	9.2	F
B-A	1.15	325.41	15.8	F
C-A				
C-B	0.05	8.91	0.1	A
A-B				
A-C				

Main Results for each time segment

16:15 - 16:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	62	345	0.181	62	0.2	12.663	B
B-A	118	274	0.431	115	0.7	22.300	C
C-A	557			557			
C-B	15	514	0.029	15	0.0	7.205	A
A-B	40			40			
A-C	725			725			

16:30 - 16:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	75	255	0.293	74	0.4	19.816	C
B-A	141	223	0.632	138	1.5	40.719	E
C-A	665			665			
C-B	18	477	0.038	18	0.0	7.836	A
A-B	48			48			
A-C	866			866			

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	91	79	1.155	69	6.0	222.846	F
B-A	173	152	1.135	141	9.4	180.180	F
C-A	814			814			
C-B	22	426	0.052	22	0.1	8.906	A
A-B	58			58			
A-C	1060			1060			

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	91	83	1.107	79	9.2	376.516	F
B-A	173	151	1.148	147	15.8	325.405	F
C-A	814			814			
C-B	22	426	0.052	22	0.1	8.907	A
A-B	58			58			
A-C	1060			1060			

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	75	111	0.671	99	3.1	232.817	F
B-A	141	204	0.691	191	3.5	196.570	F
C-A	665			665			
C-B	18	477	0.038	18	0.0	7.840	A
A-B	48			48			
A-C	866			866			

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	62	332	0.188	74	0.2	14.542	B
B-A	118	270	0.438	129	0.8	27.175	D
C-A	557			557			
C-B	15	514	0.029	15	0.0	7.209	A
A-B	40			40			
A-C	725			725			

Summary of junction performance

	AM					PM				
	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)
	2019 Observed									
Stream B-C	0.0	6.86	0.02	A	2.50	0.3	11.41	0.23	B	5.11
Stream B-A	0.3	15.83	0.24	C		0.6	18.32	0.38	C	
Stream C-B	0.2	8.45	0.14	A		0.0	8.04	0.03	A	
Stream A-BC	0.7	3.60	0.39	A		1.4	5.28	0.58	A	
	2021 Do Minimum									
Stream B-C	0.0	0.00	0.00	A	5.92	0.3	15.14	0.20	C	54.32
Stream B-A	1.6	43.48	0.60	E		33.2	394.75	1.24	F	
Stream C-B	0.2	11.26	0.18	B		0.0	9.37	0.03	A	
Stream A-BC	2.0	6.40	0.65	A		2.7	8.28	0.73	A	
	2021 Do Something									
Stream B-C	0.0	7.52	0.04	A	3.39	0.9	17.10	0.45	C	5.76
Stream B-A	0.3	21.69	0.21	C		0.2	18.90	0.20	C	
Stream C-B	0.7	13.09	0.41	B		0.0	9.09	0.05	A	
Stream A-BC	0.9	4.05	0.45	A		2.2	7.09	0.69	A	
	2031 Do Minimum									
Stream B-C	0.0	0.00	0.00	A	44.69	0.3	16.33	0.22	C	418.30
Stream B-A	21.5	443.96	1.30	F		219.0	2440.66	2.56	F	
Stream C-B	0.4	18.43	0.27	C		0.0	10.05	0.04	B	
Stream A-BC	14.9	35.31	0.95	E		3.8	10.76	0.79	B	
	2031 Do Something									
Stream B-C	0.0	11.66	0.00	B	243.36	1.0	26.69	0.49	D	2486.75
Stream B-A	64.1	1029.20	1.51	F		827.0	8791.35	5.32	F	
Stream C-B	0.1	15.67	0.07	C		0.0	11.13	0.01	B	
Stream A-BC	142.4	264.89	1.15	F		7.8	20.22	0.89	C	
	2031 Do Something Mitigated									
Stream B-C	0.0	11.82	0.00	B	102.41	0.5	18.54	0.33	C	1145.02
Stream B-A	50.3	651.86	1.44	F		474.1	4797.65	3.34	F	
Stream C-B	0.0	0.00	0.00	A		0.0	10.03	0.01	B	
Stream A-BC	31.5	65.87	1.00	F		4.3	11.89	0.81	B	

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.

File summary

File Description

Title	JJ Thomson Avenue / Madingley Road
Location	West Cambridge
Site number	
Date	17/07/2019
Version	
Status	Exising
Identifier	
Client	
Jobnumber	46357
Enumerator	
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	PCU	perHour	s	-Min	perMin

Analysis Options

Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
5.75		✓		0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2019 Observed	AM	ONE HOUR	08:00	09:30	15	✓
D2	2019 Observed	PM	ONE HOUR	16:15	17:45	15	✓
D3	2021 Do Minimum	AM	ONE HOUR	08:00	09:30	15	✓
D4	2021 Do Minimum	PM	ONE HOUR	16:15	17:45	15	✓
D5	2021 Do Something	AM	ONE HOUR	08:00	09:30	15	✓
D6	2021 Do Something	PM	ONE HOUR	16:15	17:45	15	✓
D7	2031 Do Minimum	AM	ONE HOUR	08:00	09:30	15	✓
D8	2031 Do Minimum	PM	ONE HOUR	16:15	17:45	15	✓
D9	2031 Do Something	AM	ONE HOUR	08:00	09:30	15	✓
D10	2031 Do Something	PM	ONE HOUR	16:15	17:45	15	✓
D11	2031 Do Something Mitigated	AM	ONE HOUR	08:00	09:30	15	✓
D12	2031 Do Something Mitigated	PM	ONE HOUR	16:15	17:45	15	✓

Analysis Set Details

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

2019 Observed, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	JJ Thomson Avenue / Madingley Road	T-Junction	Two-way		2.50	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	Madingley Rd (E)		Major
B	JJ Thomson Avenue		Minor
C	Madingley Rd (W)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width for right turn (m)	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C - Madingley Rd (W)	8.00	✓	6.00	✓	3.20	95.0		-

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

Minor Arm Geometry

Arm	Minor arm type	Lane Width (Left) (m)	Lane Width (Right) (m)	Visibility to left (m)	Visibility to right (m)
B - JJ Thomson Avenue	Two lanes	3.70	2.95	122	59

Pelican/Puffin Crossings

Arm	Space between crossing and junc. entry (Signalised) (PCU)	Amber time preceding red (s)	Amber time regarded as green (s)	Time from traffic red start to green man start (s)	Time period green man shown (s)	Clearance Period (s)	Traffic minimum green (s)
A - Madingley Rd (E)	1.00	3.00	2.90	1.00	5.00	7.00	7.00

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
B-A	617	0.091	0.229	0.144	0.327
B-C	707	0.099	0.250	-	-
C-B	697	0.247	0.247	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

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

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2019 Observed	AM	ONE HOUR	08:00	09:30	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 (%)
A - Madingley Rd (E)		ONE HOUR	✓	578	100.000
B - JJ Thomson Avenue		ONE HOUR	✓	73	100.000
C - Madingley Rd (W)		ONE HOUR	✓	855	100.000

Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
A - Madingley Rd (E)	[ONEHOUR]	104.00
B - JJ Thomson Avenue		
C - Madingley Rd (W)		

Origin-Destination Data

Demand (Veh/hr)

		To		
		A - Madingley Rd (E)	B - JJ Thomson Avenue	C - Madingley Rd (W)
From	A - Madingley Rd (E)	0	159	419
	B - JJ Thomson Avenue	65	0	8
	C - Madingley Rd (W)	794	61	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - Madingley Rd (E)	B - JJ Thomson Avenue	C - Madingley Rd (W)
From	A - Madingley Rd (E)	0	3	5
	B - JJ Thomson Avenue	12	0	0
	C - Madingley Rd (W)	4	8	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
B-C	0.02	6.86	0.0	A	7	11	1.19	6.47	0.01	1.19	6.47
B-A	0.24	15.83	0.3	C	67	100	21.98	13.16	0.24	21.98	13.16
C-A					758	1137					
C-B	0.14	8.45	0.2	A	60	91	11.80	7.81	0.13	11.80	7.81
A-BC	0.39	3.60	0.7	A	554	831	44.71	3.23	0.50	44.71	3.23

Main Results for each time segment

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	6	2		593	0.010	6	0.0	0.0	6.137	A
B-A	55	14		425	0.129	54	0.0	0.2	10.866	B
C-A	622	155				622				
C-B	50	12		585	0.085	49	0.0	0.1	7.248	A
A-BC	455	114	78.30	1768	0.257	453	0.0	0.4	2.856	A

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	7	2		568	0.013	7	0.0	0.0	6.416	A
B-A	65	16		387	0.169	65	0.2	0.2	12.537	B
C-A	742	186				742				
C-B	59	15		563	0.105	59	0.1	0.1	7.711	A
A-BC	543	136	93.49	1741	0.312	542	0.4	0.5	3.137	A

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	9	2		534	0.017	9	0.0	0.0	6.859	A
B-A	80	20		335	0.239	80	0.2	0.3	15.761	C
C-A	909	227				909				
C-B	73	18		533	0.136	72	0.1	0.2	8.438	A
A-BC	665	166	114.51	1707	0.389	664	0.5	0.7	3.602	A

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	9	2		533	0.017	9	0.0	0.0	6.863	A
B-A	80	20		335	0.239	80	0.3	0.3	15.831	C
C-A	909	227				909				
C-B	73	18		533	0.136	73	0.2	0.2	8.447	A
A-BC	665	166	114.51	1707	0.389	665	0.7	0.7	3.605	A

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	7	2		568	0.013	7	0.0	0.0	6.425	A
B-A	65	16		386	0.169	66	0.3	0.2	12.597	B
C-A	742	186				742				
C-B	59	15		563	0.105	59	0.2	0.1	7.724	A
A-BC	543	136	93.49	1741	0.312	543	0.7	0.5	3.141	A

09:15 - 09:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	6	2		592	0.010	6	0.0	0.0	6.147	A
B-A	55	14		424	0.129	55	0.2	0.2	10.936	B
C-A	622	155				622				
C-B	50	12		585	0.085	50	0.1	0.1	7.269	A
A-BC	455	114	78.30	1768	0.257	455	0.5	0.4	2.865	A

Queueing Delay Results for each time segment

08:00 - 08:15

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	0.15	0.01	6.137	A
B-A	2.34	0.16	10.866	B
C-B	1.44	0.10	7.248	A
A-BC	5.30	0.35	2.856	A

08:15 - 08:30

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	0.19	0.01	6.416	A
B-A	3.26	0.22	12.537	B
C-B	1.85	0.12	7.711	A
A-BC	6.96	0.46	3.137	A

08:30 - 08:45

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	0.24	0.02	6.859	A
B-A	4.94	0.33	15.761	C
C-B	2.46	0.16	8.438	A
A-BC	9.74	0.65	3.602	A

08:45 - 09:00

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	0.25	0.02	6.863	A
B-A	5.20	0.35	15.831	C
C-B	2.53	0.17	8.447	A
A-BC	9.94	0.66	3.605	A

09:00 - 09:15

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	0.20	0.01	6.425	A
B-A	3.62	0.24	12.597	B
C-B	1.97	0.13	7.724	A
A-BC	7.25	0.48	3.141	A

09:15 - 09:30

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	0.16	0.01	6.147	A
B-A	2.61	0.17	10.936	B
C-B	1.55	0.10	7.269	A
A-BC	5.52	0.37	2.865	A

2019 Observed, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	JJ Thomson Avenue / Madingley Road	T-Junction	Two-way		5.11	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D2	2019 Observed	PM	ONE HOUR	16:15	17:45	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 (%)
A - Madingley Rd (E)		ONE HOUR	✓	849	100.000
B - JJ Thomson Avenue		ONE HOUR	✓	196	100.000
C - Madingley Rd (W)		ONE HOUR	✓	429	100.000

Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
A - Madingley Rd (E)	[ONEHOUR]	136.00
B - JJ Thomson Avenue		
C - Madingley Rd (W)		

Origin-Destination Data

Demand (Veh/hr)

		To		
		A - Madingley Rd (E)	B - JJ Thomson Avenue	C - Madingley Rd (W)
From	A - Madingley Rd (E)	0	52	797
	B - JJ Thomson Avenue	111	0	85
	C - Madingley Rd (W)	418	11	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - Madingley Rd (E)	B - JJ Thomson Avenue	C - Madingley Rd (W)
From	A - Madingley Rd (E)	0	8	2
	B - JJ Thomson Avenue	4	0	5
	C - Madingley Rd (W)	6	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
B-C	0.23	11.41	0.3	B	82	123	19.98	9.76	0.22	19.98	9.76
B-A	0.38	18.32	0.6	C	106	159	38.02	14.36	0.42	38.03	14.36
C-A					407	610					
C-B	0.03	8.04	0.0	A	10	15	1.87	7.40	0.02	1.87	7.40
A-B-C	0.58	5.28	1.4	A	798	1196	85.91	4.31	0.95	85.92	4.31

Main Results for each time segment

16:15 - 16:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	67	17		522	0.129	67	0.0	0.2	8.293	A
B-A	87	22		423	0.206	86	0.0	0.3	11.083	B
C-A	334	83				334				
C-B	8	2		536	0.015	8	0.0	0.0	6.820	A
A-B-C	654	164	102.39	1727	0.379	652	0.0	0.6	3.421	A

16:30 - 16:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	80	20		484	0.166	80	0.2	0.2	9.362	A
B-A	104	26		384	0.270	103	0.3	0.4	13.303	B
C-A	398	100				398				
C-B	10	2		504	0.020	10	0.0	0.0	7.283	A
A-B-C	781	195	122.26	1696	0.461	780	0.6	0.9	4.020	A

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	98	25		430	0.228	98	0.2	0.3	11.356	B
B-A	127	32		332	0.383	126	0.4	0.6	18.105	C
C-A	488	122				488				
C-B	12	3		461	0.026	12	0.0	0.0	8.028	A
A-B-C	957	239	149.74	1655	0.578	955	0.9	1.4	5.246	A

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	98	25		429	0.229	98	0.3	0.3	11.413	B
B-A	127	32		331	0.384	127	0.6	0.6	18.317	C
C-A	488	122				488				
C-B	12	3		460	0.026	12	0.0	0.0	8.037	A
A-BC	957	239	149.74	1655	0.578	957	1.4	1.4	5.277	A

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	80	20		482	0.166	81	0.3	0.2	9.419	A
B-A	104	26		384	0.271	105	0.6	0.4	13.470	B
C-A	398	100				398				
C-B	10	2		503	0.020	10	0.0	0.0	7.298	A
A-BC	781	195	122.26	1696	0.461	783	1.4	0.9	4.046	A

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	67	17		520	0.129	67	0.2	0.2	8.349	A
B-A	87	22		422	0.206	87	0.4	0.3	11.209	B
C-A	334	83				334				
C-B	8	2		535	0.015	8	0.0	0.0	6.832	A
A-BC	654	164	102.39	1727	0.379	655	0.9	0.6	3.444	A

Queueing Delay Results for each time segment

16:15 - 16:30

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	2.22	0.15	8.293	A
B-A	3.78	0.25	11.083	B
C-B	0.23	0.02	6.820	A
A-BC	9.09	0.61	3.421	A

16:30 - 16:45

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	3.01	0.20	9.362	A
B-A	5.44	0.36	13.303	B
C-B	0.29	0.02	7.283	A
A-BC	12.73	0.85	4.020	A

16:45 - 17:00

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	4.43	0.30	11.356	B
B-A	8.86	0.59	18.105	C
C-B	0.39	0.03	8.028	A
A-BC	20.08	1.34	5.246	A

17:00 - 17:15

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	4.62	0.31	11.413	B
B-A	9.48	0.63	18.317	C
C-B	0.40	0.03	8.037	A
A-BC	20.85	1.39	5.277	A

17:15 - 17:30

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	3.29	0.22	9.419	A
B-A	6.19	0.41	13.470	B
C-B	0.31	0.02	7.298	A
A-BC	13.57	0.90	4.046	A

17:30 - 17:45

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	2.42	0.16	8.349	A
B-A	4.26	0.28	11.209	B
C-B	0.24	0.02	6.832	A
A-BC	9.61	0.64	3.444	A

2021 Do Minimum, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	JJ Thomson Avenue / Madingley Road	T-Junction	Two-way		5.92	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D3	2021 Do Minimum	AM	ONE HOUR	08:00	09:30	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 (%)
A - Madingley Rd (E)		ONE HOUR	✓	970	100.000
B - JJ Thomson Avenue		ONE HOUR	✓	111	100.000
C - Madingley Rd (W)		ONE HOUR	✓	958	100.000

Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
A - Madingley Rd (E)	[ONEHOUR]	104.00
B - JJ Thomson Avenue		
C - Madingley Rd (W)		

Origin-Destination Data

Demand (Veh/hr)

		To		
		A - Madingley Rd (E)	B - JJ Thomson Avenue	C - Madingley Rd (W)
From	A - Madingley Rd (E)	0	257	713
	B - JJ Thomson Avenue	111	0	0
	C - Madingley Rd (W)	895	63	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - Madingley Rd (E)	B - JJ Thomson Avenue	C - Madingley Rd (W)
From	A - Madingley Rd (E)	0	3	5
	B - JJ Thomson Avenue	12	0	0
	C - Madingley Rd (W)	4	8	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
B-C	0.00	0.00	0.0	A	0	0	0.00	0.00	0.00	0.00	0.00
B-A	0.60	43.48	1.6	E	114	171	75.47	26.46	0.84	75.48	26.47
C-A					854	1281					
C-B	0.18	11.26	0.2	B	62	94	15.27	9.79	0.17	15.27	9.79
A-BC	0.65	6.40	2.0	A	930	1395	115.46	4.97	1.28	115.47	4.97

Main Results for each time segment

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	0	0		510	0.000	0	0.0	0.0	0.000	A
B-A	94	23		353	0.265	92	0.0	0.4	15.382	C
C-A	701	175				701				
C-B	51	13		509	0.101	51	0.0	0.1	8.472	A
A-BC	763	191	78.30	1770	0.431	760	0.0	0.8	3.713	A

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	0	0		466	0.000	0	0.0	0.0	0.000	A
B-A	112	28		301	0.372	111	0.4	0.6	21.137	C
C-A	837	209				837				
C-B	61	15		472	0.130	61	0.1	0.2	9.455	A
A-BC	911	228	93.49	1741	0.523	910	0.8	1.1	4.517	A

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	0	0		400	0.000	0	0.0	0.0	0.000	A
B-A	137	34		229	0.597	133	0.6	1.5	40.735	E
C-A	1025	256				1025				
C-B	75	19		421	0.178	75	0.2	0.2	11.214	B
A-BC	1116	279	114.51	1703	0.655	1112	1.1	1.9	6.328	A

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	0	0		397	0.000	0	0.0	0.0	0.000	A
B-A	137	34		228	0.599	137	1.5	1.6	43.482	E
C-A	1025	256				1025				
C-B	75	19		420	0.178	75	0.2	0.2	11.257	B
A-BC	1116	279	114.51	1703	0.655	1116	1.9	2.0	6.395	A

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	0	0		463	0.000	0	0.0	0.0	0.000	A
B-A	112	28		299	0.373	115	1.6	0.7	22.283	C
C-A	837	209				837				
C-B	61	15		471	0.130	61	0.2	0.2	9.505	A
A-BC	911	228	93.49	1741	0.523	914	2.0	1.2	4.567	A

09:15 - 09:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	0	0		508	0.000	0	0.0	0.0	0.000	A
B-A	94	23		352	0.266	95	0.7	0.4	15.766	C
C-A	701	175				701				
C-B	51	13		508	0.101	51	0.2	0.1	8.517	A
A-BC	763	191	78.30	1770	0.431	764	1.2	0.8	3.747	A

Queueing Delay Results for each time segment

08:00 - 08:15

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	0.00	0.00	0.000	A
B-A	5.55	0.37	15.382	C
C-B	1.73	0.12	8.472	A
A-BC	11.46	0.76	3.713	A

08:15 - 08:30

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	0.00	0.00	0.000	A
B-A	9.03	0.60	21.137	C
C-B	2.32	0.15	9.455	A
A-BC	16.58	1.11	4.517	A

08:30 - 08:45

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	0.00	0.00	0.000	A
B-A	19.72	1.31	40.735	E
C-B	3.34	0.22	11.214	B
A-BC	27.89	1.86	6.328	A

08:45 - 09:00

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	0.00	0.00	0.000	A
B-A	23.21	1.55	43.482	E
C-B	3.47	0.23	11.257	B
A-BC	29.34	1.96	6.395	A

09:00 - 09:15

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	0.00	0.00	0.000	A
B-A	11.37	0.76	22.283	C
C-B	2.53	0.17	9.505	A
A-BC	17.95	1.20	4.567	A

09:15 - 09:30

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	0.00	0.00	0.000	A
B-A	6.58	0.44	15.766	C
C-B	1.88	0.13	8.517	A
A-BC	12.23	0.82	3.747	A

2021 Do Minimum, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	JJ Thomson Avenue / Madingley Road	T-Junction	Two-way		54.32	F

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D4	2021 Do Minimum	PM	ONE HOUR	16:15	17:45	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 (%)
A - Madingley Rd (E)		ONE HOUR	✓	1069	100.000
B - JJ Thomson Avenue		ONE HOUR	✓	312	100.000
C - Madingley Rd (W)		ONE HOUR	✓	668	100.000

Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
A - Madingley Rd (E)	[ONEHOUR]	136.00
B - JJ Thomson Avenue		
C - Madingley Rd (W)		

Origin-Destination Data

Demand (Veh/hr)

		To		
		A - Madingley Rd (E)	B - JJ Thomson Avenue	C - Madingley Rd (W)
From	A - Madingley Rd (E)	0	81	988
	B - JJ Thomson Avenue	257	0	55
	C - Madingley Rd (W)	656	12	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - Madingley Rd (E)	B - JJ Thomson Avenue	C - Madingley Rd (W)
From	A - Madingley Rd (E)	0	8	2
	B - JJ Thomson Avenue	4	0	5
	C - Madingley Rd (W)	6	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
B-C	0.20	15.14	0.3	C	53	79	16.54	12.49	0.18	16.54	12.49
B-A	1.24	394.75	33.2	F	245	368	1093.14	178.28	12.15	1093.32	178.31
C-A					638	957					
C-B	0.03	9.37	0.0	A	11	17	2.30	8.35	0.03	2.30	8.35
A-BC	0.73	8.28	2.7	A	1005	1508	149.61	5.95	1.66	149.63	5.96

Main Results for each time segment

16:15 - 16:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	43	11		440	0.099	43	0.0	0.1	9.523	A
B-A	201	50		359	0.560	196	0.0	1.3	22.331	C
C-A	524	131				524				
C-B	9	2		494	0.018	9	0.0	0.0	7.422	A
A-BC	825	206	102.39	1727	0.478	821	0.0	0.9	4.057	A

16:30 - 16:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	52	13		378	0.137	52	0.1	0.2	11.570	B
B-A	240	60		309	0.779	233	1.3	3.0	45.983	E
C-A	625	156				625				
C-B	11	3		454	0.024	11	0.0	0.0	8.129	A
A-BC	985	246	122.26	1693	0.582	983	0.9	1.4	5.178	A

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	64	16		314	0.202	63	0.2	0.3	15.062	C
B-A	294	74		239	1.232	231	3.0	18.7	200.596	F
C-A	766	191				766				
C-B	13	3		399	0.033	13	0.0	0.0	9.340	A
A-BC	1206	301	149.74	1651	0.731	1201	1.4	2.7	8.108	A

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	64	16		313	0.203	64	0.3	0.3	15.139	C
B-A	294	74		238	1.238	236	18.7	33.2	394.754	F
C-A	766	191				766				
C-B	13	3		397	0.033	13	0.0	0.0	9.373	A
A-BC	1206	301	149.74	1651	0.731	1206	2.7	2.7	8.283	A

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	52	13		353	0.147	52	0.3	0.2	12.594	B
B-A	240	60		307	0.783	298	33.2	18.9	316.031	F
C-A	625	156				625				
C-B	11	3		452	0.024	11	0.0	0.0	8.165	A
A-BC	985	246	122.26	1693	0.582	990	2.7	1.4	5.283	A

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	43	11		411	0.106	44	0.2	0.1	10.293	B
B-A	201	50		358	0.562	271	18.9	1.5	70.284	F
C-A	524	131				524				
C-B	9	2		493	0.018	9	0.0	0.0	7.444	A
A-BC	825	206	102.39	1727	0.478	827	1.4	0.9	4.107	A

Queueing Delay Results for each time segment

16:15 - 16:30

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	1.64	0.11	9.523	A
B-A	16.73	1.12	22.331	C
C-B	0.27	0.02	7.422	A
A-BC	13.50	0.90	4.057	A

16:30 - 16:45

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	2.39	0.16	11.570	B
B-A	37.76	2.52	45.983	E
C-B	0.35	0.02	8.129	A
A-BC	20.40	1.36	5.178	A

16:45 - 17:00

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	3.75	0.25	15.062	C
B-A	168.39	11.23	200.596	F
C-B	0.50	0.03	9.340	A
A-BC	37.89	2.53	8.108	A

17:00 - 17:15

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	3.95	0.26	15.139	C
B-A	390.16	26.01	394.754	F
C-B	0.51	0.03	9.373	A
A-BC	40.75	2.72	8.283	A

17:15 - 17:30

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	2.87	0.19	12.594	B
B-A	390.99	26.07	316.031	F
C-B	0.38	0.03	8.165	A
A-BC	22.53	1.50	5.283	A

17:30 - 17:45

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	1.95	0.13	10.293	B
B-A	89.10	5.94	70.284	F
C-B	0.29	0.02	7.444	A
A-BC	14.55	0.97	4.107	A

2021 Do Something, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	JJ Thomson Avenue / Madingley Road	T-Junction	Two-way		3.39	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D5	2021 Do Something	AM	ONE HOUR	08:00	09:30	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 (%)
A - Madingley Rd (E)		ONE HOUR	✓	674	100.000
B - JJ Thomson Avenue		ONE HOUR	✓	60	100.000
C - Madingley Rd (W)		ONE HOUR	✓	1084	100.000

Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
A - Madingley Rd (E)	[ONEHOUR]	104.00
B - JJ Thomson Avenue		
C - Madingley Rd (W)		

Origin-Destination Data

Demand (Veh/hr)

		To		
		A - Madingley Rd (E)	B - JJ Thomson Avenue	C - Madingley Rd (W)
From	A - Madingley Rd (E)	0	97	577
	B - JJ Thomson Avenue	40	0	20
	C - Madingley Rd (W)	909	175	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - Madingley Rd (E)	B - JJ Thomson Avenue	C - Madingley Rd (W)
From	A - Madingley Rd (E)	0	3	5
	B - JJ Thomson Avenue	12	0	0
	C - Madingley Rd (W)	4	8	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
B-C	0.04	7.52	0.0	A	18	28	3.19	6.96	0.04	3.19	6.96
B-A	0.21	21.69	0.3	C	41	62	17.08	16.62	0.19	17.08	16.62
C-A					867	1301					
C-B	0.41	13.09	0.7	B	173	260	47.51	10.96	0.53	47.52	10.96
A-B-C	0.45	4.05	0.9	A	648	971	57.24	3.54	0.64	57.24	3.54

Main Results for each time segment

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	15	4		572	0.026	15	0.0	0.0	6.463	A
B-A	34	8		357	0.094	33	0.0	0.1	12.433	B
C-A	712	178				712				
C-B	142	36		566	0.251	141	0.0	0.4	9.109	A
A-B-C	531	133	78.30	1769	0.300	530	0.0	0.4	3.038	A

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	18	4		543	0.033	18	0.0	0.0	6.854	A
B-A	40	10		306	0.132	40	0.1	0.2	15.160	C
C-A	850	212				850				
C-B	170	42		540	0.314	169	0.4	0.5	10.463	B
A-B-C	634	159	93.49	1742	0.364	634	0.4	0.6	3.401	A

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	22	6		501	0.044	22	0.0	0.0	7.515	A
B-A	49	12		236	0.209	49	0.2	0.3	21.521	C
C-A	1041	260				1041				
C-B	208	52		505	0.412	207	0.5	0.7	12.998	B
A-B-C	777	194	114.51	1708	0.455	776	0.6	0.9	4.040	A

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	22	6		500	0.044	22	0.0	0.0	7.524	A
B-A	49	12		235	0.210	49	0.3	0.3	21.695	C
C-A	1041	260				1041				
C-B	208	52		505	0.412	208	0.7	0.7	13.094	B
A-BC	777	194	114.51	1708	0.455	777	0.9	0.9	4.048	A

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	18	4		542	0.033	18	0.0	0.0	6.865	A
B-A	40	10		305	0.132	41	0.3	0.2	15.291	C
C-A	850	212				850				
C-B	170	42		540	0.315	171	0.7	0.5	10.559	B
A-BC	634	159	93.49	1742	0.364	636	0.9	0.6	3.413	A

09:15 - 09:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	15	4		571	0.026	15	0.0	0.0	6.476	A
B-A	34	8		356	0.095	34	0.2	0.1	12.529	B
C-A	712	178				712				
C-B	142	36		566	0.252	143	0.5	0.4	9.204	A
A-BC	531	133	78.30	1769	0.300	532	0.6	0.5	3.048	A

Queueing Delay Results for each time segment

08:00 - 08:15

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	0.39	0.03	6.463	A
B-A	1.64	0.11	12.433	B
C-B	5.13	0.34	9.109	A
A-BC	6.58	0.44	3.038	A

08:15 - 08:30

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	0.50	0.03	6.854	A
B-A	2.41	0.16	15.160	C
C-B	7.07	0.47	10.463	B
A-BC	8.80	0.59	3.401	A

08:30 - 08:45

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	0.67	0.04	7.515	A
B-A	4.08	0.27	21.521	C
C-B	10.59	0.71	12.998	B
A-BC	12.71	0.85	4.040	A

08:45 - 09:00

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	0.69	0.05	7.524	A
B-A	4.36	0.29	21.695	C
C-B	11.17	0.74	13.094	B
A-BC	13.03	0.87	4.048	A

09:00 - 09:15

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	0.53	0.04	6.865	A
B-A	2.74	0.18	15.291	C
C-B	7.87	0.52	10.559	B
A-BC	9.23	0.62	3.413	A

09:15 - 09:30

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	0.42	0.03	6.476	A
B-A	1.85	0.12	12.529	B
C-B	5.69	0.38	9.204	A
A-BC	6.88	0.46	3.048	A

2021 Do Something, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	JJ Thomson Avenue / Madingley Road	T-Junction	Two-way		5.76	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D6	2021 Do Something	PM	ONE HOUR	16:15	17:45	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 (%)
A - Madingley Rd (E)		ONE HOUR	✓	1008	100.000
B - JJ Thomson Avenue		ONE HOUR	✓	201	100.000
C - Madingley Rd (W)		ONE HOUR	✓	656	100.000

Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
A - Madingley Rd (E)	[ONEHOUR]	136.00
B - JJ Thomson Avenue		
C - Madingley Rd (W)		

Origin-Destination Data

Demand (Veh/hr)

		To		
		A - Madingley Rd (E)	B - JJ Thomson Avenue	C - Madingley Rd (W)
From	A - Madingley Rd (E)	0	24	984
	B - JJ Thomson Avenue	42	0	159
	C - Madingley Rd (W)	638	18	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - Madingley Rd (E)	B - JJ Thomson Avenue	C - Madingley Rd (W)
From	A - Madingley Rd (E)	0	8	2
	B - JJ Thomson Avenue	4	0	5
	C - Madingley Rd (W)	6	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
B-C	0.45	17.10	0.9	C	153	230	50.31	13.14	0.56	50.32	13.14
B-A	0.20	18.90	0.2	C	40	60	14.77	14.74	0.16	14.77	14.74
C-A					621	931					
C-B	0.05	9.09	0.0	A	17	25	3.37	8.16	0.04	3.37	8.16
A-B-C	0.69	7.09	2.2	A	945	1417	126.01	5.33	1.40	126.02	5.34

Main Results for each time segment

16:15 - 16:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	126	31		505	0.249	124	0.0	0.3	9.901	A
B-A	33	8		365	0.090	32	0.0	0.1	11.250	B
C-A	509	127				509				
C-B	14	3		506	0.027	13	0.0	0.0	7.303	A
A-B-C	775	194	102.39	1727	0.449	772	0.0	0.8	3.836	A

16:30 - 16:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	150	38		463	0.324	149	0.3	0.5	12.011	B
B-A	39	10		315	0.125	39	0.1	0.1	13.556	B
C-A	608	152				608				
C-B	16	4		468	0.035	16	0.0	0.0	7.962	A
A-B-C	926	231	122.26	1694	0.546	924	0.8	1.2	4.766	A

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	184	46		406	0.453	182	0.5	0.8	16.813	C
B-A	48	12		247	0.195	48	0.1	0.2	18.744	C
C-A	745	186				745				
C-B	20	5		417	0.048	20	0.0	0.0	9.071	A
A-B-C	1134	283	149.74	1652	0.686	1130	1.2	2.2	6.992	A

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	184	46		405	0.454	184	0.8	0.9	17.096	C
B-A	48	12		246	0.195	48	0.2	0.2	18.900	C
C-A	745	186				745				
C-B	20	5		416	0.048	20	0.0	0.0	9.095	A
A-BC	1134	283	149.74	1652	0.686	1134	2.2	2.2	7.093	A

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	150	38		462	0.325	151	0.9	0.5	12.230	B
B-A	39	10		314	0.125	40	0.2	0.2	13.676	B
C-A	608	152				608				
C-B	16	4		467	0.035	16	0.0	0.0	7.990	A
A-BC	926	231	122.26	1694	0.546	929	2.2	1.2	4.835	A

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	126	31		503	0.250	126	0.5	0.4	10.045	B
B-A	33	8		364	0.090	33	0.2	0.1	11.331	B
C-A	509	127				509				
C-B	14	3		505	0.027	14	0.0	0.0	7.328	A
A-BC	775	194	102.39	1727	0.449	777	1.2	0.8	3.875	A

Queueing Delay Results for each time segment

16:15 - 16:30

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	4.91	0.33	9.901	A
B-A	1.45	0.10	11.250	B
C-B	0.40	0.03	7.303	A
A-BC	12.02	0.80	3.836	A

16:30 - 16:45

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	7.12	0.47	12.011	B
B-A	2.11	0.14	13.556	B
C-B	0.52	0.03	7.962	A
A-BC	17.73	1.18	4.766	A

16:45 - 17:00

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	11.88	0.79	16.813	C
B-A	3.49	0.23	18.744	C
C-B	0.72	0.05	9.071	A
A-BC	31.08	2.07	6.992	A

17:00 - 17:15

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	12.78	0.85	17.096	C
B-A	3.71	0.25	18.900	C
C-B	0.74	0.05	9.095	A
A-BC	32.96	2.20	7.093	A

17:15 - 17:30

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	8.11	0.54	12.230	B
B-A	2.37	0.16	13.676	B
C-B	0.56	0.04	7.990	A
A-BC	19.34	1.29	4.835	A

17:30 - 17:45

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	5.51	0.37	10.045	B
B-A	1.63	0.11	11.331	B
C-B	0.43	0.03	7.328	A
A-BC	12.87	0.86	3.875	A

2031 Do Minimum, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	JJ Thomson Avenue / Madingley Road	T-Junction	Two-way		44.69	E

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D7	2031 Do Minimum	AM	ONE HOUR	08:00	09:30	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 (%)
A - Madingley Rd (E)		ONE HOUR	✓	1405	100.000
B - JJ Thomson Avenue		ONE HOUR	✓	135	100.000
C - Madingley Rd (W)		ONE HOUR	✓	1028	100.000

Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
A - Madingley Rd (E)	[ONEHOUR]	104.00
B - JJ Thomson Avenue		
C - Madingley Rd (W)		

Origin-Destination Data

Demand (Veh/hr)

		To		
		A - Madingley Rd (E)	B - JJ Thomson Avenue	C - Madingley Rd (W)
From	A - Madingley Rd (E)	0	470	935
	B - JJ Thomson Avenue	135	0	0
	C - Madingley Rd (W)	964	64	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - Madingley Rd (E)	B - JJ Thomson Avenue	C - Madingley Rd (W)
From	A - Madingley Rd (E)	0	3	5
	B - JJ Thomson Avenue	12	0	0
	C - Madingley Rd (W)	4	8	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
B-C	0.00	0.00	0.0	A	0	0	0.00	0.00	0.00	0.00	0.00
B-A	1.30	443.96	21.5	F	139	208	593.17	171.01	6.59	593.24	171.03
C-A					920	1380					
C-B	0.27	18.43	0.4	C	63	95	22.08	13.93	0.25	22.09	13.93
A-B-C	0.95	35.31	14.9	E	1345	2018	514.95	15.31	5.72	515.00	15.32

Main Results for each time segment

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	0	0		439	0.000	0	0.0	0.0	0.000	A
B-A	114	28		289	0.393	111	0.0	0.7	22.273	C
C-A	755	189				755				
C-B	52	13		425	0.122	51	0.0	0.1	10.371	B
A-B-C	1104	276	78.30	1767	0.625	1097	0.0	1.7	5.551	A

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	0	0		374	0.000	0	0.0	0.0	0.000	A
B-A	136	34		224	0.606	133	0.7	1.5	42.386	E
C-A	901	225				901				
C-B	62	16		371	0.168	62	0.1	0.2	12.582	B
A-B-C	1318	329	93.49	1736	0.759	1312	1.7	3.2	8.731	A

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	0	0		286	0.000	0	0.0	0.0	0.000	A
B-A	166	42		135	1.230	127	1.5	11.5	234.884	F
C-A	1104	276				1104				
C-B	76	19		296	0.257	76	0.2	0.4	17.566	C
A-B-C	1614	403	114.51	1696	0.952	1576	3.2	12.5	25.806	D

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	0	0		281	0.000	0	0.0	0.0	0.000	A
B-A	166	42		128	1.298	127	11.5	21.5	443.957	F
C-A	1104	276				1104				
C-B	76	19		287	0.265	76	0.4	0.4	18.428	C
A-BC	1614	403	114.51	1696	0.952	1605	12.5	14.9	35.311	E

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	0	0		324	0.000	0	0.0	0.0	0.000	A
B-A	136	34		214	0.634	204	21.5	4.5	246.425	F
C-A	901	225				901				
C-B	62	16		358	0.174	63	0.4	0.2	13.212	B
A-BC	1318	329	93.49	1736	0.759	1364	14.9	3.4	11.231	B

09:15 - 09:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	0	0		428	0.000	0	0.0	0.0	0.000	A
B-A	114	28		287	0.397	129	4.5	0.8	27.724	D
C-A	755	189				755				
C-B	52	13		422	0.123	52	0.2	0.2	10.534	B
A-BC	1104	276	78.30	1767	0.625	1110	3.4	1.8	5.775	A

Queueing Delay Results for each time segment

08:00 - 08:15

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	0.00	0.00	0.000	A
B-A	9.50	0.63	22.273	C
C-B	2.13	0.14	10.371	B
A-BC	24.38	1.63	5.551	A

08:15 - 08:30

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	0.00	0.00	0.000	A
B-A	20.32	1.35	42.386	E
C-B	3.10	0.21	12.582	B
A-BC	44.26	2.95	8.731	A

08:30 - 08:45

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	0.00	0.00	0.000	A
B-A	103.92	6.93	234.884	F
C-B	5.19	0.35	17.566	C
A-BC	143.70	9.58	25.806	D

08:45 - 09:00

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	0.00	0.00	0.000	A
B-A	248.29	16.55	443.957	F
C-B	5.65	0.38	18.428	C
A-BC	207.84	13.86	35.311	E

09:00 - 09:15

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	0.00	0.00	0.000	A
B-A	195.15	13.01	246.425	F
C-B	3.63	0.24	13.212	B
A-BC	67.09	4.47	11.231	B

09:15 - 09:30

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	0.00	0.00	0.000	A
B-A	16.00	1.07	27.724	D
C-B	2.39	0.16	10.534	B
A-BC	27.69	1.85	5.775	A

2031 Do Minimum, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	JJ Thomson Avenue / Madingley Road	T-Junction	Two-way		418.30	F

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D8	2031 Do Minimum	PM	ONE HOUR	16:15	17:45	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 (%)
A - Madingley Rd (E)		ONE HOUR	✓	1158	100.000
B - JJ Thomson Avenue		ONE HOUR	✓	475	100.000
C - Madingley Rd (W)		ONE HOUR	✓	844	100.000

Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
A - Madingley Rd (E)	[ONEHOUR]	136.00
B - JJ Thomson Avenue		
C - Madingley Rd (W)		

Origin-Destination Data

Demand (Veh/hr)

		To		
		A - Madingley Rd (E)	B - JJ Thomson Avenue	C - Madingley Rd (W)
From	A - Madingley Rd (E)	0	100	1058
	B - JJ Thomson Avenue	419	0	56
	C - Madingley Rd (W)	832	12	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - Madingley Rd (E)	B - JJ Thomson Avenue	C - Madingley Rd (W)
From	A - Madingley Rd (E)	0	8	2
	B - JJ Thomson Avenue	4	0	5
	C - Madingley Rd (W)	6	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
B-C	0.22	16.33	0.3	C	54	81	18.50	13.72	0.21	18.50	13.72
B-A	2.56	2440.66	219.0	F	400	600	10163.94	1016.75	112.93	14604.60	1460.97
C-A					809	1214					
C-B	0.04	10.05	0.0	B	11	17	2.43	8.81	0.03	2.43	8.81
A-B-C	0.79	10.76	3.8	B	1089	1634	193.82	7.12	2.15	193.84	7.12

Main Results for each time segment

16:15 - 16:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	44	11		372	0.119	44	0.0	0.1	11.493	B
B-A	328	82		325	1.008	292	0.0	9.0	81.122	F
C-A	664	166				664				
C-B	9	2		477	0.019	9	0.0	0.0	7.692	A
A-B-C	894	223	102.39	1726	0.518	889	0.0	1.1	4.390	A

16:30 - 16:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	53	13		340	0.155	53	0.1	0.2	13.122	B
B-A	392	98		268	1.462	266	9.0	40.4	411.342	F
C-A	793	198				793				
C-B	11	3		433	0.025	11	0.0	0.0	8.524	A
A-B-C	1067	267	122.26	1692	0.631	1065	1.1	1.7	5.861	A

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	65	16		298	0.218	64	0.2	0.3	16.184	C
B-A	480	120		189	2.538	189	40.4	113.1	1389.566	F
C-A	971	243				971				
C-B	13	3		373	0.035	13	0.0	0.0	9.996	A
A-B-C	1307	327	149.74	1649	0.793	1299	1.7	3.7	10.329	B

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	65	16		296	0.219	65	0.3	0.3	16.335	C
B-A	480	120		187	2.562	187	113.1	186.3	2219.686	F
C-A	971	243				971				
C-B	13	3		371	0.036	13	0.0	0.0	10.053	B
A-B-C	1307	327	149.74	1649	0.793	1307	3.7	3.8	10.764	B

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	53	13		339	0.156	53	0.3	0.2	13.264	B
B-A	392	98		265	1.476	265	186.3	217.8	2421.708	F
C-A	793	198				793				
C-B	11	3		430	0.025	11	0.0	0.0	8.583	A
A-B-C	1067	267	122.26	1692	0.631	1075	3.8	1.8	6.062	A

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	44	11		371	0.119	44	0.2	0.1	11.593	B
B-A	328	82		324	1.013	324	217.8	219.0	2440.663	F
C-A	664	166				664				
C-B	9	2		475	0.019	9	0.0	0.0	7.723	A
A-B-C	894	223	102.39	1726	0.518	896	1.8	1.1	4.466	A

Queueing Delay Results for each time segment

16:15 - 16:30

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	2.00	0.13	11.493	B
B-A	87.26	5.82	81.122	F
C-B	0.28	0.02	7.692	A
A-B-C	15.79	1.05	4.390	A

16:30 - 16:45

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	2.75	0.18	13.122	B
B-A	372.41	24.83	411.342	F
C-B	0.37	0.02	8.524	A
A-B-C	24.84	1.66	5.861	A

16:45 - 17:00

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	4.10	0.27	16.184	C
B-A	1151.90	76.79	1389.566	F
C-B	0.53	0.04	9.996	A
A-B-C	51.13	3.41	10.329	B

17:00 - 17:15

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	4.33	0.29	16.335	C
B-A	2245.60	149.71	2219.686	F
C-B	0.55	0.04	10.053	B
A-BC	56.70	3.78	10.764	B

17:15 - 17:30

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	3.08	0.21	13.264	B
B-A	3030.80	202.05	2421.708	F
C-B	0.40	0.03	8.583	A
A-BC	28.15	1.88	6.062	A

17:30 - 17:45

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	2.24	0.15	11.593	B
B-A	3275.97	218.40	2440.663	F
C-B	0.30	0.02	7.723	A
A-BC	17.20	1.15	4.466	A

2031 Do Something, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	JJ Thomson Avenue / Madingley Road	T-Junction	Two-way		243.36	F

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D9	2031 Do Something	AM	ONE HOUR	08:00	09:30	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 (%)
A - Madingley Rd (E)		ONE HOUR	✓	1706	100.000
B - JJ Thomson Avenue		ONE HOUR	✓	239	100.000
C - Madingley Rd (W)		ONE HOUR	✓	978	100.000

Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
A - Madingley Rd (E)	[ONEHOUR]	104.00
B - JJ Thomson Avenue		
C - Madingley Rd (W)		

Origin-Destination Data

Demand (Veh/hr)

		To		
		A - Madingley Rd (E)	B - JJ Thomson Avenue	C - Madingley Rd (W)
From	A - Madingley Rd (E)	0	947	759
	B - JJ Thomson Avenue	238	0	1
	C - Madingley Rd (W)	961	17	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - Madingley Rd (E)	B - JJ Thomson Avenue	C - Madingley Rd (W)
From	A - Madingley Rd (E)	0	3	5
	B - JJ Thomson Avenue	12	0	0
	C - Madingley Rd (W)	4	8	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
B-C	0.00	11.66	0.0	B	0.92	1	0.25	10.93	0.00	0.25	10.93
B-A	1.51	1029.20	64.1	F	245	367	2943.71	481.39	32.71	3352.96	548.32
C-A					917	1376					
C-B	0.07	15.67	0.1	C	17	25	5.97	14.18	0.07	5.97	14.18
A-B-C	1.15	264.89	142.4	F	1626	2440	5239.43	128.86	58.22	5240.31	128.89

Main Results for each time segment

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	0.75	0.19		404	0.002	0.75	0.0	0.0	8.933	A
B-A	201	50		301	0.667	193	0.0	2.0	35.198	E
C-A	752	188				752				
C-B	14	3		368	0.038	14	0.0	0.0	10.960	B
A-B-C	1334	334	78.30	1765	0.756	1322	0.0	3.1	8.231	A

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	0.90	0.22		329	0.003	0.90	0.0	0.0	10.957	B
B-A	240	60		237	1.010	214	2.0	8.3	119.427	F
C-A	898	225				898				
C-B	17	4		301	0.055	16	0.0	0.1	13.646	B
A-B-C	1593	398	93.49	1733	0.920	1569	3.1	9.3	20.281	C

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	1	0.28		319	0.003	1	0.0	0.0	11.330	B
B-A	293	73		194	1.513	192	8.3	33.6	427.665	F
C-A	1100	275				1100				
C-B	20	5		280	0.072	20	0.1	0.1	14.935	B
A-B-C	1951	488	114.51	1691	1.154	1681	9.3	76.9	101.187	F

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	1	0.28		319	0.003	1	0.0	0.0	11.330	B
B-A	293	73		194	1.513	194	33.6	58.6	835.692	F
C-A	1100	275				1100				
C-B	20	5		280	0.072	20	0.1	0.1	14.944	B
A-BC	1951	488	114.51	1691	1.154	1689	76.9	142.4	238.481	F

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	0.90	0.22		314	0.003	0.90	0.0	0.0	11.514	B
B-A	240	60		218	1.100	217	58.6	64.1	1029.203	F
C-A	898	225				898				
C-B	17	4		270	0.061	17	0.1	0.1	15.345	C
A-BC	1593	398	93.49	1733	0.920	1720	142.4	110.7	264.885	F

09:15 - 09:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	0.75	0.19		310	0.002	0.75	0.0	0.0	11.660	B
B-A	201	50		235	0.854	231	64.1	56.6	943.024	F
C-A	752	188				752				
C-B	14	3		262	0.053	14	0.1	0.1	15.667	C
A-BC	1334	334	78.30	1765	0.756	1748	110.7	7.2	125.754	F

Queueing Delay Results for each time segment

08:00 - 08:15

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	0.03	0.00	8.933	A
B-A	25.22	1.68	35.198	E
C-B	0.60	0.04	10.960	B
A-BC	42.73	2.85	8.231	A

08:15 - 08:30

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	0.04	0.00	10.957	B
B-A	85.56	5.70	119.427	F
C-B	0.89	0.06	13.646	B
A-BC	113.48	7.57	20.281	C

08:30 - 08:45

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	0.05	0.00	11.330	B
B-A	315.66	21.04	427.665	F
C-B	1.20	0.08	14.935	B
A-BC	655.70	43.71	101.187	F

08:45 - 09:00

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	0.05	0.00	11.330	B
B-A	691.34	46.09	835.692	F
C-B	1.24	0.08	14.944	B
A-BC	1645.31	109.69	238.481	F

09:00 - 09:15

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	0.04	0.00	11.514	B
B-A	920.30	61.35	1029.203	F
C-B	1.10	0.07	15.345	C
A-BC	1898.14	126.54	264.885	F

09:15 - 09:30

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	0.04	0.00	11.660	B
B-A	905.64	60.38	943.024	F
C-B	0.94	0.06	15.667	C
A-BC	884.07	58.94	125.754	F

2031 Do Something, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	JJ Thomson Avenue / Madingley Road	T-Junction	Two-way		2486.75	F

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D10	2031 Do Something	PM	ONE HOUR	16:15	17:45	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 (%)
A - Madingley Rd (E)		ONE HOUR	✓	1297	100.000
B - JJ Thomson Avenue		ONE HOUR	✓	963	100.000
C - Madingley Rd (W)		ONE HOUR	✓	741	100.000

Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
A - Madingley Rd (E)	[ONEHOUR]	136.00
B - JJ Thomson Avenue		
C - Madingley Rd (W)		

Origin-Destination Data

Demand (Veh/hr)

		To		
		A - Madingley Rd (E)	B - JJ Thomson Avenue	C - Madingley Rd (W)
From	A - Madingley Rd (E)	0	197	1100
	B - JJ Thomson Avenue	846	0	117
	C - Madingley Rd (W)	737	4	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - Madingley Rd (E)	B - JJ Thomson Avenue	C - Madingley Rd (W)
From	A - Madingley Rd (E)	0	8	2
	B - JJ Thomson Avenue	4	0	5
	C - Madingley Rd (W)	6	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
B-C	0.49	26.69	1.0	D	113	169	54.69	19.41	0.61	54.70	19.41
B-A	5.32	8791.35	827.0	F	807	1211	37202.45	1843.17	413.36	100993.48	5003.66
C-A					717	1075					
C-B	0.01	11.13	0.0	B	4	6	0.87	9.50	0.01	0.87	9.50
A-B-C	0.89	20.22	7.8	C	1225	1837	327.39	10.69	3.64	327.43	10.69

Main Results for each time segment

16:15 - 16:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	92	23		360	0.257	91	0.0	0.4	13.978	B
B-A	662	166		324	2.045	320	0.0	85.6	554.475	F
C-A	588	147				588				
C-B	3	0.75		450	0.007	3	0.0	0.0	8.062	A
A-B-C	1005	251	102.39	1724	0.583	999	0.0	1.4	5.070	A

16:30 - 16:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	110	28		326	0.339	110	0.4	0.5	17.416	C
B-A	791	198		266	2.977	266	85.6	216.9	1802.616	F
C-A	702	176				702				
C-B	4	0.90		400	0.009	4	0.0	0.0	9.081	A
A-B-C	1200	300	122.26	1690	0.710	1196	1.4	2.5	7.436	A

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	135	34		280	0.484	134	0.5	0.9	25.588	D
B-A	969	242		186	5.205	186	216.9	412.6	4476.467	F
C-A	860	215				860				
C-B	4	1		332	0.013	4	0.0	0.0	10.973	B
A-B-C	1470	367	149.74	1645	0.893	1450	2.5	7.3	17.489	C

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	135	34		276	0.489	135	0.9	1.0	26.687	D
B-A	969	242		182	5.319	182	412.6	609.2	6292.042	F
C-A	860	215				860				
C-B	4	1		328	0.013	4	0.0	0.0	11.135	B
A-BC	1470	367	149.74	1645	0.893	1467	7.3	7.8	20.217	C

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	110	28		322	0.343	112	1.0	0.6	18.166	C
B-A	791	198		260	3.037	260	609.2	741.9	7744.037	F
C-A	702	176				702				
C-B	4	0.90		394	0.009	4	0.0	0.0	9.231	A
A-BC	1200	300	122.26	1690	0.710	1221	7.8	2.6	8.233	A

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	92	23		358	0.258	93	0.6	0.4	14.298	B
B-A	662	166		322	2.059	322	741.9	827.0	8791.346	F
C-A	588	147				588				
C-B	3	0.75		447	0.007	3	0.0	0.0	8.109	A
A-BC	1005	251	102.39	1724	0.583	1009	2.6	1.5	5.213	A

Queueing Delay Results for each time segment

16:15 - 16:30

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	5.01	0.33	13.978	B
B-A	648.45	43.23	554.475	F
C-B	0.10	0.01	8.062	A
A-BC	20.37	1.36	5.070	A

16:30 - 16:45

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	7.47	0.50	17.416	C
B-A	2269.06	151.27	1802.616	F
C-B	0.13	0.01	9.081	A
A-BC	34.83	2.32	7.436	A

16:45 - 17:00

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	12.93	0.86	25.588	D
B-A	4721.31	314.75	4476.467	F
C-B	0.19	0.01	10.973	B
A-BC	91.93	6.13	17.489	C

17:00 - 17:15

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	14.39	0.96	26.687	D
B-A	7663.56	510.90	6292.042	F
C-B	0.20	0.01	11.135	B
A-BC	114.01	7.60	20.217	C

17:15 - 17:30

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	9.03	0.60	18.166	C
B-A	10133.22	675.55	7744.037	F
C-B	0.14	0.01	9.231	A
A-BC	43.54	2.90	8.233	A

17:30 - 17:45

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	5.86	0.39	14.298	B
B-A	11766.85	784.46	8791.346	F
C-B	0.11	0.01	8.109	A
A-BC	22.71	1.51	5.213	A

2031 Do Something Mitigated, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	JJ Thomson Avenue / Madingley Road	T-Junction	Two-way		102.41	F

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D11	2031 Do Something Mitigated	AM	ONE HOUR	08:00	09:30	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 (%)
A - Madingley Rd (E)		ONE HOUR	✓	1486	100.000
B - JJ Thomson Avenue		ONE HOUR	✓	239	100.000
C - Madingley Rd (W)		ONE HOUR	✓	844	100.000

Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
A - Madingley Rd (E)	[ONEHOUR]	104.00
B - JJ Thomson Avenue		
C - Madingley Rd (W)		

Origin-Destination Data

Demand (Veh/hr)

		To		
		A - Madingley Rd (E)	B - JJ Thomson Avenue	C - Madingley Rd (W)
From	A - Madingley Rd (E)	0	727	759
	B - JJ Thomson Avenue	238	0	1
	C - Madingley Rd (W)	844	0	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - Madingley Rd (E)	B - JJ Thomson Avenue	C - Madingley Rd (W)
From	A - Madingley Rd (E)	0	3	5
	B - JJ Thomson Avenue	12	0	0
	C - Madingley Rd (W)	4	8	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
B-C	0.00	11.82	0.0	B	0.92	1	0.24	10.55	0.00	0.24	10.55
B-A	1.44	651.86	50.3	F	245	367	2109.19	344.92	23.44	2133.45	348.89
C-A					805	1208					
C-B	0.00	0.00	0.0	A	0	0	0.00	0.00	0.00	0.00	0.00
A-B-C	1.00	65.87	31.5	F	1418	2128	888.16	25.05	9.87	888.23	25.05

Main Results for each time segment

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	0.75	0.19		426	0.002	0.75	0.0	0.0	8.463	A
B-A	201	50		334	0.601	194	0.0	1.6	27.840	D
C-A	661	165				661				
C-B	0	0		410	0.000	0	0.0	0.0	0.000	A
A-B-C	1164	291	78.30	1766	0.659	1156	0.0	2.0	6.058	A

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	0.90	0.22		358	0.003	0.90	0.0	0.0	10.075	B
B-A	240	60		278	0.863	228	1.6	4.6	68.612	F
C-A	789	197				789				
C-B	0	0		353	0.000	0	0.0	0.0	0.000	A
A-B-C	1390	347	93.49	1735	0.801	1382	2.0	4.0	10.357	B

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	1	0.28		306	0.004	1	0.0	0.0	11.819	B
B-A	293	73		204	1.439	201	4.6	27.8	325.010	F
C-A	966	242				966				
C-B	0	0		279	0.000	0	0.0	0.0	0.000	A
A-B-C	1702	425	114.51	1694	1.004	1630	4.0	22.0	38.467	E

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	1	0.28		306	0.004	1	0.0	0.0	11.819	B
B-A	293	73		204	1.439	203	27.8	50.3	651.855	F
C-A	966	242				966				
C-B	0	0		279	0.000	0	0.0	0.0	0.000	A
A-BC	1702	425	114.51	1694	1.004	1664	22.0	31.5	65.872	F

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	0.90	0.22		329	0.003	0.90	0.0	0.0	10.958	B
B-A	240	60		258	0.927	253	50.3	47.0	636.466	F
C-A	789	197				789				
C-B	0	0		324	0.000	0	0.0	0.0	0.000	A
A-BC	1390	347	93.49	1735	0.801	1498	31.5	4.5	22.003	C

09:15 - 09:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	0.75	0.19		374	0.002	0.76	0.0	0.0	9.654	A
B-A	201	50		331	0.606	323	47.0	16.4	361.453	F
C-A	661	165				661				
C-B	0	0		406	0.000	0	0.0	0.0	0.000	A
A-BC	1164	291	78.30	1766	0.659	1174	4.5	2.0	6.417	A

Queueing Delay Results for each time segment

08:00 - 08:15

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	0.03	0.00	8.463	A
B-A	20.42	1.36	27.840	D
C-B	0.00	0.00	0.000	A
A-BC	27.94	1.86	6.058	A

08:15 - 08:30

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	0.04	0.00	10.075	B
B-A	53.42	3.56	68.612	F
C-B	0.00	0.00	0.000	A
A-BC	54.43	3.63	10.357	B

08:30 - 08:45

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	0.05	0.00	11.819	B
B-A	245.23	16.35	325.010	F
C-B	0.00	0.00	0.000	A
A-BC	222.37	14.82	38.467	E

08:45 - 09:00

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	0.05	0.00	11.819	B
B-A	585.55	39.04	651.855	F
C-B	0.00	0.00	0.000	A
A-BC	404.55	26.97	65.872	F

09:00 - 09:15

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	0.04	0.00	10.958	B
B-A	729.48	48.63	636.466	F
C-B	0.00	0.00	0.000	A
A-BC	146.30	9.75	22.003	C

09:15 - 09:30

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	0.03	0.00	9.654	A
B-A	475.09	31.67	361.453	F
C-B	0.00	0.00	0.000	A
A-BC	32.57	2.17	6.417	A

2031 Do Something Mitigated, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	JJ Thomson Avenue / Madingley Road	T-Junction	Two-way		1145.02	F

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D12	2031 Do Something Mitigated	PM	ONE HOUR	16:15	17:45	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 (%)
A - Madingley Rd (E)		ONE HOUR	✓	1180	100.000
B - JJ Thomson Avenue		ONE HOUR	✓	712	100.000
C - Madingley Rd (W)		ONE HOUR	✓	741	100.000

Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
A - Madingley Rd (E)	[ONEHOUR]	136.00
B - JJ Thomson Avenue		
C - Madingley Rd (W)		

Origin-Destination Data

Demand (Veh/hr)

		To		
		A - Madingley Rd (E)	B - JJ Thomson Avenue	C - Madingley Rd (W)
From	A - Madingley Rd (E)	0	197	983
	B - JJ Thomson Avenue	626	0	86
	C - Madingley Rd (W)	737	4	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - Madingley Rd (E)	B - JJ Thomson Avenue	C - Madingley Rd (W)
From	A - Madingley Rd (E)	0	8	2
	B - JJ Thomson Avenue	4	0	5
	C - Madingley Rd (W)	6	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
B-C	0.33	18.54	0.5	C	83	124	31.18	15.05	0.35	31.18	15.05
B-A	3.34	4797.65	474.1	F	597	896	21400.84	1432.92	237.79	41073.95	2750.15
C-A					717	1075					
C-B	0.01	10.03	0.0	B	4	6	0.81	8.80	0.01	0.81	8.80
A-BC	0.81	11.89	4.3	B	1115	1673	212.34	7.62	2.36	212.36	7.62

Main Results for each time segment

16:15 - 16:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	68	17		377	0.180	67	0.0	0.2	12.162	B
B-A	490	123		344	1.423	335	0.0	38.7	235.284	F
C-A	588	147				588				
C-B	3	0.75		472	0.006	3	0.0	0.0	7.680	A
A-BC	915	229	102.39	1725	0.530	910	0.0	1.2	4.524	A

16:30 - 16:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	81	20		346	0.234	81	0.2	0.3	14.215	B
B-A	585	146		290	2.015	290	38.7	112.4	1142.524	F
C-A	702	176				702				
C-B	4	0.90		427	0.008	4	0.0	0.0	8.507	A
A-BC	1093	273	122.26	1692	0.646	1090	1.2	1.8	6.134	A

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	99	25		305	0.326	99	0.3	0.5	18.280	C
B-A	717	179		217	3.308	217	112.4	237.5	2926.108	F
C-A	860	215				860				
C-B	4	1		365	0.012	4	0.0	0.0	9.970	A
A-BC	1338	335	149.74	1648	0.812	1329	1.8	4.2	11.298	B

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	99	25		303	0.328	99	0.5	0.5	18.540	C
B-A	717	179		215	3.337	215	237.5	363.0	3645.120	F
C-A	860	215				860				
C-B	4	1		363	0.012	4	0.0	0.0	10.034	B
A-BC	1338	335	149.74	1648	0.812	1338	4.2	4.3	11.894	B

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	81	20		344	0.236	82	0.5	0.3	14.440	B
B-A	585	146		288	2.033	288	363.0	437.3	4358.154	F
C-A	702	176				702				
C-B	4	0.90		424	0.008	4	0.0	0.0	8.572	A
A-BC	1093	273	122.26	1692	0.646	1102	4.3	1.9	6.389	A

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	68	17		376	0.181	68	0.3	0.2	12.313	B
B-A	490	123		343	1.430	343	437.3	474.1	4797.647	F
C-A	588	147				588				
C-B	3	0.75		470	0.006	3	0.0	0.0	7.712	A
A-BC	915	229	102.39	1725	0.530	918	1.9	1.2	4.610	A

Queueing Delay Results for each time segment

16:15 - 16:30

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	3.23	0.22	12.162	B
B-A	302.57	20.17	235.284	F
C-B	0.09	0.01	7.680	A
A-BC	16.64	1.11	4.524	A

16:30 - 16:45

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	4.55	0.30	14.215	B
B-A	1133.42	75.56	1142.524	F
C-B	0.12	0.01	8.507	A
A-BC	26.54	1.77	6.134	A

16:45 - 17:00

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	7.03	0.47	18.280	C
B-A	2624.05	174.94	2926.108	F
C-B	0.18	0.01	9.970	A
A-BC	56.74	3.78	11.298	B

17:00 - 17:15

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	7.50	0.50	18.540	C
B-A	4503.07	300.20	3645.120	F
C-B	0.18	0.01	10.034	B
A-BC	63.78	4.25	11.894	B

17:15 - 17:30

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	5.19	0.35	14.440	B
B-A	6001.95	400.13	4358.154	F
C-B	0.13	0.01	8.572	A
A-BC	30.44	2.03	6.389	A

17:30 - 17:45

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	3.67	0.24	12.313	B
B-A	6835.78	455.72	4797.647	F
C-B	0.10	0.01	7.712	A
A-BC	18.20	1.21	4.610	A

Junctions 9

PICADY 9 - Priority Intersection Module

Version: 9.5.1.7462

Filename: 191209 - M11 J13 Off Slip.j9
Path: J:\45339 - West Cambridge 2018\Junctions 9\2019 Work\M11 J13 On Slip
Report generation date: 09/12/2019 10:26:02

Summary of junction performance

	AM							PM						
	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Junction LOS	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Junction LOS
	Observed 2019													
Stream B-AC	D1	0.0	0.00	0.00	A	1.27	A	D2	0.0	0.00	0.00	A	15.21	C
Stream C-AB		0.8	9.62	0.43	A				12.4	54.61	0.94	F		
	2021 Do Min													
Stream B-AC	D3	0.0	0.00	0.00	A	1.40	A	D4	0.0	0.00	0.00	A	19.68	C
Stream C-AB		0.9	10.49	0.47	B				20.7	60.13	0.98	F		
	2021 Do Some													
Stream B-AC	D5	0.0	0.00	0.00	A	1.39	A	D6	0.0	0.00	0.00	A	18.64	C
Stream C-AB		0.9	10.43	0.47	B				19.6	58.00	0.97	F		
	2031 Do Min													
Stream B-AC	D7	0.0	0.00	0.00	A	1.69	A	D8	0.0	0.00	0.00	A	61.25	F
Stream C-AB		1.2	11.94	0.53	B				41.2	168.03	1.04	F		
	2031 Do Some													
Stream B-AC	D9	0.0	0.00	0.00	A	1.49	A	D10	0.0	0.00	0.00	A	108.59	F
Stream C-AB		1.2	11.88	0.53	B				62.9	305.06	1.08	F		
	2031 DS + Mit													
Stream B-AC	D11	0.0	0.00	0.00	A	2.11	A	D12	0.0	0.00	0.00	A	887.05	F
Stream C-AB		1.2	11.90	0.53	B				324.2	1450.03	1.42	F		

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.

File summary

File Description

Title	M11 J13 On Slip
Location	West Cambridge
Site number	
Date	09/12/2019
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	45339
Enumerator	CORP\talthorpe
Description	

Units

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

Analysis Options

Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
5.75				0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	Observed 2019	AM	ONE HOUR	08:00	09:30	15	✓
D2	Observed 2019	PM	ONE HOUR	17:00	18:30	15	✓
D3	2021 Do Min	AM	ONE HOUR	08:00	09:30	15	✓
D4	2021 Do Min	PM	ONE HOUR	17:00	18:30	15	✓
D5	2021 Do Some	AM	ONE HOUR	08:00	09:30	15	✓
D6	2021 Do Some	PM	ONE HOUR	17:00	18:30	15	✓
D7	2031 Do Min	AM	ONE HOUR	08:00	09:30	15	✓
D8	2031 Do Min	PM	ONE HOUR	17:00	18:30	15	✓
D9	2031 Do Some	AM	ONE HOUR	08:00	09:30	15	✓
D10	2031 Do Some	PM	ONE HOUR	17:00	18:30	15	✓
D11	2031 DS + Mit	AM	ONE HOUR	08:00	09:30	15	✓
D12	2031 DS + Mit	PM	ONE HOUR	17:00	18:30	15	✓

Analysis Set Details

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

Observed 2019, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		1.27	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	Madingley Road (E)		Major
B	M11 On Slip		Minor
C	Madingley Road (W)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right turn bay	Width for right turn (m)	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C - Madingley Road (W)	7.00		✓	3.50	200.0	✓	11.00

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

Minor Arm Geometry

Arm	Minor arm type	Lane width (m)	Visibility to left (m)	Visibility to right (m)
B - M11 On Slip	One lane	2.20	0	0

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
B-A	440	0.077	0.194	0.122	0.277
B-C	574	0.084	0.213	-	-
C-B	787	0.292	0.292	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

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

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	Observed 2019	AM	ONE HOUR	08:00	09:30	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 (PCU/hr)	Scaling Factor (%)
A - Madingley Road (E)		ONE HOUR	✓	300	100.000
B - M11 On Slip		ONE HOUR	✓	0	100.000
C - Madingley Road (W)		ONE HOUR	✓	1748	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A - Madingley Road (E)	B - M11 On Slip	C - Madingley Road (W)
From	A - Madingley Road (E)	0	0	300
	B - M11 On Slip	0	0	0
	C - Madingley Road (W)	1477	271	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - Madingley Road (E)	B - M11 On Slip	C - Madingley Road (W)
From	A - Madingley Road (E)	0	5	5
	B - M11 On Slip	0	0	0
	C - Madingley Road (W)	5	5	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.00	0.00	0.0	A	0	0
C-AB	0.43	9.62	0.8	A	249	373
C-A					1355	2033
A-B					0	0
A-C					275	413

Main Results for each time segment

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	294	0.000	0	0.0	0.0	0.000	A
C-AB	204	51	721	0.283	202	0.0	0.4	7.261	A
C-A	1112	278			1112				
A-B	0	0			0				
A-C	226	56			226				

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	242	0.000	0	0.0	0.0	0.000	A
C-AB	244	61	709	0.344	243	0.4	0.5	8.106	A
C-A	1328	332			1328				
A-B	0	0			0				
A-C	270	67			270				

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	159	0.000	0	0.0	0.0	0.000	A
C-AB	298	75	691	0.432	298	0.5	0.8	9.576	A
C-A	1626	407			1626				
A-B	0	0			0				
A-C	330	83			330				

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	159	0.000	0	0.0	0.0	0.000	A
C-AB	298	75	691	0.432	298	0.8	0.8	9.621	A
C-A	1626	407			1626				
A-B	0	0			0				
A-C	330	83			330				

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	241	0.000	0	0.0	0.0	0.000	A
C-AB	244	61	709	0.344	245	0.8	0.6	8.161	A
C-A	1328	332			1328				
A-B	0	0			0				
A-C	270	67			270				

09:15 - 09:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	293	0.000	0	0.0	0.0	0.000	A
C-AB	204	51	721	0.283	205	0.6	0.4	7.322	A
C-A	1112	278			1112				
A-B	0	0			0				
A-C	226	56			226				

Observed 2019, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		15.21	C

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D2	Observed 2019	PM	ONE HOUR	17:00	18:30	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 (PCU/hr)	Scaling Factor (%)
A - Madingley Road (E)		ONE HOUR	✓	924	100.000
B - M11 On Slip		ONE HOUR	✓	0	100.000
C - Madingley Road (W)		ONE HOUR	✓	1010	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A - Madingley Road (E)	B - M11 On Slip	C - Madingley Road (W)
From	A - Madingley Road (E)	0	0	924
	B - M11 On Slip	0	0	0
	C - Madingley Road (W)	591	419	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - Madingley Road (E)	B - M11 On Slip	C - Madingley Road (W)
From	A - Madingley Road (E)	0	5	5
	B - M11 On Slip	0	0	0
	C - Madingley Road (W)	5	5	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.00	0.00	0.0	A	0	0
C-AB	0.94	54.61	12.4	F	494	742
C-A					432	649
A-B					0	0
A-C					848	1272

Main Results for each time segment

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	236	0.000	0	0.0	0.0	0.000	A
C-AB	316	79	585	0.540	311	0.0	1.2	13.575	B
C-A	445	111			445				
A-B	0	0			0				
A-C	696	174			696				

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	171	0.000	0	0.0	0.0	0.000	A
C-AB	384	96	556	0.691	380	1.2	2.2	21.026	C
C-A	524	131			524				
A-B	0	0			0				
A-C	831	208			831				

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	61	0.000	0	0.0	0.0	0.000	A
C-AB	783	196	833	0.940	756	2.2	9.1	39.320	E
C-A	329	82			329				
A-B	0	0			0				
A-C	1017	254			1017				

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	52	0.000	0	0.0	0.0	0.000	A
C-AB	783	196	833	0.940	770	9.1	12.4	54.611	F
C-A	329	82			329				
A-B	0	0			0				
A-C	1017	254			1017				

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	159	0.000	0	0.0	0.0	0.000	A
C-AB	384	96	556	0.691	424	12.4	2.6	35.220	E
C-A	524	131			524				
A-B	0	0			0				
A-C	831	208			831				

18:15 - 18:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	233	0.000	0	0.0	0.0	0.000	A
C-AB	316	79	585	0.540	321	2.6	1.3	14.598	B
C-A	445	111			445				
A-B	0	0			0				
A-C	696	174			696				

2021 Do Min, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		1.40	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D3	2021 Do Min	AM	ONE HOUR	08:00	09:30	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 (PCU/hr)	Scaling Factor (%)
A - Madingley Road (E)		ONE HOUR	✓	320	100.000
B - M11 On Slip		ONE HOUR	✓	0	100.000
C - Madingley Road (W)		ONE HOUR	✓	1898	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A - Madingley Road (E)	B - M11 On Slip	C - Madingley Road (W)
From	A - Madingley Road (E)	0	0	320
	B - M11 On Slip	0	0	0
	C - Madingley Road (W)	1603	295	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - Madingley Road (E)	B - M11 On Slip	C - Madingley Road (W)
From	A - Madingley Road (E)	0	5	5
	B - M11 On Slip	0	0	0
	C - Madingley Road (W)	5	5	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.00	0.00	0.0	A	0	0
C-AB	0.47	10.49	0.9	B	271	406
C-A					1471	2206
A-B					0	0
A-C					294	440

Main Results for each time segment

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	273	0.000	0	0.0	0.0	0.000	A
C-AB	222	56	717	0.310	220	0.0	0.5	7.581	A
C-A	1207	302			1207				
A-B	0	0			0				
A-C	241	60			241				

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	213	0.000	0	0.0	0.0	0.000	A
C-AB	265	66	703	0.377	265	0.5	0.6	8.599	A
C-A	1441	360			1441				
A-B	0	0			0				
A-C	288	72			288				

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	116	0.000	0	0.0	0.0	0.000	A
C-AB	325	81	685	0.474	324	0.6	0.9	10.425	B
C-A	1765	441			1765				
A-B	0	0			0				
A-C	352	88			352				

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	116	0.000	0	0.0	0.0	0.000	A
C-AB	325	81	685	0.474	325	0.9	0.9	10.491	B
C-A	1765	441			1765				
A-B	0	0			0				
A-C	352	88			352				

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	213	0.000	0	0.0	0.0	0.000	A
C-AB	265	66	703	0.377	266	0.9	0.6	8.671	A
C-A	1441	360			1441				
A-B	0	0			0				
A-C	288	72			288				

09:15 - 09:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	272	0.000	0	0.0	0.0	0.000	A
C-AB	222	56	717	0.310	223	0.6	0.5	7.659	A
C-A	1207	302			1207				
A-B	0	0			0				
A-C	241	60			241				

2021 Do Min, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		19.68	C

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D4	2021 Do Min	PM	ONE HOUR	17:00	18:30	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 (PCU/hr)	Scaling Factor (%)
A - Madingley Road (E)		ONE HOUR	✓	891	100.000
B - M11 On Slip		ONE HOUR	✓	0	100.000
C - Madingley Road (W)		ONE HOUR	✓	1212	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A - Madingley Road (E)	B - M11 On Slip	C - Madingley Road (W)
From	A - Madingley Road (E)	0	0	891
	B - M11 On Slip	0	0	0
	C - Madingley Road (W)	767	445	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - Madingley Road (E)	B - M11 On Slip	C - Madingley Road (W)
From	A - Madingley Road (E)	0	5	5
	B - M11 On Slip	0	0	0
	C - Madingley Road (W)	5	5	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.00	0.00	0.0	A	0	0
C-AB	0.98	60.13	20.7	F	631	947
C-A					481	721
A-B					0	0
A-C					818	1226

Main Results for each time segment

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	219	0.000	0	0.0	0.0	0.000	A
C-AB	336	84	593	0.566	331	0.0	1.3	14.132	B
C-A	577	144			577				
A-B	0	0			0				
A-C	671	168			671				

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	145	0.000	0	0.0	0.0	0.000	A
C-AB	417	104	577	0.723	412	1.3	2.6	22.296	C
C-A	673	168			673				
A-B	0	0			0				
A-C	801	200			801				

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	17	0.000	0	0.0	0.0	0.000	A
C-AB	1142	285	1168	0.978	1102	2.6	12.6	38.756	E
C-A	192	48			192				
A-B	0	0			0				
A-C	981	245			981				

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	4	0.000	0	0.0	0.0	0.000	A
C-AB	1142	285	1168	0.978	1110	12.6	20.7	59.439	F
C-A	192	48			192				
A-B	0	0			0				
A-C	981	245			981				

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	126	0.000	0	0.0	0.0	0.000	A
C-AB	417	104	577	0.723	486	20.7	3.3	60.126	F
C-A	673	168			673				
A-B	0	0			0				
A-C	801	200			801				

18:15 - 18:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	215	0.000	0	0.0	0.0	0.000	A
C-AB	336	84	593	0.566	343	3.3	1.4	15.536	C
C-A	577	144			577				
A-B	0	0			0				
A-C	671	168			671				

2021 Do Some, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		1.39	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D5	2021 Do Some	AM	ONE HOUR	08:00	09:30	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 (PCU/hr)	Scaling Factor (%)
A - Madingley Road (E)		ONE HOUR	✓	317	100.000
B - M11 On Slip		ONE HOUR	✓	0	100.000
C - Madingley Road (W)		ONE HOUR	✓	1892	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A - Madingley Road (E)	B - M11 On Slip	C - Madingley Road (W)
From	A - Madingley Road (E)	0	0	317
	B - M11 On Slip	0	0	0
	C - Madingley Road (W)	1598	294	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - Madingley Road (E)	B - M11 On Slip	C - Madingley Road (W)
From	A - Madingley Road (E)	0	5	5
	B - M11 On Slip	0	0	0
	C - Madingley Road (W)	5	5	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.00	0.00	0.0	A	0	0
C-AB	0.47	10.43	0.9	B	270	405
C-A					1466	2199
A-B					0	0
A-C					291	436

Main Results for each time segment

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	274	0.000	0	0.0	0.0	0.000	A
C-AB	221	55	718	0.308	219	0.0	0.5	7.560	A
C-A	1203	301			1203				
A-B	0	0			0				
A-C	239	60			239				

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	215	0.000	0	0.0	0.0	0.000	A
C-AB	264	66	704	0.375	264	0.5	0.6	8.566	A
C-A	1437	359			1437				
A-B	0	0			0				
A-C	285	71			285				

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	119	0.000	0	0.0	0.0	0.000	A
C-AB	324	81	686	0.472	323	0.6	0.9	10.366	B
C-A	1759	440			1759				
A-B	0	0			0				
A-C	349	87			349				

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	119	0.000	0	0.0	0.0	0.000	A
C-AB	324	81	686	0.472	324	0.9	0.9	10.430	B
C-A	1759	440			1759				
A-B	0	0			0				
A-C	349	87			349				

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	214	0.000	0	0.0	0.0	0.000	A
C-AB	264	66	704	0.375	265	0.9	0.6	8.637	A
C-A	1437	359			1437				
A-B	0	0			0				
A-C	285	71			285				

09:15 - 09:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	273	0.000	0	0.0	0.0	0.000	A
C-AB	221	55	718	0.308	222	0.6	0.5	7.637	A
C-A	1203	301			1203				
A-B	0	0			0				
A-C	239	60			239				

2021 Do Some, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		18.64	C

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D6	2021 Do Some	PM	ONE HOUR	17:00	18:30	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 (PCU/hr)	Scaling Factor (%)
A - Madingley Road (E)		ONE HOUR	✓	887	100.000
B - M11 On Slip		ONE HOUR	✓	0	100.000
C - Madingley Road (W)		ONE HOUR	✓	1206	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A - Madingley Road (E)	B - M11 On Slip	C - Madingley Road (W)
From	A - Madingley Road (E)	0	0	887
	B - M11 On Slip	0	0	0
	C - Madingley Road (W)	762	444	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - Madingley Road (E)	B - M11 On Slip	C - Madingley Road (W)
From	A - Madingley Road (E)	0	5	5
	B - M11 On Slip	0	0	0
	C - Madingley Road (W)	5	5	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.00	0.00	0.0	A	0	0
C-AB	0.97	58.00	19.6	F	617	926
C-A					489	734
A-B					0	0
A-C					814	1221

Main Results for each time segment

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	220	0.000	0	0.0	0.0	0.000	A
C-AB	335	84	594	0.564	330	0.0	1.3	14.050	B
C-A	573	143			573				
A-B	0	0			0				
A-C	668	167			668				

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	147	0.000	0	0.0	0.0	0.000	A
C-AB	415	104	576	0.720	410	1.3	2.5	22.097	C
C-A	669	167			669				
A-B	0	0			0				
A-C	797	199			797				

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	20	0.000	0	0.0	0.0	0.000	A
C-AB	1102	275	1132	0.973	1064	2.5	12.1	38.410	E
C-A	226	56			226				
A-B	0	0			0				
A-C	977	244			977				

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	8	0.000	0	0.0	0.0	0.000	A
C-AB	1102	275	1132	0.973	1072	12.1	19.6	58.002	F
C-A	226	56			226				
A-B	0	0			0				
A-C	977	244			977				

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	129	0.000	0	0.0	0.0	0.000	A
C-AB	415	104	576	0.720	480	19.6	3.2	55.607	F
C-A	669	167			669				
A-B	0	0			0				
A-C	797	199			797				

18:15 - 18:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	217	0.000	0	0.0	0.0	0.000	A
C-AB	335	84	594	0.564	342	3.2	1.4	15.405	C
C-A	573	143			573				
A-B	0	0			0				
A-C	668	167			668				

2031 Do Min, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		1.69	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D7	2031 Do Min	AM	ONE HOUR	08:00	09:30	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 (PCU/hr)	Scaling Factor (%)
A - Madingley Road (E)		ONE HOUR	✓	352	100.000
B - M11 On Slip		ONE HOUR	✓	0	100.000
C - Madingley Road (W)		ONE HOUR	✓	1955	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A - Madingley Road (E)	B - M11 On Slip	C - Madingley Road (W)
From	A - Madingley Road (E)	0	0	352
	B - M11 On Slip	0	0	0
	C - Madingley Road (W)	1629	326	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - Madingley Road (E)	B - M11 On Slip	C - Madingley Road (W)
From	A - Madingley Road (E)	0	5	5
	B - M11 On Slip	0	0	0
	C - Madingley Road (W)	5	5	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.00	0.00	0.0	A	0	0
C-AB	0.53	11.94	1.2	B	300	449
C-A					1494	2242
A-B					0	0
A-C					323	485

Main Results for each time segment

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	257	0.000	0	0.0	0.0	0.000	A
C-AB	245	61	710	0.346	243	0.0	0.5	8.060	A
C-A	1226	307			1226				
A-B	0	0			0				
A-C	265	66			265				

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	192	0.000	0	0.0	0.0	0.000	A
C-AB	293	73	695	0.422	292	0.5	0.8	9.362	A
C-A	1464	366			1464				
A-B	0	0			0				
A-C	316	79			316				

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	84	0.000	0	0.0	0.0	0.000	A
C-AB	360	90	677	0.532	359	0.8	1.2	11.819	B
C-A	1792	448			1792				
A-B	0	0			0				
A-C	388	97			388				

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	83	0.000	0	0.0	0.0	0.000	A
C-AB	360	90	677	0.532	360	1.2	1.2	11.935	B
C-A	1792	448			1792				
A-B	0	0			0				
A-C	388	97			388				

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	191	0.000	0	0.0	0.0	0.000	A
C-AB	293	73	695	0.422	295	1.2	0.8	9.476	A
C-A	1464	366			1464				
A-B	0	0			0				
A-C	316	79			316				

09:15 - 09:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	256	0.000	0	0.0	0.0	0.000	A
C-AB	245	61	710	0.346	246	0.8	0.6	8.167	A
C-A	1226	307			1226				
A-B	0	0			0				
A-C	265	66			265				

2031 Do Min, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		61.25	F

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D8	2031 Do Min	PM	ONE HOUR	17:00	18:30	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 (PCU/hr)	Scaling Factor (%)
A - Madingley Road (E)		ONE HOUR	✓	922	100.000
B - M11 On Slip		ONE HOUR	✓	0	100.000
C - Madingley Road (W)		ONE HOUR	✓	1304	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A - Madingley Road (E)	B - M11 On Slip	C - Madingley Road (W)
From	A - Madingley Road (E)	0	0	922
	B - M11 On Slip	0	0	0
	C - Madingley Road (W)	842	462	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - Madingley Road (E)	B - M11 On Slip	C - Madingley Road (W)
From	A - Madingley Road (E)	0	5	5
	B - M11 On Slip	0	0	0
	C - Madingley Road (W)	5	5	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.00	0.00	0.0	A	0	0
C-AB	1.04	168.03	41.2	F	745	1117
C-A					452	678
A-B					0	0
A-C					846	1269

Main Results for each time segment

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	201	0.000	0	0.0	0.0	0.000	A
C-AB	349	87	588	0.595	344	0.0	1.5	15.149	C
C-A	632	158			632				
A-B	0	0			0				
A-C	694	174			694				

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	120	0.000	0	0.0	0.0	0.000	A
C-AB	448	112	589	0.761	442	1.5	3.2	24.754	C
C-A	724	181			724				
A-B	0	0			0				
A-C	829	207			829				

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	0	0.000	0	0.0	0.0	0.000	A
C-AB	1436	359	1386	1.036	1360	3.2	22.1	51.011	F
C-A	0	0			0				
A-B	0	0			0				
A-C	1015	254			1015				

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	0	0.000	0	0.0	0.0	0.000	A
C-AB	1436	359	1386	1.036	1359	22.1	41.2	98.276	F
C-A	0	0			0				
A-B	0	0			0				
A-C	1015	254			1015				

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	78	0.000	0	0.0	0.0	0.000	A
C-AB	448	112	589	0.761	579	41.2	8.7	168.028	F
C-A	724	181			724				
A-B	0	0			0				
A-C	829	207			829				

18:15 - 18:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	191	0.000	0	0.0	0.0	0.000	A
C-AB	349	87	588	0.595	378	8.7	1.6	20.222	C
C-A	632	158			632				
A-B	0	0			0				
A-C	694	174			694				

2031 Do Some, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		1.49	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D9	2031 Do Some	AM	ONE HOUR	08:00	09:30	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 (PCU/hr)	Scaling Factor (%)
A - Madingley Road (E)		ONE HOUR	✓	355	100.000
B - M11 On Slip		ONE HOUR	✓	0	100.000
C - Madingley Road (W)		ONE HOUR	✓	2228	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A - Madingley Road (E)	B - M11 On Slip	C - Madingley Road (W)
From	A - Madingley Road (E)	0	0	355
	B - M11 On Slip	0	0	0
	C - Madingley Road (W)	1904	324	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - Madingley Road (E)	B - M11 On Slip	C - Madingley Road (W)
From	A - Madingley Road (E)	0	5	5
	B - M11 On Slip	0	0	0
	C - Madingley Road (W)	5	5	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.00	0.00	0.0	A	0	0
C-AB	0.53	11.88	1.2	B	298	447
C-A					1747	2620
A-B					0	0
A-C					326	489

Main Results for each time segment

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	228	0.000	0	0.0	0.0	0.000	A
C-AB	244	61	709	0.344	242	0.0	0.5	8.047	A
C-A	1433	358			1433				
A-B	0	0			0				
A-C	267	67			267				

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	150	0.000	0	0.0	0.0	0.000	A
C-AB	291	73	694	0.420	291	0.5	0.7	9.338	A
C-A	1712	428			1712				
A-B	0	0			0				
A-C	319	80			319				

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	18	0.000	0	0.0	0.0	0.000	A
C-AB	358	90	676	0.530	357	0.7	1.2	11.770	B
C-A	2095	524			2095				
A-B	0	0			0				
A-C	391	98			391				

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	17	0.000	0	0.0	0.0	0.000	A
C-AB	358	90	676	0.530	358	1.2	1.2	11.884	B
C-A	2095	524			2095				
A-B	0	0			0				
A-C	391	98			391				

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	149	0.000	0	0.0	0.0	0.000	A
C-AB	291	73	694	0.420	293	1.2	0.8	9.451	A
C-A	1712	428			1712				
A-B	0	0			0				
A-C	319	80			319				

09:15 - 09:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	226	0.000	0	0.0	0.0	0.000	A
C-AB	244	61	709	0.344	245	0.8	0.6	8.152	A
C-A	1433	358			1433				
A-B	0	0			0				
A-C	267	67			267				

2031 Do Some, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		108.59	F

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D10	2031 Do Some	PM	ONE HOUR	17:00	18:30	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 (PCU/hr)	Scaling Factor (%)
A - Madingley Road (E)		ONE HOUR	✓	992	100.000
B - M11 On Slip		ONE HOUR	✓	0	100.000
C - Madingley Road (W)		ONE HOUR	✓	1318	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A - Madingley Road (E)	B - M11 On Slip	C - Madingley Road (W)
From	A - Madingley Road (E)	0	0	992
	B - M11 On Slip	0	0	0
	C - Madingley Road (W)	857	461	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - Madingley Road (E)	B - M11 On Slip	C - Madingley Road (W)
From	A - Madingley Road (E)	0	5	5
	B - M11 On Slip	0	0	0
	C - Madingley Road (W)	5	5	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.00	0.00	0.0	A	0	0
C-AB	1.08	305.06	62.9	F	755	1132
C-A					455	682
A-B					0	0
A-C					910	1365

Main Results for each time segment

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	187	0.000	0	0.0	0.0	0.000	A
C-AB	349	87	573	0.609	343	0.0	1.6	16.030	C
C-A	643	161			643				
A-B	0	0			0				
A-C	747	187			747				

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	99	0.000	0	0.0	0.0	0.000	A
C-AB	463	116	589	0.786	455	1.6	3.6	26.948	D
C-A	722	180			722				
A-B	0	0			0				
A-C	892	223			892				

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	0	0.000	0	0.0	0.0	0.000	A
C-AB	1451	363	1340	1.083	1338	3.6	31.8	68.404	F
C-A	0	0			0				
A-B	0	0			0				
A-C	1092	273			1092				

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	0	0.000	0	0.0	0.0	0.000	A
C-AB	1451	363	1340	1.083	1327	31.8	62.9	154.640	F
C-A	0	0			0				
A-B	0	0			0				
A-C	1092	273			1092				

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	28	0.000	0	0.0	0.0	0.000	A
C-AB	463	116	589	0.786	576	62.9	34.7	305.060	F
C-A	722	180			722				
A-B	0	0			0				
A-C	892	223			892				

18:15 - 18:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	140	0.000	0	0.0	0.0	0.000	A
C-AB	349	87	573	0.609	481	34.7	1.8	84.297	F
C-A	643	161			643				
A-B	0	0			0				
A-C	747	187			747				

2031 DS + Mit, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		2.11	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D11	2031 DS + Mit	AM	ONE HOUR	08:00	09:30	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 (PCU/hr)	Scaling Factor (%)
A - Madingley Road (E)		ONE HOUR	✓	355	100.000
B - M11 On Slip		ONE HOUR	✓	0	100.000
C - Madingley Road (W)		ONE HOUR	✓	1473	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A - Madingley Road (E)	B - M11 On Slip	C - Madingley Road (W)
From	A - Madingley Road (E)	0	0	355
	B - M11 On Slip	0	0	0
	C - Madingley Road (W)	1149	324	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - Madingley Road (E)	B - M11 On Slip	C - Madingley Road (W)
From	A - Madingley Road (E)	0	5	5
	B - M11 On Slip	0	0	0
	C - Madingley Road (W)	5	5	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.00	0.00	0.0	A	0	0
C-AB	0.53	11.90	1.2	B	298	446
C-A					1054	1581
A-B					0	0
A-C					326	489

Main Results for each time segment

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	304	0.000	0	0.0	0.0	0.000	A
C-AB	244	61	709	0.344	242	0.0	0.5	8.047	A
C-A	865	216			865				
A-B	0	0			0				
A-C	267	67			267				

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	255	0.000	0	0.0	0.0	0.000	A
C-AB	291	73	694	0.420	291	0.5	0.7	9.339	A
C-A	1033	258			1033				
A-B	0	0			0				
A-C	319	80			319				

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	180	0.000	0	0.0	0.0	0.000	A
C-AB	358	89	675	0.530	356	0.7	1.2	11.789	B
C-A	1264	316			1264				
A-B	0	0			0				
A-C	391	98			391				

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	180	0.000	0	0.0	0.0	0.000	A
C-AB	358	89	675	0.530	358	1.2	1.2	11.903	B
C-A	1264	316			1264				
A-B	0	0			0				
A-C	391	98			391				

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	255	0.000	0	0.0	0.0	0.000	A
C-AB	291	73	694	0.420	293	1.2	0.8	9.452	A
C-A	1033	258			1033				
A-B	0	0			0				
A-C	319	80			319				

09:15 - 09:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	303	0.000	0	0.0	0.0	0.000	A
C-AB	244	61	709	0.344	245	0.8	0.6	8.150	A
C-A	865	216			865				
A-B	0	0			0				
A-C	267	67			267				

2031 DS + Mit, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		887.05	F

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D12	2031 DS + Mit	PM	ONE HOUR	17:00	18:30	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 (PCU/hr)	Scaling Factor (%)
A - Madingley Road (E)		ONE HOUR	✓	696	100.000
B - M11 On Slip		ONE HOUR	✓	0	100.000
C - Madingley Road (W)		ONE HOUR	✓	1586	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A - Madingley Road (E)	B - M11 On Slip	C - Madingley Road (W)
From	A - Madingley Road (E)	0	0	696
	B - M11 On Slip	0	0	0
	C - Madingley Road (W)	857	729	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - Madingley Road (E)	B - M11 On Slip	C - Madingley Road (W)
From	A - Madingley Road (E)	0	5	5
	B - M11 On Slip	0	0	0
	C - Madingley Road (W)	5	5	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.00	0.00	0.0	A	0	0
C-AB	1.42	1450.03	324.2	F	1281	1921
C-A					174	262
A-B					0	0
A-C					639	958

Main Results for each time segment

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	175	0.000	0	0.0	0.0	0.000	A
C-AB	671	168	776	0.865	648	0.0	5.8	26.591	D
C-A	523	131			523				
A-B	0	0			0				
A-C	524	131			524				

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	69	0.000	0	0.0	0.0	0.000	A
C-AB	1426	356	1316	1.084	1304	5.8	36.2	74.271	F
C-A	0	0			0				
A-B	0	0			0				
A-C	626	156			626				

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	0	0.000	0	0.0	0.0	0.000	A
C-AB	1746	437	1227	1.424	1225	36.2	166.5	304.676	F
C-A	0	0			0				
A-B	0	0			0				
A-C	766	192			766				

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	0	0.000	0	0.0	0.0	0.000	A
C-AB	1746	437	1227	1.424	1226	166.5	296.5	664.146	F
C-A	0	0			0				
A-B	0	0			0				
A-C	766	192			766				

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	0	0.000	0	0.0	0.0	0.000	A
C-AB	1426	356	1316	1.084	1315	296.5	324.2	1135.869	F
C-A	0	0			0				
A-B	0	0			0				
A-C	626	156			626				

18:15 - 18:30

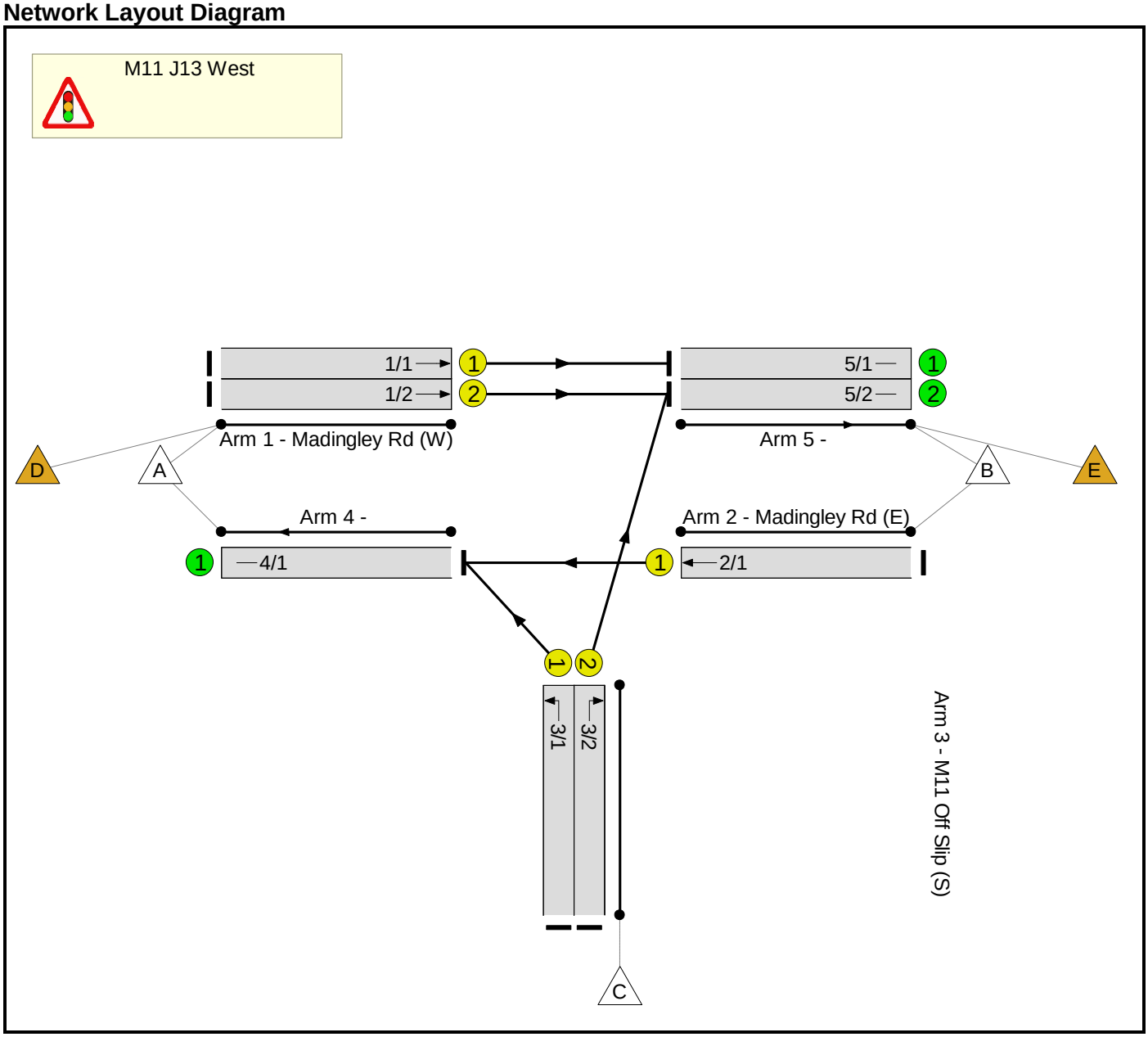
Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	0	0.000	0	0.0	0.0	0.000	A
C-AB	671	168	776	0.865	857	324.2	277.6	1450.032	F
C-A	523	131			523				
A-B	0	0			0				
A-C	524	131			524				

Full Input Data And Results

User and Project Details

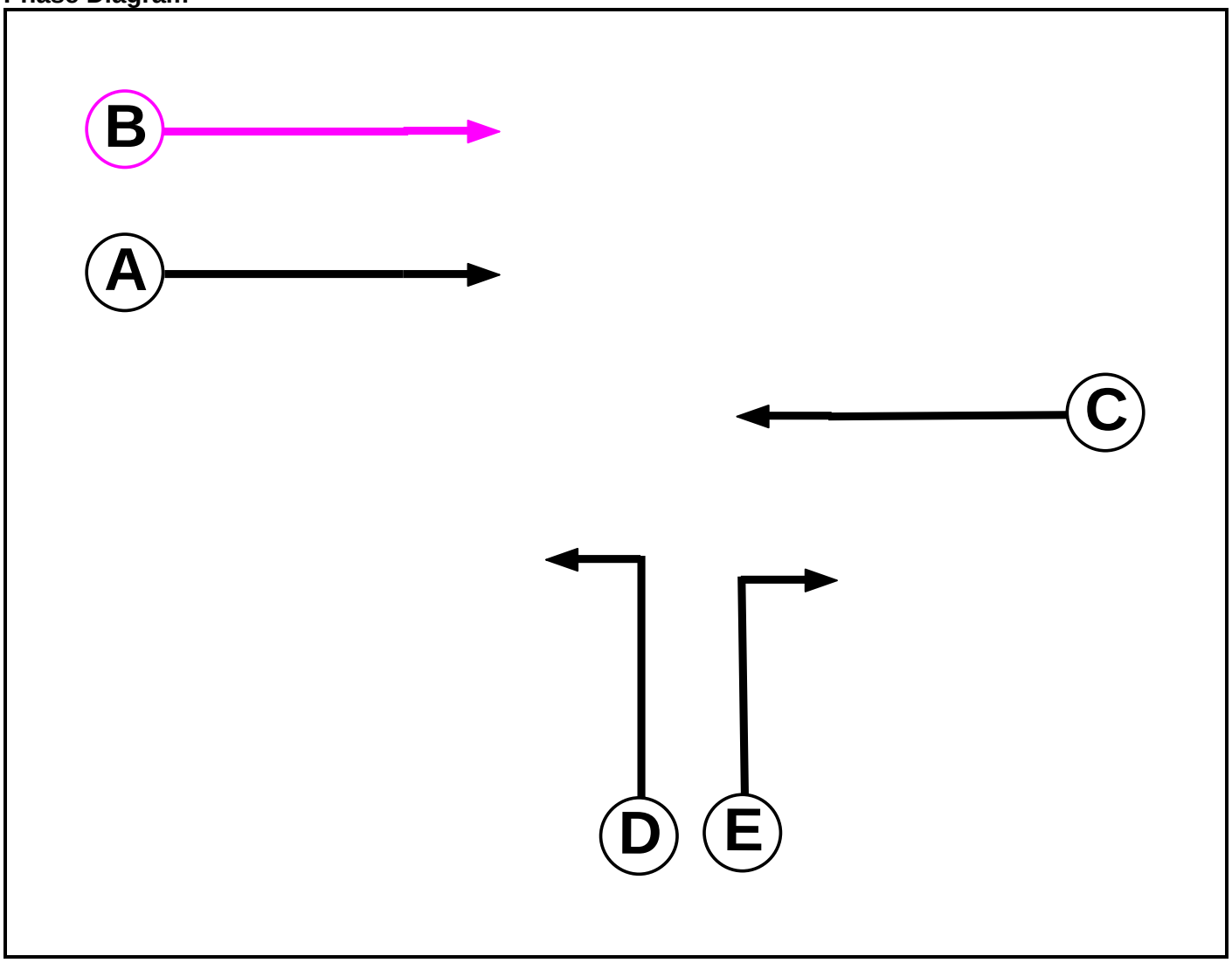
Project:	**West Cambridge**
Title:	**M11 J13**
Location:	
Additional detail:	
File name:	191125 - M11 J13 Off Slip - Existing Layout Mit.lsg3x
Author:	Tom Althorpe
Company:	Stantec
Address:	Northampton

Network Layout Diagram



Full Input Data And Results
191125 - M11 J13 Off Slip - Existing Layout Mit.lsg3x

Phase Diagram



Phase Input Data

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

Full Input Data And Results
191125 - M11 J13 Off Slip - Existing Layout Mit.lsg3x

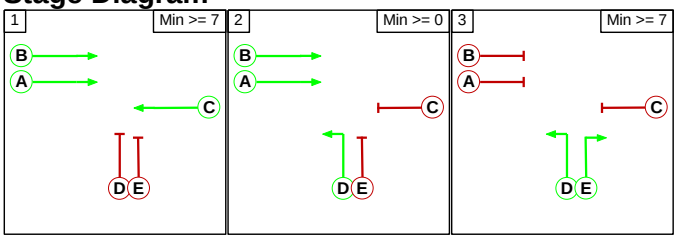
Phase Intergreens Matrix

		Starting Phase				
		A	B	C	D	E
Terminating Phase	A		-	-	-	6
	B	-		-	-	6
	C	-	-		6	6
	D	-	-	7		-
	E	7	7	7	-	

Phases in Stage

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

Stage Diagram



Phase Delays

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

Prohibited Stage Change

		To Stage		
		1	2	3
From Stage	1		6	6
	2	7		6
	3	7	7	

Full Input Data And Results
191125 - M11 J13 Off Slip - Existing Layout Mit.lsg3x

Give-Way Lane Input Data

Junction: M11 J13 West
There are no Opposed Lanes in this Junction

Full Input Data And Results
191125 - M11 J13 Off Slip - Existing Layout Mit.lsg3x

Lane Input Data

Junction: M11 J13 West												
Lane	**Lane Type**	**Phases**	**Start Disp.**	**End Disp.**	**Physical Length (PCU)**	**Sat Flow Type**	**Def User Saturation Flow (PCU/Hr)**	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Turns**	**Turning Radius (m)**
1/1 (Madingley Rd (W))	U	B	2	3	60.0	Geom	-	4.70	0.00	Y	Arm 5 Ahead	Inf
1/2 (Madingley Rd (W))	U	A	2	3	60.0	Geom	-	4.30	0.00	Y	Arm 5 Ahead	Inf
2/1 (Madingley Rd (E))	U	C	2	3	31.3	Geom	-	4.30	0.00	Y	Arm 4 Ahead	Inf
3/1 (M11 Off Slip (S))	U	D	2	3	34.8	Geom	-	3.40	0.00	Y	Arm 4 Left	20.00
3/2 (M11 Off Slip (S))	U	E	2	3	34.8	Geom	-	3.40	0.00	N	Arm 5 Right	15.00
4/1	U		2	3	87.0	Inf	-	-	-	-	-	-
5/1	U		2	3	60.0	Inf	-	-	-	-	-	-
5/2	U		2	3	0.2	Inf	-	-	-	-	-	-

Traffic Flow Groups

Flow Group	Start Time	End Time	Duration	Formula
1: '2021 Do Something Mitigated AM Peak'	08:00	09:00	01:00	
2: '2021 Do Something Mitigated PM Peak'	17:00	18:00	01:00	
3: '2031 Do Something Mitigated AM Peak'	08:00	09:00	01:00	
4: '2031 Do Something Mitigated PM Peak'	17:00	18:00	01:00	

Scenario 1: '2021 Do Something Mitigated AM Peak' (FG1: '2021 Do Something Mitigated AM Peak', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination					
		A	B	C	D	E	Tot.
Origin	A	0	679	0	0	0	679
	B	317	0	0	0	0	317
	C	705	640	0	0	0	1345
	D	0	0	0	0	9	9
	E	0	0	0	0	0	0
	Tot.	1022	1319	0	0	9	2350

Traffic Lane Flows

Lane	Scenario 1: 2021 Do Something Mitigated AM Peak
Junction: M11 J13 West	
1/1	9
1/2	679
2/1	317
3/1	705
3/2	640
4/1	1022
5/1	9
5/2	1319

Lane Saturation Flows

Junction: M11 J13 West

Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (Madingley Rd (W))	4.70	0.00	Y	Arm 5 Ahead	Inf	100.0 %	2085	2085
1/2 (Madingley Rd (W))	4.30	0.00	Y	Arm 5 Ahead	Inf	100.0 %	2045	2045
2/1 (Madingley Rd (E))	4.30	0.00	Y	Arm 4 Ahead	Inf	100.0 %	2045	2045
3/1 (M11 Off Slip (S))	3.40	0.00	Y	Arm 4 Left	20.00	100.0 %	1819	1819
3/2 (M11 Off Slip (S))	3.40	0.00	N	Arm 5 Right	15.00	100.0 %	1905	1905
4/1	Infinite Saturation Flow						Inf	Inf
5/1	Infinite Saturation Flow						Inf	Inf
5/2	Infinite Saturation Flow						Inf	Inf

Full Input Data And Results
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Scenario 2: '2021 Do Something Mitigated PM Peak' (FG2: '2021 Do Something Mitigated PM Peak', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination					
		A	B	C	D	E	Tot.
Origin	A	0	1094	0	0	0	1094
	B	593	0	0	0	0	593
	C	797	368	0	0	0	1165
	D	0	0	0	0	13	13
	E	0	0	0	0	0	0
	Tot.	1390	1462	0	0	13	2865

Traffic Lane Flows

Lane	Scenario 2: 2021 Do Something Mitigated PM Peak
Junction: M11 J13 West	
1/1	13
1/2	1094
2/1	593
3/1	797
3/2	368
4/1	1390
5/1	13
5/2	1462

Lane Saturation Flows

Junction: M11 J13 West								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (Madingley Rd (W))	4.70	0.00	Y	Arm 5 Ahead	Inf	100.0 %	2085	2085
1/2 (Madingley Rd (W))	4.30	0.00	Y	Arm 5 Ahead	Inf	100.0 %	2045	2045
2/1 (Madingley Rd (E))	4.30	0.00	Y	Arm 4 Ahead	Inf	100.0 %	2045	2045
3/1 (M11 Off Slip (S))	3.40	0.00	Y	Arm 4 Left	20.00	100.0 %	1819	1819
3/2 (M11 Off Slip (S))	3.40	0.00	N	Arm 5 Right	15.00	100.0 %	1905	1905
4/1	Infinite Saturation Flow						Inf	Inf
5/1	Infinite Saturation Flow						Inf	Inf
5/2	Infinite Saturation Flow						Inf	Inf

Scenario 3: '2031 Do Something Mitigated AM Peak' (FG3: '2031 Do Something Mitigated AM Peak', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination					
		A	B	C	D	E	Tot.
Origin	A	0	820	0	0	0	820
	B	355	0	0	0	0	355
	C	717	644	0	0	0	1361
	D	0	0	0	0	9	9
	E	0	0	0	0	0	0
	Tot.	1072	1464	0	0	9	2545

Traffic Lane Flows

Lane	Scenario 3: 2031 Do Something Mitigated AM Peak
Junction: M11 J13 West	
1/1	9
1/2	820
2/1	355
3/1	717
3/2	644
4/1	1072
5/1	9
5/2	1464

Lane Saturation Flows

Junction: M11 J13 West								
Lane	**Lane Width (m)**	**Gradient**	**Nearside Lane**	**Allowed Turns**	**Turning Radius (m)**	**Turning Prop.**	**Sat Flow (PCU/Hr)**	**Flared Sat Flow (PCU/Hr)**
1/1 (Madingley Rd (W))	4.70	0.00	Y	Arm 5 Ahead	Inf	100.0 %	2085	2085
1/2 (Madingley Rd (W))	4.30	0.00	Y	Arm 5 Ahead	Inf	100.0 %	2045	2045
2/1 (Madingley Rd (E))	4.30	0.00	Y	Arm 4 Ahead	Inf	100.0 %	2045	2045
3/1 (M11 Off Slip (S))	3.40	0.00	Y	Arm 4 Left	20.00	100.0 %	1819	1819
3/2 (M11 Off Slip (S))	3.40	0.00	N	Arm 5 Right	15.00	100.0 %	1905	1905
4/1	Infinite Saturation Flow						Inf	Inf
5/1	Infinite Saturation Flow						Inf	Inf
5/2	Infinite Saturation Flow						Inf	Inf

Scenario 4: '2031 Do Something Mitigated PM Peak' (FG4: '2031 Do Something Mitigated PM Peak', Plan 1: 'Network Control Plan 1')

Traffic Flows, Desired

Desired Flow :

		Destination					
		A	B	C	D	E	Tot.
Origin	A	0	1152	0	0	0	1152
	B	698	0	0	0	0	698
	C	822	422	0	0	0	1244
	D	0	0	0	0	13	13
	E	0	0	0	0	0	0
	Tot.	1520	1574	0	0	13	3107

Full Input Data And Results
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Traffic Lane Flows

Lane	Scenario 4: 2031 Do Something Mitigated PM Peak
Junction: M11 J13 West	
1/1	13
1/2	1152
2/1	698
3/1	822
3/2	422
4/1	1520
5/1	13
5/2	1574

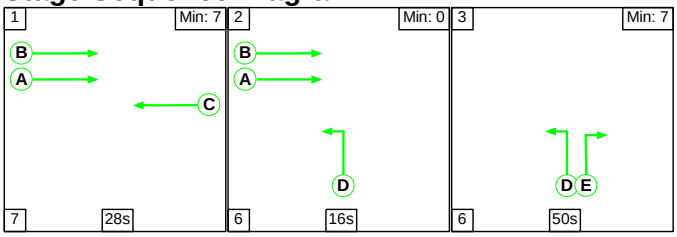
Lane Saturation Flows

Junction: M11 J13 West

Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (Madingley Rd (W))	4.70	0.00	Y	Arm 5 Ahead	Inf	100.0 %	2085	2085
1/2 (Madingley Rd (W))	4.30	0.00	Y	Arm 5 Ahead	Inf	100.0 %	2045	2045
2/1 (Madingley Rd (E))	4.30	0.00	Y	Arm 4 Ahead	Inf	100.0 %	2045	2045
3/1 (M11 Off Slip (S))	3.40	0.00	Y	Arm 4 Left	20.00	100.0 %	1819	1819
3/2 (M11 Off Slip (S))	3.40	0.00	N	Arm 5 Right	15.00	100.0 %	1905	1905
4/1	Infinite Saturation Flow						Inf	Inf
5/1	Infinite Saturation Flow						Inf	Inf
5/2	Infinite Saturation Flow						Inf	Inf

Scenario 1: '2021 Do Something Mitigated AM Peak' (FG1: '2021 Do Something Mitigated AM Peak', Plan 1: 'Network Control Plan 1')

Stage Sequence Diagram

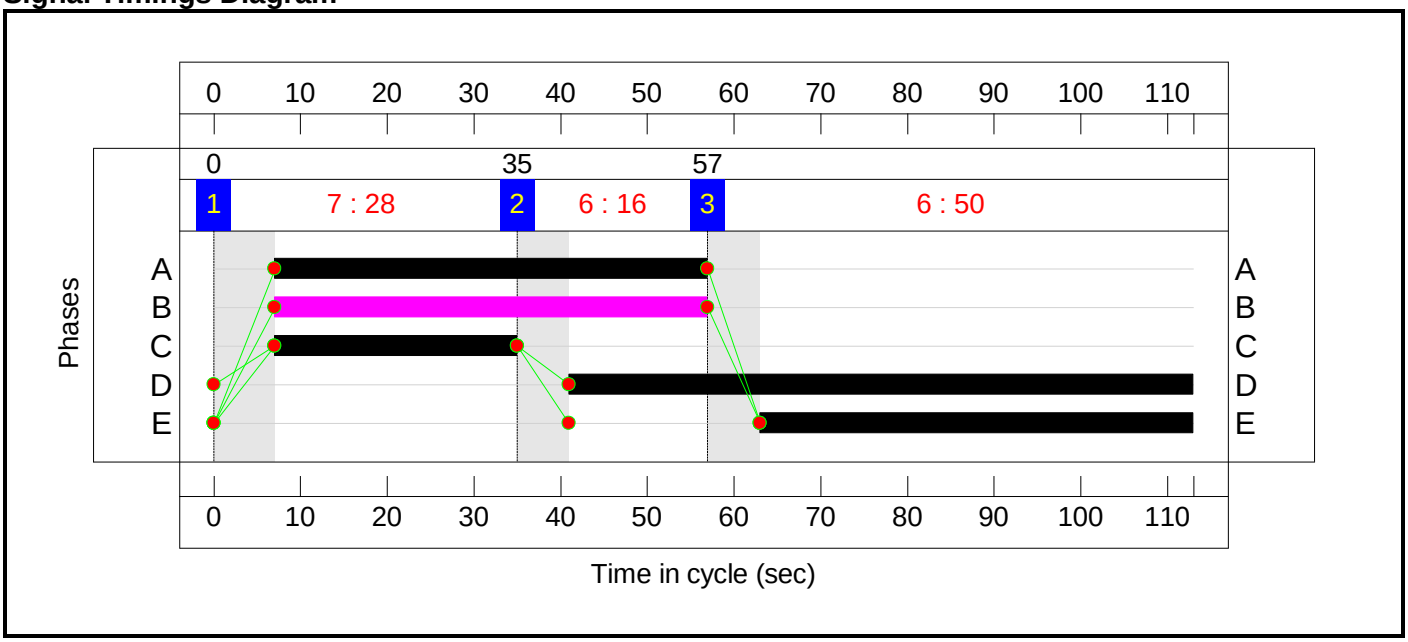


Full Input Data And Results
191125 - M11 J13 Off Slip - Existing Layout Mit.lsg3x

Stage Timings

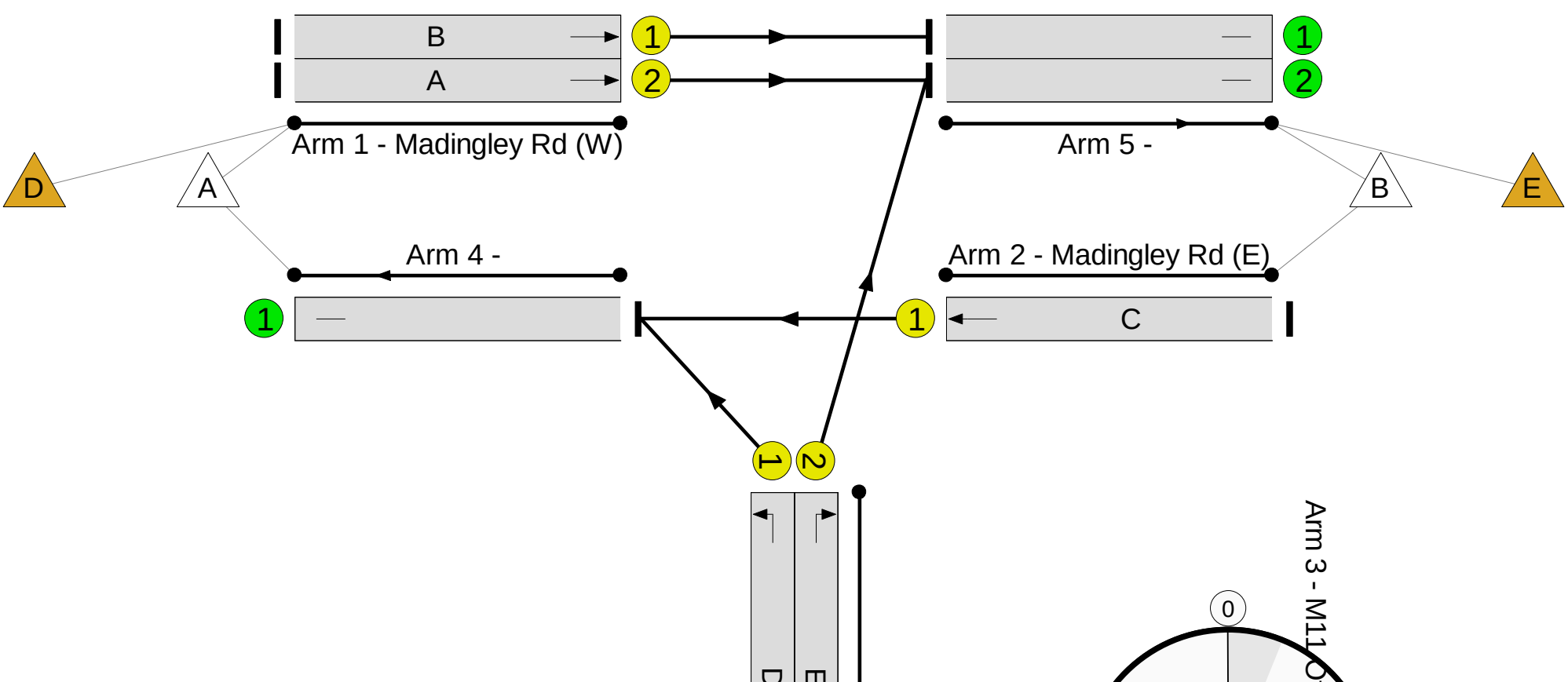
Stage	1	2	3
Duration	28	16	50
Change Point	0	35	57

Signal Timings Diagram



Full Input Data And Results
191125 - M11 J13 Off Slip - Existing Layout Mit.lsg3x
Network Layout Diagram

M11 J13 West
PRC: 20.9 %
Total Traffic Delay: 19.2 pcuHr



Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: M11 J13	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**74.4%**
M11 J13 West	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**74.4%**
1/1	Madingley Rd (W) Ahead	U	N/A	N/A	B		1	50	-	9	2085	941	1.0%
1/2	Madingley Rd (W) Ahead	U	N/A	N/A	A		1	50	-	679	2045	923	73.6%
2/1	Madingley Rd (E) Ahead	U	N/A	N/A	C		1	28	-	317	2045	525	60.4%
3/1	M11 Off Slip (S) Left	U	N/A	N/A	D		1	72	-	705	1819	1175	60.0%
3/2	M11 Off Slip (S) Right	U	N/A	N/A	E		1	50	-	640	1905	860	74.4%
4/1		U	N/A	N/A	-		-	-	-	1022	Inf	Inf	0.0%
5/1		U	N/A	N/A	-		-	-	-	9	Inf	Inf	0.0%
5/2		U	N/A	N/A	-		-	-	-	1319	Inf	Inf	0.0%

Full Input Data And Results

191125 - M11 J13 Off Slip - Existing Layout Mit.lsg3x

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: M11 J13	**-**	**-**	**0**	**0**	**0**	**14.9**	**4.3**	**0.0**	**19.2**	**-**	**-**	**-**	**-**
M11 J13 West	**-**	**-**	**0**	**0**	**0**	**14.9**	**4.3**	**0.0**	**19.2**	**-**	**-**	**-**	**-**
1/1	9	9	-	-	-	0.0	0.0	-	0.0	19.2	0.2	0.0	0.2
1/2	679	679	-	-	-	4.8	1.4	-	6.2	32.8	17.4	1.4	18.7
2/1	317	317	-	-	-	3.3	0.8	-	4.0	45.6	8.7	0.8	9.5
3/1	705	705	-	-	-	2.3	0.7	-	3.0	15.4	12.7	0.7	13.5
3/2	640	640	-	-	-	4.6	1.4	-	6.0	33.7	16.5	1.4	18.0
4/1	1022	1022	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	9	9	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/2	1319	1319	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 - M11 J13 West

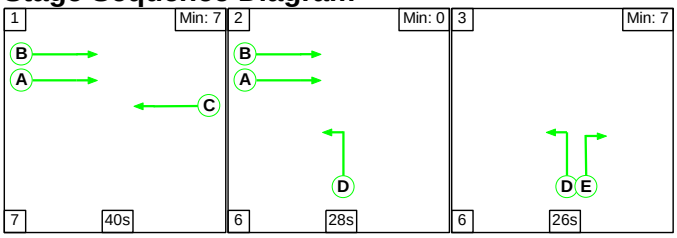
PRC for Signalled Lanes (%): 20.9
PRC Over All Lanes (%): 20.9

Total Delay for Signalled Lanes (pcuHr): 19.24
Total Delay Over All Lanes(pcuHr): 19.24

Cycle Time (s): 113

Full Input Data And Results
191125 - M11 J13 Off Slip - Existing Layout Mit.lsg3x
Scenario 2: '2021 Do Something Mitigated PM Peak' (FG2: '2021 Do Something Mitigated PM Peak', Plan 1: 'Network Control Plan 1')

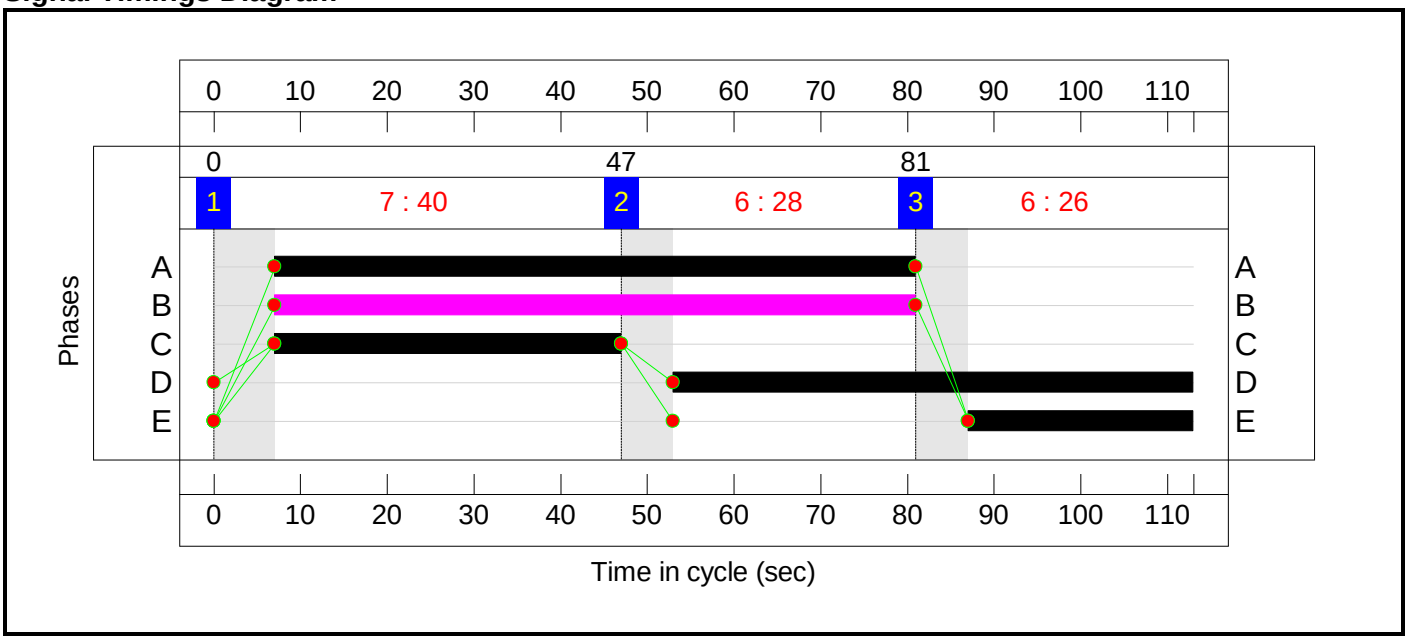
Stage Sequence Diagram



Stage Timings

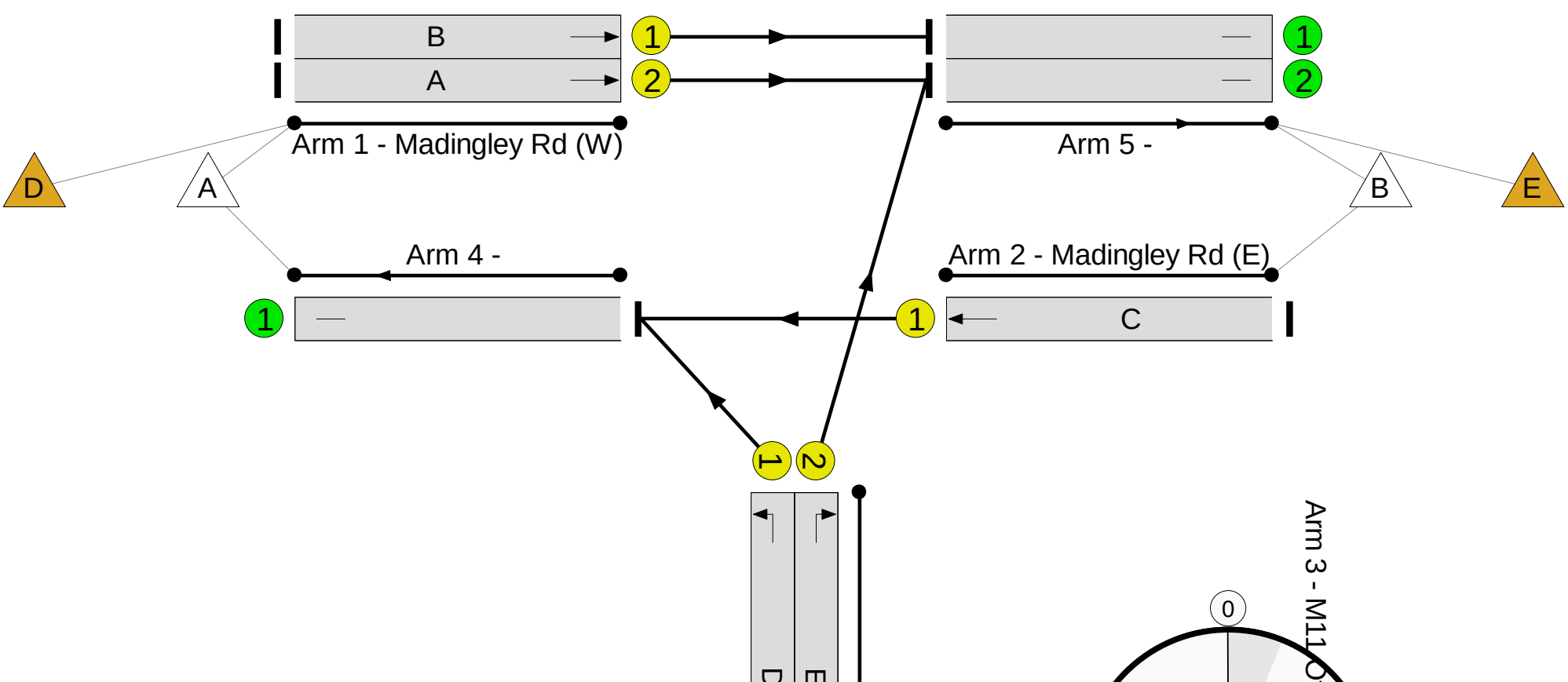
Stage	1	2	3
Duration	40	28	26
Change Point	0	47	81

Signal Timings Diagram



Full Input Data And Results
191125 - M11 J13 Off Slip - Existing Layout Mit.lsg3x
Network Layout Diagram

M11 J13 West
PRC: 10.9 %
Total Traffic Delay: 26.5 pcuHr



Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: M11 J13	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**81.2%**
M11 J13 West	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**81.2%**
1/1	Madingley Rd (W) Ahead	U	N/A	N/A	B		1	74	-	13	2085	1384	0.9%
1/2	Madingley Rd (W) Ahead	U	N/A	N/A	A		1	74	-	1094	2045	1357	80.6%
2/1	Madingley Rd (E) Ahead	U	N/A	N/A	C		1	40	-	593	2045	742	79.9%
3/1	M11 Off Slip (S) Left	U	N/A	N/A	D		1	60	-	797	1819	982	81.2%
3/2	M11 Off Slip (S) Right	U	N/A	N/A	E		1	26	-	368	1905	455	80.8%
4/1		U	N/A	N/A	-		-	-	-	1390	Inf	Inf	0.0%
5/1		U	N/A	N/A	-		-	-	-	13	Inf	Inf	0.0%
5/2		U	N/A	N/A	-		-	-	-	1462	Inf	Inf	0.0%

Full Input Data And Results

191125 - M11 J13 Off Slip - Existing Layout Mit.lsg3x

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: M11 J13	**-**	**-**	**0**	**0**	**0**	**18.4**	**8.1**	**0.0**	**26.5**	**-**	**-**	**-**	**-**
M11 J13 West	**-**	**-**	**0**	**0**	**0**	**18.4**	**8.1**	**0.0**	**26.5**	**-**	**-**	**-**	**-**
1/1	13	13	-	-	-	0.0	0.0	-	0.0	7.9	0.1	0.0	0.1
1/2	1094	1094	-	-	-	4.2	2.0	-	6.2	20.5	24.6	2.0	26.7
2/1	593	593	-	-	-	5.3	1.9	-	7.3	44.1	16.6	1.9	18.6
3/1	797	797	-	-	-	4.7	2.1	-	6.8	30.8	20.4	2.1	22.5
3/2	368	368	-	-	-	4.1	2.0	-	6.2	60.3	10.8	2.0	12.9
4/1	1390	1390	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	13	13	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/2	1462	1462	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 - M11 J13 West

PRC for Signalled Lanes (%): 10.9

PRC Over All Lanes (%): 10.9

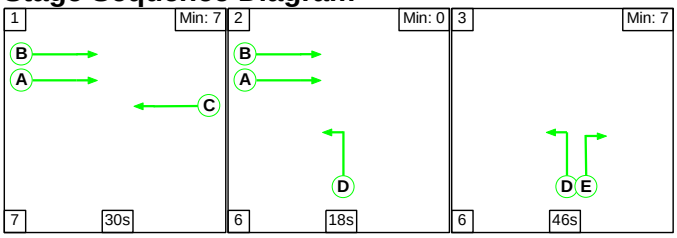
Total Delay for Signalled Lanes (pcuHr): 26.50

Total Delay Over All Lanes(pcuHr): 26.50

Cycle Time (s): 113

Full Input Data And Results
191125 - M11 J13 Off Slip - Existing Layout Mit.lsg3x
Scenario 3: '2031 Do Something Mitigated AM Peak' (FG3: '2031 Do Something Mitigated AM Peak', Plan 1: 'Network Control Plan 1')

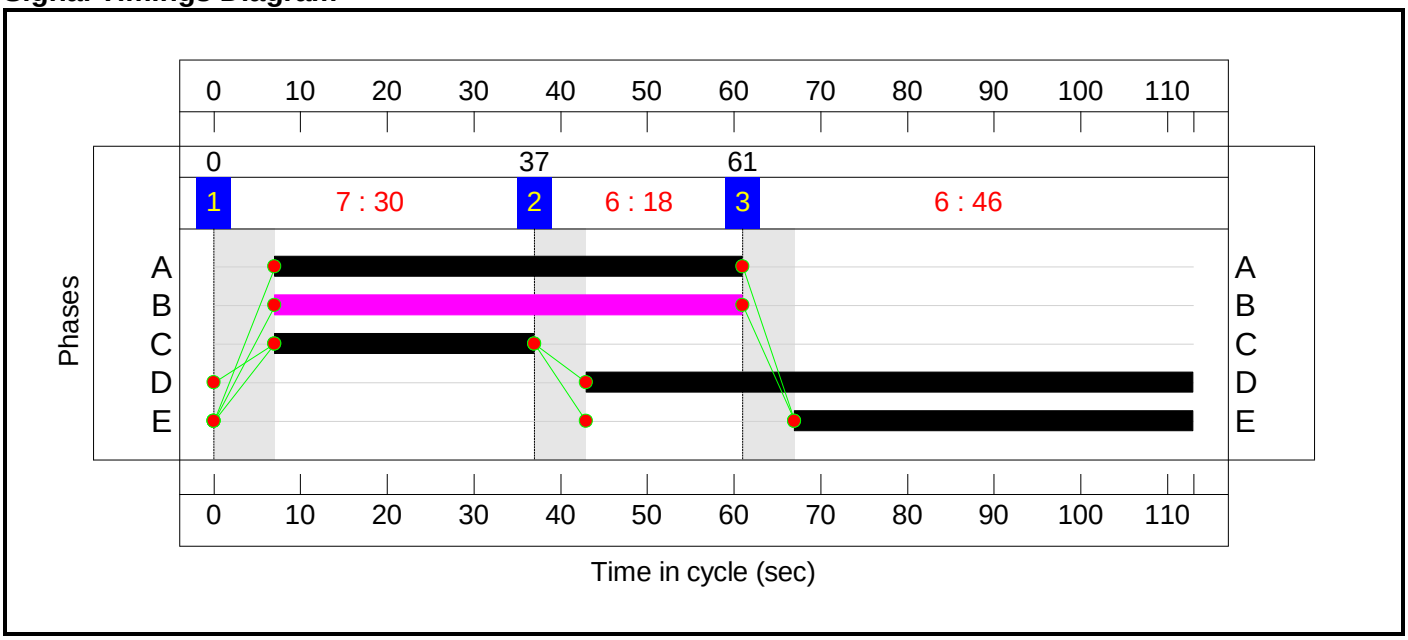
Stage Sequence Diagram



Stage Timings

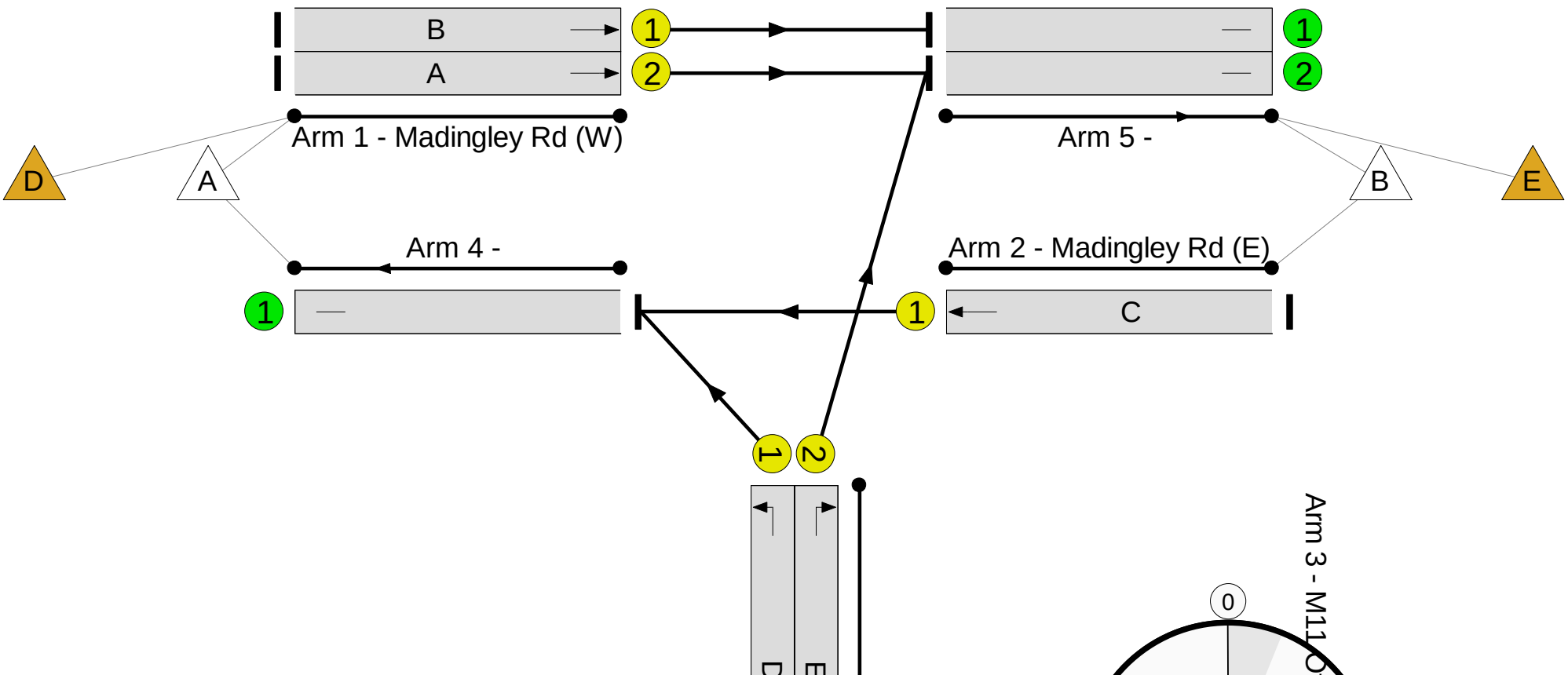
Stage	1	2	3
Duration	30	18	46
Change Point	0	37	61

Signal Timings Diagram



Full Input Data And Results
191125 - M11 J13 Off Slip - Existing Layout Mit.lsg3x
Network Layout Diagram

M11 J13 West
PRC: 9.2 %
Total Traffic Delay: 23.1 pcuHr



Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: M11 J13	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**82.4%**
M11 J13 West	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**82.4%**
1/1	Madingley Rd (W) Ahead	U	N/A	N/A	B		1	54	-	9	2085	1015	0.9%
1/2	Madingley Rd (W) Ahead	U	N/A	N/A	A		1	54	-	820	2045	995	82.4%
2/1	Madingley Rd (E) Ahead	U	N/A	N/A	C		1	30	-	355	2045	561	63.3%
3/1	M11 Off Slip (S) Left	U	N/A	N/A	D		1	70	-	717	1819	1143	62.7%
3/2	M11 Off Slip (S) Right	U	N/A	N/A	E		1	46	-	644	1905	792	81.3%
4/1		U	N/A	N/A	-		-	-	-	1072	Inf	Inf	0.0%
5/1		U	N/A	N/A	-		-	-	-	9	Inf	Inf	0.0%
5/2		U	N/A	N/A	-		-	-	-	1464	Inf	Inf	0.0%

Full Input Data And Results

191125 - M11 J13 Off Slip - Existing Layout Mit.lsg3x

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: M11 J13	**-**	**-**	**0**	**0**	**0**	**17.0**	**6.1**	**0.0**	**23.1**	**-**	**-**	**-**	**-**
M11 J13 West	**-**	**-**	**0**	**0**	**0**	**17.0**	**6.1**	**0.0**	**23.1**	**-**	**-**	**-**	**-**
1/1	9	9	-	-	-	0.0	0.0	-	0.0	16.9	0.1	0.0	0.1
1/2	820	820	-	-	-	5.7	2.3	-	7.9	34.9	21.9	2.3	24.1
2/1	355	355	-	-	-	3.6	0.9	-	4.4	44.7	9.8	0.9	10.6
3/1	717	717	-	-	-	2.6	0.8	-	3.4	17.1	13.7	0.8	14.6
3/2	644	644	-	-	-	5.2	2.1	-	7.3	40.9	17.7	2.1	19.8
4/1	1072	1072	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	9	9	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/2	1464	1464	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 - M11 J13 West

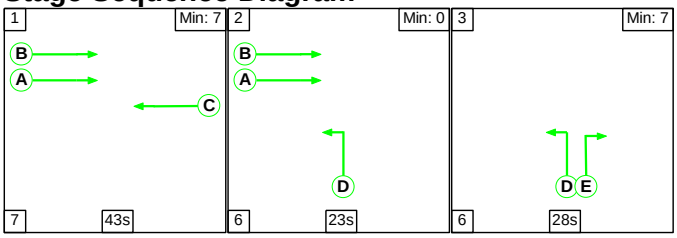
PRC for Signalled Lanes (%): 9.2
PRC Over All Lanes (%): 9.2

Total Delay for Signalled Lanes (pcuHr): 23.11
Total Delay Over All Lanes(pcuHr): 23.11

Cycle Time (s): 113

Full Input Data And Results
191125 - M11 J13 Off Slip - Existing Layout Mit.lsg3x
Scenario 4: '2031 Do Something Mitigated PM Peak' (FG4: '2031 Do Something Mitigated PM Peak', Plan 1: 'Network Control Plan 1')

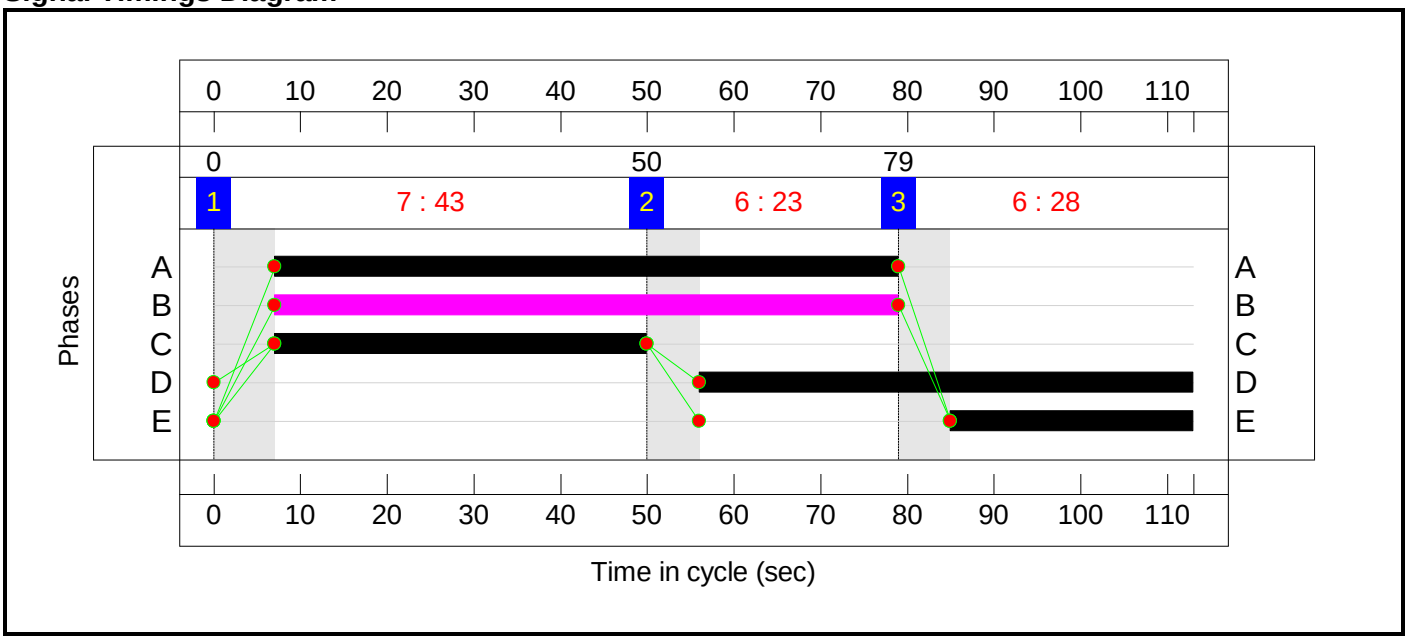
Stage Sequence Diagram



Stage Timings

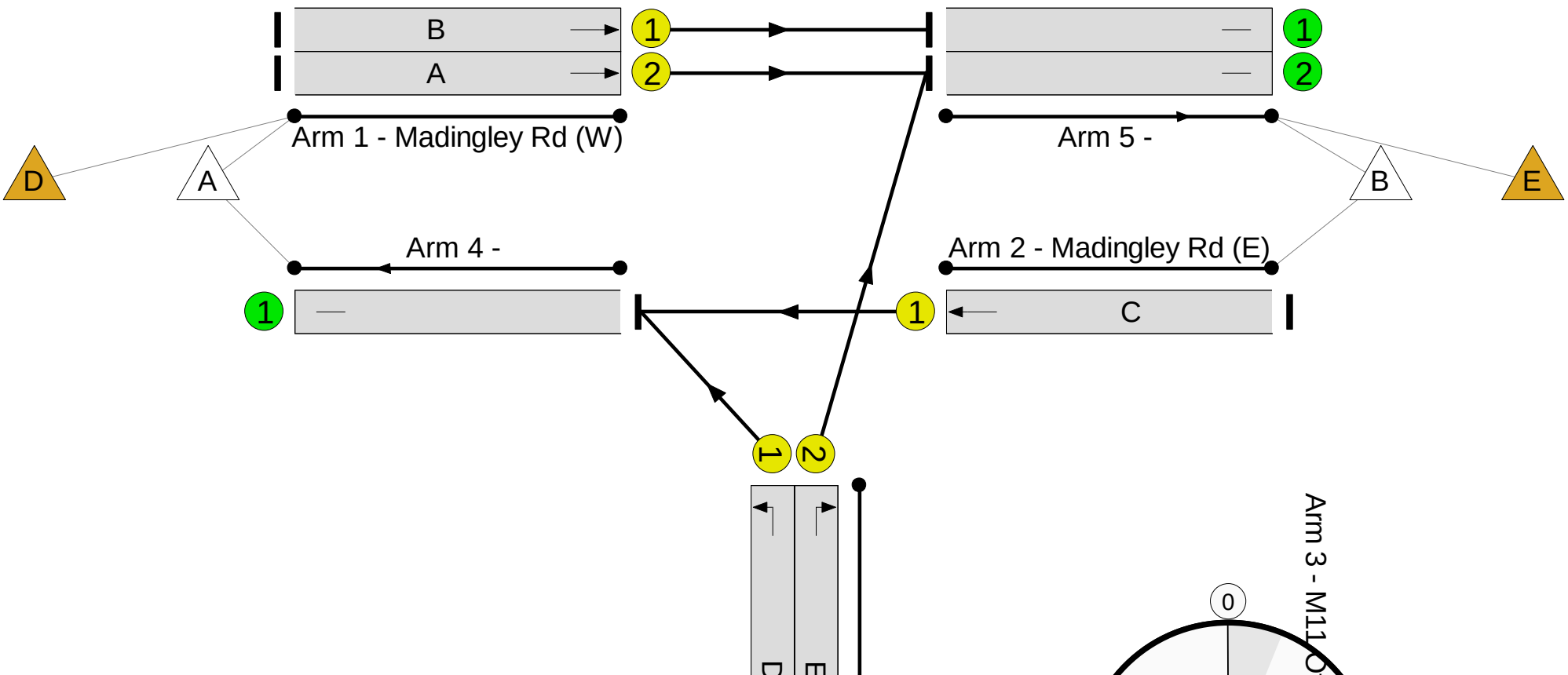
Stage	1	2	3
Duration	43	23	28
Change Point	0	50	79

Signal Timings Diagram



Full Input Data And Results
191125 - M11 J13 Off Slip - Existing Layout Mit.lsg3x
Network Layout Diagram

M11 J13 West
PRC: 2.2 %
Total Traffic Delay: 34.7 pcuHr



Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network: M11 J13	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**88.0%**
M11 J13 West	**-**	**-**	**N/A**	**-**	**-**		**-**	**-**	**-**	**-**	**-**	**-**	**88.0%**
1/1	Madingley Rd (W) Ahead	U	N/A	N/A	B		1	72	-	13	2085	1347	1.0%
1/2	Madingley Rd (W) Ahead	U	N/A	N/A	A		1	72	-	1152	2045	1321	87.2%
2/1	Madingley Rd (E) Ahead	U	N/A	N/A	C		1	43	-	698	2045	796	87.7%
3/1	M11 Off Slip (S) Left	U	N/A	N/A	D		1	57	-	822	1819	934	88.0%
3/2	M11 Off Slip (S) Right	U	N/A	N/A	E		1	28	-	422	1905	489	86.3%
4/1		U	N/A	N/A	-		-	-	-	1520	Inf	Inf	0.0%
5/1		U	N/A	N/A	-		-	-	-	13	Inf	Inf	0.0%
5/2		U	N/A	N/A	-		-	-	-	1574	Inf	Inf	0.0%

Full Input Data And Results

191125 - M11 J13 Off Slip - Existing Layout Mit.lsg3x

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network: M11 J13	**-**	**-**	**0**	**0**	**0**	**21.7**	**13.0**	**0.0**	**34.7**	**-**	**-**	**-**	**-**
M11 J13 West	**-**	**-**	**0**	**0**	**0**	**21.7**	**13.0**	**0.0**	**34.7**	**-**	**-**	**-**	**-**
1/1	13	13	-	-	-	0.0	0.0	-	0.0	8.6	0.1	0.0	0.1
1/2	1152	1152	-	-	-	5.2	3.3	-	8.5	26.5	29.1	3.3	32.4
2/1	698	698	-	-	-	6.2	3.3	-	9.5	49.1	20.2	3.3	23.5
3/1	822	822	-	-	-	5.6	3.5	-	9.0	39.6	22.8	3.5	26.3
3/2	422	422	-	-	-	4.7	2.9	-	7.6	64.9	12.5	2.9	15.4
4/1	1520	1520	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/1	13	13	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
5/2	1574	1574	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0

C1 - M11 J13 West

PRC for Signalled Lanes (%): 2.2

PRC Over All Lanes (%): 2.2

Total Delay for Signalled Lanes (pcuHr): 34.67

Total Delay Over All Lanes(pcuHr): 34.67

Cycle Time (s): 113

Junctions 9

PICADY 9 - Priority Intersection Module

Version: 9.5.1.7462

For sales and distribution information, program advice and maintenance, contact TRL:
+44 (0)1344 379777 software@trl.co.uk www.trlsoftware.co.uk

Filename: 191112 - JJ Thomson Avenue - Madingley Road.j9
Path: J:\45339 - West Cambridge 2018\Junctions 9\2019 Work\JJ Thomson Avenue - Madingley Road
Report generation date: 26/11/2019 12:56:50

Summary of junction performance

	AM					PM				
	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)
	2019 Observed									
Stream B-C	0.0	6.86	0.02	A	2.50	0.3	11.41	0.23	B	5.11
Stream B-A	0.3	15.83	0.24	C		0.6	18.32	0.38	C	
Stream C-B	0.2	8.45	0.14	A		0.0	8.04	0.03	A	
Stream A-BC	0.7	3.60	0.39	A		1.4	5.28	0.58	A	
	2021 Do Minimum									
Stream B-C	0.0	0.00	0.00	A	5.92	0.3	15.14	0.20	C	54.32
Stream B-A	1.6	43.48	0.60	E		33.2	394.75	1.24	F	
Stream C-B	0.2	11.26	0.18	B		0.0	9.37	0.03	A	
Stream A-BC	2.0	6.40	0.65	A		2.7	8.28	0.73	A	
	2021 Do Something									
Stream B-C	0.0	7.52	0.04	A	3.39	0.9	17.10	0.45	C	5.76
Stream B-A	0.3	21.69	0.21	C		0.2	18.90	0.20	C	
Stream C-B	0.7	13.09	0.41	B		0.0	9.09	0.05	A	
Stream A-BC	0.9	4.05	0.45	A		2.2	7.09	0.69	A	
	2031 Do Minimum									
Stream B-C	0.0	0.00	0.00	A	44.69	0.3	16.33	0.22	C	418.30
Stream B-A	21.5	443.96	1.30	F		219.0	2440.66	2.56	F	
Stream C-B	0.4	18.43	0.27	C		0.0	10.05	0.04	B	
Stream A-BC	14.9	35.31	0.95	E		3.8	10.76	0.79	B	
	2031 Do Something									
Stream B-C	0.0	11.66	0.00	B	243.36	1.0	26.69	0.49	D	2486.75
Stream B-A	64.1	1029.20	1.51	F		827.0	8791.35	5.32	F	
Stream C-B	0.1	15.67	0.07	C		0.0	11.13	0.01	B	
Stream A-BC	142.4	264.89	1.15	F		7.8	20.22	0.89	C	
	2031 Do Something Mitigated									
Stream B-C	0.0	11.82	0.00	B	102.41	0.5	18.54	0.33	C	1145.02
Stream B-A	50.3	651.86	1.44	F		474.1	4797.65	3.34	F	
Stream C-B	0.0	0.00	0.00	A		0.0	10.03	0.01	B	
Stream A-BC	31.5	65.87	1.00	F		4.3	11.89	0.81	B	

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.

File summary

File Description

Title	JJ Thomson Avenue / Madingley Road
Location	West Cambridge
Site number	
Date	17/07/2019
Version	
Status	Exising
Identifier	
Client	
Jobnumber	46357
Enumerator	
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	PCU	perHour	s	-Min	perMin

Analysis Options

Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
5.75		✓		0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2019 Observed	AM	ONE HOUR	08:00	09:30	15	✓
D2	2019 Observed	PM	ONE HOUR	16:15	17:45	15	✓
D3	2021 Do Minimum	AM	ONE HOUR	08:00	09:30	15	✓
D4	2021 Do Minimum	PM	ONE HOUR	16:15	17:45	15	✓
D5	2021 Do Something	AM	ONE HOUR	08:00	09:30	15	✓
D6	2021 Do Something	PM	ONE HOUR	16:15	17:45	15	✓
D7	2031 Do Minimum	AM	ONE HOUR	08:00	09:30	15	✓
D8	2031 Do Minimum	PM	ONE HOUR	16:15	17:45	15	✓
D9	2031 Do Something	AM	ONE HOUR	08:00	09:30	15	✓
D10	2031 Do Something	PM	ONE HOUR	16:15	17:45	15	✓
D11	2031 Do Something Mitigated	AM	ONE HOUR	08:00	09:30	15	✓
D12	2031 Do Something Mitigated	PM	ONE HOUR	16:15	17:45	15	✓

Analysis Set Details

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

2019 Observed, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	JJ Thomson Avenue / Madingley Road	T-Junction	Two-way		2.50	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	Madingley Rd (E)		Major
B	JJ Thomson Avenue		Minor
C	Madingley Rd (W)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width for right turn (m)	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C - Madingley Rd (W)	8.00	✓	6.00	✓	3.20	95.0		-

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

Minor Arm Geometry

Arm	Minor arm type	Lane Width (Left) (m)	Lane Width (Right) (m)	Visibility to left (m)	Visibility to right (m)
B - JJ Thomson Avenue	Two lanes	3.70	2.95	122	59

Pelican/Puffin Crossings

Arm	Space between crossing and junc. entry (Signalised) (PCU)	Amber time preceding red (s)	Amber time regarded as green (s)	Time from traffic red start to green man start (s)	Time period green man shown (s)	Clearance Period (s)	Traffic minimum green (s)
A - Madingley Rd (E)	1.00	3.00	2.90	1.00	5.00	7.00	7.00

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
B-A	617	0.091	0.229	0.144	0.327
B-C	707	0.099	0.250	-	-
C-B	697	0.247	0.247	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

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

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2019 Observed	AM	ONE HOUR	08:00	09:30	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 (%)
A - Madingley Rd (E)		ONE HOUR	✓	578	100.000
B - JJ Thomson Avenue		ONE HOUR	✓	73	100.000
C - Madingley Rd (W)		ONE HOUR	✓	855	100.000

Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
A - Madingley Rd (E)	[ONEHOUR]	104.00
B - JJ Thomson Avenue		
C - Madingley Rd (W)		

Origin-Destination Data

Demand (Veh/hr)

		To		
		A - Madingley Rd (E)	B - JJ Thomson Avenue	C - Madingley Rd (W)
From	A - Madingley Rd (E)	0	159	419
	B - JJ Thomson Avenue	65	0	8
	C - Madingley Rd (W)	794	61	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - Madingley Rd (E)	B - JJ Thomson Avenue	C - Madingley Rd (W)
From	A - Madingley Rd (E)	0	3	5
	B - JJ Thomson Avenue	12	0	0
	C - Madingley Rd (W)	4	8	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
B-C	0.02	6.86	0.0	A	7	11	1.19	6.47	0.01	1.19	6.47
B-A	0.24	15.83	0.3	C	67	100	21.98	13.16	0.24	21.98	13.16
C-A					758	1137					
C-B	0.14	8.45	0.2	A	60	91	11.80	7.81	0.13	11.80	7.81
A-BC	0.39	3.60	0.7	A	554	831	44.71	3.23	0.50	44.71	3.23

Main Results for each time segment

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	6	2		593	0.010	6	0.0	0.0	6.137	A
B-A	55	14		425	0.129	54	0.0	0.2	10.866	B
C-A	622	155				622				
C-B	50	12		585	0.085	49	0.0	0.1	7.248	A
A-BC	455	114	78.30	1768	0.257	453	0.0	0.4	2.856	A

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	7	2		568	0.013	7	0.0	0.0	6.416	A
B-A	65	16		387	0.169	65	0.2	0.2	12.537	B
C-A	742	186				742				
C-B	59	15		563	0.105	59	0.1	0.1	7.711	A
A-BC	543	136	93.49	1741	0.312	542	0.4	0.5	3.137	A

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	9	2		534	0.017	9	0.0	0.0	6.859	A
B-A	80	20		335	0.239	80	0.2	0.3	15.761	C
C-A	909	227				909				
C-B	73	18		533	0.136	72	0.1	0.2	8.438	A
A-BC	665	166	114.51	1707	0.389	664	0.5	0.7	3.602	A

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	9	2		533	0.017	9	0.0	0.0	6.863	A
B-A	80	20		335	0.239	80	0.3	0.3	15.831	C
C-A	909	227				909				
C-B	73	18		533	0.136	73	0.2	0.2	8.447	A
A-BC	665	166	114.51	1707	0.389	665	0.7	0.7	3.605	A

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	7	2		568	0.013	7	0.0	0.0	6.425	A
B-A	65	16		386	0.169	66	0.3	0.2	12.597	B
C-A	742	186				742				
C-B	59	15		563	0.105	59	0.2	0.1	7.724	A
A-BC	543	136	93.49	1741	0.312	543	0.7	0.5	3.141	A

09:15 - 09:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	6	2		592	0.010	6	0.0	0.0	6.147	A
B-A	55	14		424	0.129	55	0.2	0.2	10.936	B
C-A	622	155				622				
C-B	50	12		585	0.085	50	0.1	0.1	7.269	A
A-BC	455	114	78.30	1768	0.257	455	0.5	0.4	2.865	A

Queueing Delay Results for each time segment

08:00 - 08:15

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	0.15	0.01	6.137	A
B-A	2.34	0.16	10.866	B
C-B	1.44	0.10	7.248	A
A-BC	5.30	0.35	2.856	A

08:15 - 08:30

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	0.19	0.01	6.416	A
B-A	3.26	0.22	12.537	B
C-B	1.85	0.12	7.711	A
A-BC	6.96	0.46	3.137	A

08:30 - 08:45

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	0.24	0.02	6.859	A
B-A	4.94	0.33	15.761	C
C-B	2.46	0.16	8.438	A
A-BC	9.74	0.65	3.602	A

08:45 - 09:00

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	0.25	0.02	6.863	A
B-A	5.20	0.35	15.831	C
C-B	2.53	0.17	8.447	A
A-BC	9.94	0.66	3.605	A

09:00 - 09:15

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	0.20	0.01	6.425	A
B-A	3.62	0.24	12.597	B
C-B	1.97	0.13	7.724	A
A-BC	7.25	0.48	3.141	A

09:15 - 09:30

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	0.16	0.01	6.147	A
B-A	2.61	0.17	10.936	B
C-B	1.55	0.10	7.269	A
A-BC	5.52	0.37	2.865	A

2019 Observed, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	JJ Thomson Avenue / Madingley Road	T-Junction	Two-way		5.11	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D2	2019 Observed	PM	ONE HOUR	16:15	17:45	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 (%)
A - Madingley Rd (E)		ONE HOUR	✓	849	100.000
B - JJ Thomson Avenue		ONE HOUR	✓	196	100.000
C - Madingley Rd (W)		ONE HOUR	✓	429	100.000

Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
A - Madingley Rd (E)	[ONEHOUR]	136.00
B - JJ Thomson Avenue		
C - Madingley Rd (W)		

Origin-Destination Data

Demand (Veh/hr)

		To		
		A - Madingley Rd (E)	B - JJ Thomson Avenue	C - Madingley Rd (W)
From	A - Madingley Rd (E)	0	52	797
	B - JJ Thomson Avenue	111	0	85
	C - Madingley Rd (W)	418	11	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - Madingley Rd (E)	B - JJ Thomson Avenue	C - Madingley Rd (W)
From	A - Madingley Rd (E)	0	8	2
	B - JJ Thomson Avenue	4	0	5
	C - Madingley Rd (W)	6	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
B-C	0.23	11.41	0.3	B	82	123	19.98	9.76	0.22	19.98	9.76
B-A	0.38	18.32	0.6	C	106	159	38.02	14.36	0.42	38.03	14.36
C-A					407	610					
C-B	0.03	8.04	0.0	A	10	15	1.87	7.40	0.02	1.87	7.40
A-B-C	0.58	5.28	1.4	A	798	1196	85.91	4.31	0.95	85.92	4.31

Main Results for each time segment

16:15 - 16:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	67	17		522	0.129	67	0.0	0.2	8.293	A
B-A	87	22		423	0.206	86	0.0	0.3	11.083	B
C-A	334	83				334				
C-B	8	2		536	0.015	8	0.0	0.0	6.820	A
A-B-C	654	164	102.39	1727	0.379	652	0.0	0.6	3.421	A

16:30 - 16:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	80	20		484	0.166	80	0.2	0.2	9.362	A
B-A	104	26		384	0.270	103	0.3	0.4	13.303	B
C-A	398	100				398				
C-B	10	2		504	0.020	10	0.0	0.0	7.283	A
A-B-C	781	195	122.26	1696	0.461	780	0.6	0.9	4.020	A

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	98	25		430	0.228	98	0.2	0.3	11.356	B
B-A	127	32		332	0.383	126	0.4	0.6	18.105	C
C-A	488	122				488				
C-B	12	3		461	0.026	12	0.0	0.0	8.028	A
A-B-C	957	239	149.74	1655	0.578	955	0.9	1.4	5.246	A

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	98	25		429	0.229	98	0.3	0.3	11.413	B
B-A	127	32		331	0.384	127	0.6	0.6	18.317	C
C-A	488	122				488				
C-B	12	3		460	0.026	12	0.0	0.0	8.037	A
A-BC	957	239	149.74	1655	0.578	957	1.4	1.4	5.277	A

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	80	20		482	0.166	81	0.3	0.2	9.419	A
B-A	104	26		384	0.271	105	0.6	0.4	13.470	B
C-A	398	100				398				
C-B	10	2		503	0.020	10	0.0	0.0	7.298	A
A-BC	781	195	122.26	1696	0.461	783	1.4	0.9	4.046	A

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	67	17		520	0.129	67	0.2	0.2	8.349	A
B-A	87	22		422	0.206	87	0.4	0.3	11.209	B
C-A	334	83				334				
C-B	8	2		535	0.015	8	0.0	0.0	6.832	A
A-BC	654	164	102.39	1727	0.379	655	0.9	0.6	3.444	A

Queueing Delay Results for each time segment

16:15 - 16:30

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	2.22	0.15	8.293	A
B-A	3.78	0.25	11.083	B
C-B	0.23	0.02	6.820	A
A-BC	9.09	0.61	3.421	A

16:30 - 16:45

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	3.01	0.20	9.362	A
B-A	5.44	0.36	13.303	B
C-B	0.29	0.02	7.283	A
A-BC	12.73	0.85	4.020	A

16:45 - 17:00

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	4.43	0.30	11.356	B
B-A	8.86	0.59	18.105	C
C-B	0.39	0.03	8.028	A
A-BC	20.08	1.34	5.246	A

17:00 - 17:15

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	4.62	0.31	11.413	B
B-A	9.48	0.63	18.317	C
C-B	0.40	0.03	8.037	A
A-BC	20.85	1.39	5.277	A

17:15 - 17:30

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	3.29	0.22	9.419	A
B-A	6.19	0.41	13.470	B
C-B	0.31	0.02	7.298	A
A-BC	13.57	0.90	4.046	A

17:30 - 17:45

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	2.42	0.16	8.349	A
B-A	4.26	0.28	11.209	B
C-B	0.24	0.02	6.832	A
A-BC	9.61	0.64	3.444	A

2021 Do Minimum, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	JJ Thomson Avenue / Madingley Road	T-Junction	Two-way		5.92	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D3	2021 Do Minimum	AM	ONE HOUR	08:00	09:30	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 (%)
A - Madingley Rd (E)		ONE HOUR	✓	970	100.000
B - JJ Thomson Avenue		ONE HOUR	✓	111	100.000
C - Madingley Rd (W)		ONE HOUR	✓	958	100.000

Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
A - Madingley Rd (E)	[ONEHOUR]	104.00
B - JJ Thomson Avenue		
C - Madingley Rd (W)		

Origin-Destination Data

Demand (Veh/hr)

		To		
		A - Madingley Rd (E)	B - JJ Thomson Avenue	C - Madingley Rd (W)
From	A - Madingley Rd (E)	0	257	713
	B - JJ Thomson Avenue	111	0	0
	C - Madingley Rd (W)	895	63	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - Madingley Rd (E)	B - JJ Thomson Avenue	C - Madingley Rd (W)
From	A - Madingley Rd (E)	0	3	5
	B - JJ Thomson Avenue	12	0	0
	C - Madingley Rd (W)	4	8	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
B-C	0.00	0.00	0.0	A	0	0	0.00	0.00	0.00	0.00	0.00
B-A	0.60	43.48	1.6	E	114	171	75.47	26.46	0.84	75.48	26.47
C-A					854	1281					
C-B	0.18	11.26	0.2	B	62	94	15.27	9.79	0.17	15.27	9.79
A-BC	0.65	6.40	2.0	A	930	1395	115.46	4.97	1.28	115.47	4.97

Main Results for each time segment

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	0	0		510	0.000	0	0.0	0.0	0.000	A
B-A	94	23		353	0.265	92	0.0	0.4	15.382	C
C-A	701	175				701				
C-B	51	13		509	0.101	51	0.0	0.1	8.472	A
A-BC	763	191	78.30	1770	0.431	760	0.0	0.8	3.713	A

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	0	0		466	0.000	0	0.0	0.0	0.000	A
B-A	112	28		301	0.372	111	0.4	0.6	21.137	C
C-A	837	209				837				
C-B	61	15		472	0.130	61	0.1	0.2	9.455	A
A-BC	911	228	93.49	1741	0.523	910	0.8	1.1	4.517	A

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	0	0		400	0.000	0	0.0	0.0	0.000	A
B-A	137	34		229	0.597	133	0.6	1.5	40.735	E
C-A	1025	256				1025				
C-B	75	19		421	0.178	75	0.2	0.2	11.214	B
A-BC	1116	279	114.51	1703	0.655	1112	1.1	1.9	6.328	A

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	0	0		397	0.000	0	0.0	0.0	0.000	A
B-A	137	34		228	0.599	137	1.5	1.6	43.482	E
C-A	1025	256				1025				
C-B	75	19		420	0.178	75	0.2	0.2	11.257	B
A-BC	1116	279	114.51	1703	0.655	1116	1.9	2.0	6.395	A

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	0	0		463	0.000	0	0.0	0.0	0.000	A
B-A	112	28		299	0.373	115	1.6	0.7	22.283	C
C-A	837	209				837				
C-B	61	15		471	0.130	61	0.2	0.2	9.505	A
A-BC	911	228	93.49	1741	0.523	914	2.0	1.2	4.567	A

09:15 - 09:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	0	0		508	0.000	0	0.0	0.0	0.000	A
B-A	94	23		352	0.266	95	0.7	0.4	15.766	C
C-A	701	175				701				
C-B	51	13		508	0.101	51	0.2	0.1	8.517	A
A-BC	763	191	78.30	1770	0.431	764	1.2	0.8	3.747	A

Queueing Delay Results for each time segment

08:00 - 08:15

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	0.00	0.00	0.000	A
B-A	5.55	0.37	15.382	C
C-B	1.73	0.12	8.472	A
A-BC	11.46	0.76	3.713	A

08:15 - 08:30

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	0.00	0.00	0.000	A
B-A	9.03	0.60	21.137	C
C-B	2.32	0.15	9.455	A
A-BC	16.58	1.11	4.517	A

08:30 - 08:45

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	0.00	0.00	0.000	A
B-A	19.72	1.31	40.735	E
C-B	3.34	0.22	11.214	B
A-BC	27.89	1.86	6.328	A

08:45 - 09:00

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	0.00	0.00	0.000	A
B-A	23.21	1.55	43.482	E
C-B	3.47	0.23	11.257	B
A-BC	29.34	1.96	6.395	A

09:00 - 09:15

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	0.00	0.00	0.000	A
B-A	11.37	0.76	22.283	C
C-B	2.53	0.17	9.505	A
A-BC	17.95	1.20	4.567	A

09:15 - 09:30

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	0.00	0.00	0.000	A
B-A	6.58	0.44	15.766	C
C-B	1.88	0.13	8.517	A
A-BC	12.23	0.82	3.747	A

2021 Do Minimum, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	JJ Thomson Avenue / Madingley Road	T-Junction	Two-way		54.32	F

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D4	2021 Do Minimum	PM	ONE HOUR	16:15	17:45	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 (%)
A - Madingley Rd (E)		ONE HOUR	✓	1069	100.000
B - JJ Thomson Avenue		ONE HOUR	✓	312	100.000
C - Madingley Rd (W)		ONE HOUR	✓	668	100.000

Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
A - Madingley Rd (E)	[ONEHOUR]	136.00
B - JJ Thomson Avenue		
C - Madingley Rd (W)		

Origin-Destination Data

Demand (Veh/hr)

		To		
		A - Madingley Rd (E)	B - JJ Thomson Avenue	C - Madingley Rd (W)
From	A - Madingley Rd (E)	0	81	988
	B - JJ Thomson Avenue	257	0	55
	C - Madingley Rd (W)	656	12	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - Madingley Rd (E)	B - JJ Thomson Avenue	C - Madingley Rd (W)
From	A - Madingley Rd (E)	0	8	2
	B - JJ Thomson Avenue	4	0	5
	C - Madingley Rd (W)	6	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
B-C	0.20	15.14	0.3	C	53	79	16.54	12.49	0.18	16.54	12.49
B-A	1.24	394.75	33.2	F	245	368	1093.14	178.28	12.15	1093.32	178.31
C-A					638	957					
C-B	0.03	9.37	0.0	A	11	17	2.30	8.35	0.03	2.30	8.35
A-BC	0.73	8.28	2.7	A	1005	1508	149.61	5.95	1.66	149.63	5.96

Main Results for each time segment

16:15 - 16:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	43	11		440	0.099	43	0.0	0.1	9.523	A
B-A	201	50		359	0.560	196	0.0	1.3	22.331	C
C-A	524	131				524				
C-B	9	2		494	0.018	9	0.0	0.0	7.422	A
A-BC	825	206	102.39	1727	0.478	821	0.0	0.9	4.057	A

16:30 - 16:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	52	13		378	0.137	52	0.1	0.2	11.570	B
B-A	240	60		309	0.779	233	1.3	3.0	45.983	E
C-A	625	156				625				
C-B	11	3		454	0.024	11	0.0	0.0	8.129	A
A-BC	985	246	122.26	1693	0.582	983	0.9	1.4	5.178	A

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	64	16		314	0.202	63	0.2	0.3	15.062	C
B-A	294	74		239	1.232	231	3.0	18.7	200.596	F
C-A	766	191				766				
C-B	13	3		399	0.033	13	0.0	0.0	9.340	A
A-BC	1206	301	149.74	1651	0.731	1201	1.4	2.7	8.108	A

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	64	16		313	0.203	64	0.3	0.3	15.139	C
B-A	294	74		238	1.238	236	18.7	33.2	394.754	F
C-A	766	191				766				
C-B	13	3		397	0.033	13	0.0	0.0	9.373	A
A-BC	1206	301	149.74	1651	0.731	1206	2.7	2.7	8.283	A

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	52	13		353	0.147	52	0.3	0.2	12.594	B
B-A	240	60		307	0.783	298	33.2	18.9	316.031	F
C-A	625	156				625				
C-B	11	3		452	0.024	11	0.0	0.0	8.165	A
A-BC	985	246	122.26	1693	0.582	990	2.7	1.4	5.283	A

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	43	11		411	0.106	44	0.2	0.1	10.293	B
B-A	201	50		358	0.562	271	18.9	1.5	70.284	F
C-A	524	131				524				
C-B	9	2		493	0.018	9	0.0	0.0	7.444	A
A-BC	825	206	102.39	1727	0.478	827	1.4	0.9	4.107	A

Queueing Delay Results for each time segment

16:15 - 16:30

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	1.64	0.11	9.523	A
B-A	16.73	1.12	22.331	C
C-B	0.27	0.02	7.422	A
A-BC	13.50	0.90	4.057	A

16:30 - 16:45

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	2.39	0.16	11.570	B
B-A	37.76	2.52	45.983	E
C-B	0.35	0.02	8.129	A
A-BC	20.40	1.36	5.178	A

16:45 - 17:00

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	3.75	0.25	15.062	C
B-A	168.39	11.23	200.596	F
C-B	0.50	0.03	9.340	A
A-BC	37.89	2.53	8.108	A

17:00 - 17:15

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	3.95	0.26	15.139	C
B-A	390.16	26.01	394.754	F
C-B	0.51	0.03	9.373	A
A-BC	40.75	2.72	8.283	A

17:15 - 17:30

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	2.87	0.19	12.594	B
B-A	390.99	26.07	316.031	F
C-B	0.38	0.03	8.165	A
A-BC	22.53	1.50	5.283	A

17:30 - 17:45

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	1.95	0.13	10.293	B
B-A	89.10	5.94	70.284	F
C-B	0.29	0.02	7.444	A
A-BC	14.55	0.97	4.107	A

2021 Do Something, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	JJ Thomson Avenue / Madingley Road	T-Junction	Two-way		3.39	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D5	2021 Do Something	AM	ONE HOUR	08:00	09:30	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 (%)
A - Madingley Rd (E)		ONE HOUR	✓	674	100.000
B - JJ Thomson Avenue		ONE HOUR	✓	60	100.000
C - Madingley Rd (W)		ONE HOUR	✓	1084	100.000

Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
A - Madingley Rd (E)	[ONEHOUR]	104.00
B - JJ Thomson Avenue		
C - Madingley Rd (W)		

Origin-Destination Data

Demand (Veh/hr)

		To		
		A - Madingley Rd (E)	B - JJ Thomson Avenue	C - Madingley Rd (W)
From	A - Madingley Rd (E)	0	97	577
	B - JJ Thomson Avenue	40	0	20
	C - Madingley Rd (W)	909	175	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - Madingley Rd (E)	B - JJ Thomson Avenue	C - Madingley Rd (W)
From	A - Madingley Rd (E)	0	3	5
	B - JJ Thomson Avenue	12	0	0
	C - Madingley Rd (W)	4	8	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
B-C	0.04	7.52	0.0	A	18	28	3.19	6.96	0.04	3.19	6.96
B-A	0.21	21.69	0.3	C	41	62	17.08	16.62	0.19	17.08	16.62
C-A					867	1301					
C-B	0.41	13.09	0.7	B	173	260	47.51	10.96	0.53	47.52	10.96
A-B-C	0.45	4.05	0.9	A	648	971	57.24	3.54	0.64	57.24	3.54

Main Results for each time segment

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	15	4		572	0.026	15	0.0	0.0	6.463	A
B-A	34	8		357	0.094	33	0.0	0.1	12.433	B
C-A	712	178				712				
C-B	142	36		566	0.251	141	0.0	0.4	9.109	A
A-B-C	531	133	78.30	1769	0.300	530	0.0	0.4	3.038	A

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	18	4		543	0.033	18	0.0	0.0	6.854	A
B-A	40	10		306	0.132	40	0.1	0.2	15.160	C
C-A	850	212				850				
C-B	170	42		540	0.314	169	0.4	0.5	10.463	B
A-B-C	634	159	93.49	1742	0.364	634	0.4	0.6	3.401	A

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	22	6		501	0.044	22	0.0	0.0	7.515	A
B-A	49	12		236	0.209	49	0.2	0.3	21.521	C
C-A	1041	260				1041				
C-B	208	52		505	0.412	207	0.5	0.7	12.998	B
A-B-C	777	194	114.51	1708	0.455	776	0.6	0.9	4.040	A

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	22	6		500	0.044	22	0.0	0.0	7.524	A
B-A	49	12		235	0.210	49	0.3	0.3	21.695	C
C-A	1041	260				1041				
C-B	208	52		505	0.412	208	0.7	0.7	13.094	B
A-BC	777	194	114.51	1708	0.455	777	0.9	0.9	4.048	A

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	18	4		542	0.033	18	0.0	0.0	6.865	A
B-A	40	10		305	0.132	41	0.3	0.2	15.291	C
C-A	850	212				850				
C-B	170	42		540	0.315	171	0.7	0.5	10.559	B
A-BC	634	159	93.49	1742	0.364	636	0.9	0.6	3.413	A

09:15 - 09:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	15	4		571	0.026	15	0.0	0.0	6.476	A
B-A	34	8		356	0.095	34	0.2	0.1	12.529	B
C-A	712	178				712				
C-B	142	36		566	0.252	143	0.5	0.4	9.204	A
A-BC	531	133	78.30	1769	0.300	532	0.6	0.5	3.048	A

Queueing Delay Results for each time segment

08:00 - 08:15

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	0.39	0.03	6.463	A
B-A	1.64	0.11	12.433	B
C-B	5.13	0.34	9.109	A
A-BC	6.58	0.44	3.038	A

08:15 - 08:30

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	0.50	0.03	6.854	A
B-A	2.41	0.16	15.160	C
C-B	7.07	0.47	10.463	B
A-BC	8.80	0.59	3.401	A

08:30 - 08:45

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	0.67	0.04	7.515	A
B-A	4.08	0.27	21.521	C
C-B	10.59	0.71	12.998	B
A-BC	12.71	0.85	4.040	A

08:45 - 09:00

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	0.69	0.05	7.524	A
B-A	4.36	0.29	21.695	C
C-B	11.17	0.74	13.094	B
A-BC	13.03	0.87	4.048	A

09:00 - 09:15

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	0.53	0.04	6.865	A
B-A	2.74	0.18	15.291	C
C-B	7.87	0.52	10.559	B
A-BC	9.23	0.62	3.413	A

09:15 - 09:30

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	0.42	0.03	6.476	A
B-A	1.85	0.12	12.529	B
C-B	5.69	0.38	9.204	A
A-BC	6.88	0.46	3.048	A

2021 Do Something, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	JJ Thomson Avenue / Madingley Road	T-Junction	Two-way		5.76	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D6	2021 Do Something	PM	ONE HOUR	16:15	17:45	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 (%)
A - Madingley Rd (E)		ONE HOUR	✓	1008	100.000
B - JJ Thomson Avenue		ONE HOUR	✓	201	100.000
C - Madingley Rd (W)		ONE HOUR	✓	656	100.000

Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
A - Madingley Rd (E)	[ONEHOUR]	136.00
B - JJ Thomson Avenue		
C - Madingley Rd (W)		

Origin-Destination Data

Demand (Veh/hr)

		To		
		A - Madingley Rd (E)	B - JJ Thomson Avenue	C - Madingley Rd (W)
From	A - Madingley Rd (E)	0	24	984
	B - JJ Thomson Avenue	42	0	159
	C - Madingley Rd (W)	638	18	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - Madingley Rd (E)	B - JJ Thomson Avenue	C - Madingley Rd (W)
From	A - Madingley Rd (E)	0	8	2
	B - JJ Thomson Avenue	4	0	5
	C - Madingley Rd (W)	6	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
B-C	0.45	17.10	0.9	C	153	230	50.31	13.14	0.56	50.32	13.14
B-A	0.20	18.90	0.2	C	40	60	14.77	14.74	0.16	14.77	14.74
C-A					621	931					
C-B	0.05	9.09	0.0	A	17	25	3.37	8.16	0.04	3.37	8.16
A-B-C	0.69	7.09	2.2	A	945	1417	126.01	5.33	1.40	126.02	5.34

Main Results for each time segment

16:15 - 16:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	126	31		505	0.249	124	0.0	0.3	9.901	A
B-A	33	8		365	0.090	32	0.0	0.1	11.250	B
C-A	509	127				509				
C-B	14	3		506	0.027	13	0.0	0.0	7.303	A
A-B-C	775	194	102.39	1727	0.449	772	0.0	0.8	3.836	A

16:30 - 16:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	150	38		463	0.324	149	0.3	0.5	12.011	B
B-A	39	10		315	0.125	39	0.1	0.1	13.556	B
C-A	608	152				608				
C-B	16	4		468	0.035	16	0.0	0.0	7.962	A
A-B-C	926	231	122.26	1694	0.546	924	0.8	1.2	4.766	A

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	184	46		406	0.453	182	0.5	0.8	16.813	C
B-A	48	12		247	0.195	48	0.1	0.2	18.744	C
C-A	745	186				745				
C-B	20	5		417	0.048	20	0.0	0.0	9.071	A
A-B-C	1134	283	149.74	1652	0.686	1130	1.2	2.2	6.992	A

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	184	46		405	0.454	184	0.8	0.9	17.096	C
B-A	48	12		246	0.195	48	0.2	0.2	18.900	C
C-A	745	186				745				
C-B	20	5		416	0.048	20	0.0	0.0	9.095	A
A-BC	1134	283	149.74	1652	0.686	1134	2.2	2.2	7.093	A

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	150	38		462	0.325	151	0.9	0.5	12.230	B
B-A	39	10		314	0.125	40	0.2	0.2	13.676	B
C-A	608	152				608				
C-B	16	4		467	0.035	16	0.0	0.0	7.990	A
A-BC	926	231	122.26	1694	0.546	929	2.2	1.2	4.835	A

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	126	31		503	0.250	126	0.5	0.4	10.045	B
B-A	33	8		364	0.090	33	0.2	0.1	11.331	B
C-A	509	127				509				
C-B	14	3		505	0.027	14	0.0	0.0	7.328	A
A-BC	775	194	102.39	1727	0.449	777	1.2	0.8	3.875	A

Queueing Delay Results for each time segment

16:15 - 16:30

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	4.91	0.33	9.901	A
B-A	1.45	0.10	11.250	B
C-B	0.40	0.03	7.303	A
A-BC	12.02	0.80	3.836	A

16:30 - 16:45

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	7.12	0.47	12.011	B
B-A	2.11	0.14	13.556	B
C-B	0.52	0.03	7.962	A
A-BC	17.73	1.18	4.766	A

16:45 - 17:00

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	11.88	0.79	16.813	C
B-A	3.49	0.23	18.744	C
C-B	0.72	0.05	9.071	A
A-BC	31.08	2.07	6.992	A

17:00 - 17:15

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	12.78	0.85	17.096	C
B-A	3.71	0.25	18.900	C
C-B	0.74	0.05	9.095	A
A-BC	32.96	2.20	7.093	A

17:15 - 17:30

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	8.11	0.54	12.230	B
B-A	2.37	0.16	13.676	B
C-B	0.56	0.04	7.990	A
A-BC	19.34	1.29	4.835	A

17:30 - 17:45

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	5.51	0.37	10.045	B
B-A	1.63	0.11	11.331	B
C-B	0.43	0.03	7.328	A
A-BC	12.87	0.86	3.875	A

2031 Do Minimum, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	JJ Thomson Avenue / Madingley Road	T-Junction	Two-way		44.69	E

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D7	2031 Do Minimum	AM	ONE HOUR	08:00	09:30	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 (%)
A - Madingley Rd (E)		ONE HOUR	✓	1405	100.000
B - JJ Thomson Avenue		ONE HOUR	✓	135	100.000
C - Madingley Rd (W)		ONE HOUR	✓	1028	100.000

Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
A - Madingley Rd (E)	[ONEHOUR]	104.00
B - JJ Thomson Avenue		
C - Madingley Rd (W)		

Origin-Destination Data

Demand (Veh/hr)

		To		
		A - Madingley Rd (E)	B - JJ Thomson Avenue	C - Madingley Rd (W)
From	A - Madingley Rd (E)	0	470	935
	B - JJ Thomson Avenue	135	0	0
	C - Madingley Rd (W)	964	64	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - Madingley Rd (E)	B - JJ Thomson Avenue	C - Madingley Rd (W)
From	A - Madingley Rd (E)	0	3	5
	B - JJ Thomson Avenue	12	0	0
	C - Madingley Rd (W)	4	8	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
B-C	0.00	0.00	0.0	A	0	0	0.00	0.00	0.00	0.00	0.00
B-A	1.30	443.96	21.5	F	139	208	593.17	171.01	6.59	593.24	171.03
C-A					920	1380					
C-B	0.27	18.43	0.4	C	63	95	22.08	13.93	0.25	22.09	13.93
A-B-C	0.95	35.31	14.9	E	1345	2018	514.95	15.31	5.72	515.00	15.32

Main Results for each time segment

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	0	0		439	0.000	0	0.0	0.0	0.000	A
B-A	114	28		289	0.393	111	0.0	0.7	22.273	C
C-A	755	189				755				
C-B	52	13		425	0.122	51	0.0	0.1	10.371	B
A-B-C	1104	276	78.30	1767	0.625	1097	0.0	1.7	5.551	A

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	0	0		374	0.000	0	0.0	0.0	0.000	A
B-A	136	34		224	0.606	133	0.7	1.5	42.386	E
C-A	901	225				901				
C-B	62	16		371	0.168	62	0.1	0.2	12.582	B
A-B-C	1318	329	93.49	1736	0.759	1312	1.7	3.2	8.731	A

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	0	0		286	0.000	0	0.0	0.0	0.000	A
B-A	166	42		135	1.230	127	1.5	11.5	234.884	F
C-A	1104	276				1104				
C-B	76	19		296	0.257	76	0.2	0.4	17.566	C
A-B-C	1614	403	114.51	1696	0.952	1576	3.2	12.5	25.806	D

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	0	0		281	0.000	0	0.0	0.0	0.000	A
B-A	166	42		128	1.298	127	11.5	21.5	443.957	F
C-A	1104	276				1104				
C-B	76	19		287	0.265	76	0.4	0.4	18.428	C
A-BC	1614	403	114.51	1696	0.952	1605	12.5	14.9	35.311	E

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	0	0		324	0.000	0	0.0	0.0	0.000	A
B-A	136	34		214	0.634	204	21.5	4.5	246.425	F
C-A	901	225				901				
C-B	62	16		358	0.174	63	0.4	0.2	13.212	B
A-BC	1318	329	93.49	1736	0.759	1364	14.9	3.4	11.231	B

09:15 - 09:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	0	0		428	0.000	0	0.0	0.0	0.000	A
B-A	114	28		287	0.397	129	4.5	0.8	27.724	D
C-A	755	189				755				
C-B	52	13		422	0.123	52	0.2	0.2	10.534	B
A-BC	1104	276	78.30	1767	0.625	1110	3.4	1.8	5.775	A

Queueing Delay Results for each time segment

08:00 - 08:15

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	0.00	0.00	0.000	A
B-A	9.50	0.63	22.273	C
C-B	2.13	0.14	10.371	B
A-BC	24.38	1.63	5.551	A

08:15 - 08:30

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	0.00	0.00	0.000	A
B-A	20.32	1.35	42.386	E
C-B	3.10	0.21	12.582	B
A-BC	44.26	2.95	8.731	A

08:30 - 08:45

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	0.00	0.00	0.000	A
B-A	103.92	6.93	234.884	F
C-B	5.19	0.35	17.566	C
A-BC	143.70	9.58	25.806	D

08:45 - 09:00

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	0.00	0.00	0.000	A
B-A	248.29	16.55	443.957	F
C-B	5.65	0.38	18.428	C
A-BC	207.84	13.86	35.311	E

09:00 - 09:15

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	0.00	0.00	0.000	A
B-A	195.15	13.01	246.425	F
C-B	3.63	0.24	13.212	B
A-BC	67.09	4.47	11.231	B

09:15 - 09:30

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	0.00	0.00	0.000	A
B-A	16.00	1.07	27.724	D
C-B	2.39	0.16	10.534	B
A-BC	27.69	1.85	5.775	A

2031 Do Minimum, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	JJ Thomson Avenue / Madingley Road	T-Junction	Two-way		418.30	F

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D8	2031 Do Minimum	PM	ONE HOUR	16:15	17:45	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 (%)
A - Madingley Rd (E)		ONE HOUR	✓	1158	100.000
B - JJ Thomson Avenue		ONE HOUR	✓	475	100.000
C - Madingley Rd (W)		ONE HOUR	✓	844	100.000

Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
A - Madingley Rd (E)	[ONEHOUR]	136.00
B - JJ Thomson Avenue		
C - Madingley Rd (W)		

Origin-Destination Data

Demand (Veh/hr)

		To		
		A - Madingley Rd (E)	B - JJ Thomson Avenue	C - Madingley Rd (W)
From	A - Madingley Rd (E)	0	100	1058
	B - JJ Thomson Avenue	419	0	56
	C - Madingley Rd (W)	832	12	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - Madingley Rd (E)	B - JJ Thomson Avenue	C - Madingley Rd (W)
From	A - Madingley Rd (E)	0	8	2
	B - JJ Thomson Avenue	4	0	5
	C - Madingley Rd (W)	6	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
B-C	0.22	16.33	0.3	C	54	81	18.50	13.72	0.21	18.50	13.72
B-A	2.56	2440.66	219.0	F	400	600	10163.94	1016.75	112.93	14604.60	1460.97
C-A					809	1214					
C-B	0.04	10.05	0.0	B	11	17	2.43	8.81	0.03	2.43	8.81
A-B-C	0.79	10.76	3.8	B	1089	1634	193.82	7.12	2.15	193.84	7.12

Main Results for each time segment

16:15 - 16:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	44	11		372	0.119	44	0.0	0.1	11.493	B
B-A	328	82		325	1.008	292	0.0	9.0	81.122	F
C-A	664	166				664				
C-B	9	2		477	0.019	9	0.0	0.0	7.692	A
A-B-C	894	223	102.39	1726	0.518	889	0.0	1.1	4.390	A

16:30 - 16:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	53	13		340	0.155	53	0.1	0.2	13.122	B
B-A	392	98		268	1.462	266	9.0	40.4	411.342	F
C-A	793	198				793				
C-B	11	3		433	0.025	11	0.0	0.0	8.524	A
A-B-C	1067	267	122.26	1692	0.631	1065	1.1	1.7	5.861	A

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	65	16		298	0.218	64	0.2	0.3	16.184	C
B-A	480	120		189	2.538	189	40.4	113.1	1389.566	F
C-A	971	243				971				
C-B	13	3		373	0.035	13	0.0	0.0	9.996	A
A-B-C	1307	327	149.74	1649	0.793	1299	1.7	3.7	10.329	B

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	65	16		296	0.219	65	0.3	0.3	16.335	C
B-A	480	120		187	2.562	187	113.1	186.3	2219.686	F
C-A	971	243				971				
C-B	13	3		371	0.036	13	0.0	0.0	10.053	B
A-B-C	1307	327	149.74	1649	0.793	1307	3.7	3.8	10.764	B

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	53	13		339	0.156	53	0.3	0.2	13.264	B
B-A	392	98		265	1.476	265	186.3	217.8	2421.708	F
C-A	793	198				793				
C-B	11	3		430	0.025	11	0.0	0.0	8.583	A
A-B-C	1067	267	122.26	1692	0.631	1075	3.8	1.8	6.062	A

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	44	11		371	0.119	44	0.2	0.1	11.593	B
B-A	328	82		324	1.013	324	217.8	219.0	2440.663	F
C-A	664	166				664				
C-B	9	2		475	0.019	9	0.0	0.0	7.723	A
A-B-C	894	223	102.39	1726	0.518	896	1.8	1.1	4.466	A

Queueing Delay Results for each time segment

16:15 - 16:30

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	2.00	0.13	11.493	B
B-A	87.26	5.82	81.122	F
C-B	0.28	0.02	7.692	A
A-B-C	15.79	1.05	4.390	A

16:30 - 16:45

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	2.75	0.18	13.122	B
B-A	372.41	24.83	411.342	F
C-B	0.37	0.02	8.524	A
A-B-C	24.84	1.66	5.861	A

16:45 - 17:00

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	4.10	0.27	16.184	C
B-A	1151.90	76.79	1389.566	F
C-B	0.53	0.04	9.996	A
A-B-C	51.13	3.41	10.329	B

17:00 - 17:15

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	4.33	0.29	16.335	C
B-A	2245.60	149.71	2219.686	F
C-B	0.55	0.04	10.053	B
A-BC	56.70	3.78	10.764	B

17:15 - 17:30

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	3.08	0.21	13.264	B
B-A	3030.80	202.05	2421.708	F
C-B	0.40	0.03	8.583	A
A-BC	28.15	1.88	6.062	A

17:30 - 17:45

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	2.24	0.15	11.593	B
B-A	3275.97	218.40	2440.663	F
C-B	0.30	0.02	7.723	A
A-BC	17.20	1.15	4.466	A

2031 Do Something, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	JJ Thomson Avenue / Madingley Road	T-Junction	Two-way		243.36	F

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D9	2031 Do Something	AM	ONE HOUR	08:00	09:30	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 (%)
A - Madingley Rd (E)		ONE HOUR	✓	1706	100.000
B - JJ Thomson Avenue		ONE HOUR	✓	239	100.000
C - Madingley Rd (W)		ONE HOUR	✓	978	100.000

Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
A - Madingley Rd (E)	[ONEHOUR]	104.00
B - JJ Thomson Avenue		
C - Madingley Rd (W)		

Origin-Destination Data

Demand (Veh/hr)

		To		
		A - Madingley Rd (E)	B - JJ Thomson Avenue	C - Madingley Rd (W)
From	A - Madingley Rd (E)	0	947	759
	B - JJ Thomson Avenue	238	0	1
	C - Madingley Rd (W)	961	17	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - Madingley Rd (E)	B - JJ Thomson Avenue	C - Madingley Rd (W)
From	A - Madingley Rd (E)	0	3	5
	B - JJ Thomson Avenue	12	0	0
	C - Madingley Rd (W)	4	8	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
B-C	0.00	11.66	0.0	B	0.92	1	0.25	10.93	0.00	0.25	10.93
B-A	1.51	1029.20	64.1	F	245	367	2943.71	481.39	32.71	3352.96	548.32
C-A					917	1376					
C-B	0.07	15.67	0.1	C	17	25	5.97	14.18	0.07	5.97	14.18
A-B-C	1.15	264.89	142.4	F	1626	2440	5239.43	128.86	58.22	5240.31	128.89

Main Results for each time segment

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	0.75	0.19		404	0.002	0.75	0.0	0.0	8.933	A
B-A	201	50		301	0.667	193	0.0	2.0	35.198	E
C-A	752	188				752				
C-B	14	3		368	0.038	14	0.0	0.0	10.960	B
A-B-C	1334	334	78.30	1765	0.756	1322	0.0	3.1	8.231	A

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	0.90	0.22		329	0.003	0.90	0.0	0.0	10.957	B
B-A	240	60		237	1.010	214	2.0	8.3	119.427	F
C-A	898	225				898				
C-B	17	4		301	0.055	16	0.0	0.1	13.646	B
A-B-C	1593	398	93.49	1733	0.920	1569	3.1	9.3	20.281	C

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	1	0.28		319	0.003	1	0.0	0.0	11.330	B
B-A	293	73		194	1.513	192	8.3	33.6	427.665	F
C-A	1100	275				1100				
C-B	20	5		280	0.072	20	0.1	0.1	14.935	B
A-B-C	1951	488	114.51	1691	1.154	1681	9.3	76.9	101.187	F

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	1	0.28		319	0.003	1	0.0	0.0	11.330	B
B-A	293	73		194	1.513	194	33.6	58.6	835.692	F
C-A	1100	275				1100				
C-B	20	5		280	0.072	20	0.1	0.1	14.944	B
A-BC	1951	488	114.51	1691	1.154	1689	76.9	142.4	238.481	F

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	0.90	0.22		314	0.003	0.90	0.0	0.0	11.514	B
B-A	240	60		218	1.100	217	58.6	64.1	1029.203	F
C-A	898	225				898				
C-B	17	4		270	0.061	17	0.1	0.1	15.345	C
A-BC	1593	398	93.49	1733	0.920	1720	142.4	110.7	264.885	F

09:15 - 09:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	0.75	0.19		310	0.002	0.75	0.0	0.0	11.660	B
B-A	201	50		235	0.854	231	64.1	56.6	943.024	F
C-A	752	188				752				
C-B	14	3		262	0.053	14	0.1	0.1	15.667	C
A-BC	1334	334	78.30	1765	0.756	1748	110.7	7.2	125.754	F

Queueing Delay Results for each time segment

08:00 - 08:15

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	0.03	0.00	8.933	A
B-A	25.22	1.68	35.198	E
C-B	0.60	0.04	10.960	B
A-BC	42.73	2.85	8.231	A

08:15 - 08:30

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	0.04	0.00	10.957	B
B-A	85.56	5.70	119.427	F
C-B	0.89	0.06	13.646	B
A-BC	113.48	7.57	20.281	C

08:30 - 08:45

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	0.05	0.00	11.330	B
B-A	315.66	21.04	427.665	F
C-B	1.20	0.08	14.935	B
A-BC	655.70	43.71	101.187	F

08:45 - 09:00

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	0.05	0.00	11.330	B
B-A	691.34	46.09	835.692	F
C-B	1.24	0.08	14.944	B
A-BC	1645.31	109.69	238.481	F

09:00 - 09:15

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	0.04	0.00	11.514	B
B-A	920.30	61.35	1029.203	F
C-B	1.10	0.07	15.345	C
A-BC	1898.14	126.54	264.885	F

09:15 - 09:30

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	0.04	0.00	11.660	B
B-A	905.64	60.38	943.024	F
C-B	0.94	0.06	15.667	C
A-BC	884.07	58.94	125.754	F

2031 Do Something, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	JJ Thomson Avenue / Madingley Road	T-Junction	Two-way		2486.75	F

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D10	2031 Do Something	PM	ONE HOUR	16:15	17:45	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 (%)
A - Madingley Rd (E)		ONE HOUR	✓	1297	100.000
B - JJ Thomson Avenue		ONE HOUR	✓	963	100.000
C - Madingley Rd (W)		ONE HOUR	✓	741	100.000

Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
A - Madingley Rd (E)	[ONEHOUR]	136.00
B - JJ Thomson Avenue		
C - Madingley Rd (W)		

Origin-Destination Data

Demand (Veh/hr)

		To		
		A - Madingley Rd (E)	B - JJ Thomson Avenue	C - Madingley Rd (W)
From	A - Madingley Rd (E)	0	197	1100
	B - JJ Thomson Avenue	846	0	117
	C - Madingley Rd (W)	737	4	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - Madingley Rd (E)	B - JJ Thomson Avenue	C - Madingley Rd (W)
From	A - Madingley Rd (E)	0	8	2
	B - JJ Thomson Avenue	4	0	5
	C - Madingley Rd (W)	6	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
B-C	0.49	26.69	1.0	D	113	169	54.69	19.41	0.61	54.70	19.41
B-A	5.32	8791.35	827.0	F	807	1211	37202.45	1843.17	413.36	100993.48	5003.66
C-A					717	1075					
C-B	0.01	11.13	0.0	B	4	6	0.87	9.50	0.01	0.87	9.50
A-B-C	0.89	20.22	7.8	C	1225	1837	327.39	10.69	3.64	327.43	10.69

Main Results for each time segment

16:15 - 16:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	92	23		360	0.257	91	0.0	0.4	13.978	B
B-A	662	166		324	2.045	320	0.0	85.6	554.475	F
C-A	588	147				588				
C-B	3	0.75		450	0.007	3	0.0	0.0	8.062	A
A-B-C	1005	251	102.39	1724	0.583	999	0.0	1.4	5.070	A

16:30 - 16:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	110	28		326	0.339	110	0.4	0.5	17.416	C
B-A	791	198		266	2.977	266	85.6	216.9	1802.616	F
C-A	702	176				702				
C-B	4	0.90		400	0.009	4	0.0	0.0	9.081	A
A-B-C	1200	300	122.26	1690	0.710	1196	1.4	2.5	7.436	A

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	135	34		280	0.484	134	0.5	0.9	25.588	D
B-A	969	242		186	5.205	186	216.9	412.6	4476.467	F
C-A	860	215				860				
C-B	4	1		332	0.013	4	0.0	0.0	10.973	B
A-B-C	1470	367	149.74	1645	0.893	1450	2.5	7.3	17.489	C

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	135	34		276	0.489	135	0.9	1.0	26.687	D
B-A	969	242		182	5.319	182	412.6	609.2	6292.042	F
C-A	860	215				860				
C-B	4	1		328	0.013	4	0.0	0.0	11.135	B
A-BC	1470	367	149.74	1645	0.893	1467	7.3	7.8	20.217	C

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	110	28		322	0.343	112	1.0	0.6	18.166	C
B-A	791	198		260	3.037	260	609.2	741.9	7744.037	F
C-A	702	176				702				
C-B	4	0.90		394	0.009	4	0.0	0.0	9.231	A
A-BC	1200	300	122.26	1690	0.710	1221	7.8	2.6	8.233	A

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	92	23		358	0.258	93	0.6	0.4	14.298	B
B-A	662	166		322	2.059	322	741.9	827.0	8791.346	F
C-A	588	147				588				
C-B	3	0.75		447	0.007	3	0.0	0.0	8.109	A
A-BC	1005	251	102.39	1724	0.583	1009	2.6	1.5	5.213	A

Queueing Delay Results for each time segment

16:15 - 16:30

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	5.01	0.33	13.978	B
B-A	648.45	43.23	554.475	F
C-B	0.10	0.01	8.062	A
A-BC	20.37	1.36	5.070	A

16:30 - 16:45

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	7.47	0.50	17.416	C
B-A	2269.06	151.27	1802.616	F
C-B	0.13	0.01	9.081	A
A-BC	34.83	2.32	7.436	A

16:45 - 17:00

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	12.93	0.86	25.588	D
B-A	4721.31	314.75	4476.467	F
C-B	0.19	0.01	10.973	B
A-BC	91.93	6.13	17.489	C

17:00 - 17:15

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	14.39	0.96	26.687	D
B-A	7663.56	510.90	6292.042	F
C-B	0.20	0.01	11.135	B
A-BC	114.01	7.60	20.217	C

17:15 - 17:30

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	9.03	0.60	18.166	C
B-A	10133.22	675.55	7744.037	F
C-B	0.14	0.01	9.231	A
A-BC	43.54	2.90	8.233	A

17:30 - 17:45

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	5.86	0.39	14.298	B
B-A	11766.85	784.46	8791.346	F
C-B	0.11	0.01	8.109	A
A-BC	22.71	1.51	5.213	A

2031 Do Something Mitigated, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	JJ Thomson Avenue / Madingley Road	T-Junction	Two-way		102.41	F

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D11	2031 Do Something Mitigated	AM	ONE HOUR	08:00	09:30	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 (%)
A - Madingley Rd (E)		ONE HOUR	✓	1486	100.000
B - JJ Thomson Avenue		ONE HOUR	✓	239	100.000
C - Madingley Rd (W)		ONE HOUR	✓	844	100.000

Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
A - Madingley Rd (E)	[ONEHOUR]	104.00
B - JJ Thomson Avenue		
C - Madingley Rd (W)		

Origin-Destination Data

Demand (Veh/hr)

		To		
		A - Madingley Rd (E)	B - JJ Thomson Avenue	C - Madingley Rd (W)
From	A - Madingley Rd (E)	0	727	759
	B - JJ Thomson Avenue	238	0	1
	C - Madingley Rd (W)	844	0	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - Madingley Rd (E)	B - JJ Thomson Avenue	C - Madingley Rd (W)
From	A - Madingley Rd (E)	0	3	5
	B - JJ Thomson Avenue	12	0	0
	C - Madingley Rd (W)	4	8	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
B-C	0.00	11.82	0.0	B	0.92	1	0.24	10.55	0.00	0.24	10.55
B-A	1.44	651.86	50.3	F	245	367	2109.19	344.92	23.44	2133.45	348.89
C-A					805	1208					
C-B	0.00	0.00	0.0	A	0	0	0.00	0.00	0.00	0.00	0.00
A-B-C	1.00	65.87	31.5	F	1418	2128	888.16	25.05	9.87	888.23	25.05

Main Results for each time segment

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	0.75	0.19		426	0.002	0.75	0.0	0.0	8.463	A
B-A	201	50		334	0.601	194	0.0	1.6	27.840	D
C-A	661	165				661				
C-B	0	0		410	0.000	0	0.0	0.0	0.000	A
A-B-C	1164	291	78.30	1766	0.659	1156	0.0	2.0	6.058	A

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	0.90	0.22		358	0.003	0.90	0.0	0.0	10.075	B
B-A	240	60		278	0.863	228	1.6	4.6	68.612	F
C-A	789	197				789				
C-B	0	0		353	0.000	0	0.0	0.0	0.000	A
A-B-C	1390	347	93.49	1735	0.801	1382	2.0	4.0	10.357	B

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	1	0.28		306	0.004	1	0.0	0.0	11.819	B
B-A	293	73		204	1.439	201	4.6	27.8	325.010	F
C-A	966	242				966				
C-B	0	0		279	0.000	0	0.0	0.0	0.000	A
A-B-C	1702	425	114.51	1694	1.004	1630	4.0	22.0	38.467	E

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	1	0.28		306	0.004	1	0.0	0.0	11.819	B
B-A	293	73		204	1.439	203	27.8	50.3	651.855	F
C-A	966	242				966				
C-B	0	0		279	0.000	0	0.0	0.0	0.000	A
A-BC	1702	425	114.51	1694	1.004	1664	22.0	31.5	65.872	F

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	0.90	0.22		329	0.003	0.90	0.0	0.0	10.958	B
B-A	240	60		258	0.927	253	50.3	47.0	636.466	F
C-A	789	197				789				
C-B	0	0		324	0.000	0	0.0	0.0	0.000	A
A-BC	1390	347	93.49	1735	0.801	1498	31.5	4.5	22.003	C

09:15 - 09:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	0.75	0.19		374	0.002	0.76	0.0	0.0	9.654	A
B-A	201	50		331	0.606	323	47.0	16.4	361.453	F
C-A	661	165				661				
C-B	0	0		406	0.000	0	0.0	0.0	0.000	A
A-BC	1164	291	78.30	1766	0.659	1174	4.5	2.0	6.417	A

Queueing Delay Results for each time segment

08:00 - 08:15

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	0.03	0.00	8.463	A
B-A	20.42	1.36	27.840	D
C-B	0.00	0.00	0.000	A
A-BC	27.94	1.86	6.058	A

08:15 - 08:30

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	0.04	0.00	10.075	B
B-A	53.42	3.56	68.612	F
C-B	0.00	0.00	0.000	A
A-BC	54.43	3.63	10.357	B

08:30 - 08:45

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	0.05	0.00	11.819	B
B-A	245.23	16.35	325.010	F
C-B	0.00	0.00	0.000	A
A-BC	222.37	14.82	38.467	E

08:45 - 09:00

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	0.05	0.00	11.819	B
B-A	585.55	39.04	651.855	F
C-B	0.00	0.00	0.000	A
A-BC	404.55	26.97	65.872	F

09:00 - 09:15

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	0.04	0.00	10.958	B
B-A	729.48	48.63	636.466	F
C-B	0.00	0.00	0.000	A
A-BC	146.30	9.75	22.003	C

09:15 - 09:30

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	0.03	0.00	9.654	A
B-A	475.09	31.67	361.453	F
C-B	0.00	0.00	0.000	A
A-BC	32.57	2.17	6.417	A

2031 Do Something Mitigated, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	JJ Thomson Avenue / Madingley Road	T-Junction	Two-way		1145.02	F

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D12	2031 Do Something Mitigated	PM	ONE HOUR	16:15	17:45	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 (%)
A - Madingley Rd (E)		ONE HOUR	✓	1180	100.000
B - JJ Thomson Avenue		ONE HOUR	✓	712	100.000
C - Madingley Rd (W)		ONE HOUR	✓	741	100.000

Demand overview (Pedestrians)

Arm	Profile type	Average pedestrian flow (Ped/hr)
A - Madingley Rd (E)	[ONEHOUR]	136.00
B - JJ Thomson Avenue		
C - Madingley Rd (W)		

Origin-Destination Data

Demand (Veh/hr)

		To		
		A - Madingley Rd (E)	B - JJ Thomson Avenue	C - Madingley Rd (W)
From	A - Madingley Rd (E)	0	197	983
	B - JJ Thomson Avenue	626	0	86
	C - Madingley Rd (W)	737	4	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - Madingley Rd (E)	B - JJ Thomson Avenue	C - Madingley Rd (W)
From	A - Madingley Rd (E)	0	8	2
	B - JJ Thomson Avenue	4	0	5
	C - Madingley Rd (W)	6	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
B-C	0.33	18.54	0.5	C	83	124	31.18	15.05	0.35	31.18	15.05
B-A	3.34	4797.65	474.1	F	597	896	21400.84	1432.92	237.79	41073.95	2750.15
C-A					717	1075					
C-B	0.01	10.03	0.0	B	4	6	0.81	8.80	0.01	0.81	8.80
A-BC	0.81	11.89	4.3	B	1115	1673	212.34	7.62	2.36	212.36	7.62

Main Results for each time segment

16:15 - 16:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	68	17		377	0.180	67	0.0	0.2	12.162	B
B-A	490	123		344	1.423	335	0.0	38.7	235.284	F
C-A	588	147				588				
C-B	3	0.75		472	0.006	3	0.0	0.0	7.680	A
A-BC	915	229	102.39	1725	0.530	910	0.0	1.2	4.524	A

16:30 - 16:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	81	20		346	0.234	81	0.2	0.3	14.215	B
B-A	585	146		290	2.015	290	38.7	112.4	1142.524	F
C-A	702	176				702				
C-B	4	0.90		427	0.008	4	0.0	0.0	8.507	A
A-BC	1093	273	122.26	1692	0.646	1090	1.2	1.8	6.134	A

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	99	25		305	0.326	99	0.3	0.5	18.280	C
B-A	717	179		217	3.308	217	112.4	237.5	2926.108	F
C-A	860	215				860				
C-B	4	1		365	0.012	4	0.0	0.0	9.970	A
A-BC	1338	335	149.74	1648	0.812	1329	1.8	4.2	11.298	B

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	99	25		303	0.328	99	0.5	0.5	18.540	C
B-A	717	179		215	3.337	215	237.5	363.0	3645.120	F
C-A	860	215				860				
C-B	4	1		363	0.012	4	0.0	0.0	10.034	B
A-BC	1338	335	149.74	1648	0.812	1338	4.2	4.3	11.894	B

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	81	20		344	0.236	82	0.5	0.3	14.440	B
B-A	585	146		288	2.033	288	363.0	437.3	4358.154	F
C-A	702	176				702				
C-B	4	0.90		424	0.008	4	0.0	0.0	8.572	A
A-BC	1093	273	122.26	1692	0.646	1102	4.3	1.9	6.389	A

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Pedestrian demand (Ped/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	68	17		376	0.181	68	0.3	0.2	12.313	B
B-A	490	123		343	1.430	343	437.3	474.1	4797.647	F
C-A	588	147				588				
C-B	3	0.75		470	0.006	3	0.0	0.0	7.712	A
A-BC	915	229	102.39	1725	0.530	918	1.9	1.2	4.610	A

Queueing Delay Results for each time segment

16:15 - 16:30

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	3.23	0.22	12.162	B
B-A	302.57	20.17	235.284	F
C-B	0.09	0.01	7.680	A
A-BC	16.64	1.11	4.524	A

16:30 - 16:45

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	4.55	0.30	14.215	B
B-A	1133.42	75.56	1142.524	F
C-B	0.12	0.01	8.507	A
A-BC	26.54	1.77	6.134	A

16:45 - 17:00

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	7.03	0.47	18.280	C
B-A	2624.05	174.94	2926.108	F
C-B	0.18	0.01	9.970	A
A-BC	56.74	3.78	11.298	B

17:00 - 17:15

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	7.50	0.50	18.540	C
B-A	4503.07	300.20	3645.120	F
C-B	0.18	0.01	10.034	B
A-BC	63.78	4.25	11.894	B

17:15 - 17:30

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	5.19	0.35	14.440	B
B-A	6001.95	400.13	4358.154	F
C-B	0.13	0.01	8.572	A
A-BC	30.44	2.03	6.389	A

17:30 - 17:45

Stream	Queueing total delay (PCU-min)	Queueing rate of delay (PCU-min/min)	Average delay per arriving vehicle (s)	Unsignalised level of service
B-C	3.67	0.24	12.313	B
B-A	6835.78	455.72	4797.647	F
C-B	0.10	0.01	7.712	A
A-BC	18.20	1.21	4.610	A

Junctions 9

PICADY 9 - Priority Intersection Module

Version: 9.5.1.7462

For sales and distribution information, program advice and maintenance, contact TRL:
+44 (0)1344 379777 software@trl.co.uk www.trlsoftware.co.uk

Filename: 191112 Clerk Maxwell Road - Madingley Road.j9
Path: J:\45339 - West Cambridge 2018\Junctions 9\2019 Work\Clerk Maxwell Road
Report generation date: 26/11/2019 12:44:55

Summary of junction performance

	AM					PM				
	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)
	2019 Observed									
Stream B-C	0.0	7.87	0.03	A	0.53	0.2	10.31	0.18	B	0.99
Stream B-A	0.0	20.86	0.04	C		0.2	23.72	0.19	C	
Stream C-B	0.2	8.40	0.16	A		0.0	7.64	0.01	A	
	2021 Do Minimum									
Stream B-C	0.1	10.94	0.05	B	0.82	0.3	14.93	0.25	B	1.66
Stream B-A	0.2	56.82	0.19	F		0.7	64.68	0.43	F	
Stream C-B	0.3	11.29	0.21	B		0.0	8.87	0.03	A	
	2021 Do Something									
Stream B-C	0.1	12.07	0.10	B	1.60	9.2	376.52	1.15	F	40.95
Stream B-A	0.6	37.36	0.38	E		15.8	325.41	1.15	F	
Stream C-B	0.3	10.23	0.22	B		0.1	8.91	0.05	A	
	2021 Do Something Mitigated									
Stream B-C	0.1	11.23	0.08	B	1.14	2.3	147.86	0.80	F	14.09
Stream B-A	0.4	27.87	0.29	D		5.2	118.77	0.89	F	
Stream C-B	0.2	9.41	0.15	A		0.0	8.21	0.03	A	
	2031 Do Minimum									
Stream B-C	9.4	1425.19	9999999999.00	F	16.64	13.9	479.10	1.41	F	21.52
Stream B-A	7.4	1555.35	9999999999.00	F		7.4	569.67	1.36	F	
Stream C-B	0.4	18.98	0.31	C		0.0	9.47	0.03	A	
	2031 Do Something									
Stream B-C	17.0	3297.58	9999999999.00	F	32.93	41.8	1526.41	9999999999.00	F	62.56
Stream B-A	14.2	3315.51	9999999999.00	F		31.1	1551.39	9999999999.00	F	
Stream C-B	0.8	36.60	0.47	E		0.0	10.23	0.03	B	
	2031 Do Something Mitigation									
Stream B-C	9.4	1594.23	9999999999.00	F	17.88	20.6	4025.37	3.77	F	149.68
Stream B-A	8.0	1627.75	9999999999.00	F		21.7	4034.09	3.64	F	
Stream C-B	0.3	19.16	0.24	C		0.0	9.52	0.03	A	

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.

File summary

File Description

Title	Clerk Maxwell Road / Madingley Road
Location	West Cambridge
Site number	
Date	18/07/2019
Version	
Status	Existing
Identifier	
Client	
Jobnumber	46357
Enumerator	PBA\pcullen
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	PCU	perHour	s	-Min	perMin

Analysis Options

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

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D6	2021 Do Something	PM	ONE HOUR	16:15	17:45	15

2021 Do Something, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	Clerk Maxwell Road / Madingley Road	T-Junction	Two-way		40.95	E

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	Madingley Road east		Major
B	Clerk Maxwell Road		Minor
C	Madingley Road west		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right turn bay	Width for right turn (m)	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C - Madingley Road west	8.00		✓	2.80	152.0		-

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

Minor Arm Geometry

Arm	Minor arm type	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate flare length	Flare length (PCU)	Visibility to left (m)	Visibility to right (m)
B - Clerk Maxwell Road	One lane plus flare	5.00	5.00	4.00	4.00	4.00	✓	1.00	41	32

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
B-A	520	0.087	0.219	0.138	0.312
B-C	562	0.079	0.199	-	-
C-B	705	0.249	0.249	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

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

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

Traffic Demand

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
A - Madingley Road east		✓	988	100.000
B - Clerk Maxwell Road		✓	240	100.000
C - Madingley Road west		✓	724	100.000

Origin-Destination Data

Demand (Veh/hr)

		To		
		A - Madingley Road east	B - Clerk Maxwell Road	C - Madingley Road west
From	A - Madingley Road east	0	53	935
	B - Clerk Maxwell Road	157	0	83
	C - Madingley Road west	704	20	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - Madingley Road east	B - Clerk Maxwell Road	C - Madingley Road west
From	A - Madingley Road east	0	0	3
	B - Clerk Maxwell Road	0	0	0
	C - Madingley Road west	5	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	1.15	376.52	9.2	F
B-A	1.15	325.41	15.8	F
C-A				
C-B	0.05	8.91	0.1	A
A-B				
A-C				

Main Results for each time segment

16:15 - 16:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	62	345	0.181	62	0.2	12.663	B
B-A	118	274	0.431	115	0.7	22.300	C
C-A	557			557			
C-B	15	514	0.029	15	0.0	7.205	A
A-B	40			40			
A-C	725			725			

16:30 - 16:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	75	255	0.293	74	0.4	19.816	C
B-A	141	223	0.632	138	1.5	40.719	E
C-A	665			665			
C-B	18	477	0.038	18	0.0	7.836	A
A-B	48			48			
A-C	866			866			

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	91	79	1.155	69	6.0	222.846	F
B-A	173	152	1.135	141	9.4	180.180	F
C-A	814			814			
C-B	22	426	0.052	22	0.1	8.906	A
A-B	58			58			
A-C	1060			1060			

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	91	83	1.107	79	9.2	376.516	F
B-A	173	151	1.148	147	15.8	325.405	F
C-A	814			814			
C-B	22	426	0.052	22	0.1	8.907	A
A-B	58			58			
A-C	1060			1060			

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	75	111	0.671	99	3.1	232.817	F
B-A	141	204	0.691	191	3.5	196.570	F
C-A	665			665			
C-B	18	477	0.038	18	0.0	7.840	A
A-B	48			48			
A-C	866			866			

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	62	332	0.188	74	0.2	14.542	B
B-A	118	270	0.438	129	0.8	27.175	D
C-A	557			557			
C-B	15	514	0.029	15	0.0	7.209	A
A-B	40			40			
A-C	725			725			

Junctions 9

PICADY 9 - Priority Intersection Module

Version: 9.5.1.7462

Filename: 191209 - M11 J13 Off Slip.j9
Path: J:\45339 - West Cambridge 2018\Junctions 9\2019 Work\M11 J13 On Slip
Report generation date: 09/12/2019 10:26:02

Summary of junction performance

	AM							PM						
	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Junction LOS	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Junction Delay (s)	Junction LOS
	Observed 2019													
Stream B-AC	D1	0.0	0.00	0.00	A	1.27	A	D2	0.0	0.00	0.00	A	15.21	C
Stream C-AB		0.8	9.62	0.43	A				12.4	54.61	0.94	F		
	2021 Do Min													
Stream B-AC	D3	0.0	0.00	0.00	A	1.40	A	D4	0.0	0.00	0.00	A	19.68	C
Stream C-AB		0.9	10.49	0.47	B				20.7	60.13	0.98	F		
	2021 Do Some													
Stream B-AC	D5	0.0	0.00	0.00	A	1.39	A	D6	0.0	0.00	0.00	A	18.64	C
Stream C-AB		0.9	10.43	0.47	B				19.6	58.00	0.97	F		
	2031 Do Min													
Stream B-AC	D7	0.0	0.00	0.00	A	1.69	A	D8	0.0	0.00	0.00	A	61.25	F
Stream C-AB		1.2	11.94	0.53	B				41.2	168.03	1.04	F		
	2031 Do Some													
Stream B-AC	D9	0.0	0.00	0.00	A	1.49	A	D10	0.0	0.00	0.00	A	108.59	F
Stream C-AB		1.2	11.88	0.53	B				62.9	305.06	1.08	F		
	2031 DS + Mit													
Stream B-AC	D11	0.0	0.00	0.00	A	2.11	A	D12	0.0	0.00	0.00	A	887.05	F
Stream C-AB		1.2	11.90	0.53	B				324.2	1450.03	1.42	F		

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.

File summary

File Description

Title	M11 J13 On Slip
Location	West Cambridge
Site number	
Date	09/12/2019
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	45339
Enumerator	CORP\talthorpe
Description	

Units

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

Analysis Options

Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
5.75				0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	Observed 2019	AM	ONE HOUR	08:00	09:30	15	✓
D2	Observed 2019	PM	ONE HOUR	17:00	18:30	15	✓
D3	2021 Do Min	AM	ONE HOUR	08:00	09:30	15	✓
D4	2021 Do Min	PM	ONE HOUR	17:00	18:30	15	✓
D5	2021 Do Some	AM	ONE HOUR	08:00	09:30	15	✓
D6	2021 Do Some	PM	ONE HOUR	17:00	18:30	15	✓
D7	2031 Do Min	AM	ONE HOUR	08:00	09:30	15	✓
D8	2031 Do Min	PM	ONE HOUR	17:00	18:30	15	✓
D9	2031 Do Some	AM	ONE HOUR	08:00	09:30	15	✓
D10	2031 Do Some	PM	ONE HOUR	17:00	18:30	15	✓
D11	2031 DS + Mit	AM	ONE HOUR	08:00	09:30	15	✓
D12	2031 DS + Mit	PM	ONE HOUR	17:00	18:30	15	✓

Analysis Set Details

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

Observed 2019, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		1.27	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	Madingley Road (E)		Major
B	M11 On Slip		Minor
C	Madingley Road (W)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right turn bay	Width for right turn (m)	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C - Madingley Road (W)	7.00		✓	3.50	200.0	✓	11.00

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

Minor Arm Geometry

Arm	Minor arm type	Lane width (m)	Visibility to left (m)	Visibility to right (m)
B - M11 On Slip	One lane	2.20	0	0

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
B-A	440	0.077	0.194	0.122	0.277
B-C	574	0.084	0.213	-	-
C-B	787	0.292	0.292	-	-

The slopes and intercepts shown above do NOT include any corrections or adjustments.

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

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	Observed 2019	AM	ONE HOUR	08:00	09:30	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 (PCU/hr)	Scaling Factor (%)
A - Madingley Road (E)		ONE HOUR	✓	300	100.000
B - M11 On Slip		ONE HOUR	✓	0	100.000
C - Madingley Road (W)		ONE HOUR	✓	1748	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A - Madingley Road (E)	B - M11 On Slip	C - Madingley Road (W)
From	A - Madingley Road (E)	0	0	300
	B - M11 On Slip	0	0	0
	C - Madingley Road (W)	1477	271	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - Madingley Road (E)	B - M11 On Slip	C - Madingley Road (W)
From	A - Madingley Road (E)	0	5	5
	B - M11 On Slip	0	0	0
	C - Madingley Road (W)	5	5	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.00	0.00	0.0	A	0	0
C-AB	0.43	9.62	0.8	A	249	373
C-A					1355	2033
A-B					0	0
A-C					275	413

Main Results for each time segment

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	294	0.000	0	0.0	0.0	0.000	A
C-AB	204	51	721	0.283	202	0.0	0.4	7.261	A
C-A	1112	278			1112				
A-B	0	0			0				
A-C	226	56			226				

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	242	0.000	0	0.0	0.0	0.000	A
C-AB	244	61	709	0.344	243	0.4	0.5	8.106	A
C-A	1328	332			1328				
A-B	0	0			0				
A-C	270	67			270				

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	159	0.000	0	0.0	0.0	0.000	A
C-AB	298	75	691	0.432	298	0.5	0.8	9.576	A
C-A	1626	407			1626				
A-B	0	0			0				
A-C	330	83			330				

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	159	0.000	0	0.0	0.0	0.000	A
C-AB	298	75	691	0.432	298	0.8	0.8	9.621	A
C-A	1626	407			1626				
A-B	0	0			0				
A-C	330	83			330				

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	241	0.000	0	0.0	0.0	0.000	A
C-AB	244	61	709	0.344	245	0.8	0.6	8.161	A
C-A	1328	332			1328				
A-B	0	0			0				
A-C	270	67			270				

09:15 - 09:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	293	0.000	0	0.0	0.0	0.000	A
C-AB	204	51	721	0.283	205	0.6	0.4	7.322	A
C-A	1112	278			1112				
A-B	0	0			0				
A-C	226	56			226				

Observed 2019, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		15.21	C

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D2	Observed 2019	PM	ONE HOUR	17:00	18:30	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 (PCU/hr)	Scaling Factor (%)
A - Madingley Road (E)		ONE HOUR	✓	924	100.000
B - M11 On Slip		ONE HOUR	✓	0	100.000
C - Madingley Road (W)		ONE HOUR	✓	1010	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A - Madingley Road (E)	B - M11 On Slip	C - Madingley Road (W)
From	A - Madingley Road (E)	0	0	924
	B - M11 On Slip	0	0	0
	C - Madingley Road (W)	591	419	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - Madingley Road (E)	B - M11 On Slip	C - Madingley Road (W)
From	A - Madingley Road (E)	0	5	5
	B - M11 On Slip	0	0	0
	C - Madingley Road (W)	5	5	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.00	0.00	0.0	A	0	0
C-AB	0.94	54.61	12.4	F	494	742
C-A					432	649
A-B					0	0
A-C					848	1272

Main Results for each time segment

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	236	0.000	0	0.0	0.0	0.000	A
C-AB	316	79	585	0.540	311	0.0	1.2	13.575	B
C-A	445	111			445				
A-B	0	0			0				
A-C	696	174			696				

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	171	0.000	0	0.0	0.0	0.000	A
C-AB	384	96	556	0.691	380	1.2	2.2	21.026	C
C-A	524	131			524				
A-B	0	0			0				
A-C	831	208			831				

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	61	0.000	0	0.0	0.0	0.000	A
C-AB	783	196	833	0.940	756	2.2	9.1	39.320	E
C-A	329	82			329				
A-B	0	0			0				
A-C	1017	254			1017				

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	52	0.000	0	0.0	0.0	0.000	A
C-AB	783	196	833	0.940	770	9.1	12.4	54.611	F
C-A	329	82			329				
A-B	0	0			0				
A-C	1017	254			1017				

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	159	0.000	0	0.0	0.0	0.000	A
C-AB	384	96	556	0.691	424	12.4	2.6	35.220	E
C-A	524	131			524				
A-B	0	0			0				
A-C	831	208			831				

18:15 - 18:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	233	0.000	0	0.0	0.0	0.000	A
C-AB	316	79	585	0.540	321	2.6	1.3	14.598	B
C-A	445	111			445				
A-B	0	0			0				
A-C	696	174			696				

2021 Do Min, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		1.40	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D3	2021 Do Min	AM	ONE HOUR	08:00	09:30	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 (PCU/hr)	Scaling Factor (%)
A - Madingley Road (E)		ONE HOUR	✓	320	100.000
B - M11 On Slip		ONE HOUR	✓	0	100.000
C - Madingley Road (W)		ONE HOUR	✓	1898	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A - Madingley Road (E)	B - M11 On Slip	C - Madingley Road (W)
From	A - Madingley Road (E)	0	0	320
	B - M11 On Slip	0	0	0
	C - Madingley Road (W)	1603	295	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - Madingley Road (E)	B - M11 On Slip	C - Madingley Road (W)
From	A - Madingley Road (E)	0	5	5
	B - M11 On Slip	0	0	0
	C - Madingley Road (W)	5	5	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.00	0.00	0.0	A	0	0
C-AB	0.47	10.49	0.9	B	271	406
C-A					1471	2206
A-B					0	0
A-C					294	440

Main Results for each time segment

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	273	0.000	0	0.0	0.0	0.000	A
C-AB	222	56	717	0.310	220	0.0	0.5	7.581	A
C-A	1207	302			1207				
A-B	0	0			0				
A-C	241	60			241				

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	213	0.000	0	0.0	0.0	0.000	A
C-AB	265	66	703	0.377	265	0.5	0.6	8.599	A
C-A	1441	360			1441				
A-B	0	0			0				
A-C	288	72			288				

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	116	0.000	0	0.0	0.0	0.000	A
C-AB	325	81	685	0.474	324	0.6	0.9	10.425	B
C-A	1765	441			1765				
A-B	0	0			0				
A-C	352	88			352				

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	116	0.000	0	0.0	0.0	0.000	A
C-AB	325	81	685	0.474	325	0.9	0.9	10.491	B
C-A	1765	441			1765				
A-B	0	0			0				
A-C	352	88			352				

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	213	0.000	0	0.0	0.0	0.000	A
C-AB	265	66	703	0.377	266	0.9	0.6	8.671	A
C-A	1441	360			1441				
A-B	0	0			0				
A-C	288	72			288				

09:15 - 09:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	272	0.000	0	0.0	0.0	0.000	A
C-AB	222	56	717	0.310	223	0.6	0.5	7.659	A
C-A	1207	302			1207				
A-B	0	0			0				
A-C	241	60			241				

2021 Do Min, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		19.68	C

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D4	2021 Do Min	PM	ONE HOUR	17:00	18:30	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 (PCU/hr)	Scaling Factor (%)
A - Madingley Road (E)		ONE HOUR	✓	891	100.000
B - M11 On Slip		ONE HOUR	✓	0	100.000
C - Madingley Road (W)		ONE HOUR	✓	1212	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A - Madingley Road (E)	B - M11 On Slip	C - Madingley Road (W)
From	A - Madingley Road (E)	0	0	891
	B - M11 On Slip	0	0	0
	C - Madingley Road (W)	767	445	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - Madingley Road (E)	B - M11 On Slip	C - Madingley Road (W)
From	A - Madingley Road (E)	0	5	5
	B - M11 On Slip	0	0	0
	C - Madingley Road (W)	5	5	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.00	0.00	0.0	A	0	0
C-AB	0.98	60.13	20.7	F	631	947
C-A					481	721
A-B					0	0
A-C					818	1226

Main Results for each time segment

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	219	0.000	0	0.0	0.0	0.000	A
C-AB	336	84	593	0.566	331	0.0	1.3	14.132	B
C-A	577	144			577				
A-B	0	0			0				
A-C	671	168			671				

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	145	0.000	0	0.0	0.0	0.000	A
C-AB	417	104	577	0.723	412	1.3	2.6	22.296	C
C-A	673	168			673				
A-B	0	0			0				
A-C	801	200			801				

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	17	0.000	0	0.0	0.0	0.000	A
C-AB	1142	285	1168	0.978	1102	2.6	12.6	38.756	E
C-A	192	48			192				
A-B	0	0			0				
A-C	981	245			981				

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	4	0.000	0	0.0	0.0	0.000	A
C-AB	1142	285	1168	0.978	1110	12.6	20.7	59.439	F
C-A	192	48			192				
A-B	0	0			0				
A-C	981	245			981				

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	126	0.000	0	0.0	0.0	0.000	A
C-AB	417	104	577	0.723	486	20.7	3.3	60.126	F
C-A	673	168			673				
A-B	0	0			0				
A-C	801	200			801				

18:15 - 18:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	215	0.000	0	0.0	0.0	0.000	A
C-AB	336	84	593	0.566	343	3.3	1.4	15.536	C
C-A	577	144			577				
A-B	0	0			0				
A-C	671	168			671				

2021 Do Some, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		1.39	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D5	2021 Do Some	AM	ONE HOUR	08:00	09:30	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 (PCU/hr)	Scaling Factor (%)
A - Madingley Road (E)		ONE HOUR	✓	317	100.000
B - M11 On Slip		ONE HOUR	✓	0	100.000
C - Madingley Road (W)		ONE HOUR	✓	1892	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A - Madingley Road (E)	B - M11 On Slip	C - Madingley Road (W)
From	A - Madingley Road (E)	0	0	317
	B - M11 On Slip	0	0	0
	C - Madingley Road (W)	1598	294	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - Madingley Road (E)	B - M11 On Slip	C - Madingley Road (W)
From	A - Madingley Road (E)	0	5	5
	B - M11 On Slip	0	0	0
	C - Madingley Road (W)	5	5	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.00	0.00	0.0	A	0	0
C-AB	0.47	10.43	0.9	B	270	405
C-A					1466	2199
A-B					0	0
A-C					291	436

Main Results for each time segment

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	274	0.000	0	0.0	0.0	0.000	A
C-AB	221	55	718	0.308	219	0.0	0.5	7.560	A
C-A	1203	301			1203				
A-B	0	0			0				
A-C	239	60			239				

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	215	0.000	0	0.0	0.0	0.000	A
C-AB	264	66	704	0.375	264	0.5	0.6	8.566	A
C-A	1437	359			1437				
A-B	0	0			0				
A-C	285	71			285				

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	119	0.000	0	0.0	0.0	0.000	A
C-AB	324	81	686	0.472	323	0.6	0.9	10.366	B
C-A	1759	440			1759				
A-B	0	0			0				
A-C	349	87			349				

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	119	0.000	0	0.0	0.0	0.000	A
C-AB	324	81	686	0.472	324	0.9	0.9	10.430	B
C-A	1759	440			1759				
A-B	0	0			0				
A-C	349	87			349				

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	214	0.000	0	0.0	0.0	0.000	A
C-AB	264	66	704	0.375	265	0.9	0.6	8.637	A
C-A	1437	359			1437				
A-B	0	0			0				
A-C	285	71			285				

09:15 - 09:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	273	0.000	0	0.0	0.0	0.000	A
C-AB	221	55	718	0.308	222	0.6	0.5	7.637	A
C-A	1203	301			1203				
A-B	0	0			0				
A-C	239	60			239				

2021 Do Some, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		18.64	C

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D6	2021 Do Some	PM	ONE HOUR	17:00	18:30	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 (PCU/hr)	Scaling Factor (%)
A - Madingley Road (E)		ONE HOUR	✓	887	100.000
B - M11 On Slip		ONE HOUR	✓	0	100.000
C - Madingley Road (W)		ONE HOUR	✓	1206	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A - Madingley Road (E)	B - M11 On Slip	C - Madingley Road (W)
From	A - Madingley Road (E)	0	0	887
	B - M11 On Slip	0	0	0
	C - Madingley Road (W)	762	444	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - Madingley Road (E)	B - M11 On Slip	C - Madingley Road (W)
From	A - Madingley Road (E)	0	5	5
	B - M11 On Slip	0	0	0
	C - Madingley Road (W)	5	5	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.00	0.00	0.0	A	0	0
C-AB	0.97	58.00	19.6	F	617	926
C-A					489	734
A-B					0	0
A-C					814	1221

Main Results for each time segment

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	220	0.000	0	0.0	0.0	0.000	A
C-AB	335	84	594	0.564	330	0.0	1.3	14.050	B
C-A	573	143			573				
A-B	0	0			0				
A-C	668	167			668				

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	147	0.000	0	0.0	0.0	0.000	A
C-AB	415	104	576	0.720	410	1.3	2.5	22.097	C
C-A	669	167			669				
A-B	0	0			0				
A-C	797	199			797				

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	20	0.000	0	0.0	0.0	0.000	A
C-AB	1102	275	1132	0.973	1064	2.5	12.1	38.410	E
C-A	226	56			226				
A-B	0	0			0				
A-C	977	244			977				

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	8	0.000	0	0.0	0.0	0.000	A
C-AB	1102	275	1132	0.973	1072	12.1	19.6	58.002	F
C-A	226	56			226				
A-B	0	0			0				
A-C	977	244			977				

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	129	0.000	0	0.0	0.0	0.000	A
C-AB	415	104	576	0.720	480	19.6	3.2	55.607	F
C-A	669	167			669				
A-B	0	0			0				
A-C	797	199			797				

18:15 - 18:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	217	0.000	0	0.0	0.0	0.000	A
C-AB	335	84	594	0.564	342	3.2	1.4	15.405	C
C-A	573	143			573				
A-B	0	0			0				
A-C	668	167			668				

2031 Do Min, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		1.69	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D7	2031 Do Min	AM	ONE HOUR	08:00	09:30	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 (PCU/hr)	Scaling Factor (%)
A - Madingley Road (E)		ONE HOUR	✓	352	100.000
B - M11 On Slip		ONE HOUR	✓	0	100.000
C - Madingley Road (W)		ONE HOUR	✓	1955	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A - Madingley Road (E)	B - M11 On Slip	C - Madingley Road (W)
From	A - Madingley Road (E)	0	0	352
	B - M11 On Slip	0	0	0
	C - Madingley Road (W)	1629	326	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - Madingley Road (E)	B - M11 On Slip	C - Madingley Road (W)
From	A - Madingley Road (E)	0	5	5
	B - M11 On Slip	0	0	0
	C - Madingley Road (W)	5	5	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.00	0.00	0.0	A	0	0
C-AB	0.53	11.94	1.2	B	300	449
C-A					1494	2242
A-B					0	0
A-C					323	485

Main Results for each time segment

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	257	0.000	0	0.0	0.0	0.000	A
C-AB	245	61	710	0.346	243	0.0	0.5	8.060	A
C-A	1226	307			1226				
A-B	0	0			0				
A-C	265	66			265				

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	192	0.000	0	0.0	0.0	0.000	A
C-AB	293	73	695	0.422	292	0.5	0.8	9.362	A
C-A	1464	366			1464				
A-B	0	0			0				
A-C	316	79			316				

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	84	0.000	0	0.0	0.0	0.000	A
C-AB	360	90	677	0.532	359	0.8	1.2	11.819	B
C-A	1792	448			1792				
A-B	0	0			0				
A-C	388	97			388				

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	83	0.000	0	0.0	0.0	0.000	A
C-AB	360	90	677	0.532	360	1.2	1.2	11.935	B
C-A	1792	448			1792				
A-B	0	0			0				
A-C	388	97			388				

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	191	0.000	0	0.0	0.0	0.000	A
C-AB	293	73	695	0.422	295	1.2	0.8	9.476	A
C-A	1464	366			1464				
A-B	0	0			0				
A-C	316	79			316				

09:15 - 09:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	256	0.000	0	0.0	0.0	0.000	A
C-AB	245	61	710	0.346	246	0.8	0.6	8.167	A
C-A	1226	307			1226				
A-B	0	0			0				
A-C	265	66			265				

2031 Do Min, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		61.25	F

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D8	2031 Do Min	PM	ONE HOUR	17:00	18:30	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 (PCU/hr)	Scaling Factor (%)
A - Madingley Road (E)		ONE HOUR	✓	922	100.000
B - M11 On Slip		ONE HOUR	✓	0	100.000
C - Madingley Road (W)		ONE HOUR	✓	1304	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A - Madingley Road (E)	B - M11 On Slip	C - Madingley Road (W)
From	A - Madingley Road (E)	0	0	922
	B - M11 On Slip	0	0	0
	C - Madingley Road (W)	842	462	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - Madingley Road (E)	B - M11 On Slip	C - Madingley Road (W)
From	A - Madingley Road (E)	0	5	5
	B - M11 On Slip	0	0	0
	C - Madingley Road (W)	5	5	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.00	0.00	0.0	A	0	0
C-AB	1.04	168.03	41.2	F	745	1117
C-A					452	678
A-B					0	0
A-C					846	1269

Main Results for each time segment

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	201	0.000	0	0.0	0.0	0.000	A
C-AB	349	87	588	0.595	344	0.0	1.5	15.149	C
C-A	632	158			632				
A-B	0	0			0				
A-C	694	174			694				

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	120	0.000	0	0.0	0.0	0.000	A
C-AB	448	112	589	0.761	442	1.5	3.2	24.754	C
C-A	724	181			724				
A-B	0	0			0				
A-C	829	207			829				

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	0	0.000	0	0.0	0.0	0.000	A
C-AB	1436	359	1386	1.036	1360	3.2	22.1	51.011	F
C-A	0	0			0				
A-B	0	0			0				
A-C	1015	254			1015				

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	0	0.000	0	0.0	0.0	0.000	A
C-AB	1436	359	1386	1.036	1359	22.1	41.2	98.276	F
C-A	0	0			0				
A-B	0	0			0				
A-C	1015	254			1015				

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	78	0.000	0	0.0	0.0	0.000	A
C-AB	448	112	589	0.761	579	41.2	8.7	168.028	F
C-A	724	181			724				
A-B	0	0			0				
A-C	829	207			829				

18:15 - 18:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	191	0.000	0	0.0	0.0	0.000	A
C-AB	349	87	588	0.595	378	8.7	1.6	20.222	C
C-A	632	158			632				
A-B	0	0			0				
A-C	694	174			694				

2031 Do Some, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		1.49	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D9	2031 Do Some	AM	ONE HOUR	08:00	09:30	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 (PCU/hr)	Scaling Factor (%)
A - Madingley Road (E)		ONE HOUR	✓	355	100.000
B - M11 On Slip		ONE HOUR	✓	0	100.000
C - Madingley Road (W)		ONE HOUR	✓	2228	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A - Madingley Road (E)	B - M11 On Slip	C - Madingley Road (W)
From	A - Madingley Road (E)	0	0	355
	B - M11 On Slip	0	0	0
	C - Madingley Road (W)	1904	324	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - Madingley Road (E)	B - M11 On Slip	C - Madingley Road (W)
From	A - Madingley Road (E)	0	5	5
	B - M11 On Slip	0	0	0
	C - Madingley Road (W)	5	5	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.00	0.00	0.0	A	0	0
C-AB	0.53	11.88	1.2	B	298	447
C-A					1747	2620
A-B					0	0
A-C					326	489

Main Results for each time segment

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	228	0.000	0	0.0	0.0	0.000	A
C-AB	244	61	709	0.344	242	0.0	0.5	8.047	A
C-A	1433	358			1433				
A-B	0	0			0				
A-C	267	67			267				

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	150	0.000	0	0.0	0.0	0.000	A
C-AB	291	73	694	0.420	291	0.5	0.7	9.338	A
C-A	1712	428			1712				
A-B	0	0			0				
A-C	319	80			319				

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	18	0.000	0	0.0	0.0	0.000	A
C-AB	358	90	676	0.530	357	0.7	1.2	11.770	B
C-A	2095	524			2095				
A-B	0	0			0				
A-C	391	98			391				

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	17	0.000	0	0.0	0.0	0.000	A
C-AB	358	90	676	0.530	358	1.2	1.2	11.884	B
C-A	2095	524			2095				
A-B	0	0			0				
A-C	391	98			391				

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	149	0.000	0	0.0	0.0	0.000	A
C-AB	291	73	694	0.420	293	1.2	0.8	9.451	A
C-A	1712	428			1712				
A-B	0	0			0				
A-C	319	80			319				

09:15 - 09:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	226	0.000	0	0.0	0.0	0.000	A
C-AB	244	61	709	0.344	245	0.8	0.6	8.152	A
C-A	1433	358			1433				
A-B	0	0			0				
A-C	267	67			267				

2031 Do Some, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		108.59	F

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D10	2031 Do Some	PM	ONE HOUR	17:00	18:30	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 (PCU/hr)	Scaling Factor (%)
A - Madingley Road (E)		ONE HOUR	✓	992	100.000
B - M11 On Slip		ONE HOUR	✓	0	100.000
C - Madingley Road (W)		ONE HOUR	✓	1318	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A - Madingley Road (E)	B - M11 On Slip	C - Madingley Road (W)
From	A - Madingley Road (E)	0	0	992
	B - M11 On Slip	0	0	0
	C - Madingley Road (W)	857	461	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - Madingley Road (E)	B - M11 On Slip	C - Madingley Road (W)
From	A - Madingley Road (E)	0	5	5
	B - M11 On Slip	0	0	0
	C - Madingley Road (W)	5	5	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.00	0.00	0.0	A	0	0
C-AB	1.08	305.06	62.9	F	755	1132
C-A					455	682
A-B					0	0
A-C					910	1365

Main Results for each time segment

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	187	0.000	0	0.0	0.0	0.000	A
C-AB	349	87	573	0.609	343	0.0	1.6	16.030	C
C-A	643	161			643				
A-B	0	0			0				
A-C	747	187			747				

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	99	0.000	0	0.0	0.0	0.000	A
C-AB	463	116	589	0.786	455	1.6	3.6	26.948	D
C-A	722	180			722				
A-B	0	0			0				
A-C	892	223			892				

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	0	0.000	0	0.0	0.0	0.000	A
C-AB	1451	363	1340	1.083	1338	3.6	31.8	68.404	F
C-A	0	0			0				
A-B	0	0			0				
A-C	1092	273			1092				

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	0	0.000	0	0.0	0.0	0.000	A
C-AB	1451	363	1340	1.083	1327	31.8	62.9	154.640	F
C-A	0	0			0				
A-B	0	0			0				
A-C	1092	273			1092				

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	28	0.000	0	0.0	0.0	0.000	A
C-AB	463	116	589	0.786	576	62.9	34.7	305.060	F
C-A	722	180			722				
A-B	0	0			0				
A-C	892	223			892				

18:15 - 18:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	140	0.000	0	0.0	0.0	0.000	A
C-AB	349	87	573	0.609	481	34.7	1.8	84.297	F
C-A	643	161			643				
A-B	0	0			0				
A-C	747	187			747				

2031 DS + Mit, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		2.11	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D11	2031 DS + Mit	AM	ONE HOUR	08:00	09:30	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 (PCU/hr)	Scaling Factor (%)
A - Madingley Road (E)		ONE HOUR	✓	355	100.000
B - M11 On Slip		ONE HOUR	✓	0	100.000
C - Madingley Road (W)		ONE HOUR	✓	1473	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A - Madingley Road (E)	B - M11 On Slip	C - Madingley Road (W)
From	A - Madingley Road (E)	0	0	355
	B - M11 On Slip	0	0	0
	C - Madingley Road (W)	1149	324	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - Madingley Road (E)	B - M11 On Slip	C - Madingley Road (W)
From	A - Madingley Road (E)	0	5	5
	B - M11 On Slip	0	0	0
	C - Madingley Road (W)	5	5	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.00	0.00	0.0	A	0	0
C-AB	0.53	11.90	1.2	B	298	446
C-A					1054	1581
A-B					0	0
A-C					326	489

Main Results for each time segment

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	304	0.000	0	0.0	0.0	0.000	A
C-AB	244	61	709	0.344	242	0.0	0.5	8.047	A
C-A	865	216			865				
A-B	0	0			0				
A-C	267	67			267				

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	255	0.000	0	0.0	0.0	0.000	A
C-AB	291	73	694	0.420	291	0.5	0.7	9.339	A
C-A	1033	258			1033				
A-B	0	0			0				
A-C	319	80			319				

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	180	0.000	0	0.0	0.0	0.000	A
C-AB	358	89	675	0.530	356	0.7	1.2	11.789	B
C-A	1264	316			1264				
A-B	0	0			0				
A-C	391	98			391				

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	180	0.000	0	0.0	0.0	0.000	A
C-AB	358	89	675	0.530	358	1.2	1.2	11.903	B
C-A	1264	316			1264				
A-B	0	0			0				
A-C	391	98			391				

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	255	0.000	0	0.0	0.0	0.000	A
C-AB	291	73	694	0.420	293	1.2	0.8	9.452	A
C-A	1033	258			1033				
A-B	0	0			0				
A-C	319	80			319				

09:15 - 09:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	303	0.000	0	0.0	0.0	0.000	A
C-AB	244	61	709	0.344	245	0.8	0.6	8.150	A
C-A	865	216			865				
A-B	0	0			0				
A-C	267	67			267				

2031 DS + Mit, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		887.05	F

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D12	2031 DS + Mit	PM	ONE HOUR	17:00	18:30	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 (PCU/hr)	Scaling Factor (%)
A - Madingley Road (E)		ONE HOUR	✓	696	100.000
B - M11 On Slip		ONE HOUR	✓	0	100.000
C - Madingley Road (W)		ONE HOUR	✓	1586	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A - Madingley Road (E)	B - M11 On Slip	C - Madingley Road (W)
From	A - Madingley Road (E)	0	0	696
	B - M11 On Slip	0	0	0
	C - Madingley Road (W)	857	729	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A - Madingley Road (E)	B - M11 On Slip	C - Madingley Road (W)
From	A - Madingley Road (E)	0	5	5
	B - M11 On Slip	0	0	0
	C - Madingley Road (W)	5	5	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.00	0.00	0.0	A	0	0
C-AB	1.42	1450.03	324.2	F	1281	1921
C-A					174	262
A-B					0	0
A-C					639	958

Main Results for each time segment

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	175	0.000	0	0.0	0.0	0.000	A
C-AB	671	168	776	0.865	648	0.0	5.8	26.591	D
C-A	523	131			523				
A-B	0	0			0				
A-C	524	131			524				

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	69	0.000	0	0.0	0.0	0.000	A
C-AB	1426	356	1316	1.084	1304	5.8	36.2	74.271	F
C-A	0	0			0				
A-B	0	0			0				
A-C	626	156			626				

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	0	0.000	0	0.0	0.0	0.000	A
C-AB	1746	437	1227	1.424	1225	36.2	166.5	304.676	F
C-A	0	0			0				
A-B	0	0			0				
A-C	766	192			766				

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	0	0.000	0	0.0	0.0	0.000	A
C-AB	1746	437	1227	1.424	1226	166.5	296.5	664.146	F
C-A	0	0			0				
A-B	0	0			0				
A-C	766	192			766				

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	0	0.000	0	0.0	0.0	0.000	A
C-AB	1426	356	1316	1.084	1315	296.5	324.2	1135.869	F
C-A	0	0			0				
A-B	0	0			0				
A-C	626	156			626				

18:15 - 18:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	0	0	0	0.000	0	0.0	0.0	0.000	A
C-AB	671	168	776	0.865	857	324.2	277.6	1450.032	F
C-A	523	131			523				
A-B	0	0			0				
A-C	524	131			524				

Appendix 14.3 – 2021 Junction Capacity Assessments

M11 J13 Off Slip Signalised Junction

1.1.17 The existing signalised junction has been assessed within LinSig using the 2021 Do Minimum and 2021 Do Something forecast traffic flows. The results are summarised in Tables 14.1 and 14.2.

Table 14.1 – Summary of LinSig Results – M11 J13 Off Slip Signalised Junction – 2021 Do Minimum Scenario

Arm / Stream	2021 Do Minimum			
	AM Peak (0800 – 0900)		PM Peak (1700 – 1800)	
	DOS (%)	MMQ	DOS (%)	MMQ
1/1 – Madingley Rd (W) Ahead	1.0%	0	1.4%	0
1/2 – Madingley Rd (W) Ahead	106.6%	70	88.0%	27
2/1 – Madingley Rd (E) Ahead	34.7%	7	94.9%	34
3/1 – M11 Off Slip (S) Left	53.2%	10	46.1%	9
3/2 – M11 Off Slip (S) Right	105.3%	61	94.7%	31
PRC (%)	-18.5		-5.4	
Total Delay (PCU/Hr)	95.30		40.51	
Cycle Time (s)	113		113	

Table 14.2 – Summary of LinSig Results – M11 J13 Off Slip Signalised Junction – 2021 Do Something Scenario

Arm / Stream	2021 Do Something			
	AM Peak (0800 – 0900)		PM Peak (1700 – 1800)	
	DOS (%)	MMQ	DOS (%)	MMQ
1/1 – Madingley Rd (W) Ahead	1.0%	0	1.4%	0
1/2 – Madingley Rd (W) Ahead	105.6%	66	89.4%	28
2/1 – Madingley Rd (E) Ahead	34.3%	7	96.3%	36
3/1 – M11 Off Slip (S) Left	53.1%	10	97.1%	34
3/2 – M11 Off Slip (S) Right	105.7%	63	42.8%	8
PRC (%)	-17.5		-7.9	
Total Delay (PCU/Hr)	92.86		45.17	
Cycle Time (s)	113		113	

1.1.18 The results above in Table 14.1 shows that the junction is forecast to operate above practical capacity in both peak periods, before any development flows have been assessed. The results in Table 14.2 indicate that this junction operates better in the AM peak in the Do Something scenario, reflecting the reductions in trip generation at West Cambridge, however, minor deterioration occurs in the PM peak and mitigation has been considered.

1.1.19 The proposed mitigation scheme includes trip reductions along Madingley Road associated with the GCP Cambourne to Cambridge Public Transport Route (the C2C) which forms part of the Transport Strategy due to the university making appropriate contributions to this scheme, alongside non-physical mitigations which include changes to the Stage Sequencing.

1.1.20 When the benefit of the GCP C2C scheme is incorporated with the 2021 Do Something flows, this junction operates better in the AM peak, reflecting the reductions in vehicles on the network, and the reduced trip movements to West Cambridge. Some minor deterioration in conditions occur in the PM peak due to the reassignment of movements due to the GCP;

1.1.21 The results of the 2021 Do Something Mitigated Scenario are summarised in Table 14.3 below.

Table 14.3 – Summary of LinSig Results – M11 J13 Off Slip Signalised Junction – 2021 Do Something Mitigated Scenario

Arm / Stream	2021 Do Something Mitigated			
	AM Peak (0800 – 0900)		PM Peak (1700 – 1800)	
	DOS (%)	MMQ	DOS (%)	MMQ
1/1 – Madingley Rd (W) Ahead	1.0%	0	0.9%	0
1/2 – Madingley Rd (W) Ahead	73.6%	19	80.6%	27
2/1 – Madingley Rd (E) Ahead	60.4%	10	79.9%	19
3/1 – M11 Off Slip (S) Left	60.0%	14	81.2%	23
3/2 – M11 Off Slip (S) Right	74.4%	18	80.8%	13
PRC (%)	20.9		10.9	
Total Delay (PCU/Hr)	19.24		26.50	
Cycle Time (s)	113		113	

1.1.22 The results in Table 14.3 indicate that the junction is forecast to operate within capacity during the 2021 Do Something (mitigated) scenario.

Madingley Road / Park and Ride / High Cross Signalised Junctions

1.1.23 The existing signalised junctions have been assessed within a single LinSig, as a result of the proximity and interaction between the two junctions. The junctions have been assessed with reference to the 2021 Do Minimum and 2021 Do Something forecast traffic flows. The results are summarised in Tables 14.4 and 14.5.

Table 14.4 – Summary of LinSig Results – Madingley Road / Park and Ride / High Cross Signalised Junctions – 2021 Do Minimum Scenario

Arm / Stream	2021 Do Minimum			
	AM Peak (0800 – 0900)		PM Peak (1700 – 1800)	
	DOS (%)	MMQ	DOS (%)	MMQ
Junction 1 – Madingley Road / Park and Ride Signalised Junction				
1/1 – Madingley Rd (EB) Left	10.1%	1	2.0%	0
1/2 – Madingley Rd (EB) Ahead	95.4%	69	56.7%	20
2/1 – Madingley Rd (WB) Ahead	35.3%	6	66.1%	29
2/2 – Madingley Rd (WB) Right	42.1%	2	17.2%	1
3/2 + 3/1 – Park & Ride Right Left	37.8%	2	73.0%	9
Junction 2 – High Cross Signalised Junction				
1/1 – Madingley Rd (EB) Left Ahead	143.1%	287	83.0%	23
1/2 – Madingley Rd (EB) Right	96.1%	8	134.2%	31
2/1 + 2/2 – Madingley Rd (WB) Right Left Ahead	90.8%	40	149.5%	290
3/2 + 3/1 – NWC Access Ahead Right Left	140.0%	140	149.3%	119
4/2 + 4/1 – High Cross Ahead Right Left	133.5%	67	164.4%	176
PRC (%)	-59.0		-66.1	
Total Delay (PCU/Hr)	453.42		577.45	
Cycle Time (s)	170		170	

Table 14.5 – Summary of LinSig Results – Madingley Road / Park and Ride / High Cross Signalised Junctions – 2021 Do Something Scenario

Arm / Stream	2021 Do Something			
	AM Peak (0800 – 0900)		PM Peak (1700 – 1800)	
	DOS (%)	MMQ	DOS (%)	MMQ
Junction 1 – Madingley Road / Park and Ride Signalised Junction				
1/1 – Madingley Rd (EB) Left	10.1%	1	2.0%	0
1/2 – Madingley Rd (EB) Ahead	95.0%	68	56.3%	20
2/1 – Madingley Rd (WB) Ahead	36.4%	5	69.3%	31
2/2 – Madingley Rd (WB) Right	42.7%	2	18.1%	1
3/2 + 3/1 – Park & Ride Right Left	37.8%	2	73.0%	9
Junction 2 – High Cross Signalised Junction				
1/1 – Madingley Rd (EB) Left Ahead	129.2%	234	80.2%	28
1/2 – Madingley Rd (EB) Right	55.8%	8	127.7%	26
2/1 + 2/2 – Madingley Rd (WB) Right Left Ahead	90.5%	30	143.0%	290
3/2 + 3/1 – NWC Access Ahead Right Left	130.1%	101	139.3%	103
4/2 + 4/1 – High Cross Ahead Right Left	122.8%	48	140.4%	125
PRC (%)	-44.6		-58.9	
Total Delay (PCU/Hr)	356.38		505.80	
Cycle Time (s)	170		170	

1.1.24 The results above in Table 14.4 shows that the junction is forecast to operate above practical capacity in the AM peak period in the Do Minimum scenario, before any development flows have been assessed. The results in Table 14.5 indicate that this junction operates better in the both peak periods in the Do Something scenario, reflecting the reductions in trip generation at West Cambridge.

Madingley Road / JJ Thomson Avenue Priority Junction

1.1.25 The existing priority junction has been assessed within PICADY using the 2021 Do Minimum and 2021 Do Something forecast traffic flows. The results are summarised in Tables 14.6 and 14.7.

Table 14.6 – Summary of Junctions 9 Results – Madingley Road / JJ Thomson Avenue Priority Junction – 2021 Do Minimum Scenario

Arm / Stream	2021 Do Minimum			
	AM Peak (0800 – 0900)		PM Peak (1700 – 1800)	
	RFC	Queue	RFC	MMQ
JJ Thomson Av to Madingley Road (W)	0.00	0	0.20	0
JJ Thomson Av to Madingley Road (E)	0.60	1	1.24	33
Madingley Road (W) to JJ Thomson Av	0.18	0	0.03	0
All movements from Madingley Road (E)	0.65	2	0.73	3
Junction Delay (s)	5.92		54.32	

Table 14.7 – Summary of Junctions 9 Results – Madingley Road / JJ Thomson Avenue Priority Junction – 2021 Do Something Scenario

Arm / Stream	2021 Do Something			
	AM Peak (0800 – 0900)		PM Peak (1700 – 1800)	
	RFC	Queue	RFC	MMQ
JJ Thomson Av to Madingley Road (W)	0.04	0	0.45	1
JJ Thomson Av to Madingley Road (E)	0.21	0	0.20	0
Madingley Road (W) to JJ Thomson Av	0.41	1	0.05	0
All movements from Madingley Road (E)	0.45	1	0.69	2
Junction Delay (s)	3.39		5.76	

1.1.26 The results above in Table 14.6 shows that the junction is forecast to operate above practical capacity in the PM peak period in the Do Minimum scenario, before any development flows have been assessed. The results in Table 14.7 indicate that this junction operates better and within capacity in the both peak periods in the Do Something scenario, reflecting the reductions in trip generation at West Cambridge.

Madingley Road / Madingley Rise Priority Junction

1.1.27 The existing priority junction has been assessed within PICADY using the 2021 Do Minimum and 2021 Do Something forecast traffic flows. The results are summarised in Tables 14.7 and 14.8.

Table 14.7 – Summary of Junctions 9 Results – Madingley Road / Madingley Rise Priority Junction – 2021 Do Minimum Scenario

Arm / Stream	2021 Do Minimum			
	AM Peak (0800 – 0900)		PM Peak (1700 – 1800)	
	RFC	Queue	RFC	MMQ
Madingley Rise to Madingley Road (E)	0.05	0	0.09	0
Madingley Rise to Madingley Road (W)	0.03	0	0.16	0
Madingley Road (E) to Madingley Rise	0.08	0	0.01	0
All movements from Madingley Road (W)	0.61	2	0.41	1
Junction Delay (s)	3.29		1.92	

Table 14.8 – Summary of Junctions 9 Results – Madingley Road / Madingley Rise Priority Junction – 2021 Do Something Scenario

Arm / Stream	2021 Do Something			
	AM Peak (0800 – 0900)		PM Peak (1700 – 1800)	
	RFC	Queue	RFC	MMQ
Madingley Rise to Madingley Road (E)	0.05	0	0.09	0
Madingley Rise to Madingley Road (W)	0.03	0	0.16	0
Madingley Road (E) to Madingley Rise	0.08	0	0.01	0
All movements from Madingley Road (W)	0.62	2	0.40	1
Junction Delay (s)	3.66		1.88	

1.1.28 The results above show that this junction is forecast to operate within capacity in both the Do Minimum and Do Something scenarios in 2021.

Madingley Road / Clerk Maxwell Priority Junction

1.1.29 The existing priority junction has been assessed within PICADY using the 2021 Do Minimum and 2021 Do Something forecast traffic flows. The results are summarised in Tables 14.9 and 14.10.

Table 14.9 – Summary of Junctions 9 Results – Madingley Road / Clerk Maxwell Priority Junction – 2021 Do Minimum Scenario

Arm / Stream	2021 Do Minimum			
	AM Peak (0800 – 0900)		PM Peak (1700 – 1800)	
	RFC	Queue	RFC	MMQ
Clerk Maxwell Rd to Madingley Road (W)	0.05	0	0.25	0
Clerk Maxwell Rd to Madingley Road (E)	0.19	0	0.43	1
Madingley Road (W) to Clerk Maxwell Rd	0.21	0	0.03	0
Junction Delay (s)	0.82		1.66	

Table 14.10 – Summary of Junctions 9 Results – Madingley Road / Clerk Maxwell Priority Junction – 2021 Do Something Scenario

Arm / Stream	2021 Do Something			
	AM Peak (0800 – 0900)		PM Peak (1700 – 1800)	
	RFC	Queue	RFC	MMQ
Clerk Maxwell Rd to Madingley Road (W)	0.10	0	1.15	9
Clerk Maxwell Rd to Madingley Road (E)	0.38	1	1.15	16
Madingley Road (W) to Clerk Maxwell Rd	0.22	0	0.05	0
Junction Delay (s)	1.60		40.95	

1.1.30 The results above show that this junction is forecast to operate within capacity in the 2021 Do Minimum scenario.

1.1.31 In the 2021 Do Something Scenario the AM peak is forecast to operate within capacity, however the operation of the junction deteriorates in the PM peak and mitigation has been considered.

1.1.32 The proposed mitigation run includes trip reductions along Madingley Road associated with the GCP Cambourne to Cambridge Public Transport Route (the C2C) which forms part of the Transport Strategy due to the university making appropriate contributions to this scheme. The results are located in Table 14.11 below.

Table 14.11 – Summary of Junctions 9 Results – Madingley Road / Clerk Maxwell Priority Junction – 2021 Do Something Scenario

Arm / Stream	2021 Do Something Mitigation			
	AM Peak (0800 – 0900)		PM Peak (1700 – 1800)	
	RFC	Queue	RFC	MMQ
Clerk Maxwell Rd to Madingley Road (W)	0.08	0	0.80	2
Clerk Maxwell Rd to Madingley Road (E)	0.29	0	0.89	5
Madingley Road (W) to Clerk Maxwell Rd	0.15	0	0.03	0
Junction Delay (s)	1.14		14.09	

The results show indicate that the junction would still operate slightly over capacity in the PM peak period, however if you take 8 trips off the B-A movements this junction operates within capacity – this is well within daily variation and is therefore not considered significant.

Appendix 15.1 – Summary and comparisons of 2019, 2031 Do Minimum and 2031 Do Something flows

Table 15.1: Comparison of the 2019 and 2031 Do Minimum flows

No.	Link	2019 Base		2031 TA Do Minimum		Percentage difference	
		AM	PM	AM	PM	AM	PM
1.0	M11 - J12 - J13 - Nbd	3,582	3,702	3,895	4,123	9%	11%
1.0	M11 - J12 - J13 - Sbd	3,699	3,585	4,078	4,019	10%	12%
1.1	M11 J13 -J14 - Nbd	2,329	3,066	2,480	3,264	6%	6%
1.1	M11 J13 -J14 - Sbd	2,808	2,502	3,006	2,698	7%	8%
1.2	M11 between A14 Ebd on-slip / Huntingdon Rd on slip - Nbd	1,507	2,222	1,631	2,394	8%	8%
1.2	M11 between A14 Ebd on-slip / Huntingdon Rd on slip - Sbd	2,207	1,589	2,372	1,742	7%	10%
1.3	M11 J13 off-slip - Nbd	1,152	996	1,314	1,218	14%	22%
1.3	M11 J13 on-slip - Sbd	505	1,015	686	1,253	36%	23%
2.0	A14 West of J30 (Bar Hill) - Ebd	3,913	3,540	4,096	3,677	5%	4%
2.0	A14 West of J30 (Bar Hill) - Wbd	3,271	4,474	3,380	4,672	3%	4%
2.1	A14 North West of M11 J14 - Ebd	3,881	3,483	4,384	4,017	13%	15%
2.1	A14 North West M11 J14 - Wbd	3,143	4,199	3,595	4,711	14%	12%
2.2	A14 West of J32 Interchange - Ebd	3,928	3,834	4,132	4,126	5%	8%
2.2	A14 West of J32 Interchange - Wbd	3,831	3,932	4,102	4,143	7%	5%
2.3	A428 -West of M11 J14 - Ebd	1,654	759	1,725	852	4%	12%
2.3	A428 - West of M11 J14 - Wbd	798	1,267	888	1,332	11%	5%
3.0	A1303 East of Madingley Mulch R'bout Ebd	498	540	645	662	30%	23%
3.0	A1303 East of Madingley Mulch R'bout Wbd	542	1,252	639	1,403	18%	12%
3.1	Madingley Rd - East of Cambridge Rd Crossroads Wbd	669	1,678	752	1,728	12%	3%
3.1	Madingley Rd - East of Cambridge Rd Crossroads Ebd	932	755	1,005	878	8%	16%
3.2	Madingley Rd on Over Bridge M11 Ebd	1,705	993	1,908	1,287	12%	30%
3.2	Madingley Rd on Over Bridge M11 Wbd	292	924	344	922	18%	0%
3.3	Madingley Rd between M11 Sbd On Slip - Proposed Madingley Rd West Access Ebd	1,474	581	1,623	832	10%	43%

No.	Link	2019 Base		2031 TA Do Minimum		Percentage difference	
		AM	PM	AM	PM	AM	PM
3.3	Madingley Rd between M11 Sbd On Slip - Proposed Madingley Rd West Access Wbd	565	1,524	743	1,717	32%	13%
3.4	Madingley Rd - West of P&R Access Wbd	580	1,545	779	1,734	34%	12%
3.4	Madingley Rd - West of P&R Access Ebd	1,485	600	1,638	859	10%	43%
3.5	Madingley Rd - East of P&R Access Wbd	602	1,392	810	1,590	35%	14%
3.5	Madingley Rd - East of P&R Access Ebd	1,358	629	1,521	896	12%	42%
3.6	Madingley Rd - East of Proposed High Cross Access Ebd	1,089	502	1,271	625	17%	25%
3.6	Madingley Rd - East of Proposed High Cross Access Wbd	542	1,109	678	1,319	25%	19%
3.7	Madingley Rd - East of JJ Thomson Ave Ebd	812	559	1,111	1,304	37%	133%
3.7	Madingley Rd - East of JJ Thomson Ave Wbd	614	853	1,454	1,164	137%	36%
3.8	Madingley Rd - East of Clerk Maxwell Rd Ebd	746	589	1,035	1,302	39%	121%
3.8	Madingley Rd - East of Clerk Maxwell Rd Wbd	643	789	1,448	1,096	125%	39%
3.9	Madingley Rd - East of Storey's Way Ebd	716	591	916	971	28%	64%
3.9	Madingley Rd - East of Storey's Way Wbd	656	626	1,068	876	63%	40%
3.10	Madingley Rd - East of Grange Road Ebd	716	591	903	963	26%	63%
3.10	Madingley Rd - East of Grange Road Wbd	656	626	1,064	861	62%	38%
3.11	Madingley Rd - West of Queen's Rd / Northampton St R'bout Ebd	843	598	1,009	823	20%	38%
3.11	Madingley Rd - West of Queen's Rd / Northampton St R'bout Wbd	614	739	837	949	36%	28%
3.12	Northampton St - West of Pound Hill Ebd	484	681	560	924	16%	36%
3.12	Northampton St - West of Pound Hill Wbd	582	600	808	710	39%	18%
4.0	Huntingdon Rd - West of Proposed NWC HRW Access NWbd	340	719	531	1,073	56%	49%
4.0	Huntingdon Rd - West of Proposed NWC HRW Access SEbd	417	346	737	565	77%	63%
4.1	Huntingdon Rd - South East of Grange Drive opposite Girton College NWbd	340	719	462	811	36%	13%
4.1	Huntingdon Rd - South East of Grange Drive opposite Girton College SEbd	417	346	465	479	12%	38%
4.2	Huntingdon Rd - East of NWC HRW Access NWbd	406	986	685	1,341	69%	36%
4.2	Huntingdon Rd - East of NWC HRW Access SEbd	698	472	964	841	38%	78%

No.	Link	2019 Base		2031 TA Do Minimum		Percentage difference	
		AM	PM	AM	PM	AM	PM
4.3	Huntingdon Rd - East of Darwin Green Access NWbd	463	1,038	637	1,445	38%	39%
4.3	Huntingdon Rd - East of Darwin Green Access SEbd	984	541	1,332	815	35%	51%
4.4	Huntingdon Rd - East of Storey's Way NWbd	483	928	616	1,318	28%	42%
4.4	Huntingdon Rd - East of Storey's Way SEbd	828	572	1,197	811	45%	42%
5.0	Barton Rd - West of Grantchester Rd Ebd	1,160	508	1,187	535	2%	5%
5.0	Barton Rd - West of Grantchester Rd Wbd	315	1,007	329	1,029	4%	2%
5.1	Barton Rd - East of Grantchester Rd Ebd	649	458	676	485	4%	6%
5.1	Barton Rd - East of Grantchester Rd Wbd	296	971	310	993	5%	2%
6.0	Queen's Rd - North of West Rd Nbd	484	683	595	910	23%	33%
6.0	Queen's Rd - North of West Rd Sbd	816	574	1,020	681	25%	19%
7.0	Histon Road - South of A14 Nbd	988	1,691	1,198	1,944	21%	15%
7.0	Histon Road - South of A14 Sbd	1,907	1,270	2,127	1,509	12%	19%
8.0	Grange Rd - South of Madingley Rd Nbd	204	210	217	233	6%	11%
8.0	Grange Rd - South of Madingley Rd Sbd	335	158	357	174	7%	10%
9.0	Storey's Way - between Madingley Rd and Huntingdon Rd Ebd	272	86	223	74	-18%	-14%
9.0	Storey's Way - between Madingley Rd and Huntingdon Rd Wbd	95	227	91	213	-4%	-6%
10.0	Girton Rd - North of Huntingdon Rd Nbd	143	350	163	397	14%	13%
10.0	Girton Rd - North of Huntingdon Rd Sbd	357	211	402	239	13%	13%
11.0	Proposed Darwin Green Access - between Huntingdon Rd and Histon Rd Nbd			31	215		
11.0	Proposed Darwin Green Access - between Huntingdon Rd and Histon Rd Sbd			219	69		
11.1	Proposed Madingley Rd West Access to NWC Nbd			164	759		
11.1	Proposed Madingley Rd West Access to NWC Sbd			702	272		
11.2	Proposed Huntingdon Rd West Access to NWC Nbd			69	261		
11.2	Proposed Huntingdon Rd West Access to NWC Sbd			272	87		
11.3	Proposed Huntingdon Rd East Access to NWC Sbd			248	349		
11.3	Proposed Huntingdon Rd East Access to NWC Nbd			284	341		

No.	Link	2019 Base		2031 TA Do Minimum		Percentage difference	
		AM	PM	AM	PM	AM	PM
12.0	Western Access to Madingley Rd Nbd			75	469		
12.0	Western Access to Madingley Rd Sbd			696	81		
12.1	High Cross Access to Madingley Rd Nbd	246	228	280	291	14%	28%
12.1	High Cross Access to Madingley Rd Sbd	144	285	137	304	-5%	7%
12.2	JJ Thomson Ave Access to Madingley Rd Nbd	73	196	94	297	29%	52%
12.2	JJ Thomson Ave Access to Madingley Rd Sbd	220	65	305	84	39%	29%
12.3	Clerk Maxwell Rd Nbd – South of Car Park Access	10	32	14	34	40%	6%
12.3	Clerk Maxwell Rd Sbd – South of Car Park Access	38	9	38	12	0%	33%
12.4	Clerk Maxwell Rd Sbd – North of Car Park Access	18	103	119	20	561%	-81%
12.4	Clerk Maxwell Rd Nbd – North of Car Park Access	114	11	24	103	-79%	836%

Table 15.2: Comparison of the 2031 TA Do Minimum and 2031 Do Something flows

No.	Link	2031 TA Do Minimum		2031 Do Something		Percentage difference	
		AM	PM	AM	PM	AM	PM
1.0	M11 - J12 - J13 - Nbd	3,895	4,123	4,081	4,125	5%	0%
1.0	M11 - J12 - J13 - Sbd	4,078	4,019	4,081	4,194	0%	4%
1.1	M11 J13 -J14 - Nbd	2,480	3,264	2,473	3,257	0%	0%
1.1	M11 J13 -J14 - Sbd	3,006	2,698	2,997	2,691	0%	0%
1.2	M11 between A14 Ebd on-slip / Huntingdon Rd on slip - Nbd	1,631	2,394	1,626	2,387	0%	0%
1.2	M11 between A14 Ebd on-slip / Huntingdon Rd on slip - Sbd	2,372	1,742	2,365	1,737	0%	0%
1.3	M11 J13 off-slip - Nbd	1,314	1,218	1,508	1,228	15%	1%
1.3	M11 J13 on-slip - Sbd	686	1,253	697	1,435	2%	15%
2.0	A14 West of J30 (Bar Hill) - Ebd	4,096	3,677	4,322	3,689	6%	0%
2.0	A14 West of J30 (Bar Hill) - Wbd	3,380	4,672	3,396	4,863	0%	4%
2.1	A14 North West of M11 J14 - Ebd	4,384	4,017	4,637	4,021	6%	0%
2.1	A14 North West M11 J14 - Wbd	3,595	4,711	3,602	4,927	0%	5%
2.2	A14 West of J32 Interchange - Ebd	4,132	4,126	4,124	4,116	0%	0%
2.2	A14 West of J32 Interchange - Wbd	4,102	4,143	4,092	4,135	0%	0%
2.3	A428 -West of M11 J14 - Ebd	1,725	852	1,722	849	0%	0%
2.3	A428 - West of M11 J14 - Wbd	888	1,332	885	1,329	0%	0%
3.0	A1303 East of Madingley Mulch R'bout Ebd	645	662	720	665	12%	0%
3.0	A1303 East of Madingley Mulch R'bout Wbd	639	1,403	641	1,471	0%	5%
3.1	Madingley Rd - East of Cambridge Rd Crossroads Wbd	752	1,728	754	1,797	0%	4%
3.1	Madingley Rd - East of Cambridge Rd Crossroads Ebd	1,005	878	1,081	880	8%	0%
3.2	Madingley Rd on Over Bridge M11 Ebd	1,908	1,287	2,178	1,301	14%	1%
3.2	Madingley Rd on Over Bridge M11 Wbd	344	922	347	993	1%	8%
3.3	Madingley Rd between M11 Sbd On Slip - Proposed Madingley Rd West Access Ebd	1,623	832	1,895	847	17%	2%
3.3	Madingley Rd between M11 Sbd On Slip - Proposed Madingley Rd West Access Wbd	743	1,717	759	1,970	2%	15%
3.4	Madingley Rd - West of P&R Access Wbd	779	1,734	755	1,732	-3%	0%

No.	Link	2031 TA Do Minimum		2031 Do Something		Percentage difference	
		AM	PM	AM	PM	AM	PM
3.4	Madingley Rd - West of P&R Access Ebd	1,638	859	1,315	794	-20%	-8%
3.5	Madingley Rd - East of P&R Access Wbd	810	1,590	786	1,588	-3%	0%
3.5	Madingley Rd - East of P&R Access Ebd	1,521	896	1,198	831	-21%	-7%
3.6	Madingley Rd - East of Proposed High Cross Access Ebd	1,271	625	1,266	801	0%	28%
3.6	Madingley Rd - East of Proposed High Cross Access Wbd	678	1,319	873	1,417	29%	7%
3.7	Madingley Rd - East of JJ Thomson Ave Ebd	1,111	1,304	1,211	1,635	9%	25%
3.7	Madingley Rd - East of JJ Thomson Ave Wbd	1,454	1,164	1,755	1,303	21%	12%
3.8	Madingley Rd - East of Clerk Maxwell Rd Ebd	1,035	1,302	1,135	1,633	10%	25%
3.8	Madingley Rd - East of Clerk Maxwell Rd Wbd	1,448	1,096	1,749	1,196	21%	9%
3.9	Madingley Rd - East of Storey's Way Ebd	916	971	941	1,153	3%	19%
3.9	Madingley Rd - East of Storey's Way Wbd	1,068	876	1,277	891	20%	2%
3.10	Madingley Rd - East of Grange Road Ebd	903	963	928	1,142	3%	19%
3.10	Madingley Rd - East of Grange Road Wbd	1,064	861	1,269	876	19%	2%
3.11	Madingley Rd - West of Queen's Rd / Northampton St R'bout Ebd	1,009	823	992	907	-2%	10%
3.11	Madingley Rd - West of Queen's Rd / Northampton St R'bout Wbd	837	949	925	927	11%	-2%
3.12	Northampton St - West of Pound Hill Ebd	560	924	560	971	0%	5%
3.12	Northampton St - West of Pound Hill Wbd	808	710	825	703	2%	-1%
4.0	Huntingdon Rd - West of Proposed NWC HRW Access NWbd	531	1,073	549	1,298	3%	21%
4.0	Huntingdon Rd - West of Proposed NWC HRW Access SEbd	737	565	1,002	580	36%	3%
4.1	Huntingdon Rd - South East of Grange Drive opposite Girton College NWbd	462	811	451	807	-2%	0%
4.1	Huntingdon Rd - South East of Grange Drive opposite Girton College SEbd	465	479	461	469	-1%	-2%
4.2	Huntingdon Rd - East of NWC HRW Access NWbd	685	1,341	680	1,312	-1%	-2%
4.2	Huntingdon Rd - East of NWC HRW Access SEbd	964	841	923	834	-4%	-1%
4.3	Huntingdon Rd - East of Darwin Green Access NWbd	637	1,445	634	1,402	0%	-3%
4.3	Huntingdon Rd - East of Darwin Green Access SEbd	1,332	815	1,273	811	-4%	0%
4.4	Huntingdon Rd - East of Storey's Way NWbd	616	1,318	612	1,276	-1%	-3%

No.	Link	2031 TA Do Minimum		2031 Do Something		Percentage difference	
		AM	PM	AM	PM	AM	PM
4.4	Huntingdon Rd - East of Storey's Way SEbd	1,197	811	1,140	806	-5%	-1%
5.0	Barton Rd - West of Grantchester Rd Ebd	1,187	535	1,186	539	0%	1%
5.0	Barton Rd - West of Grantchester Rd Wbd	329	1,029	329	1,028	0%	0%
5.1	Barton Rd - East of Grantchester Rd Ebd	676	485	674	489	0%	1%
5.1	Barton Rd - East of Grantchester Rd Wbd	310	993	310	992	0%	0%
6.0	Queen's Rd - North of West Rd Nbd	595	910	651	884	9%	-3%
6.0	Queen's Rd - North of West Rd Sbd	1,020	681	987	707	-3%	4%
7.0	Histon Road - South of A14 Nbd	1,198	1,944	1,221	2,029	2%	4%
7.0	Histon Road - South of A14 Sbd	2,127	1,509	2,219	1,528	4%	1%
8.0	Grange Rd - South of Madingley Rd Nbd	217	233	219	232	1%	0%
8.0	Grange Rd - South of Madingley Rd Sbd	357	174	355	175	-1%	1%
9.0	Storey's Way - between Madingley Rd and Huntingdon Rd Ebd	223	74	222	73	0%	-1%
9.0	Storey's Way - between Madingley Rd and Huntingdon Rd Wbd	91	213	91	212	0%	0%
10.0	Girton Rd - North of Huntingdon Rd Nbd	163	397	162	398	-1%	0%
10.0	Girton Rd - North of Huntingdon Rd Sbd	402	239	404	238	0%	0%
11.0	Proposed Darwin Green Access - between Huntingdon Rd and Histon Rd Nbd	31	215	30	196	-3%	-9%
11.0	Proposed Darwin Green Access - between Huntingdon Rd and Histon Rd Sbd	219	69	196	67	-11%	-3%
11.1	Proposed Madingley Rd West Access to NWC Nbd	164	759	203	959	24%	26%
11.1	Proposed Madingley Rd West Access to NWC Sbd	702	272	942	304	34%	12%
11.2	Proposed Huntingdon Rd West Access to NWC Nbd	69	261	99	490	43%	88%
11.2	Proposed Huntingdon Rd West Access to NWC Sbd	272	87	541	111	99%	28%
11.3	Proposed Huntingdon Rd East Access to NWC Sbd	248	349	249	318	0%	-9%
11.3	Proposed Huntingdon Rd East Access to NWC Nbd	284	341	240	340	-15%	0%
12.0	Western Access to Madingley Rd Nbd	75	469	139	775	85%	65%
12.0	Western Access to Madingley Rd Sbd	696	81	1,173	141	69%	74%
12.1	High Cross Access to Madingley Rd Nbd	280	291	443	1,017	58%	249%

No.	Link	2031 TA Do Minimum		2031 Do Something		Percentage difference	
		AM	PM	AM	PM	AM	PM
12.1	High Cross Access to Madingley Rd Sbd	137	304	993	433	625%	42%
12.2	JJ Thomson Ave Access to Madingley Rd Nbd	94	297	239	962	154%	224%
12.2	JJ Thomson Ave Access to Madingley Rd Sbd	305	84	965	204	216%	143%
12.3	Clerk Maxwell Rd Nbd – South of Car Park Access	14	34	22	13	57%	-62%
12.3	Clerk Maxwell Rd Sbd – South of Car Park Access	38	12	10	21	-74%	75%
12.4	Clerk Maxwell Rd Sbd – North of Car Park Access	119	20	148	36	24%	80%
12.4	Clerk Maxwell Rd Nbd – North of Car Park Access	24	103	40	130	67%	26%

Table 15.3: Comparison of the 2031 TA Do Minimum and 2031 Do Something Mitigated flows

No.	Link	2031 TA Do Minimum		2031 Do Something Mitigated		Percentage difference	
		AM	PM	AM	PM	AM	PM
1.0	M11 - J12 - J13 - Nbd	3,895	4,123	4,081	4,125	5%	0%
1.0	M11 - J12 - J13 - Sbd	4,078	4,019	4,081	4,194	0%	4%
1.1	M11 J13 -J14 - Nbd	2,480	3,264	2,473	3,257	0%	0%
1.1	M11 J13 -J14 - Sbd	3,006	2,698	2,997	2,691	0%	0%
1.2	M11 between A14 Ebd on-slip / Huntingdon Rd on slip - Nbd	1,631	2,394	1,626	2,387	0%	0%
1.2	M11 between A14 Ebd on-slip / Huntingdon Rd on slip - Sbd	2,372	1,742	2,365	1,737	0%	0%
1.3	M11 J13 off-slip - Nbd	1,314	1,218	1,508	1,228	15%	1%
1.3	M11 J13 on-slip - Sbd	686	1,253	697	1,435	2%	15%
2.0	A14 West of J30 (Bar Hill) - Ebd	4,096	3,677	4,322	3,689	6%	0%
2.0	A14 West of J30 (Bar Hill) - Wbd	3,380	4,672	3,396	4,863	0%	4%
2.1	A14 North West of M11 J14 - Ebd	4,384	4,017	4,637	4,021	6%	0%
2.1	A14 North West M11 J14 - Wbd	3,595	4,711	3,602	4,927	0%	5%
2.2	A14 West of J32 Interchange - Ebd	4,132	4,126	4,124	4,116	0%	0%
2.2	A14 West of J32 Interchange - Wbd	4,102	4,143	4,092	4,135	0%	0%
2.3	A428 -West of M11 J14 - Ebd	1,725	852	1,722	849	0%	0%
2.3	A428 - West of M11 J14 - Wbd	888	1,332	885	1,329	0%	0%
3.0	A1303 East of Madingley Mulch R'bout Ebd	645	662	720	665	12%	0%
3.0	A1303 East of Madingley Mulch R'bout Wbd	639	1,403	641	1,471	0%	5%
3.1	Madingley Rd - East of Cambridge Rd Crossroads Wbd	752	1,728	754	1,797	0%	4%
3.1	Madingley Rd - East of Cambridge Rd Crossroads Ebd	1,005	878	1,081	880	8%	0%
3.2	Madingley Rd on Over Bridge M11 Ebd	1,908	1,287	2,178	1,301	14%	1%
3.2	Madingley Rd on Over Bridge M11 Wbd	344	922	347	993	1%	8%
3.3	Madingley Rd between M11 Sbd On Slip - Proposed Madingley Rd West Access Ebd	1,623	832	1,895	847	17%	2%
3.3	Madingley Rd between M11 Sbd On Slip - Proposed Madingley Rd West Access Wbd	743	1,717	759	1,970	2%	15%

No.	Link	2031 TA Do Minimum		2031 Do Something Mitigated		Percentage difference	
		AM	PM	AM	PM	AM	PM
3.4	Madingley Rd - West of P&R Access Wbd	779	1,734	755	1,732	-3%	0%
3.4	Madingley Rd - West of P&R Access Ebd	1,638	859	1,315	794	-20%	-8%
3.5	Madingley Rd - East of P&R Access Wbd	810	1,590	786	1,588	-3%	0%
3.5	Madingley Rd - East of P&R Access Ebd	1,521	896	1,198	831	-21%	-7%
3.6	Madingley Rd - East of Proposed High Cross Access Ebd	1,271	625	1,266	801	0%	28%
3.6	Madingley Rd - East of Proposed High Cross Access Wbd	678	1,319	873	1,417	29%	7%
3.7	Madingley Rd - East of JJ Thomson Ave Ebd	1,111	1,304	1,211	1,635	9%	25%
3.7	Madingley Rd - East of JJ Thomson Ave Wbd	1,454	1,164	1,755	1,303	21%	12%
3.8	Madingley Rd - East of Clerk Maxwell Rd Ebd	1,035	1,302	1,135	1,633	10%	25%
3.8	Madingley Rd - East of Clerk Maxwell Rd Wbd	1,448	1,096	1,749	1,196	21%	9%
3.9	Madingley Rd - East of Storey's Way Ebd	916	971	941	1,153	3%	19%
3.9	Madingley Rd - East of Storey's Way Wbd	1,068	876	1,277	891	20%	2%
3.10	Madingley Rd - East of Grange Road Ebd	903	963	928	1,142	3%	19%
3.10	Madingley Rd - East of Grange Road Wbd	1,064	861	1,269	876	19%	2%
3.11	Madingley Rd - West of Queen's Rd / Northampton St R'bout Ebd	1,009	823	992	907	-2%	10%
3.11	Madingley Rd - West of Queen's Rd / Northampton St R'bout Wbd	837	949	925	927	11%	-2%
3.12	Northampton St - West of Pound Hill Ebd	560	924	560	971	0%	5%
3.12	Northampton St - West of Pound Hill Wbd	808	710	825	703	2%	-1%
4.0	Huntingdon Rd - West of Proposed NWC HRW Access NWbd	531	1,073	549	1,298	3%	21%
4.0	Huntingdon Rd - West of Proposed NWC HRW Access SEbd	737	565	1,002	580	36%	3%
4.1	Huntingdon Rd - South East of Grange Drive opposite Girton College NWbd	462	811	451	807	-2%	0%
4.1	Huntingdon Rd - South East of Grange Drive opposite Girton College SEbd	465	479	461	469	-1%	-2%
4.2	Huntingdon Rd - East of NWC HRW Access NWbd	685	1,341	680	1,312	-1%	-2%
4.2	Huntingdon Rd - East of NWC HRW Access SEbd	964	841	923	834	-4%	-1%
4.3	Huntingdon Rd - East of Darwin Green Access NWbd	637	1,445	634	1,402	0%	-3%

No.	Link	2031 TA Do Minimum		2031 Do Something Mitigated		Percentage difference	
		AM	PM	AM	PM	AM	PM
4.3	Huntingdon Rd - East of Darwin Green Access SEbd	1,332	815	1,273	811	-4%	0%
4.4	Huntingdon Rd - East of Storey's Way NWbd	616	1,318	612	1,276	-1%	-3%
4.4	Huntingdon Rd - East of Storey's Way SEbd	1,197	811	1,140	806	-5%	-1%
5.0	Barton Rd - West of Grantchester Rd Ebd	1,187	535	1,186	539	0%	1%
5.0	Barton Rd - West of Grantchester Rd Wbd	329	1,029	329	1,028	0%	0%
5.1	Barton Rd - East of Grantchester Rd Ebd	676	485	674	489	0%	1%
5.1	Barton Rd - East of Grantchester Rd Wbd	310	993	310	992	0%	0%
6.0	Queen's Rd - North of West Rd Nbd	595	910	651	884	9%	-3%
6.0	Queen's Rd - North of West Rd Sbd	1,020	681	987	707	-3%	4%
7.0	Histon Road - South of A14 Nbd	1,198	1,944	1,221	2,029	2%	4%
7.0	Histon Road - South of A14 Sbd	2,127	1,509	2,219	1,528	4%	1%
8.0	Grange Rd - South of Madingley Rd Nbd	217	233	219	232	1%	0%
8.0	Grange Rd - South of Madingley Rd Sbd	357	174	355	175	-1%	1%
9.0	Storey's Way - between Madingley Rd and Huntingdon Rd Ebd	223	74	222	73	0%	-1%
9.0	Storey's Way - between Madingley Rd and Huntingdon Rd Wbd	91	213	91	212	0%	0%
10.0	Girton Rd - North of Huntingdon Rd Nbd	163	397	162	398	-1%	0%
10.0	Girton Rd - North of Huntingdon Rd Sbd	402	239	404	238	0%	0%
11.0	Proposed Darwin Green Access - between Huntingdon Rd and Histon Rd Nbd	31	215	30	196	-3%	-9%
11.0	Proposed Darwin Green Access - between Huntingdon Rd and Histon Rd Sbd	219	69	196	67	-11%	-3%
11.1	Proposed Madingley Rd West Access to NWC Nbd	164	759	203	959	24%	26%
11.1	Proposed Madingley Rd West Access to NWC Sbd	702	272	942	304	34%	12%
11.2	Proposed Huntingdon Rd West Access to NWC Nbd	69	261	99	490	43%	88%
11.2	Proposed Huntingdon Rd West Access to NWC Sbd	272	87	541	111	99%	28%
11.3	Proposed Huntingdon Rd East Access to NWC Sbd	248	349	249	318	0%	-9%
11.3	Proposed Huntingdon Rd East Access to NWC Nbd	284	341	240	340	-15%	0%

No.	Link	2031 TA Do Minimum		2031 Do Something Mitigated		Percentage difference	
		AM	PM	AM	PM	AM	PM
12.0	Western Access to Madingley Rd Nbd	75	469	139	775	85%	65%
12.0	Western Access to Madingley Rd Sbd	696	81	1,173	141	69%	74%
12.1	High Cross Access to Madingley Rd Nbd	280	291	443	1,017	58%	249%
12.1	High Cross Access to Madingley Rd Sbd	137	304	993	433	625%	42%
12.2	JJ Thomson Ave Access to Madingley Rd Nbd	94	297	239	962	154%	224%
12.2	JJ Thomson Ave Access to Madingley Rd Sbd	305	84	965	204	216%	143%
12.3	Clerk Maxwell Rd Nbd – South of Car Park Access	14	34	22	13	57%	-62%
12.3	Clerk Maxwell Rd Sbd – South of Car Park Access	38	12	10	21	-74%	75%
12.4	Clerk Maxwell Rd Sbd – North of Car Park Access	119	20	148	36	24%	80%
12.4	Clerk Maxwell Rd Nbd – North of Car Park Access	24	103	40	130	67%	26%

Appendix 15.2 – 2031 Madingley Road Corridor Junction Capacity Assessment

M11 J13 Off Slip Signalised Junction

1.1.33 The existing signalised junction has been assessed within LINSIG using the 2031 Do Minimum and 2031 Do Something forecast traffic flows. The results are summarised in Tables 15.1 and 15.2.

Table 15.1 – Summary of LinSig Results – M11 J13 Off Slip Signalised Junction – 2031 Do Minimum Scenario

Arm / Stream	2031 Do Minimum			
	AM Peak (0800 – 0900)		PM Peak (1700 – 1800)	
	DOS (%)	MMQ	DOS (%)	MMQ
1/1 – Madingley Rd (W) Ahead	0.9%	0	1.4%	0
1/2 – Madingley Rd (W) Ahead	108.4%	81	95.5%	34
2/1 – Madingley Rd (E) Ahead	36.7%	7	100.1%	45
3/1 – M11 Off Slip (S) Left	57.1%	11	100.4%	41
3/2 – M11 Off Slip (S) Right	109.6%	77	47.7%	10
PRC (%)	-21.7		-11.5	
Total Delay (PCU/Hr)	122.94		63.90	
Cycle Time (s)	113		113	

Table 15.2 – Summary of LinSig Results – M11 J13 Off Slip Signalised Junction – 2031 Do Something Scenario

Arm / Stream	2031 Do Something			
	AM Peak (0800 – 0900)		PM Peak (1700 – 1800)	
	DOS (%)	MMQ	DOS (%)	MMQ
1/1 – Madingley Rd (W) Ahead	1.0%	0	1.2%	0
1/2 – Madingley Rd (W) Ahead	92.5%	30	111.7%	105
2/1 – Madingley Rd (E) Ahead	40.0%	8	67.7%	18
3/1 – M11 Off Slip (S) Left	84.0%	22	113.5	84
3/2 – M11 Off Slip (S) Right	93.3%	30	55.6%	11
PRC (%)	-3.7		-26.1	

Total Delay (PCU/Hr)	34.93	155.99
Cycle Time (s)	113	113

1.1.34 The results above in Table 15.1 shows that the junction is forecast to operate above practical capacity in both peak periods, before any development flows have been assessed. The results in Table 15.2 indicate that this junction operates better in the AM peak in the Do Something scenario, reflecting the reassignment due to the GCP C2C scheme and the West Cambridge Transport Strategy, however, minor deterioration occurs in the PM peak and further mitigation has been considered.

1.1.35 The proposed mitigation scheme includes non-physical mitigations measures which involve changes to the Stage Sequencing of the junction. The results of the 2031 Do Something Mitigated Scenario are summarised in Table 15.3 below.

Table 15.3 – Summary of LinSig Results – M11 J13 Off Slip Signalised Junction – 2031 Do Something Mitigated Scenario

Arm / Stream	2031 Do Something Mitigation			
	AM Peak (0800 – 0900)		PM Peak (1700 – 1800)	
	DOS (%)	MMQ	DOS (%)	MMQ
1/1 – Madingley Rd (W) Ahead	0.9%	0	1.0%	0
1/2 – Madingley Rd (W) Ahead	82.4%	24	87.2%	32
2/1 – Madingley Rd (E) Ahead	63.3%	11	87.7%	24
3/1 – M11 Off Slip (S) Left	62.7%	15	88.0%	26
3/2 – M11 Off Slip (S) Right	81.3%	20	86.3%	15
PRC (%)	9.2		2.2	
Total Delay (PCU/Hr)	23.11		34.57	
Cycle Time (s)	113		113	

1.1.36 The results in Table 15.3 indicate that the junction is forecast to operate within capacity during the 2031 Do Something (Mitigated) scenario.

Western Access Road

1.1.37 A new traffic signal-controlled access junction onto Madingley Road, with restricted movement (right in / left out) at the western end of the site is proposed, which would connect to the Western Access Road. This junction would intercept strategic traffic movements between the site and the west, including from the M11. This early vehicle interception would help to maintain conditions at other local junctions further east – such as High Cross.

1.1.38 The new signalised junction has been assessed within LINSIG using the 2031 Do Something forecast traffic flows. The results are summarised in Table 15.4.

Table 15.4 – Summary of LinSig Results – Western Access Road Signalised Junction – 2031 Do Something

Arm / Stream	2031 Do Something			
	AM Peak (0800 – 0900)		PM Peak (1700 – 1800)	
	DOS (%)	MMQ	DOS (%)	MMQ
Madingley Road (Eastbound) Ahead	52.1%	6	55.1%	5
Madingley Road (Eastbound) Ahead Right	67.2%	9	62.0%	7
Madingley Road (Westbound) Ahead Left	55.9%	4	61.5%	7
Madingley Road (Westbound) Ahead	58.2%	4	63.2%	8
Western Access Road Left	3.9%	0	40.3%	3
PRC (%)	33.8		42.5	
Total Delay (PCU/Hr)	9.78		12.17	
Cycle Time (s)	60		60	

1.1.39 The results in Table 15.4 above indicate that this junction would operate within capacity in the 2031 Do Something scenario.

Madingley Road / Park and Ride / High Cross Signalised Junctions

1.1.40 The existing signalised junctions have been assessed within a single LINSIG, as a result of the proximity and interaction between the two junctions. The junctions have been assessed with reference to the 2031 Do Minimum and 2031 Do Something forecast traffic flows. The results are summarised in Tables 15.5 and 15.6.

Table 15.5 – Summary of LinSig Results – Madingley Road / Park and Ride / High Cross Signalised Junctions – 2031 Do Minimum Scenario

Arm / Stream	2031 Do Minimum			
	AM Peak (0800 – 0900)		PM Peak (1700 – 1800)	
	DOS (%)	MMQ	DOS (%)	MMQ
Junction 1 – Madingley Road / Park and Ride Signalised Junction				
1/1 – Madingley Rd (EB) Left	10.1%	1	2.0%	0
1/2 – Madingley Rd (EB) Ahead	97.1%	76	62.3%	24
2/1 – Madingley Rd (WB) Ahead	36.6%	5	69.2%	29
2/2 – Madingley Rd (WB) Right	39.9%	2	17.6%	1
3/2 + 3/1 – Park & Ride Right Left	37.8%	2	73.0%	9
Junction 2 – High Cross Signalised Junction				
1/1 – Madingley Rd (EB) Left Ahead	150.6%	324	89.4%	22
1/2 – Madingley Rd (EB) Right	96.0%	8	133.4%	30
2/1 + 2/2 – Madingley Rd (WB) Right Left Ahead	79.5%	26	146.1%	292
3/2 + 3/1 – NWC Access Ahead Right Left	149.1%	184	144.5%	120
4/2 + 4/1 – High Cross Ahead Right Left	145.8%	76	147.1%	150
PRC (%)	-67.3		-63.4	
Total Delay (PCU/Hr)	544.86		556.49	
Cycle Time (s)	170		170	

Table 15.6 – Summary of LinSig Results – Madingley Road / Park and Ride / High Cross Signalised Junctions – 2031 Do Something Scenario

Arm / Stream	2031 Do Something			
	AM Peak (0800 – 0900)		PM Peak (1700 – 1800)	
	DOS (%)	MMQ	DOS (%)	MMQ
Junction 1 – Madingley Road / Park and Ride Signalised Junction				
1/1 – Madingley Rd (EB) Left	10.1%	1	2.0%	0
1/2 – Madingley Rd (EB) Ahead	76.6%	34	62.0%	24
2/1 – Madingley Rd (WB) Ahead	27.6%	6	59.5%	16
2/2 – Madingley Rd (WB) Right	29.7%	1	14.2%	1
3/2 + 3/1 – Park & Ride Right Left	33.6%	2	58.0%	8
Junction 2 – High Cross Signalised Junction				
1/1 – Madingley Rd (EB) Left Ahead	168.6%	357	98.2%	33
1/2 – Madingley Rd (EB) Right	0.0%	0	101.8%	7
2/1 + 2/2 – Madingley Rd (WB) Right Left Ahead	112.5%	99	180.8%	416
3/2 + 3/1 – NWC Access Ahead Right Left	170.7%	291	180.1%	172
4/2 + 4/1 – High Cross Ahead Right Left	168.2%	125	180.0%	315
PRC (%)	-89.7		-100.9	
Total Delay (PCU/Hr)	791.02		865.24	
Cycle Time (s)	170		170	

1.1.41 The results above in Table 15.5 shows that the junction is forecast to operate above practical capacity in both peak periods in the 2031 Do Minimum scenario, before any development flows have been assessed.

1.1.42 The results in Table 15.6 indicate that this junction deteriorates in the both peak periods in the Do Something scenario, and therefore mitigation has been considered.

1.1.43 The junctions have been assessed with reference to the 2031 Do Something Mitigated traffic flows. The results are summarised in Table 15.7 below.

Table 15.7 – Summary of LinSig Results – Madingley Road / Park and Ride / High Cross Signalised Junctions – 2031 Do Something Mitigated Scenario

Arm / Stream	2031 Do Something Mitigation			
	AM Peak (0800 – 0900)		PM Peak (1700 – 1800)	
	DOS (%)	MMQ	DOS (%)	MMQ
Junction 1 – Madingley Road / Park and Ride Signalised Junction				
1/1 – Madingley Rd (EB) Left	2.0%	0	2.0%	0
1/2 – Madingley Rd (EB) Ahead	66.4%	25	51.8%	17
2/1 – Madingley Rd (WB) Ahead	30.7%	4	52.8%	15
2/2 – Madingley Rd (WB) Right	33.1%	2	16.1%	1
3/2 + 3/1 – Park & Ride Right Left	37.8%	2	50.3%	4
Junction 2 – High Cross Signalised Junction				
1/1 – Madingley Rd (EB) Left Ahead	147.5%	256	98.2%	33
1/2 – Madingley Rd (EB) Right	0.0%	0	101.8%	7
2/1 + 2/2 – Madingley Rd (WB) Right Left Ahead	110.9%	94	159.3%	321
3/2 + 3/1 – NWC Access Ahead Right Left	146.4%	186	158.4%	147
4/2 + 4/1 – High Cross Ahead Right Left	148.4%	104	158.6%	516
PRC (%)	-64.9		-77.0	
Total Delay (PCU/Hr)	562.07		647.83	
Cycle Time (s)	170		170	

1.1.44 With the 2031 Do Something Mitigated Flows, this junction operates considerable better than the 2031 Do Something, reflecting the reductions in trip generation at West Cambridge due to the Transport Strategy. However, this junction still operates worse than the 2031 Do Minimum scenario and therefore further mitigation has been considered.

1.1.45 To provide context for the scale of any mitigation, an indicative mitigation scheme has been developed. This includes widening the westbound approach on Madingley Road to three lanes and a two to one lane merge on the eastern arm.

Table 15.8 – Summary of LinSig Results – Madingley Road / Park and Ride / High Cross Signalised Junctions – 2031 Do Something Mitigated Scenario

Arm / Stream	2031 Do Something Mitigation			
	AM Peak (0800 – 0900)		PM Peak (1700 – 1800)	
	DOS (%)	MMQ	DOS (%)	MMQ
Junction 1 – Madingley Road / Park and Ride Signalised Junction				
1/1 – Madingley Rd (EB) Left Ahead	33.7%	6	24.8%	4
1/2 – Madingley Rd (EB) Ahead	38.4%	11	27.1%	7
2/1 – Madingley Rd (WB) Ahead	23.1%	4	42.8%	8
2/2 – Madingley Rd (WB) Right	18.5%	1	38.7%	5
2/3 – Madingley Road (WB) Right	24.2%	1	23.5%	1
3/2 + 3/1 – Park & Ride Right Left	17.4%	1	46.7%	4
Junction 2 – High Cross Signalised Junction				
1/1 – Madingley Rd (EB) Left Ahead	42.9%	8	103.1%	32
1/2 – Madingley Rd (EB) Right	138.7%	161	107.0%	17
2/1 Madingley Road (WB) Left Ahead	139.0%	125	88.5%	28
2/2 + 2/3 – Madingley Rd (WB) Right Ahead	63.4%	7	109.7%	74
3/2 + 3/1 – NWC Access Ahead Right Left	140.1%	168	108.7%	54
4/1 – High Cross Ahead Left	135.1%	55	70.8%	15
4/2 – High Cross Ahead Right	89.8%	12	109.4%	53
PRC (%)	-55.7%		-21.9	
Total Delay (PCU/Hr)	471.95		191.32	
Cycle Time (s)	170		170	

1.1.46 The results in Table 15.8 shows that there is significant betterment at this junction when compared to the 2031 Do Minimum scenario. However, as previously mentioned, it is acknowledged that this future year assessment is overly robust - the first-principles Transport Modelling assessment adopted for this development would represent a worst case, and the methodology adopted to assess the future year flows would not assess likely reassignment effects across the network.

Madingley Road / JJ Thomson Avenue Priority Junction

1.1.47 The existing priority junction has been assessed within PICADY using the 2031 Do Minimum and 2031 Do Something forecast traffic flows. The results are summarised in Tables 15.9 and 15.10.

Table 15.9 – Summary of Junctions 9 Results – Madingley Road / JJ Thomson Avenue Priority Junction – 2031 Do Minimum Scenario

Arm / Stream	2031 Do Minimum			
	AM Peak (0800 – 0900)		PM Peak (1700 – 1800)	
	RFC	Queue	RFC	MMQ
JJ Thomson Av to Madingley Road (W)	0.00	0	0.22	0
JJ Thomson Av to Madingley Road (E)	1.30	22	2.56	219
Madingley Road (W) to JJ Thomson Av	0.27	0	0.04	0
All movements from Madingley Road (E)	0.95	15	0.79	4
Junction Delay (s)	44.69		418.30	

Table 15.10 – Summary of Junctions 9 Results – Madingley Road / JJ Thomson Avenue Priority Junction – 2031 Do Something Scenario

Arm / Stream	2031 Do Something			
	AM Peak (0800 – 0900)		PM Peak (1700 – 1800)	
	RFC	Queue	RFC	MMQ
JJ Thomson Av to Madingley Road (W)	0.00	0	0.49	1
JJ Thomson Av to Madingley Road (E)	1.51	64	5.32	827
Madingley Road (W) to JJ Thomson Av	0.07	0	0.01	0
All movements from Madingley Road (E)	1.15	142.4	0.89	8
Junction Delay (s)	243.36		2486.75	

1.1.48 The results above in Table 15.9 shows that the junction is forecast to operate above practical capacity in both peak periods in the 2031 Do Minimum scenario, before any development flows have been assessed.

1.1.49 The results in Table 15.6 indicate that this junction deteriorates in the both peak periods in the Do Something scenario, and therefore mitigation has been considered in Section 15.5.

1.1.50 To deliver the proposed pedestrian and cycling crossing at this junction, the GCP Madingley Road Cycle Scheme may include proposals to signalise this junction. This would provide

benefit to this junction and would alleviate the issue of vehicles leaving JJ Thomson Avenue by having its own dedicated Phase.

1.1.51 It is proposed that

Madingley Road / Madingley Rise Priority Junction

1.1.52 The existing priority junction has been assessed within PICADY using the 2031 Do Minimum and 2031 Do Something forecast traffic flows. The results are summarised in Tables 15.11 and 15.12.

Table 15.11 – Summary of Junctions 9 Results – Madingley Road / Madingley Rise Priority Junction – 2031 Do Minimum Scenario

Arm / Stream	2031 Do Minimum			
	AM Peak (0800 – 0900)		PM Peak (1700 – 1800)	
	RFC	Queue	RFC	MMQ
Madingley Rise to Madingley Road (E)	0.06	0	0.17	0
Madingley Rise to Madingley Road (W)	0.06	0	0.36	1
Madingley Road (E) to Madingley Rise	0.12	0	0.01	0
All movements from Madingley Road (W)	0.67	2	0.53	1
Junction Delay (s)	3.59		3.05	

Table 15.12 – Summary of Junctions 9 Results – Madingley Road / Madingley Rise Priority Junction – 2031 Do Something Scenario

Arm / Stream	2031 Do Something			
	AM Peak (0800 – 0900)		PM Peak (1700 – 1800)	
	RFC	Queue	RFC	MMQ
Madingley Rise to Madingley Road (E)	0.06	0	0.16	0
Madingley Rise to Madingley Road (W)	0.05	0	0.33	1
Madingley Road (E) to Madingley Rise	0.12	0	0.01	0
All movements from Madingley Road (W)	0.66	2	0.47	1
Junction Delay (s)	3.88		2.57	

1.1.53 The results above in Table 15.11 and 15.12 shows that the junction is forecast to operate within practical capacity in both peak periods in the 2031 Do Minimum and 2031 Do Something scenarios.

Madingley Road / Clerk Maxwell Priority Junction

1.1.54 The existing priority junction has been assessed within PICADY using the 2031 Do Minimum and 2031 Do Something forecast traffic flows. The results are summarised in Tables 15.13 and 15.14.

Table 15.13 – Summary of Junctions 9 Results – Madingley Road / Clerk Maxwell Priority Junction – 2021 Do Minimum Scenario

Arm / Stream	2031 Do Minimum			
	AM Peak (0800 – 0900)		PM Peak (1700 – 1800)	
	RFC	Queue	RFC	MMQ
Clerk Maxwell Rd to Madingley Road (W)	99.0	9	1.41	14
Clerk Maxwell Rd to Madingley Road (E)	99.0	7	1.36	7
Madingley Road (W) to Clerk Maxwell Rd	0.31	0	0.03	0
Junction Delay (s)	16.64		21.52	

Table 15.14 – Summary of Junctions 9 Results – Madingley Road / Clerk Maxwell Priority Junction – 2031 Do Something Scenario

Arm / Stream	2031 Do Something			
	AM Peak (0800 – 0900)		PM Peak (1700 – 1800)	
	RFC	Queue	RFC	MMQ
Clerk Maxwell Rd to Madingley Road (W)	99.0	17	99.0	42
Clerk Maxwell Rd to Madingley Road (E)	99.0	14	99.0	31
Madingley Road (W) to Clerk Maxwell Rd	0.47	1	0.03	0
Junction Delay (s)	32.93		62.56	

1.1.55 The results above in Table 15.13 shows that the junction is forecast to operate above practical capacity in both peak periods in the 2031 Do Minimum scenario, before any development flows have been assessed.

1.1.56 The results in Table 15.14 indicate that this junction deteriorates in the both peak periods in the Do Something scenario, and therefore mitigation has been considered in Section 15.5.

1.1.57 The existing priority junction has been assessed within PICADY using the 2031 Do Something Mitigated traffic flows. The results are summarised in Table 15.14

Table 15.14 – Summary of Junctions 9 Results – Madingley Road / Clerk Maxwell Priority Junction – 2031 Do Something Mitigated Scenario

Arm / Stream	2031 Do Something Mitigated			
	AM Peak (0800 – 0900)		PM Peak (1700 – 1800)	
	RFC	Queue	RFC	MMQ
Clerk Maxwell Rd to Madingley Road (W)	99.0	9	3.77	21
Clerk Maxwell Rd to Madingley Road (E)	99.0	8	3.64	22
Madingley Road (W) to Clerk Maxwell Rd	0.24	0	0.03	0
Junction Delay (s)	17.88		149.68	

1.1.58 With the 2031 Do Something Mitigated Flows, this junction operates considerable better than the 2031 Do Something and generally reflect the conditions in the 2031 Do Minimum scenario.

1.1.59 whilst these flows are unlikely to materialise, this uncertainty in the future year assessment supports use of the adopted Monitor and Manage Approach, maximising flexibility for all parties to respond to the emerging reality.

Appendix 17.1 – Details of the 2021 Transport Strategy

Introduction

Whilst the assessment of the Initial Phase of West Cambridge shows that the traffic impact when compared to that consented is limited, a strategy has been developed reflecting the strategy for the Full Development.

This Appendix provides details of management measures shown on Figure 17.1, and referred to within Section 17 - Initial Phase as follows:

i) a summary of the transport management strategy measures already assumed within the modelled output;

ii) a summary of the proposed further transport management measures;

iii) details and consideration of the effects of these further transport management measures:

- to increase the use of improved pedestrian and cycle facilities;
- to encourage greater use of the enhanced public transport;
- physical interventions to preserve conditions and / or enhance capacity for all modes across the network; and
- to manage vehicle generation.

Summary of the transport management strategy incorporated within the modelling

As detailed in Section 12, the Initial Phase 2021 West Cambridge Do Something option test modelling incorporates the benefit of the proposed Development travel demand management strategy (summarised in Section 9). The measures inherent in that assessment include:

i) the new residential offer in the area - the new market housing being provided at Darwin Green (to the north of Huntingdon Road); as well as the additional units at the North West Cambridge Development, located immediately to the north of Madingley Road – with student accommodation, market housing, and Key Worker housing for University staff;

ii) the Framework Travel Plan (see separate document);

iii) the proposed public transport strategy summarised in Section 7.

These measures were formulated in order to:

i) decrease the journey to work trip distance across the area by providing complementary land-uses;

ii) taking advantage of the conveniently located facilities on North West Cambridge – the retail, the primary education and the community facilities - that would reduce the need to travel elsewhere during the working day;

iii) provide regular bus services to popular destinations to provide for as many longer distance movements as possible;

iv) reduce and control the total vehicular trip generation associated with the Development.

As noted in Section 8, the proposed Initial Phase of Development car parking is lower than was originally consented for West Cambridge in 1999. As such, the Development vehicle trip generation – and hence the impact of the Initial Phase of Development would be lower than that consented and mitigated previously.

In addition to the travel demand management measures already included in the modelling exercise referred to in Section 12, there are further measures that could be implemented to reduce further and control the vehicular trip generation of the Development, to minimise vehicle impact on the surrounding network. These are described later in this section.

Summary of further transport management measures

It has been agreed in principle with the highway authorities that the following additional measures would, in combination, form part of the transport strategy for the Initial Phase of Development:

i) measures directed at maintaining and controlling a **reduced vehicle trip rate** across the strategic and local highway network – by applying a control on the car parking patronage across the Development; and

ii) a series of additional measures to improve conditions for **pedestrian and cyclists** – the proposed first phase of improvements to Pedestrian / Cyclist infrastructure.

Measures directed at controlling and reducing vehicular trip generation

The provision of appropriate levels of car parking within the Development, combined with a series of parking management measures to reinforce the efficacy of this approach, are central to the Development travel demand management strategy.

Within the context of this strategy, delivery of a high quality development is a fundamental pre-requisite and therefore under-provision of car parking within the Site with consequential detriment to the street scene should be avoided.

The Development car parking strategy would complement the range of other measures to manage demand and to enhance the attraction of non-car modes of transport, and would hence reduce the demand for car parking.

The proposed 2,570 car parking spaces for the Initial Phase of Development would be 580 spaces lower than the Consented car parking provision of 3,150 spaces - an 18% reduction in number. This lower provision is considered appropriate in the context of:

i) the reductions in demand for car travel that would result from the accessibility of Development to non-car modes

ii) other travel demand management measures; and

iii) the proposed mix of land uses.

Management of car parking within the Development

Management of car parking would reflect the University's Estate transport strategy, being delivered through a combination of provision, design and management measures.

Parking Provision

It is considered that the delivery of appropriate levels of parking - in the context of good design - would be self-policing, and hence reduce the need for active policing or other intervention by the University.

The proposed car parking strategy for the Development has been established with reference to data collected from the existing Development, and is lower than the parking provision consented in 1999. The Development parking provision levels have been set sufficiently robustly to ensure the delivery of a quality development whilst also contributing to achievement of the modal shift sought by the Area Action Plan.

Each individual Reserved Matters application will contain a Monitoring Review of the on-site Estate Car Parking Strategy Assessment across West Cambridge. This Review will reflect the Framework included in Appendix 8.2.

Design

As part of delivery of the reduced levels of car parking referred to above, the University would:

i) provide appropriate levels of car and cycle parking carefully located to contain inconsiderate parking, encourage non-car modes of travel - such as cycling - and avoid the need for unsightly double yellow lines to be applied retrospectively with the associated restrictive and hostile impact to the environment; and

ii) incorporate appropriate road widths for the Development street hierarchy - to ensure both that parking is focussed to designated locations, and that inconsiderate parking is so apparent and obvious to contain any transgression.

Management

The University will commit to apply and manage the agreed Parking Strategy on a long-term basis.

The University would implement a combination of car parking space allocation, control and monitoring measures. These would include:

i) control of parking on-site at West Cambridge will be enforced by the University's Motor Proctor;

ii) for the academic research land-uses, applying the agreed Travel Plan measures to their staff;

iii) for the academic research land uses, providing sufficient car parking spaces to an appropriate, agreed, level of parking;

iv) for the academic research areas, extending the University's centrally-controlled existing car parking permit scheme;

v) reviewing the occupation of the University's car parks;

vi) reviewing the need to support a residents-only controlled parking zone scheme or off-site car parking prohibition on the surrounding existing residential areas – such as Clerk Maxwell Road and Adams Road (see below);

vii) as part of the regular review of the Travel Plan, undertaking that the Travel Plan Co-ordinator review parking conditions throughout the Development, for all times of day and for all conditions.

Management of car parking off-site

As part of the holistic car parking strategy for the West Cambridge Development, the University commits both to monitor parking conditions on the local roads, particularly to the east of the Development to ensure no “fly-parking” – car parking migrating out from the residential elements of the Development.

As detailed in Section 6, the University will offer contributions towards the replacement of the existing on-street car parking along Clerk Maxwell Road with two mandatory cycle lanes as part of the proposed improvement to cycling infrastructure on this route.

Should conditions deteriorate on further surrounding existing roads due to increased car parking, the University will offer funding to support the establishment of on-street residents-only controlled car parking zones, or a parking prohibition, or another method to manage car parking.

A controlled car parking zone had been offered previously by the University as mitigation for North West Cambridge within the vicinity of that development. It is likely that any controlled car parking zone scheme offered as part of the West Cambridge mitigation measures would reflect this implementation.

Any such off-site car parking management scheme would be implemented in conjunction with the local residents, as well as the Joint Authorities.

Physical interventions to preserve and improve conditions

Measures will be provided locally to preserve and improve environmental conditions.

Madingley Road speed limit

To provide environmental enhancements and safety benefits in the locality of West Cambridge, the University will contribute towards the costs of implementing a reduction in the existing 40mph speed limit on Madingley Road. The lower vehicle speeds will provide benefit for existing users of Madingley Road, as well as for the pedestrians and cyclists generated by West Cambridge.

A 40mph speed limit is in force on Madingley Road adjacent to the West Cambridge Development between the M11 Junction 13 and the approaches to the JJ Thomson Avenue junction. Whilst this speed limit was appropriate when the traffic regulation order was originally applied, conditions along Madingley Road have changed significantly subsequently. With the implementation of the North West Cambridge Development and the West Cambridge Development proposals, Madingley Road will be increasingly used by pedestrians and cyclists. As such, a speed limit slower than 40mph is appropriate.

For the Initial Phase, it is likely that the section of Madingley Road to be the subject of the revised 30mph speed limit would include the Madingley Road / High Cross junction.

Road Safety Schemes

As identified in Section 3.9, the road safety assessment has identified three existing issues to vulnerable road users at:

i) the Madingley Road / Storey’s Way priority junction;

ii) Madingley Road / Grange Road signalised junction; and

iii) Madingley Road / Cambridge Road crossroads.

To promote and encourage walking and cycling to West Cambridge in a safe manner, the University will work with Cambridgeshire County Council in promoting schemes, and contribute towards road safety measures to resolve these issues.

At the Madingley Road / Storey's Way junction, the scheme involves removing the existing physical islands which appear to form a constriction to movement. These will be replaced with at-grade carriageway construction, to extend the advisory cycle lane across the junction up to the dropped kerb to access the toucan to the east. This concept is shown on Figure 6.8.

The road safety scheme identified at Madingley Road / Grange Road junction would include works to:

i) extend the advanced stop line on both Madingley Road approaches to 5m;

ii) consider whether cycle "head-start" green times can be included within the traffic sign controls; and

iii) provide a road-side safety mirror on the traffic signal posts – this will both alert motorists of this issue, as well as making approaching cyclists more conspicuous to motorists.

To assist in resolving the existing safety issue at Madingley Road / Cambridge Road, the scheme would include:

i) review of the road marking scheme – including red centre line colouring;

ii) review of the advanced signage strategy; and

iii) vegetation maintenance.

Measures directed at improving conditions for Pedestrians and Cyclists

As detailed in Section 6, a comprehensive Walking and Cycle Strategy will be brought forward with the proposals for West Cambridge, in the context of the new development at the North West Cambridge and the surrounding existing Cycling infrastructure.

On-site Infrastructure

The Pedestrian and Cycle connections through the Development will both:

i) ensure quality accessibility and connectivity to the surrounding areas; and

ii) significantly enhance and improve the linkages between existing developments by providing direct quality links on desire lines.

The Site has been provided with permeable footways and cycleways across the Development, with Pedestrian crossings delivered on the site access roads along the desire lines:

i) on the North - South connections - between Madingley Road and Coton Path using High Cross, JJ Thomson Avenue and Clerk Maxwell Road. These links will be supported with enhanced crossings on Madingley Road;

ii) on the East - West Shared Space Link - to provide the main east-west spine for Pedestrians and Cyclists connecting Clerk Maxwell Road and High Cross with access to a number of plots and lower-hierarchy Cycle routes.

These footpaths and cycleways throughout the Development will create links to existing public rights of way, and Cycle routes.

To maintain their attractiveness, the proposed with-flow segregated Cycle tracks along the main routes through West Cambridge would be:

i) continuous, and as such retain priority over side road junctions and vehicular accesses to plots by the track being level when crossing the side road;

ii) designed to provide good inter-visibility between cyclists and motorists to provide each with sufficient time to assess the situation on the approach and enhance safety – as such, the proposed landscaping will be designed so these should not inhibit visibility on the approaches to the side roads;

iii) designed in the context of all vehicle routes being designed for a 20mph speed limit using passive speed management measures to create a safer and more attractive environment for Pedestrians and Cyclists;

A series of further measures will be implemented within the Development to encourage walking and cycling, including:

- footways being provided on both sides of the on-site streets and at the Site Access locations. Controlled crossing points would be provided, and traffic calming measures would be present to reduce traffic speed and to ease Pedestrian movement;

- high levels of quality cycle parking - at least to the adopted Cambridge Local Plan 2014 minimum cycle parking standards - will be provided within private covered, secure, lit and well-located areas at the destinations, as well as further provision through the Development;

- all major employers would be required to provide associated shower and changing room facilities for walkers and cyclists after their journeys; and

- the application of a cycle parking provision and management strategy - cycle parking will be provided as near as possible to the main entrance of the buildings, and will be covered by natural surveillance or CCTV.

Off-site Infrastructure

To enhance the existing Pedestrian and Cyclist connectivity further, the following pedestrian and cycle infrastructure enhancements will be provided by the Development:

- providing remedial measures to assist in resolving existing road safety issues on two adjacent junctions, disproportionally affecting cyclists;

- along the corridor to the north – to Observatory Drive; and

- along the corridor to the City Centre – along Coton Path, Adams Road and Burrell's Walk.

To provide an environmental enhancement in the locality of West Cambridge, the University will provide a contribution towards the costs of the necessary traffic regulation order to extend the 30mph speed limit along Madingley Road adjacent the West Cambridge Development, between the Madingley Road / High Cross junction and the approaches to the JJ Thomson Avenue junction. The lower vehicle speeds will provide benefit for existing users of Madingley Road, as well as for the pedestrians and cyclists generated by West Cambridge.

Conclusion

Collectively the measures to improve conditions for cyclists and pedestrians would be likely to increase the number of those choosing walking or cycling as their mode of travel.

Measures directed at enhancing Public Transport

The scale of the proposed Development means that there will be both a high quantum of demand for public transport, and a number of locations that will need to be connected to West Cambridge. New and enhanced bus services will be phased in to align with the Development quantum and consequent growth in demand.

This analysis of the home post code data of the current and potential occupiers of West Cambridge confirms that the service routes would both provide easy access to public transport for many, and would assist the commercial viability of these routes.

On-site Bus infrastructure

In order to facilitate an attractive bus service with good, safe headway through the Site and hence to users to the service, the following would be provided:

- high quality bus stops;
- bus priority measures - selected vehicle detection for buses through any traffic signal controlled junctions to improve the flow of buses or enable passengers to access facilities; and
- information and incentives.

Bus Strategy

As detailed in Section 7, a comprehensive Public Transport Strategy will be brought forward with the proposals for West Cambridge, the implementation of the agreed bus services by the University will reflect the emerging Development construction phasing. The proposed final Bus Service provision is summarised as follows:

- Citi 4: to be revised to divert from a section of Madingley Road to operate via West Cambridge. This will provide links to West Cambridge from the city centre and the A428 corridor. This would be subject to discussion with Stagecoach as the commercial operator of this service;
- Universal: increased frequency, potentially to every 10 minutes, and operation extended to Saturdays; and
- Arc Service: operation of a new hourly orbital service from West Cambridge via North West Cambridge, Darwin Green and the Science Park to Milton Park and Ride.

Conclusions

The provision of a quality bus strategy will encourage the use of bus to form a significant percentage of the mode share for short, medium, and longer distance trips, and would reflect local and national policy guidance and strategies.

Measures directed at enhancing travel demand management – the West Cambridge Framework Travel Plan

Car Clubs / Pool cars

The University of Cambridge currently operates a business account Car Club membership whereby University Departments and Institutes can book vehicles at any Car Club location. The Car Club vehicles are already located at the West Cambridge and the Old Addenbrooke's Sites, and the University is planning to locate further Car Club vehicles at other sites.

As part of corporate membership, University staff can also have a personal account for use outside of work, at the current cost of £30 per year.

Car Sharing

Two local car share data bases are readily available, including:

i) Cambridge University's car share database - https://camuni.liftshare.com/default.asp; and

ii) the Cambridgeshire Liftshare - www.CamShare.co.uk.

Both of these will be encouraged and promoted to match similar journeys.

A higher priority will be given to car drivers who regularly car share in the provision of on-site car parking permits.

Cycling

The following initiatives have been considered, and are discussed in more detail within the associated Framework Travel Plan document:

- Cycle Pools;
- "Cycle Buddy" schemes;
- Development of cycling services;
- Cycle training;
- Offer of discounted cycles and equipment; and
- Bus operator to provide cycle carries on buses.

Marketing and Promotion

Traditional tools of marketing and advertising (i.e. travel packs and leaflets) will be used in conjunction with measures that encourage a higher level of community involvement to create awareness and promote sustainable travel at the Development. This will be achieved using a number of techniques:

- recruiting Sustainable Travel Behaviour Champions;
- identifying influencers, communicators and networkers to create a sustainable working and educational culture in the Development;
- creating social networks within the community; and
- encouraging community participation through travel planning events.

Potential physical interventions directed at preserving highway capacity across the network

The capacity assessment of the junctions within the locality using the forecast worst case 2021 future year flow has identified that the Madingley Road / High Cross junction could require minor enhancements.

It is acknowledged that this future year assessment is overly robust, as the first-principles Transport Modelling assessment adopted for this development would represent a worst case - the methodology adopted to assess the future year flows would not assess likely reassignment effects across the network.

It is therefore proposed that a cyclic monitoring strategy is proposed. Should this survey work identify that conditions deteriorate significantly, a fund will be provided to be expended on these enhancements to ensure that any increase in movement can be contained.

To provide a screening, the monitoring would be undertaken biennially and consist of a classified turning and queue count for a day in an agreed neutral month, along with a queue survey. The first survey would be undertaken the first neutral month date after first occupation. These results would enable a better understanding of daily and hourly variation of flows along this route. Should issues be identified, then a higher intensity of surveys would be provided.

Summary

This Appendix 17.1 details the proposed measures to manage any residual transport impacts of the Initial Phase of Development in 2021.

It highlights that the University has developed a range of measures to manage the effects of the Initial Phase of development on the transport network, varying from “softer” to physical infrastructure improvements.

It is concluded that this suite of measures aimed at mode shift, demand management and improvement of conditions on the network would manage the transport effects of the Initial Phase of Development.

As such, it is concluded that the strategy to respond to these junction capacity issues along Madingley Road Corridor should rely upon strategic solutions, within the context of the existing local transport policy identified within Section 4.

Appendix 18.1 – Details of the 2031 Transport Strategy

Summary of the transport management strategy incorporated within the 2031 Full Development modelling

As detailed in Section 17, the West Cambridge Do Something option test modelling incorporates the benefit of the overall Development travel demand management strategy (summarised in Section 9), including:

i) the additional new residential offer in the area: the new market housing being provided at Darwin Green (to the north of Huntingdon Road); as well as the additional units at the North West Cambridge Development, located immediately to the north of Madingley Road – with student accommodation, market housing, and Key Worker housing for University staff;

ii) the continuing delivery of the Framework Travel Plan (see separate document);

iii) later elements of the phased public transport strategy summarised in Section 7. Particularly, this relates specifically to the Arc service providing regular connections between the Milton Park and Ride, and West Cambridge.

These measures were formulated in order to:

i) as a worst case maintain, or indeed to reduce the journey to work trip distance across the area by providing complementary land-uses;

ii) continue to take advantage of the conveniently located facilities on North West Cambridge – the retail, the primary education and the community facilities - that would reduce the need to travel elsewhere during the working day;

iii) provide further regular bus services to popular destinations to accommodate as many longer distance movements as possible; and

iv) reduce and control the total vehicular trip generation associated with the Development.

As noted in Section 8, the proposed car parking for the originally consented West Cambridge Development in 1999 was at a far higher rate than would be appropriate now. As such, whilst the quantum of development has increased, the Development-generated vehicle trip generation has not increased proportionately.

In addition to the travel demand management measures already included in the modelling exercise referred to in Section 12 and referred to in Section 17 for the Initial Phase of Development, there are a range of further measures that could be implemented to reduce further and control the vehicular trip generation of the Development, to minimise vehicle impact on the surrounding network. These potential options are shown on Figure 18.1, and are described later in this section.

Summary of further transport management measures

Any mitigation strategy for West Cambridge in 2031 has to be considered within the context of the Section 106 highway mitigation measures already delivered by the University for the Extant West Cambridge Development – as identified in Section 2.3 - and the likely 2031 flows identified in Section 13. This identifies that mitigation has already been provided for around 13% of the additional movements generated between the 2031 Do Minimum and Do Something scenarios.

The proposed mitigation strategy for West Cambridge in 2031 is formed by a series of measures minimising development transport impacts, as well as those responding to likely impacts on specific corridors.

It has been agreed in principle with the highway authorities that the following additional measures would, in combination, form part of the continuing transport strategy for West Cambridge by minimising development transport impacts:

i) measures directed at ensuring a **reduced vehicle trip rate** across the strategic and local highway network – by maintaining a control on the car parking patronage across the Development;

ii) measures directed at **demand management** across the network – the extension of the SCOOT and MOVA traffic signal optimisation to any potential traffic signal enhancements along Madingley Road to reduce any additional queuing and delays as a consequence of the Development;

iii) a series of further measures to improve conditions for **pedestrian and cyclists**.

Further details are contained in this section.

The worst case additional West Cambridge development-generated 2031 flows reported in Section 15 are focussed on the following corridors:

Table A18.1 – Additional traffic movements to West Cambridge

Corridor	AM / PM peak hour two-way flow	Most direct route into West Cambridge
A14 (North-West)	200 / 170	via Huntingdon Road and North West Cambridge
A14 (East) and A10 (North)	120 / 110	via Histon Road, Lady Margaret Road and Madingley Road (East)
East of Cambridge	100 / 40	via Grange Road and Madingley Road (East)
M11 (South)	190 / 190	via M11 Junction 13
A428 (West)	85 / 75	via Madingley Road and M11 Junction 13

West Cambridge forms a relatively small part of the emerging Cambridge Local Plan allocation, for which the Joint Authorities have developed strategic transport solutions to accommodate these movements. A coherent transport strategy for West Cambridge has to be considered within this context – West Cambridge cannot be expected to resolve these major issues independently, albeit that the University will assist in delivering part of this solution.

This section contains details of how the University would be willing to work with the Joint Highway Authorities to assist in delivering the strategic schemes for the surrounding area.

Measures directed at controlling and reducing vehicular trip generation

Management of car parking within the Development

As identified earlier, the provision of appropriate levels of car parking within the Development, combined with a series of parking management measures to reinforce the efficacy of this approach, are central to the Development travel demand management strategy. Within this context, the delivery of a high quality development is a fundamental pre-requisite and therefore under-provision of car parking within the Site with consequential detriment to the street scene should be avoided.

The Development car parking strategy would complement the range of other measures to manage demand and to enhance the attraction of non-car modes of transport, and would hence reduce the demand for car parking.

The measures to manage on-site car parking are identified in Appendix 17.

Each individual Reserved Matters application will contain a Monitoring Review of the on-site Estate Car Parking Strategy Assessment across West Cambridge, reflecting the Framework included in Appendix 8.2.

These measures will continue to be applied throughout the implementation of West Cambridge.

Management of car parking off-site

As part of the Phase 1 holistic car parking strategy for the West Cambridge Development, the University committed to monitor parking conditions on the local roads to ensure no “fly-parking” – car parking migrating out from the residential elements of the Development.

As detailed in Appendix 17, should conditions deteriorate on further surrounding existing roads due to increased car parking, as part of the Initial Phase of West Cambridge, the University will offer funding to support the establishment of on-street residents-only controlled car parking zones, or a parking prohibition, or another method to manage car parking.

Should this funding not have been expended during Phase 1, conditions would continue to be monitored at the start of subsequent phases of development, and the University would be willing to provide this Phase 1 funding to support the establishment of on-street residents-only controlled car parking zones, or a parking prohibition, to manage car parking.

Any such further off-site car parking management scheme would be implemented in conjunction with the local residents.

Physical interventions to preserve and improve conditions

Measures will be provided locally to preserve and improve environmental conditions.

Madingley Road speed limit

As detailed in Section 17, part of the Initial Phase transport management strategy is for the University to contribute towards the costs of implementing a first-stage reduction in the existing 40mph speed limit on Madingley Road adjacent the West Cambridge Development between the Madingley Road / High Cross and the approaches to the JJ Thomson Avenue junction.

The lower vehicle speeds will provide benefit for existing users of Madingley Road, as well as for the pedestrians and cyclists generated by West Cambridge

Reflecting the later implementation of the further Site Access and associated toucan crossing to the Western Access Road, the University will provide a further contribution towards the costs of the necessary traffic regulation order to implement a further speed limit extending further this speed limit.

Road Safety Schemes

As detailed in Section 17, as part of the Initial Phase transport management strategy, the University will contribute towards the costs of implementing three minor road safety enhancement schemes in the locality.

Measures directed at demand management

Measures have been considered to manage vehicle trip demand at sensitive locations of the network. These measures comprise the provision of traffic signal optimisation apparatus – a relatively low-cost technique to reduce the total queuing and delays at the signals along the Madingley Road Corridor.

A LinSig assessment undertaken of the linked traffic signal controlled junctions along this Madingley Road Corridor – between the M1 Junction 13 Northbound Off Slip, to the High Cross Access to West Cambridge - predicts that these would continue to work within capacity in the 2021 Initial Phase Do Something scenario.

Notwithstanding, to provide certainty of the future continued efficient operation of the M11, the University proposes that the existing MOVA and SCOOT traffic signal optimisation systems be extended along this route to the proposed Western Access Road junction, and to any other new signal controlled junction to minimise delays to traffic movements on this corridor, and hence reduce the chance of any obstruction to the operation of the M11. Typically, across the network, the MOVA and SCOOT optimisation systems would reduce any potential queuing and delay more than to increase stopline saturations.

Since the West Cambridge Transport Assessment work started, Highways England published the Road Investment Strategy 2020 – 2025. This highlighted that the M11 Junction 13 is a “RIS3 Pipeline” Scheme for 2025 – 2030. Should this come forward, conditions would change materially – especially on the section of the network the west of this assessment. This supports the application of the more flexible adopted Monitor and Manage strategy for future year assessment and derivation of mitigation.

Measures directed at improving conditions for Pedestrians and Cyclists

As detailed in Section 17, a comprehensive first phase of the Walking and Cycle Strategy will be brought forward with the proposals for the Initial Phase of West Cambridge, in the context of other proposals for improving Cycling infrastructure locally. This strategy will be reviewed and continued through the implementation of West Cambridge.

On-site Infrastructure

The on-site infrastructure for the Initial Phase of West Cambridge is detailed in Section 17.

Pedestrian and Cycle connections through new areas of development within West Cambridge will be reviewed so that these will both:

i) ensure quality accessibility and connectivity to the surrounding areas; and

ii) significantly enhance and improve the linkages between existing developments by providing direct quality links on desire lines.

By completion of the West Cambridge Development, the Site will be provided with permeable footways and cycleways across the Site, with further pedestrian crossings delivered on the site access roads along the Western Access Road, to complement those provided earlier on High Cross, JJ Thomson Avenue and Clerk Maxwell Road. These links will be supported with controlled crossings on Madingley Road.

Off-site Infrastructure

To enhance the existing Pedestrian and Cyclist connectivity further, the following pedestrian and cycle infrastructure measures will be provided by the Development:

- a review of future road safety issues, with a fund to deliver road safety mitigation if required;
- enhancements on movements along the corridor to the north – to Eddington Avenue towards North West Cambridge; and
- extending the corridor towards the City Centre – along Grange Road, West Road, Queen's Green and Silver Street.

To provide a further environmental enhancement in the locality of West Cambridge, the University will provide a contribution towards the costs of the necessary traffic regulation order to implement a further reduced speed limit along Madingley Road adjacent the West Cambridge Development between the Western Access Road and the High Cross junctions. The lower vehicle speeds will provide benefit for existing users of Madingley Road, as well as for the pedestrians and cyclists generated by West Cambridge.

Conclusion

Collectively the measures to improve conditions for cyclists and pedestrians will ensure that conditions will be improved for them - this would be likely to increase the number of those choosing walking or cycling as their mode of travel.

Measures directed at enhancing Public Transport

The scale of the proposed Development means that there will be both a high quantum of demand for public transport, and a number of locations that will need to be connected to West Cambridge.

As detailed in Section 17, enhanced bus services to support the Initial Phase will be phased in to align with the Development quantum and consequent growth in demand.

Further public transport measures will be implemented as the Development continues. These will be based upon a review of the earlier provision to ensure that all measures are focussed.

On-site Bus infrastructure

In order to maintain the attractiveness of bus services to the Site, the following additional measures would be provided:

- high quality bus stops on new links served by buses; and
- further bus priority measures - selected vehicle detection for buses through any new traffic signal controlled junctions to improve the flow of buses or enable passengers to access facilities; and
- a review of the information and incentives on offer.

Bus Strategy

As detailed in Section 17, a comprehensive Public Transport Strategy for West Cambridge will be brought forward by the University in a phased manner, to reflect the emerging Development construction phasing.

The proposed final Bus Service provision is summarised as follows:

- Citi 4: increased frequency, potentially to every 10 minutes, of the earlier diverted service from Madingley Road to operate via West Cambridge. This will improve the links to West Cambridge from the city centre and the A428 corridor;
- Universal: subject to review of demand and provision by other services on the Silver Street to Addenbrooke's Hospital section, the introduction of an enhanced orbital service that extends to Addenbrooke's (it may no longer be necessary to operate the Universal beyond the Rail Station - see below);
- Arc Service: significant enhancement of the proposed Arc Service with increased frequency (possibly to 20 minutes) and higher quality vehicles. The service would be extended beyond the currently proposed route to serve West Cambridge, then continue via the M11 motorway to Trumpington Meadows, the Biomedical Campus and Addenbrooke's Hospital. The service would then give links to West Cambridge from Milton Park and Ride, North Cambridge and South Cambridge; and
- Guided Bus: the potential for the introduction of a 30 minute frequency variation to Service B to operate from Orchard Park via North West Cambridge and West Cambridge. This would be in addition to the existing frequency on Service B and would provide links from the A14 corridor.

Conclusions

The provision of a quality bus strategy will encourage the use of bus to form a significant percentage of the mode share for short, medium, and longer distance trips, and would reflect local and national policy guidance and strategies.

Measures directed at enhancing travel demand management – the West Cambridge Framework Travel Plan

A summary of West Cambridge's quality Framework Travel Plan is contained in Section 17.

The Framework Travel Plan identifies a process to review and monitor the success of the travel demand management measures on an on-going basis. As such, the Travel Plan measures will be reviewed through the implementation of West Cambridge.

Potential strategic Corridor interventions to respond to West Cambridge demand across the network

For the purposes of assessing the Transport Cap financial contribution, further potential transport management measures are considered to mitigate the West Cambridge impact in 2031.

These transport management measures are more strategic in nature than those considered earlier within this Transport Assessment, and would provide a quality alternative to using the private car to travel to West Cambridge. The effectiveness of these measures will be enhanced significantly as these will be combined with the ability of the University to control the issue of car parking permits - and to refuse the granting of a car parking permit should there be a suitable alternative to car usage.

A14 (North-West)

Table A18.1 reports that in 2031, the worst case number of additional West Cambridge-bound peak hour vehicle movements along the A14 (North-West) Corridor would be around 200 trips. As well as the total additional peak hour vehicle trips, there are approximately twice as many existing vehicle trips associated with the Extant Consent - of which a proportion would also assign along this same route.

The University would consider the potential for the introduction of a 30 minute frequency variation to Service B to operate from Orchard Park via North West Cambridge and West Cambridge, and if appropriate make contributions to Guided Bus. This would be in addition to the existing frequency on Service B and would provide links from the A14 corridor.

A14 (East) and A10 (North)

Table A18.1 reports that in 2031, the worst case number of additional West Cambridge-bound peak hour vehicle movements along the A10 and A14 (East) Corridors would be around 120 trips.

These trips would pass the existing Milton Park and Ride, an established site with terminus facilities and a 792 space car park. The Cambridgeshire County Council assessment "Alternative Funding Arrangements for Cambridge Park and Ride Service" (February 2017) identified that its average occupation was around 55%.

The utilisation of the Park and Ride sites around the periphery of Cambridge to intercept traffic movements forms an important part of Cambridgeshire County Council's GCP's transport intervention strategy. It is proposed that West Cambridge conforms with this strategy, and utilises this facility.

The University would make appropriate contributions to the significant enhancement of the proposed Arc Service with increased frequency (possibly to 20 minutes) and higher quality vehicles referred to above.

Whilst these measures would assist in mitigating the West Cambridge impact, the additional patronage generated would improve and support the Park and Ride bus services, improving the accessibility to other locations served by this service.

M11 (South)

Table A18.1 reports that in 2031, the worst case number of additional West Cambridge-bound peak hour vehicle movements along the M11 (South) Corridor would be around 190 trips. Based upon these low contributions to overall flows there would be no justification for the University to be expected independently to deliver a significant enhancement scheme.

Following the implementation of the A14 Cambridge – Huntingdon scheme, it is likely that Highways England will promote a scheme to enhance the capacity of the M11 - possibly a "Smart Motorway" scheme to utilise the potential capacity of the hard shoulder.

Whilst it is acknowledged that there is no certainty to programme or funding to such a scheme to date, this proposal would provide mitigation for any additional West Cambridge trips.

As an alternative management strategy, the Cambridge Long-Term Transport Strategy identified a series of new park and ride sites around the periphery of the City to intercept strategic movements: one such was at the M11 Junction 12 / Barton Road. The proposed Orbital Bus Service would provide quality connections between this park and ride site around the western periphery of the City, including to West Cambridge.

The University would make appropriate contributions to this proposed Orbital Service, the additional patronage associated with West Cambridge would assist in the long-term sustainability of such a scheme.

East of Cambridge

Table A18.1 reports that in 2031, the worst case number of additional West Cambridge-bound peak hour vehicle movements from East Cambridge would be around 100 trips. It is considered that whilst these are shown assigning through the southern approaches to West Cambridge, this reflects more the simplistic assignment option of the Spreadsheet / OmniTRANS modelling, and would not be reflective of conditions on these approaches to West Cambridge.

It is concluded that the assignment choice of these movements would alter in the future following the delivery of a capacity enhancement scheme on the M11 – referred to above.

A428 (West)

Table A18.1 reports that in 2031, the worst case number of additional West Cambridge-bound peak hour vehicle movements along the A428 Corridor would be around 80 trips.

Cambridgeshire County Council has developed their A428 / A1303 Corridor Scheme, consisting of a combination of enhanced bus priority, and a new Park and Ride facility around the A1303 Madingley Mulch Roundabout. As identified in Section 2.8, contributions have been offered by the West Cambourne Development to fund enhancements to public transport facilities between Cambourne and the M1 Junction 13 to reduce bus transit times.

The University would make appropriate contributions towards the delivery of the new Park and Ride facility adjacent to Madingley Mulch Roundabout, with additional car parking dedicated to West Cambridge users.

Potential physical interventions directed at preserving capacity across the network

The capacity assessment of the junctions within the locality using the worst case forecast 2031 future year flow has identified that the Madingley Road Corridor would operate above capacity. It is acknowledged that this future year assessment may be overly robust:

i) the first-principles Transport Modelling assessment adopted for this development would represent a worst case: the methodology adopted to assess the future year flows would not assess likely reassignment effects across the network; and

ii) the junctions would still operate within practical capacity.

A strategy to manage completely these worst case increased movements along Madingley Road by physical measures has not been developed as:

i) the necessity for it reflects the University responding to a worst case assessment, which is unlike to materialise;

ii) such a scheme requiring significant additional infrastructure would be contrary to policy;

iii) to increase the physical scale of the Madingley Road carriageway to provide sections of three-lanes width to respond to peak hour conditions would be contrary to any enhanced urban design aspirations for this area, resulting in a poorer environment for pedestrians and cyclists; and

iv) a reduction in through-flow would have a benefit to conditions along this route.

As such, the strategy to respond to these junction capacity issues along Madingley Road Corridor should rely upon strategic solutions, within the context of the existing local transport policy identified within Section 4. This is summarised within Appendix 18.1.

Summary

This Appendix 18.1 summarises the proposed additional measures to manage any residual transport impacts of the Full Development in 2031 in excess of the Initial Phase.

Conditions will be imposed requiring further assessments of phases later than the Initial Phase to identify any further necessary mitigation measures.

It is concluded that this suite of measures aimed at mode shift, demand management and improvement of conditions on the network would manage the transport effects of the Development.

A strategy to manage these worst case increased movements along Madingley Road by physical measures has not been considered:

i) it would require significant additional infrastructure;

ii) to increase the physical scale of the Madingley Road carriageway would be contrary to any enhanced urban design aspirations for this area;

iii) it would result in a poorer environment for pedestrians and cyclists.

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