

Local Plan Allocation H66 'Land West of Market Street, Edenfield' Highways Consideration of Masterplan

Introduction

- 1.1 Local Plan allocation H66 'Land West of Market Street, Edenfield' of Rossendale's Local Plan supports the development of the site for approximately 400 houses. As part of the allocation, there is a requirement to demonstrate the comprehensive development of the entire site through a masterplan.
- 1.2 The following provides transport analysis to support the masterplan.

Local Highway Network

- 1.3 The Rossendale Local Plan 2019-2036 was adopted in December 2021. Policy HS2 lists allocated housing development sites. Land west of Market Street is included as allocation H66 which is covered by a site specific Policy.
- 1.4 Market Street runs in a broadly northerly-southerly direction. At its southern end, Market Street forms the northern arm of a three-arms mini-roundabout, with the A680 Rochdale Road forming the south-eastern arm and Bury Road forming the southern arm. Market Street forms the major arm of a junction with Exchange Street around 30m north of the mini-roundabout and a zebra crossing is provided between the two junctions.
- 1.5 From its junction with Market Street, Rochdale Road extends south-eastwards through Norden and on towards Rochdale. Similarly, Bury Road extends southwards from the mini-roundabout and, after circa 200m, it forms the major arm of a priority junction with Bolton Road N. From here, it continues southwards, meeting the A56 after a further 500m before it then continues southwards as the A56.
- 1.6 After around 3.5km, the A56 forms Junction 1 of the M66, which provides eastbound on and westbound off slip roads. The A56 then continues southwards towards Bury.

- 1.7 From its junction with Bury Road, Bolton Road N extends in a south-westerly direction towards Ramsbottom and forming the north-eastern and south-western arms of the Edenfield roundabout en route; the Edenfield roundabout provides northbound on and southbound off access to the A56. From here, the A56 extends northwards as far as the M65.
- 1.8 At its northern end, Market Street forms the southern arm of a signalised junction with Burnley Road and the B6527 Blackburn Road. From here, Burnley Road extends in a north-easterly direction towards Rawtenstall. Similarly, the B6527 extends broadly northwards, forming a junction with the A56 after around 2.5km.

Baseline Transport Data

- 1.9 To inform the Masterplan, it was agreed with LCC that surveys would be carried out at the following junctions:
- Market Street/Burnley Road/B6527 signalised junction;
 - Market Street/Exchange Street priority junction;
 - Market Street/A680 Rochdale Road/Bury Road mini roundabout;
 - Bury Road/The Drive priority junction;
 - Bury Road/Bolton Road N priority junction; and
 - Bolton Road N/Eden Avenue priority junction.
- 1.10 In order to establish current levels of traffic, full turning count surveys were undertaken at the following junctions on Wednesday 19 April, Thursday 20 April and Friday 21 April 2023. The survey data is included at **Appendix 1**.
- 1.11 Analysis of the traffic survey data indicates that the weekday AM peak occurred between 0745 and 0845 hours and the weekday PM peak occurred between 1645 and 1745 hours on Wednesday 19 April.
- 1.12 Importantly, the surveys reveal that traffic levels have reduced compared to pre-pandemic levels, and which formed the evidence base at the time of the preparation of the Local Plan.

- 1.13 **Figures 1 and 2** provide the 2023 surveyed traffic flows, in light and heavy vehicles, for the weekday AM peak and weekday PM peak periods respectively. Similarly, **Figures 3 and 4** show the 2022 surveyed flows converted into passenger car units (PCUs), the unit of analysis, for the weekday AM and weekday PM peak periods respectively.
- 1.14 It is acknowledged that on-street parking occurs along Market Street, which can reduce the carriageway width available to vehicles travelling along it. Therefore, in addition to turning counts, the traffic surveys also included parking surveys to establish the levels of on-street parking that occur along Market Street and Exchange Street.

Growthed Traffic Flows

- 1.15 It is anticipated that the allocation will be completed by 2034.
- 1.16 The future year traffic flow factors have been derived TEMPro version 8.0. The Core scenario has been adopted and growth factors derived by averaging the origin and destination values. The application site falls within the Middle Super Output Area (MSOA) Rossendale 008 and the A-Road factors adopted.
- 1.17 It should be noted that the allocation site represents the vast majority of the planned development within MSOA Rossendale 008. As such, in order to avoid double counting, it would be appropriate to apply alternative assumptions that assumed no increase in household numbers over the assessment period. However, these have not been applied, which should ensure a robust consideration of future traffic levels.
- 1.18 The resulting growth factors are as follows:
- 2023 to 2034 AM Peak - 1.0885; and
 - 2023 to 2034 PM Peak - 1.0882.
- 1.19 The resultant 2034 growthed traffic flows are shown in Figures 5 and 6 for the weekday AM and PM peak periods respectively.

Committed Development

- 1.20 Eddisons is not aware of any committed development area that requires explicit consideration, though the growth factors will, in any case, account for planned growth in the area.

Market Street Corridor Improvements

- 1.21 As part of the Masterplan proposals, improvements will be provided along Market Street and Exchange Street. Whilst further detailed work will be done with LCC Highways at the detailed application stage to determine the full extent of the works, these will include, but not be limited to, the following measures or similar:

- 'Gateway features' at the entrance to the core areas of Edenfield Village (design details to be agreed);
- Provision of coloured chippings/ aggregate within surface across Market Street at the entrance to the core areas of Edenfield Village (extent to be agreed);
- Provision of off-street parking areas at the western extent of Exchange Street, off Market Street towards the centre of the H66 allocation, and to the east of Burnley Road at the northern extent of the village (details to be confirmed through subsequent planning applications);
- Proposed uncontrolled pedestrian crossing adjacent to Edenfield Primary School and adjacent to central land parcel of H66 allocation;
- Parking restrictions along Market Street for the benefit of traffic flows;
- Provision of 'Slow' markings on Market Street at the approach to the pinch-point adjacent to properties 58 and 74, and removal of centreline markings along this section;
- Provision of central hatching along Market Street (adjacent to properties 20 to 40);
- Improvements to bus stops along the Market Street corridor (details to be agreed);
- Introduction of one-way (westbound) operation along Exchange Street;
- Provision of a traffic calming feature along Exchange Street (details to be agreed); and
- Provision of traffic calming along Highfield Road (details to be agreed).

- 1.22 Some existing on-street parking will be lost following the introduction of the TW site access. The TW frontage includes a bus stop, so the length currently available to park is circa 70m and could accommodate around 11 cars. No restrictions are proposed in front of 88 and 98-100 Market Street, though a pedestrian island is proposed that may preclude the parking of 1-2 vehicles. TW are providing 13 spaces on-site, so conservatively there will be an increase of 0-1 spaces overall along this section.
- 1.23 Along the northern section of Market Street, there is a short section of parking restrictions proposed outside property 152 to The Coach pub, which can currently accommodate circa 8 cars. However, there is an area of hardstanding outside properties 157 and 159 that would continue to allow parking, so the loss would be circa 6 cars.
- 1.24 The only other parking restrictions to the north would be along the western side of Blackburn Road (the Northstone frontage), which is circa 87m and could accommodate 14-15 cars, and along the eastern side of Burnley Road, which is 85m and could therefore accommodate circa 14 cars. Northstone are proposing a car park of circa 45 spaces, so overall there will be an increase of circa 10 spaces in this northern area.
- 1.25 To the south, parking restrictions are proposed outside properties 43 to 47, though each of these properties has off-street parking, so those residents will not be disadvantaged. Given access needs to be maintained to these properties, the loss in parking would be circa 4 cars.
- 1.26 Parking restrictions are also proposed outside the Memorial Garden, which is 24m and could accommodate 4 cars, and outside the commercial properties along the western side of Market Street, which is 38m in length and could accommodate circa 6 cars. Off-street parking is proposed as part of the Church land, currently identified as 10-12 spaces, so there may be a reduction of around 2-4 spaces in the southern area, though clearly there is the potential for cars to utilise the parking provided within the TW site.
- 1.27 Overall, therefore, given the proposed off-site provision, it is anticipated that there will be an increase in provision of circa 6-9 spaces along the corridor.

- 1.28 The highway improvements identify items that would require the promotion of a Traffic Regulation Order (TRO). Only the LHA has the necessary legal powers to promote/secure a TRO, so the Developer(s) will enter into a legal agreement with the LHA in advance. All costs will be reasonably born by the Developer(s).
- 1.29 If a condition is to be attached, this should specifically state that a TRO is to be 'promoted' (rather than 'secured'). The condition will be considered discharged once the Developer has completed an Abortive Cost Agreement with LHA for the TRO to be promoted and has made an up-front fee deposit. The LHA will then complete the legal process to 'secure' the TRO. If the legal process fails to complete, the development can still progress if all planning stakeholders accept any risk that the intended highway works may not be delivered.
- 1.30 A Stage 1 Road Safety Audit has been undertaken of the scheme, a copy of which is included at **Appendix 2** and includes the Designer's Response.
- 1.31 The Proposed Highway Improvements are identified in **Plans 1** and **2**, attached.
- 1.32 The implementation of the scheme will result in some minor reassignment of traffic from Exchange Street to The Drive. The growthed flows have been amended to reflect this and the resulting flows are shown in **Figures 7** and **8**.

Proposed Development

- 1.33 A planning application for 238 dwellings has been submitted by TW on land that forms part of the local plan allocation H66, though for the purpose of the analysis 240 dwellings is assumed.
- 1.34 It is assumed that the land to the north of the application site, and that Northstone has an interest in, could accommodate circa 65 units.
- 1.35 It is also assumed that the land to the south of the application site, and that Anwyl has an interest in, could accommodate circa 95 units. Access would be gained via Exchange Street.

- 1.36 In order to predict the likely levels of traffic that would occur as a result of the proposed residential element, the highways officers at LCC have requested that the trip rates as per those used for North-West Preston should be adopted.
- 1.37 A summary of these trip rates and the likely level of trips that would occur as a result of the proposed development is included in Table 1, below.

Mode	Period	Trip Rate		Trips	
		Arr	Dep	Arr	Dep
TW	AM Peak Hour	0.140	0.445	34	107
	PM Peak Hour	0.437	0.226	105	54
Anwyl	AM Peak Hour	0.140	0.445	13	42
	PM Peak Hour	0.437	0.226	42	21
Northstone	AM Peak Hour	0.140	0.445	9	29
	PM Peak Hour	0.437	0.226	28	15

Table 1 H66 Allocation Trip Rates and Trips

- 1.38 As can be seen from the above table, the allocation is predicted to result in 234 two-way vehicular trips during the weekday AM peak and 265 two-way trips during the weekday PM peak.

Trip Distribution

- 1.39 In order to assign the traffic vehicles from the site to the wider network, reference has been made to 2011 census journey to work data for the middle super output area (MSOA) Rossendale 008.

- 1.40 The routes vehicles are likely to take from the application site to the various destinations has then been predicted by reference to route planning software.
- 1.41 **Figure 9** shows the distribution of trips to the wider area.
- 1.42 It should be noted that the route planning software indicates that, for the TW and Northstone sites, development traffic travelling to/from destinations to the north via the A56 would access the A56 by travelling north along the B6527 to the A56/A680 junction rather than via the Edenfield roundabout.
- 1.43 Access to the Anwyl site would be gained via Exchange Street, however, as this provides a connection to Highfield Road and Eden Avenue, traffic wishing to travel to/from destinations to the north via the A56 would access the A56 via the A56/Bolton Road N roundabout.
- 1.44 The resulting trips are shown in **Figures 10** and **11** for the TW site, **Figures 12** and **13** for the Anwyl site, and **Figures 14** and **15** for the Northstone site.
- 1.45 The various allocation trips have been added to the reassigned growth flows to produce 'with allocation' flows. The 2034 'With Allocation' Flows are shown in **Figures 16** and **17** for the weekday AM and PM peaks respectively.

Capacity Assessments

- 1.46 Based on the predicted changes in traffic, capacity assessments have been undertaken for the following junctions:
- Market Street/TW Site Access priority junction;
 - Blackburn Road/Northstone Access priority junction;
 - Market Street/Burnley Road/B6527 signalised junction;
 - Market Street/A680 Rochdale Road/Bury Road mini roundabout; and
 - Bury Road/Bolton Road N priority junction.
- 1.47 As access to the Anwyl land will simply be gained via an extension of Exchange Street, there is no junction to assess.

- 1.48 A summary of the capacity assessment for each of the above junctions for the 2034 base and 'with allocation' scenarios are set out in the following paragraphs.

Market Street/TW Site Access Junction

- 1.49 The TW site will be served by a priority controlled junction with ghost island right turn arrangement. Market Street has a speed limit of 30mph and the visibility splays at the TW access are commensurate with this. The measures that are proposed along the Market Street corridor will likely reduce traffic speeds, therefore, basing visibility on existing speeds is somewhat meaningless. Notwithstanding this, it is worth noting that visibility splays commensurate with 40mph (2.4m x 53m) can be achieved at the TW access, in any case.
- 1.50 Capacity assessments of the proposed Market Street/TW Site Access priority junction have been undertaken using the PICADY module of the Junctions9 program.
- 1.51 The results of the analysis are summarised within Table 2, below, with the full output being provided at **Appendix 3**.

Movement	2034 'With Allocation' Flows			
	Weekday AM		Weekday PM	
	Max RFC	Max Queue	Max RFC	Max Queue
TW Site Access	0.28	0	0.16	0
Market Street right turn	0.03	0	0.12	0

Table 2 Summary of PICADY Output for the Market Street/TW Site Access Junction

- 1.52 As can be seen, the results show that the Market Street/TW Site Access junction will operate with substantial levels of spare capacity during the 2034 'with allocation' scenarios.

Market Street/Northstone Site Access Junction

- 1.53 The Northstone site will be served by a simple priority controlled junction. The visibility splays for the Northstone access do cross over the existing dry stone wall; the dry stone wall will be lowered accordingly to achieve the required visibility.
- 1.54 Capacity assessments of the proposed Market Street/Northstone Site Access priority junction have been undertaken using the PICADY module of the Junctions9 program.
- 1.55 The results of the analysis are summarised within Table 3, below, with the full output being provided at **Appendix 4**.

Movement	2034 'With Allocation' Flows			
	Weekday AM		Weekday PM	
	Max RFC	Max Queue	Max RFC	Max Queue
Northstone Site Access	0.08	0	0.04	0
Market Street right turn	0.01	0	0.02	0

Table 3 Summary of PICADY Output for the Market Street/Northstone Site Access Junction

- 1.56 As can be seen, the results show that the Market Street/Northstone Site Access junction will operate with substantial levels of spare capacity during the 2034 'with allocation' scenarios.

Market Street/Blackburn Road/Burnley Road Signalised Junction

- 1.57 To assess the Market Street/Blackburn Road/Burnley Road signalised junction, reference has been made to the LINSIG computer program. The analysis has been carried out using the 2034 Growthed Flows, i.e. base flows, and 2034 'With Allocation' flows.

1.58 The results for the 2034 flow scenario are contained within Table 4, below, with the full output being provided at **Appendix 5**.

Approach	2034 Base Flows				2034 'With Allocation' Flows			
	Weekday AM		Weekday PM		Weekday AM		Weekday PM	
	DoS	MMQ	DoS	MMQ	DoS	MMQ	DoS	MMQ
Burnley Road Left/ahead/U-turn	51.9%	7	40.1%	5	56.1%	8	45.0%	5
Guide Court Right/left	3.1%	0	2.5%	0	4.4%	0	2.5%	0
Blackburn Road (S) Ahead/right	27.5%	2	47.0%	5	32.5%	3	50.8%	5
Blackburn Road (N) U-turn/left/ahead	52.9%	6	45.8%	6	54.3%	7	51.6%	7

**Table 4 Summary of LINSIG Output for the
Market Street/Blackburn Road/Burnley Road Signalised Junction**

1.59 As can be seen from the above table, the Market Street/Blackburn Road/Burnley Road signalised junction is forecast to operate within capacity in the 2034 base and 'with allocation' flow scenarios.

Market Street/A680 Rochdale Road/Bury Road Mini Roundabout

1.60 In order to assess the operation of the Market Street/A680 Rochdale Road/Bury Road mini roundabout, reference has been made to the ARCADY module of the Junctions9 computer program.

1.61 The results for the 2034 flow scenarios are contained within Table 5, below, with the full output being provided at **Appendix 6**.

Arm	2034 Base Flows				2034 'With Allocation' Flows			
	Weekday AM		Weekday PM		Weekday AM		Weekday PM	
	Max RFC	Max Queue	Max RFC	Max Queue	Max RFC	Max Queue	Max RFC	Max Queue
Market Street	0.47	1	0.37	1	0.55	1	0.40	1
Rochdale Road	0.68	2	0.60	2	0.72	3	0.63	2
Bury Road (S)	0.56	1	0.69	2	0.62	2	0.80	4

Table 5 Summary of ARCADY Output for the Market Street/A680 Rochdale Road/Bury Road Mini Roundabout

1.62 As can be seen, the Market Street/A680 Rochdale Road/Bury Road Mini Roundabout is forecast to operate within capacity during the 2034 the base scenario. The addition of allocation trips will result in only modest increases in queuing.

1.63 As such, it can be concluded that no capacity improvements are necessary at the junction.

Bury Road/Bolton Road N Priority Junction

1.64 Capacity assessments of the Bury Road/Bolton Road N priority junction have been undertaken using the PICADY module of the JUNCTIONS9 program.

1.65 The results of the analysis are summarised within Table 6, below, with the full output being provided at **Appendix 7**.

Arm	2034 Base Flows				2034 'With Allocation' Flows			
	Weekday AM		Weekday PM		Weekday AM		Weekday PM	
	Max RFC	Max Queue	Max RFC	Max Queue	Max RFC	Max Queue	Max RFC	Max Queue
Bolton Road Left/right	0.53	1	0.67	2	0.54	1	0.72	3
Bury Road (N) Right turn	0.61	2	0.50	1	0.64	2	0.53	1

Table 6 Summary of PICADY Output for the Bury Road/Bolton Road N Priority Junction

1.66 As can be seen, the results show that the Bury Road/Bolton Road N priority junction will operate with substantial levels of spare capacity during both the base and 'with development' scenarios at 2034.

Exchange Street/Highfield Road Junction

1.67 LCC has also requested that, for completeness, consideration be given to the impact at the Exchange Street/Highfield Road junction.

1.68 Whilst not explicitly surveyed, from the count of the Market Street/Exchange Street junction it can be determined that the levels of traffic along Exchange Street are extremely modest.

1.69 The Anwyl proposals will gain access from Exchange Street and the proposed highway improvement scheme includes an amendment to the eastern section of Exchange Street to provide a one-way (eastbound) operation. Whilst it is not considered that the increase in traffic associated with the Anwyl scheme and the proposed one-way operation will make any meaningful change in the operation of the Exchange Street/Highfield Road junction, as requested, further analysis has been undertaken.

- 1.70 For the purpose of the analysis, it has been assumed that any traffic travelling to/from Market Street via Exchange Street would also pass through the Exchange Street/Highfield Road junction. This is, however, likely to be an onerous assumption given residential development is located along the eastern section of Exchange Street and much of the traffic referred to will likely be associated with this development.
- 1.71 The 'With Allocation' scenario accounts for the additional traffic associated with the Anwyl element as well as the reassignment of traffic that would occur as a result of the implementation of the one-way operation.
- 1.72 Capacity assessments have been undertaken using the JUNCTIONS9 program, the results of which are summarised in Table 7, below, with the full output being provided at **Appendix 8**.

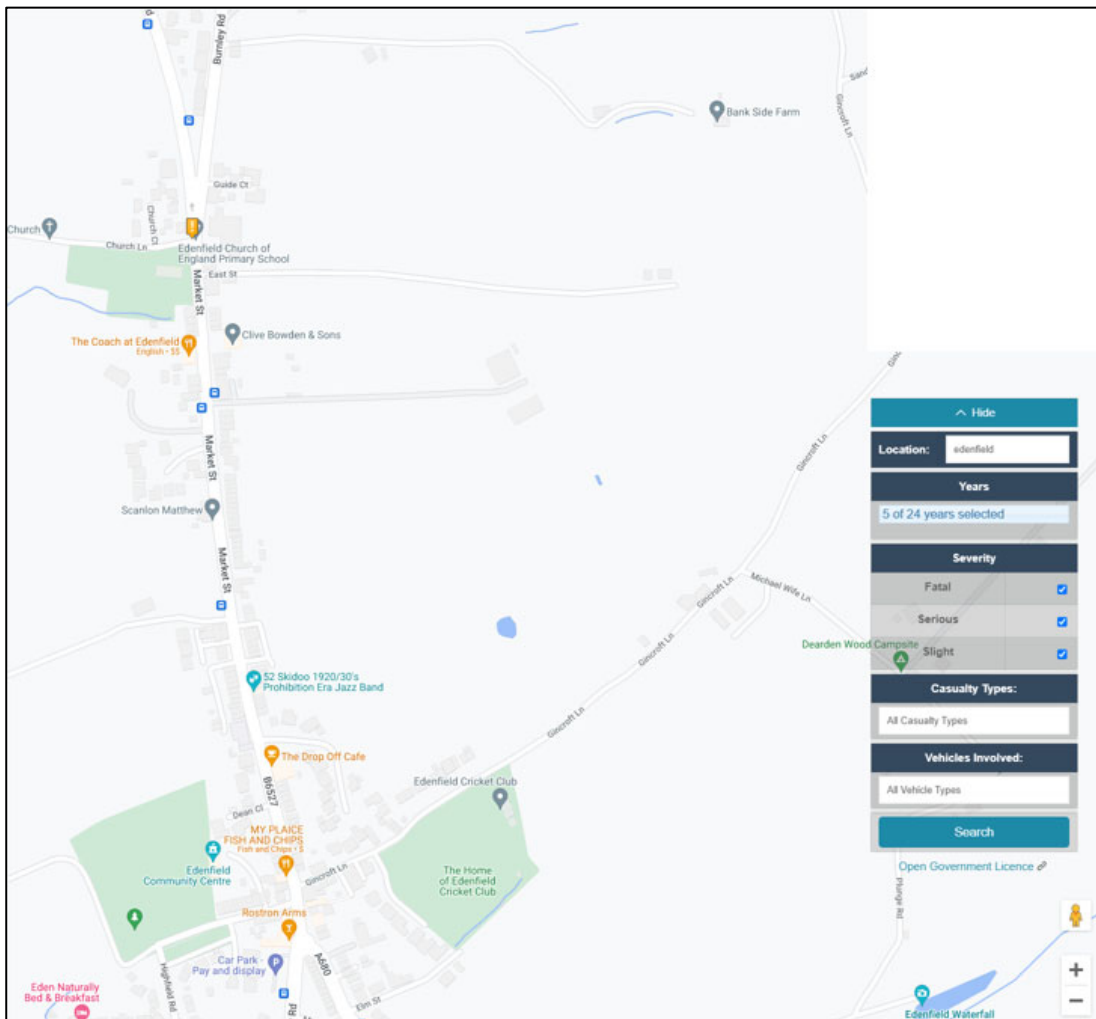
Approach	2034 Base Flows				2034 'With Allocation' Flows			
	Weekday AM		Weekday PM		Weekday AM		Weekday PM	
	RFC	MMQ	RFC	MMQ	RFC	MMQ	RFC	MMQ
Highfield Road	0.05	0	0.06	0	0.02	0	0.05	0
Exchange Street Right turn	0.00	0	0.00	0	0.08	0	0.04	0

Table 7 Summary of LINSIG Output for the Exchange Street/Highfield Road Junction

- 1.73 As can be seen from the above, the Exchange Street/Highfield Road junction The results of the 'With Allocation' assessments are attached. By reference to this, it can be seen that the Exchange Street/Highfield Road junction will continue to operate well within capacity following the implementation of the Masterplan proposals.

Accident Analysis

- 1.74 A review of CrashMap reveals that only one accident has occurred along the Market Street corridor during the most recent 5 year period available (CrashMap extract provided below).



- 1.75 As can be seen, the accident occurred adjacent to the Church Lane junction and was only slight in nature.

- 1.76 It can be concluded that the Market Street corridor does not have an unduly poor safety record and there is no reason to assume that this situation would alter as a consequence of the development proposals.

Summary

- 1.77 In summary, the above has considered the transport implications of Local Plan allocation H66 'Land West of Market Street, Edenfield' on the highway network.
- 1.78 A detailed consideration of existing conditions confirms that traffic flows have generally reduced since the preparation of the evidence base that supported the Local Plan. Capacity assessments confirm that junctions in the vicinity of the site will operate within capacity following the completion of the allocation development.
- 1.79 Notwithstanding this, a corridor improvement scheme is proposed that will improve transport movements along Market Street.

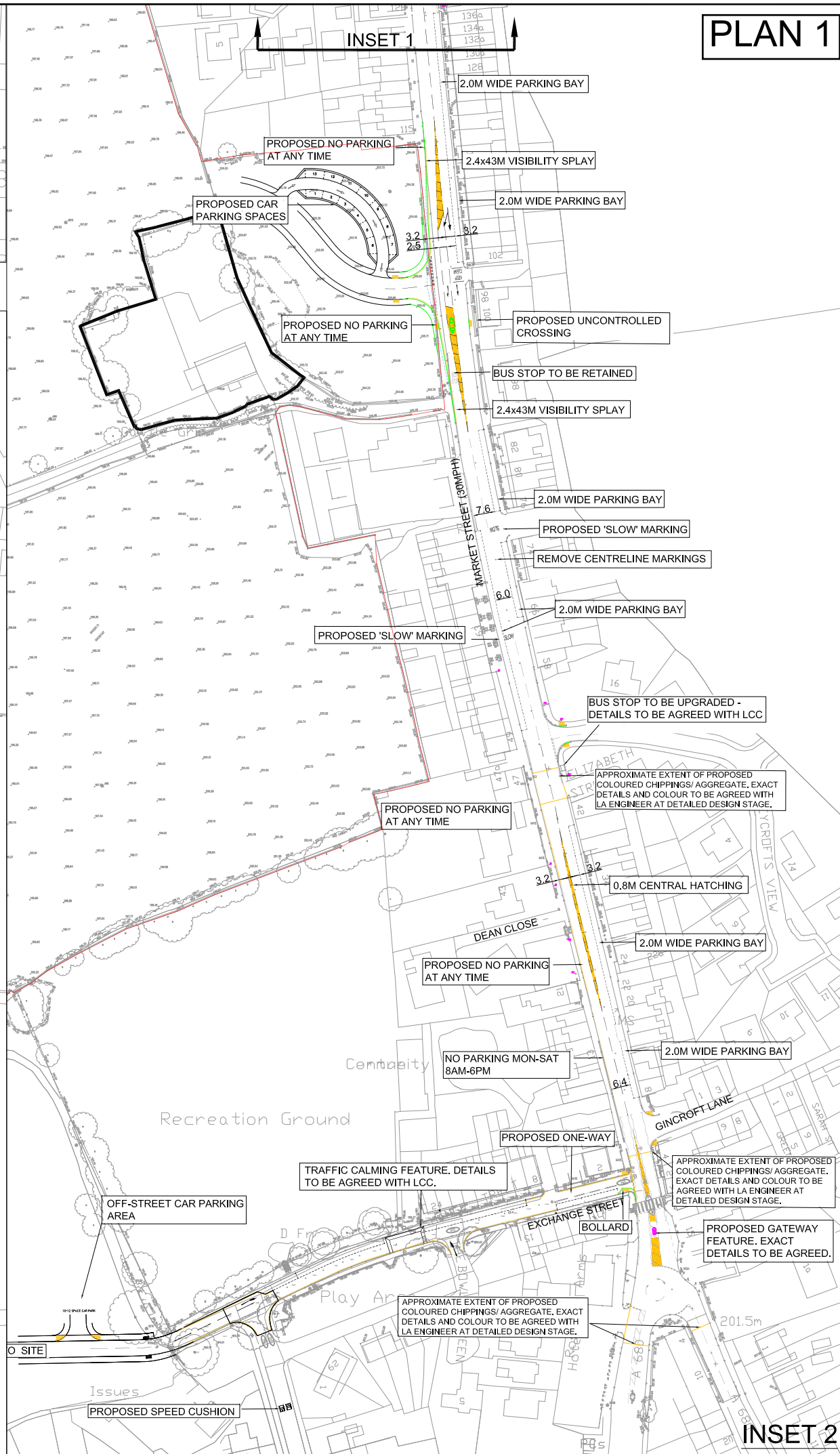
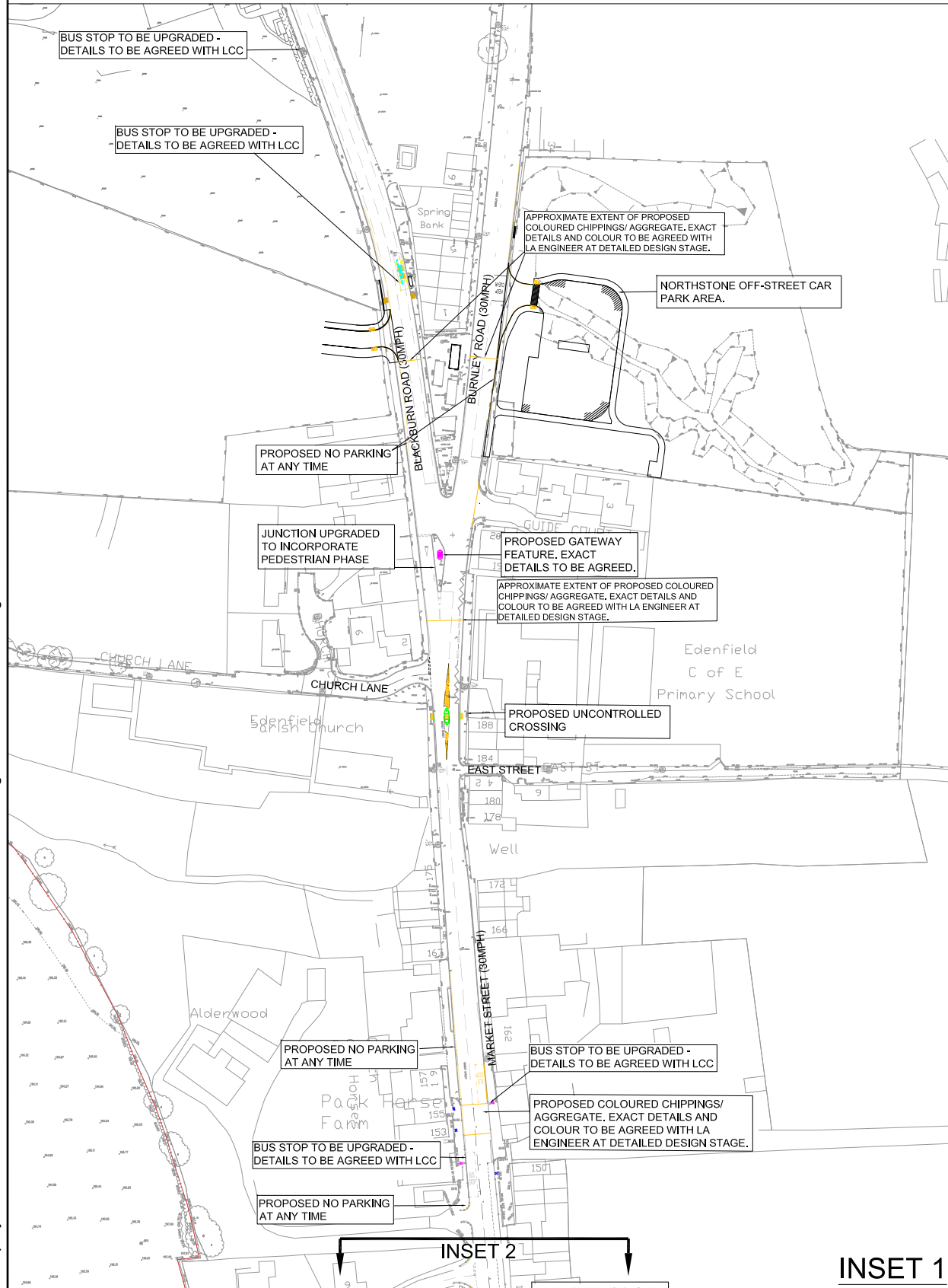
PLANS

Z:\projects\3806 Market Street, Edenfield TMCAD\Croft Drawings\3806-F04 Rev Q.dwg



LANCASHIRE REFUSE VEHICLE - LEFT TURN IN

LANCASHIRE REFUSE VEHICLE - RIGHT TURN OUT



PLAN 1

NOTES
 THIS IS NOT A CONSTRUCTION DRAWING AND IS FOR INDICATIVE PURPOSES ONLY. THE DRAWING WILL BE SUBJECT TO CHANGE FOLLOWING LOCAL AUTHORITY REVIEW AND CONFIRMATION OF PUBLIC HIGHWAY AND THIRD PARTY LAND BOUNDARIES.

— EXISTING ROAD MARKINGS
 — PROPOSED ROAD MARKINGS
 — DENOTES NEW KERBS

REV	DESCRIPTION	BY	CHKD	DATE
O	BUS STOP LOCATION AMENDED	GM	TR	JUNE 24
P	BUS STOP LOCATION AMENDED	GM	TR	APR 24
N	AMENDED TO LCC COMMENTS	GM	TR	MAR 24
M	AMENDED TO LCC COMMENTS	GM	TR	FEB 24
L	AMENDED TO LCC COMMENTS	GM	TR	JAN 24
K	AMENDED TO LCC COMMENTS	GM	TR	NOV 23
J	AMENDED TO LCC COMMENTS	GM	TR	NOV 23
I	AMENDED TO LCC COMMENTS	SL	JC	AUG 23
H	AMENDED TO LCC COMMENTS	LB	TR	JUN 23
G	AMENDED TO LCC COMMENTS	LB	TR	MAY 23
F	AMENDED TO LCC COMMENTS	LB	TR	MAY 23
E	AMENDED TO LCC COMMENTS	LB	TR	MAY 23
D	PARKING BAYS SHOWN	LB	TR	MAY 23
C	TORO ADDED	LB	TR	MAY 23
B	SITE ACCESS SHOWN	LB	TR	APR 23
A	AMENDMENTS TO NOTES	LB	TR	APR 23

CLIENT: **TAYLOR WIMPEY**

PROJECT: **MARKET STREET, EDENFIELD**

DRAWING TITLE: **PROPOSED HIGHWAY IMPROVEMENT PLAN**

SCALE: **1:1250 @ A2**

DRAWN: HL | CHECKED: JC | DATE: APR 23

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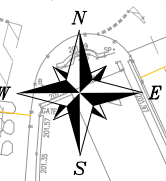
DRAWING NUMBER: **3806-F04** | REVISION: **Q**

Eddisons



NOTES

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REV	DETAILS	DRAWN	CHECKED	DATE

CLIENT:
TAYLOR WIMPEY

PROJECT:
MARKET STREET, EDENFIELD

DRAWING TITLE:
PROPOSED TRAFFIC CALMING

SCALES:
1:1000 @ A3

DRAWN: **GM** CHECKED: **TR** DATE: **APR 24**

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Tel: 0161 837 7380
Web: www.eddisons.com/services/transport-planning

DRAWING NUMBER: **3806-F08** REVISION: **A**

PLAN 2



FIGURES

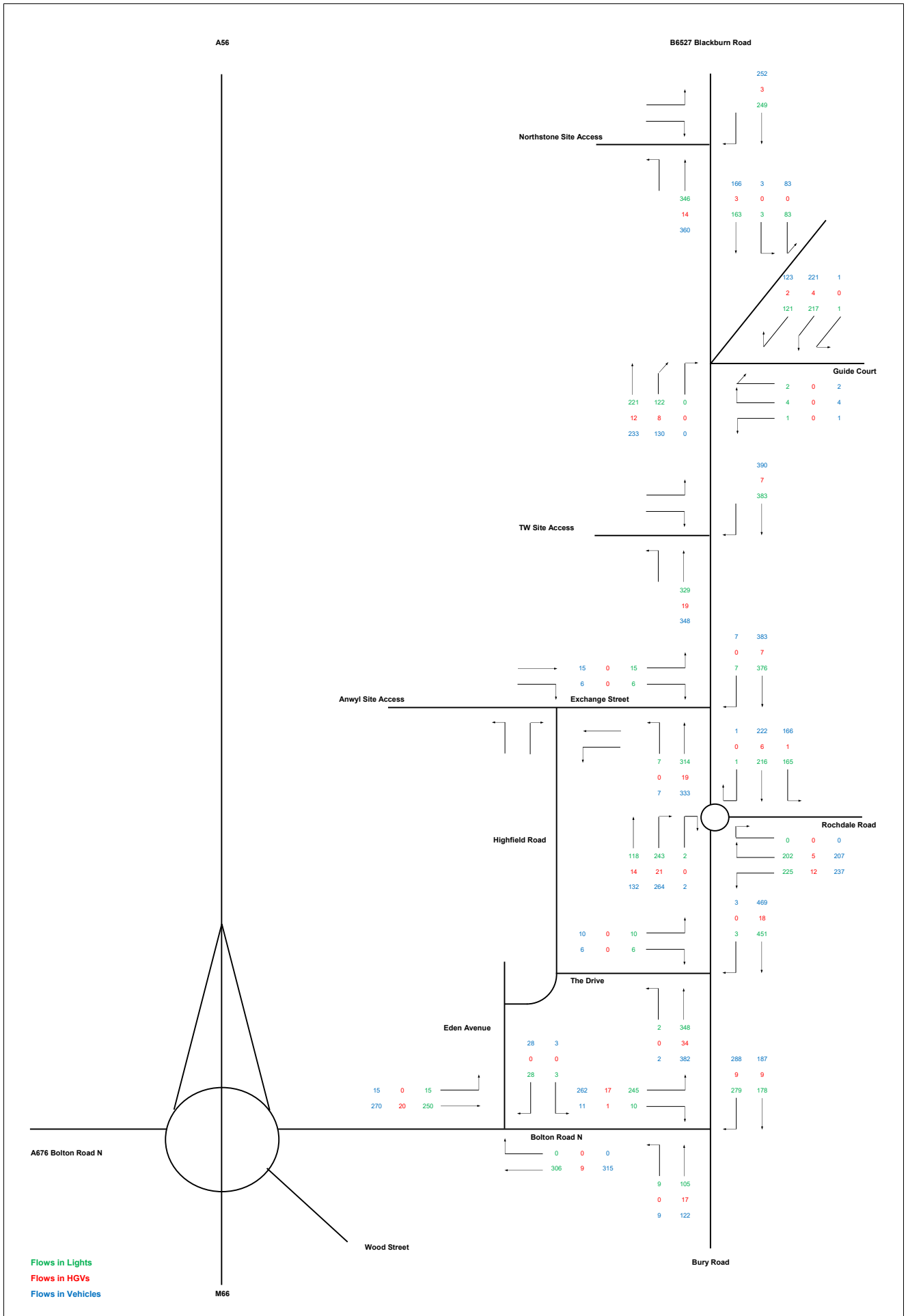


Figure 1 2023 Surveyed Flows - Weekday AM Peak (0745-0845)

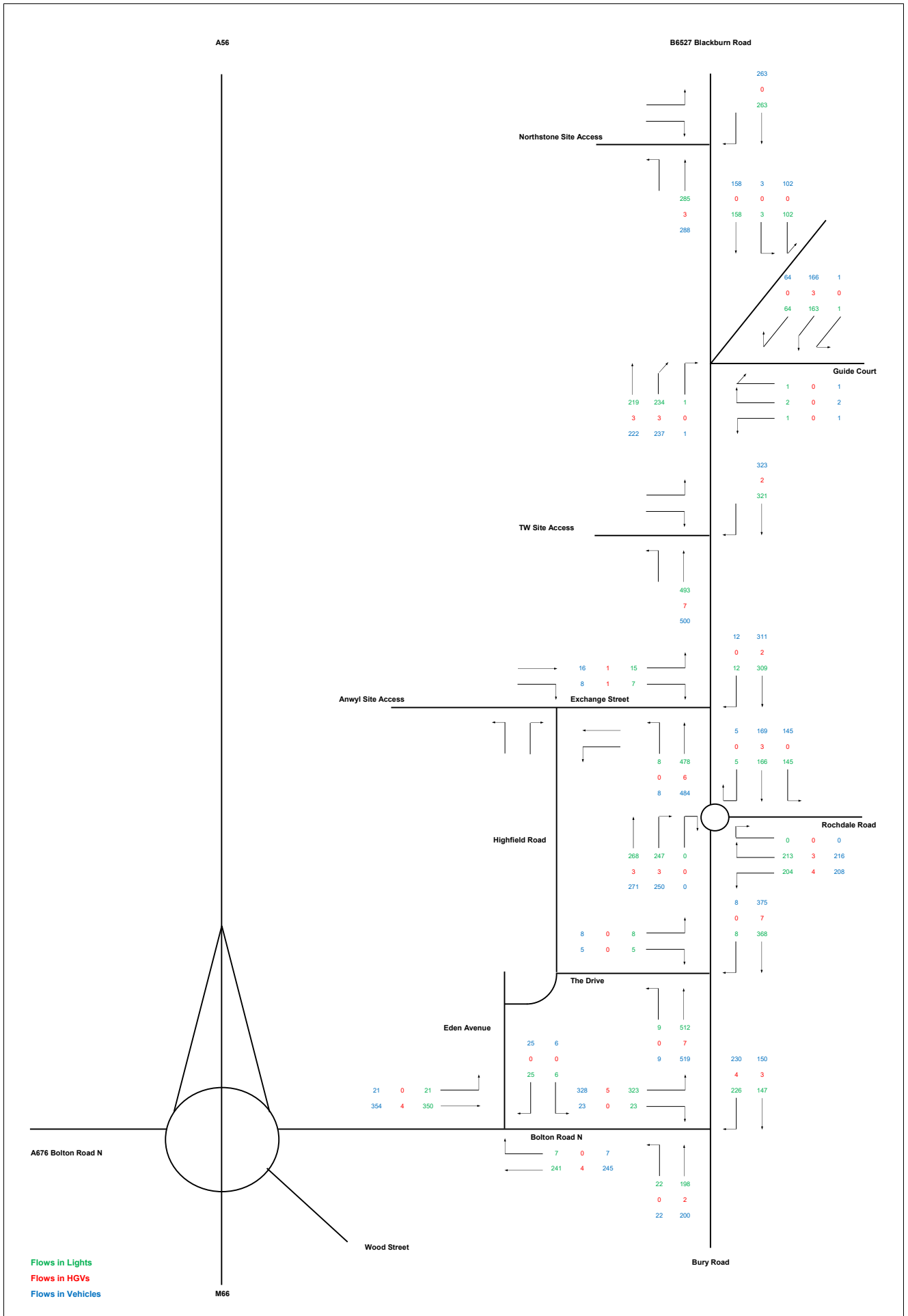


Figure 2 2023 Surveyed Flows - Weekday PM Peak (1645-1745)

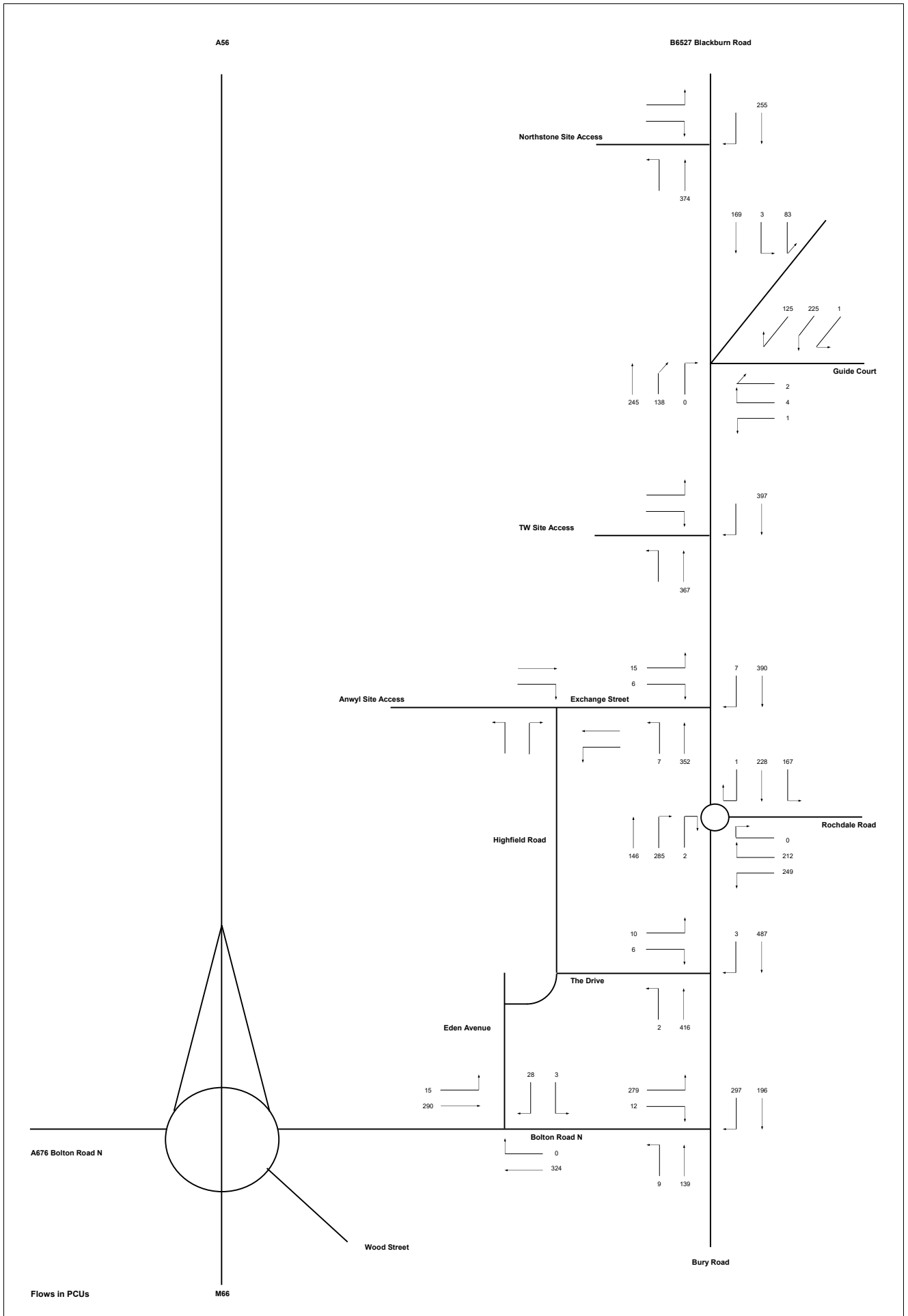


Figure 3 2023 Surveyed Flows - Weekday AM Peak

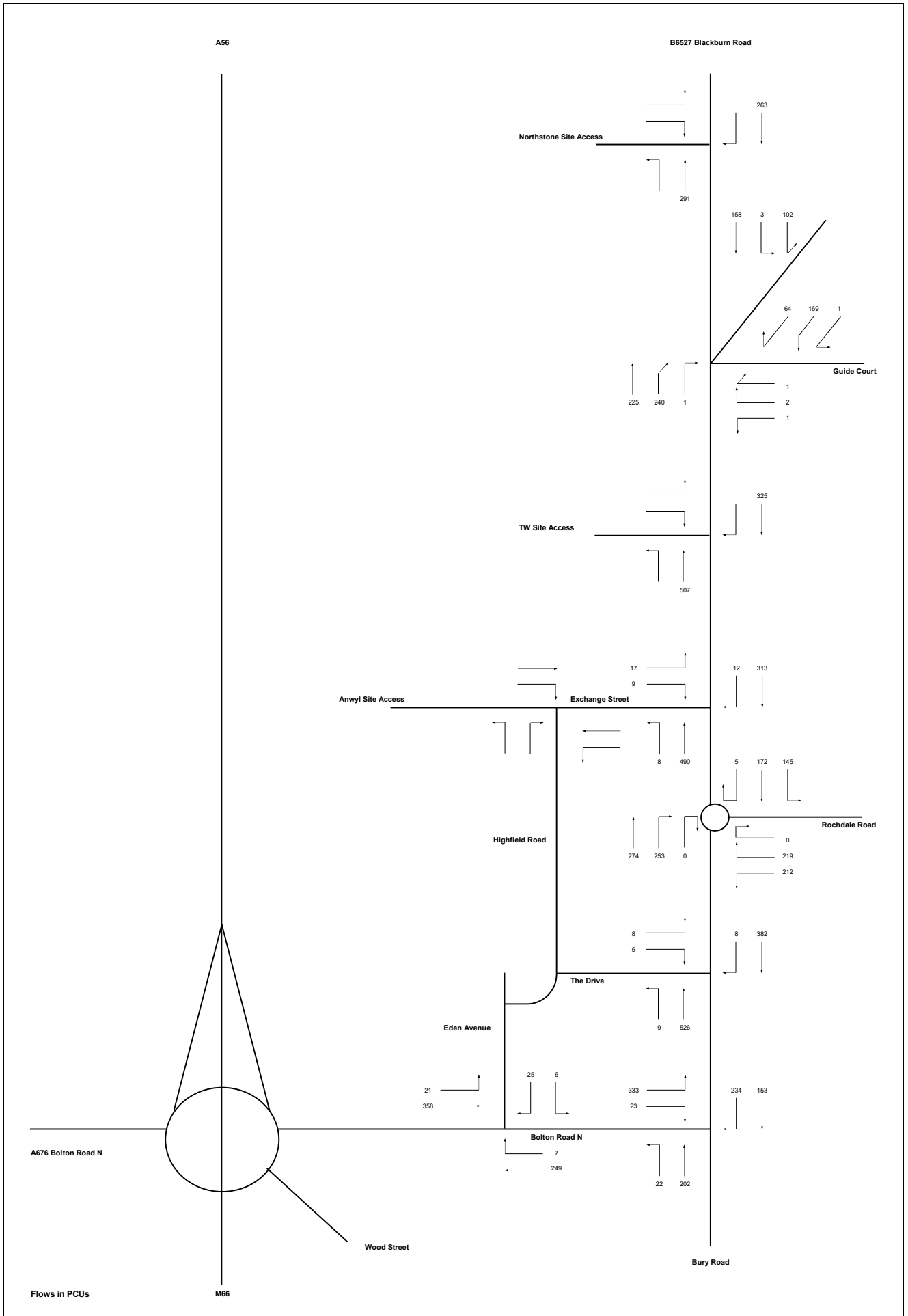


Figure 4 2023 Surveyed Flows - Weekday PM Peak

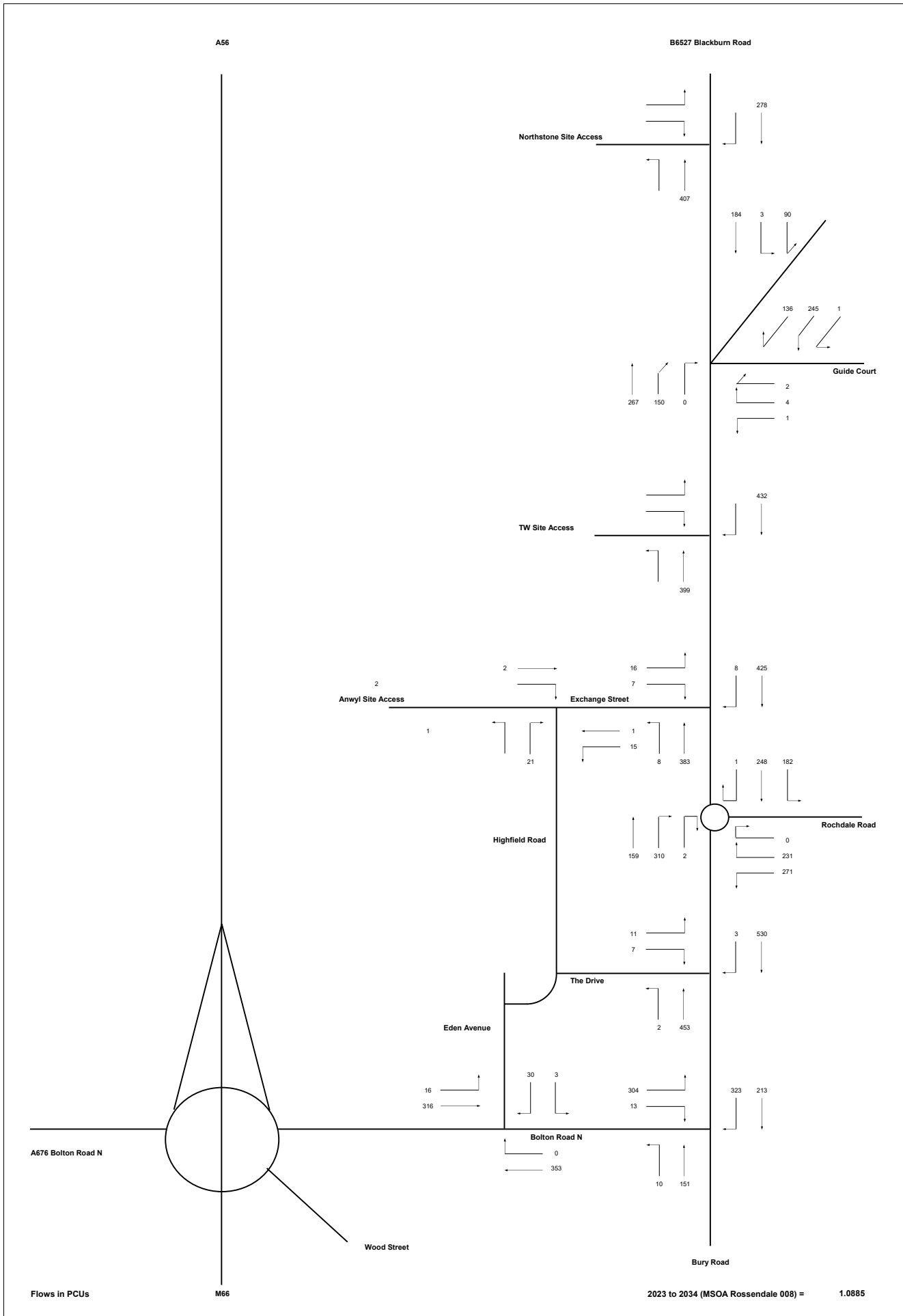


Figure 5 2034 Growthed Flows - Weekday AM Peak

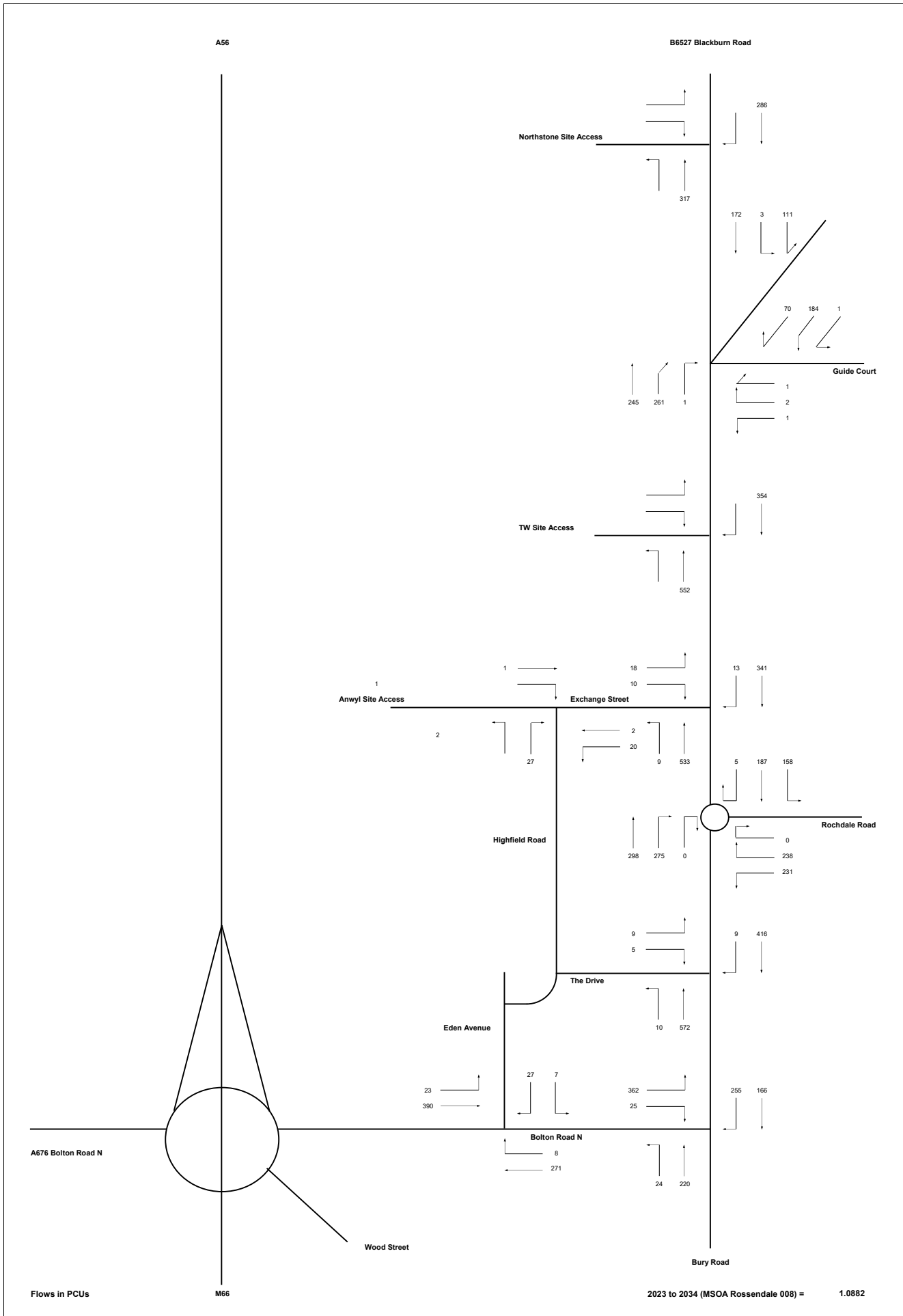


Figure 6 2034 Growthed Flows - Weekday PM Peak

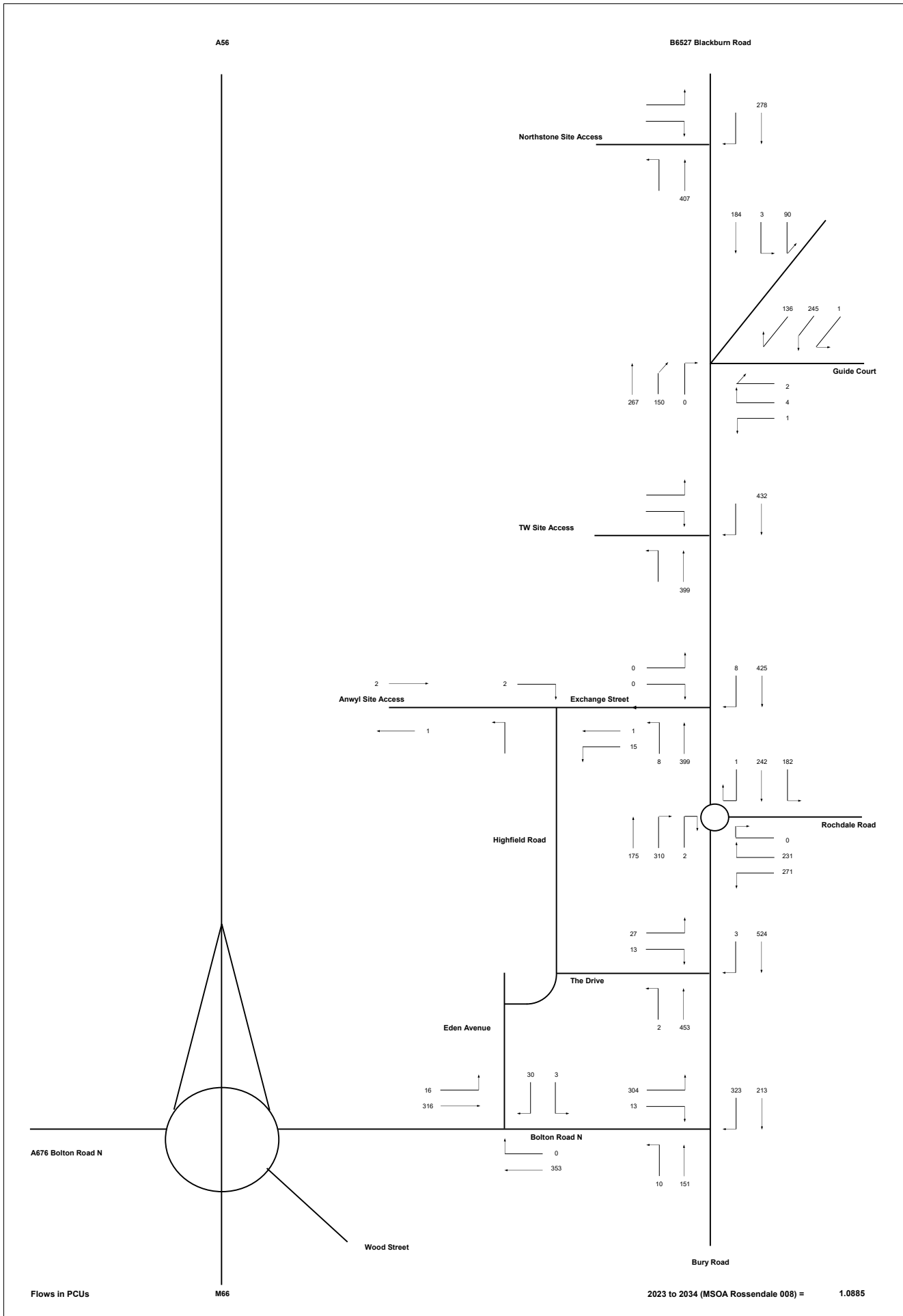


Figure 7 2034 Reassigned Growthed Flows - Weekday AM Peak

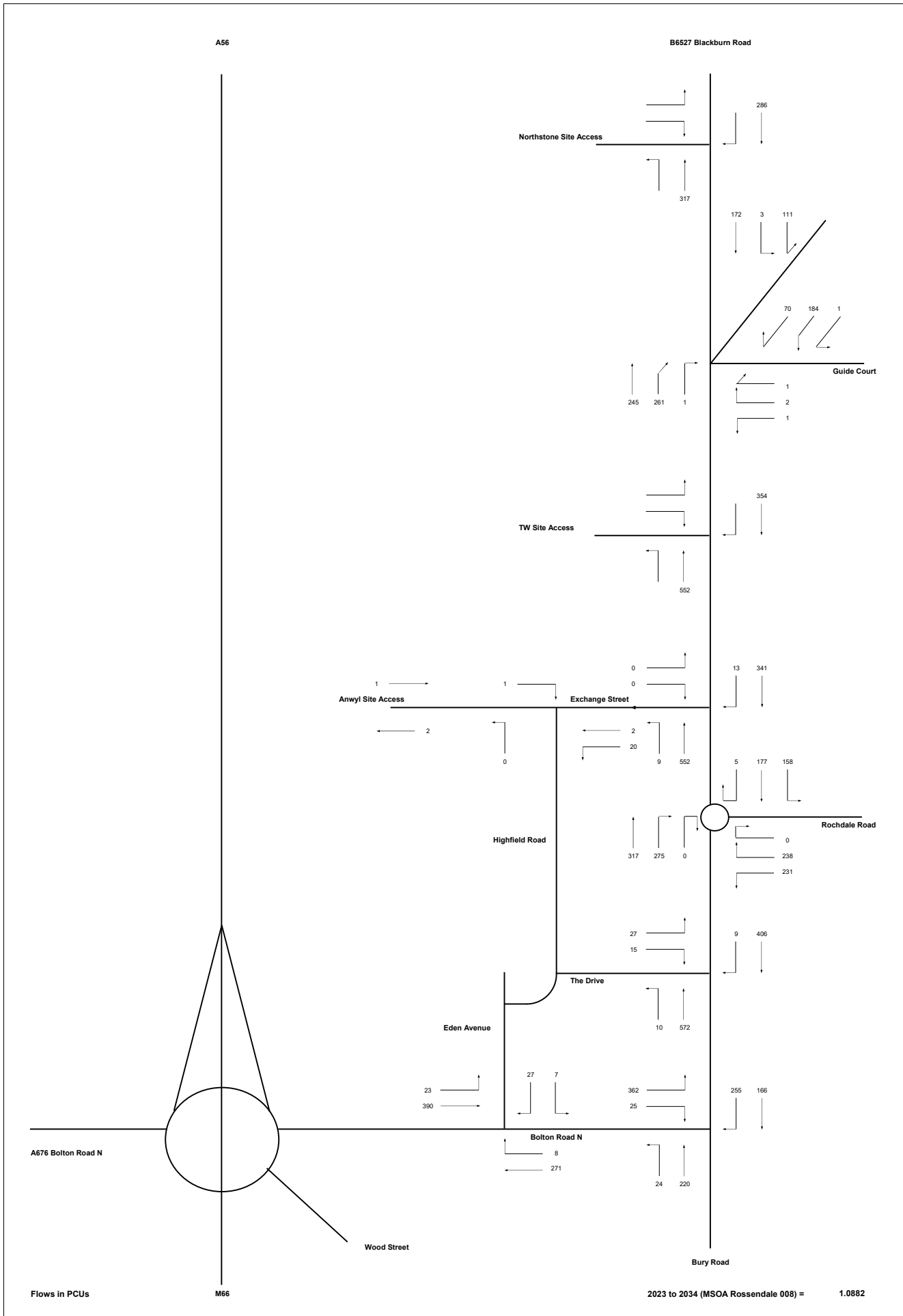


Figure 8 2034 Reassigned Growthed Flows - Weekday PM Peak

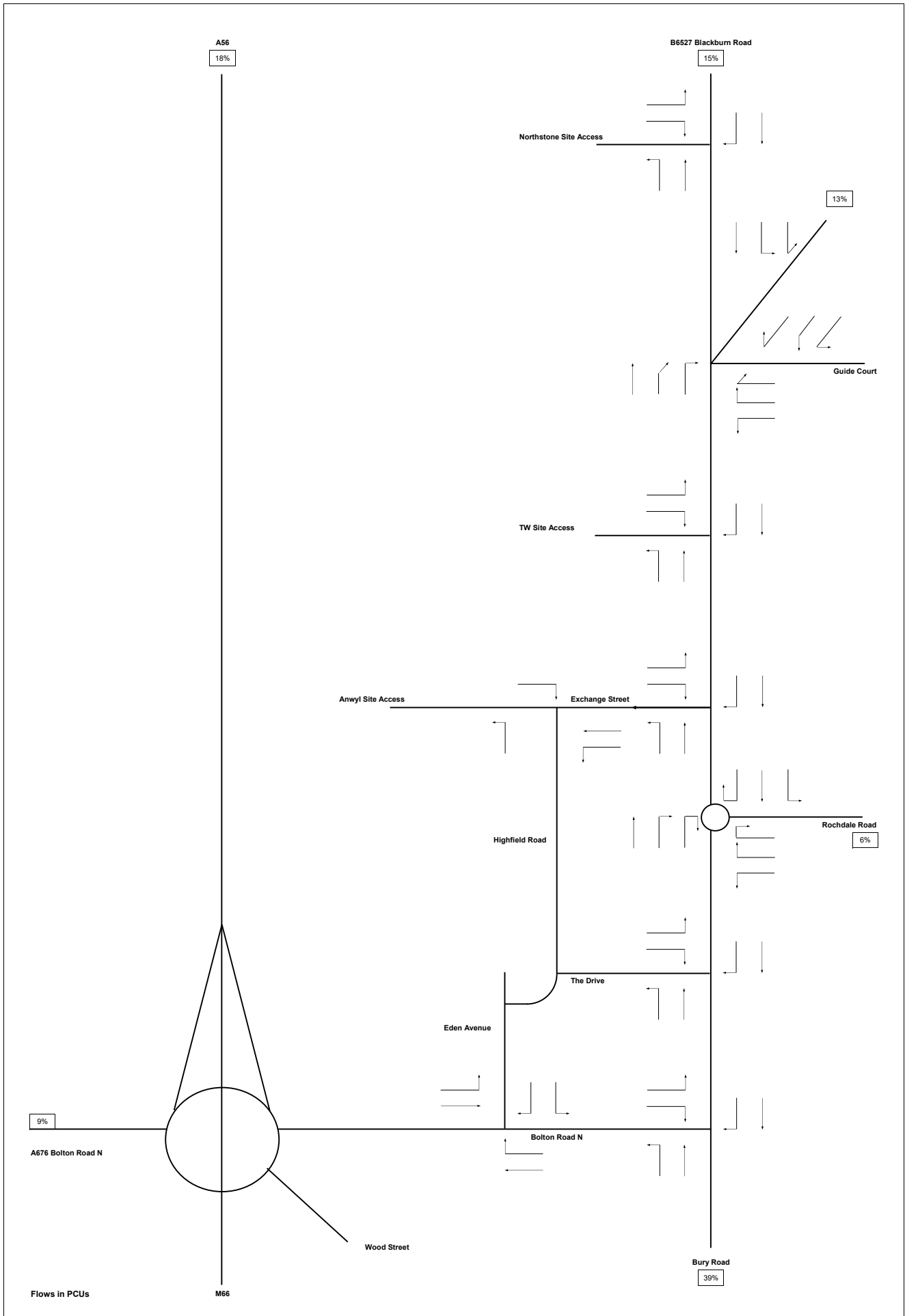


Figure 9 Proposed Trip Distribution

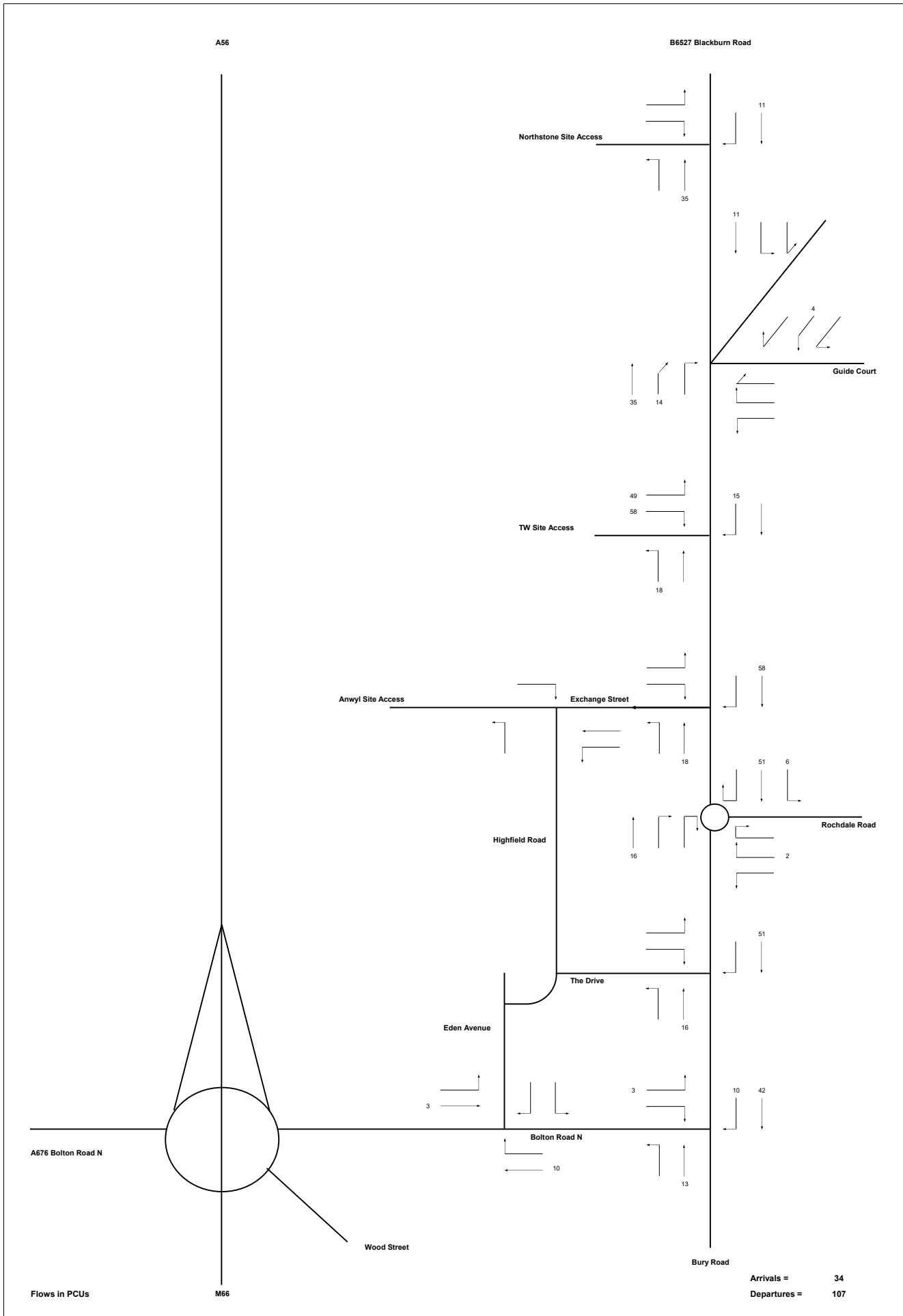


Figure 10 Proposed TW Development Trips - Weekday AM Peak

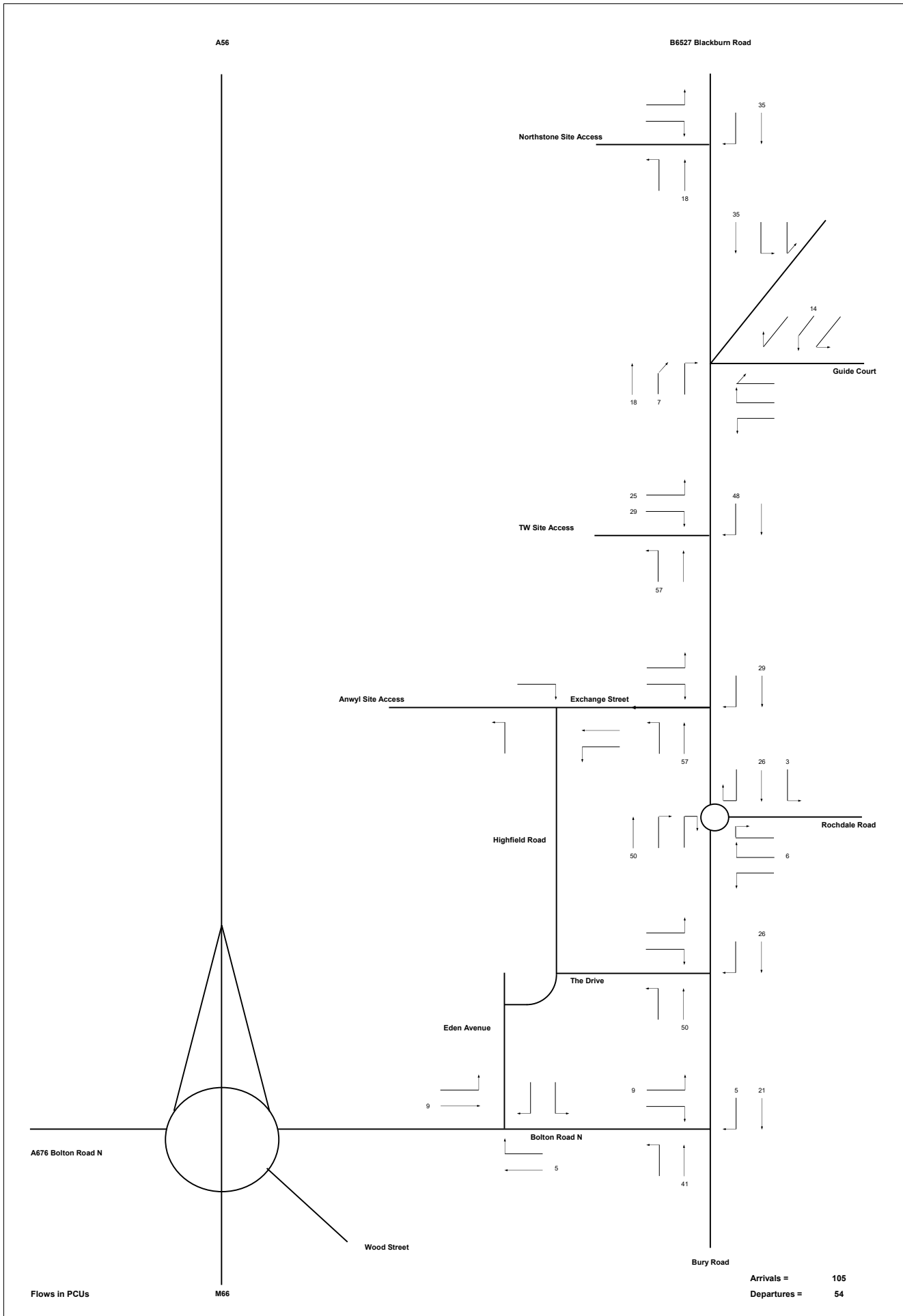


Figure 11 Proposed TW Development Trips - Weekday PM Peak

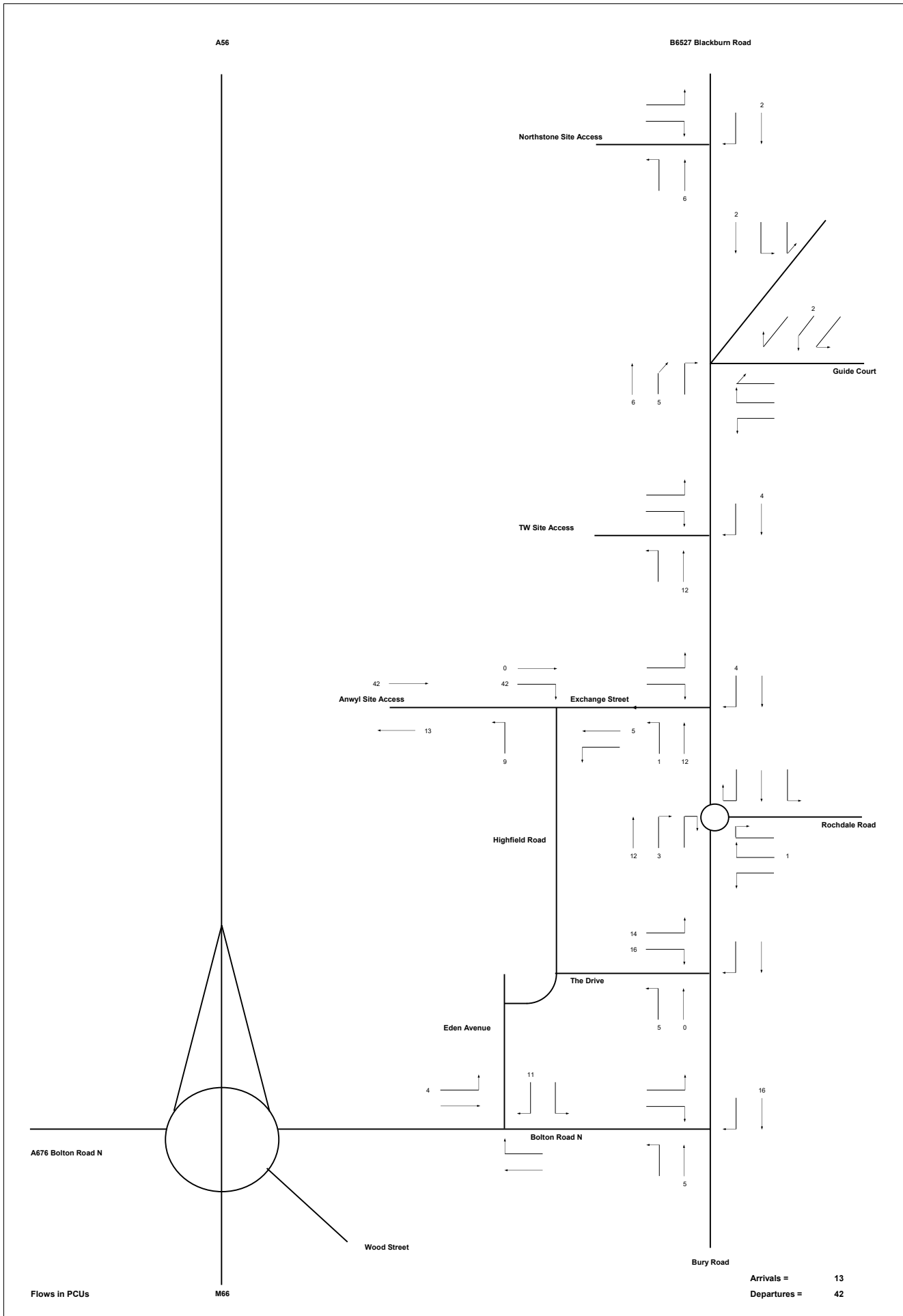


Figure 12 Proposed Anwyl Development Trips - Weekday AM Peak

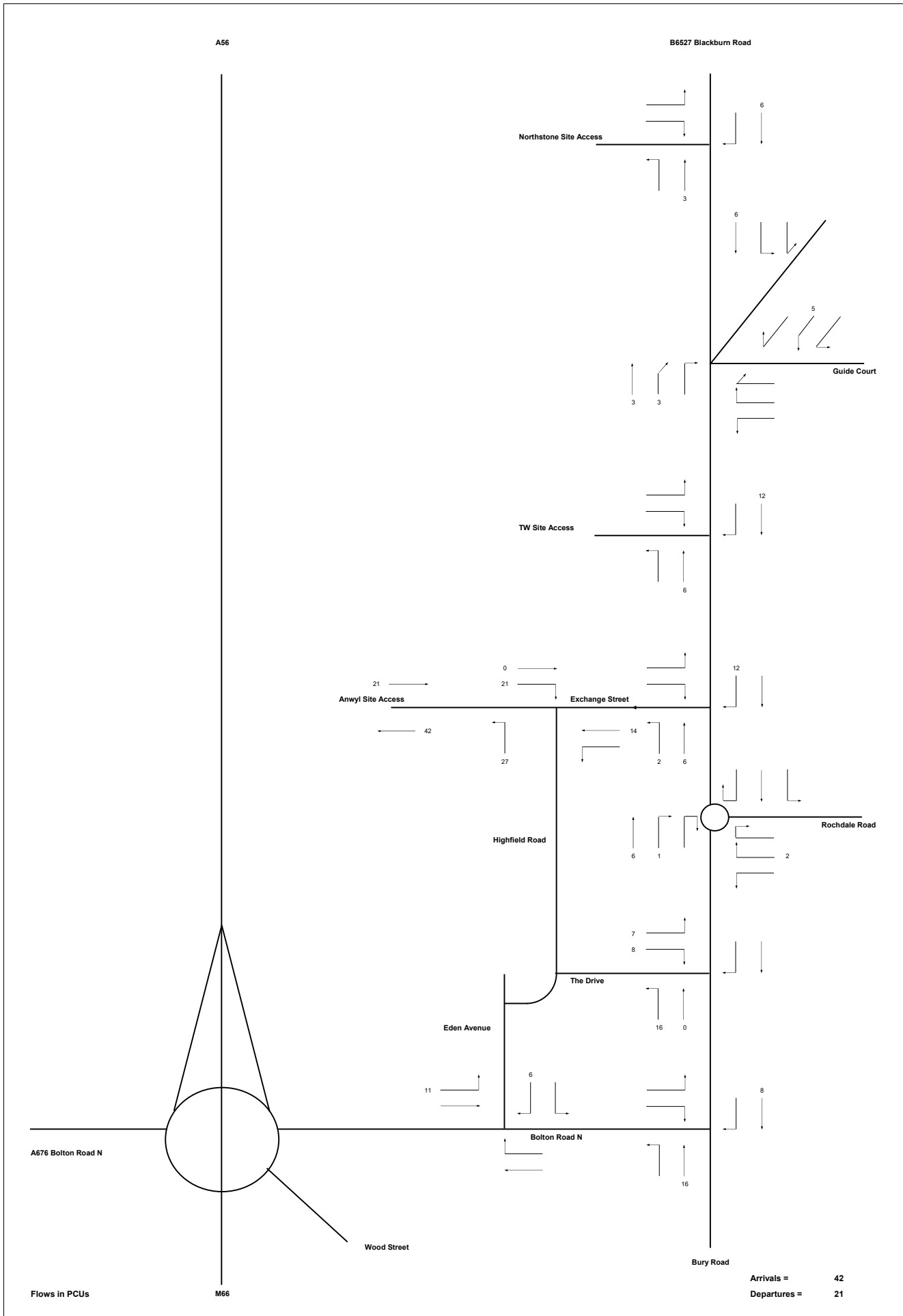


Figure 13 Proposed Anwyl Development Trips - Weekday PM Peak

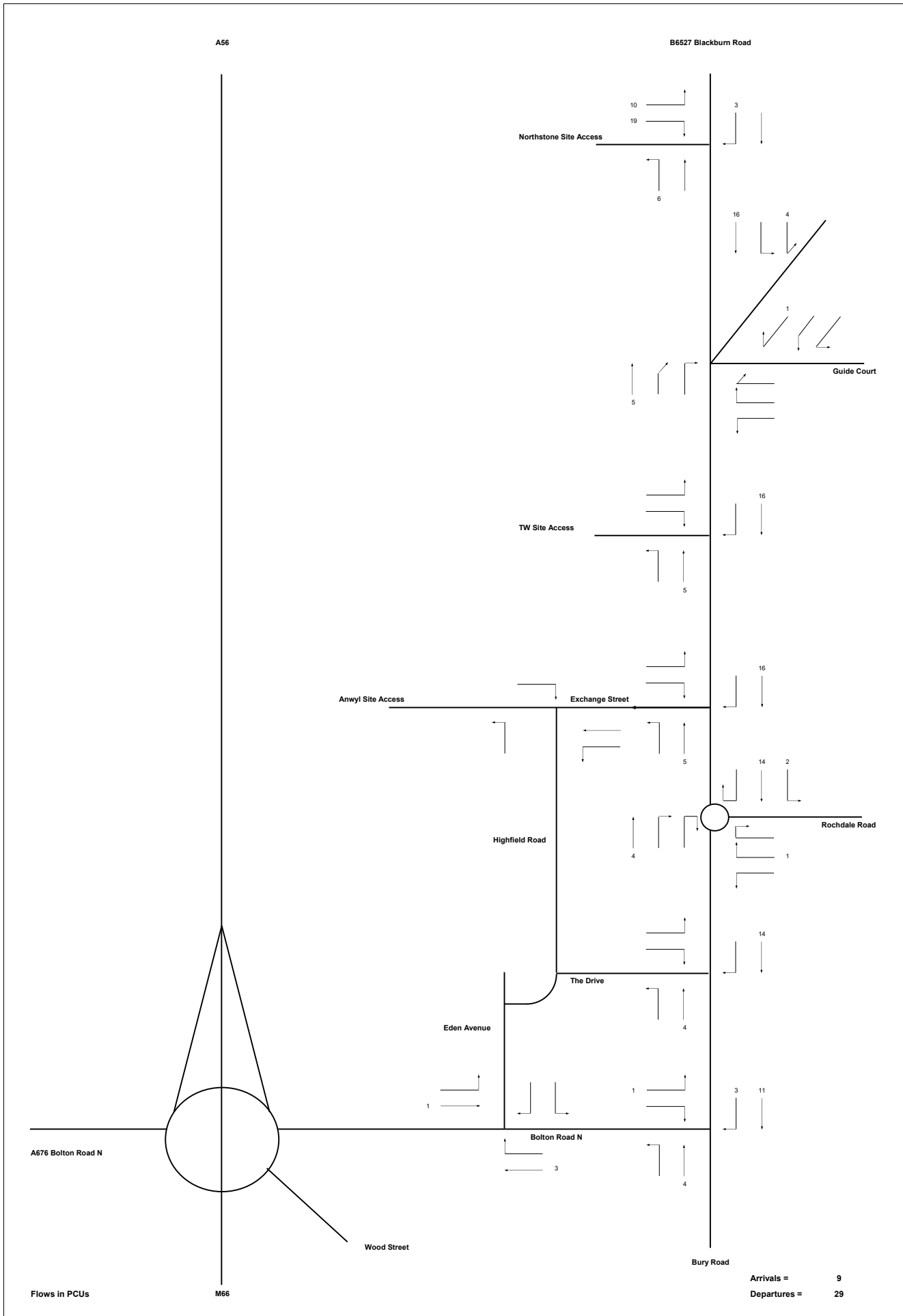


Figure 14 Proposed Northstone Development Trips - Weekday AM Peak

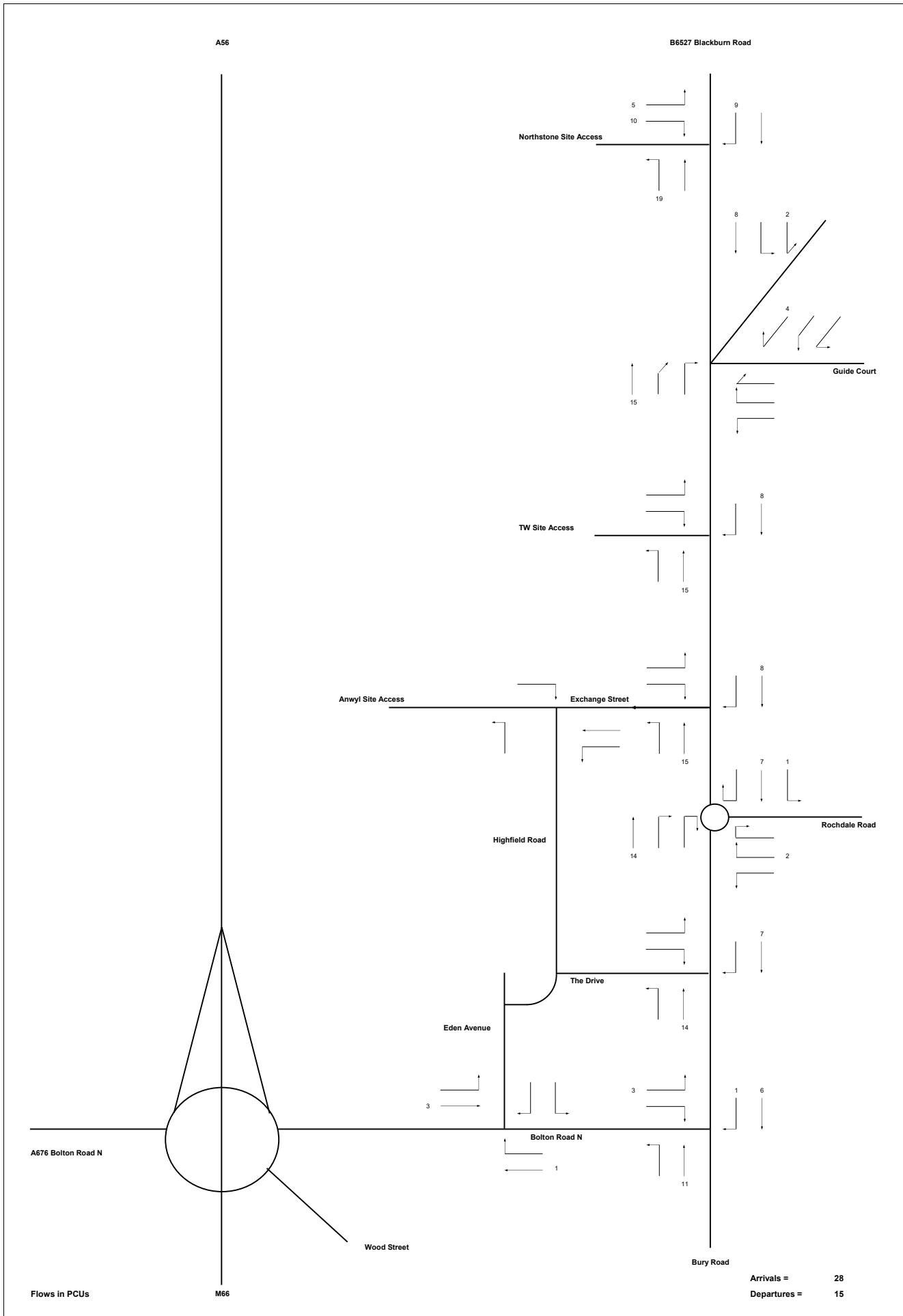


Figure 15 Proposed Northstone Development Trips - Weekday PM Peak

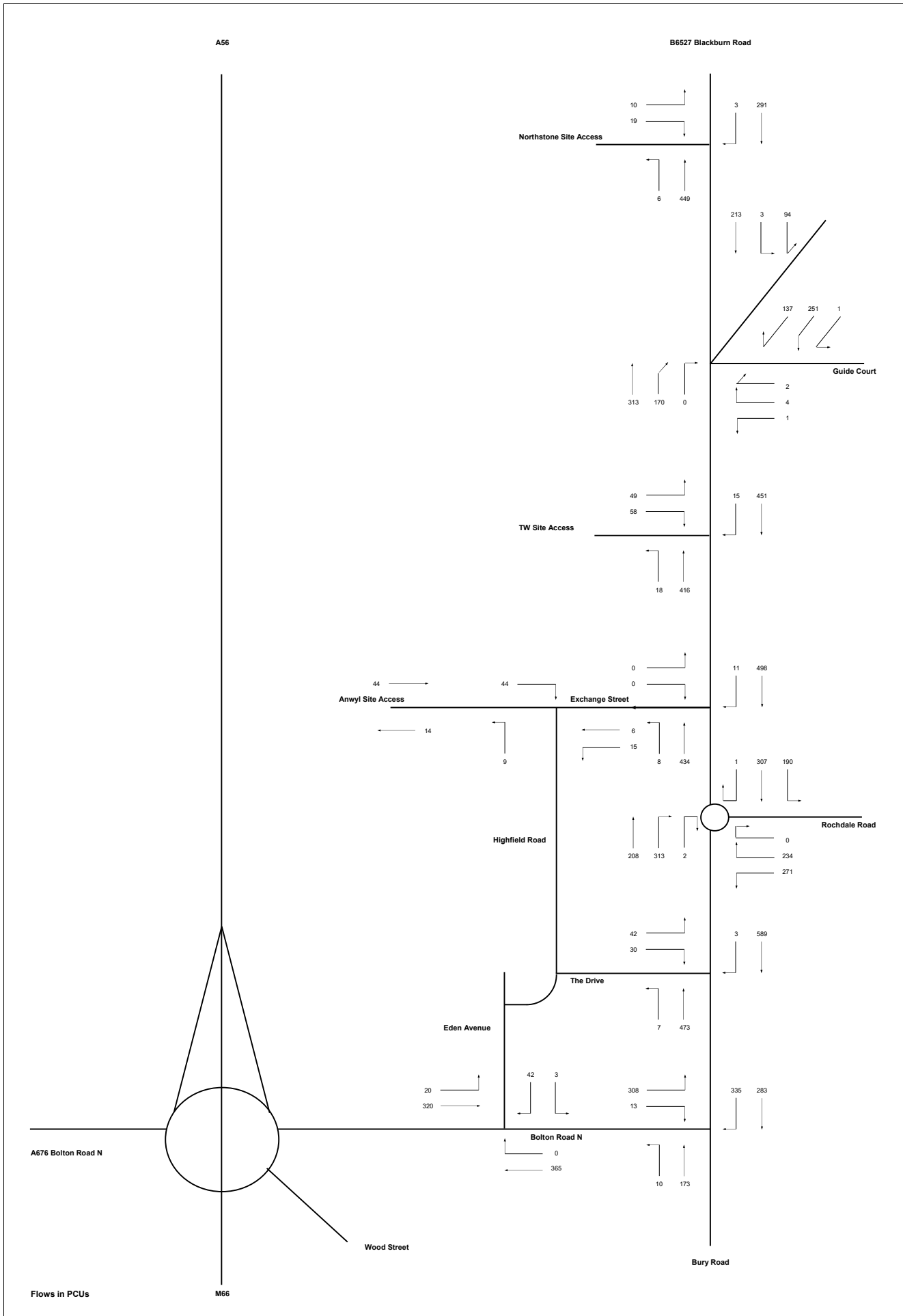


Figure 16 2034 'With Allocation' Flows - Weekday AM Peak

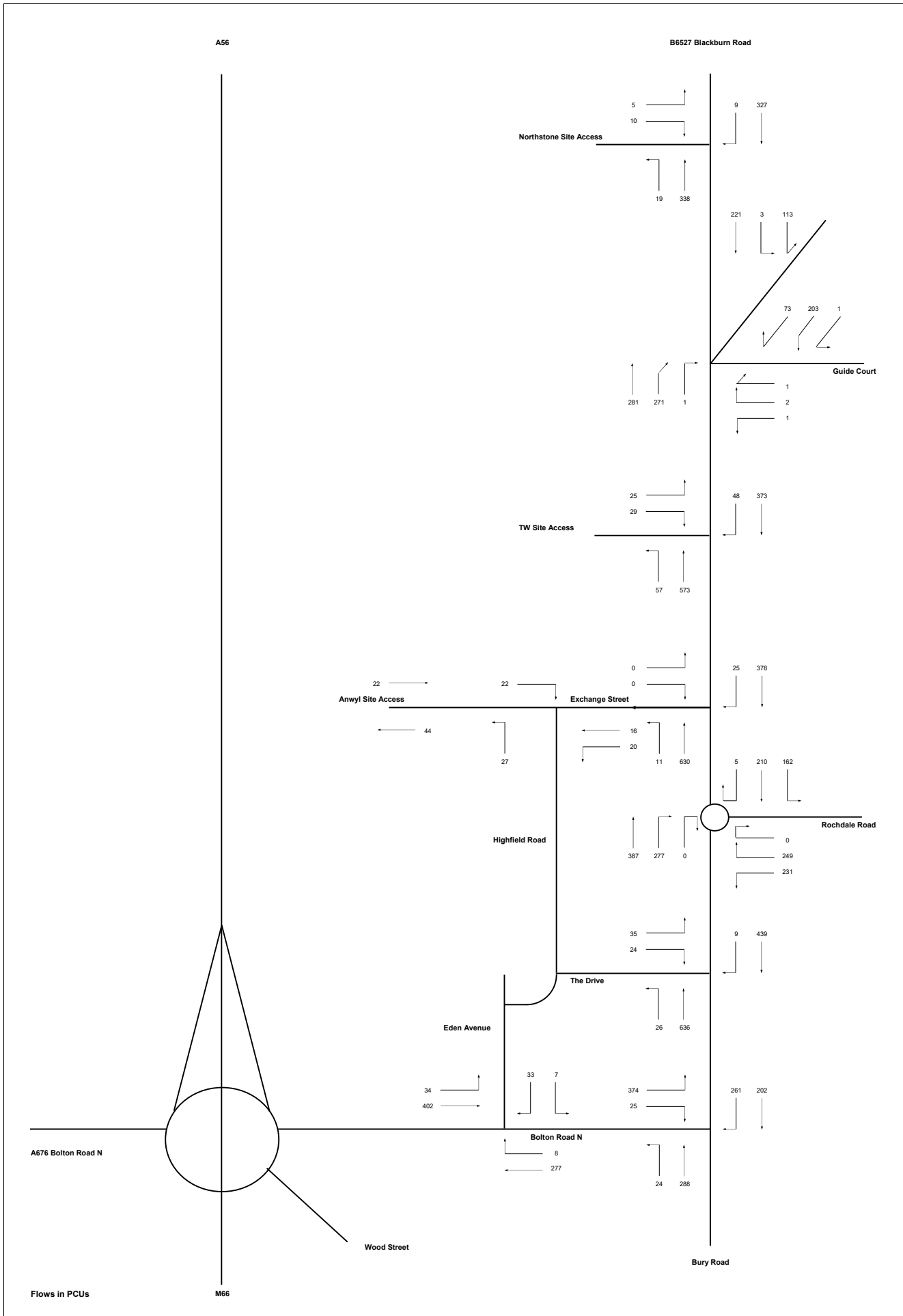


Figure 17 2034 'With Allocation' Flows - Weekday PM Peak

APPENDICES

APPENDIX 1

2023 Survey Data

SURVEY CONTROL

Client: Eddisons

Client Contact: Tim Russell

Survey Location: Edenfield

Date(s) of Survey: Tuesday 18th April 2023 - Saturday 22nd April 2023

Notes:

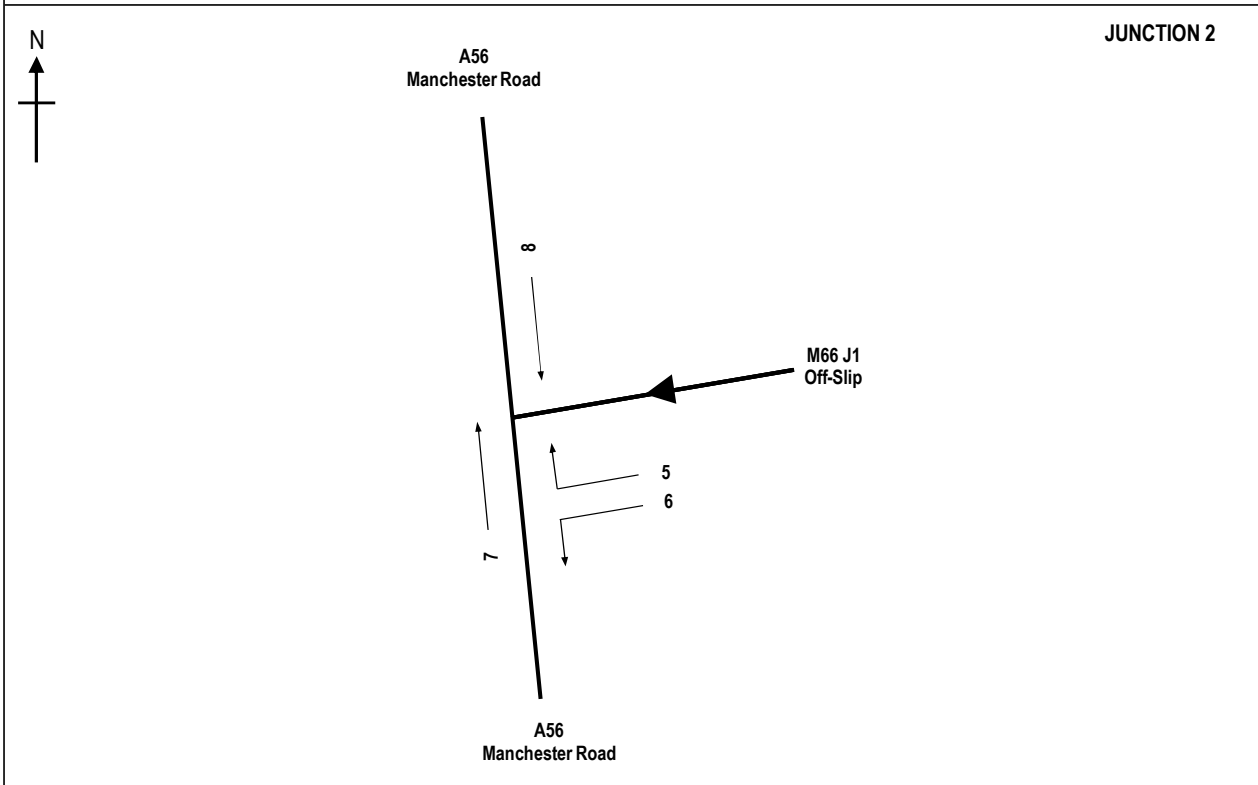
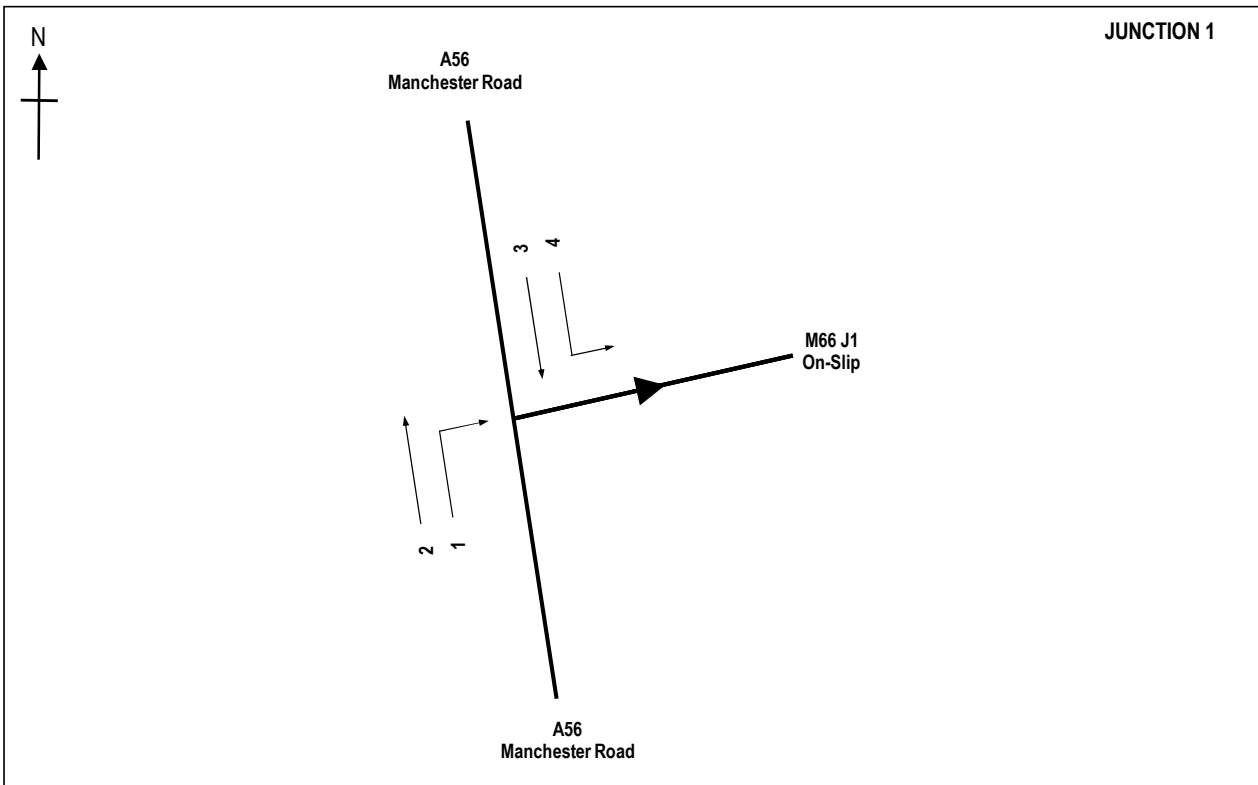
On Site Supervisor: Neil Harley/Rachel Wong/David Cheng

Data Checking: David Cheng

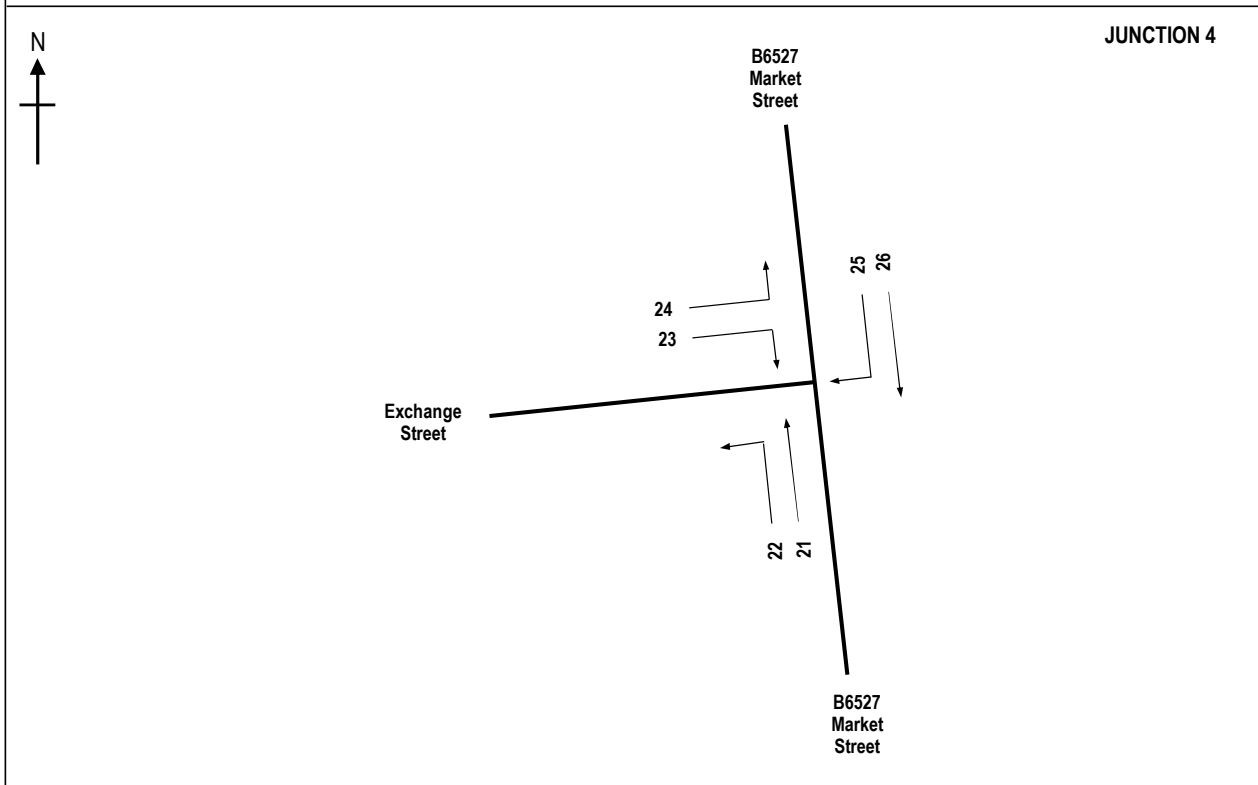
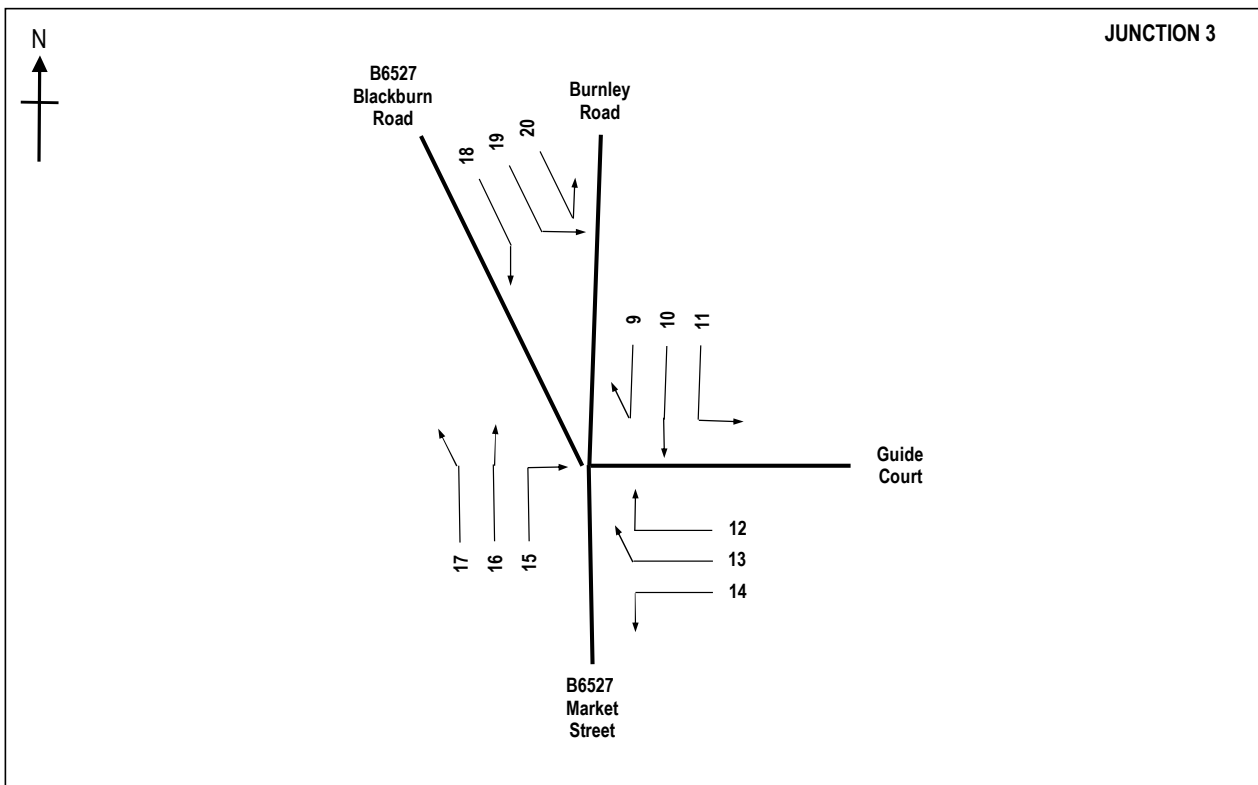
Survey Reference: 23.007 Edenfield

Status: Final

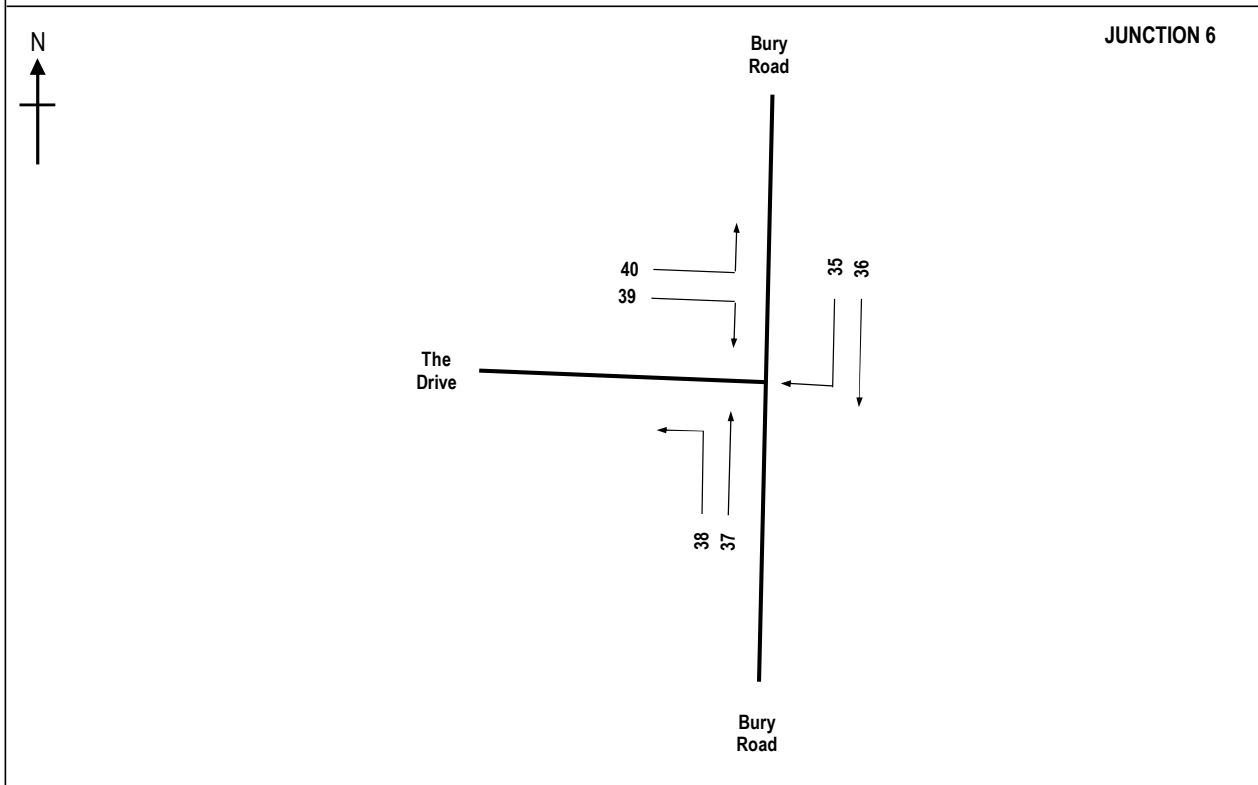
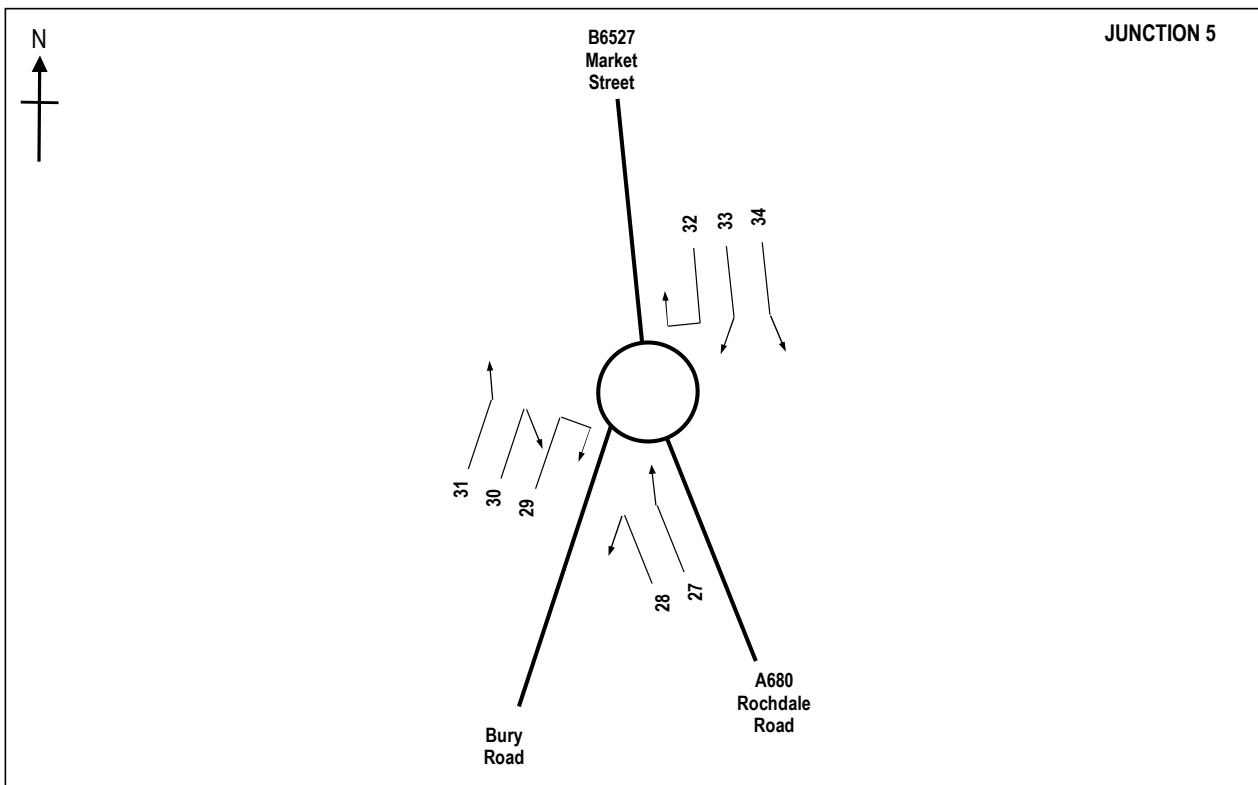
Date of Issue: 3rd May 2023



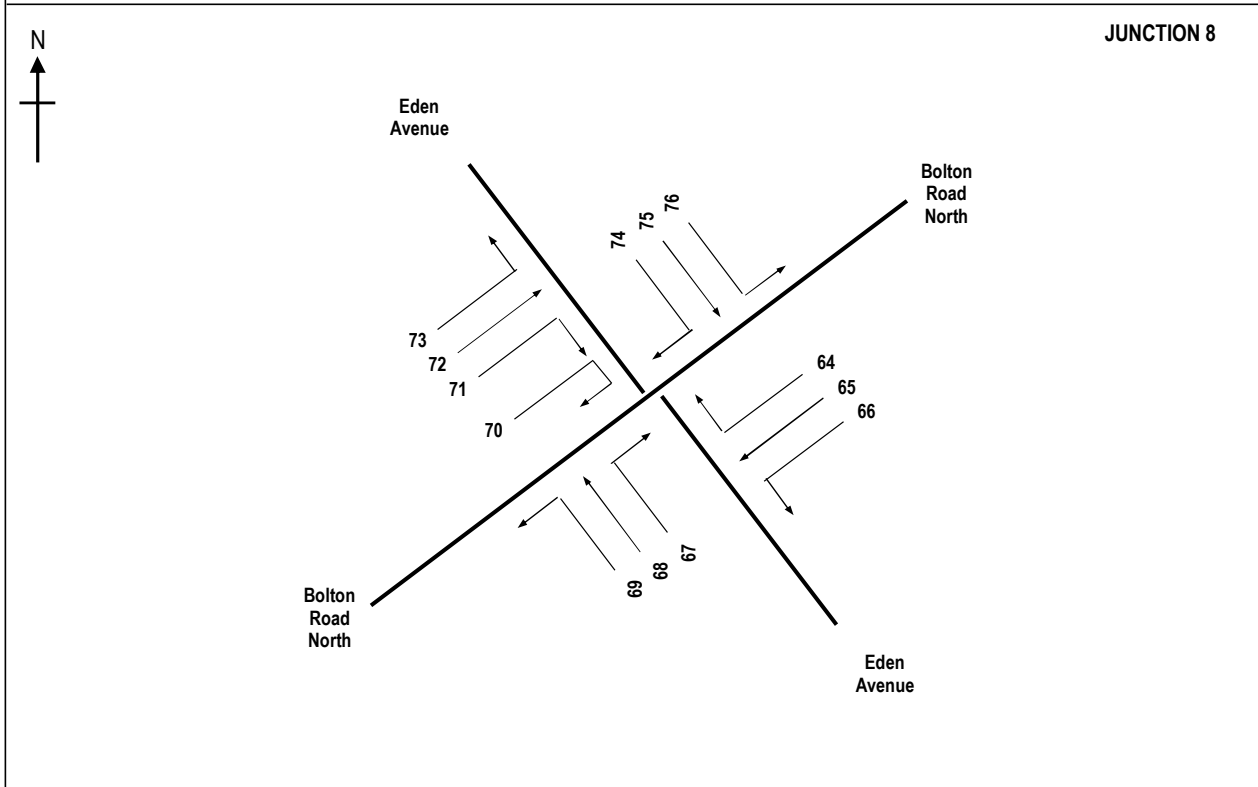
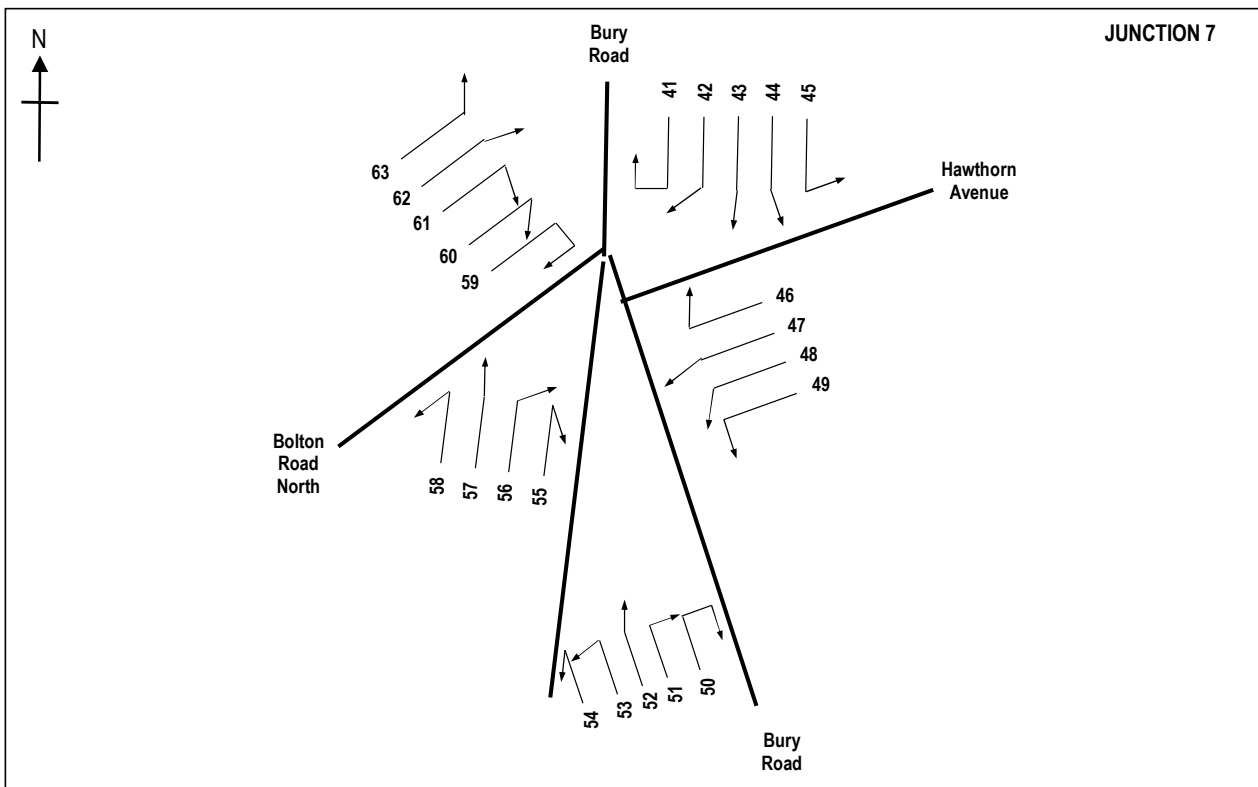
DRAWING TITLE				<p>signal surveys Traffic Counts and Car Park Surveys Parkway House, Palatine Road, Northenden, Manchester, M22 4DB Tel 0161 998 4226</p>
TRAFFIC MOVEMENT REFERENCE				
JOB TITLE				
23.007 EDENFIELD				
DRAWN BY	DATE	SCALE	REF	
DC	APRIL 2023	NTS	FIGURE 1	



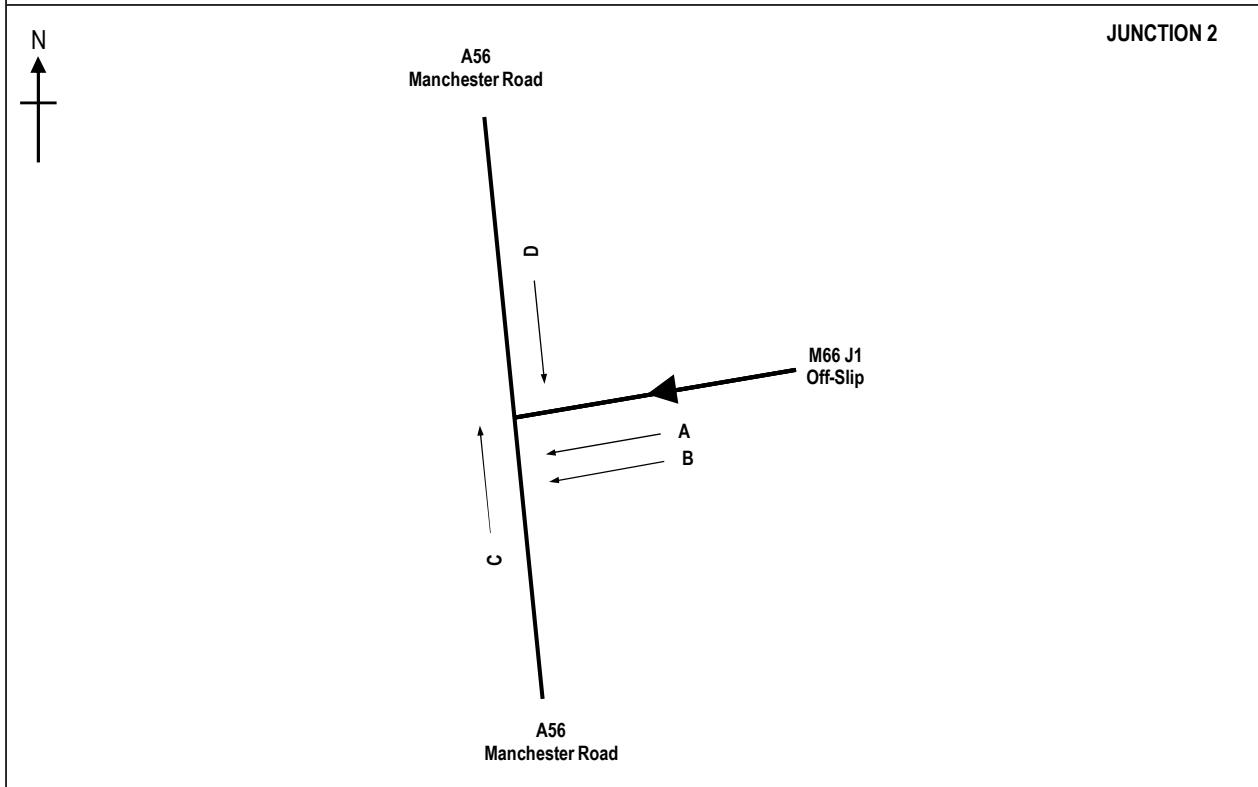
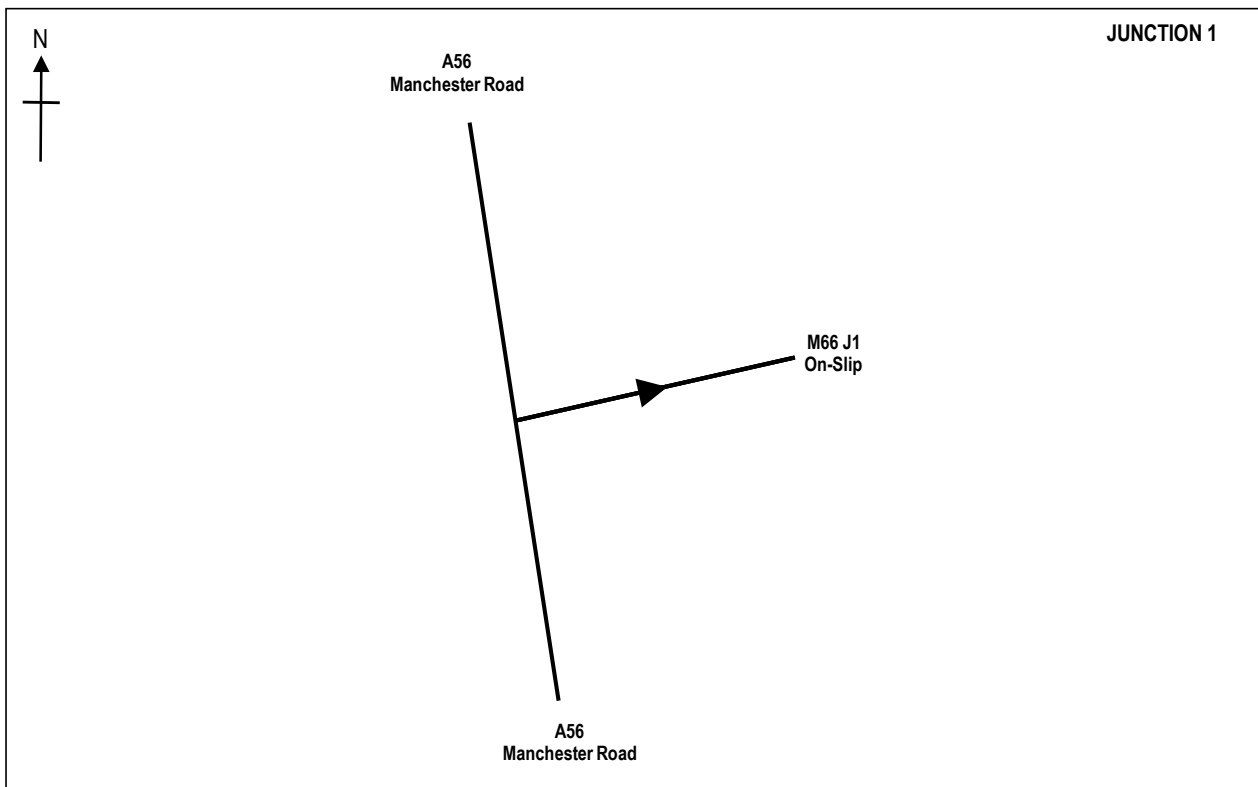
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TRAFFIC MOVEMENT REFERENCE				
JOB TITLE				
23.007 EDENFIELD				
DRAWN BY	DATE	SCALE	REF	
DC	APRIL 2023	NTS	FIGURE 2	



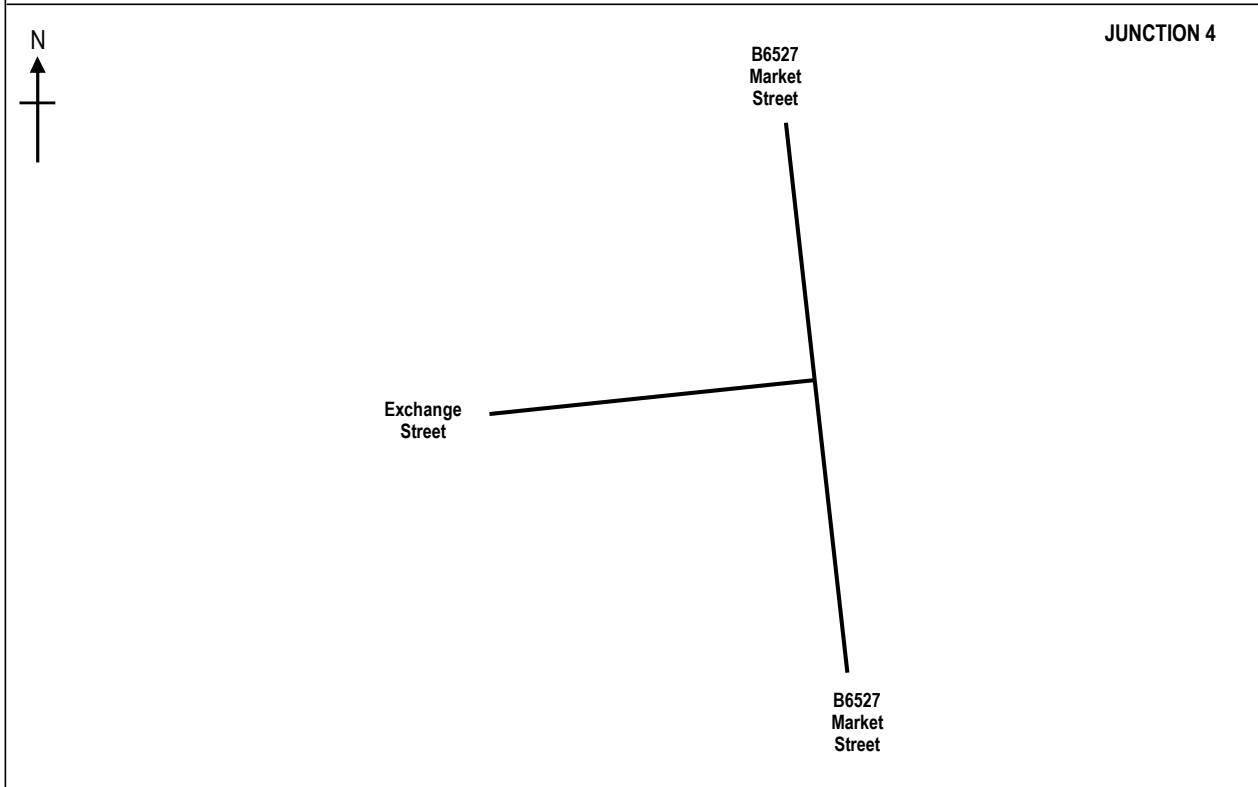
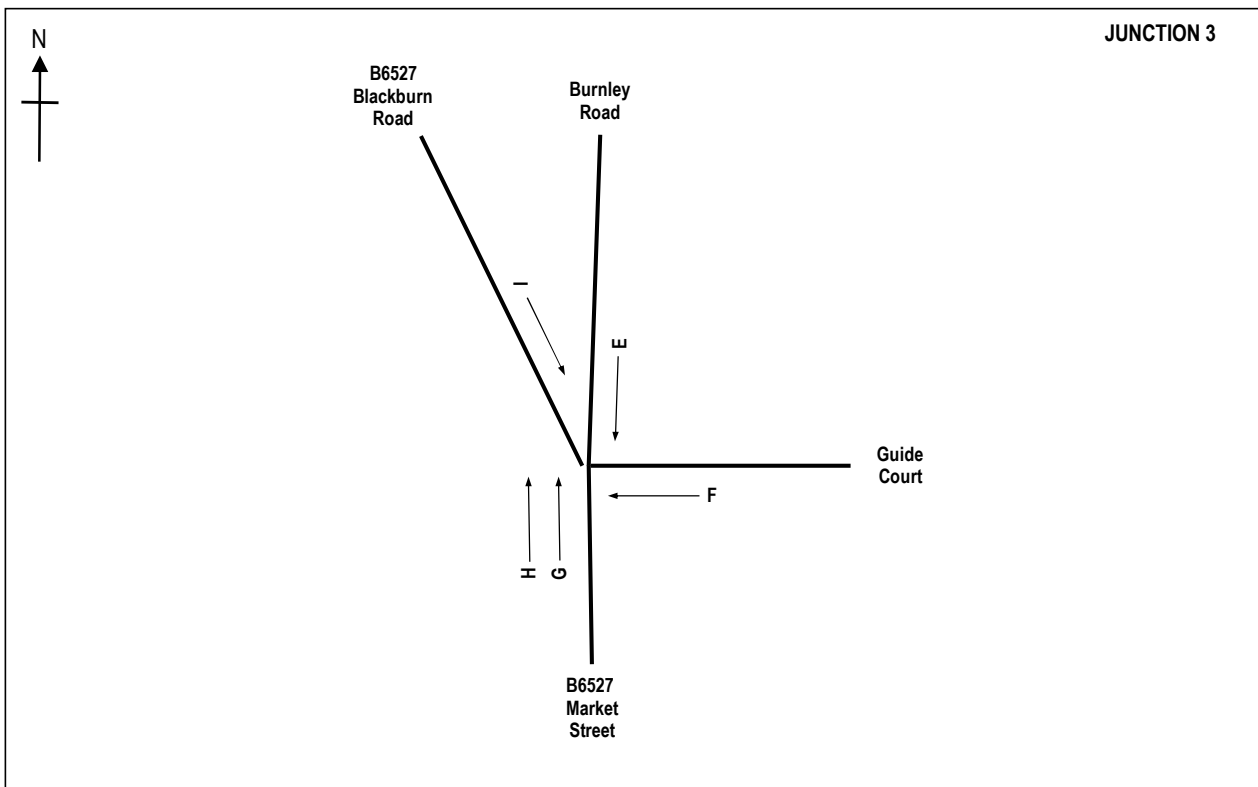
DRAWING TITLE				<p>signal surveys</p> <p>Traffic Counts and Car Park Surveys Parkway House, Palatine Road, Northenden, Manchester, M22 4DB Tel 0161 998 4226</p>
TRAFFIC MOVEMENT REFERENCE				
JOB TITLE				
23.007 EDENFIELD				
DRAWN BY	DATE	SCALE	REF	
DC	APRIL 2023	NTS	FIGURE 3	



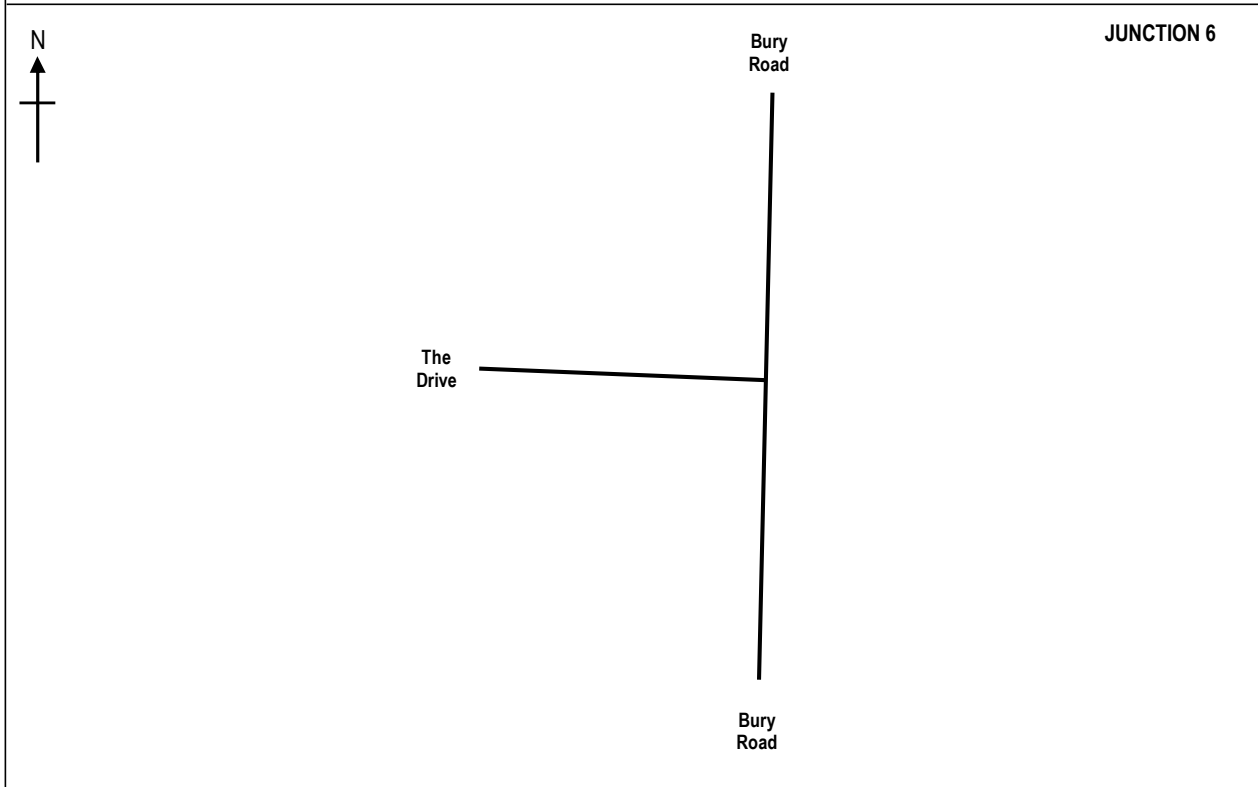
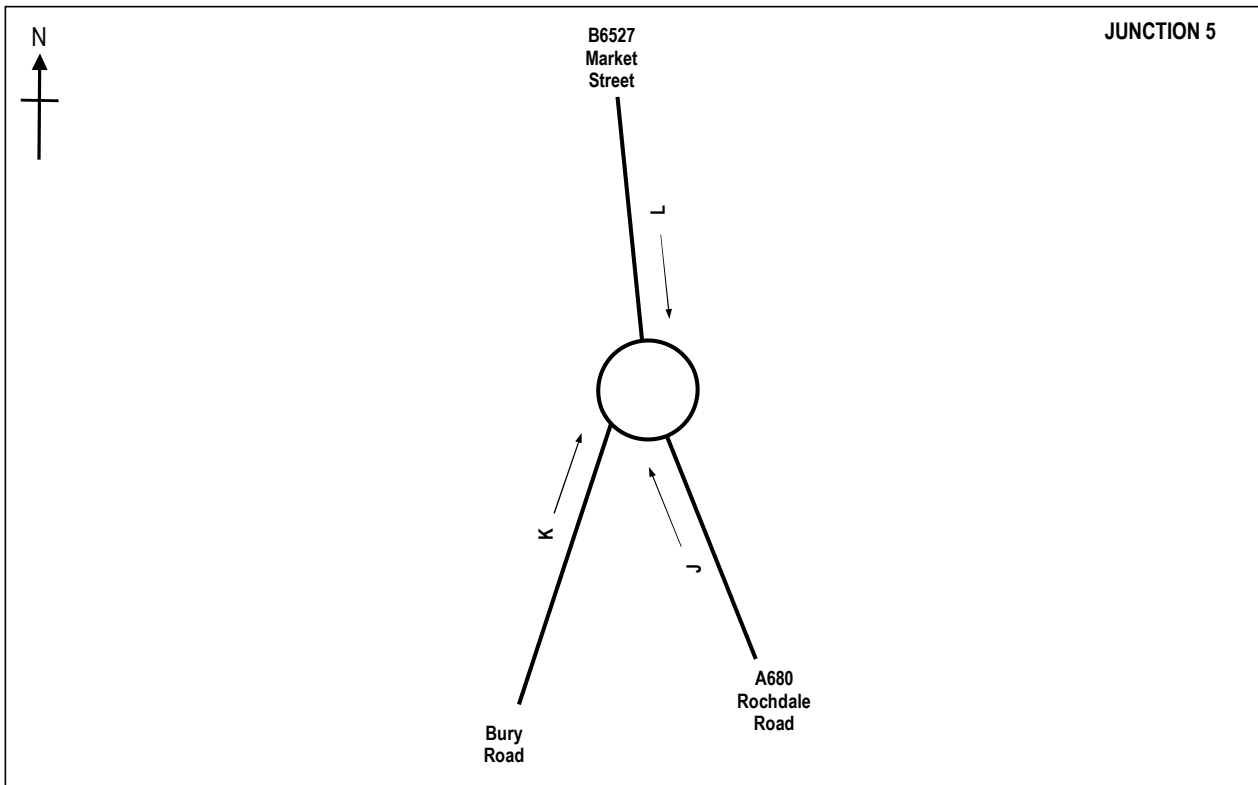
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TRAFFIC MOVEMENT REFERENCE				
JOB TITLE				
23.007 EDENFIELD				
DRAWN BY	DATE	SCALE	REF	
DC	APRIL 2023	NTS	FIGURE 4	



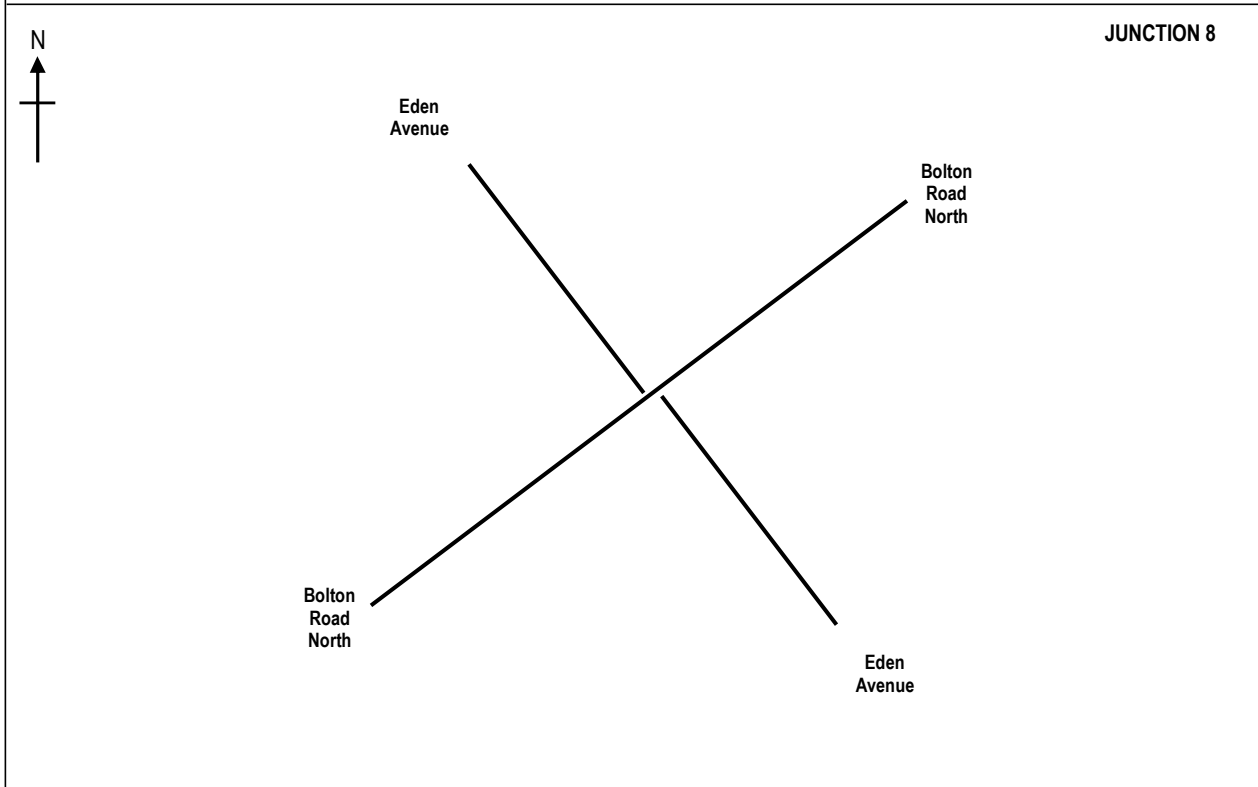
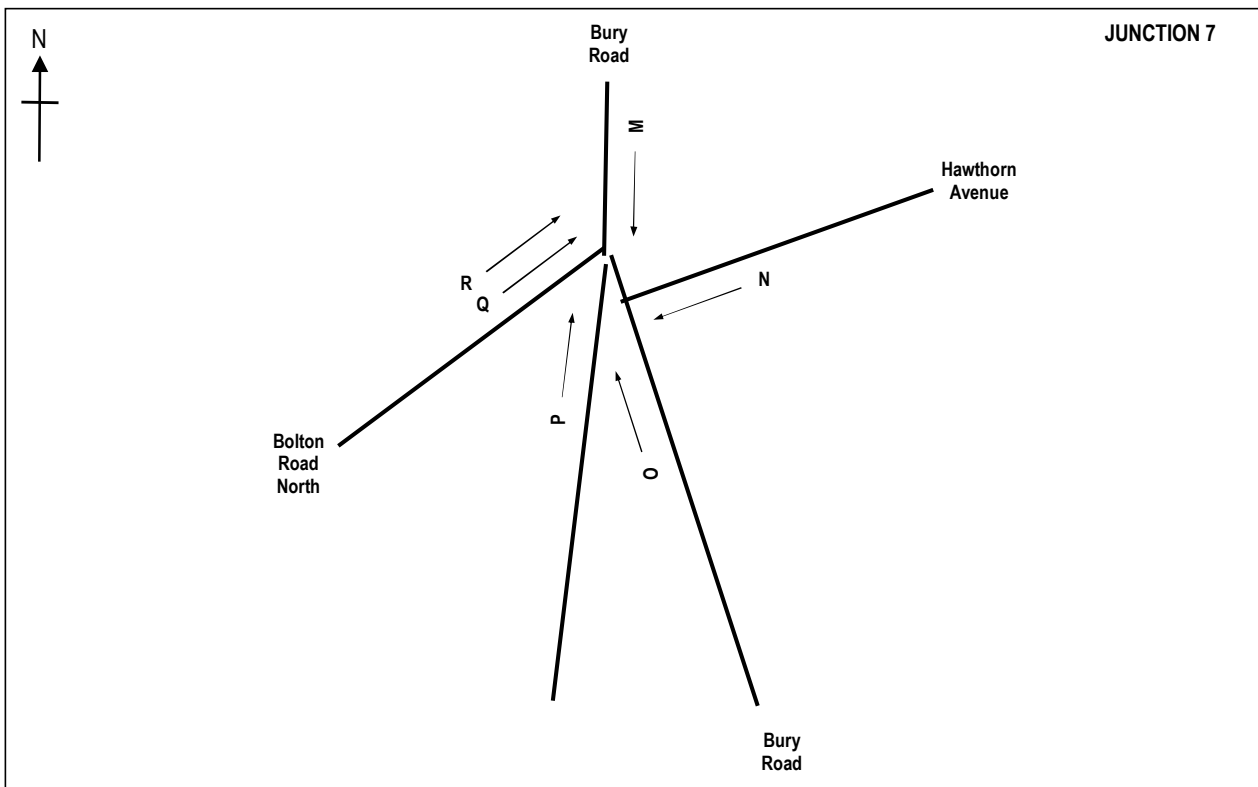
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QUEUE REFERENCE				
JOB TITLE				
23.007 EDENFIELD				
DRAWN BY	DATE	SCALE	REF	
DC	APRIL 2023	NTS	FIGURE 5	



DRAWING TITLE				<p>signal surveys Traffic Counts and Car Park Surveys Parkway House, Palatine Road, Northenden, Manchester, M22 4DB Tel 0161 998 4226</p>
QUEUE REFERENCE				
JOB TITLE				
23.007 EDENFIELD				
DRAWN BY	DATE	SCALE	REF	
DC	APRIL 2023	NTS	FIGURE 6	



DRAWING TITLE				<p>signal surveys Traffic Counts and Car Park Surveys Parkway House, Palatine Road, Northenden, Manchester, M22 4DB Tel 0161 998 4226</p>
QUEUE REFERENCE				
JOB TITLE				
23.007 EDENFIELD				
DRAWN BY	DATE	SCALE	REF	
DC	APRIL 2023	NTS	FIGURE 7	



DRAWING TITLE				<p>signal surveys Traffic Counts and Car Park Surveys Parkway House, Palatine Road, Northenden, Manchester, M22 4DB Tel 0161 998 4226</p>
<p>QUEUE REFERENCE</p>				
<p>JOB TITLE</p> <p>23.007 EDENFIELD</p>				
DRAWN BY	DATE	SCALE	REF	
DC	APRIL 2023	NTS	FIGURE 8	



DRAWING TITLE				PARKING REFERENCE		signal surveys Traffic Counts and Car Park Surveys Parkway House, Palatine Road, Northenden, Manchester, M22 4DB Tel 0161 998 4226	
JOB TITLE				23.007 EDENFIELD			
DRAWN BY	DATE	SCALE	REF				
DC	APRIL 2023	NTS	FIGURE 9				



DRAWING TITLE
PARKING REFERENCE

JOB TITLE
23.007 EDENFIELD

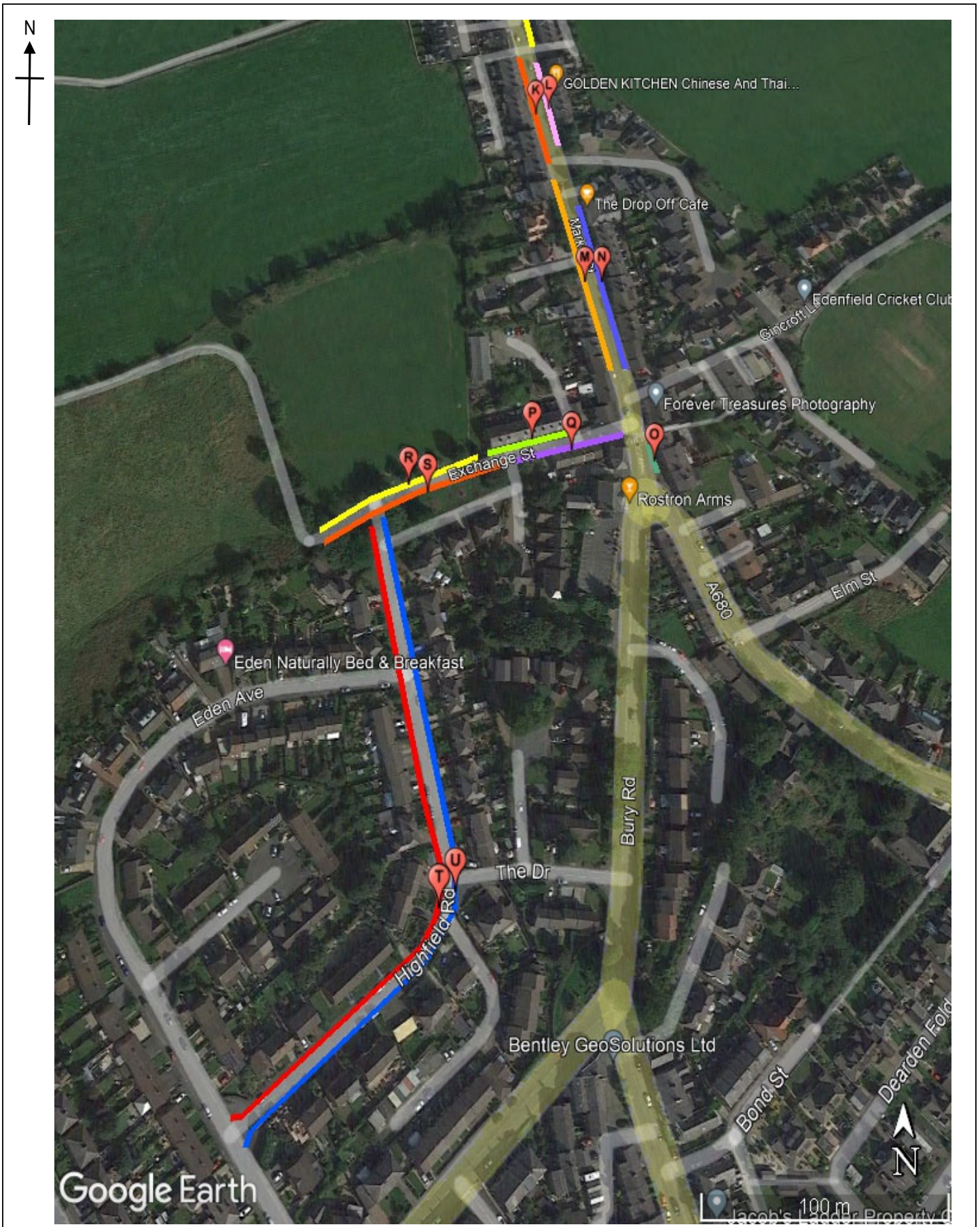
signal surveys
 Traffic Counts and Car Park Surveys
 Parkway House, Palatine Road, Northenden, Manchester,
 M22 4DB
 Tel 0161 998 4226

DRAWN BY
 DC

DATE
 APRIL 2023

SCALE
 NTS

REF
 FIGURE 10



DRAWING TITLE				<p align="center">signal surveys</p> <p>Traffic Counts and Car Park Surveys Parkway House, Palatine Road, Northenden, Manchester, M22 4DB Tel 0161 998 4226</p>
<p align="center">PARKING REFERENCE</p>				
JOB TITLE				
<p align="center">23.007 EDENFIELD</p>				
DRAWN BY	DATE	SCALE	REF	
DC	APRIL 2023	NTS	FIGURE 11	

23.007 Edenfield - TOTAL NUMBER OF SPACES

Zone	Total Number of Spaces			Total
	S	D	P&C	
A	28	0	0	28
B	24	0	0	24
C	24	0	0	24
D	24	0	0	24
E	22	0	0	22
F	18	0	0	18
G	8	0	0	8
H	21	0	0	21
I	11	0	0	11
J	11	0	0	11
K	12	0	0	12
L	8	0	0	8
M	18	0	0	18
N	17	1	0	18
O	2	0	0	2
P	8	0	0	8
Q	8	0	0	8
R	13	0	0	13
S	13	0	0	13
T	22	0	0	22
U	24	0	0	24
Total	336	1	0	337

S - Standard Spaces

D - Disabled Spaces

P&C - Parent & Child Spaces

NB See Map for Locations of Zones

A56 Manchester Road/M66 J1 On-Slip - Tuesday 18th April 2023								
Time Beginning	1		2		3		4	
	LV	HV	LV	HV	LV	HV	LV	HV
0700	45	1	82	9	73	2	149	8
0715	64	1	97	19	64	5	151	7
0730	83	2	103	10	97	2	178	13
0745	66	1	117	14	135	4	180	14
0800	82	1	125	10	126	4	173	6
0815	75	2	127	10	100	10	123	9
0830	47	1	126	17	101	3	95	9
0845	38	2	145	23	90	9	91	4
0900	51	1	113	18	101	3	112	12
0915	38	1	99	21	64	8	65	11

A56 Manchester Road/M66 J1 On-Slip - Tuesday 18th April 2023								
Time Beginning	1		2		3		4	
	LV	HV	LV	HV	LV	HV	LV	HV
1530	24	3	161	18	83	3	74	8
1545	25	2	196	9	68	4	65	6
1600	28	1	208	5	84	3	71	2
1615	39	1	217	9	85	5	55	1
1630	26	1	213	10	91	5	84	3
1645	28	0	229	7	78	6	76	2
1700	28	0	242	9	117	2	78	2
1715	18	1	277	9	108	2	76	4
1730	23	1	230	5	87	2	72	2
1745	21	0	241	7	88	2	52	0
1800	21	0	215	2	75	2	61	2
1815	16	1	189	4	69	3	48	3

A56 Manchester Road/M66 J1 On-Slip - Wednesday 19th April 2023								
Time Beginning	1		2		3		4	
	LV	HV	LV	HV	LV	HV	LV	HV
0700	60	2	70	19	57	3	144	8
0715	66	2	88	24	76	5	142	5
0730	77	1	102	8	90	5	164	16
0745	65	0	127	10	115	5	175	19
0800	78	0	125	16	122	6	145	10
0815	72	1	139	13	118	4	119	10
0830	50	0	130	17	88	11	94	10
0845	37	2	123	11	84	5	85	7
0900	48	0	116	12	77	6	108	11
0915	45	3	109	19	78	3	82	11

A56 Manchester Road/M66 J1 On-Slip - Wednesday 19th April 2023								
Time Beginning	1		2		3		4	
	LV	HV	LV	HV	LV	HV	LV	HV
1530	27	2	179	12	102	4	56	4
1545	27	2	183	12	74	3	49	7
1600	29	0	211	13	86	2	79	4
1615	36	3	208	11	91	5	59	5
1630	31	2	222	14	90	3	72	3
1645	29	0	220	5	100	3	86	3
1700	29	1	272	6	113	3	80	1
1715	32	0	263	9	103	3	62	0
1730	30	0	226	7	95	2	55	2
1745	18	0	226	1	83	0	48	2
1800	14	0	221	5	95	5	62	1
1815	25	0	190	5	62	2	43	3

A56 Manchester Road/M66 J1 On-Slip - Thursday 20th April 2023								
Time Beginning	1		2		3		4	
	LV	HV	LV	HV	LV	HV	LV	HV
0700	60	1	83	8	48	4	116	7
0715	74	0	94	16	79	1	147	8
0730	67	3	99	12	93	6	168	19
0745	71	1	123	18	103	5	157	11
0800	74	1	131	18	115	6	161	8
0815	61	0	137	12	101	6	126	9
0830	54	1	124	19	114	5	98	10
0845	45	3	118	12	82	4	86	9
0900	51	3	103	18	69	3	112	6
0915	41	0	100	25	76	8	79	13

A56 Manchester Road/M66 J1 On-Slip - Thursday 20th April 2023								
Time Beginning	1		2		3		4	
	LV	HV	LV	HV	LV	HV	LV	HV
1530	30	2	117	9	94	2	56	10
1545	21	1	169	9	78	2	71	5
1600	27	2	214	14	94	5	92	3
1615	40	1	207	8	99	7	62	3
1630	36	1	224	16	90	3	84	3
1645	31	0	228	6	78	3	68	7
1700	23	1	227	11	113	3	87	3
1715	30	0	223	4	135	5	56	1
1730	29	0	210	5	72	0	64	4
1745	19	0	214	12	77	1	53	2
1800	23	0	214	3	92	1	50	0
1815	21	0	186	1	81	2	44	2

A56 Manchester Road/M66 J1 Off-Slip - Tuesday 18th April 2023								
Time Beginning	5		6		7		8	
	LV	HV	LV	HV	LV	HV	LV	HV
0700	49	8	13	1	62	1	79	3
0715	50	17	8	0	70	3	61	5
0730	46	9	12	1	104	2	91	2
0745	68	8	19	0	92	5	145	4
0800	54	6	12	0	121	5	140	4
0815	53	8	8	1	127	6	101	8
0830	66	15	16	2	90	5	105	4
0845	76	21	20	0	105	8	104	8
0900	65	13	11	1	72	7	100	4
0915	56	18	12	1	74	4	71	7

A56 Manchester Road/M66 J1 Off-Slip - Tuesday 18th April 2023								
Time Beginning	5		6		7		8	
	LV	HV	LV	HV	LV	HV	LV	HV
1530	127	10	37	0	81	7	98	3
1545	125	6	39	0	122	5	69	6
1600	148	6	38	0	128	2	88	4
1615	132	2	27	0	132	11	89	4
1630	115	5	41	0	115	3	93	6
1645	145	3	41	1	136	4	81	5
1700	156	9	29	0	132	5	111	2
1715	171	5	41	2	153	5	97	2
1730	154	5	29	0	126	2	84	1
1745	176	2	36	0	124	4	88	6
1800	173	2	29	0	91	4	80	1
1815	133	0	31	0	92	5	74	4

A56 Manchester Road/M66 J1 Off-Slip - Wednesday 19th April 2023								
Time Beginning	5		6		7		8	
	LV	HV	LV	HV	LV	HV	LV	HV
0700	34	16	12	1	75	3	57	3
0715	44	21	8	2	70	2	80	6
0730	48	8	9	1	94	2	97	6
0745	70	6	14	2	82	5	118	5
0800	57	10	13	0	129	6	125	3
0815	71	7	11	2	101	9	122	4
0830	71	13	19	2	100	7	98	11
0845	72	9	21	0	89	6	95	4
0900	59	8	16	0	83	2	87	8
0915	61	18	19	3	86	5	88	3

A56 Manchester Road/M66 J1 Off-Slip - Wednesday 19th April 2023								
Time Beginning	5		6		7		8	
	LV	HV	LV	HV	LV	HV	LV	HV
1530	115	11	23	2	116	3	103	4
1545	133	5	34	0	110	6	75	3
1600	137	7	28	2	125	4	92	1
1615	142	8	40	0	127	5	101	3
1630	133	10	33	0	144	9	86	3
1645	146	2	49	1	146	2	97	3
1700	189	4	51	0	142	4	107	3
1715	161	6	35	0	160	4	106	2
1730	158	4	39	0	130	2	89	3
1745	161	1	33	0	102	0	82	1
1800	195	4	47	0	77	3	86	4
1815	152	2	24	0	85	4	56	2

A56 Manchester Road/M66 J1 Off-Slip - Thursday 20th April 2023								
Time Beginning	5		6		7		8	
	LV	HV	LV	HV	LV	HV	LV	HV
0700	44	6	11	1	81	2	53	3
0715	42	13	11	1	81	2	87	1
0730	47	9	8	1	95	4	87	7
0745	51	10	14	2	96	8	128	5
0800	62	15	10	1	122	3	115	6
0815	57	10	7	1	118	2	109	5
0830	66	14	17	1	115	6	118	5
0845	69	7	20	0	80	6	89	4
0900	59	13	16	0	79	3	78	3
0915	65	22	12	1	79	7	73	6

A56 Manchester Road/M66 J1 Off-Slip - Thursday 20th April 2023								
Time Beginning	5		6		7		8	
	LV	HV	LV	HV	LV	HV	LV	HV
1530	118	4	40	0	103	7	110	5
1545	116	4	21	0	107	6	83	3
1600	144	6	39	0	117	8	100	6
1615	143	4	31	1	120	8	101	7
1630	148	6	30	0	147	8	84	2
1645	131	5	40	0	156	2	93	4
1700	146	4	34	0	129	9	111	2
1715	143	2	54	0	124	1	140	3
1730	148	4	28	0	113	3	68	2
1745	167	6	42	0	88	4	75	1
1800	147	3	30	0	107	4	98	1
1815	153	0	40	0	75	1	78	2

B6527 Market Street/Exchange Street - Wednesday 19th April 2023												
Time Beginning	21		22		23		24		25		26	
	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV
0700	31	2	1	0	0	0	1	0	2	0	73	2
0715	48	1	0	0	0	0	1	0	1	0	85	2
0730	62	0	0	0	2	0	1	0	1	0	103	2
0745	67	8	0	0	2	0	4	0	0	0	101	1
0800	83	4	1	0	3	0	2	0	2	0	91	2
0815	98	4	4	0	0	0	5	0	1	0	95	2
0830	66	3	2	0	1	0	4	0	4	0	89	2
0845	83	1	4	0	3	0	4	0	4	0	86	2
0900	52	6	1	0	1	0	0	0	4	0	78	3
0915	47	0	3	0	1	0	2	0	5	0	54	2
B6527 Market Street/Exchange Street - Wednesday 19th April 2023												
Time Beginning	21		22		23		24		25		26	
	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV
1430	62	1	2	0	2	0	4	1	3	0	74	4
1445	61	4	3	0	2	0	1	0	8	0	57	4
1500	60	4	1	0	1	0	3	0	2	0	67	2
1515	61	3	1	0	0	0	0	0	5	0	63	2
1530	60	4	1	0	1	0	3	0	5	0	67	2
1545	74	3	2	0	2	0	0	0	4	0	56	4
1600	80	3	2	0	2	0	2	0	3	0	73	4
1615	101	2	0	0	3	0	1	0	1	0	88	5
1630	106	8	1	0	0	0	3	0	3	0	65	3
1645	112	0	5	0	2	1	3	1	5	0	75	0
1700	121	0	1	0	4	0	5	0	1	0	94	1
1715	138	2	2	0	1	0	2	0	2	0	78	0
1730	107	4	0	0	0	0	5	0	4	0	62	1
1745	123	0	2	0	1	0	3	0	6	0	70	1
1800	74	2	0	0	0	0	3	0	2	0	66	1
1815	82	1	0	0	2	0	3	0	2	0	55	1
B6527 Market Street/Exchange Street - Thursday 20th April 2023												
Time Beginning	21		22		23		24		25		26	
	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV
0700	32	1	2	0	1	0	1	0	0	0	64	0
0715	50	0	0	0	0	0	1	0	0	0	82	3
0730	56	2	1	0	1	0	2	0	1	0	79	4
0745	71	8	1	0	1	0	3	0	1	0	108	1
0800	73	3	2	0	0	0	3	0	1	0	90	2
0815	97	5	3	0	1	0	3	0	1	0	100	7
0830	57	4	1	1	1	0	3	0	2	0	80	1
0845	61	4	5	0	2	0	4	0	6	0	72	3
0900	47	3	2	0	0	0	0	0	4	0	63	0
0915	48	3	5	0	1	0	3	0	9	0	48	2
B6527 Market Street/Exchange Street - Thursday 20th April 2023												
Time Beginning	21		22		23		24		25		26	
	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV
1430	71	0	3	0	3	0	4	0	2	0	59	3
1445	76	3	4	0	1	0	3	0	4	0	61	3
1500	71	3	2	0	3	0	3	0	3	0	61	1
1515	80	2	2	0	1	0	3	0	6	0	73	3
1530	64	1	1	0	3	0	2	0	2	0	68	4
1545	61	3	2	1	1	0	0	0	2	0	58	5
1600	82	5	4	0	1	1	3	0	2	0	91	0
1615	68	7	1	0	1	0	2	0	1	0	70	3
1630	103	6	3	0	2	0	0	0	0	0	65	2
1645	90	2	1	0	2	0	3	0	2	0	60	0
1700	92	2	1	0	0	0	2	0	3	0	82	1
1715	111	1	5	0	0	0	4	0	2	0	80	1
1730	120	1	1	0	2	0	2	0	3	0	75	1
1745	94	1	0	0	1	0	3	0	1	0	54	1
1800	94	2	4	0	0	0	3	0	3	0	49	1
1815	80	0	3	0	4	0	3	0	4	0	42	1
B6527 Market Street/Exchange Street - Friday 21st April 2023												
Time Beginning	21		22		23		24		25		26	
	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV
0700	33	1	0	0	0	0	0	0	3	0	51	1
0715	30	1	2	0	1	0	0	0	0	0	67	2
0730	51	1	0	0	0	0	1	0	1	0	68	3
0745	68	7	0	0	1	0	3	0	0	0	85	2
0800	81	5	1	0	1	0	3	0	1	0	69	1
0815	66	3	1	0	1	0	3	0	2	0	93	5
0830	56	3	0	0	1	0	6	0	3	0	80	1
0845	51	1	4	0	0	0	2	0	6	0	77	5
0900	59	3	0	0	5	0	4	0	6	0	59	2
0915	54	4	2	0	0	0	2	0	2	0	51	3
B6527 Market Street/Exchange Street - Friday 21st April 2023												
Time Beginning	21		22		23		24		25		26	
	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV
1430	67	2	2	0	2	0	5	0	3	0	62	0
1445	84	3	0	0	1	0	4	0	1	0	54	0
1500	73	5	3	0	0	0	2	0	5	0	87	6
1515	59	1	0	0	2	0	2	0	8	0	81	2
1530	77	0	2	0	1	0	2	0	2	0	78	2
1545	80	0	3	0	1	0	3	0	5	0	66	3
1600	95	4	4	0	1	0	1	0	1	0	61	1
1615	112	2	4	0	1	0	4	0	3	0	67	2
1630	107	3	2	0	1	0	2	0	1	0	72	1
1645	106	2	6	0	3	0	2	0	3	0	72	0
1700	118	2	1	0	0	0	3	0	2	0	62	1
1715	86	3	2	0	1	0	1	0	3	0	48	1
1730	87	1	5	0	0	0	3	0	2	0	52	0
1745	80	0	7	0	2	0	3	0	6	0	53	2
1800	75	3	6	0	10	0	4	0	6	0	52	0
1815	66	0	0	0	2	0	2	0	2	0	50	1

Bury Road/The Drive - Wednesday 19th April 2023												
Time Beginning	35		36		37		38		39		40	
	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV
0700	0	0	88	3	35	3	0	0	3	0	1	0
0715	1	0	97	5	62	2	2	0	0	0	1	0
0730	0	0	116	9	75	5	1	0	4	0	1	0
0745	0	0	119	3	79	8	0	0	1	0	1	0
0800	2	0	105	4	94	7	1	0	2	0	2	0
0815	1	0	132	5	90	6	0	0	2	0	4	0
0830	0	0	95	6	85	13	1	0	1	0	3	0
0845	1	0	99	7	78	2	1	0	3	0	1	0
0900	1	0	100	8	82	6	1	0	0	0	1	0
0915	1	1	93	5	64	7	0	0	0	0	0	0
Bury Road/The Drive - Wednesday 19th April 2023												
Time Beginning	35		36		37		38		39		40	
	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV
1430	0	0	78	4	77	2	2	0	0	0	3	0
1445	1	0	84	7	80	7	0	0	1	0	1	0
1500	1	0	80	3	82	7	1	0	1	0	1	0
1515	2	0	67	2	84	2	1	0	1	0	2	0
1530	1	0	102	8	102	7	1	0	0	0	1	0
1545	0	0	89	6	82	5	1	0	2	0	1	0
1600	0	0	108	4	79	3	4	0	0	0	1	0
1615	0	0	115	3	107	2	2	0	1	0	0	0
1630	0	0	97	4	105	5	8	0	2	0	0	0
1645	0	0	98	2	113	1	3	0	1	0	3	0
1700	2	0	105	3	140	1	2	0	3	0	1	0
1715	1	0	79	1	134	2	3	0	0	0	3	0
1730	5	0	86	1	125	3	1	0	1	0	1	0
1745	3	0	88	0	132	0	1	0	1	0	0	0
1800	2	0	73	2	81	1	5	0	1	0	0	0
1815	2	0	77	2	90	2	2	0	3	0	1	0
Bury Road/The Drive - Thursday 20th April 2023												
Time Beginning	35		36		37		38		39		40	
	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV
0700	0	0	76	1	35	2	0	0	2	0	1	0
0715	1	0	98	10	64	1	0	0	2	0	1	0
0730	0	0	92	5	71	1	0	0	4	0	1	0
0745	1	0	101	2	79	7	1	0	4	0	1	0
0800	0	0	104	6	66	14	0	0	1	0	2	0
0815	1	0	124	10	94	6	0	1	1	0	5	0
0830	1	0	109	6	74	7	0	0	0	0	3	1
0845	0	0	101	9	92	6	1	0	1	0	1	0
0900	1	0	94	4	69	8	0	0	0	0	1	0
0915	1	0	99	8	60	4	1	0	2	0	0	0
Bury Road/The Drive - Thursday 20th April 2023												
Time Beginning	35		36		37		38		39		40	
	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV
1430	2	0	80	2	74	3	1	0	0	0	1	0
1445	0	0	85	7	85	4	0	0	0	0	2	0
1500	1	0	77	7	92	7	0	0	1	0	1	0
1515	2	0	83	8	98	2	2	0	0	0	3	0
1530	2	0	78	6	79	5	3	0	0	0	2	0
1545	0	0	95	6	76	4	1	0	3	0	3	0
1600	0	0	103	1	102	2	3	0	4	0	0	0
1615	3	0	101	2	93	7	4	0	0	0	0	0
1630	2	0	87	2	124	2	5	0	1	0	0	0
1645	2	0	74	0	90	2	4	0	3	0	2	0
1700	0	0	104	2	105	2	7	0	2	0	2	0
1715	4	0	102	2	129	1	4	0	0	0	4	0
1730	2	0	103	0	108	1	3	0	1	0	2	0
1745	1	0	63	2	117	3	6	0	3	0	1	0
1800	1	0	68	1	101	4	5	0	2	0	0	0
1815	1	0	46	1	83	1	2	0	3	0	2	0
Bury Road/The Drive - Friday 21st April 2023												
Time Beginning	35		36		37		38		39		40	
	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV
0700	0	0	65	4	40	2	1	0	1	0	1	0
0715	0	0	75	4	64	3	1	0	0	0	0	0
0730	0	0	86	6	68	0	3	0	4	0	2	0
0745	1	0	87	1	78	10	1	0	2	0	0	0
0800	0	0	92	3	83	8	0	0	5	0	3	0
0815	1	0	105	9	64	3	1	0	0	0	3	0
0830	2	0	105	4	78	4	0	0	0	0	2	0
0845	0	0	91	1	66	1	0	0	2	0	1	0
0900	0	0	90	4	54	12	1	0	0	0	1	0
0915	1	0	58	3	43	6	1	0	1	0	0	0
Bury Road/The Drive - Friday 21st April 2023												
Time Beginning	35		36		37		38		39		40	
	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV
1430	2	0	70	3	78	6	4	0	0	0	1	0
1445	2	0	82	2	81	2	0	0	0	0	3	0
1500	1	0	83	8	84	3	0	0	1	0	0	0
1515	2	0	84	3	92	3	0	0	1	0	1	0
1530	2	0	96	4	103	3	3	0	3	0	0	0
1545	3	0	91	5	109	2	6	0	2	0	1	0
1600	0	0	78	2	104	3	1	0	1	0	2	0
1615	2	0	82	2	109	6	5	0	0	0	2	0
1630	1	0	74	1	108	4	2	0	0	0	6	0
1645	1	0	86	1	115	0	2	0	1	0	3	0
1700	1	0	90	3	122	4	3	0	4	0	2	0
1715	2	0	74	0	98	3	3	0	2	0	2	0
1730	1	0	69	1	100	0	6	0	2	0	0	0
1745	3	0	65	2	86	0	6	0	1	0	1	0
1800	1	0	77	1	78	2	4	0	1	0	1	0
1815	3	0	60	1	71	1	2	0	2	0	3	0

Time Beginning	A56 Manchester Road/M66 J1 Off-Slip, Queues (vehs) - Tuesday 18th April 2023				Time Beginning	A56 Manchester Road/M66 J1 Off-Slip, Queues (vehs) - Tuesday 18th April 2023				Time Beginning	A56 Manchester Road/M66 J1 Off-Slip, Queues (vehs) - Wednesday 19th April 2023				Time Beginning	A56 Manchester Road/M66 J1 Off-Slip, Queues (vehs) - Wednesday 19th April 2023				Time Beginning	A56 Manchester Road/M66 J1 Off-Slip, Queues (vehs) - Thursday 20th April 2023				Time Beginning	A56 Manchester Road/M66 J1 Off-Slip, Queues (vehs) - Thursday 20th April 2023			
	A	B	C	D		A	B	C	D		A	B	C	D		A	B	C	D		A	B	C	D		A	B	C	D
0700	1	0	3	5	1530	5	0	4	5	0700	0	0	1	1	1530	6	0	3	5	0700	1	0	1	2	1530	10	0	1	11
0705	1	0	1	3	1535	4	0	1	3	0705	1	0	1	0	1535	5	1	1	6	0705	0	0	0	2	1535	6	0	3	10
0710	1	0	2	0	1540	7	0	5	0	0710	3	0	1	0	1540	5	0	1	4	0710	4	0	0	0	1540	5	0	4	7
0715	0	0	1	0	1545	3	0	4	1	0715	0	0	0	0	1545	1	0	0	5	0715	1	0	2	2	1545	2	0	1	4
0720	1	0	3	1	1550	2	0	3	1	0720	4	0	1	0	1550	4	0	3	4	0720	7	0	3	2	1550	4	0	8	6
0725	0	0	1	0	1555	15	0	4	3	0725	1	0	2	0	1555	4	0	4	2	0725	2	0	1	0	1555	7	0	10	3
0730	3	0	1	0	1600	1	0	1	2	0730	1	0	2	5	1600	5	0	5	4	0730	0	0	3	4	1600	7	0	6	0
0735	3	0	1	0	1605	6	0	1	2	0735	0	0	3	3	1605	1	0	1	5	0735	3	0	2	3	1605	3	0	11	6
0740	3	0	1	3	1610	16	0	17	0	0740	2	0	5	4	1610	14	0	4	1	0740	1	0	3	0	1610	5	0	0	9
0745	0	0	1	1	1615	4	0	9	0	0745	1	0	1	0	1615	5	0	11	6	0745	6	0	1	6	1615	1	0	2	4
0750	0	0	1	1	1620	3	0	2	5	0750	1	0	1	2	1620	6	0	5	5	0750	4	0	2	1	1620	17	0	9	2
0755	1	0	1	4	1625	16	0	5	7	0755	4	0	5	1	1625	14	0	7	1	0755	7	0	2	5	1625	2	0	4	1
0800	2	1	7	4	1630	3	0	0	2	0800	2	0	3	5	1630	2	0	9	1	0800	3	0	1	0	1630	9	0	7	4
0805	2	0	1	2	1635	13	0	5	6	0805	3	0	2	2	1635	10	0	12	5	0805	0	0	0	0	1635	8	0	5	4
0810	0	1	1	0	1640	6	1	2	3	0810	4	0	5	4	1640	7	0	6	3	0810	7	0	0	3	1640	5	0	3	0
0815	2	0	0	3	1645	8	0	3	3	0815	3	0	0	3	1645	8	0	11	4	0815	1	0	7	7	1645	6	0	13	11
0820	1	0	4	6	1650	1	0	3	7	0820	2	0	2	2	1650	5	0	2	2	0820	3	0	3	2	1650	0	0	5	4
0825	3	0	1	2	1655	2	0	2	3	0825	3	0	0	0	1655	7	0	8	6	0825	1	0	3	3	1655	3	0	9	4
0830	3	0	4	4	1700	1	0	2	3	0830	2	0	2	2	1700	4	0	8	5	0830	7	0	4	2	1700	4	0	4	1
0835	3	0	7	1	1705	5	0	12	3	0835	4	0	3	14	1705	13	0	10	5	0835	9	0	6	0	1705	4	0	9	5
0840	2	0	4	1	1710	11	0	7	9	0840	2	0	2	2	1710	23	0	17	14	0840	5	0	4	2	1710	3	0	2	2
0845	4	1	0	5	1715	8	0	7	5	0845	1	0	1	2	1715	10	0	23	12	0845	0	0	0	2	1715	5	0	4	3
0850	5	2	6	3	1720	9	0	10	7	0850	0	0	3	1	1720	6	0	2	0	0850	1	0	3	5	1720	8	0	1	5
0855	1	0	1	2	1725	7	0	3	3	0855	3	0	9	4	1725	9	0	17	9	0855	1	0	2	2	1725	6	0	3	8
0900	1	0	2	2	1730	4	0	12	1	0900	5	0	5	8	1730	14	0	13	4	0900	3	0	2	5	1730	6	0	7	0
0905	2	0	2	3	1735	6	0	3	4	0905	1	0	2	8	1735	7	0	3	2	0905	1	0	1	1	1735	7	0	8	0
0910	4	0	1	1	1740	3	0	4	4	0910	1	0	1	4	1740	2	0	3	8	0910	3	0	0	1	1740	4	0	4	6
0915	3	0	0	2	1745	5	0	11	5	0915	1	0	1	0	1745	7	0	6	5	0915	9	0	2	0	1745	7	0	4	4
0920	6	0	2	3	1750	7	0	6	4	0920	2	1	8	2	1750	5	0	5	4	0920	4	0	2	7	1750	3	0	1	2
0925	4	0	4	2	1755	9	0	9	4	0925	0	0	1	2	1755	6	0	3	8	0925	4	0	2	1	1755	4	0	5	4
0930	1	0	0	2	1800	9	0	3	4	0930	0	0	0	0	1800	5	0	2	1	0930	8	0	1	5	1800	7	0	6	2
					1805	4	0	3	1					1805	8	0	2	4						1805	3	0	4	1	
					1810	8	0	2	3					1810	6	0	3	3						1810	6	0	10	9	
					1815	6	0	7	3					1815	7	0	5	2						1815	3	0	2	0	
					1820	2	0	0	3					1820	4	0	3	1						1820	1	0	11	6	
					1825	3	0	3	1					1825	7	0	0	1						1825	4	0	3	1	
					1830	1	0	1	0					1830	2	0	2	5						1830	6	0	4	2	

Time Beginning	B6527 Market Street/A680 Rochdale Road/Bury Road, Queues (vehs) - Wednesday 19th April 2023			Time Beginning	B6527 Market Street/A680 Rochdale Road/Bury Road, Queues (vehs) - Wednesday 19th April 2023			Time Beginning	B6527 Market Street/A680 Rochdale Road/Bury Road, Queues (vehs) - Thursday 20th April 2023			Time Beginning	B6527 Market Street/A680 Rochdale Road/Bury Road, Queues (vehs) - Thursday 20th April 2023			Time Beginning	B6527 Market Street/A680 Rochdale Road/Bury Road, Queues (vehs) - Friday 21st April 2023			Time Beginning	B6527 Market Street/A680 Rochdale Road/Bury Road, Queues (vehs) - Friday 21st April 2023		
	J	K	L		J	K	L		J	K	L		J	K	L		J	K	L		J	K	L
0700	0	0	0	1430	0	1	1	0700	1	0	0	1430	0	2	0	0700	0	0	0	1430	0	0	0
0705	0	0	0	1435	0	0	0	0705	0	0	1	1435	0	0	3	0705	0	0	0	1435	0	1	0
0710	0	0	0	1440	0	0	0	0710	0	0	0	1440	0	0	0	0710	0	0	0	1440	0	0	0
0715	0	0	0	1445	1	3	0	0715	0	0	0	1445	0	0	0	0715	0	0	0	1445	5	1	0
0720	0	0	0	1450	0	1	2	0720	0	0	0	1450	4	0	1	0720	0	0	0	1450	0	0	0
0725	0	0	0	1455	0	0	0	0725	0	0	0	1455	0	0	0	0725	0	0	0	1455	0	1	0
0730	0	1	1	1500	0	0	0	0730	2	3	0	1500	0	0	0	0730	0	0	0	1500	0	0	4
0735	0	0	0	1505	0	0	0	0735	0	0	0	1505	0	1	0	0735	0	0	0	1505	0	1	0
0740	0	0	0	1510	0	1	1	0740	4	1	1	1510	1	2	1	0740	0	0	4	1510	0	0	0
0745	7	0	0	1515	0	0	0	0745	0	1	0	1515	0	0	0	0745	0	1	2	1515	0	0	0
0750	2	0	2	1520	0	0	0	0750	5	2	0	1520	0	0	0	0750	0	0	0	1520	0	0	0
0755	0	0	0	1525	0	0	0	0755	0	2	0	1525	0	3	2	0755	0	2	0	1525	0	0	0
0800	0	0	0	1530	0	0	0	0800	12	0	0	1530	3	1	1	0800	0	2	0	1530	0	2	0
0805	4	0	0	1535	0	2	1	0805	7	0	1	1535	0	0	0	0805	0	0	0	1535	0	0	0
0810	0	0	0	1540	0	0	0	0810	0	0	0	1540	0	0	0	0810	0	0	0	1540	0	5	0
0815	0	0	0	1545	2	1	0	0815	0	0	1	1545	0	0	0	0815	0	0	0	1545	0	1	0
0820	0	0	1	1550	0	1	0	0820	0	0	0	1550	0	0	0	0820	0	0	0	1550	0	0	2
0825	0	0	0	1555	0	1	0	0825	7	4	1	1555	0	1	0	0825	0	1	0	1555	0	0	1
0830	0	0	0	1600	0	0	1	0830	0	0	0	1600	0	2	0	0830	0	0	0	1600	0	0	0
0835	0	0	0	1605	0	0	2	0835	0	0	0	1605	0	0	0	0835	0	0	0	1605	0	0	0
0840	0	0	0	1610	10	0	0	0840	0	0	0	1610	0	5	0	0840	0	0	0	1610	0	0	0
0845	0	0	5	1615	0	0	0	0845	0	0	0	1615	0	0	0	0845	0	1	0	1615	0	0	0
0850	0	0	0	1620	0	0	0	0850	0	0	0	1620	0	0	0	0850	0	0	0	1620	0	0	0
0855	0	0	0	1625	0	0	0	0855	0	0	0	1625	2	0	0	0855	0	0	0	1625	0	0	1
0900	0	0	0	1630	0	0	0	0900	0	0	0	1630	0	0	0	0900	0	1	0	1630	0	0	0
0905	0	0	0	1635	1	1	0	0905	0	3	0	1635	0	3	0	0905	0	4	0	1635	0	0	0
0910	0	0	0	1640	0	0	0	0910	0	0	0	1640	0	0	0	0910	0	0	0	1640	0	0	0
0915	0	0	0	1645	0	1	0	0915	0	0	0	1645	0	0	0	0915	0	0	0	1645	0	0	0
0920	0	0	0	1650	0	0	0	0920	0	1	0	1650	0	0	0	0920	0	0	0	1650	4	1	0
0925	0	0	0	1655	0	1	4	0925	0	0	0	1655	0	0	0	0925	0	0	0	1655	0	0	0
0930	0	0	0	1700	0	2	0	0930	0	1	0	1700	3	0	0	0930	0	0	0	1700	0	0	3
				1705	0	2	2					1705	0	0	0					1705	2	0	0
				1710	0	0	0					1710	0	0	0					1710	0	0	0
				1715	0	0	0					1715	0	0	0					1715	0	0	0
				1720	0	1	0					1720	1	2	0					1720	0	0	0
				1725	1	0	0					1725	0	5	0					1725	1	2	0
				1730	0	0	0					1730	0	0	0					1730	0	0	0
				1735	0	3	3					1735	0	3	1					1735	0	1	0
				1740	0	0	0					1740	0	0	0					1740	0	0	1
				1745	0	1	2					1745	0	0	0					1745	0	0	0
				1750	0	0	0					1750	0	0	0					1750	0	0	0
				1755	2	0	0					1755	0	0	0					1755	0	0	0
				1800	0	0	0					1800	0	0	0					1800	0	0	0
				1805	0	0	0					1805	0	0	0					1805	0	0	0
				1810	0	0	0					1810	0	0	0					1810	0	0	0
				1815	4	3	0					1815	1	1	0					1815	0	0	0
				1820	0	0	0					1820	0	0	0					1820	0	0	0
				1825	0	0	0					1825	0	0	1					1825	5	0	1
				1830	4	0	1					1830	0	0	0					1830	0	0	0

APPENDIX 2

RSA₁ and Designer's Response



Eddisons

PROPOSED HIGHWAYS ARRANGEMENTS EDENFIELD, ROSSENDALE

**STAGE 1 - ROAD SAFETY AUDIT
JANUARY 2024**

Transport Planning /Traffic Surveys/ Road Safety Audits

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Appendices

Appendix A – List of drawings and documents supplied for audit.

Appendix B – Location plan of identified problems.



1. INTRODUCTION

1. This report presents the findings from a Stage 1 Road Safety Audit (RSA) undertaken on the proposed highways arrangements at Edenfield, Lancashire which are associated with the proposed residential development on land to the west of Market Street.

2. The audit was carried out by the following:

Tristan Brooks
BSc (Hons), MBA, CMILT, MCIHT, MSoRSA,
HE RSA Cert. of Competency

1. Road Safety Audit Team Leader

Jon Preston
MCIHT, MSoRSA

2. Road Safety Audit Team Member

1. The RSA was commissioned by Eddisons (the designers of the scheme) who provided the audit information and although there was no formal 'audit brief' the RSA team has accepted that sufficient information has been provided to undertake the Stage 1 RSA. The overseeing organisation is Lancashire County Council who have approved the audit team to undertake RSA's on their highway network.

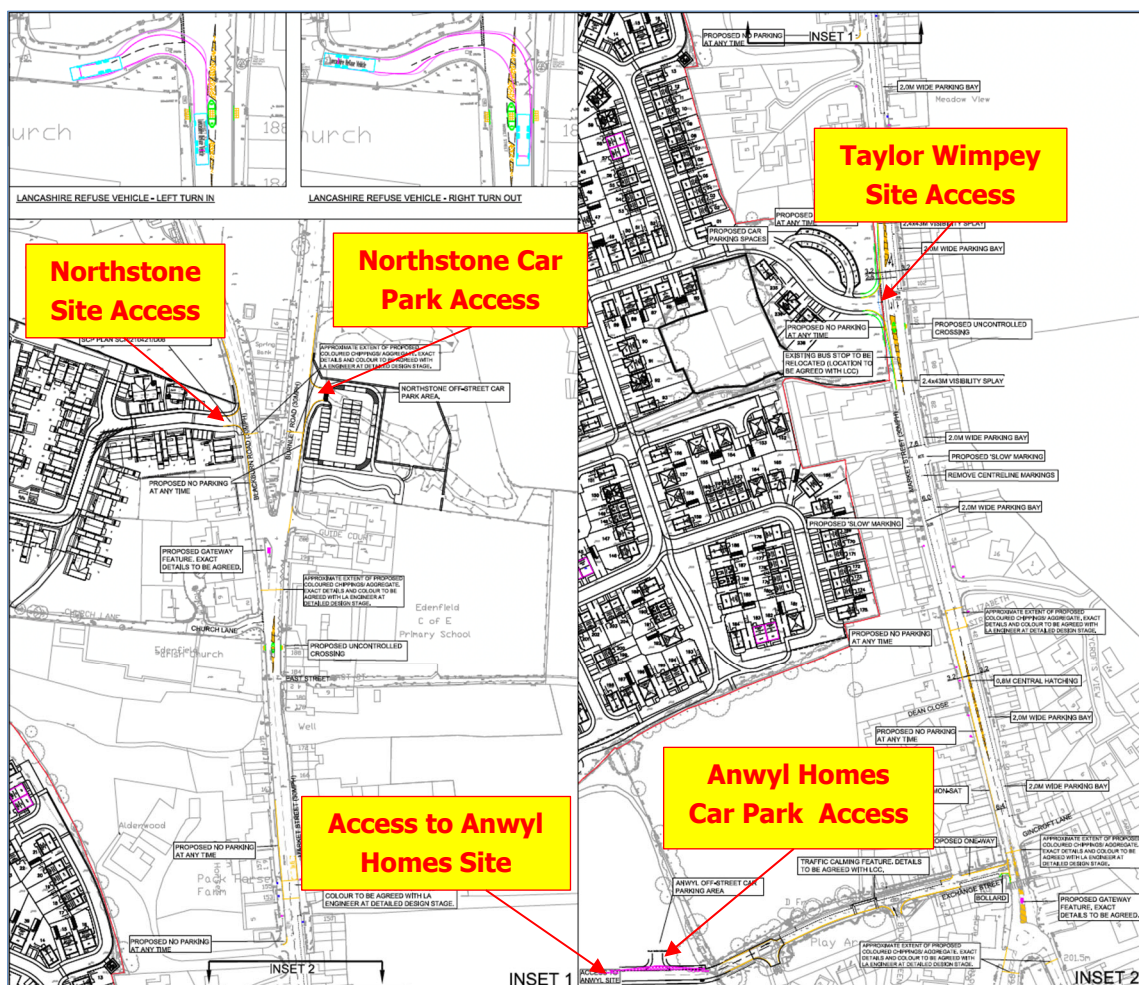
2. The site visit was undertaken on Monday 18th December 2023 between 10:55-11:45 and comprised a walk and drive-throughs (where available) of the area covered by the scheme. During the site visit the weather was overcast with intermittent showers and the carriageway surface was wet. Traffic in the vicinity of the scheme on the local highway network was moderate. A number of pedestrians were observed during the site visit, no cyclists were observed.

3. The highway network within the area subject to the proposed highways works is subject to a 30mph speed limit and has street lighting.

4. A review of the Personal Injury Collisions (PIC) data between January 2018 and December 2022 (based on information in the crashmap database) has indicated that during this period there has been 1 PIC recorded in the immediate vicinity of the proposed highways works which resulted in an injury that was slight in severity.

5. The scope of the RSA is limited to the proposed highways works as shown in **Figure 1**.

Figure 1: Scope of highways scheme subject to RSA.



6. It is noted that the highways works shown within **Figure 1** that are associated with the Northstone development (i.e. new site access via Blackburn Road and access to the off-street car park area via Burnley Road) and Anwyl Homes Development (i.e. that will be accessed via Exchange Street) have been included within the scope of this RSA.
7. The drawings and documents supplied for audit are listed in **Appendix A**. An annotated drawing showing the locations of the problems identified is provided in **Appendix B**.
8. The terms of reference of the audit are as that described in DMRB GG/119 Guidelines on Road Safety Audits Rev 2. This standard has been used for guidance only. The exceptions to GG/119 is the inclusion (if applicable) of a notes/observation section at the end of the report and inclusion of an illustration of the scheme layout rather than description. The audit team has examined and reported only on the road safety implications of the scheme as presented and has not examined or verified the compliance of the designs to any other criteria.



-
9. The audit team understand that no previous RSA's have been undertaken on the scheme and that there are no departures from standard within the design of the scheme.
 10. The audit team would also advise that they have not been provided with any information as to the forecast development traffic flows and therefore the potential highways safety implications of the redistributed traffic flows on the highway network due to the proposed one-way operation of Exchange Street could not be assessed.
 11. The recommendations included within this report should not be regarded as being prescriptive design solutions to the problems raised. They are intended only to indicate a proportionate and viable means of eliminating or mitigating the identified problem, in accordance with GG/119. There may be alternative methods of addressing a problem which would be equally acceptable in achieving the desired elimination or mitigation and these should be considered when responding to this report.



3. ROAD SAFETY AUDIT FINDINGS FROM RSA 1

PROBLEM 1

LOCATION: Blackburn Road - Northstone development site access

SUMMARY: Omission of uncontrolled crossing provision on likely pedestrian desire line may result in pedestrian trip hazards.

1. There is no uncontrolled pedestrian crossing provision proposed at the proposed development site access. The lack of suitable crossing facilities where pedestrians are likely to cross may increase the risk of trip type hazards to pedestrians, particularly those with mobility impairments.

RECOMMENDATION

2. It is recommended that appropriate pedestrian crossing facilities i.e. uncontrolled crossings with dropped kerbs and tactile paving are provided at the site access.

Designer's Response

Dropped crossings and tactile paving will be provided at the Northstone site access. This will be incorporated as part of the s278 design process.

PROBLEM 2

LOCATION: Burnley Road - Northstone development car park access.

SUMMARY: Omission of uncontrolled crossing provision on likely pedestrian desire line may result in pedestrian trip hazards.

3. There is no uncontrolled pedestrian crossing provision proposed at the proposed car park access. The lack of suitable crossing facilities where pedestrians are likely to cross may increase the risk of trip type hazards to pedestrians, particularly those with mobility impairments.

RECOMMENDATION

4. It is recommended that appropriate pedestrian crossing facilities i.e. uncontrolled crossings with dropped kerbs and tactile paving are provided at the car park access.

Designer's Response

Dropped crossings and tactile paving will be provided at the Northstone car park access. This will be incorporated as part of the s278 design process.



PROBLEM 3

LOCATION: Burnley Road - Northstone development car park access.

SUMMARY: Vehicles queuing through the junction could result side-impact type collisions.

5. During the site visit, vehicles were observed to queue at the traffic signals on the southbound lane of Burnley Road in the vicinity of the proposed car park site access. Vehicles queuing adjacent to the car park access could result in vehicles egressing the car park making injudicious turning manoeuvres through queuing vehicles due to restricted visibility and could result in an increased risk of side-impact type collisions.

RECOMMENDATION

6. It is recommended that 'keep clear' carriageway markings are provided on Burnley Road at the access to the car park.

Designer's Response

'Keep Clear' markings will be provided adjacent to the Northstone car park access. This will be incorporated as part of the s278 design process.

PROBLEM 4

LOCATION: Burnley Road/Blackburn Road/Market Street signalised junction.

SUMMARY: Uncontrolled crossing within the signalised junction may lead to an increased risk of vehicle/ pedestrian collisions.

7. There are currently no controlled crossing provision throughout the Burnley Road/Blackburn Road signalised junction .i.e. no pedestrian push buttons or pedestrian crossing signals, with only uncontrolled crossing provision provided on the Burnley Road and Market Street arms of the junction. The use of uncontrolled crossings within a signalised arrangement can lead to pedestrian confusion with regard to when it's appropriate to cross the carriageway, which can result in injudicious crossing manoeuvres and potentially increase the risk of pedestrian/vehicle collisions. The audit team note that this is an existing problem although the proposed development(s) will likely increase the use of the crossing by pedestrians.
8. The audit team note that there is no tactile paving at the existing uncontrolled crossings throughout the junction.



RECOMMENDATIONS

9. It is recommended that the junction is revised to incorporate signalised pedestrian crossing facilities i.e. pedestrian push buttons and pedestrian crossing signals and that the tactile paving is amended to reflect the controlled nature of the crossings.

Designer's Response

Whilst the existing crossing facilities at the junction are uncontrolled, a review of accident statistics confirms no accidents have occurred at the junction in the most recent 5-year period available. Notwithstanding this, the junction will be upgraded to incorporate a pedestrian phase.

PROBLEM 5

LOCATION: Burnley Road/Blackburn Road/Market Street signalised junction.

SUMMARY: Proposed gateway feature may increase the risk of pedestrian/vehicle collisions.

10. The scheme drawing indicates that a gateway feature is proposed to be located within the central island at the southern side of the junction, although it is noted that the details of this feature are to be agreed, the location of the gateway feature adjacent to the pedestrian crossing points may restrict the intervisibility to/from pedestrians using the crossing and approaching vehicles and could therefore increase the risk of pedestrian/vehicle collisions should pedestrians cross the carriageway injudiciously.

RECOMMENDATIONS

11. It is recommended that the gateway features does not restrict the intervisibility splay to/from the crossing points.

Designer's Response

It will be ensured that any gateway feature in this location will not restrict intervisibility splays.

PROBLEM 6

LOCATION: Market Street – Eastern uncontrolled crossing to the south of the proposed site access.

SUMMARY: Potentially restricted inter-visibility to/from the proposed uncontrolled crossing point could increase the risk of pedestrian/vehicle collisions.

12. It is unclear if sufficient inter-visibility can be achieved to/from the north of the proposed uncontrolled crossing on the eastern side of Market Street to the south of the proposed site access due to the potential for vehicles to park to the north of the crossing point (Ref: **Photograph 1**). Restricted inter-visibility splays to/from the proposed uncontrolled crossing point could increase the risk of pedestrian collisions with vehicles.

Photograph 1: Intervisibility looking north from proposed location of the crossing.

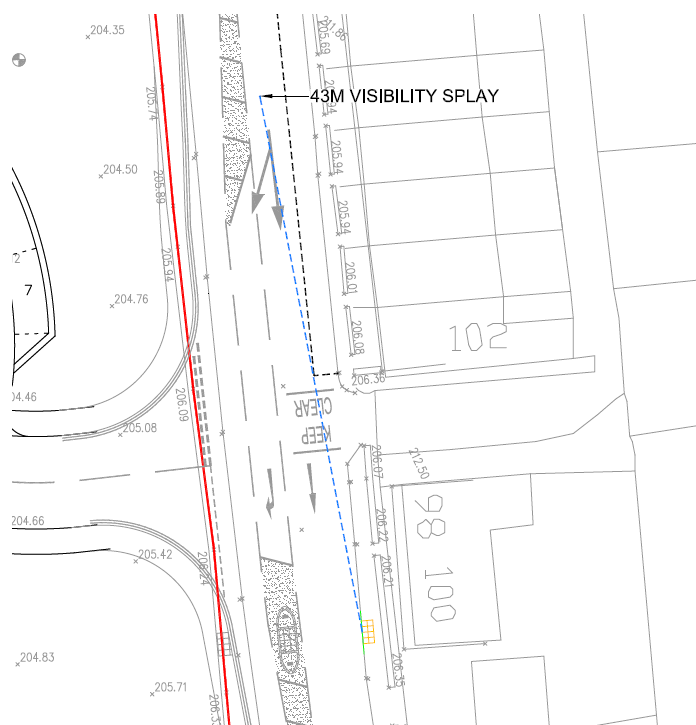


RECOMMENDATION

13. It is recommended that sufficient inter-visibility be provided to the north of the eastern crossing point on Market Street.

Designer's Response

The sightline from the crossing point on the eastern side of Market Street to the driver's position in a southbound vehicle is 43m, which is commensurate with the 30mph speed limit. As such, it is considered that appropriate inter-visibility is available.



PROBLEM 7

LOCATION: Market Street – Taylor Wimpey development site access.

SUMMARY: Omission of uncontrolled crossing provision on likely pedestrian desire line may result in pedestrian trip hazards.

14. There is no uncontrolled pedestrian crossing provision proposed at the proposed development site access. The lack of suitable crossing facilities where pedestrians are likely to cross may increase the risk of trip type hazards to pedestrians, particularly those with mobility impairments.

RECOMMENDATION

15. It is recommended that appropriate pedestrian crossing facilities i.e. uncontrolled crossings with dropped kerbs and tactile paving are provided at the site access.

Designer's Response

Dropped crossings and tactile paving will be provided at the Taylor Wimpey site access. This will be incorporated as part of the s278 design process.

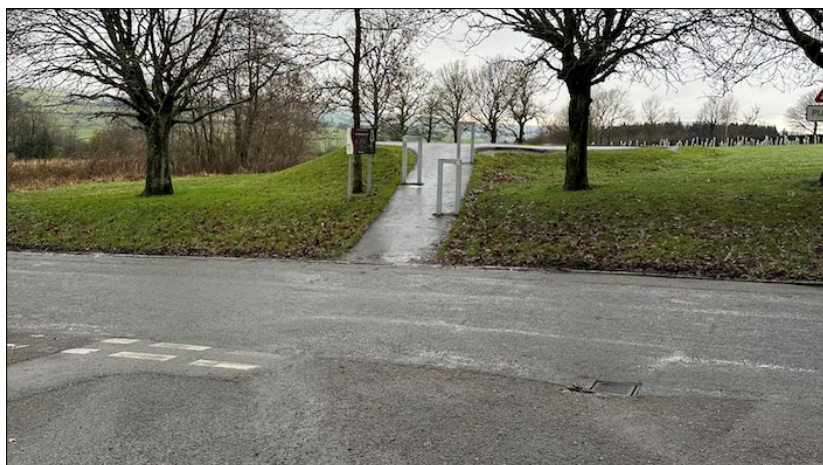
PROBLEM 8

LOCATION: Exchange Street.

SUMMARY: Gradient from skate park ramp and omission of pedestrian crossing facilities may increase the risk of vehicle/pedestrian collisions.

16. There is an existing ramped access on the northern side of Exchange Street that provides access to a skate park/pump track (Ref: **Photograph 2**). The gradient of the path, omission of suitable level landing point and omission of pedestrian crossing provision could increase the risk of pedestrians on scooters/skateboards etc inadvertently rolling out into the carriageway which may increase the risk of vehicle/pedestrian collisions.

Photograph 2: Existing ramped access to skate park.



17. The audit team note that this is an existing problem, although would note that the proposed development(s) may increase the use of the skate park, and that Exchange Street which is currently a dead end at its western extent will be opened up to form the access to the Anwyl Homes development which will increase vehicle traffic and potentially exacerbate this problem.

RECOMMENDATION

18. It is recommended that a level dwell area be provided at the base of the ramp, the footway on the northern side of Exchange Street proposed as part of the Anwyl Homes Development be extended to join the footway to the skatepark and appropriate pedestrian crossing facilities i.e. uncontrolled crossings with dropped kerbs and tactile paving are provided in the vicinity of the access to the skatepark to facilitate access to the park from the south.



Designer's Response

The skatepark and associated access is a newly installed facility and any risk will have been assessed at the time the scheme was being promoted. In this regard, it is noted that chicane barriers are installed along the ramped access to prevent the risk of users inadvertently rolling out into the carriageway.

Notwithstanding this, it is understood that the Skate Park, which was approved under application reference 2021/0693 did have a highway condition that sought the development to provide a footway along the skate park frontage. Therefore, should a footway scheme for the skate park come forward following enforcement action, any proposed footway from the Church land site will tie into it.

PROBLEM 9

LOCATION: Exchange Street – Anwyl Homes development off-street parking site access

SUMMARY: Omission of uncontrolled crossing provision on likely pedestrian desire line may result in pedestrian trip hazards.

19. There is no uncontrolled pedestrian crossing provision proposed at the proposed development site access. The lack of suitable crossing facilities where pedestrians are likely to cross may increase the risk of trip type hazards to pedestrians, particularly those with mobility impairments.

RECOMMENDATION

20. It is recommended that appropriate pedestrian crossing facilities i.e. uncontrolled crossings with dropped kerbs and tactile paving are provided at the off-street parking site access.

Designer's Response

Dropped crossings and tactile paving will be provided at the Anwyl car park access. This will be incorporated as part of the s278 design process.

PROBLEM 10

LOCATION: Various locations throughout the scheme.

SUMMARY: Omission of or unsuitable uncontrolled pedestrian crossing provision on likely pedestrian desire lines may result in pedestrian trip hazards.

21. There are various locations throughout the scheme where there is an omission of uncontrolled crossing provision or deficiencies in the existing provision i.e. excessive kerb upstands and/or omission of tactile paving at the crossings, examples of which are shown in **Photographs 3-6**.

Photographs 3-6 – Examples of deficiencies in uncontrolled pedestrian crossing provision.



22. Omission of or unsuitable uncontrolled pedestrian crossing provision on likely pedestrian desire lines may result in pedestrian trip hazards, particularly those with mobility impairments. Omission of tactile paving may not provide sufficient guidance to pedestrians with visual impairments of the location of the crossing and could increase the risk of pedestrian/vehicle collisions.

RECOMMENDATION

23. It is recommended that appropriate pedestrian crossing facilities i.e. uncontrolled crossings with dropped kerbs of a height of 6mm or less and tactile paving are provided throughout the scheme at all of the crossing points located on the likely pedestrian desire lines.



Designer's Response

Whilst it is recognised that there is an absence of dropped crossing/tactile paving at a number of existing junctions along Market Street, a review of accident statistics confirms that no pedestrian (or indeed, any) accidents have occurred along the corridor in the most recent 5-year period available and there is nothing to suggest this would change as a result of the development proposals. Notwithstanding this, dropped kerbs and tactile paving will be provided, where practicable (Note: some footways are too narrow to accommodate tactile paving)



4. AUDIT STATEMENT

1. We certify that this audit has been carried out in accordance with GG/119 unless otherwise noted.

Signed:

Date: 11 January 2024

T Brooks – BSc (Hons), MBA, CMILT, MCIHT, MSoRSA,
HE RSA Cert of Competency
Audit Team Leader
go-surveys Ltd
72 Plasturton Avenue
Cardiff
CF11 9HJ

Signed:

Date: 11 January 2024

J Preston – MCIHT, MSoRSA
Audit Team Member
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APPENDIX A

List of Drawings and Documents Provided for Audit

3806-F04 – Rev K

Proposed Highway Improvement Plan

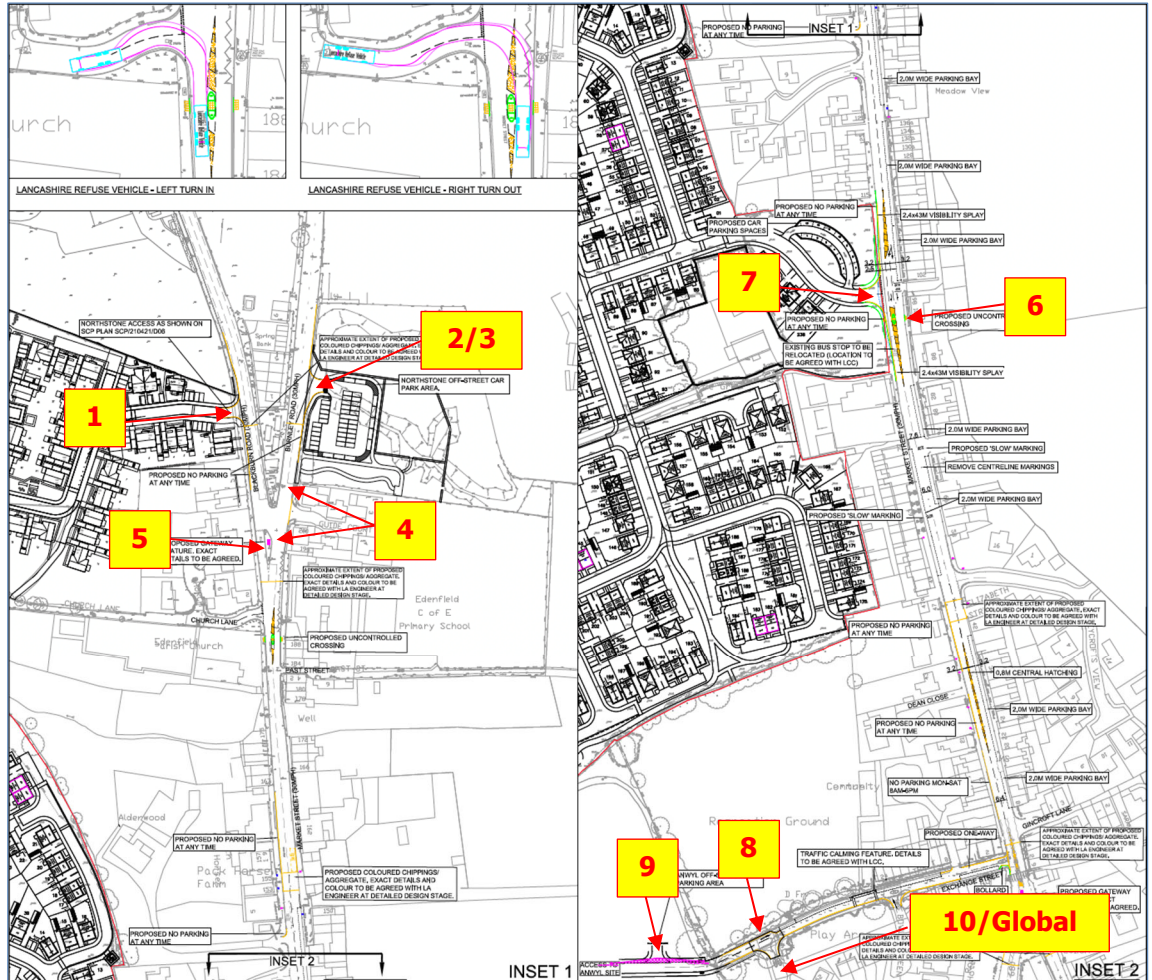
PIC Data

(Jan 2018 – Dec 2022)



APPENDIX B

Location of Identified Problems





APPENDIX 3

PICADY Output for the Proposed TW Site Access Junction

Junctions 9
PICADY 9 - Priority Intersection Module
Version: 9.5.2.1013 © Copyright TRL Limited, 2019
For sales and distribution information, program advice and maintenance, contact TRL: +44 (0)1344 379777 software@trl.co.uk www.trlsoftware.co.uk
The users of this computer program for the solution of an engineering problem are in no way relieved of their responsibility for the correctness of the solution

Filename: Market Street - Site Access (Application - Masterplan Analysis).j9
 Path: Z:\projects\3806 Market Street, Edenfield TW\Picady\Masterplan Analysis - 2024
 Report generation date: 13/06/2024 12:09:51

- »2034 With Allocation Flows, AM
- »2034 With Allocation Flows, PM

Summary of junction performance

	AM				PM			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
2034 With Allocation Flows								
Stream B-AC	0.4	11.62	0.28	B	0.2	11.31	0.16	B
Stream C-AB	0.0	7.34	0.03	A	0.1	8.92	0.12	A

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

File summary

File Description

Title	Market Street - Site Access
Location	Edenfield
Site number	
Date	07/06/2023
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	EDD
Description	Masterplan

Units

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

Analysis Options

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

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2034 With Allocation Flows	AM	ONE HOUR	07:45	09:15	15	✓
D2	2034 With Allocation Flows	PM	ONE HOUR	16:30	18:00	15	✓

Analysis Set Details

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

2034 With Allocation Flows, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		1.34	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	Market Street (S)		Major
B	Site Access		Minor
C	Market Street (N)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right turn bay	Width for right turn (m)	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C	6.40		✓	2.20	80.0	✓	5.00

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

Minor Arm Geometry

Arm	Minor arm type	Lane width (m)	Visibility to left (m)	Visibility to right (m)
B	One lane	3.75	43	43

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
B-A	551	0.099	0.249	0.157	0.356
B-C	700	0.105	0.266	-	-
C-B	620	0.236	0.236	-	-

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

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

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2034 With Allocation Flows	AM	ONE HOUR	07:45	09:15	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 (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	434	100.000
B		ONE HOUR	✓	107	100.000
C		ONE HOUR	✓	466	100.000

Origin-Destination Data

Demand (PCU/hr)

From	To		
	A	B	C
A	0	18	416
B	58	0	49
C	451	15	0

Vehicle Mix

Heavy Vehicle Percentages

From	To		
	A	B	C
A	0	0	0
B	0	0	0
C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.28	11.62	0.4	B	98	147
C-AB	0.03	7.34	0.0	A	14	21
C-A					414	621
A-B					17	25
A-C					382	573

Main Results for each time segment

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	81	20	487	0.165	80	0.0	0.2	8.818	A
C-AB	11	3	543	0.021	11	0.0	0.0	6.774	A
C-A	340	85			340				
A-B	14	3			14				
A-C	313	78			313				

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	96	24	462	0.208	96	0.2	0.3	9.815	A
C-AB	13	3	528	0.028	13	0.0	0.0	7.000	A
C-A	405	101			405				
A-B	16	4			16				
A-C	374	93			374				

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	118	29	428	0.276	117	0.3	0.4	11.588	B
C-AB	17	4	507	0.033	16	0.0	0.0	7.339	A
C-A	497	124			497				
A-B	20	5			20				
A-C	458	115			458				

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	118	29	428	0.276	118	0.4	0.4	11.620	B
C-AB	17	4	507	0.033	17	0.0	0.0	7.339	A
C-A	497	124			497				
A-B	20	5			20				
A-C	458	115			458				

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	96	24	462	0.208	97	0.4	0.3	9.854	A
C-AB	13	3	528	0.028	14	0.0	0.0	7.001	A
C-A	405	101			405				
A-B	16	4			16				
A-C	374	93			374				

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	81	20	487	0.165	81	0.3	0.2	8.883	A
C-AB	11	3	543	0.021	11	0.0	0.0	6.778	A
C-A	340	85			340				
A-B	14	3			14				
A-C	313	78			313				

2034 With Allocation Flows, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		0.94	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D2	2034 With Allocation Flows	PM	ONE HOUR	16:30	18:00	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	630	100.000
B		ONE HOUR	✓	54	100.000
C		ONE HOUR	✓	421	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	57	573
	B	29	0	25
	C	373	48	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.16	11.31	0.2	B	50	74
C-AB	0.12	8.92	0.1	A	44	68
C-A					342	513
A-B					52	78
A-C					528	789

Main Results for each time segment

16:30 - 16:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	41	10	454	0.090	40	0.0	0.1	8.689	A
C-AB	36	9	508	0.071	36	0.0	0.1	7.614	A
C-A	281	70			281				
A-B	43	11			43				
A-C	431	108			431				

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	49	12	423	0.115	48	0.1	0.1	9.620	A
C-AB	43	11	487	0.089	43	0.1	0.1	8.118	A
C-A	335	84			335				
A-B	51	13			51				
A-C	515	129			515				

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	59	15	378	0.157	59	0.1	0.2	11.288	B
C-AB	53	13	456	0.116	53	0.1	0.1	8.913	A
C-A	411	103			411				
A-B	63	16			63				
A-C	631	158			631				

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	59	15	378	0.157	59	0.2	0.2	11.305	B
C-AB	53	13	456	0.116	53	0.1	0.1	8.918	A
C-A	411	103			411				
A-B	63	16			63				
A-C	631	158			631				

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	49	12	422	0.115	49	0.2	0.1	9.640	A
C-AB	43	11	487	0.089	43	0.1	0.1	8.123	A
C-A	335	84			335				
A-B	51	13			51				
A-C	515	129			515				

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	41	10	454	0.090	41	0.1	0.1	8.712	A
C-AB	36	9	508	0.071	36	0.1	0.1	7.626	A
C-A	281	70			281				
A-B	43	11			43				
A-C	431	108			431				

APPENDIX 4
PICADY Output for the
Proposed Northstone Site Access Junction

Junctions 9
PICADY 9 - Priority Intersection Module
Version: 9.5.2.1013 © Copyright TRL Limited, 2019
For sales and distribution information, program advice and maintenance, contact TRL: +44 (0)1344 379777 software@trl.co.uk www.trlsoftware.co.uk
The users of this computer program for the solution of an engineering problem are in no way relieved of their responsibility for the correctness of the solution

Filename: Blackburn Road - Northstone Site Access (Masterplan Analysis).j9
 Path: Z:\projects\3806 Market Street, Edenfield TW\Picady\Masterplan Analysis - 2024
 Report generation date: 13/06/2024 12:11:10

- »2034 With Allocation Flows, AM
- »2034 With Allocation Flows, PM

Summary of junction performance

	AM					PM				
	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Set ID	Queue (PCU)	Delay (s)	RFC	LOS
2034 With Allocation Flows										
Stream B-AC	D1	0.1	10.31	0.08	B	D2	0.0	9.42	0.04	A
Stream C-AB		0.0	7.08	0.01	A		0.0	6.78	0.02	A

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

File summary

File Description

Title	Blackburn Road - Northstone Site Access
Location	
Site number	
Date	07/06/2023
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	EDD
Description	

Units

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

Analysis Options

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

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2034 With Allocation Flows	AM	ONE HOUR	08:00	09:30	15	✓
D2	2034 With Allocation Flows	PM	ONE HOUR	17:00	18:30	15	✓

Analysis Set Details

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

2034 With Allocation Flows, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		0.41	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	Blackburn Road (S)		Major
B	Northstone Site Access		Minor
C	Blackburn Road (N)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right turn bay	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C	7.50			85.0	✓	1.00

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

Minor Arm Geometry

Arm	Minor arm type	Lane width (m)	Visibility to left (m)	Visibility to right (m)
B	One lane	2.75	21	21

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
B-A	482	0.082	0.208	0.131	0.297
B-C	621	0.089	0.225	-	-
C-B	623	0.228	0.228	-	-

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

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

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2034 With Allocation Flows	AM	ONE HOUR	08:00	09:30	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	455	100.000
B		ONE HOUR	✓	29	100.000
C		ONE HOUR	✓	294	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
	A	B	C	
From	A	0	8	449
	B	19	0	10
	C	291	3	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
	A	B	C	
From	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.08	10.31	0.1	B	27	40
C-AB	0.01	7.08	0.0	A	3	4
C-A					267	401
A-B					6	8
A-C					412	618

Main Results for each time segment

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	22	5	426	0.051	22	0.0	0.1	8.891	A
C-AB	2	0.57	547	0.004	2	0.0	0.0	6.617	A
C-A	219	55			219				
A-B	5	1			5				
A-C	338	85			338				

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	28	7	407	0.084	28	0.1	0.1	9.439	A
C-AB	3	0.88	532	0.005	3	0.0	0.0	6.804	A
C-A	282	85			282				
A-B	5	1			5				
A-C	404	101			404				

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	32	8	381	0.084	32	0.1	0.1	10.308	B
C-AB	3	0.83	512	0.008	3	0.0	0.0	7.080	A
C-A	320	80			320				
A-B	7	2			7				
A-C	494	124			494				

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	32	8	381	0.084	32	0.1	0.1	10.312	B
C-AB	3	0.83	512	0.008	3	0.0	0.0	7.080	A
C-A	320	80			320				
A-B	7	2			7				
A-C	494	124			494				

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	28	7	407	0.084	28	0.1	0.1	9.447	A
C-AB	3	0.88	532	0.005	3	0.0	0.0	6.807	A
C-A	282	85			282				
A-B	5	1			5				
A-C	404	101			404				

09:15 - 09:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	22	5	426	0.051	22	0.1	0.1	8.902	A
C-AB	2	0.57	547	0.004	2	0.0	0.0	6.617	A
C-A	219	55			219				
A-B	5	1			5				
A-C	338	85			338				

2034 With Allocation Flows, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		0.29	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D2	2034 With Allocation Flows	PM	ONE HOUR	17:00	18:30	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	357	100.000
B		ONE HOUR	✓	15	100.000
C		ONE HOUR	✓	338	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	19	338
	B	10	0	5
	C	327	9	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.04	9.42	0.0	A	14	21
C-AB	0.02	6.78	0.0	A	8	12
C-A					300	450
A-B					17	28
A-C					310	465

Main Results for each time segment

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	11	3	438	0.026	11	0.0	0.0	8.434	A
C-AB	7	2	565	0.012	7	0.0	0.0	6.442	A
C-A	246	62			246				
A-B	14	4			14				
A-C	254	64			254				

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	13	3	421	0.032	13	0.0	0.0	8.823	A
C-AB	8	2	555	0.015	8	0.0	0.0	6.581	A
C-A	294	73			294				
A-B	17	4			17				
A-C	304	76			304				

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	17	4	399	0.041	16	0.0	0.0	9.419	A
C-AB	10	3	541	0.019	10	0.0	0.0	6.777	A
C-A	360	90			360				
A-B	21	5			21				
A-C	372	93			372				

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	17	4	399	0.041	17	0.0	0.0	9.421	A
C-AB	10	3	541	0.019	10	0.0	0.0	6.777	A
C-A	360	90			360				
A-B	21	5			21				
A-C	372	93			372				

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	13	3	421	0.032	14	0.0	0.0	8.826	A
C-AB	8	2	555	0.015	8	0.0	0.0	6.581	A
C-A	294	73			294				
A-B	17	4			17				
A-C	304	78			304				

18:15 - 18:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	11	3	438	0.026	11	0.0	0.0	8.439	A
C-AB	7	2	565	0.012	7	0.0	0.0	6.445	A
C-A	246	62			246				
A-B	14	4			14				
A-C	254	64			254				

APPENDIX 5

LINSIG Output for the Market Street/Blackburn Road/Burnley Road Signalised Junction

User and Project Details

Project:	
Title:	
Location:	
Additional detail:	
File name:	B6527 Blackburn Road - Burnley Road - Guide Ct (Masterplan Analysis 24).lsg3x
Author:	
Company:	
Address:	

Phase Input Data

Phase Name	Phase Type	Assoc. Phase	Street Min	Cont Min
A	Traffic		7	7
B	Traffic		7	7
C	Traffic		7	7
D	Traffic		7	7

Phase Intergreens Matrix

		Starting Phase				
		A	B	C	D	
Terminating Phase	A					
	B					
	C					
	D					

Phase Delays

Term. Stage	Start Stage	Phase	Type	Value	Cont value
There are no Phase Delays defined					

Prohibited Stage Change

		To Stage		
		1	2	3
From Stage	1			
	2			
	3			

Phases in Stage

Stage No.	Phases in Stage
1	C
2	A B
3	D

Give-Way Lane Input Data

Junction: Unnamed Junction											
Lane	Movement	Max Flow when Giving Way (PCU/Hr)	Min Flow when Giving Way (PCU/Hr)	Opposing Lane	Opp. Lane Coeff.	Opp. Mvmnts.	Right Turn Storage (PCU)	Non-Blocking Storage (PCU)	RTF	Right Turn Move up (s)	Max Turns in Intergreen (PCU)
3/1 (B6527 Blackburn Road (S))	8/1 (Ahead)	1439	0	1/1	1.09	To 8/1 (U-Turn)	-	-	-	-	-
3/2 (B6527 Blackburn Road (S))	6/1 (Right)	1439	0	1/1	1.09	To 6/1 (Left) To 7/1 (Ahead)	2.00	2.00	0.50	2	2.00

Lane Input Data

Junction: Unnamed Junction												
Lane	Lane Type	Phases	Start Disp.	End Disp.	Physical Length (PCU)	Sat Flow Type	Def User Saturation Flow (PCU/Hr)	Lane Width (m)	Gradient	Nearside Lane	Turns	Turning Radius (m)
1/1 (Burnley Road)	U	A	2	3	60.0	Geom	-	3.25	0.00	Y	Arm 6 Left	11.00
											Arm 7 Ahead	Inf
											Arm 8 U-Turn	8.00
2/1 (Guide Ct)	U	D	2	3	60.0	Geom	-	3.00	0.00	Y	Arm 5 Right	8.00
											Arm 7 Left	8.00
											Arm 8 Right	15.00
3/1 (B6527 Blackburn Road (S))	O		2	3	8.7	Geom	-	4.00	0.00	Y	Arm 8 Ahead	Inf
3/2 (B6527 Blackburn Road (S))	O	B	2	3	60.0	Geom	-	3.70	0.00	N	Arm 5 Ahead	Inf
											Arm 6 Right	18.00
4/1 (B6527 Blackburn Road (N))	U	C	2	3	60.0	Geom	-	3.70	0.00	Y	Arm 5 U-Turn	6.00
											Arm 6 Left	12.00
											Arm 7 Ahead	Inf
5/1	U		2	3	60.0	Inf	-	-	-	-	-	-
6/1	U		2	3	60.0	Inf	-	-	-	-	-	-
7/1	U		2	3	60.0	Inf	-	-	-	-	-	-
8/1	U		2	3	60.0	Inf	-	-	-	-	-	-

Lane Saturation Flows

Scenario 1: '2023 Surveyed Flows - AM Peak' (FG1: '2023 Surveyed Flows - AM Peak', Plan 1: 'Network Control Plan 1')

Junction: Unnamed Junction								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (Burnley Road)	3.25	0.00	Y	Arm 6 Left	11.00	0.3 %	1818	1818
				Arm 7 Ahead	Inf	64.1 %		
				Arm 8 U-Turn	8.00	35.6 %		
2/1 (Guide Ct)	3.00	0.00	Y	Arm 5 Right	8.00	28.6 %	1684	1684
				Arm 7 Left	8.00	14.3 %		
3/1 (B6527 Blackburn Road (S))	4.00	0.00	Y	Arm 8 Right	15.00	57.1 %	2015	2015
3/2 (B6527 Blackburn Road (S))	3.70	0.00	N	Arm 8 Ahead	Inf	100.0 %	2125	2125
				Arm 5 Ahead	Inf	0.0 %		
4/1 (B6527 Blackburn Road (N))	3.70	0.00	Y	Arm 5 U-Turn	6.00	32.5 %	1833	1833
				Arm 6 Left	12.00	1.2 %		
				Arm 7 Ahead	Inf	66.3 %		
5/1				Infinite Saturation Flow			Inf	Inf
6/1				Infinite Saturation Flow			Inf	Inf
7/1				Infinite Saturation Flow			Inf	Inf
8/1				Infinite Saturation Flow			Inf	Inf

Scenario 2: '2023 Surveyed Flows - PM Peak' (FG2: '2023 Surveyed Flows - PM Peak', Plan 1: 'Network Control Plan 1')

Junction: Unnamed Junction								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (Burnley Road)	3.25	0.00	Y	Arm 6 Left	11.00	0.4 %	1844	1844
				Arm 7 Ahead	Inf	72.2 %		
				Arm 8 U-Turn	8.00	27.4 %		
2/1 (Guide Ct)	3.00	0.00	Y	Arm 5 Right	8.00	25.0 %	1674	1674
				Arm 7 Left	8.00	25.0 %		
				Arm 8 Right	15.00	50.0 %		
3/1 (B6527 Blackburn Road (S))	4.00	0.00	Y	Arm 8 Ahead	Inf	100.0 %	2015	2015
3/2 (B6527 Blackburn Road (S))	3.70	0.00	N	Arm 5 Ahead	Inf	99.6 %	2124	2124
				Arm 6 Right	18.00	0.4 %		
				Arm 5 U-Turn	6.00	38.8 %		
4/1 (B6527 Blackburn Road (N))	3.70	0.00	Y	Arm 6 Left	12.00	1.1 %	1807	1807
				Arm 7 Ahead	Inf	60.1 %		
				5/1				
6/1				Infinite Saturation Flow			Inf	Inf
7/1				Infinite Saturation Flow			Inf	Inf
8/1				Infinite Saturation Flow			Inf	Inf

Scenario 3: '2034 Growthed Flows - AM Peak' (FG3: '2034 Growthed Flows - AM Peak', Plan 1: 'Network Control Plan 1')

Junction: Unnamed Junction								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (Burnley Road)	3.25	0.00	Y	Arm 6 Left	11.00	0.3 %	1818	1818
				Arm 7 Ahead	Inf	64.1 %		
				Arm 8 U-Turn	8.00	35.6 %		
2/1 (Guide Ct)	3.00	0.00	Y	Arm 5 Right	8.00	0.0 %	1714	1714
				Arm 7 Left	8.00	20.0 %		
				Arm 8 Right	15.00	80.0 %		
3/1 (B6527 Blackburn Road (S))	4.00	0.00	Y	Arm 8 Ahead	Inf	100.0 %	2015	2015
3/2 (B6527 Blackburn Road (S))	3.70	0.00	N	Arm 5 Ahead	Inf	100.0 %	2125	2125
				Arm 6 Right	18.00	0.0 %		
				Arm 5 U-Turn	6.00	32.5 %		
4/1 (B6527 Blackburn Road (N))	3.70	0.00	Y	Arm 6 Left	12.00	1.1 %	1834	1834
				Arm 7 Ahead	Inf	66.4 %		
				5/1				
6/1				Infinite Saturation Flow			Inf	Inf
7/1				Infinite Saturation Flow			Inf	Inf
8/1				Infinite Saturation Flow			Inf	Inf

Scenario 4: '2034 Growthed Flows - PM Peak' (FG4: '2034 Growthed Flows - PM Peak', Plan 1: 'Network Control Plan 1')

Junction: Unnamed Junction								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (Burnley Road)	3.25	0.00	Y	Arm 6 Left	11.00	0.4 %	1844	1844
				Arm 7 Ahead	Inf	72.2 %		
				Arm 8 U-Turn	8.00	27.5 %		
2/1 (Guide Ct)	3.00	0.00	Y	Arm 5 Right	8.00	25.0 %	1674	1674
				Arm 7 Left	8.00	25.0 %		
				Arm 8 Right	15.00	50.0 %		
3/1 (B6527 Blackburn Road (S))	4.00	0.00	Y	Arm 8 Ahead	Inf	100.0 %	2015	2015
3/2 (B6527 Blackburn Road (S))	3.70	0.00	N	Arm 5 Ahead	Inf	99.6 %	2124	2124
				Arm 6 Right	18.00	0.4 %		
				Arm 5 U-Turn	6.00	38.8 %		
4/1 (B6527 Blackburn Road (N))	3.70	0.00	Y	Arm 6 Left	12.00	1.0 %	1807	1807
				Arm 7 Ahead	Inf	60.1 %		
				5/1				
6/1				Infinite Saturation Flow			Inf	Inf
7/1				Infinite Saturation Flow			Inf	Inf
8/1				Infinite Saturation Flow			Inf	Inf

Scenario 5: '2034 With Development - AM Peak' (FG5: '2034 With Allocation Flows - AM Peak', Plan 1: 'Network Control Plan 1')

Junction: Unnamed Junction								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (Burnley Road)	3.25	0.00	Y	Arm 6 Left	11.00	0.3 %	1819	1819
				Arm 7 Ahead	Inf	64.5 %		
				Arm 8 U-Turn	8.00	35.2 %		
2/1 (Guide Ct)	3.00	0.00	Y	Arm 5 Right	8.00	28.6 %	1684	1684
				Arm 7 Left	8.00	14.3 %		
				Arm 8 Right	15.00	57.1 %		
3/1 (B6527 Blackburn Road (S))	4.00	0.00	Y	Arm 8 Ahead	Inf	100.0 %	2015	2015
3/2 (B6527 Blackburn Road (S))	3.70	0.00	N	Arm 5 Ahead	Inf	100.0 %	2125	2125
				Arm 6 Right	18.00	0.0 %		
				Arm 5 U-Turn	6.00	30.3 %		
4/1 (B6527 Blackburn Road (N))	3.70	0.00	Y	Arm 6 Left	12.00	1.0 %	1843	1843
				Arm 7 Ahead	Inf	68.7 %		
				5/1	Infinite Saturation Flow			
6/1	Infinite Saturation Flow				Inf	Inf		
7/1	Infinite Saturation Flow				Inf	Inf		
8/1	Infinite Saturation Flow				Inf	Inf		

Scenario 6: '2034 With Development - PM Peak' (FG6: '2034 With Allocation Flows - PM Peak', Plan 1: 'Network Control Plan 1')

Junction: Unnamed Junction								
Lane	Lane Width (m)	Gradient	Nearside Lane	Allowed Turns	Turning Radius (m)	Turning Prop.	Sat Flow (PCU/Hr)	Flared Sat Flow (PCU/Hr)
1/1 (Burnley Road)	3.25	0.00	Y	Arm 6 Left	11.00	0.4 %	1848	1848
				Arm 7 Ahead	Inf	73.3 %		
				Arm 8 U-Turn	8.00	26.4 %		
2/1 (Guide Ct)	3.00	0.00	Y	Arm 5 Right	8.00	25.0 %	1674	1674
				Arm 7 Left	8.00	25.0 %		
				Arm 8 Right	15.00	50.0 %		
3/1 (B6527 Blackburn Road (S))	4.00	0.00	Y	Arm 8 Ahead	Inf	100.0 %	2015	2015
3/2 (B6527 Blackburn Road (S))	3.70	0.00	N	Arm 5 Ahead	Inf	99.6 %	2124	2124
				Arm 6 Right	18.00	0.4 %		
				Arm 5 U-Turn	6.00	33.5 %		
4/1 (B6527 Blackburn Road (N))	3.70	0.00	Y	Arm 6 Left	12.00	0.9 %	1830	1830
				Arm 7 Ahead	Inf	65.6 %		
				5/1				
6/1				Infinite Saturation Flow		Inf	Inf	
7/1				Infinite Saturation Flow		Inf	Inf	
8/1				Infinite Saturation Flow		Inf	Inf	

Traffic Flow Groups

Flow Group	Start Time	End Time	Duration	Formula
1: '2023 Surveyed Flows - AM Peak'	07:45	08:45	01:00	
2: '2023 Surveyed Flows - PM Peak'	16:30	17:30	01:00	
3: '2034 Growthed Flows - AM Peak'	07:45	08:45	01:00	
4: '2034 Growthed Flows - PM Peak'	16:30	17:30	01:00	
5: '2034 With Allocation Flows - AM Peak'	07:45	08:45	01:00	
6: '2034 With Allocation Flows - PM Peak'	16:30	17:30	01:00	

Traffic Flows, Desired

FG1: '2023 Surveyed Flows - AM Peak'

Desired Flow :

	Destination					
		A	B	C	D	Tot.
Origin	A	0	1	225	125	351
	B	2	0	1	4	7
	C	138	0	0	245	383
	D	83	3	169	0	255
	Tot.	223	4	395	374	996

FG2: '2023 Surveyed Flows - PM Peak'

Desired Flow :

	Destination					
		A	B	C	D	Tot.
Origin	A	0	1	169	64	234
	B	1	0	1	2	4
	C	240	1	0	225	466
	D	102	3	158	0	263
	Tot.	343	5	328	291	967

FG3: '2034 Growthed Flows - AM Peak'

Desired Flow :

	Destination					
		A	B	C	D	Tot.
Origin	A	0	1	245	136	382
	B	0	2	1	4	7
	C	150	0	0	267	417
	D	90	3	184	0	277
	Tot.	240	6	430	407	1083

FG4: '2034 Growthed Flows - PM Peak'

Desired Flow :

	Destination					
		A	B	C	D	Tot.
Origin	A	0	1	184	70	255
	B	1	0	1	2	4
	C	261	1	0	245	507
	D	111	3	172	0	286
	Tot.	373	5	357	317	1052

FG5: '2034 With Allocation Flows - AM Peak'

Desired Flow :

	Destination					
	A	B	C	D	Tot.	
Origin	A	0	1	251	137	389
	B	2	0	1	4	7
	C	170	0	0	313	483
	D	94	3	213	0	310
	Tot.	266	4	465	454	1189

FG6: '2034 With Allocation Flows - PM Peak'

Desired Flow :

	Destination					
	A	B	C	D	Tot.	
Origin	A	0	1	203	73	277
	B	1	0	1	2	4
	C	271	1	0	281	553
	D	113	3	221	0	337
	Tot.	385	5	425	356	1171

Stage Timings

Scenario 1: '2023 Surveyed Flows - AM Peak' (FG1: '2023 Surveyed Flows - AM Peak', Plan 1: 'Network Control Plan 1')

Stage	1	2	3
Duration	23	33	7
Change Point	0	30	70

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	-	-	N/A	-	-		-	-	-	-	-	-	48.7%
Unnamed Junction	-	-	N/A	-	-		-	-	-	-	-	-	48.7%
1/1	Burnley Road Left Ahead U-Turn	U	N/A	N/A	A		1	33	-	351	1818	736	47.7%
2/1	Guide Ct Right Left Right2	U	N/A	N/A	D		1	7	-	7	1684	160	4.4%
3/2+3/1	B6527 Blackburn Road (S) Ahead Right Ahead2	O	N/A	N/A	B -		1	33	-	383	2125:2015	1513	25.3%
4/1	B6527 Blackburn Road (N) U-Turn Left Ahead	U	N/A	N/A	C		1	23	-	255	1833	524	48.7%
5/1		U	N/A	N/A	-		-	-	-	223	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	4	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	395	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	374	Inf	Inf	0.0%

LinSig V1 style report

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	-	-	210	280	0	4.2	1.1	0.0	5.4	-	-	-	-
Unnamed Junction	-	-	210	280	0	4.2	1.1	0.0	5.4	-	-	-	-
1/1	351	351	-	-	-	1.8	0.5	-	2.3	23.1	5.9	0.5	6.4
2/1	7	7	-	-	-	0.1	0.0	-	0.1	46.6	0.1	0.0	0.2
3/2+3/1	383	383	210	280	0	0.6	0.2	0.0	0.8	7.4	2.0	0.2	2.2
4/1	255	255	-	-	-	1.8	0.5	-	2.2	31.6	4.9	0.5	5.4
5/1	223	223	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	4	4	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	395	395	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	374	374	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
<p>C1 PRC for Signalled Lanes (%): 84.8 Total Delay for Signalled Lanes (pcuHr): 5.36 Cycle Time (s): 84 PRC Over All Lanes (%): 84.8 Total Delay Over All Lanes(pcuHr): 5.36</p>													

Stage Timings

Scenario 2: '2023 Surveyed Flows - PM Peak' (FG2: '2023 Surveyed Flows - PM Peak', Plan 1: 'Network Control Plan 1')

Stage	1	2	3
Duration	28	28	7
Change Point	0	35	70

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	-	-	N/A	-	-		-	-	-	-	-	-	43.3%
Unnamed Junction	-	-	N/A	-	-		-	-	-	-	-	-	43.3%
1/1	Burnley Road Left Ahead U-Turn	U	N/A	N/A	A		1	28	-	234	1844	637	36.8%
2/1	Guide Ct Right Left Right2	U	N/A	N/A	D		1	7	-	4	1674	159	2.5%
3/2+3/1	B6527 Blackburn Road (S) Ahead Right Ahead2	O	N/A	N/A	B -		1	28	-	466	2124:2015	1077	43.3%
4/1	B6527 Blackburn Road (N) U-Turn Left Ahead	U	N/A	N/A	C		1	28	-	263	1807	624	42.2%
5/1		U	N/A	N/A	-		-	-	-	343	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	5	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	328	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	291	Inf	Inf	0.0%

LinSig V1 style report

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	-	-	168	284	0	4.3	1.0	0.0	5.3	-	-	-	-
Unnamed Junction	-	-	168	284	0	4.3	1.0	0.0	5.3	-	-	-	-
1/1	234	234	-	-	-	1.3	0.3	-	1.6	25.1	4.0	0.3	4.3
2/1	4	4	-	-	-	0.0	0.0	-	0.1	46.4	0.1	0.0	0.1
3/2+3/1	466	466	168	284	0	1.4	0.4	0.0	1.7	13.5	4.2	0.4	4.5
4/1	263	263	-	-	-	1.5	0.4	-	1.9	26.1	4.7	0.4	5.0
5/1	343	343	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	5	5	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	328	328	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	291	291	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
<p>C1 PRC for Signalled Lanes (%): 108.1 Total Delay for Signalled Lanes (pcuHr): 5.33 Cycle Time (s): 84 PRC Over All Lanes (%): 108.1 Total Delay Over All Lanes(pcuHr): 5.33</p>													

Stage Timings

Scenario 3: '2034 Growthed Flows - AM Peak' (FG3: '2034 Growthed Flows - AM Peak', Plan 1: 'Network Control Plan 1')

Stage	1	2	3
Duration	23	33	7
Change Point	0	30	70

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	-	-	N/A	-	-		-	-	-	-	-	-	52.9%
Unnamed Junction	-	-	N/A	-	-		-	-	-	-	-	-	52.9%
1/1	Burnley Road Left Ahead U-Turn	U	N/A	N/A	A		1	33	-	382	1818	736	51.9%
2/1	Guide Ct Right Left Right2	U	N/A	N/A	D		1	7	-	5	1714	163	3.1%
3/2+3/1	B6527 Blackburn Road (S) Ahead Right Ahead2	O	N/A	N/A	B -		1	33	-	417	2125:2015	1514	27.5%
4/1	B6527 Blackburn Road (N) U-Turn Left Ahead	U	N/A	N/A	C		1	23	-	277	1834	524	52.9%
5/1		U	N/A	N/A	-		-	-	-	240	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	4	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	430	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	407	Inf	Inf	0.0%

LinSig V1 style report

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)														
Network	-	-	229	305	0	4.7	1.3	0.0	6.0	-	-	-	-														
Unnamed Junction	-	-	229	305	0	4.7	1.3	0.0	6.0	-	-	-	-														
1/1	382	382	-	-	-	2.0	0.5	-	2.5	23.9	6.7	0.5	7.2														
2/1	5	5	-	-	-	0.0	0.0	-	0.1	46.2	0.1	0.0	0.1														
3/2+3/1	417	417	229	305	0	0.7	0.2	0.0	0.9	7.4	2.2	0.2	2.4														
4/1	277	277	-	-	-	1.9	0.6	-	2.5	32.5	5.4	0.6	5.9														
5/1	240	240	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0														
6/1	4	4	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0														
7/1	430	430	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0														
8/1	407	407	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0														
<table style="width:100%; border:none;"> <tr> <td style="width:20%;">C1</td> <td style="width:20%;">PRC for Signalled Lanes (%):</td> <td style="width:10%;">70.3</td> <td style="width:20%;">Total Delay for Signalled Lanes (pcuHr):</td> <td style="width:10%;">5.96</td> <td style="width:20%;">Cycle Time (s):</td> <td style="width:10%;">84</td> </tr> <tr> <td></td> <td>PRC Over All Lanes (%):</td> <td>70.3</td> <td>Total Delay Over All Lanes(pcuHr):</td> <td>5.96</td> <td></td> <td></td> </tr> </table>														C1	PRC for Signalled Lanes (%):	70.3	Total Delay for Signalled Lanes (pcuHr):	5.96	Cycle Time (s):	84		PRC Over All Lanes (%):	70.3	Total Delay Over All Lanes(pcuHr):	5.96		
C1	PRC for Signalled Lanes (%):	70.3	Total Delay for Signalled Lanes (pcuHr):	5.96	Cycle Time (s):	84																					
	PRC Over All Lanes (%):	70.3	Total Delay Over All Lanes(pcuHr):	5.96																							

Stage Timings

Scenario 4: '2034 Growthed Flows - PM Peak' (FG4: '2034 Growthed Flows - PM Peak', Plan 1: 'Network Control Plan 1')

Stage	1	2	3
Duration	28	28	7
Change Point	0	35	70

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	-	-	N/A	-	-		-	-	-	-	-	-	47.0%
Unnamed Junction	-	-	N/A	-	-		-	-	-	-	-	-	47.0%
1/1	Burnley Road Left Ahead U-Turn	U	N/A	N/A	A		1	28	-	255	1844	637	40.1%
2/1	Guide Ct Right Left Right2	U	N/A	N/A	D		1	7	-	4	1674	159	2.5%
3/2+3/1	B6527 Blackburn Road (S) Ahead Right Ahead2	O	N/A	N/A	B -		1	28	-	507	2124:2015	1078	47.0%
4/1	B6527 Blackburn Road (N) U-Turn Left Ahead	U	N/A	N/A	C		1	28	-	286	1807	624	45.8%
5/1		U	N/A	N/A	-		-	-	-	373	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	5	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	357	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	317	Inf	Inf	0.0%

LinSig V1 style report

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)														
Network	-	-	183	309	0	4.7	1.2	0.0	5.9	-	-	-	-														
Unnamed Junction	-	-	183	309	0	4.7	1.2	0.0	5.9	-	-	-	-														
1/1	255	255	-	-	-	1.5	0.3	-	1.8	25.6	4.5	0.3	4.8														
2/1	4	4	-	-	-	0.0	0.0	-	0.1	46.4	0.1	0.0	0.1														
3/2+3/1	507	507	183	309	0	1.5	0.4	0.0	1.9	13.8	4.5	0.4	5.0														
4/1	286	286	-	-	-	1.7	0.4	-	2.1	26.7	5.2	0.4	5.6														
5/1	373	373	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0														
6/1	5	5	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0														
7/1	357	357	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0														
8/1	317	317	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0														
<table style="width:100%; border:none;"> <tr> <td style="width:20%;">C1</td> <td style="width:20%;">PRC for Signalled Lanes (%):</td> <td style="width:10%;">91.3</td> <td style="width:20%;">Total Delay for Signalled Lanes (pcuHr):</td> <td style="width:10%;">5.93</td> <td style="width:20%;">Cycle Time (s):</td> <td style="width:10%;">84</td> </tr> <tr> <td></td> <td>PRC Over All Lanes (%):</td> <td>91.3</td> <td>Total Delay Over All Lanes(pcuHr):</td> <td>5.93</td> <td></td> <td></td> </tr> </table>														C1	PRC for Signalled Lanes (%):	91.3	Total Delay for Signalled Lanes (pcuHr):	5.93	Cycle Time (s):	84		PRC Over All Lanes (%):	91.3	Total Delay Over All Lanes(pcuHr):	5.93		
C1	PRC for Signalled Lanes (%):	91.3	Total Delay for Signalled Lanes (pcuHr):	5.93	Cycle Time (s):	84																					
	PRC Over All Lanes (%):	91.3	Total Delay Over All Lanes(pcuHr):	5.93																							

Stage Timings

Scenario 5: '2034 With Development - AM Peak' (FG5: '2034 With Allocation Flows - AM Peak', Plan 1: 'Network Control Plan 1')

Stage	1	2	3
Duration	25	31	7
Change Point	0	32	70

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	-	-	N/A	-	-		-	-	-	-	-	-	56.1%
Unnamed Junction	-	-	N/A	-	-		-	-	-	-	-	-	56.1%
1/1	Burnley Road Left Ahead U-Turn	U	N/A	N/A	A		1	31	-	389	1819	693	56.1%
2/1	Guide Ct Right Left Right2	U	N/A	N/A	D		1	7	-	7	1684	160	4.4%
3/2+3/1	B6527 Blackburn Road (S) Ahead Right Ahead2	O	N/A	N/A	B -		1	31	-	483	2125:2015	1488	32.5%
4/1	B6527 Blackburn Road (N) U-Turn Left Ahead	U	N/A	N/A	C		1	25	-	310	1843	570	54.3%
5/1		U	N/A	N/A	-		-	-	-	266	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	4	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	465	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	454	Inf	Inf	0.0%

LinSig V1 style report

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)														
Network	-	-	253	373	0	5.2	1.5	0.0	6.7	-	-	-	-														
Unnamed Junction	-	-	253	373	0	5.2	1.5	0.0	6.7	-	-	-	-														
1/1	389	389	-	-	-	2.2	0.6	-	2.8	26.4	7.1	0.6	7.8														
2/1	7	7	-	-	-	0.1	0.0	-	0.1	46.6	0.1	0.0	0.2														
3/2+3/1	483	483	253	373	0	0.8	0.2	0.0	1.1	8.0	2.6	0.2	2.9														
4/1	310	310	-	-	-	2.1	0.6	-	2.7	31.0	5.9	0.6	6.5														
5/1	266	266	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0														
6/1	4	4	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0														
7/1	465	465	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0														
8/1	454	454	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0														
<table style="width:100%; border:none;"> <tr> <td style="width:20%;">C1</td> <td style="width:20%;">PRC for Signalled Lanes (%):</td> <td style="width:10%;">60.3</td> <td style="width:20%;">Total Delay for Signalled Lanes (pcuHr):</td> <td style="width:10%;">6.68</td> <td style="width:20%;">Cycle Time (s):</td> <td style="width:10%;">84</td> </tr> <tr> <td></td> <td>PRC Over All Lanes (%):</td> <td>60.3</td> <td>Total Delay Over All Lanes(pcuHr):</td> <td>6.68</td> <td></td> <td></td> </tr> </table>														C1	PRC for Signalled Lanes (%):	60.3	Total Delay for Signalled Lanes (pcuHr):	6.68	Cycle Time (s):	84		PRC Over All Lanes (%):	60.3	Total Delay Over All Lanes(pcuHr):	6.68		
C1	PRC for Signalled Lanes (%):	60.3	Total Delay for Signalled Lanes (pcuHr):	6.68	Cycle Time (s):	84																					
	PRC Over All Lanes (%):	60.3	Total Delay Over All Lanes(pcuHr):	6.68																							

Stage Timings

Scenario 6: '2034 With Development - PM Peak' (FG6: '2034 With Allocation Flows - PM Peak', Plan 1: 'Network Control Plan 1')

Stage	1	2	3
Duration	29	27	7
Change Point	0	36	70

Network Results

Item	Lane Description	Lane Type	Controller Stream	Position In Filtered Route	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)
Network	-	-	N/A	-	-		-	-	-	-	-	-	51.6%
Unnamed Junction	-	-	N/A	-	-		-	-	-	-	-	-	51.6%
1/1	Burnley Road Left Ahead U-Turn	U	N/A	N/A	A		1	27	-	277	1848	616	45.0%
2/1	Guide Ct Right Left Right2	U	N/A	N/A	D		1	7	-	4	1674	159	2.5%
3/2+3/1	B6527 Blackburn Road (S) Ahead Right Ahead2	O	N/A	N/A	B -		1	27	-	553	2124:2015	1090	50.8%
4/1	B6527 Blackburn Road (N) U-Turn Left Ahead	U	N/A	N/A	C		1	29	-	337	1830	654	51.6%
5/1		U	N/A	N/A	-		-	-	-	385	Inf	Inf	0.0%
6/1		U	N/A	N/A	-		-	-	-	5	Inf	Inf	0.0%
7/1		U	N/A	N/A	-		-	-	-	425	Inf	Inf	0.0%
8/1		U	N/A	N/A	-		-	-	-	356	Inf	Inf	0.0%

LinSig V1 style report

Item	Arriving (pcu)	Leaving (pcu)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Uniform Delay (pcuHr)	Rand + Oversat Delay (pcuHr)	Storage Area Uniform Delay (pcuHr)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Max. Back of Uniform Queue (pcu)	Rand + Oversat Queue (pcu)	Mean Max Queue (pcu)
Network	-	-	203	361	0	5.3	1.5	0.0	6.8	-	-	-	-
Unnamed Junction	-	-	203	361	0	5.3	1.5	0.0	6.8	-	-	-	-
1/1	277	277	-	-	-	1.7	0.4	-	2.1	27.3	5.0	0.4	5.4
2/1	4	4	-	-	-	0.0	0.0	-	0.1	46.4	0.1	0.0	0.1
3/2+3/1	553	553	203	361	0	1.6	0.5	0.0	2.1	13.9	4.8	0.5	5.3
4/1	337	337	-	-	-	2.0	0.5	-	2.5	26.9	6.2	0.5	6.7
5/1	385	385	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
6/1	5	5	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
7/1	425	425	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
8/1	356	356	-	-	-	0.0	0.0	-	0.0	0.0	0.0	0.0	0.0
C1			PRC for Signalled Lanes (%): 74.5		74.5		Total Delay for Signalled Lanes (pcuHr): 6.81		6.81		Cycle Time (s): 84		
			PRC Over All Lanes (%): 74.5				Total Delay Over All Lanes(pcuHr): 6.81		6.81				

APPENDIX 6

ARCADY Output for the Market Street/Bury Road/Rochdale Road Mini Roundabout

Junctions 9
ARCADY 9 - Roundabout Module
Version: 9.5.2.1013 © Copyright TRL Limited, 2019
For sales and distribution information, program advice and maintenance, contact TRL: +44 (0)1344 379777 software@trl.co.uk www.trlsoftware.co.uk
The users of this computer program for the solution of an engineering problem are in no way relieved of their responsibility for the correctness of the solution

Filename: Bury Road - Rochdale Road Mini - Masterplan Analysis.j9
Path: Z:\projects\3806 Market Street, Edenfield TW\Arcady\Masterplan Analysis 2024
Report generation date: 13/06/2024 11:54:55

- »2023 Surveyed Flows, AM
- »2023 Surveyed Flows, PM
- »2034 Growthed Flows, AM
- »2034 Growthed Flows, PM
- »2034 With Allocation Flows, AM
- »2034 With Allocation Flows, PM

Summary of junction performance

	AM				PM			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
2023 Surveyed Flows								
Arm 1	0.7	6.73	0.43	A	0.5	5.70	0.34	A
Arm 2	1.6	12.26	0.61	B	1.2	10.09	0.55	B
Arm 3	1.0	8.56	0.51	A	1.6	11.27	0.62	B
2034 Growthed Flows								
Arm 1	0.9	7.46	0.47	A	0.6	6.11	0.37	A
Arm 2	2.1	14.98	0.68	B	1.5	11.63	0.60	B
Arm 3	1.3	9.72	0.56	A	2.2	13.79	0.69	B
2034 With Allocation Flows								
Arm 1	1.2	8.70	0.55	A	0.7	6.42	0.40	A
Arm 2	2.5	17.88	0.72	C	1.7	12.66	0.63	B
Arm 3	1.6	11.38	0.62	B	4.0	22.00	0.80	C

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

File summary

File Description

Title	Bury Road - Rochdale Road Mini Roundabout
Location	Edenfield
Site number	
Date	04/05/2023
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	Eddisons
Description	

Units

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

Analysis Options

Mini-roundabout model	Calculate Queue Percentiles	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
JUNCTIONS 9			0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)
D1	2023 Surveyed Flows	AM	FLAT	08:00	09:00	60	15
D2	2023 Surveyed Flows	PM	FLAT	17:00	18:00	60	15
D3	2034 Growthed Flows	AM	FLAT	08:00	09:00	60	15
D4	2034 Growthed Flows	PM	FLAT	17:00	18:00	60	15
D7	2034 With Allocation Flows	AM	FLAT	08:00	09:00	60	15
D8	2034 With Allocation Flows	PM	FLAT	17:00	18:00	60	15

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

2023 Surveyed Flows, 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	untitled	Mini-roundabout		1, 2, 3	9.32	A

Junction Network Options

Driving side	Lighting	Road surface	In London
Left	Normal/unknown	Normal/unknown	

Arms

Arms

Arm	Name	Description
1	Bury Road (N)	
2	Rochdale Road	
3	Bury Road (S)	

Mini Roundabout Geometry

Arm	Approach road half-width (m)	Minimum approach road half-width (m)	Entry width (m)	Effective flare length (m)	Distance to next arm (m)	Entry corner kerb line distance (m)	Gradient over 50m (%)	Kerbed central island
1	4.20	4.20	6.30	7.2	15.00	8.00	0.0	
2	2.70	2.70	4.30	7.0	15.00	5.00	0.0	
3	4.80	4.80	4.80	0.0	15.00	3.00	0.0	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Final slope	Final intercept (PCU/hr)
1	0.678	1125
2	0.614	896
3	0.658	994

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)
D1	2023 Surveyed Flows	AM	FLAT	08:00	09:00	60	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		✓	396	100.000
2		✓	461	100.000
3		✓	433	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		1	2	3
From	1	1	167	228
	2	212	0	249
	3	146	285	2

Vehicle Mix

Heavy Vehicle Percentages

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

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.43	6.73	0.7	A
2	0.61	12.26	1.6	B
3	0.51	8.56	1.0	A

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	396	284	932	0.425	393	0.7	6.641	A
2	461	229	755	0.610	455	1.5	11.758	B
3	433	210	855	0.506	429	1.0	8.369	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	396	287	931	0.426	396	0.7	6.734	A
2	461	231	754	0.611	461	1.5	12.253	B
3	433	213	854	0.507	433	1.0	8.559	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	396	287	930	0.428	396	0.7	6.734	A
2	461	231	754	0.611	461	1.6	12.262	B
3	433	213	854	0.507	433	1.0	8.561	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	396	287	930	0.428	396	0.7	6.734	A
2	461	231	754	0.611	461	1.6	12.265	B
3	433	213	854	0.507	433	1.0	8.563	A

2023 Surveyed Flows, 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	untitled	Mini-roundabout		1, 2, 3	9.47	A

Junction Network Options

Driving side	Lighting	Road surface	In London
Left	Normal/unknown	Normal/unknown	

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)
D2	2023 Surveyed Flows	PM	FLAT	17:00	18:00	60	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		✓	322	100.000
2		✓	431	100.000
3		✓	527	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		1	2	3
From	1	5	145	172
	2	219	0	212
	3	274	253	0

Vehicle Mix

Heavy Vehicle Percentages

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

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.34	5.70	0.5	A
2	0.55	10.09	1.2	B
3	0.62	11.27	1.6	B

Main Results for each time segment

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	322	250	956	0.337	320	0.5	5.629	A
2	431	176	788	0.547	426	1.2	9.825	A
3	527	222	848	0.621	521	1.6	10.805	B

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	322	253	954	0.338	322	0.5	5.699	A
2	431	177	788	0.547	431	1.2	10.090	B
3	527	224	846	0.623	527	1.6	11.260	B

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	322	253	954	0.338	322	0.5	5.699	A
2	431	177	788	0.547	431	1.2	10.094	B
3	527	224	846	0.623	527	1.6	11.269	B

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	322	253	954	0.338	322	0.5	5.699	A
2	431	177	788	0.547	431	1.2	10.094	B
3	527	224	846	0.623	527	1.6	11.271	B

2034 Growthed Flows, 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	untitled	Mini-roundabout		1, 2, 3	10.91	B

Junction Network Options

Driving side	Lighting	Road surface	In London
Left	Normal/unknown	Normal/unknown	

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)
D3	2034 Growthed Flows	AM	FLAT	08:00	09:00	60	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		✓	431	100.000
2		✓	502	100.000
3		✓	471	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		1	2	3
From	1	1	182	248
	2	231	0	271
	3	159	310	2

Vehicle Mix

Heavy Vehicle Percentages

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

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.47	7.46	0.9	A
2	0.68	14.98	2.1	B
3	0.56	9.72	1.3	A

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	431	309	916	0.471	427	0.9	7.323	A
2	502	249	743	0.675	494	2.0	14.035	B
3	471	228	844	0.558	466	1.2	9.419	A

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	431	312	914	0.472	431	0.9	7.458	A
2	502	251	742	0.676	502	2.0	14.945	B
3	471	232	841	0.560	471	1.3	9.721	A

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	431	312	914	0.472	431	0.9	7.459	A
2	502	251	742	0.676	502	2.1	14.969	B
3	471	232	841	0.560	471	1.3	9.723	A

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	431	312	914	0.472	431	0.9	7.459	A
2	502	251	742	0.676	502	2.1	14.978	B
3	471	232	841	0.560	471	1.3	9.723	A

2034 Growthed Flows, 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	untitled	Mini-roundabout		1, 2, 3	11.13	B

Junction Network Options

Driving side	Lighting	Road surface	In London
Left	Normal/unknown	Normal/unknown	

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)
D4	2034 Growthed Flows	PM	FLAT	17:00	18:00	60	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		✓	350	100.000
2		✓	469	100.000
3		✓	573	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		1	2	3
From	1	5	158	187
	2	238	0	231
	3	298	275	0

Vehicle Mix

Heavy Vehicle Percentages

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

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.37	6.11	0.8	A
2	0.60	11.63	1.5	B
3	0.69	13.79	2.2	B

Main Results for each time segment

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	350	271	941	0.372	348	0.6	6.042	A
2	469	191	779	0.602	463	1.5	11.197	B
3	573	240	838	0.688	565	2.1	12.917	B

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	350	275	939	0.373	350	0.6	6.114	A
2	469	192	778	0.603	469	1.5	11.623	B
3	573	243	834	0.687	573	2.1	13.760	B

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	350	275	939	0.373	350	0.6	6.115	A
2	469	192	778	0.603	469	1.5	11.630	B
3	573	243	834	0.687	573	2.2	13.785	B

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	350	275	939	0.373	350	0.6	6.115	A
2	469	192	778	0.603	469	1.5	11.633	B
3	573	243	834	0.687	573	2.2	13.791	B

2034 With Allocation Flows, 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	untitled	Mini-roundabout		1, 2, 3	12.86	B

Junction Network Options

Driving side	Lighting	Road surface	In London
Left	Normal/unknown	Normal/unknown	

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)
D7	2034 With Allocation Flows	AM	FLAT	08:00	09:00	60	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		✓	498	100.000
2		✓	505	100.000
3		✓	523	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		1	2	3
From	1	1	190	307
	2	234	0	271
	3	208	313	2

Vehicle Mix

Heavy Vehicle Percentages

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

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.55	8.70	1.2	A
2	0.72	17.88	2.5	C
3	0.82	11.38	1.8	B

Main Results for each time segment

08:00 - 08:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	498	311	914	0.545	493	1.2	8.465	A
2	505	307	708	0.714	498	2.3	18.338	C
3	523	231	842	0.621	517	1.8	10.865	B

08:15 - 08:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	498	315	912	0.546	498	1.2	8.699	A
2	505	310	708	0.715	505	2.4	17.809	C
3	523	235	839	0.623	523	1.8	11.374	B

08:30 - 08:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	498	315	912	0.546	498	1.2	8.703	A
2	505	310	708	0.715	505	2.5	17.885	C
3	523	235	839	0.623	523	1.8	11.378	B

08:45 - 09:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	498	315	912	0.546	498	1.2	8.705	A
2	505	310	708	0.715	505	2.5	17.885	C
3	523	235	839	0.623	523	1.8	11.381	B

2034 With Allocation Flows, 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	untitled	Mini-roundabout		1, 2, 3	15.19	C

Junction Network Options

Driving side	Lighting	Road surface	In London
Left	Normal/unknown	Normal/unknown	

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time period length (min)	Time segment length (min)
D8	2034 With Allocation Flows	PM	FLAT	17:00	18:00	60	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
1		✓	377	100.000
2		✓	480	100.000
3		✓	664	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		1	2	3
From	1	5	162	210
	2	249	0	231
	3	387	277	0

Vehicle Mix

Heavy Vehicle Percentages

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

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
1	0.40	6.42	0.7	A
2	0.83	12.66	1.7	B
3	0.80	22.00	4.0	C

Main Results for each time segment

17:00 - 17:15

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	377	271	941	0.400	374	0.7	6.320	A
2	480	213	765	0.627	474	1.6	12.092	B
3	664	251	829	0.801	650	3.6	18.805	C

17:15 - 17:30

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	377	277	938	0.402	377	0.7	6.422	A
2	480	215	764	0.628	480	1.7	12.646	B
3	664	254	827	0.803	663	3.8	21.744	C

17:30 - 17:45

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	377	277	937	0.402	377	0.7	6.423	A
2	480	215	764	0.628	480	1.7	12.656	B
3	664	254	827	0.803	664	3.9	21.934	C

17:45 - 18:00

Arm	Total Demand (PCU/hr)	Circulating flow (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
1	377	277	937	0.402	377	0.7	6.424	A
2	480	215	764	0.628	480	1.7	12.661	B
3	664	254	827	0.803	664	4.0	22.002	C

APPENDIX 7

PICADY Output for the Bury Road/Bolton Road N Junction

Junctions 9
PICADY 9 - Priority Intersection Module
Version: 9.5.2.1013 © Copyright TRL Limited, 2019
For sales and distribution information, program advice and maintenance, contact TRL: +44 (0)1344 379777 software@trl.co.uk www.trlsoftware.co.uk
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Filename: Bolton Road North - Bury Road (Masterplan Analysis).j9
Path: Z:\projects\3806 Market Street, Edenfield TW\Picady\Masterplan Analysis - 2024
Report generation date: 13/06/2024 12:05:12

- »2023 Surveyed Flows, AM
- »2023 Surveyed Flows, PM
- »2034 Growthed Flows, AM
- »2034 Growthed Flows, PM
- »2034 With Allocation Flows, AM
- »2034 With Allocation Flows, PM

Summary of junction performance

	AM				PM			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
2023 Surveyed Flows								
Stream B-AC	0.9	10.37	0.48	B	1.5	14.46	0.61	B
Stream C-AB	1.5	11.72	0.56	B	0.9	10.37	0.46	B
2034 Growthed Flows								
Stream B-AC	1.1	11.49	0.53	B	2.0	17.34	0.67	C
Stream C-AB	1.9	12.99	0.61	B	1.2	11.16	0.50	B
2034 With Allocation Flows								
Stream B-AC	1.2	12.00	0.54	B	2.5	20.77	0.72	C
Stream C-AB	2.4	13.19	0.64	B	1.4	11.69	0.53	B

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

File summary

File Description

Title	Bolton Road North - Bury Road
Location	Edenfield
Site number	
Date	07/06/2023
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	EDD
Description	Masterplan

Units

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

Analysis Options

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

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2023 Surveyed Flows	AM	ONE HOUR	07:45	09:15	15	✓
D2	2023 Surveyed Flows	PM	ONE HOUR	16:30	18:00	15	✓
D3	2034 Growthed Flows	AM	ONE HOUR	07:45	09:15	15	✓
D4	2034 Growthed Flows	PM	ONE HOUR	16:30	18:00	15	✓
D7	2034 With Allocation Flows	AM	ONE HOUR	07:45	09:15	15	✓
D8	2034 With Allocation Flows	PM	ONE HOUR	16:30	18:00	15	✓

Analysis Set Details

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

2023 Surveyed Flows, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		7.54	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	Bury Road (S)		Major
B	Bolton Road North		Minor
C	Bury Road (N)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right turn bay	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C	7.00			80.0	✓	1.00

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

Minor Arm Geometry

Arm	Minor arm type	Lane width (m)	Visibility to left (m)	Visibility to right (m)
B	One lane	4.40	25	30

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
B-A	571	0.099	0.251	0.158	0.359
B-C	733	0.107	0.272	-	-
C-B	620	0.230	0.230	-	-

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

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

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2023 Surveyed Flows	AM	ONE HOUR	07:45	09:15	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 (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	148	100.000
B		ONE HOUR	✓	291	100.000
C		ONE HOUR	✓	493	100.000

Origin-Destination Data

Demand (PCU/hr)

From	To		
	A	B	C
A	0	9	139
B	12	0	279
C	196	297	0

Vehicle Mix

Heavy Vehicle Percentages

From	To		
	A	B	C
A	0	0	0
B	0	0	0
C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.48	10.37	0.9	B	267	401
C-AB	0.56	11.72	1.5	B	314	471
C-A					138	207
A-B					8	12
A-C					128	191

Main Results for each time segment

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	219	55	667	0.319	217	0.0	0.5	7.638	A
C-AB	244	61	650	0.376	242	0.0	0.6	8.779	A
C-A	127	32			127				
A-B	7	2			7				
A-C	105	26			105				

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	262	65	679	0.385	261	0.5	0.6	8.601	A
C-AB	303	76	670	0.453	302	0.6	0.9	9.796	A
C-A	140	35			140				
A-B	8	2			8				
A-C	125	31			125				

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	320	80	668	0.480	319	0.6	0.9	10.299	B
C-AB	395	99	704	0.561	393	0.9	1.5	11.556	B
C-A	148	37			148				
A-B	10	2			10				
A-C	153	38			153				

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	320	80	668	0.480	320	0.9	0.9	10.366	B
C-AB	395	99	704	0.561	395	1.5	1.5	11.720	B
C-A	148	37			148				
A-B	10	2			10				
A-C	153	38			153				

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	262	65	679	0.385	263	0.9	0.6	8.677	A
C-AB	303	76	670	0.453	305	1.5	1.0	9.979	A
C-A	140	35			140				
A-B	8	2			8				
A-C	125	31			125				

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	219	55	667	0.319	220	0.6	0.5	7.722	A
C-AB	244	61	660	0.376	246	1.0	0.7	8.942	A
C-A	127	32			127				
A-B	7	2			7				
A-C	105	28			105				

2023 Surveyed Flows, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		8.08	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D2	2023 Surveyed Flows	PM	ONE HOUR	16:30	18:00	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	224	100.000
B		ONE HOUR	✓	356	100.000
C		ONE HOUR	✓	387	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	22	202
	B	23	0	333
	C	153	234	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.61	14.46	1.5	B	327	490
C-AB	0.46	10.37	0.9	B	236	354
C-A					119	178
A-B					20	30
A-C					185	278

Main Results for each time segment

16:30 - 16:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	288	67	667	0.402	285	0.0	0.7	8.913	A
C-AB	187	47	616	0.303	185	0.0	0.5	8.306	A
C-A	105	28			105				
A-B	17	4			17				
A-C	152	38			152				

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	320	80	656	0.488	319	0.7	0.9	10.648	B
C-AB	229	57	624	0.366	228	0.5	0.6	9.078	A
C-A	119	30			119				
A-B	20	5			20				
A-C	182	45			182				

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	392	98	641	0.612	390	0.9	1.5	14.204	B
C-AB	293	73	641	0.457	292	0.6	0.9	10.300	B
C-A	133	33			133				
A-B	24	6			24				
A-C	222	56			222				

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	392	98	641	0.612	392	1.5	1.5	14.457	B
C-AB	293	73	641	0.457	293	0.9	0.9	10.373	B
C-A	133	33			133				
A-B	24	6			24				
A-C	222	56			222				

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	320	80	666	0.488	322	1.5	1.0	10.887	B
C-AB	229	57	624	0.366	230	0.9	0.6	9.167	A
C-A	119	30			119				
A-B	20	5			20				
A-C	182	45			182				

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	288	67	667	0.402	289	1.0	0.7	9.083	A
C-AB	187	47	616	0.303	187	0.6	0.5	8.409	A
C-A	105	26			105				
A-B	17	4			17				
A-C	152	38			152				

2034 Growthed Flows, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		8.49	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D3	2034 Growthed Flows	AM	ONE HOUR	07:45	09:15	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 (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	161	100.000
B		ONE HOUR	✓	317	100.000
C		ONE HOUR	✓	536	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
	A	B	C	
From	A	0	10	151
	B	13	0	304
	C	213	323	0

Vehicle Mix

Heavy Vehicle Percentages

	To			
	A	B	C	
From	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.53	11.49	1.1	B	291	436
C-AB	0.61	12.99	1.9	B	350	526
C-A					141	212
A-B					9	14
A-C					139	208

Main Results for each time segment

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	239	60	683	0.349	237	0.0	0.5	8.019	A
C-AB	270	68	658	0.410	267	0.0	0.8	9.157	A
C-A	133	33			133				
A-B	8	2			8				
A-C	114	28			114				

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	285	71	675	0.422	284	0.5	0.7	9.201	A
C-AB	337	84	682	0.495	336	0.8	1.1	10.405	B
C-A	145	36			145				
A-B	9	2			9				
A-C	136	34			136				

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	349	87	662	0.527	348	0.7	1.1	11.387	B
C-AB	444	111	724	0.614	441	1.1	1.9	12.724	B
C-A	146	37			146				
A-B	11	3			11				
A-C	166	42			166				

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	349	87	662	0.527	349	1.1	1.1	11.493	B
C-AB	444	111	724	0.614	444	1.9	1.9	12.994	B
C-A	146	37			146				
A-B	11	3			11				
A-C	166	42			166				

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	285	71	675	0.422	285	1.1	0.7	9.311	A
C-AB	337	84	682	0.495	340	1.9	1.2	10.683	B
C-A	145	38			145				
A-B	9	2			9				
A-C	138	34			138				

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	239	60	683	0.349	239	0.7	0.5	8.126	A
C-AB	270	68	658	0.410	272	1.2	0.8	9.373	A
C-A	133	33			133				
A-B	8	2			8				
A-C	114	28			114				

2034 Growthed Flows, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		9.41	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D4	2034 Growthed Flows	PM	ONE HOUR	16:30	18:00	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	244	100.000
B		ONE HOUR	✓	387	100.000
C		ONE HOUR	✓	421	100.000

Origin-Destination Data

Demand (PCU/hr)

From	To		
	A	B	C
A	0	24	220
B	25	0	362
C	166	255	0

Vehicle Mix

Heavy Vehicle Percentages

From	To		
	A	B	C
A	0	0	0
B	0	0	0
C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.67	17.34	2.0	C	355	533
C-AB	0.50	11.16	1.2	B	262	393
C-A					124	186
A-B					22	33
A-C					202	303

Main Results for each time segment

16:30 - 16:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	291	73	662	0.440	288	0.0	0.8	9.560	A
C-AB	206	51	620	0.332	204	0.0	0.5	8.619	A
C-A	111	28			111				
A-B	18	5			18				
A-C	166	41			166				

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	348	87	650	0.535	347	0.8	1.1	11.807	B
C-AB	253	63	630	0.402	253	0.5	0.7	9.533	A
C-A	125	31			125				
A-B	22	5			22				
A-C	198	49			198				

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	426	107	633	0.673	423	1.1	2.0	16.850	C
C-AB	327	82	650	0.503	325	0.7	1.1	11.058	B
C-A	137	34			137				
A-B	26	7			26				
A-C	242	61			242				

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	426	107	633	0.673	426	2.0	2.0	17.342	C
C-AB	327	82	650	0.503	327	1.1	1.2	11.164	B
C-A	137	34			137				
A-B	26	7			26				
A-C	242	61			242				

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	348	87	650	0.535	351	2.0	1.2	12.184	B
C-AB	253	63	630	0.402	255	1.2	0.8	9.656	A
C-A	125	31			125				
A-B	22	5			22				
A-C	198	49			198				

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	291	73	662	0.440	293	1.2	0.8	9.802	A
C-AB	206	51	620	0.332	207	0.8	0.5	8.744	A
C-A	111	28			111				
A-B	18	5			18				
A-C	166	41			166				

2034 With Allocation Flows, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		8.38	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D7	2034 With Allocation Flows	AM	ONE HOUR	07:45	09:15	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 (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	183	100.000
B		ONE HOUR	✓	321	100.000
C		ONE HOUR	✓	618	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	10	173
	B	13	0	308
	C	283	335	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.54	12.00	1.2	B	295	442
C-AB	0.64	13.19	2.4	B	388	579
C-A					181	272
A-B					9	14
A-C					159	238

Main Results for each time segment

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	242	60	678	0.357	239	0.0	0.5	8.172	A
C-AB	291	73	680	0.428	288	0.0	0.8	9.135	A
C-A	174	43			174				
A-B	8	2			8				
A-C	130	33			130				

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	289	72	668	0.432	288	0.5	0.7	9.451	A
C-AB	369	92	714	0.517	368	0.8	1.3	10.395	B
C-A	186	47			186				
A-B	9	2			9				
A-C	156	39			156				

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	353	88	653	0.541	352	0.7	1.1	11.875	B
C-AB	498	124	774	0.643	493	1.3	2.3	12.837	B
C-A	183	46			183				
A-B	11	3			11				
A-C	190	48			190				

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	353	88	653	0.541	353	1.1	1.2	12.002	B
C-AB	498	124	774	0.643	497	2.3	2.4	13.194	B
C-A	183	46			183				
A-B	11	3			11				
A-C	190	48			190				

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	289	72	668	0.432	290	1.2	0.8	9.575	A
C-AB	369	92	714	0.517	373	2.4	1.4	10.753	B
C-A	186	47			186				
A-B	9	2			9				
A-C	156	39			156				

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	242	60	678	0.357	243	0.8	0.6	8.290	A
C-AB	291	73	680	0.428	293	1.4	0.9	9.384	A
C-A	174	43			174				
A-B	8	2			8				
A-C	130	33			130				

2034 With Allocation Flows, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		10.07	B

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D8	2034 With Allocation Flows	PM	ONE HOUR	16:30	18:00	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	312	100.000
B		ONE HOUR	✓	399	100.000
C		ONE HOUR	✓	463	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	24	288
	B	25	0	374
	C	202	281	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.72	20.77	2.5	C	366	549
C-AB	0.53	11.69	1.4	B	277	416
C-A					148	221
A-B					22	33
A-C					264	396

Main Results for each time segment

16:30 - 16:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	300	75	648	0.464	297	0.0	0.8	10.139	B
C-AB	215	54	619	0.347	213	0.0	0.6	8.816	A
C-A	134	33			134				
A-B	18	5			18				
A-C	217	54			217				

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	359	90	633	0.567	357	0.8	1.3	12.973	B
C-AB	267	67	632	0.422	266	0.6	0.8	9.816	A
C-A	149	37			149				
A-B	22	5			22				
A-C	259	65			259				

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	439	110	612	0.718	435	1.3	2.4	19.877	C
C-AB	350	88	659	0.531	348	0.8	1.3	11.545	B
C-A	160	40			160				
A-B	26	7			26				
A-C	317	79			317				

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	439	110	611	0.718	439	2.4	2.5	20.767	C
C-AB	350	88	659	0.531	350	1.3	1.4	11.694	B
C-A	160	40			160				
A-B	26	7			26				
A-C	317	79			317				

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	359	90	633	0.567	363	2.5	1.4	13.570	B
C-AB	267	67	632	0.422	269	1.4	0.9	9.980	A
C-A	149	37			149				
A-B	22	5			22				
A-C	259	65			259				

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	300	75	648	0.464	302	1.4	0.9	10.482	B
C-AB	215	54	619	0.347	216	0.9	0.6	8.960	A
C-A	134	33			134				
A-B	18	5			18				
A-C	217	54			217				

APPENDIX 8

PICADY Output for the Exchange Street/Highfield Road Junction

Junctions 9
PICADY 9 - Priority Intersection Module
Version: 9.5.2.1013 © Copyright TRL Limited, 2019
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Filename: Exchange Street - Highfield Road.j9
 Path: Z:\projects\3806 Market Street, Edenfield TW\Picady\Masterplan Analysis - 2024
 Report generation date: 13/06/2024 13:45:34

- »2034 Base Flows, AM
- »2034 Base Flows, PM
- »2034 With Development, AM
- »2034 With Development, PM

Summary of junction performance

	AM					PM				
	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Set ID	Queue (PCU)	Delay (s)	RFC	LOS
2034 Base Flows										
Stream B-AC	D1	0.1	7.95	0.05	A	D2	0.1	8.08	0.08	A
Stream C-AB		0.0	0.00	0.00	A		0.0	0.00	0.00	A
2034 With Development										
Stream B-AC	D3	0.0	5.95	0.02	A	D4	0.1	6.19	0.05	A
Stream C-AB		0.1	6.70	0.08	A		0.0	6.46	0.04	A

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

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

File summary

File Description

Title	Exchange Street - Highfield Road
Location	Edenfield
Site number	
Date	09/11/2023
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	EDD
Description	

Units

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

Analysis Options

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

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2034 Base Flows	AM	ONE HOUR	08:00	09:30	15	✓
D2	2034 Base Flows	PM	ONE HOUR	17:00	18:30	15	✓
D3	2034 With Development	AM	ONE HOUR	08:00	09:30	15	✓
D4	2034 With Development	PM	ONE HOUR	17:00	18:30	15	✓

Analysis Set Details

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

2034 Base Flows, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Major arm width	Arm C - Major arm geometry	For two-way major roads, please interpret results with caution if the total major carriageway width is less than 6m.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		4.51	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	Exchange Street (E)		Major
B	Highfield Road		Minor
C	Exchange Street (W)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right turn bay	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C	5.70			30.0	✓	1.00

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

Minor Arm Geometry

Arm	Minor arm type	Lane width (m)	Visibility to left (m)	Visibility to right (m)
B	One lane	2.75	15	15

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
B-A	478	0.088	0.223	0.140	0.318
B-C	618	0.098	0.242	-	-
C-B	591	0.232	0.232	-	-

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

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

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D1	2034 Base Flows	AM	ONE HOUR	08:00	09:30	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	16	100.000
B		ONE HOUR	✓	21	100.000
C		ONE HOUR	✓	2	100.000

Origin-Destination Data

Demand (PCU/hr)

From	To		
	A	B	C
A	0	15	1
B	21	0	0
C	2	0	0

Vehicle Mix

Heavy Vehicle Percentages

From	To		
	A	B	C
A	0	0	0
B	0	0	0
C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.05	7.95	0.1	A	19	29
C-AB	0.00	0.00	0.0	A	0	0
C-A					0	0
A-B					14	21
A-C					0.92	1

Main Results for each time segment

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	16	4	476	0.033	16	0.0	0.0	7.811	A
C-AB	0	0	1177	0.000	0	0.0	0.0	0.000	A
C-A	0	0			0				
A-B	11	3			11				
A-C	0.75	0.19			0.75				

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	19	5	476	0.040	19	0.0	0.0	7.871	A
C-AB	0	0	1176	0.000	0	0.0	0.0	0.000	A
C-A	0	0			0				
A-B	13	3			13				
A-C	0.90	0.22			0.90				

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	23	6	476	0.049	23	0.0	0.1	7.950	A
C-AB	0	0	1174	0.000	0	0.0	0.0	0.000	A
C-A	0	0			0				
A-B	17	4			17				
A-C	1	0.28			1				

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	23	6	476	0.049	23	0.1	0.1	7.950	A
C-AB	0	0	1174	0.000	0	0.0	0.0	0.000	A
C-A	0	0			0				
A-B	17	4			17				
A-C	1	0.28			1				

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	19	5	476	0.040	19	0.1	0.0	7.872	A
C-AB	0	0	1176	0.000	0	0.0	0.0	0.000	A
C-A	0	0			0				
A-B	13	3			13				
A-C	0.90	0.22			0.90				

09:15 - 09:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	16	4	476	0.033	16	0.0	0.0	7.815	A
C-AB	0	0	1177	0.000	0	0.0	0.0	0.000	A
C-A	0	0			0				
A-B	11	3			11				
A-C	0.75	0.19			0.75				

2034 Base Flows, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Major arm width	Arm C - Major arm geometry	For two-way major roads, please interpret results with caution if the total major carriageway width is less than 8m.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		4.45	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D2	2034 Base Flows	PM	ONE HOUR	17:00	18:30	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	22	100.000
B		ONE HOUR	✓	27	100.000
C		ONE HOUR	✓	1	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	20	2
	B	27	0	0
	C	1	0	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.06	8.08	0.1	A	25	37
C-AB	0.00	0.00	0.0	A	0	0
C-A					0	0
A-B					18	28
A-C					2	3

Main Results for each time segment

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	20	5	476	0.043	20	0.0	0.0	7.898	A
C-AB	0	0	1174	0.000	0	0.0	0.0	0.000	A
C-A	0	0			0				
A-B	15	4			15				
A-C	2	0.38			2				

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	24	6	476	0.051	24	0.0	0.1	7.975	A
C-AB	0	0	1173	0.000	0	0.0	0.0	0.000	A
C-A	0	0			0				
A-B	18	4			18				
A-C	2	0.45			2				

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	30	7	475	0.063	30	0.1	0.1	8.079	A
C-AB	0	0	1171	0.000	0	0.0	0.0	0.000	A
C-A	0	0			0				
A-B	22	6			22				
A-C	2	0.55			2				

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	30	7	475	0.063	30	0.1	0.1	8.081	A
C-AB	0	0	1171	0.000	0	0.0	0.0	0.000	A
C-A	0	0			0				
A-B	22	6			22				
A-C	2	0.55			2				

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	24	6	476	0.051	24	0.1	0.1	7.978	A
C-AB	0	0	1173	0.000	0	0.0	0.0	0.000	A
C-A	0	0			0				
A-B	18	4			18				
A-C	2	0.45			2				

18:15 - 18:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	20	5	476	0.043	20	0.1	0.0	7.903	A
C-AB	0	0	1174	0.000	0	0.0	0.0	0.000	A
C-A	0	0			0				
A-B	15	4			15				
A-C	2	0.38			2				

2034 With Development, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Major arm width	Arm C - Major arm geometry	For two-way major roads, please interpret results with caution if the total major carriageway width is less than 6m.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		4.71	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D3	2034 With Development	AM	ONE HOUR	08:00	09:30	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	21	100.000
B		ONE HOUR	✓	9	100.000
C		ONE HOUR	✓	44	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	15	6
	B	0	0	9
	C	0	44	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.02	5.95	0.0	A	8	12
C-AB	0.08	6.70	0.1	A	40	61
C-A					0	0
A-B					14	21
A-C					6	8

Main Results for each time segment

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	7	2	615	0.011	7	0.0	0.0	5.914	A
C-AB	33	8	588	0.056	33	0.0	0.1	6.486	A
C-A	0	0			0				
A-B	11	3			11				
A-C	5	1			5				

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	8	2	615	0.013	8	0.0	0.0	5.931	A
C-AB	40	10	587	0.067	40	0.1	0.1	6.575	A
C-A	0	0			0				
A-B	13	3			13				
A-C	5	1			5				

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	10	2	614	0.016	10	0.0	0.0	5.955	A
C-AB	48	12	586	0.083	48	0.1	0.1	6.696	A
C-A	0	0			0				
A-B	17	4			17				
A-C	7	2			7				

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	10	2	614	0.016	10	0.0	0.0	5.955	A
C-AB	48	12	586	0.083	48	0.1	0.1	6.696	A
C-A	0	0			0				
A-B	17	4			17				
A-C	7	2			7				

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	8	2	615	0.013	8	0.0	0.0	5.931	A
C-AB	40	10	587	0.067	40	0.1	0.1	6.577	A
C-A	0	0			0				
A-B	13	3			13				
A-C	5	1			5				

09:15 - 09:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	7	2	615	0.011	7	0.0	0.0	5.917	A
C-AB	33	8	588	0.056	33	0.1	0.1	6.494	A
C-A	0	0			0				
A-B	11	3			11				
A-C	5	1			5				

2034 With Development, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Major arm width	Arm C - Major arm geometry	For two-way major roads, please interpret results with caution if the total major carriageway width is less than 6m.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		3.64	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)	Run automatically
D4	2034 With Development	PM	ONE HOUR	17:00	18:30	15	✓

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

Demand overview (Traffic)

Arm	Linked arm	Profile type	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		ONE HOUR	✓	36	100.000
B		ONE HOUR	✓	27	100.000
C		ONE HOUR	✓	22	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	20	16
	B	0	0	27
	C	0	22	0

Vehicle Mix

Heavy Vehicle Percentages

		To		
		A	B	C
From	A	0	0	0
	B	0	0	0
	C	0	0	0

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-AC	0.05	6.19	0.1	A	25	37
C-AB	0.04	6.46	0.0	A	20	30
C-A					0	0
A-B					18	28
A-C					15	22

Main Results for each time segment

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	20	5	613	0.033	20	0.0	0.0	6.069	A
C-AB	17	4	585	0.028	16	0.0	0.0	6.335	A
C-A	0	0			0				
A-B	15	4			15				
A-C	12	3			12				

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	24	6	612	0.040	24	0.0	0.0	6.121	A
C-AB	20	5	584	0.034	20	0.0	0.0	6.388	A
C-A	0	0			0				
A-B	18	4			18				
A-C	14	4			14				

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	30	7	611	0.049	30	0.0	0.1	6.191	A
C-AB	24	6	582	0.042	24	0.0	0.0	6.458	A
C-A	0	0			0				
A-B	22	6			22				
A-C	18	4			18				

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	30	7	611	0.049	30	0.1	0.1	6.191	A
C-AB	24	6	582	0.042	24	0.0	0.0	6.458	A
C-A	0	0			0				
A-B	22	6			22				
A-C	18	4			18				

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	24	6	612	0.040	24	0.1	0.0	6.122	A
C-AB	20	5	584	0.034	20	0.0	0.0	6.391	A
C-A	0	0			0				
A-B	18	4			18				
A-C	14	4			14				

18:15 - 18:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	20	5	613	0.033	20	0.0	0.0	6.072	A
C-AB	17	4	585	0.028	17	0.0	0.0	6.341	A
C-A	0	0			0				
A-B	15	4			15				
A-C	12	3			12				