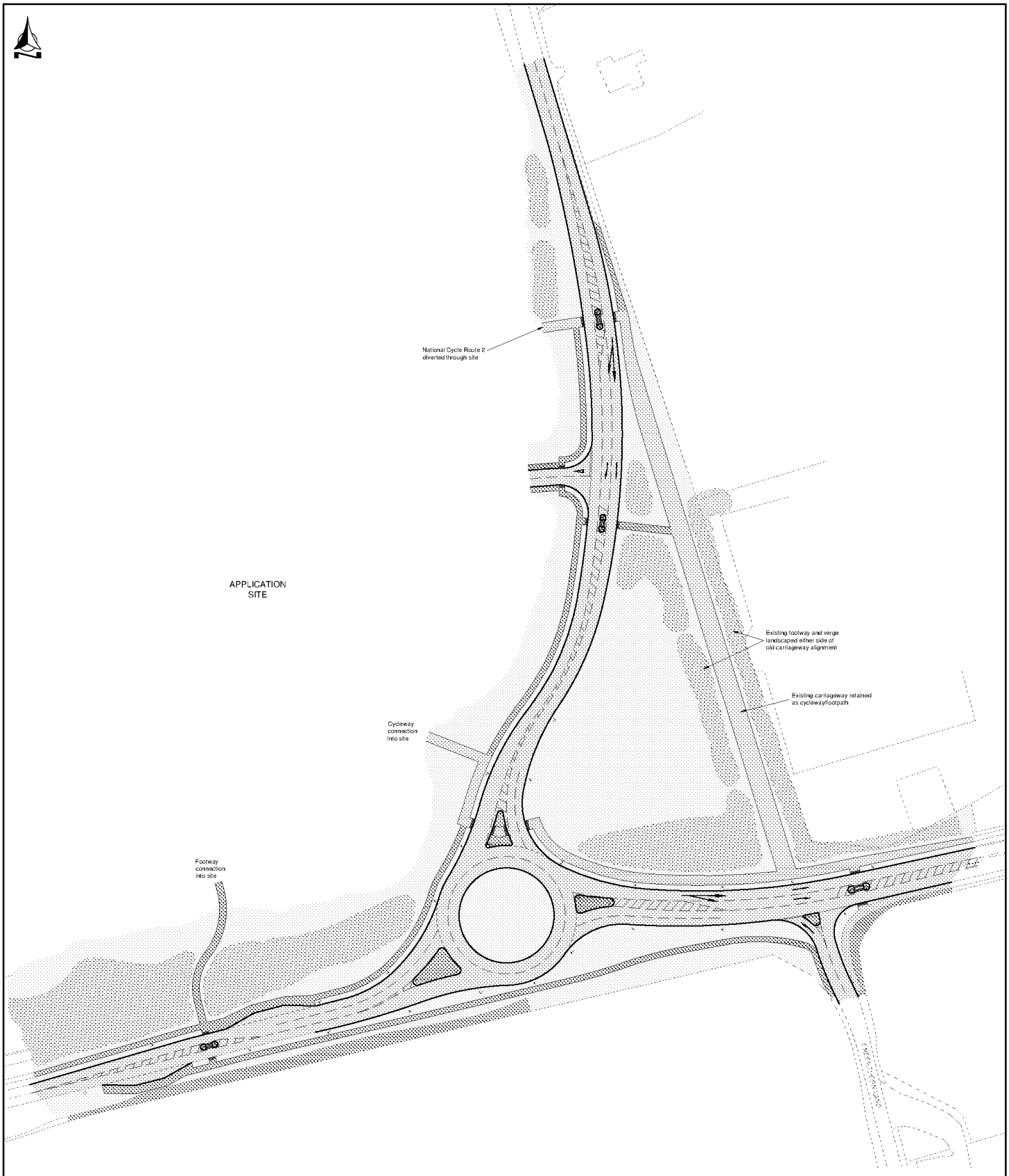
APPENDIX 15



Notes

Please do not scale this drawing

- Carriageway
- Footway
- Shared Footway/Cycleway
- Islands
- Tactiles
- Soft Landscaping
- Trees
- Street lighting columns - Illustrative only, subject to detailed design

REVISION	AMENDMENT	DRN	DATE	CHK
A	Design amended	JCB	30+1+16	GDB
B	Design amended, drawing size changed	JCB		GDB

bellamy roberts

Clover House
Western Lane
Odiham
Hampshire, RG29 1TU

Tel: 01256 703355
Fax: 01256 704934
Email: info@bellamyroberts.co.uk

CLIENT: Mulgrave Estates

PROJECT: Land at Climping, West Sussex

TITLE: Proposed Roundabout

DRAWN BY	DESIGN BY	CHK BY
JCB	GDB	GDB

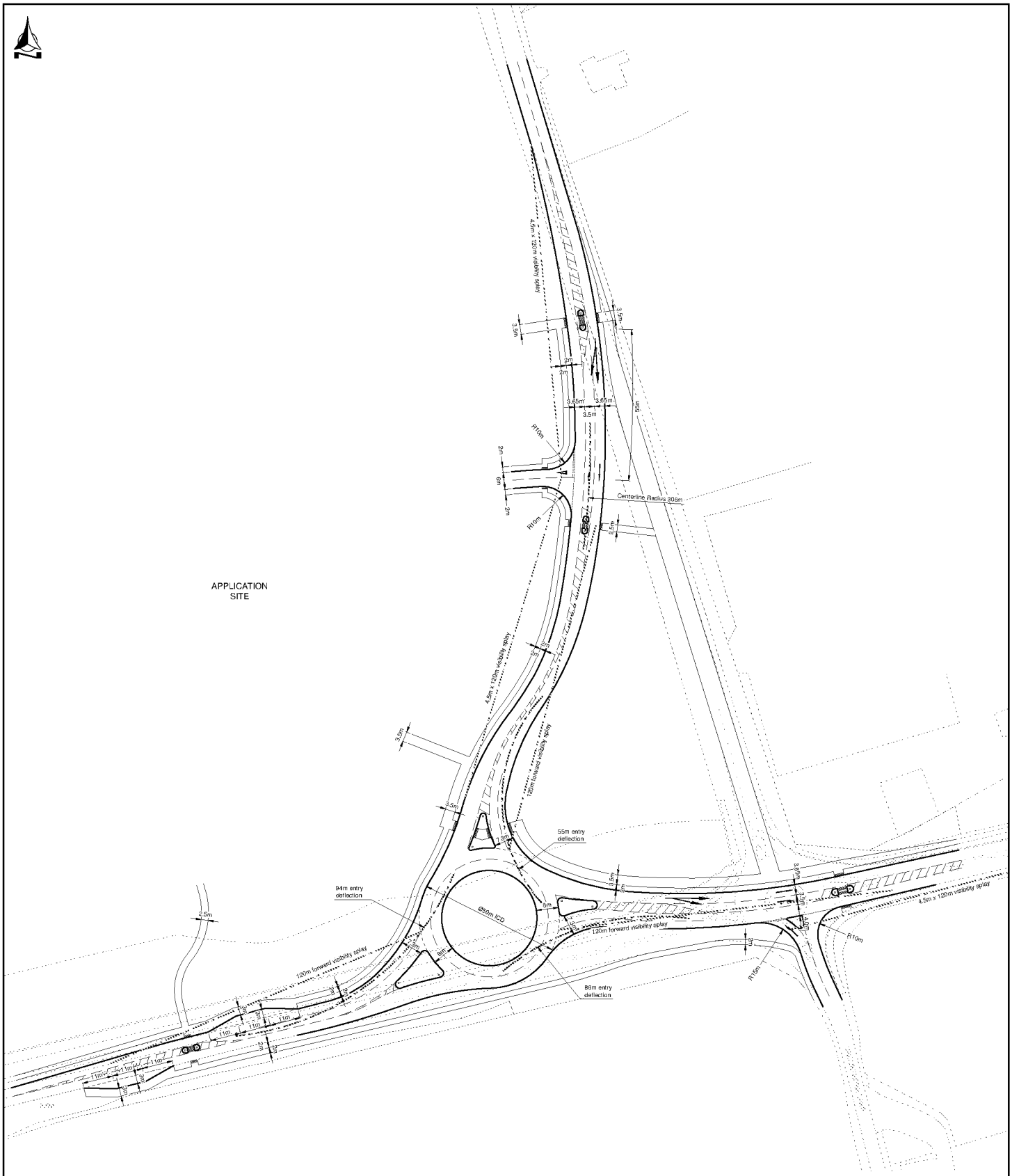
DATE: 23/03/16

SCALE: 1:825 @ A1, 1:1250 @ A3

DRAWING No.: 4724 / 002

REV No.: B

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Notes

Please do not scale this drawing

bellamy roberts

Clover House
Western Lane
Odiham
Hampshire, RG29 1TU

Tel: 01256 703355
Fax: 01256 704934
Email: info@bellamyroberts.co.uk

CLIENT: Mulgrave Estates

PROJECT: Land at Climping, West Sussex

TITLE: Proposed Roundabout Details

DRAWN BY	DESIGN BY	CHK BY
JCB	GDB	GDB

DATE: 24/11/16

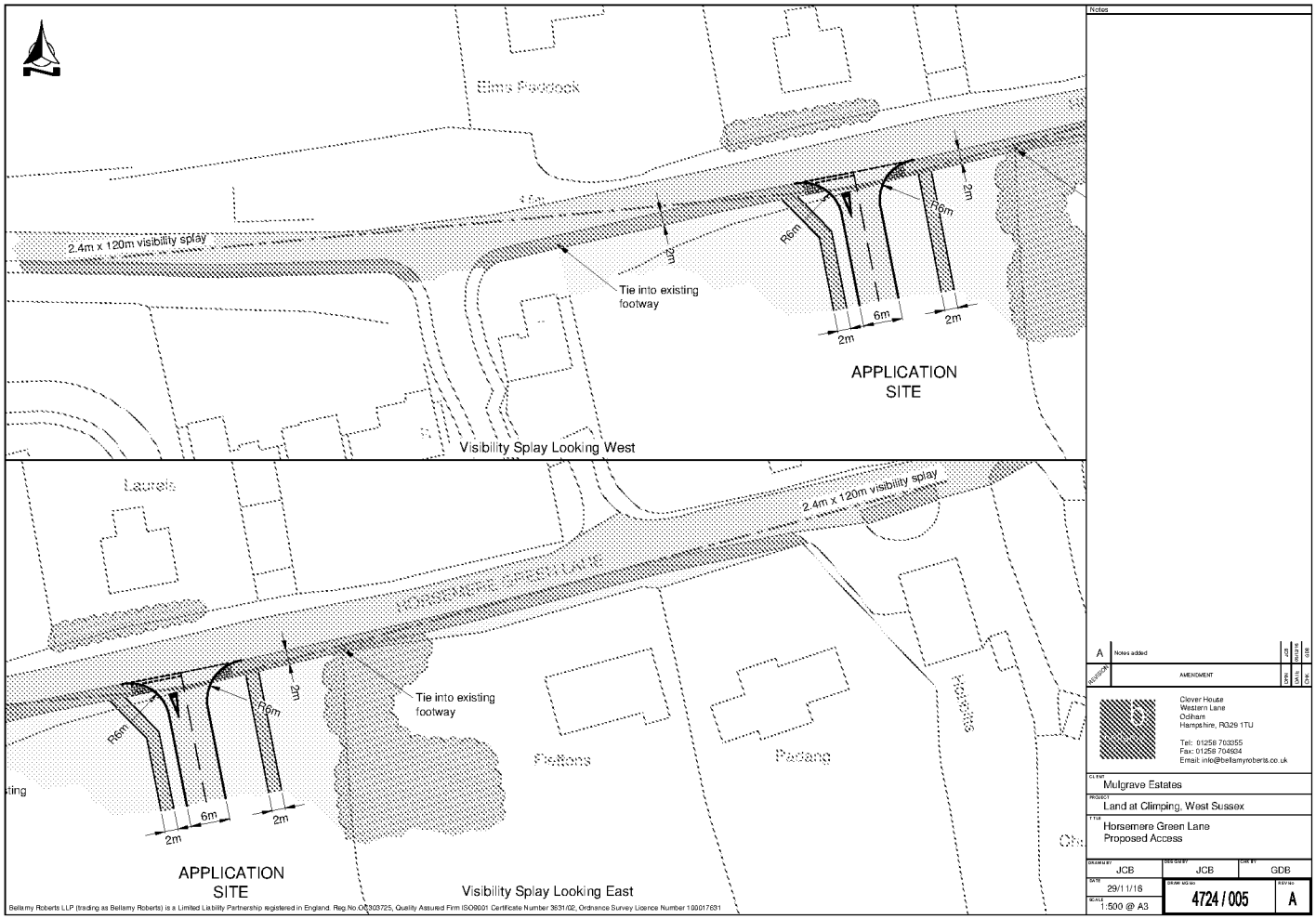
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DRAWING No.: 4724 / 004

REV No.:

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APPENDIX 16



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APPENDIX 17

Road Safety Audit Report

Incorporating
Stage 1 Completion of Detailed Design

Proposed Roundabout
A259 at Climping

Client:
Bellamy Roberts LLP

Client reference:
4724

Fenley Partnership
2 Blaenant
Emmer Green
READING
RG4 8PH

[redacted]

Report Status 4

Job no RSA-16-008	**Issue no** 4	**Date** 05/12/2016
Prepared by JJF	**Verified by** AJB	**Approved by** JJF
Filename and Path	Fenley/Road Safety Audits/RSA-16-008-4	

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document control sheet

REV	ISSUE PURPOSE	AUTHOR	CHECKED	APPROVED	DATE
1	Stage 1 Road Safety Audit included	JJF	AJB	JJF	5th May 2016
2	Stage 1 Design Team Response incorporated	GDB	AJB	JJF	10th May 2016
3	Proposed Green Lane access included within Stage 1 Road	JJF	AJB	JJF	5th December 2016
4	Stage 1 Design Team Response incorporated	GDB	AJB	JJF	5th December 2016

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A.3 Junctions

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A.5 Road Signs, Markings, Lighting, Drainage and Services

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A1 Stage 1 Site Visit Photos

A2 Stage 1 Drawings provided with the Audit Brief

A3 Revised documents associated with Design Team Response

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1.0 INTRODUCTION

1.1 The Fenley partnership has been appointed by Bellamy Roberts LLP to undertake a Stage 1 Road Safety Audit of a proposed roundabout along the A259 at Climping. The roundabout is to replace an existing four arm roundabout connecting the A259 with Church Lane to the north and Crookthorn Lane to the south and allow for additional capacity to accommodate a residential development to the northwest.

1.2 The location of the site is illustrated at Figure 1 whilst and extract from the proposals is illustrated at Figure 2 and 3.



Figure 1: Location of proposals

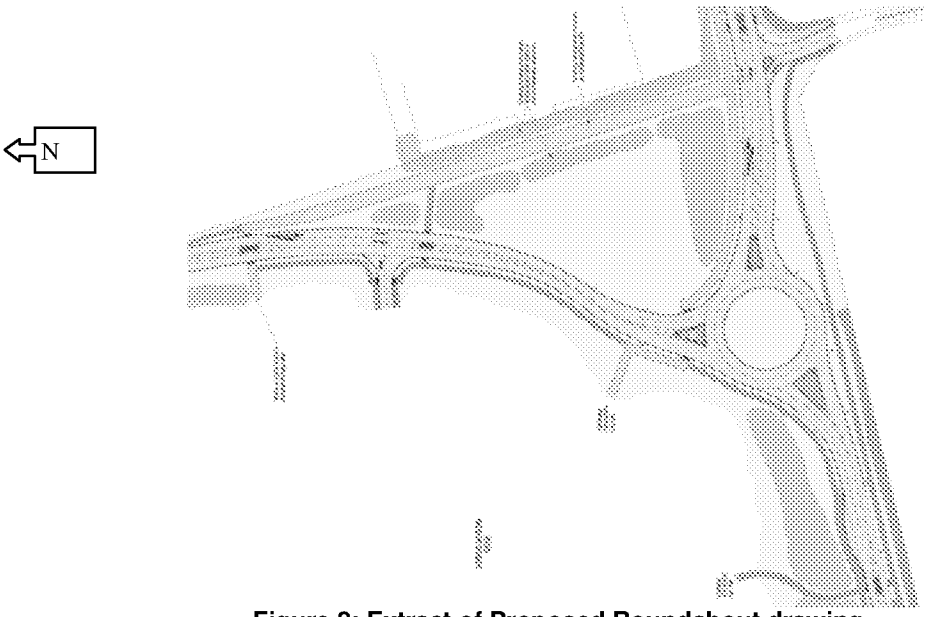


Figure 2: Extract of Proposed Roundabout drawing

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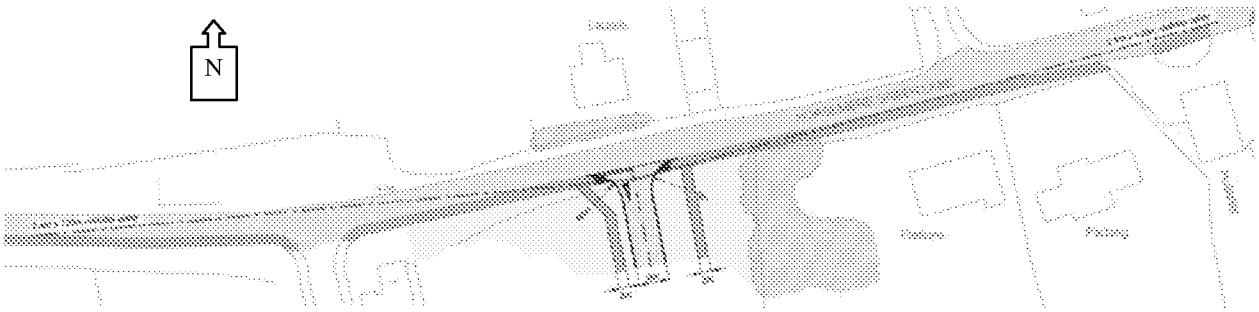


Figure 2: Extract of Proposed Roundabout drawing

1.3 The A259 in the immediate vicinity of the proposed roundabout is approximately 7.5 metre wide and subject to a 40mph speed limit as is Church Lane and Horsemere Green Lane. The speed limit of Crookthorn Lane just 20 metres from the roundabout is 30mph.

1.4 A footway is provided along the northern side of the A259 west of the existing roundabout that links to the footway on the eastern side of Crookthorn Lane and the segregated footway / cycleway on the north side of the A259 to the east of the roundabout. An uncontrolled crossing facility is provided some 30 metres to the east of the roundabout that links to a footway to the south of the A259 that wraps around the bell mouth of Church Lane and terminates approximately 20 metres along Church Lane. Pedestrians are then required to walk within the Church Lane carriageway. It is understood that the footway link to Church Lane including the uncontrolled crossing, provide access across the A259 for pedestrians to include children at the local primary school situated along Church Lane to the south of the existing roundabout.

1.5 Horsemere Green Road is approximately 5.0 metres wide and benefits from a footway along the southern side of the carriageway in proximity.

1.6 This Road Safety Audit is an assessment of the proposed highway works illustrated at Figure 2 and 3 only and does not include an on-site layout or any further highway works that may be proposed.

1.7 The site visits associated with this audit commenced during daylight at 11:30am on Thursday 28th April 2016, the weather during the visit was sunny, visibility was good and the road surface was dry. A number of pedestrians and cyclists were observed during the site visit, vehicular traffic was also observed, but speeds were not recorded.

1.8 The site visit allowed the team to assess the existing infrastructure in the vicinity of the site and put the proposals in context with conditions on the local highway network.

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Collision History

1.9 Collision data has not been provided but the crashmap database has been interrogated which shows that 13 road traffic accidents resulting in slight injuries and 1 resulting in serious injuries, occurred during the period between 2010 and 2014. No further details are available at this stage, it is clear however that 4 of the incidents occurred in proximity of the existing uncontrolled pedestrian crossing adjacent to the Climping Village Hall.

Scheme Details

1.10 The proposals subject to this Stage 1 Road Safety Audit include the relocation and improvement of an existing roundabout along the A259 to allow for increased capacity and the provision of a right turn lane facility to Crookthorn Lane south as well as two development accesses; one off Church Lane to the east of the site and another off Horsemere Green Road to the north of the site as well as pedestrian facilities.

1.11 It is proposed that the relocated roundabout will have an inscribed circle diameter of 50 metres and accommodate two circulatory carriageways. Moreover, the length of the two lane approaches are to be increased from the existing provision and a set of bus lay-bys are to be provided eithere side of the A259 to the west of the proposed roundabout with westbound buses accessible via a pedestrian refuge along the A259 in proximity to where the two lane approach commences.

1.12 The right turn lane is to be 3.0 metres wide and is formed by continuing the road centrelines from the roundabout and existing A259 central hatching present to the east. The through lanes either side of the proposed right turn lane are to be 3.5 metres wide. A pedestrian refuge island is to be provided to the east of the right turn lane.

1.13 As well as the re-routing and resurfacing of the existing footways, a new footway is to be provided between Crookthorne Lane and the westbound bus lay-by which is to be offset from the running carriageway to the south of the A259.

1.14 The proposed development access are to be 6.0 metres wide with the northern access, off Horsemere Green Road accommodating 6 metre corner radii and the eastern access of Church Lane accommodating 10 metre corner radii. The plans provided with the Audit Brief identify that a visibility splay of 2.4x120 metres is achievable either side of the northern access and 4.5x120 metres is achievable either side of the eastern access. It is understood that the eastern access is to accommodate the larger traffic flow.

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Scheme Documents

1.15 Whilst the following Table 1.1 details the drawings that have been examined as part of this audit, copies are attached at the relevant **Appendix 2**.

Table 1.1 – Drawings

Audit Stage	Drawing Number	Rev	Title
Stage 1	4724/002	B	Proposed Roundabout
	4724/004	-	Proposed Roundabout Details
	4724/005	-	Horsemere Green Lane Proposed Access
	4724/401	-	Existing Traffic Flows AM & PM Peak Hours

1.16 Furthermore, the following Table 1.2 identifies the documents that were supplied with the Audit Brief.

Table 1.2 – Documents

Audit Stage	Document No.	Rev	Title
Stage 1	-	-	-

1.17 With regard to compliance of the scheme with National Standards, the audit team has been made aware of the following departures identified within the following Table 1.3.

Table 1.3 – Departures from standard

Audit Stage	Departure Reference No.	Description
Stage 1	-	No departures notified at this stage

Terms of Reference

1.18 The Terms of Reference of the audit are as described in the Department for Transport document HD19/15, entitled 'Road Safety Audit', which is contained in the Design Manual for Roads and Bridges. The audit also takes account of the Chartered Institute of Highways and Transportation publication "Road Safety Audit" published in October 2008. Each member of the team holds a Certificate of Competence in accordance with European Legislation and is a member of the Society of Road Safety Auditors.

1.19 This audit has examined and reported only on the road safety implications of the scheme as constructed and has not examined or verified the compliance of the design to any other criteria. However, to clearly explain a safety problem or the recommendation to resolve a problem, the Audit Team may, in some instances, have referred to a design standard or document without touching on technical audit.

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1.20 Items identified as **PROBLEM** are considered to be worthy of immediate attention in respect of road safety considerations of the recently constructed scheme. Items that are not a direct result of the recently implemented scheme or could be outside the scope of the audit to include existing highway defects in proximity are not listed within this audit in accordance with HD19/15.

Main Parties to the Audit

1.21 In accordance with the above documents, this audit has been carried out by an 'Audit Team' consisting of the following members:

Audit Team Leader

Jamie Fenning BSc (Hons), MIHE, MSoRSA, CofC
Highways / Road Safety Engineer / Transport Planner

Audit Team Member

Angharad Bradley BEng (Hons), MCIHT, MSoRSA, CofC
Road Safety Engineer

Audit Team Observers

Žaneta Svačinová
Road Safety Trainee / Administrator

General Information

1.22 The following **Section 2.0** identifies any previous Road Safety Audits that have been undertaken prior to this document being prepared by ourselves and summarises the items raised. The safety implications of this Stage 3 Road Safety Audit are discussed within the relevant paragraphs of **Section 3.0** along with a Response, prepared by the Design Team, to the items raised.

1.23 Any new or revised plans associated with the Design Team Response are included at the relevant **Appendix 3** along with any further information that the Design Team considers appropriate to support their response. A signature of the professional who prepared the Design Team Response is included within the Audit Team Statement.

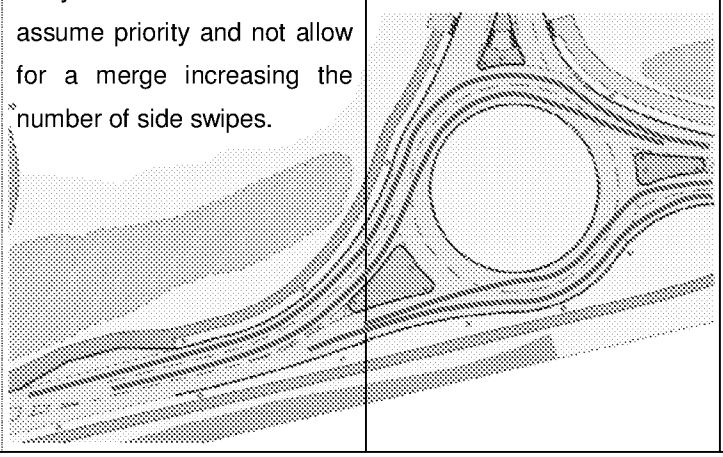
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2.0 ITEMS RAISED IN PREVIOUS ROAD SAFETY AUDIT

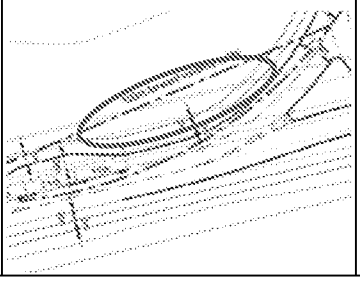
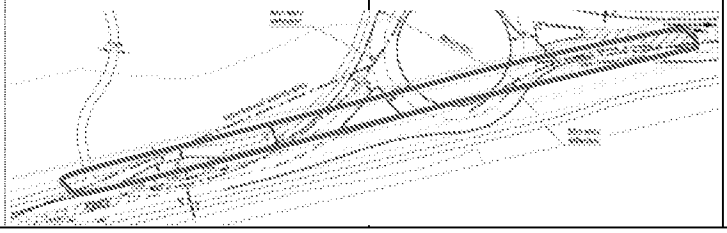
Audit Item No.	Audit Team Observation	Audit Team Recommendation	Design Team / Scheme Response
.1	**GENERAL**		
The Audit Team has not been made aware of any previous Road Safety Audits associated with the proposals.			
.2	**LOCAL ALIGNMENT**		
The Audit Team has not been made aware of any previous Road Safety Audits associated with the proposals.			
.3	**JUNCTIONS**		
The Audit Team has not been made aware of any previous Road Safety Audits associated with the proposals.			
.4	**NON-MOTORISED USER PROVISION**		
The Audit Team has not been made aware of any previous Road Safety Audits associated with the proposals.			
.5	**ROAD SIGNS, CARRIAGEWAY MARKINGS, DRAINAGE AND LIGHTING**		
The Audit Team has not been made aware of any previous Road Safety Audits associated with the proposals.			

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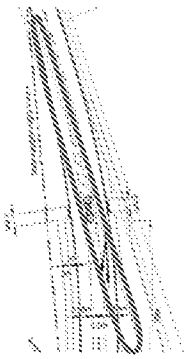
3.0 ITEMS RAISED IN THIS STAGE 1 ROAD SAFETY AUDIT

Audit Item No.	Audit Team Observation	Audit Team Recommendation	Design Team / Scheme Response
A.1	**GENERAL**		
A.1.1	**PROBLEM** *Vehicle conflict* **Accident Type** *Side swipes* **Location** *A259 western approach* The alignment of the western approach is likely to result in the majority of eastbound straight ahead movements being made from the nearside lane with vehicles only entering the offside lane and the inside lane of the circulatory if overtaking. The proposed layout will therefore increase the number of vehicles attempting to merge on the exit to the A259 east, however no break is present in the circulatory road marking and therefore it is likely that the outside lane will assume priority and not allow for a merge increasing the number of side swipes. 	It is recommended that breaks the circulatory lane markings are realigned appropriately and merge arrows proposed.	**The circulatory road markings will be adjusted accordingly to highlight a merge.**

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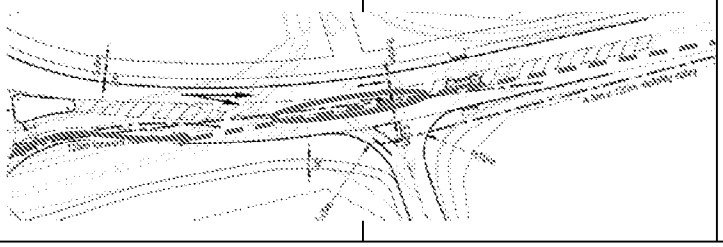
Audit Item No.	Audit Team Observation	Audit Team Recommendation	Design Team / Scheme Response
A.1.2	**PROBLEM** *Restricted forward visibility* **Accident Type** *Shunts* **Location** *A259 western approach* The alignment of the western approach results in the necessary 120 metre forward visibility extending over land outside the footway. Planting or any landscaping that is 600mm high will restrict visibility.	It is recommended that forward visibility is maintained and roundabout warning signs are installed on the approach. 	**Any landscaping within the visibility envelope will be maintained below 600mm.**
A.1.3	**PROBLEM** *Ditch present* **Accident Type** *Vehicle loss of control* **Location** *North of A259* A ditch is present to the north of the A259 where the carriageway is proposed to be realigned and the roundabout provided. 	It is recommended that the ditch is culverted or realigned accordingly.	**The existing drainage ditch will be realigned and culverted under the carriageway where necessary.**

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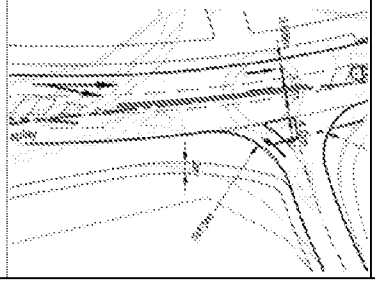
Audit Item No.	Audit Team Observation	Audit Team Recommendation	Design Team / Scheme Response
A.2	**LOCAL ALIGNMENT**		
A.2.1	**PROBLEM** *Level difference* **Accident Type** *Vehicle loss of control* **Location** *North section Church lane* It was observed that the land to the west of Church lane, the potential development site, is higher than the existing Church lane carriageway. 	It is recommended that The transition between the existing and proposed carriageway should be smooth.	**The level difference is just 1 metre or so and the realigned Church Lane will be graded appropriately. Long sections of the proposals will be prepared during the detailed design stage and information provided for the Stage 2 Road Safety Audit.**

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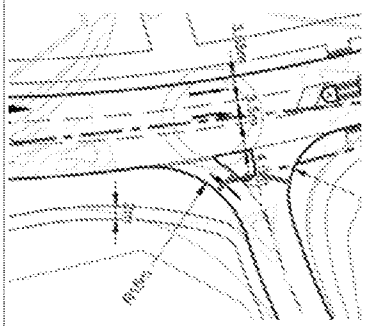
Audit Item No.	Audit Team Observation	Audit Team Recommendation	Design Team / Scheme Response
A.3	**JUNCTIONS**		
A.3.1	**PROBLEM** *Restricted forward visibility* **Accident Type** *Shunts* **Location** *A259 eastern approach* The use of the right turn facility to Crookthorn Lane will restrict forward visibility to the roundabout and the back of a queue consisting of approximately between 1 and 7 pcu's. As such, approaching vehicles may not become aware of queuing vehicles at a safe distance.	It is recommended that the A259 is realigned to ensure that forward visibility is achievable.	**This is not considered to be a problem, because any obstruction is only partial and because extensive queueing in the right turn lane is not anticipated as only 18 vehs per hour make that turn, in the morning peak hour. Realigning the eastbound lane of A259 to keep the right turn lane clear of the forward sight line would result in an excessively wide carriageway and almost certainly require the roundabout ICD to be enlarged. If this is still considered an issue it can be addressed at the detailed design stage.**



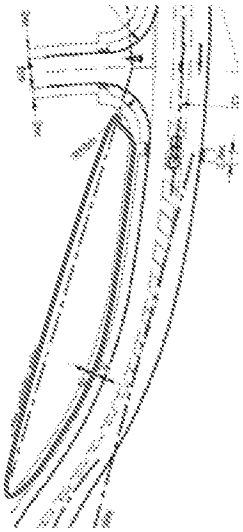
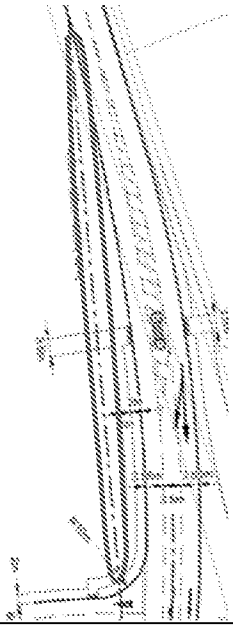
ARUN DISTRICT COUNCIL CM/1/17/OUT

Audit Item No.	Audit Team Observation	Audit Team Recommendation	Design Team / Scheme Response
A.3.2	**PROBLEM** *Right turn lane capacity* **Accident Type** *Shunt type accidents* **Location** *Eastern arm of A259*		
	It is understood that Crookthorn Lane south accommodates a local primary school that is likely to generate a significant amount of traffic during the morning peak hour/school drop-off/ pick-up. The current access, off the existing roundabout allows for unimpeded movements into Crookthorn Lane, however following the proposals, vehicles accessing Crookthorn Lane from the west will be required to utilise the right turn lane. It is unknown if a 40 metre right turn lane is sufficient to accommodate the vehicles without impacting on the free flow of the A259. 	It is recommended that A capacity analysis should be undertaken to determine if the proposed right turn lane is adequate to avoid shunt type collisions.	**A traffic survey undertaken on our behalf shows that just 18 vehicles access Crookthorn Lane south from the north and west during the morning peak hour and 9 during the afternoon peak hour. The right turn lane has been designed in accordance with guidance and is 40 metres long which is adequate to accommodate 7 vehicles. Furthermore, sufficient space is available to extend the right turn lane if the Highway Authority desire. Discussions will be held and further assessment undertaken during the detailed design process.**

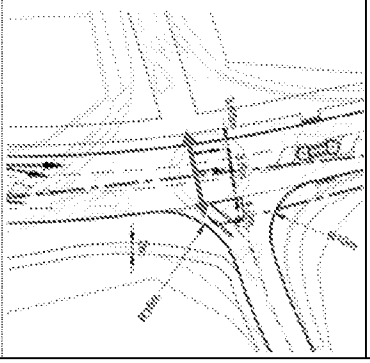
ARUN DISTRICT COUNCIL CM/1/17/OUT

Audit Item No.	Audit Team Observation	Audit Team Recommendation	Design Team / Scheme Response
A.3.3	**PROBLEM** *Restricted carriageway width* **Accident Type** *Vehicle collisions* **Location** *Crookthorn Lane*		
	Large agricultural vehicles are stored within the agricultural buildings off Crookthorn Lane to the south. The route of these vehicles is not known, however the proposed splitter island at the Crookthorn Lane junction with the A259 restricts the carriageway width which could result in the requirement for these vehicles to travel on the wrong side of the carriageway. 	It is recommended that A swept path analysis should be undertaken and sufficient carriageway width provided according to anticipated use by large vehicles.	**The splitter island that is proposed to restrict right turns from Crookthorn Lane south allows for a 4.0 metre lane width which is in excess of the width of the through lanes associated with the existing pedestrian refuge adjacent to the Village Hall and therefore considered appropriate. However, further investigation will be undertaken and the inside corner radius increased with an overrun area during the detailed design process if deemed necessary.**

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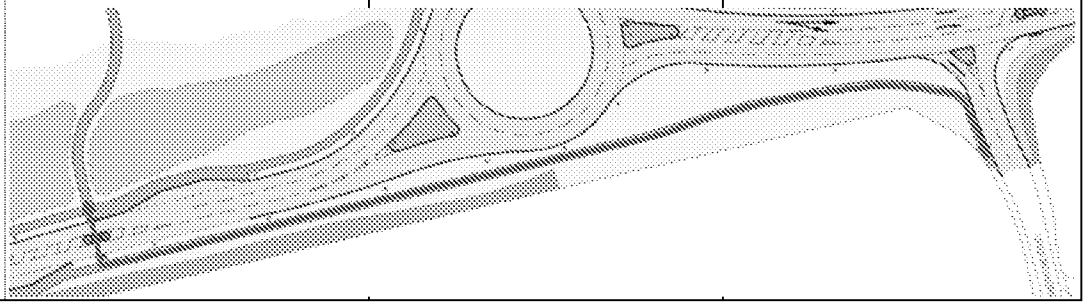
Audit Item No.	Audit Team Observation	Audit Team Recommendation	Design Team / Scheme Response
A.3.4	**PROBLEM** *Restricted visibility* **Accident Type** *Vehicle Collisions* **Location** *Church Lane* The visibility splay either side of the proposed access to the east, of Church Lane crosses land outside the footway opr carriageway. Visibility could therefore become blocked should vegetation of 600mm be permitted to grow within the area. 	It is recommended that the visibility envelope is maintained clear. 	**Any landscaping within visibility splays will be maintained lower than 600mm.**
A.3.4	*The provision of a simple priority access junction along Horsemere Green Road at this location, where the existing alignment allows for a good level of visibility and the proposed access meets Horsemere Green Road perpendicular to maximise visibility, does not raise any road safety concerns at this stage.*		

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Audit Item No.	Audit Team Observation	Audit Team Recommendation	Design Team / Scheme Response
A.4	**NON-MOTORISED USER PROVISION**		
A.4.1	**PROBLEM** *South Coast Cycle Route 2 link removed* **Accident Type** *Vehicle cyclist collisions* **Location** *Crookthorn Lane to Old Church Lane cycle route* It is understood that the route of the South Coat Cycle Lane 2 is to be retained along the alignment of the existing Church Lane, thus allowing the section to become traffic free. However, the provision of a right turn lane to Crookthorn Avenue and relocation of the roundabout will restrict cycle movement across the A259. 	It is recommended that the footway to the east of Crookthorn Lane is improved to accommodate cyclists along with the proposed refuge island and cyclists are guided to utilise the shared footway cycleway and crossing to access the northern off-road section.	**The section of footway to the east of Crookthorn Lane and the refuge island will be upgraded and signed accordingly.**

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Audit Item No.	Audit Team Observation	Audit Team Recommendation	Design Team / Scheme Response
A.4.2	**PROBLEM** *No cycle link provided* **Accident Type** *Vehicle cyclist collisions* **Location** *A259 and Crookthorn Lane west* The proposals include the provision of a 2 metre footway to the west of Crookthorn Lane along the A259 to a refuge and a link to the proposed development. This route links the local primary school with the site and is likley to be utilised by school children with parents, some of whom are likely to ride or scoot with insufficient width.	It is recommended that the proposed footway is increased in width to allow for cyclists.	**Land is available and therefore the footway could be increased in width pending further consultation with the Highway Authority, but it is not considered necessary as very few primary school pupils are likely to cycle to school, and there is a cycle route via the northern side of A259 shown in the design.**



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Audit Item No.	Audit Team Observation	Audit Team Recommendation	Design Team / Scheme Response
A.5	**ROAD SIGNS, MARKINGS, LIGHTING, DRAINAGE AND SERVICES**		
A.5.1	**PROBLEM** *No road sign details provided* **Location** *Scheme* The plans provided with the Audit Brief do not identify any proposed or amended road signs. There are a number of directional and warning signs on each approach as well as speed limit signs and repeaters which will need to be modified to ensure that drivers are fully aware of the infrastructure and informed of directions in advance.	It is recommended that Road signs should be considered during the detailed design stage and further information provided for the Stage 2 Road Safety Audit.	**An assessment of all existing and proposed road signs will be undertaken during the detailed design process.**
A.5.2	**PROBLEM** *Service Covers* **Location** *A259 west of roundabout* Observations show that service provider apparatus and associated covers are situated in the A259 northern verge just west of the existing roundabout. Covers within the carriageway could become an obstruction.	It is recommended that Services should be considered during he detailed design stage and information provided for the Stage 2 Road Safety Audit.	**Details of services affected will be sought and reviewed during the detailed design process.**
A.5.3	*The plans provided with the Audit Brief illustrate the proposed road markings and street lighting columns that appear to be adequate to allow for the safe operation of the local highway network. However, further details are requested for the Stage 2 Road Safety Audit in order to allow a full assessment.*		

ARUN DISTRICT COUNCIL CM/1/17/OUT

A.6 STAGE 1 ROAD SAFETY AUDIT TEAM STATEMENT

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

Audit Team Leader

Name: Jamie Fenning
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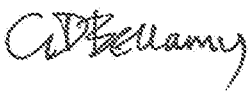
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Date: 05/12/2016

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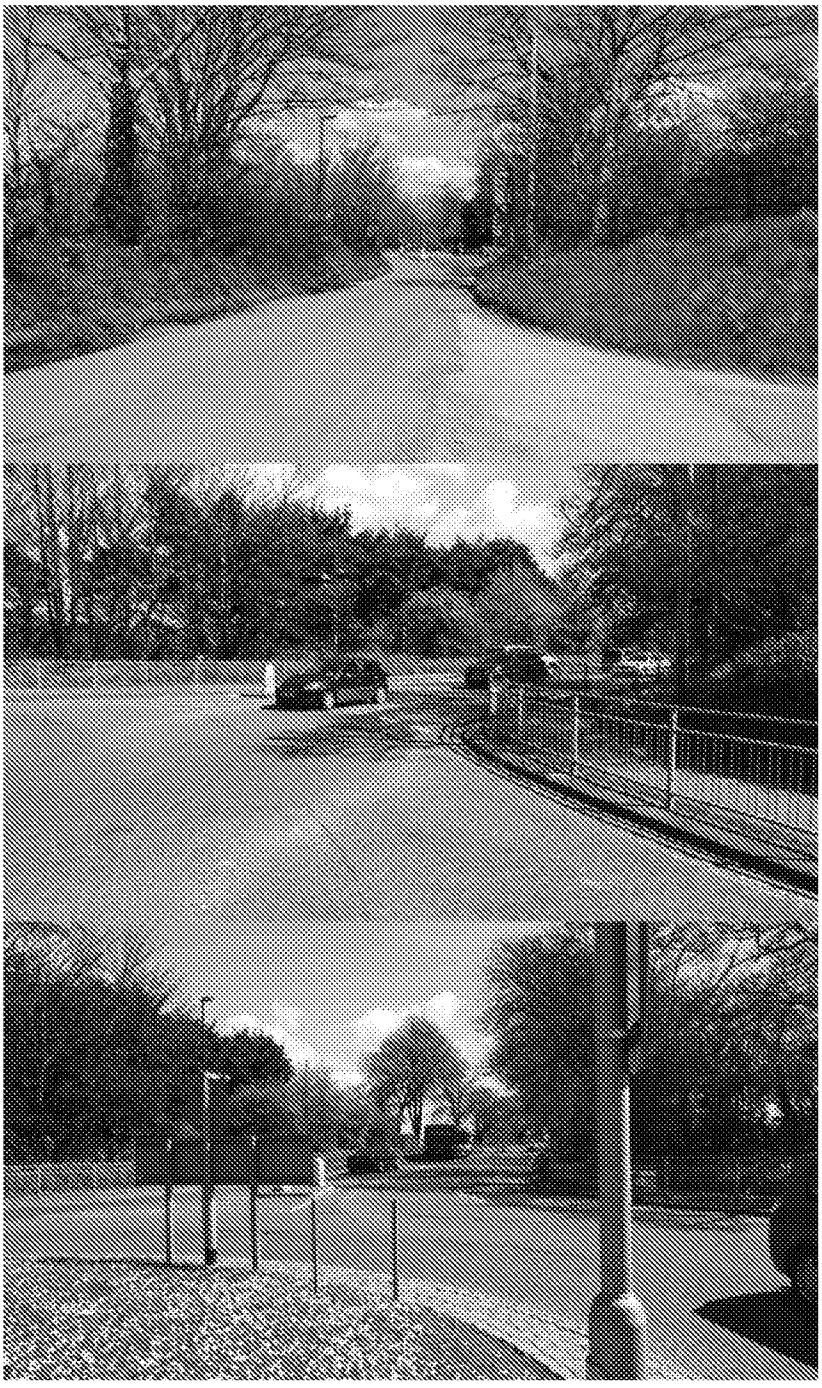
Date: 05/12/2016

ARUN DISTRICT COUNCIL CM/1/17/OUT

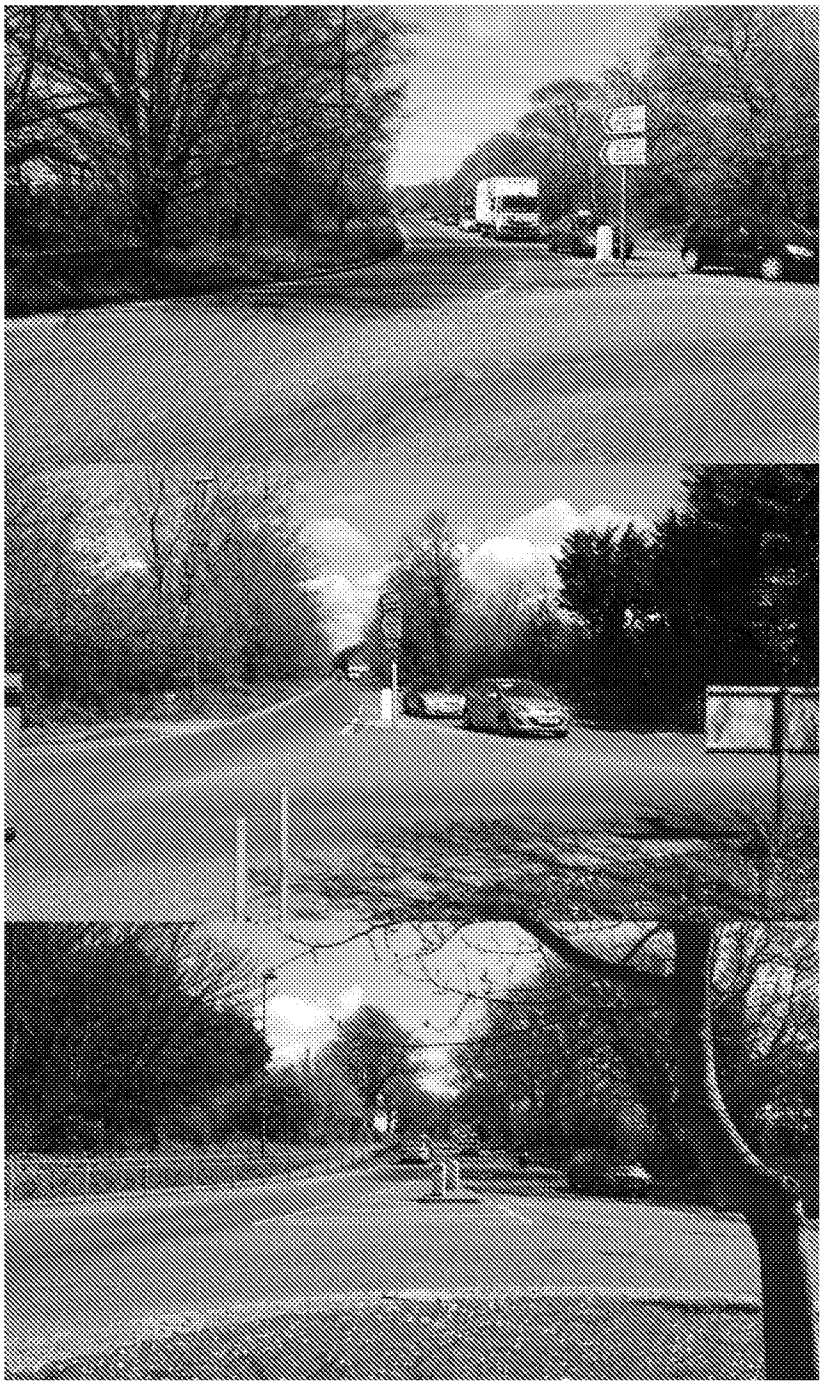
Appendix A1

Photographs from site visit

ARUN DISTRICT COUNCIL CM/1/17/OUT



ARUN DISTRICT COUNCIL CM/1/17/OUT



ARUN DISTRICT COUNCIL CM/1/17/OUT



ARUN DISTRICT COUNCIL CM/1/17/OUT



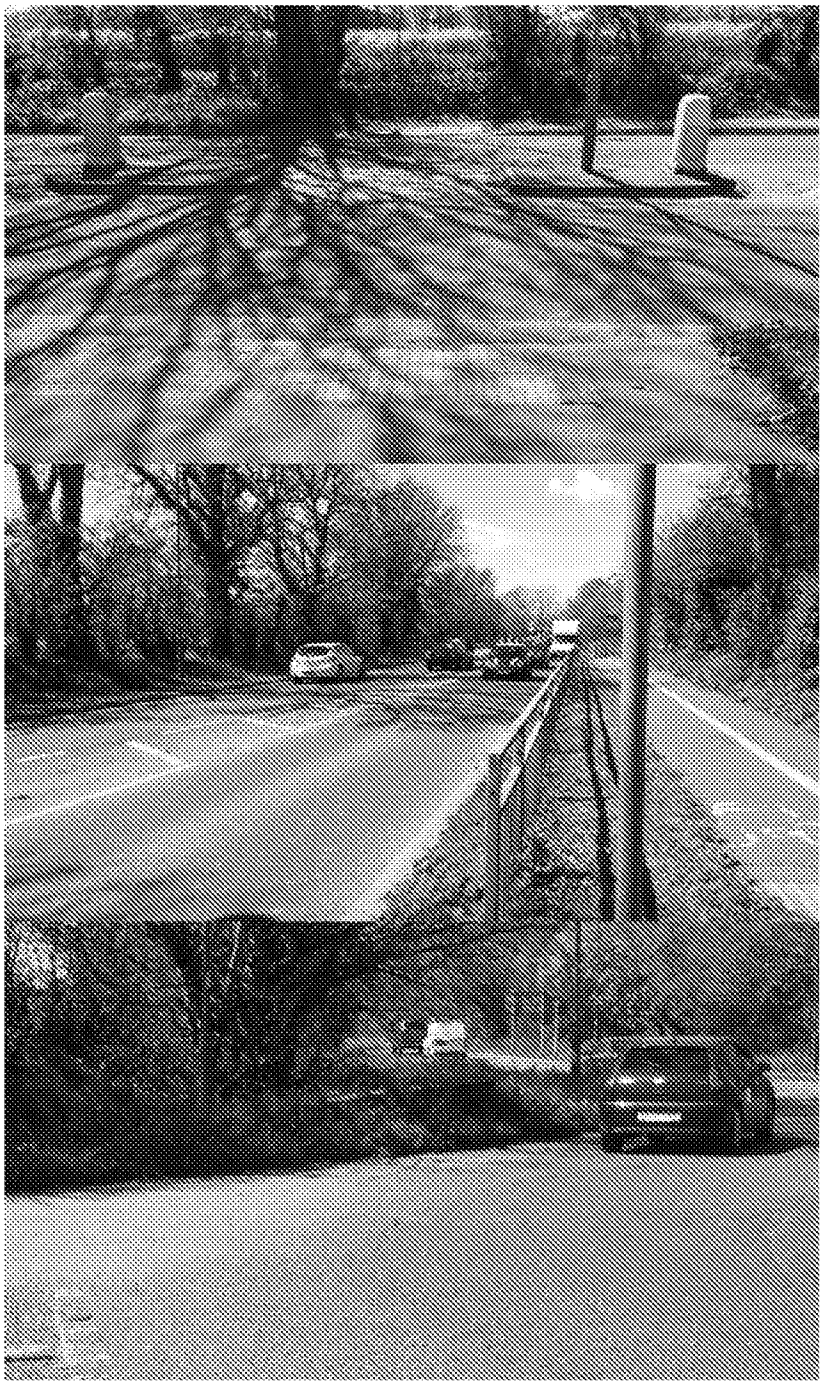
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ARUN DISTRICT COUNCIL CM/1/17/OUT



ARUN DISTRICT COUNCIL CM/1/17/OUT



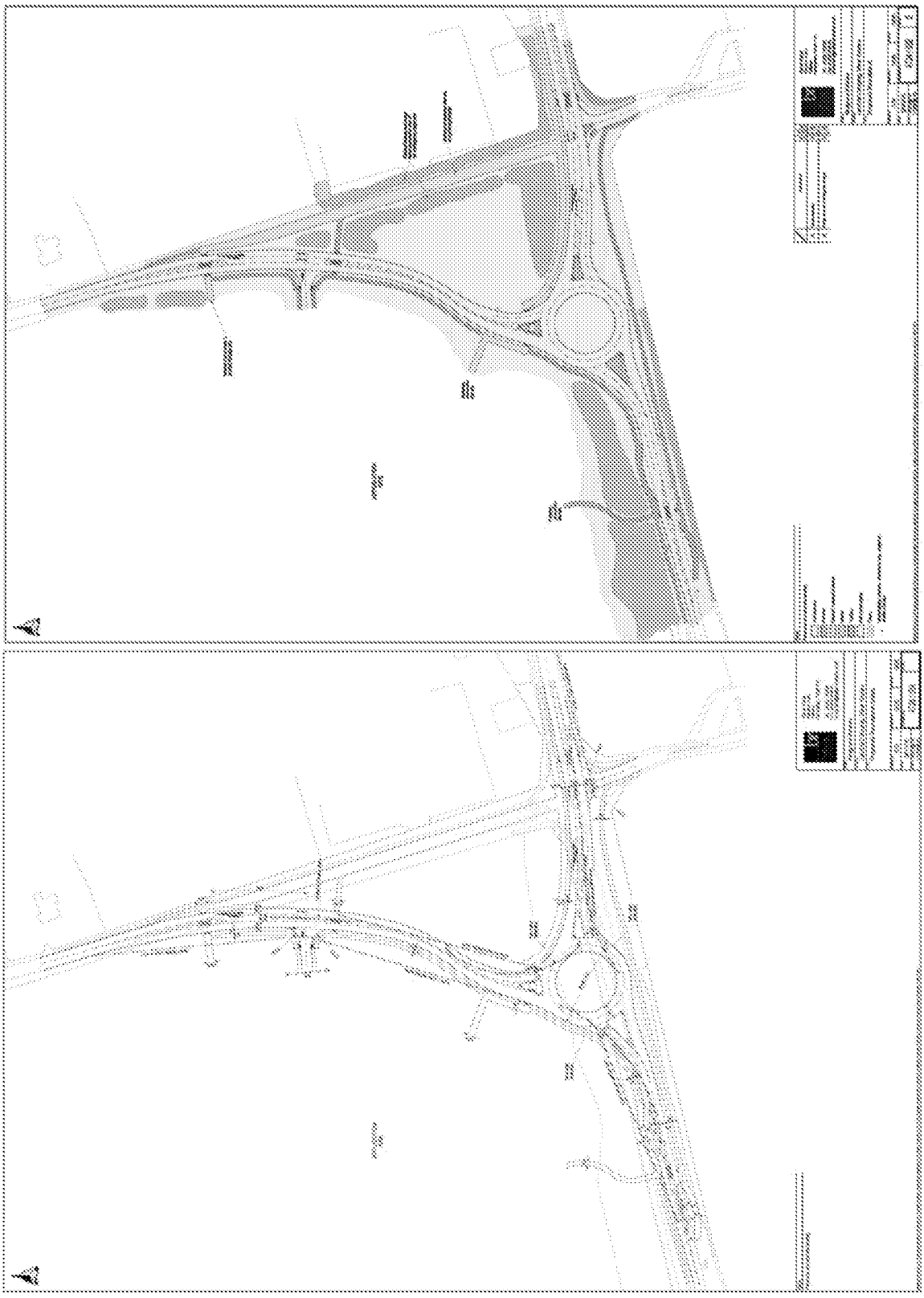
ARUN DISTRICT COUNCIL CM/1/17/OUT

Appendix A2

Drawings provided with the Stage 1 Audit Brief

ARUN DISTRICT COUNCIL CM/1/17/OUT

ARUN DISTRICT COUNCIL CM/1/17/OUT



ARUN DISTRICT COUNCIL CM/1/17/OUT



ARUN DISTRICT COUNCIL CM/1/17/OUT

Appendix A3

Documents associated with the Design Team Response

ARUN DISTRICT COUNCIL CM/1/17/OUT


fenley

APPENDIX 18

Junctions 9

ARCADY 9 - Roundabout Module

Version: 9.0.1.4646 []
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Filename: 4724 - Proposed Rbt (September 2016 Surveys).j9
Path: S:\Admin-Projects\4701-4750\4724\Junctions 9\Proposed New Rbt
Report generation date: 28/10/2016 10:12:23

»2016, AM Network Peak Hour - Base Flows
»2016, PM Network Peak Hour - Base Flows
»2016, AM Network Peak Hour - Base Flows + DevT
»2016, PM Network Peak Hour - Base Flows + DevT
»2021, AM Network Peak Hour - Base Flows
»2021, PM Network Peak Hour - Base Flows
»2021, AM Network Peak Hour - Base Flows + DevT
»2021, PM Network Peak Hour - Base Flows + DevT
»2026, AM Network Peak Hour - Base Flows
»2026, PM Network Peak Hour - Base Flows
»2026, AM Network Peak Hour - Base Flows + DevT
»2026, PM Network Peak Hour - Base Flows + DevT

Summary of junction performance

	AM Network Peak Hour - Base Flows					PM Network Peak Hour - Base Flows					AM Network Peak Hour - Base Flows + DevT					PM Network Peak Hour - Base Flows + DevT				
	Queue (PCU)	Delay (s)	RFC	LOS	Network Residual Capacity	Queue (PCU)	Delay (s)	RFC	LOS	Network Residual Capacity	Queue (PCU)	Delay (s)	RFC	LOS	Network Residual Capacity	Queue (PCU)	Delay (s)	RFC	LOS	Network Residual Capacity
2016																				
1 - A259 (East)	0.3	2.58	0.20	A	371 %	0.2	2.56	0.18	A	395 %	0.2	2.52	0.18	A	404 %	0.3	2.59	0.19	A	339 %
2 - A259 (West)	0.2	2.27	0.13	A		0.2	2.27	0.14	A		0.1	2.27	0.12	A		0.2	2.28	0.15	A	
3 - Realigned Church Lane	0.1	2.44	0.07	A	[1 - A259 (East)]	0.1	2.63	0.11	A	[1 - A259 (East)]	0.1	2.41	0.04	A	[1 - A259 (East)]	0.1	2.58	0.12	A	[1 - A259 (East)]
2021																				
1 - A259 (East)	0.3	2.63	0.21	A	341 %	0.3	2.60	0.19	A	364 %	0.3	2.71	0.22	A	296 %	0.3	2.67	0.21	A	314 %
2 - A259 (West)	0.2	2.30	0.14	A		0.2	2.30	0.15	A		0.2	2.34	0.14	A		0.2	2.34	0.17	A	
3 - Realigned Church Lane	0.1	2.47	0.07	A	[1 - A259 (East)]	0.1	2.67	0.12	A	[1 - A259 (East)]	0.2	2.60	0.12	A	[1 - A259 (East)]	0.2	2.69	0.14	A	[1 - A259 (East)]
2026																				
1 - A259 (East)	0.3	2.68	0.23	A	314 %	0.3	2.65	0.20	A	335 %	0.3	2.58	0.20	A	371 %	0.3	2.72	0.22	A	291 %
2 - A259 (West)	0.2	2.33	0.15	A		0.2	2.33	0.16	A		0.2	2.27	0.13	A		0.2	2.37	0.18	A	
3 - Realigned Church Lane	0.1	2.49	0.08	A	[1 - A259 (East)]	0.2	2.71	0.12	A	[1 - A259 (East)]	0.1	2.44	0.07	A	[1 - A259 (East)]	0.2	2.74	0.15	A	[1 - A259 (East)]

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

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

File summary

File Description

Title	Proposed Roundabout
Location	Climping
Site number	
Date	23/03/2016
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	4724
Enumerator	BR\matttwinberrow
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



The junction diagram reflects the last run of Junctions.

Analysis Options

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

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically	Relationship type	Relationship
D1	2016	AM Network Peak Hour - Base Flows	DIRECT	07:30	09:30	120	15	✓		
D2	2016	PM Network Peak Hour - Base Flows	DIRECT	16:30	18:30	120	15	✓		
D3	2016	AM Development Traffic	ONE HOUR	07:45	09:15		15			
D4	2016	PM Development Traffic	ONE HOUR	15:45	17:15		15			
D5	2016	AM Network Peak Hour - Base Flows + DevT	DIRECT	07:30	09:30	120	15	✓	Simple	D1 + D3
D6	2016	PM Network Peak Hour - Base Flows + DevT	DIRECT	16:30	18:30	120	15	✓	Simple	D2 + D4
D7	2021	AM Network Peak Hour - Base Flows	DIRECT	07:30	09:30	120	15	✓	Simple	D1*G1
D8	2021	PM Network Peak Hour - Base Flows	DIRECT	16:30	18:30	120	15	✓	Simple	D2*G2
D9	2021	AM Network Peak Hour - Base Flows + DevT	DIRECT	07:30	09:30	120	15	✓	Simple	(D1*G1)+D3
D10	2021	PM Network Peak Hour - Base Flows + DevT	DIRECT	16:30	18:30	120	15	✓	Simple	(D2*G2)+D4
D11	2026	AM Network Peak Hour - Base Flows	DIRECT	07:30	09:30	120	15	✓	Simple	D1*G3
D12	2026	PM Network Peak Hour - Base Flows	DIRECT	16:30	18:30	120	15	✓	Simple	D2*G4
D13	2026	AM Network Peak Hour - Base Flows + DevT	DIRECT	07:30	09:30	120	15	✓		
D14	2026	PM Network Peak Hour - Base Flows + DevT	DIRECT	16:30	18:30	120	15	✓	Simple	(D2*G4)+D4

Growth Factors

ID	Description	Use TEMPRO	NTEM Dataset	NTM Dataset	Base year	Future year	Time period	Region	County	Authority	Zone	Area type	Road type	Growth Factor
G1		✓	6.2	NTM AF15 Dataset	2016	2021	Weekday AM Peak Period	SE	West Sussex	Arun	Arun 006 (5077)	Rural	Principal	1.0685
G2	2021 PM Network Peak	✓	6.2	NTM AF15 Dataset	2016	2021	Weekday PM Peak Period	SE	West Sussex	Arun	Arun 006 (5077)	Rural	Principal	1.0671
G3	2026 AM Network Peak	✓	6.2	NTM AF15 Dataset	2016	2026	Weekday AM Peak Period	SE	West Sussex	Arun	Arun 006 (5077)	Rural	Principal	1.1390
G4	2026 PM Network Peak	✓	6.2	NTM AF15 Dataset	2016	2026	Weekday PM Peak Period	SE	West Sussex	Arun	Arun 006 (5077)	Rural	Principal	1.1375

Growth factors are only active if the Demand Set references them in a Relationship.

Analysis Set Details

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

2016, AM Network Peak Hour - Base Flows

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	2 - A259 (West) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Growth Factors	Growth Factor 1	One or more Growth Factors use TEMPRO data. TRL is not responsible for TEMPRO datasets and cannot guarantee their correctness. If in doubt, please use the TEMPRO software directly.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	Proposed Rbt	Standard Roundabout	1,2,3	2.44	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	371	1 - A259 (East)

Arms

Arms

Arm	Name	Description
1	A259 (East)	
2	A259 (West)	
3	Realigned Church Lane	

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit only
1 - A259 (East)	4.00	8.00	15.5	30.0	50.0	26.0	
2 - A259 (West)	3.00	8.00	40.5	35.0	50.0	25.0	
3 - Realigned Church Lane	3.50	8.00	14.5	30.0	50.0	16.0	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
1 - A259 (East)	0.661	1932

2 - A259 (West)	0.690	2071
3 - Realigned Church Lane	0.657	1858

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D1	2016	AM Network Peak Hour - Base Flows	DIRECT	07:30	09:30	120	15	✓

Default vehicle mix	Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)	O-D data varies over time
✓	✓	✓	HV Percentages	2.00	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Scaling Factor (%)
1 - A259 (East)		DIRECT	✓	100.000
2 - A259 (West)		DIRECT	✓	100.000
3 - Realigned Church Lane		DIRECT	✓	100.000

Origin-Destination Data

07:30 - 07:45

Demand (PCU/hr)

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	1	213	139
	2 - A259 (West)	213	0	19
	3 - Realigned Church Lane	61	14	0

Proportions

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	0.00	0.60	0.39
	2 - A259 (West)	0.92	0.00	0.08
	3 - Realigned Church Lane	0.81	0.19	0.00

07:45 - 08:00

Demand (PCU/hr)

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	1	180	138
	2 - A259 (West)	210	0	22
	3 - Realigned Church Lane	73	26	0

Proportions

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	0.00	0.56	0.43
	2 - A259 (West)	0.91	0.00	0.09
	3 - Realigned Church Lane	0.74	0.26	0.00

08:00 - 08:15

Demand (PCU/hr)

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	0	112	62
	2 - A259 (West)	188	0	15
	3 - Realigned Church Lane	81	20	0

Proportions

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	0.00	0.64	0.36
	2 - A259 (West)	0.93	0.00	0.07
	3 - Realigned Church Lane	0.80	0.20	0.00

08:15 - 08:30

Demand (PCU/hr)

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	2	116	56
	2 - A259 (West)	177	0	16
	3 - Realigned Church Lane	72	21	0

Proportions

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	0.01	0.67	0.32
	2 - A259 (West)	0.92	0.00	0.08
	3 - Realigned Church Lane	0.77	0.23	0.00

08:30 - 08:45

Demand (PCU/hr)

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	4	143	57
	2 - A259 (West)	177	0	16
	3 - Realigned Church Lane	98	19	0

Proportions

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	0.02	0.70	0.28
	2 - A259 (West)	0.92	0.00	0.08
	3 - Realigned Church Lane	0.84	0.16	0.00

08:45 - 09:00

Demand (PCU/hr)

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	4	231	132
	2 - A259 (West)	189	0	25
	3 - Realigned Church Lane	74	23	0

Proportions

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	0.01	0.63	0.36
	2 - A259 (West)	0.88	0.00	0.12
	3 - Realigned Church Lane	0.76	0.24	0.00

09:00 - 09:15

Demand (PCU/hr)

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	1	258	122
	2 - A259 (West)	190	0	14
	3 - Realigned Church Lane	64	25	0

Proportions

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	0.00	0.68	0.32
	2 - A259 (West)	0.93	0.00	0.07
	3 - Realigned Church Lane	0.72	0.28	0.00

09:15 - 09:30

Demand (PCU/hr)

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	2	177	77
	2 - A259 (West)	247	0	22
	3 - Realigned Church Lane	50	14	0

Proportions

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	0.01	0.69	0.30
	2 - A259 (West)	0.92	0.00	0.08
	3 - Realigned Church Lane	0.78	0.22	0.00

Vehicle Mix

Heavy Vehicle Percentages

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	10	10	10
	2 - A259 (West)	10	10	10
	3 - Realigned Church Lane	10	10	10

Average PCU Per Veh

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	1.100	1.100	1.100
	2 - A259 (West)	1.100	1.100	1.100
	3 - Realigned Church Lane	1.100	1.100	1.100

Detailed Demand Data

Demand for each time segment

Time Segment	Arm	Demand (PCU/hr)	Demand in PCU (PCU/hr)
07:30-07:45	1 - A259 (East)	353	353
	2 - A259 (West)	232	232
	3 - Realigned Church Lane	75	75
07:45-08:00	1 - A259 (East)	319	319
	2 - A259 (West)	232	232
	3 - Realigned Church Lane	99	99
08:00-08:15	1 - A259 (East)	174	174
	2 - A259 (West)	203	203
	3 - Realigned Church Lane	101	101
08:15-08:30	1 - A259 (East)	174	174
	2 - A259 (West)	193	193
	3 - Realigned Church Lane	93	93
08:30-08:45	1 - A259 (East)	204	204
	2 - A259 (West)	193	193
	3 - Realigned Church Lane	117	117
08:45-09:00	1 - A259 (East)	367	367

	2 - A259 (West)	214	214
	3 - Realigned Church Lane	97	97
09:00-09:15	1 - A259 (East)	381	381
	2 - A259 (West)	204	204
	3 - Realigned Church Lane	89	89
09:15-09:30	1 - A259 (East)	256	256
	2 - A259 (West)	269	269
	3 - Realigned Church Lane	64	64

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - A259 (East)	0.20	2.58	0.3	A	279	557
2 - A259 (West)	0.13	2.27	0.2	A	218	435
3 - Realigned Church Lane	0.07	2.44	0.1	A	92	184

Main Results for each time segment

07:30 - 07:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - A259 (East)	353	88	14	1923	0.184	352	274	0.0	0.2	2.519	A
2 - A259 (West)	232	58	140	1975	0.117	231	226	0.0	0.1	2.271	A
3 - Realigned Church Lane	75	19	213	1718	0.044	75	158	0.0	0.1	2.410	A

07:45 - 08:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - A259 (East)	319	80	26	1915	0.167	319	284	0.2	0.2	2.482	A
2 - A259 (West)	232	58	139	1976	0.117	232	206	0.1	0.1	2.270	A
3 - Realigned Church Lane	99	25	211	1719	0.058	99	160	0.1	0.1	2.443	A

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - A259 (East)	174	44	20	1919	0.091	174	269	0.2	0.1	2.271	A
2 - A259 (West)	203	51	62	2028	0.100	203	132	0.1	0.1	2.170	A
3 - Realigned Church Lane	101	25	188	1734	0.058	101	77	0.1	0.1	2.424	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - A259 (East)	174	44	21	1919	0.091	174	251	0.1	0.1	2.271	A
2 - A259 (West)	193	48	58	2031	0.095	193	137	0.1	0.1	2.153	A
3 - Realigned Church Lane	93	23	179	1740	0.053	93	72	0.1	0.1	2.405	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - A259 (East)	204	51	19	1920	0.106	204	279	0.1	0.1	2.307	A
2 - A259 (West)	193	48	61	2029	0.095	193	162	0.1	0.1	2.157	A
3 - Realigned Church Lane	117	29	181	1739	0.067	117	73	0.1	0.1	2.441	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - A259 (East)	367	92	23	1917	0.191	366	267	0.1	0.3	2.553	A
2 - A259 (West)	214	54	136	1978	0.108	214	254	0.1	0.1	2.244	A
3 - Realigned Church Lane	97	24	193	1731	0.056	97	157	0.1	0.1	2.425	A

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - A259 (East)	381	95	25	1916	0.199	381	255	0.3	0.3	2.579	A
2 - A259 (West)	204	51	123	1987	0.103	204	283	0.1	0.1	2.221	A
3 - Realigned Church Lane	89	22	191	1732	0.051	89	136	0.1	0.1	2.409	A

09:15 - 09:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - A259 (East)	256	64	14	1923	0.133	256	299	0.3	0.2	2.377	A
2 - A259 (West)	269	67	79	2017	0.133	269	191	0.1	0.2	2.265	A

3 - Realigned Church Lane	64	16	249	1694	0.038	64	99	0.1	0.0	2.430	A

2016, PM Network Peak Hour - Base Flows

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	2 - A259 (West) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Growth Factors	Growth Factor 1	One or more Growth Factors use TEMPRO data. TRL is not responsible for TEMPRO datasets and cannot guarantee their correctness. If in doubt, please use the TEMPRO software directly.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	Proposed Rbt	Standard Roundabout	1,2,3	2.46	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	395	1 - A259 (East)

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D2	2016	PM Network Peak Hour - Base Flows	DIRECT	16:30	18:30	120	15	✓

Default vehicle mix	Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)	O-D data varies over time
✓	✓	✓	HV Percentages	2.00	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Scaling Factor (%)
1 - A259 (East)		DIRECT	✓	100.000
2 - A259 (West)		DIRECT	✓	100.000
3 - Realigned Church Lane		DIRECT	✓	100.000

Origin-Destination Data

16:30 - 16:45

Demand (PCU/hr)

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	2	282	48
	2 - A259 (West)	237	0	20
	3 - Realigned Church Lane	100	53	1

Proportions

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	0.01	0.85	0.14
	2 - A259 (West)	0.92	0.00	0.08
	3 - Realigned Church Lane	0.65	0.34	0.01

16:45 - 17:00

Demand (PCU/hr)

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	2	237	53
	2 - A259 (West)	252	1	21
	3 - Realigned Church Lane	91	52	0

Proportions

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	0.01	0.81	0.18
	2 - A259 (West)	0.92	0.00	0.08
	3 - Realigned Church Lane	0.64	0.36	0.00

17:00 - 17:15

Demand (PCU/hr)

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	5	285	42
	2 - A259 (West)	251	1	16
	3 - Realigned Church Lane	101	80	0

Proportions

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	0.02	0.86	0.13
	2 - A259 (West)	0.94	0.00	0.06
	3 - Realigned Church Lane	0.56	0.44	0.00

17:15 - 17:30

Demand (PCU/hr)

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	3	268	60
	2 - A259 (West)	265	0	17
	3 - Realigned Church Lane	66	50	0

Proportions

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	0.01	0.81	0.18
	2 - A259 (West)	0.94	0.00	0.06
	3 - Realigned Church Lane	0.57	0.43	0.00

17:30 - 17:45

Demand (PCU/hr)

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	5	278	51
	2 - A259 (West)	253	1	23
	3 - Realigned Church Lane	60	46	0

Proportions

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	0.01	0.83	0.15
	2 - A259 (West)	0.91	0.00	0.08
	3 - Realigned Church Lane	0.57	0.43	0.00

17:45 - 18:00

Demand (PCU/hr)

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	3	260	58
	2 - A259 (West)	239	0	24
	3 - Realigned Church Lane	59	39	0

Proportions

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	0.01	0.81	0.18
	2 - A259 (West)	0.91	0.00	0.09
	3 - Realigned Church Lane	0.60	0.40	0.00

18:00 - 18:15

Demand (PCU/hr)

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	1	208	48
	2 - A259 (West)	240	1	22
	3 - Realigned Church Lane	61	37	0

Proportions

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	0.00	0.81	0.19
	2 - A259 (West)	0.91	0.00	0.08
	3 - Realigned Church Lane	0.62	0.38	0.00

18:15 - 18:30

Demand (PCU/hr)

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	3	247	21
	2 - A259 (West)	186	2	9
	3 - Realigned Church Lane	104	33	0

Proportions

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	0.01	0.91	0.08
	2 - A259 (West)	0.94	0.01	0.05
	3 - Realigned Church Lane	0.76	0.24	0.00

Vehicle Mix

Heavy Vehicle Percentages

From	To			
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
	1 - A259 (East)	10	10	10
	2 - A259 (West)	10	10	10
	3 - Realigned Church Lane	10	10	10

Average PCU Per Veh

From	To			
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
	1 - A259 (East)	1.100	1.100	1.100
	2 - A259 (West)	1.100	1.100	1.100
	3 - Realigned Church Lane	1.100	1.100	1.100

Detailed Demand Data

Demand for each time segment

Time Segment	Arm	Demand (PCU/hr)	Demand in PCU (PCU/hr)
16:30-16:45	1 - A259 (East)	332	332
	2 - A259 (West)	257	257
	3 - Realigned Church Lane	154	154
16:45-17:00	1 - A259 (East)	292	292
	2 - A259 (West)	274	274
	3 - Realigned Church Lane	143	143
17:00-17:15	1 - A259 (East)	332	332
	2 - A259 (West)	268	268
	3 - Realigned Church Lane	181	181
17:15-17:30	1 - A259 (East)	331	331
	2 - A259 (West)	282	282
	3 - Realigned Church Lane	116	116
17:30-17:45	1 - A259 (East)	334	334
	2 - A259 (West)	277	277
	3 - Realigned Church Lane	106	106
17:45-18:00	1 - A259 (East)	321	321
	2 - A259 (West)	263	263
	3 - Realigned Church Lane	98	98
18:00-18:15	1 - A259 (East)	257	257
	2 - A259 (West)	263	263
	3 - Realigned Church Lane	98	98
18:15-18:30	1 - A259 (East)	271	271
	2 - A259 (West)	197	197
	3 - Realigned Church Lane	137	137

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - A259 (East)	0.18	2.56	0.2	A	309	618
2 - A259 (West)	0.14	2.27	0.2	A	260	520
3 - Realigned Church Lane	0.11	2.63	0.1	A	129	258

Main Results for each time segment

16:30 - 16:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - A259 (East)	332	83	54	1897	0.175	331	338	0.0	0.2	2.528	A
2 - A259 (West)	257	64	51	2036	0.126	256	334	0.0	0.2	2.225	A
3 - Realigned Church Lane	154	39	238	1701	0.091	154	69	0.0	0.1	2.559	A

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - A259 (East)	292	73	53	1897	0.154	292	345	0.2	0.2	2.468	A
2 - A259 (West)	274	69	55	2033	0.135	274	290	0.2	0.2	2.250	A
3 - Realigned Church Lane	143	36	255	1690	0.085	143	74	0.1	0.1	2.560	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - A259 (East)	332	83	81	1879	0.177	332	357	0.2	0.2	2.559	A
2 - A259 (West)	268	67	47	2039	0.131	268	366	0.2	0.2	2.235	A
3 - Realigned Church Lane	181	45	257	1689	0.107	181	58	0.1	0.1	2.625	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - A259 (East)	331	83	50	1899	0.174	331	334	0.2	0.2	2.524	A
2 - A259 (West)	282	71	63	2028	0.139	282	318	0.2	0.2	2.267	A
3 - Realigned Church Lane	116	29	268	1682	0.069	116	77	0.1	0.1	2.529	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - A259 (East)	334	84	47	1901	0.176	334	318	0.2	0.2	2.526	A
2 - A259 (West)	277	69	56	2033	0.136	277	325	0.2	0.2	2.255	A
3 - Realigned Church Lane	106	27	259	1688	0.063	106	74	0.1	0.1	2.503	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - A259 (East)	321	80	39	1907	0.168	321	301	0.2	0.2	2.497	A
2 - A259 (West)	263	66	61	2029	0.130	263	299	0.2	0.2	2.241	A
3 - Realigned Church Lane	98	25	242	1699	0.058	98	82	0.1	0.1	2.475	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - A259 (East)	257	64	38	1907	0.135	257	302	0.2	0.2	2.399	A
2 - A259 (West)	263	66	49	2038	0.129	263	246	0.2	0.2	2.232	A
3 - Realigned Church Lane	98	25	242	1699	0.058	98	70	0.1	0.1	2.473	A

18:15 - 18:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - A259 (East)	271	68	35	1909	0.142	271	293	0.2	0.2	2.416	A
2 - A259 (West)	197	49	24	2055	0.096	197	282	0.2	0.1	2.133	A
3 - Realigned Church Lane	137	34	191	1732	0.079	137	30	0.1	0.1	2.481	A

2016, AM Network Peak Hour - Base Flows + DevT

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	2 - A259 (West) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Growth Factors	Growth Factor 1	One or more Growth Factors use TEMPRO data. TRL is not responsible for TEMPRO datasets and cannot guarantee their correctness. If in doubt, please use the TEMPRO software directly.
Warning	Profile Type	D5 - 2016, AM Network Peak Hour - Base Flows + DevT	The DIRECT profile type is being used with the 'O-D data varies over time' option, but O-D data does not vary over time. Are you sure this is correct?

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	Proposed Rbt	Standard Roundabout	1,2,3	2.42	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	404	1 - A259 (East)

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically	Relationship type	Relationship
D5	2016	AM Network Peak Hour - Base Flows + DevT	DIRECT	07:30	09:30	120	15	✓	Simple	D1 + D3

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	Scaling Factor (%)
1 - A259 (East)		DIRECT	✓	100.000
2 - A259 (West)		DIRECT	✓	100.000
3 - Realigned Church Lane		DIRECT	✓	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	1	213	139
	2 - A259 (West)	213	0	19
	3 - Realigned Church Lane	61	14	0

Proportions

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	0.00	0.60	0.39
	2 - A259 (West)	0.92	0.00	0.08
	3 - Realigned Church Lane	0.81	0.19	0.00

Vehicle Mix

Heavy Vehicle Percentages

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	10	10	10
	2 - A259 (West)	10	0	10
	3 - Realigned Church Lane	10	10	0

Average PCU Per Veh

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	1.100	1.100	1.100
	2 - A259 (West)	1.100	1.000	1.100
	3 - Realigned Church Lane	1.100	1.100	1.000

Detailed Demand Data

Demand for each time segment

Time Segment	Arm	Demand (PCU/hr)	Demand in PCU (PCU/hr)
07:30-07:45	1 - A259 (East)	353	353
	2 - A259 (West)	232	232
	3 - Realigned Church Lane	75	75
07:45-08:00	1 - A259 (East)	353	353
	2 - A259 (West)	232	232
	3 - Realigned Church Lane	75	75
08:00-08:15	1 - A259 (East)	353	353
	2 - A259 (West)	232	232
	3 - Realigned Church Lane	75	75
08:15-08:30	1 - A259 (East)	353	353
	2 - A259 (West)	232	232
	3 - Realigned Church Lane	75	75
08:30-08:45	1 - A259 (East)	353	353
	2 - A259 (West)	232	232
	3 - Realigned Church Lane	75	75
08:45-09:00	1 - A259 (East)	353	353
	2 - A259 (West)	232	232
	3 - Realigned Church Lane	75	75
09:00-09:15	1 - A259 (East)	353	353
	2 - A259 (West)	232	232
	3 - Realigned Church Lane	75	75
09:15-09:30	1 - A259 (East)	353	353
	2 - A259 (West)	232	232
	3 - Realigned Church Lane	75	75

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - A259 (East)	0.18	2.52	0.2	A	353	706
2 - A259 (West)	0.12	2.27	0.1	A	232	464
3 - Realigned Church Lane	0.04	2.41	0.1	A	75	150

Main Results for each time segment

07:30 - 07:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - A259 (East)	353	88	14	1923	0.184	352	274	0.0	0.2	2.519	A
2 - A259 (West)	232	58	140	1975	0.117	231	226	0.0	0.1	2.271	A
3 - Realigned Church Lane	75	19	213	1718	0.044	75	158	0.0	0.1	2.410	A

07:45 - 08:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - A259 (East)	353	88	14	1923	0.184	353	275	0.2	0.2	2.521	A
2 - A259 (West)	232	58	140	1975	0.117	232	227	0.1	0.1	2.271	A
3 - Realigned Church Lane	75	19	214	1717	0.044	75	158	0.1	0.1	2.410	A

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - A259 (East)	353	88	14	1923	0.184	353	275	0.2	0.2	2.521	A
2 - A259 (West)	232	58	140	1975	0.117	232	227	0.1	0.1	2.271	A
3 - Realigned Church Lane	75	19	214	1717	0.044	75	158	0.1	0.1	2.410	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS

1 - A259 (East)	353	88	14	1923	0.184	353	275	0.2	0.2	2.521	A
2 - A259 (West)	232	58	140	1975	0.117	232	227	0.1	0.1	2.271	A
3 - Realigned Church Lane	75	19	214	1717	0.044	75	158	0.1	0.1	2.410	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - A259 (East)	353	88	14	1923	0.184	353	275	0.2	0.2	2.521	A
2 - A259 (West)	232	58	140	1975	0.117	232	227	0.1	0.1	2.271	A
3 - Realigned Church Lane	75	19	214	1717	0.044	75	158	0.1	0.1	2.412	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - A259 (East)	353	88	14	1923	0.184	353	275	0.2	0.2	2.521	A
2 - A259 (West)	232	58	140	1975	0.117	232	227	0.1	0.1	2.271	A
3 - Realigned Church Lane	75	19	214	1717	0.044	75	158	0.1	0.1	2.410	A

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - A259 (East)	353	88	14	1923	0.184	353	275	0.2	0.2	2.521	A
2 - A259 (West)	232	58	140	1975	0.117	232	227	0.1	0.1	2.271	A
3 - Realigned Church Lane	75	19	214	1717	0.044	75	158	0.1	0.1	2.410	A

09:15 - 09:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - A259 (East)	353	88	14	1923	0.184	353	275	0.2	0.2	2.521	A
2 - A259 (West)	232	58	140	1975	0.117	232	227	0.1	0.1	2.271	A
3 - Realigned Church Lane	75	19	214	1717	0.044	75	158	0.1	0.1	2.410	A

2016, PM Network Peak Hour - Base Flows + DevT

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	2 - A259 (West) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Warning	Growth Factors	Growth Factor 1	One or more Growth Factors use TEMPRO data. TRL is not responsible for TEMPRO datasets and cannot guarantee their correctness. If in doubt, please use the TEMPRO software directly.
Warning	Profile Type	D6 - 2016, PM Network Peak Hour - Base Flows + DevT	The DIRECT profile type is being used with the 'O-D data varies over time' option, but O-D data does not vary over time. Are you sure this is correct?

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	Proposed Rbt	Standard Roundabout	1,2,3	2.48	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	339	1 - A259 (East)

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically	Relationship type	Relationship
D6	2016	PM Network Peak Hour - Base Flows + DevT	DIRECT	16:30	18:30	120	15	✓	Simple	D2 + D4

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	Scaling Factor (%)
1 - A259 (East)		DIRECT	✓	100.000
2 - A259 (West)		DIRECT	✓	100.000
3 - Realigned Church Lane		DIRECT	✓	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	2	282	79
	2 - A259 (West)	237	0	66
	3 - Realigned Church Lane	118	79	1

Proportions

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	0.01	0.78	0.22
	2 - A259 (West)	0.78	0.00	0.22
	3 - Realigned Church Lane	0.60	0.40	0.01

Vehicle Mix

Heavy Vehicle Percentages

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	10	10	6
	2 - A259 (West)	10	0	3
	3 - Realigned Church Lane	8	6	10

Average PCU Per Veh

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	1.100	1.100	1.058
	2 - A259 (West)	1.100	1.000	1.028
	3 - Realigned Church Lane	1.083	1.065	1.100

Detailed Demand Data

Demand for each time segment

Time Segment	Arm	Demand (PCU/hr)	Demand in PCU (PCU/hr)
16:30-16:45	1 - A259 (East)	363	363
	2 - A259 (West)	303	303
	3 - Realigned Church Lane	198	198
16:45-17:00	1 - A259 (East)	363	363
	2 - A259 (West)	303	303
	3 - Realigned Church Lane	198	198
17:00-17:15	1 - A259 (East)	363	363
	2 - A259 (West)	303	303
	3 - Realigned Church Lane	198	198
17:15-17:30	1 - A259 (East)	363	363
	2 - A259 (West)	303	303
	3 - Realigned Church Lane	198	198
17:30-17:45	1 - A259 (East)	363	363
	2 - A259 (West)	303	303
	3 - Realigned Church Lane	198	198
17:45-18:00	1 - A259 (East)	363	363

	2 - A259 (West)	303	303
	3 - Realigned Church Lane	198	198
18:00-18:15	1 - A259 (East)	363	363
	2 - A259 (West)	303	303
	3 - Realigned Church Lane	198	198
18:15-18:30	1 - A259 (East)	363	363
	2 - A259 (West)	303	303
	3 - Realigned Church Lane	198	198

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - A259 (East)	0.19	2.59	0.3	A	363	726
2 - A259 (West)	0.15	2.28	0.2	A	303	606
3 - Realigned Church Lane	0.12	2.58	0.1	A	198	396

Main Results for each time segment

16:30 - 16:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - A259 (East)	363	91	80	1880	0.193	362	356	0.0	0.3	2.586	A
2 - A259 (West)	303	76	82	2015	0.150	302	360	0.0	0.2	2.276	A
3 - Realigned Church Lane	198	50	238	1701	0.116	197	146	0.0	0.1	2.576	A

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - A259 (East)	363	91	80	1880	0.193	363	357	0.3	0.3	2.588	A
2 - A259 (West)	303	76	82	2015	0.150	303	361	0.2	0.2	2.278	A
3 - Realigned Church Lane	198	50	239	1701	0.116	198	146	0.1	0.1	2.577	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - A259 (East)	363	91	80	1880	0.193	363	357	0.3	0.3	2.588	A
2 - A259 (West)	303	76	82	2015	0.150	303	361	0.2	0.2	2.278	A
3 - Realigned Church Lane	198	50	239	1701	0.116	198	146	0.1	0.1	2.577	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - A259 (East)	363	91	80	1880	0.193	363	357	0.3	0.3	2.588	A
2 - A259 (West)	303	76	82	2015	0.150	303	361	0.2	0.2	2.278	A
3 - Realigned Church Lane	198	50	239	1701	0.116	198	146	0.1	0.1	2.577	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - A259 (East)	363	91	80	1880	0.193	363	357	0.3	0.3	2.588	A
2 - A259 (West)	303	76	82	2015	0.150	303	361	0.2	0.2	2.278	A
3 - Realigned Church Lane	198	50	239	1701	0.116	198	146	0.1	0.1	2.577	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - A259 (East)	363	91	80	1880	0.193	363	357	0.3	0.3	2.588	A
2 - A259 (West)	303	76	82	2015	0.150	303	361	0.2	0.2	2.278	A
3 - Realigned Church Lane	198	50	239	1701	0.116	198	146	0.1	0.1	2.577	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - A259 (East)	363	91	80	1880	0.193	363	357	0.3	0.3	2.588	A
2 - A259 (West)	303	76	82	2015	0.150	303	361	0.2	0.2	2.278	A
3 - Realigned Church Lane	198	50	239	1701	0.116	198	146	0.1	0.1	2.579	A

18:15 - 18:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - A259 (East)	363	91	80	1880	0.193	363	357	0.3	0.3	2.588	A
2 - A259 (West)	303	76	82	2015	0.150	303	361	0.2	0.2	2.278	A

3 - Realigned Church Lane	198	50	239	1701	0.116	198	146	0.1	0.1	2.577	A

2021, AM Network Peak Hour - Base Flows

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	2 - A259 (West) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Growth Factors	Growth Factor 1	One or more Growth Factors use TEMPRO data. TRL is not responsible for TEMPRO datasets and cannot guarantee their correctness. If in doubt, please use the TEMPRO software directly.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	Proposed Rbt	Standard Roundabout	1,2,3	2.48	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	341	1 - A259 (East)

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically	Relationship type	Relationship
D7	2021	AM Network Peak Hour - Base Flows	DIRECT	07:30	09:30	120	15	✓	Simple	D1*G1

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)	O-D data varies over time
✓	✓	HV Percentages	2.00	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Scaling Factor (%)
1 - A259 (East)		DIRECT	✓	100.000
2 - A259 (West)		DIRECT	✓	100.000
3 - Realigned Church Lane		DIRECT	✓	100.000

Origin-Destination Data

07:30 - 07:45

Demand (PCU/hr)

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	1	228	149
	2 - A259 (West)	228	0	20
	3 - Realigned Church Lane	65	15	0

Proportions

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	0.00	0.60	0.39
	2 - A259 (West)	0.92	0.00	0.08
	3 - Realigned Church Lane	0.81	0.19	0.00

07:45 - 08:00

Demand (PCU/hr)

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	1	192	147
	2 - A259 (West)	224	0	24
	3 - Realigned Church Lane	78	28	0

Proportions

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	0.00	0.56	0.43
	2 - A259 (West)	0.91	0.00	0.09
	3 - Realigned Church Lane	0.74	0.26	0.00

08:00 - 08:15

Demand (PCU/hr)

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	0	120	66
	2 - A259 (West)	201	0	16
	3 - Realigned Church Lane	87	21	0

Proportions

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	0.00	0.64	0.36
	2 - A259 (West)	0.93	0.00	0.07
	3 - Realigned Church Lane	0.80	0.20	0.00

08:15 - 08:30

Demand (PCU/hr)

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	2	124	60
	2 - A259 (West)	189	0	17
	3 - Realigned Church Lane	77	22	0

Proportions

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	0.01	0.67	0.32
	2 - A259 (West)	0.92	0.00	0.08
	3 - Realigned Church Lane	0.77	0.23	0.00

08:30 - 08:45

Demand (PCU/hr)

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	4	153	61
	2 - A259 (West)	189	0	17
	3 - Realigned Church Lane	105	20	0

Proportions

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	0.02	0.70	0.28
	2 - A259 (West)	0.92	0.00	0.08
	3 - Realigned Church Lane	0.84	0.16	0.00

08:45 - 09:00

Demand (PCU/hr)

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	4	247	141
	2 - A259 (West)	202	0	27
	3 - Realigned Church Lane	79	25	0

Proportions

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	0.01	0.63	0.36
	2 - A259 (West)	0.88	0.00	0.12
	3 - Realigned Church Lane	0.76	0.24	0.00

09:00 - 09:15

Demand (PCU/hr)

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	1	276	130
	2 - A259 (West)	203	0	15
	3 - Realigned Church Lane	68	27	0

Proportions

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	0.00	0.68	0.32
	2 - A259 (West)	0.93	0.00	0.07
	3 - Realigned Church Lane	0.72	0.28	0.00

09:15 - 09:30

Demand (PCU/hr)

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	2	189	82
	2 - A259 (West)	264	0	24
	3 - Realigned Church Lane	53	15	0

Proportions

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	0.01	0.69	0.30
	2 - A259 (West)	0.92	0.00	0.08
	3 - Realigned Church Lane	0.78	0.22	0.00

Vehicle Mix

Heavy Vehicle Percentages

From	To			
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
	1 - A259 (East)	10	10	10
	2 - A259 (West)	10	0	10
	3 - Realigned Church Lane	10	10	0

Average PCU Per Veh

From	To			
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
	1 - A259 (East)	1.100	1.100	1.100
	2 - A259 (West)	1.100	1.000	1.100
	3 - Realigned Church Lane	1.100	1.100	1.000

Detailed Demand Data

Demand for each time segment

Time Segment	Arm	Demand (PCU/hr)	Demand in PCU (PCU/hr)
07:30-07:45	1 - A259 (East)	377	377
	2 - A259 (West)	248	248
	3 - Realigned Church Lane	80	80
07:45-08:00	1 - A259 (East)	341	341
	2 - A259 (West)	248	248
	3 - Realigned Church Lane	106	106
08:00-08:15	1 - A259 (East)	186	186
	2 - A259 (West)	217	217
	3 - Realigned Church Lane	108	108
08:15-08:30	1 - A259 (East)	186	186
	2 - A259 (West)	206	206
	3 - Realigned Church Lane	99	99
08:30-08:45	1 - A259 (East)	218	218
	2 - A259 (West)	206	206
	3 - Realigned Church Lane	125	125
08:45-09:00	1 - A259 (East)	392	392
	2 - A259 (West)	229	229
	3 - Realigned Church Lane	104	104
09:00-09:15	1 - A259 (East)	407	407
	2 - A259 (West)	218	218
	3 - Realigned Church Lane	95	95
09:15-09:30	1 - A259 (East)	274	274
	2 - A259 (West)	287	287
	3 - Realigned Church Lane	68	68

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - A259 (East)	0.21	2.63	0.3	A	298	595
2 - A259 (West)	0.14	2.30	0.2	A	232	465
3 - Realigned Church Lane	0.07	2.47	0.1	A	98	196

Main Results for each time segment

07:30 - 07:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - A259 (East)	377	94	15	1923	0.196	376	293	0.0	0.3	2.559	A
2 - A259 (West)	248	62	149	1968	0.126	247	242	0.0	0.2	2.301	A
3 - Realigned Church Lane	80	20	228	1708	0.047	80	168	0.0	0.1	2.432	A

07:45 - 08:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - A259 (East)	341	85	28	1914	0.178	341	303	0.3	0.2	2.518	A
2 - A259 (West)	248	62	149	1969	0.126	248	220	0.2	0.2	2.300	A
3 - Realigned Church Lane	106	26	225	1710	0.062	106	171	0.1	0.1	2.468	A

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - A259 (East)	186	46	21	1918	0.097	186	287	0.2	0.1	2.286	A
2 - A259 (West)	217	54	66	2026	0.107	217	141	0.2	0.1	2.191	A
3 - Realigned Church Lane	108	27	201	1726	0.063	108	83	0.1	0.1	2.447	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - A259 (East)	186	46	22	1918	0.097	186	268	0.1	0.1	2.286	A
2 - A259 (West)	206	52	62	2029	0.102	206	146	0.1	0.1	2.172	A
3 - Realigned Church Lane	99	25	191	1732	0.057	99	77	0.1	0.1	2.424	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - A259 (East)	218	54	20	1919	0.114	218	298	0.1	0.1	2.327	A
2 - A259 (West)	206	52	65	2026	0.102	206	173	0.1	0.1	2.175	A
3 - Realigned Church Lane	125	31	193	1731	0.072	125	78	0.1	0.1	2.465	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - A259 (East)	392	98	25	1916	0.205	392	285	0.1	0.3	2.597	A
2 - A259 (West)	229	57	145	1971	0.116	229	271	0.1	0.1	2.271	A
3 - Realigned Church Lane	104	26	206	1722	0.060	104	167	0.1	0.1	2.448	A

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - A259 (East)	407	102	27	1915	0.213	407	273	0.3	0.3	2.626	A
2 - A259 (West)	218	54	131	1981	0.110	218	302	0.1	0.1	2.247	A
3 - Realigned Church Lane	95	24	204	1724	0.055	95	145	0.1	0.1	2.433	A

09:15 - 09:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - A259 (East)	274	68	15	1923	0.142	274	319	0.3	0.2	2.402	A
2 - A259 (West)	287	72	85	2013	0.143	287	204	0.1	0.2	2.294	A
3 - Realigned Church Lane	68	17	266	1683	0.041	68	106	0.1	0.0	2.452	A

2021, PM Network Peak Hour - Base Flows

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	2 - A259 (West) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Growth Factors	Growth Factor 1	One or more Growth Factors use TEMPRO data. TRL is not responsible for TEMPRO datasets and cannot guarantee their correctness. If in doubt, please use the TEMPRO software directly.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	Proposed Rbt	Standard Roundabout	1,2,3	2.50	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	364	1 - A259 (East)

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically	Relationship type	Relationship
D8	2021	PM Network Peak Hour - Base Flows	DIRECT	16:30	18:30	120	15	✓	Simple	D2*G2

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)	O-D data varies over time
✓	✓	HV Percentages	2.00	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Scaling Factor (%)
1 - A259 (East)		DIRECT	✓	100.000
2 - A259 (West)		DIRECT	✓	100.000
3 - Realigned Church Lane		DIRECT	✓	100.000

Origin-Destination Data

Demand (PCU/hr)

16:30 - 16:45

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	2	301	51
	2 - A259 (West)	253	0	21
	3 - Realigned Church Lane	107	57	1

Proportions

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	0.01	0.85	0.14
	2 - A259 (West)	0.92	0.00	0.08
	3 - Realigned Church Lane	0.65	0.34	0.01

16:45 - 17:00

Demand (PCU/hr)

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	2	253	57
	2 - A259 (West)	269	1	22
	3 - Realigned Church Lane	97	55	0

Proportions

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	0.01	0.81	0.18
	2 - A259 (West)	0.92	0.00	0.08
	3 - Realigned Church Lane	0.64	0.36	0.00

17:00 - 17:15

Demand (PCU/hr)

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	5	304	45
	2 - A259 (West)	268	1	17
	3 - Realigned Church Lane	108	85	0

Proportions

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	0.02	0.86	0.13
	2 - A259 (West)	0.94	0.00	0.06
	3 - Realigned Church Lane	0.56	0.44	0.00

17:15 - 17:30

Demand (PCU/hr)

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	3	286	64
	2 - A259 (West)	283	0	18
	3 - Realigned Church Lane	70	53	0

Proportions

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	0.01	0.81	0.18
	2 - A259 (West)	0.94	0.00	0.06
	3 - Realigned Church Lane	0.57	0.43	0.00

17:30 - 17:45

Demand (PCU/hr)

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	5	297	54
	2 - A259 (West)	270	1	25
	3 - Realigned Church Lane	64	49	0

Proportions

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	0.01	0.83	0.15
	2 - A259 (West)	0.91	0.00	0.08
	3 - Realigned Church Lane	0.57	0.43	0.00

17:45 - 18:00

Demand (PCU/hr)

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	3	277	62
	2 - A259 (West)	255	0	26
	3 - Realigned Church Lane	63	42	0

Proportions

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	0.01	0.81	0.18
	2 - A259 (West)	0.91	0.00	0.09
	3 - Realigned Church Lane	0.60	0.40	0.00

Demand (PCU/hr)

18:00 - 18:15

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	1	222	51
	2 - A259 (West)	256	1	23
	3 - Realigned Church Lane	65	39	0

Proportions

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	0.00	0.81	0.19
	2 - A259 (West)	0.91	0.00	0.08
	3 - Realigned Church Lane	0.62	0.38	0.00

Demand (PCU/hr)

18:15 - 18:30

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	3	264	22
	2 - A259 (West)	198	2	10
	3 - Realigned Church Lane	111	35	0

Proportions

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	0.01	0.91	0.08
	2 - A259 (West)	0.94	0.01	0.05
	3 - Realigned Church Lane	0.76	0.24	0.00

Vehicle Mix

Heavy Vehicle Percentages

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	10	10	10
	2 - A259 (West)	10	0	10
	3 - Realigned Church Lane	10	10	10

Average PCU Per Veh

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	1.100	1.100	1.100
	2 - A259 (West)	1.100	1.000	1.100
	3 - Realigned Church Lane	1.100	1.100	1.100

Detailed Demand Data

Demand for each time segment

Time Segment	Arm	Demand (PCU/hr)	Demand in PCU (PCU/hr)
16:30-16:45	1 - A259 (East)	354	354
	2 - A259 (West)	274	274
	3 - Realigned Church Lane	164	164
16:45-17:00	1 - A259 (East)	312	312
	2 - A259 (West)	292	292
	3 - Realigned Church Lane	153	153
17:00-17:15	1 - A259 (East)	354	354
	2 - A259 (West)	286	286

	3 - Realigned Church Lane	193	193
17:15-17:30	1 - A259 (East)	353	353
	2 - A259 (West)	301	301
	3 - Realigned Church Lane	124	124
17:30-17:45	1 - A259 (East)	356	356
	2 - A259 (West)	296	296
	3 - Realigned Church Lane	113	113
17:45-18:00	1 - A259 (East)	343	343
	2 - A259 (West)	281	281
	3 - Realigned Church Lane	105	105
18:00-18:15	1 - A259 (East)	274	274
	2 - A259 (West)	281	281
	3 - Realigned Church Lane	105	105
18:15-18:30	1 - A259 (East)	289	289
	2 - A259 (West)	210	210
	3 - Realigned Church Lane	146	146

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - A259 (East)	0.19	2.60	0.3	A	329	659
2 - A259 (West)	0.15	2.30	0.2	A	278	555
3 - Realigned Church Lane	0.12	2.67	0.1	A	138	276

Main Results for each time segment

18:30 - 18:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - A259 (East)	354	89	57	1894	0.187	353	361	0.0	0.3	2.568	A
2 - A259 (West)	274	69	54	2034	0.135	274	356	0.0	0.2	2.249	A
3 - Realigned Church Lane	164	41	254	1691	0.097	164	73	0.0	0.1	2.593	A

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - A259 (East)	312	78	57	1895	0.164	312	368	0.3	0.2	2.502	A
2 - A259 (West)	292	73	59	2031	0.144	292	310	0.2	0.2	2.276	A
3 - Realigned Church Lane	153	38	272	1679	0.091	153	79	0.1	0.1	2.595	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - A259 (East)	354	89	86	1875	0.189	354	381	0.2	0.3	2.602	A
2 - A259 (West)	286	71	50	2037	0.140	286	390	0.2	0.2	2.260	A
3 - Realigned Church Lane	193	48	274	1678	0.115	193	62	0.1	0.1	2.667	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - A259 (East)	353	88	53	1897	0.186	353	356	0.3	0.3	2.566	A
2 - A259 (West)	301	75	67	2025	0.149	301	339	0.2	0.2	2.296	A
3 - Realigned Church Lane	124	31	286	1670	0.074	124	82	0.1	0.1	2.563	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - A259 (East)	356	89	50	1899	0.188	356	339	0.3	0.3	2.566	A
2 - A259 (West)	296	74	60	2030	0.146	296	347	0.2	0.2	2.283	A
3 - Realigned Church Lane	113	28	276	1676	0.067	113	79	0.1	0.1	2.533	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - A259 (East)	343	86	42	1905	0.180	343	321	0.3	0.2	2.534	A
2 - A259 (West)	281	70	65	2027	0.138	281	319	0.2	0.2	2.269	A
3 - Realigned Church Lane	105	26	258	1688	0.062	105	87	0.1	0.1	2.500	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - A259 (East)	274	69	41	1906	0.144	274	322	0.2	0.2	2.429	A

2 - A259 (West)	281	70	52	2035	0.138	281	263	0.2	0.2	2.257	A
3 - Realigned Church Lane	105	26	258	1688	0.062	105	75	0.1	0.1	2.502	A

18:15 - 18:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - A259 (East)	289	72	37	1908	0.152	289	313	0.2	0.2	2.446	A
2 - A259 (West)	210	53	26	2054	0.102	210	301	0.2	0.1	2.146	A
3 - Realigned Church Lane	146	37	204	1724	0.085	146	32	0.1	0.1	2.509	A

2021, AM Network Peak Hour - Base Flows + DevT

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	2 - A259 (West) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Growth Factors	Growth Factor 1	One or more Growth Factors use TEMPRO data. TRL is not responsible for TEMPRO datasets and cannot guarantee their correctness. If in doubt, please use the TEMPRO software directly.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	Proposed Rbt	Standard Roundabout	1,2,3	2.56	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	296	1 - A259 (East)

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically	Relationship type	Relationship
D9	2021	AM Network Peak Hour - Base Flows + DevT	DIRECT	07:30	09:30	120	15	✓	Simple	(D1*G1)+D3

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)	O-D data varies over time
✓	✓	HV Percentages	2.00	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Scaling Factor (%)
1 - A259 (East)		DIRECT	✓	100.000
2 - A259 (West)		DIRECT	✓	100.000
3 - Realigned Church Lane		DIRECT	✓	100.000

Origin-Destination Data

07:30 - 07:45

Demand (PCU/hr)

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	1	228	149
	2 - A259 (West)	228	0	20
	3 - Realigned Church Lane	65	15	0

Proportions

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	0.00	0.60	0.39
	2 - A259 (West)	0.92	0.00	0.08
	3 - Realigned Church Lane	0.81	0.19	0.00

07:45 - 08:00

Demand (PCU/hr)

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	1	192	161
	2 - A259 (West)	224	0	45
	3 - Realigned Church Lane	112	78	0

Proportions

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	0.00	0.54	0.45
	2 - A259 (West)	0.83	0.00	0.17
	3 - Realigned Church Lane	0.59	0.41	0.00

08:00 - 08:15

Demand (PCU/hr)

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	0	120	80
	2 - A259 (West)	201	0	37
	3 - Realigned Church Lane	121	71	0

Proportions

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	0.00	0.60	0.40
	2 - A259 (West)	0.84	0.00	0.16
	3 - Realigned Church Lane	0.63	0.37	0.00

08:15 - 08:30

Demand (PCU/hr)

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	2	124	74
	2 - A259 (West)	189	0	38
	3 - Realigned Church Lane	111	72	0

Proportions

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	0.01	0.62	0.37
	2 - A259 (West)	0.83	0.00	0.17
	3 - Realigned Church Lane	0.60	0.40	0.00

08:30 - 08:45

Demand (PCU/hr)

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	4	153	75
	2 - A259 (West)	189	0	38
	3 - Realigned Church Lane	139	70	0

Proportions

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	0.02	0.66	0.32
	2 - A259 (West)	0.83	0.00	0.17
	3 - Realigned Church Lane	0.66	0.34	0.00

08:45 - 09:00

Demand (PCU/hr)

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	4	247	155
	2 - A259 (West)	202	0	48
	3 - Realigned Church Lane	113	75	0

Proportions

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	0.01	0.61	0.38
	2 - A259 (West)	0.81	0.00	0.19
	3 - Realigned Church Lane	0.60	0.40	0.00

09:00 - 09:15

Demand (PCU/hr)

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	1	276	144
	2 - A259 (West)	203	0	36
	3 - Realigned Church Lane	102	77	0

Proportions

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	0.00	0.65	0.34
	2 - A259 (West)	0.85	0.00	0.15
	3 - Realigned Church Lane	0.57	0.43	0.00

09:15 - 09:30

Demand (PCU/hr)

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	2	189	82
	2 - A259 (West)	264	0	24
	3 - Realigned Church Lane	53	15	0

Proportions

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	0.01	0.69	0.30
	2 - A259 (West)	0.92	0.00	0.08
	3 - Realigned Church Lane	0.78	0.22	0.00

Vehicle Mix

Heavy Vehicle Percentages

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	10	10	10
	2 - A259 (West)	10	0	10
	3 - Realigned Church Lane	10	10	0

Average PCU Per Veh

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	1.100	1.100	1.100
	2 - A259 (West)	1.100	1.000	1.100
	3 - Realigned Church Lane	1.100	1.100	1.000

Detailed Demand Data

Demand for each time segment

Time Segment	Arm	Demand (PCU/hr)	Demand in PCU (PCU/hr)
07:30-07:45	1 - A259 (East)	377	377
	2 - A259 (West)	248	248
	3 - Realigned Church Lane	80	80
07:45-08:00	1 - A259 (East)	355	355
	2 - A259 (West)	269	269
	3 - Realigned Church Lane	190	190
08:00-08:15	1 - A259 (East)	200	200
	2 - A259 (West)	238	238
	3 - Realigned Church Lane	192	192
08:15-08:30	1 - A259 (East)	200	200
	2 - A259 (West)	227	227
	3 - Realigned Church Lane	183	183
08:30-08:45	1 - A259 (East)	232	232
	2 - A259 (West)	227	227
	3 - Realigned Church Lane	209	209
08:45-09:00	1 - A259 (East)	406	406
	2 - A259 (West)	250	250
	3 - Realigned Church Lane	188	188
09:00-09:15	1 - A259 (East)	421	421
	2 - A259 (West)	239	239
	3 - Realigned Church Lane	179	179
09:15-09:30	1 - A259 (East)	274	274
	2 - A259 (West)	287	287
	3 - Realigned Church Lane	68	68

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - A259 (East)	0.22	2.71	0.3	A	308	616
2 - A259 (West)	0.14	2.34	0.2	A	248	496
3 - Realigned Church Lane	0.12	2.60	0.2	A	161	322

Main Results for each time segment

07:30 - 07:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - A259 (East)	377	94	15	1923	0.196	376	293	0.0	0.3	2.559	A
2 - A259 (West)	248	62	149	1968	0.126	247	242	0.0	0.2	2.301	A
3 - Realigned Church Lane	80	20	228	1708	0.047	80	168	0.0	0.1	2.432	A

07:45 - 08:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - A259 (East)	355	89	78	1881	0.189	355	337	0.3	0.3	2.594	A
2 - A259 (West)	269	67	162	1959	0.137	269	270	0.2	0.2	2.342	A
3 - Realigned Church Lane	190	47	225	1710	0.111	189	206	0.1	0.1	2.604	A

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - A259 (East)	200	50	71	1885	0.106	200	321	0.3	0.1	2.350	A
2 - A259 (West)	238	59	81	2016	0.118	238	191	0.2	0.1	2.227	A
3 - Realigned Church Lane	192	48	201	1726	0.111	192	118	0.1	0.1	2.581	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS

1 - A259 (East)	200	50	72	1885	0.106	200	302	0.1	0.1	2.350	A
2 - A259 (West)	227	57	76	2019	0.113	227	196	0.1	0.1	2.209	A
3 - Realigned Church Lane	183	46	191	1732	0.106	183	112	0.1	0.1	2.556	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - A259 (East)	232	58	70	1886	0.123	232	332	0.1	0.2	2.393	A
2 - A259 (West)	227	57	79	2017	0.113	227	223	0.1	0.1	2.214	A
3 - Realigned Church Lane	209	52	193	1731	0.121	209	113	0.1	0.2	2.601	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - A259 (East)	406	102	75	1883	0.216	406	319	0.2	0.3	2.678	A
2 - A259 (West)	250	62	159	1962	0.127	250	321	0.1	0.2	2.312	A
3 - Realigned Church Lane	188	47	206	1722	0.109	188	202	0.2	0.1	2.580	A

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - A259 (East)	421	105	77	1882	0.224	421	307	0.3	0.3	2.710	A
2 - A259 (West)	239	60	145	1971	0.121	239	352	0.2	0.2	2.287	A
3 - Realigned Church Lane	179	45	204	1724	0.104	179	180	0.1	0.1	2.563	A

09:15 - 09:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - A259 (East)	274	68	15	1922	0.142	274	319	0.3	0.2	2.402	A
2 - A259 (West)	287	72	85	2013	0.143	287	205	0.2	0.2	2.294	A
3 - Realigned Church Lane	68	17	266	1683	0.041	69	106	0.1	0.0	2.452	A

2021, PM Network Peak Hour - Base Flows + DevT

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	2 - A259 (West) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Warning	Growth Factors	Growth Factor 1	One or more Growth Factors use TEMPRO data. TRL is not responsible for TEMPRO datasets and cannot guarantee their correctness. If in doubt, please use the TEMPRO software directly.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	Proposed Rbt	Standard Roundabout	1,2,3	2.55	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	314	1 - A259 (East)

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically	Relationship type	Relationship
D10	2021	PM Network Peak Hour - Base Flows + DevT	DIRECT	16:30	18:30	120	15	✓	Simple	(D2*G2)+D4

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)	O-D data varies over time
✓	✓	HV Percentages	2.00	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Scaling Factor (%)
1 - A259 (East)		DIRECT	✓	100.000
2 - A259 (West)		DIRECT	✓	100.000
3 - Realigned Church Lane		DIRECT	✓	100.000

Origin-Destination Data

16:30 - 16:45

Demand (PCU/hr)

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	2	301	82
	2 - A259 (West)	253	0	67
	3 - Realigned Church Lane	125	83	1

Proportions

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	0.01	0.78	0.21
	2 - A259 (West)	0.79	0.00	0.21
	3 - Realigned Church Lane	0.60	0.40	0.01

16:45 - 17:00

Demand (PCU/hr)

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	2	253	88
	2 - A259 (West)	269	1	68
	3 - Realigned Church Lane	115	81	0

Proportions

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	0.01	0.74	0.26
	2 - A259 (West)	0.79	0.00	0.20
	3 - Realigned Church Lane	0.59	0.41	0.00

17:00 - 17:15

Demand (PCU/hr)

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	5	304	76
	2 - A259 (West)	268	1	63
	3 - Realigned Church Lane	126	111	0

Proportions

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	0.01	0.79	0.20
	2 - A259 (West)	0.81	0.00	0.19
	3 - Realigned Church Lane	0.53	0.47	0.00

17:15 - 17:30

Demand (PCU/hr)

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	3	286	64
	2 - A259 (West)	283	0	18
	3 - Realigned Church Lane	70	53	0

Proportions

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	0.01	0.81	0.18
	2 - A259 (West)	0.94	0.00	0.06
	3 - Realigned Church Lane	0.57	0.43	0.00

17:30 - 17:45

Demand (PCU/hr)

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	5	297	54
	2 - A259 (West)	270	1	25
	3 - Realigned Church Lane	64	49	0

Proportions

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	0.01	0.83	0.15
	2 - A259 (West)	0.91	0.00	0.08
	3 - Realigned Church Lane	0.57	0.43	0.00

17:45 - 18:00

Demand (PCU/hr)

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	3	277	62
	2 - A259 (West)	255	0	26
	3 - Realigned Church Lane	63	42	0

Proportions

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	0.01	0.81	0.18
	2 - A259 (West)	0.91	0.00	0.09
	3 - Realigned Church Lane	0.60	0.40	0.00

18:00 - 18:15

Demand (PCU/hr)

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	1	222	51
	2 - A259 (West)	256	1	23
	3 - Realigned Church Lane	65	39	0

Proportions

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	0.00	0.81	0.19
	2 - A259 (West)	0.91	0.00	0.08
	3 - Realigned Church Lane	0.62	0.38	0.00

18:15 - 18:30

Demand (PCU/hr)

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	3	264	22
	2 - A259 (West)	198	2	10
	3 - Realigned Church Lane	111	35	0

Proportions

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	0.01	0.91	0.08
	2 - A259 (West)	0.94	0.01	0.05
	3 - Realigned Church Lane	0.76	0.24	0.00

Vehicle Mix

Heavy Vehicle Percentages

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	10	10	6
	2 - A259 (West)	10	0	3
	3 - Realigned Church Lane	8	7	10

Average PCU Per Veh

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	1.100	1.100	1.060
	2 - A259 (West)	1.100	1.000	1.030
	3 - Realigned Church Lane	1.084	1.066	1.100

Detailed Demand Data

Demand for each time segment

Time Segment	Arm	Demand (PCU/hr)	Demand in PCU (PCU/hr)
16:30-16:45	1 - A259 (East)	385	385
	2 - A259 (West)	320	320
	3 - Realigned Church Lane	208	208
16:45-17:00	1 - A259 (East)	343	343
	2 - A259 (West)	338	338
	3 - Realigned Church Lane	197	197
17:00-17:15	1 - A259 (East)	385	385
	2 - A259 (West)	332	332
	3 - Realigned Church Lane	237	237
17:15-17:30	1 - A259 (East)	353	353
	2 - A259 (West)	301	301
	3 - Realigned Church Lane	124	124
17:30-17:45	1 - A259 (East)	356	356
	2 - A259 (West)	296	296
	3 - Realigned Church Lane	113	113
17:45-18:00	1 - A259 (East)	343	343
	2 - A259 (West)	281	281
	3 - Realigned Church Lane	105	105
18:00-18:15	1 - A259 (East)	274	274
	2 - A259 (West)	281	281
	3 - Realigned Church Lane	105	105
18:15-18:30	1 - A259 (East)	289	289
	2 - A259 (West)	210	210
	3 - Realigned Church Lane	146	146

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - A259 (East)	0.21	2.67	0.3	A	341	682
2 - A259 (West)	0.17	2.34	0.2	A	295	590
3 - Realigned Church Lane	0.14	2.69	0.2	A	154	309

Main Results for each time segment

16:30 - 16:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - A259 (East)	385	96	83	1877	0.205	384	379	0.0	0.3	2.630	A
2 - A259 (West)	320	80	85	2013	0.159	319	382	0.0	0.2	2.304	A
3 - Realigned Church Lane	208	52	254	1691	0.123	208	150	0.0	0.2	2.613	A

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - A259 (East)	343	86	83	1878	0.182	343	386	0.3	0.2	2.556	A
2 - A259 (West)	338	85	90	2010	0.168	338	336	0.2	0.2	2.336	A
3 - Realigned Church Lane	197	49	272	1679	0.117	197	156	0.2	0.1	2.616	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - A259 (East)	385	96	112	1858	0.207	385	399	0.2	0.3	2.668	A
2 - A259 (West)	332	83	81	2015	0.165	332	416	0.2	0.2	2.321	A
3 - Realigned Church Lane	237	59	274	1678	0.141	237	139	0.1	0.2	2.688	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - A259 (East)	353	88	54	1897	0.186	353	357	0.3	0.3	2.549	A
2 - A259 (West)	301	75	67	2025	0.149	301	340	0.2	0.2	2.289	A
3 - Realigned Church Lane	124	31	286	1670	0.074	124	82	0.2	0.1	2.507	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - A259 (East)	356	89	50	1899	0.188	356	339	0.3	0.3	2.551	A
2 - A259 (West)	296	74	60	2030	0.146	296	347	0.2	0.2	2.270	A
3 - Realigned Church Lane	113	28	276	1676	0.067	113	79	0.1	0.1	2.478	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - A259 (East)	343	86	42	1905	0.180	343	321	0.3	0.2	2.519	A

2 - A259 (West)	281	70	65	2027	0.138	281	319	0.2	0.2	2.255	A
3 - Realigned Church Lane	105	26	258	1688	0.062	105	87	0.1	0.1	2.450	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - A259 (East)	274	69	41	1906	0.144	274	322	0.2	0.2	2.412	A
2 - A259 (West)	281	70	52	2035	0.138	281	263	0.2	0.2	2.244	A
3 - Realigned Church Lane	105	26	258	1688	0.062	105	75	0.1	0.1	2.451	A

18:15 - 18:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - A259 (East)	289	72	37	1908	0.152	289	313	0.2	0.2	2.439	A
2 - A259 (West)	210	53	26	2054	0.102	210	301	0.2	0.1	2.139	A
3 - Realigned Church Lane	146	37	204	1724	0.085	146	32	0.1	0.1	2.463	A

2026, AM Network Peak Hour - Base Flows

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	2 - A259 (West) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Growth Factors	Growth Factor 1	One or more Growth Factors use TEMPRO data. TRL is not responsible for TEMPRO datasets and cannot guarantee their correctness. If in doubt, please use the TEMPRO software directly.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	Proposed Rbt	Standard Roundabout	1,2,3	2.52	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	314	1 - A259 (East)

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically	Relationship type	Relationship
D11	2026	AM Network Peak Hour - Base Flows	DIRECT	07:30	09:30	120	15	✓	Simple	D1*G3

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)	O-D data varies over time
✓	✓	HV Percentages	2.00	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Scaling Factor (%)
1 - A259 (East)		DIRECT	✓	100.000
2 - A259 (West)		DIRECT	✓	100.000
3 - Realigned Church Lane		DIRECT	✓	100.000

Origin-Destination Data

07:30 - 07:45

Demand (PCU/hr)

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	1	243	158
	2 - A259 (West)	243	0	22
	3 - Realigned Church Lane	69	16	0

Proportions

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	0.00	0.60	0.39
	2 - A259 (West)	0.92	0.00	0.08
	3 - Realigned Church Lane	0.81	0.19	0.00

07:45 - 08:00

Demand (PCU/hr)

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	1	205	157
	2 - A259 (West)	239	0	25
	3 - Realigned Church Lane	83	30	0

Proportions

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	0.00	0.56	0.43
	2 - A259 (West)	0.91	0.00	0.09
	3 - Realigned Church Lane	0.74	0.26	0.00

08:00 - 08:15

Demand (PCU/hr)

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	0	128	71
	2 - A259 (West)	214	0	17
	3 - Realigned Church Lane	92	23	0

Proportions

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	0.00	0.64	0.36
	2 - A259 (West)	0.93	0.00	0.07
	3 - Realigned Church Lane	0.80	0.20	0.00

08:15 - 08:30

Demand (PCU/hr)

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	2	132	64
	2 - A259 (West)	202	0	18
	3 - Realigned Church Lane	82	24	0

Proportions

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	0.01	0.67	0.32
	2 - A259 (West)	0.92	0.00	0.08
	3 - Realigned Church Lane	0.77	0.23	0.00

08:30 - 08:45

Demand (PCU/hr)

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	5	163	65
	2 - A259 (West)	202	0	18
	3 - Realigned Church Lane	112	22	0

Proportions

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	0.02	0.70	0.28
	2 - A259 (West)	0.92	0.00	0.08
	3 - Realigned Church Lane	0.84	0.16	0.00

08:45 - 09:00

Demand (PCU/hr)

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	5	263	150
	2 - A259 (West)	215	0	28
	3 - Realigned Church Lane	84	26	0

Proportions

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	0.01	0.63	0.36
	2 - A259 (West)	0.88	0.00	0.12
	3 - Realigned Church Lane	0.76	0.24	0.00

09:00 - 09:15

Demand (PCU/hr)

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	1	294	139
	2 - A259 (West)	216	0	16
	3 - Realigned Church Lane	73	28	0

Proportions

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	0.00	0.68	0.32
	2 - A259 (West)	0.93	0.00	0.07
	3 - Realigned Church Lane	0.72	0.28	0.00

Demand (PCU/hr)

09:15 - 09:30

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	2	202	88
	2 - A259 (West)	281	0	25
	3 - Realigned Church Lane	57	16	0

Proportions

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	0.01	0.69	0.30
	2 - A259 (West)	0.92	0.00	0.08
	3 - Realigned Church Lane	0.78	0.22	0.00

Vehicle Mix

Heavy Vehicle Percentages

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	10	10	10
	2 - A259 (West)	10	0	10
	3 - Realigned Church Lane	10	10	0

Average PCU Per Veh

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	1.100	1.100	1.100
	2 - A259 (West)	1.100	1.000	1.100
	3 - Realigned Church Lane	1.100	1.100	1.000

Detailed Demand Data

Demand for each time segment

Time Segment	Arm	Demand (PCU/hr)	Demand in PCU (PCU/hr)
07:30-07:45	1 - A259 (East)	402	402
	2 - A259 (West)	264	264
	3 - Realigned Church Lane	85	85
07:45-08:00	1 - A259 (East)	363	363
	2 - A259 (West)	264	264
	3 - Realigned Church Lane	113	113
08:00-08:15	1 - A259 (East)	198	198
	2 - A259 (West)	231	231
	3 - Realigned Church Lane	115	115
08:15-08:30	1 - A259 (East)	198	198
	2 - A259 (West)	220	220
	3 - Realigned Church Lane	106	106
08:30-08:45	1 - A259 (East)	232	232
	2 - A259 (West)	220	220
	3 - Realigned Church Lane	133	133
08:45-09:00	1 - A259 (East)	418	418

	2 - A259 (West)	244	244
	3 - Realigned Church Lane	110	110
09:00-09:15	1 - A259 (East)	434	434
	2 - A259 (West)	232	232
	3 - Realigned Church Lane	101	101
09:15-09:30	1 - A259 (East)	292	292
	2 - A259 (West)	306	306
	3 - Realigned Church Lane	73	73

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - A259 (East)	0.23	2.68	0.3	A	317	634
2 - A259 (West)	0.15	2.33	0.2	A	248	495
3 - Realigned Church Lane	0.08	2.49	0.1	A	105	209

Main Results for each time segment

07:30 - 07:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - A259 (East)	402	101	16	1922	0.209	401	312	0.0	0.3	2.602	A
2 - A259 (West)	264	66	159	1962	0.135	264	258	0.0	0.2	2.330	A
3 - Realigned Church Lane	85	21	243	1698	0.050	85	179	0.0	0.1	2.455	A

07:45 - 08:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - A259 (East)	363	91	30	1913	0.190	363	323	0.3	0.3	2.555	A
2 - A259 (West)	264	66	158	1962	0.135	264	235	0.2	0.2	2.331	A
3 - Realigned Church Lane	113	28	240	1700	0.066	113	182	0.1	0.1	2.494	A

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - A259 (East)	198	50	23	1917	0.103	199	306	0.3	0.1	2.304	A
2 - A259 (West)	231	58	71	2022	0.114	231	151	0.2	0.1	2.212	A
3 - Realigned Church Lane	115	29	214	1717	0.067	115	88	0.1	0.1	2.471	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - A259 (East)	198	50	24	1917	0.103	198	286	0.1	0.1	2.304	A
2 - A259 (West)	220	55	66	2026	0.109	220	156	0.1	0.1	2.192	A
3 - Realigned Church Lane	106	26	204	1724	0.061	106	82	0.1	0.1	2.449	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - A259 (East)	232	58	22	1918	0.121	232	318	0.1	0.2	2.348	A
2 - A259 (West)	220	55	69	2023	0.109	220	184	0.1	0.1	2.195	A
3 - Realigned Church Lane	133	33	206	1722	0.077	133	83	0.1	0.1	2.491	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - A259 (East)	418	105	26	1915	0.218	417	304	0.2	0.3	2.642	A
2 - A259 (West)	244	61	155	1965	0.124	244	289	0.1	0.2	2.300	A
3 - Realigned Church Lane	110	28	220	1713	0.064	111	179	0.1	0.1	2.470	A

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - A259 (East)	434	108	28	1914	0.227	434	290	0.3	0.3	2.675	A
2 - A259 (West)	232	58	140	1975	0.118	232	322	0.2	0.1	2.272	A
3 - Realigned Church Lane	101	25	218	1715	0.059	101	155	0.1	0.1	2.453	A

09:15 - 09:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - A259 (East)	292	73	16	1922	0.152	292	340	0.3	0.2	2.431	A
2 - A259 (West)	306	77	90	2009	0.152	306	218	0.1	0.2	2.325	A

3 - Realigned Church Lane	73	18	283	1672	0.044	73	113	0.1	0.1	2.478	A

2026, PM Network Peak Hour - Base Flows

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	2 - A259 (West) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Growth Factors	Growth Factor 1	One or more Growth Factors use TEMPRO data. TRL is not responsible for TEMPRO datasets and cannot guarantee their correctness. If in doubt, please use the TEMPRO software directly.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	Proposed Rbt	Standard Roundabout	1,2,3	2.54	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	335	1 - A259 (East)

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically	Relationship type	Relationship
D12	2026	PM Network Peak Hour - Base Flows	DIRECT	16:30	18:30	120	15	✓	Simple	D2*G4

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)	O-D data varies over time
✓	✓	HV Percentages	2.00	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Scaling Factor (%)
1 - A259 (East)		DIRECT	✓	100.000
2 - A259 (West)		DIRECT	✓	100.000
3 - Realigned Church Lane		DIRECT	✓	100.000

Origin-Destination Data

16:30 - 16:45

Demand (PCU/hr)

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	2	321	55
	2 - A259 (West)	270	0	23
	3 - Realigned Church Lane	114	60	1

Proportions

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	0.01	0.85	0.14
	2 - A259 (West)	0.92	0.00	0.08
	3 - Realigned Church Lane	0.65	0.34	0.01

16:45 - 17:00

Demand (PCU/hr)

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	2	270	60
	2 - A259 (West)	287	1	24
	3 - Realigned Church Lane	104	59	0

Proportions

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	0.01	0.81	0.18
	2 - A259 (West)	0.92	0.00	0.08
	3 - Realigned Church Lane	0.64	0.36	0.00

17:00 - 17:15

Demand (PCU/hr)

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	6	324	48
	2 - A259 (West)	286	1	18
	3 - Realigned Church Lane	115	91	0

Proportions

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	0.02	0.86	0.13
	2 - A259 (West)	0.94	0.00	0.06
	3 - Realigned Church Lane	0.56	0.44	0.00

17:15 - 17:30

Demand (PCU/hr)

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	3	305	68
	2 - A259 (West)	301	0	19
	3 - Realigned Church Lane	75	57	0

Proportions

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	0.01	0.81	0.18
	2 - A259 (West)	0.94	0.00	0.06
	3 - Realigned Church Lane	0.57	0.43	0.00

17:30 - 17:45

Demand (PCU/hr)

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	6	316	58
	2 - A259 (West)	288	1	26
	3 - Realigned Church Lane	68	52	0

Proportions

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	0.01	0.83	0.15
	2 - A259 (West)	0.91	0.00	0.08
	3 - Realigned Church Lane	0.57	0.43	0.00

17:45 - 18:00

Demand (PCU/hr)

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	3	296	66
	2 - A259 (West)	272	0	27
	3 - Realigned Church Lane	67	44	0

Proportions

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	0.01	0.81	0.18
	2 - A259 (West)	0.91	0.00	0.09
	3 - Realigned Church Lane	0.60	0.40	0.00

18:00 - 18:15

Demand (PCU/hr)

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	1	237	55
	2 - A259 (West)	273	1	25
	3 - Realigned Church Lane	69	42	0

Proportions

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	0.00	0.81	0.19
	2 - A259 (West)	0.91	0.00	0.08
	3 - Realigned Church Lane	0.62	0.38	0.00

18:15 - 18:30

Demand (PCU/hr)

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	3	281	24
	2 - A259 (West)	212	2	10
	3 - Realigned Church Lane	118	38	0

Proportions

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	0.01	0.91	0.08
	2 - A259 (West)	0.94	0.01	0.05
	3 - Realigned Church Lane	0.76	0.24	0.00

Vehicle Mix

Heavy Vehicle Percentages

From	To			
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
	1 - A259 (East)	10	10	10
	2 - A259 (West)	10	0	10
	3 - Realigned Church Lane	10	10	10

Average PCU Per Veh

From	To			
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
	1 - A259 (East)	1.100	1.100	1.100
	2 - A259 (West)	1.100	1.000	1.100
	3 - Realigned Church Lane	1.100	1.100	1.100

Detailed Demand Data

Demand for each time segment

Time Segment	Arm	Demand (PCU/hr)	Demand in PCU (PCU/hr)
16:30-16:45	1 - A259 (East)	378	378
	2 - A259 (West)	292	292
	3 - Realigned Church Lane	175	175
16:45-17:00	1 - A259 (East)	332	332
	2 - A259 (West)	312	312
	3 - Realigned Church Lane	163	163
17:00-17:15	1 - A259 (East)	378	378
	2 - A259 (West)	305	305
	3 - Realigned Church Lane	206	206
17:15-17:30	1 - A259 (East)	377	377
	2 - A259 (West)	321	321
	3 - Realigned Church Lane	132	132
17:30-17:45	1 - A259 (East)	380	380
	2 - A259 (West)	315	315
	3 - Realigned Church Lane	121	121
17:45-18:00	1 - A259 (East)	365	365
	2 - A259 (West)	299	299
	3 - Realigned Church Lane	111	111
18:00-18:15	1 - A259 (East)	292	292
	2 - A259 (West)	299	299
	3 - Realigned Church Lane	111	111
18:15-18:30	1 - A259 (East)	308	308
	2 - A259 (West)	224	224
	3 - Realigned Church Lane	156	156

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - A259 (East)	0.20	2.65	0.3	A	351	702
2 - A259 (West)	0.16	2.33	0.2	A	296	592
3 - Realigned Church Lane	0.12	2.71	0.2	A	147	294

Main Results for each time segment

16:30 - 16:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - A259 (East)	378	94	61	1892	0.200	377	385	0.0	0.3	2.612	A
2 - A259 (West)	292	73	58	2031	0.144	292	380	0.0	0.2	2.274	A
3 - Realigned Church Lane	175	44	271	1680	0.104	175	78	0.0	0.1	2.631	A

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - A259 (East)	332	83	60	1893	0.176	332	392	0.3	0.2	2.537	A
2 - A259 (West)	312	78	63	2028	0.154	312	330	0.2	0.2	2.305	A
3 - Realigned Church Lane	163	41	290	1667	0.098	163	84	0.1	0.1	2.631	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - A259 (East)	378	94	92	1872	0.202	377	406	0.2	0.3	2.650	A
2 - A259 (West)	305	76	53	2035	0.150	305	416	0.2	0.2	2.288	A
3 - Realigned Church Lane	206	51	292	1666	0.124	206	66	0.1	0.2	2.712	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - A259 (East)	377	94	57	1895	0.199	377	380	0.3	0.3	2.607	A
2 - A259 (West)	321	80	72	2022	0.159	321	362	0.2	0.2	2.327	A
3 - Realigned Church Lane	132	33	305	1658	0.080	132	88	0.2	0.1	2.598	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - A259 (East)	380	95	53	1897	0.200	380	362	0.3	0.3	2.609	A
2 - A259 (West)	315	79	64	2027	0.155	315	370	0.2	0.2	2.313	A
3 - Realigned Church Lane	121	30	295	1664	0.072	121	84	0.1	0.1	2.566	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - A259 (East)	365	91	44	1903	0.192	365	342	0.3	0.3	2.576	A
2 - A259 (West)	299	75	69	2024	0.148	299	340	0.2	0.2	2.298	A
3 - Realigned Church Lane	111	28	275	1677	0.066	112	93	0.1	0.1	2.529	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - A259 (East)	292	73	43	1904	0.154	293	344	0.3	0.2	2.457	A
2 - A259 (West)	299	75	56	2033	0.147	299	280	0.2	0.2	2.284	A
3 - Realigned Church Lane	111	28	275	1677	0.066	111	80	0.1	0.1	2.529	A

18:15 - 18:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - A259 (East)	308	77	40	1906	0.162	308	333	0.2	0.2	2.477	A
2 - A259 (West)	224	56	27	2053	0.109	224	321	0.2	0.1	2.165	A
3 - Realigned Church Lane	156	39	217	1715	0.091	156	34	0.1	0.1	2.539	A

2026, AM Network Peak Hour - Base Flows + DevT

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	2 - A259 (West) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Growth Factors	Growth Factor 1	One or more Growth Factors use TEMPRO data. TRL is not responsible for TEMPRO datasets and cannot guarantee their correctness. If in doubt, please use the TEMPRO software directly.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	Proposed Rbt	Standard Roundabout	1,2,3	2.44	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	371	1 - A259 (East)

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically
D13	2026	AM Network Peak Hour - Base Flows + DevT	DIRECT	07:30	09:30	120	15	✓

Default vehicle mix	Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)	O-D data varies over time
✓	✓	✓	HV Percentages	2.00	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Scaling Factor (%)
1 - A259 (East)		DIRECT	✓	100.000
2 - A259 (West)		DIRECT	✓	100.000
3 - Realigned Church Lane		DIRECT	✓	100.000

Origin-Destination Data

Demand (PCU/hr)

07:30 - 07:45

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	1	213	139
	2 - A259 (West)	213	0	19
	3 - Realigned Church Lane	61	14	0

Proportions

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	0.00	0.60	0.39
	2 - A259 (West)	0.92	0.00	0.08
	3 - Realigned Church Lane	0.81	0.19	0.00

07:45 - 08:00

Demand (PCU/hr)

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	1	180	138
	2 - A259 (West)	210	0	22
	3 - Realigned Church Lane	73	26	0

Proportions

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	0.00	0.56	0.43
	2 - A259 (West)	0.91	0.00	0.09
	3 - Realigned Church Lane	0.74	0.26	0.00

08:00 - 08:15

Demand (PCU/hr)

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	0	112	62
	2 - A259 (West)	188	0	15
	3 - Realigned Church Lane	81	20	0

Proportions

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	0.00	0.64	0.36
	2 - A259 (West)	0.93	0.00	0.07
	3 - Realigned Church Lane	0.80	0.20	0.00

08:15 - 08:30

Demand (PCU/hr)

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	2	116	56
	2 - A259 (West)	177	0	16
	3 - Realigned Church Lane	72	21	0

Proportions

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	0.01	0.67	0.32
	2 - A259 (West)	0.92	0.00	0.08
	3 - Realigned Church Lane	0.77	0.23	0.00

08:30 - 08:45

Demand (PCU/hr)

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	4	143	57
	2 - A259 (West)	177	0	16
	3 - Realigned Church Lane	98	19	0

Proportions

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	0.02	0.70	0.28
	2 - A259 (West)	0.92	0.00	0.08
	3 - Realigned Church Lane	0.84	0.16	0.00

08:45 - 09:00

Demand (PCU/hr)

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	4	231	132
	2 - A259 (West)	189	0	25
	3 - Realigned Church Lane	74	23	0

Proportions

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	0.01	0.63	0.36
	2 - A259 (West)	0.88	0.00	0.12
	3 - Realigned Church Lane	0.76	0.24	0.00

Demand (PCU/hr)

08:00 - 09:15

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	1	258	122
	2 - A259 (West)	190	0	14
	3 - Realigned Church Lane	64	25	0

Proportions

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	0.00	0.68	0.32
	2 - A259 (West)	0.93	0.00	0.07
	3 - Realigned Church Lane	0.72	0.28	0.00

Demand (PCU/hr)

09:15 - 09:30

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	2	177	77
	2 - A259 (West)	247	0	22
	3 - Realigned Church Lane	50	14	0

Proportions

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	0.01	0.69	0.30
	2 - A259 (West)	0.92	0.00	0.08
	3 - Realigned Church Lane	0.78	0.22	0.00

Vehicle Mix

Heavy Vehicle Percentages

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	10	10	10
	2 - A259 (West)	10	10	10
	3 - Realigned Church Lane	10	10	10

Average PCU Per Veh

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	1.100	1.100	1.100
	2 - A259 (West)	1.100	1.100	1.100
	3 - Realigned Church Lane	1.100	1.100	1.100

Detailed Demand Data

Demand for each time segment

Time Segment	Arm	Demand (PCU/hr)	Demand in PCU (PCU/hr)
07:30-07:45	1 - A259 (East)	353	353
	2 - A259 (West)	232	232
	3 - Realigned Church Lane	75	75
07:45-08:00	1 - A259 (East)	319	319
	2 - A259 (West)	232	232
	3 - Realigned Church Lane	99	99
08:00-08:15	1 - A259 (East)	174	174
	2 - A259 (West)	203	203

	3 - Realigned Church Lane	101	101
08:15-08:30	1 - A259 (East)	174	174
	2 - A259 (West)	193	193
	3 - Realigned Church Lane	93	93
08:30-08:45	1 - A259 (East)	204	204
	2 - A259 (West)	193	193
	3 - Realigned Church Lane	117	117
08:45-09:00	1 - A259 (East)	367	367
	2 - A259 (West)	214	214
	3 - Realigned Church Lane	97	97
09:00-09:15	1 - A259 (East)	381	381
	2 - A259 (West)	204	204
	3 - Realigned Church Lane	89	89
09:15-09:30	1 - A259 (East)	256	256
	2 - A259 (West)	269	269
	3 - Realigned Church Lane	64	64

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - A259 (East)	0.20	2.58	0.3	A	279	557
2 - A259 (West)	0.13	2.27	0.2	A	218	435
3 - Realigned Church Lane	0.07	2.44	0.1	A	92	184

Main Results for each time segment

07:30 - 07:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - A259 (East)	353	88	14	1923	0.184	352	274	0.0	0.2	2.519	A
2 - A259 (West)	232	58	140	1975	0.117	231	226	0.0	0.1	2.271	A
3 - Realigned Church Lane	75	19	213	1718	0.044	75	158	0.0	0.1	2.410	A

07:45 - 08:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - A259 (East)	319	80	26	1915	0.167	319	284	0.2	0.2	2.482	A
2 - A259 (West)	232	58	139	1976	0.117	232	206	0.1	0.1	2.270	A
3 - Realigned Church Lane	99	25	211	1719	0.058	99	160	0.1	0.1	2.443	A

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - A259 (East)	174	44	20	1919	0.091	174	269	0.2	0.1	2.271	A
2 - A259 (West)	203	51	62	2028	0.100	203	132	0.1	0.1	2.170	A
3 - Realigned Church Lane	101	25	188	1734	0.058	101	77	0.1	0.1	2.424	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - A259 (East)	174	44	21	1919	0.091	174	251	0.1	0.1	2.271	A
2 - A259 (West)	193	48	58	2031	0.095	193	137	0.1	0.1	2.153	A
3 - Realigned Church Lane	93	23	179	1740	0.053	93	72	0.1	0.1	2.405	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - A259 (East)	204	51	19	1920	0.106	204	279	0.1	0.1	2.307	A
2 - A259 (West)	193	48	61	2029	0.095	193	162	0.1	0.1	2.157	A
3 - Realigned Church Lane	117	29	181	1739	0.067	117	73	0.1	0.1	2.441	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - A259 (East)	367	92	23	1917	0.191	366	267	0.1	0.3	2.553	A
2 - A259 (West)	214	54	136	1978	0.108	214	254	0.1	0.1	2.244	A
3 - Realigned Church Lane	97	24	193	1731	0.056	97	157	0.1	0.1	2.425	A

09:00 - 09:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - A259 (East)	381	95	25	1916	0.199	381	255	0.3	0.3	2.579	A

2 - A259 (West)	204	51	123	1987	0.103	204	283	0.1	0.1	2.221	A
3 - Realigned Church Lane	89	22	191	1732	0.051	89	136	0.1	0.1	2.409	A

09:15 - 09:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - A259 (East)	256	64	14	1923	0.133	256	299	0.3	0.2	2.377	A
2 - A259 (West)	269	67	79	2017	0.133	269	191	0.1	0.2	2.265	A
3 - Realigned Church Lane	64	16	249	1694	0.038	64	99	0.1	0.0	2.430	A

2026, PM Network Peak Hour - Base Flows + DevT

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	2 - A259 (West) - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.
Warning	Growth Factors	Growth Factor 1	One or more Growth Factors use TEMPRO data. TRL is not responsible for TEMPRO datasets and cannot guarantee their correctness. If in doubt, please use the TEMPRO software directly.

Junction Network

Junctions

Junction	Name	Junction Type	Arm order	Junction Delay (s)	Junction LOS
1	Proposed Rbt	Standard Roundabout	1,2,3	2.59	A

Junction Network Options

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold
Left	Normal/unknown	291	1 - A259 (East)

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)	Run automatically	Relationship type	Relationship
D14	2026	PM Network Peak Hour - Base Flows + DevT	DIRECT	16:30	18:30	120	15	✓	Simple	(D2*G4)+D4

Vehicle mix varies over turn	Vehicle mix varies over entry	Vehicle mix source	PCU Factor for a HV (PCU)	O-D data varies over time
✓	✓	HV Percentages	2.00	✓

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Scaling Factor (%)
1 - A259 (East)		DIRECT	✓	100.000
2 - A259 (West)		DIRECT	✓	100.000
3 - Realigned Church Lane		DIRECT	✓	100.000

Origin-Destination Data

16:30 - 16:45

Demand (PCU/hr)

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	2	321	86
	2 - A259 (West)	270	0	69
	3 - Realigned Church Lane	132	86	1

Proportions

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	0.01	0.78	0.21
	2 - A259 (West)	0.80	0.00	0.20
	3 - Realigned Church Lane	0.60	0.39	0.01

16:45 - 17:00

Demand (PCU/hr)

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	2	270	91
	2 - A259 (West)	287	1	70
	3 - Realigned Church Lane	122	85	0

Proportions

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	0.01	0.74	0.25
	2 - A259 (West)	0.80	0.00	0.20
	3 - Realigned Church Lane	0.59	0.41	0.00

17:00 - 17:15

Demand (PCU/hr)

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	6	324	79
	2 - A259 (West)	286	1	64
	3 - Realigned Church Lane	133	117	0

Proportions

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	0.01	0.79	0.19
	2 - A259 (West)	0.81	0.00	0.18
	3 - Realigned Church Lane	0.53	0.47	0.00

17:15 - 17:30

Demand (PCU/hr)

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	3	305	68
	2 - A259 (West)	301	0	19
	3 - Realigned Church Lane	75	57	0

Proportions

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	0.01	0.81	0.18
	2 - A259 (West)	0.94	0.00	0.06
	3 - Realigned Church Lane	0.57	0.43	0.00

17:30 - 17:45

Demand (PCU/hr)

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	6	316	58
	2 - A259 (West)	288	1	26
	3 - Realigned Church Lane	68	52	0

Proportions

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	0.01	0.83	0.15
	2 - A259 (West)	0.91	0.00	0.08
	3 - Realigned Church Lane	0.57	0.43	0.00

17:45 - 18:00

Demand (PCU/hr)

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	3	296	66
	2 - A259 (West)	272	0	27
	3 - Realigned Church Lane	67	44	0

Proportions

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	0.01	0.81	0.18
	2 - A259 (West)	0.91	0.00	0.09
	3 - Realigned Church Lane	0.60	0.40	0.00

18:00 - 18:15

Demand (PCU/hr)

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	1	237	55
	2 - A259 (West)	273	1	25
	3 - Realigned Church Lane	69	42	0

Proportions

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	0.00	0.81	0.19
	2 - A259 (West)	0.91	0.00	0.08
	3 - Realigned Church Lane	0.62	0.38	0.00

18:15 - 18:30

Demand (PCU/hr)

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	3	281	24
	2 - A259 (West)	212	2	10
	3 - Realigned Church Lane	118	38	0

Proportions

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	0.01	0.91	0.08
	2 - A259 (West)	0.94	0.01	0.05
	3 - Realigned Church Lane	0.76	0.24	0.00

Vehicle Mix

Heavy Vehicle Percentages

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	10	10	6
	2 - A259 (West)	10	0	3
	3 - Realigned Church Lane	9	7	10

Average PCU Per Veh

		To		
		1 - A259 (East)	2 - A259 (West)	3 - Realigned Church Lane
From	1 - A259 (East)	1.100	1.100	1.062
	2 - A259 (West)	1.100	1.000	1.031
	3 - Realigned Church Lane	1.085	1.068	1.100

Detailed Demand Data

Demand for each time segment

Time Segment	Arm	Demand (PCU/hr)	Demand in PCU (PCU/hr)
16:30-16:45	1 - A259 (East)	409	409
	2 - A259 (West)	338	338
	3 - Realigned Church Lane	219	219
16:45-17:00	1 - A259 (East)	363	363
	2 - A259 (West)	358	358
	3 - Realigned Church Lane	207	207
17:00-17:15	1 - A259 (East)	409	409
	2 - A259 (West)	351	351
	3 - Realigned Church Lane	250	250
17:15-17:30	1 - A259 (East)	377	377
	2 - A259 (West)	321	321
	3 - Realigned Church Lane	132	132
17:30-17:45	1 - A259 (East)	380	380
	2 - A259 (West)	315	315
	3 - Realigned Church Lane	121	121
17:45-18:00	1 - A259 (East)	365	365
	2 - A259 (West)	299	299
	3 - Realigned Church Lane	111	111
18:00-18:15	1 - A259 (East)	292	292
	2 - A259 (West)	299	299
	3 - Realigned Church Lane	111	111
18:15-18:30	1 - A259 (East)	308	308
	2 - A259 (West)	224	224
	3 - Realigned Church Lane	156	156

Results

Results Summary for whole modelled period

Arm	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
1 - A259 (East)	0.22	2.72	0.3	A	363	726
2 - A259 (West)	0.18	2.37	0.2	A	313	626
3 - Realigned Church Lane	0.15	2.74	0.2	A	163	327

Main Results for each time segment

16:30 - 16:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - A259 (East)	409	102	87	1875	0.218	407	403	0.0	0.3	2.675	A
2 - A259 (West)	338	85	89	2010	0.168	337	406	0.0	0.2	2.334	A
3 - Realigned Church Lane	219	55	271	1680	0.130	219	155	0.0	0.2	2.655	A

16:45 - 17:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - A259 (East)	363	91	86	1875	0.194	363	410	0.3	0.3	2.597	A
2 - A259 (West)	358	89	94	2007	0.178	358	356	0.2	0.2	2.369	A
3 - Realigned Church Lane	207	52	290	1667	0.124	207	161	0.2	0.2	2.656	A

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - A259 (East)	409	102	118	1854	0.220	408	424	0.3	0.3	2.719	A
2 - A259 (West)	351	88	84	2013	0.174	351	442	0.2	0.2	2.354	A
3 - Realigned Church Lane	250	62	292	1666	0.150	250	143	0.2	0.2	2.737	A

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS

1 - A259 (East)	377	94	57	1895	0.199	377	380	0.3	0.3	2.591	A
2 - A259 (West)	321	80	72	2022	0.159	321	362	0.2	0.2	2.320	A
3 - Realigned Church Lane	132	33	305	1658	0.080	132	88	0.2	0.1	2.543	A

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - A259 (East)	380	95	53	1897	0.200	380	362	0.3	0.3	2.595	A
2 - A259 (West)	315	79	64	2027	0.155	315	370	0.2	0.2	2.300	A
3 - Realigned Church Lane	121	30	295	1664	0.072	121	84	0.1	0.1	2.512	A

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - A259 (East)	365	91	44	1903	0.192	365	342	0.3	0.3	2.557	A
2 - A259 (West)	299	75	69	2024	0.148	299	340	0.2	0.2	2.284	A
3 - Realigned Church Lane	111	28	275	1677	0.066	112	93	0.1	0.1	2.479	A

18:00 - 18:15

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - A259 (East)	292	73	43	1904	0.154	293	344	0.3	0.2	2.443	A
2 - A259 (West)	299	75	56	2033	0.147	299	280	0.2	0.2	2.270	A
3 - Realigned Church Lane	111	28	275	1677	0.066	111	80	0.1	0.1	2.481	A

18:15 - 18:30

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Throughput (exit side) (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	LOS
1 - A259 (East)	308	77	40	1906	0.162	308	333	0.2	0.2	2.470	A
2 - A259 (West)	224	56	27	2053	0.109	224	321	0.2	0.1	2.157	A
3 - Realigned Church Lane	156	39	217	1715	0.091	156	34	0.1	0.1	2.495	A

APPENDIX 19

New Roundabout: **A259/Realigned Church Lane**

Results for Worst Arm – A259 East

Design Case	Max Q (Vehs)	Max Delay (Secs)	RFC
2016 – am no devt	0.3	2.58	0.20
2016 – am with devt	0.2	2.52	0.18
2016 – pm no devt	0.2	2.56	0.18
2016 – pm with devt	0.3	2.59	0.19
2021 – am no devt	0.3	2.63	0.21
2021 – am with devt	0.3	2.71	0.22
2021 – pm no devt	0.3	2.60	0.19
2021 – pm with devt	0.3	2.67	0.21
2026 – am no devt	0.3	2.68	0.23
2026 – am with devt	0.3	2.58	0.20
2026 – pm no devt	0.3	2.65	0.20
2026 – pm with devt	0.3	2.72	0.22

ARUN DISTRICT COUNCIL CM/1/17/OUT

APPENDIX 20

WEST SUSSEX COUNTY COUNCIL **DATE: 13th July 2016**
STRATEGIC PLANNING CONSULTATION

FROM: **Dominic Smith** **TO:** **Bellamy Roberts**
FAO: **Graham Bellamy**

SUBJECT: **PRE-213-16**

Development of 300 dwellings plus community hall and local convenience store plus associated road improvements.

Land at Climping adjacent to, A259 and Church Lane, Climping, Littlehampton, West Sussex

RECOMMENDATION:

Advice	X	**Modification**		**More Information**	
Objection		**No Objection**		**Refusal**	

West Sussex County Council (WSCC), in its capacity as the Local Highway Authority (LHA), has been consulted for pre-application advice on the proposed development of 300 dwellings at land north of the A259 at Climping.

The submission has been accompanied by a "Pre-App Transport Report", reference GDB/4724/TR.01.

The following advice is offered.

Context
The LHA would have some reservations with the timing of an immediate submission of a planning application. At present, the emerging Arun Local Plan is undergoing extensive testing. Within this, a potential allocation for up to 500 dwellings in Climping has been identified, and a number of other large strategic sites that may impact the operation of the A259 and neighbouring junctions. This includes up to 1000 dwellings at West Bank, up to 3000 at Barnham, Eastergate and Westergate and up to 2000 homes at Ford. Five scenarios are presently being tested, three of which include Climping as a potential allocation. There are a number of known network constraints in the area, covered in more detail in the following advice note, and the site is relatively remote to a wide range of services and facilities that would be required to support the day to day needs of residential development. To support any identified Local Plan allocation, a comprehensive will package of infrastructure improvements would be developed in order to mitigate the severe cumulative impact of development and, if allocated, the site could have a fundamental role to play in the Arun development strategy.

1. The proposed application does contain a package of significant infrastructure improvements related to the site, and the proposed new roundabout on A259 has substantial reserve capacity at the design year. It is therefore future proofed to cater for other housing allocations.

Yapton Road/A259 (known as the Oystercatcher junction)
There have been recent fatalities at this location and there are safety concerns over the operation of this junction. Consideration should be given to the impact of the development will have on its operation, as well as consideration of whether additional traffic generated by the development may exacerbate any identified accident trends.

2. Examination of the accident records for the junction shows that there are no trends other than that all of the accidents appear to be the result of significant driver errors. It is not possible to identify remedial measures that would have prevented the accidents.

Church Lane/A259

As identified in the submitted report, there are known capacity constraints at the junction with satisfactory future performance, given likely increases in traffic using the link, coupled with increased number of baseline movements since the opening of the Bognor Regis Relief Road.

3. The application proposes replacing the existing Church Lane Roundabout with a much larger 3-arm roundabout some 100m to the west and realigning Church Lane. As above, the design has been future proofed in that the baseline surveys were taken after the opening of the Bognor Regis Relief Road and there is substantial reserve capacity at the design year.

Yapton Level Crossing

There are known operational and safety constraints at this junction, with a stated aspiration of Network Rail to install a full barrier crossing. A study has been undertaken by WSCC to identify potential solutions. A copy of the report can be obtained from Jamie Dallen, WSCC Planning and Transport Policy (jamie.dallen@westsussex.gov.uk). An assessment of the impact on the crossing should be undertaken, to establish whether the development would have a detrimental impact or exacerbate existing constraints.

4. The impact of the development on the level crossing has been considered and it is unlikely that there will be any material increase in traffic flows over the crossing because this route does not represent an optimum assignment for identifiable journeys.

Vehicular Access

A full Design Audit would be required to support the access proposals, setting out standards used and compliance with the standards. Should any departures be identified then approval should be sought in accordance with GD01/08 for a departure from the relevant standard. The junction separation distance between the site access and the roundabout should be included within this audit to ensure sufficient spacing is provided.

5. The access proposals have been subject to a design audit and the submitted plans indicate all of the key dimensions used. No Departures from Standards have been identified.

There appears to be some discrepancy between the illustrative masterplan and the access arrangements reviewed as part of the Stage 1 Road Safety Audit. The masterplan shows an additional access in the south east corner of the site. This is in close proximity to the roundabout, and any vehicle standing at this to turn right into the site would present an obstruction to vehicles exiting the roundabout, at the risk of rear shunt collisions. The presence of vegetation adjacent to the A259 is likely to restrict visibility from the access to vehicles that may wish to turn into Church Lane from an eastbound approach, and may do so at higher speeds during off-peak hours.

6. The discrepancy referred to has been resolved with the latest illustrative masterplan.

The indicative masterplan also shows an access immediately upon entrance into the site; the proximity of this access could lead to unexpected obstruction of the site access, at the risk of blocking back onto Church Lane or rear shunt collisions upon entry into the development site.

7. The internal arrangements shown on the masterplan are illustrative in nature only and the concern indicated above can be resolved at the detailed stage for the site layout.

The right hand turn into Crookthorne Lane has been identified as a possible safety issue if sufficient stacking capacity is not provided. It is noted that there is scope to extend the lane from the current proposed capacity of 7 vehicles. This should be informed by a PICADY assessment, and given the possibility that vehicle arrivals may be bunched, since the lane provides access to a school, a direct input assessment should be used as opposed to a standard peak curve assessment. A TRO would be required to restrict right turns out of the 'left out only' junction arrangement. Consideration should be given to whether enhancement of the current crossing arrangements may be necessary, since the development is likely to increase the demand for this movement.

8. There are only 18 vehicles per hour (am peak) which will use this right turning lane and the storage capacity of 7 vehicles is more than sufficient. It is noted, however, that the storage capacity could be increased if it is still considered to be an issue. Additional pedestrian crossing arrangements are included in the design.

Whilst it is recognised that a link through the site between Church Lane and HGL is provided, consideration should be given as to whether this may increase the likelihood of rat-running. The improvement to roundabout capacity is likely to provide a quicker route for vehicles turning north onto Yapton Road, as opposed to turning right at the A259/Yapton Road junction using the right hand turn junction.

9. The PICADY analysis for the Yapton Road Junction shows no material delays for vehicles turning right during either peak hour and this can be observed from the video survey. In contrast, there is an identifiable existing rat-run in the morning peak between Horsemere Green Lane and the Church Lane Roundabout which uses the sub-standard junction between Horsemere Green Lane and Church Road. The new roundabout with its substantial reserve of capacity is likely to remove most of that rat-run and providing the link through the site between Horsemere Green Lane and Church Lane means that traffic making that movement can do so using two junctions designed in accordance with modern design standards rather than the existing sub-standard junction of Horsemere Green Lane and Church Lane. On balance, it is considered that this interconnection is a highway safety benefit.

Sustainable Access

A footway (and possible cycle way) is shown in the North West corner of the site. It does not appear that any onward facility is provided, and could encourage pedestrians to walk along the carriageway. Visibility at this location is also restricted due to the presence of dense vegetation.

10. This pedestrian connection is shown on the illustrative masterplan and if there are concerns about safety arising from its use it can be deleted at the detailed stage of the on-site layout development.

It would appear that dense vegetation adjacent to the south western pedestrian/cycle way may obstruct visibility for crossing movements.

11. If the vegetation adjacent to the south western pedestrian connection to Yapton Road obstructs visibility then this can be pruned back as it all lies within the application site.

The footway adjacent to the A259 is narrow, and potential exists for this to be widened to provide a design standard compliant arrangement.

12. It is considered unlikley that pedestrians related to the proposed development would use the footway adjacent to the northern side of A259, other than some people wishing to access the eastbound bus stop at the western end of the site but the proposal incorporates a direct pedestrian link from the internal layout to the bus stop with no need to walk along the A259. Similarly, access to the proposed new bus stops at the eastern end will be via a direct link from the internal layout of the site, but improved footways on A259 around the proposed new roundabout and running back towards the village hall are included in the proposals.

There is a missing section of footway on the corner of HGL and Church Lane. Consideration should be given as to whether a link could be implemented, although it is understood that limited highway boundary at this location may be restrictive.

13. It is not possible to complete the footway connection at the corner of Horsemere Green Lane and Church Lane due to third party land ownerships.

Trip Generation and Capacity

Insufficient information has been submitted to verify the outputs. As part of any formal application, detailed network impact assessment should be submitted including TRICS outputs, full details of the distribution/network assignment exercise and junction capacity testing at any junction that will experience an increase of 30 or more movements during peak network hours.

14. The submitted TA contains full copies of the TRICS data utilised and the basis of the site selections. Similarly, full details and reasoning for the distribution/network assignment of generated traffic is set out and capacity testing of those junctions where there will be an increase of 30 movements or more during any peak hours (at junctions agreed with WSCC in advance) has been carried out and no problems are demonstrated.

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