

Redwood Partnership Transportation Limited

Maritime House
Basin Road North
Portslade
Brighton
BN15 1WZ

REDWOOD PARTNERSHIP
Consulting Engineers
Transportation Planners



**MIXED-USE DEVELOPMENT
A259 NEW ROAD
RUSTINGTON
WEST SUSSEX**

**SUPPLEMENTARY
TRANSPORT REPORT**

VOLUME 2 OF 3

On behalf of
**COMMERCIAL DEVELOPMENT PROJECTS LIMITED
&
MARKS AND SPENCERS PLC**

PMcL/3167d2/Jul 2015

Registered in England No. 7289530
Registered Office: The White House, 2 Meadow, Godalming, Surrey, GU7 5HT



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APPENDIX A

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APPENDIX E (PART)

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PMcL/3167d2/Jul 2015

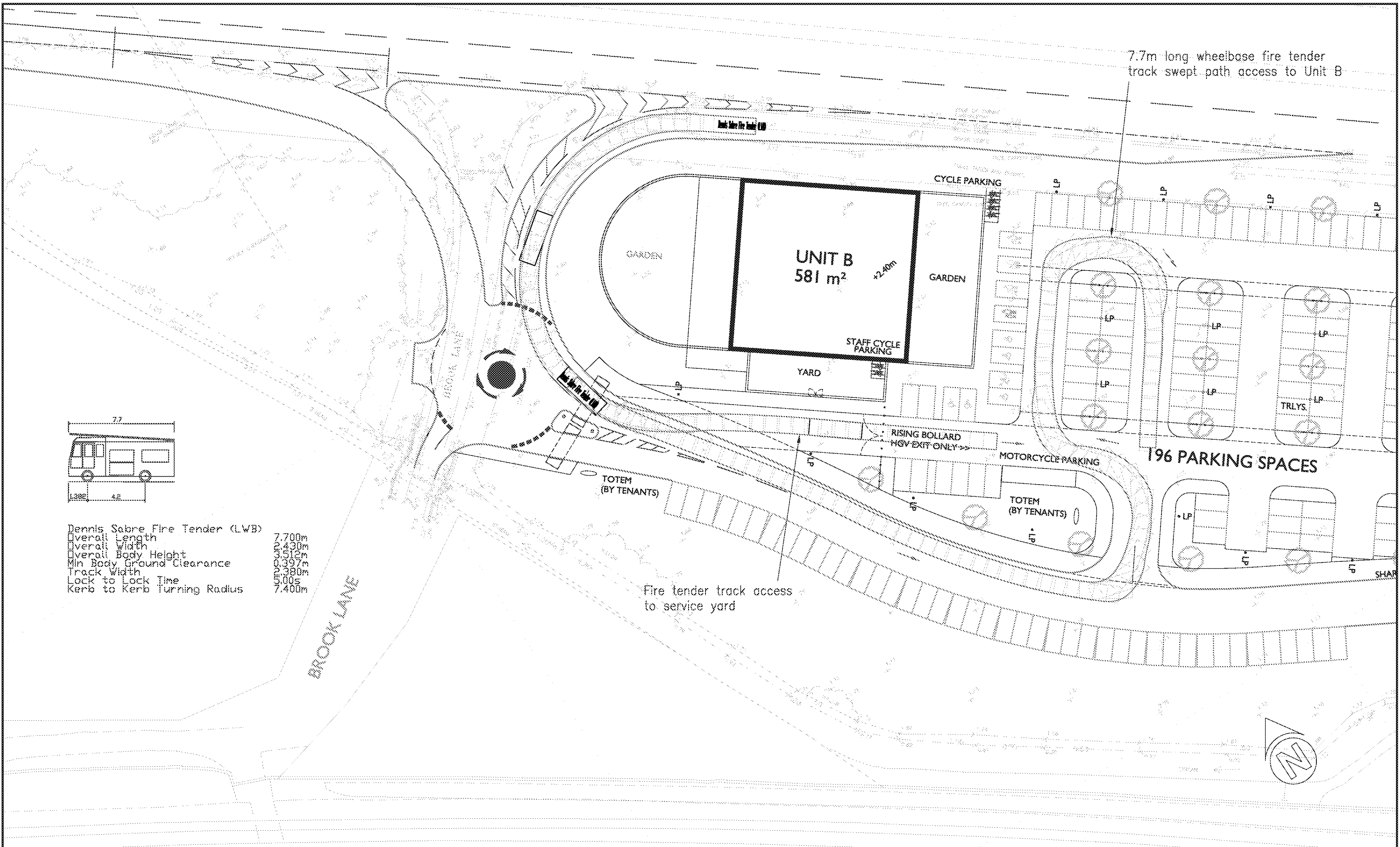
New Road Retail Park, Rustington, West Sussex
Supplementary Transport Report



VOLUME 3

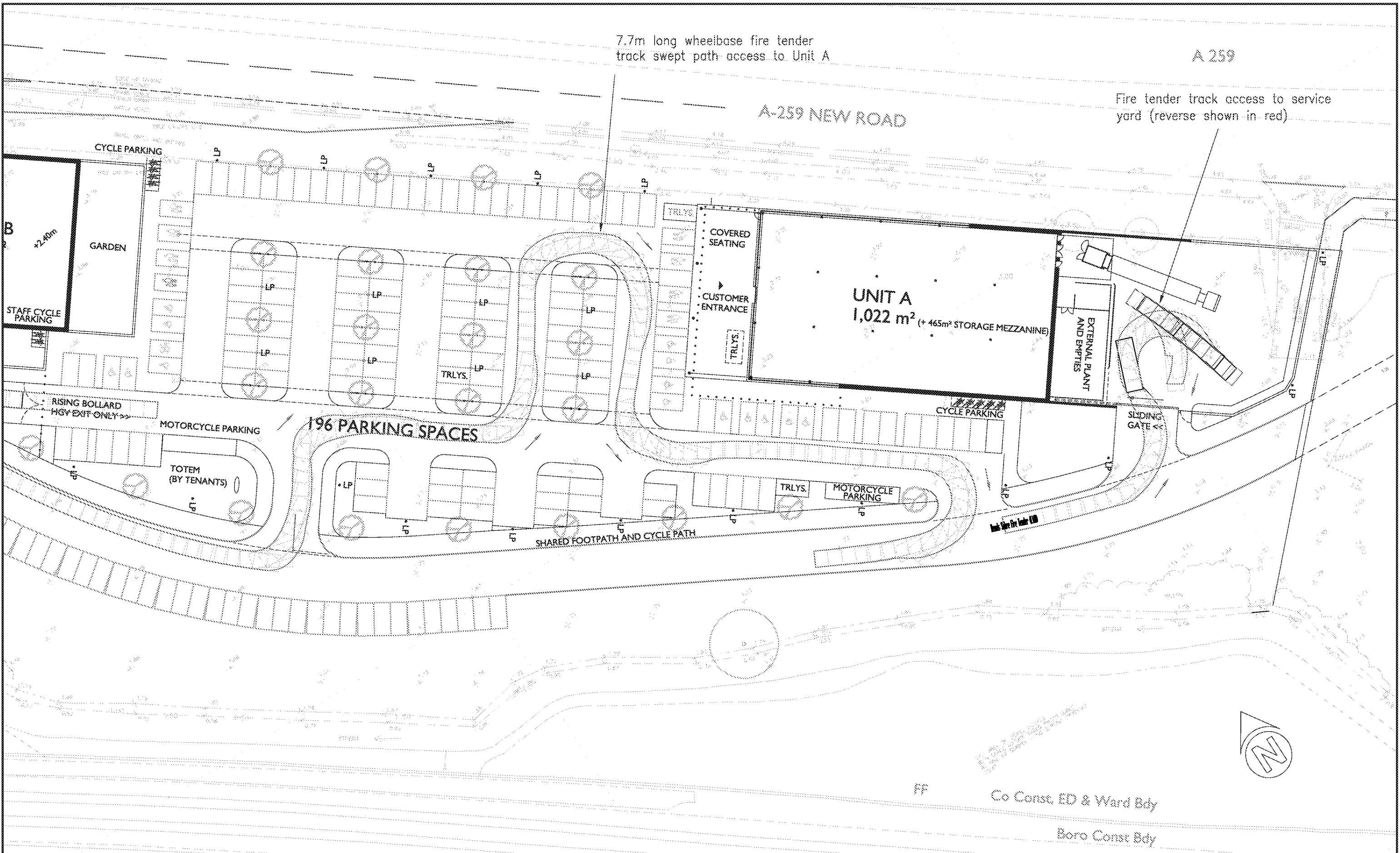
APPENDIX E (PART)

ARCADY computer outputs



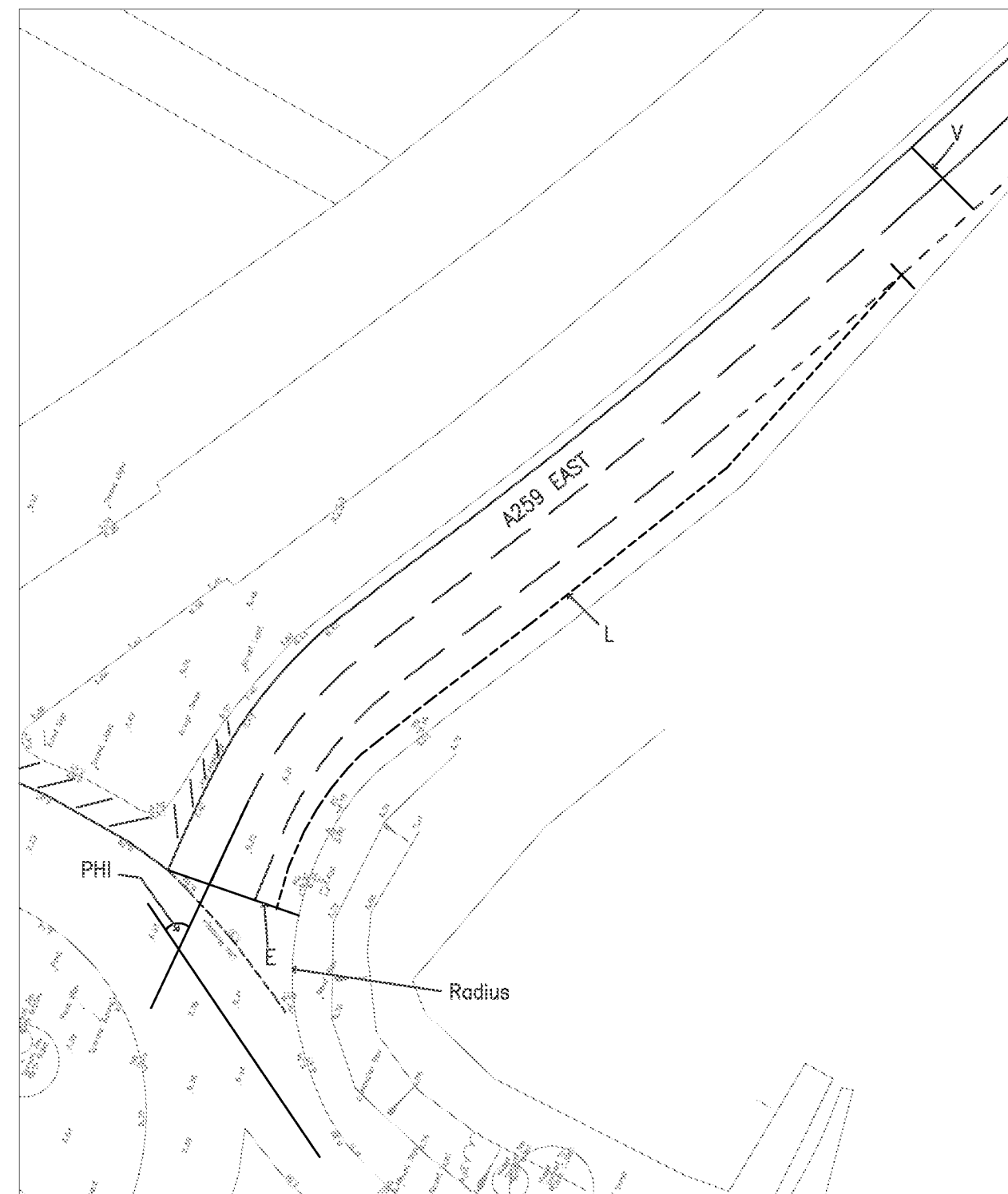
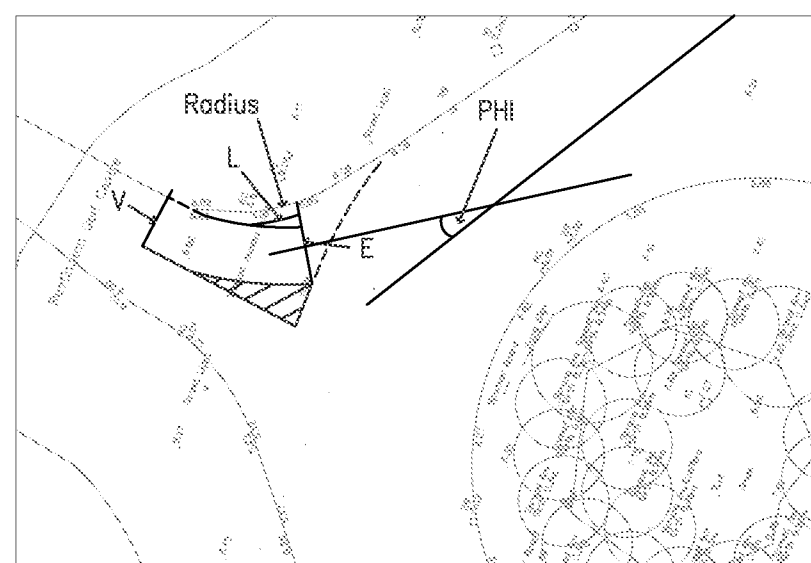
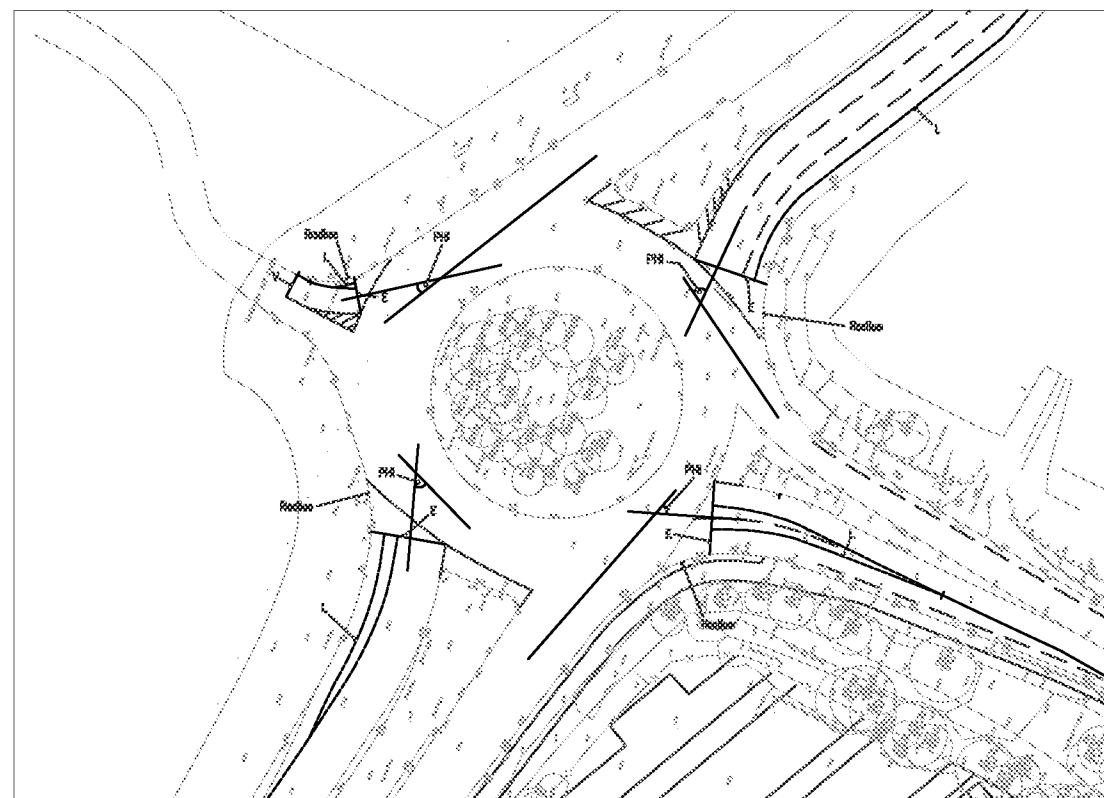
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Status FOR APPROVAL			Title 7.7m LONG WHEELBASE FIRE TENDER TRACK SWEEP PATH TO UNIT B				
Drawn PL	Scale 1:500	Sheet Size A3	Date JUN 2015	Drawing No. REDW-3167-117	Rev		

ARUN DISTRICT COUNCIL A24145.017



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Title 7.7m LONG WHEELBASE FIRE TENDER TRACK SWEEP PATH TO UNIT A			Sheet Size A3				
Status FOR APPROVAL	Drawn <i>PL</i>	Scale 1:500	Date JUN 2015	Drawing No. REDW-3167-118	Rev		

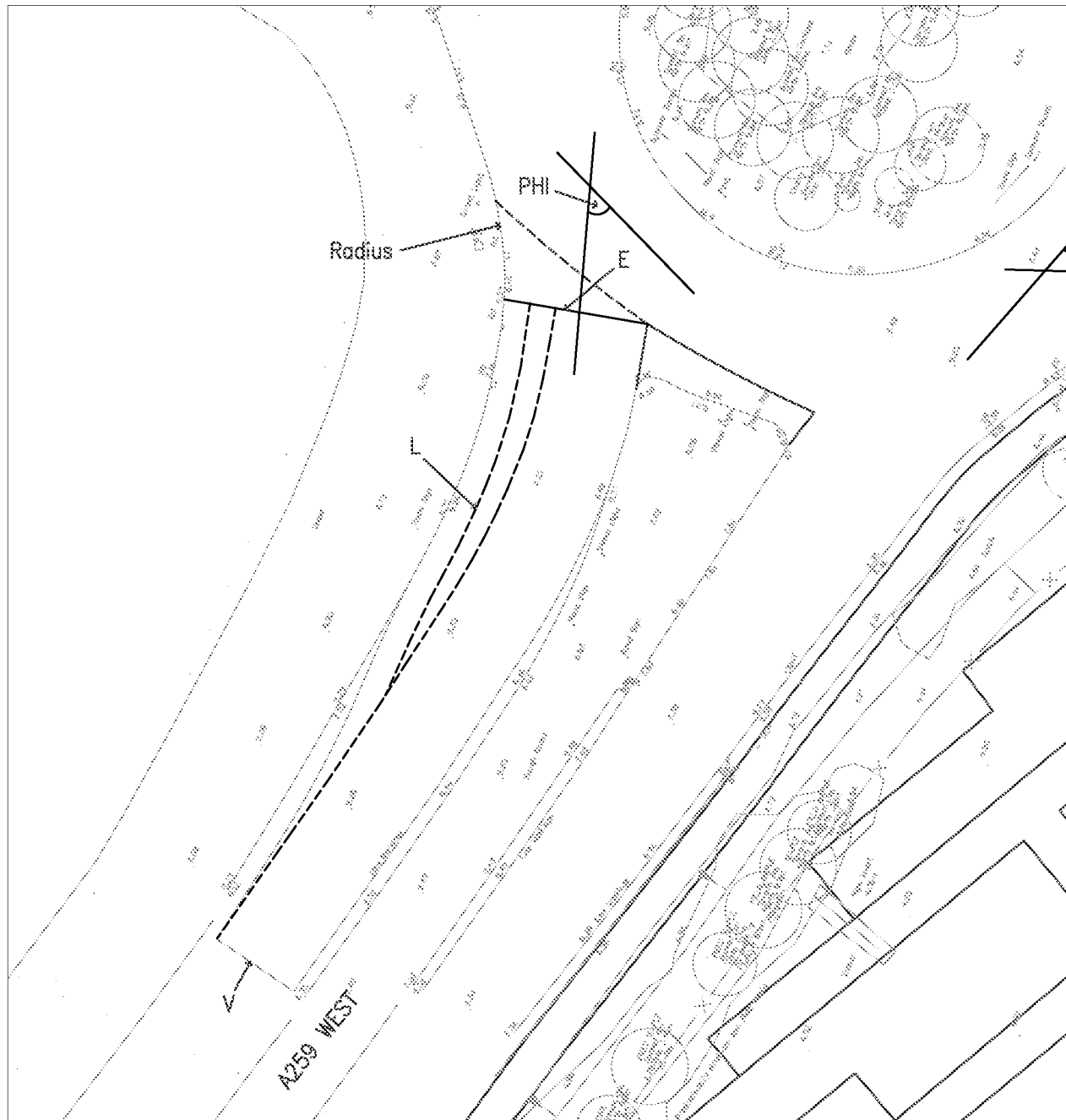
ARUN DISTRICT COUNCIL A25915017



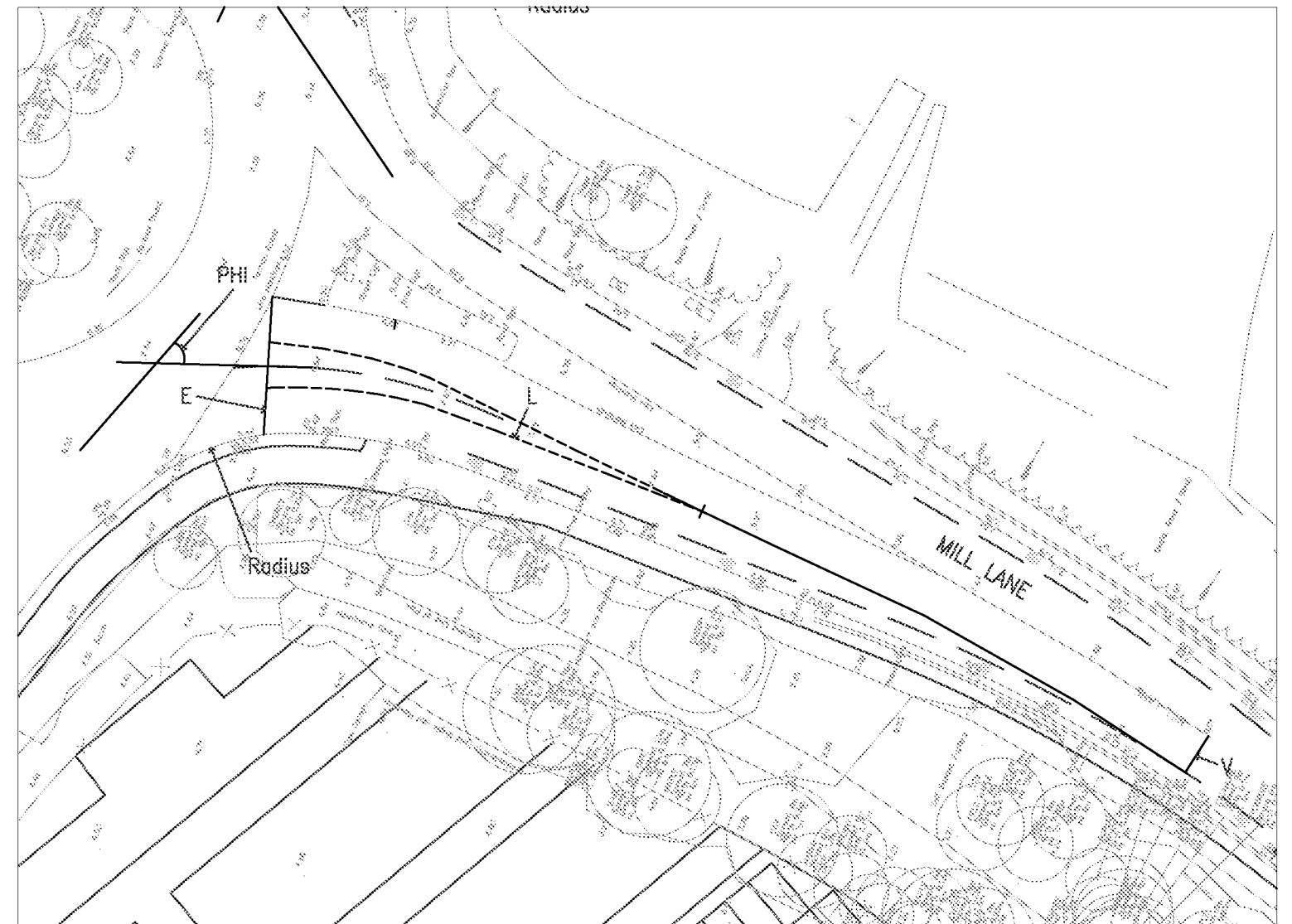
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Golfers Lane	3.50	5.40	2.70	8.00	60.00	25.00
A259 East	7.60	11.40	75.00	24.00	60.00	60.00
Mill Lane	3.80	11.10	36.00	18.10	60.00	50.00
A259 West	7.40	12.00	32.00	28.00	60.00	50.00



Client COMMERCIAL DEVELOPMENT PROJECTS LTD			Project MIXED USE DEVELOPMENT, A259 NEW ROAD, RUSTINGTON, WEST SUSSEX		REDWOOD PARTNERSHIP  CONSULTING ENGINEERS & TRANSPORTATION PLANNERS Maritime House, Basin Road North, Portslade, Brighton, BN41 1WR Telephone: 01273 414515 www.redwoodpartnership.co.uk	
			Title ARCADY PARAMETERS – A259/MILL LANE SHEET 1 OF 2			
Status FOR APPROVAL	Drawn RW	Scale 1:500	Sheet Size A3	Date JUN 2015	Drawing No. REDW-3167-405	Rev



A259 WEST

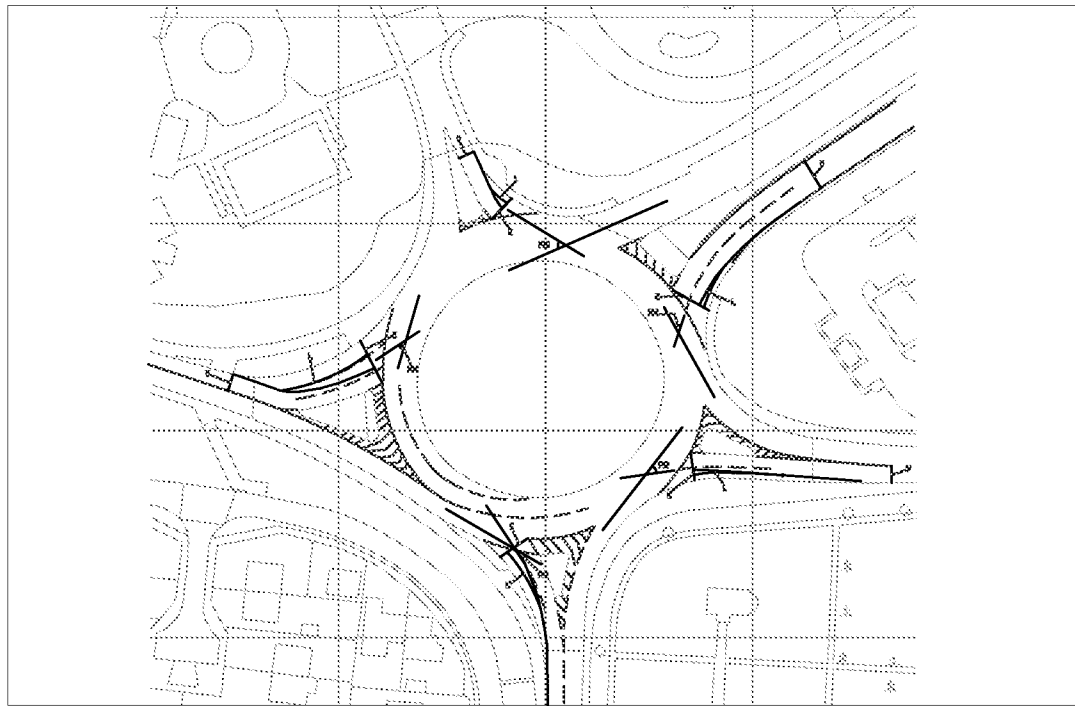


MILL LANE

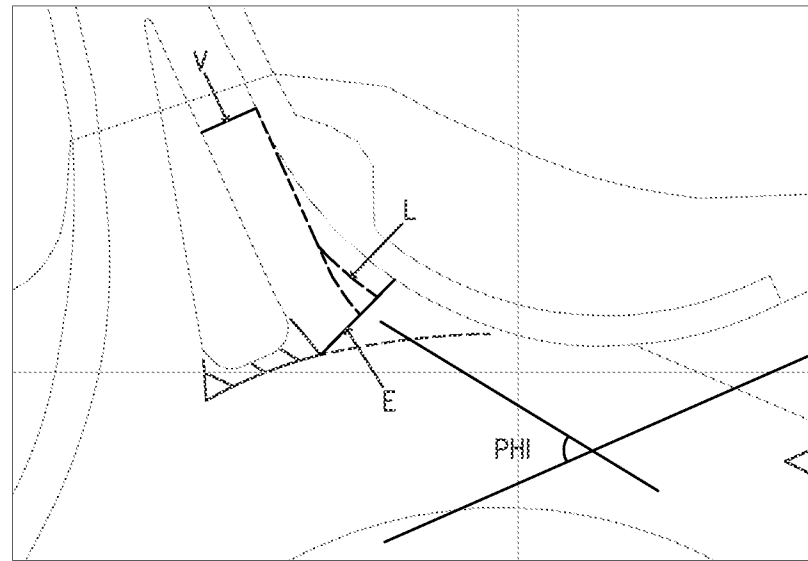
Arm	V-Approach half width (m)	E - Entry width (m)	L - Effective flare	R - Entry radius	D- Inscribed diameter	PHI - conflict angle (deg)
Golfers Lane	3.50	5.40	2.70	8.00	60.00	25.00
A259 East	7.60	11.40	75.00	24.00	60.00	60.00
Mill Lane	3.80	11.10	36.00	18.10	60.00	50.00
A259 West	7.40	12.00	32.00	28.00	60.00	50.00



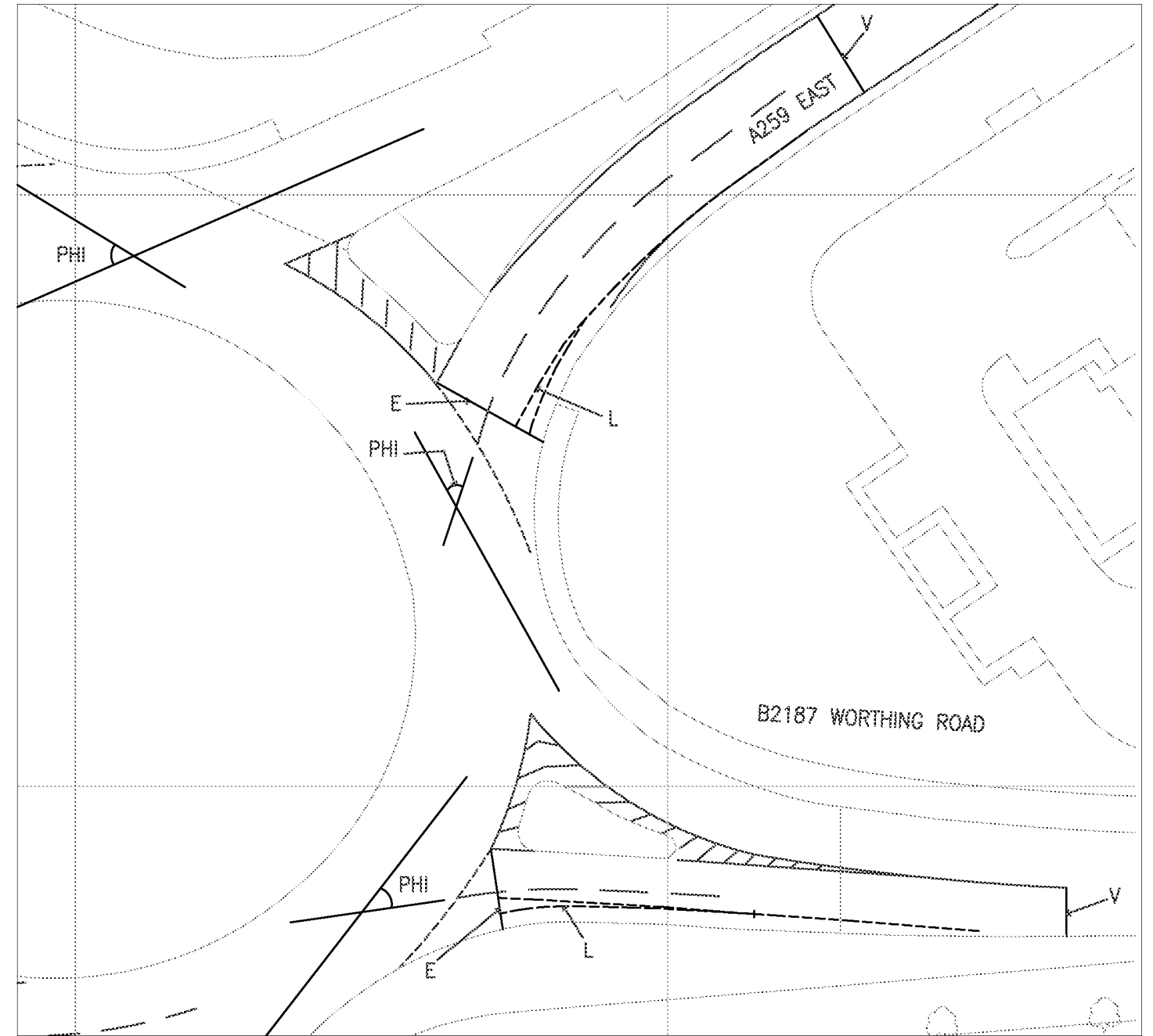
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			Title ARCADY PARAMETERS – A259/MILL LANE SHEET 2 OF 2				
Status FOR APPROVAL	Drawn RW	Scale 1:500	Sheet Size A3	Date JUN 2015	Drawing No. REDW-3167-406	Rev	



A259 / WORTHING ROAD / HORSHAM ROAD ROUNDABOUT



BODY SHOP ACCESS



A259 EAST / B2187 WORTHING ROAD

Arm	V-Approach half width (m)	E - Entry width (m)	L - Effective flare	R - Entry radius	D- Inscribed diameter	PHI - conflict angle (deg)
A259 East	7.60	10.30	10.90	25.00	75.00	45.00
B2187 Worthing Road	4.00	6.90	21.50	21.00	75.00	44.00
B2187 Horsham Road	3.96	8.10	15.67	33.00	75.00	28.00
A259 Worthing Road	4.01	11.70	22.95	37.60	75.00	40.00
Body Shop access	3.80	7.00	5.13	18.50	75.00	56.00



Client

COMMERCIAL DEVELOPMENT PROJECTS LTD

Project

MIXED USE DEVELOPMENT, A259 NEW ROAD, RUSTINGTON, WEST SUSSEX

Title

ARCADY PARAMETERS – A259/B2187 WORTHING ROAD SHEET 1 OF 2

Status

FOR APPROVAL

Drawn

RW

Scale

1: 500

Sheet Size

A3

Date

JUN 2015

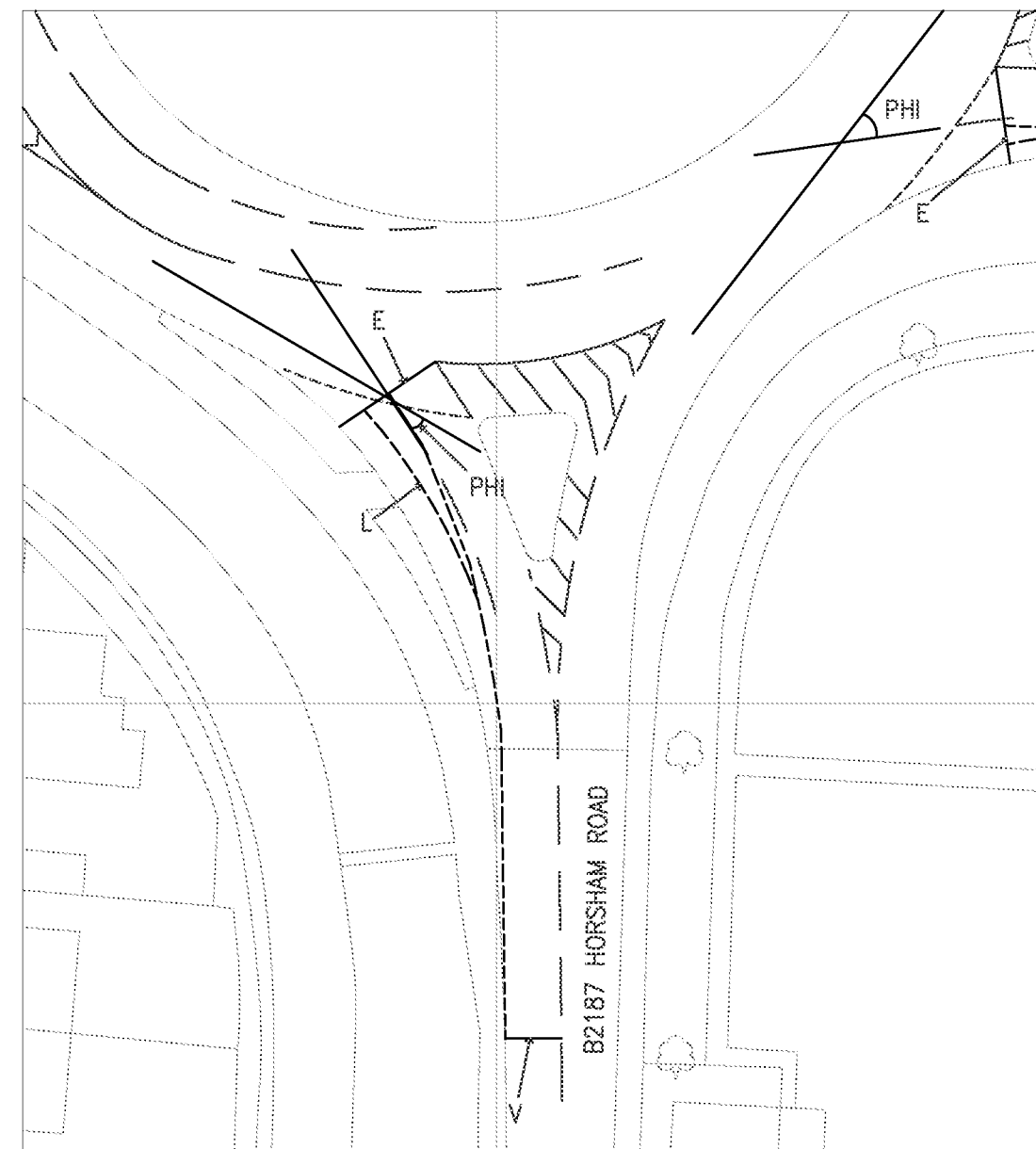
Drawing No.

REDW-3167-407

Rev

REDWOOD PARTNERSHIP
CONSULTING ENGINEERS & TRANSPORTATION PLANNERS

Maritime House, Basin Road North, Portslade, Brighton, BN41 1WR
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Arm	V-Approach half width (m)	E - Entry width (m)	L - Effective flare	R - Entry radius	D- Inscribed diameter	PHI - conflict angle (deg)
A259 East	7.60	10.30	10.90	25.00	75.00	45.00
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B2187 Horsham Road	3.96	8.10	15.67	33.00	75.00	28.00
A259 Worthing Road	4.01	11.70	22.95	37.60	75.00	40.00
Body Shop access	3.80	7.00	5.13	18.50	75.00	56.00



Client COMMERCIAL DEVELOPMENT PROJECTS LTD			Project MIXED USE DEVELOPMENT, A259 NEW ROAD, RUSTINGTON, WEST SUSSEX				 REDWOOD PARTNERSHIP CONSULTING ENGINEERS & TRANSPORTATION PLANNERS
			Title ARCADY PARAMETERS – A259/B2187 WORTHING ROAD SHEET 2 OF 2				
Status FOR APPROVAL	Drawn RW	Scale 1:500	Sheet Size A3	Date JUN 2015	Drawing No. REDW-3167-408	Rev	Maritime House, Basin Road North, Portslade, Brighton, BN41 1WR Telephone : 01273 414515 www.redwoodpartnership.co.uk

APPENDIX A

SUBMISSION TO WEST SUSSEX COUNTY COUNCIL FOR DEPARTURES FROM STANDARD

Project Name	Land south of A259 New Road, Angmering
Applicant Organisation	The Redwood Partnership Transportation Ltd
Applicant Ref	PMcL/3167
Highway Authority Ref	A/23/15/OUT
Applicant Contact Details	Mr Paul McLaughlin BSc CEng MICE MCIHT Tel: 01273 421521
Date Submitted	1 st July 2015

1) PROJECT DETAILS

A	Description	Access to new development
B	Location	Land south of New Road, East of Brook Lane, Angmering
C	Road Category	TA 46/97 Rural Road
D	Road Type	S2
E	Design Speed	100A kph (determined by TD 9/93 Rural Road Design Speed Calculation)
F	Speed Limit	60mph (Derestricted)
G	Traffic Flows	Refer to Supplementary Transport Report Ref: PMcL/3167D2
H	NMU Flows	Refer to Transport Assessment Ref: PMcL/3167D1

2) DEPARTURE DETAILS

A	Discipline	Road Geometry
	Type	
B	Relevant Standard(s)	TD42/95
	Clause	Fig. 7.12
C	Difference Between Standard(s) and proposed design	Paragraph 7.54 states that a 40m radius entry is required where main road speed is above 85 kph. The design includes an entry radius of 20 metres
D	Reason for Departure (overview)	Fig. 7.12 (TD42/95) shows traffic at the end of the deceleration lane having to give way, therefore the entry radius beyond the give way in Fig. 7.12 is not a speed reduction measure and can be reduced
E	Associated Project Departures	n/a
F	Other Options Considered	Increase in radius not possible due to site constraints

3) JUSTIFICATION (POTENTIAL POSITIVE AND NEGATIVE IMPACTS)

A	Safety	Motorists could potentially arrive at high speed. Additional warning signage is proposed (see section 4A)
B	Congestion/ Delay	n/a
C	Environmental / sustainability	n/a
D	Capital and whole life cost/ value	n/a
E	Accessibility	n/a
F	Integration	n/a
G	Structural	n/a

H	Network resilience & Maintenance	n/a
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4) COMPENSATORY MEASURES

A	Included Measures	Chevron sharp deviation signs to Diag 515 added Roundabout ahead/Reduce speed signs to Diags. 510 & 511 added
B	Rejected Options	Increased entry radius not possible due to site constraints

5) DESIGN ORGANISATIONS CONCLUDING REMARKS

Proposals shown on Drg.No. 3167-100-RevB deemed to be acceptable
--

6) ATTACHMENTS AND OTHER INFORMATION

A	List of Attachments	Drg.No. 3167-100-RevB
B	Consultations	Road Safety Audit Stage 1 Ref: Fenley RSA-15-002-04
C	Other Information	Supplementary Transport Report Ref: PMcL/3167D2

7) DECISION – (HIGHWAY AUTHORITY USE ONLY)

NAME 1						
ROLE						
SIGNED		DATE				
NAME 2						
ROLE						
SIGNED		DATE				
MARK ONE BOX:	1- APPROVED	☐	2-APPROVED WITH COMMENTS	☐	3- REJECTED	☐
COMMENTS						

SUBMISSION TO WEST SUSSEX COUNTY COUNCIL FOR DEPARTURES FROM STANDARD

Project Name	Land south of A259 New Road, Angmering
Applicant Organisation	The Redwood Partnership Transportation Ltd
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Highway Authority Ref	A/23/15/OUT
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1) PROJECT DETAILS

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D	Road Type	S2
E	Design Speed	100A kph (determined by TD 9/93 Rural Road Design Speed Calculation)
F	Speed Limit	60mph (Derestricted)
G	Traffic Flows	Refer to Supplementary Transport Report Ref: PMcL/3167D2
H	NMU Flows	Refer to Transport Assessment Ref: PMcL/3167D1

2) DEPARTURE DETAILS

A	Discipline	Road Geometry
	Type	
B	Relevant Standard(s)	TD42/95
	Clause	Table 7.6
C	Difference Between Standard(s) and proposed design	Table 7.6 states that a 130m acceleration lane length is required for a design main road speed of 120 kph. The design includes a 126m acceleration lane length
D	Reason for Departure (overview)	The length of lane has been reduced in order to tie in prior to pedestrian crossing of the dual carriageway. The minor reduction in length is deemed acceptable as the full standard of a 120kph Design Speed is 13kph above existing dry weather 85%ile measured vehicle speeds on the road
E	Associated Project Departures	n/a
F	Other Options Considered	None

3) JUSTIFICATION (POTENTIAL POSITIVE AND NEGATIVE IMPACTS)

A	Safety	Reduction in length considered minimal as actual measured speeds are less than design speed
B	Congestion/ Delay	n/a
C	Environmental / sustainability	n/a
D	Capital and whole life cost/ value	n/a
E	Accessibility	n/a

F	Integration	n/a
G	Structural	n/a
H	Network resilience & Maintenance	n/a

4) COMPENSATORY MEASURES

A	Included Measures	None. Reduction in length considered minimal as actual measured speeds are less than design speed
B	Rejected Options	None

5) DESIGN ORGANISATIONS CONCLUDING REMARKS

Proposals shown on Drg.No. 3167-100-RevB deemed to be acceptable

6) ATTACHMENTS AND OTHER INFORMATION

A	List of Attachments	Drg.No. 3167-100-RevB
B	Consultations	Road Safety Audit Stage 1 Ref: Fenley RSA-15-002-04
C	Other Information	Supplementary Transport Report Ref: PMcL/3167D2

7) DECISION – (HIGHWAY AUTHORITY USE ONLY)

NAME 1				
ROLE				
SIGNED		DATE		
NAME 2				
ROLE				
SIGNED		DATE		
MARK ONE BOX:	1- APPROVED	☐	2-APPROVED WITH COMMENTS	☐
	3- REJECTED	☐		
COMMENTS				

APPENDIX B

Road Safety Audit Report

**Incorporating
Stage 1 Completion of Preliminary Design.**



Proposed Access off the A259 New Road, Rustlington

Client:
Commercial Development Projects Ltd

Client reference:
REDW-3167

Fenley Partnership
2 Blaenant
Emmer Green
READING
RG4 8PH



Report Status 4

Job no	RSA-15-002	Issue no	4	Date	June 2015
Prepared by	JJF	Verified by	AJB	Approved by	JJF
Filename and Path	Fenley/Road Safety Audits/RSA-15-002-04				

document control sheet

REV	ISSUE PURPOSE	AUTHOR	CHECKED	APPROVED	DATE
1	Stage 1 Road Safety Audit included	JJF	AJB	JJF	8 th April 2015
2	Stage 1 Designer's Response Incorporated	PM	AJB	JJF	21 st May 2015
3	Stage 1 RSA updated to include an assessment of the proposed footway/cycleway	JJF	AJB	JJF	29 th June 2015
4	Stage 1 Designer's Response Incorporated	PM	AJB	JJF	29 th June 2015

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Appendices:

Appendix A	Stage 1 Road Safety Audit
A1	Photos from Site Visit Footage
A2	Drawings provided with the Audit Brief
A3	Designer's Response Items

1.0 INTRODUCTION

- 1.1 The Fenley partnership has been appointed by Commercial Development Projects Ltd to undertake this Stage 1 Road Safety Audit of a proposed junction improvement scheme and footway/cycleway link along the A259 New Road at Rustlington. The improvements are to facilitate a proposed development of a retail unit and public house/restaurant.

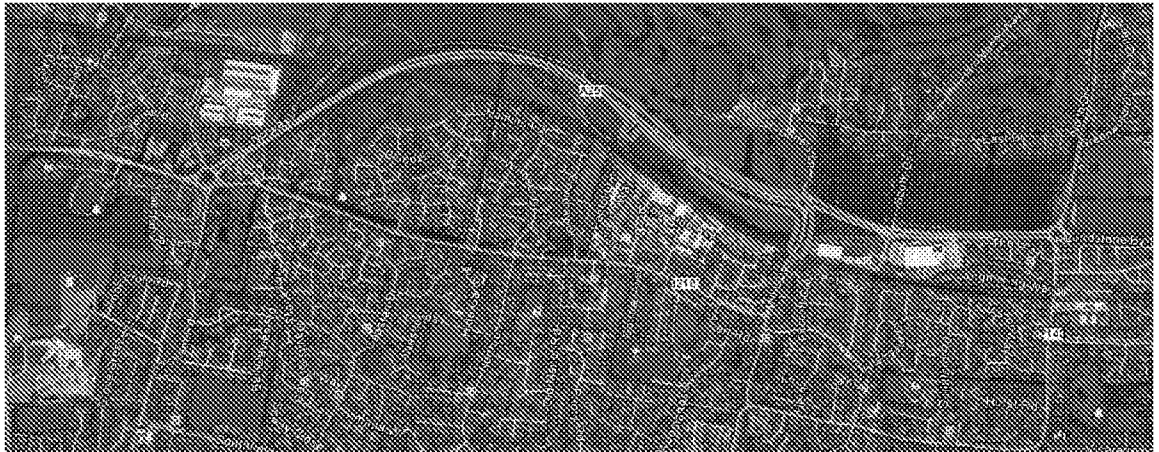


Figure 1: Location of the proposed access

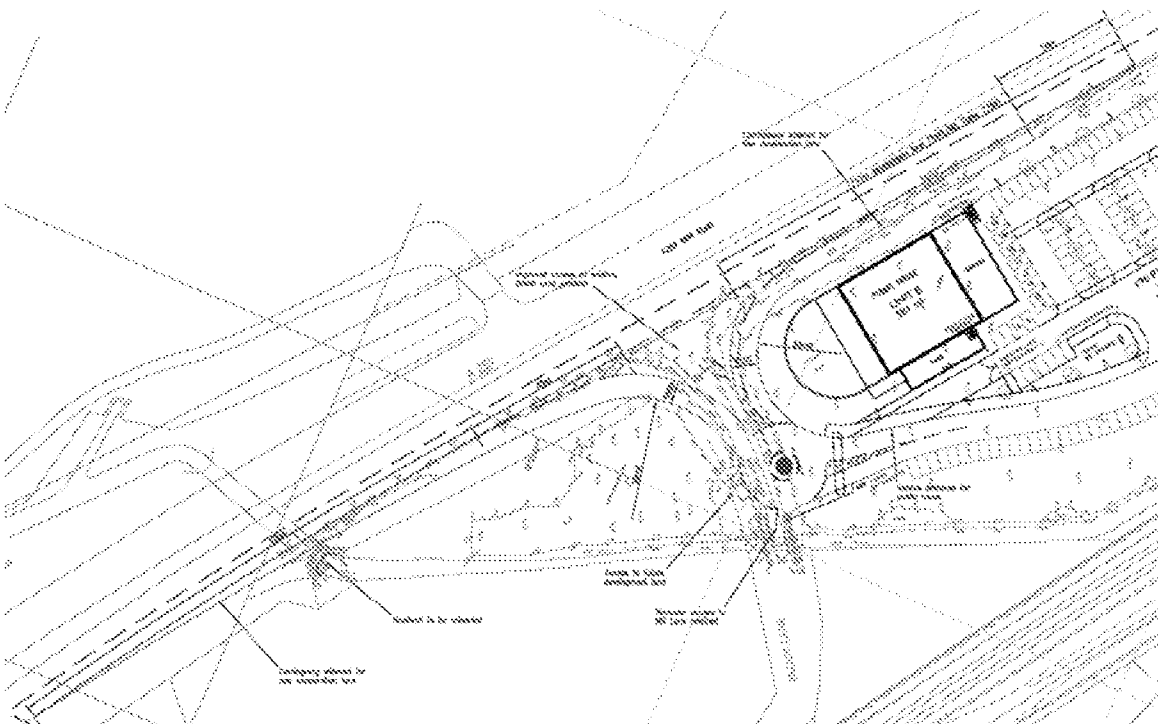


Figure 2: Extract of General Arrangement drawing

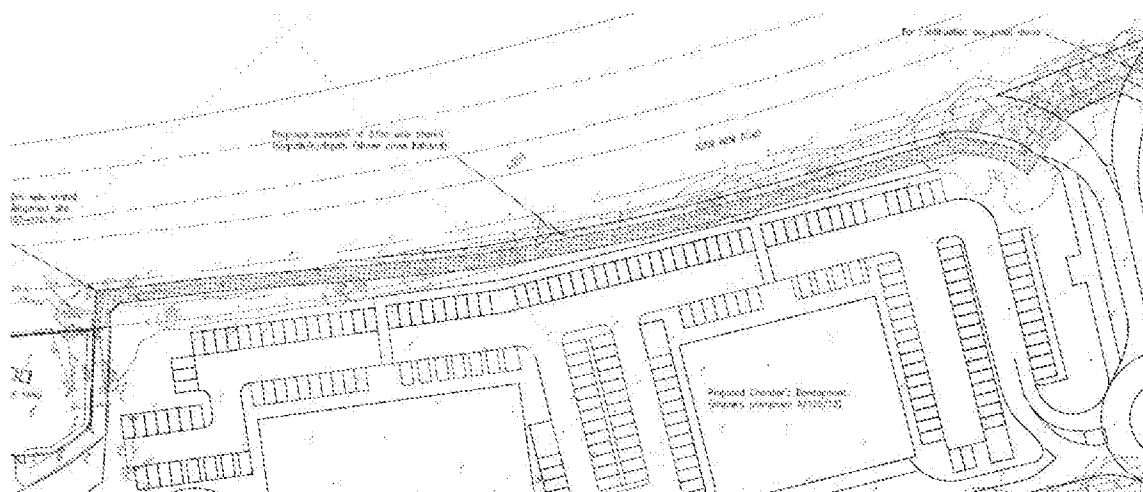


Figure 3: Extract of Proposed Footway / Cycleway

- 1.2 The A259 in proximity of the site is a dual carriageway and is derestricted, therefore subject to a 70mph speed limit. Brook Lane is taken off the south side of the A259 and is therefore only accessible to westbound traffic. Traffic survey data has been provided with the Audit Brief that identifies that the 85th percentile speed of westbound traffic equates to 67mph.
- 1.3 This Road Safety Audit is an assessment of the proposed access improvement and proposed roundabout only and does not include the on-site access road or parking/servicing arrangement.
- 1.4 The site visit associated with this Stage 1 Road Safety Audit commenced during day light at 10am on Monday 6th April 2015. Weather conditions during the site visit were sunny with light wind, the road surface was dry and visibility was clear. Photographs from the site visit are attached at the relevant **Appendix 1**.
- 1.5 No pedestrians were observed during the visit but two cyclists as well as motorised vehicular traffic was observed travelling on the A259 in proximity of the site, speeds were not recorded.
- 1.6 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.

Collision History

- 1.7 Personal Injury Accident data has been provided with the Audit Brief. The data covers the 5 year period to the 30th November 2014 and indicates no history or pattern of personal injury road traffic accidents occurring in proximity of the site that were attended to by the local constabulary.

Scheme Details

- 1.8 The proposals subject to this Stage 1 Road Safety Audit include the improvement of an existing access, known as Brook Lane, off the A259, that consists of a deceleration and acceleration lane

that accords with National Standards for trunk roads as detailed within the Design Manual for Roads and Bridges.

- 1.9 The 110 metre deceleration lane incorporates a 30 metre direct taper and is followed by an inside corner radius of 20 metres. The carriageway width around the corner equates to 6.5 metres with hatching around the outside of the bend restricting the running lane to approximately 4.5 metres.
- 1.10 Following the corner, the access lane meets a 20 metre ICD mini-roundabout that allows access to the proposed access carriageway, Brook Lane, and a stub arm to allow for access to future development land to the west.
- 1.11 The link from the mini-roundabout to the acceleration lane is 5.5 metres wide and follows a 30 metre inside corner radius. Following a 40 metre nose, the 126 metre acceleration lane tapers back to the existing southern channel line of the A259.
- 1.12 The deceleration and acceleration lanes are provided by widening the existing carriageway and require the relocation of a headwall associated with a brook that passes under the A259 .
- 1.13 It is understood that the proposed Brook Lane improvement and mini-roundabout is to facilitate safe access and egress to/from a proposed development consisting of an M&S Simply Food retail unit and a pub/restaurant.
- 1.14 As part of the proposals, a 3.0 metre shared surface footway/cycleway link is to be provided to link to a similar facility that is to be implemented as part of an adjacent consented commercial development. The footway / cycleway associated with the adjacent consented development, links to the existing facility along Mill Lane, to the east.

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

<u>Audit Stage</u>	<u>Drawing Number</u>	<u>Rev</u>	<u>Title</u>
Stage 1	REDW-3167-110	-	Highway Access Plan
	REDW-3167-111	-	Off-site footpath / cyclepath

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

Table 1.2 – Documents

<u>Audit Stage</u>	<u>Document No.</u>	<u>Rev</u>	<u>Title</u>
Stage 1	PMcL/3167/d1	Feb15	Transport assessment

- 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

<u>Audit Stage</u>	<u>Departure Reference No.</u>	<u>Description</u>
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 and has been undertaken in accordance with the West Sussex County Council Road Safety Audit Policy, each member of the team holds a Certificate of Competence in accordance with European Legislation.
- 1.19 This audit has examined and reported only on the road safety implications of the scheme as presented and has not examined or verified the compliance of the 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.
- 1.20 Items identified as **PROBLEM** are considered to be worthy of immediate attention in respect of safety considerations of the proposals. Items that are not a direct result of the proposals 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, CofC
Highway / Road Safety Engineer

Audit Team Member

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

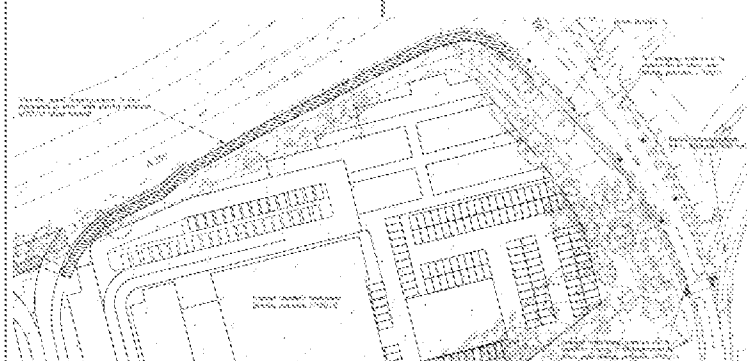
General Information

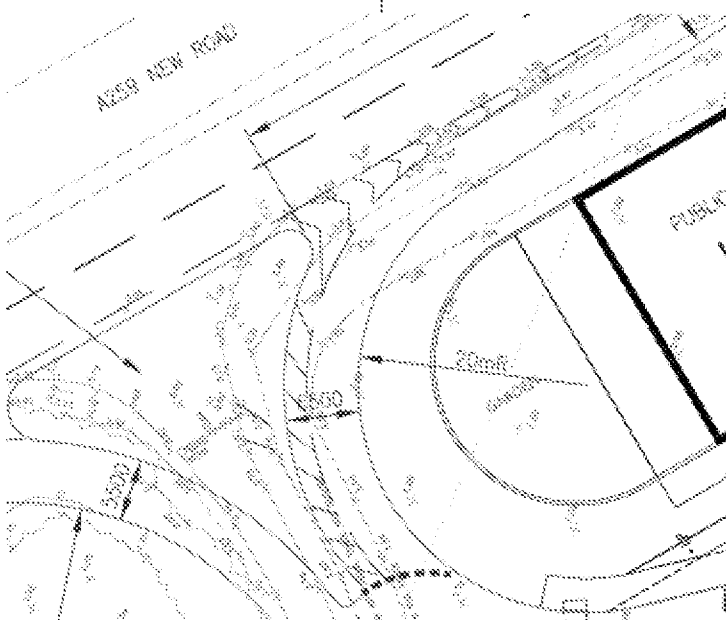
- 1.22 The following **Section 2.0** identifies any previous Road Safety Audits that have been undertaken prior to this document being prepared by ourselves and summarises the items raised. The safety implications of the current proposals are discussed within the relevant paragraphs of **Section 3.0** along with a Response, prepared by the Designer, to the items raised.
- 1.23 Any new or revised plans associated with the Designer's Response are included at the relevant **Appendix 3** along with any further information that the designer considers appropriate to support their response if any is provided. A signature of the professional who prepared the Designer's Response is included within the Audit Team Statement.

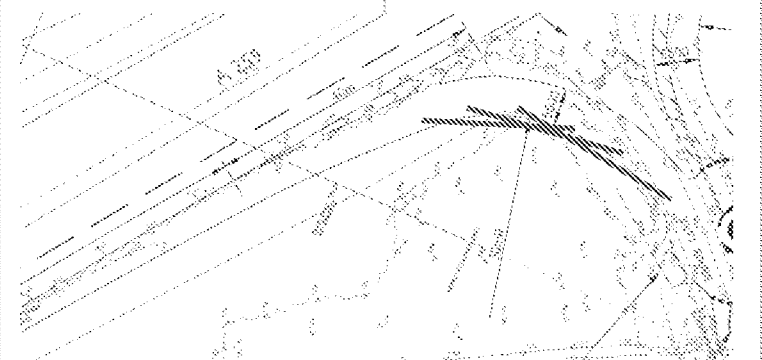
2.0 ITEMS RAISED IN PREVIOUS ROAD SAFETY AUDIT.

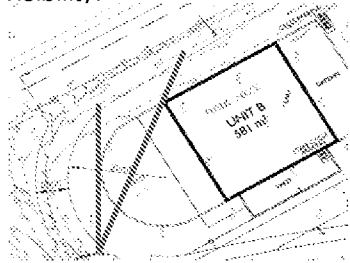
Audit Item No.	Audit Team Observation	Audit Team Recommendation	Designer / Scheme Response
.1	GENERAL		
	The Audit Team has not been made aware of any previous Road Safety Audits associated with the proposals		
.2	LOCAL ALIGNMENT		
	The Audit Team has not been made aware of any previous Road Safety Audits 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, LIGHTING AND DRAINAGE		
	The Audit Team has not been made aware of any previous Road Safety Audits associated with the proposals		

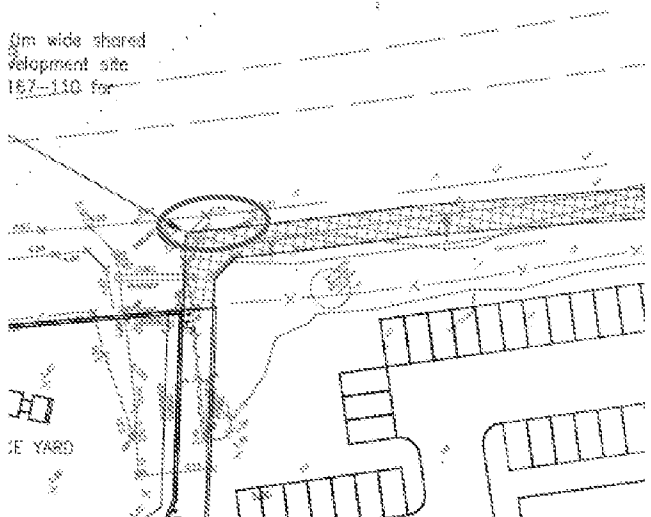
3.0 ITEMS RAISED IN THIS STAGE 1 ROAD SAFETY AUDIT

Audit Item No.	Audit Team Observation	Audit Team Recommendation	Designer / Scheme Response
A.1	GENERAL		
A.1.1	<i>The proposals to improve an existing access off the A259, New Road to facilitate the safe access and egress to / from a proposed development consisting of a food retail store and pub/restaurant at this location does not raise any road safety concerns in general at this stage, provided that the items raised within this audit in the following specific sections are addressed appropriately. The access road associated with the development is of sufficient length to allow for the free flow of vehicles off the A259 without the need to stop to allow vehicles to access and egress parking spaces.</i>		
A.1.2	PROBLEM Footway/cycleway link potentially terminates at unsafe location Accident Type <i>Vehicle/Pedestrian/Cyclist Collision</i> Location East of proposals <i>The proposed footway / cycleway to the east, links to the facility associated with the adjacent consented development, however that development is yet to be commenced and there is no control of when the footway/cycleway link is to be implemented. As such, the footway / cycleway that is proposed may not link to any facilities until such time as the link associated with the adjacent development is implemented.</i>	The proposed footway / cycleway link to the east, should not be implemented until such time as the whole link is constructed to include that associated with the adjacent consented development.	The applicant has undertaken to implement the entire footway / cycleway link should the adjacent development not come forward prior to construction. 

A.2	LOCAL ALIGNMENT	
A.2.1	PROBLEM	Tight entry corner radius
	Accident Type	<i>Loss of Control</i>
	Location	Entry radius from deceleration lane
	<i>The proposed deceleration lane is provided for vehicles to decelerate from the derestricted A259. Vehicles could therefore be travelling in excess of the speed required to safely manoeuvre around the 20 metre corner radius. This could result in vehicles losing control and striking the island.</i> The appropriate chevron and warning signs should be installed in clear view of vehicles utilising the deceleration lane to ensure that drivers are aware of the corner. Chevron sharp deviation of route signs (Diag. 515) have been included on the central approach island as shown on Drg.No. REDW-3167-110-Rev B	
		

Audit Item No.	Audit Team Observation	Audit Team Recommendation	Designer / Scheme Response
A.2.2	PROBLEM Restricted visibility around the exit corner radius Accident Type <i>Shunt</i> Location Inside of exit radius to the acceleration lane <i>Forward visibility vehicles accelerating from the roundabout to the acceleration lane to vehicles utilising the acceleration lane, is restricted by vegetation. Therefore drivers will not have a clear view of preceding vehicles. This could result in shunt type accidents should a driver hesitate and stop along the acceleration lane.</i>	Vegetation should be cleared to the appropriate level to allow for the clear forward visibility.	Vegetation will be cleared to a distance of 3m from the kerb line of the site at the radius of the site egress. The verge area adjacent to the carriageway will be offered for adoption as Public Highway
			

Audit Item No.	Audit Team Observation	Audit Team Recommendation	Designer / Scheme Response
A.3	JUNCTIONS		
A.3.1	PROBLEM Forward visibility to the roundabout is restricted Accident Type <i>Shunt type accidents</i> Location Roundabout	Warning signs should be installed to ensure that approaching vehicles are aware of the presence of the roundabout and the pub/restaurant should be restricted from erecting a fence where it blocks forward visibility. 	Forward visibility to the site roundabout is restricted due to a boundary wall proposed around the public house garden area. The achievable forward visibility envelope is shown on Drg.No. REDW-REDW-3167-110-Rev B. An advanced warning sign of roundabout ahead (Diag. 510) and REDUCE SPEED NOW supplementary sign (Diag. 511) and SLOW road marking is proposed in advance of the roundabout which will mitigate the reduced forward visibility to the roundabout give way.
A.4	NON-MOTORISED USER PROVISION		
A.4.1	<i>The proposals make a provision for pedestrians to travel between Brook Lane and the proposed development utilising a crossing facility and footway located along the private access road as well as a footway linking to Brook Lane. This allows for safe non-motorised user access from the area to the south of the railway line utilising the associated underpass. Therefore no road safety concerns have been raised at this stage regarding non-motorised users.</i>		

Audit Item No.	Audit Team Observation	Audit Team Recommendation	Designer / Scheme Response
A.4.2	PROBLEM Footway / Cycleway link guides into A259 carriageway Accident Type <i>Vehicle/Pedestrian, Cyclist Collisions</i> Location East of service yard The footpath/cyclepath link that is proposed, heads in a northerly direction adjacent to a service yard and bends 90° to a facility that is to run alongside the A259 carriageway. The 90° bend could result in cyclists losing control and pedestrians travelling into the path of vehicles on the A259. 	A section of guard railing should be introduced to ensure that non-motorised users follow the line of the footway/cycleway and do not enter the A259 carriageway.	A section of guardrail will be included at the detailed design stage. The guardrail will prevent non-motorised users from entering the A259 carriageway.
A.5	ROAD SIGNS, CARRIAGEWAY MARKINGS, LIGHTING AND DRAINAGE		
A.5.1	<i>No road safety concerns are raised at this stage regarding road signs, carriageway markings, lighting or drainage provided that the items raised within this audit are addressed appropriately.</i>		

A.6 STAGE 1 ROAD SAFETY AUDIT TEAM STATEMENT

A.6.1 We certify that we have examined the relevant drawing and documents listed at Section 1.0 in respect of road safety. The examination of the proposed works has been carried out with the sole purpose of identifying any features of the design that could be removed or modified in order to improve the safety of the scheme or any adjacent highway affected by it. The issues identified have been noted in this report together with associated safety improvement recommendations, where possible, which should be studied for implementation. This Stage 1 road safety audit has been carried out in accordance with HD19/15 as well as the "West Sussex County Council - Safety Audit Adopted Policy".

A.6.2 No one on the Audit Team has been involved with the design of the scheme. The Audit Team consists of the following

Audit Team Leader

Name: Jamie Fenning
BSc (Hons), MIHE, CofC
Position: Highway / Road Safety Engineer
Address: 2 Blaenant
Emmer Green
Reading
RG4 8PH

Signed:

Date: 29th June 2015

Tel:
e-mail:

Audit Team Member

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

Signed:

Date: 29th June 2015

Designer's Response Prepared By

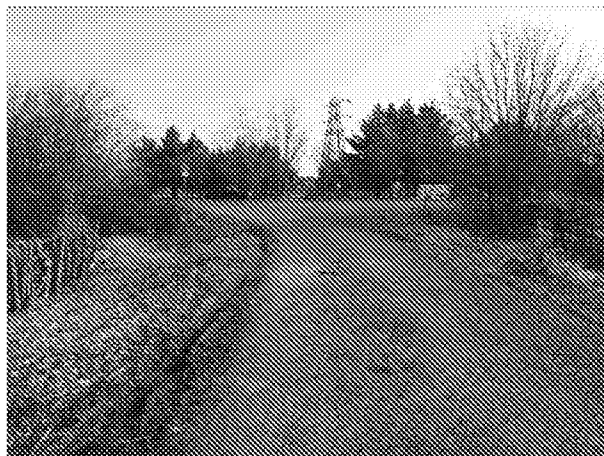
Name: Paul McLaughlin
Position and company: Director
Redwood Partnership Transportation Ltd

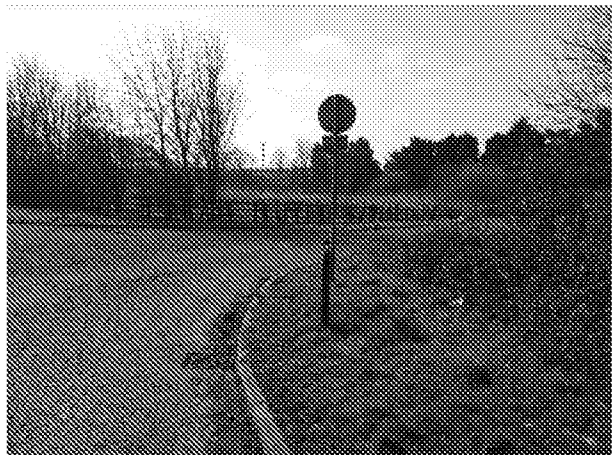
Signed:

Date: 29th June 2015

Appendix A1

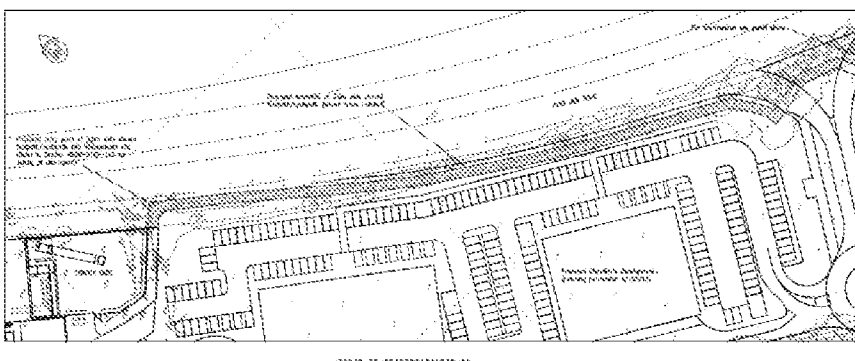
Photographs from site visit





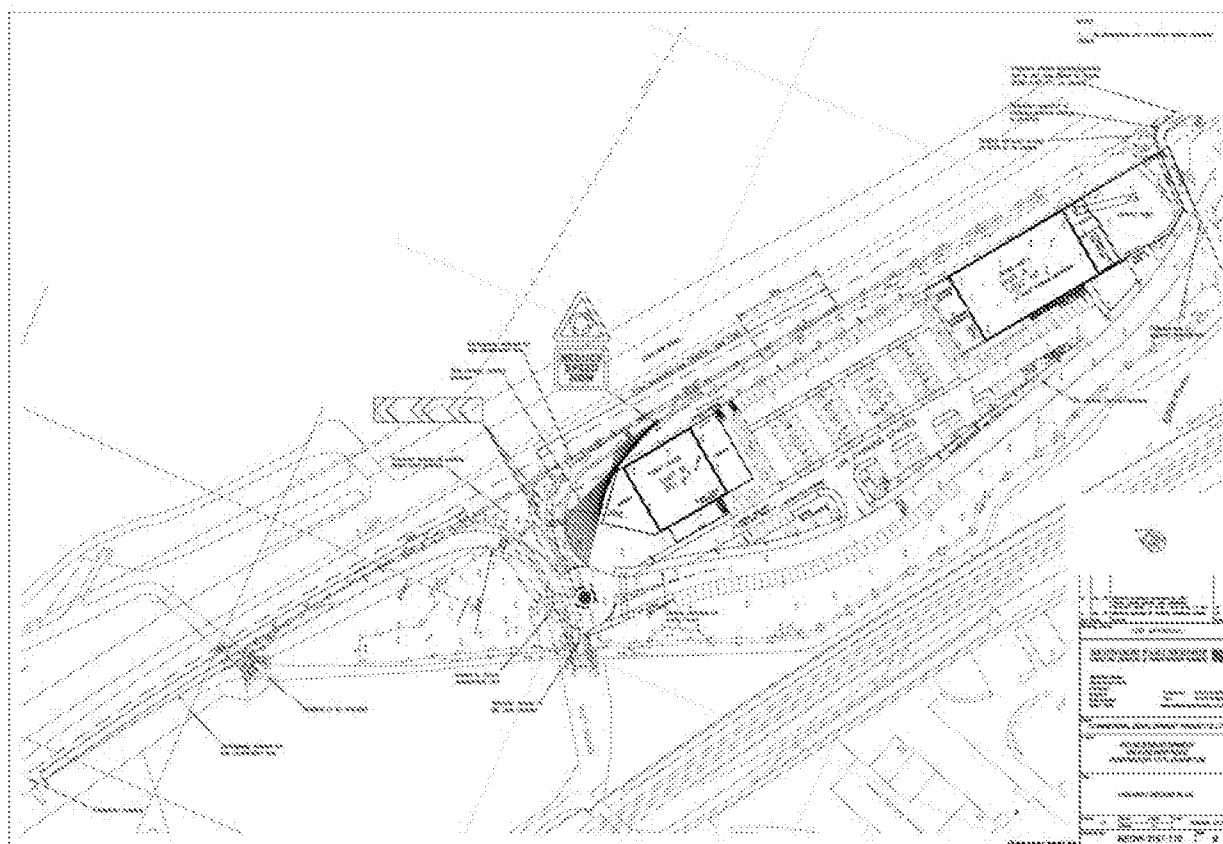
Appendix A2

Drawings provided with the Audit Brief



Appendix A3

Drawings and Documents associated with the Designer's Response



fenley

APPENDIX C

Calculation Reference: AUDIT-641801-150625-0646

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 01 - RETAIL
 Category : A - FOOD SUPERSTORE

VEHICLES

Selected regions and areas:

03	SOUTH WEST	
	DC DORSET	1 days
09	NORTH	
	CB CUMBRIA	1 days
17	ULSTER (NORTHERN IRELAND)	
	AN ANTRIM	1 days

This section displays the number of survey days per TRICS® sub-region in the selected set

Filtering Stage 2 selection:

This data displays the chosen trip rate parameter and its selected range. Only sites that fall within the parameter range are included in the trip rate calculation.

Parameter: Gross floor area
 Actual Range: 1700 to 2515 (units: sqm)
 Range Selected by User: 1700 to 2515 (units: sqm)

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/00 to 05/02/10

This data displays the range of survey dates selected. Only surveys that were conducted within this date range are included in the trip rate calculation.

Selected survey days:

Friday 3 days

This data displays the number of selected surveys by day of the week.

Selected survey types:

Manual count 3 days
 Directional ATC Count 0 days

This data displays the number of manual classified surveys and the number of unclassified ATC surveys, the total adding up to the overall number of surveys in the selected set. Manual surveys are undertaken using staff, whilst ATC surveys are undertaken using machines.

Selected Locations:

Edge of Town Centre 2
 Suburban Area (PPS6 Out of Centre) 1

This data displays the number of surveys per main location category within the selected set. The main location categories consist of Free Standing, Edge of Town, Suburban Area, Neighbourhood Centre, Edge of Town Centre, Town Centre and Not Known.

Selected Location Sub Categories:

Industrial Zone 1
 Residential Zone 1
 No Sub Category 1

This data displays the number of surveys per location sub-category within the selected set. The location sub-categories consist of Commercial Zone, Industrial Zone, Development Zone, Residential Zone, Retail Zone, Built-Up Zone, Village, Out of Town, High Street and No Sub Category.

Filtering Stage 3 selection:Use Class:

A1	3 days
----	--------

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order 2005 has been used for this purpose, which can be found within the Library module of TRICS®.

Population within 1 mile:

5,001 to 10,000	1 days
10,001 to 15,000	1 days
50,001 to 100,000	1 days

This data displays the number of selected surveys within stated 1-mile radii of population.

Population within 5 miles:

5,001 to 25,000	1 days
25,001 to 50,000	1 days
250,001 to 500,000	1 days

This data displays the number of selected surveys within stated 5-mile radii of population.

Car ownership within 5 miles:

0.6 to 1.0	2 days
1.1 to 1.5	1 days

This data displays the number of selected surveys within stated ranges of average cars owned per residential dwelling, within a radius of 5-miles of selected survey sites.

Petrol filling station:

PFS is present at the site and is included in the count	0 days
PFS is present at the site but is excluded from the count	0 days
There is no PFS at the site	3 days

This data displays the number of surveys within the selected set that include petrol filling station activity, and the number of surveys that do not.

Travel Plan:

No	3 days
----	--------

This data displays the number of surveys within the selected set that were undertaken at sites with Travel Plans in place, and the number of surveys that were undertaken at sites without Travel Plans.

LIST OF SITES relevant to selection parameters

1	AN-01-A-02	CO-OP	ANTRIM
	CIRCULAR ROAD		
	LARNE		
	Edge of Town Centre		
	Industrial Zone		
	Total Gross floor area:	2308 sqm	
	Survey date: FRIDAY	03/10/03	Survey Type: MANUAL
2	CB-01-A-07	SOMERFIELD	CUMBRIA
	WIGTON ROAD		
	NEWTOWN		
	CARLISLE		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Gross floor area:	1700 sqm	
	Survey date: FRIDAY	05/02/10	Survey Type: MANUAL
3	DC-01-A-17	SAINSBURYS	DORSET
	LUDBOURNE ROAD		
	SHERBORNE		
	Edge of Town Centre		
	No Sub Category		
	Total Gross floor area:	2515 sqm	
	Survey date: FRIDAY	17/10/03	Survey Type: MANUAL

This section provides a list of all survey sites and days in the selected set. For each individual survey site, it displays a unique site reference code and site address, the selected trip rate calculation parameter and its value, the day of the week and date of each survey, and whether the survey was a manual classified count or an ATC count.

TRIP RATE for Land Use 01 - RETAIL/A - FOOD SUPERSTORE

VEHICLES**Calculation factor: 100 sqm****BOLD print indicates peak (busiest) period**

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	3	2174	0.475	3	2174	0.215	3	2174	0.690
08:00 - 09:00	3	2174	2.468	3	2174	1.334	3	2174	3.802
09:00 - 10:00	3	2174	4.323	3	2174	2.805	3	2174	7.128
10:00 - 11:00	3	2174	4.906	3	2174	3.664	3	2174	8.570
11:00 - 12:00	3	2174	5.412	3	2174	4.967	3	2174	10.379
12:00 - 13:00	3	2174	4.982	3	2174	5.289	3	2174	10.271
13:00 - 14:00	3	2174	4.783	3	2174	5.120	3	2174	9.903
14:00 - 15:00	3	2174	5.427	3	2174	5.534	3	2174	10.961
15:00 - 16:00	3	2174	5.151	3	2174	5.473	3	2174	10.624
16:00 - 17:00	3	2174	6.531	3	2174	6.408	3	2174	12.939
17:00 - 18:00	3	2174	7.175	3	2174	7.451	3	2174	14.626
18:00 - 19:00	3	2174	5.304	3	2174	6.623	3	2174	11.927
19:00 - 20:00	3	2174	3.419	3	2174	4.737	3	2174	8.156
20:00 - 21:00	3	2174	1.594	3	2174	1.978	3	2174	3.572
21:00 - 22:00	2	2004	0.574	2	2004	1.023	2	2004	1.597
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			62.524			62.621			125.145

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: $COUNT/TRP \times FACT$. Trip rates are then rounded to 3 decimal places.

Parameter summary

Trip rate parameter range selected: 1700 - 2515 (units: sqm)
 Survey date range: 01/01/00 - 05/02/10
 Number of weekdays (Monday-Friday): 3
 Number of Saturdays: 0
 Number of Sundays: 0
 Surveys manually removed from selection: 0

This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are shown. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 01 - RETAIL
 Category : A - FOOD SUPERSTORE
VEHICLES

Selected regions and areas:

08 NORTH WEST	
GM GREATER MANCHESTER	1 days
09 NORTH	
DH DURHAM	1 days
17 ULSTER (NORTHERN IRELAND)	
DO DOWN	1 days

This section displays the number of survey days per TRICS® sub-region in the selected set

Filtering Stage 2 selection:

This data displays the chosen trip rate parameter and its selected range. Only sites that fall within the parameter range are included in the trip rate calculation.

Parameter: Gross floor area
 Actual Range: 800 to 1825 (units: sqm)
 Range Selected by User: 800 to 2000 (units: sqm)

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/00 to 21/06/14

This data displays the range of survey dates selected. Only surveys that were conducted within this date range are included in the trip rate calculation.

Selected survey days:

Saturday 3 days

This data displays the number of selected surveys by day of the week.

Selected survey types:

Manual count 2 days
 Directional ATC Count 1 days

This data displays the number of manual classified surveys and the number of unclassified ATC surveys, the total adding up to the overall number of surveys in the selected set. Manual surveys are undertaken using staff, whilst ATC surveys are undertaken using machines.

Selected Locations:

Edge of Town Centre 1
 Suburban Area (PPS6 Out of Centre) 2

This data displays the number of surveys per main location category within the selected set. The main location categories consist of Free Standing, Edge of Town, Suburban Area, Neighbourhood Centre, Edge of Town Centre, Town Centre and Not Known.

Selected Location Sub Categories:

Residential Zone 2
 Built-Up Zone 1

This data displays the number of surveys per location sub-category within the selected set. The location sub-categories consist of Commercial Zone, Industrial Zone, Development Zone, Residential Zone, Retail Zone, Built-Up Zone, Village, Out of Town, High Street and No Sub Category.

Filtering Stage 3 selection:Use Class:

A1	3 days
----	--------

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order 2005 has been used for this purpose, which can be found within the Library module of TRICS®.

Population within 1 mile:

1,001 to 5,000	1 days
5,001 to 10,000	1 days
25,001 to 50,000	1 days

This data displays the number of selected surveys within stated 1-mile radii of population.

Population within 5 miles:

5,001 to 25,000	1 days
75,001 to 100,000	1 days
250,001 to 500,000	1 days

This data displays the number of selected surveys within stated 5-mile radii of population.

Car ownership within 5 miles:

0.6 to 1.0	2 days
1.6 to 2.0	1 days

This data displays the number of selected surveys within stated ranges of average cars owned per residential dwelling, within a radius of 5-miles of selected survey sites.

Petrol filling station:

PFS is present at the site and is included in the count	0 days
PFS is present at the site but is excluded from the count	0 days
There is no PFS at the site	3 days

This data displays the number of surveys within the selected set that include petrol filling station activity, and the number of surveys that do not.

Travel Plan:

No	3 days
----	--------

This data displays the number of surveys within the selected set that were undertaken at sites with Travel Plans in place, and the number of surveys that were undertaken at sites without Travel Plans.

LIST OF SITES relevant to selection parameters

1	DH-01-A-02	SAI NSBURYS	DURHAM
		SUNDERLAND ROAD	
		GILESGATE	
		DURHAM	
		Suburban Area (PPS6 Out of Centre)	
		Residential Zone	
		Total Gross floor area:	800 sqm
		Survey date: SATURDAY	25/10/08
			Survey Type: MANUAL
2	DO-01-A-01	TESCO	DOWN
		CASTLEWELLAN ROAD	
		NEWCASTLE	
		Suburban Area (PPS6 Out of Centre)	
		Residential Zone	
		Total Gross floor area:	1580 sqm
		Survey date: SATURDAY	09/11/02
			Survey Type: DIRECTIONAL ATC COUNT
3	GM-01-A-25	MARKS AND SPENCER	GREATER MANCHESTER
		WASHWAY ROAD	
		SALE	
		Edge of Town Centre	
		Built-Up Zone	
		Total Gross floor area:	1825 sqm
		Survey date: SATURDAY	22/05/04
			Survey Type: MANUAL

This section provides a list of all survey sites and days in the selected set. For each individual survey site, it displays a unique site reference code and site address, the selected trip rate calculation parameter and its value, the day of the week and date of each survey, and whether the survey was a manual classified count or an ATC count.

TRIP RATE for Land Use 01 - RETAIL/A - FOOD SUPERSTORE

VEHICLES**Calculation factor: 100 sqm****BOLD print indicates peak (busiest) period**

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00	1	1580	0.000	1	1580	0.316	1	1580	0.316
01:00 - 02:00	1	1580	0.000	1	1580	0.000	1	1580	0.000
02:00 - 03:00	1	1580	0.063	1	1580	0.063	1	1580	0.126
03:00 - 04:00	1	1580	0.000	1	1580	0.000	1	1580	0.000
04:00 - 05:00	1	1580	0.000	1	1580	0.000	1	1580	0.000
05:00 - 06:00	1	1580	0.316	1	1580	0.063	1	1580	0.379
06:00 - 07:00	2	1703	0.441	2	1703	0.147	2	1703	0.588
07:00 - 08:00	3	1402	0.809	3	1402	0.452	3	1402	1.261
08:00 - 09:00	3	1402	2.973	3	1402	1.593	3	1402	4.566
09:00 - 10:00	3	1402	5.018	3	1402	4.043	3	1402	9.061
10:00 - 11:00	3	1402	6.468	3	1402	5.256	3	1402	11.724
11:00 - 12:00	3	1402	6.825	3	1402	7.015	3	1402	13.840
12:00 - 13:00	3	1402	7.229	3	1402	6.683	3	1402	13.912
13:00 - 14:00	3	1402	6.564	3	1402	7.444	3	1402	14.008
14:00 - 15:00	3	1402	7.396	3	1402	6.706	3	1402	14.102
15:00 - 16:00	3	1402	7.515	3	1402	6.587	3	1402	14.102
16:00 - 17:00	3	1402	6.754	3	1402	7.681	3	1402	14.435
17:00 - 18:00	3	1402	6.659	3	1402	7.539	3	1402	14.198
18:00 - 19:00	3	1402	4.495	3	1402	5.303	3	1402	9.798
19:00 - 20:00	3	1402	2.545	3	1402	2.996	3	1402	5.541
20:00 - 21:00	2	1190	3.655	2	1190	4.034	2	1190	7.689
21:00 - 22:00	2	1190	1.681	2	1190	2.647	2	1190	4.328
22:00 - 23:00	1	1580	0.316	1	1580	0.380	1	1580	0.696
23:00 - 24:00	1	1580	0.000	1	1580	0.380	1	1580	0.380
Total Rates:			77.722			77.328			155.050

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

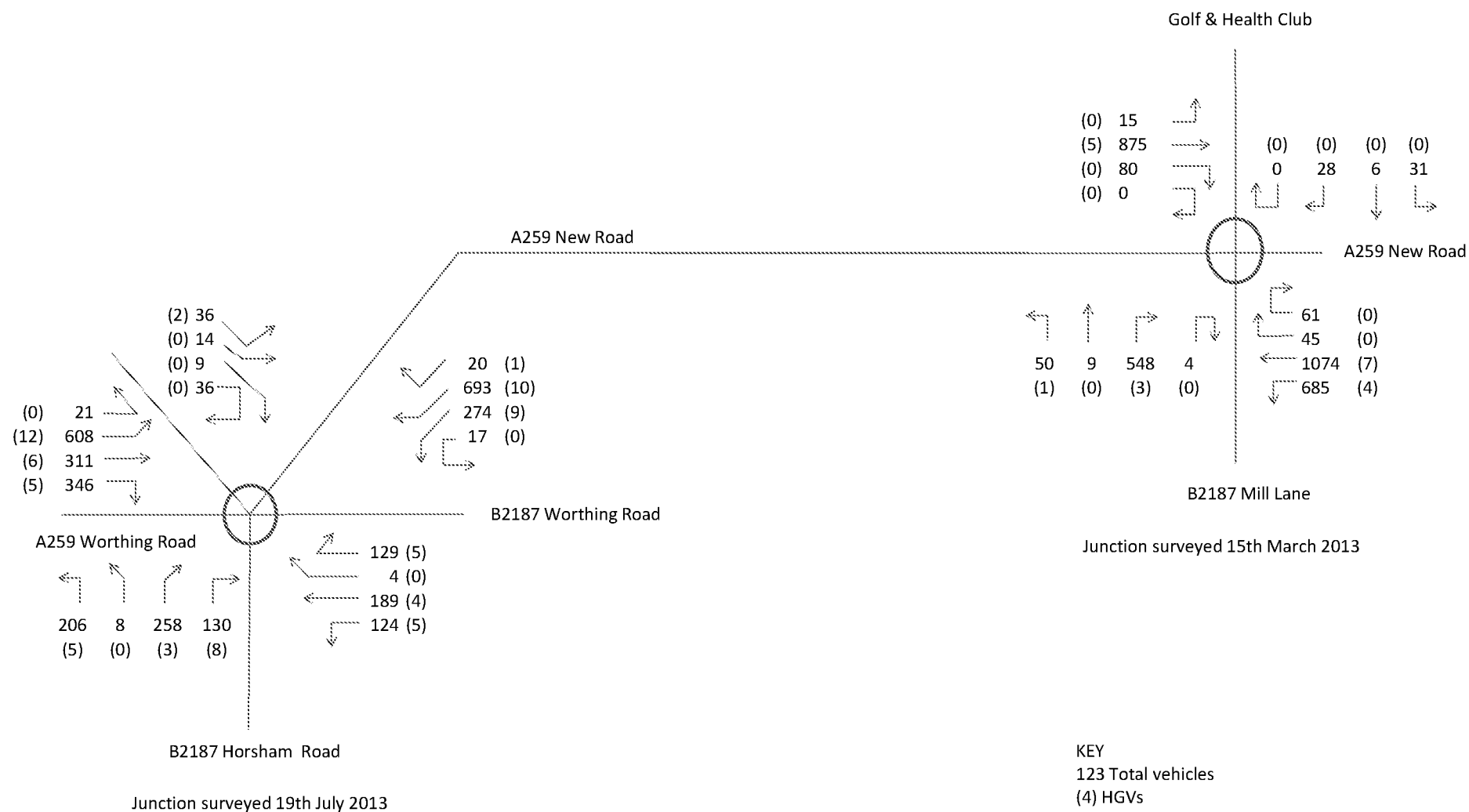
To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: $COUNT/TRP \times FACT$. Trip rates are then rounded to 3 decimal places.

Parameter summary

Trip rate parameter range selected: 800 - 1825 (units: sqm)
 Survey date range: 01/01/00 - 21/06/14
 Number of weekdays (Monday-Friday): 0
 Number of Saturdays: 3
 Number of Sundays: 0
 Surveys manually removed from selection: 0

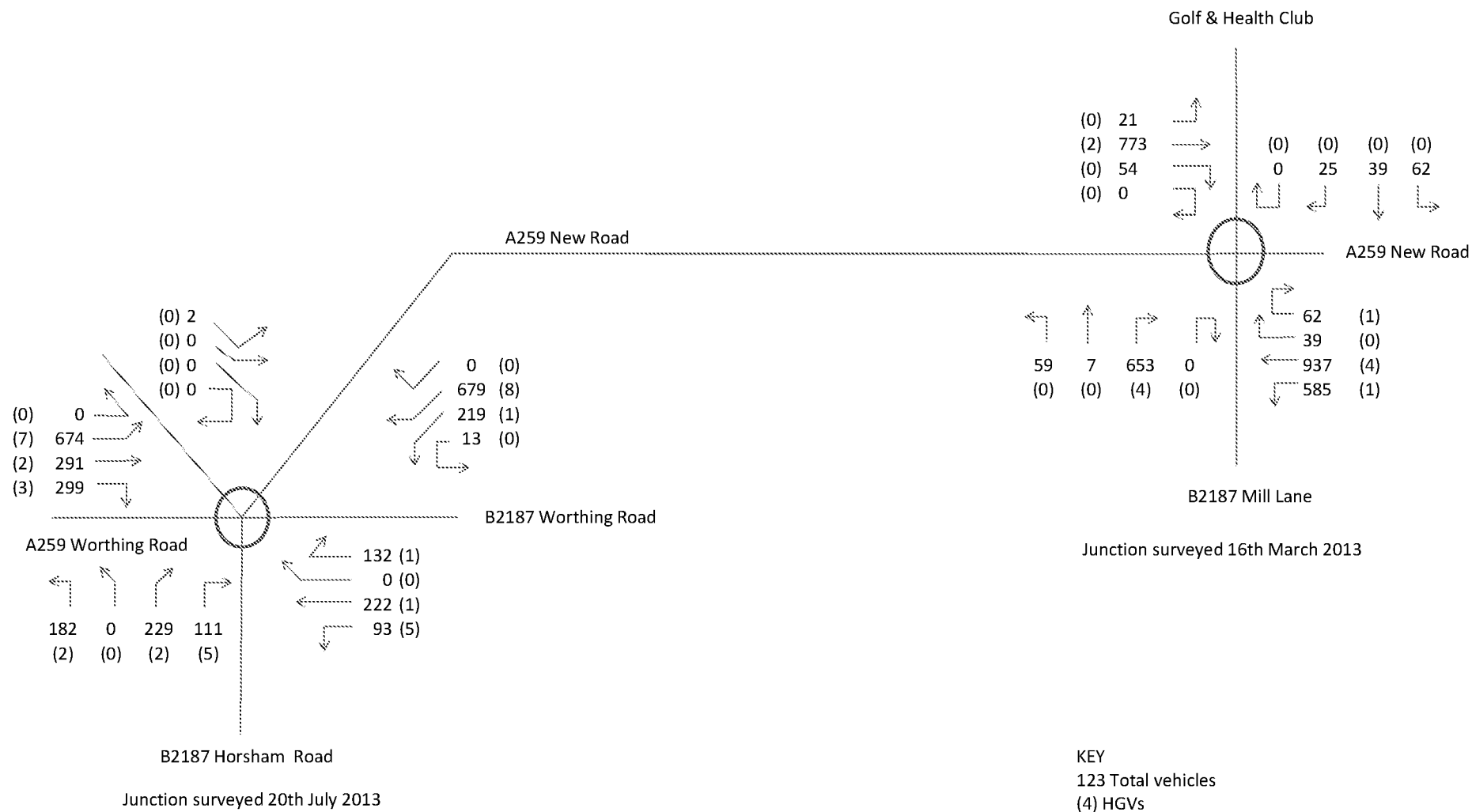
This section displays a quick summary of some of the data filtering selections made by the TRICS® user. The trip rate calculation parameter range of all selected surveys is displayed first, followed by the range of minimum and maximum survey dates selected by the user. Then, the total number of selected weekdays and weekend days in the selected set of surveys are shown. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

APPENDIX D



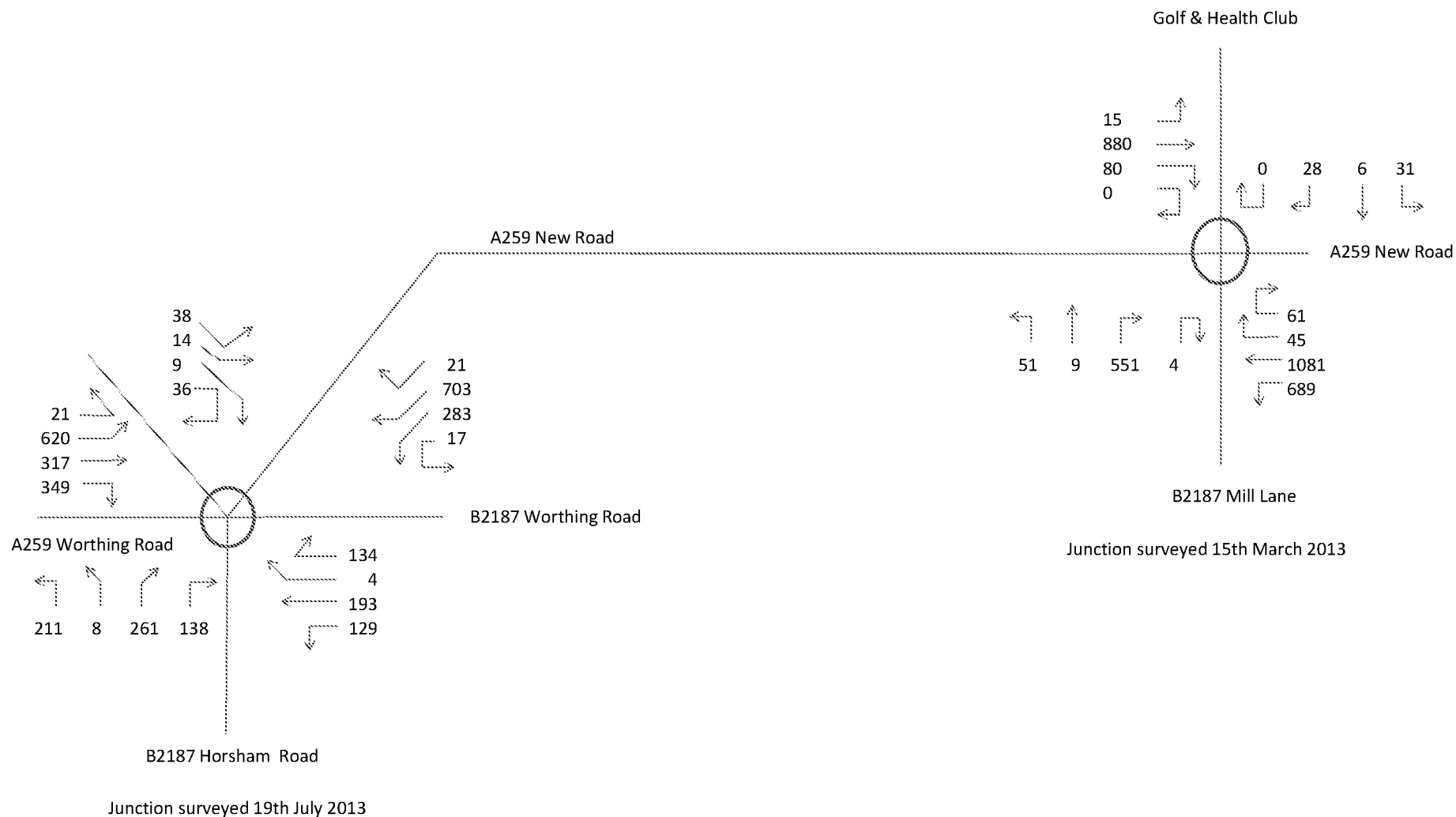
NEW DEVELOPMENT, A259 NEW ROAD, RUSTINGTON
 BASE TRAFFIC FRIDAY PM PEAK HOUR 1645-1745HRS, MARCH 2013 - OBSERVED TRAFFIC FLOWS

FIGURE C1A



NEW DEVELOPMENT, A259 NEW ROAD, RUSTINGTON
 BASE TRAFFIC SATURDAY PEAK HOUR 1200-1300HRS, MARCH 2013 - OBSERVED TRAFFIC FLOWS

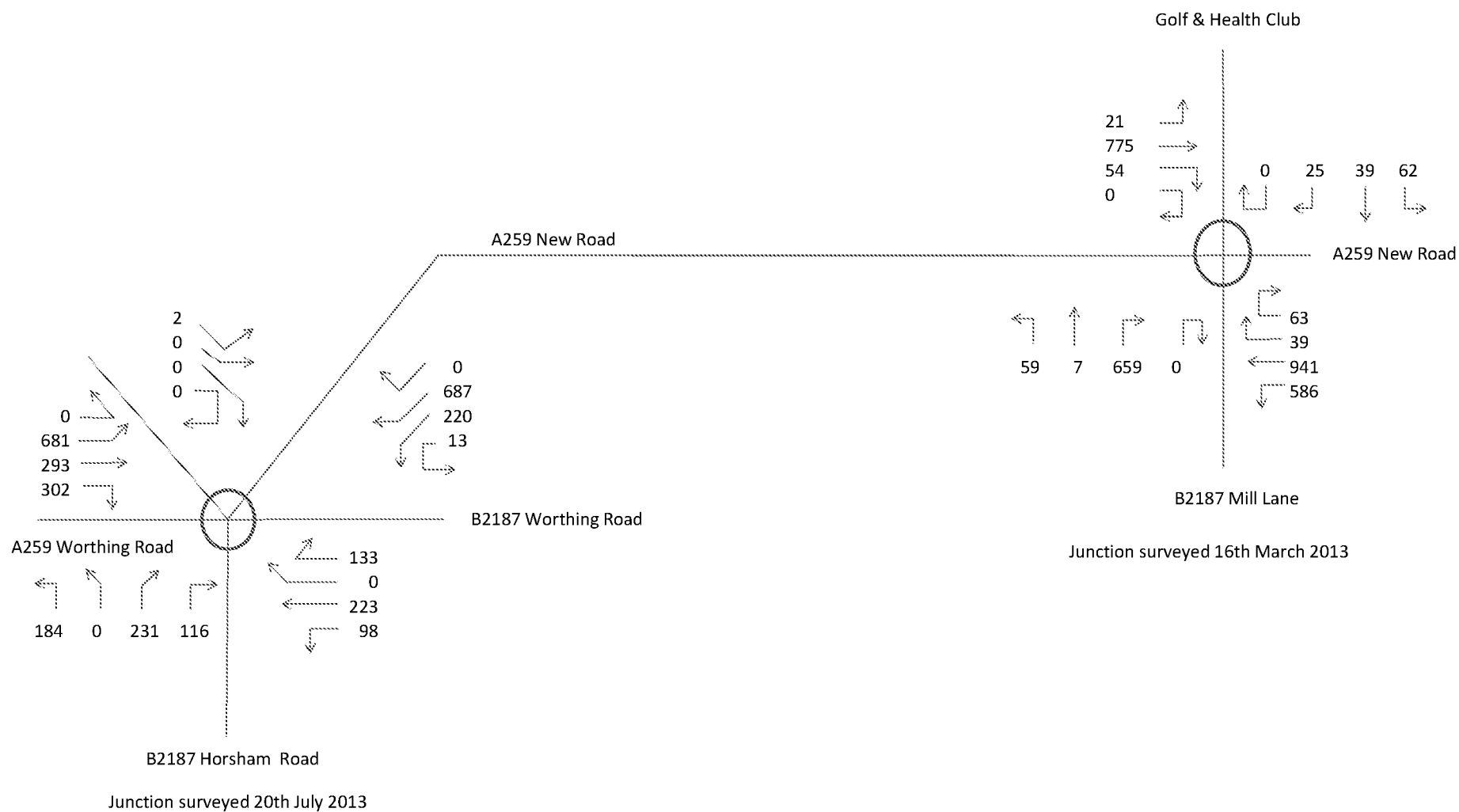
FIGURE C2A



NEW DEVELOPMENT, A259 NEW ROAD, RUSTINGTON

BASE TRAFFIC FRIDAY PM PEAK HOUR 1645-1745HRS, MARCH 2013 - EQUIVALANT PASSENGER CAR UNITS (PCUs)

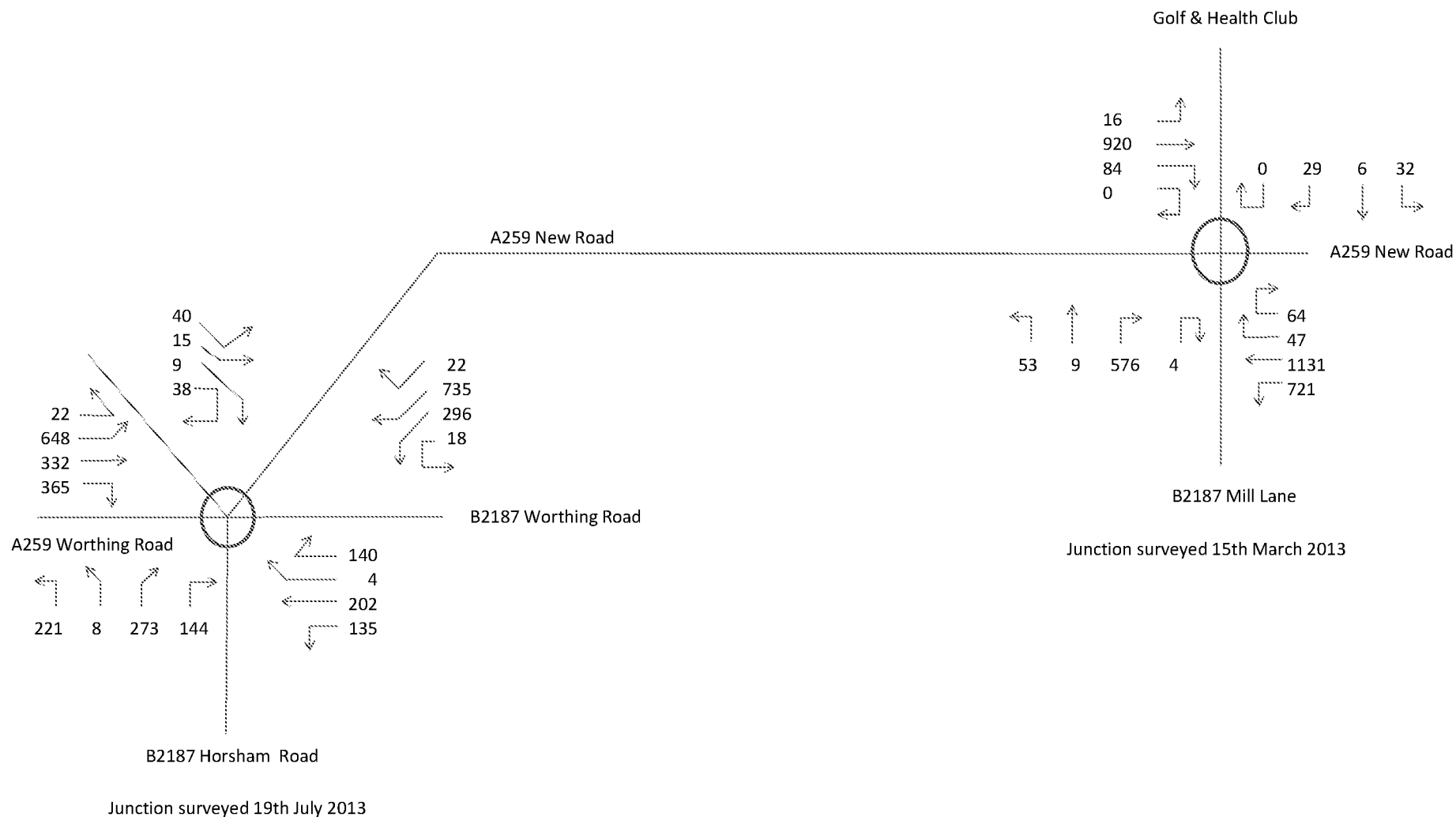
FIGURE C3A



NEW DEVELOPMENT, A259 NEW ROAD, RUSTINGTON

BASE TRAFFIC SATURDAY PEAK HOUR 1200-1300HRS, MARCH 2013 - EQUIVALANT PASSENGER CAR UNITS (PCUs)

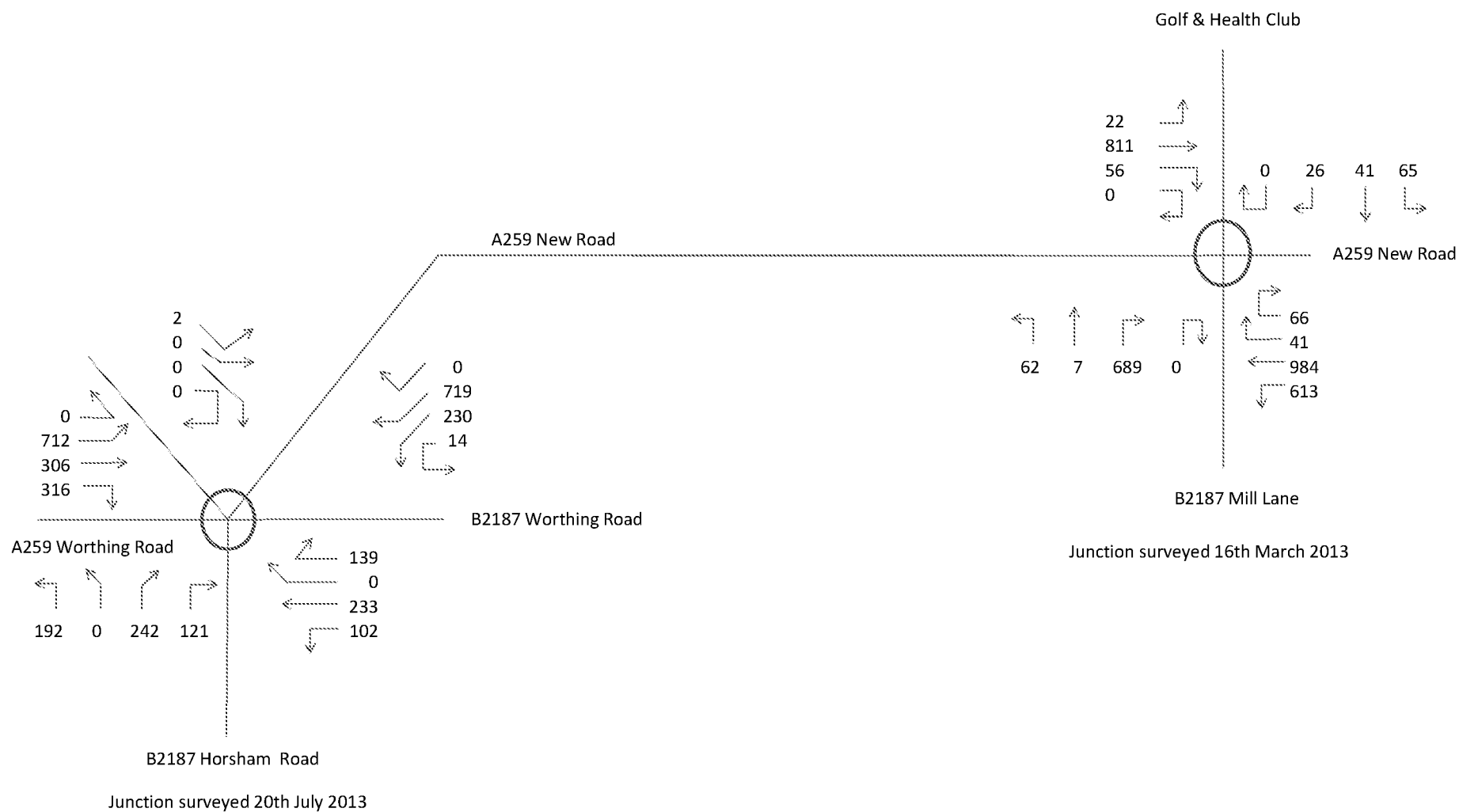
FIGURE C4A



NEW DEVELOPMENT, A259 NEW ROAD, RUSTINGTON

BASE TRAFFIC FRIDAY PM PEAK HOUR 1645-1745HRS WITH TRAFFIC GROWTH TO YEAR OF OPENING 2016

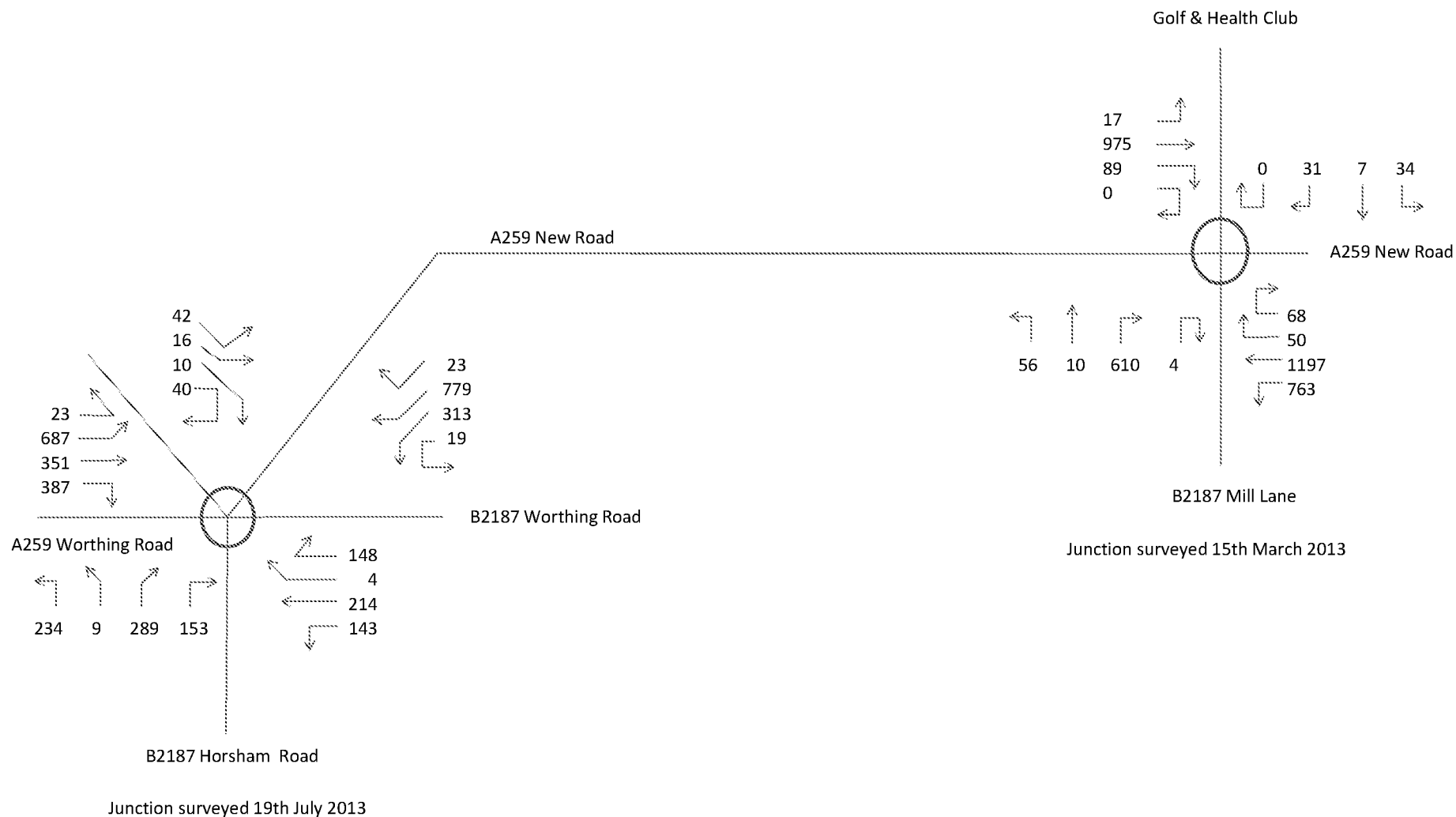
FIGURE C5A



NEW DEVELOPMENT, A259 NEW ROAD, RUSTINGTON

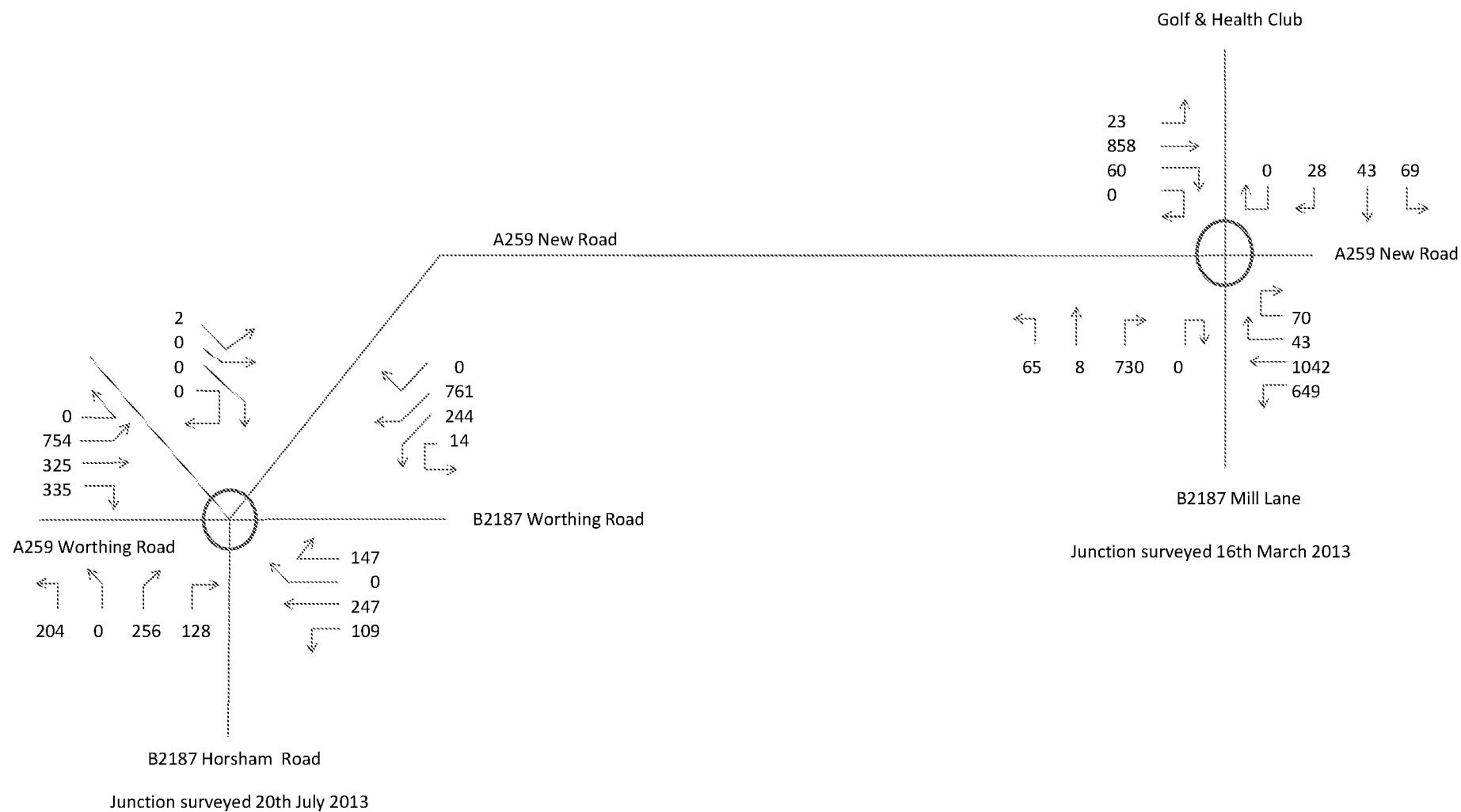
BASE TRAFFIC SATURDAY PEAK HOUR 1200-1300HRS WITH TRAFFIC GROWTH TO YEAR OF OPENING 2016

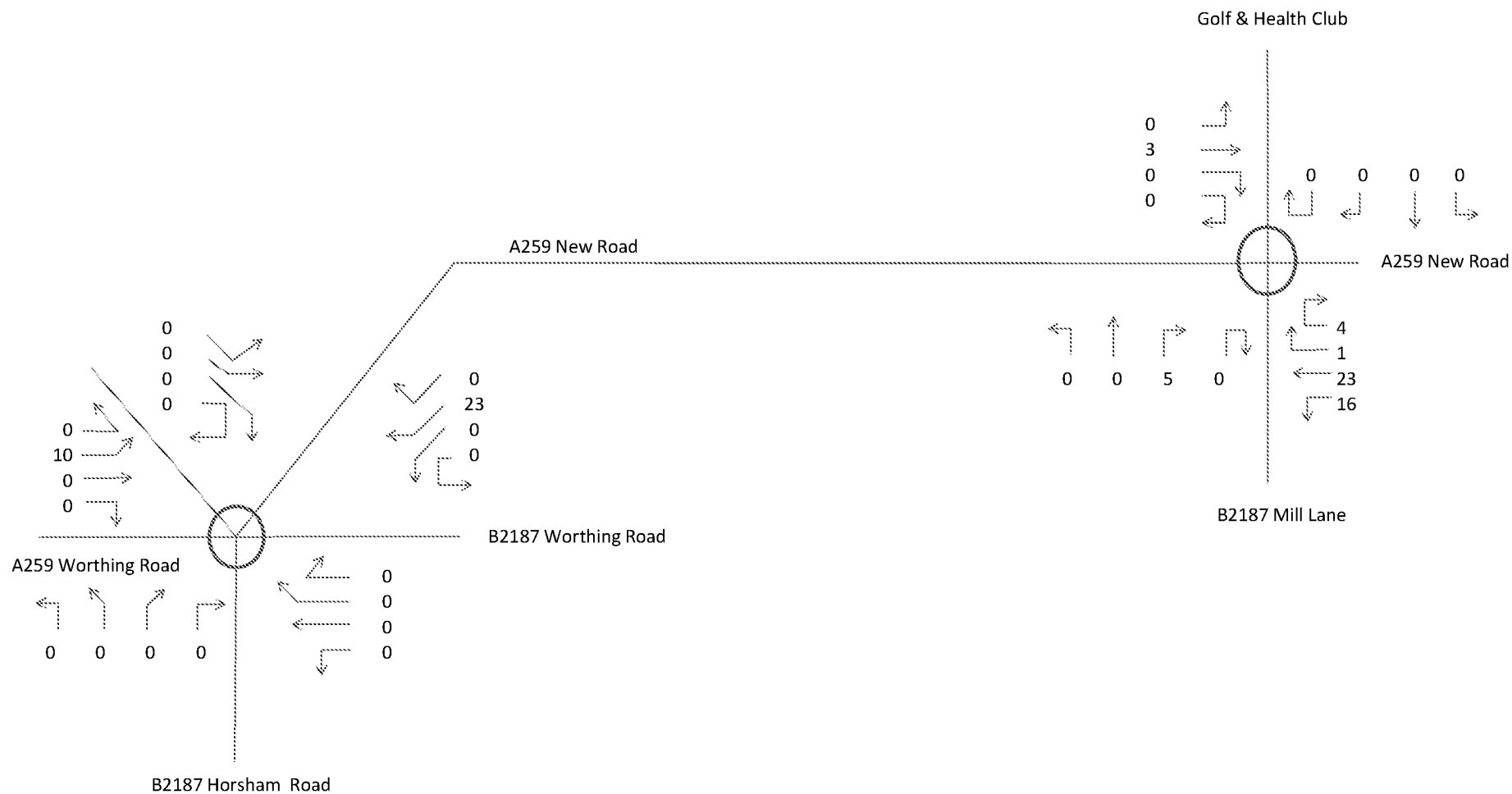
FIGURE C6A



NEW DEVELOPMENT, A259 NEW ROAD, RUSTINGTON
BASE TRAFFIC FRIDAY PM PEAK HOUR 1645-1745HRS WITH TRAFFIC GROWTH TO FUTURE YEAR 2020

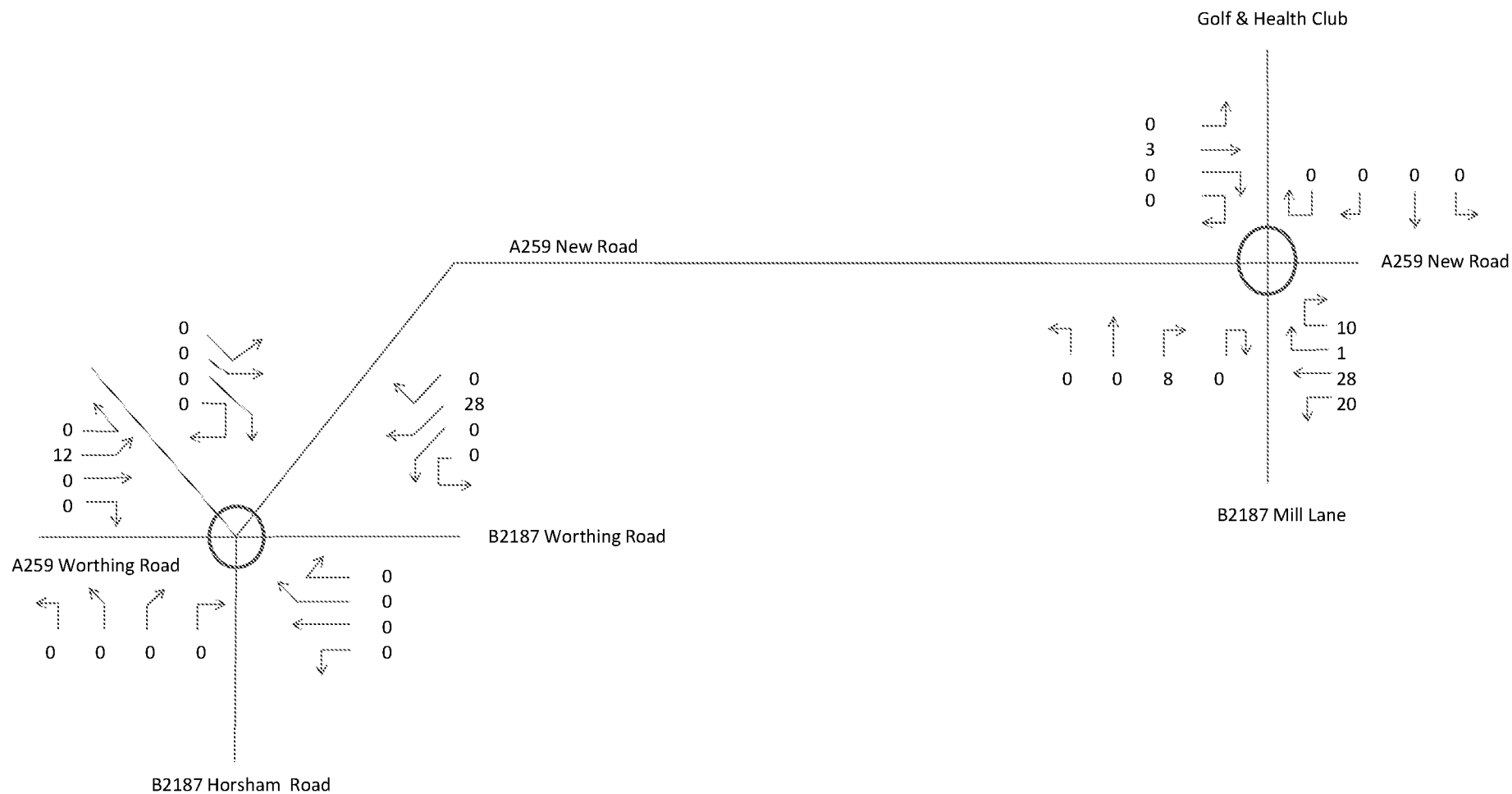
FIGURE C7A





NEW DEVELOPMENT, A259 NEW ROAD, RUSTINGTON
FRIDAY PM PEAK HOUR 1645-1745HRS - COMMITTED DEVELOPMENT TRAFFIC EXCLUDING MILL LANE DEVELOPMENT

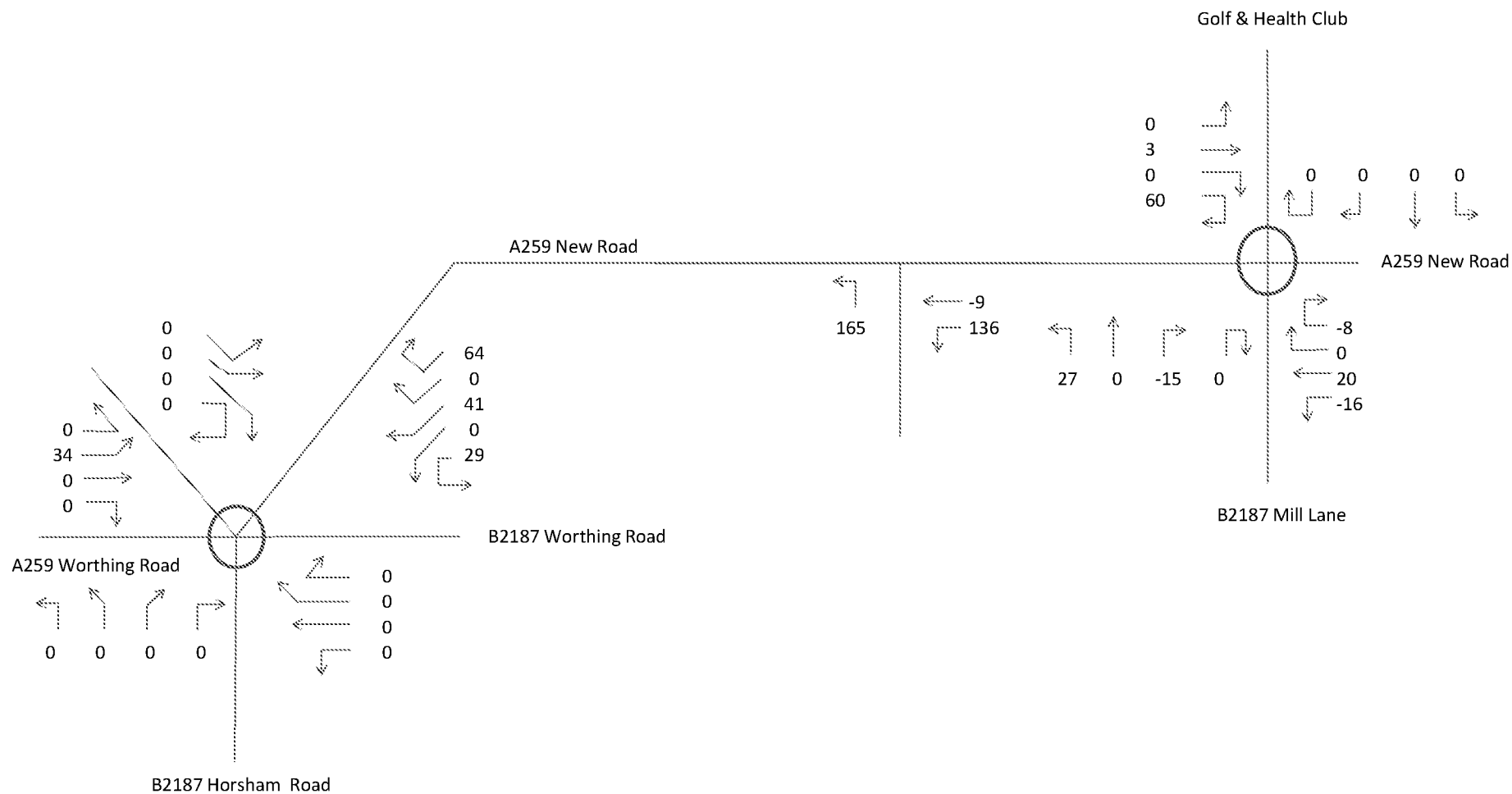
FIGURE C9



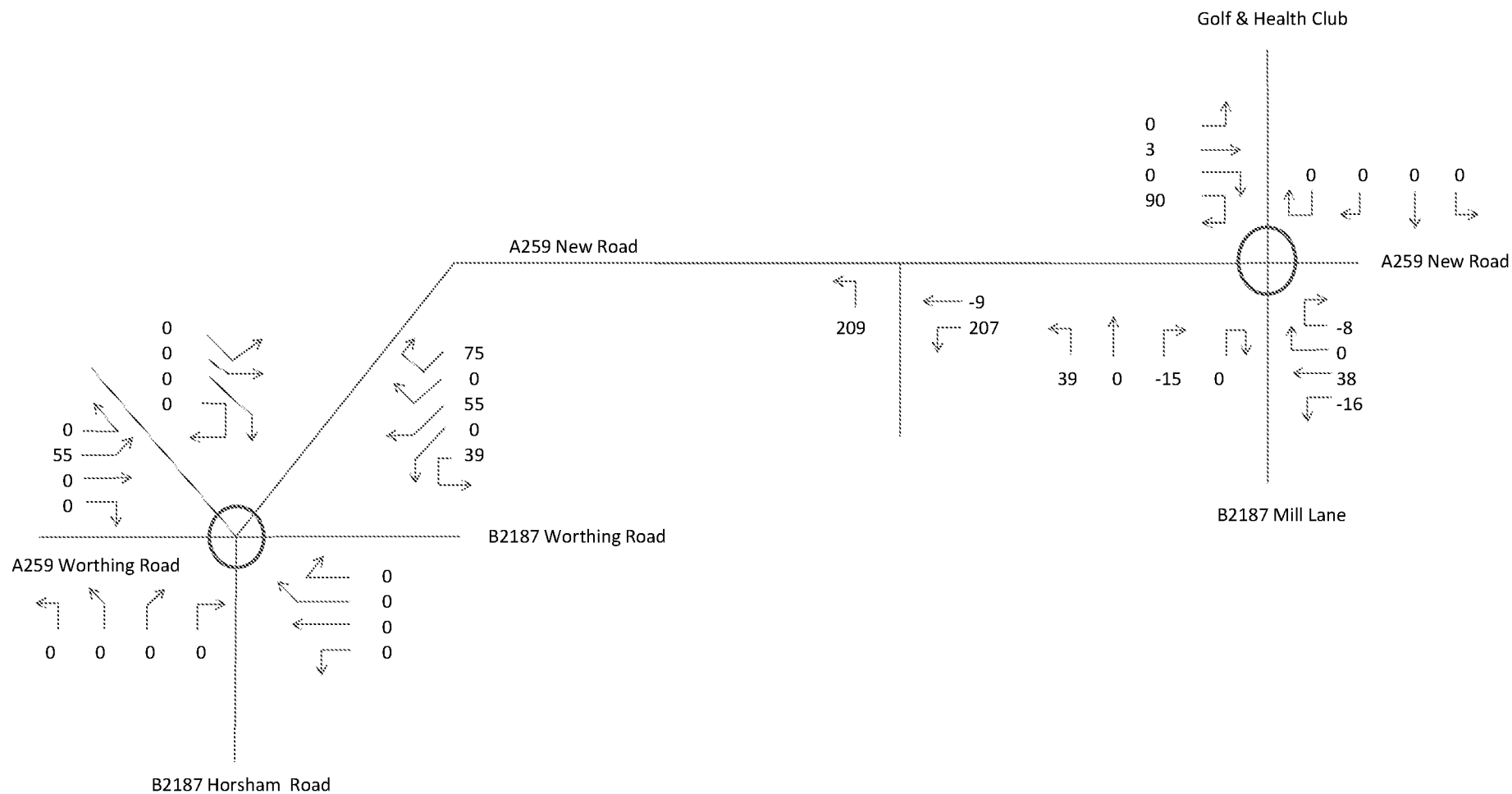
NEW DEVELOPMENT, A259 NEW ROAD, RUSTINGTON

SATURDAY PEAK HOUR 1200-1300HRS - COMMITTED DEVELOPMENT TRAFFIC EXCLUDING MILL LANE DEVELOPMENT

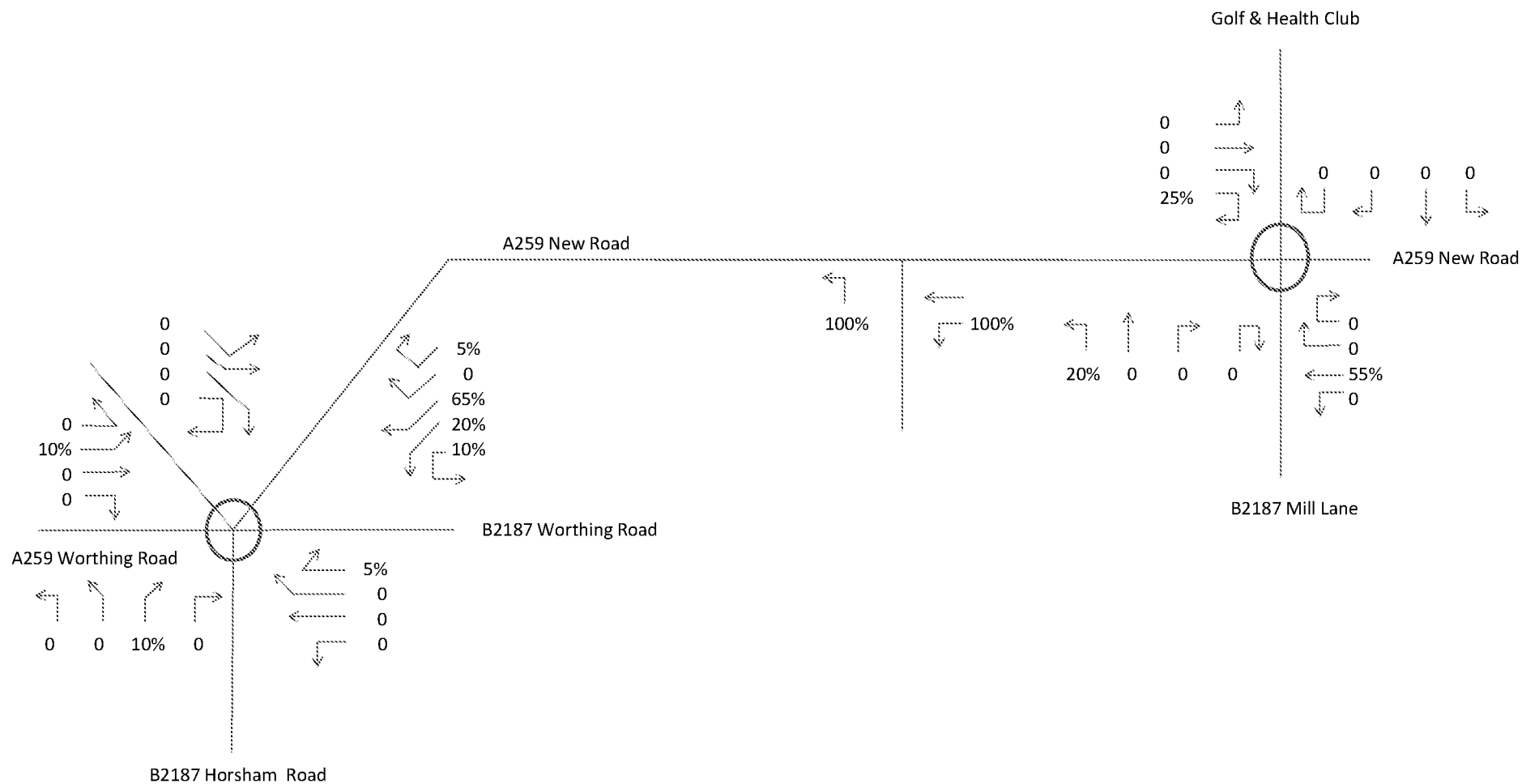
FIGURE C10



Figures taken from Figure 25 of Mayer Brown TA for Mill Lane Development

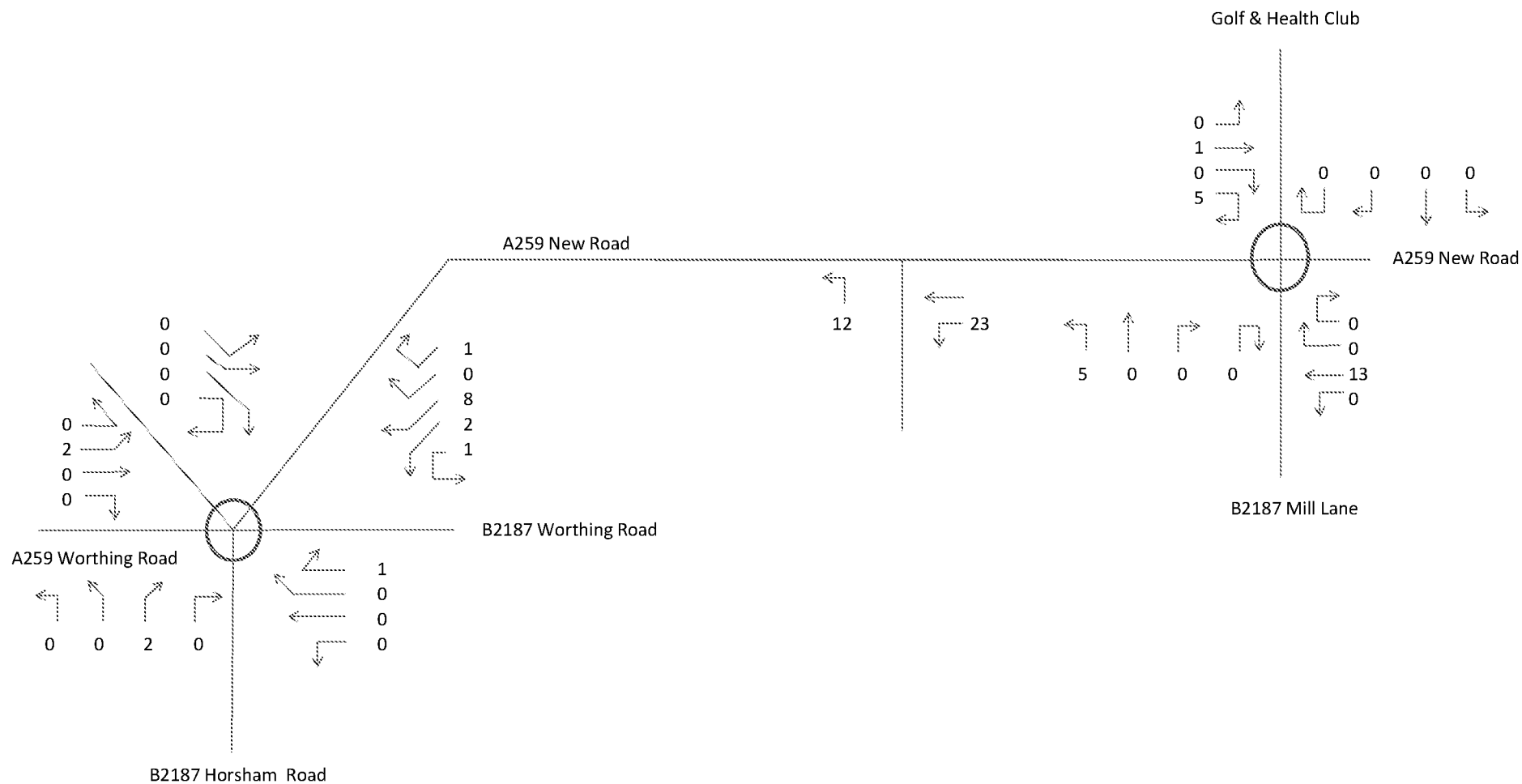


Figures taken from Figure 26 of Mayer Brown TA for Mill Lane Development



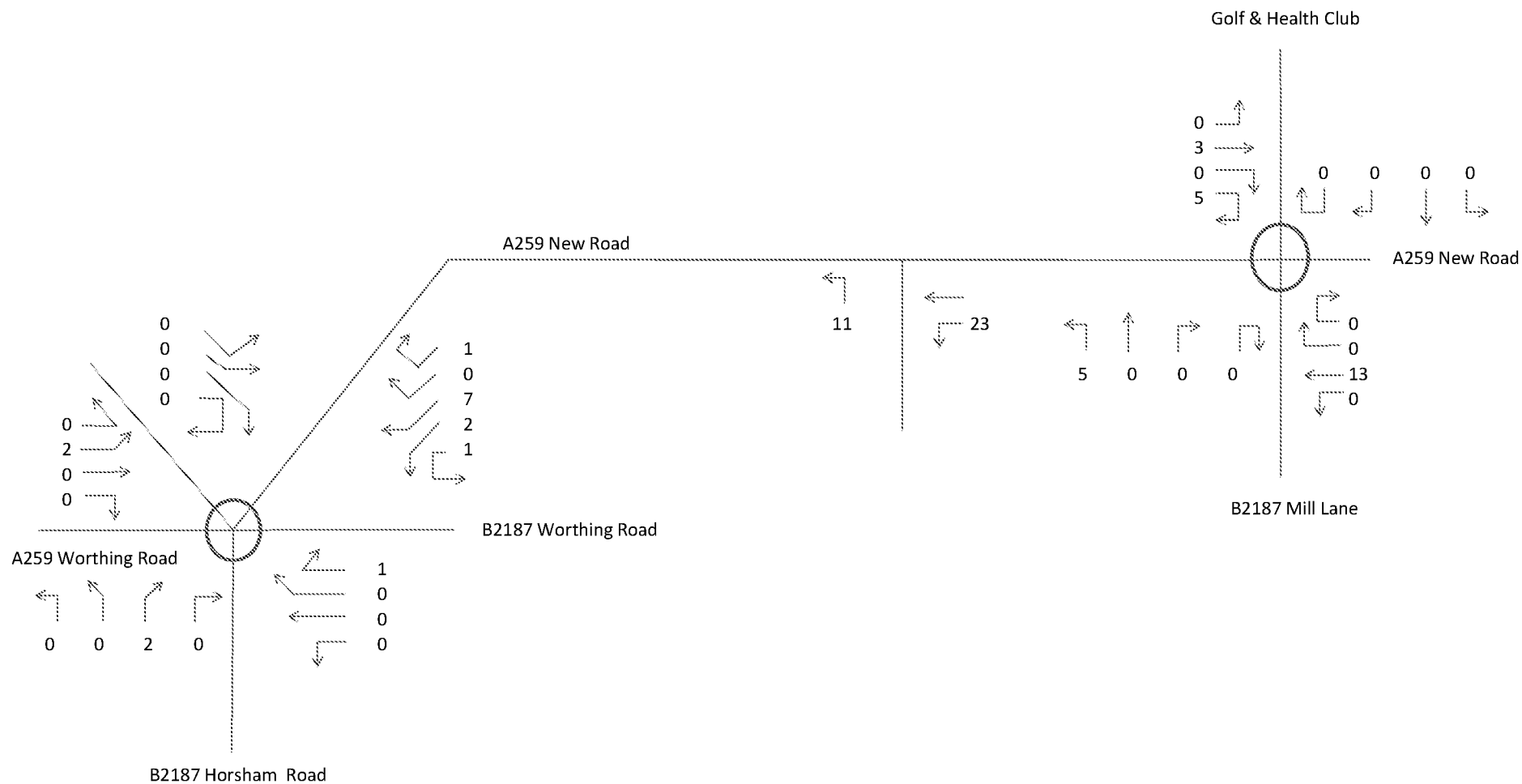
NEW DEVELOPMENT, A259 NEW ROAD, RUSTINGTON
PROPOSED DEVELOPMENT - PUBLIC HOUSE TRAFFIC DISTRIBUTION (FRIDAY AND SATURDAY)

FIGURE C13



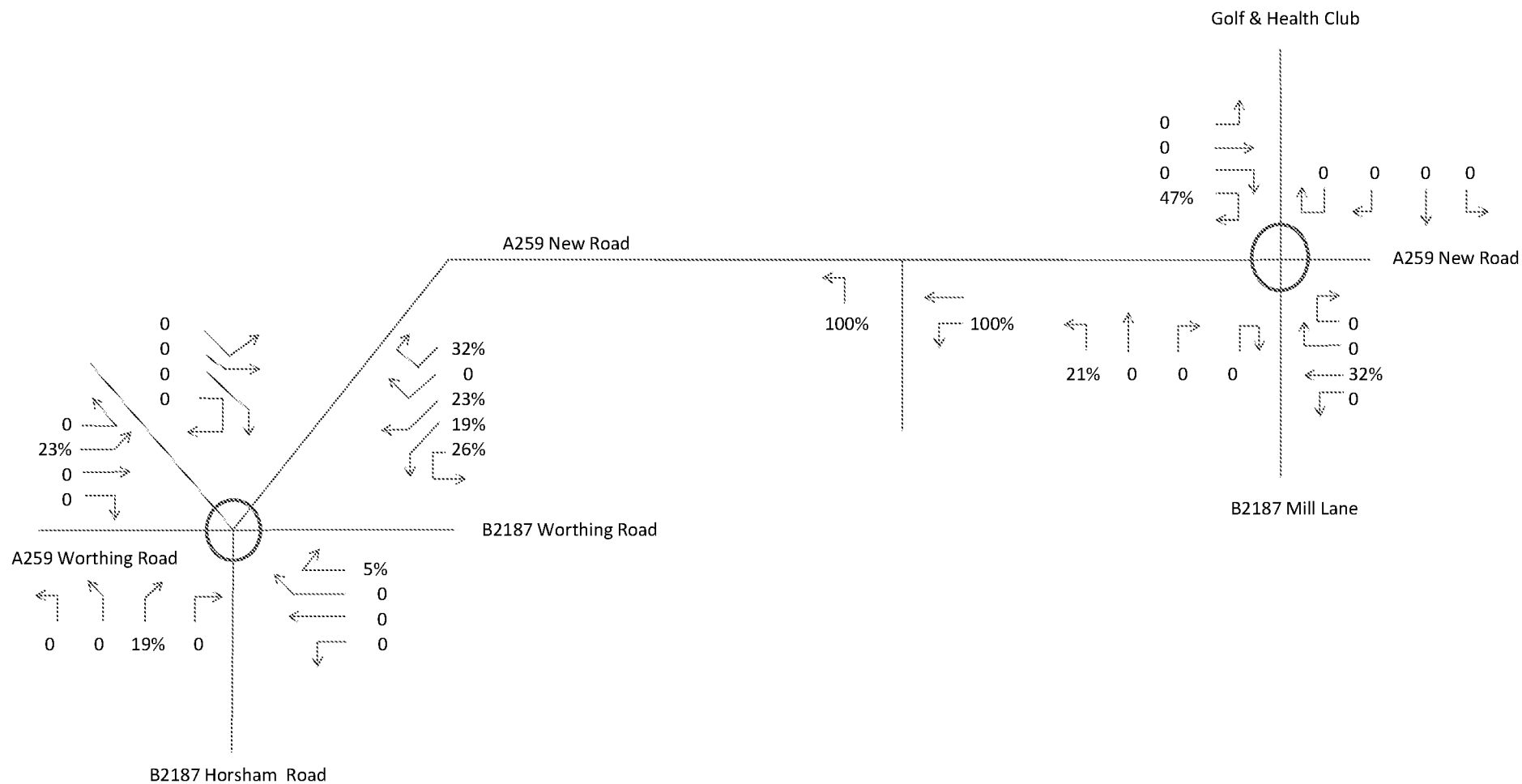
NEW DEVELOPMENT, A259 NEW ROAD, RUSTINGTON
 PROPOSED DEVELOPMENT FRIDAY PM PEAK HOUR 1645-1745HRS - PUBLIC HOUSE TOTAL VEHICLE TRIPS

FIGURE C14



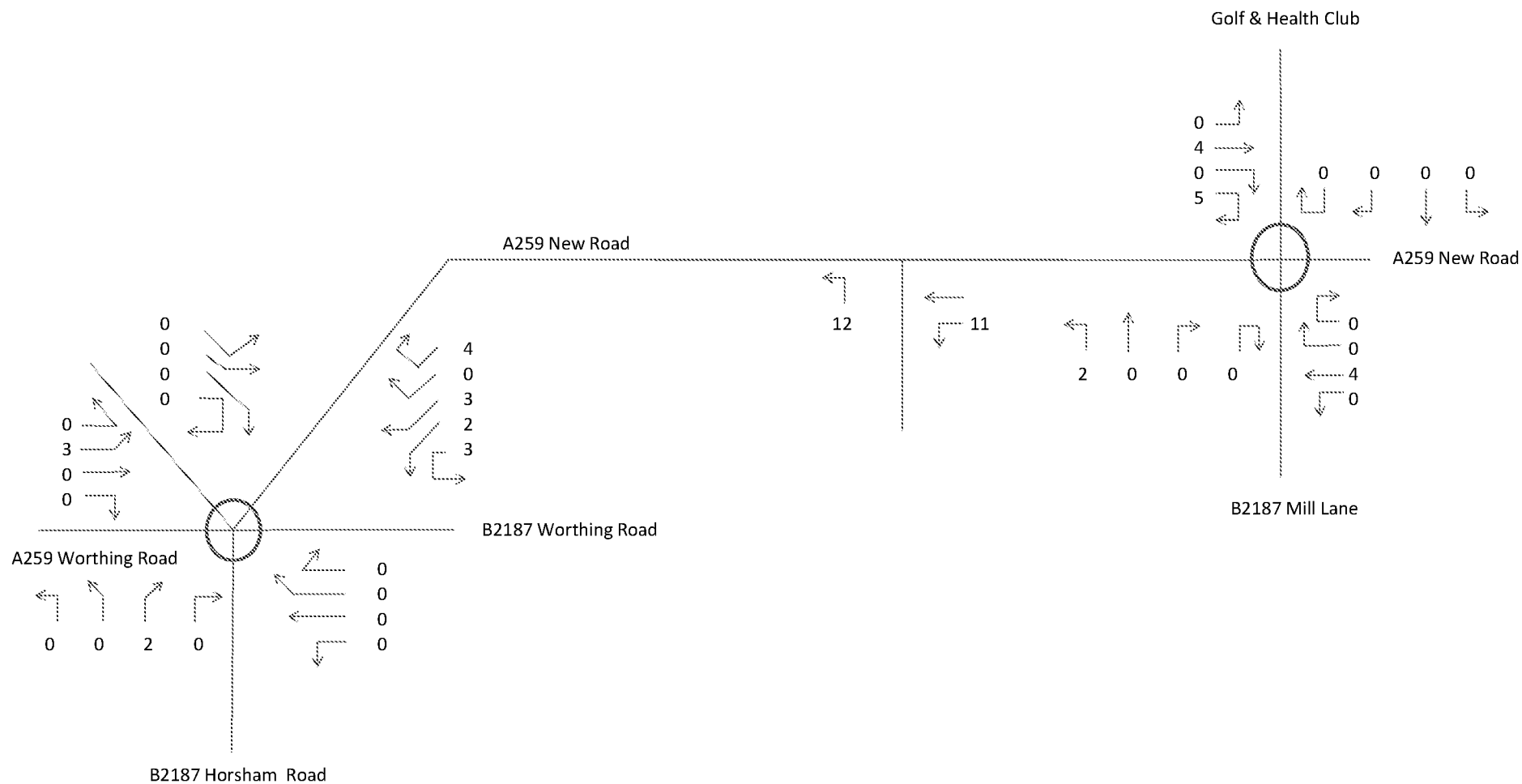
NEW DEVELOPMENT, A259 NEW ROAD, RUSTINGTON
PROPOSED DEVELOPMENT SATURDAY PEAK HOUR 1200-1300HRS - PUBLIC HOUSE TOTAL VEHICLE TRIPS

FIGURE C15



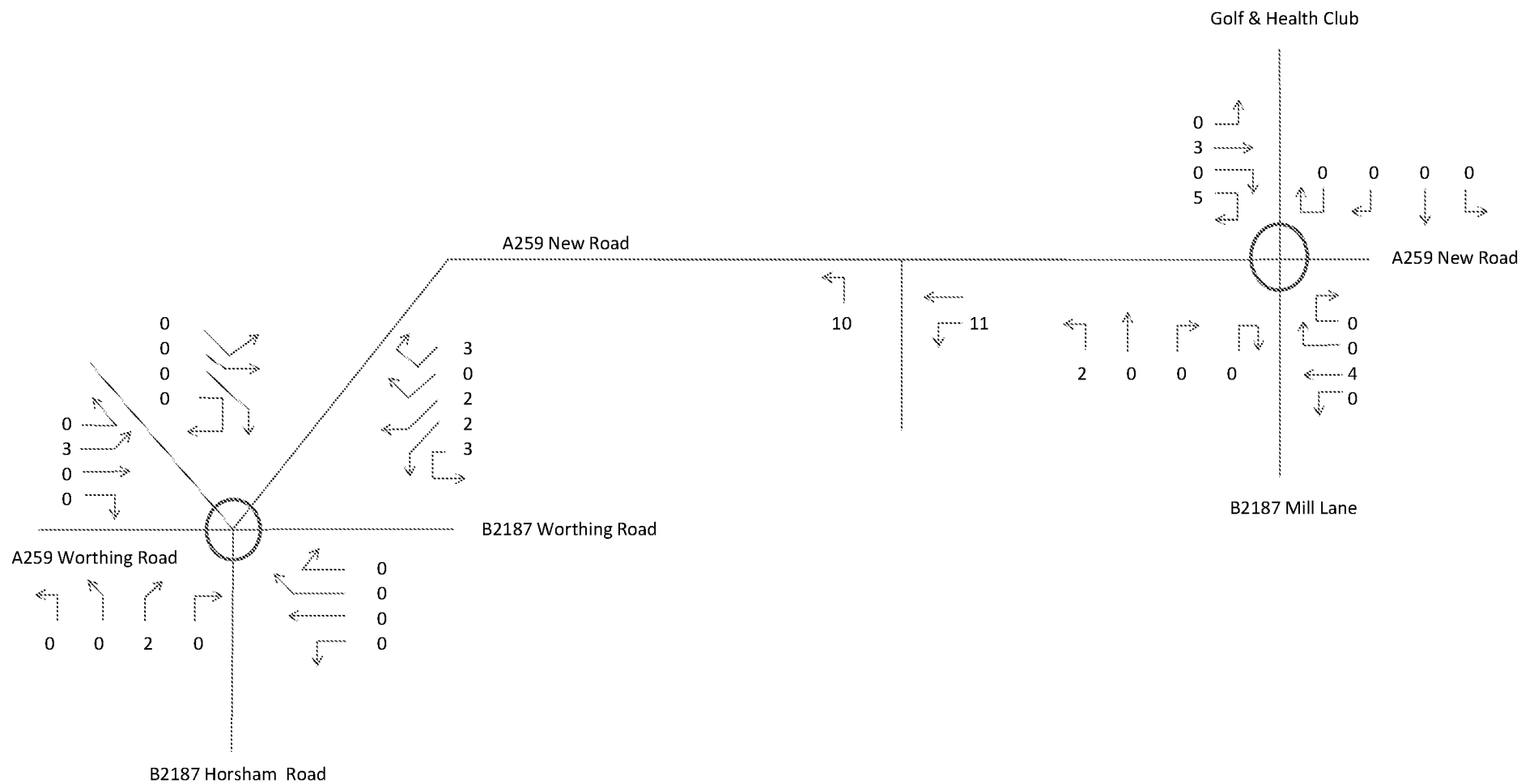
NEW DEVELOPMENT, A259 NEW ROAD, RUSTINGTON
PROPOSED DEVELOPMENT - SIMPLY FOOD NEW VEHICLE TRIPS TRAFFIC DISTRIBUTION (FRIDAY AND SATURDAY)

FIGURE C16



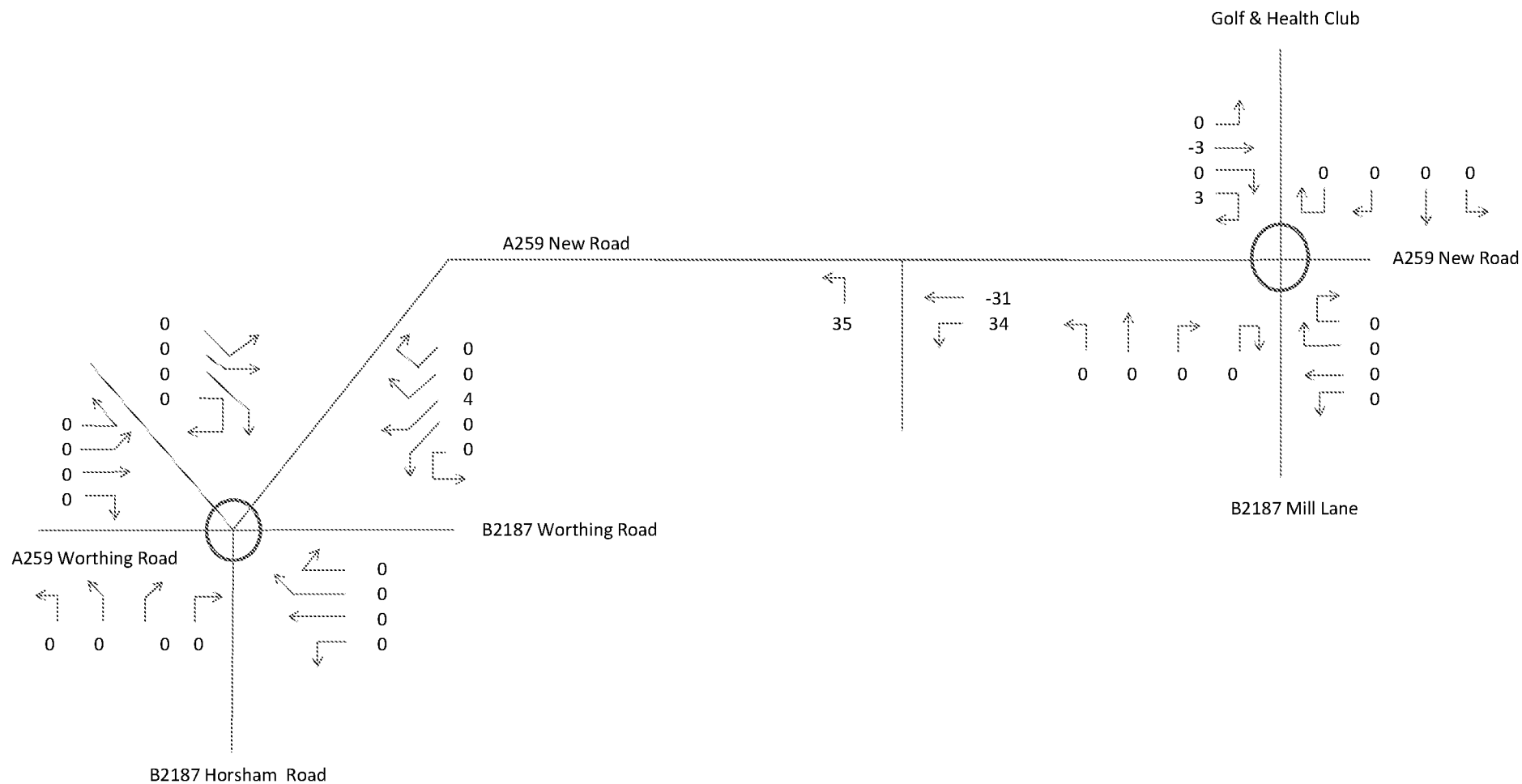
NEW DEVELOPMENT, A259 NEW ROAD, RUSTINGTON
PROPOSED DEVELOPMENT FRIDAY PM PEAK HOUR 1645-1745HRS - SIMPLY FOOD NEW VEHICLE TRIPS

FIGURE C17A



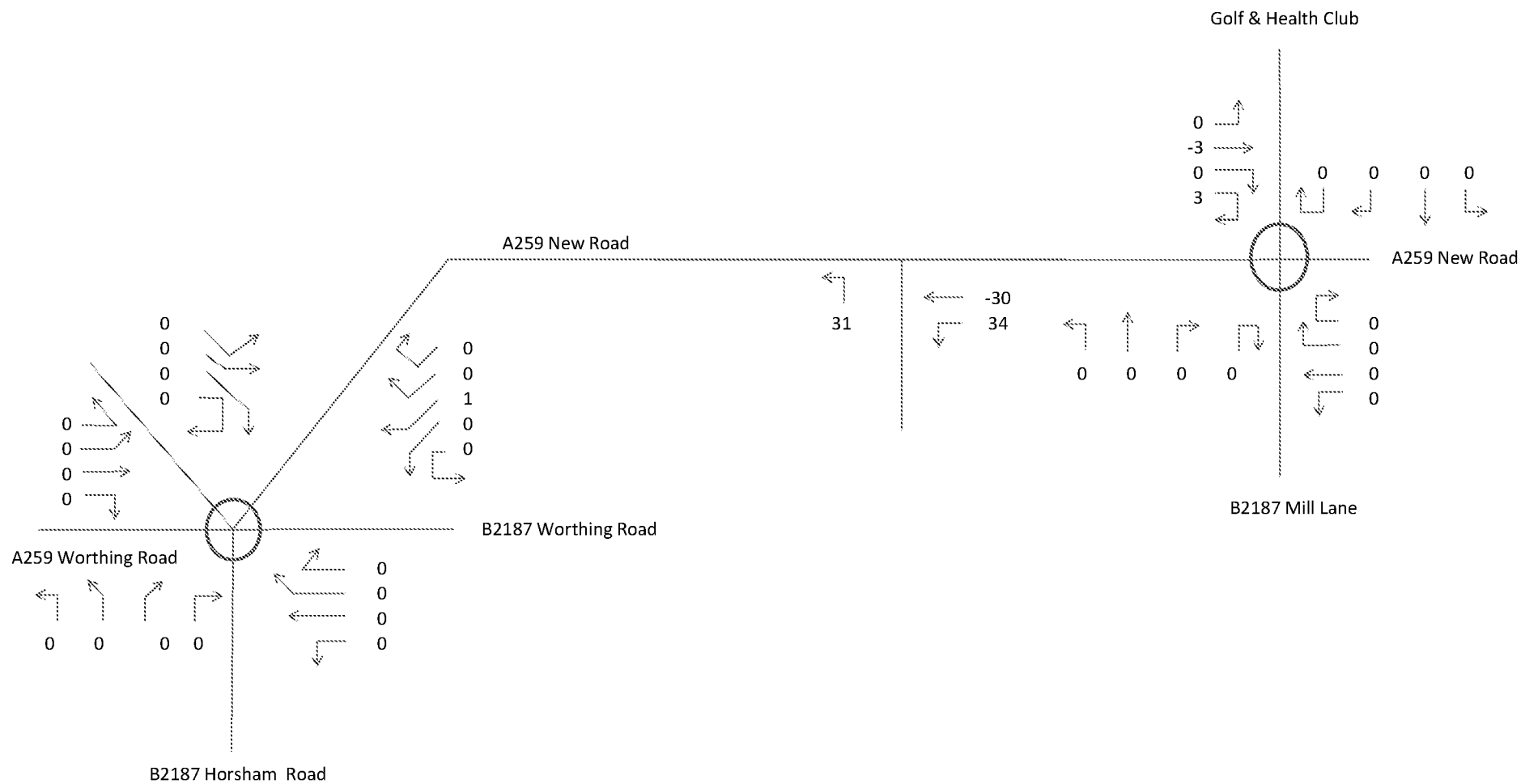
NEW DEVELOPMENT, A259 NEW ROAD, RUSTINGTON
PROPOSED DEVELOPMENT SATURDAY PEAK HOUR 1200-1300HRS - SIMPLY FOOD NEW VEHICLE TRIPS

FIGURE C18A



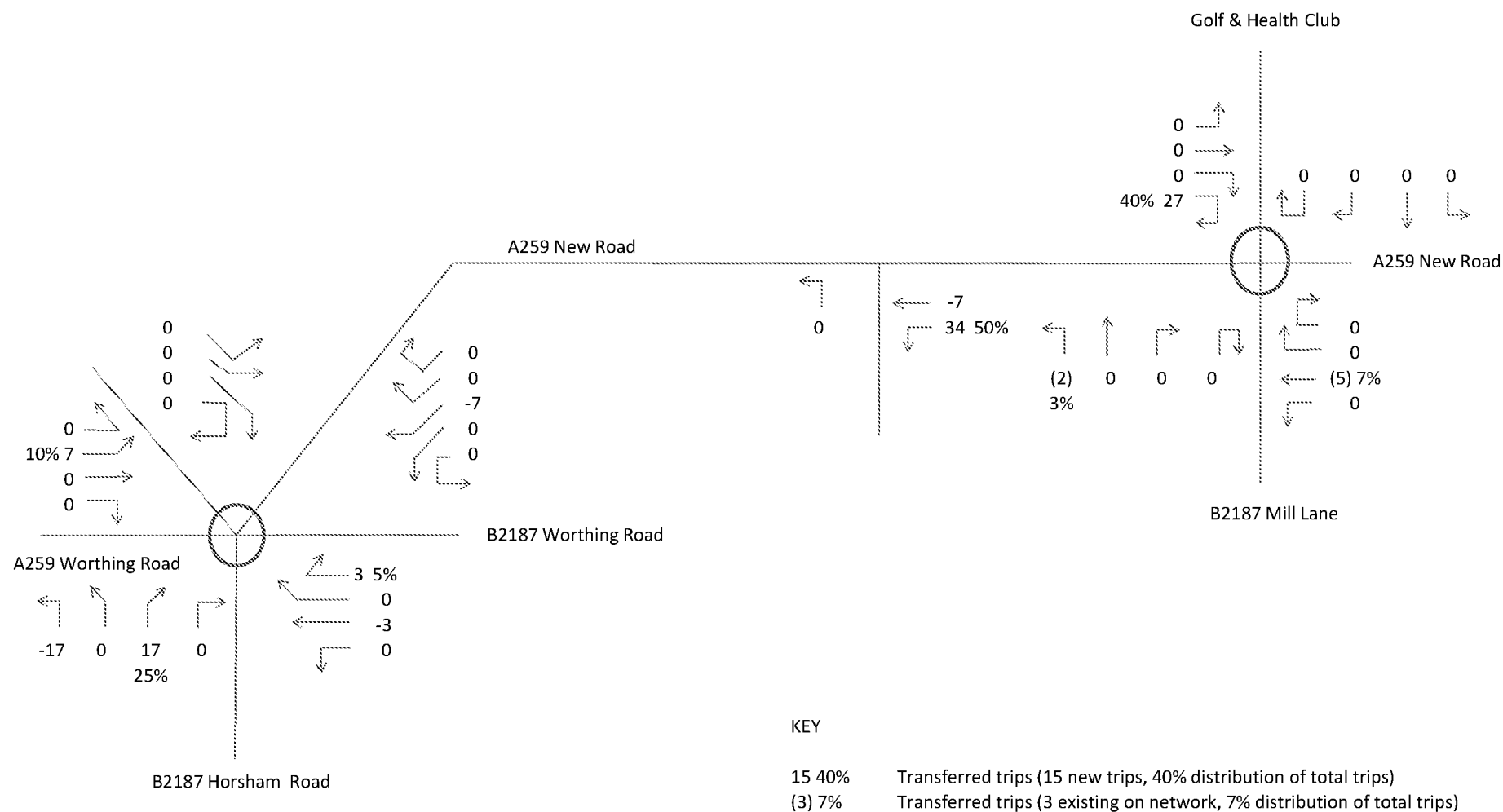
NEW DEVELOPMENT, A259 NEW ROAD, RUSTINGTON
PROPOSED DEVELOPMENT - SIMPLY FOOD PASS-BY VEHICLE TRIPS FRIDAY

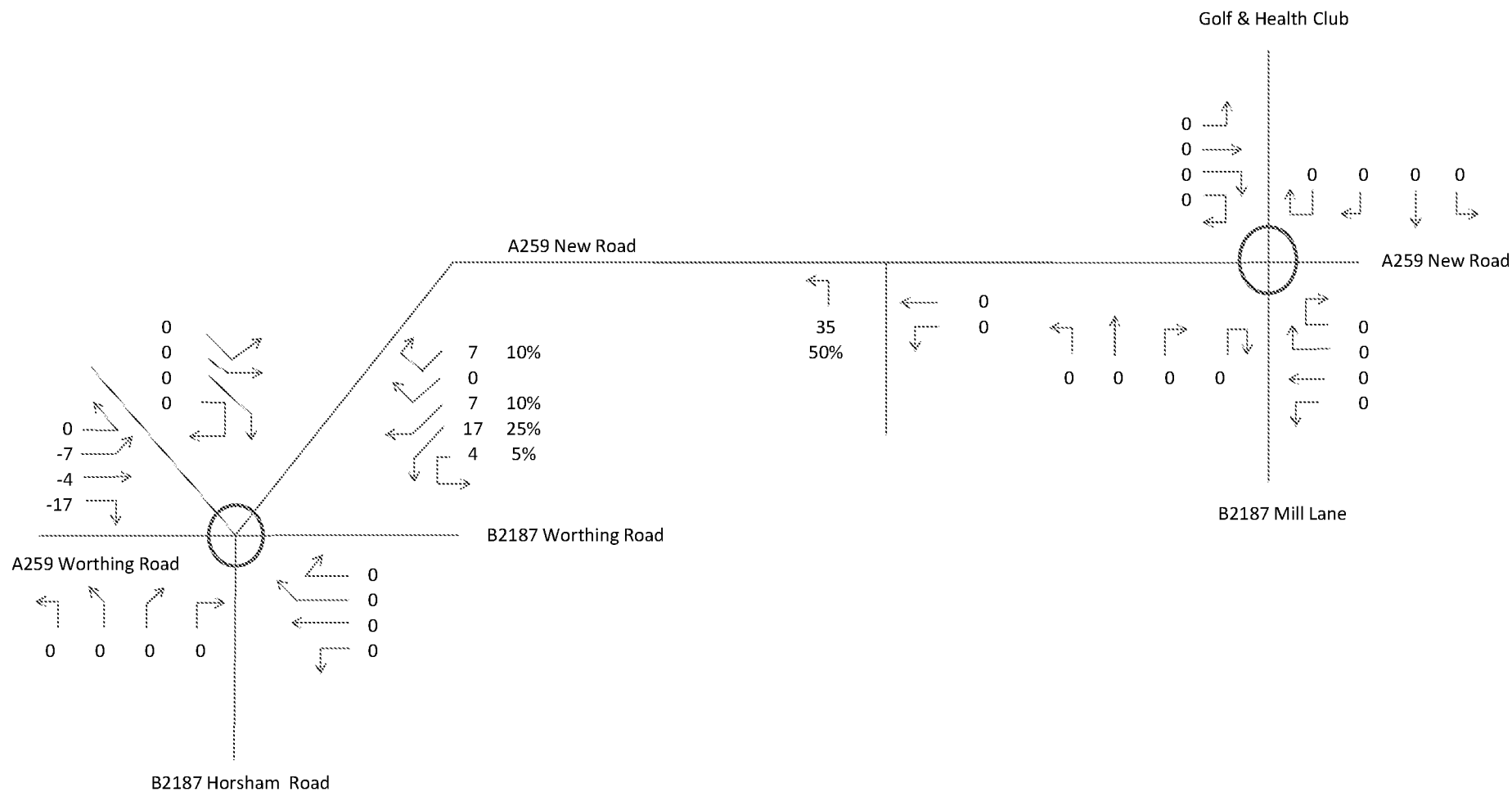
FIGURE C19A



NEW DEVELOPMENT, A259 NEW ROAD, RUSTINGTON
PROPOSED DEVELOPMENT - SIMPLY FOOD PASS-BY VEHICLE TRIPS SATURDAY

FIGURE C20A

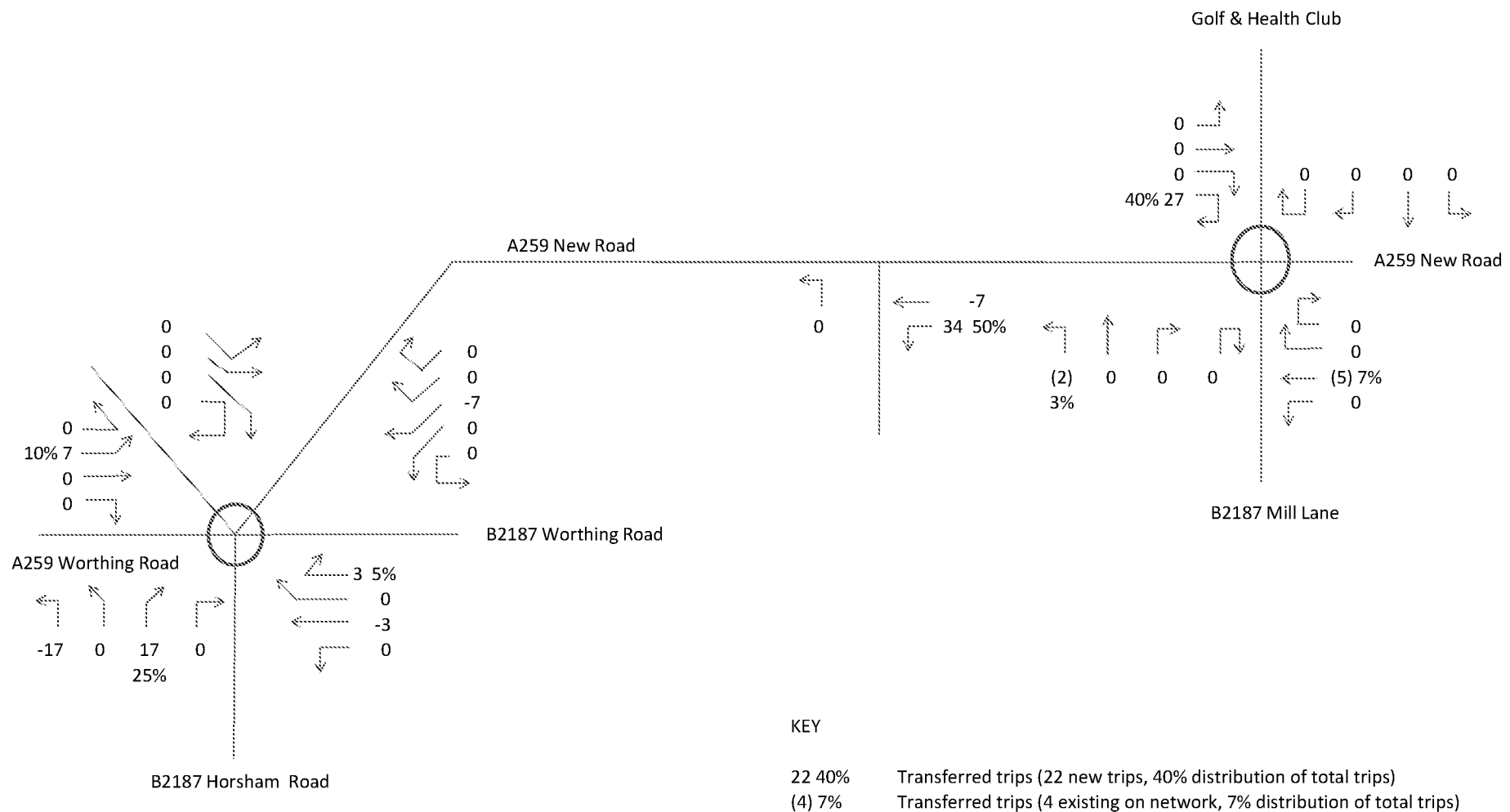




NEW DEVELOPMENT, A259 NEW ROAD, RUSTINGTON

PROPOSED DEVELOPMENT - SIMPLY FOOD TRANSFERRED VEHICLE TRIPS (FROM FOODSTORE SITES WEST OF MILL LANE) FRIDAY DEPARTURES

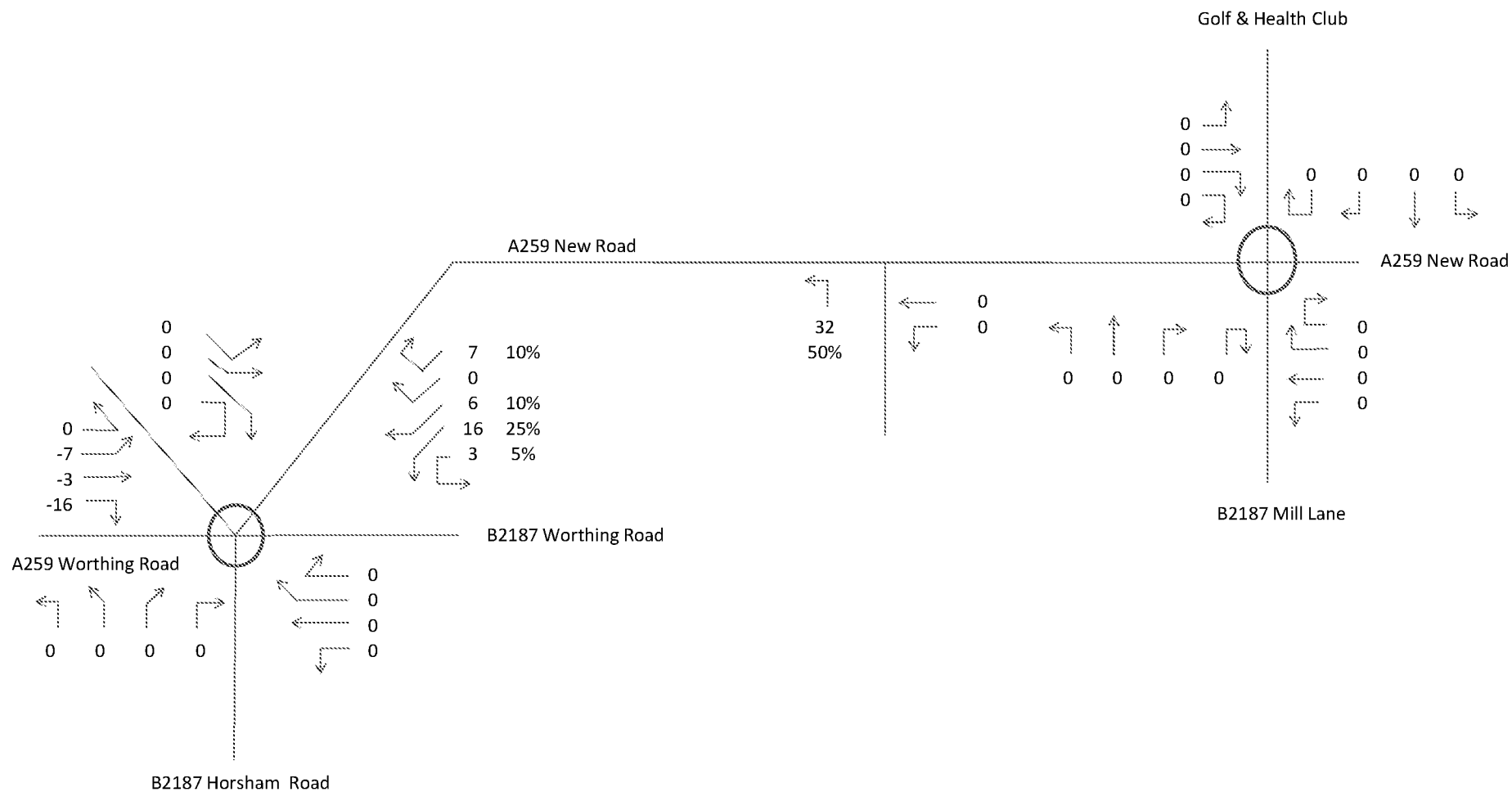
FIGURE C22A



NEW DEVELOPMENT, A259 NEW ROAD, RUSTINGTON

PROPOSED DEVELOPMENT - SIMPLY FOOD TRANSFERRED VEHICLE TRIPS (FROM FOODSTORE SITES WEST OF MILL LANE) SATURDAY ARRIVALS

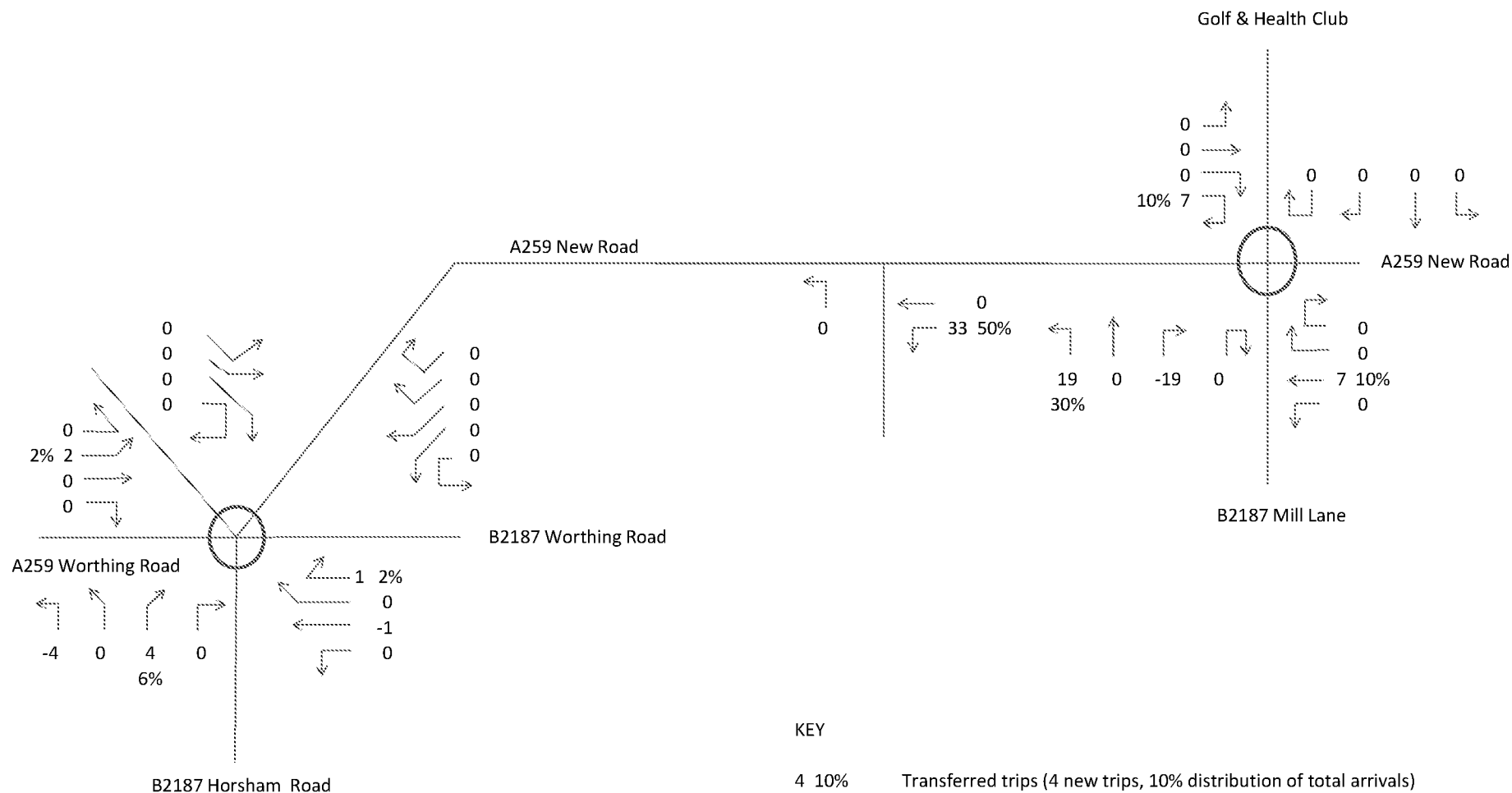
FIGURE C23A



NEW DEVELOPMENT, A259 NEW ROAD, RUSTINGTON

PROPOSED DEVELOPMENT - SIMPLY FOOD TRANSFERRED VEHICLE TRIPS (FROM FOODSTORE SITES WEST OF MILL LANE) SATURDAY DEPARTURES

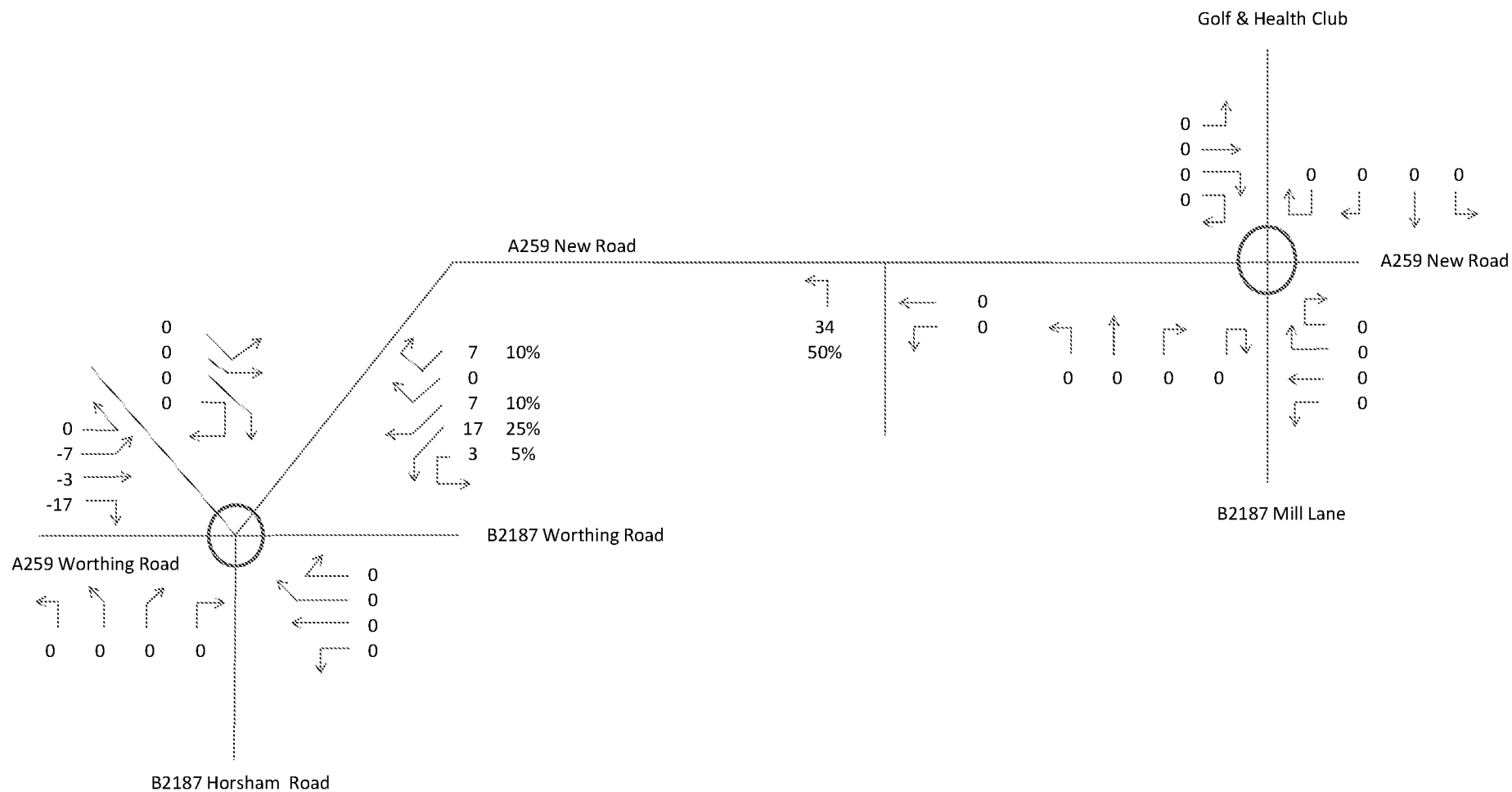
FIGURE C24A



NEW DEVELOPMENT, A259 NEW ROAD, RUSTINGTON

PROPOSED DEVELOPMENT - SIMPLY FOOD TRANSFERRED VEHICLE TRIPS (FROM FOODSTORE SITES EAST OF MILL LANE) FRIDAY ARRIVALS

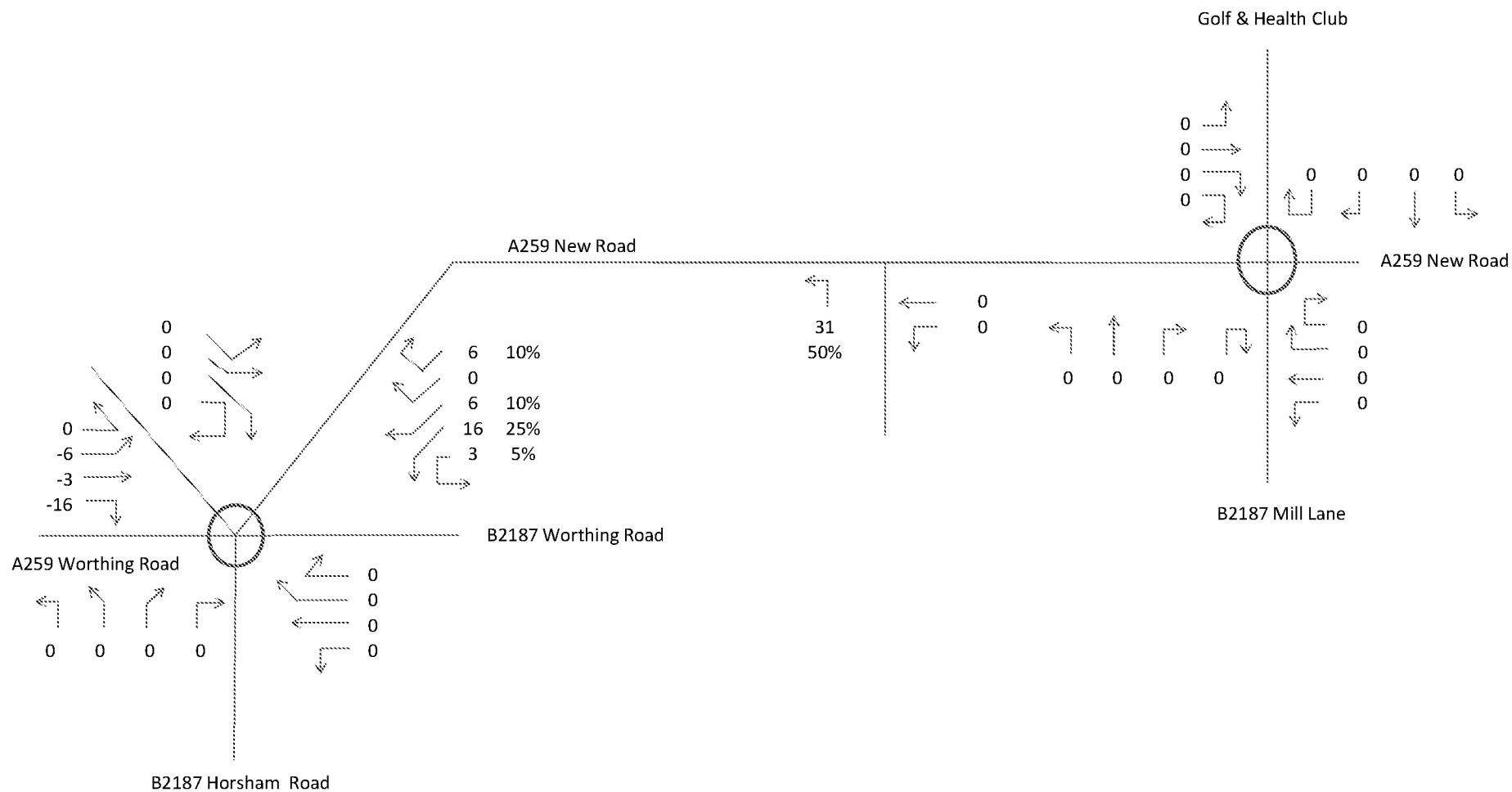
FIGURE C25A



NEW DEVELOPMENT, A259 NEW ROAD, RUSTINGTON

PROPOSED DEVELOPMENT - SIMPLY FOOD TRANSFERRED VEHICLE TRIPS (FROM FOODSTORE SITES EAST OF MILL LANE) FRIDAY DEPARTURES

FIGURE C26A



NEW DEVELOPMENT, A259 NEW ROAD, RUSTINGTON

PROPOSED DEVELOPMENT - SIMPLY FOOD TRANSFERRED VEHICLE TRIPS (FROM FOODSTORE SITES EAST OF MILL LANE) SATURDAY DEPARTURES

FIGURE C28A

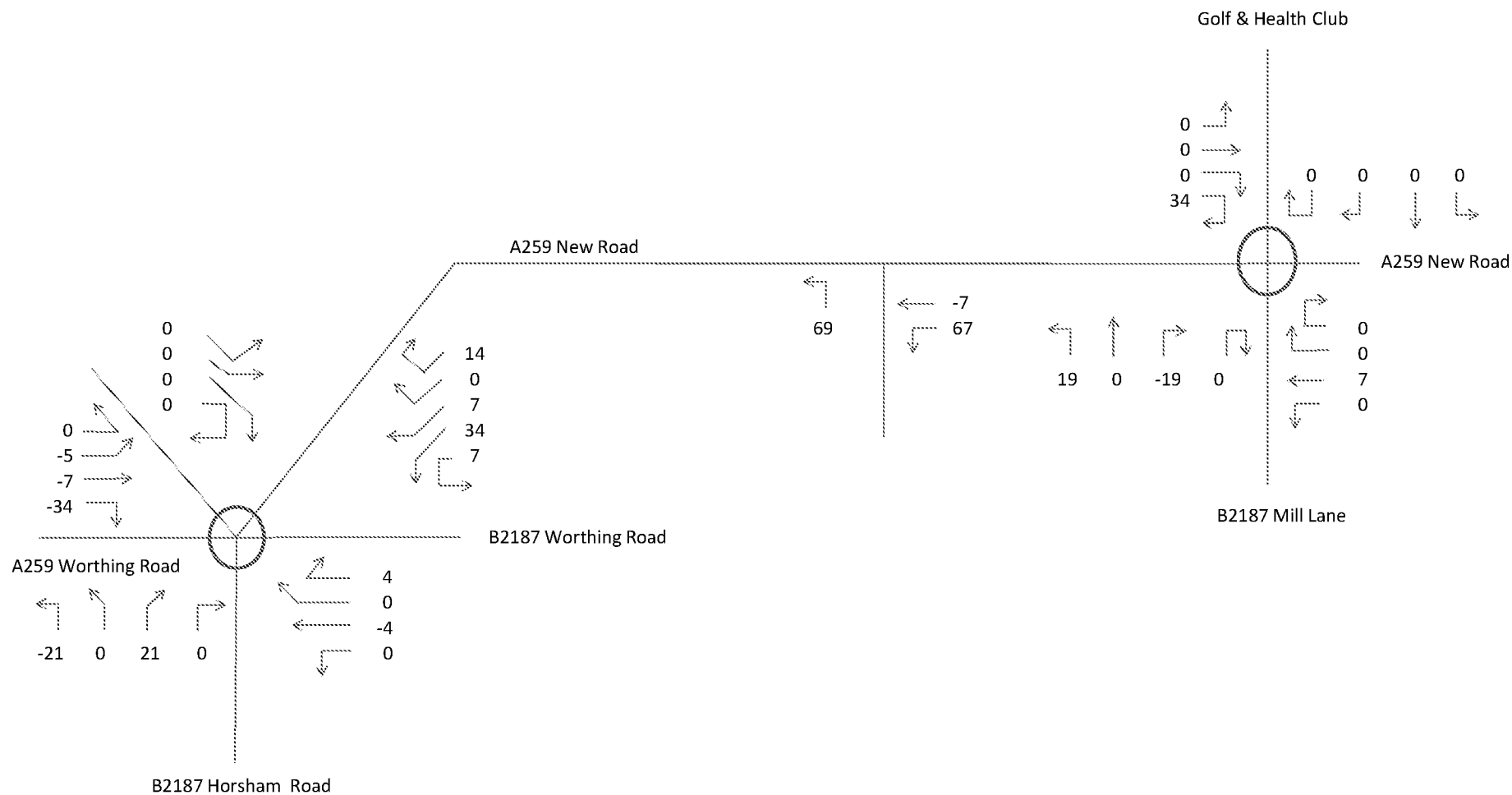


FIG C21+C22+C25+C26

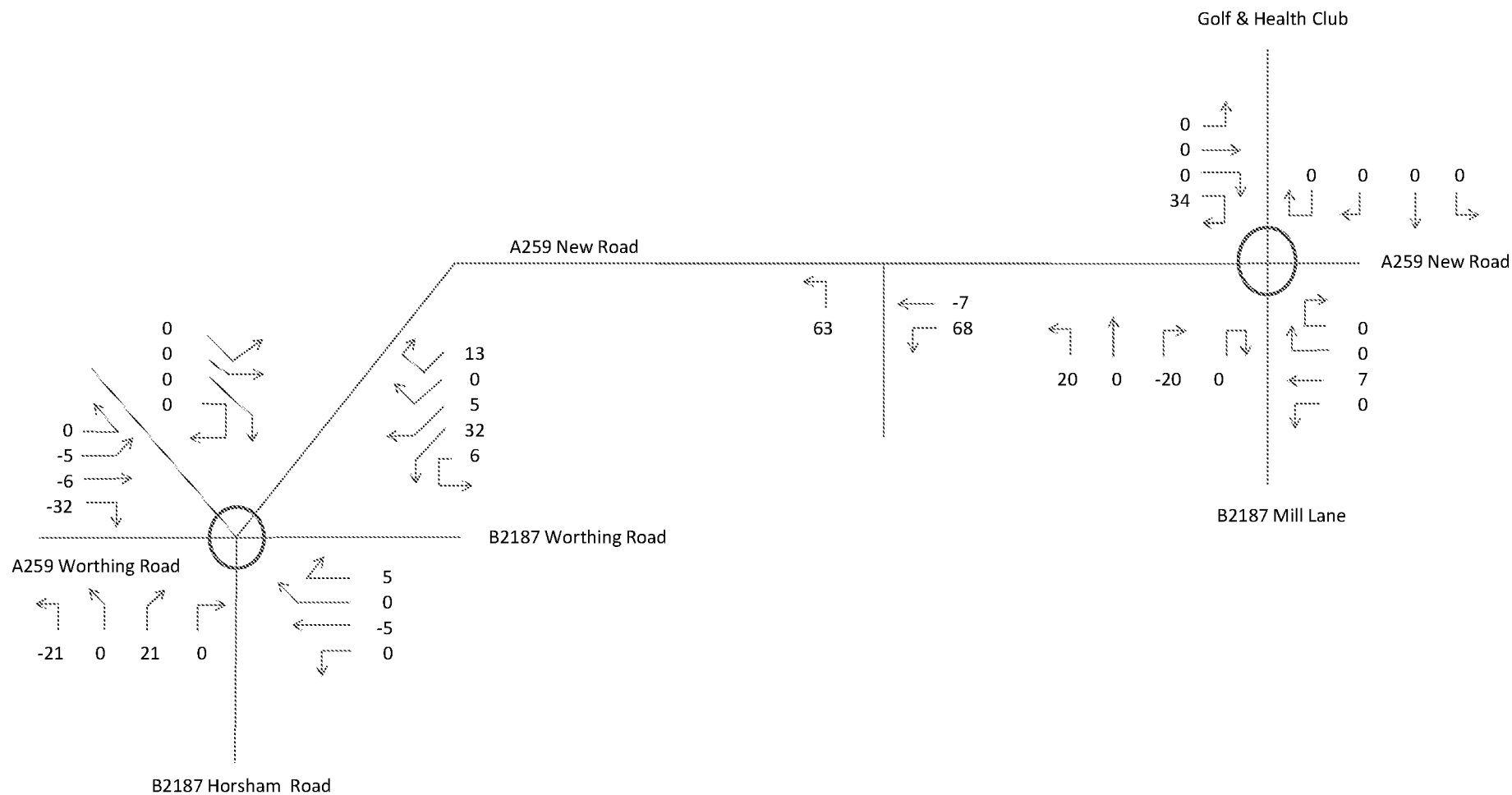


FIG C23+C24+C27+C28

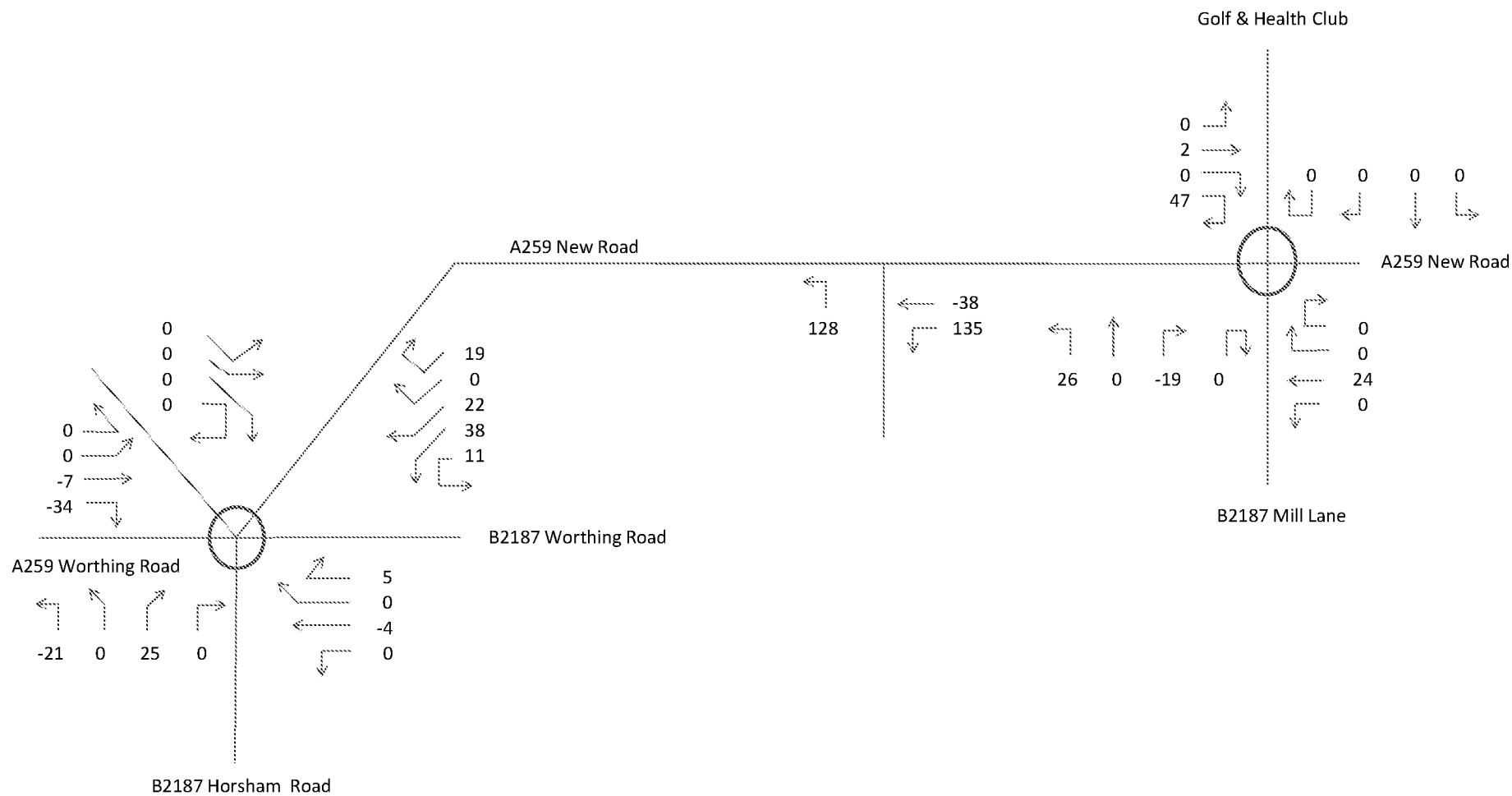


FIG C14+C17+C19+C29

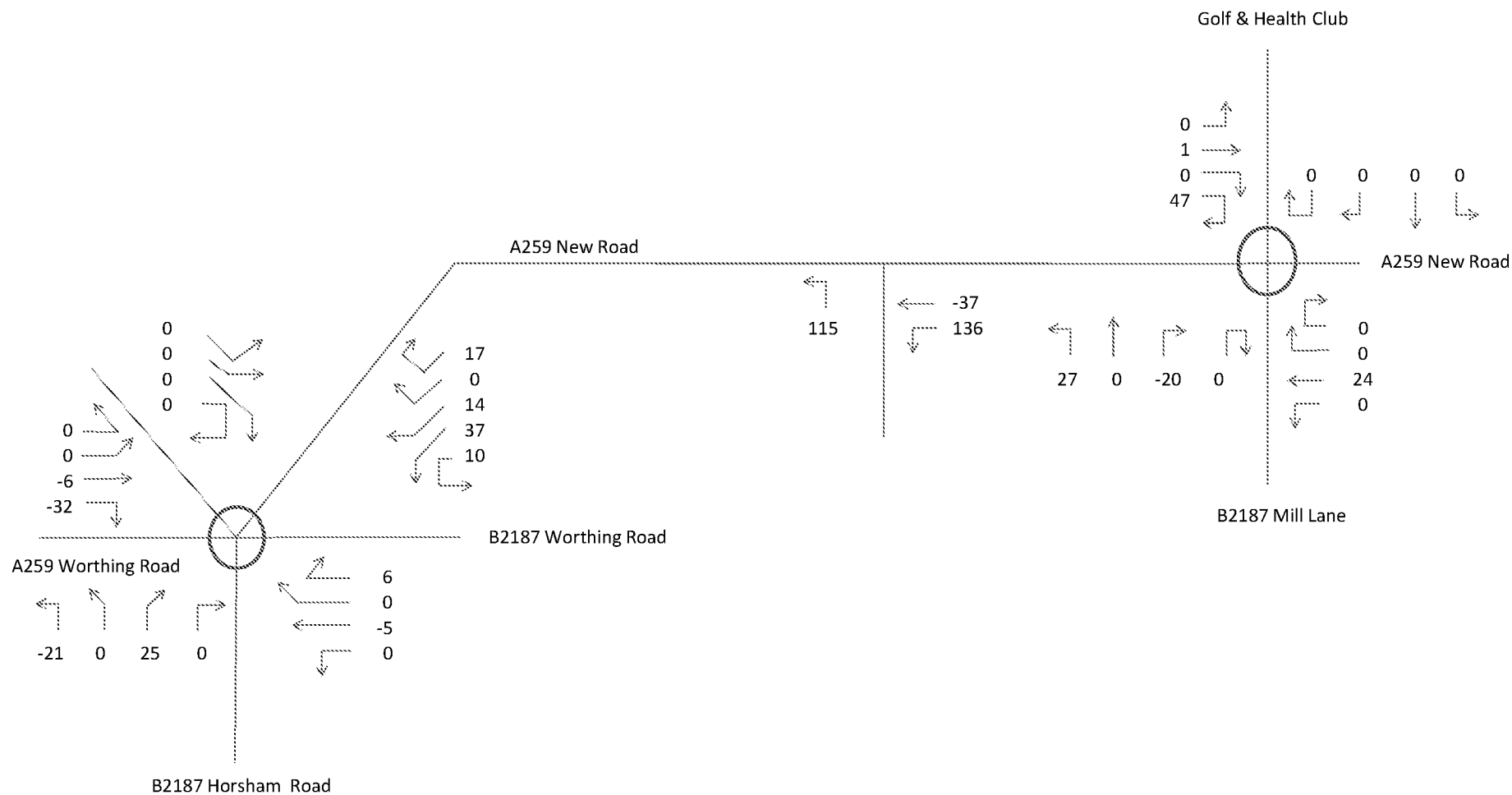


FIG C15+C18+C20+C30

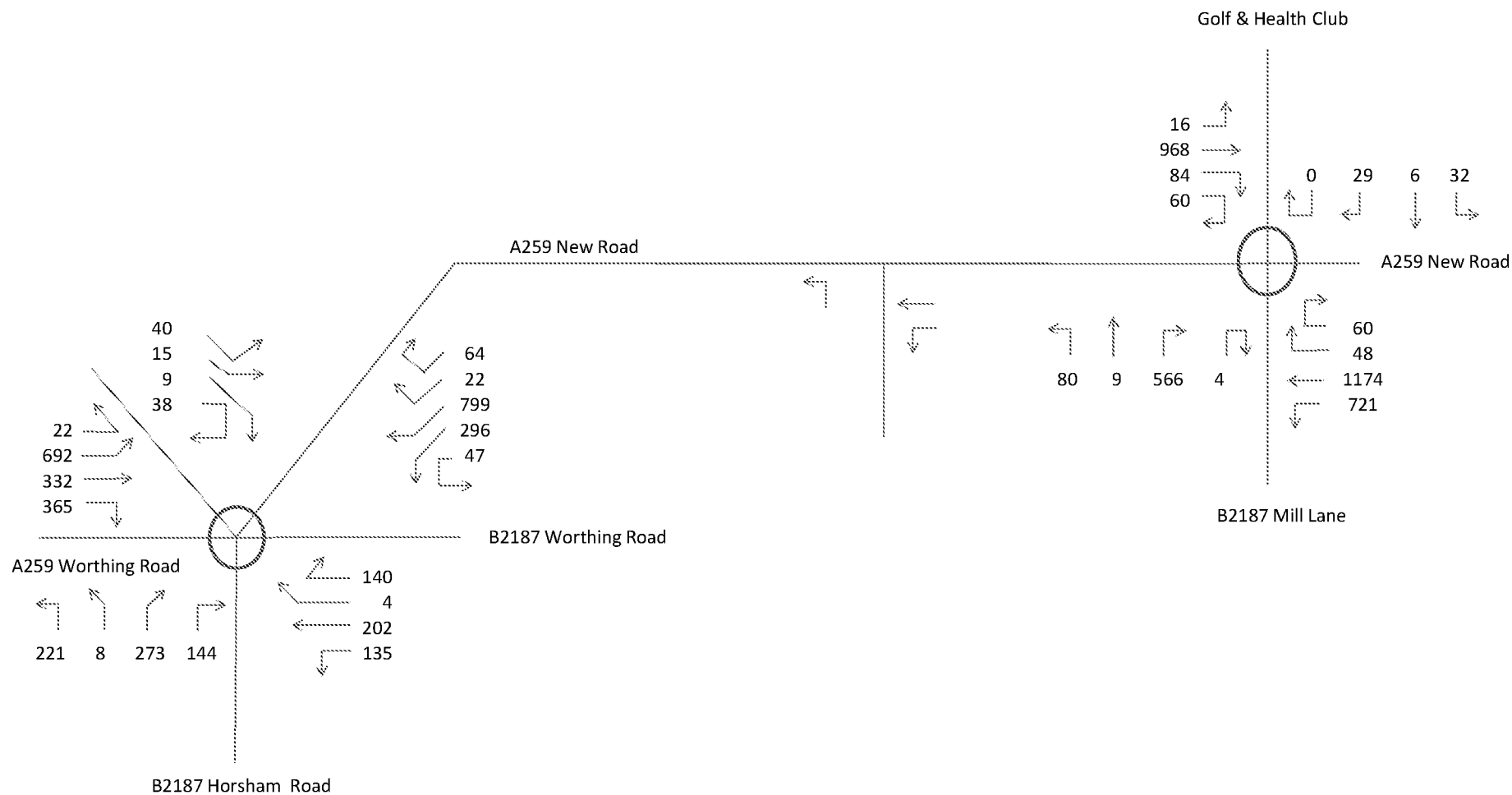


FIG C5+C9+C11

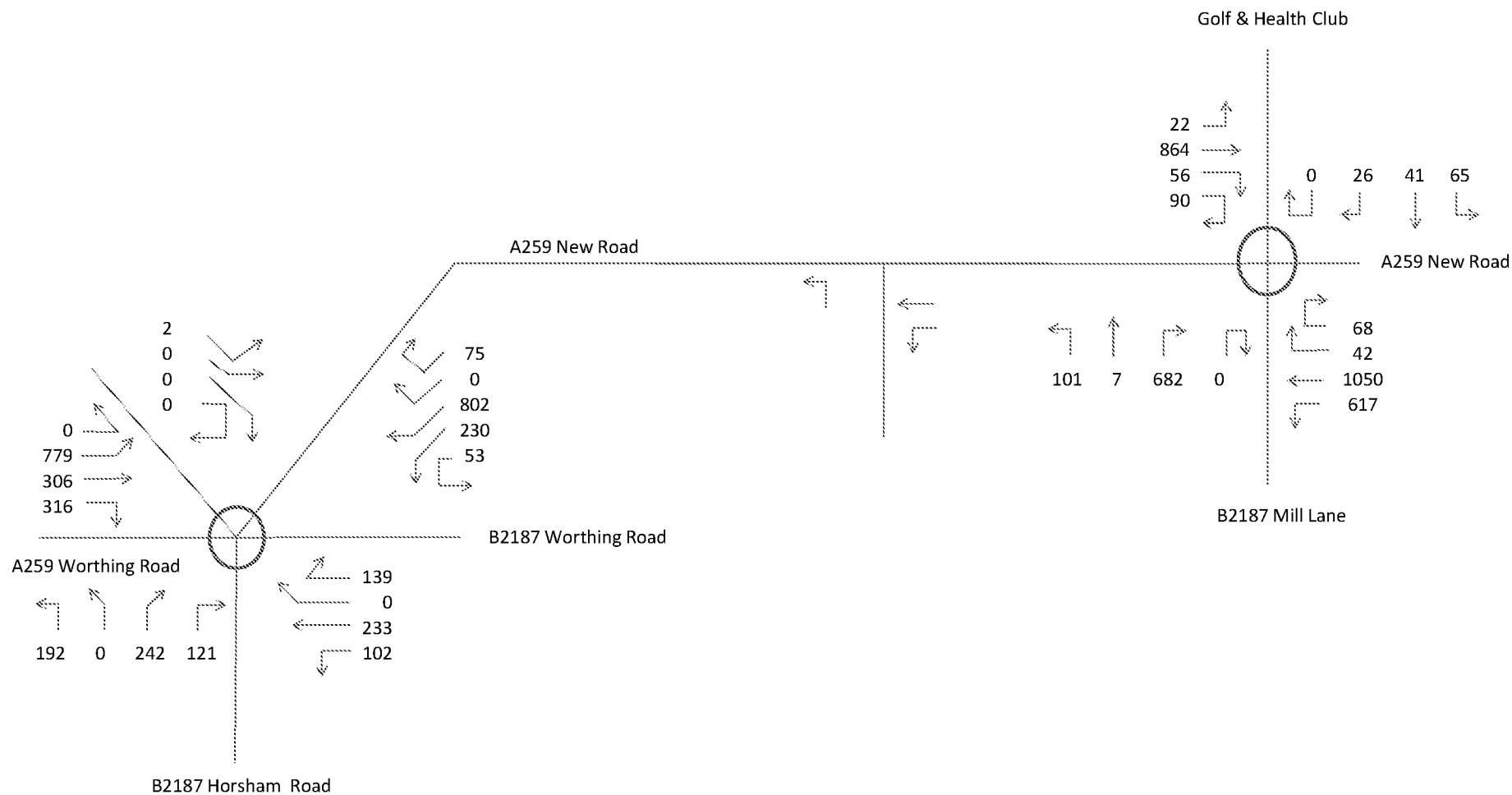


FIG C6+C10+C12

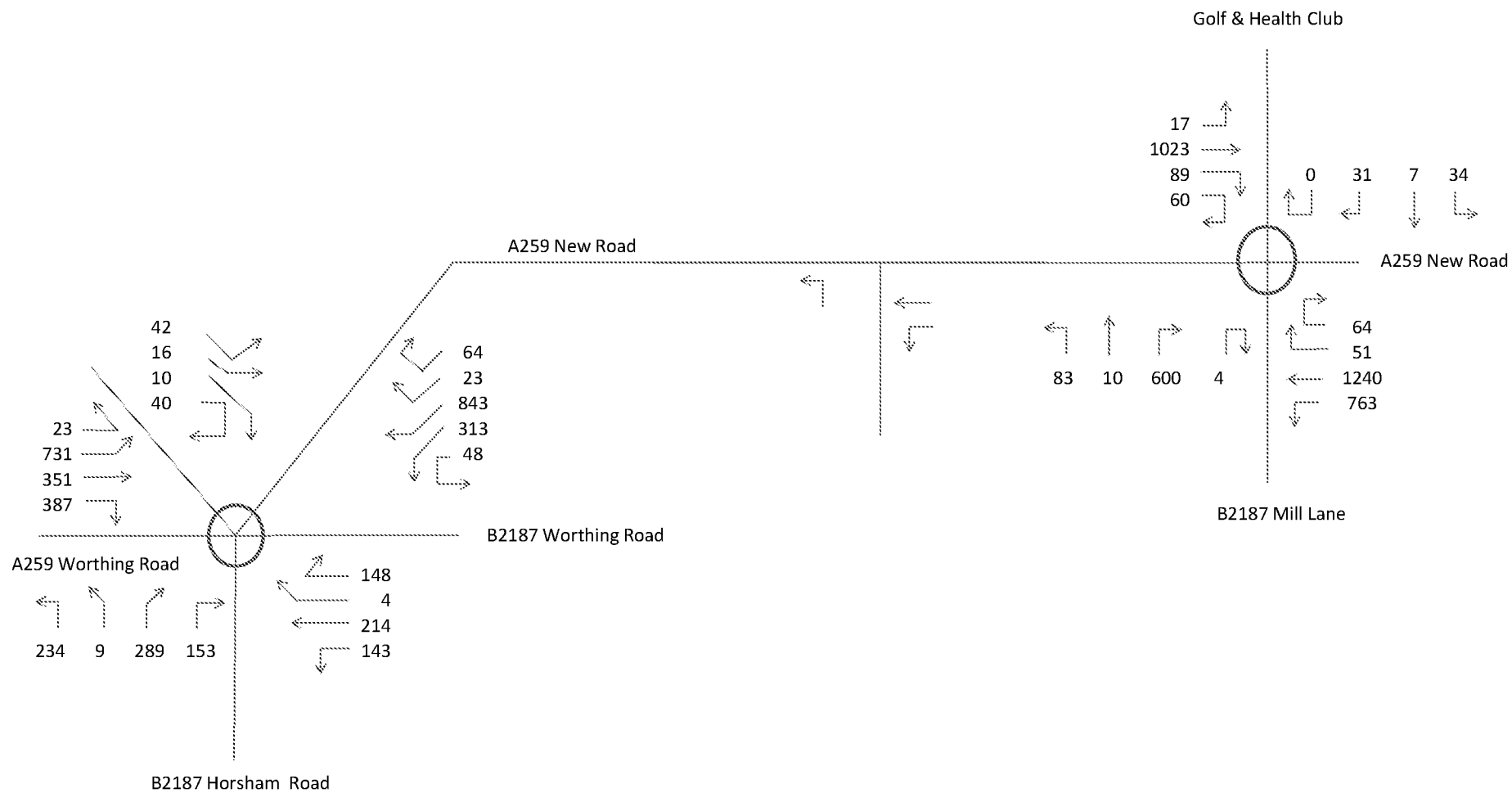


FIG C7+C9+C11

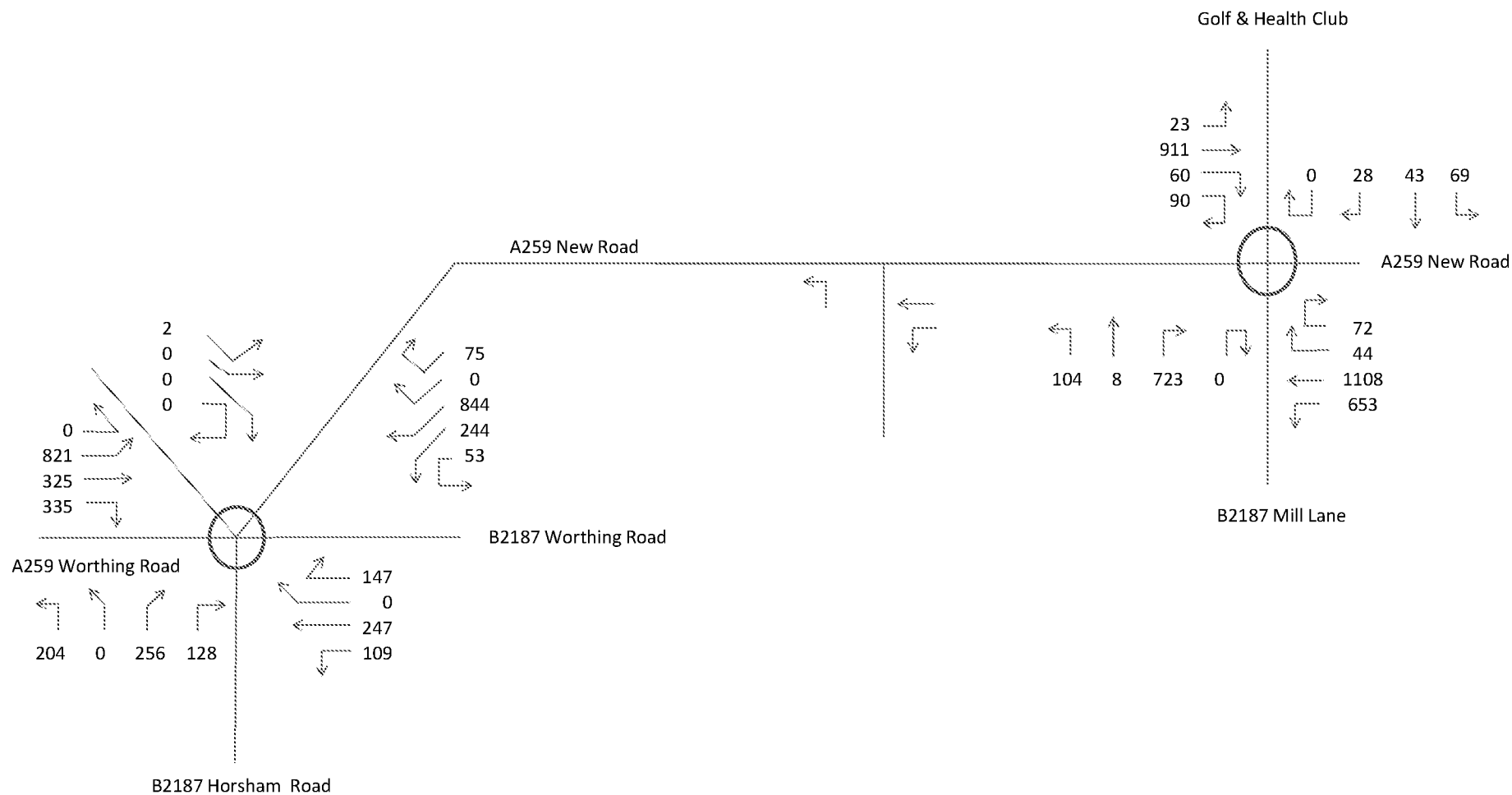


FIG C8+C10+C12

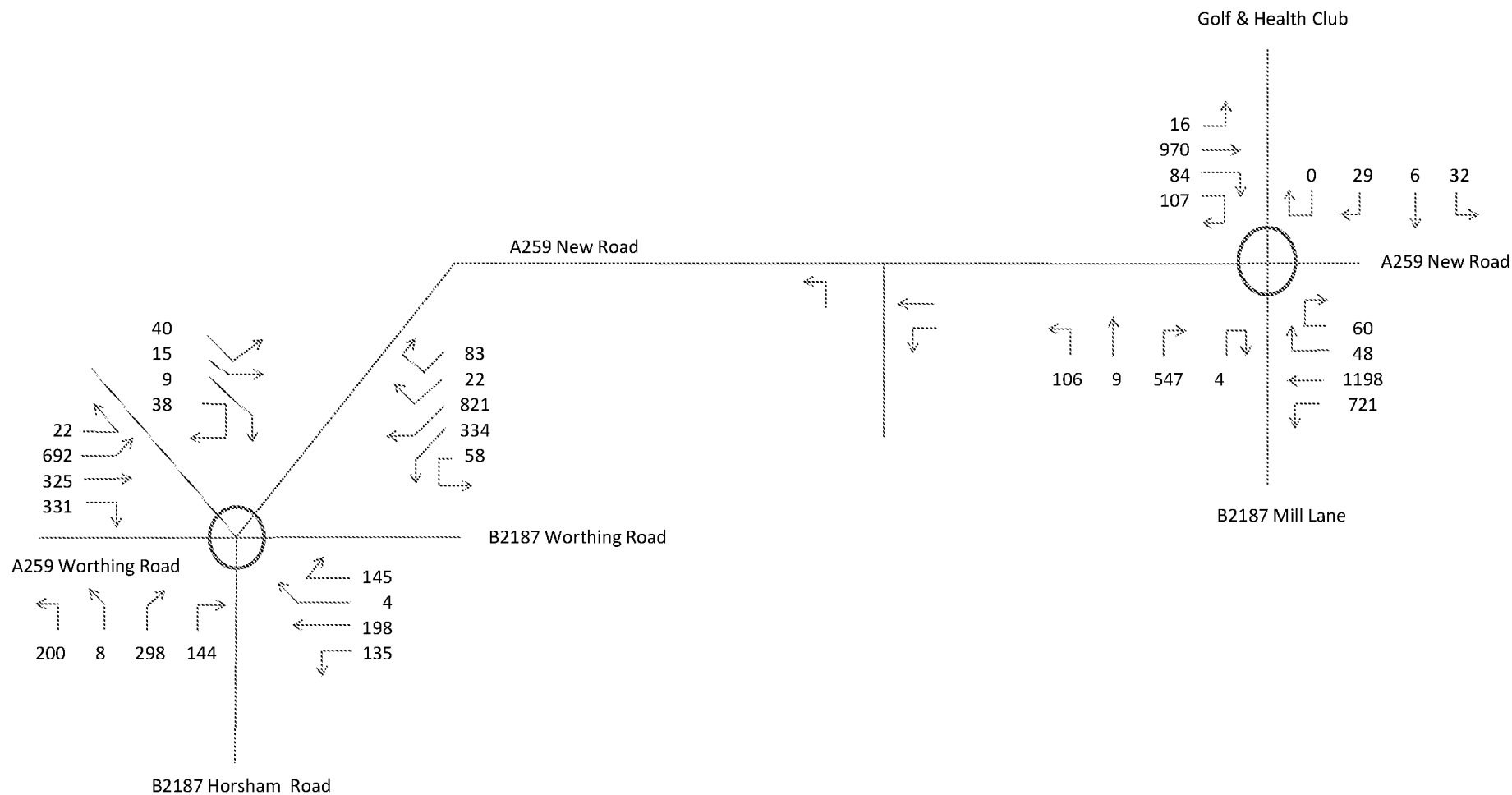


FIG C33+C31

NEW DEVELOPMENT, A259 NEW ROAD, RUSTINGTON

TOTAL TRAFFIC FLOWS - GROWTH AND COMMITTED DEVELOPMENT AND PROPOSED DEVELOPMENT TO YEAR 2016 - FRIDAY PM PEAK HOUR

FIGURE C37A

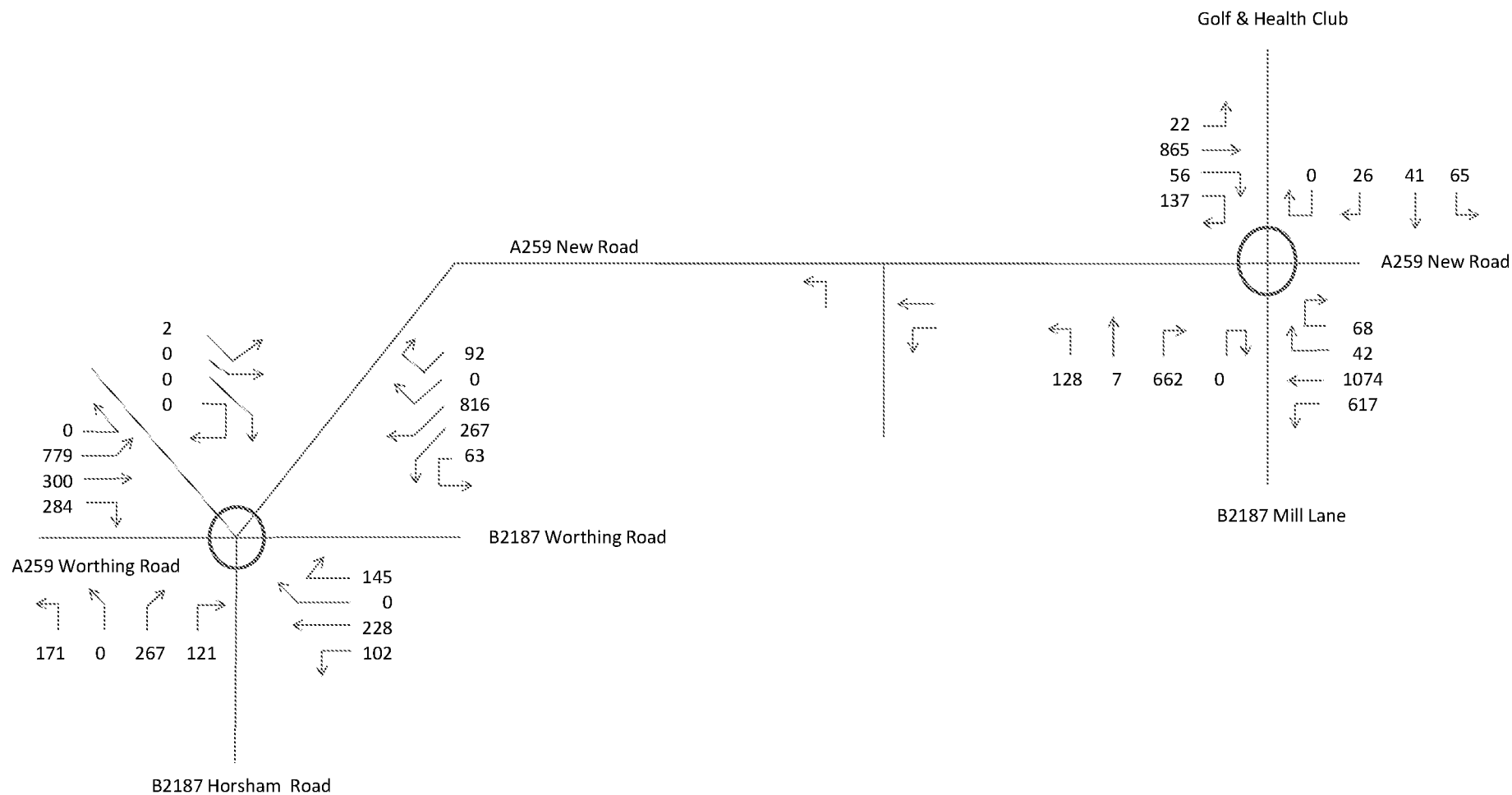


FIG C34+C32

NEW DEVELOPMENT, A259 NEW ROAD, RUSTINGTON

TOTAL TRAFFIC FLOWS - GROWTH AND COMMITTED DEVELOPMENT AND PROPOSED DEVELOPMENT TO YEAR 2016 - SATURDAY PM PEAK HOUR

FIGURE C38A

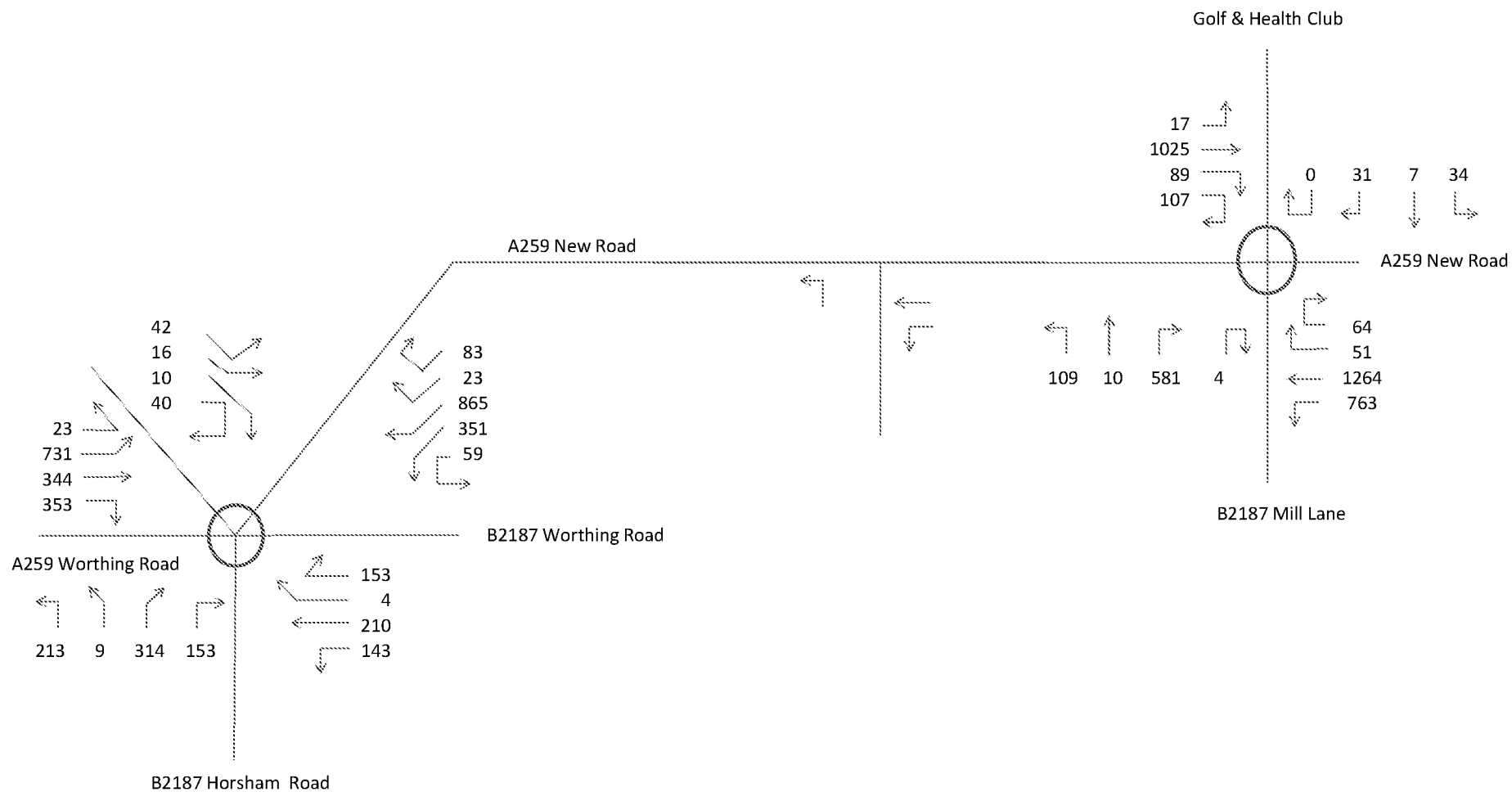


FIG C35+C31

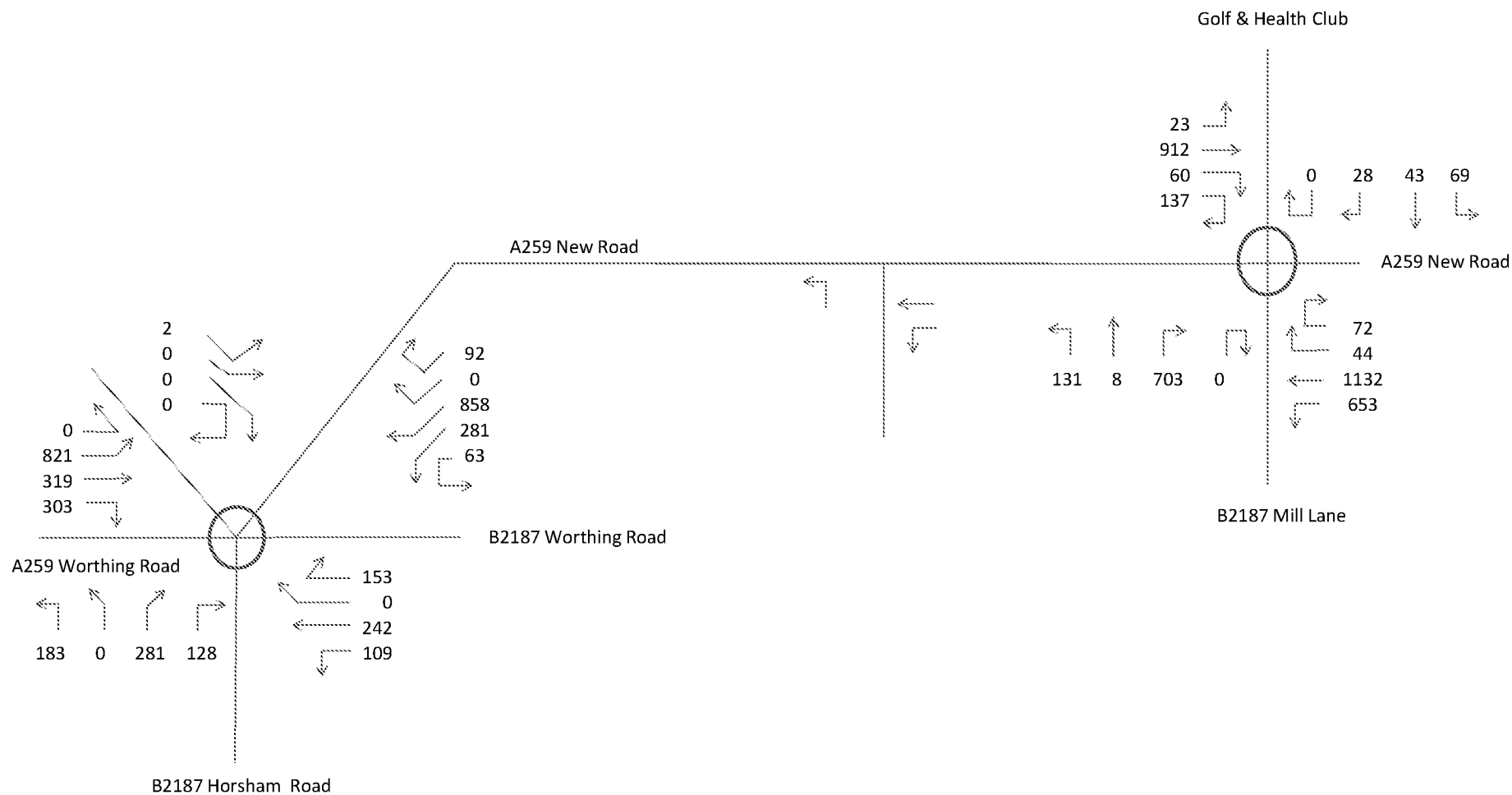
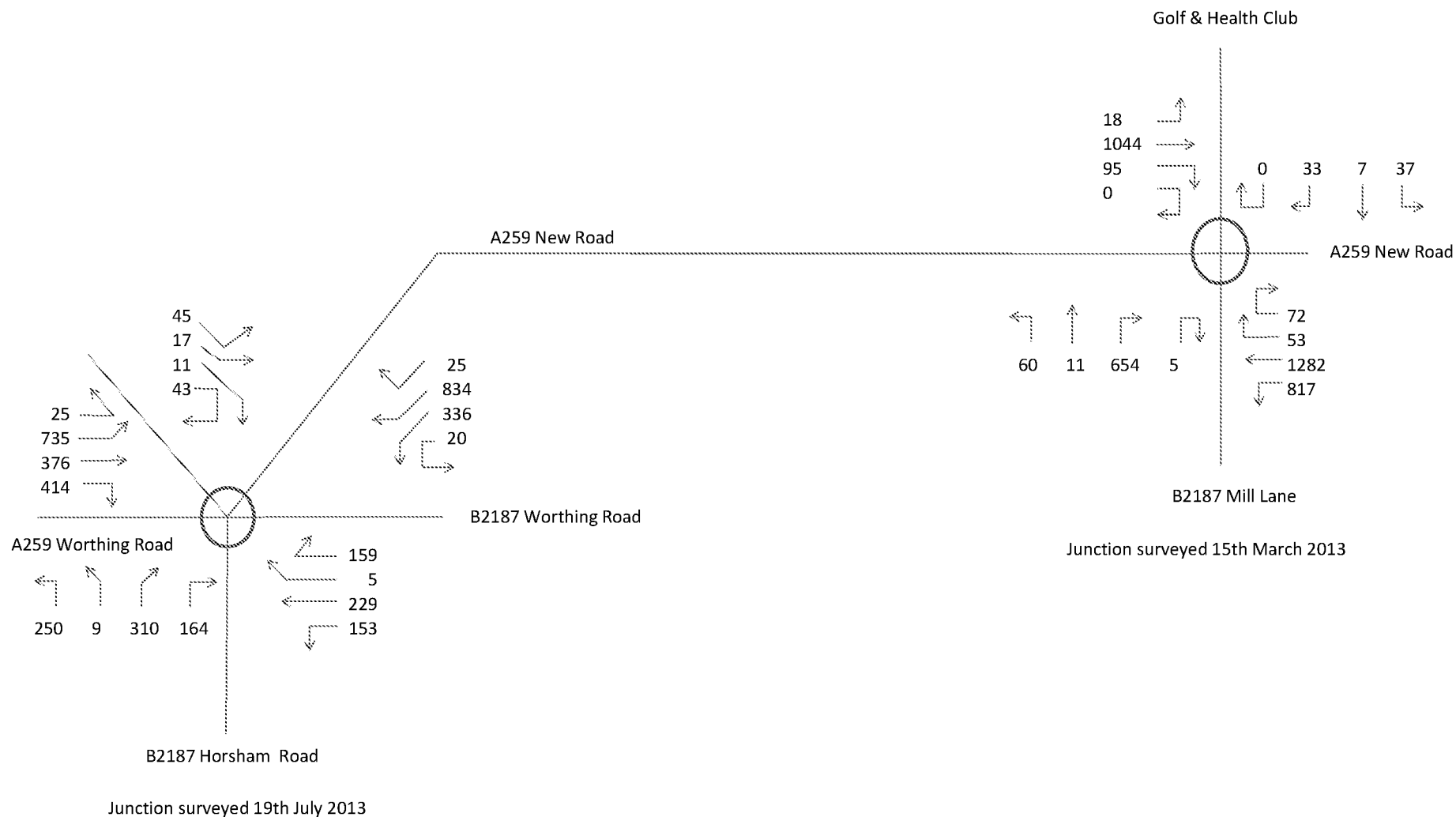


FIG C36+C32

NEW DEVELOPMENT, A259 NEW ROAD, RUSTINGTON

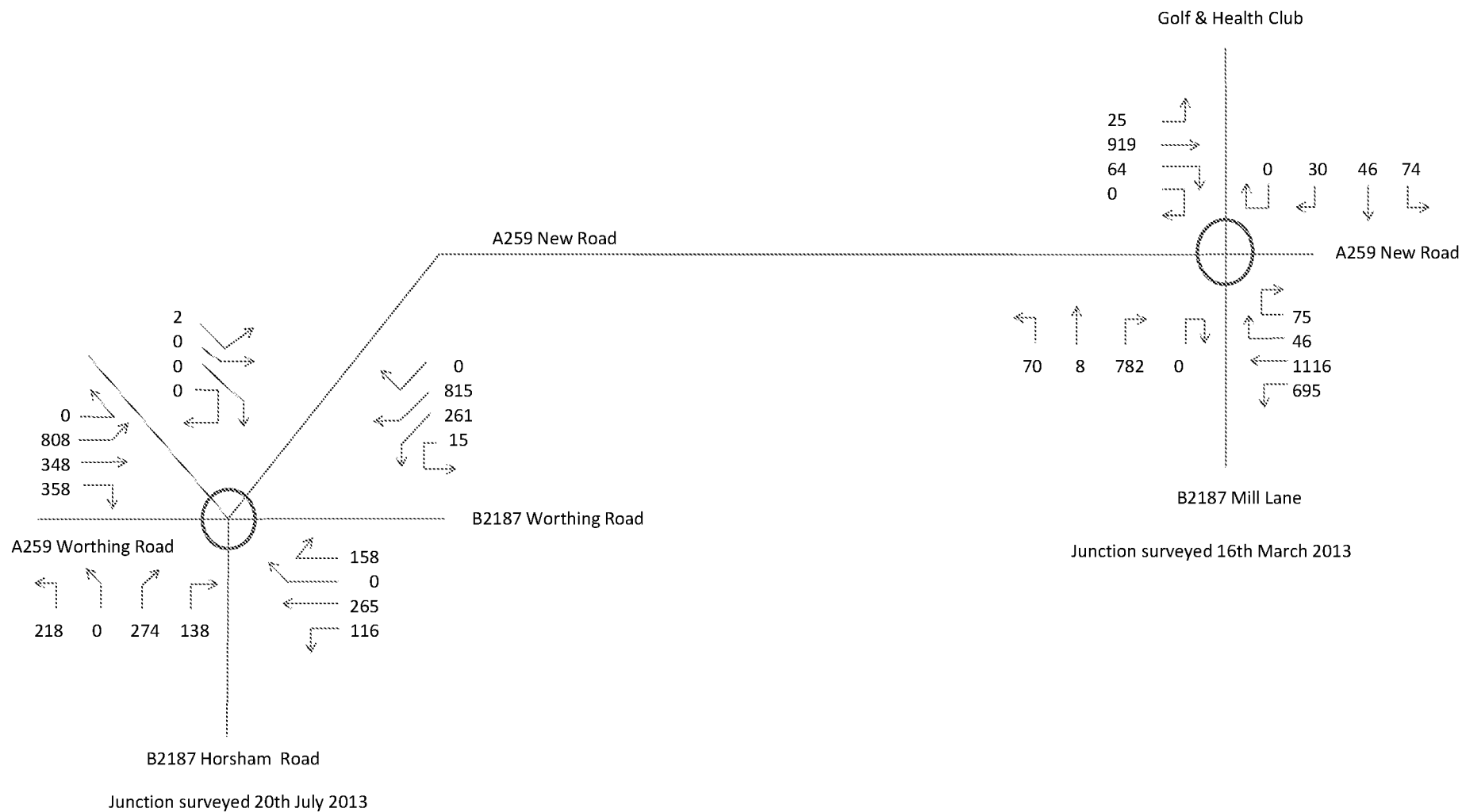
TOTAL TRAFFIC FLOWS - GROWTH AND COMMITTED DEVELOPMENT AND PROPOSED DEVELOPMENT TO YEAR 2020 - SATURDAY PM PEAK HOUR

FIGURE C40A



NEW DEVELOPMENT, A259 NEW ROAD, RUSTINGTON
BASE TRAFFIC FRIDAY PM PEAK HOUR 1645-1745HRS WITH TRAFFIC GROWTH TO FUTURE YEAR 2025

FIGURE C41



NEW DEVELOPMENT, A259 NEW ROAD, RUSTINGTON
 BASE TRAFFIC SATURDAY PEAK HOUR 1200-1300HRS WITH TRAFFIC GROWTH TO FUTURE YEAR 2025

FIGURE C42

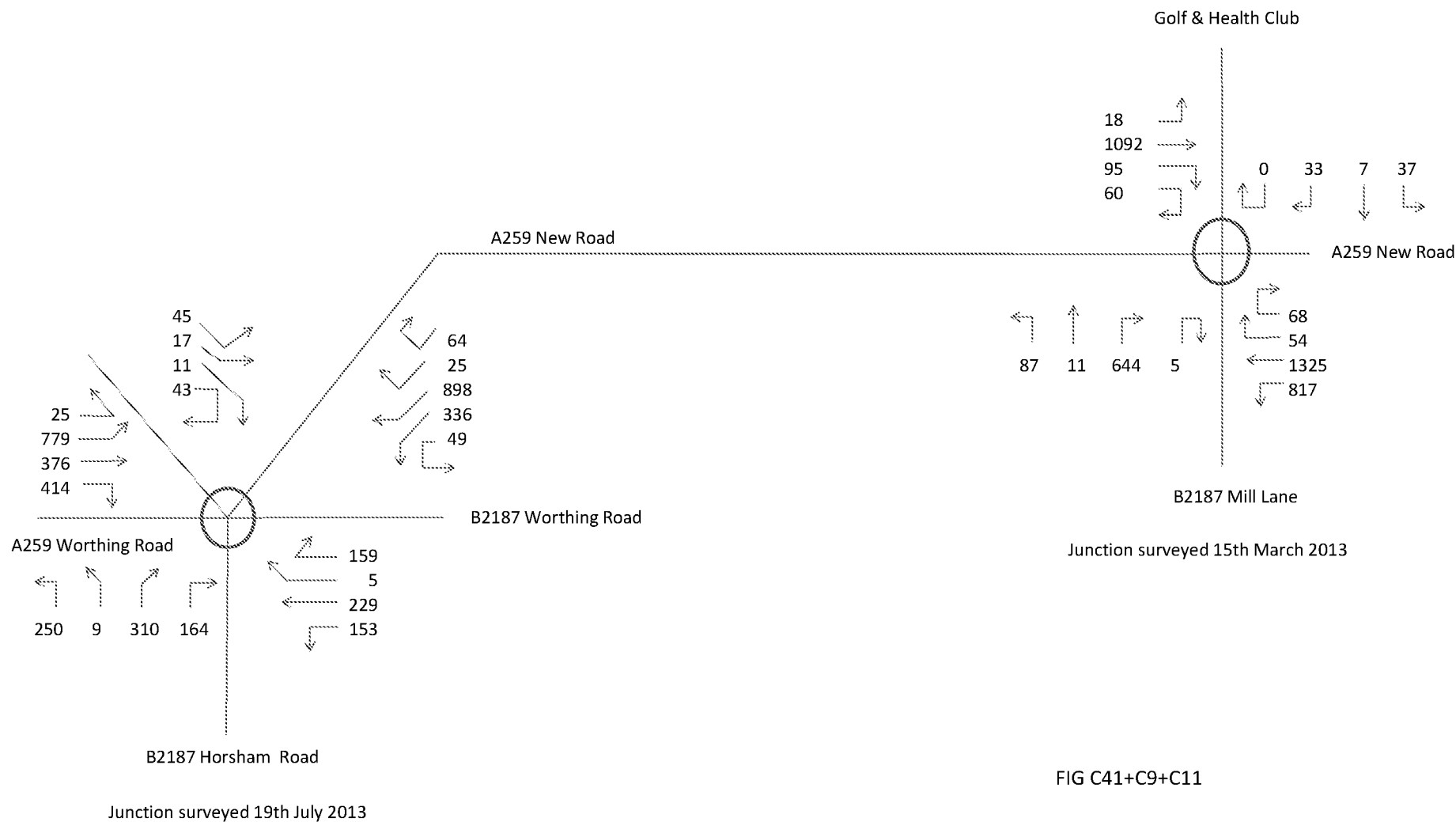


FIG C41+C9+C11

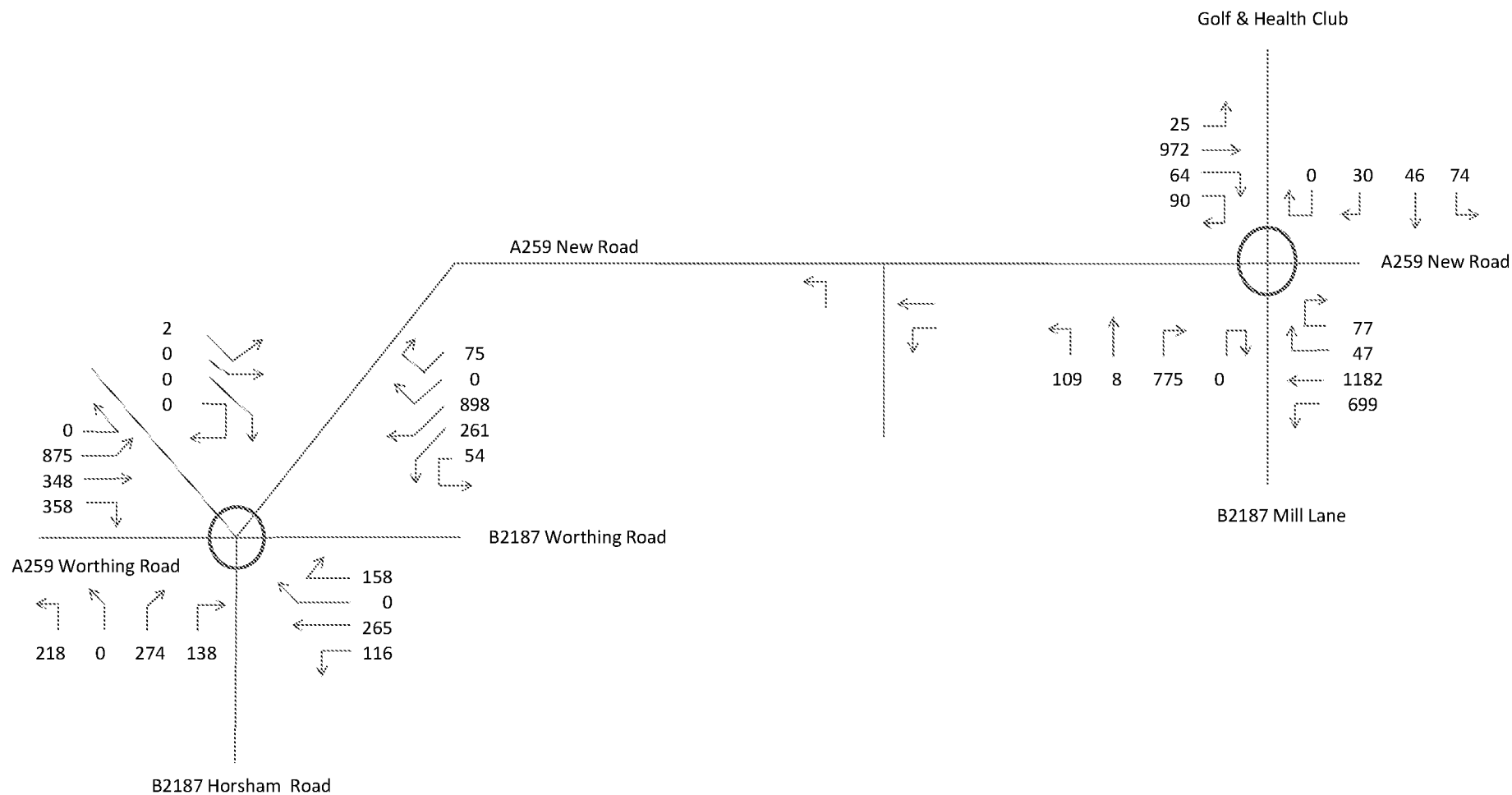


FIG C42+C10+C12

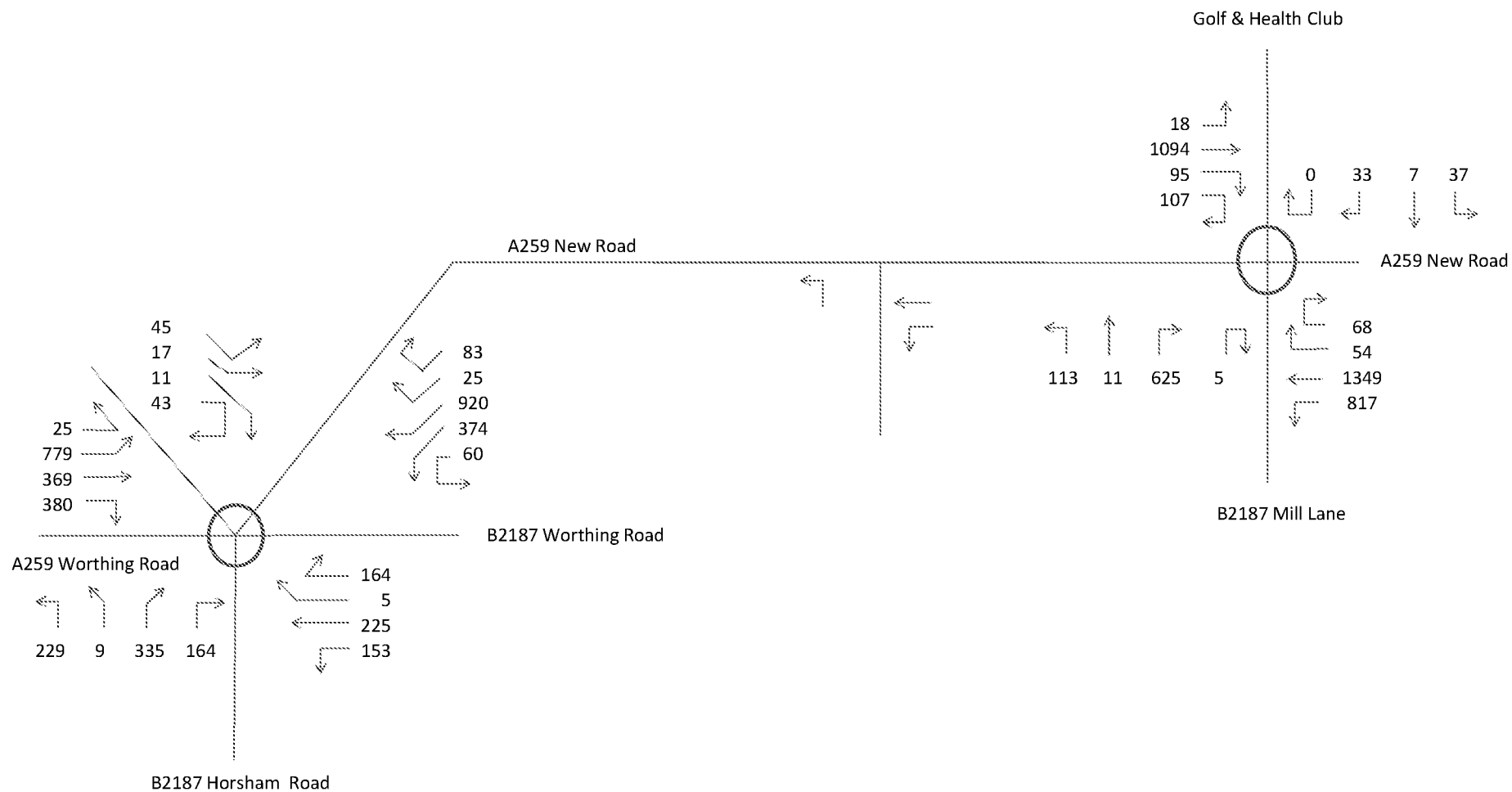


FIG C43+C31

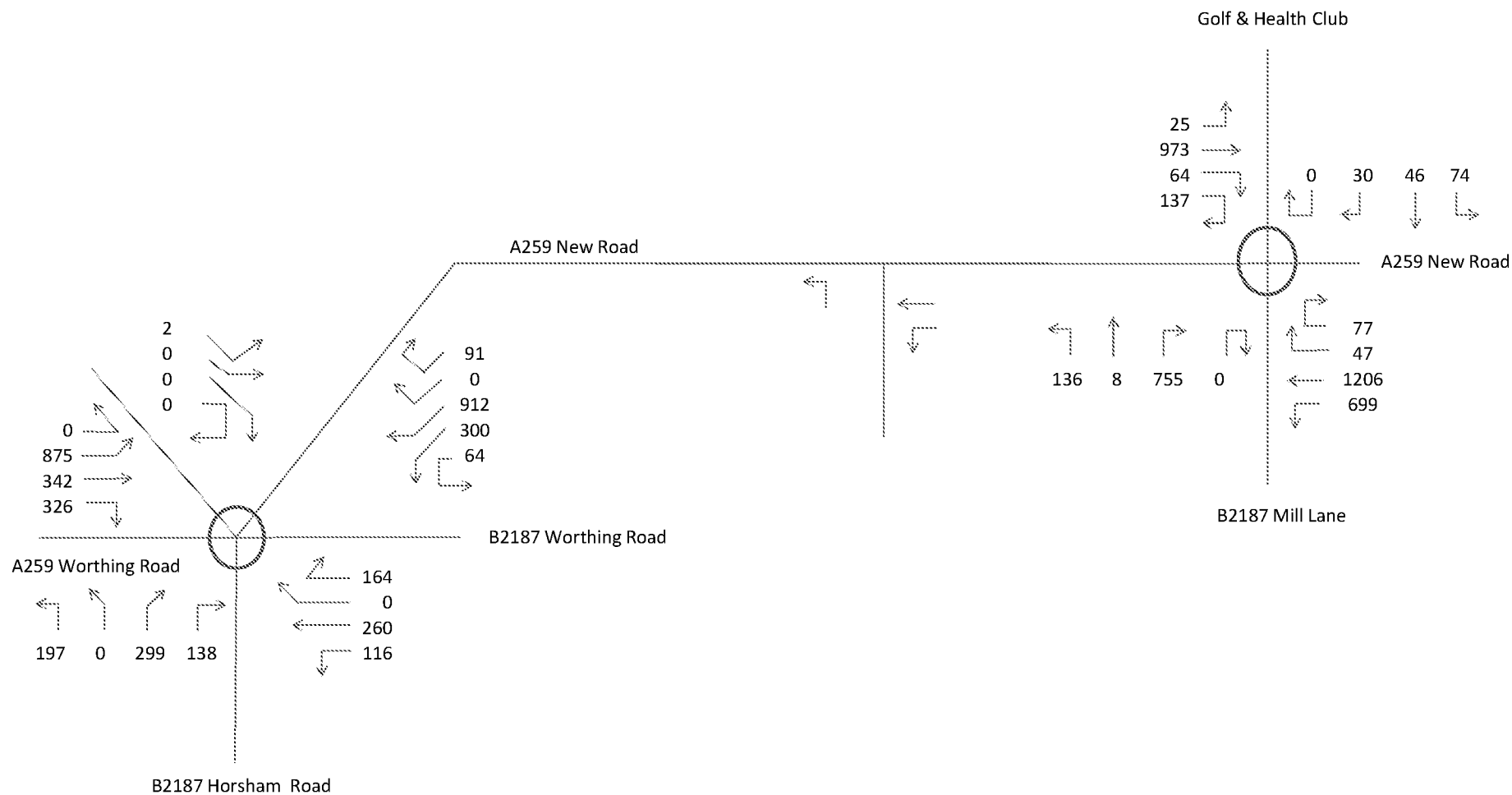


FIG C44+C32

APPENDIX E

Junctions 8	
ARCADY 8 - Roundabout Module	
Version: 8.0.4.487 [15039,24/03/2014] © Copyright TRL Limited, 2015	
For sales and distribution information, program advice and maintenance, contact TRL: Tel: +44 (0)1344 770758 email: software@trl.co.uk Web: http://www.trlsoftware.co.uk	
The users of this computer program for the solution of an engineering problem are in no way relieved of their responsibility for the correctness of the solution.	

Filename: Import of 3167A201 Friday PM do nothing + committed development 2016.arc8

Path: \\Main\d\Projects\3167 Littlehampton-M&S\Documents\Reports

Report generation date: 02/07/2015 09:01:59

- » Year 2016 Friday PM Peak Hour + committed development, AM
- » Junction Network
- » Arms
- » Traffic Flows
- » Entry Flows
- » Turning Proportions
- » Vehicle Mix
- » Results

Summary of junction performance

	AM				
	Queue (Veh)	Delay (s)	RFC	LOS	Network Residual Capacity
Year 2016 Friday PM Peak Hour + committed development					
Arm A	0.36	17.59	0.27	C	11 % [Arm A]
Arm B	3.93	6.45	0.80	A	
Arm C	1.30	6.38	0.57	A	
Arm D	1.11	3.15	0.53	A	

Values shown are the maximum values 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.

"D1 - Year 2016 Friday PM Peak Hour + committed development, AM " model duration: 16:30 - 18:00

Run using Junctions 8.0.4.487 at 02/07/2015 09:01:57

File summary

Title	3167A201 Friday PM existing traffic + committed development 2016
Location	A259/Mill Lane roundabout
Site Number	
Date	10/06/2015
Version	
Status	Final Version
Identifier	
Client	Commercial Development Projects Ltd
Jobnumber	3167
Enumerator	PMcL
Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	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

Units

Distance Units	Speed Units	Traffic Units Input	Traffic Units Results	Flow Units	Average Delay Units	Total Delay Units	Rate Of Delay Units
m	kph	Veh	Veh	perMin	s	-Min	perMin

Year 2016 Friday PM Peak Hour + committed development, AM

Data Errors and Warnings

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

Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set(s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
	ARCADY		✓				100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship
Year 2016 Friday PM Peak Hour + committed development, AM	Year 2016 Friday PM Peak Hour + committed development	AM		Varies by Arm	16:30	18:00	90	5				✓	

Junction Network

Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Do Geometric Delay	Junction Delay (s)	Junction LOS
1	untitled	Roundabout	A,B,C,D				5.67	A

Junction Network Options

Driving Side	Lighting	Network Residual Capacity (%)	First Arm Reaching Threshold
Left	Normal/unknown	11	Arm A

Arms

Arms

Arm	Arm	Name	Description
A	A	Golfers Lane	
B	B	A259 East	
C	C	Mill Lane	
D	D	A259 West	

Capacity Options

Arm	Minimum Capacity (PCU/min)	Maximum Capacity (PCU/min)	Assume Flat Start Profile	Initial Queue (PCU)
A	0.00	1666.65		0.00
B	0.00	1666.65		0.00
C	0.00	1666.65		0.00
D	0.00	1666.65		0.00

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
A	3.50	5.40	2.70	8.00	60.00	25.00	
B	7.60	11.40	75.00	24.00	60.00	60.00	
C	3.80	11.10	36.00	18.10	60.00	50.00	
D	7.40	12.00	32.00	28.00	60.00	50.00	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/min)	Final Slope	Final Intercept (PCU/min)
A		(calculated)	(calculated)	0.450	19.471
B		(calculated)	(calculated)	0.753	49.626
C		(calculated)	(calculated)	0.643	38.451
D		(calculated)	(calculated)	0.771	50.328

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

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
			✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/min)	Flow Scaling Factor (%)
A	ONE HOUR	✓	1.12	100.000
B	ONE HOUR	✓	33.38	100.000
C	ONE HOUR	✓	10.98	100.000
D	ONE HOUR	✓	18.80	100.000

Turning Proportions

Turning Counts / Proportions (Veh/min) - Junction 1 (for whole period)

	To				
		A	B	C	D
From	A	0.000	0.533	0.100	0.483
	B	0.800	1.000	12.017	19.567
	C	0.150	9.433	0.067	1.333
	D	0.267	16.133	1.400	1.000

Turning Proportions (Veh) - Junction 1 (for whole period)

	To				
		A	B	C	D
From	A	0.00	0.48	0.09	0.43
	B	0.02	0.03	0.36	0.59
	C	0.01	0.86	0.01	0.12
	D	0.01	0.86	0.07	0.05

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

	To				
		A	B	C	D
From	A	1.000	1.000	1.000	1.000
	B	1.000	1.000	1.000	1.000
	C	1.000	1.000	1.000	1.000
	D	1.000	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

	To				
		A	B	C	D
From	A	0.0	0.0	0.0	0.0
	B	0.0	0.0	0.0	0.0
	C	0.0	0.0	0.0	0.0
	D	0.0	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/min)	Total Junction Arrivals (Veh)	Total Queueing Delay (Veh-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (s)
A	0.27	17.59	0.36	C	1.03	92.37	16.94	11.00	0.19	16.94	11.00
B	0.80	6.45	3.93	A	30.68	2761.33	190.36	4.14	2.12	190.38	4.14
C	0.57	6.38	1.30	A	10.09	908.50	67.88	4.48	0.75	67.89	4.48
D	0.53	3.15	1.11	A	17.28	1555.06	65.55	2.53	0.73	65.55	2.53

Main Results for each time segment

Main results: (16:30-16:35)

Arm	Total Demand (Veh/min)	Junction Arrivals (Veh)	Entry Flow (Veh/min)	Exit Flow (Veh/min)	Circulating Flow (Veh/min)	Pedestrian Demand (Ped/min)	Capacity (Veh/min)	Saturation Capacity (Veh/min)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
A	0.85	4.23	0.83	0.91	21.81	0.00	9.65	0.00	0.088	0.00	0.09	6.785	A
B	25.28	126.39	25.06	20.35	2.29	0.00	47.90	46.08	0.528	0.00	1.10	2.610	A
C	8.32	41.58	8.23	10.20	17.15	0.00	27.43	18.27	0.303	0.00	0.43	3.111	A
D	14.24	71.18	14.14	16.80	8.58	0.00	43.71	36.04	0.326	0.00	0.48	2.022	A

Main results: (16:35-16:40)

Arm	Total Demand (Veh/min)	Junction Arrivals (Veh)	Entry Flow (Veh/min)	Exit Flow (Veh/min)	Circulating Flow (Veh/min)	Pedestrian Demand (Ped/min)	Capacity (Veh/min)	Saturation Capacity (Veh/min)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
A	0.85	4.23	0.85	0.92	21.98	0.00	9.57	0.00	0.088	0.09	0.10	6.873	A
B	25.28	126.39	25.28	20.52	2.31	0.00	47.89	46.08	0.528	1.10	1.11	2.653	A
C	8.32	41.58	8.32	10.28	17.30	0.00	27.33	18.27	0.304	0.43	0.43	3.154	A
D	14.24	71.18	14.23	16.95	8.67	0.00	43.64	36.04	0.326	0.48	0.48	2.040	A

Main results: (16:40-16:45)

Arm	Total Demand (Veh/min)	Junction Arrivals (Veh)	Entry Flow (Veh/min)	Exit Flow (Veh/min)	Circulating Flow (Veh/min)	Pedestrian Demand (Ped/min)	Capacity (Veh/min)	Saturation Capacity (Veh/min)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
A	0.85	4.23	0.85	0.92	21.98	0.00	9.57	0.00	0.088	0.10	0.10	6.873	A
B	25.28	126.39	25.28	20.52	2.31	0.00	47.89	46.08	0.528	1.11	1.11	2.653	A
C	8.32	41.58	8.32	10.28	17.30	0.00	27.33	18.27	0.304	0.43	0.43	3.154	A
D	14.24	71.18	14.24	16.95	8.67	0.00	43.64	36.04	0.326	0.48	0.48	2.040	A

Main results: (16:45-16:50)

Arm	Total Demand (Veh/min)	Junction Arrivals (Veh)	Entry Flow (Veh/min)	Exit Flow (Veh/min)	Circulating Flow (Veh/min)	Pedestrian Demand (Ped/min)	Capacity (Veh/min)	Saturation Capacity (Veh/min)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
A	0.90	4.51	0.90	0.98	23.43	0.00	8.92	0.00	0.101	0.10	0.11	7.480	A
B	26.97	134.84	26.94	21.87	2.46	0.00	47.77	46.08	0.565	1.11	1.27	2.874	A
C	8.87	44.36	8.86	10.96	18.44	0.00	26.60	18.27	0.334	0.43	0.49	3.380	A
D	15.19	75.94	15.18	18.06	9.24	0.00	43.20	36.04	0.352	0.48	0.54	2.139	A

Main results: (16:50-16:55)

Arm	Total Demand (Veh/min)	Junction Arrivals (Veh)	Entry Flow (Veh/min)	Exit Flow (Veh/min)	Circulating Flow (Veh/min)	Pedestrian Demand (Ped/min)	Capacity (Veh/min)	Saturation Capacity (Veh/min)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
A	1.01	5.05	1.00	1.10	26.20	0.00	7.68	0.00	0.132	0.11	0.15	8.984	A
B	30.18	150.92	30.10	24.45	2.75	0.00	47.55	46.08	0.635	1.27	1.69	3.421	A
C	9.93	49.65	9.90	12.25	20.60	0.00	25.21	18.27	0.394	0.49	0.64	3.910	A
D	17.00	84.99	16.97	20.18	10.32	0.00	42.37	36.04	0.401	0.54	0.66	2.360	A

Main results: (16:55-17:00)

Arm	Total Demand (Veh/min)	Junction Arrivals (Veh)	Entry Flow (Veh/min)	Exit Flow (Veh/min)	Circulating Flow (Veh/min)	Pedestrian Demand (Ped/min)	Capacity (Veh/min)	Saturation Capacity (Veh/min)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
A	1.10	5.52	1.10	1.20	28.67	0.00	6.56	0.00	0.168	0.15	0.19	10.948	B
B	33.03	165.15	32.92	26.75	3.01	0.00	47.36	46.08	0.697	1.69	2.21	4.123	A
C	10.87	54.34	10.83	13.40	22.54	0.00	23.97	18.27	0.453	0.64	0.81	4.553	A
D	18.60	93.01	18.57	22.08	11.29	0.00	41.62	36.04	0.447	0.66	0.80	2.600	A

Main results: (17:00-17:05)

Arm	Total Demand (Veh/min)	Junction Arrivals (Veh)	Entry Flow (Veh/min)	Exit Flow (Veh/min)	Circulating Flow (Veh/min)	Pedestrian Demand (Ped/min)	Capacity (Veh/min)	Saturation Capacity (Veh/min)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
A	1.18	5.91	1.17	1.28	30.67	0.00	5.66	0.00	0.209	0.19	0.25	13.317	B
B	35.34	176.70	35.22	28.62	3.22	0.00	47.20	46.08	0.749	2.21	2.82	4.945	A
C	11.63	58.13	11.59	14.33	24.10	0.00	22.96	18.27	0.506	0.81	0.99	5.255	A
D	19.90	99.51	19.88	23.61	12.08	0.00	41.01	36.04	0.485	0.80	0.93	2.835	A

Main results: (17:05-17:10)

Arm	Total Demand (Veh/min)	Junction Arrivals (Veh)	Entry Flow (Veh/min)	Exit Flow (Veh/min)	Circulating Flow (Veh/min)	Pedestrian Demand (Ped/min)	Capacity (Veh/min)	Saturation Capacity (Veh/min)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
A	1.24	6.18	1.23	1.34	32.10	0.00	5.02	0.00	0.246	0.25	0.31	15.753	C
B	36.97	184.84	36.85	29.95	3.37	0.00	47.09	46.08	0.785	2.82	3.42	5.767	A
C	12.16	60.81	12.13	15.00	25.22	0.00	22.24	18.27	0.547	0.99	1.16	5.908	A
D	20.82	104.09	20.80	24.71	12.64	0.00	40.58	36.04	0.513	0.93	1.03	3.028	A

Main results: (17:10-17:15)

Arm	Total Demand (Veh/min)	Junction Arrivals (Veh)	Entry Flow (Veh/min)	Exit Flow (Veh/min)	Circulating Flow (Veh/min)	Pedestrian Demand (Ped/min)	Capacity (Veh/min)	Saturation Capacity (Veh/min)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
A	1.26	6.32	1.26	1.38	32.85	0.00	4.68	0.00	0.270	0.31	0.35	17.453	C
B	37.81	189.05	37.73	30.66	3.45	0.00	47.03	46.08	0.804	3.42	3.83	6.352	A
C	12.44	62.20	12.42	15.35	25.82	0.00	21.86	18.27	0.569	1.16	1.28	6.334	A
D	21.29	106.46	21.28	25.30	12.94	0.00	40.35	36.04	0.528	1.03	1.10	3.143	A

Main results: (17:15-17:20)

Arm	Total Demand (Veh/min)	Junction Arrivals (Veh)	Entry Flow (Veh/min)	Exit Flow (Veh/min)	Circulating Flow (Veh/min)	Pedestrian Demand (Ped/min)	Capacity (Veh/min)	Saturation Capacity (Veh/min)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
A	1.26	6.32	1.26	1.38	32.88	0.00	4.67	0.00	0.271	0.35	0.36	17.587	C
B	37.81	189.05	37.79	30.69	3.45	0.00	47.02	46.08	0.804	3.83	3.93	6.449	A
C	12.44	62.20	12.44	15.38	25.87	0.00	21.83	18.27	0.570	1.28	1.30	6.380	A
D	21.29	106.46	21.29	25.34	12.96	0.00	40.33	36.04	0.528	1.10	1.11	3.150	A

Main results: (17:20-17:25)

Arm	Total Demand (Veh/min)	Junction Arrivals (Veh)	Entry Flow (Veh/min)	Exit Flow (Veh/min)	Circulating Flow (Veh/min)	Pedestrian Demand (Ped/min)	Capacity (Veh/min)	Saturation Capacity (Veh/min)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
A	1.24	6.18	1.24	1.35	32.17	0.00	4.99	0.00	0.248	0.36	0.34	16.038	C
B	36.97	184.84	36.99	30.03	3.38	0.00	47.08	46.08	0.785	3.93	3.81	5.990	A
C	12.16	60.81	12.17	15.05	25.32	0.00	22.18	18.27	0.548	1.30	1.25	6.008	A
D	20.82	104.09	20.83	24.80	12.69	0.00	40.54	36.04	0.514	1.11	1.07	3.046	A

Main results: (17:25-17:30)

Arm	Total Demand (Veh/min)	Junction Arrivals (Veh)	Entry Flow (Veh/min)	Exit Flow (Veh/min)	Circulating Flow (Veh/min)	Pedestrian Demand (Ped/min)	Capacity (Veh/min)	Saturation Capacity (Veh/min)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
A	1.18	5.91	1.19	1.29	30.79	0.00	5.61	0.00	0.211	0.34	0.28	13.642	B
B	35.34	176.70	35.47	28.75	3.24	0.00	47.19	46.08	0.749	3.81	3.14	5.190	A
C	11.63	58.13	11.66	14.43	24.28	0.00	22.85	18.27	0.509	1.25	1.07	5.384	A
D	19.90	99.51	19.92	23.78	12.16	0.00	40.95	36.04	0.486	1.07	0.96	2.856	A

Main results: (17:30-17:35)

Arm	Total Demand (Veh/min)	Junction Arrivals (Veh)	Entry Flow (Veh/min)	Exit Flow (Veh/min)	Circulating Flow (Veh/min)	Pedestrian Demand (Ped/min)	Capacity (Veh/min)	Saturation Capacity (Veh/min)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
A	1.10	5.52	1.12	1.21	28.79	0.00	6.51	0.00	0.170	0.28	0.21	11.163	B
B	33.03	165.15	33.18	26.88	3.03	0.00	47.34	46.08	0.698	3.14	2.40	4.282	A
C	10.87	54.34	10.91	13.50	22.71	0.00	23.86	18.27	0.456	1.07	0.86	4.652	A
D	18.60	93.01	18.63	22.25	11.37	0.00	41.56	36.04	0.448	0.96	0.82	2.619	A

Main results: (17:35-17:40)

Arm	Total Demand (Veh/min)	Junction Arrivals (Veh)	Entry Flow (Veh/min)	Exit Flow (Veh/min)	Circulating Flow (Veh/min)	Pedestrian Demand (Ped/min)	Capacity (Veh/min)	Saturation Capacity (Veh/min)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
A	1.01	5.05	1.02	1.10	26.32	0.00	7.62	0.00	0.132	0.21	0.16	9.103	A
B	30.18	150.92	30.31	24.57	2.77	0.00	47.54	46.08	0.635	2.40	1.79	3.506	A
C	9.93	49.65	9.97	12.33	20.74	0.00	25.12	18.27	0.395	0.86	0.67	3.970	A
D	17.00	84.99	17.03	20.32	10.39	0.00	42.31	36.04	0.402	0.82	0.68	2.377	A

Main results: (17:40-17:45)

Arm	Total Demand (Veh/min)	Junction Arrivals (Veh)	Entry Flow (Veh/min)	Exit Flow (Veh/min)	Circulating Flow (Veh/min)	Pedestrian Demand (Ped/min)	Capacity (Veh/min)	Saturation Capacity (Veh/min)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
A	0.90	4.51	0.91	0.99	23.51	0.00	8.89	0.00	0.102	0.16	0.12	7.533	A
B	26.97	134.84	27.06	21.95	2.47	0.00	47.76	46.08	0.565	1.79	1.32	2.913	A
C	8.87	44.36	8.90	11.01	18.52	0.00	26.55	18.27	0.334	0.67	0.51	3.409	A
D	15.19	75.94	15.21	18.15	9.28	0.00	43.17	36.04	0.352	0.68	0.55	2.148	A

Main results: (17:45-17:50)

Arm	Total Demand (Veh/min)	Junction Arrivals (Veh)	Entry Flow (Veh/min)	Exit Flow (Veh/min)	Circulating Flow (Veh/min)	Pedestrian Demand (Ped/min)	Capacity (Veh/min)	Saturation Capacity (Veh/min)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
A	0.85	4.23	0.85	0.92	22.01	0.00	9.56	0.00	0.088	0.12	0.10	6.888	A
B	25.28	126.39	25.32	20.54	2.31	0.00	47.88	46.08	0.528	1.32	1.14	2.662	A
C	8.32	41.58	8.33	10.30	17.33	0.00	27.31	18.27	0.304	0.51	0.44	3.164	A
D	14.24	71.18	14.25	16.97	8.68	0.00	43.63	36.04	0.326	0.55	0.49	2.042	A

Main results: (17:50-17:55)

Arm	Total Demand (Veh/min)	Junction Arrivals (Veh)	Entry Flow (Veh/min)	Exit Flow (Veh/min)	Circulating Flow (Veh/min)	Pedestrian Demand (Ped/min)	Capacity (Veh/min)	Saturation Capacity (Veh/min)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
A	0.85	4.23	0.85	0.92	21.98	0.00	9.57	0.00	0.088	0.10	0.10	6.877	A
B	25.28	126.39	25.28	20.52	2.31	0.00	47.89	46.08	0.528	1.14	1.13	2.656	A
C	8.32	41.58	8.32	10.29	17.30	0.00	27.33	18.27	0.304	0.44	0.44	3.157	A
D	14.24	71.18	14.24	16.95	8.67	0.00	43.64	36.04	0.326	0.49	0.49	2.040	A

Main results: (17:55-18:00)

Arm	Total Demand (Veh/min)	Junction Arrivals (Veh)	Entry Flow (Veh/min)	Exit Flow (Veh/min)	Circulating Flow (Veh/min)	Pedestrian Demand (Ped/min)	Capacity (Veh/min)	Saturation Capacity (Veh/min)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
A	0.85	4.23	0.85	0.92	21.98	0.00	9.57	0.00	0.088	0.10	0.10	6.874	A
B	25.28	126.39	25.28	20.52	2.31	0.00	47.89	46.08	0.528	1.13	1.12	2.655	A
C	8.32	41.58	8.32	10.29	17.30	0.00	27.33	18.27	0.304	0.44	0.44	3.157	A
D	14.24	71.18	14.24	16.95	8.67	0.00	43.64	36.04	0.326	0.49	0.49	2.040	A

Queueing Delay Results for each time segment

Queueing Delay results: (16:30-16:35)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	0.44	0.09	6.785	A	A
B	5.19	1.04	2.610	A	A
C	2.04	0.41	3.111	A	A
D	2.31	0.46	2.022	A	A

Queueing Delay results: (16:35-16:40)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	0.47	0.09	6.873	A	A
B	5.52	1.10	2.653	A	A
C	2.16	0.43	3.154	A	A
D	2.40	0.48	2.040	A	A

Queueing Delay results: (16:40-16:45)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	0.48	0.10	6.873	A	A
B	5.55	1.11	2.653	A	A
C	2.17	0.43	3.154	A	A
D	2.41	0.48	2.040	A	A

Queueing Delay results: (16:45-16:50)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	0.53	0.11	7.480	A	A
B	6.19	1.24	2.874	A	A
C	2.41	0.48	3.380	A	A
D	2.64	0.53	2.139	A	A

Queueing Delay results: (16:50-16:55)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	0.70	0.14	8.984	A	A
B	8.08	1.62	3.421	A	A
C	3.07	0.61	3.910	A	A
D	3.23	0.65	2.360	A	A

Queueing Delay results: (16:55-17:00)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	0.92	0.18	10.948	B	B
B	10.52	2.10	4.123	A	A
C	3.89	0.78	4.553	A	A
D	3.88	0.78	2.600	A	A

Queueing Delay results: (17:00-17:05)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	1.19	0.24	13.317	B	B
B	13.34	2.67	4.945	A	A
C	4.78	0.96	5.255	A	A
D	4.52	0.90	2.835	A	A

Queueing Delay results: (17:05-17:10)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	1.47	0.29	15.753	C	B
B	16.19	3.24	5.767	A	A
C	5.61	1.12	5.908	A	A
D	5.06	1.01	3.028	A	A

Queueing Delay results: (17:10-17:15)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	1.69	0.34	17.453	C	B
B	18.43	3.69	6.352	A	A
C	6.21	1.24	6.334	A	A
D	5.41	1.08	3.143	A	A

Queueing Delay results: (17:15-17:20)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	1.78	0.36	17.587	C	B
B	19.45	3.89	6.449	A	A
C	6.44	1.29	6.380	A	A
D	5.52	1.10	3.150	A	A

Queueing Delay results: (17:20-17:25)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	1.74	0.35	16.038	C	B
B	19.29	3.86	5.990	A	A
C	6.32	1.26	6.008	A	A
D	5.41	1.08	3.046	A	A

Queueing Delay results: (17:25-17:30)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	1.47	0.29	13.642	B	B
B	16.53	3.31	5.190	A	A
C	5.53	1.11	5.384	A	A
D	4.91	0.98	2.856	A	A

Queueing Delay results: (17:30-17:35)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	1.12	0.22	11.163	B	B
B	12.68	2.54	4.282	A	A
C	4.46	0.89	4.652	A	A
D	4.21	0.84	2.619	A	A

Queueing Delay results: (17:35-17:40)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	0.83	0.17	9.103	A	A
B	9.39	1.88	3.506	A	A
C	3.46	0.69	3.970	A	A
D	3.49	0.70	2.377	A	A

Queueing Delay results: (17:40-17:45)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	0.61	0.12	7.533	A	A
B	6.89	1.38	2.913	A	A
C	2.64	0.53	3.409	A	A
D	2.81	0.56	2.148	A	A

Queueing Delay results: (17:45-17:50)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	0.51	0.10	6.888	A	A
B	5.84	1.17	2.662	A	A
C	2.27	0.45	3.164	A	A
D	2.49	0.50	2.042	A	A

Queueing Delay results: (17:50-17:55)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	0.49	0.10	6.877	A	A
B	5.66	1.13	2.656	A	A
C	2.21	0.44	3.157	A	A
D	2.44	0.49	2.040	A	A

Queueing Delay results: (17:55-18:00)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	0.49	0.10	6.874	A	A
B	5.63	1.13	2.655	A	A
C	2.20	0.44	3.157	A	A
D	2.43	0.49	2.040	A	A

←
→

Junctions 8					
ARCADY 8 - Roundabout Module					
Version: 8.0.4.487 [15039,24/03/2014]					
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Filename: Import of 3167A202 Saturday do nothing + committed development 2016.arc8

Path: \\Main\d\Projects\3167 Littlehampton-M&S\Documents\Reports

Report generation date: 02/07/2015 09:12:45

- « Year 2016 Saturday Peak Hour + committed development, AM
- » Junction Network
- » Arms
- » Traffic Flows
- » Entry Flows
- » Turning Proportions
- » Vehicle Mix
- » Results

Summary of junction performance

	AM				
	Queue (Veh)	Delay (s)	RFC	LOS	Network Residual Capacity
Year 2016 Saturday Peak Hour + committed development					
Arm A	1.13	29.01	0.55	D	2 % [Arm A]
Arm B	2.51	4.58	0.72	A	
Arm C	1.80	7.41	0.65	A	
Arm D	1.00	3.12	0.50	A	

Values shown are the maximum values 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.

"D1 - Year 2016 Saturday Peak Hour + committed development, AM " model duration: 11:45 - 13:15

Run using Junctions 8.0.4.487 at 02/07/2015 09:12:43

File summary

Title	3167A202 Saturday existing traffic + committed development 2016
Location	A259/Mill Lane roundabout
Site Number	
Date	10/06/2015
Version	
Status	Final Version
Identifier	
Client	Commercial Development Projects Ltd
Jobnumber	3167
Enumerator	PMcL
Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	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

Units

Distance Units	Speed Units	Traffic Units Input	Traffic Units Results	Flow Units	Average Delay Units	Total Delay Units	Rate Of Delay Units
m	kph	Veh	Veh	perMin	s	-Min	perMin

Year 2016 Saturday Peak Hour + committed development, AM

Data Errors and Warnings

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

Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set(s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
	ARCADY		✓				100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship
Year 2016 Saturday Peak Hour + committed development, AM	Year 2016 Saturday Peak Hour + committed development	AM		Varies by Arm	11:45	13:15	90	5				✓	

Junction Network

Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Do Geometric Delay	Junction Delay (s)	Junction LOS
1	untitled	Roundabout	A,B,C,D				5.64	A

Junction Network Options

Driving Side	Lighting	Network Residual Capacity (%)	First Arm Reaching Threshold
Left	Normal/unknown	2	Arm A

Arms

Arms

Arm	Arm	Name	Description
A	A	Golfers Lane	
B	B	A259 East	
C	C	Mill Lane	
D	D	A259 West	

Capacity Options

Arm	Minimum Capacity (PCU/min)	Maximum Capacity (PCU/min)	Assume Flat Start Profile	Initial Queue (PCU)
A	0.00	1666.65		0.00
B	0.00	1666.65		0.00
C	0.00	1666.65		0.00
D	0.00	1666.65		0.00

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
A	3.50	5.40	2.70	8.00	60.00	25.00	
B	7.60	11.40	75.00	24.00	60.00	60.00	
C	3.80	11.10	36.00	18.10	60.00	50.00	
D	7.40	12.00	32.00	28.00	60.00	50.00	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/min)	Final Slope	Final Intercept (PCU/min)
A		(calculated)	(calculated)	0.450	19.471
B		(calculated)	(calculated)	0.753	49.626
C		(calculated)	(calculated)	0.643	38.451
D		(calculated)	(calculated)	0.771	50.328

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

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
			✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/min)	Flow Scaling Factor (%)
A	ONE HOUR	✓	2.20	100.000
B	ONE HOUR	✓	29.62	100.000
C	ONE HOUR	✓	13.17	100.000
D	ONE HOUR	✓	17.20	100.000

Turning Proportions

Turning Counts / Proportions (Veh/min) - Junction 1 (for whole period)

	To				
		A	B	C	D
From	A	0.000	1.083	0.683	0.433
	B	0.700	1.133	10.283	17.500
	C	0.117	11.367	0.000	1.683
	D	0.367	14.400	0.933	1.500

Turning Proportions (Veh) - Junction 1 (for whole period)

	To				
		A	B	C	D
From	A	0.00	0.49	0.31	0.20
	B	0.02	0.04	0.35	0.59
	C	0.01	0.86	0.00	0.13
	D	0.02	0.84	0.05	0.09

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

	To				
		A	B	C	D
From	A	1.000	1.000	1.000	1.000
	B	1.000	1.000	1.000	1.000
	C	1.000	1.000	1.000	1.000
	D	1.000	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

	To				
		A	B	C	D
From	A	0.0	0.0	0.0	0.0
	B	0.0	0.0	0.0	0.0
	C	0.0	0.0	0.0	0.0
	D	0.0	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/min)	Total Junction Arrivals (Veh)	Total Queueing Delay (Veh-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (s)
A	0.55	29.01	1.13	D	2.02	181.97	45.47	14.99	0.51	45.48	14.99
B	0.72	4.58	2.51	A	27.22	2449.77	134.67	3.30	1.50	134.68	3.30
C	0.65	7.41	1.80	A	12.10	1089.09	89.88	4.95	1.00	89.88	4.95
D	0.50	3.12	1.00	A	15.81	1422.71	59.57	2.51	0.66	59.57	2.51

Main Results for each time segment

Main results: {11:45-11:50}

Arm	Total Demand (Veh/min)	Junction Arrivals (Veh)	Entry Flow (Veh/min)	Exit Flow (Veh/min)	Circulating Flow (Veh/min)	Pedestrian Demand (Ped/min)	Capacity (Veh/min)	Saturation Capacity (Veh/min)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
A	1.67	8.33	1.62	0.89	22.03	0.00	9.55	0.00	0.174	0.00	0.20	7.531	A
B	22.43	112.13	22.25	21.00	2.65	0.00	47.63	45.73	0.471	0.00	0.88	2.348	A
C	9.97	49.85	9.86	8.93	15.97	0.00	28.19	17.22	0.354	0.00	0.54	3.257	A
D	13.02	65.12	12.94	15.86	9.98	0.00	42.63	36.57	0.305	0.00	0.44	2.015	A

Main results: {11:50-11:55}

Arm	Total Demand (Veh/min)	Junction Arrivals (Veh)	Entry Flow (Veh/min)	Exit Flow (Veh/min)	Circulating Flow (Veh/min)	Pedestrian Demand (Ped/min)	Capacity (Veh/min)	Saturation Capacity (Veh/min)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
A	1.67	8.33	1.66	0.90	22.21	0.00	9.47	0.00	0.176	0.20	0.21	7.682	A
B	22.43	112.13	22.42	21.19	2.69	0.00	47.60	45.73	0.471	0.88	0.88	2.382	A
C	9.97	49.85	9.97	9.01	16.10	0.00	28.10	17.22	0.355	0.54	0.54	3.308	A
D	13.02	65.12	13.02	15.99	10.08	0.00	42.55	36.57	0.306	0.44	0.44	2.031	A

Main results: {11:55-12:00}

Arm	Total Demand (Veh/min)	Junction Arrivals (Veh)	Entry Flow (Veh/min)	Exit Flow (Veh/min)	Circulating Flow (Veh/min)	Pedestrian Demand (Ped/min)	Capacity (Veh/min)	Saturation Capacity (Veh/min)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
A	1.67	8.33	1.67	0.90	22.21	0.00	9.47	0.00	0.176	0.21	0.21	7.687	A
B	22.43	112.13	22.43	21.19	2.69	0.00	47.60	45.73	0.471	0.88	0.89	2.382	A
C	9.97	49.85	9.97	9.01	16.10	0.00	28.10	17.22	0.355	0.54	0.55	3.308	A
D	13.02	65.12	13.02	15.99	10.08	0.00	42.55	36.57	0.306	0.44	0.44	2.031	A

Main results: {12:00-12:05}

Arm	Total Demand (Veh/min)	Junction Arrivals (Veh)	Entry Flow (Veh/min)	Exit Flow (Veh/min)	Circulating Flow (Veh/min)	Pedestrian Demand (Ped/min)	Capacity (Veh/min)	Saturation Capacity (Veh/min)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
A	1.78	8.89	1.77	0.96	23.67	0.00	8.81	0.00	0.202	0.21	0.25	8.512	A
B	23.93	119.63	23.90	22.58	2.86	0.00	47.47	45.73	0.504	0.89	1.00	2.544	A
C	10.64	53.18	10.62	9.60	17.16	0.00	27.42	17.22	0.388	0.55	0.62	3.568	A
D	13.90	69.48	13.89	17.04	10.74	0.00	42.04	36.57	0.331	0.44	0.49	2.131	A

Main results: (12:05-12:10)

Arm	Total Demand (Veh/min)	Junction Arrivals (Veh)	Entry Flow (Veh/min)	Exit Flow (Veh/min)	Circulating Flow (Veh/min)	Pedestrian Demand (Ped/min)	Capacity (Veh/min)	Saturation Capacity (Veh/min)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
A	1.99	9.95	1.97	1.07	26.46	0.00	7.56	0.00	0.263	0.25	0.34	10.700	B
B	26.78	133.89	26.72	25.24	3.20	0.00	47.22	45.73	0.567	1.00	1.28	2.918	A
C	11.90	59.52	11.87	10.73	19.19	0.00	26.12	17.22	0.456	0.62	0.82	4.197	A
D	15.55	77.76	15.53	19.05	12.00	0.00	41.07	36.57	0.379	0.49	0.60	2.347	A

Main results: (12:10-12:15)

Arm	Total Demand (Veh/min)	Junction Arrivals (Veh)	Entry Flow (Veh/min)	Exit Flow (Veh/min)	Circulating Flow (Veh/min)	Pedestrian Demand (Ped/min)	Capacity (Veh/min)	Saturation Capacity (Veh/min)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
A	2.18	10.88	2.15	1.17	28.96	0.00	6.43	0.00	0.338	0.34	0.48	13.897	B
B	29.30	146.52	29.24	27.61	3.49	0.00	46.99	45.73	0.624	1.28	1.61	3.364	A
C	13.03	65.14	12.98	11.74	20.99	0.00	24.96	17.22	0.522	0.82	1.06	4.987	A
D	17.02	85.09	16.99	20.84	13.13	0.00	40.20	36.57	0.423	0.60	0.72	2.583	A

Main results: (12:15-12:20)

Arm	Total Demand (Veh/min)	Junction Arrivals (Veh)	Entry Flow (Veh/min)	Exit Flow (Veh/min)	Circulating Flow (Veh/min)	Pedestrian Demand (Ped/min)	Capacity (Veh/min)	Saturation Capacity (Veh/min)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
A	2.33	11.64	2.29	1.25	30.98	0.00	5.52	0.00	0.422	0.48	0.67	18.550	C
B	31.35	156.76	31.28	29.54	3.74	0.00	46.81	45.73	0.670	1.61	1.96	3.842	A
C	13.94	69.69	13.88	12.56	22.46	0.00	24.02	17.22	0.580	1.06	1.33	5.884	A
D	18.21	91.04	18.18	22.30	14.05	0.00	39.50	36.57	0.461	0.72	0.84	2.811	A

Main results: (12:20-12:25)

Arm	Total Demand (Veh/min)	Junction Arrivals (Veh)	Entry Flow (Veh/min)	Exit Flow (Veh/min)	Circulating Flow (Veh/min)	Pedestrian Demand (Ped/min)	Capacity (Veh/min)	Saturation Capacity (Veh/min)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
A	2.44	12.18	2.39	1.31	32.42	0.00	4.88	0.00	0.500	0.67	0.89	23.630	C
B	32.80	163.98	32.73	30.90	3.91	0.00	46.68	45.73	0.703	1.96	2.27	4.276	A
C	14.58	72.90	14.53	13.14	23.50	0.00	23.35	17.22	0.624	1.33	1.59	6.751	A
D	19.05	95.23	19.03	23.33	14.70	0.00	38.99	36.57	0.488	0.84	0.94	3.002	A

Main results: (12:25-12:30)

Arm	Total Demand (Veh/min)	Junction Arrivals (Veh)	Entry Flow (Veh/min)	Exit Flow (Veh/min)	Circulating Flow (Veh/min)	Pedestrian Demand (Ped/min)	Capacity (Veh/min)	Saturation Capacity (Veh/min)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
A	2.49	12.46	2.45	1.34	33.18	0.00	4.53	0.00	0.550	0.89	1.08	28.211	C
B	33.54	167.72	33.50	31.63	4.00	0.00	46.61	45.73	0.720	2.27	2.47	4.554	A
C	14.91	74.56	14.88	13.45	24.05	0.00	22.99	17.22	0.649	1.59	1.76	7.343	A
D	19.48	97.40	19.47	23.88	15.05	0.00	38.72	36.57	0.503	0.94	1.00	3.115	A

Main results: (12:30-12:35)

Arm	Total Demand (Veh/min)	Junction Arrivals (Veh)	Entry Flow (Veh/min)	Exit Flow (Veh/min)	Circulating Flow (Veh/min)	Pedestrian Demand (Ped/min)	Capacity (Veh/min)	Saturation Capacity (Veh/min)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
A	2.49	12.46	2.48	1.34	33.21	0.00	4.52	0.00	0.552	1.08	1.13	29.010	C
B	33.54	167.72	33.54	31.68	4.01	0.00	46.60	45.73	0.720	2.47	2.51	4.583	A
C	14.91	74.56	14.91	13.47	24.08	0.00	22.98	17.22	0.649	1.76	1.80	7.409	A
D	19.48	97.40	19.48	23.91	15.08	0.00	38.70	36.57	0.503	1.00	1.00	3.120	A

Main results: (12:35-12:40)

Arm	Total Demand (Veh/min)	Junction Arrivals (Veh)	Entry Flow (Veh/min)	Exit Flow (Veh/min)	Circulating Flow (Veh/min)	Pedestrian Demand (Ped/min)	Capacity (Veh/min)	Saturation Capacity (Veh/min)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
A	2.44	12.18	2.45	1.31	32.50	0.00	4.84	0.00	0.504	1.13	1.08	25.358	B
B	32.80	163.98	32.81	31.01	3.94	0.00	46.66	45.73	0.703	2.51	2.43	4.344	A
C	14.58	72.90	14.59	13.19	23.56	0.00	23.31	17.22	0.626	1.80	1.73	6.909	A
D	19.05	95.23	19.05	23.40	14.76	0.00	38.95	36.57	0.489	1.00	0.97	3.017	A

Main results: (12:40-12:45)

Arm	Total Demand (Veh/min)	Junction Arrivals (Veh)	Entry Flow (Veh/min)	Exit Flow (Veh/min)	Circulating Flow (Veh/min)	Pedestrian Demand (Ped/min)	Capacity (Veh/min)	Saturation Capacity (Veh/min)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
A	2.33	11.64	2.38	1.26	31.12	0.00	5.46	0.00	0.427	1.08	0.81	19.872	B
B	31.35	156.76	31.42	29.72	3.79	0.00	46.77	45.73	0.670	2.43	2.10	3.929	A
C	13.94	69.69	13.99	12.64	22.57	0.00	23.95	17.22	0.582	1.73	1.45	6.068	A
D	18.21	91.04	18.23	22.41	14.15	0.00	39.42	36.57	0.462	0.97	0.87	2.836	A

Main results: (12:45-12:50)

Arm	Total Demand (Veh/min)	Junction Arrivals (Veh)	Entry Flow (Veh/min)	Exit Flow (Veh/min)	Circulating Flow (Veh/min)	Pedestrian Demand (Ped/min)	Capacity (Veh/min)	Saturation Capacity (Veh/min)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
A	2.18	10.88	2.23	1.17	29.10	0.00	6.37	0.00	0.342	0.81	0.55	14.674	B
B	29.30	146.52	29.38	27.79	3.54	0.00	46.96	45.73	0.624	2.10	1.70	3.429	A
C	13.03	65.14	13.09	11.82	21.11	0.00	24.89	17.22	0.523	1.45	1.13	5.116	A
D	17.02	85.09	17.04	20.96	13.24	0.00	40.12	36.57	0.424	0.87	0.75	2.602	A

Main results: (12:50-12:55)

Arm	Total Demand (Veh/min)	Junction Arrivals (Veh)	Entry Flow (Veh/min)	Exit Flow (Veh/min)	Circulating Flow (Veh/min)	Pedestrian Demand (Ped/min)	Capacity (Veh/min)	Saturation Capacity (Veh/min)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
A	1.99	9.95	2.02	1.07	26.60	0.00	7.50	0.00	0.265	0.55	0.38	11.036	B
B	26.78	133.89	26.85	25.39	3.23	0.00	47.19	45.73	0.567	1.70	1.34	2.962	A
C	11.90	59.52	11.96	10.80	19.29	0.00	26.06	17.22	0.457	1.13	0.86	4.274	A
D	15.55	77.76	15.58	19.15	12.09	0.00	41.00	36.57	0.379	0.75	0.62	2.361	A

Main results: (12:55-13:00)

Arm	Total Demand (Veh/min)	Junction Arrivals (Veh)	Entry Flow (Veh/min)	Exit Flow (Veh/min)	Circulating Flow (Veh/min)	Pedestrian Demand (Ped/min)	Capacity (Veh/min)	Saturation Capacity (Veh/min)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
A	1.78	8.89	1.80	0.96	23.76	0.00	8.77	0.00	0.203	0.38	0.26	8.634	A
B	23.93	119.63	23.99	22.68	2.88	0.00	47.45	45.73	0.504	1.34	1.03	2.563	A
C	10.64	53.18	10.68	9.64	17.23	0.00	27.38	17.22	0.388	0.86	0.65	3.604	A
D	13.90	69.48	13.92	17.11	10.80	0.00	42.00	36.57	0.331	0.62	0.50	2.138	A

Main results: (13:00-13:05)

Arm	Total Demand (Veh/min)	Junction Arrivals (Veh)	Entry Flow (Veh/min)	Exit Flow (Veh/min)	Circulating Flow (Veh/min)	Pedestrian Demand (Ped/min)	Capacity (Veh/min)	Saturation Capacity (Veh/min)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
A	1.67	8.33	1.67	0.90	22.24	0.00	9.46	0.00	0.176	0.26	0.22	7.718	A
B	22.43	112.13	22.45	21.22	2.69	0.00	47.60	45.73	0.471	1.03	0.90	2.390	A
C	9.97	49.85	9.99	9.02	16.12	0.00	28.09	17.22	0.355	0.65	0.56	3.317	A
D	13.02	65.12	13.03	16.01	10.10	0.00	42.54	36.57	0.306	0.50	0.45	2.035	A

Main results: (13:05-13:10)

Arm	Total Demand (Veh/min)	Junction Arrivals (Veh)	Entry Flow (Veh/min)	Exit Flow (Veh/min)	Circulating Flow (Veh/min)	Pedestrian Demand (Ped/min)	Capacity (Veh/min)	Saturation Capacity (Veh/min)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
A	1.67	8.33	1.67	0.90	22.21	0.00	9.47	0.00	0.176	0.22	0.22	7.691	A
B	22.43	112.13	22.43	21.19	2.69	0.00	47.60	45.73	0.471	0.90	0.90	2.385	A
C	9.97	49.85	9.97	9.01	16.10	0.00	28.10	17.22	0.355	0.56	0.55	3.311	A
D	13.02	65.12	13.02	15.99	10.08	0.00	42.55	36.57	0.306	0.45	0.44	2.033	A

Main results: (13:10-13:15)

Arm	Total Demand (Veh/min)	Junction Arrivals (Veh)	Entry Flow (Veh/min)	Exit Flow (Veh/min)	Circulating Flow (Veh/min)	Pedestrian Demand (Ped/min)	Capacity (Veh/min)	Saturation Capacity (Veh/min)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
A	1.67	8.33	1.67	0.90	22.21	0.00	9.47	0.00	0.176	0.22	0.22	7.688	A
B	22.43	112.13	22.43	21.19	2.69	0.00	47.60	45.73	0.471	0.90	0.90	2.384	A
C	9.97	49.85	9.97	9.01	16.10	0.00	28.10	17.22	0.355	0.55	0.55	3.308	A
D	13.02	65.12	13.02	15.99	10.08	0.00	42.55	36.57	0.306	0.44	0.44	2.031	A

Queueing Delay Results for each time segment

Queueing Delay results: (11:45-11:50)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	0.94	0.19	7.531	A	A
B	4.18	0.84	2.348	A	A
C	2.55	0.51	3.257	A	A
D	2.10	0.42	2.015	A	A

Queueing Delay results: (11:50-11:55)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	1.04	0.21	7.682	A	A
B	4.41	0.88	2.382	A	A
C	2.71	0.54	3.308	A	A
D	2.19	0.44	2.031	A	A

Queueing Delay results: (11:55-12:00)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	1.05	0.21	7.687	A	A
B	4.43	0.89	2.382	A	A
C	2.73	0.55	3.308	A	A
D	2.20	0.44	2.031	A	A

Queueing Delay results: (12:00-12:05)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	1.19	0.24	8.512	A	A
B	4.90	0.98	2.544	A	A
C	3.04	0.61	3.568	A	A
D	2.40	0.48	2.131	A	A

Queueing Delay results: (12:05-12:10)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	1.61	0.32	10.700	B	B
B	6.19	1.24	2.918	A	A
C	3.93	0.79	4.197	A	A
D	2.94	0.59	2.347	A	A

Queueing Delay results: (12:10-12:15)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	2.24	0.45	13.897	B	B
B	7.75	1.55	3.364	A	A
C	5.06	1.01	4.987	A	A
D	3.53	0.71	2.583	A	A

Queueing Delay results: (12:15-12:20)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	3.09	0.62	18.550	C	B
B	9.42	1.88	3.842	A	A
C	6.33	1.27	5.884	A	A
D	4.11	0.82	2.811	A	A

Queueing Delay results: (12:20-12:25)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	4.10	0.82	23.630	C	C
B	10.95	2.19	4.276	A	A
C	7.58	1.52	6.751	A	A
D	4.59	0.92	3.002	A	A

Queueing Delay results: (12:25-12:30)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	5.04	1.01	28.211	D	C
B	12.04	2.41	4.554	A	A
C	8.52	1.70	7.343	A	A
D	4.90	0.98	3.115	A	A

Queueing Delay results: (12:30-12:35)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	5.54	1.11	29.010	D	C
B	12.48	2.50	4.583	A	A
C	8.90	1.78	7.409	A	A
D	5.00	1.00	3.120	A	A

Queueing Delay results: (12:35-12:40)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	5.52	1.10	25.358	D	C
B	12.30	2.46	4.344	A	A
C	8.76	1.75	6.909	A	A
D	4.90	0.98	3.017	A	A

Queueing Delay results: (12:40-12:45)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	4.38	0.88	19.872	C	B
B	10.88	2.18	3.929	A	A
C	7.56	1.51	6.068	A	A
D	4.45	0.89	2.836	A	A

Queueing Delay results: (12:45-12:50)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	3.00	0.60	14.674	B	B
B	8.87	1.77	3.429	A	A
C	5.94	1.19	5.116	A	A
D	3.83	0.77	2.602	A	A

Queueing Delay results: (12:50-12:55)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	2.02	0.40	11.036	B	B
B	6.95	1.39	2.962	A	A
C	4.49	0.90	4.274	A	A
D	3.17	0.63	2.361	A	A

Queueing Delay results: (12:55-13:00)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	1.39	0.28	8.634	A	A
B	5.34	1.07	2.563	A	A
C	3.36	0.67	3.604	A	A
D	2.56	0.51	2.138	A	A

Queueing Delay results: (13:00-13:05)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	1.14	0.23	7.718	A	A
B	4.62	0.92	2.390	A	A
C	2.86	0.57	3.317	A	A
D	2.26	0.45	2.035	A	A

Queueing Delay results: (13:05-13:10)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	1.09	0.22	7.691	A	A
B	4.50	0.90	2.385	A	A
C	2.78	0.56	3.311	A	A
D	2.22	0.44	2.033	A	A

Queueing Delay results: (13:10-13:15)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	1.08	0.22	7.688	A	A
B	4.48	0.90	2.384	A	A
C	2.77	0.55	3.308	A	A
D	2.21	0.44	2.031	A	A

←
→

Junctions 8	
ARCADY 8 - Roundabout Module	
Version: 8.0.4.487 [15039,24/03/2014] © Copyright TRL Limited, 2015	
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Filename: Import of 3167A203 Friday PM do nothing + committed development 2020.arc8
Path: \\Main\d\Projects\3167 Littlehampton-M&S\Documents\Reports
Report generation date: 02/07/2015 09:10:47

« Year 2020 Friday PM Peak Hour + committed development, AM
 » Junction Network
 » Arms
 » Traffic Flows
 » Entry Flows
 » Turning Proportions
 » Vehicle Mix
 » Results

Summary of junction performance

	AM				
	Queue (Veh)	Delay (s)	RFC	LOS	Network Residual Capacity
Year 2020 Friday PM Peak Hour + committed development					
Arm A	0.52	24.06	0.35	C	4 % [Arm A]
Arm B	5.38	8.44	0.85	A	
Arm C	1.64	7.69	0.63	A	
Arm D	1.28	3.47	0.57	A	

Values shown are the maximum values 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.

"D1 - Year 2020 Friday PM Peak Hour + committed development, AM " model duration: 16:30 - 18:00

Run using Junctions 8.0.4.487 at 02/07/2015 09:10:44

File summary

Title	3167A203 Friday PM existing traffic + committed development 2020
Location	A259/Mill Lane roundabout
Site Number	
Date	10/06/2015
Version	
Status	Final Version
Identifier	
Client	Commercial Development Projects Ltd
Jobnumber	3167
Enumerator	PMcL
Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	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

Units

Distance Units	Speed Units	Traffic Units Input	Traffic Units Results	Flow Units	Average Delay Units	Total Delay Units	Rate Of Delay Units
m	kph	Veh	Veh	perMin	s	-Min	perMin

Year 2020 Friday PM Peak Hour + committed development, AM

Data Errors and Warnings

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

Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set(s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
	ARCADY		✓				100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship
Year 2020 Friday PM Peak Hour + committed development, AM	Year 2020 Friday PM Peak Hour + committed development	AM		Varies by Arm	16:30	18:00	90	5				✓	

Junction Network

Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Do Geometric Delay	Junction Delay (s)	Junction LOS
1	untitled	Roundabout	A,B,C,D				7.14	A

Junction Network Options

Driving Side	Lighting	Network Residual Capacity (%)	First Arm Reaching Threshold
Left	Normal/unknown	4	Arm A

Arms

Arms

Arm	Arm	Name	Description
A	A	Golfers Lane	
B	B	A259 East	
C	C	Mill Lane	
D	D	A259 West	

Capacity Options

Arm	Minimum Capacity (PCU/min)	Maximum Capacity (PCU/min)	Assume Flat Start Profile	Initial Queue (PCU)
A	0.00	1666.65		0.00
B	0.00	1666.65		0.00
C	0.00	1666.65		0.00
D	0.00	1666.65		0.00

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
A	3.50	5.40	2.70	8.00	60.00	25.00	
B	7.60	11.40	75.00	24.00	60.00	60.00	
C	3.80	11.10	36.00	18.10	60.00	50.00	
D	7.40	12.00	32.00	28.00	60.00	50.00	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/min)	Final Slope	Final Intercept (PCU/min)
A		(calculated)	(calculated)	0.450	19.471
B		(calculated)	(calculated)	0.753	49.626
C		(calculated)	(calculated)	0.643	38.451
D		(calculated)	(calculated)	0.771	50.328

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

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
			✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (Veh/min)	Flow Scaling Factor (%)
A	ONE HOUR	✓	1.20	100.000
B	ONE HOUR	✓	35.30	100.000
C	ONE HOUR	✓	11.62	100.000
D	ONE HOUR	✓	19.82	100.000

Turning Proportions

Turning Counts / Proportions (Veh/min) - Junction 1 (for whole period)

	To				
		A	B	C	D
From	A	0.000	0.567	0.117	0.517
	B	0.850	1.067	12.717	20.667
	C	0.167	10.000	0.067	1.383
	D	0.283	17.050	1.483	1.000

Turning Proportions (Veh) - Junction 1 (for whole period)

	To				
		A	B	C	D
From	A	0.00	0.47	0.10	0.43
	B	0.02	0.03	0.36	0.59
	C	0.01	0.86	0.01	0.12
	D	0.01	0.86	0.07	0.05

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

	To				
		A	B	C	D
From	A	1.000	1.000	1.000	1.000
	B	1.000	1.000	1.000	1.000
	C	1.000	1.000	1.000	1.000
	D	1.000	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

	To				
		A	B	C	D
From	A	0.0	0.0	0.0	0.0
	B	0.0	0.0	0.0	0.0
	C	0.0	0.0	0.0	0.0
	D	0.0	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/min)	Total Junction Arrivals (Veh)	Total Queueing Delay (Veh-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (Veh-min/min)	Inclusive Total Queueing Delay (Veh-min)	Inclusive Average Queueing Delay (s)
A	0.35	24.06	0.52	C	1.10	99.26	22.16	13.39	0.25	22.16	13.39
B	0.35	8.44	5.38	A	32.44	2919.87	239.28	4.92	2.66	239.29	4.92
C	0.63	7.69	1.64	A	10.68	960.88	81.33	5.08	0.90	81.33	5.08
D	0.57	3.47	1.28	A	18.21	1639.15	74.04	2.71	0.82	74.05	2.71

Main Results for each time segment

Main results: (16:30-16:35)

Arm	Total Demand (Veh/min)	Junction Arrivals (Veh)	Entry Flow (Veh/min)	Exit Flow (Veh/min)	Circulating Flow (Veh/min)	Pedestrian Demand (Ped/min)	Capacity (Veh/min)	Saturation Capacity (Veh/min)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
A	0.91	4.54	0.89	0.98	23.03	0.00	9.10	0.00	0.100	0.00	0.11	7.283	A
B	26.73	133.65	26.48	21.53	2.39	0.00	47.83	46.15	0.559	0.00	1.24	2.780	A
C	8.80	43.98	8.70	10.79	18.08	0.00	26.83	18.31	0.328	0.00	0.48	3.291	A
D	15.01	75.03	14.90	17.67	9.10	0.00	43.31	35.96	0.346	0.00	0.52	2.104	A

Main results: (16:35-16:40)

Arm	Total Demand (Veh/min)	Junction Arrivals (Veh)	Entry Flow (Veh/min)	Exit Flow (Veh/min)	Circulating Flow (Veh/min)	Pedestrian Demand (Ped/min)	Capacity (Veh/min)	Saturation Capacity (Veh/min)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
A	0.91	4.54	0.91	0.98	23.22	0.00	9.02	0.00	0.101	0.11	0.11	7.398	A
B	26.73	133.65	26.73	21.72	2.41	0.00	47.81	46.15	0.559	1.24	1.25	2.845	A
C	8.80	43.98	8.79	10.89	18.25	0.00	26.72	18.31	0.329	0.48	0.49	3.345	A
D	15.01	75.03	15.00	17.84	9.20	0.00	43.23	35.96	0.347	0.52	0.53	2.125	A

Main results: (16:40-16:45)

Arm	Total Demand (Veh/min)	Junction Arrivals (Veh)	Entry Flow (Veh/min)	Exit Flow (Veh/min)	Circulating Flow (Veh/min)	Pedestrian Demand (Ped/min)	Capacity (Veh/min)	Saturation Capacity (Veh/min)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
A	0.91	4.54	0.91	0.98	23.22	0.00	9.02	0.00	0.101	0.11	0.11	7.399	A
B	26.73	133.65	26.73	21.72	2.41	0.00	47.81	46.15	0.559	1.25	1.26	2.845	A
C	8.80	43.98	8.80	10.89	18.25	0.00	26.72	18.31	0.329	0.49	0.49	3.346	A
D	15.01	75.03	15.00	17.84	9.20	0.00	43.23	35.96	0.347	0.53	0.53	2.125	A

Main results: (16:45-16:50)

Arm	Total Demand (Veh/min)	Junction Arrivals (Veh)	Entry Flow (Veh/min)	Exit Flow (Veh/min)	Circulating Flow (Veh/min)	Pedestrian Demand (Ped/min)	Capacity (Veh/min)	Saturation Capacity (Veh/min)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
A	0.97	4.85	0.97	1.05	24.75	0.00	8.33	0.00	0.116	0.11	0.13	8.146	A
B	28.52	142.59	28.48	23.15	2.57	0.00	47.69	46.15	0.598	1.26	1.45	3.116	A
C	9.38	46.92	9.37	11.60	19.44	0.00	25.96	18.31	0.362	0.49	0.56	3.614	A
D	16.01	80.05	16.00	19.01	9.80	0.00	42.77	35.96	0.374	0.53	0.59	2.239	A

Main results: (16:50-16:55)

Arm	Total Demand (Veh/min)	Junction Arrivals (Veh)	Entry Flow (Veh/min)	Exit Flow (Veh/min)	Circulating Flow (Veh/min)	Pedestrian Demand (Ped/min)	Capacity (Veh/min)	Saturation Capacity (Veh/min)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
A	1.09	5.42	1.08	1.17	27.67	0.00	7.02	0.00	0.155	0.13	0.18	10.084	B
B	31.92	159.59	31.81	25.87	2.87	0.00	47.46	46.15	0.672	1.45	1.98	3.802	A
C	10.50	52.52	10.47	12.96	21.72	0.00	24.49	18.31	0.429	0.56	0.73	4.266	A
D	17.92	89.59	17.89	21.24	10.95	0.00	41.88	35.96	0.428	0.59	0.74	2.497	A

Main results: (16:55-17:00)

Arm	Total Demand (Veh/min)	Junction Arrivals (Veh)	Entry Flow (Veh/min)	Exit Flow (Veh/min)	Circulating Flow (Veh/min)	Pedestrian Demand (Ped/min)	Capacity (Veh/min)	Saturation Capacity (Veh/min)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
A	1.19	5.94	1.17	1.28	30.27	0.00	5.84	0.00	0.203	0.18	0.24	12.810	B
B	34.93	174.63	34.79	28.30	3.14	0.00	47.26	46.15	0.739	1.98	2.69	4.747	A
C	11.49	57.47	11.45	14.18	23.75	0.00	23.19	18.31	0.496	0.73	0.95	5.089	A
D	19.61	98.03	19.57	23.22	11.98	0.00	41.09	35.96	0.477	0.74	0.90	2.779	A

Main results: (17:00-17:05)

Arm	Total Demand (Veh/min)	Junction Arrivals (Veh)	Entry Flow (Veh/min)	Exit Flow (Veh/min)	Circulating Flow (Veh/min)	Pedestrian Demand (Ped/min)	Capacity (Veh/min)	Saturation Capacity (Veh/min)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
A	1.27	6.35	1.25	1.37	32.38	0.00	4.89	0.00	0.260	0.24	0.33	16.397	C
B	37.37	186.84	37.19	30.28	3.36	0.00	47.10	46.15	0.793	2.69	3.56	5.928	A
C	12.30	61.49	12.25	15.16	25.39	0.00	22.13	18.31	0.556	0.95	1.20	6.029	A
D	20.98	104.89	20.95	24.83	12.81	0.00	40.45	35.96	0.519	0.90	1.06	3.070	A

Main results: (17:05-17:10)

Arm	Total Demand (Veh/min)	Junction Arrivals (Veh)	Entry Flow (Veh/min)	Exit Flow (Veh/min)	Circulating Flow (Veh/min)	Pedestrian Demand (Ped/min)	Capacity (Veh/min)	Saturation Capacity (Veh/min)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
A	1.33	6.64	1.31	1.43	33.89	0.00	4.21	0.00	0.315	0.33	0.43	20.476	C
B	39.09	195.45	38.91	31.68	3.51	0.00	46.98	46.15	0.832	3.56	4.47	7.207	A
C	12.86	64.32	12.82	15.86	26.56	0.00	21.38	18.31	0.602	1.20	1.44	6.955	A
D	21.94	109.72	21.92	25.97	13.40	0.00	39.99	35.96	0.549	1.06	1.19	3.313	A

Main results: (17:10-17:15)

Arm	Total Demand (Veh/min)	Junction Arrivals (Veh)	Entry Flow (Veh/min)	Exit Flow (Veh/min)	Circulating Flow (Veh/min)	Pedestrian Demand (Ped/min)	Capacity (Veh/min)	Saturation Capacity (Veh/min)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
A	1.36	6.80	1.34	1.47	34.68	0.00	3.85	0.00	0.353	0.43	0.50	23.681	C
B	39.98	199.90	39.84	32.43	3.60	0.00	46.92	46.15	0.852	4.47	5.17	8.204	A
C	13.16	65.79	13.12	16.24	27.20	0.00	20.97	18.31	0.627	1.44	1.61	7.596	A
D	22.44	112.22	22.43	26.60	13.72	0.00	39.74	35.96	0.565	1.19	1.27	3.462	A

Main results: (17:15-17:20)

Arm	Total Demand (Veh/min)	Junction Arrivals (Veh)	Entry Flow (Veh/min)	Exit Flow (Veh/min)	Circulating Flow (Veh/min)	Pedestrian Demand (Ped/min)	Capacity (Veh/min)	Saturation Capacity (Veh/min)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
A	1.36	6.80	1.36	1.47	34.72	0.00	3.84	0.00	0.354	0.50	0.52	24.064	C
B	39.98	199.90	39.94	32.48	3.60	0.00	46.91	46.15	0.852	5.17	5.38	8.444	A
C	13.16	65.79	13.15	16.27	27.27	0.00	20.93	18.31	0.629	1.61	1.64	7.689	A
D	22.44	112.22	22.44	26.66	13.75	0.00	39.72	35.96	0.565	1.27	1.28	3.471	A

Main results: (17:20-17:25)

Arm	Total Demand (Veh/min)	Junction Arrivals (Veh)	Entry Flow (Veh/min)	Exit Flow (Veh/min)	Circulating Flow (Veh/min)	Pedestrian Demand (Ped/min)	Capacity (Veh/min)	Saturation Capacity (Veh/min)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
A	1.33	6.64	1.33	1.44	33.98	0.00	4.17	0.00	0.319	0.52	0.49	21.236	C
B	39.09	195.45	39.12	31.79	3.53	0.00	46.97	46.15	0.832	5.38	5.23	7.743	A
C	12.86	64.32	12.88	15.94	26.71	0.00	21.29	18.31	0.604	1.64	1.58	7.161	A
D	21.94	109.72	21.95	26.12	13.47	0.00	39.94	35.96	0.549	1.28	1.24	3.340	A

Main results: (17:25-17:30)

Arm	Total Demand (Veh/min)	Junction Arrivals (Veh)	Entry Flow (Veh/min)	Exit Flow (Veh/min)	Circulating Flow (Veh/min)	Pedestrian Demand (Ped/min)	Capacity (Veh/min)	Saturation Capacity (Veh/min)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
A	1.27	6.35	1.29	1.38	32.54	0.00	4.82	0.00	0.264	0.49	0.38	17.130	C
B	37.37	186.84	37.59	30.45	3.39	0.00	47.08	46.15	0.794	5.23	4.15	6.487	A
C	12.30	61.49	12.35	15.31	25.66	0.00	21.96	18.31	0.560	1.58	1.32	6.282	A
D	20.98	104.89	21.01	25.09	12.92	0.00	40.37	35.96	0.520	1.24	1.10	3.103	A

Main results: (17:30-17:35)

Arm	Total Demand (Veh/min)	Junction Arrivals (Veh)	Entry Flow (Veh/min)	Exit Flow (Veh/min)	Circulating Flow (Veh/min)	Pedestrian Demand (Ped/min)	Capacity (Veh/min)	Saturation Capacity (Veh/min)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
A	1.19	5.94	1.21	1.29	30.43	0.00	5.77	0.00	0.206	0.38	0.27	13.224	B
B	34.93	174.63	35.16	28.48	3.17	0.00	47.24	46.15	0.739	4.15	2.99	5.062	A
C	11.49	57.47	11.55	14.32	24.00	0.00	23.02	18.31	0.499	1.32	1.03	5.260	A
D	19.61	98.03	19.64	23.47	12.09	0.00	41.01	35.96	0.478	1.10	0.93	2.814	A

Main results: (17:35-17:40)

Arm	Total Demand (Veh/min)	Junction Arrivals (Veh)	Entry Flow (Veh/min)	Exit Flow (Veh/min)	Circulating Flow (Veh/min)	Pedestrian Demand (Ped/min)	Capacity (Veh/min)	Saturation Capacity (Veh/min)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
A	1.09	5.42	1.10	1.18	27.81	0.00	6.95	0.00	0.156	0.27	0.19	10.288	B
B	31.92	159.59	32.09	26.02	2.89	0.00	47.45	46.15	0.673	2.99	2.13	3.952	A
C	10.50	52.52	10.55	13.07	21.91	0.00	24.37	18.31	0.431	1.03	0.78	4.358	A
D	17.92	89.59	17.95	21.42	11.04	0.00	41.81	35.96	0.429	0.93	0.76	2.517	A

Main results: (17:40-17:45)

Arm	Total Demand (Veh/min)	Junction Arrivals (Veh)	Entry Flow (Veh/min)	Exit Flow (Veh/min)	Circulating Flow (Veh/min)	Pedestrian Demand (Ped/min)	Capacity (Veh/min)	Saturation Capacity (Veh/min)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
A	0.97	4.85	0.98	1.05	24.84	0.00	8.29	0.00	0.117	0.19	0.14	8.225	A
B	28.52	142.59	28.64	23.24	2.58	0.00	47.68	46.15	0.598	2.13	1.52	3.172	A
C	9.38	46.92	9.42	11.67	19.55	0.00	25.88	18.31	0.363	0.78	0.58	3.653	A
D	16.01	80.05	16.04	19.12	9.86	0.00	42.73	35.96	0.375	0.76	0.61	2.250	A

Main results: (17:45-17:50)

Arm	Total Demand (Veh/min)	Junction Arrivals (Veh)	Entry Flow (Veh/min)	Exit Flow (Veh/min)	Circulating Flow (Veh/min)	Pedestrian Demand (Ped/min)	Capacity (Veh/min)	Saturation Capacity (Veh/min)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
A	0.91	4.54	0.91	0.99	23.25	0.00	9.00	0.00	0.101	0.14	0.11	7.422	A
B	26.73	133.65	26.78	21.75	2.41	0.00	47.81	46.15	0.559	1.52	1.29	2.861	A
C	8.80	43.98	8.81	10.91	18.28	0.00	26.70	18.31	0.329	0.58	0.50	3.356	A
D	15.01	75.03	15.02	17.88	9.22	0.00	43.22	35.96	0.347	0.61	0.54	2.128	A

Main results: (17:50-17:55)

Arm	Total Demand (Veh/min)	Junction Arrivals (Veh)	Entry Flow (Veh/min)	Exit Flow (Veh/min)	Circulating Flow (Veh/min)	Pedestrian Demand (Ped/min)	Capacity (Veh/min)	Saturation Capacity (Veh/min)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
A	0.91	4.54	0.91	0.98	23.22	0.00	9.02	0.00	0.101	0.11	0.11	7.404	A
B	26.73	133.65	26.73	21.72	2.41	0.00	47.81	46.15	0.559	1.29	1.28	2.849	A
C	8.80	43.98	8.80	10.89	18.25	0.00	26.72	18.31	0.329	0.50	0.49	3.346	A
D	15.01	75.03	15.01	17.85	9.20	0.00	43.23	35.96	0.347	0.54	0.53	2.127	A

Main results: (17:55-18:00)

Arm	Total Demand (Veh/min)	Junction Arrivals (Veh)	Entry Flow (Veh/min)	Exit Flow (Veh/min)	Circulating Flow (Veh/min)	Pedestrian Demand (Ped/min)	Capacity (Veh/min)	Saturation Capacity (Veh/min)	RFC	Start Queue (Veh)	End Queue (Veh)	Delay (s)	LOS
A	0.91	4.54	0.91	0.98	23.22	0.00	9.02	0.00	0.101	0.11	0.11	7.400	A
B	26.73	133.65	26.73	21.72	2.41	0.00	47.81	46.15	0.559	1.28	1.28	2.848	A
C	8.80	43.98	8.80	10.89	18.25	0.00	26.72	18.31	0.329	0.49	0.49	3.349	A
D	15.01	75.03	15.01	17.85	9.20	0.00	43.23	35.96	0.347	0.53	0.53	2.126	A

Queueing Delay Results for each time segment

Queueing Delay results: (16:30-16:35)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	0.50	0.10	7.283	A	A
B	5.84	1.17	2.780	A	A
C	2.28	0.46	3.291	A	A
D	2.53	0.51	2.104	A	A

Queueing Delay results: (16:35-16:40)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	0.55	0.11	7.398	A	A
B	6.24	1.25	2.845	A	A
C	2.42	0.48	3.345	A	A
D	2.63	0.53	2.125	A	A

Queueing Delay results: (16:40-16:45)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	0.55	0.11	7.399	A	A
B	6.28	1.26	2.845	A	A
C	2.43	0.49	3.346	A	A
D	2.65	0.53	2.125	A	A

Queueing Delay results: (16:45-16:50)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	0.62	0.12	8.146	A	A
B	7.06	1.41	3.116	A	A
C	2.72	0.54	3.614	A	A
D	2.91	0.58	2.239	A	A

Queueing Delay results: (16:50-16:55)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	0.84	0.17	10.084	B	B
B	9.41	1.88	3.802	A	A
C	3.53	0.71	4.266	A	A
D	3.59	0.72	2.497	A	A

Queueing Delay results: (16:55-17:00)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	1.14	0.23	12.810	B	B
B	12.63	2.53	4.747	A	A
C	4.56	0.91	5.089	A	A
D	4.36	0.87	2.779	A	A

Queueing Delay results: (17:00-17:05)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	1.54	0.31	16.397	C	B
B	16.58	3.32	5.928	A	A
C	5.73	1.15	6.029	A	A
D	5.14	1.03	3.070	A	A

Queueing Delay results: (17:05-17:10)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	1.99	0.40	20.476	C	C
B	20.88	4.18	7.207	A	A
C	6.89	1.38	6.955	A	A
D	5.80	1.16	3.313	A	A

Queueing Delay results: (17:10-17:15)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	2.38	0.48	23.681	C	C
B	24.56	4.91	8.204	A	A
C	7.77	1.55	7.596	A	A
D	6.24	1.25	3.462	A	A

Queueing Delay results: (17:15-17:20)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	2.56	0.51	24.064	C	C
B	26.44	5.29	8.444	A	A
C	8.14	1.63	7.689	A	A
D	6.39	1.28	3.471	A	A

Queueing Delay results: (17:20-17:25)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	2.52	0.50	21.236	C	C
B	26.46	5.29	7.743	A	A
C	8.01	1.60	7.161	A	A
D	6.27	1.25	3.340	A	A

Queueing Delay results: (17:25-17:30)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	2.03	0.41	17.130	C	B
B	22.12	4.42	6.487	A	A
C	6.90	1.38	6.282	A	A
D	5.65	1.13	3.103	A	A

Queueing Delay results: (17:30-17:35)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	1.46	0.29	13.224	B	B
B	16.01	3.20	5.062	A	A
C	5.39	1.08	5.260	A	A
D	4.79	0.96	2.814	A	A

Queueing Delay results: (17:35-17:40)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	1.02	0.20	10.288	B	B
B	11.27	2.25	3.952	A	A
C	4.05	0.81	4.358	A	A
D	3.91	0.78	2.517	A	A

Queueing Delay results: (17:40-17:45)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	0.72	0.14	8.225	A	A
B	7.98	1.60	3.172	A	A
C	3.00	0.60	3.653	A	A
D	3.11	0.62	2.250	A	A

Queueing Delay results: (17:45-17:50)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	0.59	0.12	7.422	A	A
B	6.66	1.33	2.861	A	A
C	2.56	0.51	3.356	A	A
D	2.73	0.55	2.128	A	A

Queueing Delay results: (17:50-17:55)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	0.57	0.11	7.404	A	A
B	6.43	1.29	2.849	A	A
C	2.48	0.50	3.346	A	A
D	2.68	0.54	2.127	A	A

Queueing Delay results: (17:55-18:00)

Arm	Queueing Total Delay (Veh-min)	Queueing Rate Of Delay (Veh-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
A	0.57	0.11	7.400	A	A
B	6.39	1.28	2.848	A	A
C	2.47	0.49	3.349	A	A
D	2.67	0.53	2.126	A	A

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