Emma Tutton

From: Toan Chau <ToanChau@hydrock.com>
Sent: 12 January 2016 16:16
To: Luke Barber
Cc: Sophie Eaton; Fiona Soutar; Automate - Manchester; Emma Tutton
Subject: C14106: Land off Duke's Park, Woodbridge, Suffolk
Attachments: C14106-T001Transport Addendum Report Final.pdf; C14106 - 002 Site Access Rev G.pdf

Hi Luke,

Further to our discussions, please find attached Transport Addendum Report and updated access plan as requested.

We hope that this is acceptable, however, please do not hesitate to contact me if you require any further information.

Kind regards,

Toan Chau
MSc BEng(Hons) MCIHT
Transportation Director

Hydrock
St Baldred's Hall, 239 Ashley Road, Hale, Cheshire WA15 9NE
Direct: (0161) 233 9884, Office: (0161) 233 0746
Mobile: 07817 694035
Email: ToanChau@hydrock.com
www.hydrock.com

From: Luke Barber [mailto:Luke.Barber@suffolk.gov.uk]
Sent: 29 December 2015 09:16
To: Toan Chau
Subject: RE: Land off Duke's Park, Woodbridge, Suffolk

Hi,

Yes 50/50 sounds like a realistic split. It is tricky to know what the final impact could be, I'd be concerned if a large proportion of the traffic decided to use Bealings Road (turning right at the Red Lion) to travel towards Ipswich, as this route is very sensitive for the communities on this side of Ipswich.

Regards

Luke

From: Toan Chau [mailto:ToanChau@hydrock.com]
Sent: 23 December 2015 15:26
To: Luke Barber
Subject: RE: Land off Duke's Park, Woodbridge, Suffolk

Hi Luke,

It is currently shown as a linked road, but I will need to check with the project managers. I would assume that the linked road would ease traffic congestion at the Ipswich Road roundabout and be a benefit?

Would you require a sensitivity assessment to show a 50/50 split?

There isn't an internal layout at this stage.

Kind regards,

Toan Chau
MSc BEng(Hons) MCIHT
Transportation Director

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From: Luke Barber [mailto:Luke.Barber@suffolk.gov.uk]
Sent: 23 December 2015 14:55
To: Toan Chau
Subject: RE: Land off Duke's Park, Woodbridge, Suffolk

Hi Toan,

Many thanks for coming back to me so quickly. Would the two areas be interlinked or would they effectively operate as two related cul de sacs, with pedestrian / cycle / emergency access only between the two sites? If they are formally linked for all road users then there is a reasonable probability that the minor access will take a greater proportion of the trips generated than 23% (50 / 215).

I hadn't picked up on this aspect of the masterplan layout previously. Do you have a separate plan showing the draft internal layout, I've only been given the one embedded in the D&A document so far.

I'll probably have some more detailed queries shortly, so I'll let you know once I've got through the full TA.

Regards

Luke

From: Toan Chau [mailto:ToanChau@hydrock.com]
Sent: 23 December 2015 14:22
To: Luke Barber
Cc: Fiona Soutar
Subject: FW: Land off Duke's Park, Woodbridge, Suffolk

Hi Luke,

Further to your email, it has been assumed that 50 units are accessed from Top Street, whilst the remaining development is served by Ipswich Road.

Please give me a call if you have any further queries.

Kind regards,

Toan Chau
MSc BEng(Hons) MCIHT
Transportation Director

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www.hydrock.com

From: Luke Barber [mailto:Luke.Barber@suffolk.gov.uk]
Sent: 23 December 2015 13:58
To: Manchester <manchester@hydrock.com>
Subject: Land off Duke's Park, Woodbridge, Suffolk

Dear Hydrock team,

I understand you are involved in a project near to Woodbridge in Suffolk. I am the Highways Engineer that has been consulted by Suffolk Coastal DC (the local planning authority) to comment on the proposal from a highways perspective.

My initial query is how you are attributing the trip generated across the two accesses proposed. I can see that the Ipswich Road access would be the principal route to join the adopted highway network, but at busy times it may encourage drivers to divert to the Top Street access. Traffic on Top Street might be tempted to use Bealings Road to travel to Ipswich (turning at the Red Lion) as this is a popular local route. I'd be interested to understand the apportionment of trips a bit better around this site as these issues are very locally sensitive. I've also contact the design team as I have some similar queries on the access layouts which may impact on the Transport Assessment in due course.

It is likely that I will have some further comments on the Transport Assessment and Travel Plan in due course so if you can provide me with a specific contact in the team involved with this project it would be very useful.

Regards

Luke Barber
Senior Development Management Engineer
Resource Management
Suffolk County Council
Endeavour House
IPSWICH
IP1 2BX
Tel: 01473 264412
Email: luke.barber@suffolk.gov.uk
http://www.suffolk.gov.uk

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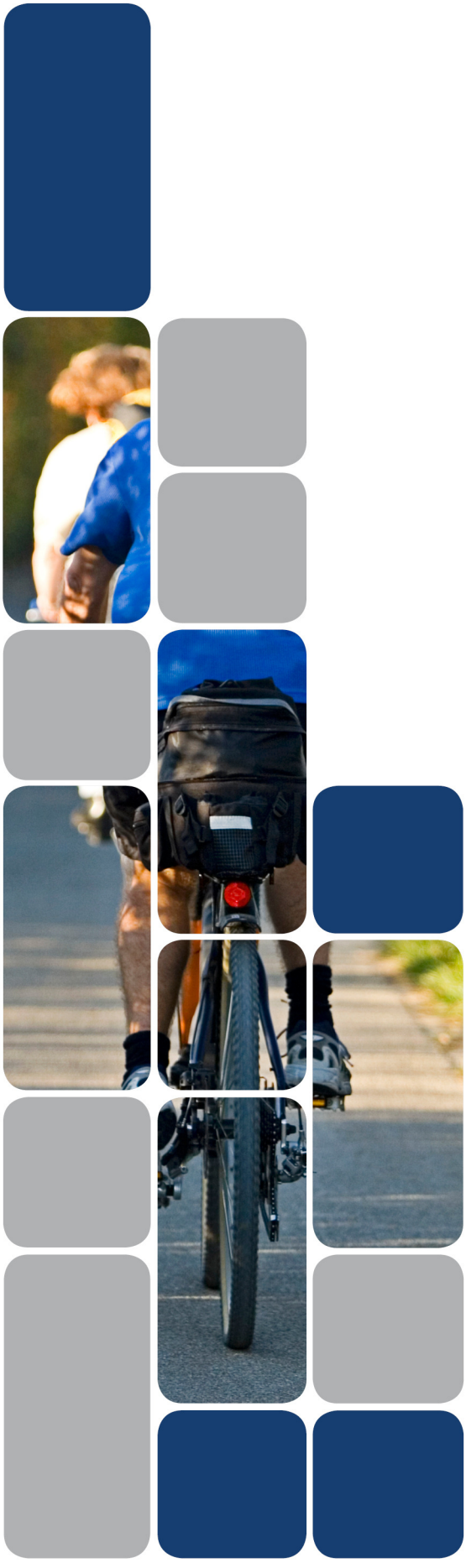

Land off Duke's Park

Woodbridge

Transport Assessment Addendum

Final Report for:

January 2016

Hydrock Ref: R/C14106/T001

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DOCUMENT CONTROL SHEET

Issued by: Hydrock Consultants Limited
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Tel: 0161 233 0746
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Client: Gladman Developments Ltd.

Project: Land off Duke's Park, Woodbridge

Title: Transport Assessment Addendum

Status: Draft

Date: January 2016

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Issue Number:	1	Name	Signature
Prepared		Fiona Soutar	
Checked		Toan Chau	
Approved		Toan Chau	

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Issue number	Date	Revision Details
1	12th January 2016	Final

Hydrock Consultants Limited has prepared this report in accordance with the instructions of the above named client for their sole and specific use. Any third parties who may use the information contained herein do so at their own risk.

CONTENTS

1.0 INTRODUCTION

1.1 The Planning Application

1.1.1 Hydrock Consultants Ltd [Hydrock] has been instructed by Gladman Developments Ltd. [Gladman] to prepare a Transport Assessment Addendum [TAA] relating to proposals for a residential development in Woodbridge, Suffolk.

1.1.2 Woodbridge is a town in the county of Suffolk, to the east of Ipswich. The centre of the town lies approximately 13km from the coast. The proposed development consists of up to 215 residential units plus a retail unit of 280m² being served by two accesses. The accesses will be located off Ipswich Road and Top Street. The access plan has been updated following comments from Suffolk County Council and is provided in **Appendix A**.

Figure 1.1: Site Location

1.1.3 A planning application has been submitted for the proposed development. Hydrock developed both the Transport Assessment (document ref.: C14106/003, issue 6) and framework Travel Plan (document ref.: C14106/004, issue 5) to support this application.

1.1.4 Following submission of the Transport Assessment, feedback was received from Suffolk County Council regarding the split of traffic from each of the two site accesses. This Transport Assessment Addendum has been developed to address this feedback, and to provide a sensitivity test to illustrate the impact of equally splitting development traffic between each of the two site access junctions.

2.0 TRAFFIC IMPACT

2.1 Introduction

2.1.1 This section of the report considers the updated traffic impact of the proposed development on the local highway network assuming a 50/50 split of traffic between the proposed accesses.

2.2 Background

2.2.1 Automatic Traffic Counts [ATC] were installed in April 2014 along Ipswich Road in both eastbound and westbound directions adjacent to the site. Additional ATC's were installed on Sandy Lane and Top Street in both directions adjacent to the site.

2.2.2 Turning count surveys were also carried out at the following junctions:

- A12 / Ipswich Road roundabout;
- Ipswich Road, Top Street roundabout;
- Ipswich Road / Old Barrack Road / California staggered junction;
- Ipswich Road / Sandy Lane priority junction;
- Ipswich Road / Cherry Tree Road / Medical Centre roundabout;
- Ipswich Road / Station Road / Cumberland Street priority junction; and
- B1438 / Thoroughfare / St. Johns Street staggered junction.

2.2.3 The full traffic survey results are contained within the Transport Assessment.

2.2.4 A traffic impact assessment has been carried out for the weekday morning (08:00-09:00) and evening peak (17:00-18:00) hours.

2.2.5 **Traffic Figures 1** and **2** shows the surveyed traffic flows for the morning and evening peak periods respectively, in terms of total vehicles and Heavy Goods Vehicles [HGVs]. **Traffic Figures 3** and **4** show the surveyed traffic flows in terms of Passenger Car Units [PCUs].

2.3 Proposed Residential Development Trips

2.3.1 To recap, the proposed development consists of up to 215 residential units. The trip generation associated with the proposed development, taken from the Transport Assessment, is illustrated in **Table 2.1**.

Table 2.1: Proposed Vehicle Trip Generation

215 Dwellings		AM Peak		PM Peak	
Driving a car or van	Modal Split	Arr.	Dep.	Arr.	Dep.
	63%	34	119	86	54

2.4 Proposed Convenience Store Development Trips

2.4.1 Given the small scale and nature of the convenience store, it is Hydrock's view that no significant new trips will be present on the network during the peak hour periods. As a consequence all trips associated with this element of the proposed development have been considered as pass-by / linked trips for the purposes of this assessment.

2.5 Future Traffic Flows

2.5.1 An assessment has been made of future traffic conditions. The TEMPRO database, in conjunction with the AF09 NTM dataset has been applied to the surveyed traffic flows in order to ascertain future traffic flows using the following parameters:

- Woodbridge area definition;
- Trip end by time period for car drivers; and
- NTM, all road types.

2.5.2 **Table 2.2** summarises the derived growth factors.

Table 2.2: TEMPRO/NTM Growth Factors

AM Peak		PM Peak	
2014 to 2015	**2014 to 2025**	**2014 to 2015**	**2014 to 2025**
1.0031	1.1516	1.0036	1.1574

2.5.3 It should be noted that no adjustment has been made to the TEMPro growth factors to take into account the impact of the committed developments previously assessed. As such, the future year assessment provides a very robust assessment of traffic flows on the surrounding highway network in the future year scenario.

2.5.4 The years of assessment are 2015 and 2025 (i.e. application year + 10 years). **Traffic Figures 5** and **6** present the 2025 growthed traffic flows for the assessed morning and evening peak periods respectively.

2.6 Committed Developments

2.6.1 Specific committed development schemes have been assessed separately within the assessment, as outlined within the Eastern Ipswich Plan Area, as follows:

- DC/14/0991/OUT Land North of Woods Lane, Melton, Suffolk;
- C/09/0555 Adastral Park;
- C/10/1906 Land south of Main Road, Martlesham; and
- C/13/0806 East Anglia Offshore Wind One underground cabling between Bramford and Bawdsey.

2.6.2 Each of these committed developments are described in more detail within the Transport Assessment report. The traffic flows associated with these developments are illustrated in **Traffic Figures 5A** and **6A**. The 2025 base + committed traffic flows are illustrated in **Traffic Figures 5B** and **6B**.

2.7 Distribution and Assignment of Traffic

2.7.1 Within the Transport Assessment, it was assumed that 165 dwellings would be accessed off Ipswich Road, with the remaining 50 dwellings accessed off Top Street. This assumption was made due to the layout of the site.

2.7.2 On request by Suffolk County Council, a sensitivity test has been undertaken, assuming an equal split of traffic at each of the site access junctions.

2.7.3 The existing traffic movements on the highway network, as obtained from the traffic surveys, have been used to assign the proposed development traffic onto the local highway network.

2.7.4 The percentage distributions adopted are provided in **Traffic Figures 7** and **8** for each access individually.

2.7.5 As can be seen from **Traffic Figures 9** to **12**, the additional traffic that would be generated by the proposed development which would access the highway network would be minimal. Notwithstanding, **Table 2.3** provides the percentage traffic impact of the proposed development on the highway network against the 2015 base traffic flows.

Table 2.3: Junction Traffic Impact

Junction	AM Peak	PM Peak
A12 / Ipswich Road	2.65%	2.52%
Top Street / Ipswich Road	8.46%	7.59%
Old Barrack Road / Ipswich Road / California	2.82%	2.59%
Ipswich Road / Sandy Lane	3.38%	2.32%
Medical Centre / Ipswich Road / Cherry Tree Road	2.69%	1.95%
Cumberland Street / Ipswich Road	2.98%	2.19%
Lime Kiln Quay Road / Thoroughfare / St. John's Street	2.23%	1.65%

2.7.6 **Traffic Figures 13** and **14** present the 2015 base + development morning and evening peak hour assessment scenario flows respectively. **Traffic Figures 15** and **16** present the 2025 base + committed + development morning and evening peak hours respectively.

2.7.7 In line with the methodology adopted within the Transport Assessment, detailed junction capacity assessments have been carried out for the following junctions:

- A12 / Ipswich Road;
- Top Street / Ipswich Road;
- Site access off Ipswich Road; and
- Site access off Top Street.

2.8 A12 / Ipswich Road Capacity Assessment

2.8.1 The "ARCADY, Junctions 8" assessment program has been used to assess the capacity at the A12 / Ipswich Road junction. **Tables 2.4** and **2.5** summarises the 2015 and 2025 capacity assessments. The full output is provided in **Appendix B**.

Table 2.4: A12 / Ipswich Road (Base + Committed)

Arm	AM 2015 Base		PM 2015 Base		AM 2025 Base + Committed		PM 2025 Base + Committed	
	RFC	Queue	RFC	Queue	RFC	Queue	RFC	Queue
Ipswich Road	0.38	1	0.49	1	0.63	2	0.74	3
A12 South West	0.52	1	0.51	1	0.68	2	0.65	2
A12 North East	0.58	1	0.52	1	0.72	3	0.64	2

Table 2.5: A12 / Ipswich Road (with Development)

Arm	AM 2015 Base + Development		PM 2015 Base + Development		AM 2025 Base + + Committed + Development		PM 2025 Base + + Committed + Development	
	RFC	Queue	RFC	Queue	RFC	Queue	RFC	Queue
Ipswich Road	0.46	1	0.52	1	0.74	3	0.79	4
A12 South West	0.53	1	0.52	1	0.69	2	0.67	2
A12 North East	0.58	1	0.53	1	0.73	3	0.65	2

2.8.2 The ARCADY assessments show that the A12 / Ipswich Road junction would operate within capacity in the 2015 and 2025 base + committed + development scenarios.

2.9 Ipswich Road / Top Street Capacity Assessment

2.9.1 The "ARCADY, Junctions 8" assessment program has been used to assess the capacity at the Ipswich Road / Top Street junction. **Tables 2.6** and **2.7** summarises the 2015 and 2025 base + development capacity assessments. The full output is provided in **Appendix C**.

Table 2.6: Ipswich Road / Top Street (Base)

Arm	AM 2015 Base		PM 2015 Base		AM 2025 Base		PM 2025 Base	
	RFC	Queue	RFC	Queue	RFC	Queue	RFC	Queue
Ipswich Road East	0.31	0	0.37	1	0.45	1	0.51	1
Top Street	0.32	0	0.43	1	0.45	1	0.65	2
Ipswich Road West	0.44	1	0.31	0	0.54	1	0.41	1

Table 2.7: Ipswich Road / Top Street (with Development)

Arm	AM 2015 Base + Dev		PM 2015 Base + Dev		AM 2025 Base + + Committed + Dev		PM 2025 Base + + Committed + Dev	
	RFC	Queue	RFC	Queue	RFC	Queue	RFC	Queue
Ipswich Road East	0.35	1	0.40	1	0.49	1	0.54	1
Top Street	0.37	1	0.46	1	0.50	1	0.68	2
Ipswich Road West	0.46	1	0.35	1	0.56	1	0.46	1

2.9.2 The ARCADY assessments show that the Ipswich Road / Top Street junction would operate well within capacity and would adequately accommodate the development proposals.

2.10 Site Access / Ipswich Road Capacity Assessment

2.10.1 The "PICADY, Junctions 8" assessment program has been used to assess the capacity at the site access / Ipswich Road junction. **Table 2.8** summarises the 2015 and 2025 base + development capacity assessments. The full output is provided in **Appendix D**.

Table 2.8: Site Access / Ipswich Road (with Development)

Arm	AM 2015 Base + Dev		PM 2015 Base + Dev		AM 2025 Base + + Committed + Dev		PM 2025 Base + + Committed + Dev	
	RFC	Queue	RFC	Queue	RFC	Queue	RFC	Queue
Site Access left	0.10	0	0.05	0	0.11	0	0.05	0
Site Access right	0.05	0	0.02	0	0.06	0	0.04	0
Ipswich Road	0.03	0	0.08	0	0.03	0	0.09	0

2.10.2 The PICADY assessments show that proposed Ipswich Road site access junction would operate well within capacity and would adequately accommodate the development proposals.

2.11 Site Access / Top Street Capacity Assessment

2.11.1 The "PICADY, Junctions 8" assessment program has been used to assess the capacity at the site access / Top Street junction. **Table 2.9** summarises the 2015 and 2025 capacity assessments. The full output is provided in **Appendix E**.

Table 2.9: Site Access / Top Street (with Development)

Arm	AM 2015 Base + Dev		PM 2015 Base + Dev		AM 2025 Base + + Committed + Dev		PM 2025 Base + + Committed + Dev	
	RFC	Queue	RFC	Queue	RFC	Queue	RFC	Queue
Site access	0.16	0	0.08	0	0.19	0	0.09	0
Top Street	0.01	0	0.03	0	0.01	0	0.04	0

2.11.2 The PICADY assessments show that the proposed Top Street site access junction would operate well within capacity and would adequately accommodate the development proposals.

3.0 SUMMARY AND CONCLUSION

3.1 Summary

3.1.1 The proposed development in Woodbridge will consist of up to 215 residential units plus a retail store of 280m², being served from two access junctions. The accesses will be located off Ipswich Road and Top Street, with a link between these accesses provided within the site.

3.1.2 This Transport Assessment Addendum has been developed to provide a sensitivity test relating to the split of traffic from each of the site access junctions. This Addendum assumes that traffic will be split equally between each of the access junctions.

3.1.3 The assessed junctions have been modelled using the PICADY and ARCADY programs. The PICADY and ARCADY assessments show that the assessed junctions within the study network would operate well within capacity in this sensitivity test, and would adequately accommodate the development proposals.

3.2 Conclusion

3.2.1 National Planning Policy Framework [NPPF] states that "development should only be prevented or refused on transport grounds where the residual cumulative impacts on development are severe." The traffic impact assessment shows that the proposed development would not have a severe impact on the highway network.

3.2.2 It is concluded that the development proposals are acceptable in highways and transport terms. There are no highways or transport related reasons upon which a refusal of the planning application for the proposals would be justified.

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TRAFFIC FIGURES

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Figure 1: 2014 Surveyed Traffic Flows
AM Peak 0800-0900 Hours

Notes: 123 Total Vehicles
123 Heavies

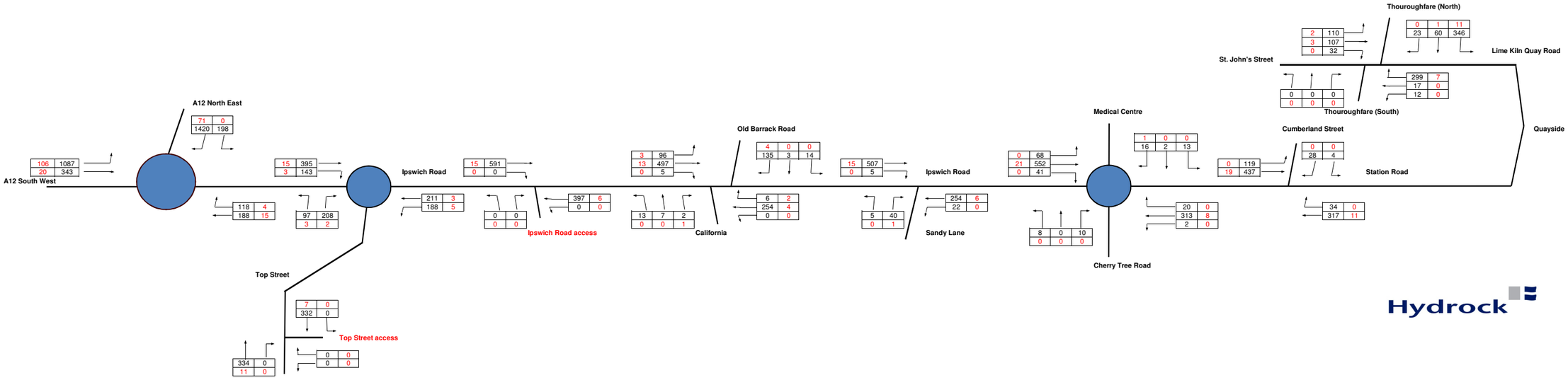

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Figure 1: 2015 Surveyed Traffic Flows
AM Peak 0800-0900 Hours

Notes: 123 Total Vehicles
123 Heavies

Growth Factor 1.0031

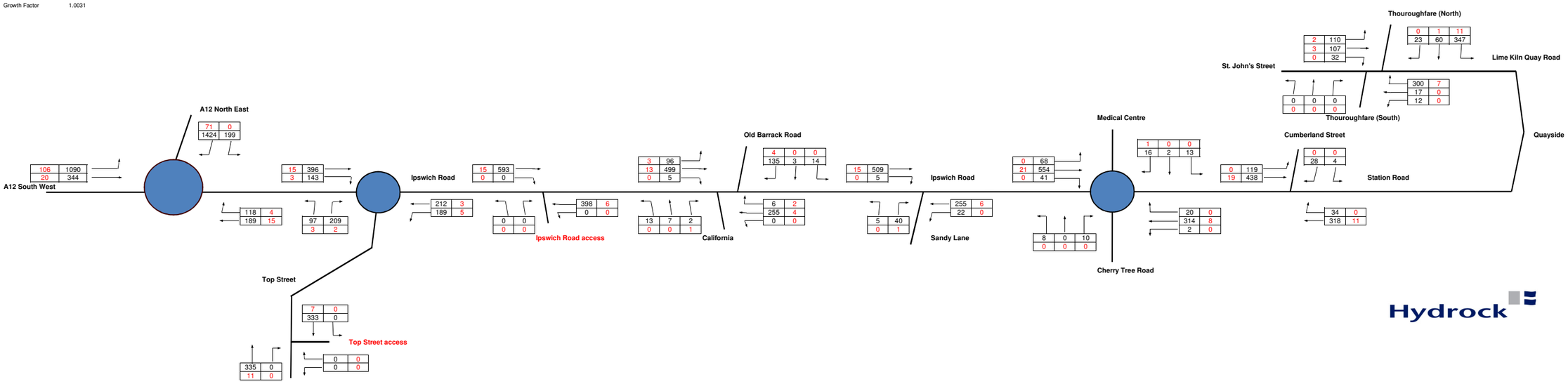

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Figure 2: 2014 Surveyed Traffic Flows
PM Peak 1700-1800 Hours

Notes: 123 Total Vehicles
123 Heavies

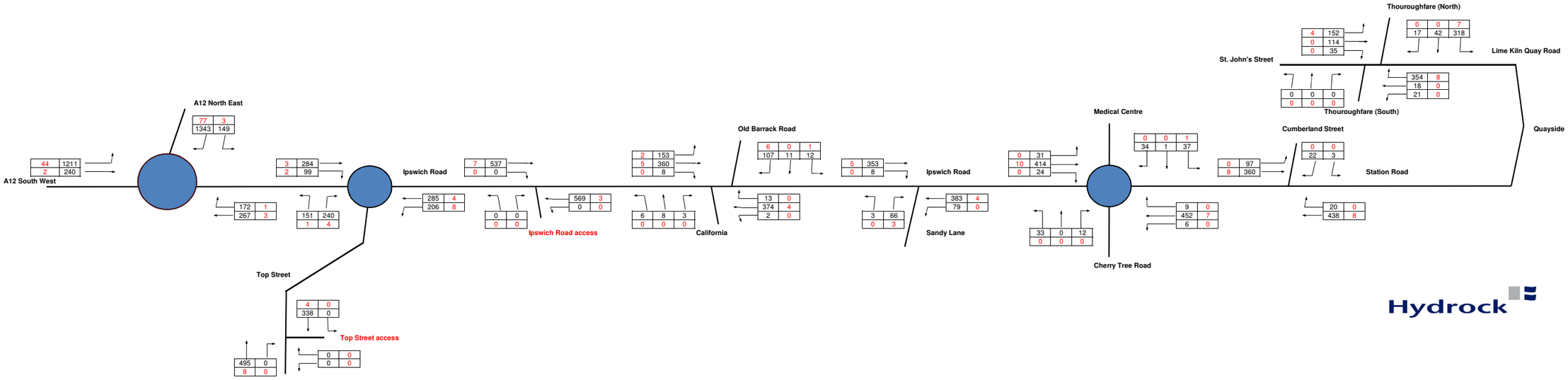

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Figure 2A: 2015 Surveyed Traffic Flows
PM Peak 1700-1800 Hours

Notes: 123 Total Vehicles
123 Heavies

Growth Factor 1.0036

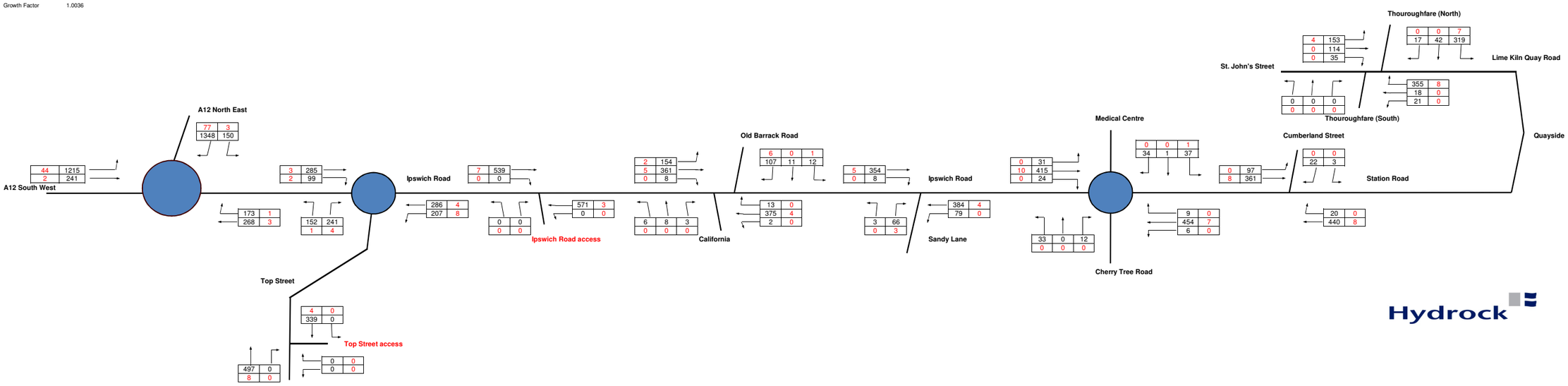

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Figure 3: 2014 Surveyed Traffic Flows
AM Peak 0800-0900 Hours

Notes: 123 PCUs

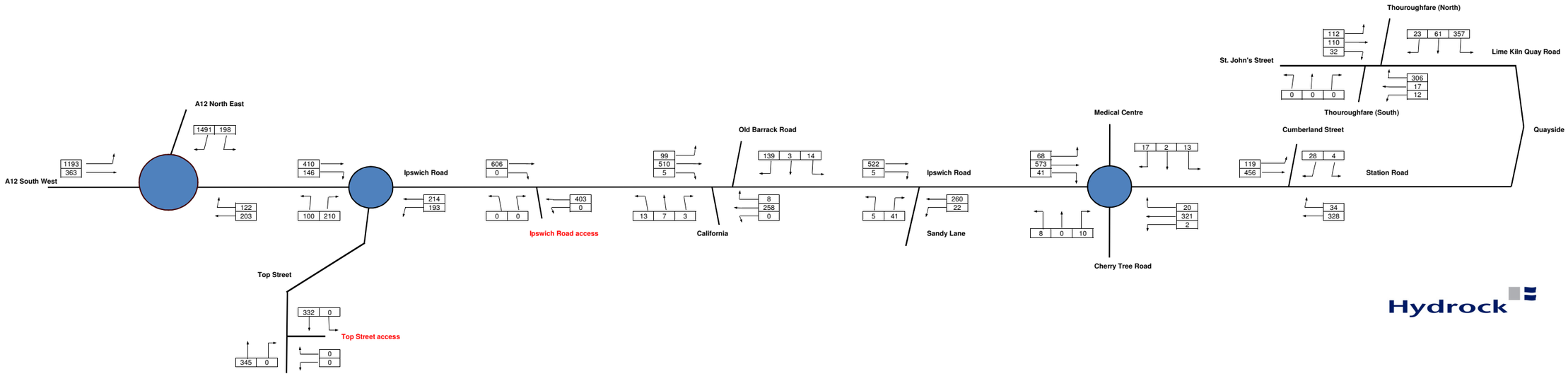

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Figure 3A: 2015 Growthed Traffic Flows
AM Peak 0800-0900 Hours

Notes: Growth Factor - 1.0031

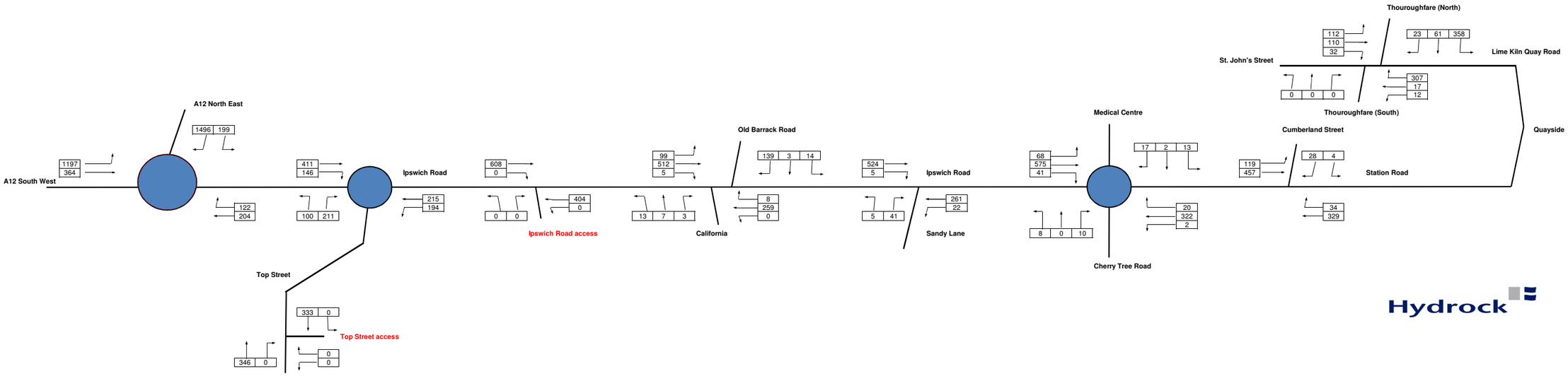

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Figure 4: 2014 Surveyed Traffic Flows
PM Peak 1700-1800 Hours

Notes: 123 PCUs

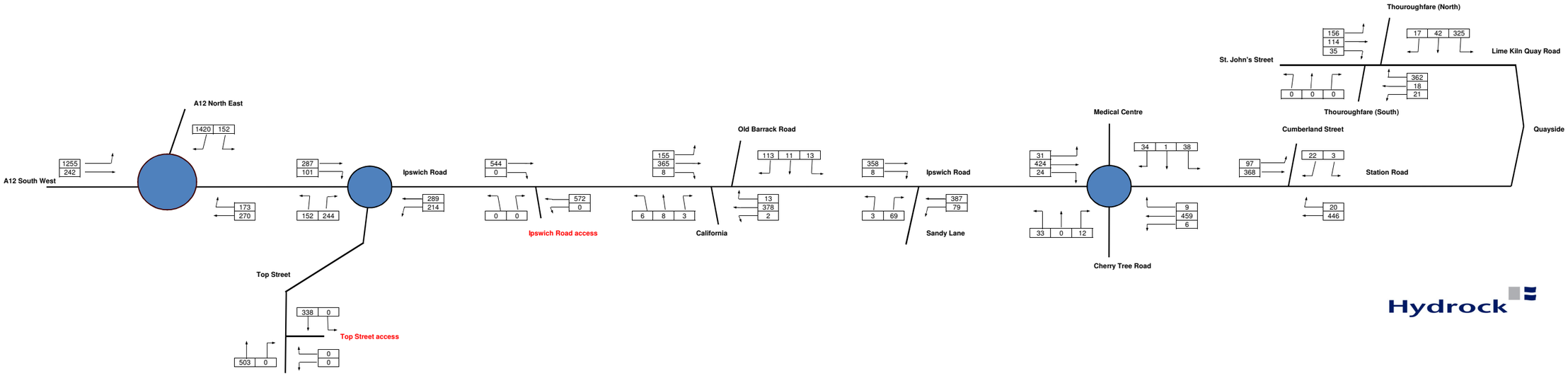

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Figure 4A: 2015 Growthed Traffic Flows
PM Peak 1700-1800 Hours

Notes: Growth Factor - 1.0036

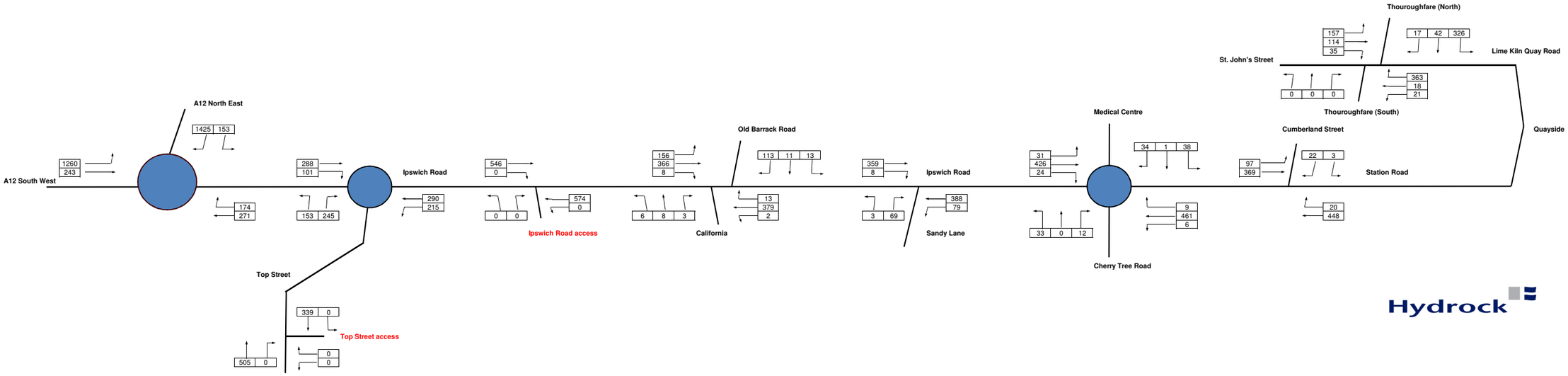

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Figure 5: 2025 Growthed Traffic Flows
AM Peak 0800-0900 Hours

Notes: Growth Factor - 1.1516

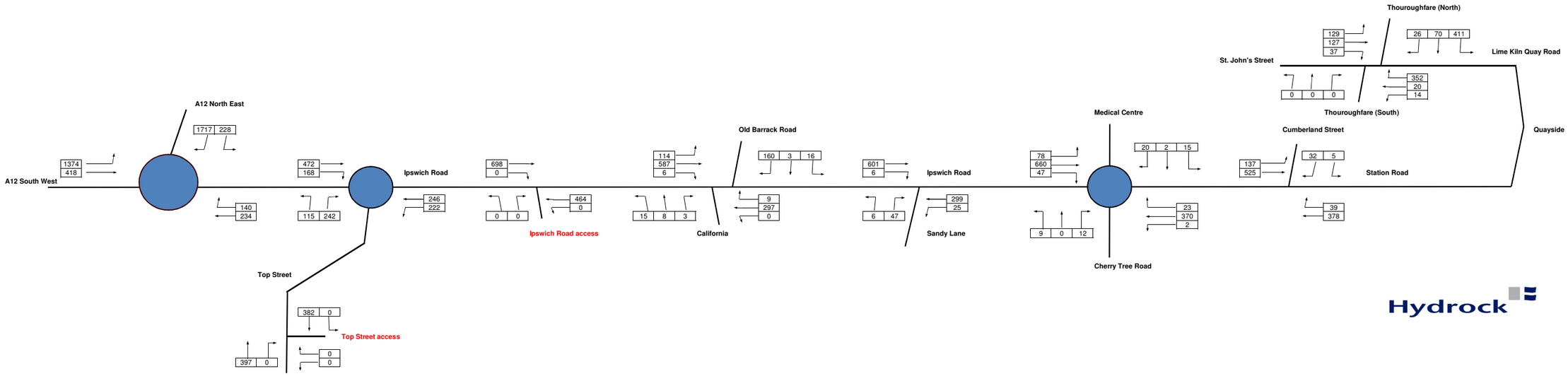

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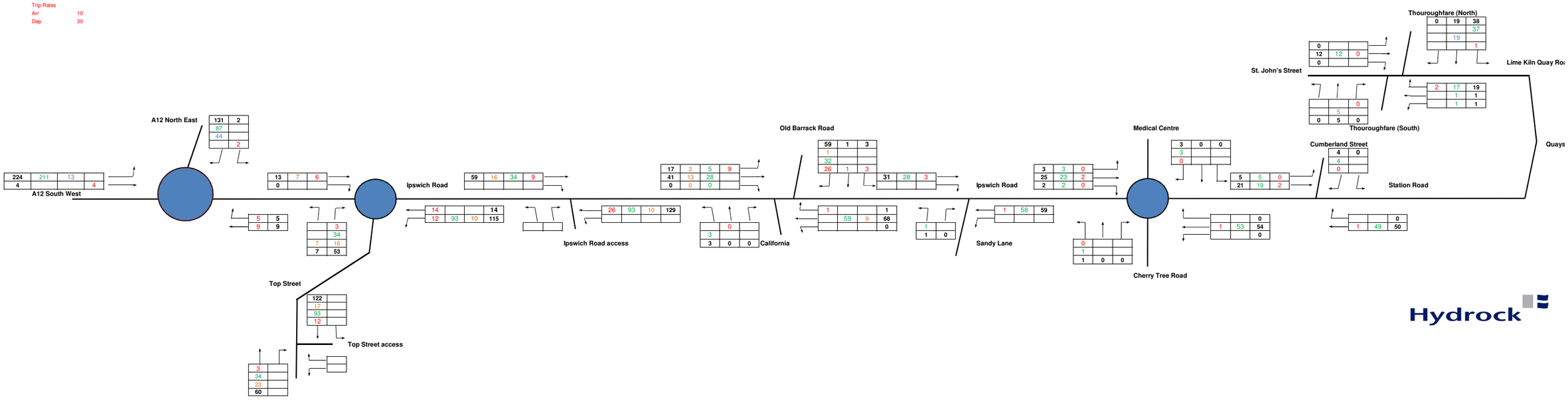
Figure 5A: Committed Development Traffic Flows
AM Peak 0800-0900 Hours



Woodbridge Football Club
Land at Woods Lane, Melton (assumes all traffic to / from A12 South will travel through roundabout)
Adastral Park (traffic at Felixstowe Road /Main Road junction has been distributed based on traffic generated at Main Road / A12 / Park and Ride junction). At other junctions, traffic has been distributed based on turning movements.
Land south of Main Road, Martlesham (traffic distributed based on existing turning movements at Ipswich Road / Top Street and Ipswich Road / Old Barrack Road / California junctions)
Total

Figure 5B: 2025 Growthed + Committed Traffic Flows
AM Peak 0800-0900 Hours

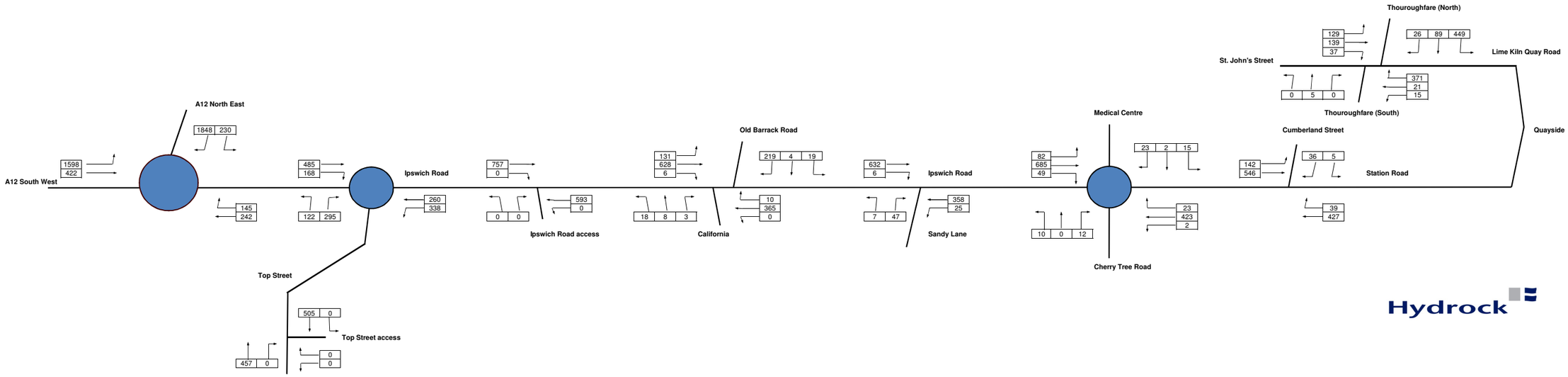


Figure 6: 2025 Growthed Traffic Flows
PM Peak 1700-1800 Hours

Notes: Growth Factor - 1.1574

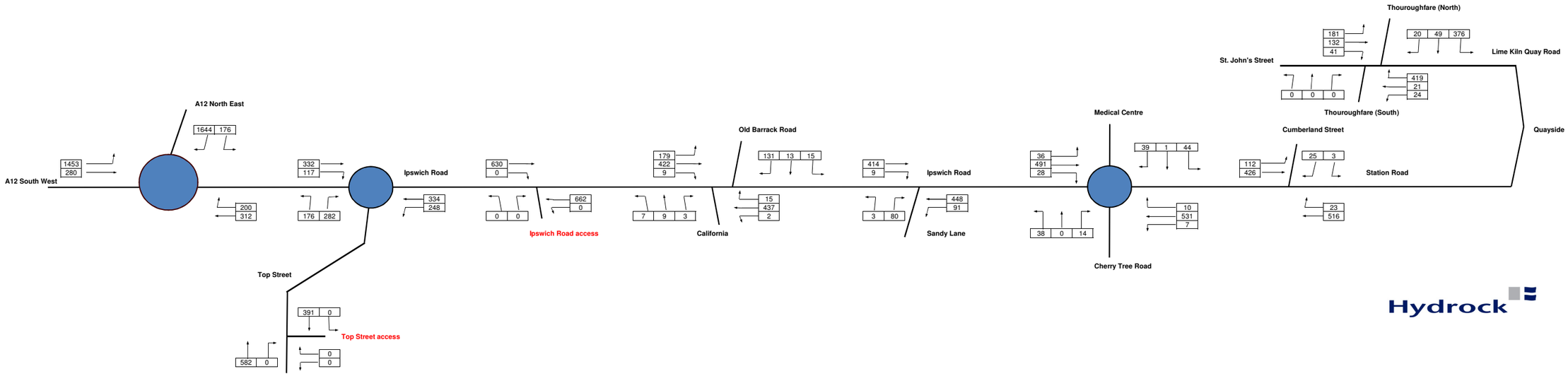


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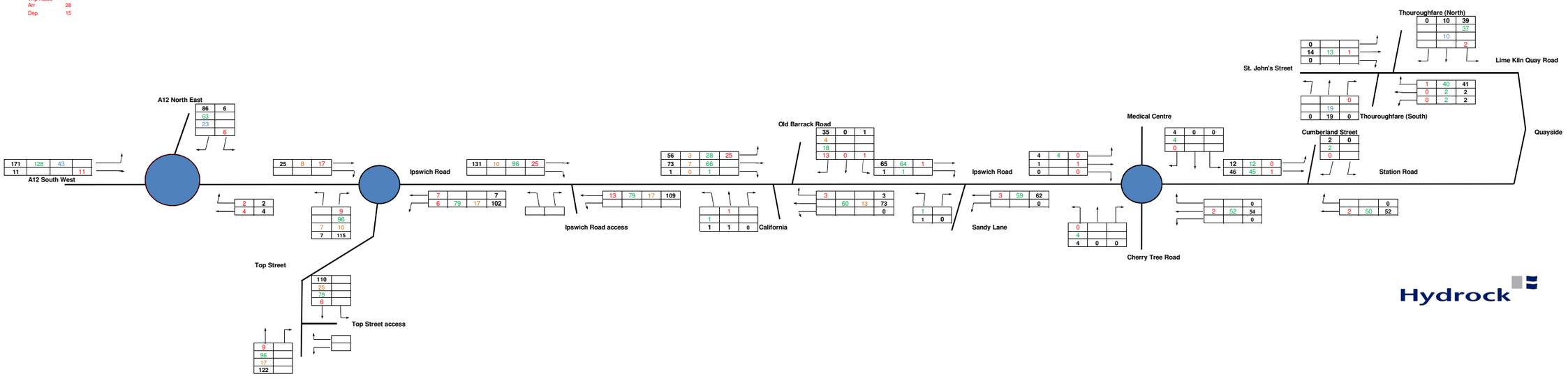
Figure 6A: Committed Development
PM Peak 1700-1800 Hours

Trip Rates
Arr 28
Dep 15



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Woodbridge Football Club
Land at Woods Lane, Melton
Adastral Park (traffic at Felixstowe Road /Main Road junction has been distributed based on traffic generated at Main Road / A12 / Park and Ride junction). At other junctions, traffic has been distributed based on turning movements.
Land south of Main Road, Martlesham (traffic distributed based on existing turning movements at Ipswich Road / Top Street and Ipswich Road / Old Barrack Road / California junctions)

Figure 6B: 2025 Growthed + Committed Traffic Flows
PM Peak 1700-1800 Hours

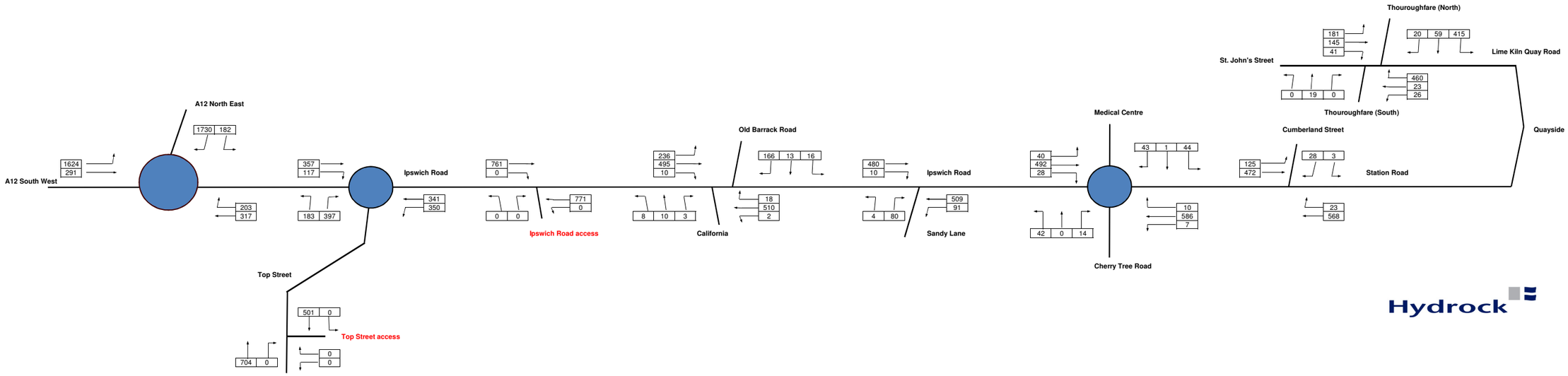

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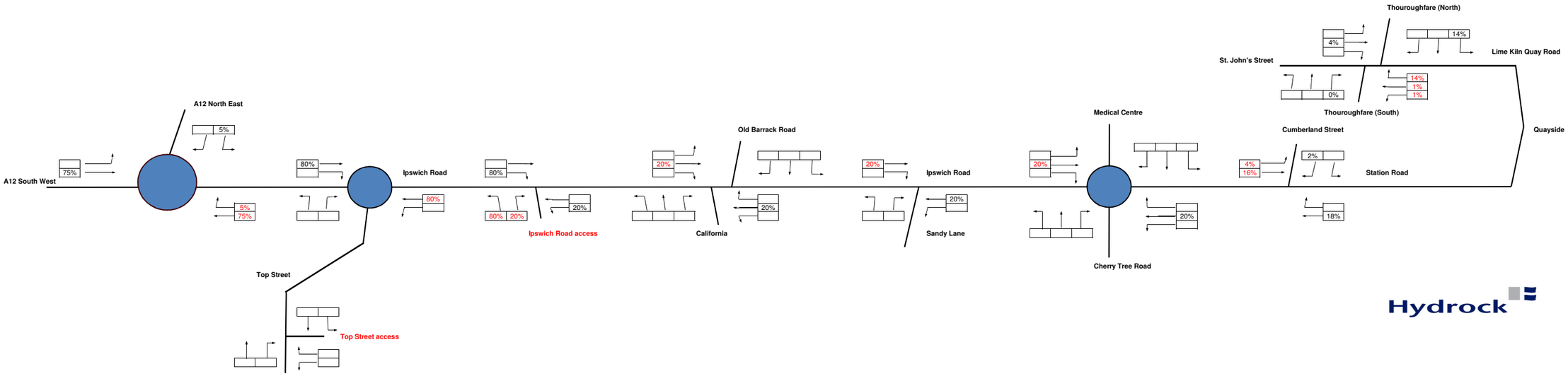
Figure 7: Development Distribution (Ipswich Road Access)

Notes: Arrivals
Departures



Hydrock

Figure 8: Development Distribution (Top Street Access)

Notes: Arrivals
Departures

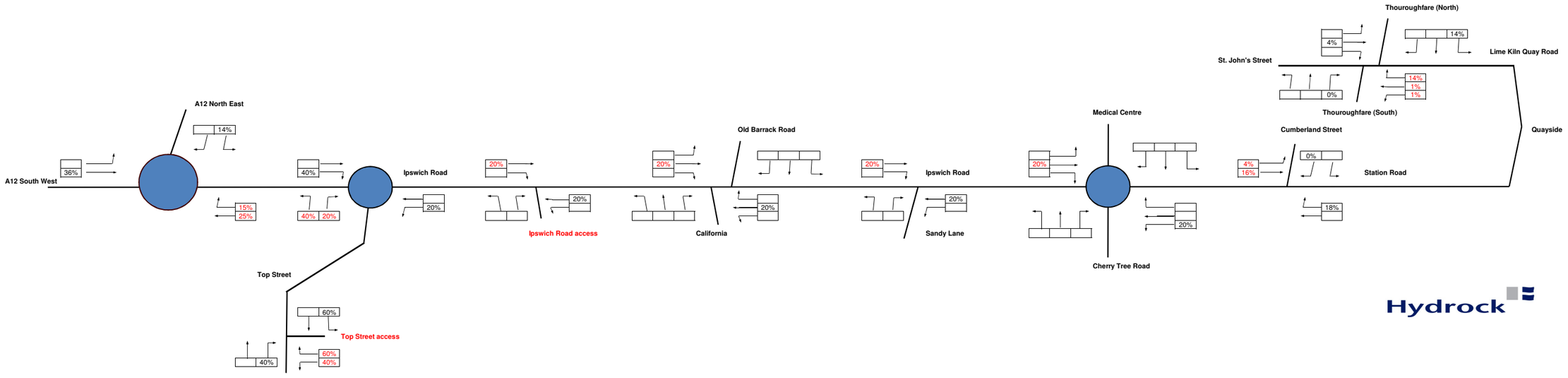
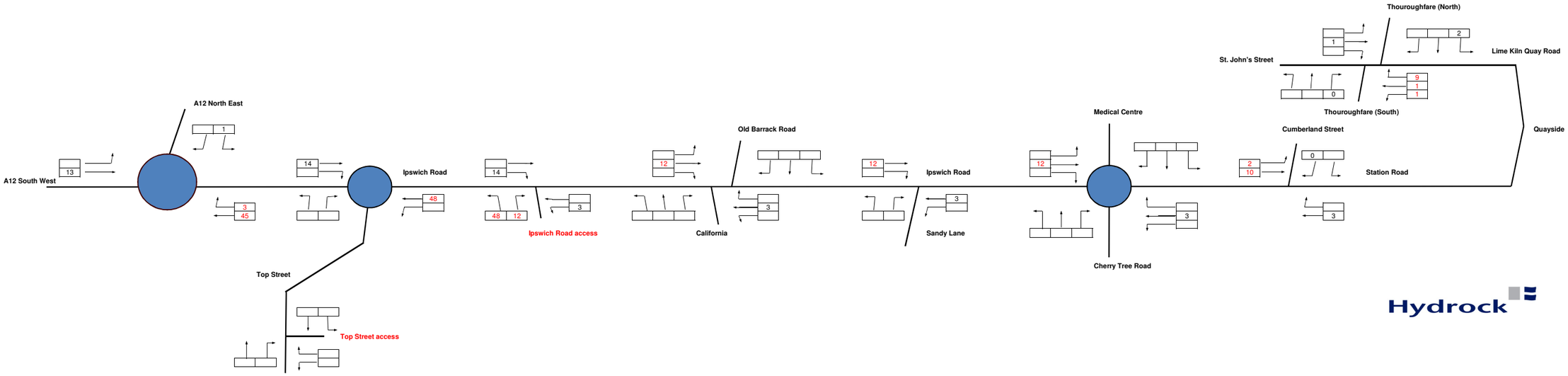


Figure 9: AM Peak Development Traffic (Main Access, Ipswich Road)
AM Peak 0800-0900 Hours

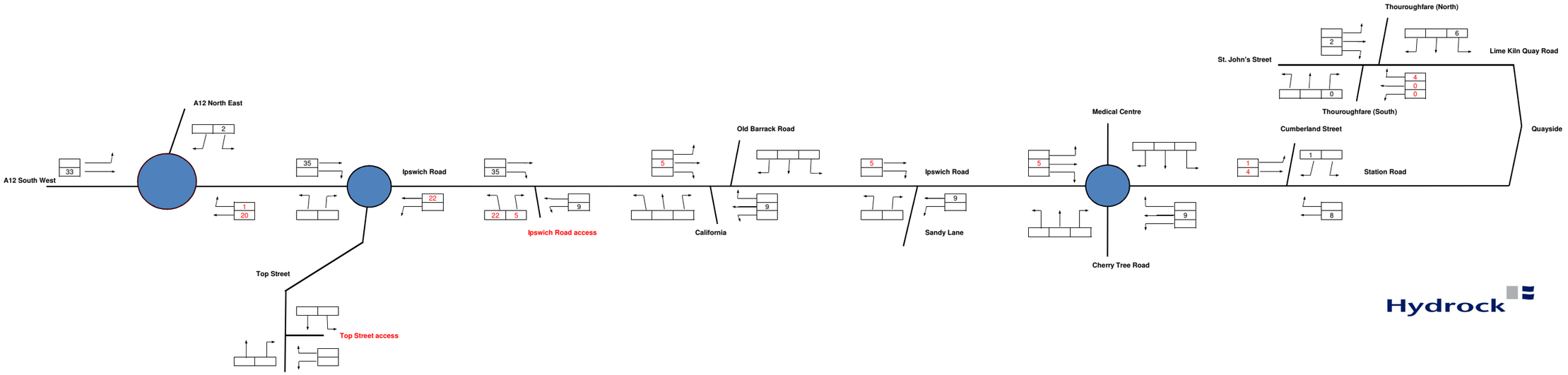
Notes: 17 Arrivals
60 Departures



Hydrock

Figure 10: PM Peak Development Traffic (Main Access, Ipswich Road)
PM Peak 1700-1800 Hours

Notes: 43 Arrivals
27 Departures



Hydrock

Figure 11: AM Peak Development Traffic (Top Street access)
AM Peak 0800-0900 Hours

Notes: 17 Arrivals
60 Departures

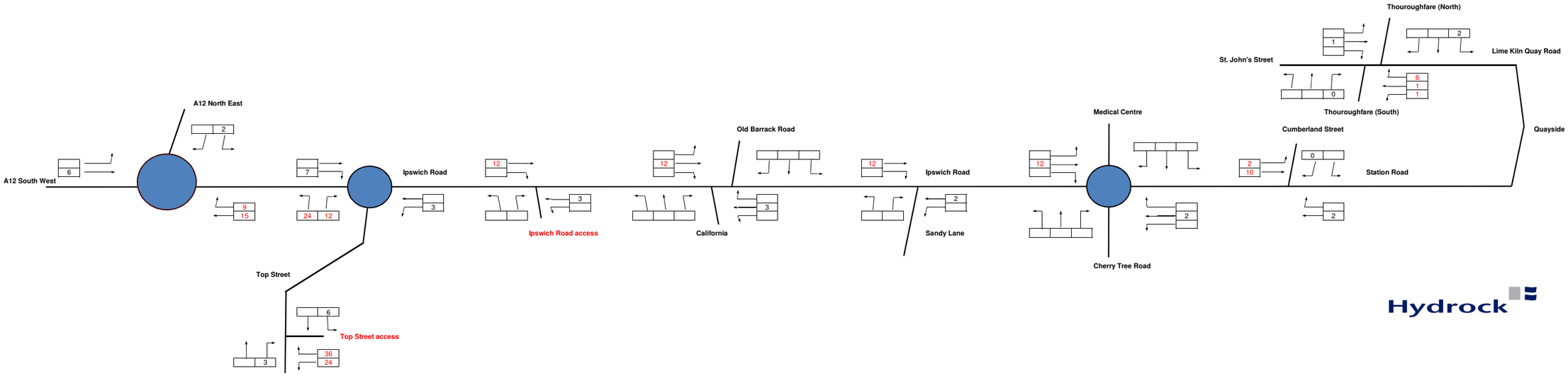


Figure 12: PM Peak Development Traffic (Top Street access)
PM Peak 1700-1800 Hours

Notes: 43 Arrivals
27 Departures

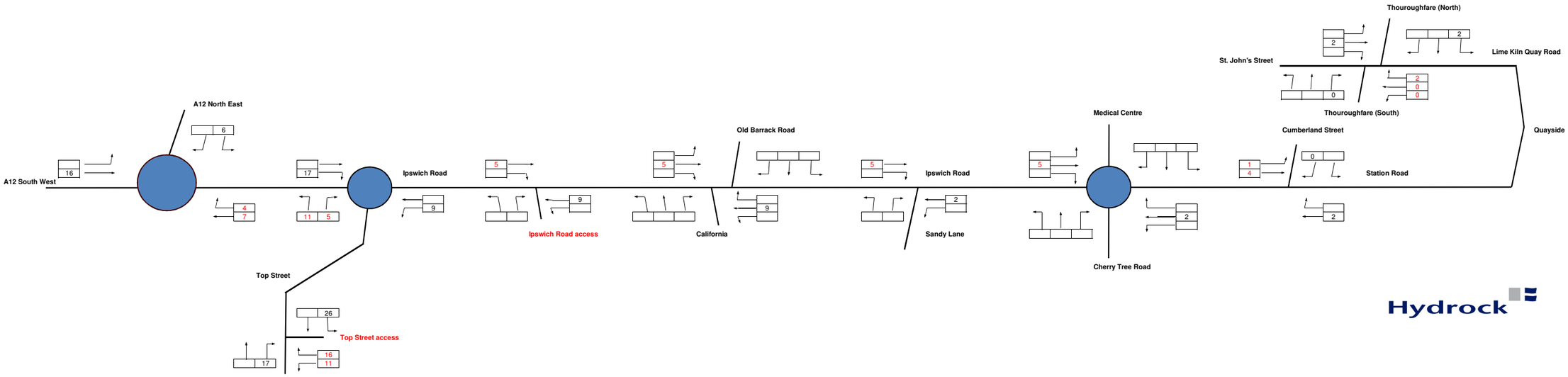
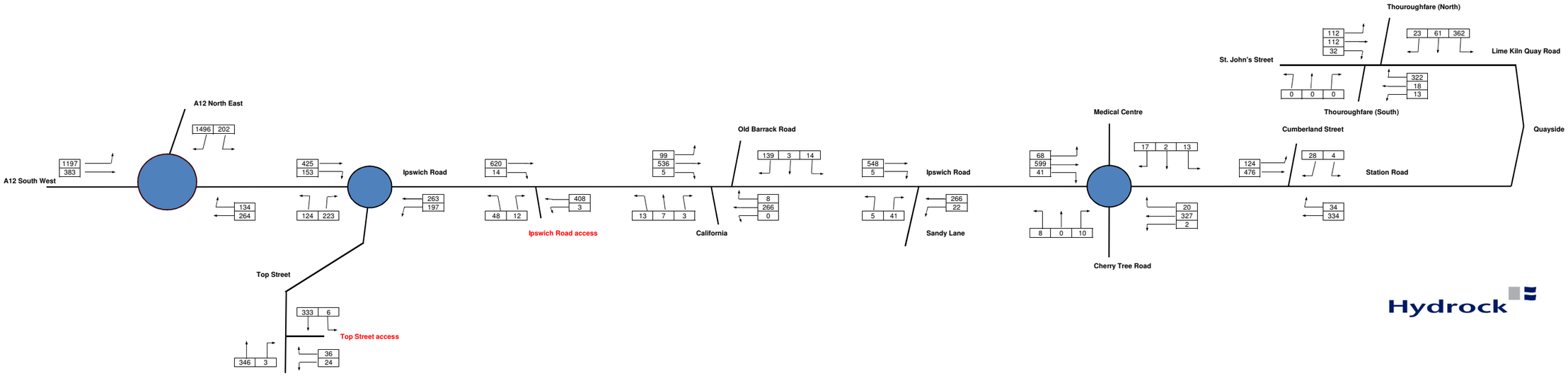


Figure 13: 2015 With Development Traffic Flows (Growthed & Development)
AM Peak 0800-0900 Hours

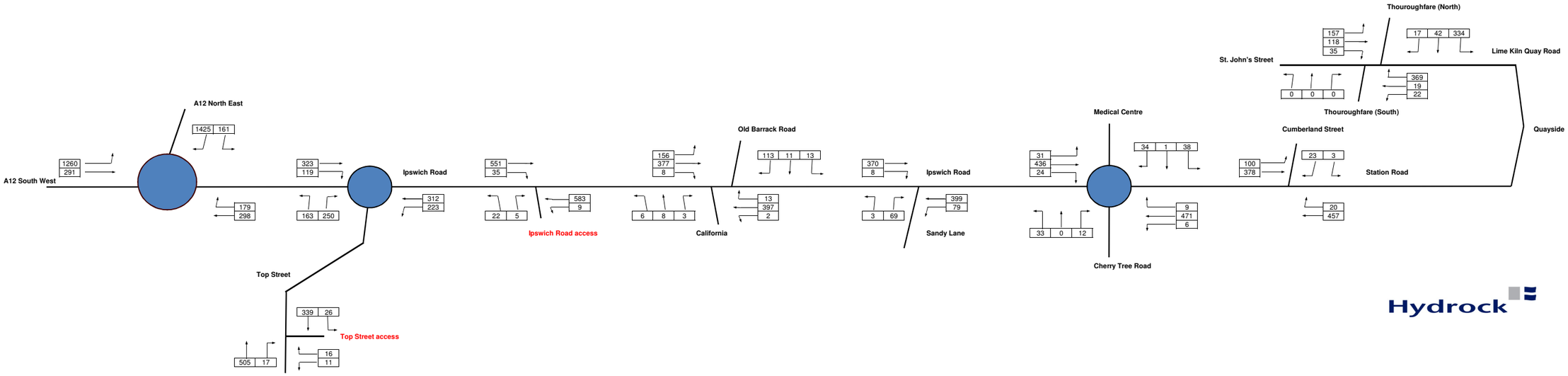
Notes: 123 PCUs



Hydrock

Figure 14: 2015 With Development Traffic Flows (Growthed & Development)
PM Peak 1700-1800 Hours

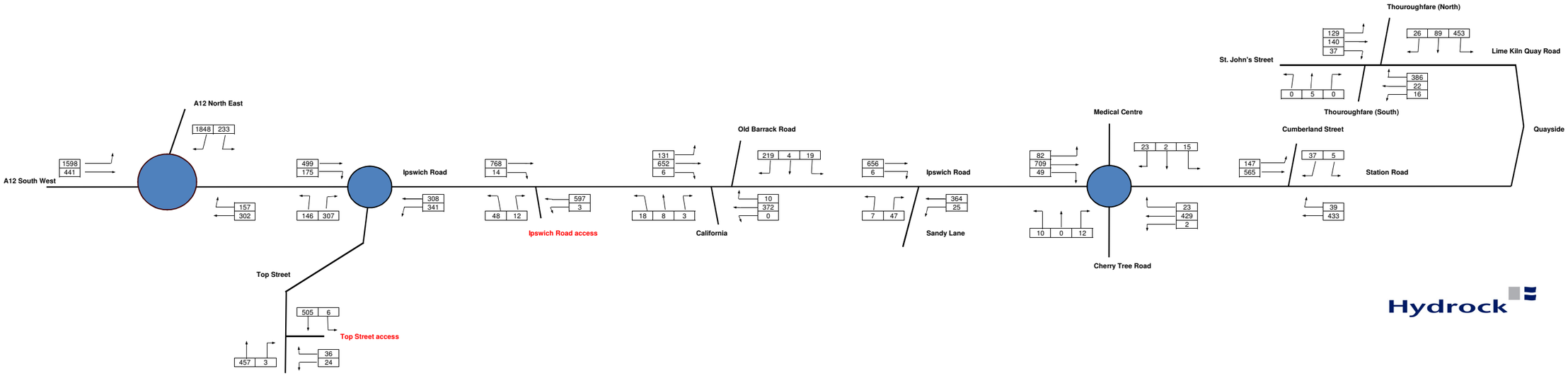
Notes: 123 PCUs



Hydrock

Figure 15: 2025 With Development Traffic Flows (Growthed + Committed + Development)
AM Peak 0800-0900 Hours

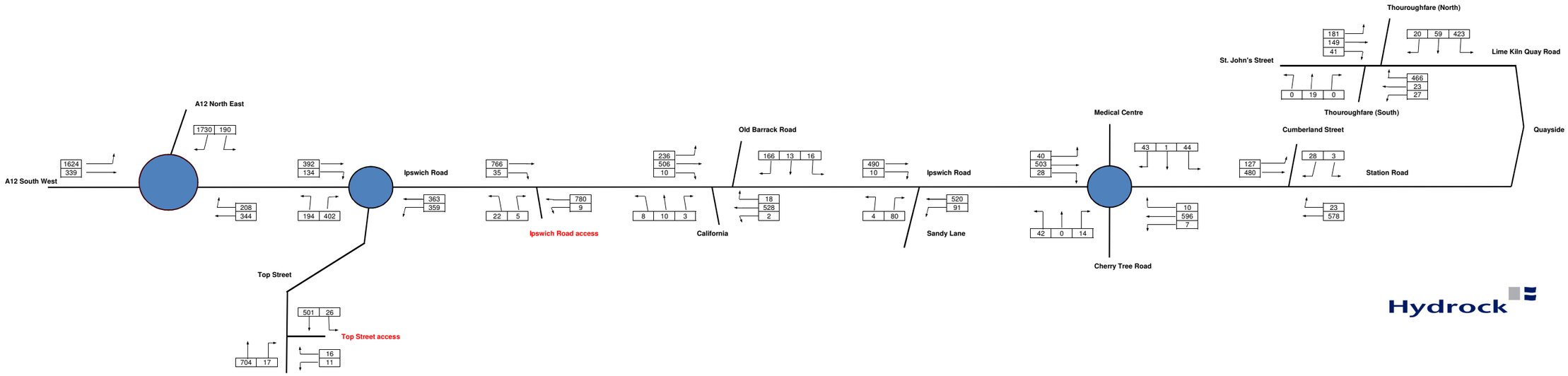
Notes: 123 PCUs



Hydrock

Figure 16: 2025 With Development Traffic Flows (Growthed + Committed + Development)
PM Peak 1700-1800 Hours

Notes: 123 PCUs



Hydrock

APPENDICES

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APPENDIX A – SITE ACCESS DRAWING

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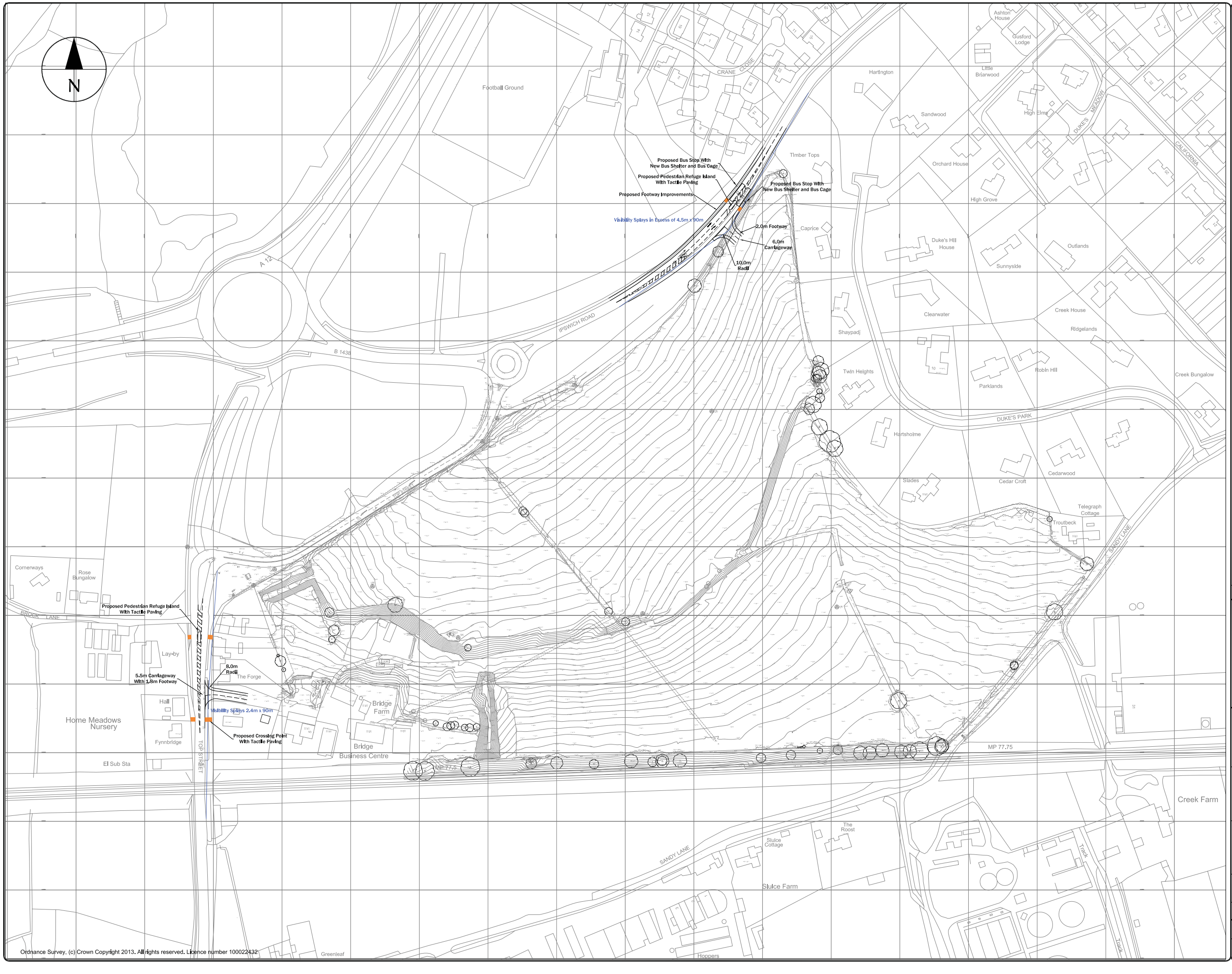

Notes:

1. All dimensions are to be checked on site before the commencement of works. Any discrepancies are to be reported to the Architect & Engineer for verification. Figured dimensions only are to be taken from this drawing.

2. This drawing is to be read in conjunction with all relevant Engineers' and Service Engineers' drawings and specifications. This drawing is copyright.

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION

IN ADDITION TO THE HAZARDS/RISKS NORMALLY ASSOCIATED WITH THE TYPES OF WORK DETAILED ON THIS DRAWING, NOTE THE FOLLOWING

MAINTENANCE / CLEANING

DECOMMISSIONING / DEMOLITION

IT IS ASSUMED THAT ALL WORKS WILL BE CARRIED OUT BY A COMPETENT CONTRACTOR WORKING, WHERE APPROPRIATE, TO AN APPROVED METHOD STATEMENT

Rev	Date	Description	By	Ckd
G	12/01/16	Amended to SCC's comments	TC	TC
F	24/09/14	Sandy Lane access removed	TC	TC
E	24/09/14	Sandy Lane access relocated	TC	TC
D	19/08/14	Include new bus stops	TC	TC
C	19/08/14	Top Street pedestrian crossings	TC	TC
B	24/07/14	Minor revisions	TC	TC
A	16/07/14	Include Sandy Lane Underbridge Improvements	TC	TC

Hydrock

St Baldred's Hall
239 Ashley Road, Hale,
Cheshire
WA15 9NE
Tel No. 0161 233 0746

Client

Gladman Developments Ltd.

Project

Duke's Park
Woodbridge, Suffolk

Title

Proposed Access Arrangement

Drawing Status

Job No.				
C14106				
Drawn	Checked	Scale at A1	Date	Issue Date
HB	TC	1 : 1250	01/05/2014	01/05/2014
Drawing No.				Revision
002				G

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APPENDIX B – A12 / IPSWICH ROAD – ARCADY OUTPUT

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Junctions 8

ARCADY 8 - Roundabout Module

Version: 8.0.4.487 [15039,24/03/2014]

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

Filename: A12, Ipswich Road 5050 split Jan 2016.arc8
Path: P:\Gladman SLS\C14106 Gladman Duke's Park Woodbridge\Hydrock Documents\Transport\Junction Models
Report generation date: 06/01/2016 16:34:07

Summary of junction performance

	AM				PM			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - 2015 Base Flows							
Arm 1	0.60	6.66	0.38	A	0.94	7.63	0.49	A
Arm 2	1.08	2.49	0.52	A	1.03	2.47	0.51	A
Arm 3	1.38	2.93	0.58	A	1.08	2.46	0.52	A
	A1 - 2015 With Development							
Arm 1	0.85	7.68	0.46	A	1.08	8.19	0.52	A
Arm 2	1.11	2.54	0.53	A	1.10	2.56	0.52	A
Arm 3	1.40	2.98	0.58	A	1.13	2.56	0.53	A
	A1 - 2025 Base + Com Flows							
Arm 1	1.65	15.50	0.63	C	2.79	19.71	0.74	C
Arm 2	2.08	3.72	0.68	A	1.88	3.54	0.65	A
Arm 3	2.62	4.56	0.72	A	1.77	3.33	0.64	A
	A1 - 2025 Base + Committed + Development							
Arm 1	2.79	22.39	0.74	C	3.56	23.83	0.79	C
Arm 2	2.17	3.84	0.69	A	2.03	3.73	0.67	A
Arm 3	2.70	4.69	0.73	A	1.87	3.51	0.65	A

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle.

"D1 - 2015 Base Flows, AM " model duration: 08:00 - 09:00
"D2 - 2015 Base Flows, PM" model duration: 17:00 - 18:00
"D3 - 2025 Base + Com Flows, AM" model duration: 08:00 - 09:00
"D4 - 2025 Base + Com Flows, PM" model duration: 17:00 - 18:00
"D5 - 2015 With Development, AM" model duration: 08:00 - 09:00
"D6 - 2015 With Development, PM" model duration: 17:00 - 18:00
"D7 - 2025 Base + Committed + Development, AM" model duration: 08:00 - 09:00
"D8 - 2025 Base + Committed + Development, PM" model duration: 17:00 - 18:00

Run using Junctions 8.0.4.487 at 06/01/2016 16:34:05

File summary

Title	A12 / Ipswich Road Roundabout
Location	Woodbridge
Site Number	
Date	16/05/2014
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	michaelchau
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			N/A	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	PCU	PCU	perHour	s	-Min	perMin

(Default Analysis Set) - 2015 Base Flows, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	ARCADY			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)	Single Time Segment Only	Locked
2015 Base Flows, AM	2015 Base Flows	AM		DIRECT	08:00	09:00	60	15		

Junction Network

Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Junction Delay (s)	Junction LOS
1	(untitled)	Roundabout	1,2,3			3.08	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description
1	1	Ipswich Road	
2	2	A12 South West	
3	3	A12 North East	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)
1	0.00	99999.00
2	0.00	99999.00
3	0.00	99999.00

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
1	3.50	9.05	18.00	45.00	31.10	36.00	
2	7.43	12.30	24.00	55.00	32.60	41.00	
3	8.30	12.40	26.00	56.00	36.60	45.00	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		(calculated)	(calculated)	0.703	1919.071
2		(calculated)	(calculated)	0.943	3123.776
3		(calculated)	(calculated)	0.960	3271.696

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 (PCU/hr)	Flow Scaling Factor (%)
1	DIRECT		N/A	100.000
2	DIRECT		N/A	100.000
3	DIRECT		N/A	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		To		
		1	2	3
From	1	0.000	204.000	122.000
	2	364.000	0.000	1197.000
	3	199.000	1496.000	0.000

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

		To		
		1	2	3
From	1	0.00	0.63	0.37
	2	0.23	0.00	0.77
	3	0.12	0.88	0.00

Vehicle Mix

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

		To		
		1	2	3
From	1	1.000	1.000	1.000
	2	1.000	1.000	1.000
	3	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		1	2	3
From	1	0.0	0.0	0.0
	2	0.0	0.0	0.0
	3	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.38	6.66	0.60	A
2	0.52	2.49	1.08	A
3	0.58	2.93	1.38	A

Main Results for each time segment

Main results: (08:00-08:15)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	326.00	323.63	1491.17	0.00	870.11	0.375	0.59	6.561	A
2	1561.00	1556.71	121.11	0.00	3009.59	0.519	1.07	2.471	A
3	1695.00	1689.52	363.00	0.00	2923.29	0.580	1.37	2.905	A

Main results: (08:15-08:30)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	326.00	325.97	1495.98	0.00	866.72	0.376	0.60	6.656	A
2	1561.00	1560.99	121.99	0.00	3008.76	0.519	1.07	2.486	A
3	1695.00	1694.98	364.00	0.00	2922.33	0.580	1.38	2.932	A

Main results: (08:30-08:45)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	326.00	325.99	1495.99	0.00	866.71	0.376	0.60	6.657	A
2	1561.00	1561.00	122.00	0.00	3008.75	0.519	1.08	2.486	A
3	1695.00	1694.99	364.00	0.00	2922.33	0.580	1.38	2.932	A

Main results: (08:45-09:00)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	326.00	326.00	1496.00	0.00	866.71	0.376	0.60	6.657	A
2	1561.00	1561.00	122.00	0.00	3008.75	0.519	1.08	2.486	A
3	1695.00	1695.00	364.00	0.00	2922.33	0.580	1.38	2.932	A

(Default Analysis Set) - 2015 Base Flows, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	ARCADY			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)	Single Time Segment Only	Locked
2015 Base Flows, PM	2015 Base Flows	PM		DIRECT	17:00	18:00	60	15		

Junction Network

Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Junction Delay (s)	Junction LOS
1	(untitled)	Roundabout	1,2,3			3.12	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description
1	1	Ipswich Road	
2	2	A12 South West	
3	3	A12 North East	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)
1	0.00	99999.00
2	0.00	99999.00
3	0.00	99999.00

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
1	3.50	9.05	18.00	45.00	31.10	36.00	
2	7.43	12.30	24.00	55.00	32.60	41.00	
3	8.30	12.40	26.00	56.00	36.60	45.00	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		(calculated)	(calculated)	0.703	1919.071
2		(calculated)	(calculated)	0.943	3123.776
3		(calculated)	(calculated)	0.960	3271.696

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 (PCU/hr)	Flow Scaling Factor (%)
1	DIRECT	✓	N/A	100.000
2	DIRECT	✓	N/A	100.000
3	DIRECT	✓	N/A	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		To		
		1	2	3
From	1	0.000	271.000	174.000
	2	243.000	0.000	1260.000
	3	153.000	1425.000	0.000

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

		To		
		1	2	3
From	1	0.00	0.61	0.39
	2	0.16	0.00	0.84
	3	0.10	0.90	0.00

Vehicle Mix

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

		To		
		1	2	3
From	1	1.000	1.000	1.000
	2	1.000	1.000	1.000
	3	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		1	2	3
From	1	0.0	0.0	0.0
	2	0.0	0.0	0.0
	3	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.49	7.63	0.94	A
2	0.51	2.47	1.03	A
3	0.52	2.46	1.08	A

Main Results for each time segment

Main results: (17:00-17:15)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	445.00	441.31	1421.12	0.00	919.38	0.484	0.92	7.475	A
2	1503.00	1498.90	172.56	0.00	2961.09	0.508	1.03	2.455	A
3	1578.00	1573.70	242.34	0.00	3039.10	0.519	1.07	2.449	A

Main results: (17:15-17:30)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	445.00	444.95	1424.99	0.00	916.66	0.485	0.93	7.631	A
2	1503.00	1502.99	173.98	0.00	2959.74	0.508	1.03	2.470	A
3	1578.00	1577.99	243.00	0.00	3038.47	0.519	1.08	2.464	A

Main results: (17:30-17:45)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	445.00	444.99	1425.00	0.00	916.66	0.485	0.94	7.631	A
2	1503.00	1503.00	174.00	0.00	2959.73	0.508	1.03	2.470	A
3	1578.00	1578.00	243.00	0.00	3038.47	0.519	1.08	2.464	A

Main results: (17:45-18:00)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	445.00	444.99	1425.00	0.00	916.66	0.485	0.94	7.631	A
2	1503.00	1503.00	174.00	0.00	2959.73	0.508	1.03	2.470	A
3	1578.00	1578.00	243.00	0.00	3038.47	0.519	1.08	2.464	A

(Default Analysis Set) - 2025 Base + Com Flows, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	ARCADY			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)	Single Time Segment Only	Locked
2025 Base + Com Flows, AM	2025 Base + Com Flows	AM		DIRECT	08:00	09:00	60	15		

Junction Network

Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Junction Delay (s)	Junction LOS
1	(untitled)	Roundabout	1,2,3			5.13	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description
1	1	Ipswich Road	
2	2	A12 South West	
3	3	A12 North East	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)
1	0.00	99999.00
2	0.00	99999.00
3	0.00	99999.00

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
1	3.50	9.05	18.00	45.00	31.10	36.00	
2	7.43	12.30	24.00	55.00	32.60	41.00	
3	8.30	12.40	26.00	56.00	36.60	45.00	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		(calculated)	(calculated)	0.703	1919.071
2		(calculated)	(calculated)	0.943	3123.776
3		(calculated)	(calculated)	0.960	3271.696

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 (PCU/hr)	Flow Scaling Factor (%)
1	DIRECT	✓	N/A	100.000
2	DIRECT	✓	N/A	100.000
3	DIRECT	✓	N/A	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		To		
		1	2	3
From	1	0.000	242.000	145.000
	2	422.000	0.000	1598.000
	3	230.000	1848.000	0.000

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

		To		
		1	2	3
From	1	0.00	0.63	0.37
	2	0.21	0.00	0.79
	3	0.11	0.89	0.00

Vehicle Mix

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

		To		
		1	2	3
From	1	1.000	1.000	1.000
	2	1.000	1.000	1.000
	3	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		1	2	3
From	1	0.0	0.0	0.0
	2	0.0	0.0	0.0
	3	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.63	15.50	1.65	C
2	0.68	3.72	2.08	A
3	0.72	4.56	2.62	A

Main Results for each time segment

Main results: (08:00-08:15)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	387.00	380.78	1838.81	0.00	625.56	0.619	1.56	14.370	B
2	2020.00	2011.77	142.67	0.00	2989.27	0.676	2.06	3.652	A
3	2078.00	2067.67	420.28	0.00	2868.31	0.724	2.58	4.440	A

Main results: (08:15-08:30)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	387.00	386.74	1847.90	0.00	619.16	0.625	1.62	15.453	C
2	2020.00	2019.93	144.90	0.00	2987.16	0.676	2.07	3.721	A
3	2078.00	2077.89	421.99	0.00	2866.67	0.725	2.61	4.562	A

Main results: (08:30-08:45)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	387.00	386.93	1847.97	0.00	619.12	0.625	1.64	15.487	C
2	2020.00	2019.98	144.97	0.00	2987.09	0.676	2.08	3.721	A
3	2078.00	2077.97	422.00	0.00	2866.66	0.725	2.62	4.564	A

Main results: (08:45-09:00)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	387.00	386.97	1847.98	0.00	619.11	0.625	1.65	15.496	C
2	2020.00	2019.99	144.99	0.00	2987.08	0.676	2.08	3.721	A
3	2078.00	2077.98	422.00	0.00	2866.66	0.725	2.62	4.564	A

(Default Analysis Set) - 2025 Base + Com Flows, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	ARCADY			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)	Single Time Segment Only	Locked
2025 Base + Com Flows, PM	2025 Base + Com Flows	PM		DIRECT	17:00	18:00	60	15		

Junction Network

Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Junction Delay (s)	Junction LOS
1	(untitled)	Roundabout	1,2,3			5.38	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description
1	1	Ipswich Road	
2	2	A12 South West	
3	3	A12 North East	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)
1	0.00	99999.00
2	0.00	99999.00
3	0.00	99999.00

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
1	3.50	9.05	18.00	45.00	31.10	36.00	
2	7.43	12.30	24.00	55.00	32.60	41.00	
3	8.30	12.40	26.00	56.00	36.60	45.00	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		(calculated)	(calculated)	0.703	1919.071
2		(calculated)	(calculated)	0.943	3123.776
3		(calculated)	(calculated)	0.960	3271.696

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 (PCU/hr)	Flow Scaling Factor (%)
1	DIRECT	✓	N/A	100.000
2	DIRECT	✓	N/A	100.000
3	DIRECT	✓	N/A	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		To		
		1	2	3
From	1	0.000	317.000	203.000
	2	291.000	0.000	1624.000
	3	182.000	1730.000	0.000

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

		To		
		1	2	3
From	1	0.00	0.61	0.39
	2	0.15	0.00	0.85
	3	0.10	0.90	0.00

Vehicle Mix

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

		To		
		1	2	3
From	1	1.000	1.000	1.000
	2	1.000	1.000	1.000
	3	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		1	2	3
From	1	0.0	0.0	0.0
	2	0.0	0.0	0.0
	3	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.74	19.71	2.79	C
2	0.65	3.54	1.88	A
3	0.64	3.33	1.77	A

Main Results for each time segment

Main results: (17:00-17:15)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	520.00	509.65	1723.67	0.00	706.56	0.736	2.59	17.476	C
2	1915.00	1907.58	198.96	0.00	2936.19	0.652	1.85	3.474	A
3	1912.00	1905.00	289.87	0.00	2993.48	0.639	1.75	3.286	A

Main results: (17:15-17:30)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	520.00	519.44	1729.96	0.00	702.13	0.741	2.73	19.570	C
2	1915.00	1914.94	202.78	0.00	2932.59	0.653	1.87	3.536	A
3	1912.00	1911.96	290.99	0.00	2992.40	0.639	1.76	3.331	A

Main results: (17:30-17:45)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	520.00	519.83	1729.99	0.00	702.11	0.741	2.77	19.675	C
2	1915.00	1914.98	202.93	0.00	2932.45	0.653	1.87	3.537	A
3	1912.00	1911.99	291.00	0.00	2992.40	0.639	1.76	3.331	A

Main results: (17:45-18:00)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	520.00	519.91	1729.99	0.00	702.11	0.741	2.79	19.708	C
2	1915.00	1914.99	202.97	0.00	2932.41	0.653	1.88	3.537	A
3	1912.00	1911.99	291.00	0.00	2992.40	0.639	1.77	3.331	A

(Default Analysis Set) - 2015 With Development, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	ARCADY			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)	Single Time Segment Only	Locked
2015 With Development, AM	2015 With Development	AM		DIRECT	08:00	09:00	60	15		

Junction Network

Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Junction Delay (s)	Junction LOS
1	(untitled)	Roundabout	1,2,3			3.30	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description
1	1	Ipswich Road	
2	2	A12 South West	
3	3	A12 North East	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)
1	0.00	99999.00
2	0.00	99999.00
3	0.00	99999.00

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
1	3.50	9.05	18.00	45.00	31.10	36.00	
2	7.43	12.30	24.00	55.00	32.60	41.00	
3	8.30	12.40	26.00	56.00	36.60	45.00	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		(calculated)	(calculated)	0.703	1919.071
2		(calculated)	(calculated)	0.943	3123.776
3		(calculated)	(calculated)	0.960	3271.696

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 (PCU/hr)	Flow Scaling Factor (%)
1	DIRECT	✓	N/A	100.000
2	DIRECT	✓	N/A	100.000
3	DIRECT	✓	N/A	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		To		
		1	2	3
From	1	0.000	264.000	134.000
	2	383.000	0.000	1197.000
	3	202.000	1496.000	0.000

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

		To		
		1	2	3
From	1	0.00	0.66	0.34
	2	0.24	0.00	0.76
	3	0.12	0.88	0.00

Vehicle Mix

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

		To		
		1	2	3
From	1	1.000	1.000	1.000
	2	1.000	1.000	1.000
	3	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		1	2	3
From	1	0.0	0.0	0.0
	2	0.0	0.0	0.0
	3	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.46	7.68	0.85	A
2	0.53	2.54	1.11	A
3	0.58	2.98	1.40	A

Main Results for each time segment

Main results: (08:00-08:15)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	398.00	394.68	1491.08	0.00	870.17	0.457	0.83	7.522	A
2	1580.00	1575.57	132.88	0.00	2998.49	0.527	1.11	2.523	A
3	1698.00	1692.42	381.93	0.00	2905.12	0.584	1.40	2.956	A

Main results: (08:15-08:30)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	398.00	397.96	1495.98	0.00	866.73	0.459	0.84	7.678	A
2	1580.00	1579.98	133.98	0.00	2997.45	0.527	1.11	2.539	A
3	1698.00	1697.97	383.00	0.00	2904.10	0.585	1.40	2.984	A

Main results: (08:30-08:45)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	398.00	397.99	1495.99	0.00	866.71	0.459	0.84	7.680	A
2	1580.00	1580.00	134.00	0.00	2997.44	0.527	1.11	2.539	A
3	1698.00	1697.99	383.00	0.00	2904.09	0.585	1.40	2.984	A

Main results: (08:45-09:00)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	398.00	397.99	1496.00	0.00	866.71	0.459	0.85	7.680	A
2	1580.00	1580.00	134.00	0.00	2997.44	0.527	1.11	2.539	A
3	1698.00	1698.00	383.00	0.00	2904.09	0.585	1.40	2.984	A

(Default Analysis Set) - 2015 With Development, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	ARCADY			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)	Single Time Segment Only	Locked
2015 With Development, PM	2015 With Development	PM		DIRECT	17:00	18:00	60	15		

Junction Network

Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Junction Delay (s)	Junction LOS
1	(untitled)	Roundabout	1,2,3			3.30	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description
1	1	Ipswich Road	
2	2	A12 South West	
3	3	A12 North East	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)
1	0.00	99999.00
2	0.00	99999.00
3	0.00	99999.00

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
1	3.50	9.05	18.00	45.00	31.10	36.00	
2	7.43	12.30	24.00	55.00	32.60	41.00	
3	8.30	12.40	26.00	56.00	36.60	45.00	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		(calculated)	(calculated)	0.703	1919.071
2		(calculated)	(calculated)	0.943	3123.776
3		(calculated)	(calculated)	0.960	3271.696

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 (PCU/hr)	Flow Scaling Factor (%)
1	DIRECT	✓	N/A	100.000
2	DIRECT	✓	N/A	100.000
3	DIRECT	✓	N/A	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		To		
		1	2	3
From	1	0.000	298.000	179.000
	2	291.000	0.000	1260.000
	3	161.000	1425.000	0.000

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

		To		
		1	2	3
From	1	0.00	0.62	0.38
	2	0.19	0.00	0.81
	3	0.10	0.90	0.00

Vehicle Mix

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

		To		
		1	2	3
From	1	1.000	1.000	1.000
	2	1.000	1.000	1.000
	3	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		1	2	3
From	1	0.0	0.0	0.0
	2	0.0	0.0	0.0
	3	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.52	8.19	1.08	A
2	0.52	2.56	1.10	A
3	0.53	2.56	1.13	A

Main Results for each time segment

Main results: (17:00-17:15)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	477.00	472.77	1420.97	0.00	919.49	0.519	1.06	7.986	A
2	1551.00	1546.61	177.41	0.00	2956.51	0.525	1.10	2.546	A
3	1586.00	1581.52	290.18	0.00	2993.18	0.530	1.12	2.541	A

Main results: (17:15-17:30)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	477.00	476.94	1424.99	0.00	916.66	0.520	1.07	8.184	A
2	1551.00	1550.98	178.98	0.00	2955.03	0.525	1.10	2.563	A
3	1586.00	1585.98	291.00	0.00	2992.40	0.530	1.12	2.559	A

Main results: (17:30-17:45)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	477.00	476.98	1425.00	0.00	916.66	0.520	1.08	8.186	A
2	1551.00	1550.99	178.99	0.00	2955.02	0.525	1.10	2.563	A
3	1586.00	1586.00	291.00	0.00	2992.40	0.530	1.13	2.559	A

Main results: (17:45-18:00)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	477.00	476.99	1425.00	0.00	916.66	0.520	1.08	8.187	A
2	1551.00	1551.00	179.00	0.00	2955.01	0.525	1.10	2.563	A
3	1586.00	1586.00	291.00	0.00	2992.39	0.530	1.13	2.559	A

(Default Analysis Set) - 2025 Base + Committed + Development, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	ARCADY			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)	Single Time Segment Only	Locked
2025 Base + Committed + Development, AM	2025 Base + Committed + Development	AM		DIRECT	08:00	09:00	60	15		

Junction Network

Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Junction Delay (s)	Junction LOS
1	(untitled)	Roundabout	1,2,3			6.09	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description
1	1	Ipswich Road	
2	2	A12 South West	
3	3	A12 North East	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)
1	0.00	99999.00
2	0.00	99999.00
3	0.00	99999.00

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
1	3.50	9.05	18.00	45.00	31.10	36.00	
2	7.43	12.30	24.00	55.00	32.60	41.00	
3	8.30	12.40	26.00	56.00	36.60	45.00	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		(calculated)	(calculated)	0.703	1919.071
2		(calculated)	(calculated)	0.943	3123.776
3		(calculated)	(calculated)	0.960	3271.696

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 (PCU/hr)	Flow Scaling Factor (%)
1	DIRECT	✓	N/A	100.000
2	DIRECT	✓	N/A	100.000
3	DIRECT	✓	N/A	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		To		
		1	2	3
From	1	0.000	302.000	157.000
	2	441.000	0.000	1598.000
	3	233.000	1848.000	0.000

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

		To		
		1	2	3
From	1	0.00	0.66	0.34
	2	0.22	0.00	0.78
	3	0.11	0.89	0.00

Vehicle Mix

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

		To		
		1	2	3
From	1	1.000	1.000	1.000
	2	1.000	1.000	1.000
	3	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		1	2	3
From	1	0.0	0.0	0.0
	2	0.0	0.0	0.0
	3	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.74	22.39	2.79	C
2	0.69	3.84	2.17	A
3	0.73	4.69	2.70	A

Main Results for each time segment

Main results: (08:00-08:15)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	459.00	448.85	1838.57	0.00	625.73	0.734	2.54	19.387	C
2	2039.00	2030.44	153.53	0.00	2979.03	0.684	2.14	3.762	A
3	2081.00	2070.38	439.15	0.00	2850.20	0.730	2.65	4.557	A

Main results: (08:15-08:30)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	459.00	458.29	1847.90	0.00	619.17	0.741	2.72	22.170	C
2	2039.00	2038.92	156.76	0.00	2975.98	0.685	2.16	3.841	A
3	2081.00	2080.88	440.98	0.00	2848.44	0.731	2.68	4.688	A

Main results: (08:30-08:45)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	459.00	458.79	1847.97	0.00	619.12	0.741	2.77	22.342	C
2	2039.00	2038.98	156.93	0.00	2975.82	0.685	2.17	3.842	A
3	2081.00	2080.96	440.99	0.00	2848.43	0.731	2.69	4.690	A

Main results: (08:45-09:00)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	459.00	458.90	1847.98	0.00	619.11	0.741	2.79	22.394	C
2	2039.00	2038.99	156.97	0.00	2975.79	0.685	2.17	3.842	A
3	2081.00	2080.98	441.00	0.00	2848.43	0.731	2.70	4.690	A

(Default Analysis Set) - 2025 Base + Committed + Development, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	ARCADY			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)	Single Time Segment Only	Locked
2025 Base + Committed + Development, PM	2025 Base + Committed + Development	PM		DIRECT	17:00	18:00	60	15		

Junction Network

Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Junction Delay (s)	Junction LOS
1	(untitled)	Roundabout	1,2,3			6.13	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description
1	1	Ipswich Road	
2	2	A12 South West	
3	3	A12 North East	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)
1	0.00	99999.00
2	0.00	99999.00
3	0.00	99999.00

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
1	3.50	9.05	18.00	45.00	31.10	36.00	
2	7.43	12.30	24.00	55.00	32.60	41.00	
3	8.30	12.40	26.00	56.00	36.60	45.00	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		(calculated)	(calculated)	0.703	1919.071
2		(calculated)	(calculated)	0.943	3123.776
3		(calculated)	(calculated)	0.960	3271.696

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 (PCU/hr)	Flow Scaling Factor (%)
1	DIRECT		N/A	100.000
2	DIRECT		N/A	100.000
3	DIRECT		N/A	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		To		
		1	2	3
From	1	0.000	344.000	208.000
	2	339.000	0.000	1624.000
	3	190.000	1730.000	0.000

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

		To		
		1	2	3
From	1	0.00	0.62	0.38
	2	0.17	0.00	0.83
	3	0.10	0.90	0.00

Vehicle Mix

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

		To		
		1	2	3
From	1	1.000	1.000	1.000
	2	1.000	1.000	1.000
	3	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		1	2	3
From	1	0.0	0.0	0.0
	2	0.0	0.0	0.0
	3	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.79	23.83	3.56	C
2	0.67	3.73	2.03	A
3	0.65	3.51	1.87	A

Main Results for each time segment

Main results: (17:00-17:15)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	552.00	539.14	1723.34	0.00	706.79	0.781	3.22	20.172	C
2	1963.00	1955.00	203.15	0.00	2932.24	0.669	2.00	3.655	A
3	1920.00	1912.61	337.62	0.00	2947.65	0.651	1.85	3.455	A

Main results: (17:15-17:30)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	552.00	551.07	1729.96	0.00	702.13	0.786	3.45	23.514	C
2	1963.00	1962.92	207.65	0.00	2928.00	0.670	2.02	3.729	A
3	1920.00	1919.95	338.99	0.00	2946.34	0.652	1.86	3.506	A

Main results: (17:30-17:45)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	552.00	551.69	1729.99	0.00	702.11	0.786	3.52	23.749	C
2	1963.00	1962.98	207.88	0.00	2927.78	0.670	2.03	3.730	A
3	1920.00	1919.98	339.00	0.00	2946.33	0.652	1.86	3.506	A

Main results: (17:45-18:00)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	552.00	551.85	1729.99	0.00	702.11	0.786	3.56	23.827	C
2	1963.00	1962.99	207.94	0.00	2927.72	0.670	2.03	3.730	A
3	1920.00	1919.99	339.00	0.00	2946.33	0.652	1.87	3.506	A

APPENDIX C – IPSWICH ROAD / TOP STREET – ARCADY OUTPUT

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Junctions 8

ARCADY 8 - Roundabout Module

Version: 8.0.4.487 [15039,24/03/2014]

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

Filename: Ipswich Road, Top Street 5050 split Jan 2016.arc8
Path: P:\Gladman SLS\C14106 Gladman Duke's Park Woodbridge\Hydrock Documents\Transport\Junction Models
Report generation date: 06/01/2016 16:21:32

Summary of junction performance

	AM				PM			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - 2015 Base Flows							
Arm 1	0.44	3.54	0.31	A	0.59	3.82	0.37	A
Arm 2	0.48	5.06	0.32	A	0.76	6.31	0.43	A
Arm 3	0.78	4.58	0.44	A	0.45	3.80	0.31	A
	A1 - 2015 With Development							
Arm 1	0.53	3.76	0.35	A	0.65	4.01	0.40	A
Arm 2	0.59	5.60	0.37	A	0.84	6.66	0.46	A
Arm 3	0.84	4.77	0.46	A	0.55	4.06	0.35	A
	A1 - 2025 Base + Com Flows							
Arm 1	0.83	4.53	0.45	A	1.04	4.95	0.51	A
Arm 2	0.80	6.34	0.45	A	1.86	10.62	0.65	B
Arm 3	1.14	5.77	0.54	A	0.69	4.78	0.41	A
	A1 - 2025 Base + Committed + Development							
Arm 1	0.97	4.91	0.49	A	1.16	5.29	0.54	A
Arm 2	0.99	7.22	0.50	A	2.09	11.69	0.68	B
Arm 3	1.24	6.07	0.56	A	0.83	5.20	0.46	A

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle.

"D1 - 2015 Base Flows, AM " model duration: 07:45 - 09:15
"D2 - 2015 Base Flows, PM" model duration: 16:45 - 18:15
"D3 - 2025 Base + Com Flows, AM" model duration: 07:45 - 09:15
"D4 - 2025 Base + Com Flows, PM" model duration: 16:45 - 18:15
"D5 - 2015 With Development, AM" model duration: 07:45 - 09:15
"D6 - 2015 With Development, PM" model duration: 16:45 - 18:15
"D7 - 2025 Base + Committed + Development, AM" model duration: 07:45 - 09:15
"D8 - 2025 Base + Committed + Development, PM" model duration: 16:45 - 18:15

Run using Junctions 8.0.4.487 at 06/01/2016 16:21:30

File summary

Title	(untitled)
Location	
Site Number	
Date	15/05/2014
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	michaelchau
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			N/A	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	PCU	PCU	perHour	s	-Min	perMin

(Default Analysis Set) - 2015 Base Flows, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	ARCADY			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)	Single Time Segment Only	Locked
2015 Base Flows, AM	2015 Base Flows	AM		ONE HOUR	07:45	09:15	90	15		

Junction Network

Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Junction Delay (s)	Junction LOS
1	(untitled)	Roundabout	1,2,3			4.36	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description
1	1	Ipswich Road East	
2	2	Top Street	
3	3	Ipswich Road West	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)
1	0.00	99999.00
2	0.00	99999.00
3	0.00	99999.00

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
1	3.50	5.87	20.00	17.00	35.00	30.00	
2	2.86	4.40	12.00	15.00	13.00	28.00	
3	3.79	5.85	15.00	17.00	36.00	35.00	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		(calculated)	(calculated)	0.622	1567.527
2		(calculated)	(calculated)	0.557	1186.152
3		(calculated)	(calculated)	0.610	1540.890

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 (PCU/hr)	Flow Scaling Factor (%)
1	ONE HOUR	✓	409.00	100.000
2	ONE HOUR	✓	311.00	100.000
3	ONE HOUR	✓	557.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		To		
		1	2	3
From	1	0.000	194.000	215.000
	2	211.000	0.000	100.000
	3	411.000	146.000	0.000

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

		To		
		1	2	3
From	1	0.00	0.47	0.53
	2	0.68	0.00	0.32
	3	0.74	0.26	0.00

Vehicle Mix

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

		To		
		1	2	3
From	1	1.000	1.000	1.000
	2	1.000	1.000	1.000
	3	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		1	2	3
From	1	0.0	0.0	0.0
	2	0.0	0.0	0.0
	3	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.31	3.54	0.44	A
2	0.32	5.06	0.48	A
3	0.44	4.58	0.78	A

Main Results for each time segment

Main results: (07:45-08:00)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	307.92	306.89	109.49	0.00	1499.42	0.205	0.26	3.016	A
2	234.14	233.06	161.32	0.00	1096.30	0.214	0.27	4.165	A
3	419.34	417.71	158.12	0.00	1444.47	0.290	0.41	3.499	A

Main results: (08:00-08:15)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	367.68	367.40	131.11	0.00	1485.97	0.247	0.33	3.218	A
2	279.58	279.27	193.13	0.00	1078.58	0.259	0.35	4.500	A
3	500.73	500.21	189.47	0.00	1425.35	0.351	0.54	3.890	A

Main results: (08:15-08:30)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	450.32	449.87	160.50	0.00	1467.68	0.307	0.44	3.534	A
2	342.42	341.90	236.48	0.00	1054.43	0.325	0.48	5.049	A
3	613.27	612.33	231.96	0.00	1399.44	0.438	0.77	4.568	A

Main results: (08:30-08:45)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	450.32	450.31	160.75	0.00	1467.53	0.307	0.44	3.538	A
2	342.42	342.41	236.72	0.00	1054.30	0.325	0.48	5.056	A
3	613.27	613.25	232.31	0.00	1399.22	0.438	0.78	4.580	A

Main results: (08:45-09:00)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	367.68	368.13	131.49	0.00	1485.73	0.247	0.33	3.224	A
2	279.58	280.09	193.51	0.00	1078.37	0.259	0.35	4.513	A
3	500.73	501.66	190.03	0.00	1425.01	0.351	0.55	3.904	A

Main results: (09:00-09:15)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	307.92	308.20	110.06	0.00	1499.06	0.205	0.26	3.023	A
2	234.14	234.45	162.01	0.00	1095.91	0.214	0.27	4.181	A
3	419.34	419.87	159.07	0.00	1443.89	0.290	0.41	3.516	A

(Default Analysis Set) - 2015 Base Flows, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	ARCADY			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)	Single Time Segment Only	Locked
2015 Base Flows, PM	2015 Base Flows	PM		ONE HOUR	16:45	18:15	90	15		

Junction Network

Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Junction Delay (s)	Junction LOS
1	(untitled)	Roundabout	1,2,3			4.58	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description
1	1	Ipswich Road East	
2	2	Top Street	
3	3	Ipswich Road West	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)
1	0.00	99999.00
2	0.00	99999.00
3	0.00	99999.00

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
1	3.50	5.87	20.00	17.00	35.00	30.00	
2	2.86	4.40	12.00	15.00	13.00	28.00	
3	3.79	5.85	15.00	17.00	36.00	35.00	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		(calculated)	(calculated)	0.622	1567.527
2		(calculated)	(calculated)	0.557	1186.152
3		(calculated)	(calculated)	0.610	1540.890

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 (PCU/hr)	Flow Scaling Factor (%)
1	ONE HOUR	✓	505.00	100.000
2	ONE HOUR	✓	398.00	100.000
3	ONE HOUR	✓	389.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		To		
		1	2	3
From	1	0.000	215.000	290.000
	2	245.000	0.000	153.000
	3	288.000	101.000	0.000

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

		To		
		1	2	3
From	1	0.00	0.43	0.57
	2	0.62	0.00	0.38
	3	0.74	0.26	0.00

Vehicle Mix

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

		To		
		1	2	3
From	1	1.000	1.000	1.000
	2	1.000	1.000	1.000
	3	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		1	2	3
From	1	0.0	0.0	0.0
	2	0.0	0.0	0.0
	3	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.37	3.82	0.59	A
2	0.43	6.31	0.76	A
3	0.31	3.80	0.45	A

Main Results for each time segment

Main results: (16:45-17:00)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	380.19	378.86	75.77	0.00	1520.39	0.250	0.33	3.151	A
2	299.64	298.08	217.56	0.00	1064.97	0.281	0.39	4.685	A
3	292.86	291.83	183.49	0.00	1428.99	0.205	0.26	3.162	A

Main results: (17:00-17:15)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	453.98	453.60	90.72	0.00	1511.09	0.300	0.43	3.404	A
2	357.79	357.27	260.49	0.00	1041.06	0.344	0.52	5.265	A
3	349.70	349.41	219.93	0.00	1406.78	0.249	0.33	3.404	A

Main results: (17:15-17:30)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	556.02	555.38	111.08	0.00	1498.43	0.371	0.59	3.816	A
2	438.21	437.25	318.93	0.00	1008.51	0.435	0.76	6.291	A
3	428.30	427.82	269.16	0.00	1376.75	0.311	0.45	3.791	A

Main results: (17:30-17:45)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	556.02	556.01	111.20	0.00	1498.35	0.371	0.59	3.819	A
2	438.21	438.19	319.29	0.00	1008.31	0.435	0.76	6.313	A
3	428.30	428.29	269.74	0.00	1376.40	0.311	0.45	3.796	A

Main results: (17:45-18:00)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	453.98	454.61	90.92	0.00	1510.97	0.300	0.43	3.411	A
2	357.79	358.74	261.06	0.00	1040.74	0.344	0.53	5.287	A
3	349.70	350.17	220.83	0.00	1406.23	0.249	0.33	3.409	A

Main results: (18:00-18:15)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	380.19	380.58	76.11	0.00	1520.18	0.250	0.34	3.161	A
2	299.64	300.17	218.55	0.00	1064.42	0.282	0.39	4.715	A
3	292.86	293.15	184.78	0.00	1428.21	0.205	0.26	3.171	A

(Default Analysis Set) - 2025 Base + Com Flows, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	ARCADY			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)	Single Time Segment Only	Locked
2025 Base + Com Flows, AM	2025 Base + Com Flows	AM		ONE HOUR	07:45	09:15	90	15		

Junction Network

Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Junction Delay (s)	Junction LOS
1	(untitled)	Roundabout	1,2,3			5.47	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description
1	1	Ipswich Road East	
2	2	Top Street	
3	3	Ipswich Road West	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)
1	0.00	99999.00
2	0.00	99999.00
3	0.00	99999.00

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
1	3.50	5.87	20.00	17.00	35.00	30.00	
2	2.86	4.40	12.00	15.00	13.00	28.00	
3	3.79	5.85	15.00	17.00	36.00	35.00	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		(calculated)	(calculated)	0.622	1567.527
2		(calculated)	(calculated)	0.557	1186.152
3		(calculated)	(calculated)	0.610	1540.890

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 (PCU/hr)	Flow Scaling Factor (%)
1	ONE HOUR	✓	598.00	100.000
2	ONE HOUR	✓	417.00	100.000
3	ONE HOUR	✓	653.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		To		
		1	2	3
From	1	0.000	338.000	260.000
	2	295.000	0.000	122.000
	3	485.000	168.000	0.000

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

		To		
		1	2	3
From	1	0.00	0.57	0.43
	2	0.71	0.00	0.29
	3	0.74	0.26	0.00

Vehicle Mix

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

		To		
		1	2	3
From	1	1.000	1.000	1.000
	2	1.000	1.000	1.000
	3	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		1	2	3
From	1	0.0	0.0	0.0
	2	0.0	0.0	0.0
	3	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.45	4.53	0.83	A
2	0.45	6.34	0.80	A
3	0.54	5.77	1.14	A

Main Results for each time segment

Main results: (07:45-08:00)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	450.21	448.48	125.93	0.00	1489.19	0.302	0.43	3.453	A
2	313.94	312.31	194.99	0.00	1077.54	0.291	0.41	4.695	A
3	491.61	489.48	220.94	0.00	1406.16	0.350	0.53	3.919	A

Main results: (08:00-08:15)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	537.59	537.03	150.82	0.00	1473.70	0.365	0.57	3.840	A
2	374.87	374.33	233.49	0.00	1056.10	0.355	0.55	5.275	A
3	587.03	586.23	264.81	0.00	1379.41	0.426	0.73	4.534	A

Main results: (08:15-08:30)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	658.41	657.41	184.56	0.00	1452.72	0.453	0.82	4.521	A
2	459.13	458.11	285.83	0.00	1026.95	0.447	0.80	6.317	A
3	718.97	717.36	324.08	0.00	1343.26	0.535	1.14	5.736	A

Main results: (08:30-08:45)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	658.41	658.39	184.96	0.00	1452.47	0.453	0.83	4.533	A
2	459.13	459.11	286.26	0.00	1026.71	0.447	0.80	6.341	A
3	718.97	718.93	324.79	0.00	1342.83	0.535	1.14	5.769	A

Main results: (08:45-09:00)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	537.59	538.58	151.44	0.00	1473.32	0.365	0.58	3.856	A
2	374.87	375.87	234.16	0.00	1055.72	0.355	0.56	5.302	A
3	587.03	588.62	265.90	0.00	1378.74	0.426	0.75	4.566	A

Main results: (09:00-09:15)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	450.21	450.78	126.69	0.00	1488.72	0.302	0.44	3.469	A
2	313.94	314.50	195.99	0.00	1076.99	0.292	0.41	4.726	A
3	491.61	492.44	222.49	0.00	1405.21	0.350	0.54	3.947	A

(Default Analysis Set) - 2025 Base + Com Flows, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	ARCADY			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)	Single Time Segment Only	Locked
2025 Base + Com Flows, PM	2025 Base + Com Flows	PM		ONE HOUR	16:45	18:15	90	15		

Junction Network

Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Junction Delay (s)	Junction LOS
1	(untitled)	Roundabout	1,2,3			6.79	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description
1	1	Ipswich Road East	
2	2	Top Street	
3	3	Ipswich Road West	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)
1	0.00	99999.00
2	0.00	99999.00
3	0.00	99999.00

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
1	3.50	5.87	20.00	17.00	35.00	30.00	
2	2.86	4.40	12.00	15.00	13.00	28.00	
3	3.79	5.85	15.00	17.00	36.00	35.00	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		(calculated)	(calculated)	0.622	1567.527
2		(calculated)	(calculated)	0.557	1186.152
3		(calculated)	(calculated)	0.610	1540.890

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 (PCU/hr)	Flow Scaling Factor (%)
1	ONE HOUR	✓	691.00	100.000
2	ONE HOUR	✓	580.00	100.000
3	ONE HOUR	✓	474.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		To		
		1	2	3
From	1	0.000	350.000	341.000
	2	397.000	0.000	183.000
	3	357.000	117.000	0.000

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

		To		
		1	2	3
From	1	0.00	0.51	0.49
	2	0.68	0.00	0.32
	3	0.75	0.25	0.00

Vehicle Mix

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

		To		
		1	2	3
From	1	1.000	1.000	1.000
	2	1.000	1.000	1.000
	3	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		1	2	3
From	1	0.0	0.0	0.0
	2	0.0	0.0	0.0
	3	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.51	4.95	1.04	A
2	0.65	10.62	1.86	B
3	0.41	4.78	0.69	A

Main Results for each time segment

Main results: (16:45-17:00)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	520.22	518.14	87.73	0.00	1512.95	0.344	0.52	3.611	A
2	436.65	433.81	255.69	0.00	1043.73	0.418	0.71	5.876	A
3	356.85	355.44	296.94	0.00	1359.82	0.262	0.35	3.580	A

Main results: (17:00-17:15)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	621.19	620.48	105.06	0.00	1502.17	0.414	0.70	4.079	A
2	521.41	520.10	306.20	0.00	1015.60	0.513	1.04	7.246	A
3	426.12	425.65	356.00	0.00	1323.80	0.322	0.47	4.006	A

Main results: (17:15-17:30)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	760.81	759.46	128.61	0.00	1487.52	0.511	1.04	4.935	A
2	638.59	635.44	374.79	0.00	977.40	0.653	1.83	10.429	B
3	521.88	521.03	434.95	0.00	1275.65	0.409	0.69	4.766	A

Main results: (17:30-17:45)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	760.81	760.78	128.82	0.00	1487.39	0.512	1.04	4.954	A
2	638.59	638.47	375.44	0.00	977.03	0.654	1.86	10.623	B
3	521.88	521.87	437.02	0.00	1274.39	0.410	0.69	4.783	A

Main results: (17:45-18:00)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	621.19	622.52	105.39	0.00	1501.97	0.414	0.71	4.100	A
2	521.41	524.54	307.20	0.00	1015.04	0.514	1.07	7.387	A
3	426.12	426.96	359.04	0.00	1321.95	0.322	0.48	4.025	A

Main results: (18:00-18:15)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	520.22	520.95	88.20	0.00	1512.66	0.344	0.53	3.631	A
2	436.65	438.04	257.08	0.00	1042.96	0.419	0.73	5.964	A
3	356.85	357.33	299.83	0.00	1358.05	0.263	0.36	3.598	A

(Default Analysis Set) - 2015 With Development, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	ARCADY			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)	Single Time Segment Only	Locked
2015 With Development, AM	2015 With Development	AM		ONE HOUR	07:45	09:15	90	15		

Junction Network

Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Junction Delay (s)	Junction LOS
1	(untitled)	Roundabout	1,2,3			4.64	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description
1	1	Ipswich Road East	
2	2	Top Street	
3	3	Ipswich Road West	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)
1	0.00	99999.00
2	0.00	99999.00
3	0.00	99999.00

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
1	3.50	5.87	20.00	17.00	35.00	30.00	
2	2.86	4.40	12.00	15.00	13.00	28.00	
3	3.79	5.85	15.00	17.00	36.00	35.00	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		(calculated)	(calculated)	0.622	1567.527
2		(calculated)	(calculated)	0.557	1186.152
3		(calculated)	(calculated)	0.610	1540.890

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 (PCU/hr)	Flow Scaling Factor (%)
1	ONE HOUR	✓	460.00	100.000
2	ONE HOUR	✓	347.00	100.000
3	ONE HOUR	✓	578.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		To		
		1	2	3
From	1	0.000	197.000	263.000
	2	223.000	0.000	124.000
	3	425.000	153.000	0.000

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

		To		
		1	2	3
From	1	0.00	0.43	0.57
	2	0.64	0.00	0.36
	3	0.74	0.26	0.00

Vehicle Mix

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

		To		
		1	2	3
From	1	1.000	1.000	1.000
	2	1.000	1.000	1.000
	3	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		1	2	3
From	1	0.0	0.0	0.0
	2	0.0	0.0	0.0
	3	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.35	3.76	0.53	A
2	0.37	5.60	0.59	A
3	0.46	4.77	0.84	A

Main Results for each time segment

Main results: (07:45-08:00)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	346.31	345.11	114.73	0.00	1496.16	0.231	0.30	3.125	A
2	261.24	259.97	197.31	0.00	1076.25	0.243	0.32	4.404	A
3	435.15	433.42	167.07	0.00	1439.01	0.302	0.43	3.574	A

Main results: (08:00-08:15)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	413.53	413.19	137.39	0.00	1482.06	0.279	0.39	3.368	A
2	311.95	311.55	236.24	0.00	1054.57	0.296	0.42	4.843	A
3	519.61	519.04	200.22	0.00	1418.79	0.366	0.57	3.998	A

Main results: (08:15-08:30)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	506.47	505.90	168.18	0.00	1462.91	0.346	0.53	3.760	A
2	382.05	381.37	289.25	0.00	1025.04	0.373	0.59	5.587	A
3	636.39	635.35	245.09	0.00	1391.43	0.457	0.83	4.754	A

Main results: (08:30-08:45)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	506.47	506.46	168.45	0.00	1462.74	0.346	0.53	3.763	A
2	382.05	382.04	289.56	0.00	1024.87	0.373	0.59	5.599	A
3	636.39	636.37	245.52	0.00	1391.17	0.457	0.84	4.769	A

Main results: (08:45-09:00)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	413.53	414.09	137.82	0.00	1481.80	0.279	0.39	3.375	A
2	311.95	312.62	236.75	0.00	1054.28	0.296	0.42	4.859	A
3	519.61	520.64	200.90	0.00	1418.38	0.366	0.58	4.014	A

Main results: (09:00-09:15)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	346.31	346.66	115.34	0.00	1495.78	0.232	0.30	3.133	A
2	261.24	261.64	198.20	0.00	1075.76	0.243	0.32	4.425	A
3	435.15	435.73	168.14	0.00	1438.35	0.303	0.44	3.591	A

(Default Analysis Set) - 2015 With Development, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	ARCADY			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)	Single Time Segment Only	Locked
2015 With Development, PM	2015 With Development	PM		ONE HOUR	16:45	18:15	90	15		

Junction Network

Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Junction Delay (s)	Junction LOS
1	(untitled)	Roundabout	1,2,3			4.82	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description
1	1	Ipswich Road East	
2	2	Top Street	
3	3	Ipswich Road West	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)
1	0.00	99999.00
2	0.00	99999.00
3	0.00	99999.00

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
1	3.50	5.87	20.00	17.00	35.00	30.00	
2	2.86	4.40	12.00	15.00	13.00	28.00	
3	3.79	5.85	15.00	17.00	36.00	35.00	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		(calculated)	(calculated)	0.622	1567.527
2		(calculated)	(calculated)	0.557	1186.152
3		(calculated)	(calculated)	0.610	1540.890

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 (PCU/hr)	Flow Scaling Factor (%)
1	ONE HOUR	✓	535.00	100.000
2	ONE HOUR	✓	413.00	100.000
3	ONE HOUR	✓	442.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		To		
		1	2	3
From	1	0.000	223.000	312.000
	2	250.000	0.000	163.000
	3	323.000	119.000	0.000

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

		To		
		1	2	3
From	1	0.00	0.42	0.58
	2	0.61	0.00	0.39
	3	0.73	0.27	0.00

Vehicle Mix

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

		To		
		1	2	3
From	1	1.000	1.000	1.000
	2	1.000	1.000	1.000
	3	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		1	2	3
From	1	0.0	0.0	0.0
	2	0.0	0.0	0.0
	3	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.40	4.01	0.65	A
2	0.46	6.66	0.84	A
3	0.35	4.06	0.55	A

Main Results for each time segment

Main results: (16:45-17:00)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	402.78	401.33	89.26	0.00	1512.00	0.266	0.36	3.237	A
2	310.93	309.27	234.05	0.00	1055.79	0.295	0.41	4.811	A
3	332.76	331.55	187.21	0.00	1426.73	0.233	0.30	3.284	A

Main results: (17:00-17:15)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	480.95	480.52	106.88	0.00	1501.04	0.320	0.47	3.525	A
2	371.28	370.70	280.23	0.00	1030.06	0.360	0.56	5.455	A
3	397.35	396.99	224.40	0.00	1404.05	0.283	0.39	3.575	A

Main results: (17:15-17:30)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	589.05	588.31	130.86	0.00	1486.12	0.396	0.65	4.006	A
2	454.72	453.63	343.09	0.00	995.05	0.457	0.83	6.635	A
3	486.65	486.04	274.60	0.00	1373.44	0.354	0.55	4.054	A

Main results: (17:30-17:45)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	589.05	589.04	131.02	0.00	1486.02	0.396	0.65	4.013	A
2	454.72	454.70	343.51	0.00	994.82	0.457	0.84	6.664	A
3	486.65	486.64	275.24	0.00	1373.04	0.354	0.55	4.061	A

Main results: (17:45-18:00)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	480.95	481.67	107.14	0.00	1500.88	0.320	0.47	3.536	A
2	371.28	372.35	280.90	0.00	1029.69	0.361	0.57	5.484	A
3	397.35	397.95	225.39	0.00	1403.44	0.283	0.40	3.584	A

Main results: (18:00-18:15)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	402.78	403.21	89.69	0.00	1511.73	0.266	0.36	3.250	A
2	310.93	311.52	235.14	0.00	1055.18	0.295	0.42	4.844	A
3	332.76	333.13	188.57	0.00	1425.90	0.233	0.31	3.294	A

(Default Analysis Set) - 2025 Base + Committed + Development, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	ARCADY			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)	Single Time Segment Only	Locked
2025 Base + Committed + Development, AM	2025 Base + Committed + Development	AM		ONE HOUR	07:45	09:15	90	15		

Junction Network

Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Junction Delay (s)	Junction LOS
1	(untitled)	Roundabout	1,2,3			5.94	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description
1	1	Ipswich Road East	
2	2	Top Street	
3	3	Ipswich Road West	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)
1	0.00	99999.00
2	0.00	99999.00
3	0.00	99999.00

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
1	3.50	5.87	20.00	17.00	35.00	30.00	
2	2.86	4.40	12.00	15.00	13.00	28.00	
3	3.79	5.85	15.00	17.00	36.00	35.00	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		(calculated)	(calculated)	0.622	1567.527
2		(calculated)	(calculated)	0.557	1186.152
3		(calculated)	(calculated)	0.610	1540.890

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 (PCU/hr)	Flow Scaling Factor (%)
1	ONE HOUR	✓	649.00	100.000
2	ONE HOUR	✓	453.00	100.000
3	ONE HOUR	✓	674.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		To		
		1	2	3
From	1	0.000	341.000	308.000
	2	307.000	0.000	146.000
	3	499.000	175.000	0.000

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

		To		
		1	2	3
From	1	0.00	0.53	0.47
	2	0.68	0.00	0.32
	3	0.74	0.26	0.00

Vehicle Mix

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

		To		
		1	2	3
From	1	1.000	1.000	1.000
	2	1.000	1.000	1.000
	3	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		1	2	3
From	1	0.0	0.0	0.0
	2	0.0	0.0	0.0
	3	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.49	4.91	0.97	A
2	0.50	7.22	0.99	A
3	0.56	6.07	1.24	A

Main Results for each time segment

Main results: (07:45-08:00)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	488.60	486.65	131.16	0.00	1485.93	0.329	0.49	3.597	A
2	341.04	339.15	230.95	0.00	1057.51	0.323	0.47	4.998	A
3	507.42	505.17	229.85	0.00	1400.73	0.362	0.56	4.010	A

Main results: (08:00-08:15)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	583.44	582.77	157.09	0.00	1469.80	0.397	0.65	4.056	A
2	407.24	406.55	276.57	0.00	1032.10	0.395	0.65	5.749	A
3	605.91	605.04	275.52	0.00	1372.88	0.441	0.78	4.684	A

Main results: (08:15-08:30)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	714.56	713.32	192.21	0.00	1447.96	0.494	0.96	4.892	A
2	498.76	497.40	338.52	0.00	997.59	0.500	0.98	7.176	A
3	742.09	740.29	337.09	0.00	1335.33	0.556	1.23	6.032	A

Main results: (08:30-08:45)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	714.56	714.54	192.67	0.00	1447.67	0.494	0.97	4.910	A
2	498.76	498.73	339.10	0.00	997.27	0.500	0.99	7.220	A
3	742.09	742.05	337.99	0.00	1334.78	0.556	1.24	6.073	A

Main results: (08:45-09:00)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	583.44	584.66	157.78	0.00	1469.37	0.397	0.66	4.076	A
2	407.24	408.57	277.47	0.00	1031.60	0.395	0.66	5.792	A
3	605.91	607.69	276.89	0.00	1372.04	0.442	0.80	4.720	A

Main results: (09:00-09:15)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	488.60	489.28	131.98	0.00	1485.42	0.329	0.49	3.618	A
2	341.04	341.76	232.20	0.00	1056.82	0.323	0.48	5.039	A
3	507.42	508.32	231.61	0.00	1399.65	0.363	0.57	4.042	A

(Default Analysis Set) - 2025 Base + Committed + Development, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	ARCADY			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)	Single Time Segment Only	Locked
2025 Base + Committed + Development, PM	2025 Base + Committed + Development	PM		ONE HOUR	16:45	18:15	90	15		

Junction Network

Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Junction Delay (s)	Junction LOS
1	(untitled)	Roundabout	1,2,3			7.33	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description
1	1	Ipswich Road East	
2	2	Top Street	
3	3	Ipswich Road West	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)
1	0.00	99999.00
2	0.00	99999.00
3	0.00	99999.00

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	l' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
1	3.50	5.87	20.00	17.00	35.00	30.00	
2	2.86	4.40	12.00	15.00	13.00	28.00	
3	3.79	5.85	15.00	17.00	36.00	35.00	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		(calculated)	(calculated)	0.622	1567.527
2		(calculated)	(calculated)	0.557	1186.152
3		(calculated)	(calculated)	0.610	1540.890

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 (PCU/hr)	Flow Scaling Factor (%)
1	ONE HOUR	✓	722.00	100.000
2	ONE HOUR	✓	596.00	100.000
3	ONE HOUR	✓	526.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		To		
		1	2	3
From	1	0.000	359.000	363.000
	2	402.000	0.000	194.000
	3	392.000	134.000	0.000

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

		To		
		1	2	3
From	1	0.00	0.50	0.50
	2	0.67	0.00	0.33
	3	0.75	0.25	0.00

Vehicle Mix

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

		To		
		1	2	3
From	1	1.000	1.000	1.000
	2	1.000	1.000	1.000
	3	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		1	2	3
From	1	0.0	0.0	0.0
	2	0.0	0.0	0.0
	3	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.54	5.29	1.16	A
2	0.68	11.69	2.09	B
3	0.46	5.20	0.83	A

Main Results for each time segment

Main results: (16:45-17:00)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	543.56	541.31	100.47	0.00	1505.03	0.361	0.56	3.728	A
2	448.70	445.67	272.16	0.00	1034.56	0.434	0.76	6.084	A
3	396.00	394.36	300.60	0.00	1357.58	0.292	0.41	3.731	A

Main results: (17:00-17:15)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	649.06	648.26	120.32	0.00	1492.68	0.435	0.76	4.260	A
2	535.79	534.33	325.92	0.00	1004.61	0.533	1.12	7.629	A
3	472.86	472.29	360.40	0.00	1321.11	0.358	0.55	4.238	A

Main results: (17:15-17:30)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	794.94	793.38	147.26	0.00	1475.92	0.539	1.15	5.263	A
2	656.21	652.49	398.89	0.00	963.97	0.681	2.05	11.420	B
3	579.14	578.04	440.10	0.00	1272.51	0.455	0.83	5.175	A

Main results: (17:30-17:45)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	794.94	794.91	147.53	0.00	1475.75	0.539	1.16	5.287	A
2	656.21	656.05	399.66	0.00	963.54	0.681	2.09	11.690	B
3	579.14	579.11	442.50	0.00	1271.05	0.456	0.83	5.202	A

Main results: (17:45-18:00)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	649.06	650.60	120.74	0.00	1492.42	0.435	0.78	4.283	A
2	535.79	539.50	327.10	0.00	1003.96	0.534	1.16	7.811	A
3	472.86	473.94	363.89	0.00	1318.98	0.359	0.56	4.266	A

Main results: (18:00-18:15)

Arm	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
1	543.56	544.39	101.03	0.00	1504.68	0.361	0.57	3.754	A
2	448.70	450.26	273.70	0.00	1033.70	0.434	0.78	6.188	A
3	396.00	396.59	303.70	0.00	1355.69	0.292	0.42	3.757	A

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APPENDIX D – SITE ACCESS / IPSWICH ROAD –PICADY OUTPUT

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Junctions 8

PICADY 8 - Priority Intersection Module

Version: 8.0.4.487 [15039,24/03/2014]

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

Filename: Site Access, Ipswich Road 5050 split Jan 2016.arc8
Path: P:\Gladman SLS\C14106 Gladman Duke's Park Woodbridge\Hydrock Documents\Transport\Junction Models
Report generation date: 06/01/2016 16:14:10

Summary of junction performance

	AM				PM			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - 2015 With Development							
Stream B-C	0.11	7.36	0.10	A	0.05	7.61	0.05	A
Stream B-A	0.05	14.11	0.05	B	0.02	15.91	0.02	C
Stream C-A	-	-	-	-	-	-	-	-
Stream C-B	0.03	6.66	0.03	A	0.08	7.71	0.08	A
Stream A-B	-	-	-	-	-	-	-	-
Stream A-C	-	-	-	-	-	-	-	-
	A1 - 2025 Base + Committed + Development							
Stream B-C	0.12	8.26	0.11	A	0.06	8.62	0.05	A
Stream B-A	0.07	18.76	0.06	C	0.04	23.73	0.04	C
Stream C-A	-	-	-	-	-	-	-	-
Stream C-B	0.03	7.38	0.03	A	0.09	8.74	0.09	A
Stream A-B	-	-	-	-	-	-	-	-
Stream A-C	-	-	-	-	-	-	-	-

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle.

"D1 - 2015 With Development, AM " model duration: 07:45 - 09:15
"D2 - 2015 With Development, PM" model duration: 16:45 - 18:15
"D3 - 2025 Base + Committed + Development, AM" model duration: 07:45 - 09:15
"D4 - 2025 Base + Committed + Development, PM" model duration: 16:45 - 18:15

Run using Junctions 8.0.4.487 at 06/01/2016 16:14:09

File summary

Title	(untitled)
Location	
Site Number	
Date	14/05/2014
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	michaelchau
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			N/A	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	PCU	PCU	perHour	s	-Min	perMin

(Default Analysis Set) - 2015 With Development, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm flare	Arm B - Minor Arm Geometry	Is flare very short? Estimated flare length is zero but has been increased to 1 because a zero flare length is not allowed.

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	N/A			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)	Single Time Segment Only	Locked
2015 With Development, AM	2015 With Development	AM		ONE HOUR	07:45	09:15	90	15		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	A,B,C	8.32	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	Ipswich Road East		Major
B	B	Site Access		Minor
C	C	Ipswich Road West		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	6.50		0.00	✓	3.00	75.00		

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

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane plus flare				7.21	3.01	3.00	3.00	3.00	✓	1.00	12	20

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	452.489	0.081	0.204	0.128	0.291
1	B-C	662.146	0.099	0.251	-	-
1	C-B	671.152	0.254	0.254	-	-

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

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

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

Traffic 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 (PCU/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	411.00	100.000
B	ONE HOUR	✓	60.00	100.000
C	ONE HOUR	✓	634.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.000	3.000	408.000
	B	12.000	0.000	48.000
	C	620.000	14.000	0.000

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

		To		
		A	B	C
From	A	0.00	0.01	0.99
	B	0.20	0.00	0.80
	C	0.98	0.02	0.00

Vehicle Mix

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

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

Heavy Vehicle Percentages - Junction 1 (for whole period)

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

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.10	7.36	0.11	A
B-A	0.05	14.11	0.05	B
C-A	-	-	-	-
C-B	0.03	6.66	0.03	A
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (07:45-08:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	36.14	35.87	0.00	580.77	0.062	0.07	6.604	A
B-A	9.03	8.92	0.00	326.73	0.028	0.03	11.324	B
C-A	466.77	466.77	0.00	-	-	-	-	-
C-B	10.54	10.47	0.00	592.44	0.018	0.02	6.185	A
A-B	2.26	2.26	0.00	-	-	-	-	-
A-C	307.16	307.16	0.00	-	-	-	-	-

Main results: (08:00-08:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	43.15	43.09	0.00	564.64	0.076	0.08	6.902	A
B-A	10.79	10.75	0.00	302.26	0.036	0.04	12.347	B
C-A	557.37	557.37	0.00	-	-	-	-	-
C-B	12.59	12.57	0.00	577.16	0.022	0.02	6.375	A
A-B	2.70	2.70	0.00	-	-	-	-	-
A-C	366.78	366.78	0.00	-	-	-	-	-

Main results: (08:15-08:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	52.85	52.75	0.00	542.13	0.097	0.11	7.353	A
B-A	13.21	13.15	0.00	268.42	0.049	0.05	14.099	B
C-A	682.63	682.63	0.00	-	-	-	-	-
C-B	15.41	15.39	0.00	556.04	0.028	0.03	6.658	A
A-B	3.30	3.30	0.00	-	-	-	-	-
A-C	449.22	449.22	0.00	-	-	-	-	-

Main results: (08:30-08:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	52.85	52.85	0.00	542.10	0.097	0.11	7.357	A
B-A	13.21	13.21	0.00	268.41	0.049	0.05	14.105	B
C-A	682.63	682.63	0.00	-	-	-	-	-
C-B	15.41	15.41	0.00	556.04	0.028	0.03	6.658	A
A-B	3.30	3.30	0.00	-	-	-	-	-
A-C	449.22	449.22	0.00	-	-	-	-	-

Main results: (08:45-09:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	43.15	43.25	0.00	564.60	0.076	0.08	6.908	A
B-A	10.79	10.84	0.00	302.25	0.036	0.04	12.357	B
C-A	557.37	557.37	0.00	-	-	-	-	-
C-B	12.59	12.61	0.00	577.16	0.022	0.02	6.378	A
A-B	2.70	2.70	0.00	-	-	-	-	-
A-C	366.78	366.78	0.00	-	-	-	-	-

Main results: (09:00-09:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	36.14	36.20	0.00	580.70	0.062	0.07	6.611	A
B-A	9.03	9.07	0.00	326.70	0.028	0.03	11.336	B
C-A	466.77	466.77	0.00	-	-	-	-	-
C-B	10.54	10.56	0.00	592.44	0.018	0.02	6.188	A
A-B	2.26	2.26	0.00	-	-	-	-	-
A-C	307.16	307.16	0.00	-	-	-	-	-

(Default Analysis Set) - 2015 With Development, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm flare	Arm B - Minor Arm Geometry	Is flare very short? Estimated flare length is zero but has been increased to 1 because a zero flare length is not allowed.

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	N/A			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)	Single Time Segment Only	Locked
2015 With Development, PM	2015 With Development	PM		ONE HOUR	16:45	18:15	90	15		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	A,B,C	8.34	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	Ipswich Road East		Major
B	B	Site Access		Minor
C	C	Ipswich Road West		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	6.50		0.00	✓	3.00	75.00		

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

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane plus flare				7.21	3.01	3.00	3.00	3.00	✓	1.00	12	20

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	452.489	0.081	0.204	0.128	0.291
1	B-C	662.146	0.099	0.251	-	-
1	C-B	671.152	0.254	0.254	-	-

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

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

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

Traffic 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 (PCU/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	592.00	100.000
B	ONE HOUR	✓	27.00	100.000
C	ONE HOUR	✓	586.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.000	9.000	583.000
	B	5.000	0.000	22.000
	C	551.000	35.000	0.000

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

		To		
		A	B	C
From	A	0.00	0.02	0.98
	B	0.19	0.00	0.81
	C	0.94	0.06	0.00

Vehicle Mix

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

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

Heavy Vehicle Percentages - Junction 1 (for whole period)

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

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.05	7.61	0.05	A
B-A	0.02	15.91	0.02	C
C-A	-	-	-	-
C-B	0.08	7.71	0.08	A
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (16:45-17:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	16.56	16.44	0.00	549.60	0.030	0.03	6.750	A
B-A	3.76	3.71	0.00	301.64	0.012	0.01	12.082	B
C-A	414.82	414.82	0.00	-	-	-	-	-
C-B	26.35	26.15	0.00	557.78	0.047	0.05	6.770	A
A-B	6.78	6.78	0.00	-	-	-	-	-
A-C	438.91	438.91	0.00	-	-	-	-	-

Main results: (17:00-17:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	19.78	19.75	0.00	527.59	0.037	0.04	7.088	A
B-A	4.49	4.48	0.00	272.30	0.017	0.02	13.441	B
C-A	495.34	495.34	0.00	-	-	-	-	-
C-B	31.46	31.41	0.00	535.77	0.059	0.06	7.137	A
A-B	8.09	8.09	0.00	-	-	-	-	-
A-C	524.11	524.11	0.00	-	-	-	-	-

Main results: (17:15-17:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	24.22	24.17	0.00	497.05	0.049	0.05	7.612	A
B-A	5.51	5.48	0.00	231.79	0.024	0.02	15.905	C
C-A	606.66	606.66	0.00	-	-	-	-	-
C-B	38.54	38.46	0.00	505.34	0.076	0.08	7.710	A
A-B	9.91	9.91	0.00	-	-	-	-	-
A-C	641.89	641.89	0.00	-	-	-	-	-

Main results: (17:30-17:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	24.22	24.22	0.00	497.03	0.049	0.05	7.613	A
B-A	5.51	5.50	0.00	231.77	0.024	0.02	15.910	C
C-A	606.66	606.66	0.00	-	-	-	-	-
C-B	38.54	38.53	0.00	505.34	0.076	0.08	7.711	A
A-B	9.91	9.91	0.00	-	-	-	-	-
A-C	641.89	641.89	0.00	-	-	-	-	-

Main results: (17:45-18:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	19.78	19.82	0.00	527.57	0.037	0.04	7.089	A
B-A	4.49	4.52	0.00	272.26	0.017	0.02	13.446	B
C-A	495.34	495.34	0.00	-	-	-	-	-
C-B	31.46	31.54	0.00	535.77	0.059	0.06	7.142	A
A-B	8.09	8.09	0.00	-	-	-	-	-
A-C	524.11	524.11	0.00	-	-	-	-	-

Main results: (18:00-18:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	16.56	16.59	0.00	549.57	0.030	0.03	6.756	A
B-A	3.76	3.78	0.00	301.57	0.012	0.01	12.091	B
C-A	414.82	414.82	0.00	-	-	-	-	-
C-B	26.35	26.40	0.00	557.78	0.047	0.05	6.774	A
A-B	6.78	6.78	0.00	-	-	-	-	-
A-C	438.91	438.91	0.00	-	-	-	-	-

(Default Analysis Set) - 2025 Base + Committed + Development, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm flare	Arm B - Minor Arm Geometry	Is flare very short? Estimated flare length is zero but has been increased to 1 because a zero flare length is not allowed.

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	N/A			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)	Single Time Segment Only	Locked
2025 Base + Committed + Development, AM	2025 Base + Committed + Development	AM		ONE HOUR	07:45	09:15	90	15		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	A,B,C	9.80	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	Ipswich Road East		Major
B	B	Site Access		Minor
C	C	Ipswich Road West		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	6.50		0.00	✓	3.00	75.00		

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

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane plus flare				7.21	3.01	3.00	3.00	3.00	✓	1.00	12	20

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	452.489	0.081	0.204	0.128	0.291
1	B-C	662.146	0.099	0.251	-	-
1	C-B	671.152	0.254	0.254	-	-

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

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

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

Traffic 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 (PCU/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	600.00	100.000
B	ONE HOUR	✓	60.00	100.000
C	ONE HOUR	✓	782.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.000	3.000	597.000
	B	12.000	0.000	48.000
	C	768.000	14.000	0.000

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

		To		
		A	B	C
From	A	0.00	0.01	1.00
	B	0.20	0.00	0.80
	C	0.98	0.02	0.00

Vehicle Mix

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

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

Heavy Vehicle Percentages - Junction 1 (for whole period)

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

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.11	8.26	0.12	A
B-A	0.06	18.76	0.07	C
C-A	-	-	-	-
C-B	0.03	7.38	0.03	A
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (07:45-08:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	36.14	35.86	0.00	544.72	0.066	0.07	7.072	A
B-A	9.03	8.90	0.00	283.45	0.032	0.03	13.107	B
C-A	578.19	578.19	0.00	-	-	-	-	-
C-B	10.54	10.46	0.00	556.24	0.019	0.02	6.596	A
A-B	2.26	2.26	0.00	-	-	-	-	-
A-C	449.45	449.45	0.00	-	-	-	-	-

Main results: (08:00-08:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	43.15	43.08	0.00	521.37	0.083	0.09	7.526	A
B-A	10.79	10.74	0.00	250.57	0.043	0.04	15.005	B
C-A	690.42	690.42	0.00	-	-	-	-	-
C-B	12.59	12.57	0.00	533.94	0.024	0.02	6.904	A
A-B	2.70	2.70	0.00	-	-	-	-	-
A-C	536.69	536.69	0.00	-	-	-	-	-

Main results: (08:15-08:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	52.85	52.73	0.00	488.54	0.108	0.12	8.259	A
B-A	13.21	13.12	0.00	205.11	0.064	0.07	18.740	C
C-A	845.58	845.58	0.00	-	-	-	-	-
C-B	15.41	15.38	0.00	503.10	0.031	0.03	7.380	A
A-B	3.30	3.30	0.00	-	-	-	-	-
A-C	657.31	657.31	0.00	-	-	-	-	-

Main results: (08:30-08:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	52.85	52.85	0.00	488.48	0.108	0.12	8.263	A
B-A	13.21	13.21	0.00	205.10	0.064	0.07	18.761	C
C-A	845.58	845.58	0.00	-	-	-	-	-
C-B	15.41	15.41	0.00	503.10	0.031	0.03	7.380	A
A-B	3.30	3.30	0.00	-	-	-	-	-
A-C	657.31	657.31	0.00	-	-	-	-	-

Main results: (08:45-09:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	43.15	43.27	0.00	521.29	0.083	0.09	7.531	A
B-A	10.79	10.88	0.00	250.56	0.043	0.05	15.024	C
C-A	690.42	690.42	0.00	-	-	-	-	-
C-B	12.59	12.61	0.00	533.94	0.024	0.02	6.905	A
A-B	2.70	2.70	0.00	-	-	-	-	-
A-C	536.69	536.69	0.00	-	-	-	-	-

Main results: (09:00-09:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	36.14	36.21	0.00	544.62	0.066	0.07	7.083	A
B-A	9.03	9.08	0.00	283.42	0.032	0.03	13.126	B
C-A	578.19	578.19	0.00	-	-	-	-	-
C-B	10.54	10.56	0.00	556.24	0.019	0.02	6.599	A
A-B	2.26	2.26	0.00	-	-	-	-	-
A-C	449.45	449.45	0.00	-	-	-	-	-

(Default Analysis Set) - 2025 Base + Committed + Development, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm flare	Arm B - Minor Arm Geometry	Is flare very short? Estimated flare length is zero but has been increased to 1 because a zero flare length is not allowed.

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	N/A			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)	Single Time Segment Only	Locked
2025 Base + Committed + Development, PM	2025 Base + Committed + Development	PM		ONE HOUR	16:45	18:15	90	15		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	A,B,C	9.91	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	Ipswich Road East		Major
B	B	Site Access		Minor
C	C	Ipswich Road West		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	6.50		0.00	✓	3.00	75.00		

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

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane plus flare				7.21	3.01	3.00	3.00	3.00	✓	1.00	12	20

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	452.489	0.081	0.204	0.128	0.291
1	B-C	662.146	0.099	0.251	-	-
1	C-B	671.152	0.254	0.254	-	-

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

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

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

Traffic 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 (PCU/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	789.00	100.000
B	ONE HOUR	✓	27.00	100.000
C	ONE HOUR	✓	801.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.000	9.000	780.000
	B	5.000	0.000	22.000
	C	766.000	35.000	0.000

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

		To		
		A	B	C
From	A	0.00	0.01	0.99
	B	0.19	0.00	0.81
	C	0.96	0.04	0.00

Vehicle Mix

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

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

Heavy Vehicle Percentages - Junction 1 (for whole period)

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

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-C	0.05	8.62	0.06	A
B-A	0.04	23.73	0.04	C
C-A	-	-	-	-
C-B	0.09	8.74	0.09	A
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (16:45-17:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	16.56	16.43	0.00	512.16	0.032	0.03	7.260	A
B-A	3.76	3.70	0.00	250.67	0.015	0.02	14.574	B
C-A	576.68	576.68	0.00	-	-	-	-	-
C-B	26.35	26.14	0.00	520.05	0.051	0.05	7.285	A
A-B	6.78	6.78	0.00	-	-	-	-	-
A-C	587.22	587.22	0.00	-	-	-	-	-

Main results: (17:00-17:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	19.78	19.74	0.00	482.74	0.041	0.04	7.775	A
B-A	4.49	4.47	0.00	211.43	0.021	0.02	17.393	C
C-A	688.62	688.62	0.00	-	-	-	-	-
C-B	31.46	31.40	0.00	490.72	0.064	0.07	7.836	A
A-B	8.09	8.09	0.00	-	-	-	-	-
A-C	701.20	701.20	0.00	-	-	-	-	-

Main results: (17:15-17:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	24.22	24.16	0.00	441.64	0.055	0.06	8.622	A
B-A	5.51	5.45	0.00	157.24	0.035	0.04	23.709	C
C-A	843.38	843.38	0.00	-	-	-	-	-
C-B	38.54	38.44	0.00	450.17	0.086	0.09	8.741	A
A-B	9.91	9.91	0.00	-	-	-	-	-
A-C	858.80	858.80	0.00	-	-	-	-	-

Main results: (17:30-17:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	24.22	24.22	0.00	441.60	0.055	0.06	8.624	A
B-A	5.51	5.50	0.00	157.21	0.035	0.04	23.729	C
C-A	843.38	843.38	0.00	-	-	-	-	-
C-B	38.54	38.53	0.00	450.17	0.086	0.09	8.745	A
A-B	9.91	9.91	0.00	-	-	-	-	-
A-C	858.80	858.80	0.00	-	-	-	-	-

Main results: (17:45-18:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	19.78	19.84	0.00	482.69	0.041	0.04	7.778	A
B-A	4.49	4.55	0.00	211.38	0.021	0.02	17.409	C
C-A	688.62	688.62	0.00	-	-	-	-	-
C-B	31.46	31.56	0.00	490.72	0.064	0.07	7.843	A
A-B	8.09	8.09	0.00	-	-	-	-	-
A-C	701.20	701.20	0.00	-	-	-	-	-

Main results: (18:00-18:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-C	16.56	16.60	0.00	512.12	0.032	0.03	7.264	A
B-A	3.76	3.79	0.00	250.59	0.015	0.02	14.590	B
C-A	576.68	576.68	0.00	-	-	-	-	-
C-B	26.35	26.41	0.00	520.05	0.051	0.05	7.295	A
A-B	6.78	6.78	0.00	-	-	-	-	-
A-C	587.22	587.22	0.00	-	-	-	-	-

APPENDIX E – SITE ACCESS / TOP STREET – PICADY OUTPUT

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Junctions 8

PICADY 8 - Priority Intersection Module

Version: 8.0.4.487 [15039,24/03/2014]

For sales and distribution information, program advice and maintenance, contact TRL:
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Filename: Site Access, Top Street 5050 split Jan 2016.arc8
Path: P:\Gladman SLS\C14106 Gladman Duke's Park Woodbridge\Hydrock Documents\Transport\Junction Models
Report generation date: 06/01/2016 16:07:58

Summary of junction performance

	AM				PM			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - 2015 With Development							
Stream B-AC	0.19	10.45	0.16	B	0.08	10.13	0.08	B
Stream C-AB	0.01	6.54	0.01	A	0.04	6.68	0.03	A
Stream C-A	-	-	-	-	-	-	-	-
Stream A-B	-	-	-	-	-	-	-	-
Stream A-C	-	-	-	-	-	-	-	-
	A1 - 2025 Base + Committed + Development							
Stream B-AC	0.23	12.50	0.19	B	0.10	12.49	0.09	B
Stream C-AB	0.01	7.11	0.01	A	0.04	7.15	0.04	A
Stream C-A	-	-	-	-	-	-	-	-
Stream A-B	-	-	-	-	-	-	-	-
Stream A-C	-	-	-	-	-	-	-	-

Values shown are the maximum values over all time segments. Delay is the maximum value of average delay per arriving vehicle.

"D1 - 2015 With Development, AM " model duration: 07:45 - 09:15
"D2 - 2015 With Development, PM" model duration: 16:45 - 18:15
"D3 - 2025 Base + Committed + Development, AM" model duration: 07:45 - 09:15
"D4 - 2025 Base + Committed + Development, PM" model duration: 16:45 - 18:15

Run using Junctions 8.0.4.487 at 06/01/2016 16:07:56

File summary

Title	Top Street / Site Access
Location	Woodbridge
Site Number	
Date	16/07/2014
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	michaelchau
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			N/A	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	PCU	PCU	perHour	s	-Min	perMin

(Default Analysis Set) - 2015 With Development, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	N/A			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)	Single Time Segment Only	Locked
2015 With Development, AM	2015 With Development	AM		ONE HOUR	07:45	09:15	90	15		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	A,B,C	10.26	B

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	Top Street North		Major
B	B	Site Access		Minor
C	C	Top Street South		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	7.00		0.00		2.20	115.00	✓	1.00

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

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane	2.75										43	17

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	487.318	0.085	0.215	0.135	0.307
1	B-C	618.754	0.091	0.229	-	-
1	C-B	640.561	0.237	0.237	-	-

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

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

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

Traffic 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 (PCU/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	339.00	100.000
B	ONE HOUR	✓	60.00	100.000
C	ONE HOUR	✓	349.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.000	6.000	333.000
	B	36.000	0.000	24.000
	C	346.000	3.000	0.000

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

		To		
		A	B	C
From	A	0.00	0.02	0.98
	B	0.60	0.00	0.40
	C	0.99	0.01	0.00

Vehicle Mix

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

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

Heavy Vehicle Percentages - Junction 1 (for whole period)

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

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.16	10.45	0.19	B
C-AB	0.01	6.54	0.01	A
C-A	-	-	-	-
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (07:45-08:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	45.17	44.73	0.00	449.75	0.100	0.11	8.878	A
C-AB	2.26	2.25	0.00	580.66	0.004	0.00	6.223	A
C-A	260.48	260.48	0.00	-	-	-	-	-
A-B	4.52	4.52	0.00	-	-	-	-	-
A-C	250.70	250.70	0.00	-	-	-	-	-

Main results: (08:00-08:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	53.94	53.82	0.00	433.36	0.124	0.14	9.482	A
C-AB	2.70	2.70	0.00	569.23	0.005	0.00	6.353	A
C-A	311.04	311.04	0.00	-	-	-	-	-
A-B	5.39	5.39	0.00	-	-	-	-	-
A-C	299.36	299.36	0.00	-	-	-	-	-

Main results: (08:15-08:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	66.06	65.87	0.00	410.50	0.161	0.19	10.442	B
C-AB	3.32	3.31	0.00	553.54	0.006	0.01	6.542	A
C-A	380.94	380.94	0.00	-	-	-	-	-
A-B	6.61	6.61	0.00	-	-	-	-	-
A-C	366.64	366.64	0.00	-	-	-	-	-

Main results: (08:30-08:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	66.06	66.06	0.00	410.49	0.161	0.19	10.451	B
C-AB	3.32	3.32	0.00	553.54	0.006	0.01	6.542	A
C-A	380.94	380.94	0.00	-	-	-	-	-
A-B	6.61	6.61	0.00	-	-	-	-	-
A-C	366.64	366.64	0.00	-	-	-	-	-

Main results: (08:45-09:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	53.94	54.13	0.00	433.36	0.124	0.14	9.497	A
C-AB	2.70	2.71	0.00	569.23	0.005	0.00	6.353	A
C-A	311.04	311.04	0.00	-	-	-	-	-
A-B	5.39	5.39	0.00	-	-	-	-	-
A-C	299.36	299.36	0.00	-	-	-	-	-

Main results: (09:00-09:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	45.17	45.30	0.00	449.74	0.100	0.11	8.905	A
C-AB	2.26	2.27	0.00	580.66	0.004	0.00	6.225	A
C-A	260.48	260.48	0.00	-	-	-	-	-
A-B	4.52	4.52	0.00	-	-	-	-	-
A-C	250.70	250.70	0.00	-	-	-	-	-

(Default Analysis Set) - 2015 With Development, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	N/A			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)	Single Time Segment Only	Locked
2015 With Development, PM	2015 With Development	PM		ONE HOUR	16:45	18:15	90	15		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	A,B,C	8.78	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	Top Street North		Major
B	B	Site Access		Minor
C	C	Top Street South		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	7.00		0.00		2.20	115.00	✓	1.00

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

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane	2.75										43	17

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	487.318	0.085	0.215	0.135	0.307
1	B-C	618.754	0.091	0.229	-	-
1	C-B	640.561	0.237	0.237	-	-

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

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

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

Traffic 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 (PCU/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	365.00	100.000
B	ONE HOUR	✓	27.00	100.000
C	ONE HOUR	✓	522.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.000	26.000	339.000
	B	16.000	0.000	11.000
	C	505.000	17.000	0.000

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

		To		
		A	B	C
From	A	0.00	0.07	0.93
	B	0.59	0.00	0.41
	C	0.97	0.03	0.00

Vehicle Mix

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

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

Heavy Vehicle Percentages - Junction 1 (for whole period)

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

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.08	10.13	0.08	B
C-AB	0.03	6.68	0.04	A
C-A	-	-	-	-
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (16:45-17:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	20.33	20.13	0.00	433.45	0.047	0.05	8.706	A
C-AB	12.99	12.89	0.00	581.06	0.022	0.02	6.336	A
C-A	380.00	380.00	0.00	-	-	-	-	-
A-B	19.57	19.57	0.00	-	-	-	-	-
A-C	255.22	255.22	0.00	-	-	-	-	-

Main results: (17:00-17:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	24.27	24.22	0.00	413.32	0.059	0.06	9.251	A
C-AB	15.62	15.60	0.00	571.09	0.027	0.03	6.480	A
C-A	453.65	453.65	0.00	-	-	-	-	-
A-B	23.37	23.37	0.00	-	-	-	-	-
A-C	304.75	304.75	0.00	-	-	-	-	-

Main results: (17:15-17:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	29.73	29.64	0.00	385.05	0.077	0.08	10.127	B
C-AB	19.37	19.34	0.00	558.33	0.035	0.04	6.678	A
C-A	555.36	555.36	0.00	-	-	-	-	-
A-B	28.63	28.63	0.00	-	-	-	-	-
A-C	373.25	373.25	0.00	-	-	-	-	-

Main results: (17:30-17:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	29.73	29.73	0.00	385.04	0.077	0.08	10.131	B
C-AB	19.37	19.37	0.00	558.33	0.035	0.04	6.681	A
C-A	555.36	555.36	0.00	-	-	-	-	-
A-B	28.63	28.63	0.00	-	-	-	-	-
A-C	373.25	373.25	0.00	-	-	-	-	-

Main results: (17:45-18:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	24.27	24.35	0.00	413.31	0.059	0.06	9.257	A
C-AB	15.62	15.65	0.00	571.09	0.027	0.03	6.481	A
C-A	453.65	453.65	0.00	-	-	-	-	-
A-B	23.37	23.37	0.00	-	-	-	-	-
A-C	304.75	304.75	0.00	-	-	-	-	-

Main results: (18:00-18:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	20.33	20.38	0.00	433.42	0.047	0.05	8.718	A
C-AB	12.99	13.01	0.00	581.06	0.022	0.02	6.337	A
C-A	380.00	380.00	0.00	-	-	-	-	-
A-B	19.57	19.57	0.00	-	-	-	-	-
A-C	255.22	255.22	0.00	-	-	-	-	-

(Default Analysis Set) - 2025 Base + Committed + Development, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	N/A			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)	Single Time Segment Only	Locked
2025 Base + Committed + Development, AM	2025 Base + Committed + Development	AM		ONE HOUR	07:45	09:15	90	15		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	A,B,C	12.25	B

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	Top Street North		Major
B	B	Site Access		Minor
C	C	Top Street South		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	7.00		0.00		2.20	115.00	✓	1.00

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

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane	2.75										43	17

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	487.318	0.085	0.215	0.135	0.307
1	B-C	618.754	0.091	0.229	-	-
1	C-B	640.561	0.237	0.237	-	-

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

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

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

Traffic 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 (PCU/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	511.00	100.000
B	ONE HOUR	✓	60.00	100.000
C	ONE HOUR	✓	460.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.000	6.000	505.000
	B	36.000	0.000	24.000
	C	457.000	3.000	0.000

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

		To		
		A	B	C
From	A	0.00	0.01	0.99
	B	0.60	0.00	0.40
	C	0.99	0.01	0.00

Vehicle Mix

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

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

Heavy Vehicle Percentages - Junction 1 (for whole period)

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

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.19	12.50	0.23	B
C-AB	0.01	7.11	0.01	A
C-A	-	-	-	-
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (07:45-08:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	45.17	44.68	0.00	411.85	0.110	0.12	9.792	A
C-AB	2.26	2.25	0.00	550.22	0.004	0.00	6.569	A
C-A	344.05	344.05	0.00	-	-	-	-	-
A-B	4.52	4.52	0.00	-	-	-	-	-
A-C	380.19	380.19	0.00	-	-	-	-	-

Main results: (08:00-08:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	53.94	53.79	0.00	387.75	0.139	0.16	10.775	B
C-AB	2.71	2.70	0.00	532.98	0.005	0.01	6.788	A
C-A	410.82	410.82	0.00	-	-	-	-	-
A-B	5.39	5.39	0.00	-	-	-	-	-
A-C	453.98	453.98	0.00	-	-	-	-	-

Main results: (08:15-08:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	66.06	65.80	0.00	353.94	0.187	0.23	12.482	B
C-AB	3.32	3.32	0.00	509.35	0.007	0.01	7.113	A
C-A	503.15	503.15	0.00	-	-	-	-	-
A-B	6.61	6.61	0.00	-	-	-	-	-
A-C	556.02	556.02	0.00	-	-	-	-	-

Main results: (08:30-08:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	66.06	66.05	0.00	353.94	0.187	0.23	12.504	B
C-AB	3.32	3.32	0.00	509.35	0.007	0.01	7.113	A
C-A	503.15	503.15	0.00	-	-	-	-	-
A-B	6.61	6.61	0.00	-	-	-	-	-
A-C	556.02	556.02	0.00	-	-	-	-	-

Main results: (08:45-09:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	53.94	54.19	0.00	387.75	0.139	0.16	10.800	B
C-AB	2.71	2.71	0.00	532.98	0.005	0.01	6.790	A
C-A	410.82	410.82	0.00	-	-	-	-	-
A-B	5.39	5.39	0.00	-	-	-	-	-
A-C	453.98	453.98	0.00	-	-	-	-	-

Main results: (09:00-09:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	45.17	45.33	0.00	411.85	0.110	0.12	9.827	A
C-AB	2.26	2.27	0.00	550.22	0.004	0.00	6.569	A
C-A	344.05	344.05	0.00	-	-	-	-	-
A-B	4.52	4.52	0.00	-	-	-	-	-
A-C	380.19	380.19	0.00	-	-	-	-	-

(Default Analysis Set) - 2025 Base + Committed + Development, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Locked	Network Flow Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	N/A			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)	Single Time Segment Only	Locked
2025 Base + Committed + Development, PM	2025 Base + Committed + Development	PM		ONE HOUR	16:45	18:15	90	15		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Junction Delay (s)	Junction LOS
1	(untitled)	T-Junction	Two-way	A,B,C	10.38	B

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	Top Street North		Major
B	B	Site Access		Minor
C	C	Top Street South		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	7.00		0.00		2.20	115.00	✓	1.00

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

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
B	One lane	2.75										43	17

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	487.318	0.085	0.215	0.135	0.307
1	B-C	618.754	0.091	0.229	-	-
1	C-B	640.561	0.237	0.237	-	-

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

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

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

Traffic 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 (PCU/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	527.00	100.000
B	ONE HOUR	✓	27.00	100.000
C	ONE HOUR	✓	721.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.000	26.000	501.000
	B	16.000	0.000	11.000
	C	704.000	17.000	0.000

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

		To		
		A	B	C
From	A	0.00	0.05	0.95
	B	0.59	0.00	0.41
	C	0.98	0.02	0.00

Vehicle Mix

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

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

Heavy Vehicle Percentages - Junction 1 (for whole period)

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

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.09	12.49	0.10	B
C-AB	0.04	7.15	0.04	A
C-A	-	-	-	-
A-B	-	-	-	-
A-C	-	-	-	-

Main Results for each time segment

Main results: (16:45-17:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	20.33	20.11	0.00	389.43	0.052	0.05	9.744	A
C-AB	13.09	12.99	0.00	554.96	0.024	0.02	6.642	A
C-A	529.72	529.72	0.00	-	-	-	-	-
A-B	19.57	19.57	0.00	-	-	-	-	-
A-C	377.18	377.18	0.00	-	-	-	-	-

Main results: (17:00-17:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	24.27	24.20	0.00	359.89	0.067	0.07	10.721	B
C-AB	15.81	15.79	0.00	540.91	0.029	0.03	6.855	A
C-A	632.35	632.35	0.00	-	-	-	-	-
A-B	23.37	23.37	0.00	-	-	-	-	-
A-C	450.39	450.39	0.00	-	-	-	-	-

Main results: (17:15-17:30)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	29.73	29.61	0.00	317.88	0.094	0.10	12.483	B
C-AB	19.79	19.75	0.00	523.28	0.038	0.04	7.149	A
C-A	774.04	774.04	0.00	-	-	-	-	-
A-B	28.63	28.63	0.00	-	-	-	-	-
A-C	551.61	551.61	0.00	-	-	-	-	-

Main results: (17:30-17:45)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	29.73	29.72	0.00	317.87	0.094	0.10	12.493	B
C-AB	19.79	19.79	0.00	523.28	0.038	0.04	7.152	A
C-A	774.04	774.04	0.00	-	-	-	-	-
A-B	28.63	28.63	0.00	-	-	-	-	-
A-C	551.61	551.61	0.00	-	-	-	-	-

Main results: (17:45-18:00)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	24.27	24.39	0.00	359.87	0.067	0.07	10.736	B
C-AB	15.81	15.85	0.00	540.91	0.029	0.03	6.858	A
C-A	632.35	632.35	0.00	-	-	-	-	-
A-B	23.37	23.37	0.00	-	-	-	-	-
A-C	450.39	450.39	0.00	-	-	-	-	-

Main results: (18:00-18:15)

Stream	Total Demand (PCU/hr)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	End Queue (PCU)	Delay (s)	LOS
B-AC	20.33	20.40	0.00	389.40	0.052	0.06	9.759	A
C-AB	13.09	13.11	0.00	554.96	0.024	0.02	6.646	A
C-A	529.72	529.72	0.00	-	-	-	-	-
A-B	19.57	19.57	0.00	-	-	-	-	-
A-C	377.18	377.18	0.00	-	-	-	-	-

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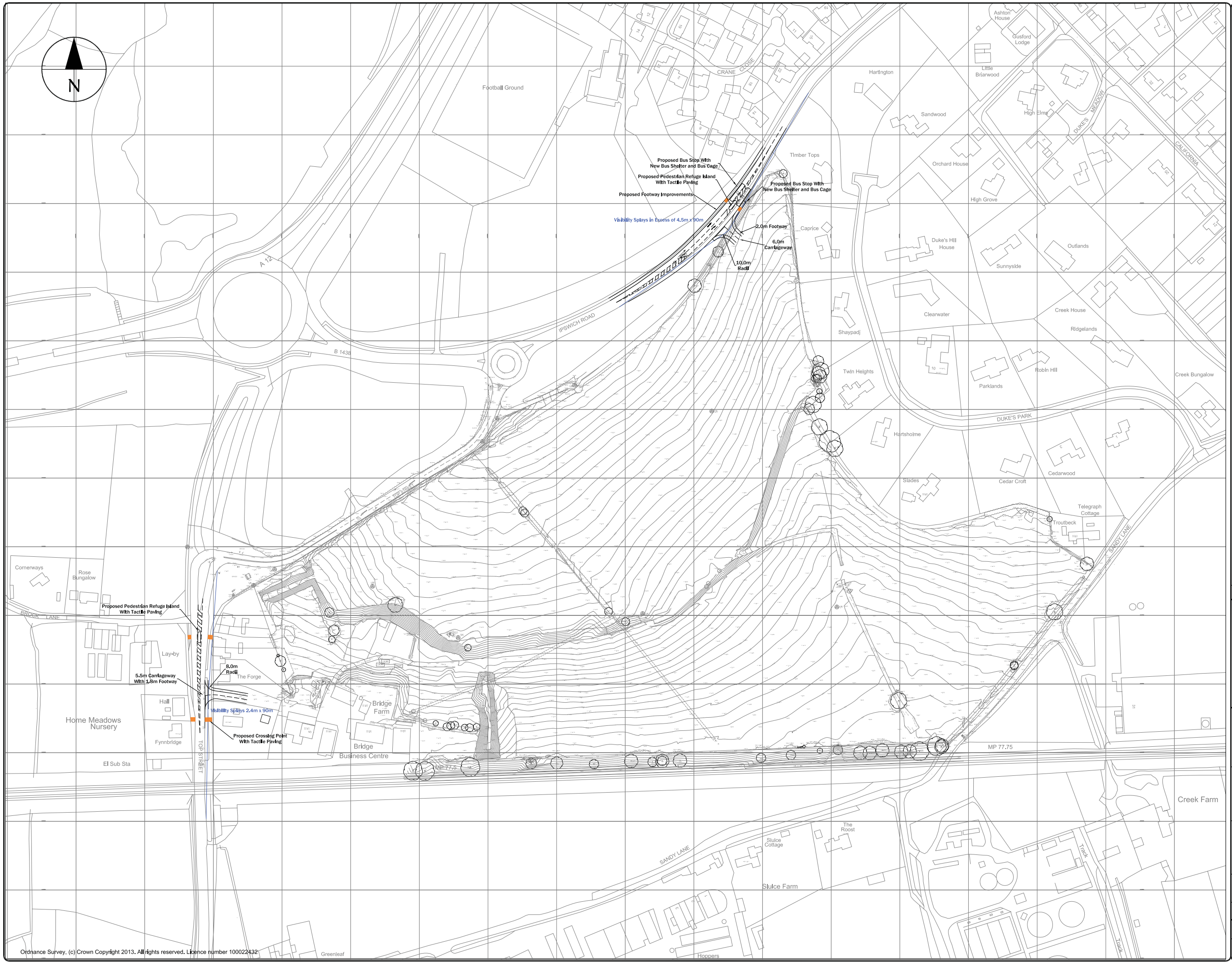

Notes:

1. All dimensions are to be checked on site before the commencement of works. Any discrepancies are to be reported to the Architect & Engineer for verification. Figured dimensions only are to be taken from this drawing.

2. This drawing is to be read in conjunction with all relevant Engineers' and Service Engineers' drawings and specifications. This drawing is copyright.

SAFETY, HEALTH AND ENVIRONMENTAL INFORMATION

IN ADDITION TO THE HAZARDS/RISKS NORMALLY ASSOCIATED WITH THE TYPES OF WORK DETAILED ON THIS DRAWING, NOTE THE FOLLOWING

MAINTENANCE / CLEANING

DECOMMISSIONING / DEMOLITION

IT IS ASSUMED THAT ALL WORKS WILL BE CARRIED OUT BY A COMPETENT CONTRACTOR WORKING, WHERE APPROPRIATE, TO AN APPROVED METHOD STATEMENT

Rev	Date	Description	By	Ckd
G	12/01/16	Amended to SCC's comments	TC	TC
F	24/09/14	Sandy Lane access removed	TC	TC
E	24/09/14	Sandy Lane access relocated	TC	TC
D	19/08/14	Include new bus stops	TC	TC
C	19/08/14	Top Street pedestrian crossings	TC	TC
B	24/07/14	Minor revisions	TC	TC
A	16/07/14	Include Sandy Lane Underbridge Improvements	TC	TC

Hydrock

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Client

Gladman Developments Ltd.

Project

Duke's Park
Woodbridge, Suffolk

Title

Proposed Access Arrangement

Drawing Status

Job No.				
C14106				
Drawn	Checked	Scale at A1	Date	Issue Date
HB	TC	1 : 1250	01/05/2014	01/05/2014
Drawing No.				Revision
002				G