

ADDENDUM TRANSPORT ASSESSMENT

FOR PROPOSED McDONALD'S RESTAURANT
LAND AT ARGOS CAR PARK, PLAS COCH RETAIL PARK
WREXHAM, LL11 2BW

Client: McDonald's Restaurants Ltd

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Client:

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1.0 INTRODUCTION

1.1 Introduction

- 1.1.1 ADL Traffic and Highways Engineering Ltd have prepared this Addendum Transport Assessment to address the consultation comments provided by Wrexham Council Highway Authority in relation to the proposed McDonald's restaurant at Plas Coch Retail Park Wrexham.

1.2 Planning Background and Appeal Decision

Planning Application P/2019/0919

- 1.2.1 Planning application P/2019/0919 was submitted to Wrexham Borough Council on 12 December 2019 for the erection of a free-standing restaurant with drive thru facilities, car parking, landscaping and associated works on land at Plas Coch Retail Park, Wrexham.
- 1.2.2 The planning application was supported by the following documents prepared by ADL.
- Transport Assessment December 2019.
 - Transport Assessment (Volume 2) December 2020
 - Delivery Management Plan (December 2020),
 - Stage 1 Road Safety Audit (October 2020)
 - Designers Response to Stage 1 Road Safety Audit (December 2020).
- 1.2.3 The summary from the Highway Authority final consultation comments dated 22nd March 2021 demonstrates that, on the basis of this extensive scope of work all design issues were resolved.

***“The TA has taken a reasonable approach to future traffic forecasts and accounting for committed development as requested. The traffic generation estimates for the restaurant itself have been based on analysis of other comparable restaurants and are considered acceptable.*”**

The traffic assessment has shown that while Berse Road roundabout is already experiencing some congestion, the expected additional traffic relating to the proposed restaurant will have a negligible impact. Plas Coch roundabout is approaching capacity and may experience problems in the modelled future year 2036, but the restaurant will have a negligible impact. The Retail Park roundabout will be approaching capacity by 2036 but again, the impact of the restaurant traffic is small. Previous concerns over the validity of the junction modelling have been addressed by validation with observed queue length data.

I am now content that the proposed car parking provision is appropriate and in accordance with the Wrexham County Borough Parking Standards.

Concerns over headlight glare have been satisfactorily addressed.

The Delivery Management Plan has been provided and addressed all concerns regarding deliveries and waste removal.

A Stage 1 Road Safety Audit has identified where improvements are required to pedestrian Crossings and the findings incorporated into the proposal. The highway improvements set out in the Designers Response to the RSA must be undertaken before the restaurant begins trading.

Accident analysis has been undertaken and has confirmed that there are no highway issues that would be directly exacerbated by the development."

- 1.2.4 There was consequently there was no objection to the planning application by the Highway Authority. The Welsh Government also raised no objection to the application.
- 1.2.5 The application was recommended for approval by the Planning Authority. The conclusion of the Committee report (page 65) in relation to highways was that the parking provision was acceptable and that the proposed traffic generation would not be significant and the traffic impact of the development would be negligible.

"The highway authority has confirmed that the level of parking provision for the proposed restaurant and existing retail units is acceptable to serve the users of the site, and that safe vehicular and pedestrian access has been secured. The increased in traffic generation is not significant and is considered to be negligible in terms of its impact upon the existing highway network."

(The underlining is in the original)

- 1.2.6 Notwithstanding the agreement with the Highway Authority on transportation matters and their independent assessment that the proposals were acceptable, the planning application was refused by Members on 7th June 2021.

Planning Appeal CAS-01515-G4Y1D3

- 1.2.7 An Appeal of the decision of planning application P/2019/0919 was submitted to Planning and Environment Decisions Wales.
- 1.2.8 The Appeal was supported by an extensive Proof of Evidence (November 2021) prepared by ADL.
- 1.2.9 The Appeal was dismissed on 16th January 2023. A copy of the Appeal decision is included as Appendix 1.1. However, the reasons for the Appeal being dismissed related only to water neutrality issues not the traffic or highways reasons for refusal.
- 1.2.10 On these matters in relation to traffic impact the Inspector noted that the assessment had been provided for a 2036 scenario. This included not only an assessment with specific committed development traffic but a sensitivity test with a 2036 TEMPRO growth factor application which would have accounted reasonably for all committed development which might have come forward in this time period. It was also noted that the major Stansty development which had been included in the assessment is not actually committed development and therefore its inclusion was robust. This is still the case as of September 2023.

“17. The transport assessment indicates that in this worst-case scenario the queues would not adversely affect the road network or cause significant delays. The traffic assessment is based on a 2036 scenario which may not come to full fruition. The impact on highway safety as it presents itself now shows that the proposed development would result in a small change in the level of queues and would have but a minimal impact on the present highway network. I also concur that the Stansty development of some 455 dwellings may not come forward and a scheme of mitigation on the highway network would be expected as part of that development.”

- 1.2.11 The Inspector concluded that the proposal would have no adverse impact and that any committed development which is permitted should have adequate mitigation provided.

“I am therefore satisfied that the proposal would not harm traffic flow due to the regulated control of movement by traffic-light controlled roundabouts and that the appellant has shown that there is sufficient capacity to cater for the proposed development’s traffic demands. The traffic modelling has established that in future capacity scenarios when planned development may come forward queues would not adversely affect the road network. Even so, if there were issues arising from these planned developments there would be mitigation in-built in the approval to ensure that harm to highway safety should not arise.”

- 1.2.12 The Inspector concluded that the parking provision was sufficient and accepted the findings of ADL’s three separate surveys of the Retail Park car park.

“I note the objection about the parking provision on the appeal site. However, the Council’s Highway Authority indicates that the existing parking provision at the retail park is adequate to cater for the needs of the retail park. Across the two car parks and after the development of the site the residual parking provision would be 165 spaces. Inclusive of this number (165 spaces), 29 spaces would be provided for the proposed development. The Council’s Local Planning Guidance Note 16 sets out a maximum requirement of 29 parking spaces for the development, which is met by the proposal. The appellant’s parking surveys reveal that the maximum parking demand on a Saturday was 138 vehicles, which is below the total residual provision of 165 spaces should this development be permitted. The appellant has undertaken three separate parking surveys and there is no compelling evidence to indicate that these are not representative of the parking demands for the car parks in the area.”

- 1.2.13 The Inspector consulted that pedestrian accessibility has been satisfactorily addressed through the submitted Road Safety Audit and Designers Response.

“The proposal incorporates improvements to the network of pedestrian footways and a new pedestrian controlled light crossing which were identified through a Stage 1 Road Safety Audit. Three formal crossing points cater for the pedestrians coming from the University development site and walkways and zebra crossing facilities would be provided within the car park of the appeal site. I consider that this satisfactorily address concerns over accessibility for pedestrians in the area and caters for the increase in pedestrian footfall because of committed development and the development of the appeal site.”

1.2.14 The conclusions of the Appeal decision are very clear that there was no substance, technical merit or justification for the Council's previous traffic and highways reasons for refusal.

1.3 Application P/2023/0384

1.3.1 A new planning application was submitted to Wrexham Council for the proposed restaurant which seeks to address the outstanding water neutrality issues. The application was supported by all of the previous transport documents prepared by ADL.

1.3.2 The Highway Authority consultation comments dated 11th August 2023 are included as Appendix 1.2. In summary the issues which have been raised are as follows;

- Sustainable Travel
- Collision data review
- Traffic and parking survey validity
- Committed/Parallel development
- Junction modelling review
- Staffing levels

1.3.3 ADL have therefore prepared this Addendum Transport Assessment to address the above issues.

1.4 Scope of Study

1.4.2 Chapter 2.0 provides an update of the accessibility of the site by walking, cycling and public transport. A review is provided of the pedestrian improvements which are proposed to be provided as part of the application and the Council's Active Travel proposals for Mold Road and the Plas Coch Roundabout. Accident data is provided for 2020-2022 which demonstrates that there are no further highway safety issues which need to be addressed as part of this application.

- 1.4.3 Chapter 3.0 presents evidence which validates the use of the 2019/2020 traffic surveys. An updated review of the committed development requested by the Council is included.
- 1.4.4 Chapter 4.0 assesses the traffic impact of the development for the updated 2036 scenario including the updated committed development. This is compared to the 2036 sensitivity test which was previously submitted with the Appeal and approved by the Inspector. The junction modelling has been undertaken of the Retail Park Roundabout, Plas Coch Road Roundabout, Berse Road Roundabout and A483 Junction 5 Roundabout. Details of staff levels are also provided.
- 1.4.5 Chapter 5.0 summarises and concludes the report.
- 1.4.6 The Appendices are provided at the rear of the report.

2.0 SUSTAINABLE TRAVEL AND HIGHWAY SAFETY REVIEW

2.1 Pedestrians/Cyclists

- 2.1.1 The site is located in a mature urban environment. There are footways on both sides of Plas Coch Road and the Retail Park Access.
- 2.1.2 There are pedestrian crossing facilities with drop kerbs and pedestrian refuges on the eastern and southern arms of the Retail Park Roundabout.
- 2.1.3 There is a zebra crossing facility on the western arm of the Retail Park Roundabout 23m from the roundabout. There is a pedestrian crossing facility on the eastern arm of the Plas Coch Roundabout with drop kerbs, tactile paving and a pedestrian refuge.
- 2.1.4 There are signalised pedestrian crossing facilities on the Plas Coch Road approach at the Mold Road Roundabout (the eastbound arm is uncontrolled) and a signalised Toucan crossing on the Mold Road (south) arm of the Mold Road Roundabout (the southbound arm is uncontrolled).
- 2.1.5 According to Sustrans cycle map, Plas Coch Road and Mold Road are advisory cycle routes providing links to Wrexham town centre, Rhosddu to the east and Wrexham hospital and the suburbs to the west. A plan showing the local cycle routes is included as Appendix 2.1
- 2.1.6 A Stage 1 Road Safety Audit of the road network in the vicinity of the site and Designers Response was submitted with the previous application/Appeal. Improvements are proposed to enhance the accessibility of the site by pedestrians including a new signalised pedestrian crossing on Plas Coch Road. A plan showing the proposed highway improvements is included as Appendix 2.2. Additional notes have been added to account for the Council's own Active Travel proposals.
- 2.1.7 It is noted that Wrexham Council have completed consultation in August 2023 on Active Travel proposals for Mold Road. These include:

- Provision of a high quality, continuous two-way cycle track on the north side of Mold Road and Regent Street between the Plas Coch roundabout and King Street. In the long term this would include a new pedestrian and cycle bridge over the railway close to the junction of Mold Road and Crispin Lane.
- Make Regent Street one-way westbound between Hill Street and King Street and to create more space for pedestrians and cyclists in the main shopping area. A contraflow cycle lane would be created for cyclists heading eastbound.
- Provide traffic signal-controlled crossings on all arms of the Berse Road Roundabout to make it easier and safer to cross for pedestrians and cyclists.
- Improve existing and add new pedestrian and cycle crossings along the whole corridor.
- Improve the overall streetscape, with new paving and additional planting and greenery.

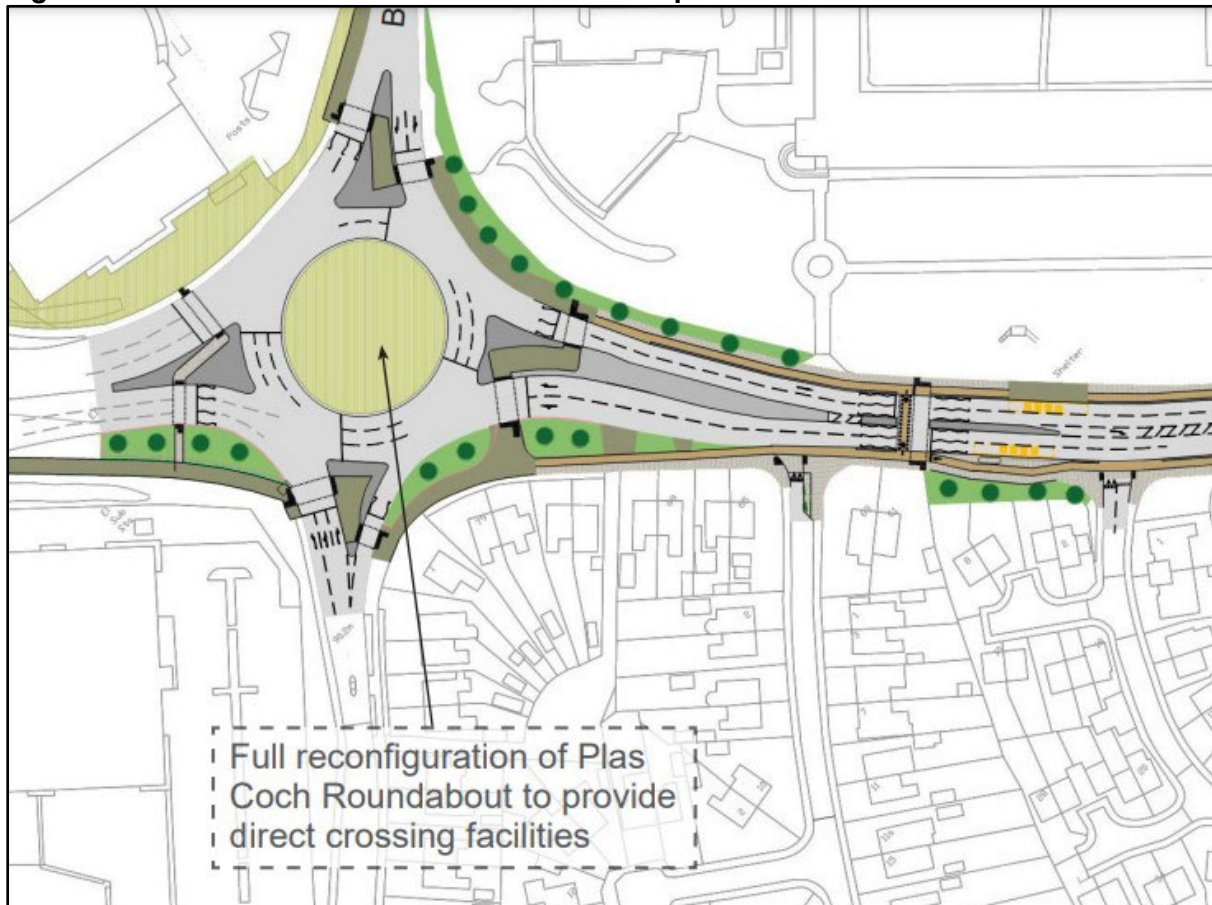
2.1.8 The Council's Option 1 proposals are included as Appendix 2.3. The extract below shows the signalised crossings on all arms of the Berse Road Roundabout. The Council have determined that these improvements are necessary outside of the scope of the current application. It is noted that funding for this scheme is not yet secured.

2.1.9 It is considered that the Council potentially have the option that either:

- McDonald's construct the proposed pedestrian crossing on Plas Coch Road as shown on ADL drawing.
- McDonald's provide a contribution for the cost of the crossing on Plas Coch Road (only) under a S106 agreement and the Council build out their preferred scheme as part of the wider scope of works at the Berse Road Roundabout.

2.1.10 It is concluded that either way appropriate mitigation would be provided and the site would be easily accessible for pedestrians and cyclists. If the Council's scheme comes forward then this would only be beneficial but it has been demonstrated that the application could also be made acceptable independently.

Figure 3A Wrexham Council Active Travel Improvements.



2.2 Public Transport

Bus

2.2.1 The nearest bus stop is located within the Plas Coch Retail Park opposite the Sainsbury's 180m, north of the site. The stop is equipped with a lay by, bus shelter and timetable information. There are also bus stops on Mold Road and Berse Road within 400m of the site in both directions. These stops are equipped with shelters, posts and travel information. A plan showing the bus stop locations is included as Appendix 2.4.

2.2.2 These bus stops are served regularly by bus route numbers, 21/21A, and 27. The services are summarised in Table 2A below.

Table 2A Bus Services

No	Operator	Route	Daytime Frequency		
			Mon-Fri	Sat	Sun
21/21H	Arriva	Wrexham-Summerhill via Maelar Hospital on Plas Coch	2 trip/hr	2 trip/hr	1 trip/hr
27	Arriva	Wrexham-Mold via Maelar Hospital, Leeswood and Caergwrie	1 trip/hr	1 trip/hr	-
Total			3/hr	3/hr	1/hr

2.2.3 Table 2A above demonstrates that the bus stops in the vicinity of the site are served by 3 buses per hour Monday-Saturday and 1 buses per hour on Sundays. These buses provided regular links to Wrexham town centre, Summerhill and Mold A plan showing the local bus routes is included as Appendix 2.5

Train

2.2.4 Wrexham General railway station is located 0.8km south of the site. There are regular services to Bidston and local stations including Wrexham General, Hope, Sholton, Heswall and Upton.

2.2.5 A plan showing the local rail network is included as Appendix 6.4.

2.2.6 In conclusion, the site is reasonably accessible by public transport and this would benefit potential customers and staff at the proposed restaurant.

2.3 Highway Safety Review

2.3.1 Accident analysis was undertaken in Section 2.4 of ADL's Transport Assessment Volume 2 (December 2020). There were 14 personal injury accidents recorded in the 5 years assessment period for the area covering the Retail Park Roundabout, Plas Coch Road Roundabout, Plas Coch Road and the Berse Road Roundabout. The full 60 months was assessed. As clearly explained in the Transport Assessment There were no accidents which occurred in 2019 or up to February 2020 (see Table 2H replicated as Table 2B below).

Table 2B Summary of Accidents 2015-2020

Severity	From 28.02.2015	2016	2017	2018	2019	Up to 29.02.2020	Total
Serious	0	2	0	1	0	0	3
Slight	3	0	6	2	0	0	11
Total	3	2	6	3	0	0	14

2.3.2 The Highway Authority concurred with ADL's assessment that:

“From the information provided, there would not appear to be any issues that would be directly exacerbated by the development (page 55 McDonald's Committee Report)

2.3.3 As requested accident data has been reviewed for the period 2020-2022 (two years) on Crashmap. There have been three slight injury accidents which have occurred in this period as shown on the plan included as Appendix 3.0. The 5 year accidents between 2017-2022 are summarised in Table 2C and shows an overall reduction in accidents. This is not particularly surprising given the effect of COVID19 on traffic volumes.

Table 2C Summary of Accidents 2017-2022

Severity	2017	2018	2019	2020	2021	Total
Serious	0	1	0	0	0	1
Slight	6	2	0	1	2	11
Total	6	3	0	1	2	12

2.3.4 It is concluded that the previous accident assessment provided by ADL was robust and appropriate and that there are no highway safety issues identified which need to be considered further as part of this application.

3.0 TRAFFIC SURVEYS AND COMMITTED DEVELOPMENT

3.1 Traffic Survey Validation

3.1.1 Traffic surveys have been undertaken of the Retail Park Roundabout, Plas Coch Roundabout (Friday 17th May and Saturday 18th May 2019), Berse Road Roundabout and A483 Junction 5, (Friday 13th March and Saturday 14th March 2020 – Pre COVID). Details of the surveys are provided in Chapter 2.0 of ADL Transport Assessment December 2020. The peak hours recorded at the junctions are summarised in Table 3A below. For the purposes of providing a robust assessment the peak traffic flows for each set of junctions have been assessed as the ‘peak situation’. The overall peak is the weekday Pm peak.

Table 3A Roundabout Peak Hours

	Retail Park & Plas Coch Roundabouts	Surveyed Flows ^{*1}	Berse Road Roundabout and A483 J5	Surveyed Flows ^{*2}
Weekday AM Peak	09:00-10:00 hours	3453	08:00-09:00 hours	7710
Weekday PM Peak	16:00-17:00 hours	4512	16:00-17:00 hours	8571
Saturday Peak	12:00-13:00 hours	5248	12:00-13:00 hours	7481

Note ^{*1} see Table 7A ADL TA December 2019

Note ^{*2} see Appendix CMC 2.1

3.1.2 The surveyed flows are included as Appendix 4.1

3.1.3 The Highway Authority have raised concerns that 2023 traffic volumes could have changed since the surveys have been undertaken due to COVID19.

3.1.4 This issue was also raised by the Highway Authority in respect to application P/2019/0923 for 455 dwellings. This matter has been addressed by Focus Transport Planning in their Addendum Transport Assessment July 2023. The data from new traffic surveys undertaken in March 2023 has been compared to 2019 traffic data. The results for the A483 J5 Roundabout and The Berse Road Roundabout have been extracted from the Focus TA and are included in Appendix 5.0.

3.1.5 In summary the results have demonstrated that 2019-2023;

- A483 J5 Roundabout:
 - Am Peak traffic levels fallen 10%
 - Pm Peak traffic levels fallen 8.7%
- Berse Road Roundabout:
 - Am Peak traffic levels fallen 2.5%
 - Pm Peak traffic levels fallen 7.1%

3.1.6 It is therefore concluded that the 2019/2020 surveys are still a robust assessment of current traffic levels.

3.1.8 ADL previously demonstrated as part of the Proof of Evidence that traffic flows on the study network have been stable since 2013, as shown in Table 3B below. Background growth on this network has not occurred historically and has only reduced since COVID19 so there is nothing to suggest that there is likely to be any future growth. Any traffic growth that would occur on the local network is far more likely to occur as a result of the committed/parallel developments.

Table 3B Comparison of 2013-2020 Traffic Levels

	2013 Motts Study 2017 (PCUs)			2018 ITP TA Dec 2018 (PCUs)			2019 Focus TA Dec 2019 (PCUs)			2020 ADL TA Vol 2 Dec 2020 (PCUs)		
	Berse Rd Rbt	A483 J5	Total	Berse Rd Rbt	A483 J5	Total	Berse Rd Rbt	A483 J5	Total	Berse Rd Rbt	A483 J5	Total
Am Peak	3651	3929	7580	4123	3931	8059	3576	4040	7616	3934	3776	7710
Difference to 2013 traffic levels						+6%			+0.4%			+1%
Pm Peak	4354	4317	8671	4197	4290	8487	4226	4433	8659	4421	4150	8571
Difference to 2013 traffic levels						-3%			-1%			-2%

3.2 Committed Development

3.2.1 The traffic from the following committed and parallel developments shown in Table 3C has been included within ADL's traffic assessment. A plan showing the location of the committed developments is included as Appendix 6.0.

Table 3C Committed & Parallel Developments

Planning Ref:	Status	Development	Traffic Flows
P/2018/0384	Committed	Drive Thru Coffee Shop, Plas Coch Retail Park, Plas Coch, Wrexham	Appendix 4.2
P/2018/0357	Committed	Extension of Plas Coch Public House (24 bed lodge), Plas Coch Retail Park, Wrexham	Appendix 4.2
P/2021/0094	Committed	Erection of 90 residential units, Glyndwr University	Appendix 4.3
P/2022/0725	Committed	5,500 spectator seat stadium including 500 capacity hospitality area, 600 capacity non match day exhibition space. The Racecourse Mold Road.	Appendix 4.4
P/2021/0955	Committed	112 residential units Gatewen Road	Appendix 4.5
P/2019/0923	Pending Decision (parallel development but treated as committed for purposes of this report)	Proposed 455 new dwellings on land off Mold Road, Stansty, Wrexham	Appendix 4.6
Total Committed Development			Appendix 4.7

3.2.2 The traffic flows for the committed/parallel developments have been extracted from the Transport Assessments submitted with the planning applications. In the case of application P/2021/0094 (90 units at University) no Transport Statement was submitted with the application. ADL have therefore made their own calculation of the likely traffic levels based on TRICS.

3.2.3 With regard to the committed development at Wrexham Football Club. This major development was supported by a Transport Assessment prepared by Ramboll (July 2022). The TA focuses largely on the weekday non-matchday impact of the development proposals – pre-application scoping discussions between the Applicants and WCBC identified that match days would result in impacts which were considered to be temporary and no sustained over long periods of time so no impact assessment was required. The weekday traffic impact of the exhibition space was assessed and has been carried forward in this report. No mitigation measures were proposed to either the A483 Junction 5 Roundabout or the Berse Road Roundabout as part of this scheme.

- 3.2.4 The Focus Transport Planning TA (December 2019) concluded that mitigation measures would be required to address the traffic impact of the 455 residential units off Mold Road at both the A483 Junction 5 and Berse Road Roundabouts. These would include signalisation of the Mold Road approach to the A483 Junction 5 Roundabout and alterations to lane and carriageway markings at both roundabouts. The Focus Addendum Transport Assessment July 2023 reiterates the commitment to providing junction improvements but no plans are appended to the report. Therefore if the traffic comes forward from this development it can still reasonably be expected that there would be an appropriate package of mitigation. This is the same situation as acknowledged by the Inspector when they reviewed the McDonald's Appeal.
- 3.2.5 Application P/2016/0189 Old Rhosrobin permitted for 189 dwellings has been considered but this scheme has no effect on the part of the road network which forms this study. This has also been acknowledged by the Planning Officer.
- 3.2.6 It is concluded that all committed development has been fully and robustly considered as part of this assessment. It is considered that the likely year in which all committed development would be operational would be 2036.
- 3.2.7 The traffic impact of the committed/parallel developments has been calculated in Table 3D below.

Table 3D Proposed Traffic Impact of Committed Development

		2020 Surveyed Traffic (PCUs)	All Committed and Parallel Development	2020 Surveyed +Committed Traffic	% Increase
Berse Rbt	Am Peak	3934	+331	4265	+8.4%
	Pm Peak	4421	+358	4779	+8.0%
	Saturday Peak	3840	+178	4018	+4.6%
A483 J5	Am Peak	3776	+408	4184	+10.8%
	Pm Peak	4150	+451	4601	+10.8%
	Saturday Peak	3641	+206	3847	+5.6%

- 3.2.8 Table 3D demonstrate that the committed developments are likely to result in a potential 8-11% growth in traffic levels by 2036. This is significantly lower than the 2020-2036 17-18% predicted based on TEMPRO/NTM growth factors used in the sensitivity assessment which was reviewed by the Inspector.

4.0 TRAFFIC IMPACT ASSESSMENT

4.1 Assessment Scenarios

4.1.1 The application of TEMPRO/NTM growth factors has been carefully considered (see Section 3.6 of ADL TA Volume 2 December 2020. It was concluded that the application of 17-18% growth plus the committed development traffic would result in a significant level of double counting. There is now even more evidence to support this conclusion given that a) traffic volumes have been static 2013-2020 and b) traffic volumes 2019-2023 have reduced.

4.1.2 It is therefore considered that no background growth (other than committed development traffic) is likely to occur and that even the use of the 2019/2020 surveyed traffic flows as a base is likely a robust assessment of current traffic conditions. However, as a sensitivity test a 2036 TEMPRO base has been assessed with the applied growth factors. The 2036 base sensitivity traffic is therefore a worst-case scenario and is the same as that previously reviewed by the Inspector.

4.1.3 The following assessment scenarios have been undertaken;

- Surveyed + All Committed Development (2036 Base)
- Surveyed + All Committed Development + McDonalds (2036 Total)
- 2036 Base Sensitivity (TEMPRO sensitivity test - 17/18% uplift)
- 2036 Total Sensitivity (2036 TEMPRO Base + McDonald's)

4.1.4 The traffic flows are included in Appendix 4.0.

4.2 Retail Park Roundabout and Plas Coch Road Roundabouts

4.2.1 The Retail Park Roundabout and Plas Coch Road Roundabout have been modelled using industry standard software Junctions 10 ARCADY. The output results are included in Appendix 7.0. These results are summarised in Tables 4A-4C below.

Table 4A Am Peak ARCADY Results: Retail Park and Plas Coch Road Roundabouts (RFC and Queues)

Arm	Retail Park Roundabout Friday Am Peak				Arm	Plas Coch Road Roundabout Friday Am Peak							
	2036 Base		2036 Total			2036 Base		2036 Total		2036 Sensitivity Base		2036 Sensitivity Total	
	RFC	Q	RFC	Q		RFC	Q	RFC	Q	RFC	Q	RFC	Q
East Arm (Access Road)	0.45	1	0.47	1	University Access	0.08	0	0.09	0	0.06	0	0.06	0
South Arm (site)	0.15	0	0.26	0	Plas Coch Rd South West	0.69	2	0.72	3	0.70	2	0.73	3
West Arm (Sainsbury's)	0.38	1	0.40	1	Retail Park	0.30	0	0.32	1	0.29	0	0.31	1
North Arm (Retail Park)	0.27	0	0.27	0	Plas Coch Rd North East	0.37	1	0.39	1	0.38	1	0.40	1

RFC = Ratio of Flow to Capacity

Q = Max Queue in Vehicles

Table 4B Pm Peak ARCADY Results: Retail Park and Plas Coch Road Roundabouts (RFC and Queues)

Arm	Retail Park Roundabout Friday Pm Peak				Arm	Plas Coch Road Roundabout Friday Pm Peak							
	2036 Base		2036 Total			2036 Base		2036 Total		2036 Sensitivity Base		2036 Sensitivity Total	
	RFC	Q	RFC	Q		RFC	Q	RFC	Q	RFC	Q	RFC	Q
East Arm (Access Road)	0.48	1	0.53	1	University Access	0.50	1	0.61	1	0.51	1	0.63	2
South Arm (site)	0.30	0	0.48	1	Plas Coch Rd South West	0.72	3	0.76	3	0.69	2	0.74	3
West Arm (Sainsbury's)	0.60	2	0.63	2	Retail Park	0.50	1	0.54	1	0.49	1	0.53	1
North Arm (Retail Park)	0.50	1	0.53	1	Plas Coch Rd North East	0.54	1	0.58	1	0.56	1	0.60	2

RFC = Ratio of Flow to Capacity

Q = Max Queue in Vehicles

Table 4C Saturday Peak ARCADY Results: Retail Park and Plas Coch Road Roundabouts (RFC and Queues)

Arm	Retail Park Roundabout Saturday Peak				Arm	Plas Coch Road Roundabout Saturday Peak							
	2036 Base		2036 Total			2036 Base		2036 Total		2036 Sensitivity Base		2036 Sensitivity Total	
	RFC	Q	RFC	Q		RFC	Q	RFC	Q	RFC	Q	RFC	Q
East Arm (Access Road)	0.60	2	0.65	2	University Access	0.42	1	0.43	1	0.19	0	0.27	0
South Arm (site)	0.57	1	0.82	4	Plas Coch Rd South West	0.85	5	0.90	8	0.81	4	0.87	6
West Arm (Sainsbury's)	0.79	4	0.86	5	Retail Park	0.60	2	0.65	2	0.58	1	0.62	2
North Arm (Retail Park)	0.68	2	0.74	3	Plas Coch Rd North East	0.57	1	0.62	2	0.58	1	0.63	2

RFC = Ratio of Flow to Capacity

Q = Max Queue in Vehicles

4.2.2 The busiest period for these roundabouts is the Saturday peak. The Retail Park Roundabout would operate with a max RFC of 0.86 during the 2036 Total situation on the West Arm. The queues on all approaches to the roundabout would be only a few vehicles. The proposed increase in queues would also be only 1-3 vehicles on each approach. The Plas Coch Roundabout would operate with a max RFC of 0.90 during the 2036 Total situation with a queue of 8 vehicles on Plas Coch Road West. This represents an increase of 3 vehicles queueing when compared to the 2036 Base situation.

4.3 A483 Junction 5 and Berse Road Roundabouts

4.3.1 LINSIG modelling of the A483 Junction 5 Roundabout and Berse Road Roundabout has been undertaken as linked junctions. This is consistent with the LINSIG modelling provided by Focus Transport Planning for the Mold Road residential scheme. The model now includes the proposed highway improvements proposed for the Mold Road residential scheme in the 2036 scenarios. I have also modelled the pedestrian crossing on Plas Coch Road which is proposed to be provided as part of the McDonald's scheme. The junction geometries and output results are included in Appendix 8.0. The results are summarised in Tables 4D-4F below

Table 4D LINSIG Analysis: Berse Road/A483 J5 Roundabout Friday Am Peak 2036

Time period & Approach		Lane	2036 Base		2036 Total (Survey+Com+McD)		Increase in Queues
			DoS	Queue	DoS	Queue	
Berse Road Roundabout	Plas Coch Road	Lane 1 + 2	89.5%	10	93.3%	12	+2
		Lane 3	84.4%	8	89.1%	10	+2
	Mold Road (SE)	Lane 1 + 2	36.1%	3	37.6%	3	+0
		Lane 3	22.4%	3	25.0%	3	+0
	Berse Road	Lane 1 + 2	28.1%	1	26.0%	1	+0
		Lane 3 + 4	37.2%	2	35.2%	2	+0
	Mold Road (NW)	Lane 1 + 2	78.7%	17	77.0%	16	-1
		Lane 3	70.7%	10	72.5%	12	+2
A483 Junction 5	A483 (N)	Lane 1	83.9%	13	86.9%	14	+1
		Lane 2	84.8%	13	87.4%	14	+1
	Mold Road (N)	Lane 1	66.7%	11	68.2%	11	+0
		Lane 2	66.8%	11	68.0%	12	+1
	Summerhill Road	Lane 1	30.1%	1	24.7%	1	+0
	A483 (S)	Lane 1	41.1%	5	42.6%	5	+0
		Lane 2	77.3%	13	79.8%	14	+1
	Mold Road (E)	Lane 1	34.3%	5	34.9%	6	+1
		Lane 2	34.6%	6	31.8%	7	+1
		Lane 3	30.5%	5	30.8%	6	+1

Table 4E LINSIG Analysis: Berse Road/A483 J5 Roundabout Friday Pm Peak 2036

Time period & Approach		Lane	2036 Base		2036 Total (Survey+Com+McD)		Increase in Queues
			DoS	Queue	DoS	Queue	
Berse Road Roundabout	Plas Coch Road	Lane 1 + 2	86.2%	15	92.1%	18	+3
		Lane 3	80.9%	13	83.0%	14	+1
	Mold Road (SE)	Lane 1 + 2	86.3%	15	88.8%	16	+1
		Lane 3	69.6%	11	70.5%	11	+0
	Berse Road	Lane 1 + 2	67.1%	6	65.5%	6	+0
		Lane 3 + 4	53.3%	3	58.7%	5	+2
	Mold Road (NW)	Lane 1 + 2	85.0%	13	83.3%	13	+0
		Lane 3	70.9%	9	69.4%	9	+0
A483 Junction 5	A483 (N)	Lane 1	81.5%	11	83.0%	12	+1
		Lane 2	82.7%	11	83.4%	12	+1
	Mold Road (N)	Lane 1	46.8%	6	65.0%	8	+2
		Lane 2	62.9%	9	65.9%	8	-1
	Summerhill Road	Lane 1	89.3%	5	90.7%	5	+0
	A483 (S)	Lane 1	90.6%	13	90.6%	13	+0
		Lane 2	98.9%	20	99.5%	20	+0
	Mold Road (E)	Lane 1	64.0%	10	68.7%	11	+0
		Lane 2	60.0%	15	59.8%	15	+0
		Lane 3	41.3%	7	42.7%	7	+0

Table 4F LINSIG Analysis: Berse Road/A483 J5 Roundabout Saturday Peak 2036

Time period & Approach		Lane	2036 Base		2036 Total (Survey+Com+McD)		Increase in Queues
			DoS	Queue	DoS	Queue	
Berse Road Roundabout	Plas Coch Road	Lane 1 + 2	80.1%	13	84.5%	15	+2
		Lane 3	69.6%	11	74.0%	12	+1
	Mold Road (SE)	Lane 1 + 2	64.6%	7	59.2%	6	-1
		Lane 3	50.2%	7	53.7%	7	+0
	Berse Road	Lane 1 + 2	31.0%	2	36.1%	2	+0
		Lane 3 + 4	40.5%	2	42.4%	2	+0
	Mold Road (NW)	Lane 1 + 2	84.2%	12	86.2%	16	+4
		Lane 3	71.9%	8	70.6%	10	+2
A483 Junction 5	A483 (N)	Lane 1	48.4%	5	66.9%	7	+2
		Lane 2	48.4%	6	67.4%	7	+1
	Mold Road (N)	Lane 1	66.2%	10	66.4%	10	+0
		Lane 2	67.1%	11	67.2%	11	+0
	Summerhill Road	Lane 1	26.7%	1	38.6%	2	+2
	A483 (S)	Lane 1	65.3%	7	65.3%	7	+0
		Lane 2	77.0%	9	77.8%	10	+1
	Mold Road (E)	Lane 1	48.7%	9	57.6%	7	-2
		Lane 2	41.9%	11	69.5%	12	+1
		Lane 3	29.6%	6	43.2%	6	+0

4.3.2 The busiest period at these roundabouts would be the Pm peak. Table 4E demonstrates that in 2036 there would be a slight increase in the degree of saturation on Plas Coch Road West of 92.1% and on the A483 South of 99.5% compared to the base situation. The effect of the proposed McDonald's is still an increase in queues of a few vehicles on any lane on any approach. The impact of the proposal on the A483 South arm is negligible in terms of queues. The effect of the proposed McDonald's overall is minimal with a slight increase in queues of a few vehicles on any lane on any approach.

4.3.3 The 2036 sensitivity test results are summarised in the tables below.

Table 4G LINSIG Analysis: Berse Road/A483 J5 Roundabout Friday Am Peak 2036 Sensitivity

Time period & Approach		Lane	2036 Base Sensitivity		2036 Total Sensitivity		Increase in Queues
			DoS	Queue	DoS	Queue	
Berse Road Roundabout	Plas Coch Road	Lane 1 + 2	96.1%	13	95.6%	14	+1
		Lane 3	92.6%	11	93.5%	12	+1
	Mold Road (SE)	Lane 1 + 2	44.8%	4	48.2%	5	+1
		Lane 3	29.1%	3	34.0%	4	+1
	Berse Road	Lane 1 + 2	29.8%	1	35.6%	3	+2
		Lane 3 + 4	38.5%	4	37.3%	4	+0
	Mold Road (NW)	Lane 1 + 2	83.2%	16	80.4%	17	-1
		Lane 3	72.0%	12	78.4%	15	+3
A483 Junction 5	A483 (N)	Lane 1	90.0%	15	90.5%	15	+0
		Lane 2	90.1%	15	90.4%	15	+0
	Mold Road (N)	Lane 1	67.4%	11	75.2%	12	+1
		Lane 2	66.1%	11	75.7%	13	+2
	Summerhill Road	Lane 1	33.3%	2	33.7%	2	+0
	A483 (S)	Lane 1	44.0%	6	45.5%	6	+0
		Lane 2	72.9%	12	74.1%	12	+0
	Mold Road (E)	Lane 1	39.0%	7	49.4%	9	+2
		Lane 2	41.5%	10	42.0%	8	-2
		Lane 3	36.1%	7	43.4%	8	+1

Table 4H LINSIG Analysis: Berse Road/A483 J5 Roundabout Friday Pm Peak 2036 Sensitivity

Time period & Approach		Lane	2036 Base Sensitivity		2036 Total Sensitivity		Increase in Queues
			DoS	Queue	DoS	Queue	
Berse Road Roundabout	Plas Coch Road	Lane 1 + 2	93.9%	20	96.1%	23	+3
		Lane 3	90.4%	18	94.3%	21	+3
	Mold Road (SE)	Lane 1 + 2	78.7%	10	85.0%	14	+4
		Lane 3	62.1%	9	77.7%	13	+4
	Berse Road	Lane 1 + 2	75.1%	8	83.8%	8	+0
		Lane 3 + 4	57.7%	5	58.3%	5	+0
	Mold Road (NW)	Lane 1 + 2	90.6%	16	91.5%	18	+2
		Lane 3	83.9%	16	83.6%	14	-2
A483 Junction 5	A483 (N)	Lane 1	83.0%	12	83.0%	12	+0
		Lane 2	83.9%	12	84.2%	12	+0
	Mold Road (N)	Lane 1	49.0%	6	49.9%	7	+1
		Lane 2	60.2%	7	52.0%	7	+0
	Summerhill Road	Lane 1	96.9%	8	95.6%	8	+0
	A483 (S)	Lane 1	88.9%	12	88.9%	12	+0
		Lane 2	103.4%	28	103.6%	28	+0
	Mold Road (E)	Lane 1	66.8%	9	61.7%	9	+0
		Lane 2	80.2%	18	67.6%	18	+0
		Lane 3	42.0%	5	36.9%	6	+1

Table 4I LINSIG Analysis: Berse Road/A483 J5 Roundabout Saturday Peak 2036 Sensitivity

Time period & Approach		Lane	2036 Base Sensitivity		2036 Total Sensitivity		Increase in Queues
			DoS	Queue	DoS	Queue	
Berse Road Roundabout	Plas Coch Road	Lane 1 + 2	89.4%	17	93.0%	20	+3
		Lane 3	84.7%	15	90.7%	18	+3
	Mold Road (SE)	Lane 1 + 2	63.2%	6	66.5%	7	+1
		Lane 3	52.6%	7	55.2%	8	+1
	Berse Road	Lane 1 + 2	45.8%	2	41.5%	3	+1
		Lane 3 + 4	47.6%	3	50.7%	5	+2
	Mold Road (NW)	Lane 1 + 2	91.0%	16	92.6%	20	+4
		Lane 3	83.9%	10	82.8%	15	+5
A483 Junction 5	A483 (N)	Lane 1	96.9%	13	97.3%	13	+0
		Lane 2	97.0%	13	98.0%	14	+1
	Mold Road (N)	Lane 1	58.6%	9	59.2%	9	+0
		Lane 2	57.3%	10	60.0%	10	+0
	Summerhill Road	Lane 1	45.2%	2	47.9%	1	-1
	A483 (S)	Lane 1	51.7%	6	48.9%	6	+0
		Lane 2	67.6%	9	65.6%	9	+0
	Mold Road (E)	Lane 1	54.4%	7	42.3%	9	+2
		Lane 2	56.5%	11	61.4%	13	+2
		Lane 3	36.7%	6	34.8%	7	+1

4.3.4 The 2036 sensitivity results for the Berse Road Roundabout show a higher degree of saturation on Plas Coch Road West of 96.1% during the Pm peak with an increase in queues of +6 vehicles (+3 vehicles Lane 1/2 and +3 vehicles Lane 3). The degree of saturation on the A483 South would be 103.6% but no increase in queues. Again, the effect of the proposed McDonald's is minimal with a slight increase in queues of a few vehicles on any lane on any approach.

4.3.5 The 2036 sensitivity results for the A483 J5 Roundabout show that there would be minimal effect on the operation of the roundabout.

4.3.6 It is concluded that the modelling results demonstrate that the effect of the proposed restaurant would be minimal and that there is nothing which would be likely to lead an Inspector to make a different judgement.

4.4 Traffic Impact Assessment

4.4.1 The level of additional McDonald's traffic and the percentage increase that this represents at the Plas Coch Road, Berse Road and A483 Junction 5 Roundabouts has been calculated. This is presented in Table 4I below.

Table 4I Traffic Impact Assessment

		Surveyed + Committed Dev	McDonald's Traffic	2021 Total	% Increase
Plas Coch Road Roundabout	AM Peak	2031	+98	2129	+4.8%
	PM Peak	2611	+157	2768	+6.0%
	Sat Peak	2905	+177	3082	+6.0%
Berse Road Roundabout	AM Peak	4096	+71	4167	+1.7%
	PM Peak	4700	+109	4809	+2.3%
	Sat Peak	3992	+137	4129	+3.4%
A483 J5 Roundabout	AM Peak	3960	+3	3963	+0.07%
	PM Peak	4481	+16	4497	+0.4%
	Sat Peak	3789	+34	3823	+0.9%

4.4.2 The peak hour traffic impact of the proposed McDonald's would be a 4.8%-6.0% increase at the Plas Coch Roundabout, 1.7%-3.4% at the Berse Road Roundabout and 0.07%-0.9% at the A483 Junction 5 Roundabout.

4.4.3 The proposed impact at the A483 Junction 5 Roundabout is miniscule compared to the volume of traffic and well below the 5% threshold which the Welsh Government would normally require any junction assessment. Given there is a background of static or declining traffic flows it is considered that this level of uplift would have no material effect on the operation of the road network.

4.5 Parking Impact

4.5.1 The level of available parking which would be available in the proposed car park has been assessed based on the results of the three parking surveys undertaken at the Argos/The Range/Iceland car park (see ADL Proof of Evidence). The level of available parking during the busiest periods on a Saturday lunchtime and has been assessed as:

- May 2019 28 spaces
- July 2021 71 spaces
- September 2021 42 spaces

4.5.2 Again, as there is a background of static or declining traffic flows it is considered that there is no evidence to suggest that the Retail Park is likely to be any busier than it was in 2019. It is actually more likely that the Retail Park is circa 10% less busy than it was previously. The Inspector concluded that the proposed parking provision accorded with the Council's standards. No further assessment is required.

4.6 Staff

4.6.1 As we previously advised in ADL Transport Assessment (2019) it is expected that there would be 20 staff on site at any one time during a peak shift.

4.6.2 The proposed restaurant is expected to operate 24 hours, 7 days per week. This is equivalent to 168 hours over 7 days. Based on a typical 8 hour working day this would mean that 21 full time 'work days' are actually completed in just one week. Therefore although 62 full time equivalent staff are expected to be employed they won't all be on site at the same time. McDonald's offer flexible working so staff work shifts with a minimum core period of only 4 hours and shift times are staggered to suit staff needs and the needs of the restaurant. This again spreads the work force out across the week.

4.6.3 McDonald's staff car ownership tends to be very low particularly in locations such as this where the site is accessible by non car modes and there is a large and very local student population. Staff parking demand is counted in the parking surveys of the comparable restaurants and has therefore been included in the assessment.

5.0 SUMMARY AND CONCLUSIONS

- 5.1 ADL Traffic and Highways Engineering Ltd have prepared this Addendum Transport Assessment to address the consultation comments provided by Wrexham Council Highway Authority in relation to the proposed McDonald's restaurant at Plas Coch Retail Park Wrexham.
- 5.2 Planning application P/2019/0919 was submitted to Wrexham Borough Council on 12 December 2019 for the erection of a free-standing restaurant with drive thru facilities, car parking, landscaping and associated works on land at Plas Coch Retail Park, Wrexham. There was no objection to the planning application by the Highway Authority. The Welsh Government also raised no objection to the application. The application was recommended for approval by the Planning Authority. The conclusion of the Committee report in relation to highways was that the parking provision was acceptable and that the proposed traffic generation would not be significant and the traffic impact of the development would be negligible.
- 5.3 An Appeal of the decision of planning application P/2019/0919 was submitted to Planning and Environment Decisions Wales. The Appeal was dismissed on 16th January 2023. However, the reasons for the Appeal being dismissed related only to water neutrality issues not the traffic or highways reasons for refusal. On all transport and highways matters the Inspector concurred with ADL's assessment as being robust and appropriate. The conclusions of the Appeal decision are very clear that there was no substance, technical merit or justification for the Council's previous traffic and highways reasons for refusal.
- 5.4 The accessibility assessment of the site has demonstrated that it is still accessible by walking, cycling and public transport. The Council are currently progressing designs for their own proposals to improve pedestrian and cycle accessibility along the Mold Road corridor.
- 5.5 McDonald's and ADL are still committed to the proposed highway works submitted with the planning application as part of the Designers Response to the Safety Audit.

- 5.6 It is considered that the Council potentially have the option that either;
- McDonald's construct the proposed pedestrian crossing on Plas Coch Road as shown on ADL drawing.
 - McDonald's provide a contribution for the cost of the crossing on Plas Coch Road (only) under a S106 agreement and the Council build out their preferred scheme as part of the wider scope of works at the Berse Road Roundabout.
- 5.7 A review of the highway safety situation in the vicinity of the site 2020-2022 has not identified any further highway safety improvements which need to be addressed as part of this application.
- 5.8 It has been demonstrated that 2019/2020 traffic surveys still form a robust basis of the assessment of the proposed traffic.
- 5.9 All of the committed development requested by the Highway Authority has been reviewed and included in the traffic modelling.
- 5.10 The likely 2036 survey plus committed development traffic scenario flows are still well below the 2036 Tempro sensitivity assessments which were submitted within ADL's Proof of Evidence and reviewed by the Inspector.
- 5.11 The modelling has demonstrated that the proposal would have no material impact on the operation of the road network. It is concluded that the Inspectors decision relating to the modelling submitted with the Appeal was robustly made and would be extremely unlikely to differ given the findings of this report.
- 5.12 Given the background of static and declining flows in the vicinity of the site there is no evidence that the three surveys undertaken of the Retail Park car park are not still robust or representative. The Inspector concluded that the proposed parking provision accords with the Council's parking standards.
- 5.13 It is therefore concluded that given the extensive work which has now been undertaken through the course of two planning applications and an Appeal that the Highway Authority should recommend this application for approval.

PLANNING HISTORY

- 1.1 Appeal Decision January 2023
- 1.2 Highway Comments 11 August 2023



Penderfyniad ar yr Apêl

Ymweliad â safle a wnaed ar 1/03/22

gan Iwan Lloyd BA BTP MRTPI

**Arolygydd a benodir gan Weinidogion
Cymru**

Dyddiad: 16.01.2023

Appeal Decision

Site visit made on 1/03/22

by Iwan Lloyd BA BTP MRTPI

**an Inspector appointed by the Welsh
Ministers**

Date: 16.01.2023

Appeal Ref: CAS-01515-G4Y1D3

**Site address: Land at Car Park Argos/Homebase, Plas Coch Retail Park, Plas
Coch, Wrexham, LL11 2BW**

**The Welsh Ministers have transferred the authority to decide this appeal to me
as the appointed Inspector.**

- The appeal is made under section 78 of the Town and Country Planning Act 1990 against a refusal to grant planning permission.
- The appeal is made by McDonald's Restaurants Ltd against the decision of Wrexham County Borough Council.
- The development proposed is erection of a freestanding restaurant with drive thru facility, car parking, landscaping, and associated works, including Customer Order Displays (COD).

Decision

1. The appeal is dismissed.

Preliminary matters

2. During the appeal, the appellant was notified that the development had the potential capable of increasing the levels of phosphates discharged into the catchment of the River Dee and Bala Lake Riverine Special Areas of Conservation (SAC). Whilst this issue was not identified by the Council as a reason for refusing the planning application it is a matter of importance in the determination of this appeal. This is because the proposed development's foul water would discharge to Five Fords wastewater treatment works (WwTw) which in turn flows into the riverine SAC. Natural Resources Wales (NRW) has published Compliance Assessments of Welsh River SACs against Phosphorus Targets and these in the identified SAC are currently failing to meet phosphates targets.
3. NRW has advised that applications for certain types of development within the catchment of the River Dee should be subject to screening under The Conservation of Habitats and Species Regulations 2017 (the Regulations), and where necessary, the undertaking of a Habitats Regulations Assessment (HRA).
4. This planning appeal has been identified as a development which required screening against the Regulations to decide whether 'likely significant effects' alone or in-combination with other plans or projects, can be ruled out based on the information

provided by the parties. Information has been sought from the appellant and the matter has been elevated to be a main issue in this appeal.

Procedural matters

5. The appellant has provided information in response to the screening request. The local planning authority and Dŵr Cymru/Welsh Water (DC/WW) responded to the information provided and to the request for additional information from PEDW. The appellant was given an opportunity to respond to the information provided and to give any further information which may be relevant to the issue of the impact of the proposal on the integrity of the River Dee and Bala Lake Riverine SAC. A formal consultation with NRW was undertaken on the available information provided as required by the Regulations. Its response has been considered in the determination of this appeal.

Main Issues

6. The main issues in this appeal are:

- The impact of the proposal on the integrity on the River Dee and Bala Lake Riverine SAC, and
- The effect of the proposal on highway safety, and
- The impact of the proposal on community health in terms of the location of the development in relation to a local primary school.

Reasons

The effect on the SAC

7. The River Dee and Bala Lake Riverine SAC is protected under the Regulations. NRW has set new phosphate standards for the SAC following the revised Common Standards Monitoring guidance updated in 2016 by the Joint Nature Conservation Committee. A compliance assessment, conducted by NRW, against these standards found that the River Dee and Bala Lake Riverine SAC was failing these standards.
8. Accordingly, new development within any part of the catchment which will increase the amount or concentration of wastewater effluent or organic materials discharged directly or indirectly into the catchment's waterbodies has the potential to increase phosphate levels within those waterbodies.
9. Consideration of the likely impact of the proposal on the integrity on the River Dee and Bala Lake Riverine SAC and whether 'likely significant effects' alone or in-combination with other plans or projects can be ruled out is set out in the HRA in Annex A of this appeal.
10. The HRA concludes that it has not been shown that the appeal proposal would achieve nutrient neutrality. The risk that the proposal would adversely affect the integrity of the River Dee and Bala Lake SAC cannot be excluded. In such circumstances, the Habitats Regulations would indicate that planning permission should be refused. The HRA has adopted the precautionary principle in carrying out the assessment. It is determined that the risks to the integrity of the qualifying interests and conservation objectives of the River Dee and Bala Lake SAC have not been addressed by appropriate mitigation. Accordingly, the proposed development would have a likely significant adverse effect on the ecological integrity of the European Site and therefore planning permission cannot be granted.

11. It would therefore be contrary to the Regulations and Planning Policy Wales (Edition 11) and would fail to comply with Policies GDP1(h) and EC6 (which have been referred to in the Council's submissions) of the Wrexham Unitary Development Plan 1996-2011.

Highway safety

12. The appeal site is located on the eastern side car park off the minor-arm road exiting the Plas Coch retail park roundabout travelling south which is situated opposite the car park which serves Argos and The Range retail department stores. The retail park can be accessed by traversing several roundabouts (when travelling from the A483), the Junction 5/A483 roundabout (traffic light controlled), the Berse Road/B5101/Mold Road roundabout (traffic light controlled), the Plas Coch roundabout and the Plas Coch retail park roundabout. These roundabouts regulate the flow of traffic to the retail park by holding and releasing traffic accordingly, particularly in relation to the traffic-controlled roundabouts which are larger and handle a larger proportion of traffic than the smaller roundabouts of Plas Coch and Plas Coch retail park roundabouts.
13. As part of the road network in the area these roundabouts work together to facilitate the flow of traffic generally and traffic to the retail park. The retail park on the northern section of the Plas Coch retail park roundabout incorporates supermarkets (Sainsbury's and Aldi and Sainsbury's petrol station), several large retail shops, coffee shop/drive through, Plas Coch public house and restaurant and leisure/health facilities. To the south-east of the appeal site is Glyndŵr University and Wrexham AFC. To the rear of the University a residential development is under construction. This was granted permission for 410 units but has subsequently been reduced to 90 dwellings and would access onto the Plas Coch roundabout which adjoins the appeal site.
14. The appellant's transport assessment has been reviewed by the transport agencies of the Welsh Government and the Council's Highway Authority's appointed consultants, all of whom raise no objection to the proposal. The appellant's transport assessment provided an assessment of weekday AM and PM peak and Saturday peak flows. The transport assessment considered committed/planned developments including the hotel, drive thru coffee shop, the 410 residential units at the University (reduced to 90 dwellings) and the 455 or so dwellings off Mold Road, Stansty, Wrexham (which is and outline application under consideration by the Council).
15. With these committed/planned developments in mind and the proposed development the standard industry modelling of the network junctions has been undertaken. The Plas Coch roundabout, the Berse Road/B5101/Mold Road roundabout would reach capacity in 2036 (based on the assumption that the full extent of the committed/planned development would come forward).
16. The Council is concerned that in the worst-case scenario in 2036 (Saturday peak) the queue would be up to 14 vehicles long on the link road between The Plas Coch roundabout and the Berse Road/B5101/Mold Road roundabout and would be close to theoretical capacity. However, it should be noted that the theoretical capacity is based on all committed/planned developments being built out. Appendix CMC 19.6 of the appellant's traffic assessment in any event shows the queue not reaching the Berse Road roundabout. The new pedestrian controlled light crossing would in conjunction with the traffic light controlled Berse Road roundabout operate in phases and the queues would not occur simultaneously.
17. The transport assessment indicates that in this worst-case scenario the queues would not adversely affect the road network or cause significant delays. The traffic assessment is based on a 2036 scenario which may not come to full fruition. The impact on highway

safety as it presents itself now shows that the proposed development would result in a small change in the level of queues and would have but a minimal impact on the present highway network. I also concur that the Stansty development of some 455 dwellings may not come forward and a scheme of mitigation on the highway network would be expected as part of that development.

18. The appellant makes it clear that the modelling does not factor in the traffic improvements to the A483 Junction 5 proposed by the Welsh Government. The proposed development is not relying on these proposed improvements to justify the proposal, the appellant states that this issue is not within the remit of this appeal. I would concur.
19. I am therefore satisfied that the proposal would not harm traffic flow due to the regulated control of movement by traffic-light controlled roundabouts and that the appellant has shown that there is sufficient capacity to cater for the proposed development's traffic demands. The traffic modelling has established that in future capacity scenarios when planned development may come forward queues would not adversely affect the road network. Even so, if there were issues arising from these planned developments there would be mitigation in-built in the approval to ensure that harm to highway safety should not arise.
20. I note the objection about the parking provision on the appeal site. However, the Council's Highway Authority indicates that the existing parking provision at the retail park is adequate to cater for the needs of the retail park. Across the two car parks and after the development of the site the residual parking provision would be 165 spaces. Inclusive of this number (165 spaces), 29 spaces would be provided for the proposed development. The Council's Local Planning Guidance Note 16 sets out a maximum requirement of 29 parking spaces for the development, which is met by the proposal. The appellant's parking surveys reveal that the maximum parking demand on a Saturday was 138 vehicles, which is below the total residual provision of 165 spaces should this development be permitted. The appellant has undertaken three separate parking surveys and there is no compelling evidence to indicate that these are not representative of the parking demands for the car parks in the area.
21. The proposal incorporates improvements to the network of pedestrian footways and a new pedestrian controlled light crossing which were identified through a Stage 1 Road Safety Audit. Three formal crossing points cater for the pedestrians coming from the University development site and walkways and zebra crossing facilities would be provided within the car park of the appeal site. I consider that this satisfactorily address concerns over accessibility for pedestrians in the area and caters for the increase in pedestrian footfall because of committed development and the development of the appeal site.
22. I have considered all other matters raised by residents and the Council on highway issues. These include the Welsh Government studies on the A483 carriageway, the roundabouts near the site and issues arising at Junction 5 of the A483. I am advised that the Welsh Government have raised no objection to the appeal development in so far as it relates to highway network concerns. Issues have been raised in relation to the parking demand and traffic flow figures from other restaurants in the chain that have been used as justification for the proposed development. The Highway Authority has indicated that the appellant's comparative restaurants studies are sufficiently robust to be relied upon. I have no reason to disagree with the submitted evidence. Other concerns relate to the match day scenarios in terms of traffic and pedestrian demand and the appellant accepts that specific management measures would need to be put in place to deal with these issues.

23. I therefore find that the proposal would not conflict with Wrexham Unitary Development Plan 1996-2011 Policies GDP1(d) and T8 and Local Planning Guidance Note 16.

24. I conclude that the proposal would not harm highway safety.

The impact of the proposal on community health in terms of the location of the development in relation to a local primary school

25. The Council objects to the proximity of the appeal development to Plas Coch Primary School which is reported to be within 400m of the boundary of the school contrary to Local Planning Guidance Note 9 (LPGN 9) Hot Food Takeaways. LPGN 9 is against allowing fast-food outlets within 400m of a school because of concerns about obesity and the consumption of an unhealthy diet amongst children. The appellant refutes that there is a categorical link between the school's proximity and obesity and there are many causal links that may be attributable to the issue of obesity and is not just a factor in relation to locational proximity.

26. However, in this instance the guidance which is not a development plan policy does not specify from which boundary that should be measured. In the light of this, in my view, it should be taken from where children and parents would walk from in relation to the school's entrance and not as a linear measurement where access is restricted by a fence boundary or landscaping. In this case the appellant has shown that the walking distance from the school to the proposed restaurant exceeds the prescribed distance in LPGN 9.

27. I therefore consider that the proposal is not contrary to LPGN 9. The proposal would not adversely impact community health due to the location of the development in relation to a local primary school.

Other Matters

28. Several (tree preservation order) protected trees are impacted by the development and a protected sycamore tree would be removed. However, in the final iteration of the proposed plans the Council's Tree Officer did not oppose the development since an acceptable selected tree replacement would be provided as it would ensure more benefit in terms of crown spread. All other arboriculture and landscaping aspects of the proposal were considered acceptable. I have no reason to disagree with this assessment.

29. I note several other concerns about air quality, litter, anti-social behaviour, noise and disturbance, but there is no compelling evidence presented that would outweigh my consideration of the main issues that I have identified above.

Planning Balance and Conclusions

30. I am required to determine this proposal in accordance with the development plan unless material considerations indicate otherwise. The starting point is therefore the development plan. I have found the development would comply with the development plan policies relating to highway safety and community health issues. These matters are neutral in the final balance as this is normally expected of all developments.

31. A HRA has been carried out and concludes that the proposed development would have a likely significant adverse effect on the ecological integrity of the European Site and therefore planning permission cannot be granted. As such the proposal would be contrary to the Regulations and Planning Policy Wales (Edition 11) and would fail to comply with Policies GDP1(h) and EC6 of the Wrexham Unitary Development Plan 1996-2011.

32. I attach great weight to the policies which seek to protect international and national protected sites because of the importance of those sites for nature conservation. Thus, the appeal proposal should be regarded as conflicting with the development plan when

taken as a whole, despite the matters where I have identified policy compliant. There are no other material considerations that are of sufficient weight to outweigh the conflict with the development plan.

33. In reaching my decision, I have taken into account the requirements of sections 3 and 5 of the Well-Being of Future Generations (Wales) Act 2015. I consider that this decision is in accordance with the Act's sustainable development principle through its contribution towards the Welsh Ministers' well-being objectives to embed our response to the climate and nature emergency in everything we do.

34. I therefore dismiss this appeal.

Iwan Lloyd

INSPECTOR

ANNEX A

Habitat Regulations Assessment

Background

1. In January 2021 Natural Resources Wales (NRW) published the results of its Compliance Assessment of Welsh River Special Areas of Conservation (SAC) against Phosphorus Targets. The site lies within the catchment of the River Dee and Bala Lake SAC which is currently failing to meet the phosphates targets. The drainage from the development would flow into the river or its tributaries after first being treated at the Five Fords wastewater treatment works (WwTW).
2. The need for Habitats Regulations Assessment (HRA) is set out within Article 6 of the EC Habitats Directive 1992, which is transposed into British Law by the Conservation of Habitats and Species Regulations 2017 (the Regulations). The Minister, as competent authority with respect to the Regulations, will need to decide whether 'likely significant effects' alone or in-combination with other plans or projects, can be ruled out based on the information provided by the parties. The competent authority may agree to the project only after ascertaining that it will not adversely affect the integrity of the European site.
3. Whilst the Regulations provide strict protection, they are not a prohibition on new development or activities. Instead, they involve a case-by-case examination of the implications for each European protected site, its qualifying features, and its conservation objectives. There is no statutory method for undertaking an HRA and the approach can vary on a case-by-case basis. Nonetheless, guidance issued from the European Commission sets out a four-stage assessment process involving Screening; Appropriate Assessment; Assessment of Alternatives and Imperative Reasons of Overriding Public Interest (IROPI). Appropriate Assessment considers the implications of the proposal for the European site in view of its conservation objectives. Steps 3 and 4 are collectively known as derogation.
4. The purpose of this HRA is to report on the impacts of the scheme on the River Dee and Bala Lake SAC, which is a European protected site. The requirements of Regulations 63(3) and 63(4) indicate that regard should be had to the representations of NRW, the Local Planning Authority, the appellant, and the public in carrying out this assessment.

Integrity of the Features of the River Dee and Bala Lake Riverine SAC

5. The appeal site lies within the catchment of the River Dee and Bala Lake SAC. It hosts the following habitats listed in Annex I: tidal rivers, estuaries, mud flats, sand flats, lagoons, including saltwork basins, salt marshes, salt pastures, salt steppes, Inland water bodies, improved grassland and broad-leaved deciduous woodland. In terms of qualifying species the SAC lists: Water courses of plain to montane levels with the *Ranunculus fluitans* and *Callitriche-Batrachion* vegetation; Atlantic Salmon; Floating water-plantain *Luronium natans*; Sea lamprey *Petromyzon marinus*; Brook lamprey *Lampetra planeri*; River lamprey *Lampetra fluviatilis*; Bullhead *Cottus gobio*; and Otter *Lutra lutra*.
6. The Conservation Objectives for the River Dee and Bala Lake SAC include, amongst other considerations, that the ecological status of the water environment should be sufficient to maintain a stable or increasing population of each feature. This will include elements of water quantity and quality, physical habitat and community composition and structure. The issues associated with maintaining the sites integrity include water quality and flow; river planform and profile; levels of nutrients and suspended solids; the impact

of natural limiting and artificial factors on the range of a feature; abstraction; and diffuse pollution or disturbance to sediments.

Screening

7. The development is described in the header of this decision and is situated on the car park of an established retail park in Wrexham. The proposal would provide a direct connection for foul water from the development to the Five Fords WwTW operated by DC/WW. This foul water is treated and discharged into the SAC river. Five Fords WwTW operates under a Permit limit which regulates the volume of treated foul water that is released into the river system.
8. In response to the screening criteria for assessing planning proposals which are likely to affect phosphorus levels in a riverine SAC the appellant confirmed on 27 January 2022 that the project would increase the volume of foul wastewater entering the WwTW, and that the project would not improve the quality of the wastewater discharges from the site. The third criterion that the foul water would be treated by a private treatment works was also not met and the appellant indicated that a HRA would be required.
9. For developments which do not clearly meet these criteria they cannot be screened out of HRA. The appellant indicates that there would be an increase in additional phosphorus because of this development and therefore a likely pathway for impacts on the riverine SAC. The project cannot therefore be screened out as not likely to have a significant effect on the SAC, nor is it functionally linked to the European site. From the evidence before me, I conclude that there would be likely significant effects arising from this development and therefore an Appropriate Assessment (AA) is necessary.

Appropriate Assessment

10. The appellant has provided information on how foul drainage would be managed on the appeal site as part of the drainage maintenance plan, the point of connection to the nearest main sewer with evidence that an application has been made to the sewerage undertaker for connection together with their formal response. DC/WW indicate that Five Fords WwTW can accommodate additional flows as well as phosphates within its existing phosphate consent.
11. In seeking to obtain further information clarification was sought from DC/WW and the local planning authority and the appellant whether there was treatment capacity at the WwTW in combination with other planned development. No response was received on the in-combination effects from other planned development from any of the parties involved in the appeal. The local planning authority did confirm that it had not undertaken an AA in this case, whilst DW/WW re-iterated its response that Five Fords WwTW could accommodate the foul flows/phosphates load within its existing discharge consent.
12. The local planning authority indicates that the Permit limit/discharge consent at the Five Fords WwTW could not be relied upon for the purposes of the HRA to conclude no adverse effect on the integrity of the SAC. This is because in the light of more stringent phosphates targets on the riverine SAC through its published NRW Compliance Assessment the existing Permit/discharge consent cannot be relied upon. To satisfy the Regulations any new development creating additional loading on the system would require full mitigation. Whilst NRW are currently reviewing Consents there is no certainty concerning timescales or whether this mitigation would be delivered. In the absence of any appropriate mitigation or workable assurances that the development would not result in any increase in harm, no matter how small, the local planning authority is of the view that the development could have an unacceptable impact on ecology of the Riverine SAC.

13. The appellant's response is that NRW's interim guidance and criteria have been met in that there is capacity at the receiving works to treat effluent and that reliance must be placed on the existing Permit/discharge consent imposed on the WwTW by NRW. In this case the appellant asserts that the Permit/discharge consent is legally binding to ensure discharge water quality achieves specified standards and the limit on volume discharges. The WwTW is operating below maximum capacity and there is 'headroom' capacity available, and the same Permit/discharge consent should be relied upon to constrain phosphorus concentration. Whilst the site is situated in Wales, in England, Consents are relied upon for the calculation of impact to receptors and subsequent mitigation calculations. In this case DC/WW has confirmed that the concentration of the nutrients within the discharge would not increase, and it is not clear what impact there would be that requires mitigation.
14. The appellant advises that in England a clear methodology has been provided for the calculation of potential impact from proposed developments, and commercial development are exempt from the need to demonstrate neutrality. The appellant contends that no such methodology has been developed in Wales. Residential development or overnight accommodation increase population to a catchment and are required to demonstrate nutrient neutrality but attempting to estimate the percentage discharged from a place of work or leisure is uncertain because it is assumed that people work and eat in the same catchment in which they live. The approach applied in this case would mean that customers and staff that would attend the proposed restaurant are highly likely to already be located within the catchment and it is therefore unlikely that there would be any increase in phosphorus because of the development.
15. The same scientific and sound logic and methodology developed in England should be applied in this case in Wales which is yet to produce guidance for this purpose. The confirmation from DC/WW of capacity at the Five Fords WwTW is line with NRW advice whereby the impact on the SAC is considered unlikely.

NRW's response to the consultation under Regulation 63(3)

16. NRW indicate that the current Permit/discharge consent was granted prior to the revised water quality target being adopted by NRW's Compliance Assessment. NRW indicate that this is a material consideration because the Permit review on the WwTW is likely to take place over the next 12-18 months. It is indicated that the Permit limit could be tightened and the implications for future capacity at the WwTW remains unknown. Therefore, NRW do not accept that it is appropriate to attempt to rely on the existing Permit/discharge Consent at Five Fords WwTW to determine capacity for the purposes of the AA.
17. NRW indicate that new development within any part of the riverine SAC catchment which will increase the amount of concentration of wastewater effluent or organic material discharged directly or indirectly into the catchment's waterbodies has the potential to increase phosphorus levels within those waterbodies, and as such would have a likely significant effect under HRA.
18. NRW do not consider that reliance should be placed on the existing Permit/discharge Consent. NRW refer to current available advice and indicate that a competent authority under the Habitat Regulations should examine the AA carried out in relation to extant environmental permits along with any new information or changes in circumstance to ensure that an adverse effect on the site integrity can be ruled out. NRW contend that the new tighter phosphorus targets for the waterbodies within the River Dee and Bala Lake SAC must be taken into account.

19. NRW has set new phosphorus targets following revised Common Standards Monitoring guidance and the riverine SAC needs to meet these standards to be considered to be in a favourable condition, and to make a full contribution to achieving favourable conservation status. The Compliance Assessment conducted by NRW, against these standards found a 38% failure rate for the river Dee. NRW contend that the recent baseline condition assessment of the SAC shows that sea, river and Brook lamprey, Bullhead, Atlantic salmon and Ranunculion habitat are all unfavourable within the Dee SAC.

Assessment

20. There can be no dispute that the latest scientific information obtained from NRW's Compliance Assessment that the River Dee and Bala Lake SAC is currently failing to meet its phosphates targets. The Riverine SAC is not in a favourable conservation status and NRW has set new phosphorus targets so that favourable conservation status can be met.
21. This category of development is caught by the requirement for an AA since likely significant effects cannot be excluded in accordance with the Habitats Regulations. In my view, it is not probable that customers of the proposed development would be only people that already reside in the catchment. The development would attract custom from a wide geographical area, for example, away supporters from football fixtures at Wrexham football club, those travelling and passing Wrexham on the A483, those visiting Wrexham for shopping and leisure activities and those people who travel in from other catchments to Glyndŵr University. It does not seem likely that the development would not increase phosphorus inputs into the riverine SAC. It would therefore not achieve nutrient neutrality as is required by NRW guidance, and no mitigation is being put forward by the appellant.
22. I place significant weight on NRW's consultation response that recent phosphorus targets on the riverine SAC should be preferred to the current Permit/discharge Consent on the Five Fords WwTW. This is because the latest scientific information should be followed in preference to a Permit/discharge Consent which was set prior to the Compliance Assessment being undertaken. The new phosphates target represents new information and a change in circumstance which now outweighs reliance on the current Permit/discharge Consent. Where the riverine SAC is already failing under current standards any increase in foul flows from a development which would worsen the impact on the integrity and conservation objectives of the SAC should be resisted.
23. Accordingly, I do not think that the available evidence provides sufficient certainty that the proposal would deliver nutrient neutrality over the lifetime of the development. Having regard to the precautionary principle, I cannot exclude the risk of a significant effect on the conservation objectives of the designated site, it is also necessary to consider the proposals alone and in combination with other plans and projects for which no evidence has been provided.
24. Therefore, it has not been shown that the appeal scheme would achieve nutrient neutrality. I cannot exclude the risk that the proposal would adversely affect the integrity of the River Dee and Bala Lake SAC. In such circumstances, the Habitats Regulations would indicate that planning permission should be refused, unless there were no alternative solutions that would avoid an adverse effect and there were imperative reasons of overriding public importance. There was no evidence on alternatives or imperative reasons of overriding public importance and it is unlikely that this proposal would meet those high tests. Accordingly, I have not sought further evidence on those matters.

Appropriate Assessment Conclusion

25. I have taken into account all the available evidence and have adopted the precautionary principle in carrying out this assessment. It is determined that the risks to the integrity of the qualifying interests and conservation objectives of the River Dee and Bala Lake SAC have not been addressed by appropriate mitigation.
26. Accordingly, I conclude that the proposed development would have a significant adverse effect on the ecological integrity of the European Site and therefore planning permission cannot be granted. This conclusion is predicated on the circumstances of the case based on the site's unique context and situation.

Iwan Llloyd

INSPECTOR

MEMORANDUM

From:	Chief Officer, Environment & Technical	To:	Chief Officer Planning & Regulatory
		FAO:	Sharon Holman
Our Ref:	ET/DC/MM/P/2023/0384	Your Ref:	P/2023/0384
Date:	11 August 2023		

Erection of a freestanding restaurant with drive thru facility Land at Argos Car Park, Plas Coch, Wrexham

Further to your email dated 04/07/2023 in respect of the above, please see comments as follows: -

Proposal and Planning History

The proposal is for a drive through restaurant on Plas Coch Retail Park in Wrexham. This is a resubmission of the planning application made under P/2019/0919, which was refused in 2021 and appealed under CAS-01515-G4Y1D3, with the appeal concluding in January 2023.

The original reasons for refusal included:

- Exacerbating the existing capacity issues on the highway network during weekday peak times and at the weekend.
- The loss of 70 parking spaces serving the existing retail uses, which would create a significant shortfall of off-street parking for the existing retail units.

The inspector reviewing the appeal concluded that the proposal accorded to the relevant highway policies however the appeal was dismissed on other grounds.

Transport Assessment

The Transport Assessment (TA) (Volume 2) dated December 2020 has been re-submitted by the applicant. This document was reviewed by WCBC Highways for planning application P/2019/0919 in a response dated 22 April 2021 (ref: ET/DC/MM/P/2019/0919).

Traffic Generation

The traffic generation estimates for the restaurant itself have been based on analysis of other comparable restaurants.

Traffic Surveys

It is understood that traffic surveys for the original TA were undertaken in May 2019 and March 2020. These included queue length surveys.

The following junctions were surveyed:

- Retail Park Roundabout (May 2019)
- Plas Coch Road Roundabout (May 2019)
- Berse Road Roundabout (March 2020)
- A483 Junction 5 Roundabout (March 2020)

These traffic surveys were c.4 years ago and travel patterns and volumes have changed since the COVID19 pandemic.

WCBC Highways request that the junctions are resurveyed (in a neutral month) and a review is undertaken on the traffic volume changes. This would include queue length surveys.

Traffic surveys would need to be undertaken after the Wrexham schools return and, due to the proximity of the development to Wrexham Glyndwr University, when staff and students return to the University.

Committed Developments

The Transport Assessment has assessed committed developments (as requested by WCBC) as part of the previous application.

Some of the committed /planned developments which were reviewed have now been constructed and there are now other committed / planned developments which would need to be considered. These include:

- P/2016/0189: Old Rhosrobin, residential development
- P/2021/0094, P/2018/0666, P/2018/0671, P/2018/0672: Plas Coch, Glyndwr University
- P/2021/0955: Gatewen Road, residential development
- P/2022/0725: The Racecourse Ground
- P/2019/0923: Stansty Chain Road, residential development
- + Anything planned in Plas Coch Retail Park???

WCBC request that the assessed committed/planned developments are updated to include the above committed/planned developments.

Junction Assessments

Following review of 2023 traffic survey data all of the junctions previously assessed would need to be re-assessed (all scenarios) using 2023 traffic data and the updated committed/planned developments.

It should be noted by the applicant that previously planned improvements to A483 junction 5 and Berse Road roundabout are currently not planned by the Welsh Government.

Collision Data Analysis

The Transport Assessment includes collision data analysis for the Retail Park Access Roundabout, Plas Coch Roundabout, Berse Road Roundabout and the connecting links between them. It is stated in the TA that these were undertaken for 60 months (five years) although the data in Appendix 3 only appears to show 2015-2018.

Regardless, collision data would need to be reviewed for the past five (available). If Crashmap.org was used to source the data, this currently has data up to 2021.

Glare from Headlight Vehicles / Retaining Wall

The 'Proposed Site Plan' (ref: 7391_AEW_8104_1004 Rev C) shows that the site is screened by a 1100mm fence, in addition to vegetation.

This is considered adequate to prevent headlight glare affecting highway safety.

Sustainable Travel Access

The Transport Assessment does not include any assessment on the accessibility of the site by sustainable travel modes (walking, cycling and public transport). A review of sustainable travel should be included in the updated TA.

Cycle Parking

Six cycle parking spaces, in the form of Sheffield bike stands are to be provided adjacent to the proposed development.

Conclusion

The following further information is required for approval:

- **Traffic Surveys** - WCBC Highways request that the junctions are resurveyed (in a neutral month) and a review is undertaken on the traffic volume changes. This would include queue length surveys.
- **Parking Surveys** - WCBC Highways request that the parking surveys previously undertaken are resurveyed and that the Transport Assessment and proposals are updated accordingly.
- **Committed/Planned Developments** - WCBC request that the assessed committed/planned developments are updated (as per the Committed Development section of this response).
- **Junction Modelling** - Following review of 2023 traffic survey data all of the junctions previously assessed would need to be re-assessed (all scenarios) using 2023 traffic data and the updated committed/planned developments.
- **Collision Data Review** - Collision data would need to be reviewed for the past five (available) years.
- **Staff** - The applicant should clarify typically how many staff would be working in the restaurant on a weekday and weekend at any one time.
- **Sustainable Travel** - A review of sustainable travel should be included in the updated TA.
- **Transport Assessment** - It is expected that all the above information would be included in a revised Transport Assessment.

Further to the above:

- A S278 condition is required for all highway works and a S38 condition is required for adopted highway works associated with the development.
- The Construction Management Plan dated May 2019 should be updated and submitted in advance of any construction works.
- The highway improvements set out in the Designers Response to the Road Safety Audit must be undertaken before the restaurant begins trading.



Chief Officer, Environment & Technical

Car Parking

There are no changes to the parking provision submitted for the 2019 application which is to provide 29 car parking spaces and 2 reserve bays for drive thru customers.

Since there have been a number of changes within the retail park since the previous application and there has been a notable change in travel patterns since the COVID19 pandemic the applicant should repeat the previously undertaken parking surveys and update the Transport Assessment and proposals accordingly.

Parking surveys would need to be undertaken after the Wrexham schools return and, due to the proximity of the development to Wrexham Glyndwr University, when staff and students return to the University.

Site Design and Layout

The site design and layout are the same as the final design submitted for the 2019 application.

Construction Management Plan

It is understood that the previous application stated that an updated Construction Management Plan (CMP) was to be submitted.

The CMP dated May 2019 and previously received in December 2019 has been reviewed. Whilst updates were expected to be minor these should be updated and submitted in advance of any construction associated works.

Staff

The application form suggests that there would be 30 full time staff and 90 part time staff employed by the restaurant. It is stated that this is the full time equivalent of 62 staff.

The applicant should clarify how many staff would typically be working in the restaurant on a weekday and weekend at any one time.

Pedestrian Crossing Facilities

The Stage 1 Road Safety Audit (RSA) (submitted with this application and the previous application) has identified where improvements are required to pedestrian crossings and the findings incorporated into the proposal. The highway improvements set out in the Designers Response to the RSA must be undertaken before the restaurant begins trading.

Highway Works

A S278 condition is required for all highway works and a S38 condition is required for adopted highway works associated with the development.

Servicing

A Delivery Management Plan (dated December 2020) has been re-submitted and confirms that deliveries and waste removal can be carried out safely and outside of peak hours to avoid disruption to traffic. Vehicle tracking has been provided to confirm that the delivery and refuse vehicles to be used can enter the site, turn and exit in a forward gear. However, it is noted that the delivery vehicles could block access/egress from the disabled parking bays, but it is expected that this will be managed on site.

ACCESSIBILITY

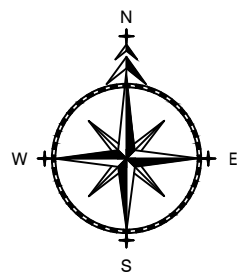
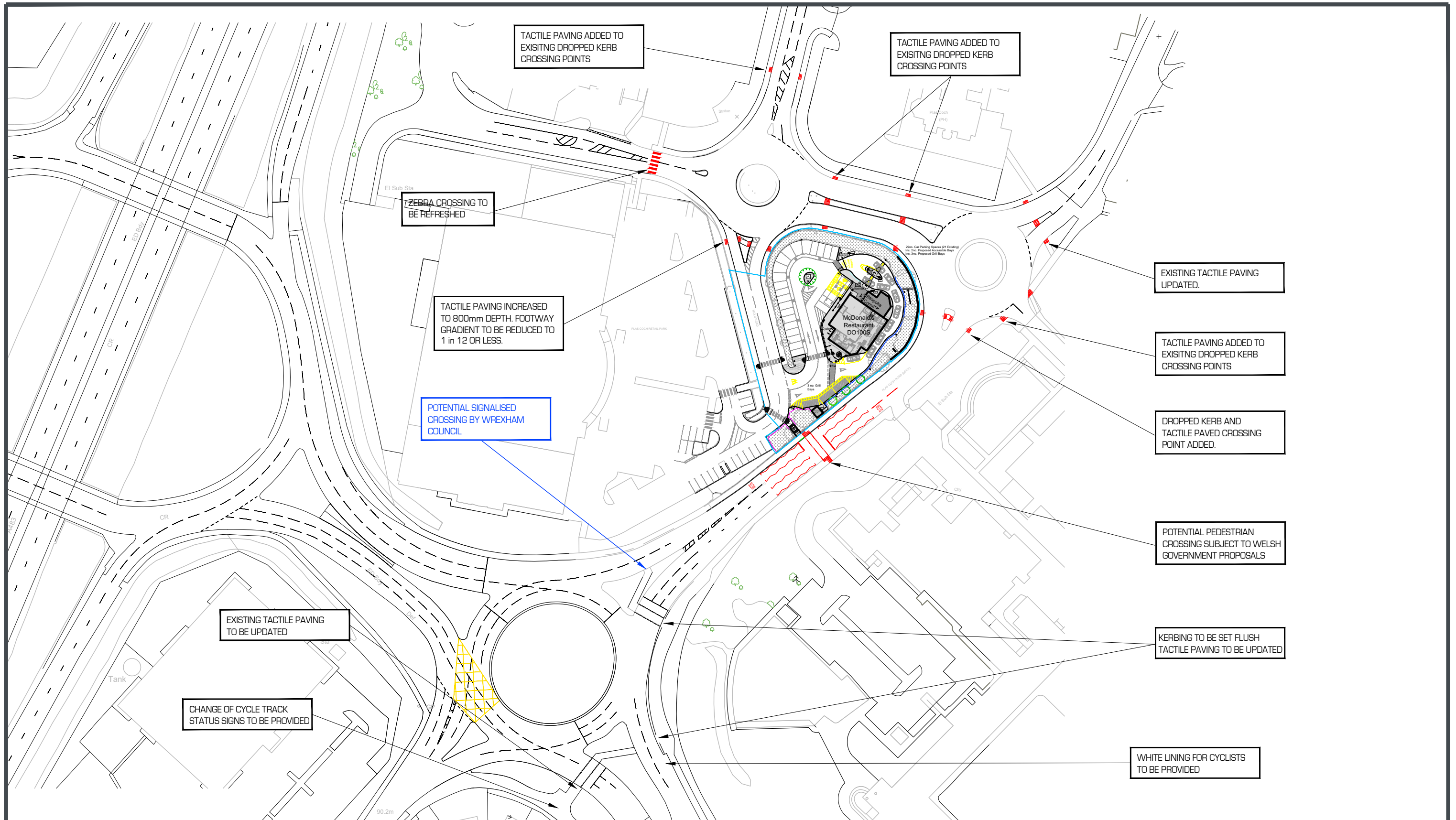
2.1	Cycle Routes
2.2	ADL Proposed Highway Improvements
2.3	Wrexham Council Proposed Highway Improvements
2.4	Bus Stop Location Plan
2.5	Bus Routes
2.6	Rail Network



ADL

TRAFFIC & HIGHWAYS

Title			CYCLE ROUTE MAP		
Scale		NTS@A4		APPENDIX 2.1	



ADL
TRAFFIC & HIGHWAYS

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The Oaklands
Business Park
Yate, Bristol,
BS37 5NA
01454 332100
Cad@adltraffic.co.uk

NOTES

1. PRELIMINARY DESIGN PROVIDED FOR ILLUSTRATIVE PURPOSES ONLY. ALL DETAILS ARE SUBJECT TO INCLUDING CHECKING STATUTORY SERVICE APPARATUS.
 2. DO NOT SCALE FROM THIS DRAWING.
 3. BACKGROUND PLAN IS BASED UPON A DIGITAL OSBASE.
 4. ALL DETAILS TO BE CONFIRMED ON SITE AND ON A 4. TOPOGRAPHICAL SURVEY.
 5. ALL TRACKS ASSUME GRADIENTS AND CAMBERS DO NOT EXCEED 1:60 AND 1:40 RESPECTIVELY OTHERWISE VEHICLE MANOEUVRABILITY MAY BE AFFECTED.
 6. ALL LAND OWNERSHIP DETAILS, EXTENT OF ADOPTED HIGHWAY AND RIGHTS OF WAY TO BE CONFIRMED.
 7. ASSUMES ALL LANDSCAPING CAN BE ALTERED AND NO TREES ARE SUBJECT TO TPO.
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APPENDIX 2.2 ADL PROPOSED HIGHWAY IMPROVEMENTS

Rev	Description	Date	By	Chk	Project Proposed McDonald's Restaurant Plas Coch, Wrexham			
					Title Proposed Local Improvements			
					Date 20.09.23	Drawn PGL		
					Checked -	Date -	Approved	Date -
					Scale 1:500@A3	Drg No. 4171-08	Rev. B	

MOLD ROAD CORRIDOR ACTIVE TRAVEL ENHANCEMENTS

OPTION PACKAGE 1 – MEDIUM INTERVENTION

Option Overview

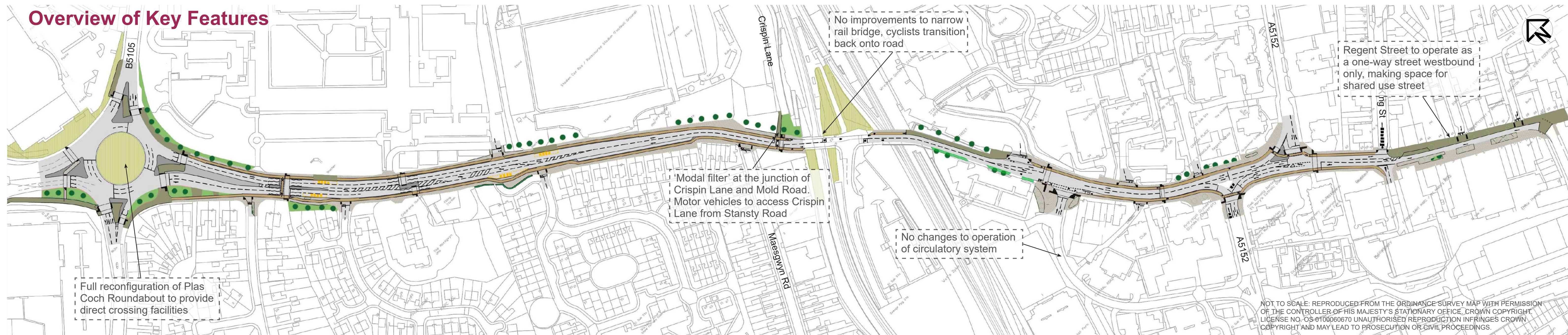
This option looks at walking and cycling improvements that could be delivered if the road layout were changed and road space were reallocated. These include:

- New one-way cycle tracks along both sides of the road (2m width), segregated from both vehicles and pedestrians.
- Footway widths to range between 2 and 3m throughout.
- New pedestrian and cycle crossing facilities at Plas Coch Roundabout, opposite Wrexham Glyndŵr University, Crispin Lane, Central Road, Bradley Road and Grosvenor Road.
- Between Crispin Lane and Station Approach there would be a break in the cycle tracks at the location of the existing narrow railway bridges and cyclists would re-join the carriageway.
- East of King Street, Regent Street would operate as a one-way street westbound only, making space for a shared use cycle/footpath.
- New and improved areas of greening.

Indicative Road Layout



Overview of Key Features



Implications

- Involves the reallocation of road space to walking and cycling, resulting in reduced highway capacity (e.g. Plas Coch and Grosvenor Road junctions).
- Possible closure of Crispin Lane would be dependent on the Wrexham Gateway Site proposals.
- Narrow rail bridges are still a significant pinch-point.
- Eastern extent of Regent Street to operate as a one-way street westbound only, with space reallocated to active travel users. Signage would be introduced to direct vehicles onto suitable alternative routes.

Note: Proposed interventions can be mixed matched across option packages.

Key:

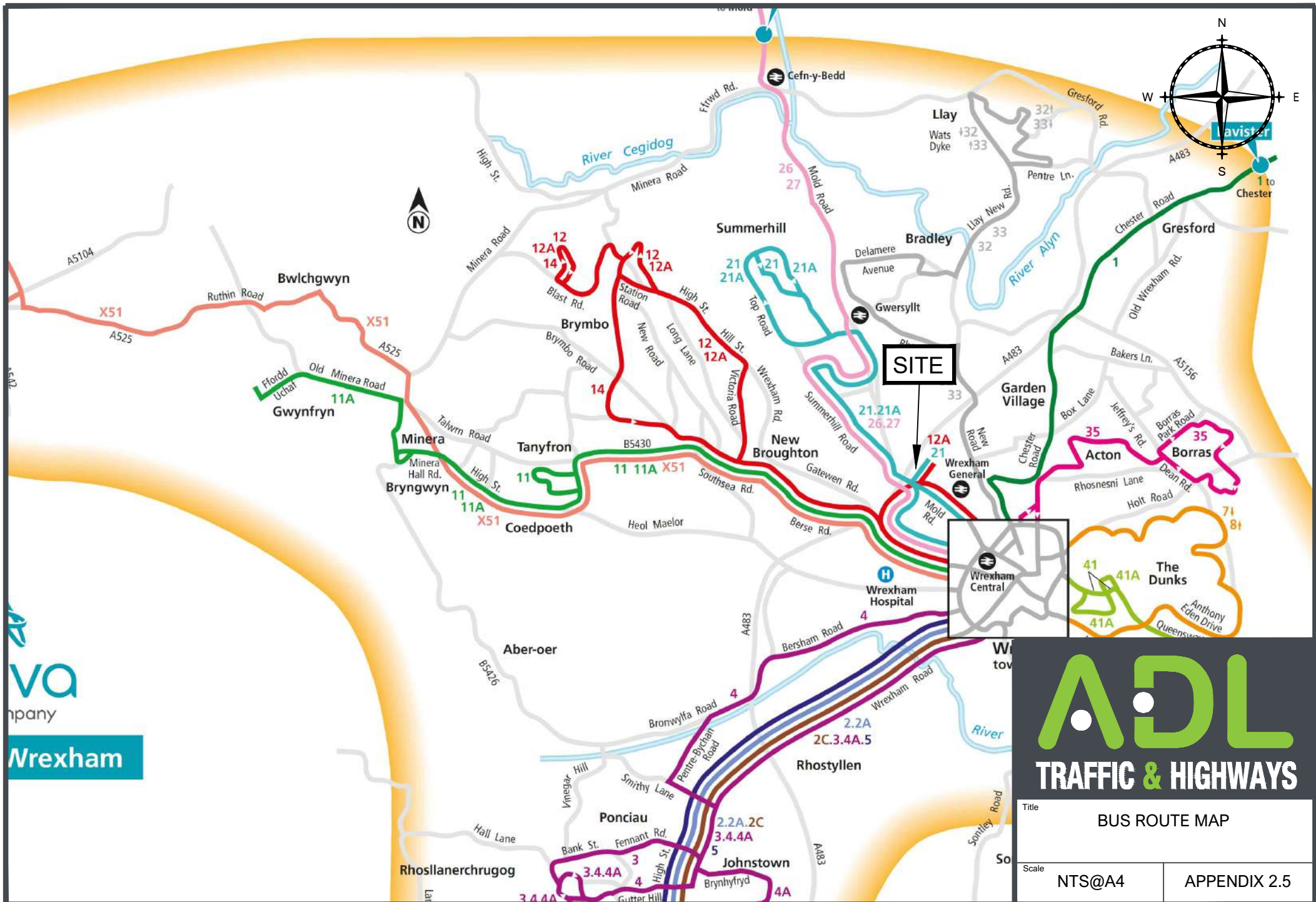
Proposed kerb line / lane demarcation	Existing planting improvement
Proposed footway	Proposed hedgerow
Proposed cycle lane	Proposed trees
Proposed shared use surface	Proposed planters
Proposed traffic island	Proposed tactile paving
Proposed carriageway	Proposed yellow road markings
Proposed green area	Proposed white road markings



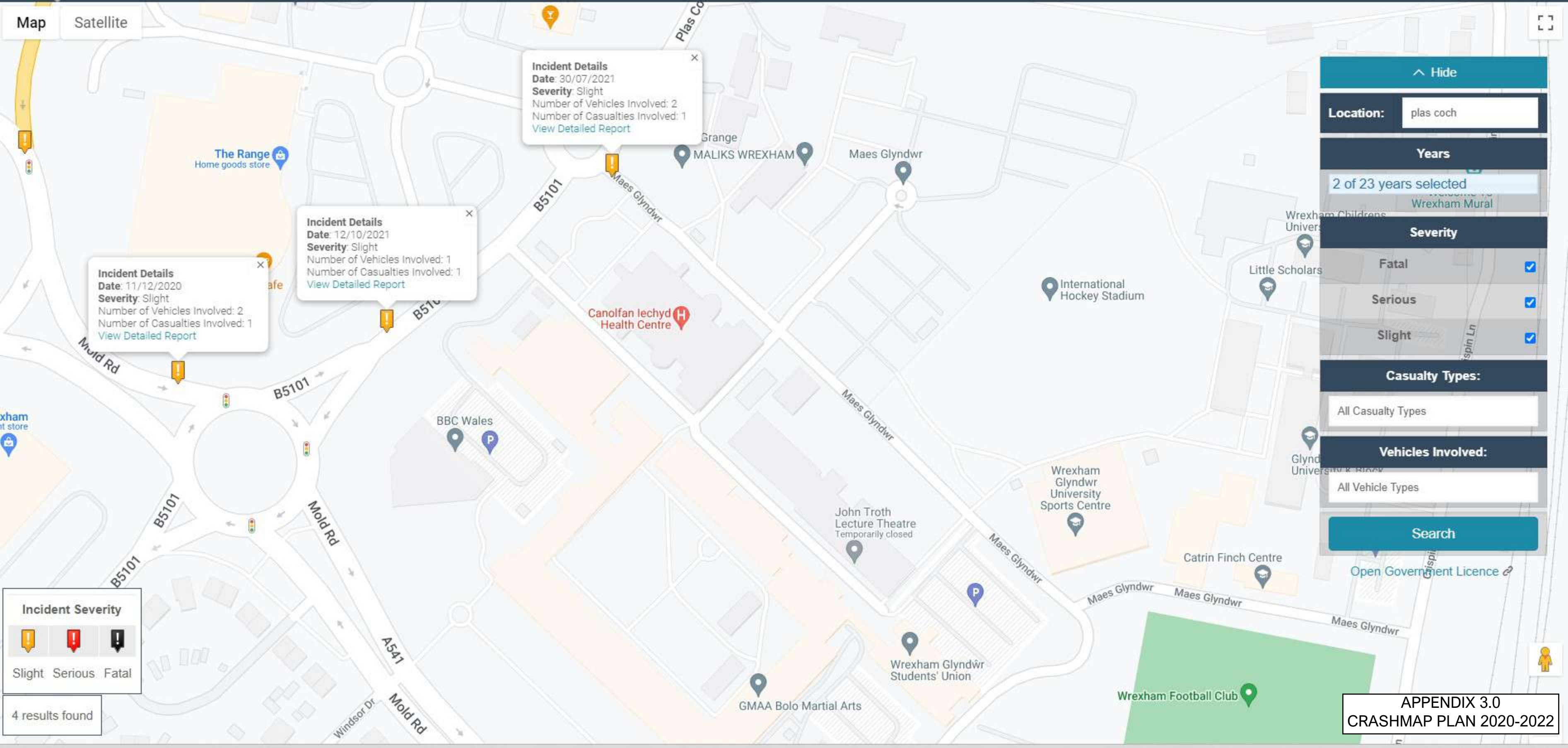
ADL

TRAFFIC & HIGHWAYS

Title		BUS STOP LOCATIONS	
Scale		NTS@A4	APPENDIX 2.4



CRASHMAP PLAN 2020-2022



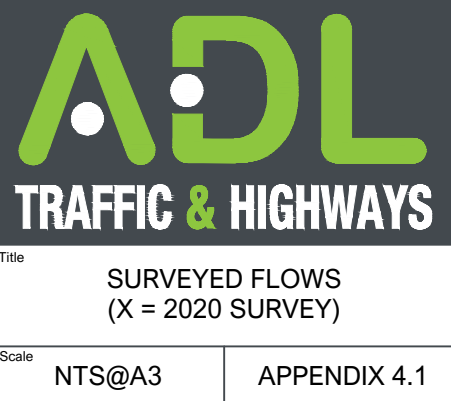
TRAFFIC FLOWS

4.1	Surveyed Flows
4.2	Committed Development: P/2018/0357 Pub Extension and P/2018/0384 Costa
4.3	Committed Development: P2021/0094 90 Units Glydwr University
4.4	Committed Development P/2022/0725 Racecourse Ground
4.5	Committed Development: P/2021/0955 Gatewen Road
4.6	Parallel Development: P/2019/0923 455 Units Mold Road
4.7	Total Committed Development (2036 Situation)
4.8	Surveyed + All Committed Development (2036 Base)
4.9	McDonald's Total Trips
4.10	2036 Total (Surveyed + All Committed Development + McDonald's)
4.11	2036 Base Flows (TEMPRO Sensitivity Test)
4.12	2036 Total Sensitivity (2036 Base Sensitivity + McDonald's)

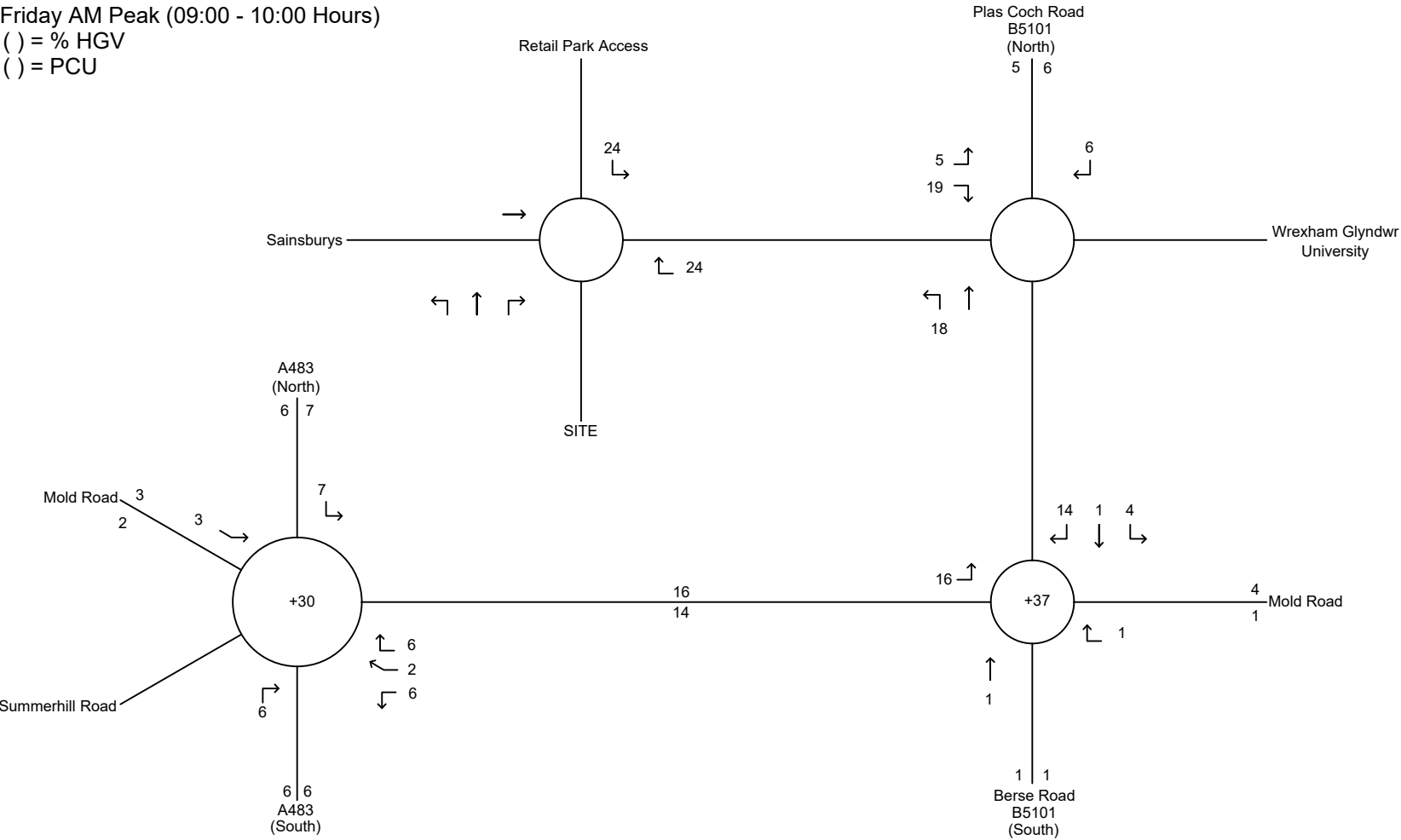
() = % HGV
() = PCU

() = % HGV
() = PCU

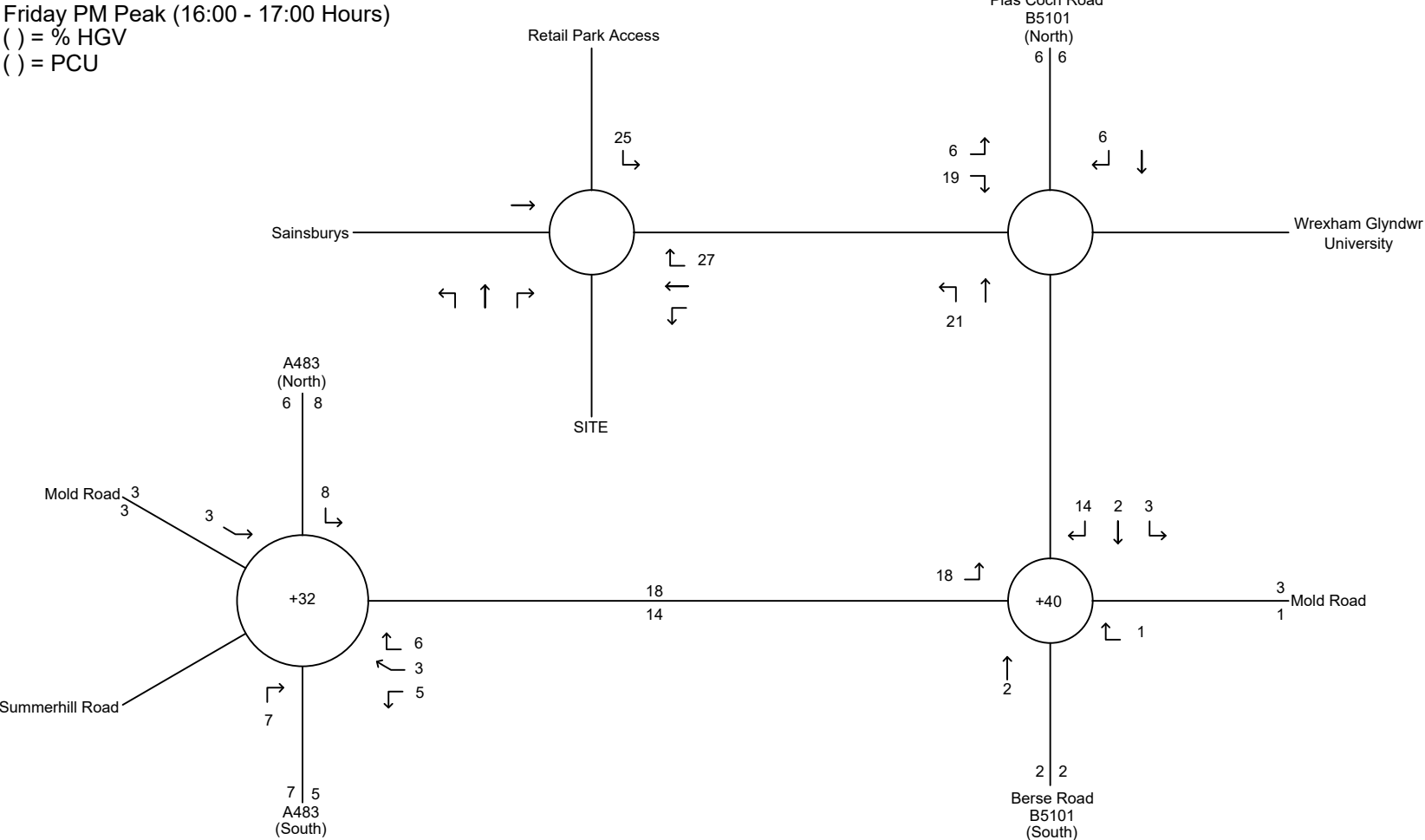
() = % HGV
() = PCU



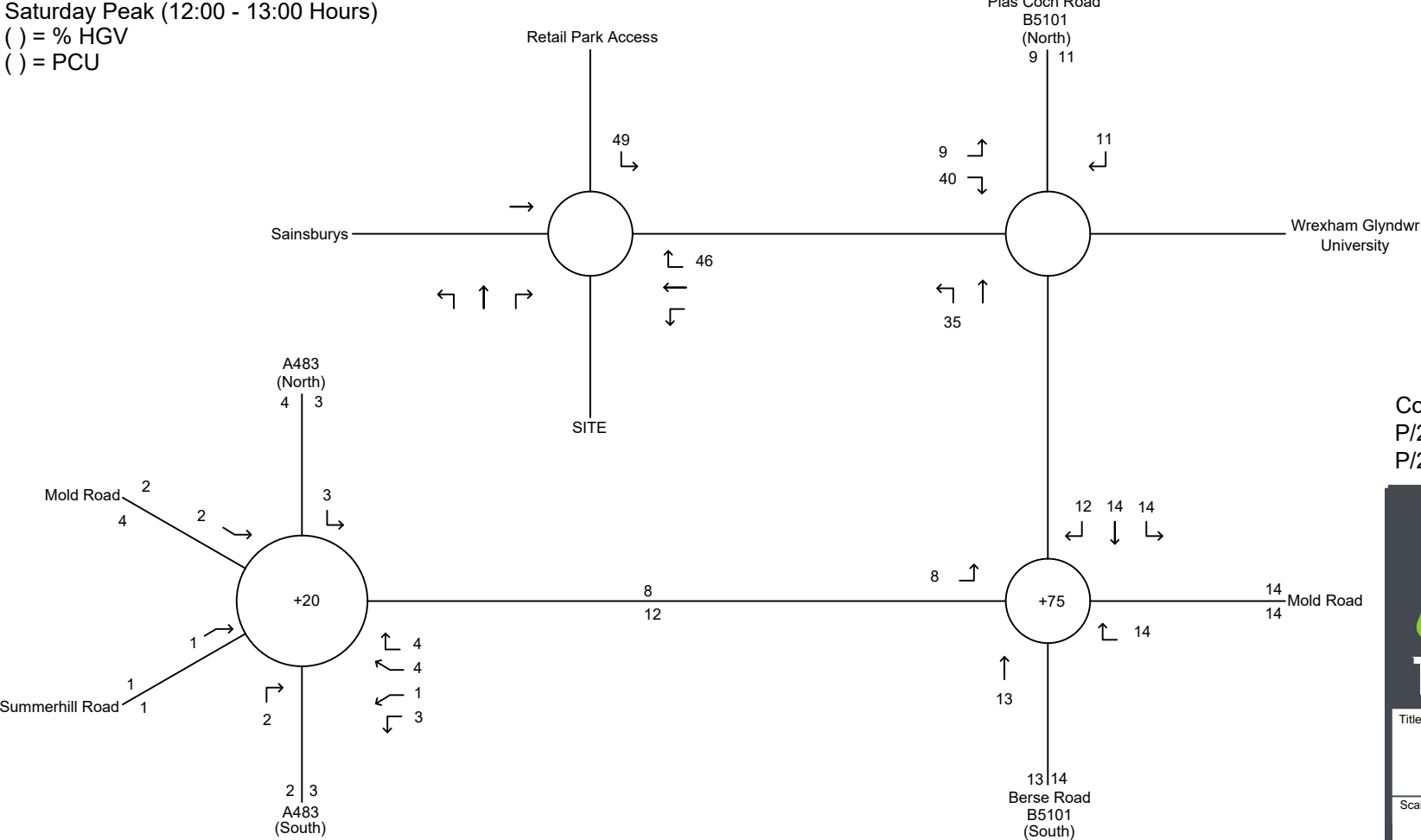
Friday AM Peak (09:00 - 10:00 Hours)
() = % HGV
() = PCU



Friday PM Peak (16:00 - 17:00 Hours)
() = % HGV
() = PCU



Saturday Peak (12:00 - 13:00 Hours)
() = % HGV
() = PCU



Committed Developments:
P/2018/03S7 Pub Extension
P/2018/0384 Costa

ADL

TRAFFIC & HIGHWAYS

Title

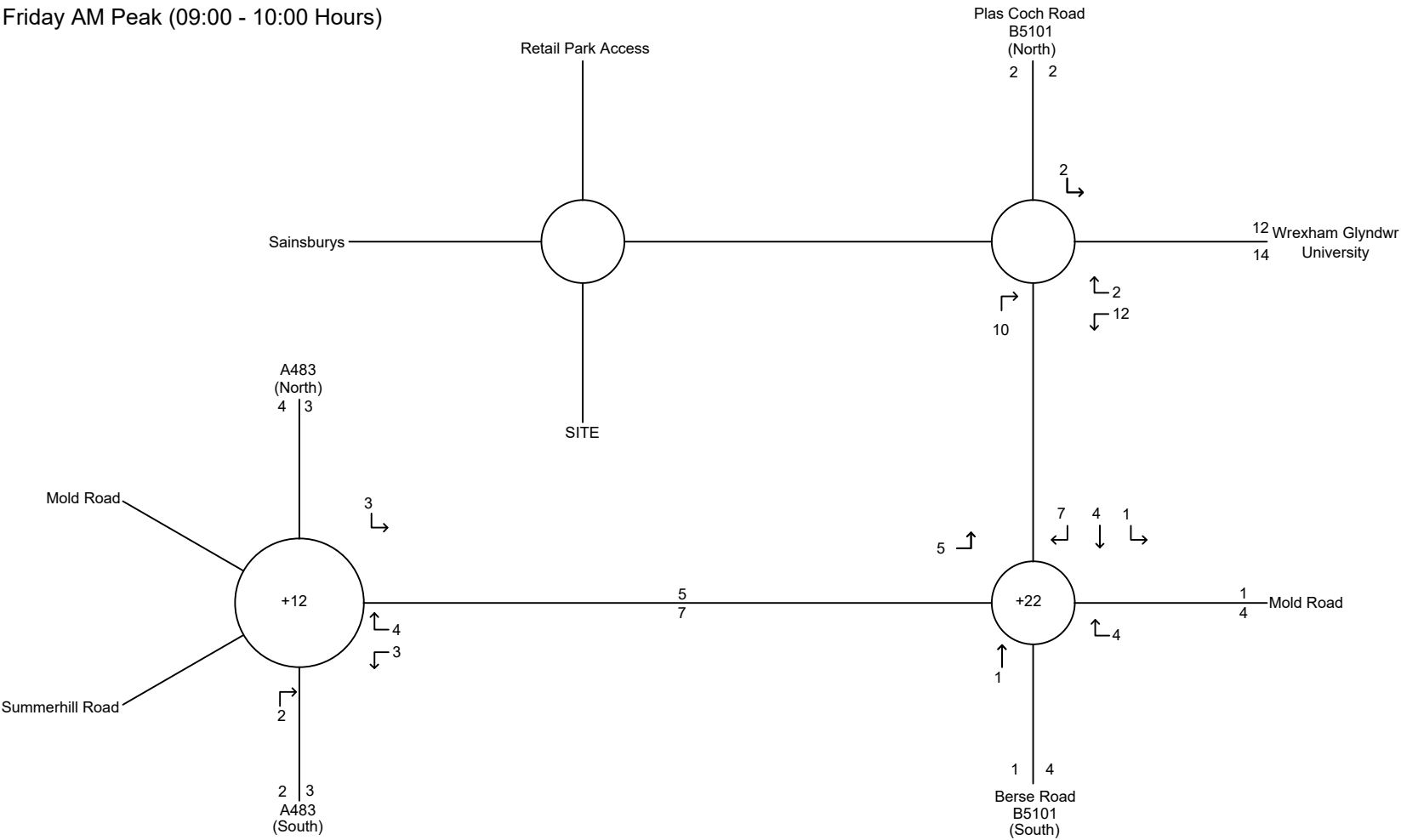
PLAS COCH RETAIL PARK
COMMITTED DEVELOPMENT

Scale

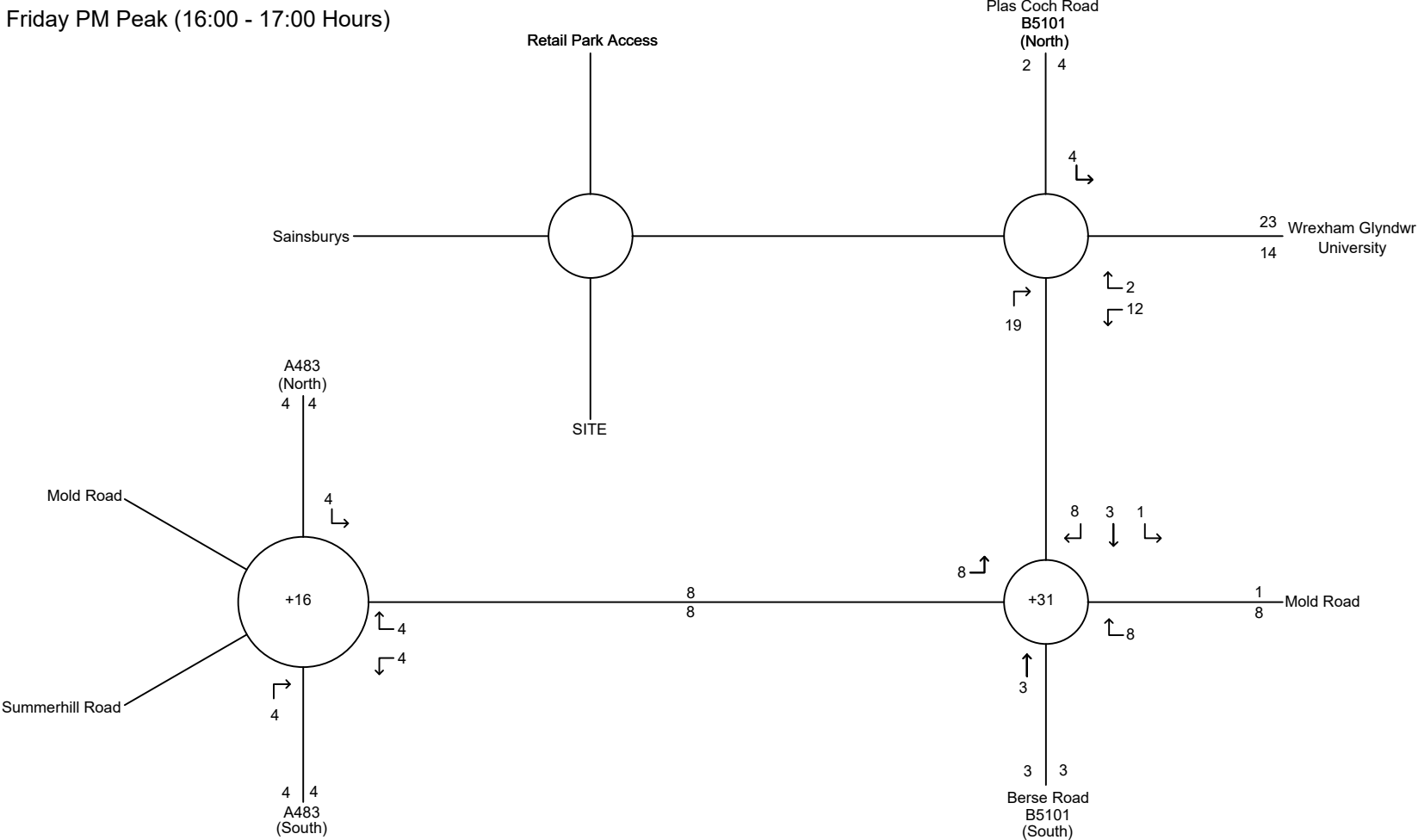
NTS@A3

APPENDIX 4.2

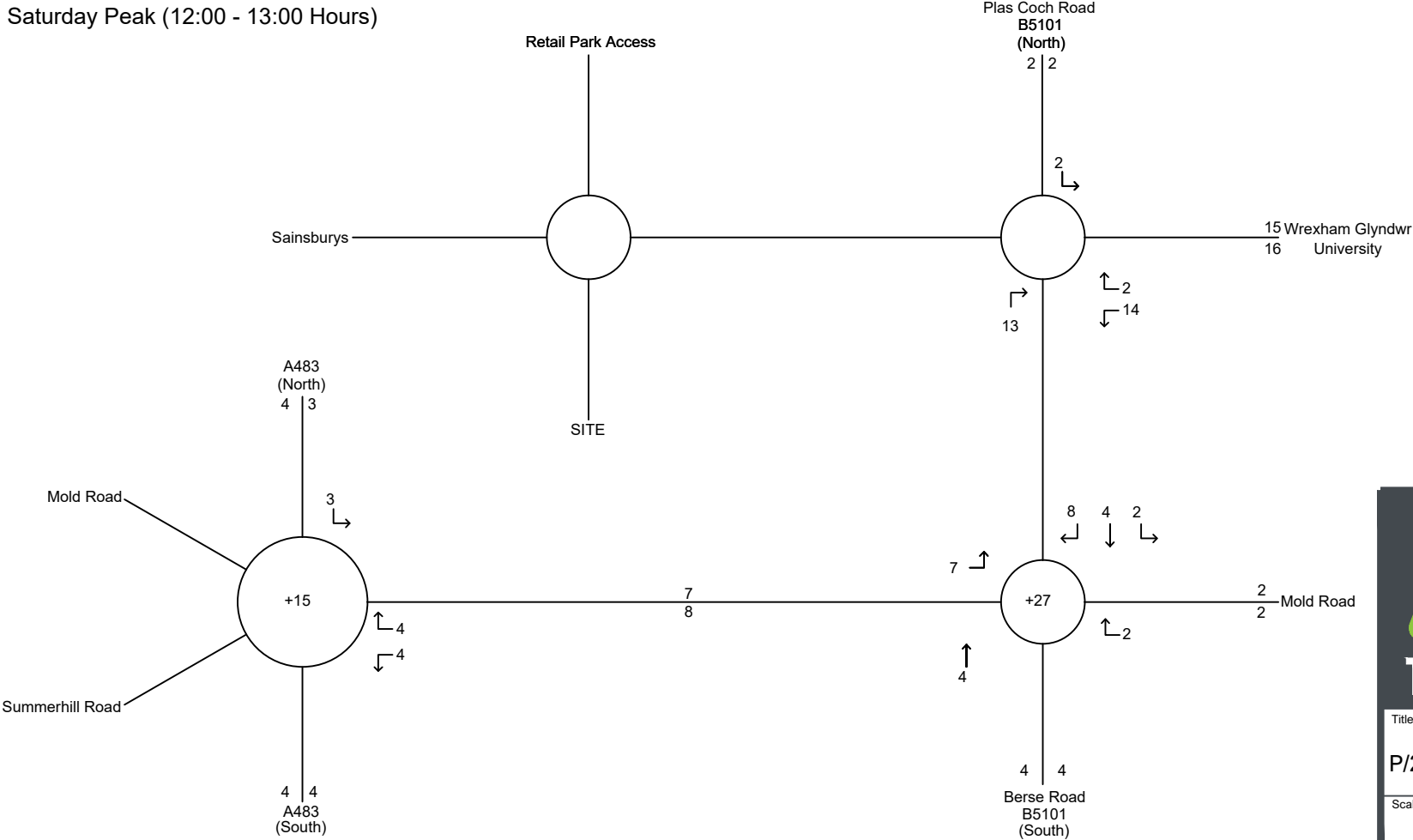
Friday AM Peak (09:00 - 10:00 Hours)



Friday PM Peak (16:00 - 17:00 Hours)



Saturday Peak (12:00 - 13:00 Hours)

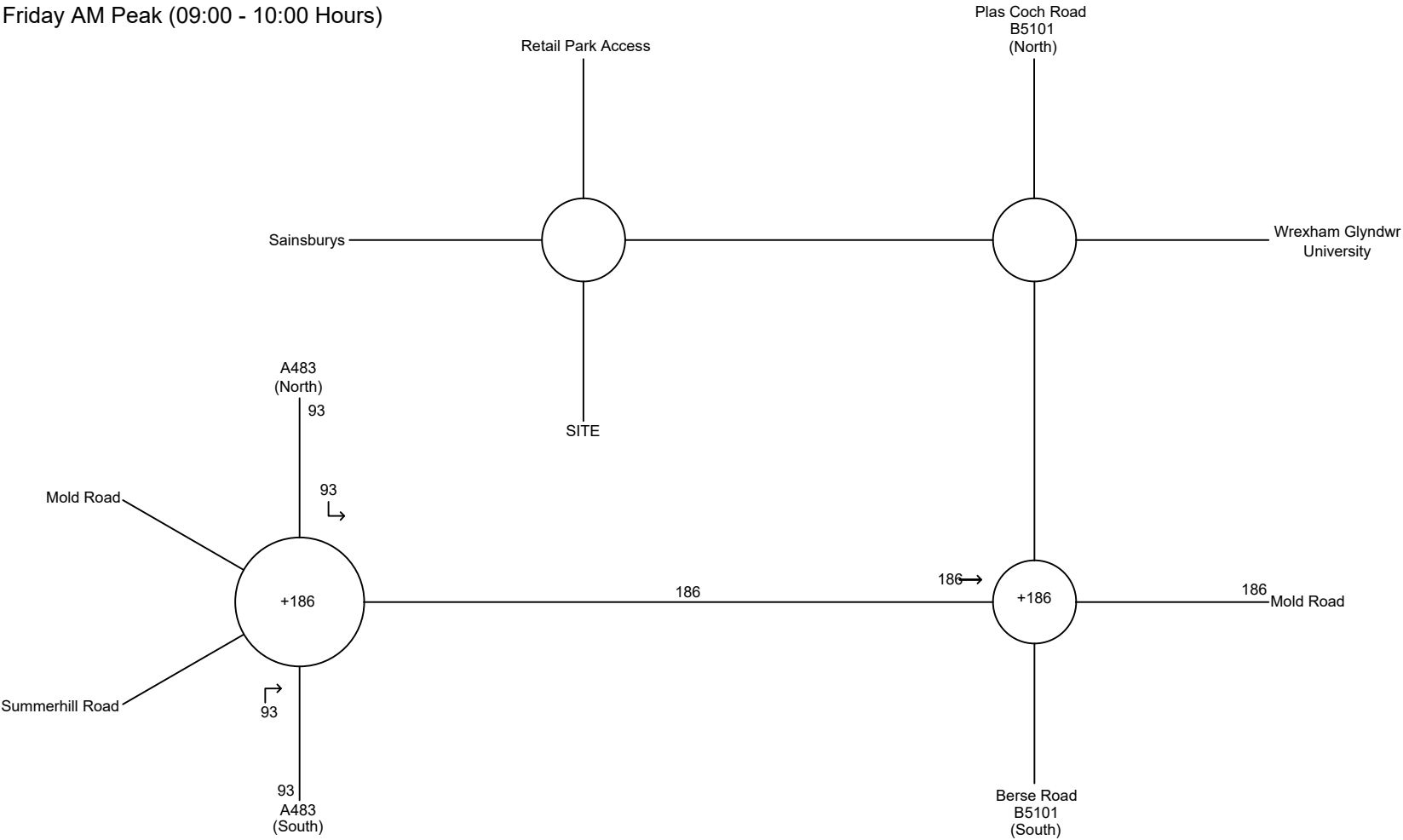


Title
COMMITTED DEVELOPMENT
P/2021/0094 90 UNITS GLYNDWR UNI

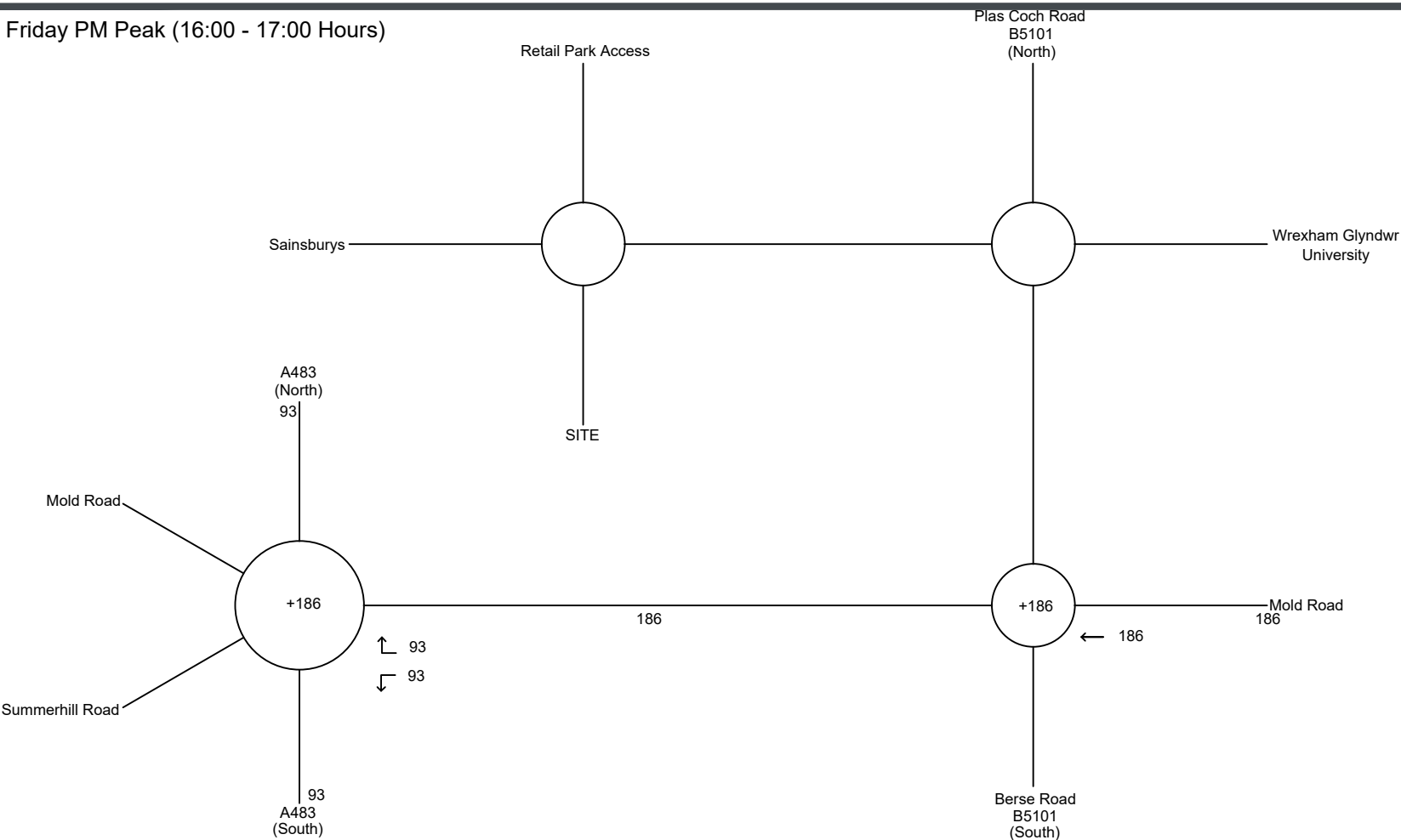
Scale
NTS@A3

APPENDIX 4.3

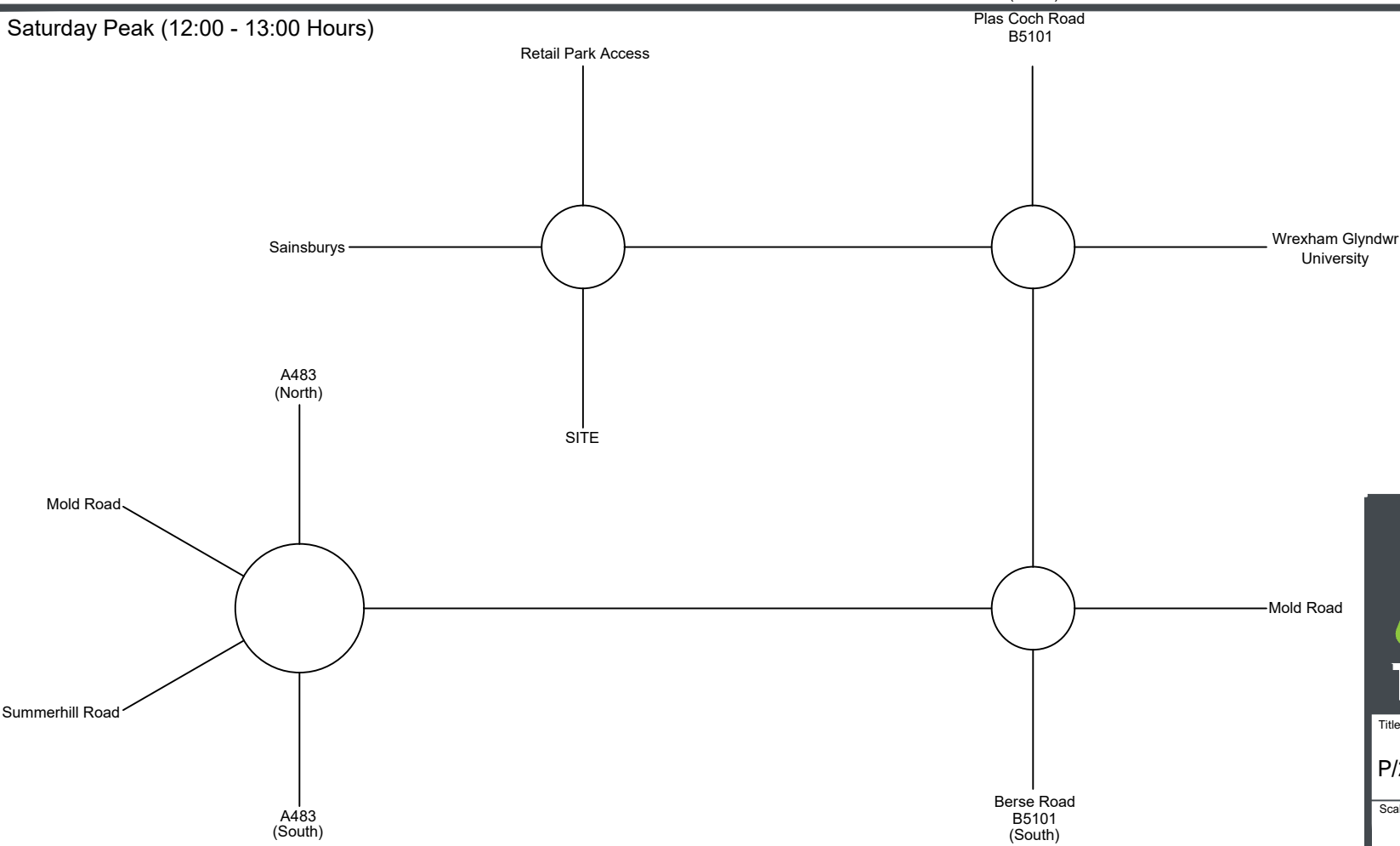
Friday AM Peak (09:00 - 10:00 Hours)



Friday PM Peak (16:00 - 17:00 Hours)



Saturday Peak (12:00 - 13:00 Hours)



ADL

TRAFFIC & HIGHWAYS

Title

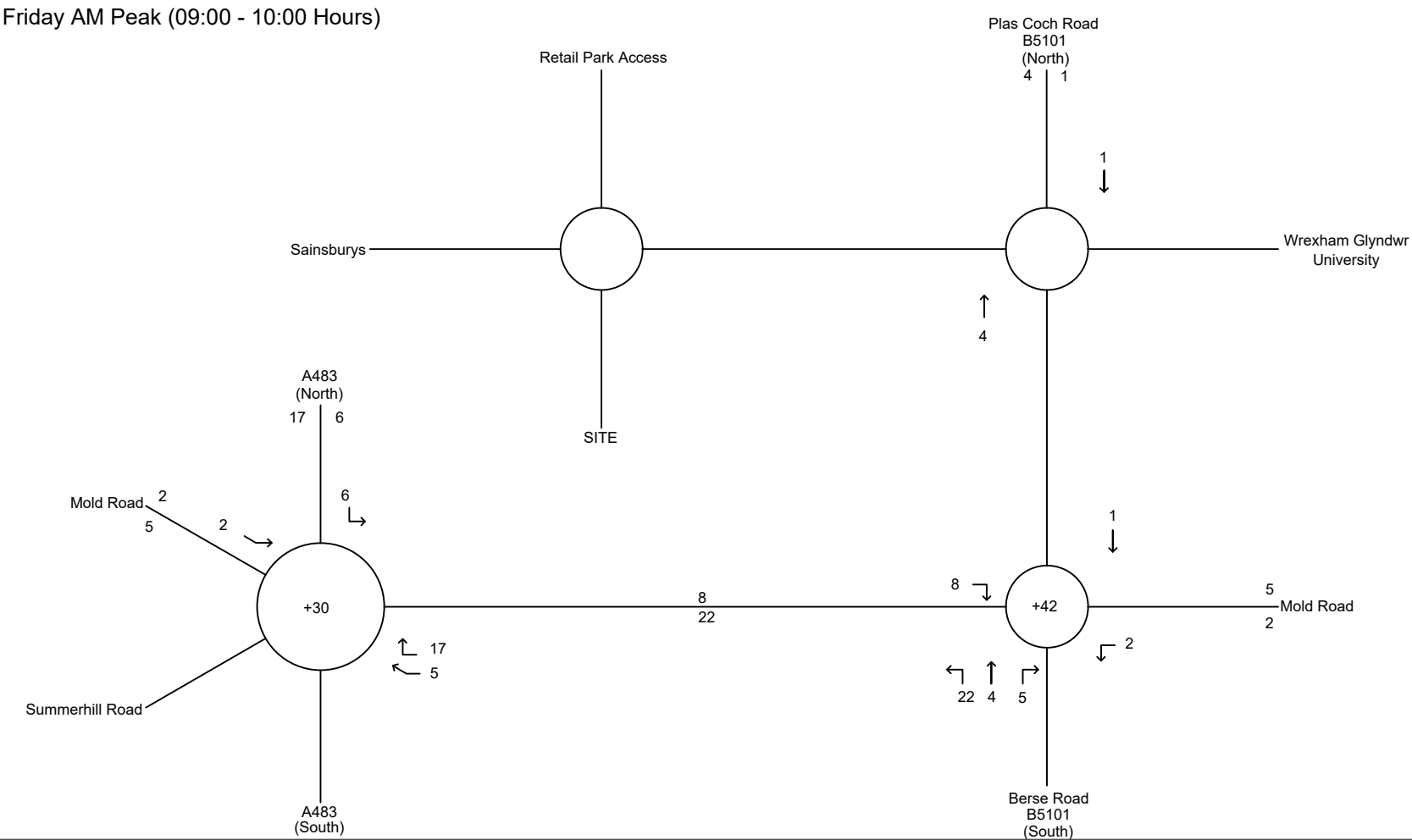
COMMITTED DEVELOPMENT
P/2022/0725 RACECOURSE GROUND

Scale

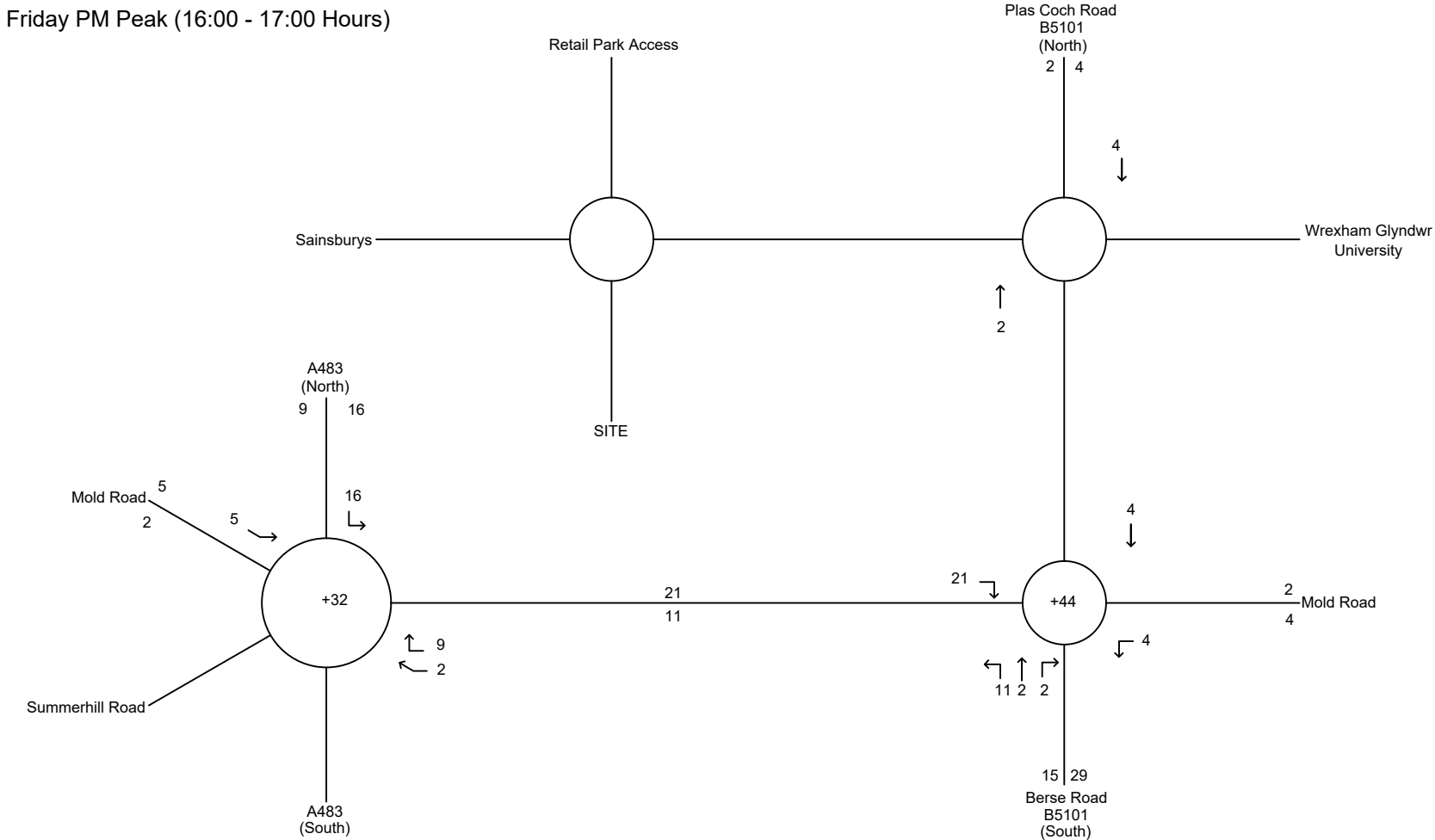
NTS@A3

APPENDIX 4.4

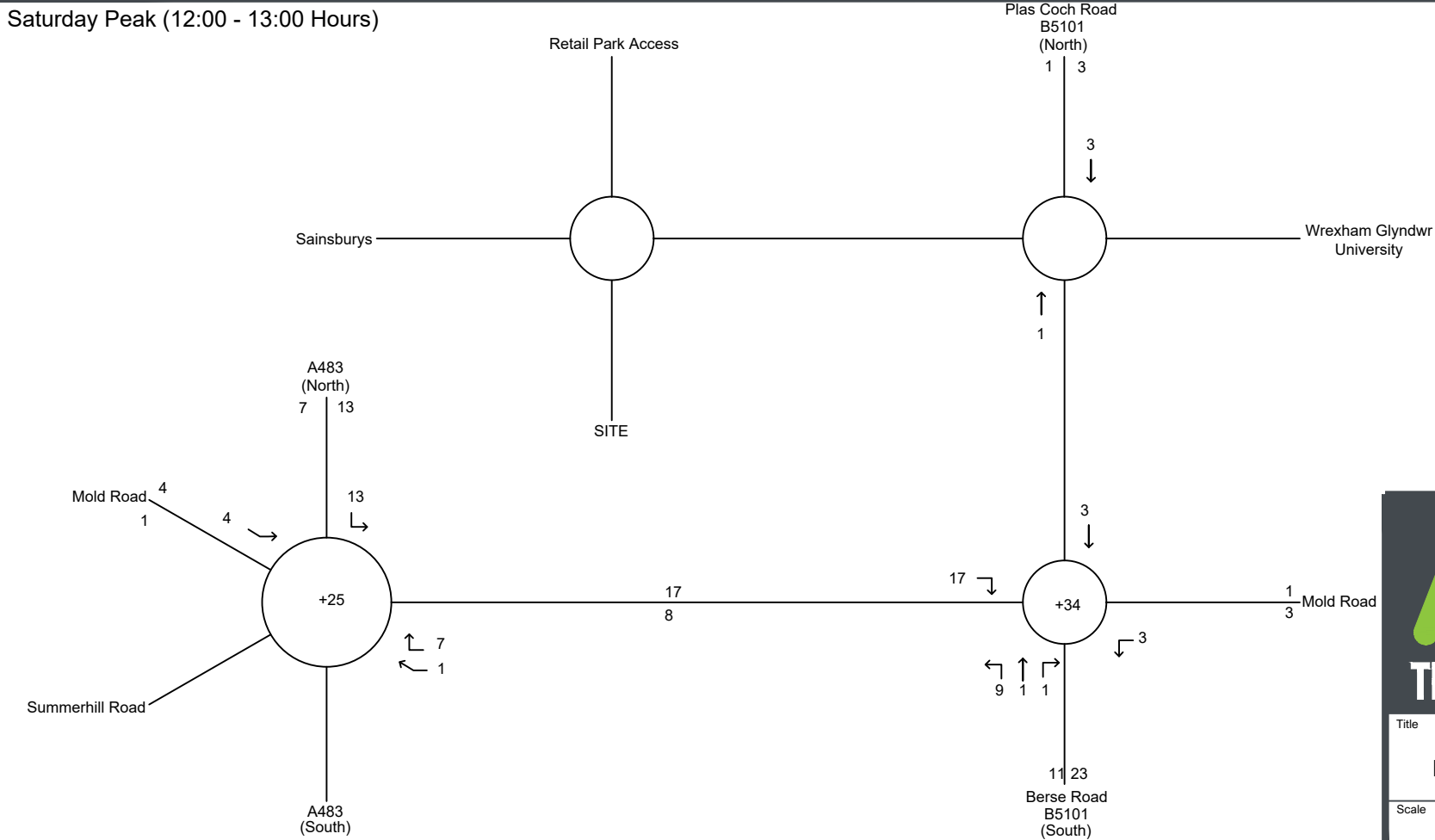
Friday AM Peak (09:00 - 10:00 Hours)



Friday PM Peak (16:00 - 17:00 Hours)



Saturday Peak (12:00 - 13:00 Hours)





ADL
TRAFFIC & HIGHWAYS

Title

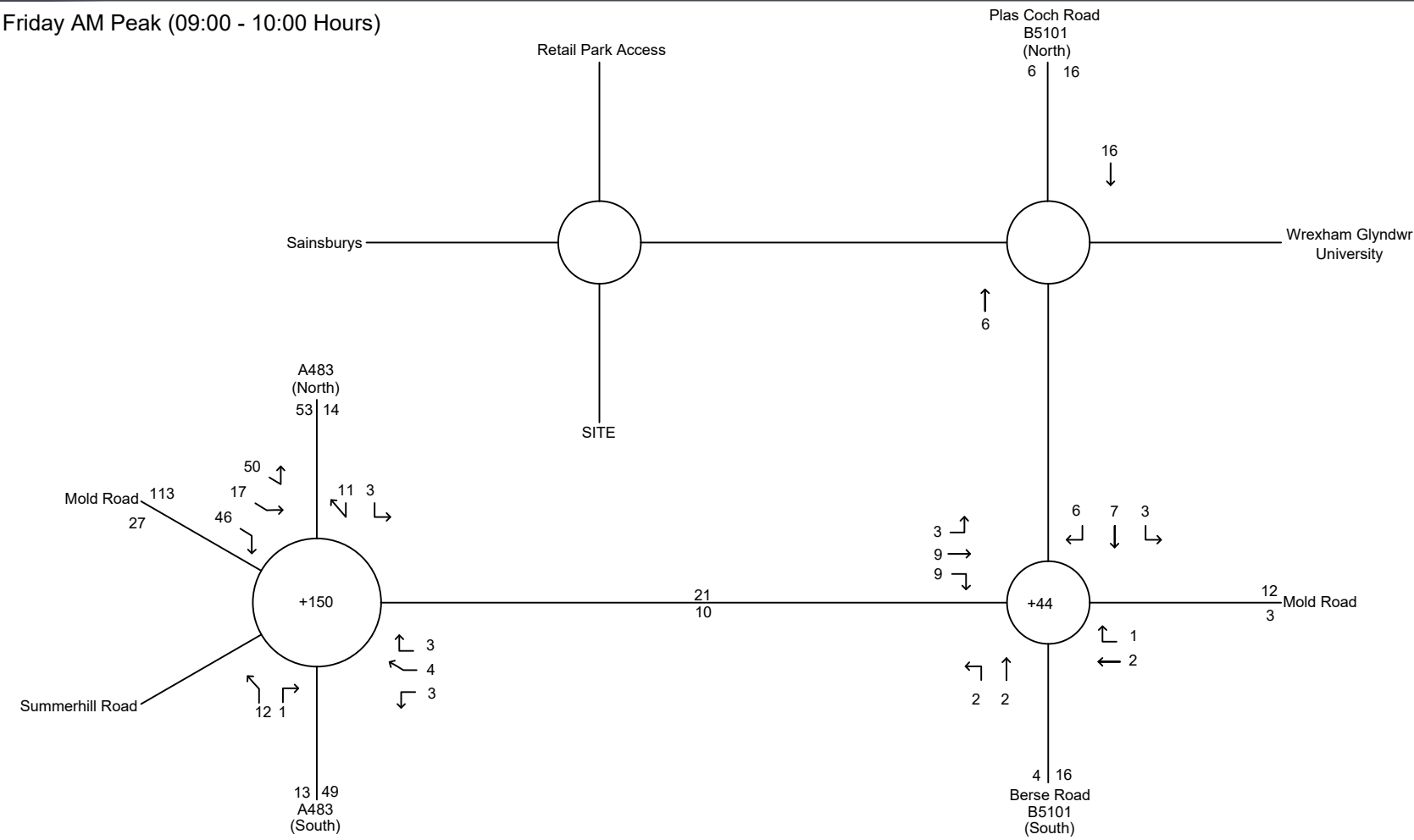
COMMITTED DEVELOPMENT
P/2021/095S GATEWEN ROAD

Scale

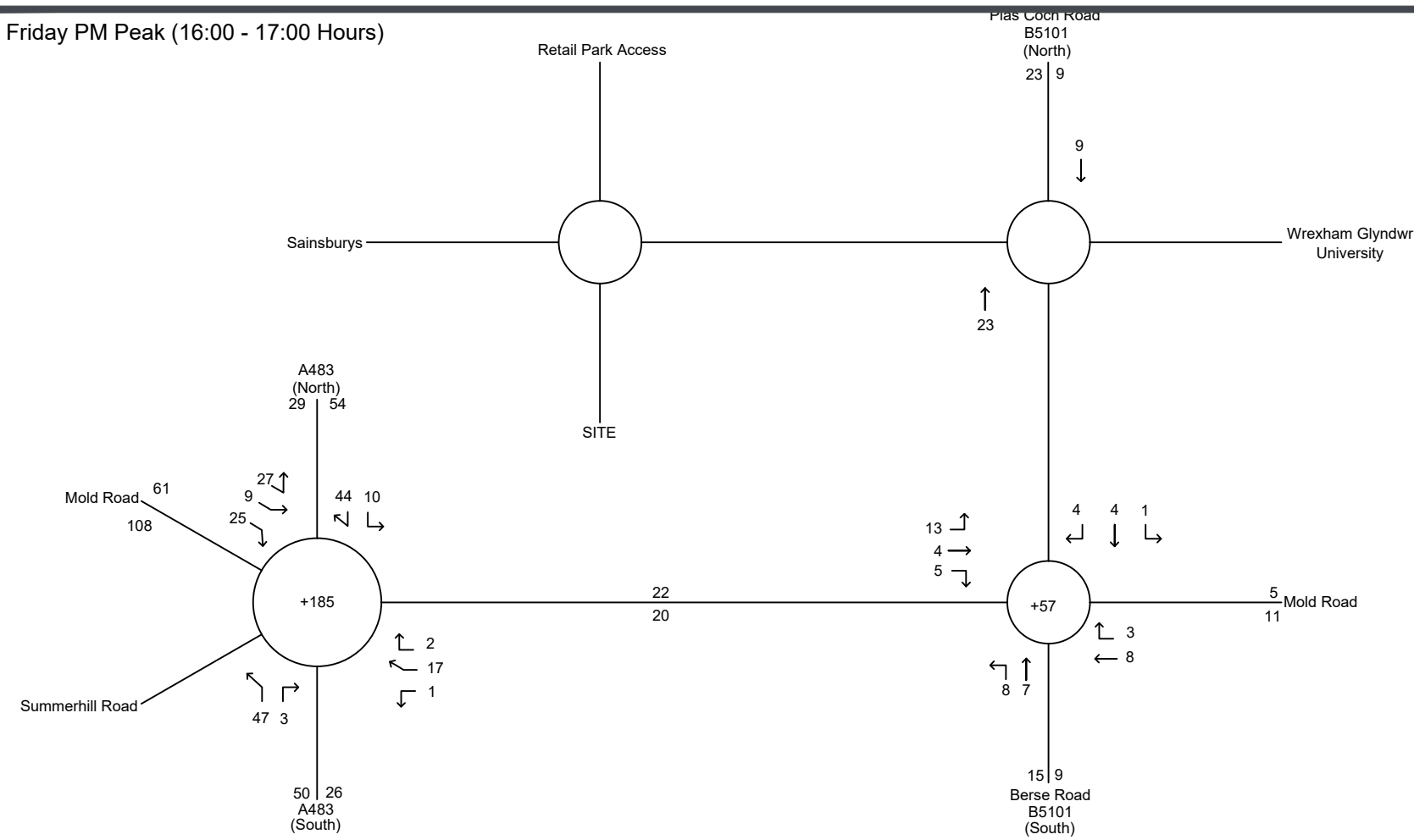
NTS@A3

APPENDIX 4.5

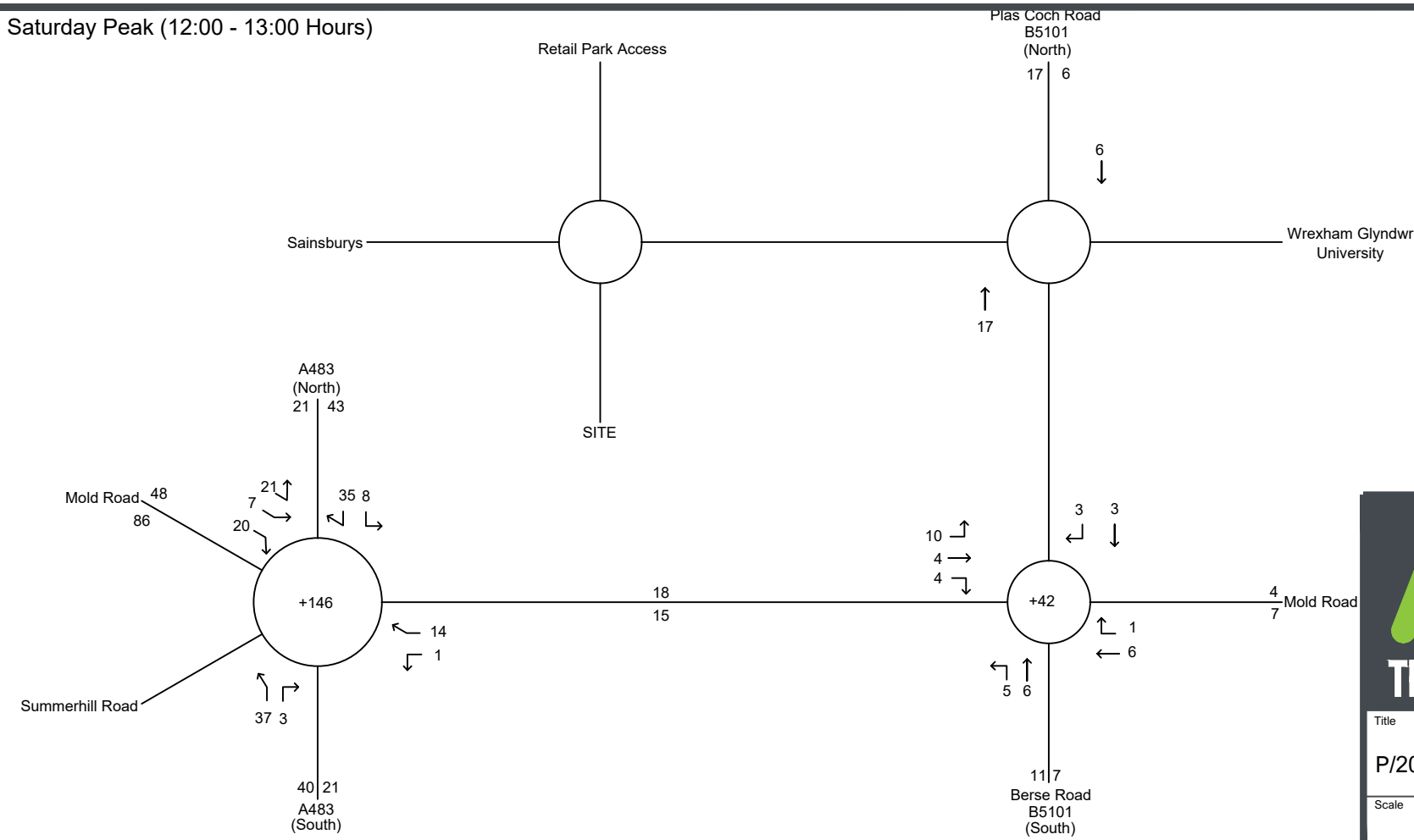
Friday AM Peak (09:00 - 10:00 Hours)



Friday PM Peak (16:00 - 17:00 Hours)



Saturday Peak (12:00 - 13:00 Hours)



ADL

TRAFFIC & HIGHWAYS

Title

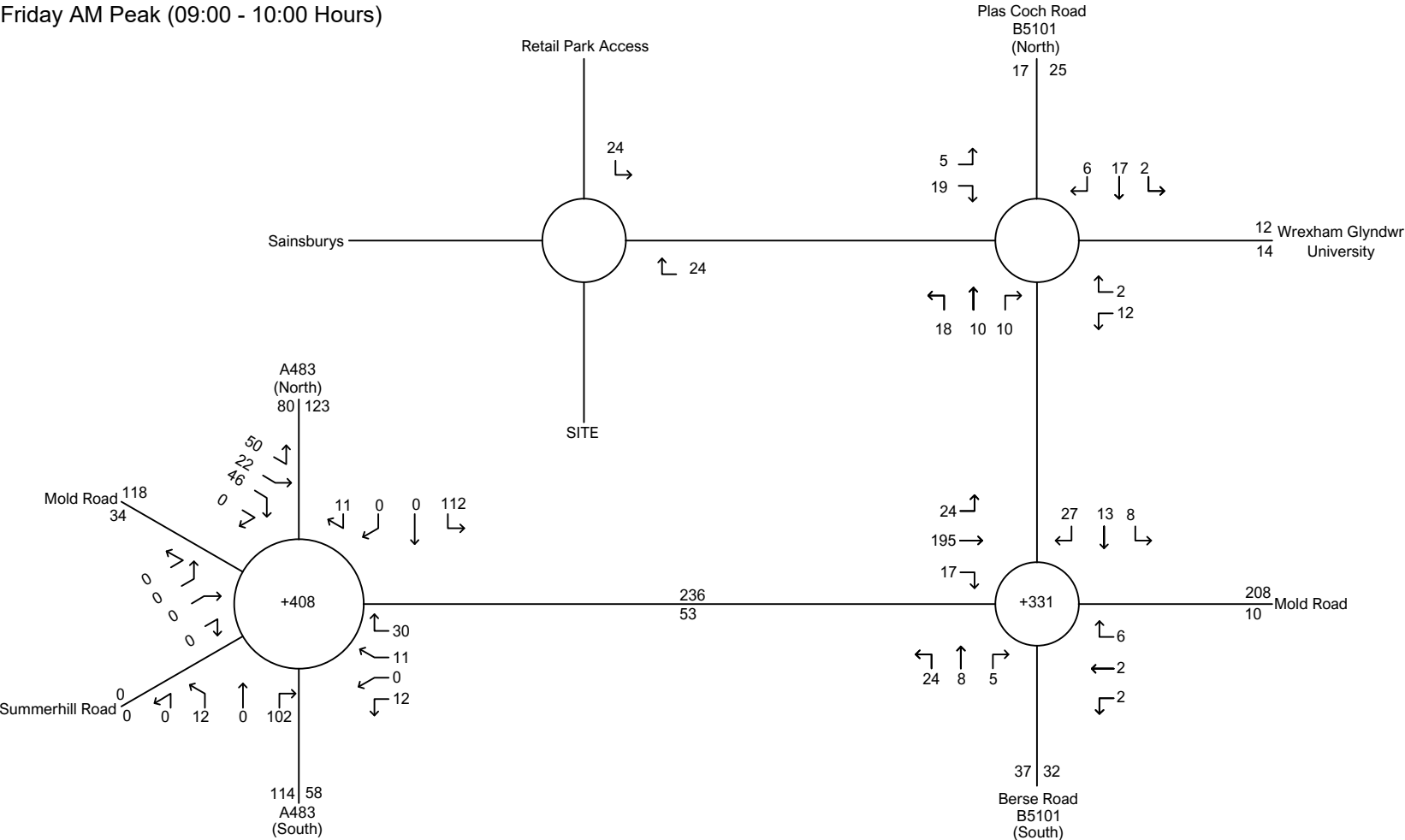
PARALLEL DEVELOPMENT
P/2019/0923 455 UNITS MOLD ROAD

Scale

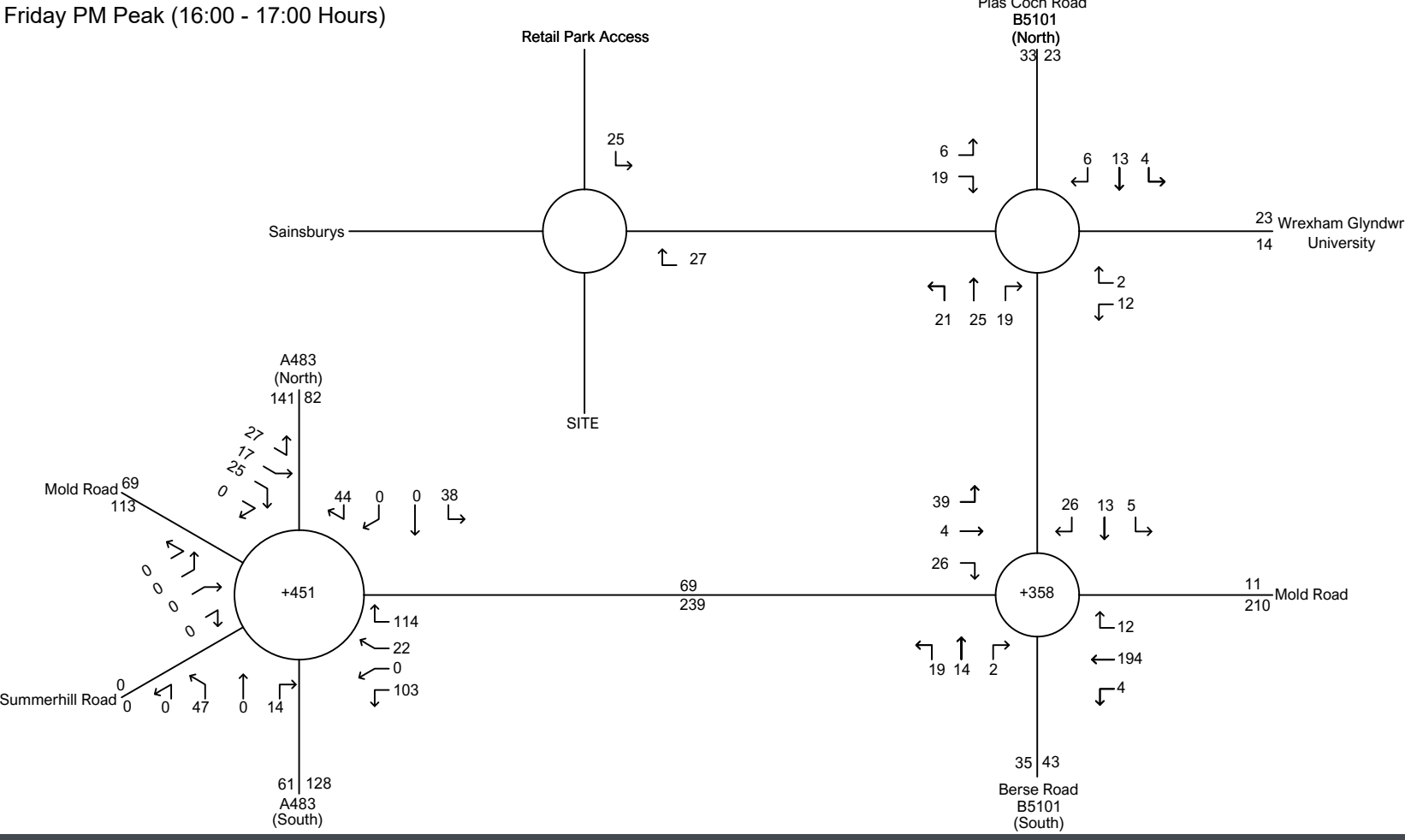
NTS@A3

APPENDIX 4.6

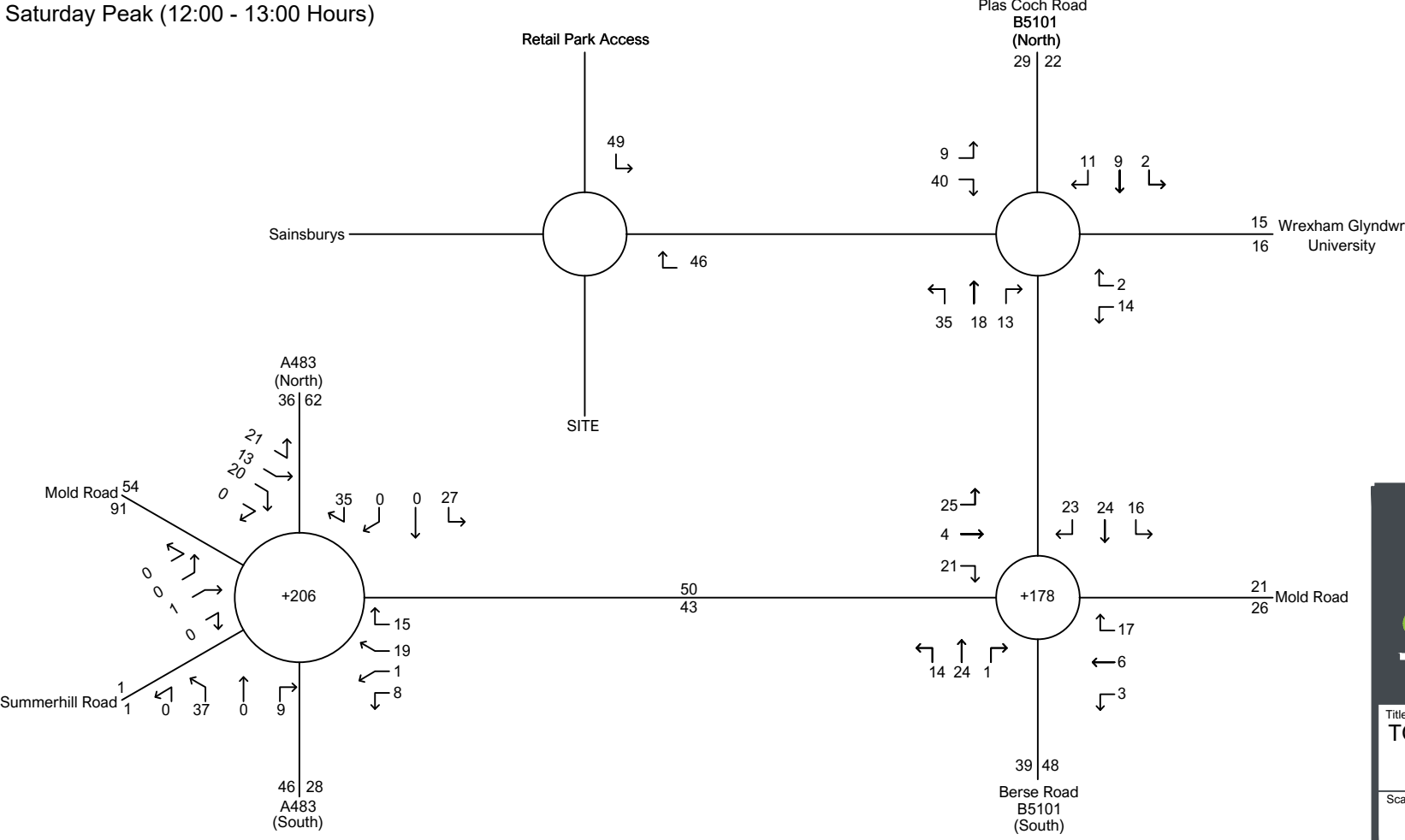
Friday AM Peak (09:00 - 10:00 Hours)



Friday PM Peak (16:00 - 17:00 Hours)



Saturday Peak (12:00 - 13:00 Hours)



ADL

TRAFFIC & HIGHWAYS

Title

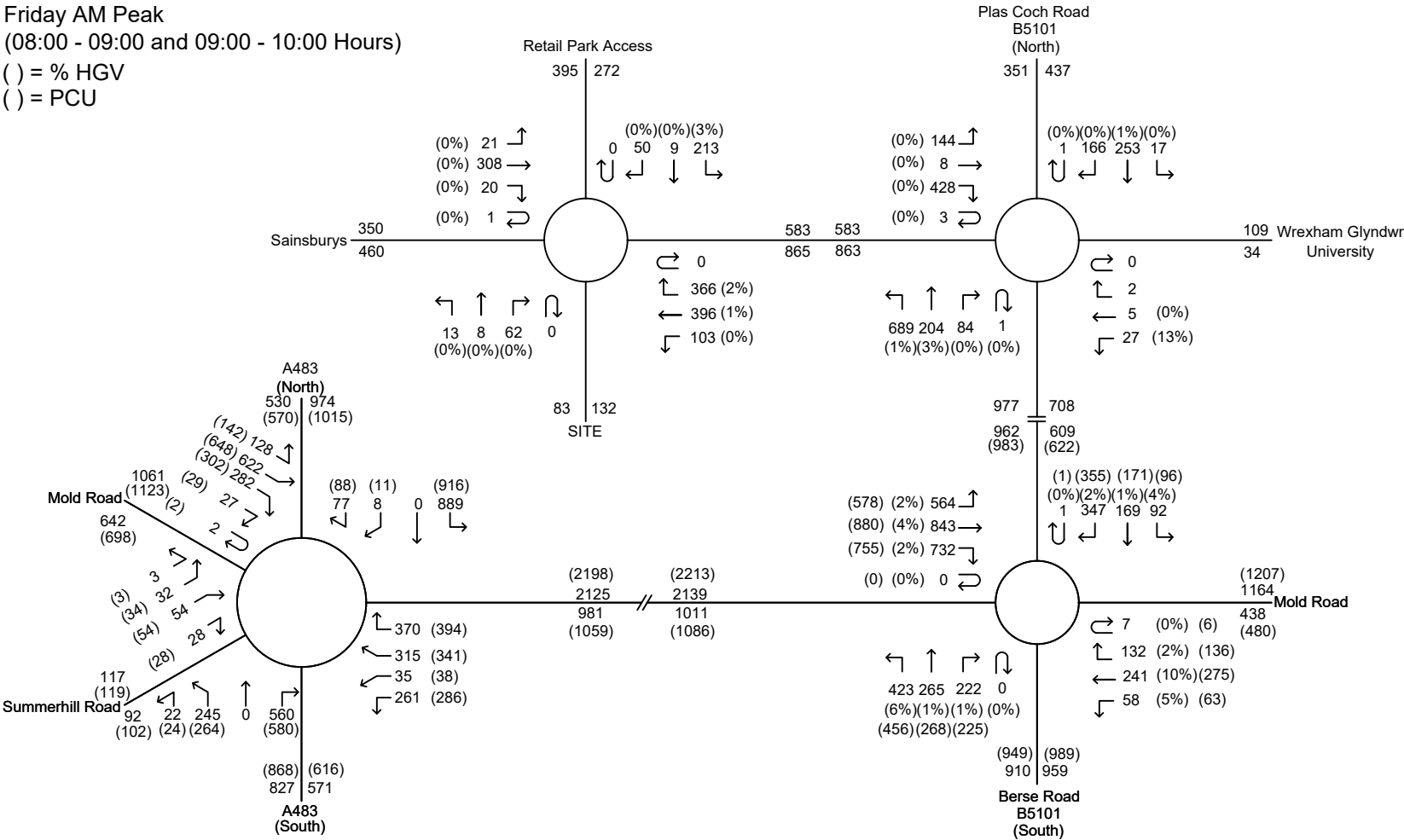
TOTAL COMMITTED DEVELOPMENT
(2036 SITUATION)

Scale

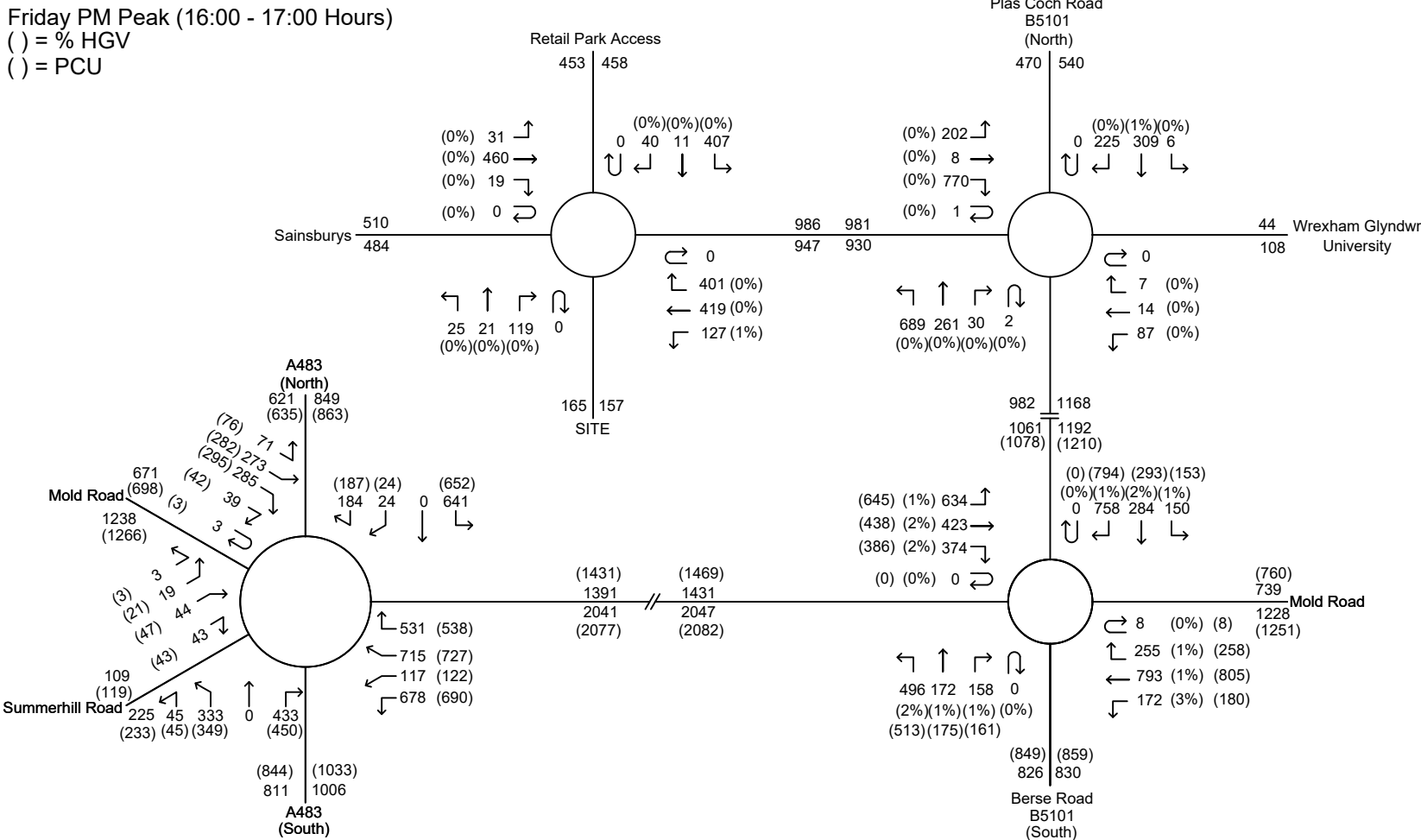
NTS@A3

APPENDIX 4.7

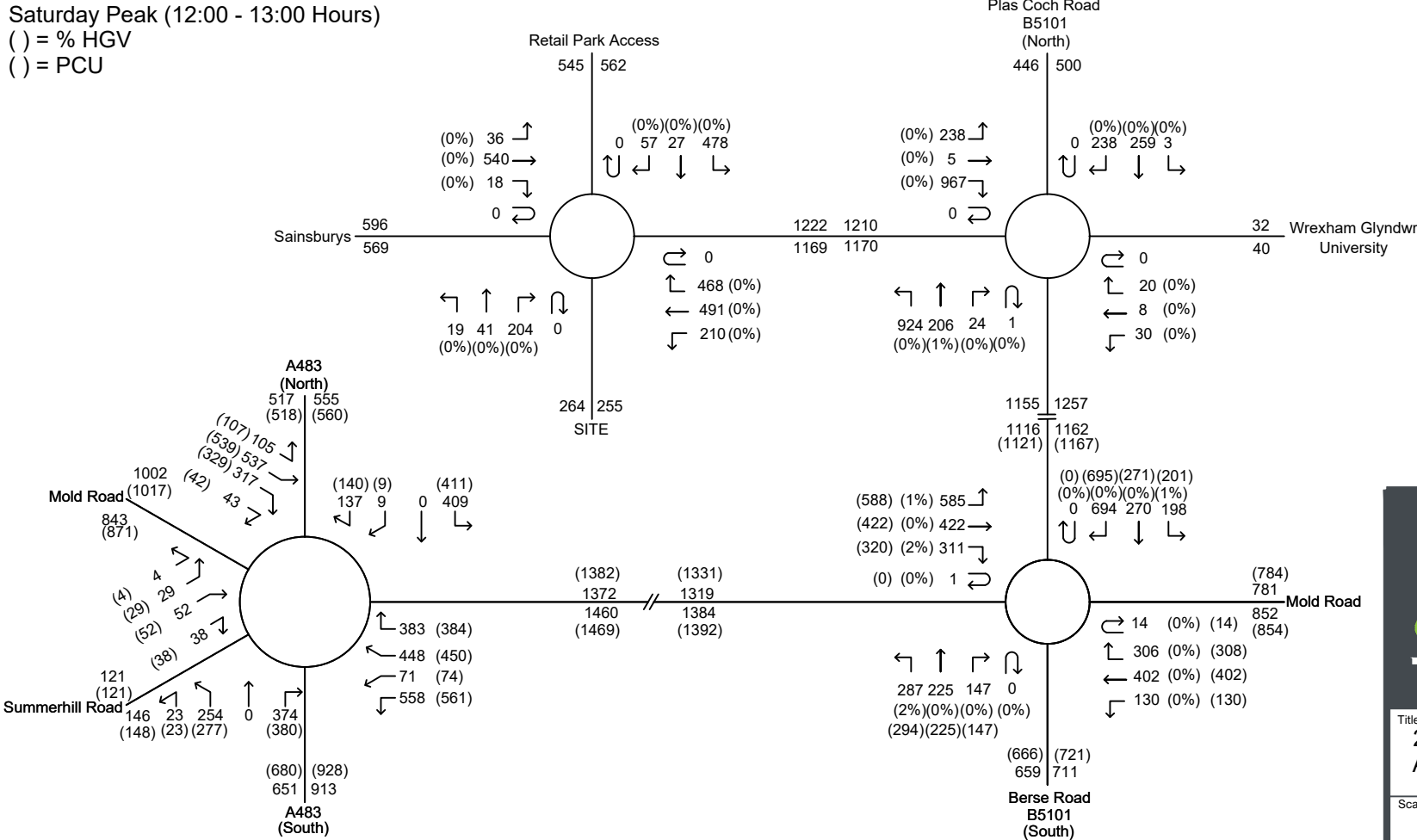
Friday AM Peak
(08:00 - 09:00 and 09:00 - 10:00 Hours)
() = % HGV
() = PCU



Friday PM Peak (16:00 - 17:00 Hours)
() = % HGV
() = PCU

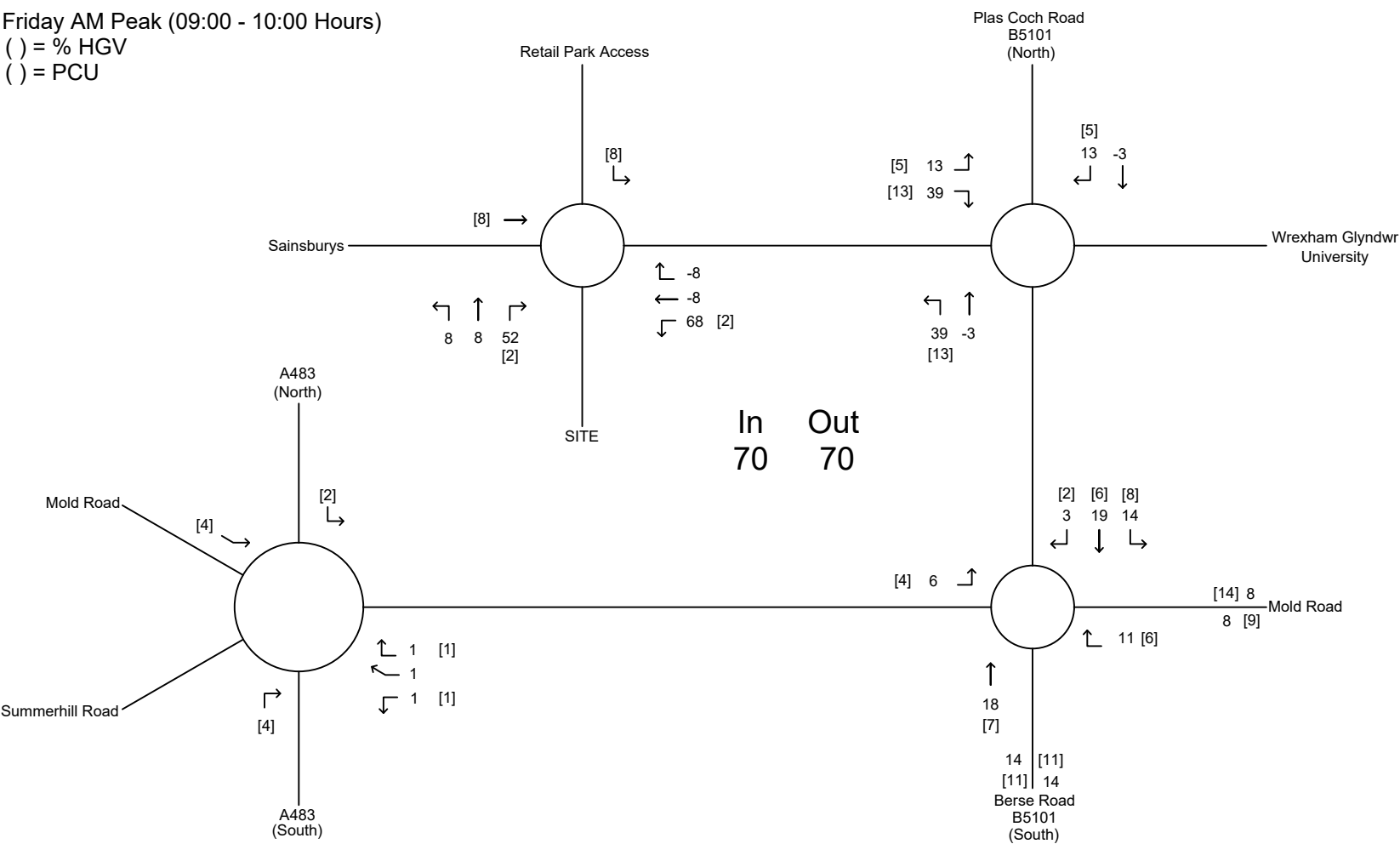


Saturday Peak (12:00 - 13:00 Hours)
() = % HGV
() = PCU



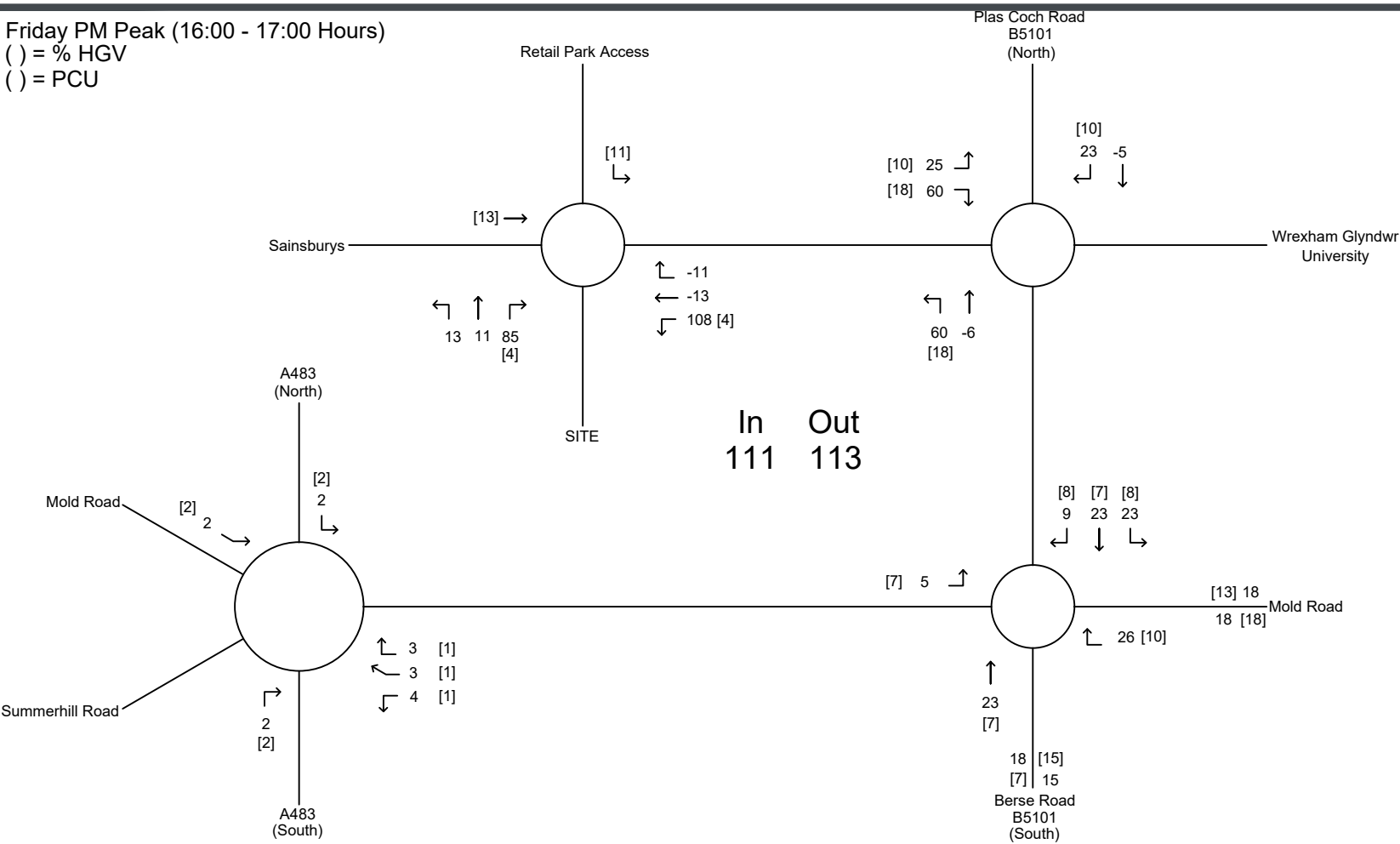
Friday AM Peak (09:00 - 10:00 Hours)

() = % HGV
() = PCU



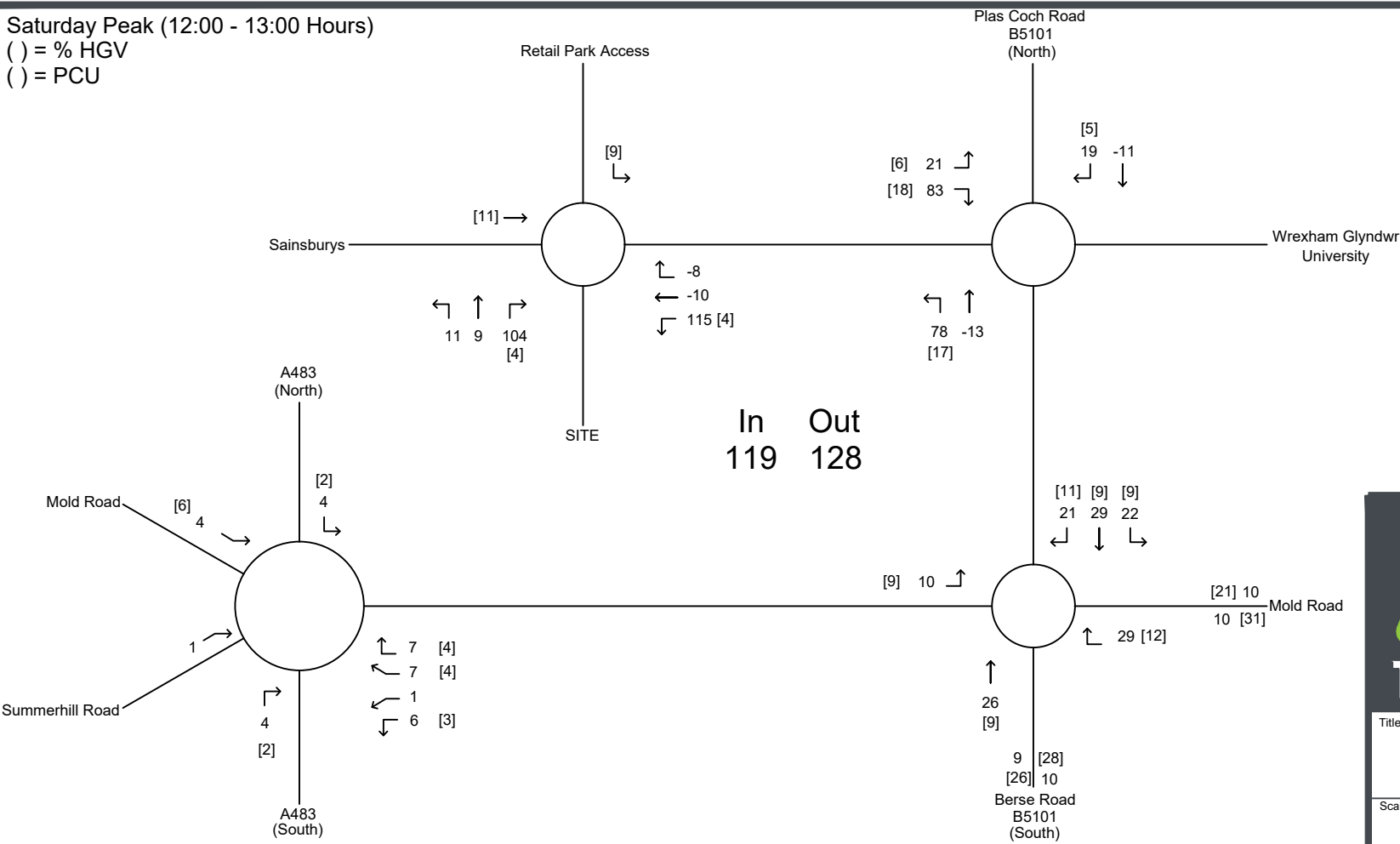
Friday PM Peak (16:00 - 17:00 Hours)

() = % HGV
() = PCU



Saturday Peak (12:00 - 13:00 Hours)

() = % HGV
() = PCU



Title	
McDONALD'S TOTAL TRIPS	
Scale	
NTS@A3	APPENDIX 4.9

() = % HGV

() = % HGV

$$() = \text{PCU}$$

() = % HGV

() = % HGV

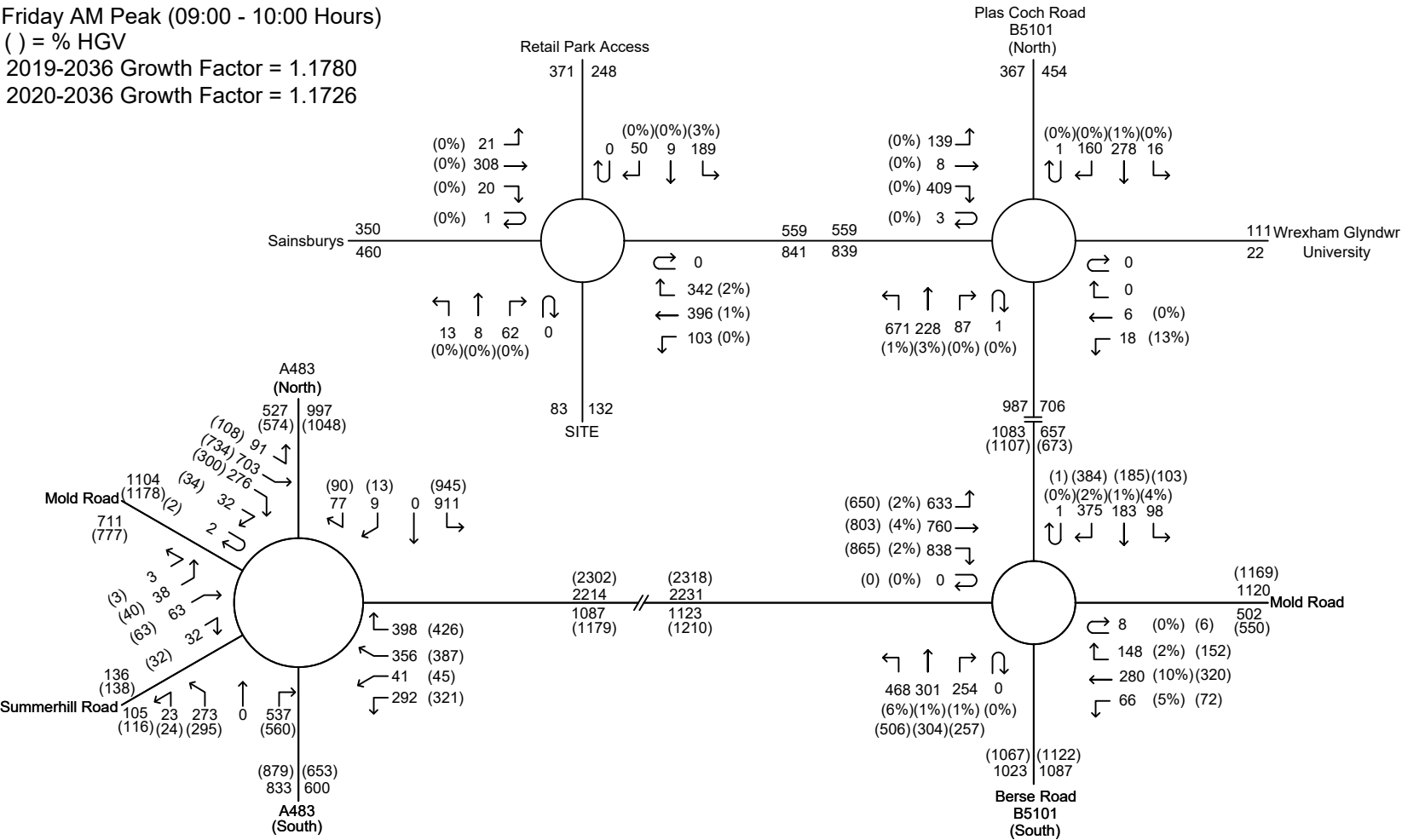
$$() = \text{PCU}$$

() = % HGV

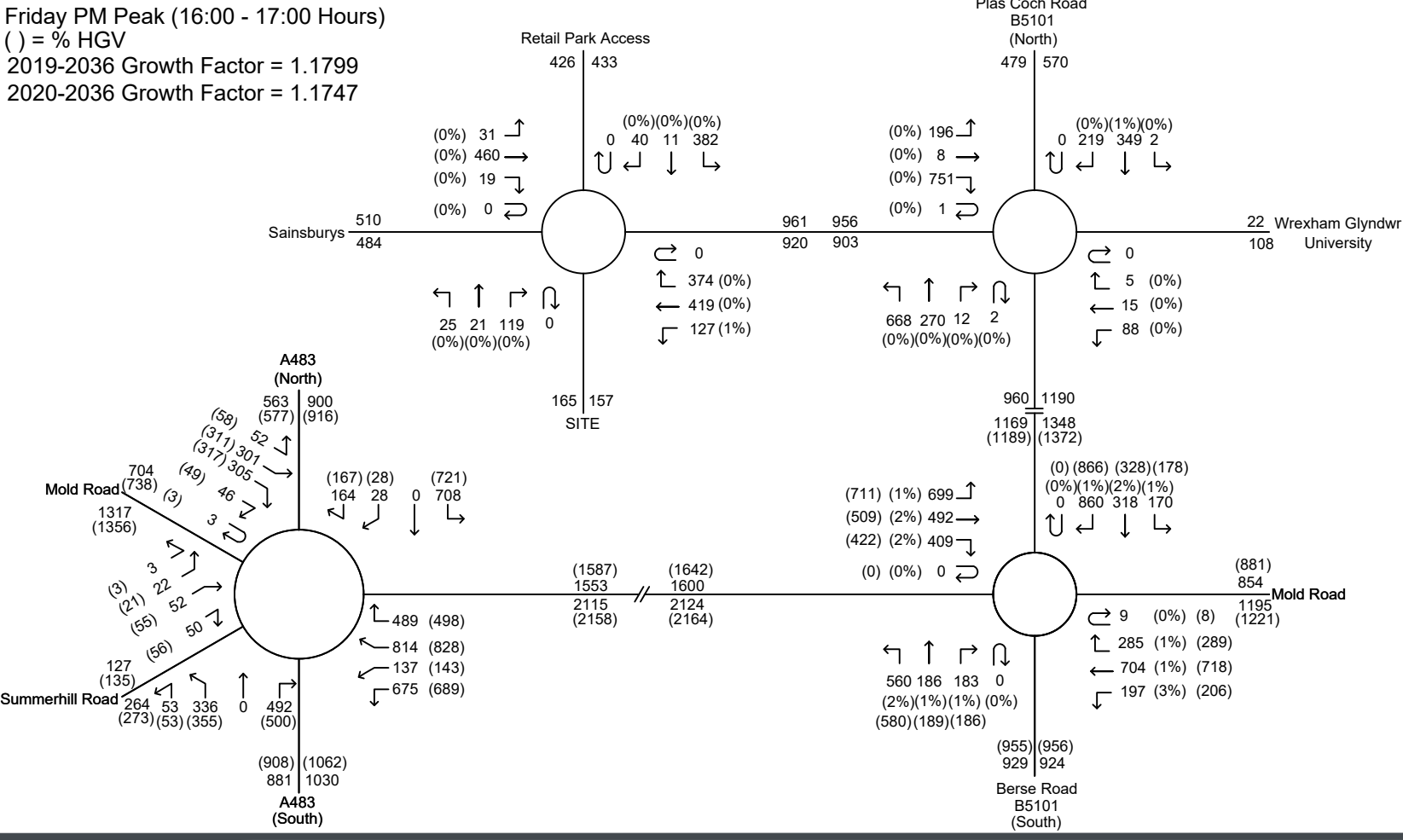
() = % HGV

() = PCU

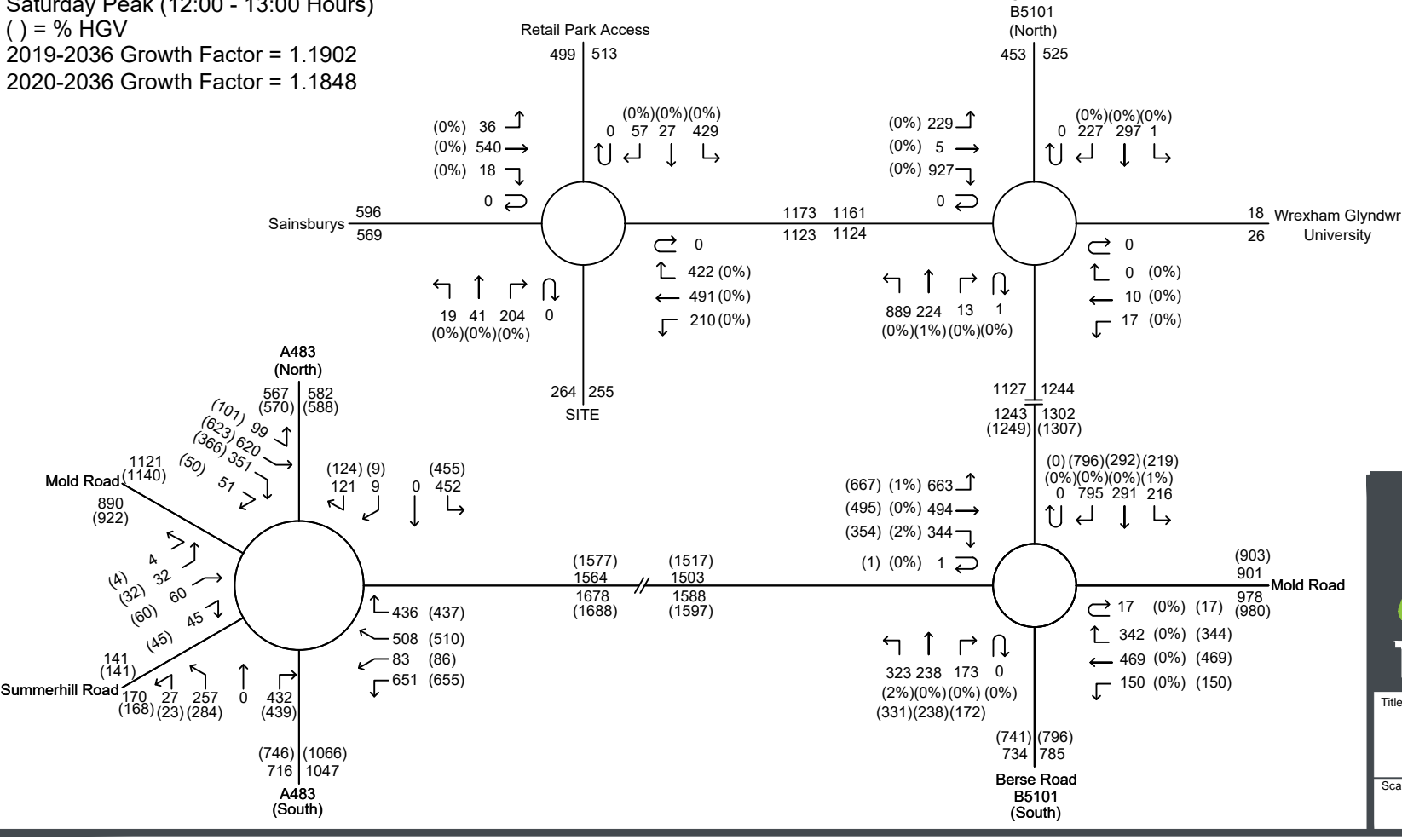
Friday AM Peak (09:00 - 10:00 Hours)
() = % HGV
2019-2036 Growth Factor = 1.1780
2020-2036 Growth Factor = 1.1726



Friday PM Peak (16:00 - 17:00 Hours)
() = % HGV
2019-2036 Growth Factor = 1.1799
2020-2036 Growth Factor = 1.1747



Saturday Peak (12:00 - 13:00 Hours)
() = % HGV
2019-2036 Growth Factor = 1.1902
2020-2036 Growth Factor = 1.1848





ADL
TRAFFIC & HIGHWAYS

Title

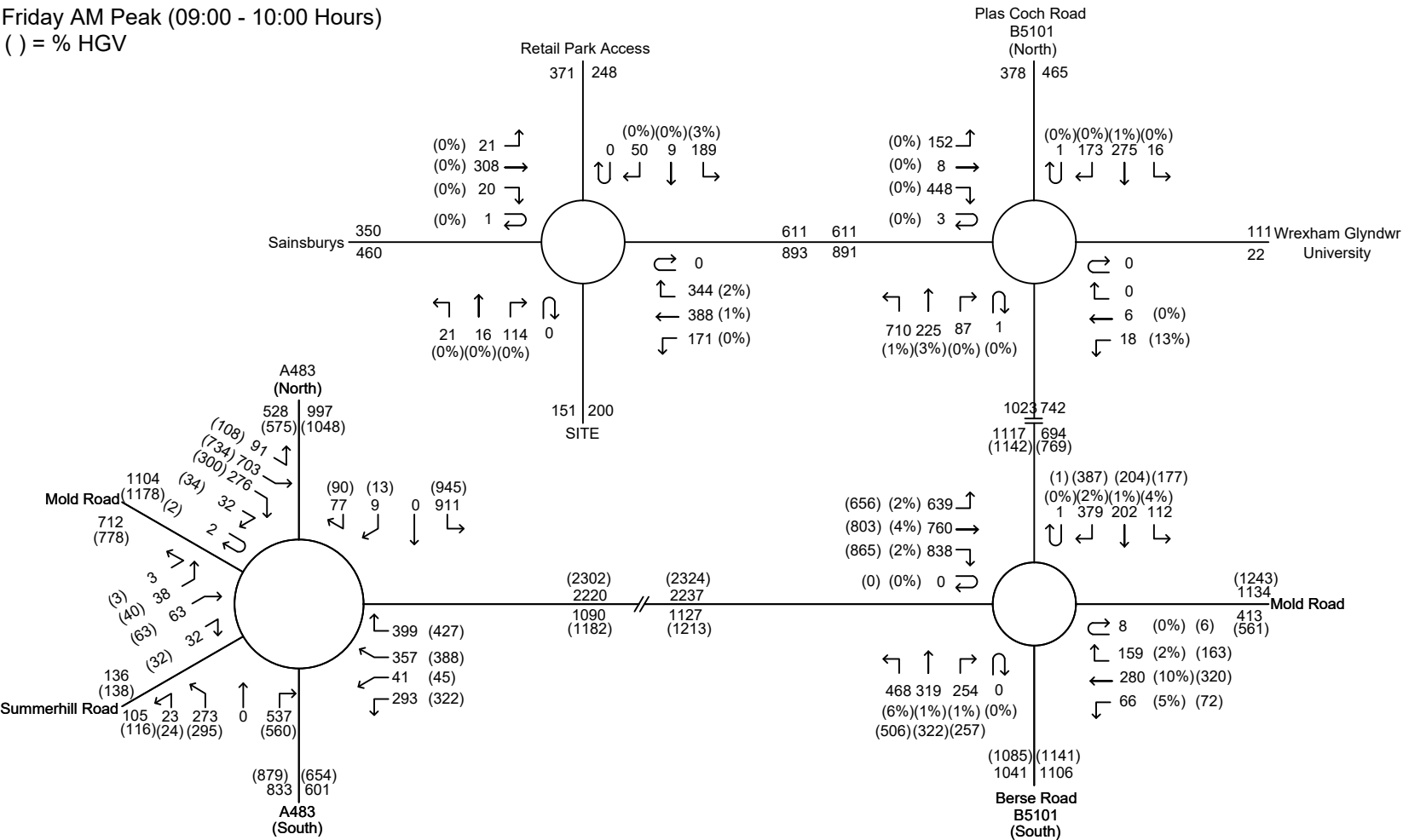
2036 BASE FLOWS
(TEMPO SENSITIVITY TEST)

Scale

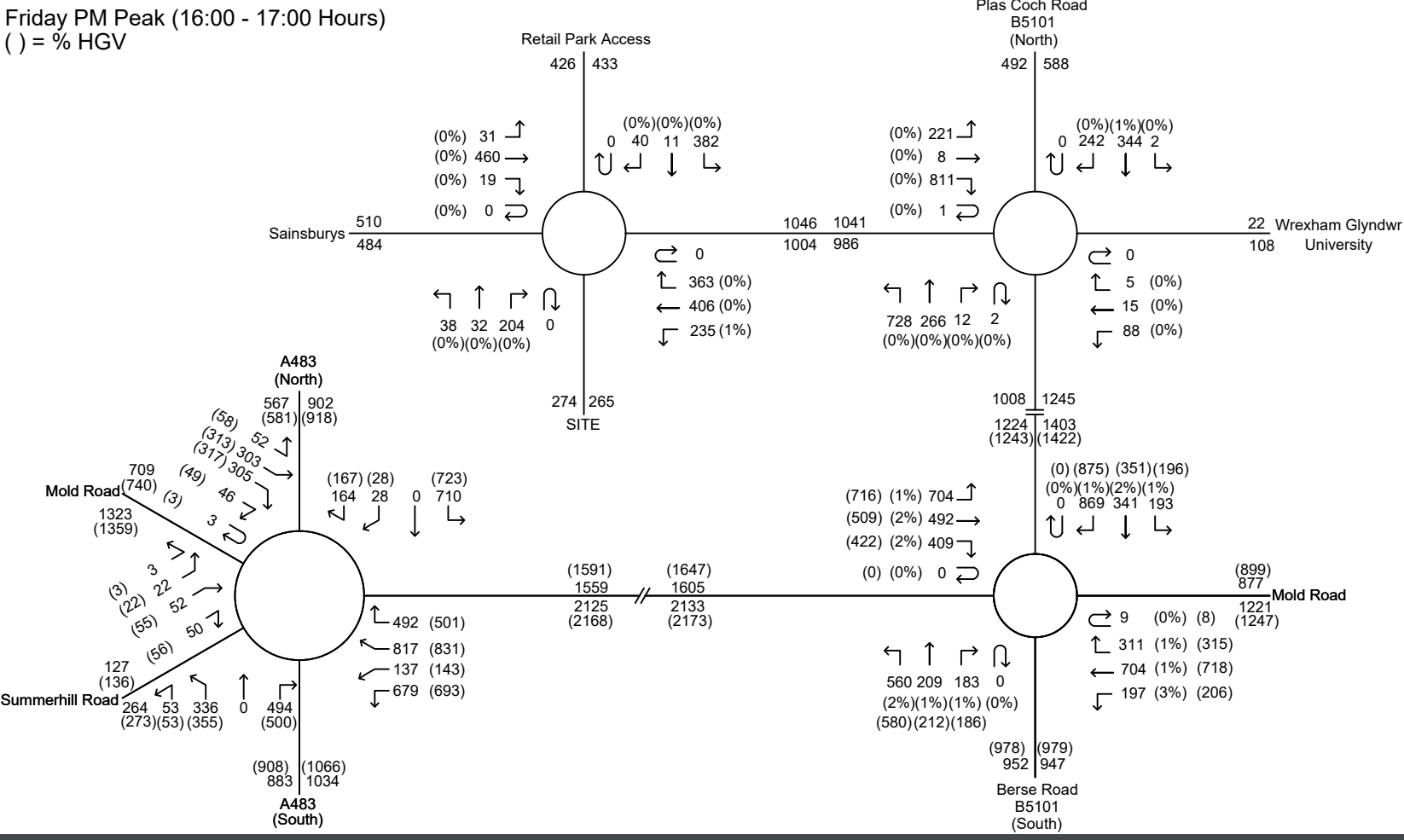
NTS@A3

APPENDIX 4.11

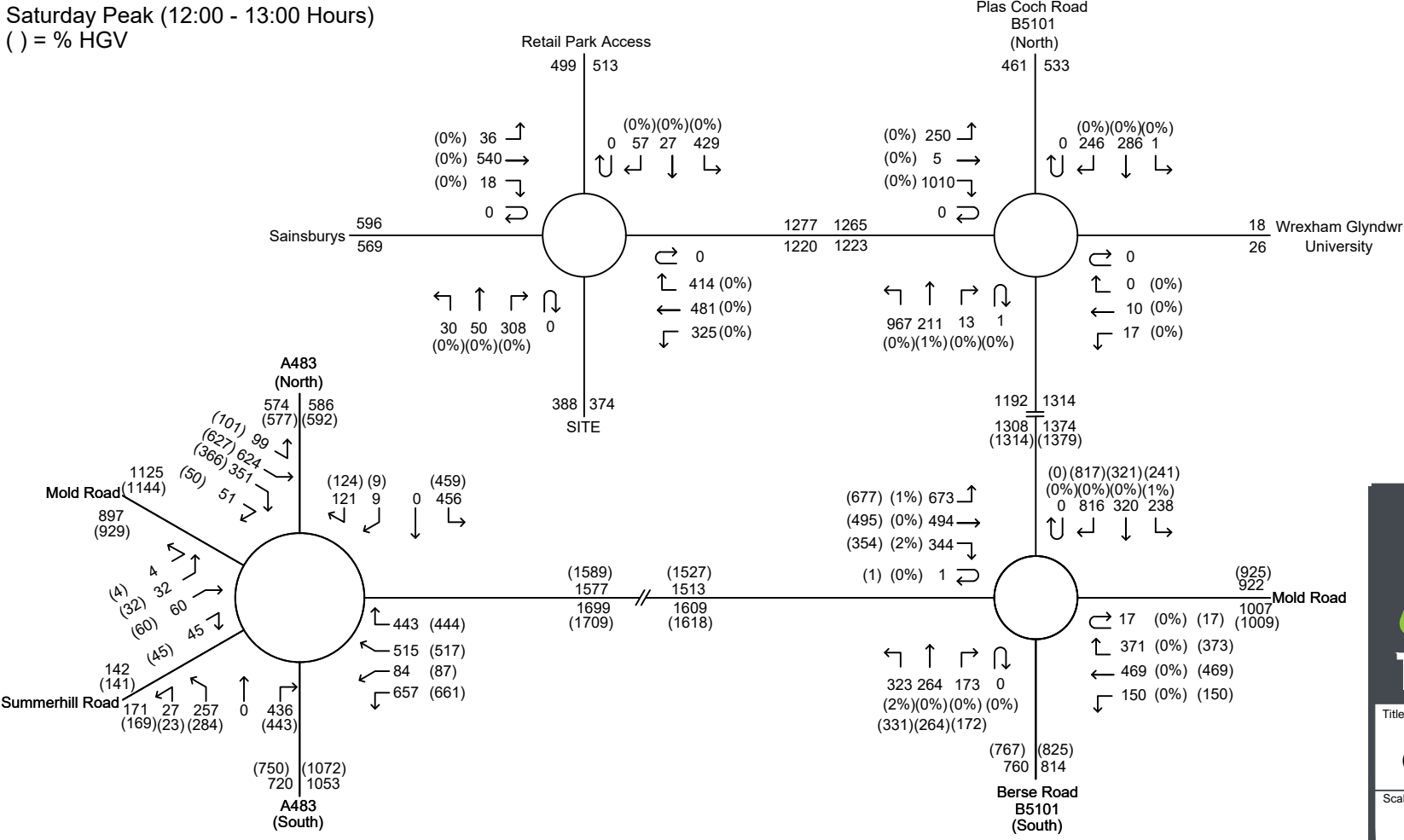
Friday AM Peak (09:00 - 10:00 Hours)
() = % HGV



Friday PM Peak (16:00 - 17:00 Hours)
() = % HGV



Saturday Peak (12:00 - 13:00 Hours)
() = % HGV





ADL
TRAFFIC & HIGHWAYS

Title

2036 TOTAL SENSITIVITY TEST
(2036 Tempro Base + McDonald's)

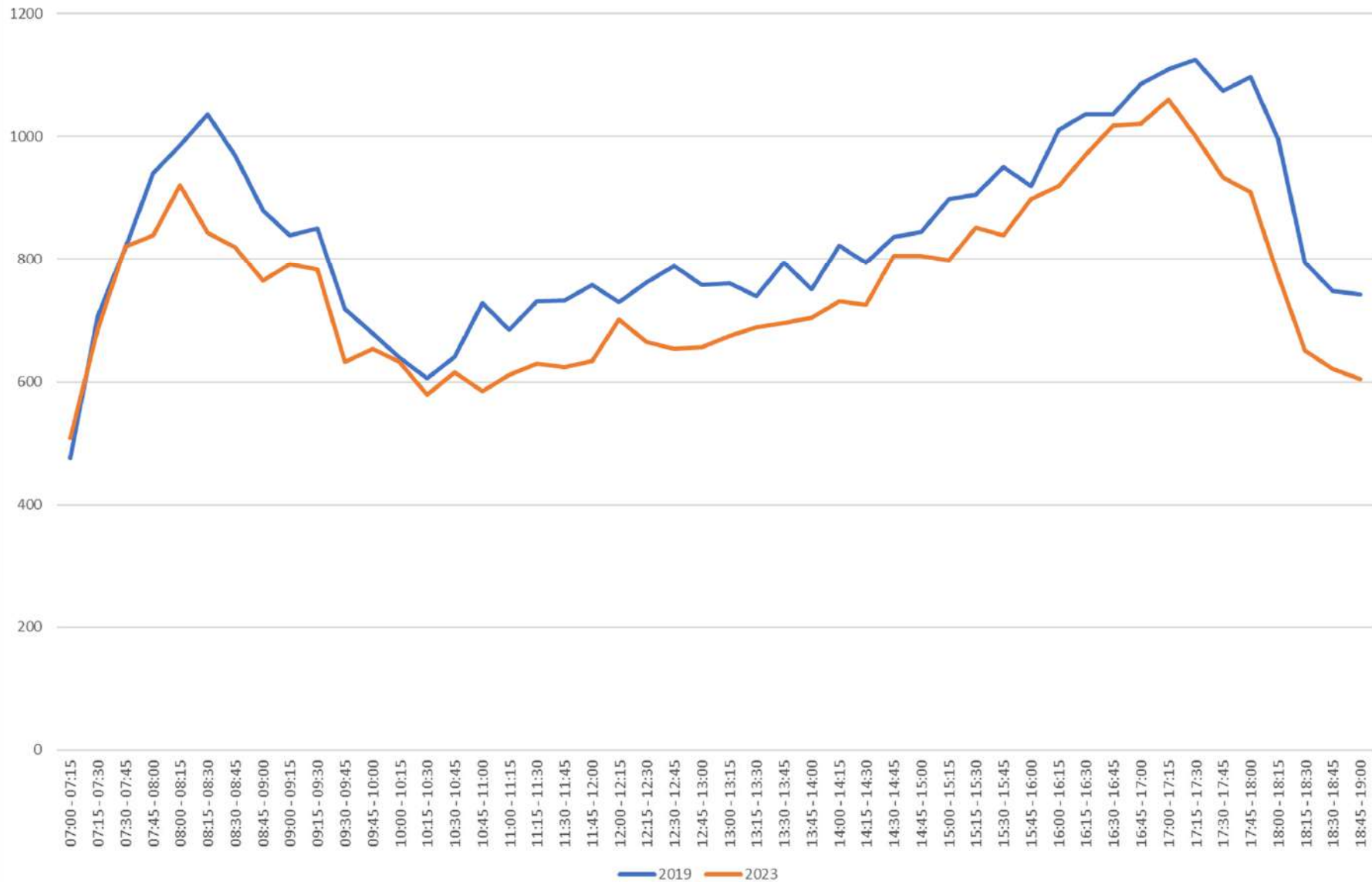
Scale

NTS@A3

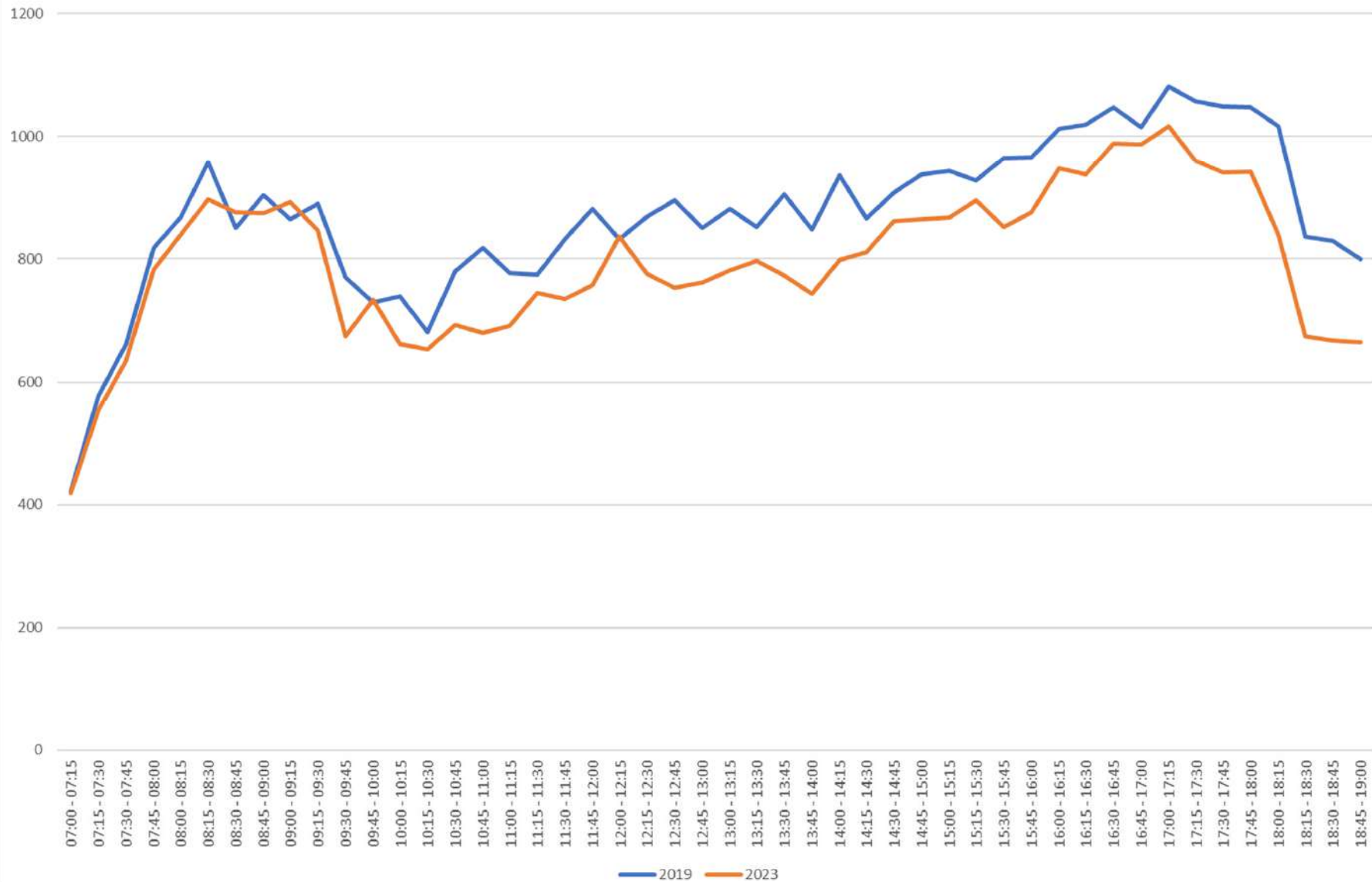
APPENDIX 4.12

COMPARISON OF 2023 AND 2019 TRAFFIC FLOWS

Comparison of Traffic Flows at J5 A483/A541 Mold Road - 2019 vs 2023



Comparison of Traffic Flows at Plas Coch Roundabout - 2019 vs 2023



COMMITTED DEVELOPMENT LOCATION PLAN



ADL

TRAFFIC & HIGHWAYS

Title		COMMITTED DEVELOPMENT LOCATION PLAN	
Scale		NTS@A4	APPENDIX 6.0

ARCADY MODELLING

7.1

Output Results: Retail Park Roundabout

7.2

Output Results: Plas Coch Road Roundabout

Junctions 10															
ARCADY 10 - Roundabout Module															
Version: 10.0.4.1693 © Copyright TRL Software Limited, 2021															
For sales and distribution information, program advice and maintenance, contact TRL Software: +44 (0)1344 379777 software@trl.co.uk trlsoftware.com															
The users of this computer program for the solution of an engineering problem are in no way relieved of their responsibility for the correctness of the solution															

Filename: Import of Retail Park Roundabout.j10

Path: E:\ADL\4171 Wrexham

Report generation date: 21/09/2023 17:21:30

»Surveyed, AM
 »Surveyed, PM
 »Surveyed, Saturday
 »2021 Base Plus Com (2021 Base + Non Resi), AM
 »2021 Base Plus Com (2021 Base + Non Resi), PM
 »2021 Base Plus Com (2021 Base + Non Resi), Saturday
 »2021 Total, AM
 »2021 Total, PM
 »2021 Total, Saturday
 »2036 Base (2021 Base + All Committed), AM
 »2036 Base (2021 Base + All Committed), PM
 »2036 Base (2021 Base + All Committed), Saturday
 »2036 Total, AM
 »2036 Total, PM
 »2036 Total, Saturday
 »2036 Base Sensitivity, AM
 »2036 Base Sensitivity, PM
 »2036 Base Sensitivity, Saturday
 »2036 Total Sensitivity, AM
 »2036 Total Sensitivity, PM
 »2036 Total Sensitivity, Saturday

Summary of junction performance

	AM							PM							Saturday									
	Set ID	Queue (Veh)	Delay (s)	RFC	LOS	Junction Delay (s)	Junction LOS	Network Residual Capacity	Set ID	Queue (Veh)	Delay (s)	RFC	LOS	Junction Delay (s)	Junction LOS	Network Residual Capacity	Set ID	Queue (Veh)	Delay (s)	RFC	LOS	Junction Delay (s)	Junction LOS	Network Residual Capacity
	Surveyed																							
Arm 1	D1	0.8	2.99	0.44	A	3.99	A	78 % [Arm 2]	D2	0.9	3.14	0.47	A	5.78	A	34 % [Arm 3]	D3	1.4	4.01	0.58	A	9.59	A	10 % [Arm 3]
Arm 2		0.2	6.50	0.14	A					0.4	8.12	0.29	A					1.1	14.34	0.54	B			
Arm 3		0.6	5.68	0.38	A					1.4	9.06	0.59	A					3.0	17.26	0.76	C			
Arm 4		0.3	4.21	0.24	A					0.9	6.67	0.47	A					1.6	10.47	0.62	B			
2021 Base Plus Com (2021 Base + Non Resi)																								
Arm 1	D4	0.8	3.06	0.45	A	4.09	A	74 % [Arm 2]	D5	0.9	3.22	0.48	A	6.00	A	31 % [Arm 3]	D6	1.5	4.25	0.60	A	10.84	B	7 % [Arm 3]
Arm 2		0.2	6.68	0.15	A					0.4	8.44	0.30	A					1.3	16.14	0.57	C			
Arm 3		0.6	5.82	0.38	A					1.5	9.47	0.60	A					3.5	20.01	0.79	C			
Arm 4		0.4	4.35	0.27	A					1.0	7.03	0.50	A					2.1	12.40	0.68	B			
2021 Total																								
Arm 1	D7	0.9	3.21	0.47	A	4.42	A	57 % [Arm 2]	D8	1.1	3.52	0.53	A	7.01	A	24 % [Arm 3]	D9	1.9	4.88	0.65	A	16.79	C	0 % [Arm 2]
Arm 2		0.3	7.60	0.26	A					0.9	11.20	0.48	B					4.0	35.55	0.81	E			
Arm 3		0.7	6.15	0.40	A					1.7	11.04	0.63	B					5.2	30.66	0.85	D			
Arm 4		0.4	4.54	0.27	A					1.1	7.89	0.53	A					2.7	16.08	0.74	C			
2036 Base (2021 Base + All Committed)																								
Arm 1	D10	0.8	3.06	0.45	A	4.09	A	74 % [Arm 2]	D11	0.9	3.22	0.48	A	6.00	A	31 % [Arm 3]	D12	1.5	4.25	0.60	A	10.84	B	7 % [Arm 3]
Arm 2		0.2	6.68	0.15	A					0.4	8.44	0.30	A					1.3	16.14	0.57	C			
Arm 3		0.6	5.82	0.38	A					1.5	9.47	0.60	A					3.5	20.01	0.79	C			
Arm 4		0.4	4.35	0.27	A					1.0	7.03	0.50	A					2.1	12.40	0.68	B			
2036 Total																								
Arm 1	D13	0.9	3.21	0.47	A	4.42	A	57 % [Arm 2]	D14	1.1	3.52	0.53	A	7.01	A	24 % [Arm 3]	D15	1.9	4.89	0.65	A	16.85	C	0 % [Arm 2]
Arm 2		0.3	7.60	0.26	A					0.9	11.20	0.48	B					4.0	35.75	0.82	E			
Arm 3		0.7	6.15	0.40	A					1.7	11.04	0.63	B					5.3	30.81	0.86	D			
Arm 4		0.4	4.54	0.27	A					1.1	7.89	0.53	A					2.7	16.07	0.74	C			
2036 Base Sensitivity																								
Arm 1	D16	0.8	2.99	0.44	A	3.99	A	78 % [Arm 2]	D17	0.9	3.14	0.47	A	5.78	A	34 % [Arm 3]	D18	1.4	4.01	0.58	A	9.59	A	10 % [Arm 3]
Arm 2		0.2	6.50	0.14	A					0.4	8.12	0.29	A					1.1	14.34	0.54	B			
Arm 3		0.6	5.68	0.38	A					1.4	9.06	0.59	A					3.0	17.26	0.76	C			
Arm 4		0.3	4.21	0.24	A					0.9	6.67	0.47	A					1.6	10.47	0.62	B			
2036 Total Sensitivity																								
Arm 1	D19	0.9	3.17	0.47	A	4.35	A	59 % [Arm 2]	D20	1.0	3.42	0.51	A	6.72	A	26 % [Arm 3]	D21	1.7	4.57	0.63	A	13.99	B	2 % [Arm 2]
Arm 2		0.3	7.46	0.26	A					0.9	10.65	0.47	B					3.2	28.20	0.77	D			
Arm 3		0.6	6.05	0.39	A					1.6	10.49	0.62	B					4.3	24.96	0.82	C			
Arm 4		0.3	4.39	0.25	A					1.0	7.45	0.50	A					2.0	13.03	0.67	B			

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

APPENDIX 7.1 OUTPUT RESULTS: RETAIL PARK ROUNDABOUT

File summary

File Description

Title	(untitled)
Location	
Site number	
Date	12/02/2020
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	ADLUKJunction
Description	

Units

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

Analysis Options

Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Show lane queues in feet / metres	Show all PICADY stream intercepts	Calculate residual capacity	Residual capacity criteria type	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)	Use iterations with HCM roundabouts	Max number of iterations for roundabouts
5.75					✓	Delay	0.85	36.00	20.00		500

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	Surveyed	AM	ONE HOUR	08:45	10:15	15	✓
D2	Surveyed	PM	ONE HOUR	15:45	17:15	15	✓
D3	Surveyed	Saturday	ONE HOUR	11:45	13:15	15	✓
D4	2021 Base Plus Com (2021 Base + Non Resi)	AM	ONE HOUR	08:45	10:15	15	✓
D5	2021 Base Plus Com (2021 Base + Non Resi)	PM	ONE HOUR	15:45	17:15	15	✓
D6	2021 Base Plus Com (2021 Base + Non Resi)	Saturday	ONE HOUR	11:45	13:15	15	✓
D7	2021 Total	AM	ONE HOUR	08:45	10:15	15	✓
D8	2021 Total	PM	ONE HOUR	15:45	17:15	15	✓
D9	2021 Total	Saturday	ONE HOUR	11:45	13:15	15	✓
D10	2036 Base (2021 Base + All Committed)	AM	ONE HOUR	08:45	10:15	15	✓
D11	2036 Base (2021 Base + All Committed)	PM	ONE HOUR	15:45	17:15	15	✓
D12	2036 Base (2021 Base + All Committed)	Saturday	ONE HOUR	11:45	13:15	15	✓
D13	2036 Total	AM	ONE HOUR	08:45	10:15	15	✓
D14	2036 Total	PM	ONE HOUR	15:45	17:15	15	✓
D15	2036 Total	Saturday	ONE HOUR	11:45	13:15	15	✓
D16	2036 Base Sensitivity	AM	ONE HOUR	08:45	10:15	15	✓
D17	2036 Base Sensitivity	PM	ONE HOUR	15:45	17:15	15	✓
D18	2036 Base Sensitivity	Saturday	ONE HOUR	11:45	13:15	15	✓
D19	2036 Total Sensitivity	AM	ONE HOUR	08:45	10:15	15	✓
D20	2036 Total Sensitivity	PM	ONE HOUR	15:45	17:15	15	✓
D21	2036 Total Sensitivity	Saturday	ONE HOUR	11:45	13:15	15	✓

Analysis Set Details

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

Surveyed, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Retail Park Rbt	Standard Roundabout		1, 2, 3, 4	3.99	A

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	78	Arm 2	3.99	A

Arms

Arms

Arm	Name	Description	No give-way line
1	Access Arm East		
2	Site Access		
3	Sainsburys Access		
4	Retail Park North		

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)	Entry only	Exit only
1	7.29	7.41	0.6	15.0	35.9	26.5		
2	3.53	3.53	0.0	24.0	35.9	15.5		
3	3.22	5.20	4.7	22.6	35.9	18.5		
4	3.11	6.29	8.2	19.7	35.9	21.5		

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercep (PCU/hr)
1	0.754	2222
2	0.553	1132
3	0.581	1287
4	0.601	1412

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	Surveyed	AM	ONE HOUR	08:45	10:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1		ONE HOUR	✓	841	100.000
2		ONE HOUR	✓	83	100.000
3		ONE HOUR	✓	350	100.000
4		ONE HOUR	✓	248	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1	2	3	4
From	1	0	103	396	342
	2	62	0	13	8
	3	308	20	1	21
	4	189	9	50	0

Vehicle Mix

Heavy Vehicle Percentages

To					

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

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1	0.44	2.99	0.8	A	772	1158
2	0.14	6.50	0.2	A	76	114
3	0.38	5.68	0.6	A	321	482
4	0.24	4.21	0.3	A	228	341

Main Results for each time segment

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	633	158	60	2149	0.295	631	419	0.0	0.4	2.370	A
2	62	16	592	800	0.078	62	99	0.0	0.1	4.877	A
3	263	66	309	1105	0.239	262	345	0.0	0.3	4.267	A
4	187	47	293	1208	0.155	186	279	0.0	0.2	3.520	A

09:00 - 09:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	756	189	72	2140	0.353	756	502	0.4	0.5	2.600	A
2	75	19	709	735	0.102	75	119	0.1	0.1	5.453	A
3	315	79	370	1069	0.294	314	413	0.3	0.4	4.769	A
4	223	56	351	1174	0.190	223	333	0.2	0.2	3.784	A

09:15 - 09:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	926	231	88	2128	0.435	925	614	0.5	0.8	2.991	A
2	91	23	868	645	0.142	91	145	0.1	0.2	6.493	A
3	385	96	453	1020	0.378	385	506	0.4	0.6	5.659	A
4	273	68	430	1128	0.242	273	408	0.2	0.3	4.207	A

09:30 - 09:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	926	231	88	2128	0.435	926	615	0.8	0.8	2.994	A
2	91	23	869	645	0.142	91	145	0.2	0.2	6.501	A
3	385	96	454	1020	0.378	385	506	0.6	0.6	5.675	A
4	273	68	430	1127	0.242	273	408	0.3	0.3	4.213	A

09:45 - 10:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	756	189	72	2140	0.353	757	504	0.8	0.5	2.606	A
2	75	19	710	734	0.102	75	119	0.2	0.1	5.465	A
3	315	79	371	1068	0.295	315	414	0.6	0.4	4.787	A
4	223	56	352	1173	0.190	223	334	0.3	0.2	3.789	A

10:00 - 10:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	633	158	60	2149	0.295	634	421	0.5	0.4	2.376	A
2	62	16	594	799	0.078	63	99	0.1	0.1	4.890	A
3	263	66	310	1104	0.239	264	347	0.4	0.3	4.288	A
4	187	47	295	1207	0.155	187	280	0.2	0.2	3.528	A

Surveyed, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Retail Park Rbt	Standard Roundabout		1, 2, 3, 4	5.78	A

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	34	Arm 3	5.78	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D2	Surveyed	PM	ONE HOUR	15:45	17:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1		ONE HOUR	✓	920	100.000
2		ONE HOUR	✓	165	100.000
3		ONE HOUR	✓	510	100.000
4		ONE HOUR	✓	433	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1	2	3	4
From	1	0	127	419	374
	2	119	0	25	21
	3	460	19	0	31
	4	382	11	40	0

Vehicle Mix

Heavy Vehicle Percentages

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

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1	0.47	3.14	0.9	A	844	1266
2	0.29	8.12	0.4	A	151	227
3	0.59	9.06	1.4	A	468	702
4	0.47	6.67	0.9	A	397	596

Main Results for each time segment

15:45 - 16:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	693	173	52	2179	0.318	691	720	0.0	0.5	2.415	A
2	124	31	625	786	0.158	123	118	0.0	0.2	5.427	A
3	384	96	386	1063	0.361	382	363	0.0	0.6	5.264	A

4	326	81	448	1143	0.285	324	320	0.0	0.4	4.391	A
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16:00 - 16:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	827	207	63	2171	0.381	826	862	0.5	0.6	2.675	A
2	148	37	748	718	0.207	148	141	0.2	0.3	6.311	A
3	458	115	462	1019	0.450	457	435	0.6	0.8	6.396	A
4	389	97	536	1089	0.357	389	383	0.4	0.6	5.132	A

16:15 - 16:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	1013	253	77	2161	0.469	1012	1054	0.6	0.9	3.130	A
2	182	45	916	625	0.291	181	173	0.3	0.4	8.093	A
3	562	140	565	959	0.585	559	532	0.8	1.4	8.948	A
4	477	119	656	1018	0.468	475	468	0.6	0.9	6.621	A

16:30 - 16:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	1013	253	77	2161	0.469	1013	1058	0.9	0.9	3.135	A
2	182	45	917	625	0.291	182	173	0.4	0.4	8.124	A
3	562	140	566	959	0.586	561	533	1.4	1.4	9.057	A
4	477	119	658	1016	0.469	477	469	0.9	0.9	6.671	A

16:45 - 17:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	827	207	63	2171	0.381	828	867	0.9	0.6	2.682	A
2	148	37	750	717	0.207	149	141	0.4	0.3	6.341	A
3	458	115	463	1018	0.450	461	436	1.4	0.8	6.482	A
4	389	97	540	1087	0.358	391	384	0.9	0.6	5.177	A

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	693	173	53	2179	0.318	693	725	0.6	0.5	2.423	A
2	124	31	628	785	0.158	125	118	0.3	0.2	5.455	A
3	384	96	387	1062	0.361	385	365	0.8	0.6	5.322	A
4	326	81	451	1141	0.286	327	321	0.6	0.4	4.425	A

Surveyed, Saturday

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Retail Park Rbt	Standard Roundabout		1, 2, 3, 4	9.59	A

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	10	Arm 3	9.59	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D3	Surveyed	Saturday	ONE HOUR	11:45	13:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1		ONE HOUR	✓	1123	100.000
2		ONE HOUR	✓	264	100.000
3		ONE HOUR	✓	594	100.000
4		ONE HOUR	✓	513	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1	2	3	4
From	1	0	210	491	422
	2	204	0	19	41
	3	540	18	0	36
	4	429	27	57	0

Vehicle Mix

Heavy Vehicle Percentages

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

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1	0.58	4.01	1.4	A	1030	1546
2	0.54	14.34	1.1	B	242	363
3	0.76	17.26	3.0	C	545	818
4	0.62	10.47	1.6	B	471	706

Main Results for each time segment

11:45 - 12:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	845	211	76	2160	0.391	843	877	0.0	0.6	2.729	A
2	199	50	728	729	0.272	197	191	0.0	0.4	6.745	A
3	447	112	500	997	0.449	444	425	0.0	0.8	6.471	A

4	386	97	570	1070	0.361	384	374	0.0	0.6	5.234	A
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12:00 - 12:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	1010	252	91	2149	0.470	1009	1051	0.6	0.9	3.154	A
2	237	59	871	650	0.365	237	229	0.4	0.6	8.685	A
3	534	133	599	940	0.568	532	509	0.8	1.3	8.786	A
4	461	115	683	1002	0.460	460	448	0.6	0.8	6.633	A

12:15 - 12:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	1236	309	112	2134	0.580	1235	1281	0.9	1.4	3.995	A
2	291	73	1066	542	0.536	288	280	0.6	1.1	14.055	B
3	654	164	732	863	0.758	647	623	1.3	2.9	16.262	C
4	565	141	831	913	0.619	562	548	0.8	1.6	10.181	B

12:30 - 12:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	1236	309	112	2133	0.580	1236	1291	1.4	1.4	4.014	A
2	291	73	1068	541	0.537	291	281	1.1	1.1	14.342	B
3	654	164	734	861	0.760	654	624	2.9	3.0	17.259	C
4	565	141	838	908	0.622	565	549	1.6	1.6	10.472	B

12:45 - 13:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	1010	252	92	2148	0.470	1011	1065	1.4	0.9	3.174	A
2	237	59	874	649	0.366	240	230	1.1	0.6	8.844	A
3	534	133	602	938	0.570	541	511	3.0	1.4	9.219	A
4	461	115	693	995	0.463	464	450	1.6	0.9	6.814	A

13:00 - 13:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	845	211	77	2160	0.391	846	887	0.9	0.6	2.745	A
2	199	50	731	728	0.273	200	192	0.6	0.4	6.827	A
3	447	112	503	995	0.449	449	427	1.4	0.8	6.623	A
4	386	97	576	1066	0.362	387	376	0.9	0.6	5.319	A

2021 Base Plus Com (2021 Base + Non Resi), AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Retail Park Rbt	Standard Roundabout		1, 2, 3, 4	4.09	A

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	74	Arm 2	4.09	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D4	2021 Base Plus Com (2021 Base + Non Resi)	AM	ONE HOUR	08:45	10:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1		ONE HOUR	✓	865	100.000
2		ONE HOUR	✓	83	100.000
3		ONE HOUR	✓	350	100.000
4		ONE HOUR	✓	272	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1	2	3	4
From	1	0	103	396	366
	2	62	0	13	8
	3	308	20	1	21
	4	213	9	50	0

Vehicle Mix

Heavy Vehicle Percentages

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

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1	0.45	3.06	0.8	A	794	1191
2	0.15	6.68	0.2	A	76	114
3	0.38	5.82	0.6	A	321	482
4	0.27	4.35	0.4	A	250	374

Main Results for each time segment

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	651	163	60	2149	0.303	649	437	0.0	0.4	2.400	A
2	62	16	610	790	0.079	62	99	0.0	0.1	4.945	A
3	263	66	327	1094	0.241	262	345	0.0	0.3	4.321	A

4	205	51	293	1207	0.170	204	297	0.0	0.2	3.584	A
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09:00 - 09:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	778	194	72	2140	0.363	777	523	0.4	0.6	2.640	A
2	75	19	730	723	0.103	74	119	0.1	0.1	5.555	A
3	315	79	392	1056	0.298	314	413	0.3	0.4	4.851	A
4	245	61	351	1173	0.208	244	355	0.2	0.3	3.874	A

09:15 - 09:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	952	238	88	2128	0.448	951	641	0.6	0.8	3.057	A
2	91	23	894	631	0.145	91	145	0.1	0.2	6.670	A
3	385	96	479	1004	0.384	385	506	0.4	0.6	5.802	A
4	299	75	430	1127	0.266	299	434	0.3	0.4	4.345	A

09:30 - 09:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	952	238	88	2128	0.448	952	642	0.8	0.8	3.062	A
2	91	23	895	630	0.145	91	145	0.2	0.2	6.681	A
3	385	96	480	1004	0.384	385	506	0.6	0.6	5.819	A
4	299	75	430	1127	0.266	299	435	0.4	0.4	4.351	A

09:45 - 10:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	778	194	72	2140	0.363	779	525	0.8	0.6	2.648	A
2	75	19	732	722	0.103	75	119	0.2	0.1	5.566	A
3	315	79	393	1056	0.298	315	414	0.6	0.4	4.868	A
4	245	61	352	1173	0.209	245	356	0.4	0.3	3.883	A

10:00 - 10:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	651	163	60	2148	0.303	652	440	0.6	0.4	2.406	A
2	62	16	613	789	0.079	63	99	0.1	0.1	4.961	A
3	263	66	329	1093	0.241	264	347	0.4	0.3	4.342	A
4	205	51	295	1206	0.170	205	298	0.3	0.2	3.595	A

2021 Base Plus Com (2021 Base + Non Resi), PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Retail Park Rbt	Standard Roundabout		1, 2, 3, 4	6.00	A

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	31	Arm 3	6.00	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D5	2021 Base Plus Com (2021 Base + Non Resi)	PM	ONE HOUR	15:45	17:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1		ONE HOUR	✓	947	100.000
2		ONE HOUR	✓	165	100.000
3		ONE HOUR	✓	510	100.000
4		ONE HOUR	✓	458	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1	2	3	4
From	1	0	127	419	401
	2	119	0	25	21
	3	460	19	0	31
	4	407	11	40	0

Vehicle Mix

Heavy Vehicle Percentages

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

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1	0.48	3.22	0.9	A	869	1303
2	0.30	8.44	0.4	A	151	227
3	0.60	9.47	1.5	A	468	702
4	0.50	7.03	1.0	A	420	630

Main Results for each time segment

15:45 - 16:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	713	178	52	2179	0.327	711	738	0.0	0.5	2.448	A
2	124	31	646	775	0.160	123	118	0.0	0.2	5.520	A
3	384	96	406	1052	0.365	382	363	0.0	0.6	5.355	A

4	345	86	448	1143	0.302	343	340	0.0	0.4	4.492	A
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16:00 - 16:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	851	213	63	2171	0.392	851	885	0.5	0.6	2.724	A
2	148	37	773	705	0.210	148	141	0.2	0.3	6.463	A
3	458	115	486	1005	0.456	457	435	0.6	0.8	6.560	A
4	412	103	536	1090	0.378	411	407	0.4	0.6	5.300	A

16:15 - 16:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	1043	261	77	2161	0.483	1042	1082	0.6	0.9	3.213	A
2	182	45	946	609	0.298	181	173	0.3	0.4	8.402	A
3	562	140	595	942	0.596	559	532	0.8	1.4	9.340	A
4	504	126	656	1018	0.495	503	498	0.6	1.0	6.969	A

16:30 - 16:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	1043	261	77	2161	0.483	1043	1085	0.9	0.9	3.219	A
2	182	45	947	608	0.299	182	173	0.4	0.4	8.437	A
3	562	140	596	941	0.596	561	533	1.4	1.5	9.469	A
4	504	126	658	1016	0.496	504	499	1.0	1.0	7.030	A

16:45 - 17:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	851	213	63	2171	0.392	852	890	0.9	0.6	2.733	A
2	148	37	774	704	0.211	149	141	0.4	0.3	6.496	A
3	458	115	487	1004	0.457	461	436	1.5	0.9	6.655	A
4	412	103	540	1087	0.379	413	408	1.0	0.6	5.354	A

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	713	178	53	2179	0.327	714	744	0.6	0.5	2.457	A
2	124	31	648	774	0.161	125	118	0.3	0.2	5.550	A
3	384	96	408	1051	0.366	385	365	0.9	0.6	5.420	A
4	345	86	451	1141	0.302	346	341	0.6	0.4	4.531	A

2021 Base Plus Com (2021 Base + Non Resi), Saturday

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Retail Park Rbt	Standard Roundabout		1, 2, 3, 4	10.84	B

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	7	Arm 3	10.84	B

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D6	2021 Base Plus Com (2021 Base + Non Resi)	Saturday	ONE HOUR	11:45	13:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1		ONE HOUR	✓	1169	100.000
2		ONE HOUR	✓	264	100.000
3		ONE HOUR	✓	594	100.000
4		ONE HOUR	✓	562	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1	2	3	4
From	1	0	210	491	468
	2	204	0	19	41
	3	540	18	0	36
	4	478	27	57	0

Vehicle Mix

Heavy Vehicle Percentages

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

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1	0.60	4.25	1.5	A	1073	1609
2	0.57	16.14	1.3	C	242	363
3	0.79	20.01	3.5	C	545	818
4	0.68	12.40	2.1	B	516	774

Main Results for each time segment

11:45 - 12:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	880	220	76	2160	0.407	877	914	0.0	0.7	2.800	A
2	199	50	762	710	0.280	197	191	0.0	0.4	6.994	A
3	447	112	534	977	0.458	444	425	0.0	0.8	6.710	A

4	423	106	569	1070	0.396	421	409	0.0	0.6	5.523	A
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12:00 - 12:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	1051	263	91	2149	0.489	1050	1095	0.7	1.0	3.272	A
2	237	59	912	627	0.378	236	229	0.4	0.6	9.188	A
3	534	133	640	916	0.583	532	509	0.8	1.4	9.322	A
4	505	126	682	1002	0.504	504	489	0.6	1.0	7.208	A

12:15 - 12:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	1287	322	111	2134	0.603	1285	1333	1.0	1.5	4.229	A
2	291	73	1116	515	0.565	288	280	0.6	1.2	15.717	C
3	654	164	782	833	0.785	646	623	1.4	3.3	18.488	C
4	619	155	830	913	0.677	615	598	1.0	2.0	11.889	B

12:30 - 12:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	1287	322	112	2133	0.603	1287	1345	1.5	1.5	4.254	A
2	291	73	1119	513	0.566	291	281	1.2	1.3	16.138	C
3	654	164	785	832	0.786	653	624	3.3	3.5	20.015	C
4	619	155	838	908	0.681	619	600	2.0	2.1	12.400	B

12:45 - 13:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	1051	263	93	2148	0.489	1053	1112	1.5	1.0	3.293	A
2	237	59	916	626	0.379	240	230	1.3	0.6	9.395	A
3	534	133	644	913	0.585	542	511	3.5	1.4	9.907	A
4	505	126	695	994	0.508	509	492	2.1	1.0	7.483	A

13:00 - 13:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	880	220	77	2160	0.408	881	924	1.0	0.7	2.819	A
2	199	50	766	708	0.281	200	192	0.6	0.4	7.090	A
3	447	112	538	975	0.459	450	428	1.4	0.9	6.881	A
4	423	106	577	1065	0.397	425	411	1.0	0.7	5.633	A

2021 Total, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Retail Park Rbt	Standard Roundabout		1, 2, 3, 4	4.42	A

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	57	Arm 2	4.42	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D7	2021 Total	AM	ONE HOUR	08:45	10:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1		ONE HOUR	✓	917	100.000
2		ONE HOUR	✓	151	100.000
3		ONE HOUR	✓	350	100.000
4		ONE HOUR	✓	272	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1	2	3	4
From	1	0	171	388	358
	2	114	0	21	16
	3	308	20	1	21
	4	213	9	50	0

Vehicle Mix

Heavy Vehicle Percentages

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

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1	0.47	3.21	0.9	A	841	1262
2	0.26	7.60	0.3	A	139	208
3	0.40	6.15	0.7	A	321	482
4	0.27	4.54	0.4	A	250	374

Main Results for each time segment

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	690	173	60	2151	0.321	688	476	0.0	0.5	2.459	A
2	114	28	598	797	0.143	113	150	0.0	0.2	5.263	A
3	263	66	366	1072	0.246	262	345	0.0	0.3	4.440	A

4	205	51	332	1185	0.173	204	296	0.0	0.2	3.667	A
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09:00 - 09:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	824	206	72	2142	0.385	824	570	0.5	0.6	2.729	A
2	136	34	716	731	0.186	136	180	0.2	0.2	6.046	A
3	315	79	438	1029	0.306	314	413	0.3	0.4	5.032	A
4	245	61	398	1146	0.213	244	355	0.2	0.3	3.991	A

09:15 - 09:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	1010	252	88	2130	0.474	1009	698	0.6	0.9	3.208	A
2	166	42	877	641	0.260	166	220	0.2	0.3	7.574	A
3	385	96	536	971	0.397	385	506	0.4	0.7	6.127	A
4	299	75	487	1094	0.274	299	434	0.3	0.4	4.528	A

09:30 - 09:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	1010	252	88	2130	0.474	1010	699	0.9	0.9	3.213	A
2	166	42	878	640	0.260	166	220	0.3	0.3	7.598	A
3	385	96	537	971	0.397	385	506	0.7	0.7	6.148	A
4	299	75	488	1093	0.274	299	435	0.4	0.4	4.535	A

09:45 - 10:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	824	206	72	2142	0.385	825	572	0.9	0.6	2.738	A
2	136	34	717	730	0.186	136	180	0.3	0.2	6.069	A
3	315	79	440	1028	0.306	315	414	0.7	0.4	5.057	A
4	245	61	399	1145	0.214	245	356	0.4	0.3	4.001	A

10:00 - 10:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	690	173	60	2150	0.321	691	479	0.6	0.5	2.467	A
2	114	28	601	795	0.143	114	151	0.2	0.2	5.286	A
3	263	66	368	1071	0.246	264	347	0.4	0.3	4.467	A
4	205	51	334	1183	0.173	205	298	0.3	0.2	3.683	A

2021 Total, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Retail Park Rbt	Standard Roundabout		1, 2, 3, 4	7.01	A

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	24	Arm 3	7.01	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D8	2021 Total	PM	ONE HOUR	15:45	17:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1		ONE HOUR	✓	1031	100.000
2		ONE HOUR	✓	274	100.000
3		ONE HOUR	✓	510	100.000
4		ONE HOUR	✓	458	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1	2	3	4
From	1	0	235	406	390
	2	204	0	38	32
	3	460	19	0	31
	4	407	11	40	0

Vehicle Mix

Heavy Vehicle Percentages

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

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1	0.53	3.52	1.1	A	946	1419
2	0.48	11.20	0.9	B	251	377
3	0.63	11.04	1.7	B	468	702
4	0.53	7.89	1.1	A	420	630

Main Results for each time segment

15:45 - 16:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	776	194	52	2177	0.357	774	801	0.0	0.6	2.557	A
2	206	52	628	785	0.263	205	199	0.0	0.4	6.190	A
3	384	96	469	1015	0.378	382	363	0.0	0.6	5.663	A

4	345	86	511	1105	0.312	343	340	0.0	0.5	4.718	A
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16:00 - 16:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	927	232	63	2169	0.427	926	961	0.6	0.7	2.894	A
2	246	62	751	717	0.344	246	238	0.4	0.5	7.630	A
3	458	115	562	961	0.477	457	435	0.6	0.9	7.128	A
4	412	103	612	1044	0.394	411	407	0.5	0.6	5.680	A

16:15 - 16:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	1135	284	77	2159	0.526	1134	1174	0.7	1.1	3.507	A
2	302	75	919	624	0.484	300	291	0.5	0.9	11.071	B
3	562	140	687	888	0.632	558	532	0.9	1.7	10.816	B
4	504	126	748	962	0.524	503	498	0.6	1.1	7.796	A

16:30 - 16:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	1135	284	77	2159	0.526	1135	1179	1.1	1.1	3.516	A
2	302	75	920	623	0.484	302	292	0.9	0.9	11.200	B
3	562	140	689	887	0.633	561	533	1.7	1.7	11.042	B
4	504	126	752	960	0.525	504	499	1.1	1.1	7.893	A

16:45 - 17:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	927	232	63	2169	0.427	928	968	1.1	0.8	2.906	A
2	246	62	753	716	0.344	248	239	0.9	0.5	7.721	A
3	458	115	565	959	0.478	462	436	1.7	0.9	7.276	A
4	412	103	618	1040	0.396	413	408	1.1	0.7	5.756	A

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	776	194	53	2177	0.357	777	809	0.8	0.6	2.574	A
2	206	52	630	784	0.263	207	200	0.5	0.4	6.252	A
3	384	96	472	1013	0.379	385	365	0.9	0.6	5.746	A
4	345	86	516	1102	0.313	346	341	0.7	0.5	4.765	A

2021 Total, Saturday

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Retail Park Rbt	Standard Roundabout		1, 2, 3, 4	16.79	C

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	0	Arm 2	16.79	C

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D9	2021 Total	Saturday	ONE HOUR	11:45	13:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1		ONE HOUR	✓	1266	100.000
2		ONE HOUR	✓	388	100.000
3		ONE HOUR	✓	594	100.000
4		ONE HOUR	✓	562	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1	2	3	4
From	1	0	325	481	460
	2	308	0	30	50
	3	540	18	0	36
	4	478	27	57	0

Vehicle Mix

Heavy Vehicle Percentages

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

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1	0.65	4.88	1.9	A	1162	1743
2	0.81	35.55	4.0	E	356	534
3	0.85	30.66	5.2	D	545	818
4	0.74	16.08	2.7	C	516	774

Main Results for each time segment

11:45 - 12:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	953	238	76	2159	0.442	950	990	0.0	0.8	2.971	A
2	292	73	749	718	0.407	289	278	0.0	0.7	8.349	A
3	447	112	612	932	0.480	444	426	0.0	0.9	7.319	A

4	423	106	646	1023	0.413	420	409	0.0	0.7	5.941	A
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12:00 - 12:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	1138	285	91	2147	0.530	1137	1187	0.8	1.1	3.557	A
2	349	87	896	636	0.548	347	332	0.7	1.2	12.340	B
3	534	133	733	862	0.620	531	510	0.9	1.6	10.807	B
4	505	126	774	947	0.534	504	490	0.7	1.1	8.094	A

12:15 - 12:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	1394	348	111	2132	0.654	1391	1436	1.1	1.9	4.835	A
2	427	107	1096	526	0.812	417	406	1.2	3.7	30.740	D
3	654	164	890	770	0.849	641	623	1.6	4.7	25.759	D
4	619	155	934	851	0.727	613	598	1.1	2.5	14.810	B

12:30 - 12:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	1394	348	112	2132	0.654	1394	1457	1.9	1.9	4.878	A
2	427	107	1099	524	0.815	426	407	3.7	4.0	35.548	E
3	654	164	899	765	0.855	652	625	4.7	5.2	30.664	D
4	619	155	951	841	0.736	618	601	2.5	2.7	16.076	C

12:45 - 13:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	1138	285	93	2146	0.530	1141	1218	1.9	1.1	3.594	A
2	349	87	900	634	0.550	360	334	4.0	1.3	13.594	B
3	534	133	746	854	0.625	548	513	5.2	1.7	12.277	B
4	505	126	800	931	0.543	511	494	2.7	1.2	8.690	A

13:00 - 13:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	953	238	77	2158	0.442	954	1005	1.1	0.8	2.993	A
2	292	73	753	716	0.408	294	279	1.3	0.7	8.585	A
3	447	112	618	928	0.482	450	429	1.7	0.9	7.579	A
4	423	106	657	1017	0.416	425	412	1.2	0.7	6.100	A

2036 Base (2021 Base + All Committed), AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Retail Park Rbt	Standard Roundabout		1, 2, 3, 4	4.09	A

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	74	Arm 2	4.09	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D10	2036 Base (2021 Base + All Committed)	AM	ONE HOUR	08:45	10:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1		ONE HOUR	✓	865	100.000
2		ONE HOUR	✓	83	100.000
3		ONE HOUR	✓	350	100.000
4		ONE HOUR	✓	272	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1	2	3	4
From	1	0	103	396	366
	2	62	0	13	8
	3	308	20	1	21
	4	213	9	50	0

Vehicle Mix

Heavy Vehicle Percentages

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

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1	0.45	3.06	0.8	A	794	1191
2	0.15	6.68	0.2	A	76	114
3	0.38	5.82	0.6	A	321	482
4	0.27	4.35	0.4	A	250	374

Main Results for each time segment

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	651	163	60	2149	0.303	649	437	0.0	0.4	2.400	A
2	62	16	610	790	0.079	62	99	0.0	0.1	4.945	A
3	263	66	327	1094	0.241	262	345	0.0	0.3	4.321	A

4	205	51	293	1207	0.170	204	297	0.0	0.2	3.584	A
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09:00 - 09:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	778	194	72	2140	0.363	777	523	0.4	0.6	2.640	A
2	75	19	730	723	0.103	74	119	0.1	0.1	5.555	A
3	315	79	392	1056	0.298	314	413	0.3	0.4	4.851	A
4	245	61	351	1173	0.208	244	355	0.2	0.3	3.874	A

09:15 - 09:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	952	238	88	2128	0.448	951	641	0.6	0.8	3.057	A
2	91	23	894	631	0.145	91	145	0.1	0.2	6.670	A
3	385	96	479	1004	0.384	385	506	0.4	0.6	5.802	A
4	299	75	430	1127	0.266	299	434	0.3	0.4	4.345	A

09:30 - 09:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	952	238	88	2128	0.448	952	642	0.8	0.8	3.062	A
2	91	23	895	630	0.145	91	145	0.2	0.2	6.681	A
3	385	96	480	1004	0.384	385	506	0.6	0.6	5.819	A
4	299	75	430	1127	0.266	299	435	0.4	0.4	4.351	A

09:45 - 10:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	778	194	72	2140	0.363	779	525	0.8	0.6	2.648	A
2	75	19	732	722	0.103	75	119	0.2	0.1	5.566	A
3	315	79	393	1056	0.298	315	414	0.6	0.4	4.868	A
4	245	61	352	1173	0.209	245	356	0.4	0.3	3.883	A

10:00 - 10:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	651	163	60	2148	0.303	652	440	0.6	0.4	2.406	A
2	62	16	613	789	0.079	63	99	0.1	0.1	4.961	A
3	263	66	329	1093	0.241	264	347	0.4	0.3	4.342	A
4	205	51	295	1206	0.170	205	298	0.3	0.2	3.595	A

2036 Base (2021 Base + All Committed), PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Retail Park Rbt	Standard Roundabout		1, 2, 3, 4	6.00	A

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	31	Arm 3	6.00	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D11	2036 Base (2021 Base + All Committed)	PM	ONE HOUR	15:45	17:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1		ONE HOUR	✓	947	100.000
2		ONE HOUR	✓	165	100.000
3		ONE HOUR	✓	510	100.000
4		ONE HOUR	✓	458	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1	2	3	4
From	1	0	127	419	401
	2	119	0	25	21
	3	460	19	0	31
	4	407	11	40	0

Vehicle Mix

Heavy Vehicle Percentages

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

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1	0.48	3.22	0.9	A	869	1303
2	0.30	8.44	0.4	A	151	227
3	0.60	9.47	1.5	A	468	702
4	0.50	7.03	1.0	A	420	630

Main Results for each time segment

15:45 - 16:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	713	178	52	2179	0.327	711	738	0.0	0.5	2.448	A
2	124	31	646	775	0.160	123	118	0.0	0.2	5.520	A
3	384	96	406	1052	0.365	382	363	0.0	0.6	5.355	A

4	345	86	448	1143	0.302	343	340	0.0	0.4	4.492	A
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16:00 - 16:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	851	213	63	2171	0.392	851	885	0.5	0.6	2.724	A
2	148	37	773	705	0.210	148	141	0.2	0.3	6.463	A
3	458	115	486	1005	0.456	457	435	0.6	0.8	6.560	A
4	412	103	536	1090	0.378	411	407	0.4	0.6	5.300	A

16:15 - 16:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	1043	261	77	2161	0.483	1042	1082	0.6	0.9	3.213	A
2	182	45	946	609	0.298	181	173	0.3	0.4	8.402	A
3	562	140	595	942	0.596	559	532	0.8	1.4	9.340	A
4	504	126	656	1018	0.495	503	498	0.6	1.0	6.969	A

16:30 - 16:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	1043	261	77	2161	0.483	1043	1085	0.9	0.9	3.219	A
2	182	45	947	608	0.299	182	173	0.4	0.4	8.437	A
3	562	140	596	941	0.596	561	533	1.4	1.5	9.469	A
4	504	126	658	1016	0.496	504	499	1.0	1.0	7.030	A

16:45 - 17:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	851	213	63	2171	0.392	852	890	0.9	0.6	2.733	A
2	148	37	774	704	0.211	149	141	0.4	0.3	6.496	A
3	458	115	487	1004	0.457	461	436	1.5	0.9	6.655	A
4	412	103	540	1087	0.379	413	408	1.0	0.6	5.354	A

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	713	178	53	2179	0.327	714	744	0.6	0.5	2.457	A
2	124	31	648	774	0.161	125	118	0.3	0.2	5.550	A
3	384	96	408	1051	0.366	385	365	0.9	0.6	5.420	A
4	345	86	451	1141	0.302	346	341	0.6	0.4	4.531	A

2036 Base (2021 Base + All Committed), Saturday

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Retail Park Rbt	Standard Roundabout		1, 2, 3, 4	10.84	B

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	7	Arm 3	10.84	B

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D12	2036 Base (2021 Base + All Committed)	Saturday	ONE HOUR	11:45	13:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1		ONE HOUR	✓	1169	100.000
2		ONE HOUR	✓	264	100.000
3		ONE HOUR	✓	594	100.000
4		ONE HOUR	✓	562	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1	2	3	4
From	1	0	210	491	468
	2	204	0	19	41
	3	540	18	0	36
	4	478	27	57	0

Vehicle Mix

Heavy Vehicle Percentages

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

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1	0.60	4.25	1.5	A	1073	1609
2	0.57	16.14	1.3	C	242	363
3	0.79	20.01	3.5	C	545	818
4	0.68	12.40	2.1	B	516	774

Main Results for each time segment

11:45 - 12:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	880	220	76	2160	0.407	877	914	0.0	0.7	2.800	A
2	199	50	762	710	0.280	197	191	0.0	0.4	6.994	A
3	447	112	534	977	0.458	444	425	0.0	0.8	6.710	A

4	423	106	569	1070	0.396	421	409	0.0	0.6	5.523	A
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12:00 - 12:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	1051	263	91	2149	0.489	1050	1095	0.7	1.0	3.272	A
2	237	59	912	627	0.378	236	229	0.4	0.6	9.188	A
3	534	133	640	916	0.583	532	509	0.8	1.4	9.322	A
4	505	126	682	1002	0.504	504	489	0.6	1.0	7.208	A

12:15 - 12:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	1287	322	111	2134	0.603	1285	1333	1.0	1.5	4.229	A
2	291	73	1116	515	0.565	288	280	0.6	1.2	15.717	C
3	654	164	782	833	0.785	646	623	1.4	3.3	18.488	C
4	619	155	830	913	0.677	615	598	1.0	2.0	11.889	B

12:30 - 12:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	1287	322	112	2133	0.603	1287	1345	1.5	1.5	4.254	A
2	291	73	1119	513	0.566	291	281	1.2	1.3	16.138	C
3	654	164	785	832	0.786	653	624	3.3	3.5	20.015	C
4	619	155	838	908	0.681	619	600	2.0	2.1	12.400	B

12:45 - 13:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	1051	263	93	2148	0.489	1053	1112	1.5	1.0	3.293	A
2	237	59	916	626	0.379	240	230	1.3	0.6	9.395	A
3	534	133	644	913	0.585	542	511	3.5	1.4	9.907	A
4	505	126	695	994	0.508	509	492	2.1	1.0	7.483	A

13:00 - 13:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	880	220	77	2160	0.408	881	924	1.0	0.7	2.819	A
2	199	50	766	708	0.281	200	192	0.6	0.4	7.090	A
3	447	112	538	975	0.459	450	428	1.4	0.9	6.881	A
4	423	106	577	1065	0.397	425	411	1.0	0.7	5.633	A

2036 Total, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Retail Park Rbt	Standard Roundabout		1, 2, 3, 4	4.42	A

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	57	Arm 2	4.42	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D13	2036 Total	AM	ONE HOUR	08:45	10:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1		ONE HOUR	✓	917	100.000
2		ONE HOUR	✓	151	100.000
3		ONE HOUR	✓	350	100.000
4		ONE HOUR	✓	272	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1	2	3	4
From	1	0	171	388	358
	2	114	0	21	16
	3	308	20	1	21
	4	213	9	50	0

Vehicle Mix

Heavy Vehicle Percentages

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

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1	0.47	3.21	0.9	A	841	1262
2	0.26	7.60	0.3	A	139	208
3	0.40	6.15	0.7	A	321	482
4	0.27	4.54	0.4	A	250	374

Main Results for each time segment

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	690	173	60	2151	0.321	688	476	0.0	0.5	2.459	A
2	114	28	598	797	0.143	113	150	0.0	0.2	5.263	A
3	263	66	366	1072	0.246	262	345	0.0	0.3	4.440	A

4	205	51	332	1185	0.173	204	296	0.0	0.2	3.667	A
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09:00 - 09:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	824	206	72	2142	0.385	824	570	0.5	0.6	2.729	A
2	136	34	716	731	0.186	136	180	0.2	0.2	6.046	A
3	315	79	438	1029	0.306	314	413	0.3	0.4	5.032	A
4	245	61	398	1146	0.213	244	355	0.2	0.3	3.991	A

09:15 - 09:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	1010	252	88	2130	0.474	1009	698	0.6	0.9	3.208	A
2	166	42	877	641	0.260	166	220	0.2	0.3	7.574	A
3	385	96	536	971	0.397	385	506	0.4	0.7	6.127	A
4	299	75	487	1094	0.274	299	434	0.3	0.4	4.528	A

09:30 - 09:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	1010	252	88	2130	0.474	1010	699	0.9	0.9	3.213	A
2	166	42	878	640	0.260	166	220	0.3	0.3	7.598	A
3	385	96	537	971	0.397	385	506	0.7	0.7	6.148	A
4	299	75	488	1093	0.274	299	435	0.4	0.4	4.535	A

09:45 - 10:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	824	206	72	2142	0.385	825	572	0.9	0.6	2.738	A
2	136	34	717	730	0.186	136	180	0.3	0.2	6.069	A
3	315	79	440	1028	0.306	315	414	0.7	0.4	5.057	A
4	245	61	399	1145	0.214	245	356	0.4	0.3	4.001	A

10:00 - 10:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	690	173	60	2150	0.321	691	479	0.6	0.5	2.467	A
2	114	28	601	795	0.143	114	151	0.2	0.2	5.286	A
3	263	66	368	1071	0.246	264	347	0.4	0.3	4.467	A
4	205	51	334	1183	0.173	205	298	0.3	0.2	3.683	A

2036 Total, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Retail Park Rbt	Standard Roundabout		1, 2, 3, 4	7.01	A

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	24	Arm 3	7.01	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D14	2036 Total	PM	ONE HOUR	15:45	17:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1		ONE HOUR	✓	1031	100.000
2		ONE HOUR	✓	274	100.000
3		ONE HOUR	✓	510	100.000
4		ONE HOUR	✓	458	100.000

Origin-Destination Data

Demand (Veh/hr)

		To				
		1	2	3	4	
From	1	0	235	406	390	
	2	204	0	38	32	
	3	460	19	0	31	
	4	407	11	40	0	

Vehicle Mix

Heavy Vehicle Percentages

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

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1	0.53	3.52	1.1	A	946	1419
2	0.48	11.20	0.9	B	251	377
3	0.63	11.04	1.7	B	468	702
4	0.53	7.89	1.1	A	420	630

Main Results for each time segment

15:45 - 16:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	776	194	52	2177	0.357	774	801	0.0	0.6	2.557	A
2	206	52	628	785	0.263	205	199	0.0	0.4	6.190	A
3	384	96	469	1015	0.378	382	363	0.0	0.6	5.663	A

4	345	86	511	1105	0.312	343	340	0.0	0.5	4.718	A
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16:00 - 16:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	927	232	63	2169	0.427	926	961	0.6	0.7	2.894	A
2	246	62	751	717	0.344	246	238	0.4	0.5	7.630	A
3	458	115	562	961	0.477	457	435	0.6	0.9	7.128	A
4	412	103	612	1044	0.394	411	407	0.5	0.6	5.680	A

16:15 - 16:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	1135	284	77	2159	0.526	1134	1174	0.7	1.1	3.507	A
2	302	75	919	624	0.484	300	291	0.5	0.9	11.071	B
3	562	140	687	888	0.632	558	532	0.9	1.7	10.816	B
4	504	126	748	962	0.524	503	498	0.6	1.1	7.796	A

16:30 - 16:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	1135	284	77	2159	0.526	1135	1179	1.1	1.1	3.516	A
2	302	75	920	623	0.484	302	292	0.9	0.9	11.200	B
3	562	140	689	887	0.633	561	533	1.7	1.7	11.042	B
4	504	126	752	960	0.525	504	499	1.1	1.1	7.893	A

16:45 - 17:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	927	232	63	2169	0.427	928	968	1.1	0.8	2.906	A
2	246	62	753	716	0.344	248	239	0.9	0.5	7.721	A
3	458	115	565	959	0.478	462	436	1.7	0.9	7.276	A
4	412	103	618	1040	0.396	413	408	1.1	0.7	5.756	A

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	776	194	53	2177	0.357	777	809	0.8	0.6	2.574	A
2	206	52	630	784	0.263	207	200	0.5	0.4	6.252	A
3	384	96	472	1013	0.379	385	365	0.9	0.6	5.746	A
4	345	86	516	1102	0.313	346	341	0.7	0.5	4.765	A

2036 Total, Saturday

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Retail Park Rbt	Standard Roundabout		1, 2, 3, 4	16.85	C

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	0	Arm 2	16.85	C

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D15	2036 Total	Saturday	ONE HOUR	11:45	13:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1		ONE HOUR	✓	1267	100.000
2		ONE HOUR	✓	388	100.000
3		ONE HOUR	✓	594	100.000
4		ONE HOUR	✓	562	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1	2	3	4
From	1	0	325	481	461
	2	308	0	30	50
	3	540	18	0	36
	4	478	27	57	0

Vehicle Mix

Heavy Vehicle Percentages

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

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1	0.65	4.89	1.9	A	1163	1744
2	0.82	35.75	4.0	E	356	534
3	0.86	30.81	5.3	D	545	818
4	0.74	16.07	2.7	C	516	774

Main Results for each time segment

11:45 - 12:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	954	238	76	2159	0.442	951	990	0.0	0.8	2.973	A
2	292	73	749	718	0.407	289	278	0.0	0.7	8.357	A
3	447	112	613	931	0.480	444	426	0.0	0.9	7.326	A

4	423	106	646	1023	0.413	420	410	0.0	0.7	5.941	A
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12:00 - 12:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	1139	285	91	2147	0.530	1138	1187	0.8	1.1	3.560	A
2	349	87	897	636	0.548	347	332	0.7	1.2	12.361	B
3	534	133	734	861	0.620	531	510	0.9	1.6	10.824	B
4	505	126	774	947	0.534	504	491	0.7	1.1	8.094	A

12:15 - 12:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	1395	349	111	2132	0.654	1392	1436	1.1	1.9	4.842	A
2	427	107	1097	525	0.813	417	406	1.2	3.7	30.876	D
3	654	164	891	770	0.850	641	623	1.6	4.7	25.851	D
4	619	155	934	851	0.727	613	599	1.1	2.5	14.805	B

12:30 - 12:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	1395	349	112	2132	0.654	1395	1456	1.9	1.9	4.886	A
2	427	107	1100	524	0.816	426	407	3.7	4.0	35.747	E
3	654	164	901	764	0.856	652	625	4.7	5.3	30.813	D
4	619	155	950	841	0.736	618	602	2.5	2.7	16.075	C

12:45 - 13:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	1139	285	93	2146	0.531	1142	1219	1.9	1.1	3.594	A
2	349	87	901	634	0.550	360	334	4.0	1.3	13.629	B
3	534	133	747	853	0.626	548	513	5.3	1.7	12.307	B
4	505	126	801	931	0.543	511	495	2.7	1.2	8.691	A

13:00 - 13:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	954	238	77	2158	0.442	955	1005	1.1	0.8	2.998	A
2	292	73	753	715	0.408	294	279	1.3	0.7	8.594	A
3	447	112	619	928	0.482	450	429	1.7	0.9	7.587	A
4	423	106	657	1017	0.416	425	413	1.2	0.7	6.098	A

2036 Base Sensitivity, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Retail Park Rbt	Standard Roundabout		1, 2, 3, 4	3.99	A

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	78	Arm 2	3.99	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D16	2036 Base Sensitivity	AM	ONE HOUR	08:45	10:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1		ONE HOUR	✓	841	100.000
2		ONE HOUR	✓	83	100.000
3		ONE HOUR	✓	350	100.000
4		ONE HOUR	✓	248	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1	2	3	4
From	1	0	103	396	342
	2	62	0	13	8
	3	308	20	1	21
	4	189	9	50	0

Vehicle Mix

Heavy Vehicle Percentages

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

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1	0.44	2.99	0.8	A	772	1158
2	0.14	6.50	0.2	A	76	114
3	0.38	5.68	0.6	A	321	482
4	0.24	4.21	0.3	A	228	341

Main Results for each time segment

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	633	158	60	2149	0.295	631	419	0.0	0.4	2.370	A
2	62	16	592	800	0.078	62	99	0.0	0.1	4.877	A
3	263	66	309	1105	0.239	262	345	0.0	0.3	4.267	A

4	187	47	293	1208	0.155	186	279	0.0	0.2	3.520	A
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09:00 - 09:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	756	189	72	2140	0.353	756	502	0.4	0.5	2.600	A
2	75	19	709	735	0.102	75	119	0.1	0.1	5.453	A
3	315	79	370	1069	0.294	314	413	0.3	0.4	4.769	A
4	223	56	351	1174	0.190	223	333	0.2	0.2	3.784	A

09:15 - 09:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	926	231	88	2128	0.435	925	614	0.5	0.8	2.991	A
2	91	23	868	645	0.142	91	145	0.1	0.2	6.493	A
3	385	96	453	1020	0.378	385	506	0.4	0.6	5.659	A
4	273	68	430	1128	0.242	273	408	0.2	0.3	4.207	A

09:30 - 09:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	926	231	88	2128	0.435	926	615	0.8	0.8	2.994	A
2	91	23	869	645	0.142	91	145	0.2	0.2	6.501	A
3	385	96	454	1020	0.378	385	506	0.6	0.6	5.675	A
4	273	68	430	1127	0.242	273	408	0.3	0.3	4.213	A

09:45 - 10:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	756	189	72	2140	0.353	757	504	0.8	0.5	2.606	A
2	75	19	710	734	0.102	75	119	0.2	0.1	5.465	A
3	315	79	371	1068	0.295	315	414	0.6	0.4	4.787	A
4	223	56	352	1173	0.190	223	334	0.3	0.2	3.789	A

10:00 - 10:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	633	158	60	2149	0.295	634	421	0.5	0.4	2.376	A
2	62	16	594	799	0.078	63	99	0.1	0.1	4.890	A
3	263	66	310	1104	0.239	264	347	0.4	0.3	4.288	A
4	187	47	295	1207	0.155	187	280	0.2	0.2	3.528	A

2036 Base Sensitivity, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Retail Park Rbt	Standard Roundabout		1, 2, 3, 4	5.78	A

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	34	Arm 3	5.78	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D17	2036 Base Sensitivity	PM	ONE HOUR	15:45	17:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1		ONE HOUR	✓	920	100.000
2		ONE HOUR	✓	165	100.000
3		ONE HOUR	✓	510	100.000
4		ONE HOUR	✓	433	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1	2	3	4
From	1	0	127	419	374
	2	119	0	25	21
	3	460	19	0	31
	4	382	11	40	0

Vehicle Mix

Heavy Vehicle Percentages

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

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1	0.47	3.14	0.9	A	844	1266
2	0.29	8.12	0.4	A	151	227
3	0.59	9.06	1.4	A	468	702
4	0.47	6.67	0.9	A	397	596

Main Results for each time segment

15:45 - 16:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	693	173	52	2179	0.318	691	720	0.0	0.5	2.415	A
2	124	31	625	786	0.158	123	118	0.0	0.2	5.427	A
3	384	96	386	1063	0.361	382	363	0.0	0.6	5.264	A

4	326	81	448	1143	0.285	324	320	0.0	0.4	4.391	A
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16:00 - 16:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	827	207	63	2171	0.381	826	862	0.5	0.6	2.675	A
2	148	37	748	718	0.207	148	141	0.2	0.3	6.311	A
3	458	115	462	1019	0.450	457	435	0.6	0.8	6.396	A
4	389	97	536	1089	0.357	389	383	0.4	0.6	5.132	A

16:15 - 16:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	1013	253	77	2161	0.469	1012	1054	0.6	0.9	3.130	A
2	182	45	916	625	0.291	181	173	0.3	0.4	8.093	A
3	562	140	565	959	0.585	559	532	0.8	1.4	8.948	A
4	477	119	656	1018	0.468	475	468	0.6	0.9	6.621	A

16:30 - 16:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	1013	253	77	2161	0.469	1013	1058	0.9	0.9	3.135	A
2	182	45	917	625	0.291	182	173	0.4	0.4	8.124	A
3	562	140	566	959	0.586	561	533	1.4	1.4	9.057	A
4	477	119	658	1016	0.469	477	469	0.9	0.9	6.671	A

16:45 - 17:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	827	207	63	2171	0.381	828	867	0.9	0.6	2.682	A
2	148	37	750	717	0.207	149	141	0.4	0.3	6.341	A
3	458	115	463	1018	0.450	461	436	1.4	0.8	6.482	A
4	389	97	540	1087	0.358	391	384	0.9	0.6	5.177	A

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	693	173	53	2179	0.318	693	725	0.6	0.5	2.423	A
2	124	31	628	785	0.158	125	118	0.3	0.2	5.455	A
3	384	96	387	1062	0.361	385	365	0.8	0.6	5.322	A
4	326	81	451	1141	0.286	327	321	0.6	0.4	4.425	A

2036 Base Sensitivity, Saturday

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Retail Park Rbt	Standard Roundabout		1, 2, 3, 4	9.59	A

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	10	Arm 3	9.59	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D18	2036 Base Sensitivity	Saturday	ONE HOUR	11:45	13:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1		ONE HOUR	✓	1123	100.000
2		ONE HOUR	✓	264	100.000
3		ONE HOUR	✓	594	100.000
4		ONE HOUR	✓	513	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1	2	3	4
From	1	0	210	491	422
	2	204	0	19	41
	3	540	18	0	36
	4	429	27	57	0

Vehicle Mix

Heavy Vehicle Percentages

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

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1	0.58	4.01	1.4	A	1030	1546
2	0.54	14.34	1.1	B	242	363
3	0.76	17.26	3.0	C	545	818
4	0.62	10.47	1.6	B	471	706

Main Results for each time segment

11:45 - 12:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	845	211	76	2160	0.391	843	877	0.0	0.6	2.729	A
2	199	50	728	729	0.272	197	191	0.0	0.4	6.745	A
3	447	112	500	997	0.449	444	425	0.0	0.8	6.471	A

4	386	97	570	1070	0.361	384	374	0.0	0.6	5.234	A
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12:00 - 12:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	1010	252	91	2149	0.470	1009	1051	0.6	0.9	3.154	A
2	237	59	871	650	0.365	237	229	0.4	0.6	8.685	A
3	534	133	599	940	0.568	532	509	0.8	1.3	8.786	A
4	461	115	683	1002	0.460	460	448	0.6	0.8	6.633	A

12:15 - 12:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	1236	309	112	2134	0.580	1235	1281	0.9	1.4	3.995	A
2	291	73	1066	542	0.536	288	280	0.6	1.1	14.055	B
3	654	164	732	863	0.758	647	623	1.3	2.9	16.262	C
4	565	141	831	913	0.619	562	548	0.8	1.6	10.181	B

12:30 - 12:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	1236	309	112	2133	0.580	1236	1291	1.4	1.4	4.014	A
2	291	73	1068	541	0.537	291	281	1.1	1.1	14.342	B
3	654	164	734	861	0.760	654	624	2.9	3.0	17.259	C
4	565	141	838	908	0.622	565	549	1.6	1.6	10.472	B

12:45 - 13:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	1010	252	92	2148	0.470	1011	1065	1.4	0.9	3.174	A
2	237	59	874	649	0.366	240	230	1.1	0.6	8.844	A
3	534	133	602	938	0.570	541	511	3.0	1.4	9.219	A
4	461	115	693	995	0.463	464	450	1.6	0.9	6.814	A

13:00 - 13:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	845	211	77	2160	0.391	846	887	0.9	0.6	2.745	A
2	199	50	731	728	0.273	200	192	0.6	0.4	6.827	A
3	447	112	503	995	0.449	449	427	1.4	0.8	6.623	A
4	386	97	576	1066	0.362	387	376	0.9	0.6	5.319	A

2036 Total Sensitivity, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Retail Park Rbt	Standard Roundabout		1, 2, 3, 4	4.35	A

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	59	Arm 2	4.35	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D19	2036 Total Sensitivity	AM	ONE HOUR	08:45	10:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1		ONE HOUR	✓	903	100.000
2		ONE HOUR	✓	151	100.000
3		ONE HOUR	✓	350	100.000
4		ONE HOUR	✓	248	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1	2	3	4
From	1	0	171	388	344
	2	114	0	21	16
	3	308	20	1	21
	4	189	9	50	0

Vehicle Mix

Heavy Vehicle Percentages

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

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1	0.47	3.17	0.9	A	829	1243
2	0.26	7.46	0.3	A	139	208
3	0.39	6.05	0.6	A	321	482
4	0.25	4.39	0.3	A	228	341

Main Results for each time segment

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	680	170	60	2151	0.316	678	458	0.0	0.5	2.441	A
2	114	28	588	802	0.142	113	150	0.0	0.2	5.217	A
3	263	66	356	1078	0.244	262	345	0.0	0.3	4.400	A

4	187	47	332	1185	0.158	186	286	0.0	0.2	3.601	A
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09:00 - 09:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	812	203	72	2142	0.379	811	549	0.5	0.6	2.703	A
2	136	34	703	738	0.184	136	180	0.2	0.2	5.975	A
3	315	79	426	1037	0.304	314	413	0.3	0.4	4.980	A
4	223	56	398	1147	0.194	223	342	0.2	0.2	3.895	A

09:15 - 09:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	994	249	88	2130	0.467	993	671	0.6	0.9	3.163	A
2	166	42	861	649	0.256	166	220	0.2	0.3	7.441	A
3	385	96	521	980	0.393	385	506	0.4	0.6	6.033	A
4	273	68	487	1094	0.250	273	419	0.2	0.3	4.379	A

09:30 - 09:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	994	249	88	2130	0.467	994	673	0.9	0.9	3.169	A
2	166	42	862	649	0.256	166	220	0.3	0.3	7.461	A
3	385	96	522	980	0.393	385	506	0.6	0.6	6.054	A
4	273	68	488	1094	0.250	273	419	0.3	0.3	4.386	A

09:45 - 10:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	812	203	72	2142	0.379	813	551	0.9	0.6	2.710	A
2	136	34	705	737	0.184	136	180	0.3	0.2	5.997	A
3	315	79	427	1036	0.304	315	414	0.6	0.4	5.002	A
4	223	56	399	1146	0.195	223	343	0.3	0.2	3.905	A

10:00 - 10:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	680	170	60	2151	0.316	680	461	0.6	0.5	2.449	A
2	114	28	590	801	0.142	114	151	0.2	0.2	5.241	A
3	263	66	357	1077	0.245	264	347	0.4	0.3	4.430	A
4	187	47	334	1184	0.158	187	287	0.2	0.2	3.610	A

2036 Total Sensitivity, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Retail Park Rbt	Standard Roundabout		1, 2, 3, 4	6.72	A

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	26	Arm 3	6.72	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D20	2036 Total Sensitivity	PM	ONE HOUR	15:45	17:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1		ONE HOUR	✓	1004	100.000
2		ONE HOUR	✓	274	100.000
3		ONE HOUR	✓	510	100.000
4		ONE HOUR	✓	433	100.000

Origin-Destination Data

Demand (Veh/hr)

		To				
		1	2	3	4	
From	1	0	235	406	363	
	2	204	0	38	32	
	3	460	19	0	31	
	4	382	11	40	0	

Vehicle Mix

Heavy Vehicle Percentages

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

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1	0.51	3.42	1.0	A	921	1382
2	0.47	10.65	0.9	B	251	377
3	0.62	10.49	1.6	B	468	702
4	0.50	7.45	1.0	A	397	596

Main Results for each time segment

15:45 - 16:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	756	189	52	2177	0.347	754	783	0.0	0.5	2.526	A
2	206	52	607	796	0.259	205	199	0.0	0.3	6.075	A
3	384	96	449	1027	0.374	382	363	0.0	0.6	5.561	A

4	326	81	511	1105	0.295	324	320	0.0	0.4	4.603	A
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16:00 - 16:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	903	226	63	2169	0.416	902	938	0.5	0.7	2.839	A
2	246	62	727	730	0.337	246	238	0.3	0.5	7.422	A
3	458	115	538	975	0.470	457	435	0.6	0.9	6.937	A
4	389	97	612	1044	0.373	389	383	0.4	0.6	5.488	A

16:15 - 16:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	1105	276	77	2159	0.512	1104	1147	0.7	1.0	3.408	A
2	302	75	890	640	0.471	300	291	0.5	0.9	10.547	B
3	562	140	658	905	0.620	559	532	0.9	1.6	10.298	B
4	477	119	748	962	0.495	475	468	0.6	1.0	7.369	A

16:30 - 16:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	1105	276	77	2159	0.512	1105	1152	1.0	1.0	3.417	A
2	302	75	891	639	0.472	302	292	0.9	0.9	10.654	B
3	562	140	659	904	0.621	561	533	1.6	1.6	10.488	B
4	477	119	752	960	0.497	477	469	1.0	1.0	7.446	A

16:45 - 17:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	903	226	63	2169	0.416	904	945	1.0	0.7	2.850	A
2	246	62	728	729	0.338	248	239	0.9	0.5	7.502	A
3	458	115	540	974	0.471	461	436	1.6	0.9	7.067	A
4	389	97	618	1041	0.374	391	384	1.0	0.6	5.551	A

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	756	189	53	2177	0.347	757	790	0.7	0.5	2.537	A
2	206	52	610	795	0.260	207	200	0.5	0.4	6.129	A
3	384	96	452	1025	0.375	385	365	0.9	0.6	5.638	A
4	326	81	516	1102	0.296	327	321	0.6	0.4	4.649	A

2036 Total Sensitivity, Saturday

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Retail Park Rbt	Standard Roundabout		1, 2, 3, 4	13.99	B

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	2	Arm 2	13.99	B

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D21	2036 Total Sensitivity	Saturday	ONE HOUR	11:45	13:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1		ONE HOUR	✓	1220	100.000
2		ONE HOUR	✓	388	100.000
3		ONE HOUR	✓	594	100.000
4		ONE HOUR	✓	513	100.000

Origin-Destination Data

Demand (Veh/hr)

		To				
		1	2	3	4	
From	1	0	325	481	414	
	2	308	0	30	50	
	3	540	18	0	36	
	4	429	27	57	0	

Vehicle Mix

Heavy Vehicle Percentages

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

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1	0.63	4.57	1.7	A	1119	1679
2	0.77	28.20	3.2	D	356	534
3	0.82	24.96	4.3	C	545	818
4	0.67	13.03	2.0	B	471	706

Main Results for each time segment

11:45 - 12:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	918	230	76	2158	0.426	916	954	0.0	0.7	2.889	A
2	292	73	714	737	0.396	290	278	0.0	0.6	7.999	A
3	447	112	578	952	0.470	444	426	0.0	0.9	7.038	A

4	386	97	647	1023	0.377	384	375	0.0	0.6	5.610	A
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12:00 - 12:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	1097	274	91	2147	0.511	1096	1143	0.7	1.0	3.421	A
2	349	87	855	659	0.529	347	332	0.6	1.1	11.463	B
3	534	133	692	886	0.603	532	510	0.9	1.5	10.100	B
4	461	115	775	946	0.487	460	449	0.6	0.9	7.378	A

12:15 - 12:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	1343	336	111	2132	0.630	1341	1387	1.0	1.7	4.534	A
2	427	107	1046	554	0.772	420	406	1.1	3.0	25.526	D
3	654	164	842	798	0.819	644	623	1.5	4.0	22.006	C
4	565	141	938	848	0.666	561	548	0.9	1.9	12.356	B

12:30 - 12:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	1343	336	112	2131	0.630	1343	1404	1.7	1.7	4.566	A
2	427	107	1048	552	0.773	426	407	3.0	3.2	28.196	D
3	654	164	849	794	0.824	653	625	4.0	4.3	24.956	C
4	565	141	952	840	0.672	564	550	1.9	2.0	13.031	B

12:45 - 13:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	1097	274	93	2146	0.511	1099	1168	1.7	1.1	3.449	A
2	349	87	858	657	0.531	357	334	3.2	1.2	12.288	B
3	534	133	702	879	0.607	545	513	4.3	1.6	11.090	B
4	461	115	795	934	0.494	465	452	2.0	1.0	7.741	A

13:00 - 13:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	918	230	77	2158	0.426	920	967	1.1	0.7	2.912	A
2	292	73	718	735	0.397	294	279	1.2	0.7	8.199	A
3	447	112	583	949	0.471	450	428	1.6	0.9	7.258	A
4	386	97	656	1018	0.380	388	377	1.0	0.6	5.730	A

Junctions 10																	
ARCADY 10 - Roundabout Module																	
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Filename: Import of Plas Coch Rbt 2036.j10
 Path: E:\ADL\4171 Wrexham
 Report generation date: 21/09/2023 17:33:36

»Surveyed, AM
 »Surveyed, PM
 »Surveyed, Saturday
 »2021 Base + Com, AM
 »2021 Base + Com, PM
 »2021 Base + Com, Saturday
 »2021 Total, AM
 »2021 Total, PM
 »2021 Total, Saturday
 »2036 Base (2021 Base + All Committed), AM
 »2036 Base (2021 Base + All Committed), PM
 »2036 Base (2021 Base + All Committed), Saturday
 »2036 Total, AM
 »2036 Total, PM
 »2036 Total, Saturday
 »2036 Base Sensitivity, AM
 »2036 Base Sensitivity, PM
 »2036 Base Sensitivity, Saturday
 »2036 Total Sensitivity, AM
 »2036 Total Sensitivity, PM
 »2036 Total Sensitivity, Saturday

Summary of junction performance

	AM							PM							Saturday									
	Set ID	Queue (Veh)	Delay (s)	RFC	LOS	Junction Delay (s)	Junction LOS	Network Residual Capacity	Set ID	Queue (Veh)	Delay (s)	RFC	LOS	Junction Delay (s)	Junction LOS	Network Residual Capacity	Set ID	Queue (Veh)	Delay (s)	RFC	LOS	Junction Delay (s)	Junction LOS	Network Residual Capacity
	Surveyed																							
Arm 1	D1	0.0	8.04	0.05	A	4.96	A	38 % [Arm 2]	D2	0.6	22.87	0.40	C	6.03	A	7 % [Arm 1]	D3	0.2	23.01	0.14	C	7.49	A	6 % [Arm 1]
Arm 2		1.9	6.83	0.66	A					2.0	7.07	0.66	A					3.6	11.11	0.79	B			
Arm 3		0.4	2.29	0.28	A					0.9	3.13	0.48	A					1.3	3.71	0.57	A			
Arm 4		0.5	4.12	0.34	A					1.0	6.48	0.51	A					1.1	7.65	0.53	A			
	2021 Base + Com																							
Arm 1	D4	0.1	8.33	0.05	A	5.21	A	34 % [Arm 2]	D5	0.7	26.18	0.44	D	6.45	A	4 % [Arm 1]	D6	0.2	28.84	0.17	D	8.61	A	2 % [Arm 1]
Arm 2		2.1	7.27	0.68	A					2.2	7.58	0.69	A					4.4	13.20	0.82	B			
Arm 3		0.4	2.34	0.29	A					1.0	3.22	0.49	A					1.5	3.95	0.59	A			
Arm 4		0.6	4.26	0.36	A					1.1	6.83	0.53	A					1.3	8.51	0.56	A			
	2021 Total																							
Arm 1	D7	0.1	8.84	0.05	A	5.63	A	29 % [Arm 2]	D8	1.1	38.01	0.53	E	7.62	A	-1 % [Arm 1]	D9	0.3	46.53	0.26	E	11.23	B	-3 % [Arm 1]
Arm 2		2.4	8.07	0.71	A					2.7	9.01	0.73	A					6.4	18.48	0.87	C			
Arm 3		0.5	2.42	0.32	A					1.1	3.50	0.53	A					1.8	4.42	0.64	A			
Arm 4		0.6	4.47	0.37	A					1.3	7.76	0.57	A					1.5	10.07	0.61	B			
	2036 Base (2021 Base + All Committed)																							
Arm 1	D10	0.1	8.81	0.08	A	5.39	A	33 % [Arm 2]	D11	1.0	29.72	0.50	D	7.10	A	2 % [Arm 1]	D12	0.7	40.52	0.42	E	10.10	B	-2 % [Arm 1]
Arm 2		2.2	7.51	0.69	A					2.5	8.34	0.72	A					5.2	15.40	0.85	C			
Arm 3		0.4	2.36	0.30	A					1.0	3.33	0.50	A					1.5	4.12	0.60	A			
Arm 4		0.6	4.36	0.37	A					1.2	7.17	0.54	A					1.3	8.75	0.57	A			
	2036 Total																							
Arm 1	D13	0.1	9.37	0.09	A	5.84	A	28 % [Arm 2]	D14	1.4	45.76	0.61	E	8.62	A	-3 % [Arm 1]	D15	0.7	61.48	0.43	F	13.84	B	-5 % [Arm 1]
Arm 2		2.6	8.36	0.72	A					3.1	10.10	0.76	B					8.3	23.43	0.90	C			
Arm 3		0.5	2.44	0.32	A					1.2	3.63	0.54	A					1.8	4.64	0.65	A			
Arm 4		0.6	4.58	0.39	A					1.4	8.20	0.58	A					1.6	10.50	0.62	B			
	2036 Base Sensitivity																							
Arm 1	D16	0.1	8.53	0.06	A	5.46	A	32 % [Arm 2]	D17	1.0	31.95	0.51	D	6.95	A	1 % [Arm 1]	D18	0.2	27.77	0.19	D	8.46	A	3 % [Arm 1]
Arm 2		2.3	7.59	0.70	A					2.2	7.68	0.69	A					4.2	12.69	0.81	B			
Arm 3		0.4	2.35	0.29	A					0.9	3.22	0.49	A					1.4	3.83	0.58	A			
Arm 4		0.6	4.41	0.38	A					1.3	7.26	0.56	A					1.4	8.56	0.58	A			
	2036 Total Sensitivity																							
Arm 1	D19	0.1	9.07	0.06	A	5.92	A	27 % [Arm 2]	D20	1.6	51.11	0.63	F	8.50	A	-4 % [Arm 1]	D21	0.4	45.33	0.27	E	11.07	B	-3 % [Arm 1]
Arm 2		2.6	8.47	0.73	A					2.8	9.20	0.74	A					6.2	17.82	0.87	C			
Arm 3		0.5	2.44	0.31	A					1.1	3.50	0.53	A					1.7	4.30	0.62	A			
Arm 4		0.7	4.63	0.40	A					1.5	8.32	0.60	A					1.6	10.23	0.63	B			

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

APPENDIX 7.2
 OUTPUT RESULTS: PLAS
 COCH ROAD ROUNDABOUT

File summary

File Description

Title	(untitled)
Location	
Site number	
Date	12/02/2020
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	ADLUKJunction
Description	

Units

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

Analysis Options

Vehicle length (m)	Calculate Queue Percentiles	Calculate detailed queueing delay	Show lane queues in feet / metres	Show all PICADY stream intercepts	Calculate residual capacity	Residual capacity criteria type	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)	Use iterations with HCM roundabouts	Max number of iterations for roundabouts
5.75					✓	Delay	0.85	36.00	20.00		500

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	Surveyed	AM	ONE HOUR	08:45	10:15	15	✓
D2	Surveyed	PM	ONE HOUR	15:45	17:15	15	✓
D3	Surveyed	Saturday	ONE HOUR	11:45	13:15	15	✓
D4	2021 Base + Com	AM	ONE HOUR	08:45	10:15	15	✓
D5	2021 Base + Com	PM	ONE HOUR	15:45	17:15	15	✓
D6	2021 Base + Com	Saturday	ONE HOUR	11:45	13:15	15	✓
D7	2021 Total	AM	ONE HOUR	08:45	10:15	15	✓
D8	2021 Total	PM	ONE HOUR	15:45	17:15	15	✓
D9	2021 Total	Saturday	ONE HOUR	11:45	13:15	15	✓
D10	2036 Base (2021 Base + All Committed)	AM	ONE HOUR	08:45	10:15	15	✓
D11	2036 Base (2021 Base + All Committed)	PM	ONE HOUR	15:45	17:15	15	✓
D12	2036 Base (2021 Base + All Committed)	Saturday	ONE HOUR	11:45	13:15	15	✓
D13	2036 Total	AM	ONE HOUR	08:45	10:15	15	✓
D14	2036 Total	PM	ONE HOUR	15:45	17:15	15	✓
D15	2036 Total	Saturday	ONE HOUR	11:45	13:15	15	✓
D16	2036 Base Sensitivity	AM	ONE HOUR	08:45	10:15	15	✓
D17	2036 Base Sensitivity	PM	ONE HOUR	15:45	17:15	15	✓
D18	2036 Base Sensitivity	Saturday	ONE HOUR	11:45	13:15	15	✓
D19	2036 Total Sensitivity	AM	ONE HOUR	08:45	10:15	15	✓
D20	2036 Total Sensitivity	PM	ONE HOUR	15:45	17:15	15	✓
D21	2036 Total Sensitivity	Saturday	ONE HOUR	11:45	13:15	15	✓

Analysis Set Details

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

Surveyed, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Plas Coch Roundabout	Standard Roundabout		1, 2, 3, 4	4.96	A

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	38	Arm 2	4.96	A

Arms

Arms

Arm	Name	Description	No give-way line
1	University		
2	Plas Coch Rd South		
3	Retail Park		
4	Plas Coch Road North		

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)	Entry only	Exit only
1	2.66	5.02	2.1	15.4	35.5	24.5		
2	3.36	7.57	10.2	30.8	36.0	9.0		
3	7.16	7.35	10.5	72.1	35.5	12.0		
4	3.25	5.97	28.5	28.0	35.5	19.5		

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
1	0.504	966
2	0.679	1709
3	0.831	2441
4	0.666	1698

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	Surveyed	AM	ONE HOUR	08:45	10:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1		ONE HOUR	✓	20	100.000
2		ONE HOUR	✓	940	100.000
3		ONE HOUR	✓	559	100.000
4		ONE HOUR	✓	412	100.000

Origin-Destination Data

Demand (Veh/hr)

	To				
	1	2	3	4	
From	1	0	15	5	0
	2	74	1	671	194
	3	8	409	3	139
	4	15	236	160	1

Vehicle Mix

Heavy Vehicle Percentages

To				

		1	2	3	4
	1	0	13	0	0
From	2	0	0	1	3
	3	0	0	0	0
	4	0	1	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1	0.05	8.04	0.0	A	18	28
2	0.66	6.83	1.9	A	863	1294
3	0.28	2.29	0.4	A	513	769
4	0.34	4.12	0.5	A	378	567

Main Results for each time segment

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	15	4	608	600	0.025	15	73	0.0	0.0	6.151	A
2	708	177	127	1601	0.442	705	496	0.0	0.8	4.001	A
3	421	105	202	2270	0.185	420	629	0.0	0.2	1.945	A
4	310	78	372	1442	0.215	309	251	0.0	0.3	3.175	A

09:00 - 09:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	18	4	728	545	0.033	18	87	0.0	0.0	6.827	A
2	845	211	152	1585	0.533	844	594	0.8	1.1	4.850	A
3	503	126	242	2236	0.225	502	753	0.2	0.3	2.076	A
4	370	93	445	1394	0.266	370	300	0.3	0.4	3.517	A

09:15 - 09:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	22	6	891	470	0.047	22	107	0.0	0.0	8.032	A
2	1035	259	186	1562	0.663	1032	727	1.1	1.9	6.752	A
3	615	154	296	2190	0.281	615	921	0.3	0.4	2.286	A
4	454	113	544	1327	0.342	453	367	0.4	0.5	4.114	A

09:30 - 09:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	22	6	892	470	0.047	22	107	0.0	0.0	8.041	A
2	1035	259	186	1562	0.663	1035	728	1.9	1.9	6.831	A
3	615	154	297	2189	0.281	615	924	0.4	0.4	2.287	A
4	454	113	545	1327	0.342	454	368	0.5	0.5	4.120	A

09:45 - 10:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	18	4	729	545	0.033	18	87	0.0	0.0	6.839	A
2	845	211	152	1584	0.533	848	595	1.9	1.2	4.910	A
3	503	126	244	2235	0.225	503	757	0.4	0.3	2.079	A
4	370	93	446	1393	0.266	371	301	0.5	0.4	3.526	A

10:00 - 10:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	15	4	610	599	0.025	15	73	0.0	0.0	6.162	A
2	708	177	127	1601	0.442	709	498	1.2	0.8	4.044	A
3	421	105	204	2269	0.186	421	633	0.3	0.2	1.948	A
4	310	78	373	1441	0.215	311	252	0.4	0.3	3.187	A

Surveyed, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Plas Coch Roundabout	Standard Roundabout		1, 2, 3, 4	6.03	A

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	7	Arm 1	6.03	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D2	Surveyed	PM	ONE HOUR	15:45	17:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1		ONE HOUR	✓	94	100.000
2		ONE HOUR	✓	917	100.000
3		ONE HOUR	✓	956	100.000
4		ONE HOUR	✓	517	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1	2	3	4
From	1	0	75	14	5
	2	11	2	668	236
	3	8	751	1	196
	4	2	296	219	0

Vehicle Mix

Heavy Vehicle Percentages

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

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1	0.40	22.87	0.6	C	86	129
2	0.66	7.07	2.0	A	841	1262
3	0.48	3.13	0.9	A	877	1316
4	0.51	6.48	1.0	A	474	712

Main Results for each time segment

15:45 - 16:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	71	18	952	485	0.146	70	16	0.0	0.2	8.658	A
2	690	173	179	1575	0.438	687	843	0.0	0.8	4.041	A
3	720	180	190	2279	0.316	718	676	0.0	0.5	2.303	A

4	389	97	580	1304	0.299	388	328	0.0	0.4	3.922	A
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16:00 - 16:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	85	21	1140	391	0.216	84	19	0.2	0.3	11.727	B
2	824	206	214	1551	0.531	823	1009	0.8	1.1	4.935	A
3	859	215	228	2247	0.383	859	809	0.5	0.6	2.592	A
4	465	116	694	1228	0.378	464	392	0.4	0.6	4.707	A

16:15 - 16:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	103	26	1395	262	0.395	102	23	0.3	0.6	22.320	C
2	1010	252	262	1519	0.665	1006	1235	1.1	1.9	6.977	A
3	1053	263	279	2203	0.478	1051	990	0.6	0.9	3.122	A
4	569	142	850	1125	0.506	568	480	0.6	1.0	6.439	A

16:30 - 16:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	103	26	1397	261	0.397	103	23	0.6	0.6	22.869	C
2	1010	252	263	1518	0.665	1010	1237	1.9	2.0	7.072	A
3	1053	263	280	2203	0.478	1053	993	0.9	0.9	3.129	A
4	569	142	851	1125	0.506	569	481	1.0	1.0	6.482	A

16:45 - 17:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	85	21	1143	389	0.217	86	19	0.6	0.3	11.943	B
2	824	206	216	1550	0.532	828	1013	2.0	1.1	5.003	A
3	859	215	229	2246	0.383	861	814	0.9	0.6	2.602	A
4	465	116	696	1227	0.379	466	394	1.0	0.6	4.742	A

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	71	18	957	483	0.147	71	16	0.3	0.2	8.752	A
2	690	173	180	1574	0.439	692	847	1.1	0.8	4.087	A
3	720	180	192	2278	0.316	720	681	0.6	0.5	2.312	A
4	389	97	582	1302	0.299	390	330	0.6	0.4	3.950	A

Surveyed, Saturday

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Plas Coch Roundabout	Standard Roundabout		1, 2, 3, 4	7.49	A

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	6	Arm 1	7.49	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D3	Surveyed	Saturday	ONE HOUR	11:45	13:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1		ONE HOUR	✓	24	100.000
2		ONE HOUR	✓	1089	100.000
3		ONE HOUR	✓	1166	100.000
4		ONE HOUR	✓	478	100.000

Origin-Destination Data

Demand (Veh/hr)

		To				
		1	2	3	4	
From	1	0	16	8	0	
	2	11	1	889	188	
	3	5	927	5	229	
	4	1	250	227	0	

Vehicle Mix

Heavy Vehicle Percentages

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

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1	0.14	23.01	0.2	C	22	33
2	0.79	11.11	3.6	B	999	1499
3	0.57	3.71	1.3	A	1070	1605
4	0.53	7.65	1.1	A	439	658

Main Results for each time segment

11:45 - 12:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	18	5	1058	432	0.042	18	13	0.0	0.0	8.685	A
2	820	205	180	1579	0.519	816	896	0.0	1.1	4.692	A
3	878	219	150	2313	0.379	875	846	0.0	0.6	2.499	A

4	360	90	712	1217	0.296	358	313	0.0	0.4	4.185	A
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12:00 - 12:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	22	5	1266	327	0.066	21	15	0.0	0.1	11.770	B
2	979	245	215	1555	0.630	977	1072	1.1	1.7	6.203	A
3	1048	262	179	2288	0.458	1047	1013	0.6	0.8	2.900	A
4	430	107	852	1124	0.382	429	374	0.4	0.6	5.172	A

12:15 - 12:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	26	7	1549	184	0.143	26	19	0.1	0.2	22.669	C
2	1199	300	263	1522	0.788	1192	1312	1.7	3.5	10.655	B
3	1284	321	219	2254	0.569	1282	1236	0.8	1.3	3.696	A
4	526	132	1043	998	0.527	524	457	0.6	1.1	7.574	A

12:30 - 12:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	26	7	1552	183	0.145	26	19	0.2	0.2	23.015	C
2	1199	300	264	1521	0.788	1199	1315	3.5	3.6	11.114	B
3	1284	321	220	2253	0.570	1284	1243	1.3	1.3	3.712	A
4	526	132	1045	997	0.528	526	459	1.1	1.1	7.650	A

12:45 - 13:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	22	5	1271	325	0.066	22	15	0.2	0.1	11.903	B
2	979	245	217	1554	0.630	987	1076	3.6	1.7	6.432	A
3	1048	262	181	2287	0.458	1050	1022	1.3	0.9	2.915	A
4	430	107	855	1123	0.383	432	377	1.1	0.6	5.223	A

13:00 - 13:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	18	5	1063	430	0.042	18	13	0.1	0.0	8.752	A
2	820	205	181	1578	0.520	822	900	1.7	1.1	4.784	A
3	878	219	151	2312	0.380	879	852	0.9	0.6	2.512	A
4	360	90	715	1215	0.296	361	315	0.6	0.4	4.218	A

2021 Base + Com, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Plas Coch Roundabout	Standard Roundabout		1, 2, 3, 4	5.21	A

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	34	Arm 2	5.21	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D4	2021 Base + Com	AM	ONE HOUR	08:45	10:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1		ONE HOUR	✓	20	100.000
2		ONE HOUR	✓	965	100.000
3		ONE HOUR	✓	583	100.000
4		ONE HOUR	✓	424	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1	2	3	4
From	1	0	15	5	0
	2	76	1	689	199
	3	8	428	3	144
	4	15	242	166	1

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1	2	3	4
From	1	0	13	0	0
	2	0	0	1	3
	3	0	0	0	0
	4	0	1	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1	0.05	8.33	0.1	A	18	28
2	0.68	7.27	2.1	A	885	1328
3	0.29	2.34	0.4	A	535	802
4	0.36	4.26	0.6	A	389	584

Main Results for each time segment

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	15	4	631	590	0.026	15	74	0.0	0.0	6.265	A
2	727	182	131	1598	0.455	723	515	0.0	0.8	4.098	A
3	439	110	208	2265	0.194	438	647	0.0	0.2	1.969	A

4	319	80	387	1431	0.223	318	258	0.0	0.3	3.230	A
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09:00 - 09:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	18	4	755	532	0.034	18	89	0.0	0.0	6.997	A
2	868	217	157	1581	0.549	866	616	0.8	1.2	5.025	A
3	524	131	249	2230	0.235	524	775	0.2	0.3	2.109	A
4	381	95	464	1381	0.276	381	309	0.3	0.4	3.599	A

09:15 - 09:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	22	6	925	454	0.048	22	109	0.0	0.1	8.323	A
2	1062	266	192	1557	0.682	1059	755	1.2	2.1	7.170	A
3	642	160	304	2183	0.294	641	947	0.3	0.4	2.334	A
4	467	117	568	1312	0.356	466	378	0.4	0.5	4.251	A

09:30 - 09:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	22	6	926	454	0.049	22	109	0.1	0.1	8.333	A
2	1062	266	193	1557	0.682	1062	755	2.1	2.1	7.269	A
3	642	160	305	2183	0.294	642	950	0.4	0.4	2.336	A
4	467	117	568	1312	0.356	467	379	0.5	0.6	4.259	A

09:45 - 10:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	18	4	757	532	0.034	18	89	0.1	0.0	7.011	A
2	868	217	158	1581	0.549	871	617	2.1	1.2	5.097	A
3	524	131	250	2229	0.235	525	779	0.4	0.3	2.113	A
4	381	95	464	1380	0.276	382	310	0.6	0.4	3.606	A

10:00 - 10:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	15	4	634	588	0.026	15	75	0.0	0.0	6.280	A
2	727	182	132	1598	0.455	728	517	1.2	0.8	4.145	A
3	439	110	209	2264	0.194	439	651	0.3	0.2	1.974	A
4	319	80	389	1431	0.223	320	259	0.4	0.3	3.240	A

2021 Base + Com, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Plas Coch Roundabout	Standard Roundabout		1, 2, 3, 4	6.45	A

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	4	Arm 1	6.45	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D5	2021 Base + Com	PM	ONE HOUR	15:45	17:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1		ONE HOUR	✓	96	100.000
2		ONE HOUR	✓	944	100.000
3		ONE HOUR	✓	981	100.000
4		ONE HOUR	✓	530	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1	2	3	4
From	1	0	77	14	5
	2	11	2	689	242
	3	8	770	1	202
	4	2	303	225	0

Vehicle Mix

Heavy Vehicle Percentages

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

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1	0.44	26.18	0.7	D	88	132
2	0.69	7.58	2.2	A	866	1299
3	0.49	3.22	1.0	A	900	1350
4	0.53	6.83	1.1	A	486	730

Main Results for each time segment

15:45 - 16:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	72	18	976	473	0.153	72	16	0.0	0.2	8.950	A
2	711	178	184	1572	0.452	707	864	0.0	0.8	4.147	A
3	739	185	195	2275	0.325	737	696	0.0	0.5	2.337	A

4	399	100	595	1294	0.308	397	337	0.0	0.4	4.004	A
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16:00 - 16:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	86	22	1168	376	0.229	86	19	0.2	0.3	12.378	B
2	849	212	220	1548	0.548	847	1034	0.8	1.2	5.127	A
3	882	220	233	2242	0.393	881	834	0.5	0.6	2.643	A
4	476	119	711	1217	0.392	476	403	0.4	0.6	4.851	A

16:15 - 16:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	106	26	1430	244	0.433	104	23	0.3	0.7	25.348	D
2	1039	260	269	1515	0.686	1036	1265	1.2	2.1	7.456	A
3	1080	270	285	2198	0.491	1079	1019	0.6	1.0	3.214	A
4	584	146	871	1111	0.525	582	493	0.6	1.1	6.774	A

16:30 - 16:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	106	26	1432	243	0.435	106	23	0.7	0.7	26.175	D
2	1039	260	270	1514	0.687	1039	1268	2.1	2.2	7.577	A
3	1080	270	286	2197	0.492	1080	1023	1.0	1.0	3.222	A
4	584	146	872	1111	0.525	584	494	1.1	1.1	6.828	A

16:45 - 17:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	86	22	1172	374	0.231	88	19	0.7	0.3	12.660	B
2	849	212	221	1547	0.549	852	1039	2.2	1.2	5.212	A
3	882	220	235	2241	0.394	883	839	1.0	0.7	2.653	A
4	476	119	713	1216	0.392	478	405	1.1	0.6	4.891	A

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	72	18	981	471	0.154	73	16	0.3	0.2	9.056	A
2	711	178	185	1571	0.452	712	869	1.2	0.8	4.200	A
3	739	185	196	2274	0.325	739	701	0.7	0.5	2.346	A
4	399	100	597	1293	0.309	400	339	0.6	0.4	4.036	A

2021 Base + Com, Saturday

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Plas Coch Roundabout	Standard Roundabout		1, 2, 3, 4	8.61	A

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	2	Arm 1	8.61	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D6	2021 Base + Com	Saturday	ONE HOUR	11:45	13:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1		ONE HOUR	✓	24	100.000
2		ONE HOUR	✓	1129	100.000
3		ONE HOUR	✓	1215	100.000
4		ONE HOUR	✓	495	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1	2	3	4
From	1	0	16	8	0
	2	11	1	924	193
	3	5	967	5	238
	4	1	256	238	0

Vehicle Mix

Heavy Vehicle Percentages

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

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1	0.17	28.84	0.2	D	22	33
2	0.82	13.20	4.4	B	1036	1554
3	0.59	3.95	1.5	A	1115	1672
4	0.56	8.51	1.3	A	454	681

Main Results for each time segment

11:45 - 12:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	18	5	1101	411	0.044	18	13	0.0	0.0	9.161	A
2	850	212	188	1573	0.540	845	930	0.0	1.2	4.915	A
3	915	229	153	2310	0.396	912	880	0.0	0.7	2.571	A

4	373	93	742	1197	0.311	371	323	0.0	0.4	4.347	A
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12:00 - 12:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	22	5	1317	301	0.072	21	15	0.0	0.1	12.850	B
2	1015	254	225	1548	0.656	1012	1113	1.2	1.9	6.681	A
3	1092	273	184	2284	0.478	1091	1054	0.7	0.9	3.014	A
4	445	111	888	1101	0.404	444	387	0.4	0.7	5.476	A

12:15 - 12:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	26	7	1611	153	0.173	26	19	0.1	0.2	28.179	D
2	1243	311	275	1514	0.821	1233	1362	1.9	4.3	12.412	B
3	1338	334	224	2250	0.595	1336	1285	0.9	1.5	3.927	A
4	545	136	1087	969	0.563	543	472	0.7	1.3	8.400	A

12:30 - 12:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	26	7	1615	151	0.175	26	19	0.2	0.2	28.840	D
2	1243	311	276	1513	0.821	1242	1365	4.3	4.4	13.203	B
3	1338	334	226	2249	0.595	1338	1293	1.5	1.5	3.951	A
4	545	136	1089	968	0.563	545	474	1.3	1.3	8.513	A

12:45 - 13:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	22	5	1323	299	0.072	22	15	0.2	0.1	13.045	B
2	1015	254	227	1547	0.656	1025	1118	4.4	1.9	7.025	A
3	1092	273	186	2282	0.479	1094	1066	1.5	0.9	3.037	A
4	445	111	891	1099	0.405	447	390	1.3	0.7	5.545	A

13:00 - 13:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	18	5	1106	408	0.044	18	13	0.1	0.0	9.243	A
2	850	212	189	1572	0.541	853	935	1.9	1.2	5.028	A
3	915	229	155	2309	0.396	916	888	0.9	0.7	2.585	A
4	373	93	745	1195	0.312	374	325	0.7	0.5	4.388	A

2021 Total, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Plas Coch Roundabout	Standard Roundabout		1, 2, 3, 4	5.63	A

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	29	Arm 2	5.63	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D7	2021 Total	AM	ONE HOUR	08:45	10:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1		ONE HOUR	✓	20	100.000
2		ONE HOUR	✓	1001	100.000
3		ONE HOUR	✓	635	100.000
4		ONE HOUR	✓	434	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1	2	3	4
From	1	0	15	5	0
	2	76	1	728	196
	3	8	467	3	157
	4	15	239	179	1

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1	2	3	4
From	1	0	13	0	0
	2	0	0	1	3
	3	0	0	0	0
	4	0	1	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1	0.05	8.84	0.1	A	18	28
2	0.71	8.07	2.4	A	919	1378
3	0.32	2.42	0.5	A	583	874
4	0.37	4.47	0.6	A	398	597

Main Results for each time segment

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	15	4	668	573	0.026	15	74	0.0	0.0	6.455	A
2	754	188	141	1592	0.473	750	542	0.0	0.9	4.257	A
3	478	120	205	2267	0.211	477	686	0.0	0.3	2.010	A

4	327	82	417	1412	0.231	326	266	0.0	0.3	3.310	A
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09:00 - 09:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	18	4	799	512	0.035	18	89	0.0	0.0	7.282	A
2	900	225	169	1573	0.572	898	649	0.9	1.3	5.316	A
3	571	143	246	2233	0.256	571	821	0.3	0.3	2.165	A
4	390	98	499	1358	0.287	390	318	0.3	0.4	3.715	A

09:15 - 09:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	22	6	979	430	0.051	22	109	0.0	0.1	8.827	A
2	1102	276	207	1548	0.712	1098	794	1.3	2.4	7.918	A
3	699	175	300	2186	0.320	699	1004	0.3	0.5	2.420	A
4	478	119	610	1284	0.372	477	389	0.4	0.6	4.457	A

09:30 - 09:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	22	6	980	429	0.051	22	109	0.1	0.1	8.839	A
2	1102	276	207	1548	0.712	1102	795	2.4	2.4	8.065	A
3	699	175	302	2185	0.320	699	1007	0.5	0.5	2.421	A
4	478	119	611	1284	0.372	478	390	0.6	0.6	4.466	A

09:45 - 10:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	18	4	801	511	0.035	18	89	0.1	0.0	7.298	A
2	900	225	169	1573	0.572	904	650	2.4	1.4	5.415	A
3	571	143	248	2231	0.256	571	826	0.5	0.3	2.170	A
4	390	98	500	1357	0.287	391	319	0.6	0.4	3.726	A

10:00 - 10:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	15	4	671	572	0.026	15	75	0.0	0.0	6.472	A
2	754	188	142	1592	0.473	755	544	1.4	0.9	4.313	A
3	478	120	207	2266	0.211	478	690	0.3	0.3	2.013	A
4	327	82	418	1411	0.232	327	267	0.4	0.3	3.320	A

2021 Total, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Plas Coch Roundabout	Standard Roundabout		1, 2, 3, 4	7.62	A

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	-1	Arm 1	7.62	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D8	2021 Total	PM	ONE HOUR	15:45	17:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1		ONE HOUR	✓	96	100.000
2		ONE HOUR	✓	998	100.000
3		ONE HOUR	✓	1066	100.000
4		ONE HOUR	✓	548	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1	2	3	4
From	1	0	77	14	5
	2	11	2	749	236
	3	8	830	1	227
	4	2	298	248	0

Vehicle Mix

Heavy Vehicle Percentages

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

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1	0.53	38.01	1.1	E	88	132
2	0.73	9.01	2.7	A	916	1374
3	0.53	3.50	1.1	A	978	1467
4	0.57	7.76	1.3	A	503	754

Main Results for each time segment

15:45 - 16:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	72	18	1035	444	0.163	72	16	0.0	0.2	9.652	A
2	751	188	201	1561	0.481	748	905	0.0	0.9	4.405	A
3	803	201	190	2279	0.352	800	758	0.0	0.5	2.432	A

4	413	103	640	1265	0.326	411	351	0.0	0.5	4.205	A
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16:00 - 16:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	86	22	1238	341	0.253	86	19	0.2	0.3	14.070	B
2	897	224	240	1535	0.585	895	1084	0.9	1.4	5.613	A
3	958	240	228	2247	0.427	958	908	0.5	0.7	2.791	A
4	493	123	765	1182	0.417	492	420	0.5	0.7	5.212	A

16:15 - 16:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	106	26	1515	201	0.525	103	23	0.3	1.0	35.631	E
2	1099	275	294	1499	0.733	1094	1324	1.4	2.7	8.777	A
3	1174	293	278	2204	0.533	1172	1109	0.7	1.1	3.485	A
4	603	151	937	1068	0.565	601	514	0.7	1.3	7.671	A

16:30 - 16:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	106	26	1518	200	0.529	105	23	1.0	1.1	38.006	E
2	1099	275	295	1498	0.734	1099	1329	2.7	2.7	9.005	A
3	1174	293	280	2203	0.533	1174	1114	1.1	1.1	3.497	A
4	603	151	938	1067	0.565	603	515	1.3	1.3	7.756	A

16:45 - 17:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	86	22	1243	339	0.255	89	19	1.1	0.3	14.599	B
2	897	224	243	1533	0.585	902	1090	2.7	1.4	5.752	A
3	958	240	230	2245	0.427	960	915	1.1	0.7	2.803	A
4	493	123	767	1180	0.417	495	422	1.3	0.7	5.268	A

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	72	18	1040	441	0.164	73	16	0.3	0.2	9.790	A
2	751	188	202	1560	0.482	753	910	1.4	0.9	4.471	A
3	803	201	192	2278	0.352	803	764	0.7	0.5	2.444	A
4	413	103	642	1263	0.327	414	353	0.7	0.5	4.241	A

2021 Total, Saturday

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Plas Coch Roundabout	Standard Roundabout		1, 2, 3, 4	11.23	B

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	-3	Arm 1	11.23	B

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D9	2021 Total	Saturday	ONE HOUR	11:45	13:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1		ONE HOUR	✓	24	100.000
2		ONE HOUR	✓	1194	100.000
3		ONE HOUR	✓	1314	100.000
4		ONE HOUR	✓	503	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1	2	3	4
From	1	0	16	8	0
	2	11	1	1002	180
	3	5	1050	0	259
	4	1	245	257	0

Vehicle Mix

Heavy Vehicle Percentages

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

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1	0.26	46.53	0.3	E	22	33
2	0.87	18.48	6.4	C	1096	1643
3	0.64	4.42	1.8	A	1206	1809
4	0.61	10.07	1.5	B	462	692

Main Results for each time segment

11:45 - 12:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	18	5	1165	378	0.048	18	13	0.0	0.0	9.981	A
2	899	225	198	1567	0.574	894	984	0.0	1.3	5.306	A
3	989	247	144	2319	0.427	986	948	0.0	0.7	2.696	A

4	379	95	801	1159	0.327	377	329	0.0	0.5	4.592	A
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12:00 - 12:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	22	5	1394	263	0.082	21	15	0.0	0.1	14.906	B
2	1073	268	238	1540	0.697	1070	1178	1.3	2.2	7.588	A
3	1181	295	172	2294	0.515	1180	1135	0.7	1.1	3.228	A
4	452	113	958	1055	0.429	451	394	0.5	0.7	5.957	A

12:15 - 12:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	26	7	1705	106	0.249	26	19	0.1	0.3	44.188	E
2	1315	329	290	1505	0.873	1299	1440	2.2	6.0	16.404	C
3	1447	362	209	2263	0.639	1444	1380	1.1	1.7	4.381	A
4	554	138	1172	913	0.607	551	481	0.7	1.5	9.866	A

12:30 - 12:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	26	7	1710	104	0.255	26	19	0.3	0.3	46.528	E
2	1315	329	292	1504	0.874	1313	1444	6.0	6.4	18.484	C
3	1447	362	211	2261	0.640	1447	1394	1.7	1.8	4.420	A
4	554	138	1175	911	0.608	554	483	1.5	1.5	10.066	B

12:45 - 13:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	22	5	1401	259	0.083	23	15	0.3	0.1	15.274	C
2	1073	268	240	1539	0.698	1090	1184	6.4	2.4	8.289	A
3	1181	295	175	2292	0.515	1184	1155	1.8	1.1	3.257	A
4	452	113	962	1052	0.430	455	398	1.5	0.8	6.061	A

13:00 - 13:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	18	5	1171	375	0.048	18	13	0.1	0.1	10.091	B
2	899	225	200	1566	0.574	903	989	2.4	1.4	5.464	A
3	989	247	145	2317	0.427	991	958	1.1	0.7	2.717	A
4	379	95	804	1156	0.327	380	331	0.8	0.5	4.643	A

2036 Base (2021 Base + All Committed), AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Plas Coch Roundabout	Standard Roundabout		1, 2, 3, 4	5.39	A

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	33	Arm 2	5.39	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D10	2036 Base (2021 Base + All Committed)	AM	ONE HOUR	08:45	10:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1		ONE HOUR	✓	34	100.000
2		ONE HOUR	✓	978	100.000
3		ONE HOUR	✓	583	100.000
4		ONE HOUR	✓	437	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1	2	3	4
From	1	0	27	5	2
	2	84	1	689	204
	3	8	428	3	144
	4	17	253	166	1

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1	2	3	4
From	1	0	13	0	0
	2	0	0	1	3
	3	0	0	0	0
	4	0	1	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1	0.08	8.81	0.1	A	31	47
2	0.69	7.51	2.2	A	897	1346
3	0.30	2.36	0.4	A	535	802
4	0.37	4.36	0.6	A	401	601

Main Results for each time segment

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	26	6	640	583	0.044	25	82	0.0	0.0	6.458	A
2	736	184	133	1597	0.461	733	532	0.0	0.8	4.149	A
3	439	110	219	2256	0.195	438	647	0.0	0.2	1.979	A

4	329	82	393	1427	0.231	328	263	0.0	0.3	3.271	A
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09:00 - 09:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	31	8	765	525	0.058	31	98	0.0	0.1	7.278	A
2	879	220	159	1580	0.557	878	637	0.8	1.2	5.115	A
3	524	131	262	2219	0.236	524	775	0.2	0.3	2.123	A
4	393	98	471	1376	0.285	392	315	0.3	0.4	3.657	A

09:15 - 09:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	37	9	937	447	0.084	37	120	0.1	0.1	8.796	A
2	1077	269	195	1556	0.692	1073	780	1.2	2.2	7.394	A
3	642	160	320	2170	0.296	641	947	0.3	0.4	2.355	A
4	481	120	576	1306	0.368	480	386	0.4	0.6	4.355	A

09:30 - 09:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	37	9	938	446	0.084	37	120	0.1	0.1	8.809	A
2	1077	269	195	1556	0.692	1077	781	2.2	2.2	7.509	A
3	642	160	321	2169	0.296	642	950	0.4	0.4	2.357	A
4	481	120	577	1306	0.368	481	386	0.6	0.6	4.364	A

09:45 - 10:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	31	8	767	524	0.058	31	98	0.1	0.1	7.292	A
2	879	220	159	1580	0.557	883	638	2.2	1.3	5.195	A
3	524	131	264	2218	0.236	525	779	0.4	0.3	2.127	A
4	393	98	472	1376	0.286	394	316	0.6	0.4	3.667	A

10:00 - 10:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	26	6	642	582	0.044	26	82	0.1	0.0	6.475	A
2	736	184	133	1597	0.461	738	534	1.3	0.9	4.199	A
3	439	110	220	2255	0.195	439	651	0.3	0.2	1.984	A
4	329	82	395	1426	0.231	329	265	0.4	0.3	3.284	A

2036 Base (2021 Base + All Committed), PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Plas Coch Roundabout	Standard Roundabout		1, 2, 3, 4	7.10	A

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	2	Arm 1	7.10	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D11	2036 Base (2021 Base + All Committed)	PM	ONE HOUR	15:45	17:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1		ONE HOUR	✓	108	100.000
2		ONE HOUR	✓	982	100.000
3		ONE HOUR	✓	981	100.000
4		ONE HOUR	✓	540	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1	2	3	4
From	1	0	87	14	7
	2	30	2	689	261
	3	8	770	1	202
	4	6	309	225	0

Vehicle Mix

Heavy Vehicle Percentages

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

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1	0.50	29.72	1.0	D	99	149
2	0.72	8.34	2.5	A	901	1352
3	0.50	3.33	1.0	A	900	1350
4	0.54	7.17	1.2	A	496	743

Main Results for each time segment

15:45 - 16:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	81	20	981	471	0.173	80	33	0.0	0.2	9.202	A
2	739	185	185	1571	0.471	736	876	0.0	0.9	4.294	A
3	739	185	225	2250	0.328	737	696	0.0	0.5	2.376	A

4	407	102	609	1285	0.316	405	352	0.0	0.5	4.082	A
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16:00 - 16:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	97	24	1174	374	0.260	97	39	0.2	0.3	12.972	B
2	883	221	222	1546	0.571	881	1049	0.9	1.3	5.400	A
3	882	220	269	2212	0.399	881	834	0.5	0.7	2.703	A
4	485	121	728	1206	0.403	485	422	0.5	0.7	4.988	A

16:15 - 16:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	119	30	1436	241	0.493	117	48	0.3	0.9	28.433	D
2	1081	270	271	1513	0.715	1077	1282	1.3	2.4	8.169	A
3	1080	270	329	2161	0.500	1079	1019	0.7	1.0	3.321	A
4	595	149	892	1098	0.542	593	516	0.7	1.2	7.099	A

16:30 - 16:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	119	30	1439	240	0.496	119	48	0.9	1.0	29.720	D
2	1081	270	272	1512	0.715	1081	1286	2.4	2.5	8.342	A
3	1080	270	330	2160	0.500	1080	1023	1.0	1.0	3.333	A
4	595	149	893	1097	0.542	595	517	1.2	1.2	7.166	A

16:45 - 17:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	97	24	1178	371	0.261	99	40	1.0	0.4	13.351	B
2	883	221	223	1545	0.571	887	1054	2.5	1.4	5.510	A
3	882	220	271	2210	0.399	883	839	1.0	0.7	2.717	A
4	485	121	730	1205	0.403	487	424	1.2	0.7	5.033	A

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	81	20	985	468	0.174	82	33	0.4	0.2	9.325	A
2	739	185	186	1570	0.471	741	881	1.4	0.9	4.355	A
3	739	185	226	2248	0.328	739	701	0.7	0.5	2.388	A
4	407	102	611	1283	0.317	407	355	0.7	0.5	4.115	A

2036 Base (2021 Base + All Committed), Saturday

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Plas Coch Roundabout	Standard Roundabout		1, 2, 3, 4	10.10	B

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	-2	Arm 1	10.10	B

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D12	2036 Base (2021 Base + All Committed)	Saturday	ONE HOUR	11:45	13:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1		ONE HOUR	✓	58	100.000
2		ONE HOUR	✓	1155	100.000
3		ONE HOUR	✓	1210	100.000
4		ONE HOUR	✓	500	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1	2	3	4
From	1	0	30	8	20
	2	24	1	924	206
	3	5	967	0	238
	4	3	259	238	0

Vehicle Mix

Heavy Vehicle Percentages

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

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1	0.42	40.52	0.7	E	53	80
2	0.85	15.40	5.2	C	1060	1590
3	0.60	4.12	1.5	A	1110	1665
4	0.57	8.75	1.3	A	459	688

Main Results for each time segment

11:45 - 12:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	44	11	1099	411	0.106	43	24	0.0	0.1	9.763	A
2	870	217	199	1565	0.556	865	943	0.0	1.2	5.103	A
3	911	228	188	2282	0.399	908	876	0.0	0.7	2.617	A

4	376	94	748	1193	0.315	375	348	0.0	0.5	4.388	A
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12:00 - 12:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	52	13	1315	302	0.172	52	29	0.1	0.2	14.344	B
2	1038	260	239	1539	0.675	1035	1128	1.2	2.0	7.105	A
3	1088	272	225	2250	0.483	1087	1049	0.7	0.9	3.092	A
4	449	112	895	1096	0.410	449	416	0.5	0.7	5.554	A

12:15 - 12:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	64	16	1609	154	0.414	62	35	0.2	0.7	38.287	E
2	1272	318	291	1503	0.846	1260	1380	2.0	5.0	14.140	B
3	1332	333	273	2209	0.603	1330	1277	0.9	1.5	4.086	A
4	551	138	1096	963	0.572	548	508	0.7	1.3	8.621	A

12:30 - 12:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	64	16	1613	152	0.419	64	35	0.7	0.7	40.515	E
2	1272	318	293	1502	0.847	1271	1384	5.0	5.2	15.401	C
3	1332	333	276	2206	0.604	1332	1287	1.5	1.5	4.118	A
4	551	138	1098	962	0.572	550	511	1.3	1.3	8.746	A

12:45 - 13:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	52	13	1321	299	0.174	54	29	0.7	0.2	14.785	B
2	1038	260	241	1537	0.676	1051	1134	5.2	2.1	7.589	A
3	1088	272	229	2247	0.484	1090	1063	1.5	0.9	3.120	A
4	449	112	898	1094	0.411	452	420	1.3	0.7	5.629	A

13:00 - 13:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	44	11	1105	409	0.107	44	24	0.2	0.1	9.887	A
2	870	217	201	1564	0.556	873	948	2.1	1.3	5.237	A
3	911	228	190	2280	0.400	912	884	0.9	0.7	2.633	A
4	376	94	752	1191	0.316	377	350	0.7	0.5	4.430	A

2036 Total , AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Plas Coch Roundabout	Standard Roundabout		1, 2, 3, 4	5.84	A

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	28	Arm 2	5.84	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D13	2036 Total	AM	ONE HOUR	08:45	10:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1		ONE HOUR	✓	34	100.000
2		ONE HOUR	✓	1014	100.000
3		ONE HOUR	✓	635	100.000
4		ONE HOUR	✓	447	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1	2	3	4
From	1	0	27	5	2
	2	84	1	728	201
	3	8	467	3	157
	4	17	250	179	1

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1	2	3	4
From	1	0	13	0	0
	2	0	0	1	3
	3	0	0	0	0
	4	0	1	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1	0.09	9.37	0.1	A	31	47
2	0.72	8.36	2.6	A	930	1396
3	0.32	2.44	0.5	A	583	874
4	0.39	4.58	0.6	A	410	615

Main Results for each time segment

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	26	6	676	566	0.045	25	82	0.0	0.0	6.659	A
2	763	191	142	1591	0.480	760	559	0.0	0.9	4.311	A
3	478	120	217	2258	0.212	477	686	0.0	0.3	2.020	A

4	337	84	423	1408	0.239	335	271	0.0	0.3	3.353	A
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09:00 - 09:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	31	8	809	505	0.061	30	98	0.0	0.1	7.586	A
2	912	228	171	1572	0.580	910	669	0.9	1.4	5.420	A
3	571	143	259	2221	0.257	571	821	0.3	0.3	2.180	A
4	402	100	506	1353	0.297	401	324	0.3	0.4	3.779	A

09:15 - 09:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	37	9	991	422	0.089	37	120	0.1	0.1	9.356	A
2	1116	279	209	1547	0.722	1112	819	1.4	2.5	8.191	A
3	699	175	317	2173	0.322	699	1004	0.3	0.5	2.442	A
4	492	123	619	1278	0.385	491	396	0.4	0.6	4.570	A

09:30 - 09:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	37	9	992	421	0.089	37	120	0.1	0.1	9.374	A
2	1116	279	209	1546	0.722	1116	820	2.5	2.6	8.359	A
3	699	175	318	2172	0.322	699	1007	0.5	0.5	2.444	A
4	492	123	620	1278	0.385	492	397	0.6	0.6	4.582	A

09:45 - 10:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	31	8	811	504	0.061	31	98	0.1	0.1	7.606	A
2	912	228	171	1572	0.580	916	671	2.6	1.4	5.527	A
3	571	143	261	2220	0.257	571	826	0.5	0.3	2.185	A
4	402	100	507	1353	0.297	403	326	0.6	0.4	3.792	A

10:00 - 10:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	26	6	679	565	0.045	26	82	0.1	0.0	6.678	A
2	763	191	143	1591	0.480	765	561	1.4	0.9	4.372	A
3	478	120	218	2256	0.212	478	690	0.3	0.3	2.024	A
4	337	84	424	1407	0.239	337	272	0.4	0.3	3.366	A

2036 Total , PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Plas Coch Roundabout	Standard Roundabout		1, 2, 3, 4	8.62	A

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	-3	Arm 1	8.62	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D14	2036 Total	PM	ONE HOUR	15:45	17:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1		ONE HOUR	✓	108	100.000
2		ONE HOUR	✓	1036	100.000
3		ONE HOUR	✓	1066	100.000
4		ONE HOUR	✓	558	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1	2	3	4
From	1	0	87	14	7
	2	30	2	749	255
	3	8	830	1	227
	4	6	304	248	0

Vehicle Mix

Heavy Vehicle Percentages

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

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1	0.61	45.76	1.4	E	99	149
2	0.76	10.10	3.1	B	951	1426
3	0.54	3.63	1.2	A	978	1467
4	0.58	8.20	1.4	A	512	768

Main Results for each time segment

15:45 - 16:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	81	20	1039	442	0.184	80	33	0.0	0.2	9.946	A
2	780	195	202	1560	0.500	776	917	0.0	1.0	4.569	A
3	803	201	220	2254	0.356	800	758	0.0	0.6	2.474	A

4	420	105	654	1255	0.335	418	367	0.0	0.5	4.289	A
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16:00 - 16:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	97	24	1243	338	0.287	96	39	0.2	0.4	14.836	B
2	931	233	242	1533	0.608	929	1098	1.0	1.5	5.940	A
3	958	240	264	2217	0.432	957	908	0.6	0.8	2.858	A
4	502	125	782	1170	0.429	501	439	0.5	0.7	5.367	A

16:15 - 16:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	119	30	1521	198	0.600	115	48	0.4	1.3	41.617	E
2	1141	285	295	1497	0.762	1134	1341	1.5	3.1	9.763	A
3	1174	293	322	2167	0.542	1172	1108	0.8	1.2	3.611	A
4	614	154	957	1054	0.583	612	536	0.7	1.4	8.090	A

16:30 - 16:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	119	30	1525	196	0.606	119	48	1.3	1.4	45.763	E
2	1141	285	297	1496	0.763	1140	1346	3.1	3.1	10.102	B
3	1174	293	324	2166	0.542	1174	1114	1.2	1.2	3.628	A
4	614	154	959	1053	0.583	614	538	1.4	1.4	8.196	A

16:45 - 17:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	97	24	1249	336	0.289	101	40	1.4	0.4	15.606	C
2	931	233	245	1531	0.608	938	1105	3.1	1.6	6.123	A
3	958	240	266	2214	0.433	960	916	1.2	0.8	2.872	A
4	502	125	784	1169	0.429	504	442	1.4	0.8	5.436	A

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	81	20	1044	439	0.185	82	33	0.4	0.2	10.112	B
2	780	195	204	1559	0.500	782	923	1.6	1.0	4.648	A
3	803	201	222	2252	0.356	803	764	0.8	0.6	2.487	A
4	420	105	656	1254	0.335	421	369	0.8	0.5	4.328	A

2036 Total, Saturday

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Plas Coch Roundabout	Standard Roundabout		1, 2, 3, 4	13.84	B

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	-5	Arm 1	13.84	B

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D15	2036 Total	Saturday	ONE HOUR	11:45	13:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1		ONE HOUR	✓	40	100.000
2		ONE HOUR	✓	1233	100.000
3		ONE HOUR	✓	1314	100.000
4		ONE HOUR	✓	508	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1	2	3	4
From	1	0	30	8	2
	2	24	1	1002	206
	3	5	1050	0	259
	4	3	248	257	0

Vehicle Mix

Heavy Vehicle Percentages

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

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1	0.43	61.48	0.7	F	37	55
2	0.90	23.43	8.3	C	1131	1697
3	0.65	4.64	1.8	A	1206	1809
4	0.62	10.50	1.6	B	466	699

Main Results for each time segment

11:45 - 12:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	30	8	1167	377	0.080	30	24	0.0	0.1	10.352	B
2	928	232	200	1565	0.593	923	997	0.0	1.4	5.554	A
3	989	247	174	2293	0.431	986	948	0.0	0.8	2.750	A

4	382	96	811	1152	0.332	380	350	0.0	0.5	4.653	A
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12:00 - 12:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	36	9	1397	261	0.138	36	29	0.1	0.2	15.925	C
2	1108	277	239	1539	0.720	1104	1193	1.4	2.5	8.206	A
3	1181	295	209	2263	0.522	1180	1135	0.8	1.1	3.317	A
4	457	114	970	1047	0.436	456	419	0.5	0.8	6.077	A

12:15 - 12:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	44	11	1708	105	0.421	42	35	0.2	0.7	55.906	F
2	1358	339	292	1503	0.903	1337	1458	2.5	7.6	19.653	C
3	1447	362	253	2226	0.650	1444	1376	1.1	1.8	4.585	A
4	559	140	1186	903	0.619	556	510	0.8	1.6	10.270	B

12:30 - 12:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	44	11	1713	102	0.432	44	35	0.7	0.7	61.483	F
2	1358	339	294	1502	0.904	1355	1463	7.6	8.3	23.434	C
3	1447	362	256	2223	0.651	1447	1392	1.8	1.8	4.636	A
4	559	140	1189	902	0.620	559	514	1.6	1.6	10.504	B

12:45 - 13:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	36	9	1404	258	0.140	38	29	0.7	0.2	16.565	C
2	1108	277	242	1537	0.721	1131	1200	8.3	2.7	9.342	A
3	1181	295	214	2259	0.523	1184	1160	1.8	1.1	3.357	A
4	457	114	974	1044	0.437	460	424	1.6	0.8	6.197	A

13:00 - 13:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	30	8	1174	374	0.081	30	24	0.2	0.1	10.489	B
2	928	232	202	1564	0.594	933	1002	2.7	1.5	5.749	A
3	989	247	176	2291	0.432	991	958	1.1	0.8	2.770	A
4	382	96	814	1150	0.333	384	353	0.8	0.5	4.706	A

2036 Base Sensitivity, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Plas Coch Roundabout	Standard Roundabout		1, 2, 3, 4	5.46	A

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	32	Arm 2	5.46	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D16	2036 Base Sensitivity	AM	ONE HOUR	08:45	10:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1		ONE HOUR	✓	24	100.000
2		ONE HOUR	✓	987	100.000
3		ONE HOUR	✓	559	100.000
4		ONE HOUR	✓	455	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1	2	3	4
From	1	0	18	6	0
	2	87	1	671	228
	3	8	409	3	139
	4	16	278	160	1

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1	2	3	4
From	1	0	13	0	0
	2	0	0	1	3
	3	0	0	0	0
	4	0	1	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1	0.06	8.53	0.1	A	22	33
2	0.70	7.59	2.3	A	906	1359
3	0.29	2.35	0.4	A	513	769
4	0.38	4.41	0.6	A	418	626

Main Results for each time segment

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	18	5	640	586	0.031	18	83	0.0	0.0	6.339	A
2	743	186	128	1600	0.464	740	530	0.0	0.9	4.166	A
3	421	105	238	2240	0.188	420	630	0.0	0.2	1.977	A

4	343	86	381	1435	0.239	341	276	0.0	0.3	3.289	A
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09:00 - 09:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	22	5	765	528	0.041	22	100	0.0	0.0	7.111	A
2	887	222	153	1583	0.560	886	634	0.9	1.3	5.148	A
3	503	126	284	2200	0.228	502	754	0.2	0.3	2.120	A
4	409	102	456	1385	0.295	409	330	0.3	0.4	3.683	A

09:15 - 09:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	26	7	937	449	0.059	26	122	0.0	0.1	8.523	A
2	1087	272	187	1560	0.696	1083	776	1.3	2.2	7.475	A
3	615	154	348	2146	0.287	615	922	0.3	0.4	2.351	A
4	501	125	559	1318	0.380	500	404	0.4	0.6	4.401	A

09:30 - 09:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	26	7	938	448	0.059	26	122	0.1	0.1	8.533	A
2	1087	272	187	1560	0.696	1087	777	2.2	2.3	7.594	A
3	615	154	349	2145	0.287	615	925	0.4	0.4	2.352	A
4	501	125	559	1317	0.380	501	405	0.6	0.6	4.410	A

09:45 - 10:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	22	5	767	527	0.041	22	100	0.1	0.0	7.124	A
2	887	222	153	1583	0.560	891	636	2.3	1.3	5.233	A
3	503	126	286	2198	0.229	503	758	0.4	0.3	2.125	A
4	409	102	457	1385	0.295	410	332	0.6	0.4	3.697	A

10:00 - 10:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	18	5	642	585	0.031	18	84	0.0	0.0	6.358	A
2	743	186	128	1600	0.464	745	532	1.3	0.9	4.217	A
3	421	105	239	2238	0.188	421	634	0.3	0.2	1.982	A
4	343	86	383	1434	0.239	343	278	0.4	0.3	3.302	A

2036 Base Sensitivity, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Plas Coch Roundabout	Standard Roundabout		1, 2, 3, 4	6.95	A

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	1	Arm 1	6.95	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D17	2036 Base Sensitivity	PM	ONE HOUR	15:45	17:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1		ONE HOUR	✓	108	100.000
2		ONE HOUR	✓	952	100.000
3		ONE HOUR	✓	956	100.000
4		ONE HOUR	✓	570	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1	2	3	4
From	1	0	88	15	5
	2	12	2	668	270
	3	8	751	1	196
	4	2	349	219	0

Vehicle Mix

Heavy Vehicle Percentages

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

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1	0.51	31.95	1.0	D	99	149
2	0.69	7.68	2.2	A	874	1310
3	0.49	3.22	0.9	A	877	1316
4	0.56	7.26	1.3	A	523	785

Main Results for each time segment

15:45 - 16:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	81	20	992	465	0.175	80	16	0.0	0.2	9.342	A
2	717	179	180	1573	0.456	713	893	0.0	0.8	4.170	A
3	720	180	217	2256	0.319	718	677	0.0	0.5	2.336	A

4	429	107	581	1303	0.329	427	353	0.0	0.5	4.103	A
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16:00 - 16:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	97	24	1187	367	0.265	97	20	0.2	0.4	13.305	B
2	856	214	215	1549	0.552	854	1068	0.8	1.2	5.167	A
3	859	215	259	2220	0.387	859	810	0.5	0.6	2.643	A
4	512	128	695	1227	0.418	512	423	0.5	0.7	5.024	A

16:15 - 16:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	119	30	1452	233	0.511	116	24	0.4	1.0	30.375	D
2	1048	262	263	1517	0.691	1044	1306	1.2	2.2	7.549	A
3	1053	263	317	2171	0.485	1051	990	0.6	0.9	3.213	A
4	628	157	851	1124	0.558	625	517	0.7	1.2	7.191	A

16:30 - 16:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	119	30	1455	231	0.515	119	24	1.0	1.0	31.949	D
2	1048	262	264	1516	0.691	1048	1310	2.2	2.2	7.679	A
3	1053	263	318	2170	0.485	1053	994	0.9	0.9	3.221	A
4	628	157	852	1123	0.559	628	519	1.2	1.3	7.260	A

16:45 - 17:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	97	24	1192	364	0.267	100	20	1.0	0.4	13.732	B
2	856	214	217	1548	0.553	860	1074	2.2	1.3	5.258	A
3	859	215	261	2218	0.387	861	816	0.9	0.6	2.655	A
4	512	128	697	1226	0.418	515	425	1.3	0.7	5.075	A

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	81	20	997	463	0.176	82	17	0.4	0.2	9.470	A
2	717	179	181	1572	0.456	718	897	1.3	0.8	4.224	A
3	720	180	218	2255	0.319	720	681	0.6	0.5	2.346	A
4	429	107	583	1301	0.330	430	355	0.7	0.5	4.137	A

2036 Base Sensitivity, Saturday

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Plas Coch Roundabout	Standard Roundabout		1, 2, 3, 4	8.46	A

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	3	Arm 1	8.46	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D18	2036 Base Sensitivity	Saturday	ONE HOUR	11:45	13:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1		ONE HOUR	✓	27	100.000
2		ONE HOUR	✓	1127	100.000
3		ONE HOUR	✓	1161	100.000
4		ONE HOUR	✓	525	100.000

Origin-Destination Data

Demand (Veh/hr)

		To				
		1	2	3	4	
From	1	0	17	10	0	
	2	13	1	889	224	
	3	5	927	0	229	
	4	1	297	227	0	

Vehicle Mix

Heavy Vehicle Percentages

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

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1	0.19	27.77	0.2	D	25	37
2	0.81	12.69	4.2	B	1034	1551
3	0.58	3.83	1.4	A	1065	1598
4	0.58	8.56	1.4	A	482	723

Main Results for each time segment

11:45 - 12:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	20	5	1089	416	0.049	20	14	0.0	0.1	9.083	A
2	848	212	178	1579	0.537	844	932	0.0	1.1	4.868	A
3	874	219	178	2289	0.382	872	843	0.0	0.6	2.535	A

4	395	99	710	1218	0.325	393	340	0.0	0.5	4.357	A
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12:00 - 12:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	24	6	1304	308	0.079	24	17	0.1	0.1	12.673	B
2	1013	253	213	1555	0.651	1010	1115	1.1	1.8	6.576	A
3	1044	261	213	2259	0.462	1043	1010	0.6	0.9	2.956	A
4	472	118	850	1126	0.419	471	407	0.5	0.7	5.492	A

12:15 - 12:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	30	7	1595	161	0.184	29	21	0.1	0.2	27.149	D
2	1241	310	260	1523	0.815	1232	1364	1.8	4.1	11.981	B
3	1278	320	260	2219	0.576	1276	1231	0.9	1.3	3.810	A
4	578	145	1040	1000	0.578	576	497	0.7	1.3	8.438	A

12:30 - 12:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	30	7	1599	159	0.187	30	21	0.2	0.2	27.775	D
2	1241	310	261	1523	0.815	1240	1367	4.1	4.2	12.686	B
3	1278	320	262	2218	0.576	1278	1239	1.3	1.4	3.831	A
4	578	145	1042	999	0.579	578	499	1.3	1.4	8.556	A

12:45 - 13:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	24	6	1309	305	0.080	25	17	0.2	0.1	12.864	B
2	1013	253	214	1554	0.652	1022	1120	4.2	1.9	6.889	A
3	1044	261	216	2257	0.462	1046	1021	1.4	0.9	2.978	A
4	472	118	852	1124	0.420	474	409	1.4	0.7	5.565	A

13:00 - 13:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	20	5	1095	413	0.049	20	14	0.1	0.1	9.165	A
2	848	212	179	1578	0.538	851	936	1.9	1.2	4.976	A
3	874	219	180	2288	0.382	875	851	0.9	0.6	2.551	A
4	395	99	713	1216	0.325	396	342	0.7	0.5	4.396	A

2036 Total Sensitivity, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Plas Coch Roundabout	Standard Roundabout		1, 2, 3, 4	5.92	A

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	27	Arm 2	5.92	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D19	2036 Total Sensitivity	AM	ONE HOUR	08:45	10:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1		ONE HOUR	✓	24	100.000
2		ONE HOUR	✓	1023	100.000
3		ONE HOUR	✓	611	100.000
4		ONE HOUR	✓	465	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1	2	3	4
From	1	0	18	6	0
	2	87	1	710	225
	3	8	448	3	152
	4	16	275	173	1

Vehicle Mix

Heavy Vehicle Percentages

		To			
		1	2	3	4
From	1	0	13	0	0
	2	0	0	1	3
	3	0	0	0	0
	4	0	1	0	0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1	0.06	9.07	0.1	A	22	33
2	0.73	8.47	2.6	A	939	1408
3	0.31	2.44	0.5	A	561	841
4	0.40	4.63	0.7	A	427	640

Main Results for each time segment

08:45 - 09:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	18	5	676	569	0.032	18	83	0.0	0.0	6.533	A
2	770	193	137	1594	0.483	766	557	0.0	0.9	4.331	A
3	460	115	235	2242	0.205	459	668	0.0	0.3	2.018	A

4	350	88	411	1416	0.247	349	284	0.0	0.3	3.369	A
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09:00 - 09:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	22	5	809	508	0.043	22	100	0.0	0.0	7.406	A
2	920	230	164	1576	0.584	918	667	0.9	1.4	5.455	A
3	549	137	282	2202	0.249	549	800	0.3	0.3	2.177	A
4	418	105	491	1362	0.307	418	339	0.3	0.4	3.808	A

09:15 - 09:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	26	7	991	424	0.062	26	122	0.0	0.1	9.049	A
2	1126	282	201	1551	0.726	1126	816	1.4	2.6	8.287	A
3	673	168	344	2149	0.313	672	978	0.3	0.5	2.437	A
4	512	128	601	1290	0.397	511	415	0.4	0.7	4.620	A

09:30 - 09:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	26	7	992	424	0.062	26	122	0.1	0.1	9.065	A
2	1126	282	201	1551	0.726	1126	817	2.6	2.6	8.465	A
3	673	168	346	2148	0.313	673	982	0.5	0.5	2.439	A
4	512	128	602	1289	0.397	512	416	0.7	0.7	4.632	A

09:45 - 10:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	22	5	811	507	0.043	22	100	0.1	0.0	7.421	A
2	920	230	165	1576	0.584	924	668	2.6	1.4	5.569	A
3	549	137	284	2201	0.250	550	806	0.5	0.3	2.181	A
4	418	105	493	1362	0.307	419	341	0.7	0.4	3.821	A

10:00 - 10:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	18	5	679	568	0.032	18	84	0.0	0.0	6.551	A
2	770	193	138	1594	0.483	772	559	1.4	0.9	4.393	A
3	460	115	237	2240	0.205	460	673	0.3	0.3	2.024	A
4	350	88	412	1415	0.247	351	285	0.4	0.3	3.383	A

2036 Total Sensitivity, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Plas Coch Roundabout	Standard Roundabout		1, 2, 3, 4	8.50	A

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	-4	Arm 1	8.50	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D20	2036 Total Sensitivity	PM	ONE HOUR	15:45	17:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1		ONE HOUR	✓	108	100.000
2		ONE HOUR	✓	1008	100.000
3		ONE HOUR	✓	1041	100.000
4		ONE HOUR	✓	588	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1	2	3	4
From	1	0	88	15	5
	2	12	2	728	266
	3	8	811	1	221
	4	2	344	242	0

Vehicle Mix

Heavy Vehicle Percentages

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

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1	0.63	51.11	1.6	F	99	149
2	0.74	9.20	2.8	A	925	1387
3	0.53	3.50	1.1	A	955	1433
4	0.60	8.32	1.5	A	540	809

Main Results for each time segment

15:45 - 16:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	81	20	1050	436	0.187	80	16	0.0	0.2	10.107	B
2	759	190	197	1563	0.486	755	934	0.0	0.9	4.438	A
3	784	196	213	2259	0.347	782	739	0.0	0.5	2.433	A

4	443	111	626	1273	0.348	441	369	0.0	0.5	4.313	A
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16:00 - 16:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	97	24	1257	331	0.293	96	20	0.2	0.4	15.271	C
2	906	227	236	1536	0.590	904	1117	0.9	1.4	5.677	A
3	936	234	256	2223	0.421	935	884	0.5	0.7	2.793	A
4	529	132	749	1192	0.444	528	442	0.5	0.8	5.410	A

16:15 - 16:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	119	30	1538	190	0.627	115	24	0.4	1.5	45.658	E
2	1110	277	288	1502	0.739	1105	1365	1.4	2.7	8.949	A
3	1146	287	312	2175	0.527	1145	1080	0.7	1.1	3.490	A
4	647	162	917	1081	0.599	645	540	0.8	1.5	8.205	A

16:30 - 16:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	119	30	1541	188	0.633	118	24	1.5	1.6	51.112	F
2	1110	277	289	1500	0.740	1110	1370	2.7	2.8	9.199	A
3	1146	287	314	2173	0.527	1146	1085	1.1	1.1	3.503	A
4	647	162	918	1080	0.599	647	542	1.5	1.5	8.317	A

16:45 - 17:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	97	24	1262	329	0.295	102	20	1.6	0.4	16.177	C
2	906	227	238	1535	0.590	911	1126	2.8	1.5	5.823	A
3	936	234	258	2221	0.421	937	892	1.1	0.7	2.809	A
4	529	132	751	1191	0.444	531	444	1.5	0.8	5.481	A

17:00 - 17:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	81	20	1056	433	0.188	82	17	0.4	0.2	10.282	B
2	759	190	199	1562	0.486	761	939	1.5	1.0	4.508	A
3	784	196	215	2258	0.347	785	744	0.7	0.5	2.444	A
4	443	111	629	1272	0.348	444	371	0.8	0.5	4.353	A

2036 Total Sensitivity, Saturday

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Use circulating lanes	Arm order	Junction Delay (s)	Junction LOS
1	Plas Coch Roundabout	Standard Roundabout		1, 2, 3, 4	11.07	B

Junction Network

Driving side	Lighting	Network residual capacity (%)	First arm reaching threshold	Network delay (s)	Network LOS
Left	Normal/unknown	-3	Arm 1	11.07	B

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D21	2036 Total Sensitivity	Saturday	ONE HOUR	11:45	13:15	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (Veh/hr)	Scaling Factor (%)
1		ONE HOUR	✓	27	100.000
2		ONE HOUR	✓	1192	100.000
3		ONE HOUR	✓	1265	100.000
4		ONE HOUR	✓	533	100.000

Origin-Destination Data

Demand (Veh/hr)

		To			
		1	2	3	4
From	1	0	17	10	0
	2	13	1	967	211
	3	5	1010	0	250
	4	1	286	246	0

Vehicle Mix

Heavy Vehicle Percentages

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

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (Veh)	Max LOS	Average Demand (Veh/hr)	Total Junction Arrivals (Veh)
1	0.27	45.33	0.4	E	25	37
2	0.87	17.82	6.2	C	1094	1641
3	0.62	4.30	1.7	A	1161	1741
4	0.63	10.23	1.6	B	489	734

Main Results for each time segment

11:45 - 12:00

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	20	5	1157	382	0.053	20	14	0.0	0.1	9.941	A
2	897	224	192	1570	0.571	892	986	0.0	1.3	5.270	A
3	952	238	168	2298	0.415	950	915	0.0	0.7	2.665	A

4	401	100	772	1177	0.341	399	346	0.0	0.5	4.616	A
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12:00 - 12:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	24	6	1385	267	0.091	24	17	0.1	0.1	14.802	B
2	1072	268	230	1545	0.694	1068	1180	1.3	2.2	7.494	A
3	1137	284	202	2269	0.501	1136	1096	0.7	1.0	3.174	A
4	479	120	924	1077	0.445	478	414	0.5	0.8	6.003	A

12:15 - 12:30

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	30	7	1694	112	0.267	29	21	0.1	0.3	43.023	E
2	1312	328	280	1511	0.869	1298	1442	2.2	5.8	15.927	C
3	1393	348	245	2232	0.624	1390	1333	1.0	1.6	4.263	A
4	587	147	1131	940	0.624	584	504	0.8	1.6	10.014	B

12:30 - 12:45

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	30	7	1699	109	0.273	30	21	0.3	0.4	45.332	E
2	1312	328	282	1509	0.869	1311	1447	5.8	6.2	17.817	C
3	1393	348	247	2230	0.625	1393	1345	1.6	1.7	4.299	A
4	587	147	1133	938	0.625	587	507	1.6	1.6	10.231	B

12:45 - 13:00

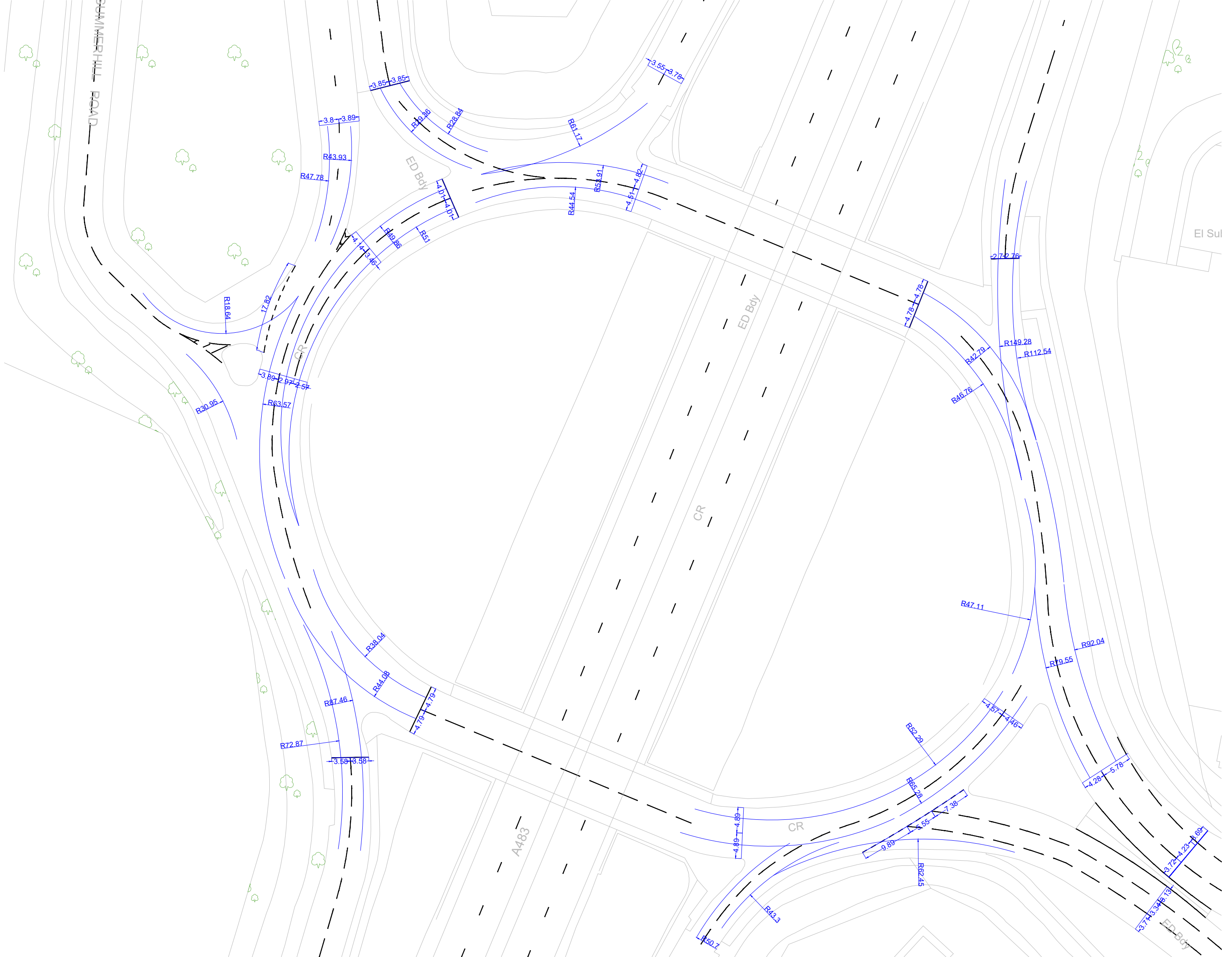
Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	24	6	1392	263	0.092	25	17	0.4	0.1	15.181	C
2	1072	268	232	1543	0.694	1087	1186	6.2	2.3	8.150	A
3	1137	284	205	2266	0.502	1140	1114	1.7	1.0	3.202	A
4	479	120	927	1074	0.446	482	418	1.6	0.8	6.113	A

13:00 - 13:15

Arm	Total Demand (Veh/hr)	Junction Arrivals (Veh)	Circulating flow (Veh/hr)	Capacity (Veh/hr)	RFC	Throughput (Veh/hr)	Throughput (exit side) (Veh/hr)	Start queue (Veh)	End queue (Veh)	Delay (s)	Unsignalised level of service
1	20	5	1164	379	0.054	21	14	0.1	0.1	10.055	B
2	897	224	193	1569	0.572	901	991	2.3	1.4	5.423	A
3	952	238	170	2296	0.415	954	925	1.0	0.7	2.685	A
4	401	100	776	1175	0.342	402	348	0.8	0.5	4.669	A

LINSIG MODELLING

- 8.1 Junction Geometries
- 8.2 LINSIG Output Base Traffic Situation
- 8.3 LINSIG Output Total Traffic Situation



Basic Results Summary

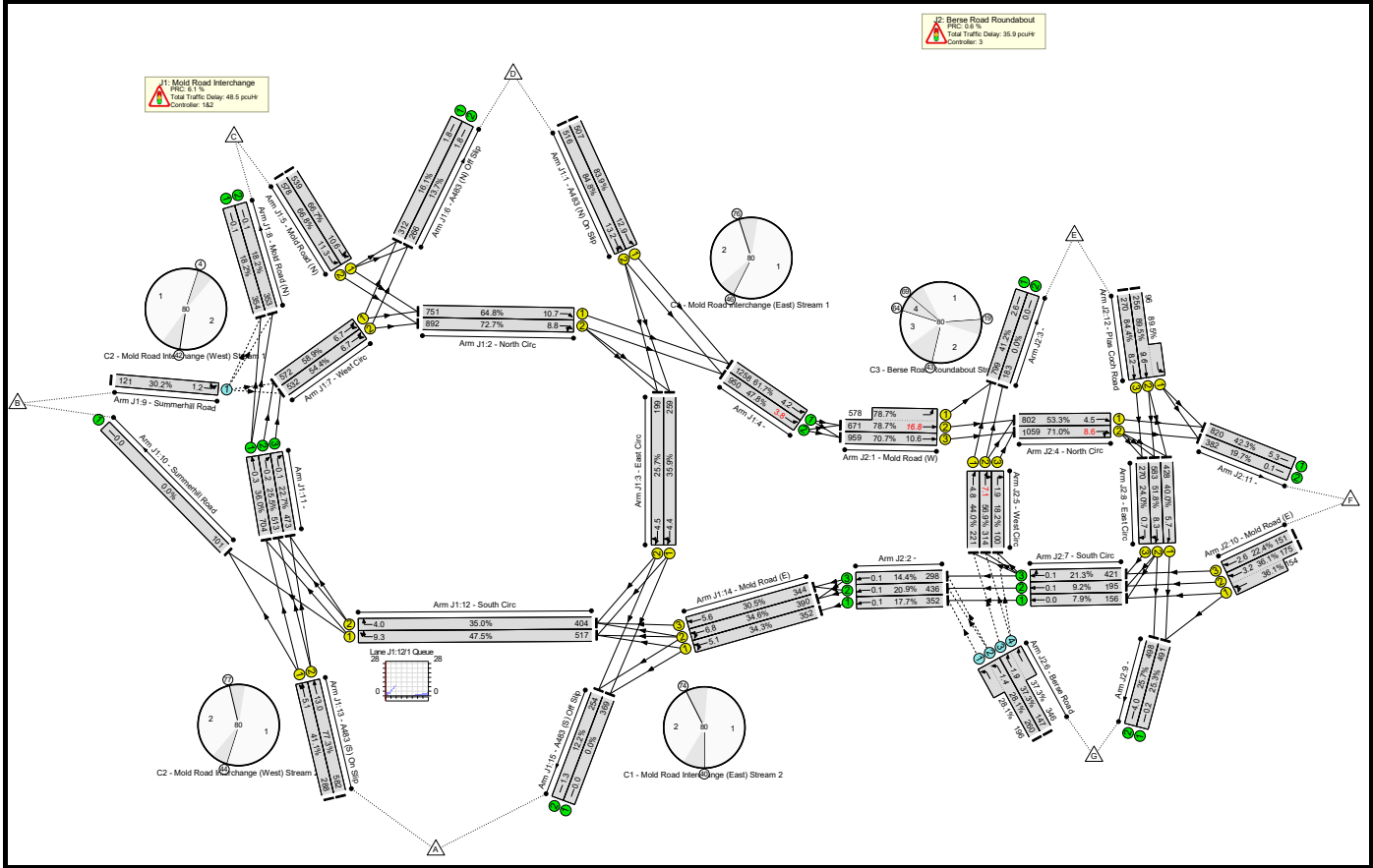
Basic Results Summary

User and Project Details

Project:	
Title:	
Location:	
Additional detail:	
File name:	Wrexham - With Highway Improvements2.lsg3x
Author:	
Company:	
Address:	

Scenario 1: 'Friday AM 2036 Base' (FG4: 'Friday AM Peak 2036 Base', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-		-	-	-	-	-	-	89.5%	2019	0	0	84.4	-	-
J1: Mold Road Interchange	-	-	-		-	-	-	-	-	-	84.8%	121	0	0	48.5	-	-
1/1	A483 (N) On Slip Ahead	U	C1:B		1	25	-	507	1860	605	83.9%	-	-	-	6.0	42.6	12.9
1/2	A483 (N) On Slip Ahead Ahead2	U	C1:B		1	25	-	516	1872	608	84.8%	-	-	-	6.2	43.6	13.2
2/1	North Circ Ahead	U	C1:A		1	44	-	751	2059	1158	64.8%	-	-	-	2.8	13.6	10.7
2/2	North Circ Right Ahead	U	C1:A		1	44	-	892	2180	1226	72.7%	-	-	-	3.0	12.1	8.8
3/1	East Circ Right Ahead	U	C1:C		1	27	-	259	2061	721	35.9%	-	-	-	1.4	19.8	4.4
3/2	East Circ Right Ahead	U	C1:C		1	27	-	199	2212	774	25.7%	-	-	-	1.2	22.4	4.5
4/1	Ahead	U	-		-	-	-	1258	2038	2038	61.7%	-	-	-	0.8	2.3	4.2
4/2	Ahead	U	-		-	-	-	950	1987	1987	47.8%	-	-	-	0.5	1.7	3.8
5/1	Mold Road (N) Left Left2	U	C2:B		1	33	-	539	1901	808	66.7%	-	-	-	3.8	25.1	10.6
5/2	Mold Road (N) Left	U	C2:B		1	33	-	578	2035	865	66.8%	-	-	-	4.0	24.7	11.3
6/1	A483 (N) Off Slip	U	-		-	-	-	312	1940	1940	16.1%	-	-	-	0.1	1.1	1.8
6/2	A483 (N) Off Slip	U	-		-	-	-	266	1940	1940	13.7%	-	-	-	0.1	1.1	1.8
7/1	West Circ Ahead Ahead2	U	C2:A		1	36	-	572	2100	971	58.9%	-	-	-	2.7	17.1	6.7
7/2	West Circ Ahead Ahead2	U	C2:A		1	36	-	532	2113	977	54.4%	-	-	-	2.7	18.4	6.7
8/1	Mold Road (N)	U	-		-	-	-	354	1940	1940	18.2%	-	-	-	0.1	1.1	0.1

Basic Results Summary

8/2	Mold Road (N)	U	-		-	-	-	353	1940	1940	18.2%	-	-	-	0.1	1.1	0.1
9/1	Summerhill Road Ahead Left	O	-		-	-	-	121	1952	401	30.2%	121	0	0	0.5	13.8	1.2
11/1	Ahead	U	-		-	-	-	704	1954	1954	36.0%	-	-	-	0.3	1.4	0.3
11/2	Right	U	-		-	-	-	513	2012	2012	25.5%	-	-	-	0.2	1.2	0.2
11/3	Right	U	-		-	-	-	473	2080	2080	22.7%	-	-	-	0.1	1.1	0.1
12/1	South Circ Right Right2	U	C2:C		1	42	-	517	2025	1088	47.5%	-	-	-	0.9	6.2	9.3
12/2	South Circ Right	U	C2:C		1	42	-	404	2149	1155	35.0%	-	-	-	0.3	2.8	4.0
13/1	A483 (S) On Slip Ahead Ahead2	U	C2:D		1	28	-	288	1933	701	41.1%	-	-	-	1.9	23.5	5.1
13/2	A483 (S) On Slip Ahead	U	C2:D		1	28	-	582	2077	753	77.3%	-	-	-	5.3	32.9	13.0
14/1	Mold Road (E) Ahead Left	U	C1:D		1	39	-	352	2051	1025	34.3%	-	-	-	1.1	10.9	5.1
14/2	Mold Road (E) Ahead Left	U	C1:D		1	39	-	390	2255	1128	34.6%	-	-	-	1.3	12.1	6.8
14/3	Mold Road (E) Ahead	U	C1:D		1	39	-	344	2255	1128	30.5%	-	-	-	1.0	10.8	5.6
15/2	A483 (S) Off Slip	U	-		-	-	-	254	2080	2080	12.2%	-	-	-	0.1	1.0	1.3
J2: Berse Road Roundabout	-	-	-		-	-	-	-	-	-	89.5%	1898	0	0	35.9	-	-
1/2+1/1	Mold Road (W) Left Ahead	U	C3:A		1	49	-	1249	2067:2005	853+734	78.7 : 78.7%	-	-	-	3.4	9.8	16.8
1/3	Mold Road (W) Ahead	U	C3:A		1	49	-	959	2170	1356	70.7%	-	-	-	2.7	10.0	10.6
2/1	Ahead	U	-		-	-	-	352	1989	1989	17.7%	-	-	-	0.1	1.1	0.1
2/2	Ahead	U	-		-	-	-	436	2089	2089	20.9%	-	-	-	0.1	1.1	0.1
2/3	Ahead	U	-		-	-	-	298	2068	2068	14.4%	-	-	-	0.1	1.0	0.1
3/1		U	-		-	-	-	799	1940	1940	41.2%	-	-	-	0.4	1.6	2.6

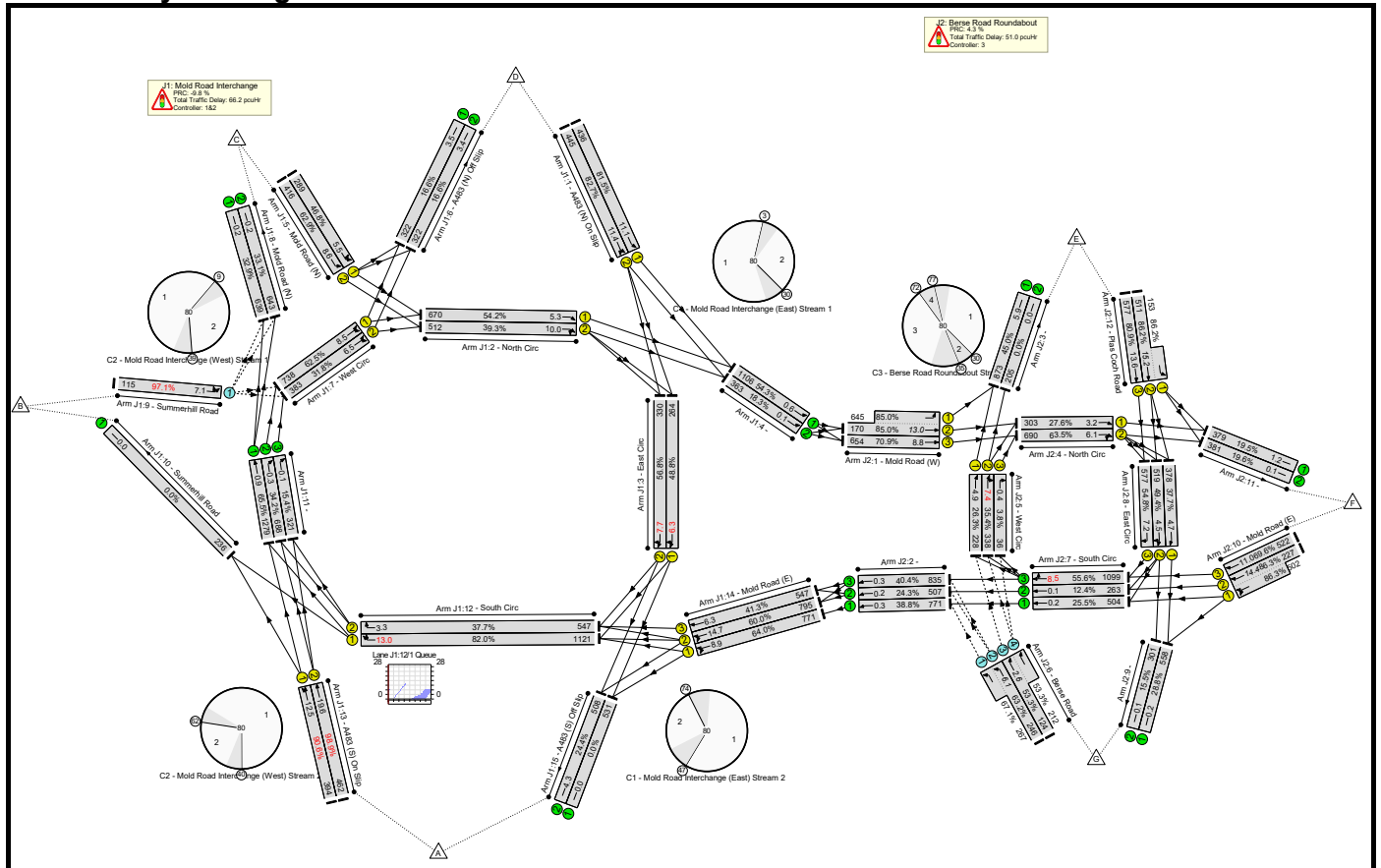
Basic Results Summary

4/1	North Circ Ahead	U	C3:D		1	58	-	802	2039	1504	53.3%	-	-	-	1.1	4.8	4.5
4/2	North Circ Right Ahead	U	C3:D		1	58	-	1059	2023	1492	71.0%	-	-	-	1.8	6.1	8.6
5/1	West Circ Ahead	U	C3:B		1	21	-	221	1825	502	44.0%	-	-	-	2.3	38.0	4.8
5/2	West Circ Ahead Right	U	C3:B		1	21	-	314	2008	552	56.9%	-	-	-	3.3	37.6	7.1
5/3	West Circ Right	U	C3:B		1	21	-	100	1997	549	18.2%	-	-	-	0.7	26.8	1.9
6/2+6/1	Berse Road Left	O	-		-	-	-	456	2075:2115	927+699	28.1 : 28.1%	912	0	0	0.4	3.2	1.4
6/3+6/4	Berse Road Ahead	O	-		-	-	-	493	2169:2206	394+927	37.3 : 37.3%	986	0	0	0.5	4.0	1.9
7/1	South Circ Ahead	U	-		-	-	-	156	1975	1975	7.9%	-	-	-	0.0	1.0	0.0
7/2	South Circ Ahead	U	-		-	-	-	195	2115	2115	9.2%	-	-	-	0.1	0.9	0.1
7/3	South Circ Ahead Right	U	-		-	-	-	421	1975	1975	21.3%	-	-	-	0.1	1.2	0.1
8/1	East Circ Ahead	U	C3:G		1	45	-	428	1863	1071	40.0%	-	-	-	1.4	11.8	5.7
8/2	East Circ Right Ahead	U	C3:G		1	45	-	583	1957	1125	51.8%	-	-	-	1.6	9.8	8.3
8/3	East Circ Right	U	C3:G		1	45	-	270	1958	1126	24.0%	-	-	-	0.2	3.0	0.7
9/1		U	-		-	-	-	491	1940	1940	25.3%	-	-	-	0.2	1.2	0.2
9/2		U	-		-	-	-	498	1940	1940	25.7%	-	-	-	0.2	1.3	4.0
10/2+10/1	Mold Road (E) Ahead Left	U	C3:F		1	25	-	329	1998:1911	484+426	36.1 : 36.1%	-	-	-	2.1	23.0	3.2
10/3	Mold Road (E) Ahead	U	C3:F		1	25	-	151	2070	673	22.4%	-	-	-	1.0	23.1	2.6
11/1		U	-		-	-	-	820	1940	1940	42.3%	-	-	-	0.4	1.7	5.3
11/2		U	-		-	-	-	382	1940	1940	19.7%	-	-	-	0.1	1.2	0.1
12/2+12/1	Plas Coch Road Ahead Left	U	C3:C		1	12	-	352	1965:1898	286+107	89.5 : 89.5%	-	-	-	6.7	68.9	9.6

Basic Results Summary

12/3	Plas Coch Road Ahead	U	C3:C		1	12	-	270	1968	320	84.4%	-	-	-	4.9	65.4	8.2
C1 - Mold Road Interchange (East)		Stream: 1		PRC for Signalled Lanes (%)		6.1		Total Delay for Signalled Lanes (pcuHr):		18.09		Cycle Time (s):		80			
C1 - Mold Road Interchange (East)		Stream: 2		PRC for Signalled Lanes (%)		150.7		Total Delay for Signalled Lanes (pcuHr):		6.08		Cycle Time (s):		80			
C2 - Mold Road Interchange (West)		Stream: 1		PRC for Signalled Lanes (%)		34.7		Total Delay for Signalled Lanes (pcuHr):		13.17		Cycle Time (s):		80			
C2 - Mold Road Interchange (West)		Stream: 2		PRC for Signalled Lanes (%)		16.4		Total Delay for Signalled Lanes (pcuHr):		8.40		Cycle Time (s):		80			
C3 - Berse Road Roundabout		Stream: 1		PRC for Signalled Lanes (%)		0.6		Total Delay for Signalled Lanes (pcuHr):		33.19		Cycle Time (s):		80			
				PRC Over All Lanes (%)		0.6		Total Delay Over All Lanes(pcuHr):		84.41							

Network Layout Diagram



Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-		-	-	-	-	-	-	98.9%	1813	0	0	117.2	-	-
J1: Mold Road Interchange	-	-	-		-	-	-	-	-	-	98.9%	115	0	0	66.2	-	-
1/1	A483 (N) On Slip Ahead	U	C1:B		1	22	-	436	1860	535	81.5%	-	-	-	5.3	44.0	11.1
1/2	A483 (N) On Slip Ahead Ahead2	U	C1:B		1	22	-	445	1872	538	82.7%	-	-	-	5.6	45.1	11.4
2/1	North Circ Ahead	U	C1:A		1	47	-	670	2059	1235	54.2%	-	-	-	1.4	7.5	5.3
2/2	North Circ Right Ahead	U	C1:A		1	47	-	512	2171	1303	39.3%	-	-	-	2.1	14.9	10.0
3/1	East Circ Right Ahead	U	C1:C		1	20	-	264	2061	541	48.8%	-	-	-	2.5	34.6	6.3
3/2	East Circ Right Ahead	U	C1:C		1	20	-	330	2212	581	56.8%	-	-	-	1.4	15.0	7.7
4/1	Ahead	U	-		-	-	-	1106	2038	2038	54.3%	-	-	-	0.6	1.9	0.6
4/2	Ahead	U	-		-	-	-	363	1987	1987	18.3%	-	-	-	0.1	1.1	0.1
5/1	Mold Road (N) Left Left2	U	C2:B		1	25	-	289	1901	618	46.8%	-	-	-	2.2	27.0	5.5
5/2	Mold Road (N) Left	U	C2:B		1	25	-	416	2035	661	62.9%	-	-	-	3.5	30.2	8.6
6/1	A483 (N) Off Slip	U	-		-	-	-	322	1940	1940	16.6%	-	-	-	0.1	1.2	3.5
6/2	A483 (N) Off Slip	U	-		-	-	-	322	1940	1940	16.6%	-	-	-	0.1	1.2	3.4
7/1	West Circ Ahead Ahead2	U	C2:A		1	44	-	738	2100	1181	62.5%	-	-	-	2.2	10.5	8.5
7/2	West Circ Ahead Ahead2	U	C2:A		1	44	-	383	2138	1203	31.8%	-	-	-	2.1	19.6	6.5
8/1	Mold Road (N)	U	-		-	-	-	639	1940	1940	32.9%	-	-	-	0.2	1.4	0.2

Basic Results Summary

8/2	Mold Road (N)	U	-		-	-	-	643	1940	1940	33.1%	-	-	-	0.2	1.4	0.2
9/1	Summerhill Road Ahead Left	O	-		-	-	-	115	1952	118	97.1%	115	0	0	5.1	159.0	7.1
11/1	Ahead	U	-		-	-	-	1279	1954	1954	65.5%	-	-	-	0.9	2.7	0.9
11/2	Right	U	-		-	-	-	688	2012	2012	34.2%	-	-	-	0.3	1.4	0.3
11/3	Right	U	-		-	-	-	321	2080	2080	15.4%	-	-	-	0.1	1.0	0.1
12/1	South Circ Right Right2	U	C2:C		1	53	-	1121	2025	1367	82.0%	-	-	-	1.9	6.0	13.0
12/2	South Circ Right	U	C2:C		1	53	-	547	2149	1451	37.7%	-	-	-	0.8	5.0	3.3
13/1	A483 (S) On Slip Ahead Ahead2	U	C2:D		1	17	-	394	1933	435	90.6%	-	-	-	7.3	66.9	12.5
13/2	A483 (S) On Slip Ahead	U	C2:D		1	17	-	462	2077	467	98.9%	-	-	-	13.5	104.9	19.6
14/1	Mold Road (E) Ahead Left	U	C1:D		1	46	-	771	2051	1205	64.0%	-	-	-	2.0	9.5	8.9
14/2	Mold Road (E) Ahead Left	U	C1:D		1	46	-	795	2255	1325	60.0%	-	-	-	3.2	14.6	14.7
14/3	Mold Road (E) Ahead	U	C1:D		1	46	-	547	2255	1325	41.3%	-	-	-	1.3	8.9	6.3
15/2	A483 (S) Off Slip	U	-		-	-	-	508	2080	2080	24.4%	-	-	-	0.2	1.2	4.3
J2: Berse Road Roundabout	-	-	-		-	-	-	-	-	-	86.3%	1698	0	0	51.0	-	-
1/2+1/1	Mold Road (W) Left Ahead	U	C3:A		1	33	-	815	2067:2005	200+759	85.0 : 85.0%	-	-	-	6.4	28.1	13.0
1/3	Mold Road (W) Ahead	U	C3:A		1	33	-	654	2170	922	70.9%	-	-	-	3.6	20.1	8.8
2/1	Ahead	U	-		-	-	-	771	1989	1989	38.8%	-	-	-	0.3	1.5	0.3
2/2	Ahead	U	-		-	-	-	507	2089	2089	24.3%	-	-	-	0.2	1.1	0.2
2/3	Ahead	U	-		-	-	-	835	2068	2068	40.4%	-	-	-	0.3	1.5	0.3
3/1		U	-		-	-	-	873	1940	1940	45.0%	-	-	-	0.4	1.7	5.9

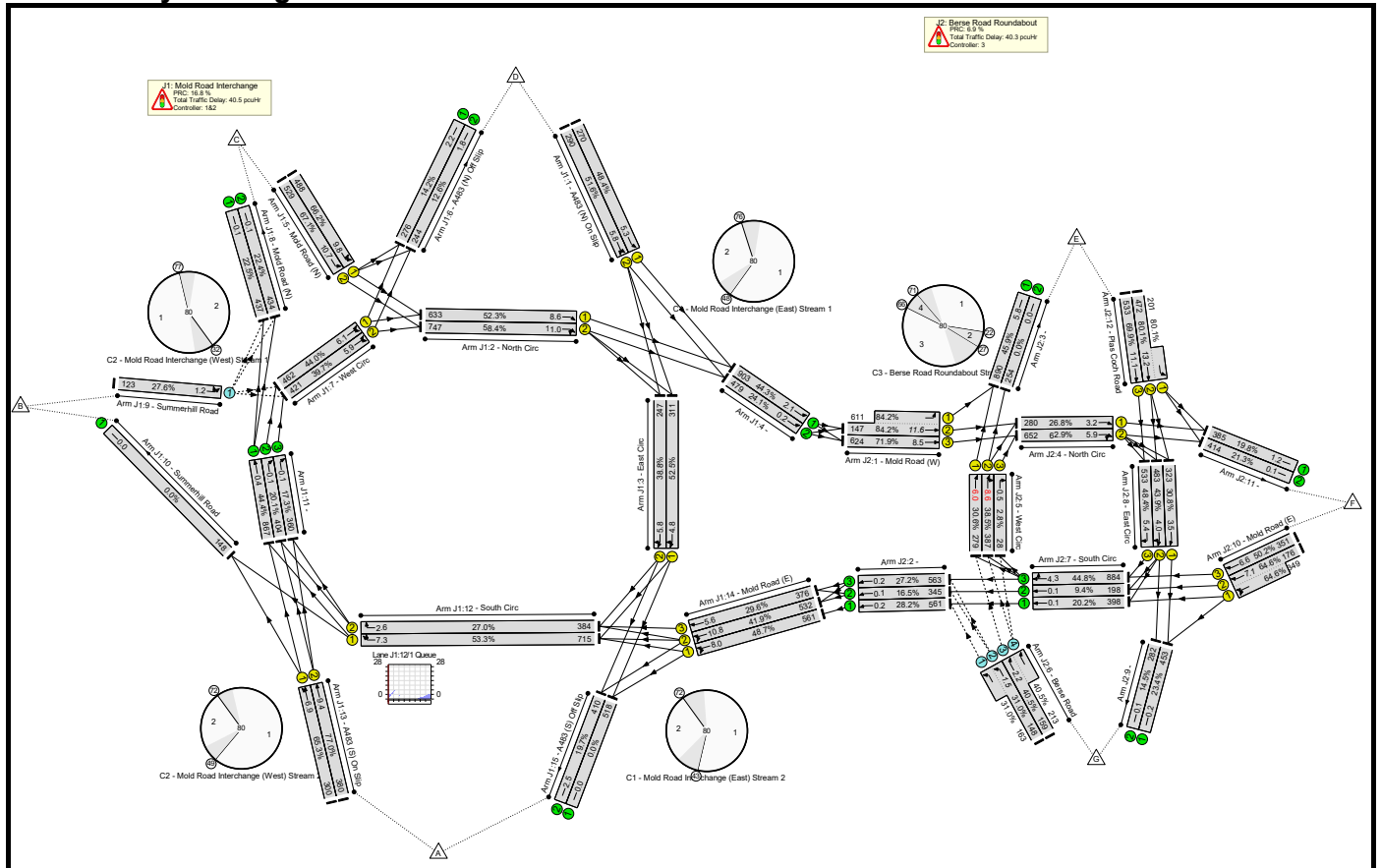
Basic Results Summary

4/1	North Circ Ahead	U	C3:D		1	42	-	303	2039	1096	27.6%	-	-	-	1.2	14.6	3.2
4/2	North Circ Right Ahead	U	C3:D		1	42	-	690	2023	1087	63.5%	-	-	-	1.4	7.5	6.1
5/1	West Circ Ahead	U	C3:B		1	37	-	228	1825	867	26.3%	-	-	-	1.4	22.6	4.9
5/2	West Circ Ahead Right	U	C3:B		1	37	-	338	2008	954	35.4%	-	-	-	2.2	23.8	7.4
5/3	West Circ Right	U	C3:B		1	37	-	36	1997	949	3.8%	-	-	-	0.2	15.5	0.4
6/2+6/1	Berse Road Left	O	-		-	-	-	513	2075:2115	389+398	63.2 : 67.1%	1026	0	0	2.7	18.6	6.1
6/3+6/4	Berse Road Ahead	O	-		-	-	-	336	2169:2206	233+398	53.3 : 53.3%	672	0	0	1.6	16.8	2.6
7/1	South Circ Ahead	U	-		-	-	-	504	1975	1975	25.5%	-	-	-	0.2	1.2	0.2
7/2	South Circ Ahead	U	-		-	-	-	263	2115	2115	12.4%	-	-	-	0.1	1.0	0.1
7/3	South Circ Ahead Right	U	-		-	-	-	1099	1975	1975	55.6%	-	-	-	0.7	2.1	8.5
8/1	East Circ Ahead	U	C3:G		1	42	-	378	1863	1001	37.7%	-	-	-	1.2	11.0	4.7
8/2	East Circ Right Ahead	U	C3:G		1	42	-	519	1956	1051	49.4%	-	-	-	1.3	9.0	4.5
8/3	East Circ Right	U	C3:G		1	42	-	577	1958	1052	54.8%	-	-	-	0.7	4.2	7.2
9/1		U	-		-	-	-	558	1940	1940	28.8%	-	-	-	0.2	1.3	0.2
9/2		U	-		-	-	-	301	1940	1940	15.5%	-	-	-	0.1	1.1	0.1
10/2+10/1	Mold Road (E) Ahead Left	U	C3:F		1	28	-	729	1998:1909	263+582	86.3 : 86.3%	-	-	-	7.4	36.4	14.4
10/3	Mold Road (E) Ahead	U	C3:F		1	28	-	522	2070	750	69.6%	-	-	-	4.3	29.5	11.0
11/1		U	-		-	-	-	379	1940	1940	19.5%	-	-	-	0.1	1.2	1.2
11/2		U	-		-	-	-	381	1940	1940	19.6%	-	-	-	0.1	1.2	0.1
12/2+12/1	Plas Coch Road Ahead Left	U	C3:C		1	28	-	664	1965:1898	593+177	86.2 : 86.2%	-	-	-	7.1	38.7	15.2

Basic Results Summary

12/3	Plas Coch Road Ahead	U	C3:C		1	28	-	577	1968	713	80.9%	-	-	-	5.7	35.8	13.6
C1 - Mold Road Interchange (East)		Stream: 1		PRC for Signalled Lanes (%)		8.8		Total Delay for Signalled Lanes (pcuHr):		14.41		Cycle Time (s):		80			
C1 - Mold Road Interchange (East)		Stream: 2		PRC for Signalled Lanes (%)		40.7		Total Delay for Signalled Lanes (pcuHr):		10.52		Cycle Time (s):		80			
C2 - Mold Road Interchange (West)		Stream: 1		PRC for Signalled Lanes (%)		43.1		Total Delay for Signalled Lanes (pcuHr):		9.89		Cycle Time (s):		80			
C2 - Mold Road Interchange (West)		Stream: 2		PRC for Signalled Lanes (%)		-9.8		Total Delay for Signalled Lanes (pcuHr):		23.40		Cycle Time (s):		80			
C3 - Berse Road Roundabout		Stream: 1		PRC for Signalled Lanes (%)		4.3		Total Delay for Signalled Lanes (pcuHr):		44.14		Cycle Time (s):		80			
				PRC Over All Lanes (%)		-9.8		Total Delay Over All Lanes (pcuHr):		117.21							

Network Layout Diagram



Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-		-	-	-	-	-	-	84.2%	1489	0	0	80.8	-	-
J1: Mold Road Interchange	-	-	-		-	-	-	-	-	-	77.0%	123	0	0	40.5	-	-
1/1	A483 (N) On Slip Ahead	U	C1:B		1	23	-	270	1860	558	48.4%	-	-	-	2.2	29.2	5.3
1/2	A483 (N) On Slip Ahead Ahead2	U	C1:B		1	23	-	290	1872	562	51.6%	-	-	-	2.4	29.8	5.8
2/1	North Circ Ahead	U	C1:A		1	46	-	633	2059	1210	52.3%	-	-	-	1.4	8.1	8.6
2/2	North Circ Right Ahead	U	C1:A		1	46	-	747	2176	1278	58.4%	-	-	-	1.4	6.8	11.0
3/1	East Circ Right Ahead	U	C1:C		1	22	-	311	2061	593	52.5%	-	-	-	2.2	25.1	4.8
3/2	East Circ Right Ahead	U	C1:C		1	22	-	247	2212	636	38.8%	-	-	-	2.1	31.2	5.8
4/1	Ahead	U	-		-	-	-	903	2038	2038	44.3%	-	-	-	0.4	1.6	2.1
4/2	Ahead	U	-		-	-	-	479	1987	1987	24.1%	-	-	-	0.2	1.2	0.2
5/1	Mold Road (N) Left Left2	U	C2:B		1	30	-	488	1901	737	66.2%	-	-	-	3.7	27.4	9.8
5/2	Mold Road (N) Left	U	C2:B		1	30	-	529	2035	789	67.1%	-	-	-	4.0	27.2	10.7
6/1	A483 (N) Off Slip	U	-		-	-	-	276	1940	1940	14.2%	-	-	-	0.1	1.1	2.2
6/2	A483 (N) Off Slip	U	-		-	-	-	244	1940	1940	12.6%	-	-	-	0.1	1.1	1.8
7/1	West Circ Ahead Ahead2	U	C2:A		1	39	-	462	2100	1050	44.0%	-	-	-	1.9	14.5	6.1
7/2	West Circ Ahead Ahead2	U	C2:A		1	39	-	421	2119	1059	39.7%	-	-	-	1.9	16.1	5.9
8/1	Mold Road (N)	U	-		-	-	-	437	1940	1940	22.5%	-	-	-	0.1	1.2	0.1

Basic Results Summary

8/2	Mold Road (N)	U	-		-	-	-	434	1940	1940	22.4%	-	-	-	0.1	1.2	0.1
9/1	Summerhill Road Ahead Left	O	-		-	-	-	123	1952	446	27.6%	123	0	0	0.4	12.6	1.2
11/1	Ahead	U	-		-	-	-	867	1954	1954	44.4%	-	-	-	0.4	1.7	0.4
11/2	Right	U	-		-	-	-	404	2012	2012	20.1%	-	-	-	0.1	1.1	0.1
11/3	Right	U	-		-	-	-	360	2080	2080	17.3%	-	-	-	0.1	1.0	0.1
12/1	South Circ Right Right2	U	C2:C		1	52	-	715	2025	1342	53.3%	-	-	-	0.9	4.3	7.3
12/2	South Circ Right	U	C2:C		1	52	-	384	2149	1424	27.0%	-	-	-	0.2	1.8	2.6
13/1	A483 (S) On Slip Ahead Ahead2	U	C2:D		1	18	-	300	1933	459	65.3%	-	-	-	3.2	38.7	6.9
13/2	A483 (S) On Slip Ahead	U	C2:D		1	18	-	380	2077	493	77.0%	-	-	-	4.6	43.9	9.4
14/1	Mold Road (E) Ahead Left	U	C1:D		1	44	-	561	2050	1153	48.7%	-	-	-	1.8	11.6	8.0
14/2	Mold Road (E) Ahead Left	U	C1:D		1	44	-	532	2255	1268	41.9%	-	-	-	3.0	20.1	10.8
14/3	Mold Road (E) Ahead	U	C1:D		1	44	-	376	2255	1268	29.6%	-	-	-	1.4	13.8	5.6
15/2	A483 (S) Off Slip	U	-		-	-	-	410	2080	2080	19.7%	-	-	-	0.1	1.1	2.5
J2: Berse Road Roundabout	-	-	-		-	-	-	-	-	-	84.2%	1366	0	0	40.3	-	-
1/2+1/1	Mold Road (W) Left Ahead	U	C3:A		1	31	-	758	2067:2005	175+726	84.2 : 84.2%	-	-	-	5.9	28.0	11.6
1/3	Mold Road (W) Ahead	U	C3:A		1	31	-	624	2170	868	71.9%	-	-	-	4.2	24.0	8.5
2/1	Ahead	U	-		-	-	-	561	1989	1989	28.2%	-	-	-	0.2	1.3	0.2
2/2	Ahead	U	-		-	-	-	345	2089	2089	16.5%	-	-	-	0.1	1.0	0.1
2/3	Ahead	U	-		-	-	-	563	2068	2068	27.2%	-	-	-	0.2	1.2	0.2
3/1		U	-		-	-	-	890	1940	1940	45.9%	-	-	-	0.4	1.7	5.8

Basic Results Summary

4/1	North Circ Ahead	U	C3:D		1	40	-	280	2039	1045	26.8%	-	-	-	1.3	16.3	3.2
4/2	North Circ Right Ahead	U	C3:D		1	40	-	652	2023	1037	62.9%	-	-	-	1.4	7.6	5.9
5/1	West Circ Ahead	U	C3:B		1	39	-	279	1825	912	30.6%	-	-	-	2.0	25.6	6.0
5/2	West Circ Ahead Right	U	C3:B		1	39	-	387	2008	1004	38.5%	-	-	-	2.9	27.4	8.6
5/3	West Circ Right	U	C3:B		1	39	-	28	1997	998	2.8%	-	-	-	0.1	18.5	0.5
6/2+6/1	Berse Road Left	O	-		-	-	-	311	2075:2115	477+526	31.0 : 31.0%	622	0	0	0.7	8.3	1.5
6/3+6/4	Berse Road Ahead	O	-		-	-	-	372	2169:2206	393+526	40.5 : 40.5%	744	0	0	1.0	9.4	2.2
7/1	South Circ Ahead	U	-		-	-	-	398	1975	1975	20.2%	-	-	-	0.1	1.1	0.1
7/2	South Circ Ahead	U	-		-	-	-	198	2115	2115	9.4%	-	-	-	0.1	0.9	0.1
7/3	South Circ Ahead Right	U	-		-	-	-	884	1975	1975	44.8%	-	-	-	0.4	1.7	4.3
8/1	East Circ Ahead	U	C3:G		1	44	-	323	1863	1048	30.8%	-	-	-	0.9	9.6	3.5
8/2	East Circ Right Ahead	U	C3:G		1	44	-	483	1956	1100	43.9%	-	-	-	1.0	7.1	4.0
8/3	East Circ Right	U	C3:G		1	44	-	533	1958	1101	48.4%	-	-	-	0.5	3.5	5.4
9/1		U	-		-	-	-	453	1940	1940	23.4%	-	-	-	0.2	1.2	0.2
9/2		U	-		-	-	-	282	1940	1940	14.5%	-	-	-	0.1	1.1	0.1
10/2+10/1	Mold Road (E) Ahead Left	U	C3:F		1	26	-	525	1998:1910	273+541	64.6 : 64.6%	-	-	-	3.9	26.9	7.1
10/3	Mold Road (E) Ahead	U	C3:F		1	26	-	351	2070	699	50.2%	-	-	-	2.6	26.3	6.6
11/1		U	-		-	-	-	385	1940	1940	19.8%	-	-	-	0.1	1.2	1.2
11/2		U	-		-	-	-	414	1940	1940	21.3%	-	-	-	0.1	1.2	0.1
12/2+12/1	Plas Coch Road Ahead Left	U	C3:C		1	30	-	673	1965:1898	589+251	80.1 : 80.1%	-	-	-	5.8	30.9	13.2

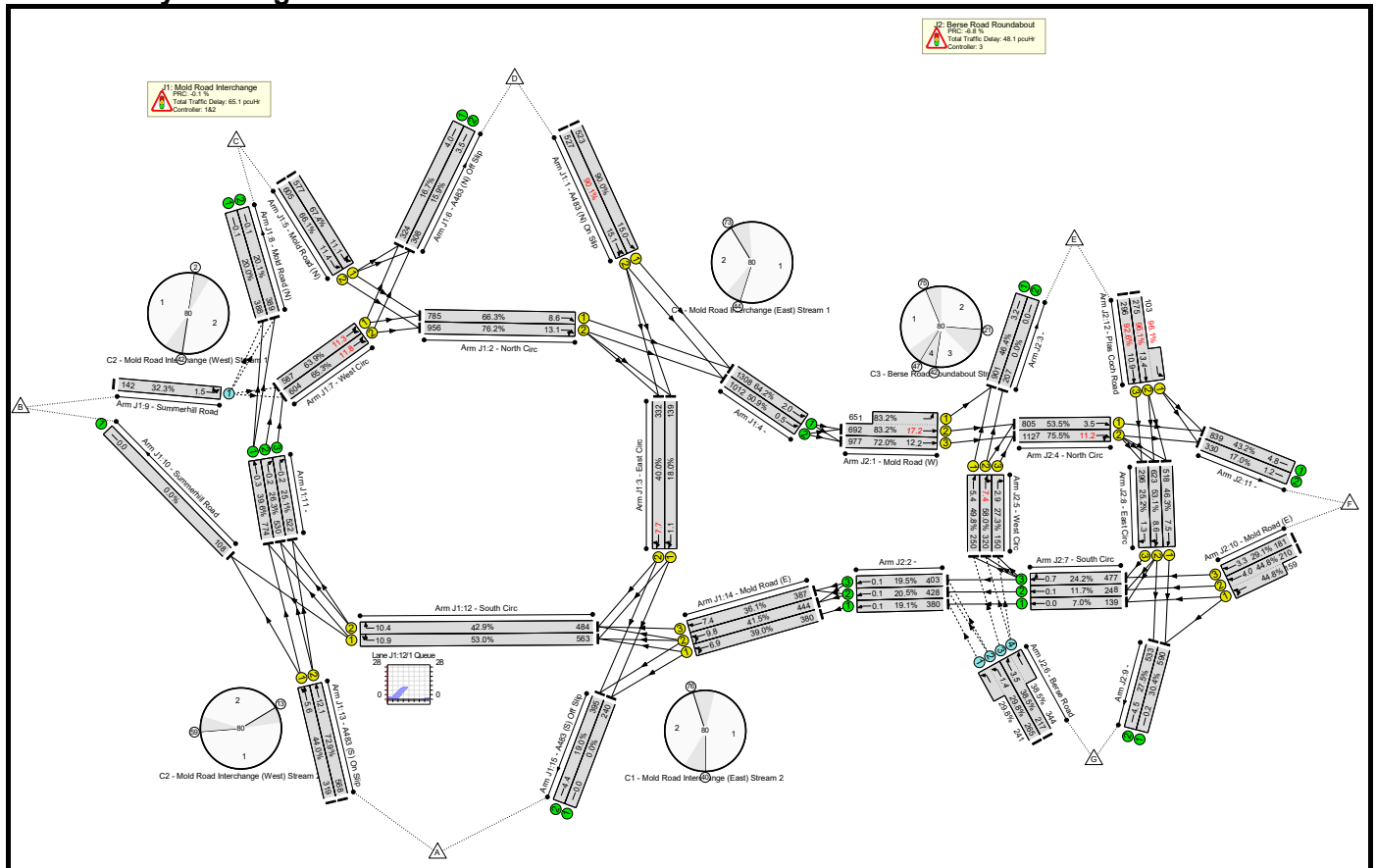
Basic Results Summary

12/3	Plas Coch Road Ahead	U	C3:C		1	30	-	533	1968	763	69.9%	-	-	-	4.2	28.3	11.1
C1 - Mold Road Interchange (East)			Stream: 1 PRC for Signalled Lanes (%):		54.0		Total Delay for Signalled Lanes (pcuHr):			7.43		Cycle Time (s):		80			
C1 - Mold Road Interchange (East)			Stream: 2 PRC for Signalled Lanes (%):		71.5		Total Delay for Signalled Lanes (pcuHr):			10.52		Cycle Time (s):		80			
C2 - Mold Road Interchange (West)			Stream: 1 PRC for Signalled Lanes (%):		34.2		Total Delay for Signalled Lanes (pcuHr):			11.44		Cycle Time (s):		80			
C2 - Mold Road Interchange (West)			Stream: 2 PRC for Signalled Lanes (%):		16.8		Total Delay for Signalled Lanes (pcuHr):			8.90		Cycle Time (s):		80			
C3 - Berse Road Roundabout			Stream: 1 PRC for Signalled Lanes (%):		6.9		Total Delay for Signalled Lanes (pcuHr):			36.58		Cycle Time (s):		80			
			PRC Over All Lanes (%):		6.9		Total Delay Over All Lanes(pcuHr):			80.76							

Basic Results Summary

Scenario 4: 'Friday AM 2036 Base Sensitivity' (FG16: 'Friday AM Peak 2036 Base Sensitivity', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-		-	-	-	-	-	-	96.1%	2276	0	0	113.2	-	-
J1: Mold Road Interchange	-	-	-		-	-	-	-	-	-	90.1%	142	0	0	65.1	-	-
1/1	A483 (N) On Slip Ahead	U	C1:B		1	24	-	523	1860	581	90.0%	-	-	-	7.8	53.5	15.0
1/2	A483 (N) On Slip Ahead Ahead2	U	C1:B		1	24	-	527	1872	585	90.1%	-	-	-	7.8	53.6	15.1
2/1	North Circ Ahead	U	C1:A		1	45	-	785	2059	1184	66.3%	-	-	-	3.1	14.0	8.6
2/2	North Circ Right Ahead	U	C1:A		1	45	-	956	2181	1254	76.2%	-	-	-	4.0	15.0	13.1
3/1	East Circ Right Ahead	U	C1:C		1	29	-	139	2061	773	18.0%	-	-	-	0.4	11.4	1.1
3/2	East Circ Right Ahead	U	C1:C		1	29	-	332	2212	829	40.0%	-	-	-	2.4	26.4	7.7
4/1	Ahead	U	-		-	-	-	1308	2038	2038	64.2%	-	-	-	0.9	2.5	2.0
4/2	Ahead	U	-		-	-	-	1012	1987	1987	50.9%	-	-	-	0.5	1.8	0.5
5/1	Mold Road (N) Left Left2	U	C2:B		1	35	-	577	1901	855	67.4%	-	-	-	3.8	23.8	11.1
5/2	Mold Road (N) Left	U	C2:B		1	35	-	605	2035	916	66.1%	-	-	-	3.9	23.0	11.4
6/1	A483 (N) Off Slip	U	-		-	-	-	324	1940	1940	16.7%	-	-	-	0.1	1.2	4.0
6/2	A483 (N) Off Slip	U	-		-	-	-	308	1940	1940	15.9%	-	-	-	0.1	1.2	3.5
7/1	West Circ Ahead Ahead2	U	C2:A		1	34	-	587	2100	919	63.9%	-	-	-	4.7	29.0	11.3
7/2	West Circ Ahead Ahead2	U	C2:A		1	34	-	604	2114	925	65.3%	-	-	-	4.8	28.3	11.8
8/1	Mold Road (N)	U	-		-	-	-	388	1940	1940	20.0%	-	-	-	0.1	1.2	0.1

Basic Results Summary

8/2	Mold Road (N)	U	-		-	-	-	389	1940	1940	20.1%	-	-	-	0.1	1.2	0.1
9/1	Summerhill Road Ahead Left	O	-		-	-	-	142	1952	440	32.3%	142	0	0	0.6	14.6	1.5
11/1	Ahead	U	-		-	-	-	774	1954	1954	39.6%	-	-	-	0.3	1.5	0.3
11/2	Right	U	-		-	-	-	530	2012	2012	26.3%	-	-	-	0.2	1.2	0.2
11/3	Right	U	-		-	-	-	522	2080	2080	25.1%	-	-	-	0.2	1.2	0.2
12/1	South Circ Right Right2	U	C2:C		1	41	-	563	2025	1063	53.0%	-	-	-	2.1	13.7	10.9
12/2	South Circ Right	U	C2:C		1	41	-	484	2149	1128	42.9%	-	-	-	1.7	12.5	10.4
13/1	A483 (S) On Slip Ahead Ahead2	U	C2:D		1	29	-	319	1933	725	44.0%	-	-	-	2.1	23.1	5.6
13/2	A483 (S) On Slip Ahead	U	C2:D		1	29	-	568	2077	779	72.9%	-	-	-	4.7	29.9	12.1
14/1	Mold Road (E) Ahead Left	U	C1:D		1	37	-	380	2052	975	39.0%	-	-	-	2.1	20.4	6.9
14/2	Mold Road (E) Ahead Left	U	C1:D		1	37	-	444	2255	1071	41.5%	-	-	-	3.7	30.1	9.8
14/3	Mold Road (E) Ahead	U	C1:D		1	37	-	387	2255	1071	36.1%	-	-	-	2.7	25.0	7.4
15/2	A483 (S) Off Slip	U	-		-	-	-	395	2080	2080	19.0%	-	-	-	0.1	1.1	4.4
J2: Berse Road Roundabout	-	-	-		-	-	-	-	-	-	96.1%	2134	0	0	48.1	-	-
1/2+1/1	Mold Road (W) Left Ahead	U	C3:A		1	49	-	1343	2067:2005	832+783	83.2 : 83.2%	-	-	-	5.9	15.7	17.2
1/3	Mold Road (W) Ahead	U	C3:A		1	49	-	977	2170	1356	72.0%	-	-	-	3.5	12.9	12.2
2/1	Ahead	U	-		-	-	-	380	1989	1989	19.1%	-	-	-	0.1	1.1	0.1
2/2	Ahead	U	-		-	-	-	428	2089	2089	20.5%	-	-	-	0.1	1.1	0.1
2/3	Ahead	U	-		-	-	-	403	2068	2068	19.5%	-	-	-	0.1	1.1	0.1
3/1		U	-		-	-	-	901	1940	1940	46.4%	-	-	-	0.4	1.7	3.2

Basic Results Summary

4/1	North Circ Ahead	U	C3:D		1	58	-	805	2039	1504	53.5%	-	-	-	1.0	4.7	3.5
4/2	North Circ Right Ahead	U	C3:D		1	58	-	1127	2024	1493	75.5%	-	-	-	2.5	7.8	11.2
5/1	West Circ Ahead	U	C3:B		1	21	-	250	1825	502	49.8%	-	-	-	2.4	34.8	5.4
5/2	West Circ Ahead Right	U	C3:B		1	21	-	320	2008	552	58.0%	-	-	-	3.7	41.2	7.4
5/3	West Circ Right	U	C3:B		1	21	-	150	1997	549	27.3%	-	-	-	1.2	27.7	2.9
6/2+6/1	Berse Road Left	O	-		-	-	-	506	2075:2115	889+809	29.8 : 29.8%	1012	0	0	0.5	3.5	1.4
6/3+6/4	Berse Road Ahead	O	-		-	-	-	561	2169:2206	564+894	38.5 : 38.5%	1122	0	0	0.7	4.2	3.5
7/1	South Circ Ahead	U	-		-	-	-	139	1975	1975	7.0%	-	-	-	0.0	1.0	0.0
7/2	South Circ Ahead	U	-		-	-	-	248	2115	2115	11.7%	-	-	-	0.1	1.0	0.1
7/3	South Circ Ahead Right	U	-		-	-	-	477	1975	1975	24.2%	-	-	-	0.2	1.2	0.7
8/1	East Circ Ahead	U	C3:G		1	47	-	518	1863	1118	46.3%	-	-	-	1.6	11.4	7.5
8/2	East Circ Right Ahead	U	C3:G		1	47	-	623	1957	1174	53.1%	-	-	-	1.9	10.7	8.6
8/3	East Circ Right	U	C3:G		1	47	-	296	1958	1175	25.2%	-	-	-	0.3	3.3	1.3
9/1		U	-		-	-	-	590	1940	1940	30.4%	-	-	-	0.2	1.3	0.2
9/2		U	-		-	-	-	533	1940	1940	27.5%	-	-	-	0.2	1.3	4.5
10/2+10/1	Mold Road (E) Ahead Left	U	C3:F		1	23	-	369	1998:1913	468+355	44.8 : 44.8%	-	-	-	2.6	25.6	4.0
10/3	Mold Road (E) Ahead	U	C3:F		1	23	-	181	2070	621	29.1%	-	-	-	1.3	25.6	3.3
11/1		U	-		-	-	-	839	1940	1940	43.2%	-	-	-	0.4	1.7	4.8
11/2		U	-		-	-	-	330	1940	1940	17.0%	-	-	-	0.1	1.1	1.2
12/2+12/1	Plas Coch Road Ahead Left	U	C3:C		1	12	-	378	1965:1898	286+107	96.1 : 96.1%	-	-	-	10.0	95.6	13.4

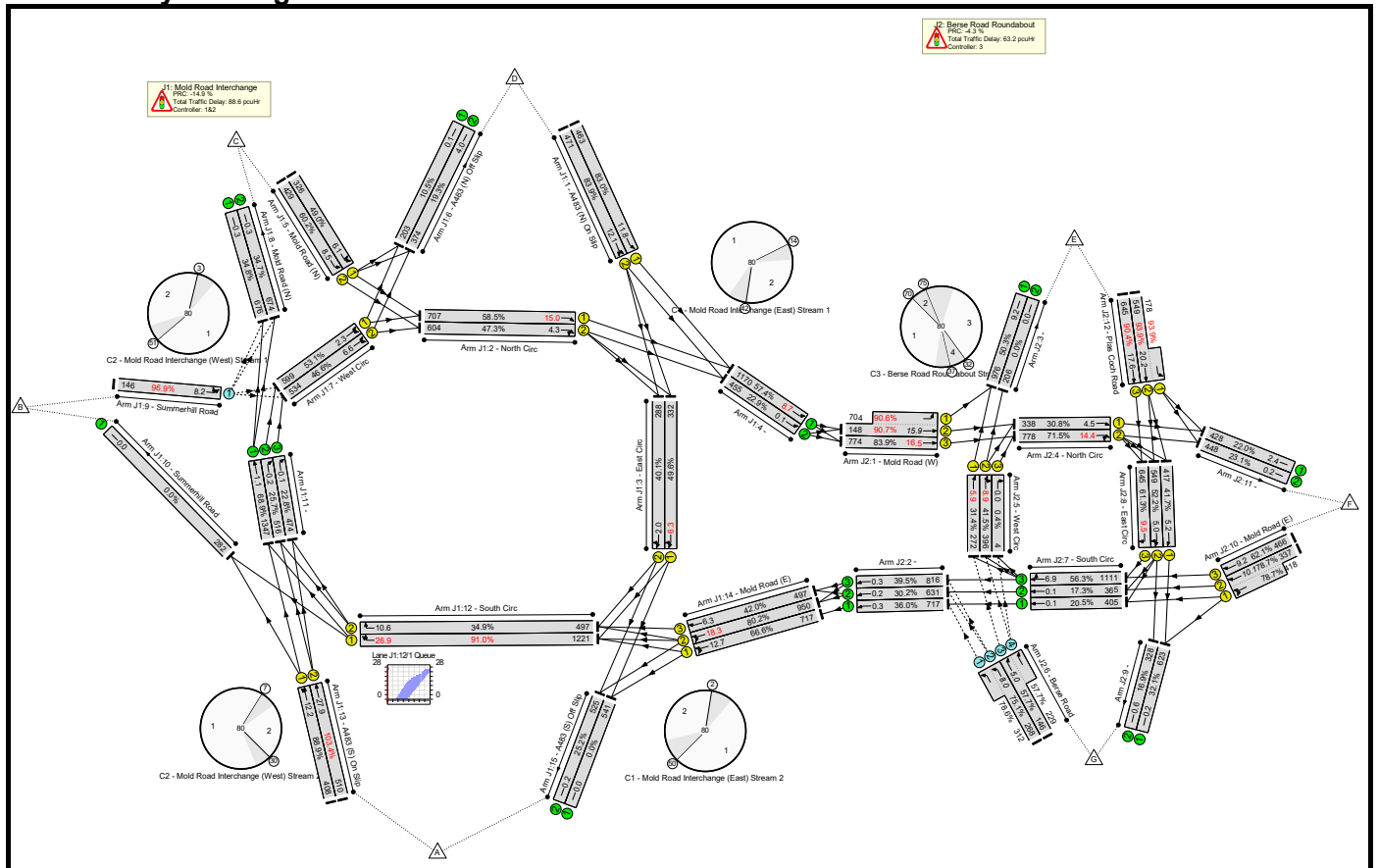
Basic Results Summary

12/3	Plas Coch Road Ahead	U	C3:C		1	12	-	296	1968	320	92.6%	-	-	-	7.2	87.9	10.9
C1 - Mold Road Interchange (East)			Stream: 1 PRC for Signalled Lanes (%):				-0.1		Total Delay for Signalled Lanes (pcuHr):			22.66		Cycle Time (s):		80	
C1 - Mold Road Interchange (East)			Stream: 2 PRC for Signalled Lanes (%):				117.1		Total Delay for Signalled Lanes (pcuHr):			11.42		Cycle Time (s):		80	
C2 - Mold Road Interchange (West)			Stream: 1 PRC for Signalled Lanes (%):				33.4		Total Delay for Signalled Lanes (pcuHr):			17.15		Cycle Time (s):		80	
C2 - Mold Road Interchange (West)			Stream: 2 PRC for Signalled Lanes (%):				23.4		Total Delay for Signalled Lanes (pcuHr):			10.60		Cycle Time (s):		80	
C3 - Berse Road Roundabout			Stream: 1 PRC for Signalled Lanes (%):				-6.8		Total Delay for Signalled Lanes (pcuHr):			45.03		Cycle Time (s):		80	
			PRC Over All Lanes (%):				-6.8		Total Delay Over All Lanes(pcuHr):			113.22					

Basic Results Summary

Scenario 5: 'Friday PM 2036 Base Sensitivity' (FG17: 'Friday PM Peak 2036 Base Sensitivity', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-		-	-	-	-	-	-	103.4%	2056	0	0	151.8	-	-
J1: Mold Road Interchange	-	-	-		-	-	-	-	-	-	103.4%	146	0	0	88.6	-	-
1/1	A483 (N) On Slip Ahead	U	C1:B		1	23	-	463	1860	558	83.0%	-	-	-	5.7	44.2	11.8
1/2	A483 (N) On Slip Ahead Ahead2	U	C1:B		1	23	-	471	1872	562	83.9%	-	-	-	5.9	45.0	12.1
2/1	North Circ Ahead	U	C1:A		1	46	-	720	2059	1210	58.5%	-	-	-	3.7	18.6	15.0
2/2	North Circ Right Ahead	U	C1:A		1	46	-	608	2172	1276	47.3%	-	-	-	1.4	8.4	4.3
3/1	East Circ Right Ahead	U	C1:C		1	25	-	332	2061	670	49.6%	-	-	-	2.2	24.1	6.3
3/2	East Circ Right Ahead	U	C1:C		1	25	-	288	2212	719	40.1%	-	-	-	1.3	15.7	2.0
4/1	Ahead	U	-		-	-	-	1183	2038	2038	57.4%	-	-	-	0.7	2.1	8.7
4/2	Ahead	U	-		-	-	-	459	1987	1987	22.9%	-	-	-	0.1	1.2	0.1
5/1	Mold Road (N) Left Left2	U	C2:B		1	27	-	326	1901	665	49.0%	-	-	-	2.3	25.7	6.1
5/2	Mold Road (N) Left	U	C2:B		1	27	-	429	2035	712	60.2%	-	-	-	3.3	27.7	8.5
6/1	A483 (N) Off Slip	U	-		-	-	-	203	1940	1940	10.5%	-	-	-	0.1	1.0	0.1
6/2	A483 (N) Off Slip	U	-		-	-	-	374	1940	1940	19.3%	-	-	-	0.1	1.2	4.0
7/1	West Circ Ahead Ahead2	U	C2:A		1	42	-	612	2099	1128	53.1%	-	-	-	1.3	7.7	2.3
7/2	West Circ Ahead Ahead2	U	C2:A		1	42	-	538	2132	1146	46.6%	-	-	-	2.9	19.4	6.6

Basic Results Summary

8/1	Mold Road (N)	U	-		-	-	-	676	1940	1940	34.8%	-	-	-	0.3	1.4	0.3
8/2	Mold Road (N)	U	-		-	-	-	674	1940	1940	34.7%	-	-	-	0.3	1.4	0.3
9/1	Summerhill Road Ahead Left	O	-		-	-	-	146	1952	151	96.9%	146	0	0	6.2	152.2	8.2
11/1	Ahead	U	-		-	-	-	1347	1954	1954	68.9%	-	-	-	1.1	3.0	1.1
11/2	Right	U	-		-	-	-	529	2012	2012	25.7%	-	-	-	0.2	1.2	0.2
11/3	Right	U	-		-	-	-	478	2080	2080	22.8%	-	-	-	0.1	1.1	0.1
12/1	South Circ Right Right2	U	C2:C		1	52	-	1221	2025	1342	91.0%	-	-	-	6.9	20.3	26.9
12/2	South Circ Right	U	C2:C		1	52	-	497	2149	1424	34.9%	-	-	-	2.4	17.4	10.6
13/1	A483 (S) On Slip Ahead Ahead2	U	C2:D		1	18	-	408	1933	459	88.9%	-	-	-	6.9	60.5	12.2
13/2	A483 (S) On Slip Ahead	U	C2:D		1	18	-	510	2077	493	103.4%	-	-	-	21.2	149.5	27.9
14/1	Mold Road (E) Ahead Left	U	C1:D		1	41	-	717	2051	1077	66.6%	-	-	-	4.1	20.5	12.7
14/2	Mold Road (E) Ahead Left	U	C1:D		1	41	-	950	2255	1184	80.2%	-	-	-	6.0	22.6	18.3
14/3	Mold Road (E) Ahead	U	C1:D		1	41	-	497	2255	1184	42.0%	-	-	-	2.1	15.1	6.3
15/2	A483 (S) Off Slip	U	-		-	-	-	525	2080	2080	25.2%	-	-	-	0.2	1.2	0.2
J2: Berse Road Roundabout	-	-	-		-	-	-	-	-	-	93.9%	1910	0	0	63.2	-	-
1/2+1/1	Mold Road (W) Left Ahead	U	C3:A		1	33	-	860	2067:2005	163+777	90.7 : 90.6%	-	-	-	8.5	36.0	15.9
1/3	Mold Road (W) Ahead	U	C3:A		1	33	-	782	2170	922	83.9%	-	-	-	5.3	24.5	16.5
2/1	Ahead	U	-		-	-	-	717	1989	1989	36.0%	-	-	-	0.3	1.4	0.3
2/2	Ahead	U	-		-	-	-	631	2089	2089	30.2%	-	-	-	0.2	1.2	0.2
2/3	Ahead	U	-		-	-	-	816	2068	2068	39.5%	-	-	-	0.3	1.4	0.3

Basic Results Summary

3/1		U	-		-	-	-	983	1940	1940	50.3%	-	-	-	0.5	1.9	9.2
4/1	North Circ Ahead	U	C3:D		1	42	-	339	2039	1096	30.8%	-	-	-	1.7	18.4	4.5
4/2	North Circ Right Ahead	U	C3:D		1	42	-	786	2023	1087	71.5%	-	-	-	1.5	7.1	14.4
5/1	West Circ Ahead	U	C3:B		1	37	-	272	1825	867	31.4%	-	-	-	1.8	24.4	5.9
5/2	West Circ Ahead Right	U	C3:B		1	37	-	396	2008	954	41.5%	-	-	-	2.7	24.2	8.9
5/3	West Circ Right	U	C3:B		1	37	-	4	1997	949	0.4%	-	-	-	0.0	13.5	0.0
6/2+6/1	Berse Road Left	O	-		-	-	-	580	2075:2115	357+397	75.1 : 78.6%	1160	0	0	4.3	26.8	8.0
6/3+6/4	Berse Road Ahead	O	-		-	-	-	375	2169:2206	253+397	57.7 : 57.7%	750	0	0	1.9	18.0	5.0
7/1	South Circ Ahead	U	-		-	-	-	405	1975	1975	20.5%	-	-	-	0.1	1.1	0.1
7/2	South Circ Ahead	U	-		-	-	-	365	2115	2115	17.3%	-	-	-	0.1	1.0	0.1
7/3	South Circ Ahead Right	U	-		-	-	-	1111	1975	1975	56.3%	-	-	-	0.7	2.1	6.9
8/1	East Circ Ahead	U	C3:G		1	42	-	419	1863	1001	41.7%	-	-	-	1.4	11.9	5.2
8/2	East Circ Right Ahead	U	C3:G		1	42	-	552	1956	1051	52.2%	-	-	-	1.3	8.4	5.0
8/3	East Circ Right	U	C3:G		1	42	-	645	1958	1052	61.3%	-	-	-	0.9	4.9	9.5
9/1		U	-		-	-	-	625	1940	1940	32.1%	-	-	-	0.2	1.4	0.2
9/2		U	-		-	-	-	331	1940	1940	16.9%	-	-	-	0.1	1.1	0.6
10/2+10/1	Mold Road (E) Ahead Left	U	C3:F		1	28	-	755	1998:1914	428+531	78.7 : 78.7%	-	-	-	6.1	29.0	10.1
10/3	Mold Road (E) Ahead	U	C3:F		1	28	-	466	2070	750	62.1%	-	-	-	3.5	27.3	9.2
11/1		U	-		-	-	-	429	1940	1940	22.0%	-	-	-	0.1	1.2	2.4
11/2		U	-		-	-	-	452	1940	1940	23.1%	-	-	-	0.2	1.2	0.2

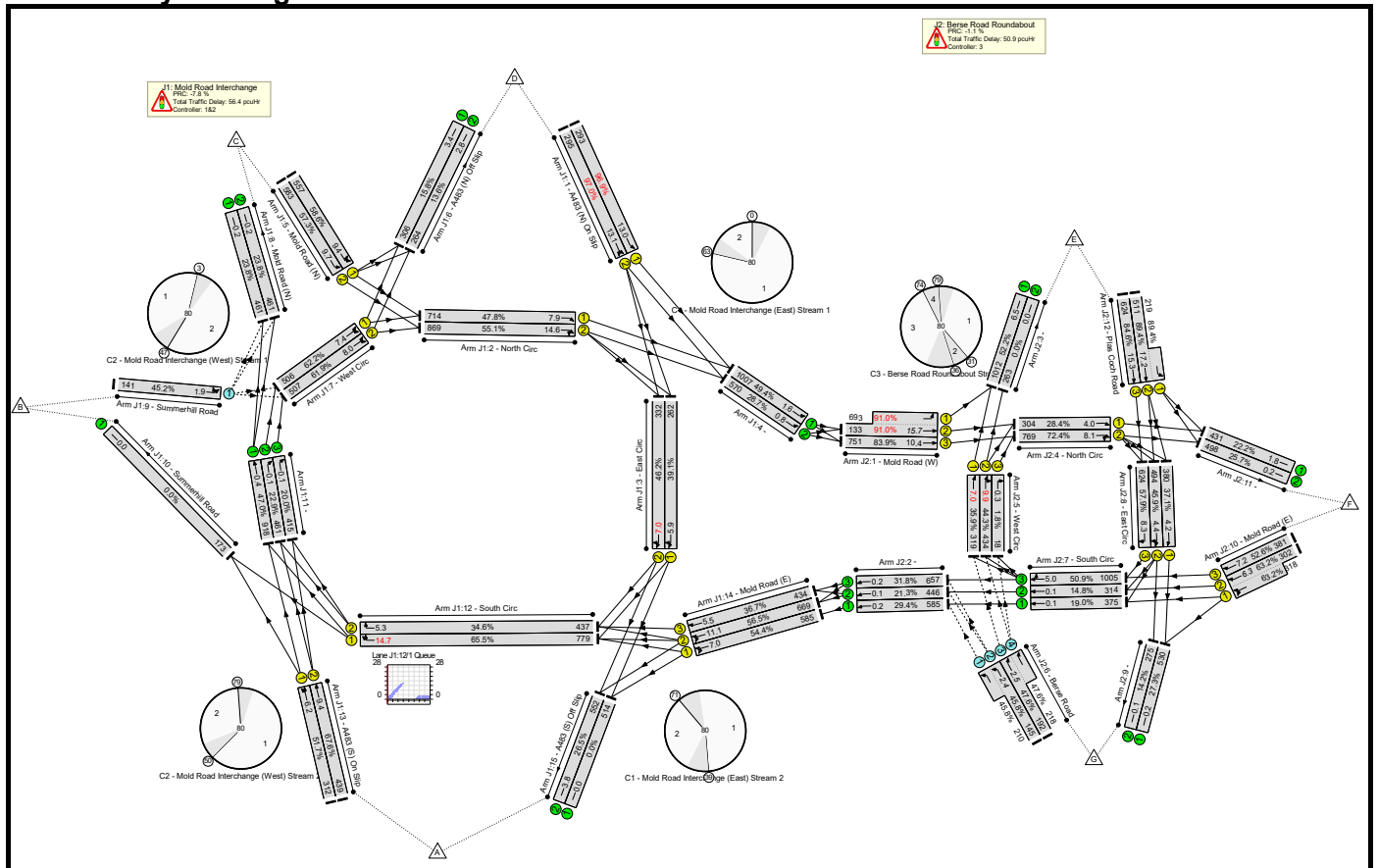
Basic Results Summary

12/2+12/1	Plas Coch Road Ahead Left	U	C3:C		1	28	-	727	1965:1898	585+190	93.9 : 93.9%	-	-	-	10.9	53.9	20.2
12/3	Plas Coch Road Ahead	U	C3:C		1	28	-	645	1968	713	90.4%	-	-	-	8.5	47.6	17.6
C1 - Mold Road Interchange (East)			Stream: 1 PRC for Signalled Lanes (%):			7.3			Total Delay for Signalled Lanes (pcuHr):			16.63			Cycle Time (s): 80		
C1 - Mold Road Interchange (East)			Stream: 2 PRC for Signalled Lanes (%):			12.2			Total Delay for Signalled Lanes (pcuHr):			15.62			Cycle Time (s): 80		
C2 - Mold Road Interchange (West)			Stream: 1 PRC for Signalled Lanes (%):			49.4			Total Delay for Signalled Lanes (pcuHr):			9.78			Cycle Time (s): 80		
C2 - Mold Road Interchange (West)			Stream: 2 PRC for Signalled Lanes (%):			-14.9			Total Delay for Signalled Lanes (pcuHr):			37.30			Cycle Time (s): 80		
C3 - Berse Road Roundabout			Stream: 1 PRC for Signalled Lanes (%):			-4.3			Total Delay for Signalled Lanes (pcuHr):			54.13			Cycle Time (s): 80		
			PRC Over All Lanes (%):			-14.9			Total Delay Over All Lanes(pcuHr):			151.83					

Basic Results Summary

Scenario 6: 'Saturday 2036 Base Sensitivity' (FG18: 'Saturday Peak 2036 Base Sensitivity', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-		-	-	-	-	-	-	97.0%	1671	0	0	107.3	-	-
J1: Mold Road Interchange	-	-	-		-	-	-	-	-	-	97.0%	141	0	0	56.4	-	-
1/1	A483 (N) On Slip Ahead	U	C1:B		1	12	-	293	1860	302	96.9%	-	-	-	9.3	113.8	13.0
1/2	A483 (N) On Slip Ahead Ahead2	U	C1:B		1	12	-	295	1872	304	97.0%	-	-	-	9.3	113.7	13.1
2/1	North Circ Ahead	U	C1:A		1	57	-	714	2059	1493	47.8%	-	-	-	1.4	7.2	7.9
2/2	North Circ Right Ahead	U	C1:A		1	57	-	869	2177	1578	55.1%	-	-	-	1.8	7.4	14.6
3/1	East Circ Right Ahead	U	C1:C		1	25	-	262	2061	670	39.1%	-	-	-	2.7	36.7	5.9
3/2	East Circ Right Ahead	U	C1:C		1	25	-	332	2212	719	46.2%	-	-	-	2.0	21.5	7.0
4/1	Ahead	U	-		-	-	-	1007	2038	2038	49.4%	-	-	-	0.5	1.7	1.6
4/2	Ahead	U	-		-	-	-	570	1987	1987	28.7%	-	-	-	0.2	1.3	0.8
5/1	Mold Road (N) Left Left2	U	C2:B		1	39	-	557	1901	951	58.6%	-	-	-	2.9	18.7	9.4
5/2	Mold Road (N) Left	U	C2:B		1	39	-	583	2035	1018	57.3%	-	-	-	2.9	18.1	9.7
6/1	A483 (N) Off Slip	U	-		-	-	-	306	1940	1940	15.8%	-	-	-	0.1	1.2	3.4
6/2	A483 (N) Off Slip	U	-		-	-	-	264	1940	1940	13.6%	-	-	-	0.1	1.1	2.8
7/1	West Circ Ahead Ahead2	U	C2:A		1	30	-	506	2100	814	62.2%	-	-	-	3.4	24.0	7.4
7/2	West Circ Ahead Ahead2	U	C2:A		1	30	-	507	2115	820	61.9%	-	-	-	3.5	24.8	8.0
8/1	Mold Road (N)	U	-		-	-	-	461	1940	1940	23.8%	-	-	-	0.2	1.2	0.2

Basic Results Summary

8/2	Mold Road (N)	U	-		-	-	-	461	1940	1940	23.8%	-	-	-	0.2	1.2	0.2
9/1	Summerhill Road Ahead Left	O	-		-	-	-	141	1952	312	45.2%	141	0	0	0.8	21.1	1.9
11/1	Ahead	U	-		-	-	-	918	1954	1954	47.0%	-	-	-	0.4	1.7	0.4
11/2	Right	U	-		-	-	-	461	2012	2012	22.9%	-	-	-	0.1	1.2	0.1
11/3	Right	U	-		-	-	-	415	2080	2080	20.0%	-	-	-	0.1	1.1	0.1
12/1	South Circ Right Right2	U	C2:C		1	46	-	779	2025	1190	65.5%	-	-	-	2.1	9.9	14.7
12/2	South Circ Right	U	C2:C		1	46	-	437	2149	1263	34.6%	-	-	-	0.3	2.7	5.3
13/1	A483 (S) On Slip Ahead Ahead2	U	C2:D		1	24	-	312	1933	604	51.7%	-	-	-	2.5	28.7	6.2
13/2	A483 (S) On Slip Ahead	U	C2:D		1	24	-	439	2077	649	67.6%	-	-	-	4.0	32.5	9.4
14/1	Mold Road (E) Ahead Left	U	C1:D		1	41	-	585	2049	1076	54.4%	-	-	-	1.7	10.7	7.0
14/2	Mold Road (E) Ahead Left	U	C1:D		1	41	-	669	2255	1184	56.5%	-	-	-	2.5	13.3	11.1
14/3	Mold Road (E) Ahead	U	C1:D		1	41	-	434	2255	1184	36.7%	-	-	-	1.1	9.5	5.5
15/2	A483 (S) Off Slip	U	-		-	-	-	552	2080	2080	26.5%	-	-	-	0.2	1.2	3.8
J2: Berse Road Roundabout	-	-	-		-	-	-	-	-	-	91.0%	1530	0	0	50.9	-	-
1/2+1/1	Mold Road (W) Left Ahead	U	C3:A		1	32	-	826	2067:2005	146+761	91.0 : 91.0%	-	-	-	7.0	30.5	15.7
1/3	Mold Road (W) Ahead	U	C3:A		1	32	-	751	2170	895	83.9%	-	-	-	5.0	23.8	10.4
2/1	Ahead	U	-		-	-	-	585	1989	1989	29.4%	-	-	-	0.2	1.3	0.2
2/2	Ahead	U	-		-	-	-	446	2089	2089	21.3%	-	-	-	0.1	1.1	0.1
2/3	Ahead	U	-		-	-	-	657	2068	2068	31.8%	-	-	-	0.2	1.3	0.2
3/1		U	-		-	-	-	1012	1940	1940	52.2%	-	-	-	0.6	2.0	6.5

Basic Results Summary

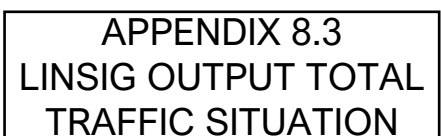
4/1	North Circ Ahead	U	C3:D		1	41	-	304	2039	1070	28.4%	-	-	-	1.5	18.1	4.0
4/2	North Circ Right Ahead	U	C3:D		1	41	-	769	2023	1062	72.4%	-	-	-	1.7	8.0	8.1
5/1	West Circ Ahead	U	C3:B		1	38	-	319	1825	890	35.9%	-	-	-	2.3	25.9	7.0
5/2	West Circ Ahead Right	U	C3:B		1	38	-	434	2008	979	44.3%	-	-	-	3.4	28.5	9.9
5/3	West Circ Right	U	C3:B		1	38	-	18	1997	974	1.8%	-	-	-	0.1	16.9	0.3
6/2+6/1	Berse Road Left	O	-		-	-	-	355	2075:2115	316+458	45.8 : 45.8%	710	0	0	1.2	12.2	2.4
6/3+6/4	Berse Road Ahead	O	-		-	-	-	410	2169:2206	404+458	47.6 : 47.6%	820	0	0	1.4	12.2	2.5
7/1	South Circ Ahead	U	-		-	-	-	375	1975	1975	19.0%	-	-	-	0.1	1.1	0.1
7/2	South Circ Ahead	U	-		-	-	-	314	2115	2115	14.8%	-	-	-	0.1	1.0	0.1
7/3	South Circ Ahead Right	U	-		-	-	-	1005	1975	1975	50.9%	-	-	-	0.5	1.9	5.0
8/1	East Circ Ahead	U	C3:G		1	43	-	380	1863	1025	37.1%	-	-	-	1.0	9.2	4.2
8/2	East Circ Right Ahead	U	C3:G		1	43	-	494	1956	1076	45.9%	-	-	-	1.1	8.2	4.4
8/3	East Circ Right	U	C3:G		1	43	-	624	1958	1077	57.9%	-	-	-	0.8	4.4	8.3
9/1		U	-		-	-	-	530	1940	1940	27.3%	-	-	-	0.2	1.3	0.2
9/2		U	-		-	-	-	275	1940	1940	14.2%	-	-	-	0.1	1.1	0.1
10/2+10/1	Mold Road (E) Ahead Left	U	C3:F		1	27	-	620	1998:1913	478+503	63.2 : 63.2%	-	-	-	4.3	25.1	6.3
10/3	Mold Road (E) Ahead	U	C3:F		1	27	-	381	2070	725	52.6%	-	-	-	2.7	25.9	7.2
11/1		U	-		-	-	-	431	1940	1940	22.2%	-	-	-	0.1	1.2	1.8
11/2		U	-		-	-	-	498	1940	1940	25.7%	-	-	-	0.2	1.2	0.2
12/2+12/1	Plas Coch Road Ahead Left	U	C3:C		1	29	-	730	1965:1898	571+245	89.4 : 89.4%	-	-	-	8.4	41.3	17.2

Basic Results Summary

12/3	Plas Coch Road Ahead	U	C3:C		1	29	-	624	1968	738	84.6%	-	-	-	6.6	38.0	15.3
C1 - Mold Road Interchange (East)		Stream: 1		PRC for Signalled Lanes (%)		-7.8		Total Delay for Signalled Lanes (pcuHr):		21.81		Cycle Time (s):		80			
C1 - Mold Road Interchange (East)		Stream: 2		PRC for Signalled Lanes (%)		59.3		Total Delay for Signalled Lanes (pcuHr):		10.01		Cycle Time (s):		80			
C2 - Mold Road Interchange (West)		Stream: 1		PRC for Signalled Lanes (%)		44.7		Total Delay for Signalled Lanes (pcuHr):		12.71		Cycle Time (s):		80			
C2 - Mold Road Interchange (West)		Stream: 2		PRC for Signalled Lanes (%)		33.1		Total Delay for Signalled Lanes (pcuHr):		8.91		Cycle Time (s):		80			
C3 - Berse Road Roundabout		Stream: 1		PRC for Signalled Lanes (%)		-1.1		Total Delay for Signalled Lanes (pcuHr):		45.89		Cycle Time (s):		80			
				PRC Over All Lanes (%)		-7.8		Total Delay Over All Lanes (pcuHr):		107.28							

User and Project Details

Scenario 1: 'Friday AM 2036 Total' (FG13: 'Friday AM 2036 Total', Plan 1: 'Network Control Plan 1')
Network Layout Diagram



Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-		-	-	-	-	-	-	93.3%	2052	0	0	90.3	-	-
J1: Mold Road Interchange	-	-	-		-	-	-	-	-	-	87.4%	118	0	0	48.8	-	-
1/1	A483 (N) On Slip Ahead	U	C1:B		1	24	-	505	1860	581	86.9%	-	-	-	6.7	47.8	13.6
1/2	A483 (N) On Slip Ahead Ahead2	U	C1:B		1	24	-	511	1872	585	87.4%	-	-	-	6.9	48.4	13.8
2/1	North Circ Ahead	U	C1:A		1	45	-	750	2059	1184	63.3%	-	-	-	2.7	12.8	8.9
2/2	North Circ Right Ahead	U	C1:A		1	45	-	908	2180	1254	72.4%	-	-	-	3.0	12.0	8.8
3/1	East Circ Right Ahead	U	C1:C		1	26	-	254	2061	696	36.5%	-	-	-	1.6	22.0	4.6
3/2	East Circ Right Ahead	U	C1:C		1	26	-	208	2072	699	29.7%	-	-	-	1.1	19.1	4.6
4/1	Ahead	U	-		-	-	-	1255	2038	2038	61.6%	-	-	-	0.8	2.3	2.5
4/2	Ahead	U	-		-	-	-	957	1987	1987	48.2%	-	-	-	0.5	1.8	3.3
5/1	Mold Road (N) Left Left2	U	C2:B		1	33	-	551	1901	808	68.2%	-	-	-	3.9	25.6	10.9
5/2	Mold Road (N) Left	U	C2:B		1	33	-	588	2035	865	68.0%	-	-	-	4.1	25.1	11.5
6/1	A483 (N) Off Slip	U	-		-	-	-	263	1940	1940	13.6%	-	-	-	0.1	1.1	1.2
6/2	A483 (N) Off Slip	U	-		-	-	-	271	1940	1940	14.0%	-	-	-	0.1	1.1	1.2
7/1	West Circ Ahead Ahead2	U	C2:A		1	36	-	533	2099	971	54.9%	-	-	-	2.3	15.4	5.9
7/2	West Circ Ahead Ahead2	U	C2:A		1	36	-	520	2112	977	53.2%	-	-	-	2.3	16.1	6.2
8/1	Mold Road (N)	U	-		-	-	-	288	1940	1940	14.8%	-	-	-	0.1	1.1	0.1

Basic Results Summary

8/2	Mold Road (N)	U	-		-	-	-	289	1940	1940	14.9%	-	-	-	0.1	1.1	0.1
9/1	Summerhill Road Ahead Left	O	-		-	-	-	118	1952	397	29.7%	118	0	0	0.5	14.5	1.2
11/1	Ahead	U	-		-	-	-	574	1954	1954	29.4%	-	-	-	0.2	1.3	0.2
11/2	Right	U	-		-	-	-	495	2012	2012	24.6%	-	-	-	0.2	1.2	0.2
11/3	Right	U	-		-	-	-	443	2080	2080	21.3%	-	-	-	0.1	1.1	0.1
12/1	South Circ Right Right2	U	C2:C		1	43	-	520	2025	1114	46.7%	-	-	-	1.4	9.5	7.9
12/2	South Circ Right	U	C2:C		1	43	-	358	2149	1182	30.3%	-	-	-	0.2	2.5	0.3
13/1	A483 (S) On Slip Ahead Ahead2	U	C2:D		1	27	-	288	1933	677	42.6%	-	-	-	2.0	24.5	5.2
13/2	A483 (S) On Slip Ahead	U	C2:D		1	27	-	580	2077	727	79.8%	-	-	-	5.7	35.4	13.5
14/1	Mold Road (E) Ahead Left	U	C1:D		1	40	-	366	2049	1050	34.9%	-	-	-	1.0	9.6	3.3
14/2	Mold Road (E) Ahead Left	U	C1:D		1	40	-	367	2255	1156	31.8%	-	-	-	0.7	7.0	4.9
14/3	Mold Road (E) Ahead	U	C1:D		1	40	-	356	2255	1156	30.8%	-	-	-	0.7	7.0	3.8
15/2	A483 (S) Off Slip	U	-		-	-	-	270	2080	2080	13.0%	-	-	-	0.1	1.0	0.1
J2: Berse Road Roundabout	-	-	-		-	-	-	-	-	-	93.3%	1934	0	0	41.5	-	-
1/2+1/1	Mold Road (W) Left Ahead	U	C3:A		1	49	-	1229	2067:2005	846+751	77.0 : 77.0%	-	-	-	3.6	10.4	16.0
1/3	Mold Road (W) Ahead	U	C3:A		1	49	-	983	2170	1356	72.5%	-	-	-	3.0	10.8	11.7
2/1	Ahead	U	-		-	-	-	366	1989	1989	18.4%	-	-	-	0.1	1.1	0.1
2/2	Ahead	U	-		-	-	-	388	2089	2089	18.6%	-	-	-	0.1	1.1	0.1
2/3	Ahead	U	-		-	-	-	335	2068	2068	16.2%	-	-	-	0.1	1.0	0.1
3/1	Ahead	U	C3:I		1	69	-	1012	1990	1741	58.1%	-	-	-	1.3	4.8	9.6

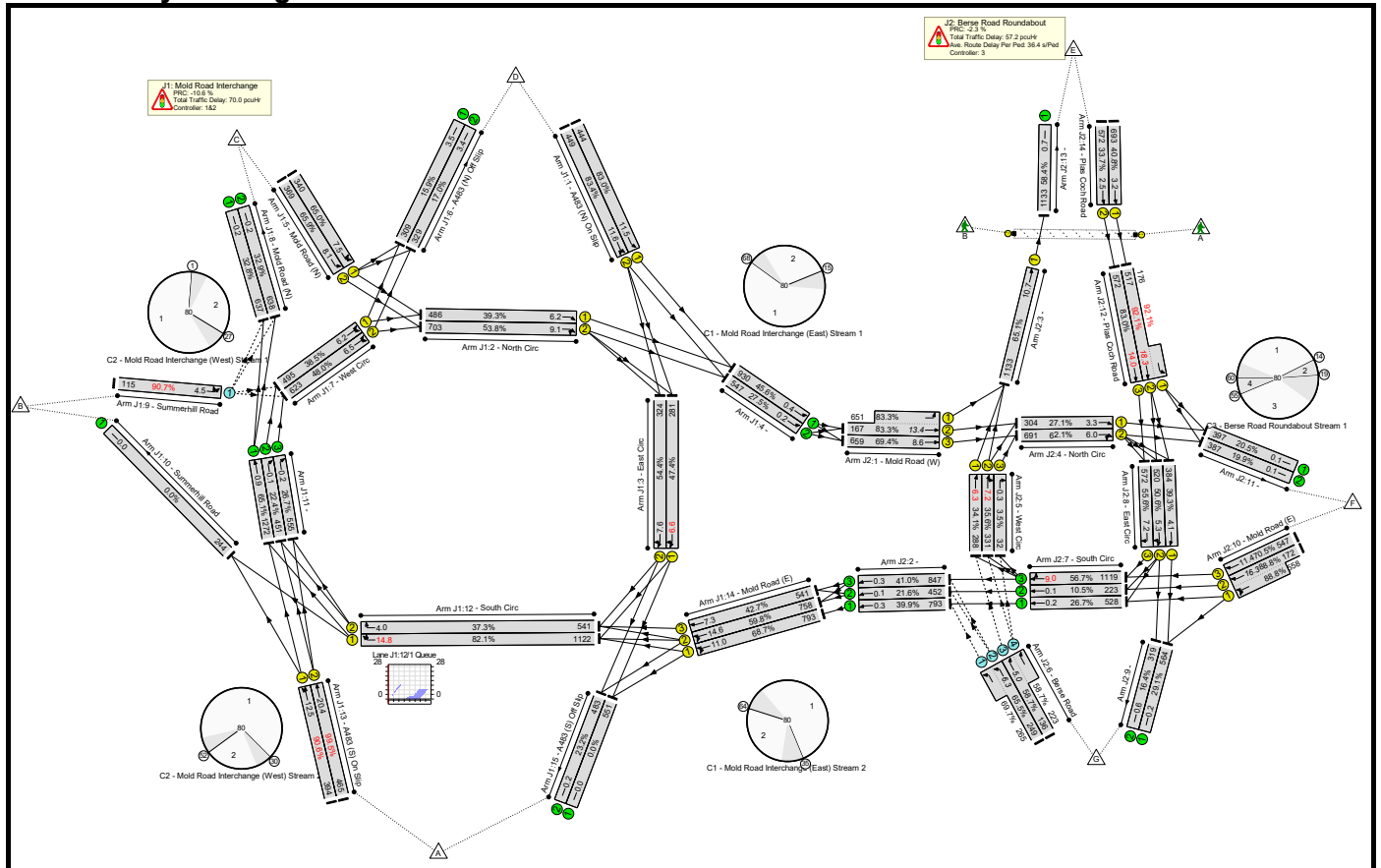
Basic Results Summary

4/1	North Circ Ahead	U	C3:D		1	58	-	791	2039	1504	52.6%	-	-	-	1.1	4.8	4.5
4/2	North Circ Right Ahead	U	C3:D		1	58	-	1074	2023	1492	72.0%	-	-	-	1.8	6.0	12.5
5/1	West Circ Ahead	U	C3:B		1	21	-	266	1825	502	53.0%	-	-	-	2.9	39.0	5.9
5/2	West Circ Ahead Right	U	C3:B		1	21	-	308	2008	552	55.8%	-	-	-	3.2	37.5	6.9
5/3	West Circ Right	U	C3:B		1	21	-	91	1997	549	16.6%	-	-	-	0.6	25.5	1.7
6/2+6/1	Berse Road Left	O	-		-	-	-	456	2075:2115	870+885	26.0 : 26.0%	912	0	0	0.4	3.1	1.1
6/3+6/4	Berse Road Ahead	O	-		-	-	-	511	2169:2206	540+927	34.8 : 34.8%	1022	0	0	0.6	3.9	3.0
7/1	South Circ Ahead	U	-		-	-	-	136	1975	1975	6.9%	-	-	-	0.0	1.0	0.0
7/2	South Circ Ahead	U	-		-	-	-	204	2115	2115	9.6%	-	-	-	0.1	0.9	0.1
7/3	South Circ Ahead Right	U	-		-	-	-	447	1975	1975	22.6%	-	-	-	0.1	1.2	0.1
8/1	East Circ Ahead	U	C3:G		1	48	-	458	1863	1141	40.1%	-	-	-	1.3	10.1	7.9
8/2	East Circ Right Ahead	U	C3:G		1	48	-	561	1957	1199	46.8%	-	-	-	1.4	9.1	6.5
8/3	East Circ Right	U	C3:G		1	48	-	285	1958	1199	23.8%	-	-	-	0.2	3.0	1.2
9/1		U	-		-	-	-	521	1940	1940	26.9%	-	-	-	0.2	1.3	0.2
9/2		U	-		-	-	-	487	1940	1940	25.1%	-	-	-	0.2	1.2	2.3
10/2+10/1	Mold Road (E) Ahead Left	U	C3:F		1	22	-	329	1998:1911	447+379	39.8 : 39.8%	-	-	-	2.4	25.8	3.4
10/3	Mold Road (E) Ahead	U	C3:F		1	22	-	162	2070	595	27.2%	-	-	-	1.2	26.2	2.9
11/1		U	-		-	-	-	817	1940	1940	42.1%	-	-	-	0.4	1.6	4.8
11/2		U	-		-	-	-	403	1940	1940	20.8%	-	-	-	0.1	1.2	0.1
12/2+12/1	Plas Coch Road Ahead Left	U	C3:C		1	12	-	374	1965:1898	283+118	93.3 : 93.3%	-	-	-	8.3	80.1	11.5

Basic Results Summary

12/3	Plas Coch Road Ahead	U	C3:C		1	12	-	285	1968	320	89.1%	-	-	-	6.0	75.3	9.6
13/1		U	-		-	-	-	1012	1940	1940	52.2%	-	-	-	0.5	1.9	0.5
14/1	Plas Coch Road Ahead	U	C3:J		1	69	-	374	1940	1698	22.0%	-	-	-	0.2	2.1	1.4
14/2	Plas Coch Road Ahead	U	C3:J		1	69	-	285	1940	1698	16.8%	-	-	-	0.2	2.0	1.0
Ped Link: P1	Unnamed Ped Link	-	C3:K		1	5	-	12	-	4500	0.3%	-	-	-	0.1	36.4	0.3
C1 - Mold Road Interchange (East)			Stream: 1 PRC for Signalled Lanes (%):					3.0	Total Delay for Signalled Lanes (pcuHr):			19.26	Cycle Time (s):			80	
C1 - Mold Road Interchange (East)			Stream: 2 PRC for Signalled Lanes (%):					146.5	Total Delay for Signalled Lanes (pcuHr):			5.04	Cycle Time (s):			80	
C2 - Mold Road Interchange (West)			Stream: 1 PRC for Signalled Lanes (%):					32.0	Total Delay for Signalled Lanes (pcuHr):			12.61	Cycle Time (s):			80	
C2 - Mold Road Interchange (West)			Stream: 2 PRC for Signalled Lanes (%):					12.8	Total Delay for Signalled Lanes (pcuHr):			9.28	Cycle Time (s):			80	
C3 - Berse Road Roundabout			Stream: 1 PRC for Signalled Lanes (%):					-3.7	Total Delay for Signalled Lanes (pcuHr):			36.85	Cycle Time (s):			80	
C3 - Berse Road Roundabout			Stream: 2 PRC for Signalled Lanes (%):					54.9	Total Delay for Signalled Lanes (pcuHr):			1.72	Cycle Time (s):			80	
PRC Over All Lanes (%):							-3.7	Total Delay Over All Lanes(pcuHr):			90.33						

Network Layout Diagram



Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-		-	-	-	-	-	-	99.5%	1861	0	0	127.2	-	-
J1: Mold Road Interchange	-	-	-		-	-	-	-	-	-	99.5%	115	0	0	70.0	-	-
1/1	A483 (N) On Slip Ahead	U	C1:B		1	22	-	444	1860	535	83.0%	-	-	-	5.6	45.5	11.5
1/2	A483 (N) On Slip Ahead Ahead2	U	C1:B		1	22	-	449	1872	538	83.4%	-	-	-	5.7	45.9	11.6
2/1	North Circ Ahead	U	C1:A		1	47	-	486	2059	1235	39.3%	-	-	-	0.9	6.9	6.2
2/2	North Circ Right Ahead	U	C1:A		1	47	-	703	2176	1306	53.8%	-	-	-	1.6	8.4	9.1
3/1	East Circ Right Ahead	U	C1:C		1	22	-	281	2061	593	47.4%	-	-	-	2.9	36.8	6.6
3/2	East Circ Right Ahead	U	C1:C		1	22	-	324	2072	596	54.4%	-	-	-	1.6	17.6	7.6
4/1	Ahead	U	-		-	-	-	930	2038	2038	45.6%	-	-	-	0.4	1.6	0.4
4/2	Ahead	U	-		-	-	-	547	1987	1987	27.5%	-	-	-	0.2	1.2	0.2
5/1	Mold Road (N) Left Left2	U	C2:B		1	21	-	340	1901	523	65.0%	-	-	-	3.3	35.4	7.5
5/2	Mold Road (N) Left	U	C2:B		1	21	-	369	2035	560	65.9%	-	-	-	3.6	35.0	8.1
6/1	A483 (N) Off Slip	U	-		-	-	-	309	1940	1940	15.9%	-	-	-	0.1	1.2	3.5
6/2	A483 (N) Off Slip	U	-		-	-	-	329	1940	1940	17.0%	-	-	-	0.1	1.2	3.4
7/1	West Circ Ahead Ahead2	U	C2:A		1	48	-	495	2101	1287	38.5%	-	-	-	1.8	13.4	6.2
7/2	West Circ Ahead Ahead2	U	C2:A		1	48	-	623	2117	1297	48.0%	-	-	-	1.9	11.2	6.5
8/1	Mold Road (N)	U	-		-	-	-	637	1940	1940	32.8%	-	-	-	0.2	1.4	0.2

Basic Results Summary

8/2	Mold Road (N)	U	-		-	-	-	638	1940	1940	32.9%	-	-	-	0.2	1.4	0.2
9/1	Summerhill Road Ahead Left	O	-		-	-	-	115	1952	127	90.7%	115	0	0	3.6	114.2	4.5
11/1	Ahead	U	-		-	-	-	1272	1954	1954	65.1%	-	-	-	0.9	2.6	0.9
11/2	Right	U	-		-	-	-	451	2012	2012	22.4%	-	-	-	0.1	1.2	0.1
11/3	Right	U	-		-	-	-	555	2080	2080	26.7%	-	-	-	0.2	1.2	0.2
12/1	South Circ Right Right2	U	C2:C		1	53	-	1122	2025	1367	82.1%	-	-	-	4.2	13.5	14.8
12/2	South Circ Right	U	C2:C		1	53	-	541	2149	1451	37.3%	-	-	-	0.7	4.9	4.0
13/1	A483 (S) On Slip Ahead Ahead2	U	C2:D		1	17	-	394	1933	435	90.6%	-	-	-	7.3	66.9	12.5
13/2	A483 (S) On Slip Ahead	U	C2:D		1	17	-	465	2077	467	99.5%	-	-	-	14.2	110.1	20.4
14/1	Mold Road (E) Ahead Left	U	C1:D		1	44	-	793	2051	1154	68.7%	-	-	-	2.4	10.9	11.0
14/2	Mold Road (E) Ahead Left	U	C1:D		1	44	-	758	2255	1268	59.8%	-	-	-	4.1	19.2	14.6
14/3	Mold Road (E) Ahead	U	C1:D		1	44	-	541	2255	1268	42.7%	-	-	-	1.7	11.0	7.3
15/2	A483 (S) Off Slip	U	-		-	-	-	483	2080	2080	23.2%	-	-	-	0.2	1.1	0.2
J2: Berse Road Roundabout	-	-	-		-	-	-	-	-	-	92.1%	1746	0	0	57.2	-	-
1/2+1/1	Mold Road (W) Left Ahead	U	C3:A		1	34	-	818	2067:2005	200+781	83.3 : 83.3%	-	-	-	6.0	26.2	13.4
1/3	Mold Road (W) Ahead	U	C3:A		1	34	-	659	2170	949	69.4%	-	-	-	3.0	16.4	8.6
2/1	Ahead	U	-		-	-	-	793	1989	1989	39.9%	-	-	-	0.3	1.5	0.3
2/2	Ahead	U	-		-	-	-	452	2089	2089	21.6%	-	-	-	0.1	1.1	0.1
2/3	Ahead	U	-		-	-	-	847	2068	2068	41.0%	-	-	-	0.3	1.5	0.3
3/1	Ahead	U	C3:I		1	69	-	1133	1990	1741	65.1%	-	-	-	1.3	4.0	10.7

Basic Results Summary

4/1	North Circ Ahead	U	C3:D		1	43	-	304	2039	1121	27.1%	-	-	-	1.2	14.5	3.3
4/2	North Circ Right Ahead	U	C3:D		1	43	-	691	2023	1113	62.1%	-	-	-	1.3	6.7	6.0
5/1	West Circ Ahead	U	C3:B		1	36	-	288	1825	844	34.1%	-	-	-	2.0	24.9	6.3
5/2	West Circ Ahead Right	U	C3:B		1	36	-	331	2008	929	35.6%	-	-	-	2.1	22.3	7.2
5/3	West Circ Right	U	C3:B		1	36	-	32	1997	924	3.5%	-	-	-	0.1	13.5	0.3
6/2+6/1	Berse Road Left	O	-		-	-	-	514	2075:2115	380+380	65.5 : 69.7%	1028	0	0	3.3	22.9	6.3
6/3+6/4	Berse Road Ahead	O	-		-	-	-	359	2169:2206	232+380	58.7 : 58.7%	718	0	0	1.9	19.5	5.0
7/1	South Circ Ahead	U	-		-	-	-	528	1975	1975	26.7%	-	-	-	0.2	1.2	0.2
7/2	South Circ Ahead	U	-		-	-	-	223	2115	2115	10.5%	-	-	-	0.1	1.0	0.1
7/3	South Circ Ahead Right	U	-		-	-	-	1119	1975	1975	56.7%	-	-	-	0.7	2.2	9.0
8/1	East Circ Ahead	U	C3:G		1	41	-	384	1863	978	39.3%	-	-	-	1.2	11.3	4.1
8/2	East Circ Right Ahead	U	C3:G		1	41	-	520	1956	1027	50.6%	-	-	-	1.4	9.6	5.3
8/3	East Circ Right	U	C3:G		1	41	-	572	1958	1028	55.6%	-	-	-	0.7	4.3	7.2
9/1		U	-		-	-	-	564	1940	1940	29.1%	-	-	-	0.2	1.3	0.2
9/2		U	-		-	-	-	319	1940	1940	16.4%	-	-	-	0.1	1.1	0.6
10/2+10/1	Mold Road (E) Ahead Left	U	C3:F		1	29	-	730	1998:1908	194+628	88.8 : 88.8%	-	-	-	8.1	39.9	16.3
10/3	Mold Road (E) Ahead	U	C3:F		1	29	-	547	2070	776	70.5%	-	-	-	4.4	29.0	11.4
11/1		U	-		-	-	-	397	1940	1940	20.5%	-	-	-	0.1	1.2	0.1
11/2		U	-		-	-	-	387	1940	1940	19.9%	-	-	-	0.1	1.2	0.1
12/2+12/1	Plas Coch Road Ahead Left	U	C3:C		1	27	-	693	1965:1898	561+191	92.1 : 92.1%	-	-	-	9.4	48.8	18.3

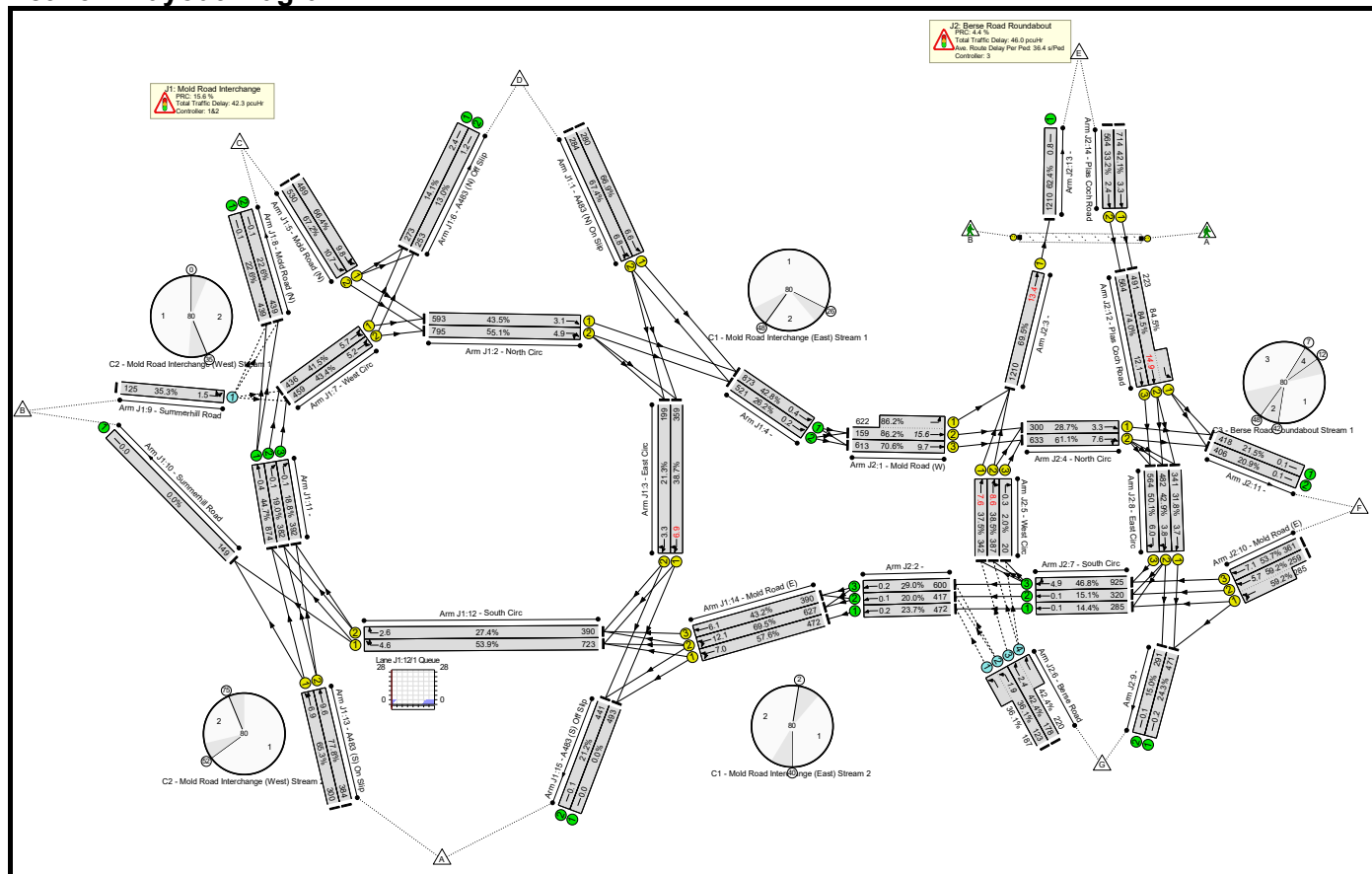
Basic Results Summary

12/3	Plas Coch Road Ahead	U	C3:C		1	27	-	572	1968	689	83.0%	-	-	-	6.0	37.8	14.0
13/1		U	-		-	-	-	1133	1940	1940	58.4%	-	-	-	0.7	2.2	0.7
14/1	Plas Coch Road Ahead	U	C3:J		1	69	-	693	1940	1698	40.8%	-	-	-	0.5	2.8	3.2
14/2	Plas Coch Road Ahead	U	C3:J		1	69	-	572	1940	1698	33.7%	-	-	-	0.4	2.5	2.5
Ped Link: P1	Unnamed Ped Link	-	C3:K		1	5	-	20	-	4500	0.4%	-	-	-	0.2	36.4	0.4
C1 - Mold Road Interchange (East)			Stream: 1 PRC for Signalled Lanes (%)				7.9		Total Delay for Signalled Lanes (pcuHr):			13.90		Cycle Time (s): 80			
C1 - Mold Road Interchange (East)			Stream: 2 PRC for Signalled Lanes (%)				30.9		Total Delay for Signalled Lanes (pcuHr):			12.56		Cycle Time (s): 80			
C2 - Mold Road Interchange (West)			Stream: 1 PRC for Signalled Lanes (%)				36.5		Total Delay for Signalled Lanes (pcuHr):			10.71		Cycle Time (s): 80			
C2 - Mold Road Interchange (West)			Stream: 2 PRC for Signalled Lanes (%)				-10.6		Total Delay for Signalled Lanes (pcuHr):			26.48		Cycle Time (s): 80			
C3 - Berse Road Roundabout			Stream: 1 PRC for Signalled Lanes (%)				-2.3		Total Delay for Signalled Lanes (pcuHr):			46.81		Cycle Time (s): 80			
C3 - Berse Road Roundabout			Stream: 2 PRC for Signalled Lanes (%)				38.3		Total Delay for Signalled Lanes (pcuHr):			2.19		Cycle Time (s): 80			
PRC Over All Lanes (%)							-10.6		Total Delay Over All Lanes(pcuHr):			127.23					

Basic Results Summary

Scenario 3: 'Saturday 2036 Total' (FG15: 'Saturday 2036 Total', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-		-	-	-	-	-	-	86.2%	1541	0	0	88.3	-	-
J1: Mold Road Interchange	-	-	-		-	-	-	-	-	-	77.8%	125	0	0	42.3	-	-
1/1	A483 (N) On Slip Ahead	U	C1:B		1	17	-	280	1860	419	66.9%	-	-	-	3.2	41.1	6.6
1/2	A483 (N) On Slip Ahead Ahead2	U	C1:B		1	17	-	284	1872	421	67.4%	-	-	-	3.3	41.3	6.8
2/1	North Circ Ahead	U	C1:A		1	52	-	593	2059	1364	43.5%	-	-	-	1.0	6.2	3.1
2/2	North Circ Right Ahead	U	C1:A		1	52	-	795	2177	1442	55.1%	-	-	-	1.6	7.1	4.9
3/1	East Circ Right Ahead	U	C1:C		1	35	-	359	2061	927	38.7%	-	-	-	1.7	17.3	6.9
3/2	East Circ Right Ahead	U	C1:C		1	35	-	199	2072	932	21.3%	-	-	-	1.0	18.8	3.3
4/1	Ahead	U	-		-	-	-	873	2038	2038	42.8%	-	-	-	0.4	1.5	0.4
4/2	Ahead	U	-		-	-	-	521	1987	1987	26.2%	-	-	-	0.2	1.2	0.2
5/1	Mold Road (N) Left Left2	U	C2:B		1	30	-	489	1901	737	66.4%	-	-	-	3.7	27.4	9.8
5/2	Mold Road (N) Left	U	C2:B		1	30	-	530	2035	789	67.2%	-	-	-	4.0	27.2	10.7
6/1	A483 (N) Off Slip	U	-		-	-	-	273	1940	1940	14.1%	-	-	-	0.1	1.1	2.4
6/2	A483 (N) Off Slip	U	-		-	-	-	253	1940	1940	13.0%	-	-	-	0.1	1.1	1.2
7/1	West Circ Ahead Ahead2	U	C2:A		1	39	-	436	2101	1050	41.5%	-	-	-	1.6	13.3	5.7
7/2	West Circ Ahead Ahead2	U	C2:A		1	39	-	459	2114	1057	43.4%	-	-	-	1.5	11.5	5.2
8/1	Mold Road (N)	U	-		-	-	-	439	1940	1940	22.6%	-	-	-	0.1	1.2	0.1

Basic Results Summary

8/2	Mold Road (N)	U	-		-	-	-	439	1940	1940	22.6%	-	-	-	0.1	1.2	0.1
9/1	Summerhill Road Ahead Left	O	-		-	-	-	125	1952	354	35.3%	125	0	0	0.6	16.6	1.5
11/1	Ahead	U	-		-	-	-	874	1954	1954	44.7%	-	-	-	0.4	1.7	0.4
11/2	Right	U	-		-	-	-	382	2012	2012	19.0%	-	-	-	0.1	1.1	0.1
11/3	Right	U	-		-	-	-	392	2080	2080	18.8%	-	-	-	0.1	1.1	0.1
12/1	South Circ Right Right2	U	C2:C		1	52	-	723	2025	1342	53.9%	-	-	-	1.8	8.8	4.6
12/2	South Circ Right	U	C2:C		1	52	-	390	2149	1424	27.4%	-	-	-	0.2	1.8	2.6
13/1	A483 (S) On Slip Ahead Ahead2	U	C2:D		1	18	-	300	1933	459	65.3%	-	-	-	3.2	38.7	6.9
13/2	A483 (S) On Slip Ahead	U	C2:D		1	18	-	384	2077	493	77.8%	-	-	-	4.7	44.5	9.6
14/1	Mold Road (E) Ahead Left	U	C1:D		1	31	-	472	2050	820	57.6%	-	-	-	2.5	19.1	7.0
14/2	Mold Road (E) Ahead Left	U	C1:D		1	31	-	627	2255	902	69.5%	-	-	-	3.3	18.9	12.1
14/3	Mold Road (E) Ahead	U	C1:D		1	31	-	390	2255	902	43.2%	-	-	-	1.6	14.7	6.1
15/2	A483 (S) Off Slip	U	-		-	-	-	441	2080	2080	21.2%	-	-	-	0.1	1.1	0.1
J2: Berse Road Roundabout	-	-	-		-	-	-	-	-	-	86.2%	1416	0	0	46.0	-	-
1/2+1/1	Mold Road (W) Left Ahead	U	C3:A		1	31	-	781	2067:2005	184+721	86.2 : 86.2%	-	-	-	6.9	31.8	15.6
1/3	Mold Road (W) Ahead	U	C3:A		1	31	-	613	2170	868	70.6%	-	-	-	3.4	20.3	9.7
2/1	Ahead	U	-		-	-	-	472	1989	1989	23.7%	-	-	-	0.2	1.2	0.2
2/2	Ahead	U	-		-	-	-	417	2089	2089	20.0%	-	-	-	0.1	1.1	0.1
2/3	Ahead	U	-		-	-	-	600	2068	2068	29.0%	-	-	-	0.2	1.2	0.2
3/1	Ahead	U	C3:I		1	69	-	1210	1990	1741	69.5%	-	-	-	1.7	5.1	13.4

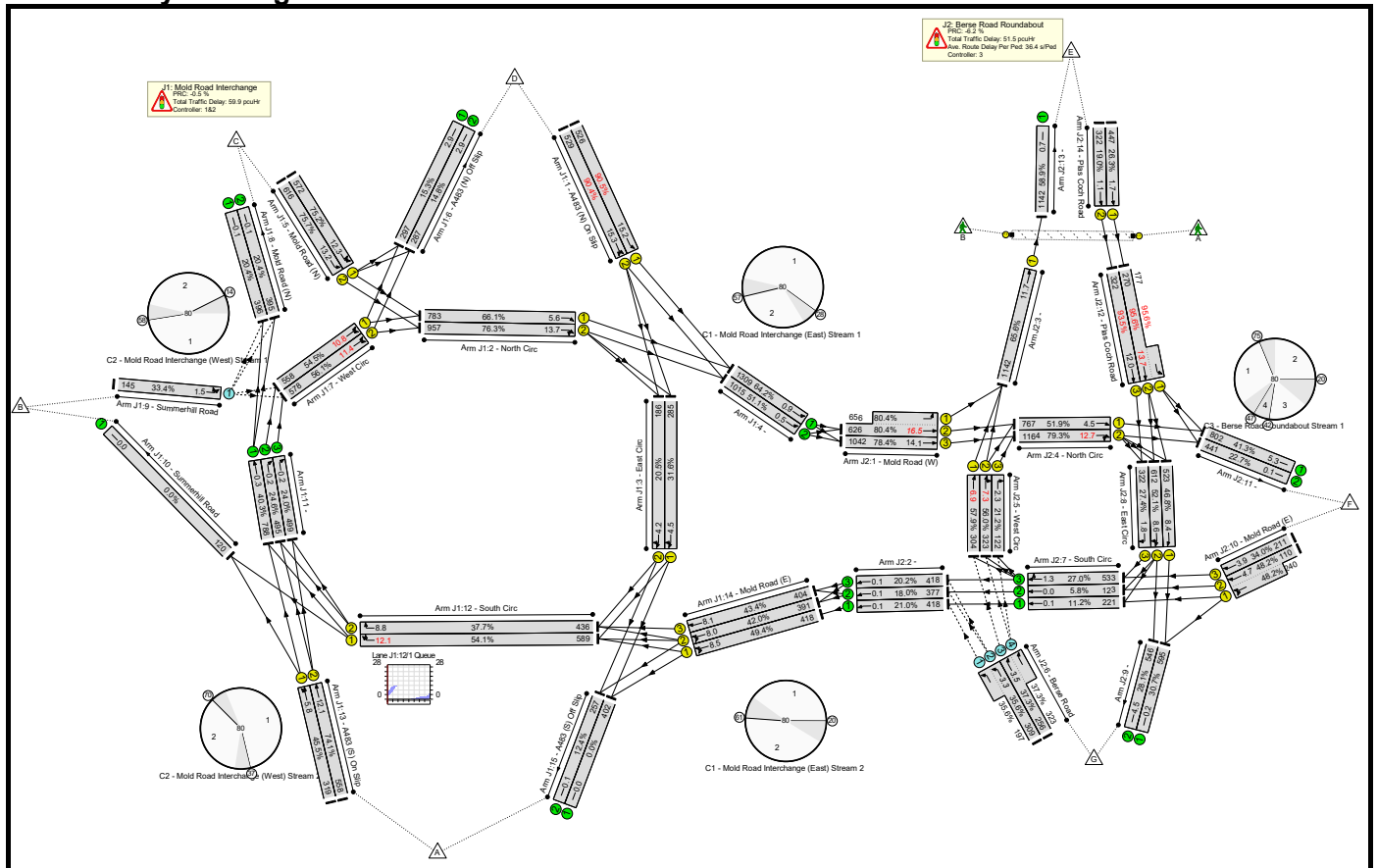
Basic Results Summary

4/1	North Circ Ahead	U	C3:D		1	40	-	300	2039	1045	28.7%	-	-	-	1.4	16.2	3.3
4/2	North Circ Right Ahead	U	C3:D		1	40	-	633	2023	1037	61.1%	-	-	-	1.3	7.2	7.6
5/1	West Circ Ahead	U	C3:B		1	39	-	342	1825	912	37.5%	-	-	-	2.6	27.7	7.6
5/2	West Circ Ahead Right	U	C3:B		1	39	-	387	2008	1004	38.5%	-	-	-	2.9	27.4	8.6
5/3	West Circ Right	U	C3:B		1	39	-	20	1997	998	2.0%	-	-	-	0.1	17.7	0.3
6/2+6/1	Berse Road Left	O	-		-	-	-	310	2075:2115	341+519	36.1 : 36.1%	620	0	0	0.8	9.7	1.9
6/3+6/4	Berse Road Ahead	O	-		-	-	-	398	2169:2206	420+519	42.4 : 42.4%	796	0	0	1.1	10.3	2.4
7/1	South Circ Ahead	U	-		-	-	-	285	1975	1975	14.4%	-	-	-	0.1	1.1	0.1
7/2	South Circ Ahead	U	-		-	-	-	320	2115	2115	15.1%	-	-	-	0.1	1.0	0.1
7/3	South Circ Ahead Right	U	-		-	-	-	925	1975	1975	46.8%	-	-	-	0.4	1.7	4.9
8/1	East Circ Ahead	U	C3:G		1	45	-	341	1863	1071	31.8%	-	-	-	0.9	9.3	3.7
8/2	East Circ Right Ahead	U	C3:G		1	45	-	482	1956	1125	42.9%	-	-	-	1.0	7.4	3.8
8/3	East Circ Right	U	C3:G		1	45	-	564	1958	1126	50.1%	-	-	-	0.5	3.5	6.0
9/1		U	-		-	-	-	471	1940	1940	24.3%	-	-	-	0.2	1.2	0.2
9/2		U	-		-	-	-	291	1940	1940	15.0%	-	-	-	0.1	1.1	0.1
10/2+10/1	Mold Road (E) Ahead Left	U	C3:F		1	25	-	544	1998:1913	437+481	59.2 : 59.2%	-	-	-	3.9	26.0	5.7
10/3	Mold Road (E) Ahead	U	C3:F		1	25	-	361	2070	673	53.7%	-	-	-	2.8	27.8	7.1
11/1		U	-		-	-	-	418	1940	1940	21.5%	-	-	-	0.1	1.2	0.1
11/2		U	-		-	-	-	406	1940	1940	20.9%	-	-	-	0.1	1.2	0.1
12/2+12/1	Plas Coch Road Ahead Left	U	C3:C		1	30	-	714	1965:1898	581+264	84.5 : 84.5%	-	-	-	6.6	33.1	14.9

Basic Results Summary

12/3	Plas Coch Road Ahead	U	C3:C		1	30	-	564	1968	763	74.0%	-	-	-	4.6	29.4	12.1
13/1		U	-		-	-	-	1210	1940	1940	62.4%	-	-	-	0.8	2.5	0.8
14/1	Plas Coch Road Ahead	U	C3:J		1	69	-	714	1940	1698	42.1%	-	-	-	0.6	2.8	3.3
14/2	Plas Coch Road Ahead	U	C3:J		1	69	-	564	1940	1698	33.2%	-	-	-	0.4	2.5	2.4
Ped Link: P1	Unnamed Ped Link	-	C3:K		1	5	-	33	-	4500	0.8%	-	-	-	0.3	36.4	0.7
C1 - Mold Road Interchange (East)				Stream: 1 PRC for Signalled Lanes (%):				33.5	Total Delay for Signalled Lanes (pcuHr):				9.04	Cycle Time (s): 80			
C1 - Mold Road Interchange (East)				Stream: 2 PRC for Signalled Lanes (%):				29.5	Total Delay for Signalled Lanes (pcuHr):				10.16	Cycle Time (s): 80			
C2 - Mold Road Interchange (West)				Stream: 1 PRC for Signalled Lanes (%):				33.9	Total Delay for Signalled Lanes (pcuHr):				10.81	Cycle Time (s): 80			
C2 - Mold Road Interchange (West)				Stream: 2 PRC for Signalled Lanes (%):				15.6	Total Delay for Signalled Lanes (pcuHr):				9.94	Cycle Time (s): 80			
C3 - Berse Road Roundabout				Stream: 1 PRC for Signalled Lanes (%):				4.4	Total Delay for Signalled Lanes (pcuHr):				38.94	Cycle Time (s): 80			
C3 - Berse Road Roundabout				Stream: 2 PRC for Signalled Lanes (%):				29.5	Total Delay for Signalled Lanes (pcuHr):				2.66	Cycle Time (s): 80			
				PRC Over All Lanes (%):				4.4	Total Delay Over All Lanes(pcuHr):				88.32				

Network Layout Diagram



Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-		-	-	-	-	-	-	95.6%	2315	0	0	111.4	-	-
J1: Mold Road Interchange	-	-	-		-	-	-	-	-	-	90.5%	145	0	0	59.9	-	-
1/1	A483 (N) On Slip Ahead	U	C1:B		1	24	-	526	1860	581	90.5%	-	-	-	8.0	54.7	15.2
1/2	A483 (N) On Slip Ahead Ahead2	U	C1:B		1	24	-	529	1872	585	90.4%	-	-	-	8.0	54.4	15.3
2/1	North Circ Ahead	U	C1:A		1	45	-	783	2059	1184	66.1%	-	-	-	1.8	8.3	5.6
2/2	North Circ Right Ahead	U	C1:A		1	45	-	957	2181	1254	76.3%	-	-	-	2.6	10.0	13.7
3/1	East Circ Right Ahead	U	C1:C		1	34	-	285	2061	902	31.6%	-	-	-	1.5	18.8	4.5
3/2	East Circ Right Ahead	U	C1:C		1	34	-	186	2072	907	20.5%	-	-	-	1.3	24.7	4.2
4/1	Ahead	U	-		-	-	-	1309	2038	2038	64.2%	-	-	-	0.9	2.5	0.9
4/2	Ahead	U	-		-	-	-	1015	1987	1987	51.1%	-	-	-	0.5	1.8	0.5
5/1	Mold Road (N) Left Left2	U	C2:B		1	31	-	572	1901	760	75.2%	-	-	-	4.8	30.0	12.3
5/2	Mold Road (N) Left	U	C2:B		1	31	-	616	2035	814	75.7%	-	-	-	5.1	29.6	13.2
6/1	A483 (N) Off Slip	U	-		-	-	-	297	1940	1940	15.3%	-	-	-	0.1	1.1	2.9
6/2	A483 (N) Off Slip	U	-		-	-	-	287	1940	1940	14.8%	-	-	-	0.1	1.2	2.9
7/1	West Circ Ahead Ahead2	U	C2:A		1	38	-	558	2100	1024	54.5%	-	-	-	3.9	25.3	10.8
7/2	West Circ Ahead Ahead2	U	C2:A		1	38	-	578	2113	1030	56.1%	-	-	-	4.0	24.8	11.4
8/1	Mold Road (N)	U	-		-	-	-	396	1940	1940	20.4%	-	-	-	0.1	1.2	0.1

Basic Results Summary

8/2	Mold Road (N)	U	-		-	-	-	395	1940	1940	20.4%	-	-	-	0.1	1.2	0.1
9/1	Summerhill Road Ahead Left	O	-		-	-	-	145	1952	434	33.4%	145	0	0	0.6	14.8	1.5
11/1	Ahead	U	-		-	-	-	788	1954	1954	40.3%	-	-	-	0.3	1.5	0.3
11/2	Right	U	-		-	-	-	495	2012	2012	24.6%	-	-	-	0.2	1.2	0.2
11/3	Right	U	-		-	-	-	499	2080	2080	24.0%	-	-	-	0.2	1.1	0.2
12/1	South Circ Right Right2	U	C2:C		1	42	-	589	2025	1088	54.1%	-	-	-	1.9	11.8	12.1
12/2	South Circ Right	U	C2:C		1	42	-	436	2149	1155	37.7%	-	-	-	0.6	4.6	8.8
13/1	A483 (S) On Slip Ahead Ahead2	U	C2:D		1	28	-	319	1933	701	45.5%	-	-	-	2.1	24.2	5.8
13/2	A483 (S) On Slip Ahead	U	C2:D		1	28	-	558	2077	753	74.1%	-	-	-	4.9	31.3	12.1
14/1	Mold Road (E) Ahead Left	U	C1:D		1	32	-	418	2052	846	49.4%	-	-	-	2.0	17.2	8.5
14/2	Mold Road (E) Ahead Left	U	C1:D		1	32	-	391	2255	930	42.0%	-	-	-	2.3	20.8	8.0
14/3	Mold Road (E) Ahead	U	C1:D		1	32	-	404	2255	930	43.4%	-	-	-	2.0	18.2	8.1
15/2	A483 (S) Off Slip	U	-		-	-	-	257	2080	2080	12.4%	-	-	-	0.1	1.0	0.1
J2: Berse Road Roundabout	-	-	-		-	-	-	-	-	-	95.6%	2170	0	0	51.5	-	-
1/2+1/1	Mold Road (W) Left Ahead	U	C3:A		1	48	-	1282	2067:2005	778+816	80.4 : 80.4%	-	-	-	4.3	12.2	16.5
1/3	Mold Road (W) Ahead	U	C3:A		1	48	-	1042	2170	1329	78.4%	-	-	-	4.1	14.1	14.1
2/1	Ahead	U	-		-	-	-	418	1989	1989	21.0%	-	-	-	0.1	1.1	0.1
2/2	Ahead	U	-		-	-	-	377	2089	2089	18.0%	-	-	-	0.1	1.1	0.1
2/3	Ahead	U	-		-	-	-	418	2068	2068	20.2%	-	-	-	0.1	1.1	0.1
3/1	Ahead	U	C3:I		1	69	-	1142	1990	1741	65.6%	-	-	-	1.8	5.7	11.7

Basic Results Summary

4/1	North Circ Ahead	U	C3:D		1	57	-	767	2039	1478	51.9%	-	-	-	1.1	5.0	4.5
4/2	North Circ Right Ahead	U	C3:D		1	57	-	1164	2024	1467	79.3%	-	-	-	2.6	8.1	12.7
5/1	West Circ Ahead	U	C3:B		1	22	-	304	1825	525	57.9%	-	-	-	3.1	36.1	6.9
5/2	West Circ Ahead Right	U	C3:B		1	22	-	323	2008	577	56.0%	-	-	-	3.5	39.0	7.3
5/3	West Circ Right	U	C3:B		1	22	-	122	1997	574	21.2%	-	-	-	0.8	24.9	2.3
6/2+6/1	Berse Road Left	O	-		-	-	-	506	2075:2115	867+553	35.6 : 35.6%	1012	0	0	0.7	4.7	3.3
6/3+6/4	Berse Road Ahead	O	-		-	-	-	579	2169:2206	687+867	37.3 : 37.3%	1158	0	0	0.8	4.7	3.5
7/1	South Circ Ahead	U	-		-	-	-	221	1975	1975	11.2%	-	-	-	0.1	1.0	0.1
7/2	South Circ Ahead	U	-		-	-	-	123	2115	2115	5.8%	-	-	-	0.0	0.9	0.0
7/3	South Circ Ahead Right	U	-		-	-	-	533	1975	1975	27.0%	-	-	-	0.2	1.3	1.3
8/1	East Circ Ahead	U	C3:G		1	47	-	523	1863	1118	46.8%	-	-	-	1.6	10.8	8.4
8/2	East Circ Right Ahead	U	C3:G		1	47	-	612	1957	1174	52.1%	-	-	-	1.8	10.4	8.6
8/3	East Circ Right	U	C3:G		1	47	-	322	1958	1175	27.4%	-	-	-	0.3	3.3	1.8
9/1		U	-		-	-	-	595	1940	1940	30.7%	-	-	-	0.2	1.3	0.2
9/2		U	-		-	-	-	546	1940	1940	28.1%	-	-	-	0.2	1.3	4.5
10/2+10/1	Mold Road (E) Ahead Left	U	C3:F		1	23	-	350	1998:1907	228+497	48.2 : 48.2%	-	-	-	2.6	26.7	4.7
10/3	Mold Road (E) Ahead	U	C3:F		1	23	-	211	2070	621	34.0%	-	-	-	1.5	26.2	3.9
11/1		U	-		-	-	-	802	1940	1940	41.3%	-	-	-	0.4	1.6	5.3
11/2		U	-		-	-	-	441	1940	1940	22.7%	-	-	-	0.1	1.2	0.1
12/2+12/1	Plas Coch Road Ahead Left	U	C3:C		1	13	-	447	1965:1898	282+185	95.6 : 95.6%	-	-	-	10.4	84.0	13.7

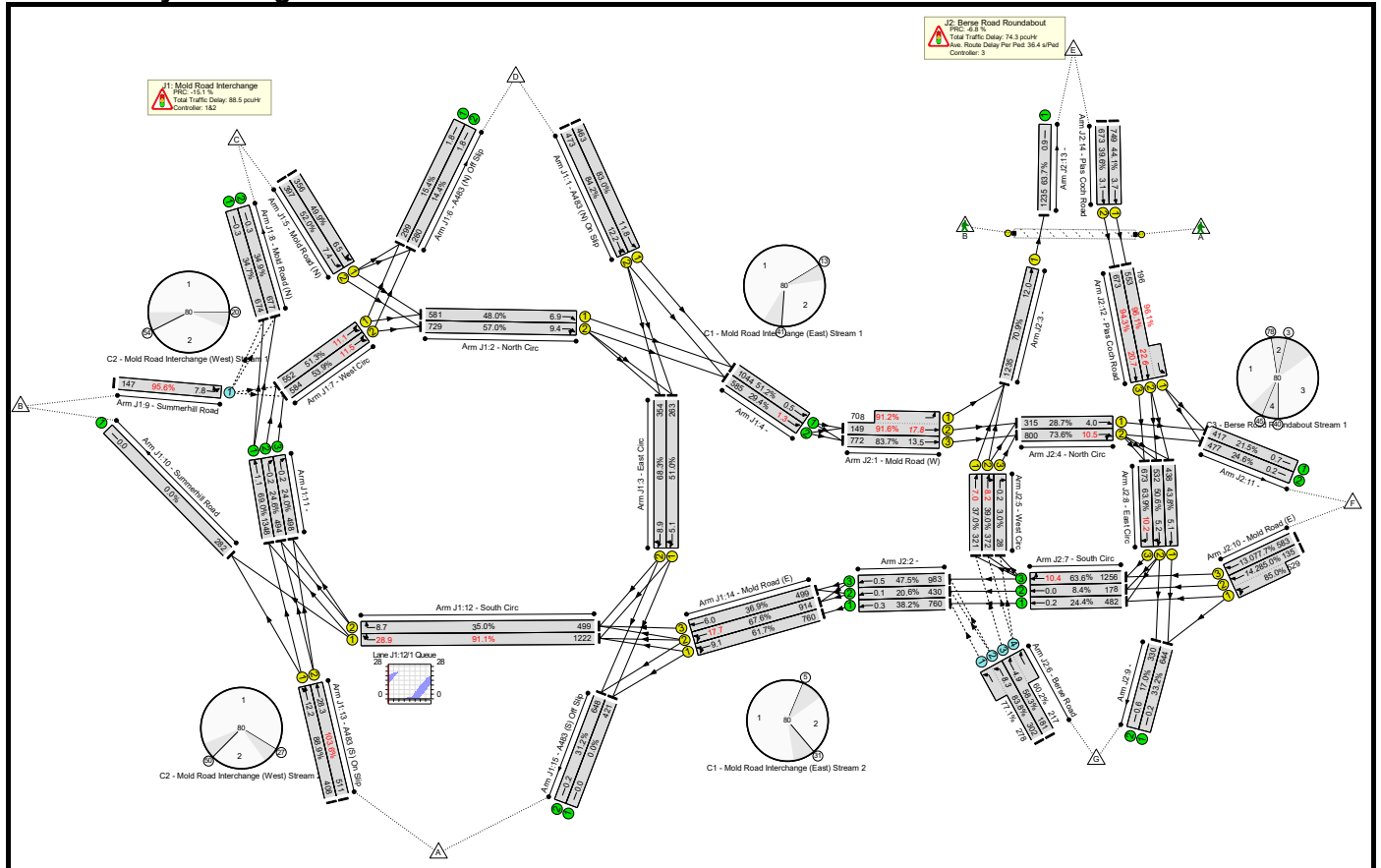
Basic Results Summary

12/3	Plas Coch Road Ahead	U	C3:C		1	13	-	322	1968	344	93.5%	-	-	-	7.8	87.4	12.0
13/1		U	-		-	-	-	1142	1940	1940	58.9%	-	-	-	0.7	2.3	0.7
14/1	Plas Coch Road Ahead	U	C3:J		1	69	-	447	1940	1698	26.3%	-	-	-	0.3	2.3	1.7
14/2	Plas Coch Road Ahead	U	C3:J		1	69	-	322	1940	1698	19.0%	-	-	-	0.2	2.1	1.1
Ped Link: P1	Unnamed Ped Link	-	C3:K		1	5	-	12	-	4500	0.3%	-	-	-	0.1	36.4	0.3
C1 - Mold Road Interchange (East)				Stream: 1 PRC for Signalled Lanes (%):				Total Delay for Signalled Lanes (pcuHr):				20.43		Cycle Time (s):			
C1 - Mold Road Interchange (East)				Stream: 2 PRC for Signalled Lanes (%):				Total Delay for Signalled Lanes (pcuHr):				9.06		Cycle Time (s):			
C2 - Mold Road Interchange (West)				Stream: 1 PRC for Signalled Lanes (%):				Total Delay for Signalled Lanes (pcuHr):				17.74		Cycle Time (s):			
C2 - Mold Road Interchange (West)				Stream: 2 PRC for Signalled Lanes (%):				Total Delay for Signalled Lanes (pcuHr):				9.49		Cycle Time (s):			
C3 - Berse Road Roundabout				Stream: 1 PRC for Signalled Lanes (%):				Total Delay for Signalled Lanes (pcuHr):				45.52		Cycle Time (s):			
C3 - Berse Road Roundabout				Stream: 2 PRC for Signalled Lanes (%):				Total Delay for Signalled Lanes (pcuHr):				2.28		Cycle Time (s):			
				PRC Over All Lanes (%):				Total Delay Over All Lanes(pcuHr):				111.42					

Basic Results Summary

Scenario 5: 'Friday PM 2036 Total Sensitivity' (FG20: 'Friday PM Peak 2036 Total Sensitivity', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-		-	-	-	-	-	-	103.6%	2103	0	0	162.8	-	-
J1: Mold Road Interchange	-	-	-		-	-	-	-	-	-	103.6%	147	0	0	88.5	-	-
1/1	A483 (N) On Slip Ahead	U	C1:B		1	23	-	463	1860	558	83.0%	-	-	-	5.7	44.2	11.8
1/2	A483 (N) On Slip Ahead Ahead2	U	C1:B		1	23	-	473	1872	562	84.2%	-	-	-	6.0	45.4	12.2
2/1	North Circ Ahead	U	C1:A		1	46	-	590	2059	1210	48.0%	-	-	-	1.6	9.6	6.9
2/2	North Circ Right Ahead	U	C1:A		1	46	-	738	2176	1278	57.0%	-	-	-	2.3	11.2	9.4
3/1	East Circ Right Ahead	U	C1:C		1	19	-	263	2061	515	51.0%	-	-	-	3.2	44.5	5.1
3/2	East Circ Right Ahead	U	C1:C		1	19	-	354	2072	518	68.3%	-	-	-	4.5	46.0	8.9
4/1	Ahead	U	-		-	-	-	1053	2038	2038	51.2%	-	-	-	0.5	1.8	0.5
4/2	Ahead	U	-		-	-	-	594	1987	1987	29.4%	-	-	-	0.2	1.3	1.3
5/1	Mold Road (N) Left Left2	U	C2:B		1	29	-	356	1901	713	49.9%	-	-	-	2.4	24.3	6.5
5/2	Mold Road (N) Left	U	C2:B		1	29	-	397	2035	763	52.0%	-	-	-	2.7	24.3	7.4
6/1	A483 (N) Off Slip	U	-		-	-	-	299	1940	1940	15.4%	-	-	-	0.1	1.1	1.8
6/2	A483 (N) Off Slip	U	-		-	-	-	280	1940	1940	14.4%	-	-	-	0.1	1.1	1.8
7/1	West Circ Ahead Ahead2	U	C2:A		1	40	-	561	2100	1076	51.3%	-	-	-	2.0	13.3	11.1
7/2	West Circ Ahead Ahead2	U	C2:A		1	40	-	593	2115	1084	53.9%	-	-	-	2.4	14.8	11.5

Basic Results Summary

8/1	Mold Road (N)	U	-		-	-	-	674	1940	1940	34.7%	-	-	-	0.3	1.4	0.3
8/2	Mold Road (N)	U	-		-	-	-	677	1940	1940	34.9%	-	-	-	0.3	1.4	0.3
9/1	Summerhill Road Ahead Left	O	-		-	-	-	147	1952	154	95.6%	147	0	0	5.8	141.8	7.8
11/1	Ahead	U	-		-	-	-	1348	1954	1954	69.0%	-	-	-	1.1	3.0	1.1
11/2	Right	U	-		-	-	-	503	2012	2012	24.6%	-	-	-	0.2	1.2	0.2
11/3	Right	U	-		-	-	-	507	2080	2080	24.0%	-	-	-	0.2	1.1	0.2
12/1	South Circ Right Right2	U	C2:C		1	52	-	1222	2025	1342	91.1%	-	-	-	9.1	26.9	28.9
12/2	South Circ Right	U	C2:C		1	52	-	499	2149	1424	35.0%	-	-	-	1.3	9.4	8.7
13/1	A483 (S) On Slip Ahead Ahead2	U	C2:D		1	18	-	408	1933	459	88.9%	-	-	-	6.9	60.5	12.2
13/2	A483 (S) On Slip Ahead	U	C2:D		1	18	-	511	2077	493	103.6%	-	-	-	21.5	151.3	28.3
14/1	Mold Road (E) Ahead Left	U	C1:D		1	47	-	760	2054	1232	61.7%	-	-	-	3.0	14.3	9.1
14/2	Mold Road (E) Ahead Left	U	C1:D		1	47	-	914	2255	1353	67.6%	-	-	-	3.7	14.6	17.7
14/3	Mold Road (E) Ahead	U	C1:D		1	47	-	499	2255	1353	36.9%	-	-	-	1.4	9.9	6.0
15/2	A483 (S) Off Slip	U	-		-	-	-	648	2080	2080	31.2%	-	-	-	0.2	1.3	0.2
J2: Berse Road Roundabout	-	-	-		-	-	-	-	-	-	96.1%	1956	0	0	74.3	-	-
1/2+1/1	Mold Road (W) Left Ahead	U	C3:A		1	33	-	866	2067:2005	163+777	91.6 : 91.2%	-	-	-	8.5	35.8	17.8
1/3	Mold Road (W) Ahead	U	C3:A		1	33	-	781	2170	922	83.7%	-	-	-	4.6	21.3	13.5
2/1	Ahead	U	-		-	-	-	760	1989	1989	38.2%	-	-	-	0.3	1.5	0.3
2/2	Ahead	U	-		-	-	-	430	2089	2089	20.6%	-	-	-	0.1	1.1	0.1
2/3	Ahead	U	-		-	-	-	983	2068	2068	47.5%	-	-	-	0.5	1.7	0.5

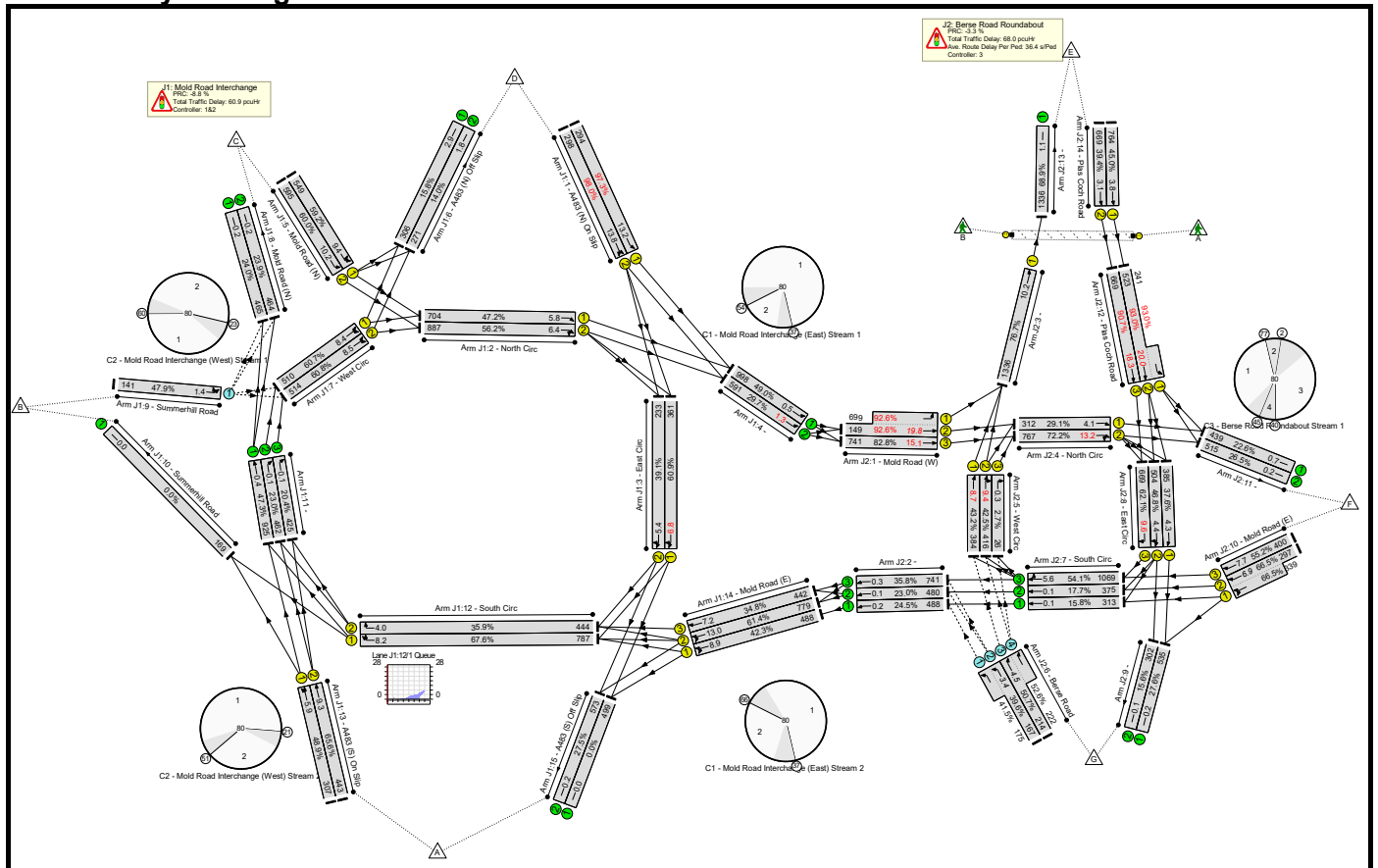
Basic Results Summary

3/1	Ahead	U	C3:I		1	69	-	1243	1990	1741	70.9%	-	-	-	1.7	4.8	12.0
4/1	North Circ Ahead	U	C3:D		1	42	-	316	2039	1096	28.7%	-	-	-	1.5	16.9	4.0
4/2	North Circ Right Ahead	U	C3:D		1	42	-	809	2023	1087	73.6%	-	-	-	1.9	8.4	10.5
5/1	West Circ Ahead	U	C3:B		1	37	-	321	1825	867	37.0%	-	-	-	1.9	21.8	7.0
5/2	West Circ Ahead Right	U	C3:B		1	37	-	372	2008	954	39.0%	-	-	-	2.2	21.5	8.2
5/3	West Circ Right	U	C3:B		1	37	-	28	1997	949	3.0%	-	-	-	0.1	9.9	0.2
6/2+6/1	Berse Road Left	O	-		-	-	-	580	2075:2115	360+360	83.8 : 77.1%	1160	0	0	5.4	33.4	8.3
6/3+6/4	Berse Road Ahead	O	-		-	-	-	398	2169:2206	310+360	58.3 : 60.2%	796	0	0	2.5	22.5	4.9
7/1	South Circ Ahead	U	-		-	-	-	482	1975	1975	24.4%	-	-	-	0.2	1.2	0.2
7/2	South Circ Ahead	U	-		-	-	-	178	2115	2115	8.4%	-	-	-	0.0	0.9	0.0
7/3	South Circ Ahead Right	U	-		-	-	-	1256	1975	1975	63.6%	-	-	-	0.9	2.6	10.4
8/1	East Circ Ahead	U	C3:G		1	42	-	441	1863	1001	43.8%	-	-	-	1.2	9.7	5.1
8/2	East Circ Right Ahead	U	C3:G		1	42	-	534	1956	1051	50.6%	-	-	-	1.5	10.0	5.2
8/3	East Circ Right	U	C3:G		1	42	-	673	1958	1052	63.9%	-	-	-	1.0	5.3	10.2
9/1		U	-		-	-	-	647	1940	1940	33.2%	-	-	-	0.2	1.4	0.2
9/2		U	-		-	-	-	332	1940	1940	17.0%	-	-	-	0.1	1.1	0.6
10/2+10/1	Mold Road (E) Ahead Left	U	C3:F		1	28	-	664	1998:1910	159+622	85.0 : 85.0%	-	-	-	6.8	36.8	14.2
10/3	Mold Road (E) Ahead	U	C3:F		1	28	-	583	2070	750	77.7%	-	-	-	5.4	33.2	13.0
11/1		U	-		-	-	-	418	1940	1940	21.5%	-	-	-	0.1	1.2	0.7
11/2		U	-		-	-	-	481	1940	1940	24.6%	-	-	-	0.2	1.2	0.2

Basic Results Summary

[illegible]

Network Layout Diagram



Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-		-	-	-	-	-	-	98.0%	1697	0	0	128.8	-	-
J1: Mold Road Interchange	-	-	-		-	-	-	-	-	-	98.0%	141	0	0	60.9	-	-
1/1	A483 (N) On Slip Ahead	U	C1:B		1	12	-	294	1860	302	97.3%	-	-	-	9.5	116.0	13.2
1/2	A483 (N) On Slip Ahead Ahead2	U	C1:B		1	12	-	298	1872	304	98.0%	-	-	-	10.0	120.6	13.8
2/1	North Circ Ahead	U	C1:A		1	57	-	704	2059	1493	47.2%	-	-	-	1.5	7.6	5.8
2/2	North Circ Right Ahead	U	C1:A		1	57	-	887	2177	1578	56.2%	-	-	-	1.8	7.1	6.4
3/1	East Circ Right Ahead	U	C1:C		1	22	-	361	2061	593	60.9%	-	-	-	3.1	30.9	6.8
3/2	East Circ Right Ahead	U	C1:C		1	22	-	233	2072	596	39.1%	-	-	-	2.6	40.6	5.4
4/1	Ahead	U	-		-	-	-	998	2038	2038	49.0%	-	-	-	0.5	1.7	0.5
4/2	Ahead	U	-		-	-	-	591	1987	1987	29.7%	-	-	-	0.2	1.3	1.3
5/1	Mold Road (N) Left Left2	U	C2:B		1	38	-	549	1901	927	59.2%	-	-	-	3.0	19.5	9.4
5/2	Mold Road (N) Left	U	C2:B		1	38	-	595	2035	992	60.0%	-	-	-	3.2	19.4	10.2
6/1	A483 (N) Off Slip	U	-		-	-	-	306	1940	1940	15.8%	-	-	-	0.1	1.2	2.9
6/2	A483 (N) Off Slip	U	-		-	-	-	271	1940	1940	14.0%	-	-	-	0.1	1.1	1.8
7/1	West Circ Ahead Ahead2	U	C2:A		1	31	-	510	2100	840	60.7%	-	-	-	2.7	19.2	8.4
7/2	West Circ Ahead Ahead2	U	C2:A		1	31	-	514	2115	846	60.8%	-	-	-	2.7	18.7	8.5
8/1	Mold Road (N)	U	-		-	-	-	465	1940	1940	24.0%	-	-	-	0.2	1.2	0.2

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8/2	Mold Road (N)	U	-		-	-	-	464	1940	1940	23.9%	-	-	-	0.2	1.2	0.2
9/1	Summerhill Road Ahead Left	O	-		-	-	-	141	1952	295	47.9%	141	0	0	0.8	19.3	1.4
11/1	Ahead	U	-		-	-	-	925	1954	1954	47.3%	-	-	-	0.4	1.7	0.4
11/2	Right	U	-		-	-	-	462	2012	2012	23.0%	-	-	-	0.1	1.2	0.1
11/3	Right	U	-		-	-	-	425	2080	2080	20.4%	-	-	-	0.1	1.1	0.1
12/1	South Circ Right Right2	U	C2:C		1	45	-	787	2025	1164	67.6%	-	-	-	2.3	10.4	8.2
12/2	South Circ Right	U	C2:C		1	45	-	444	2149	1236	35.9%	-	-	-	0.9	7.3	4.0
13/1	A483 (S) On Slip Ahead Ahead2	U	C2:D		1	25	-	307	1933	628	48.9%	-	-	-	2.3	27.3	5.9
13/2	A483 (S) On Slip Ahead	U	C2:D		1	25	-	443	2077	675	65.6%	-	-	-	3.8	30.9	9.3
14/1	Mold Road (E) Ahead Left	U	C1:D		1	44	-	488	2051	1154	42.3%	-	-	-	2.0	14.5	8.9
14/2	Mold Road (E) Ahead Left	U	C1:D		1	44	-	779	2255	1268	61.4%	-	-	-	4.8	22.0	13.0
14/3	Mold Road (E) Ahead	U	C1:D		1	44	-	442	2255	1268	34.8%	-	-	-	2.0	16.1	7.2
15/2	A483 (S) Off Slip	U	-		-	-	-	573	2080	2080	27.5%	-	-	-	0.2	1.2	0.2
J2: Berse Road Roundabout	-	-	-		-	-	-	-	-	-	93.0%	1556	0	0	68.0	-	-
1/2+1/1	Mold Road (W) Left Ahead	U	C3:A		1	32	-	848	2067:2005	161+755	92.6 : 92.6%	-	-	-	9.9	42.1	19.8
1/3	Mold Road (W) Ahead	U	C3:A		1	32	-	741	2170	895	82.8%	-	-	-	5.9	28.8	15.1
2/1	Ahead	U	-		-	-	-	488	1989	1989	24.5%	-	-	-	0.2	1.2	0.2
2/2	Ahead	U	-		-	-	-	480	2089	2089	23.0%	-	-	-	0.1	1.1	0.1
2/3	Ahead	U	-		-	-	-	741	2068	2068	35.8%	-	-	-	0.3	1.4	0.3
3/1	Ahead	U	C3:I		1	69	-	1336	1990	1741	76.7%	-	-	-	3.4	9.1	10.2

Basic Results Summary

4/1	North Circ Ahead	U	C3:D		1	41	-	312	2039	1070	29.1%	-	-	-	1.6	18.1	4.1
4/2	North Circ Right Ahead	U	C3:D		1	41	-	767	2023	1062	72.2%	-	-	-	1.8	8.3	13.2
5/1	West Circ Ahead	U	C3:B		1	38	-	384	1825	890	43.2%	-	-	-	2.7	25.1	8.7
5/2	West Circ Ahead Right	U	C3:B		1	38	-	416	2008	979	42.5%	-	-	-	3.0	25.7	9.4
5/3	West Circ Right	U	C3:B		1	38	-	26	1997	974	2.7%	-	-	-	0.1	11.5	0.3
6/2+6/1	Berse Road Left	O	-		-	-	-	342	2075:2115	422+422	39.6 : 41.5%	684	0	0	1.3	13.7	3.4
6/3+6/4	Berse Road Ahead	O	-		-	-	-	436	2169:2206	422+422	50.7 : 52.6%	872	0	0	2.2	17.8	4.5
7/1	South Circ Ahead	U	-		-	-	-	313	1975	1975	15.8%	-	-	-	0.1	1.1	0.1
7/2	South Circ Ahead	U	-		-	-	-	375	2115	2115	17.7%	-	-	-	0.1	1.0	0.1
7/3	South Circ Ahead Right	U	-		-	-	-	1069	1975	1975	54.1%	-	-	-	0.6	2.0	5.6
8/1	East Circ Ahead	U	C3:G		1	43	-	385	1863	1025	37.6%	-	-	-	0.9	8.9	4.3
8/2	East Circ Right Ahead	U	C3:G		1	43	-	504	1956	1076	46.8%	-	-	-	1.1	7.8	4.4
8/3	East Circ Right	U	C3:G		1	43	-	669	1958	1077	62.1%	-	-	-	0.9	5.0	9.6
9/1		U	-		-	-	-	535	1940	1940	27.6%	-	-	-	0.2	1.3	0.2
9/2		U	-		-	-	-	302	1940	1940	15.6%	-	-	-	0.1	1.1	0.1
10/2+10/1	Mold Road (E) Ahead Left	U	C3:F		1	27	-	636	1998:1912	447+510	66.5 : 66.5%	-	-	-	4.6	25.8	6.9
10/3	Mold Road (E) Ahead	U	C3:F		1	27	-	400	2070	725	55.2%	-	-	-	2.9	26.5	7.7
11/1		U	-		-	-	-	439	1940	1940	22.6%	-	-	-	0.1	1.2	0.7
11/2		U	-		-	-	-	515	1940	1940	26.5%	-	-	-	0.2	1.3	0.2
12/2+12/1	Plas Coch Road Ahead Left	U	C3:C		1	29	-	764	1965:1898	562+259	93.0 : 93.0%	-	-	-	11.8	55.6	20.0

Basic Results Summary

12/3	Plas Coch Road Ahead	U	C3:C		1	29	-	669	1968	738	90.7%	-	-	-	9.7	52.4	18.3
13/1		U	-		-	-	-	1336	1940	1940	68.9%	-	-	-	1.1	3.0	1.1
14/1	Plas Coch Road Ahead	U	C3:J		1	69	-	764	1940	1698	45.0%	-	-	-	0.6	3.0	3.8
14/2	Plas Coch Road Ahead	U	C3:J		1	69	-	669	1940	1698	39.4%	-	-	-	0.5	2.7	3.1
Ped Link: P1	Unnamed Ped Link	-	C3:K		1	5	-	33	-	4500	0.8%	-	-	-	0.3	36.4	0.7
C1 - Mold Road Interchange (East)				Stream: 1 PRC for Signalled Lanes (%):				-8.8	Total Delay for Signalled Lanes (pcuHr):				22.71	Cycle Time (s): 80			
C1 - Mold Road Interchange (East)				Stream: 2 PRC for Signalled Lanes (%):				46.5	Total Delay for Signalled Lanes (pcuHr):				14.43	Cycle Time (s): 80			
C2 - Mold Road Interchange (West)				Stream: 1 PRC for Signalled Lanes (%):				48.1	Total Delay for Signalled Lanes (pcuHr):				11.57	Cycle Time (s): 80			
C2 - Mold Road Interchange (West)				Stream: 2 PRC for Signalled Lanes (%):				33.2	Total Delay for Signalled Lanes (pcuHr):				9.31	Cycle Time (s): 80			
C3 - Berse Road Roundabout				Stream: 1 PRC for Signalled Lanes (%):				-3.3	Total Delay for Signalled Lanes (pcuHr):				56.91	Cycle Time (s): 80			
C3 - Berse Road Roundabout				Stream: 2 PRC for Signalled Lanes (%):				17.3	Total Delay for Signalled Lanes (pcuHr):				4.50	Cycle Time (s): 80			
				PRC Over All Lanes (%):				-8.8	Total Delay Over All Lanes(pcuHr):				128.85				