Consideration of Highways Development Access and Capacity Review
Submitted by Edenfield Community Neighbourhood Forum

Introduction

1. SK Transport, acting on behalf of the Edenfield Community Neighbourhood Forum (ECNF), has carried out a review of supporting highways information submitted by Mott MacDonald (MM), on behalf of Rossendale Borough Council, and Croft Transport Planning & Design, on behalf of Taylor Wimpey. The SK Review is dated 29 August 2019, though a copy was only provided to Croft on 27 September 2019.

2. Following a consideration of this review, it can be concluded that:

- whilst SK accept that the methodology adopted by Croft to derive allocation site trip rates is in line with the industry-standard approach, they nevertheless suggest that the more generic trip rates should be adopted; this is not accepted;
- the capacity analysis of the Market Street/Rochdale Road/Bury Road mini-roundabout undertaken by SK lacks transparency and the detail that has been provided suggest an onerous and unrealistic methodology has been adopted;
- SK's review of the potential access to the land west of Market Street is predicated on the misapprehension that standards set out in the Design Manual for Roads and Bridges must be applied to Market Street, a local road;
- SK's review of the Market Street/Exchange Street junction concludes that the visibility that is available at the junction is below that identified within MfS for a 30mph design speed, however, a review of accident statistics demonstrates this junction is not unsafe and there is nothing to suggest this would change following the addition of the traffic associated with the allocation site.

3. In addition, this review also demonstrates that:

   - based on recent 2019 traffic count data, the Market Street/Rochdale Road/Bury Road mini-roundabout would experience very little change in operation as a result of the proposed allocation compared with the base scenario, and would operate within its capacity during both weekday AM and weekday PM peak periods at 2034;
   - it can be concluded that an appropriate access arrangement to serve land to the west of Market Street can be accommodated within the land controlled by the site promoter.

4. In conclusion, there is nothing raised by SK that suggests the allocation site should not come forward in highway terms.

Trip Rates

5. SK state at para 2.39 that *'Whilst the Croft methodology to calculate alternative trip rates is in line with the industry-standard approach, we draw caution in allowing the individual assessment of sites to materially deviate from the Council's own recommended trip rates.'*

6. However, SK then goes on to state that *'the application of the Croft vehicular trip rates result in a material reduction in predicted traffic flows to and from the draft allocation sites in the peak periods* [compared with the rates used by MM]' and conclude at para 2.42 that *'For the reasons given above we consider that it is appropriate and transparent for all potential allocation sites to use agreed residential trip rates when appraising site allocations.'*

7. Given that SK accept that the methodology adopted by Croft to derive allocation site trip rates is in line with the industry-standard approach, it appears that they are suggesting that these trip rates should not be used simply on the basis the rates are lower than those derived by MM.

8. The purpose of preparing more site-specific trip rates is to ensure the likely level of trips is not overestimated in certain locations. The application of the Croft trip rates in assessing the potential impact of the draft allocation site on the immediate local highway network is entirely appropriate.

Croft Capacity Assessments

9. In reviewing the Croft analysis, SK has focussed on the sensitivity capacity assessments, i.e. using the MM trip rates. For the reason set out above, we consider the impact of the allocation should be based on the Edenfield specific trip rates (these show the junction operating with a maximum RFC below 1.00 during both the weekday AM and PM peak periods at a 2034 assessment year following the addition of the allocation traffic).

10. Notwithstanding this, based on the sensitivity analysis, SK disagree with the Croft view that the modelling is unlikely to impact on journey times and express the view that the modelling *'confirms motorists will experience a material increase in queues and time delay.'*

11. The sensitivity analysis shows the queuing and delay on the Rochdale Road approach increasing from 10 vehicles and 60 seconds to 23 vehicles and 140 seconds during the weekday AM peak. Similarly, the queuing and delay on the Bury Road approach increase from 6 vehicles and 34 seconds to 25 vehicles and 121 seconds.

12. However, Croft consider that an increase of 80 seconds (during the AM peak) or 87 seconds (during the PM peak) would be unlikely to impact on overall journey times (it is akin to the length of time vehicles could be held at a signalised junction), given the negotiation of this junction would be part of a longer journey. Regardless, these increases cannot be considered severe.

13. It is also worth noting that the traffic analysis carried out by all parties loads the allocation trips as extra over at the future year assessments. This is an onerous method of considering the impact of the draft allocation given the site will be built out well before 2034.

SK Capacity Assessments

14. SK has prepared their own capacity assessments of the Market Street/Rochdale Road mini-roundabout. These are based on traffic surveys commissioned by ECNF and have carried out assessment using both the MM and Croft trip rates.

15. It is noted that the ECNF traffic counts were automatic traffic counts undertaken, over several days at the end of June/beginning of July, on each of the approaches to the mini-roundabout. It does not appear that turning count data was obtained.

16. No traffic figures are included within the SK note and it is unclear which surveyed flows have been used as part of SK's analysis (average, highest?) but, moreover, it is unknown how turning flows have been derived from the link count data. The turning flow information must have been estimated, which will clearly lead to potential error.

17. Further, whilst it is stated that MM and Croft trip rates have been used, it is not clear how this traffic has been assigned to the network – no reference is made to trip distribution within the SK report and no traffic figures are provided that might indicate this.

18. Finally, it is noted that SK's JUNCTION9 analysis is based on a 'one hour' profile for the future year assessments, i.e. a synthesised profile that creates a traffic peak within the modelled hour. As peak hour traffic flows increase over time, peak spreading will occur, which will result in a flattening out of traffic. The application of a synthesised profile rather than flat profile within the future year analysis is considered unrealistic an overly onerous.

19. There is, therefore, a lack of transparency as to how the SK analysis has been prepared and the information that has been provided suggests an overly onerous methodology has been employed.

20. In order to assist the process, Croft commissioned an independent traffic count at the mini-roundabout, which was carried out at the beginning of June. This count data is included at **Appendix 1**.

21. Analysis of this data indicates that traffic flows on the Rochdale Road approach to the junction were slightly lower during the 2019 AM peak than during the 2017 AM peak used within the Croft (and MM) analysis.

22. Similarly, traffic flows on the Bury Road approach to the junction were slightly lower during the 2019 PM peak than during the 2017 PM peak used within the Croft (and MM) analysis.

23. Clearly, as these are the most sensitive arms for the respective peak periods, therefore it is anticipated that the Croft analysis provides a particularly robust consideration of the future operation of the junction.

24. By way of demonstration, Croft has re-run the capacity analysis using the up-to-date traffic flows. All other assumptions are as per those set out in Croft's previously submitted document 'Consideration of Highways Matters' (albeit the growth factors will have changed to reflect the more recent count year). The resulting traffic figures are attached.

25. Tables 1 and 2, below, provides a summary of the updated analysis, with the full output being included at **Appendix 2**.

Arm	2034 Base Flows						2034 'With Allocation' Flows					
	Weekday AM			Weekday PM			Weekday AM			Weekday PM		
	Max RFC	Max Queue	Delay (secs)	Max RFC	Max Queue	Delay (secs)	Max RFC	Max Queue	Delay (secs)	Max RFC	Max Queue	Delay (secs)
Market Street	0.55	1	9	0.31	0	6	0.62	2	10	0.35	1	6
Rochdale Road	0.81	4	27	0.59	1	11	0.86	6	36	0.61	2	12
Bury Road	0.52	1	9	0.72	3	15	0.54	1	9	0.81	4	23

Table 1 – Summary of Capacity Analysis of the Market Street/Rochdale Road/Bury Road Junction – 2034 Analysis (based on 2019 count data)

Arm	2034 Base Flows						2034 'With Allocation' Sensitivity Flows					
	Weekday AM			Weekday PM			Weekday AM			Weekday PM		
	Max RFC	Max Queue	Delay (secs)	Max RFC	Max Queue	Delay (secs)	Max RFC	Max Queue	Delay (secs)	Max RFC	Max Queue	Delay (secs)
Market Street	0.55	1	9	0.31	0	6	0.64	2	11	0.36	1	6
Rochdale Road	0.81	4	27	0.59	1	11	0.88	7	42	0.62	2	12
Bury Road	0.52	1	9	0.72	3	15	0.56	1	10	0.84	5	26

Table 1 – Summary of Capacity Sensitivity Analysis of the Market Street/Rochdale Road/Bury Road Junction – 2034 Analysis (based on 2019 count data)

26. As can be seen from the above tables, the analysis based on the 2019 traffic count data demonstrates that the Market Street/Rochdale Road/Bury Road mini-roundabout would experience very little change in operation as a result of the proposed allocation compared with the base scenario, and would operate within its capacity during both weekday AM and weekday PM peak periods at 2034.

Land West of Market Street Development Parcel Access Review

27. As confirmed within the Croft note 'Consideration of Highways Matters', *'the land west of Market Street would be served via a new priority controlled junction located along Market Street.'* To be clear, this does not state 'a simple priority junction' as suggested by SK at their para 2.68.

28. SK has highlighted the on-street parking that occurs along Market Street in the vicinity of the allocation site frontage and states at para 2.69 that *'kerbside parking on the western side of the carriageway would need to be permanently removed to deliver the junction visibility splays as the proposed site access.'* It is worth pointing out that Manual for Streets 2 (MfS2) states that *'Parking in visibility splays in built-up areas is quite common, yet it does not appear to create significant problems in practice.'*

29. SK then goes on to review the daily levels of traffic travelling along Market Street and then, by reference to the Design Manual for Roads and Bridges (DMRB) document TD 42/95, suggests that a ghost island right turn arrangement should be provided. SK has then prepared a drawing of a priority junction with ghost island right turn based on the standards set out in TD 42/95 and concludes that *'The review of the ability to deliver a ghosted right turn junction on Market Street confirms that this cannot be accommodated within the land controlled by the site promoter.'*

30. As set out in para. 1.1 of the DMRB document GG 101 'Introduction to the Design Manual for Roads and Bridges', *'The DMRB provides requirements which shall be applied to the appraisal, design, maintenance, operation and disposal of motorway and all-purpose trunk roads for which one of the Overseeing Organisations is highway or road authority'* (emphasis added).

31. The Note 1.1.1 adds that *'Where DMRB requirements are applied to other roads, the specific highway or local road authority acting as the Overseeing Organisation should decide on the extent to which the requirements are appropriate in any given situation.'*

32. Market Street is neither a motorway or an all-purpose trunk road; it is a local road that falls within the jurisdiction of Lancashire County Council (LCC). As such, the extent to which the requirements of the DMRB are applicable in this location are to be determined by LCC. LCC's position on the ability to provide access to this land parcel is that *'site access between Horse and Jockey and 115 Market Street appears achievable.'*

33. Croft has prepared a drawing showing a priority junction with ghost island right turn arrangement, which can be accommodated within the site frontage. This is included at **Plan 1**. With regard to on-street parking, LCC advise that *'Consideration for existing on-street parking generated by residents of Market Street should be made and off-street parking created within the site should be provided if necessary.'* Details of this can be agreed at the time a planning application is brought forward.

34. For completeness, capacity assessments have been undertaken showing the predicted operation of the potential junction arrangement. The results of this analysis are summarised in Table 3, with the full output being included at **Appendix 3**.

Arm	2034 'With Allocation' Flows						2034 'With Allocation' Sensitivity Flows					
	Weekday AM			Weekday PM			Weekday AM			Weekday PM		
	Max RFC	Max Queue	Delay (secs)	Max RFC	Max Queue	Delay (secs)	Max RFC	Max Queue	Delay (secs)	Max RFC	Max Queue	Delay (secs)
Site Access left turn	0.08	0	7	0.05	0	8	0.11	0	8	0.07	0	8
Site Access right turn	0.14	0	12	0.06	0	12	0.20	0	13	0.09	0	12
Market Street right turn	0.01	0	6	0.05	0	7	0.02	0	7	0.07	0	8

Table 3 – Summary of Capacity Analysis of the Potential Market Street/Site Access Junction – 2034 Analysis (based on 2019 count data)

35. As can be seen from the above table, the potential Market Street/Site Access junction is predicted to operate well within capacity during both the weekday AM and weekday Pm peaks at 2034.

36. As such, it can be concluded that an appropriate access arrangement on Market Street can be accommodated within the land controlled by the site promoter.

Southern Development Parcel Access Review

37. It is proposed that the southern development parcel will be served via an extension to Exchange Street. SK has considered Exchange Street and concluded that:

- On street parking occurs, which reduced the effective width;
- The visibility at the Exchange Street/Market Street junction is below the visibility set out in Manual for Streets (MfS).

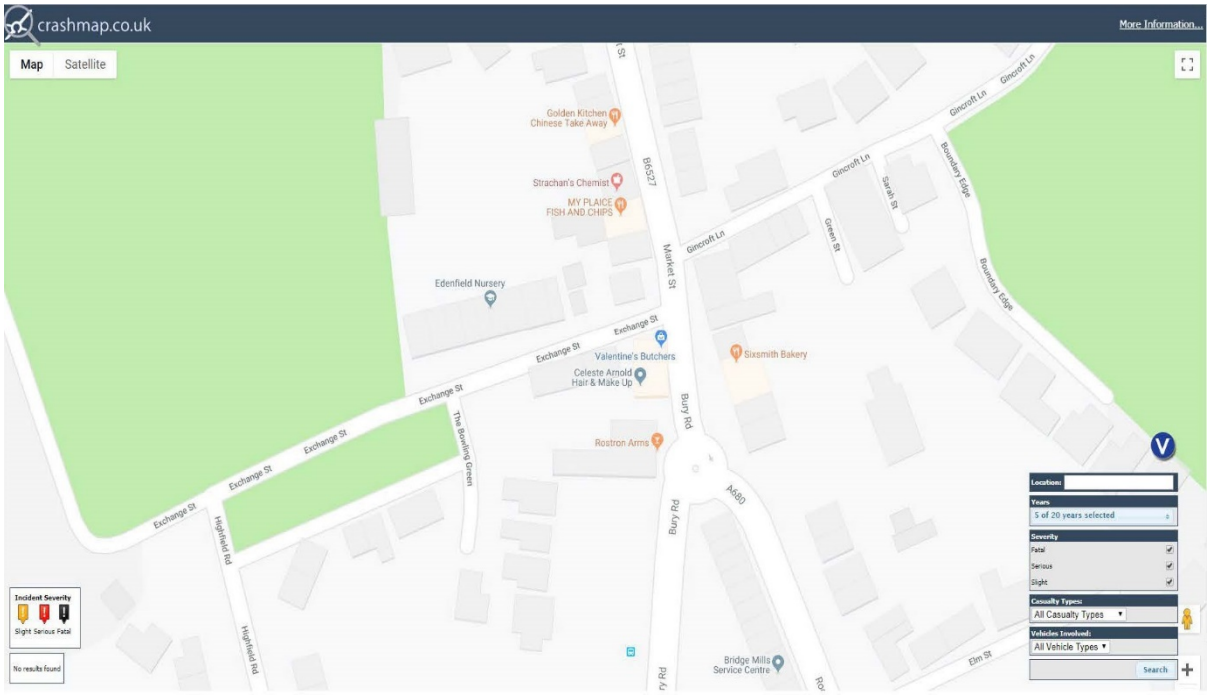
38. Exchange Street serves a number of residential properties, as well as Edenfield with Tor View Nursery, the Community Centre and Chatterton Hey House (part of the Langley House Trust), and it is acknowledged that on-street parking does occur along a short section of Exchange Street, towards the junction with Market Street.

39. Based on the analysis submitted within the Croft note, the proposed allocation is anticipated to result in 18 two-way trips during the AM peak period along the section of Exchange Street to the east of Highfield Road, and 23 two-way trips during the PM peak. This equates to an average increase of one additional vehicle movement every 3 minutes during the AM peak and 2.5 minutes during the PM peak. Such increases in traffic will not result in a material change in traffic conditions.

40. Indeed, whilst the Croft analysis assumed traffic travelling to/from Bury would access this parcel of land via the Market Street/Exchange Street junction, in reality, this traffic is more likely to use The Drive and Highfield Road to travel to/from the site, which would reduce the already minimal levels of allocation site traffic that would negotiate the section of Exchange Street that experiences on-street parking.

41. On the matter of visibility, the Market Street/Exchange Street junction is an existing junction. By reference to the sight stopping distances set out in MfS, the visibility that is available at the junction is below that identified for a 30mph design speed. Requirements for visibility are related to road safety, however, as the Market Street/Exchange Street junction is an existing junction, the safety of the junction can be reviewed by reference to accident statistics.

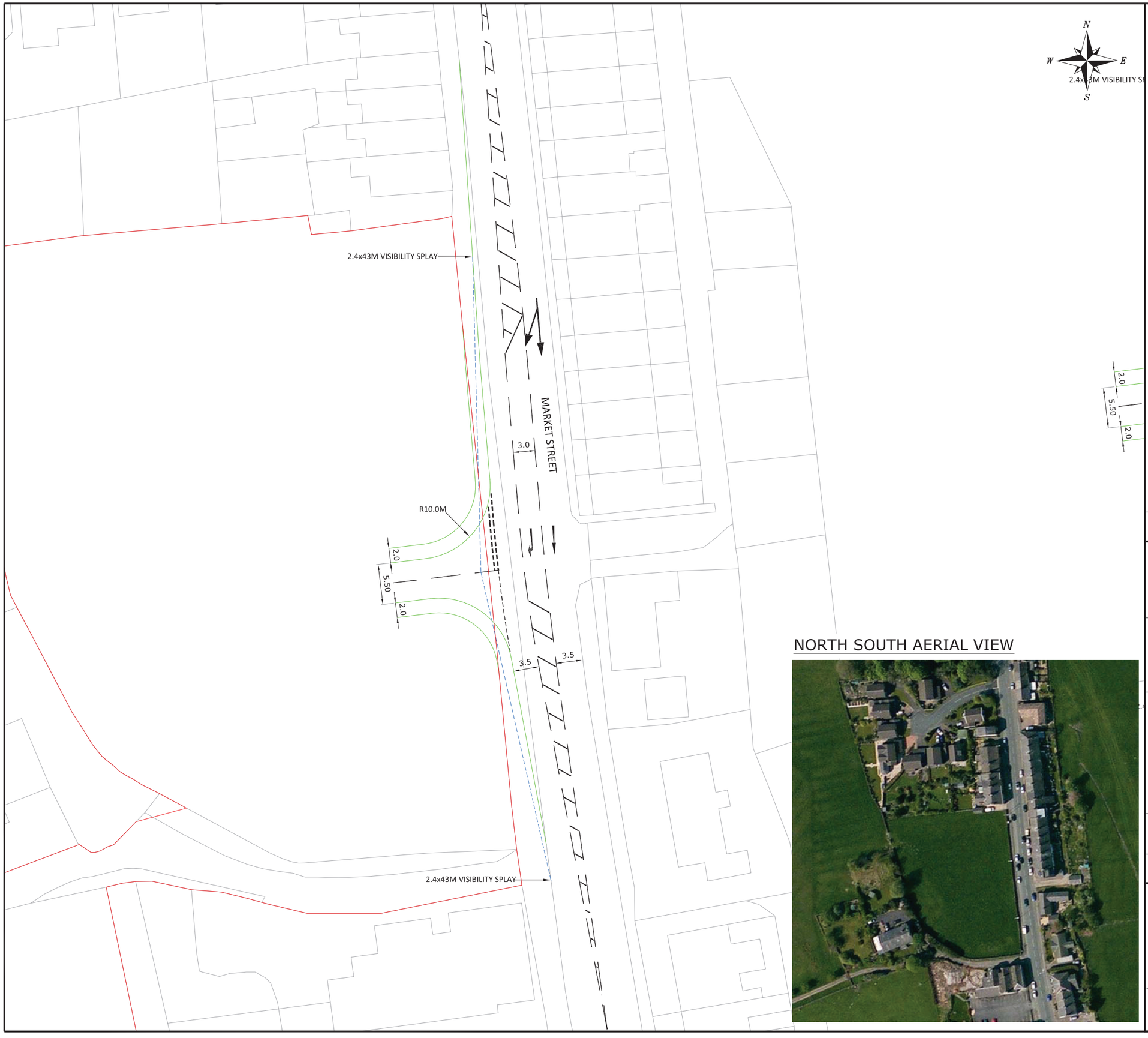
42. A review of CrashMap reveals that no accidents have occurred at the Market Street/Exchange Street junction over the most recent five-year period available (2014-2018 inclusive) (see CrashMap image, below).



CrashMap Extract of Market Street/Exchange Street Junction

43. This may, in part, be as a consequence of the junction being located is close proximity to the Market Street/Rochdale Road mini-roundabout, which is likely to result in traffic speeds being lower than the 30mph speed limit (and as assumed by SK). Regardless, it can be concluded that the junction is demonstrably safe and there is nothing to suggest this would change following the addition of the minimal levels of allocation site traffic.

PLANS



NOTES

THIS LAYOUT IS FOR INDICATIVE PURPOSES ONLY AND IS SUBJECT TO FURTHER DESIGN ANALYSIS, TOPOGRAPHICAL MAPPING & HIGHWAY/THIRD PARTY LAND BOUNDARIES.

INDICATIVE SITE BOUNDARY TAKEN FROM MASTERPLAN

PLAN 1

NORTH SOUTH AERIAL VIEW

REV.	DETAILS	DRAWN	CHECKED	DATE

CLIENT:

TAYLOR WIMPEY

PROJECT:

MARKET STREET, EDENFIELD

DRAWING TITLE:

POTENTIAL SITE ACCESS ARRANGEMENT WITH GHOST ISLAND RIGHT TURN LANE

SCALES: 1:500 @ A3

DRAWN:	CHECKED:	DATE:
JC	TR	AUG 16

9 Jordan Street,
Manchester,
M15 4PY

Email: info@croftts.co.uk
Tel: 0161 667 3746
Web: www.croftts.co.uk

croft
Transport Solutions

DRAWING NUMBER: 1537-F02

REVISION: .

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FIGURES

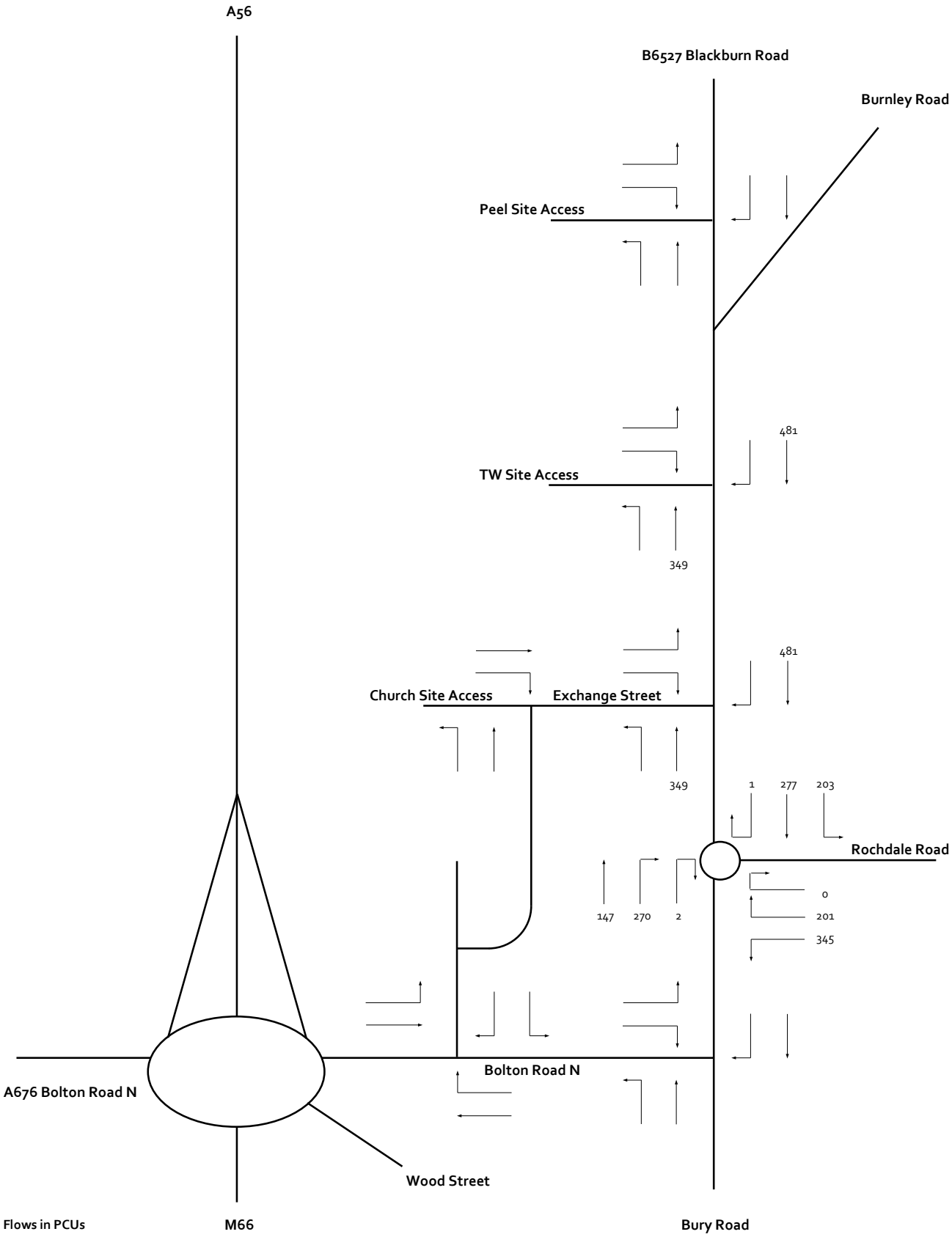

Figure 1 2019 Surveyed Flows - Weekday AM Peak (0730-0830)

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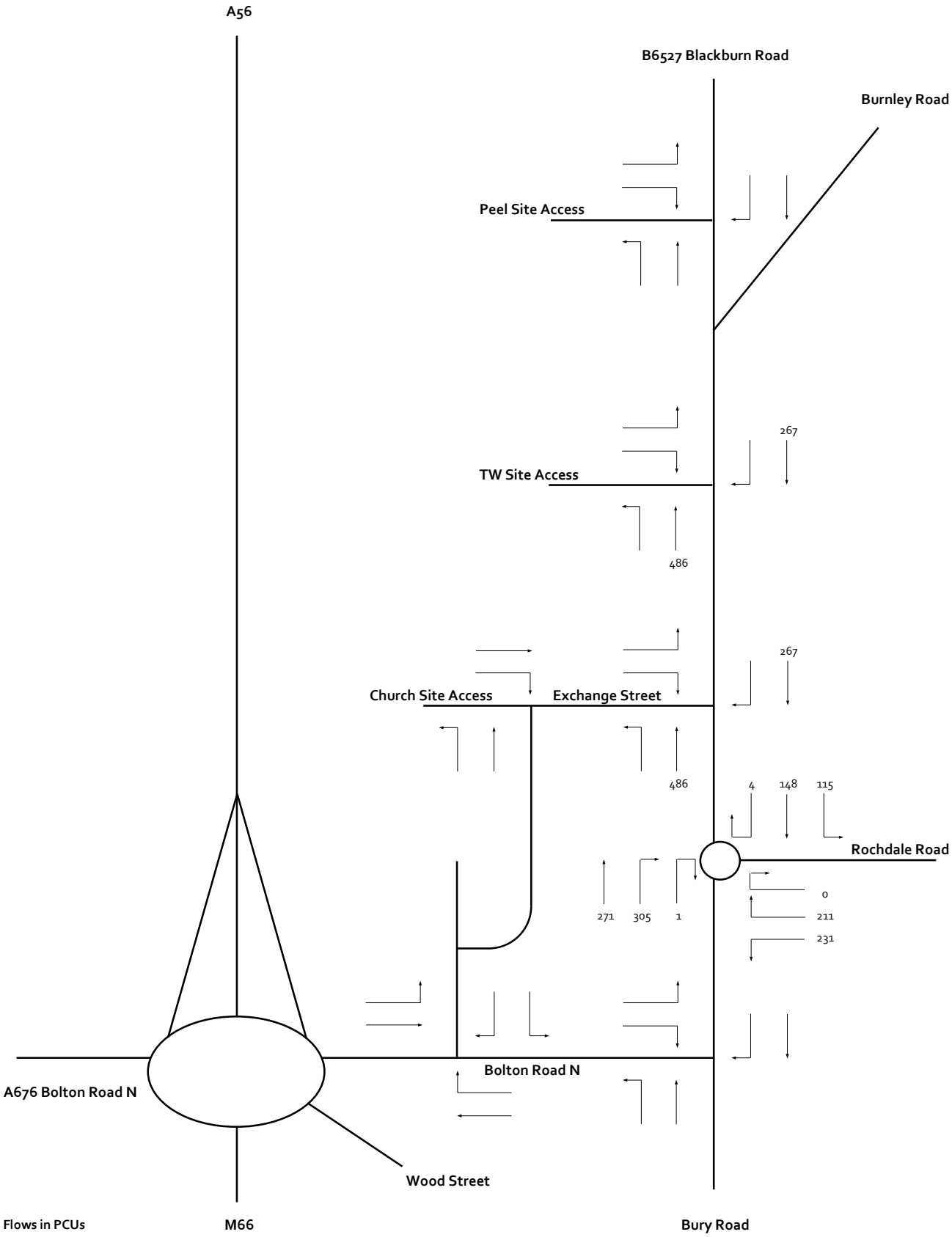

Figure 2 2019 Surveyed Flows - Weekday PM Peak (1645-1745)

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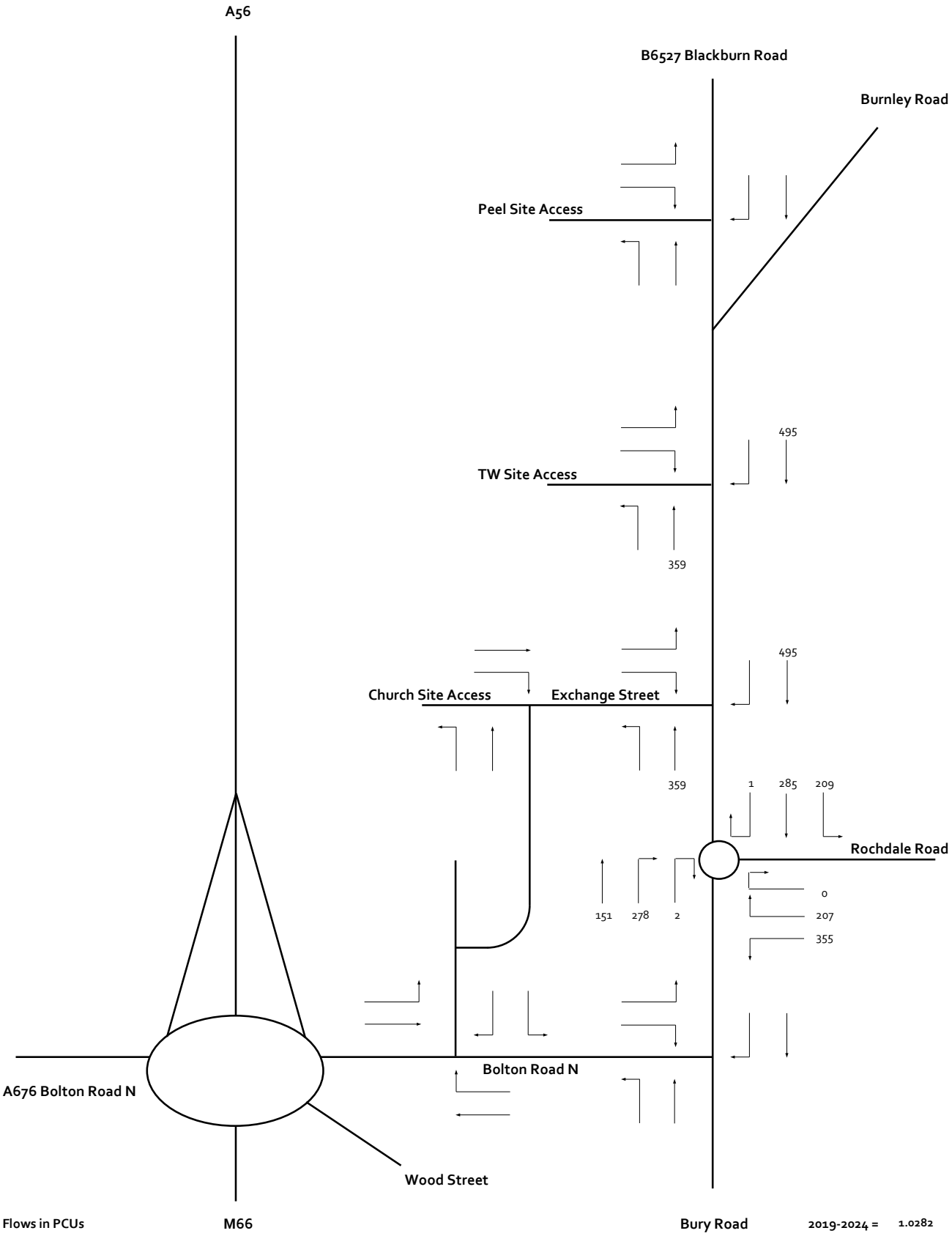

Figure 3 2024 Growthed Flows - Weekday AM Peak

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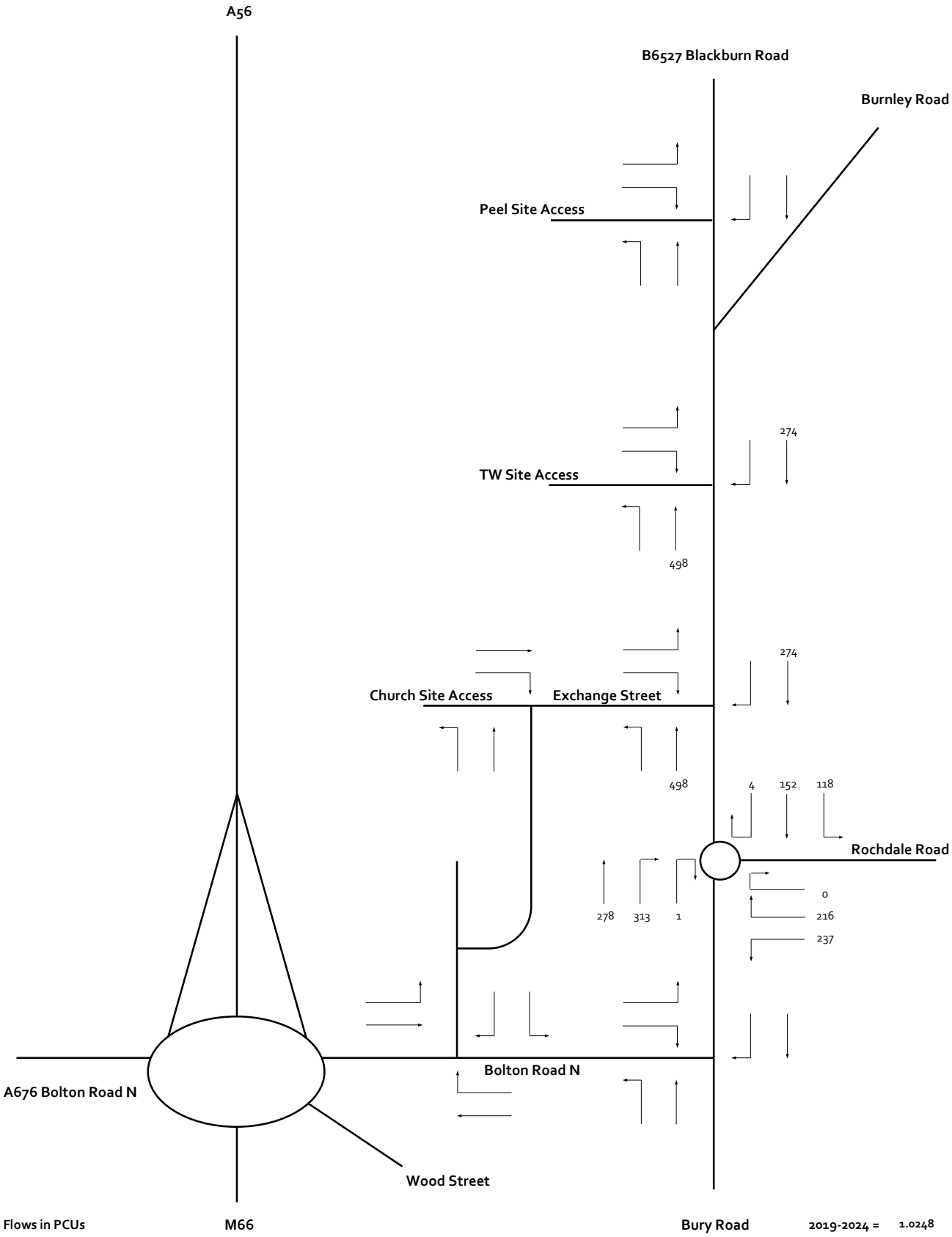

Figure 4 2024 Growthed Flows - Weekday PM Peak

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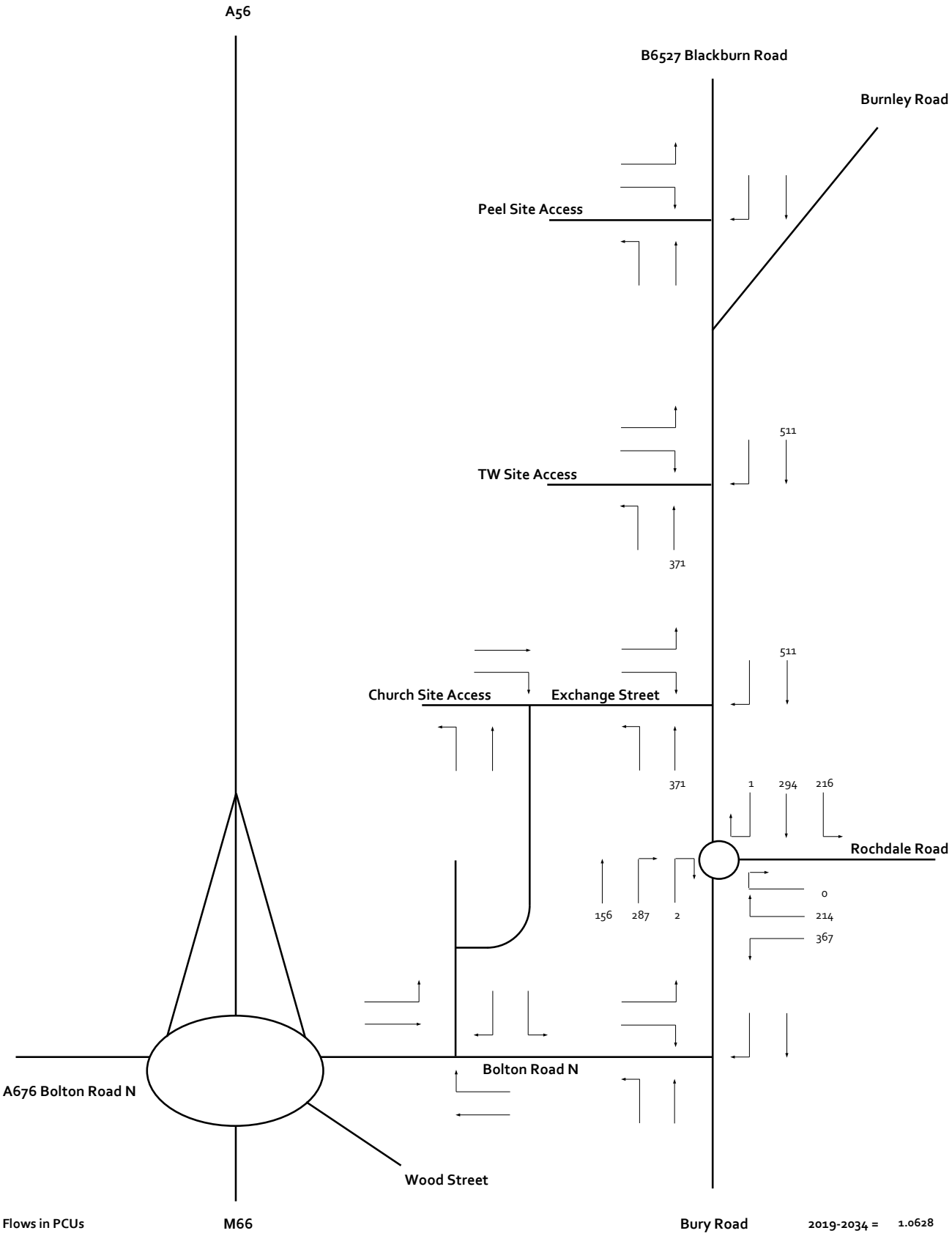

Figure 5 2034 Growthed Flows - Weekday AM Peak

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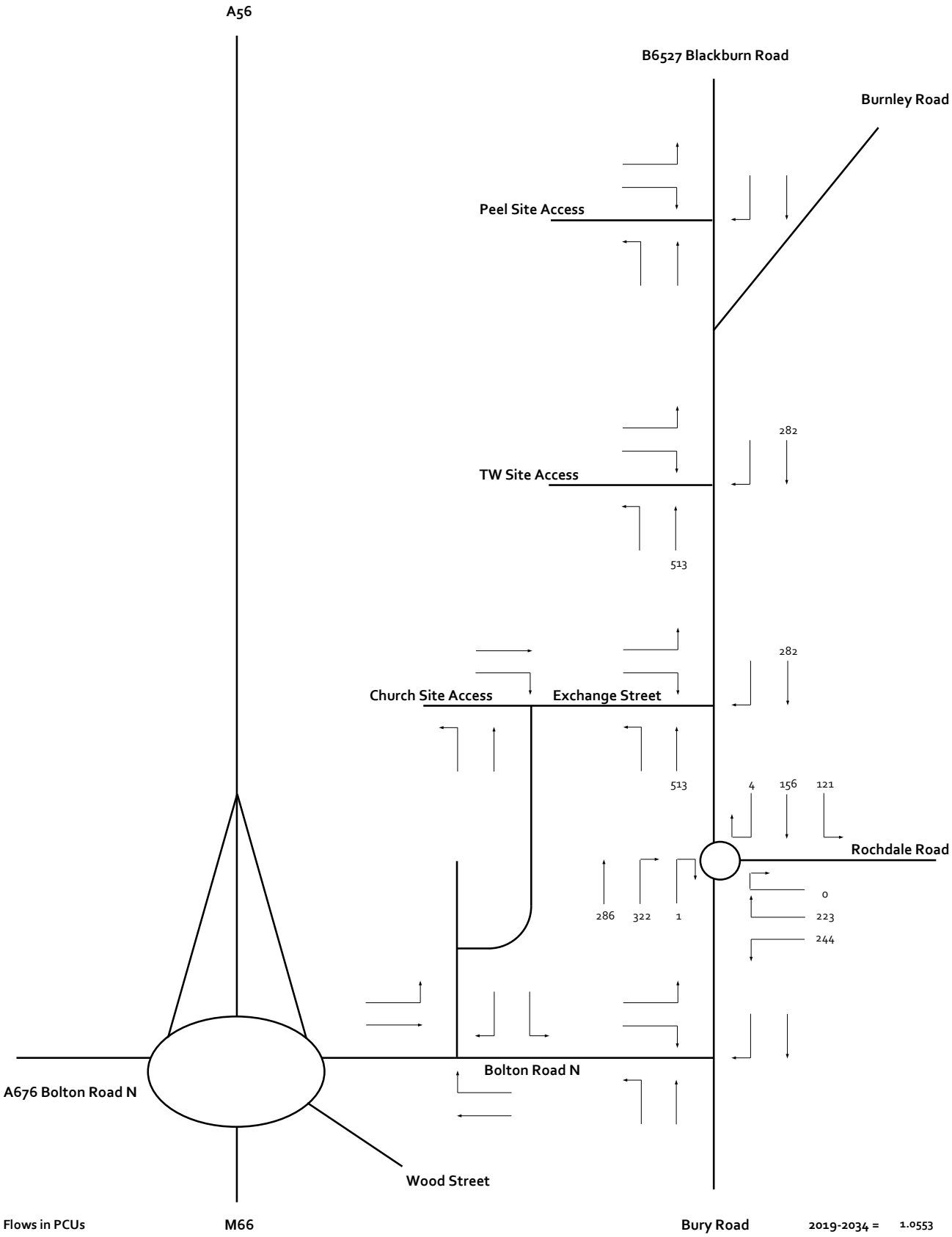

Figure 6 2034 Growthed Flows - Weekday PM Peak

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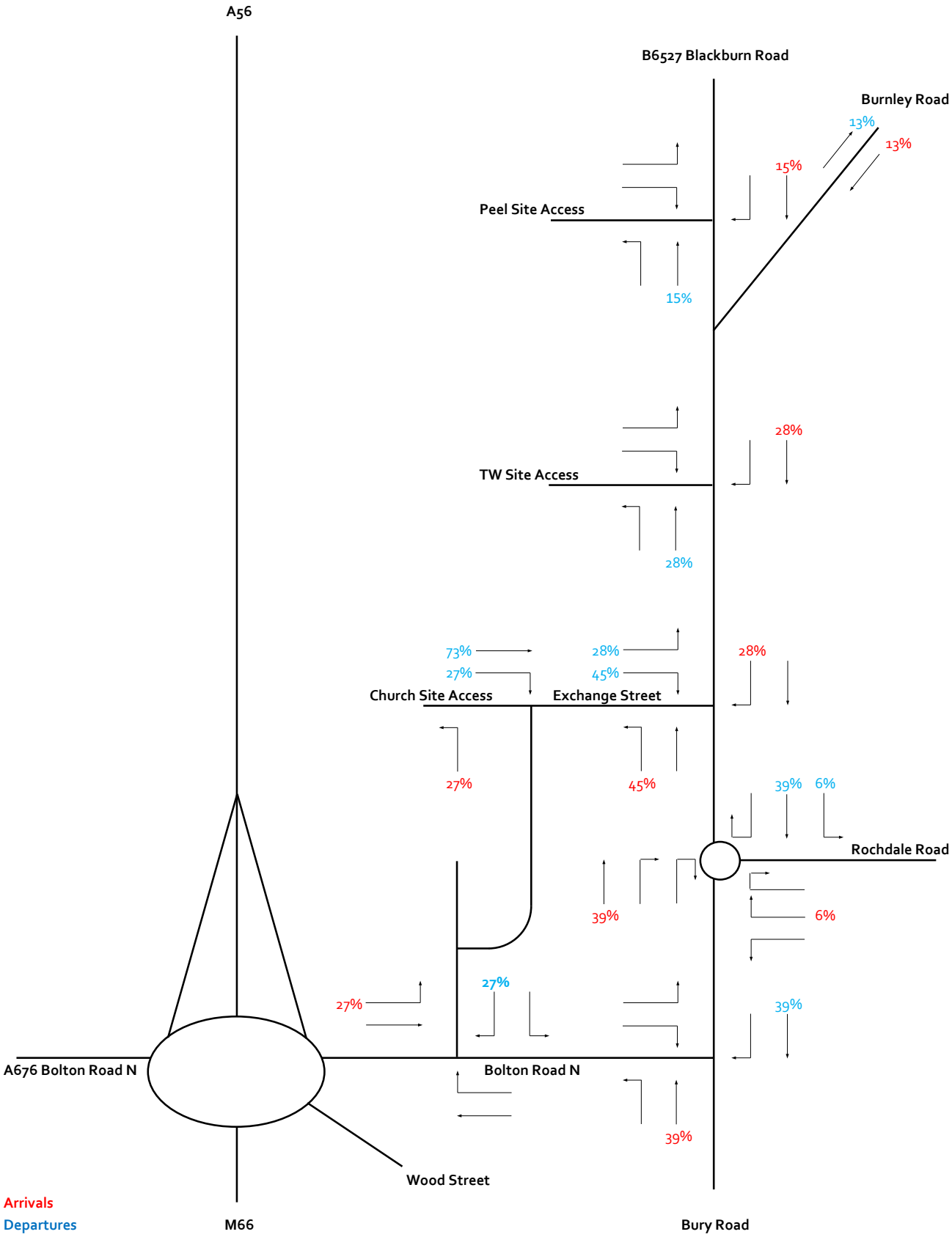

Figure 7 Proposed Church Land Vehicular Distribution

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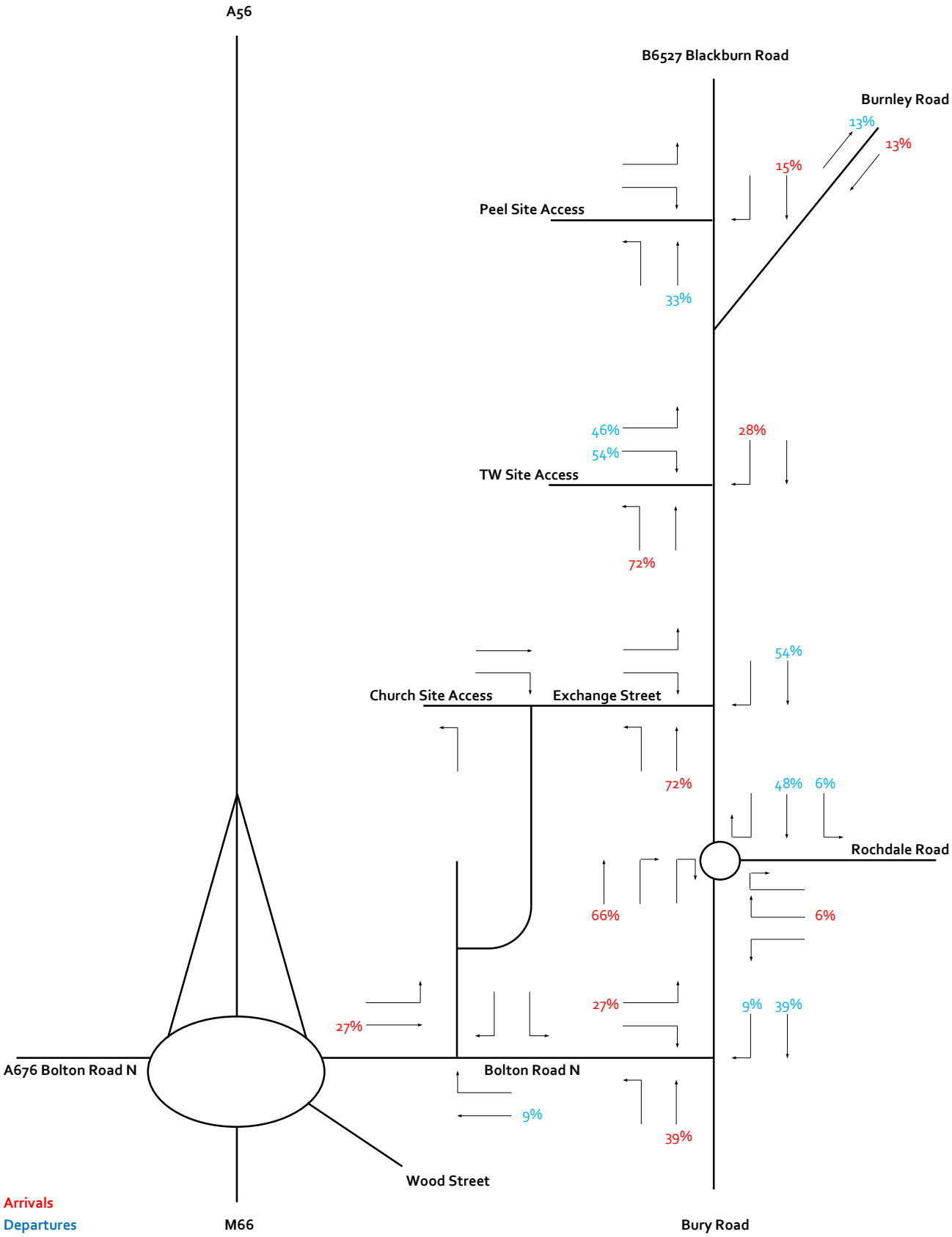

Figure 8 Proposed TW Land Vehicular Distribution

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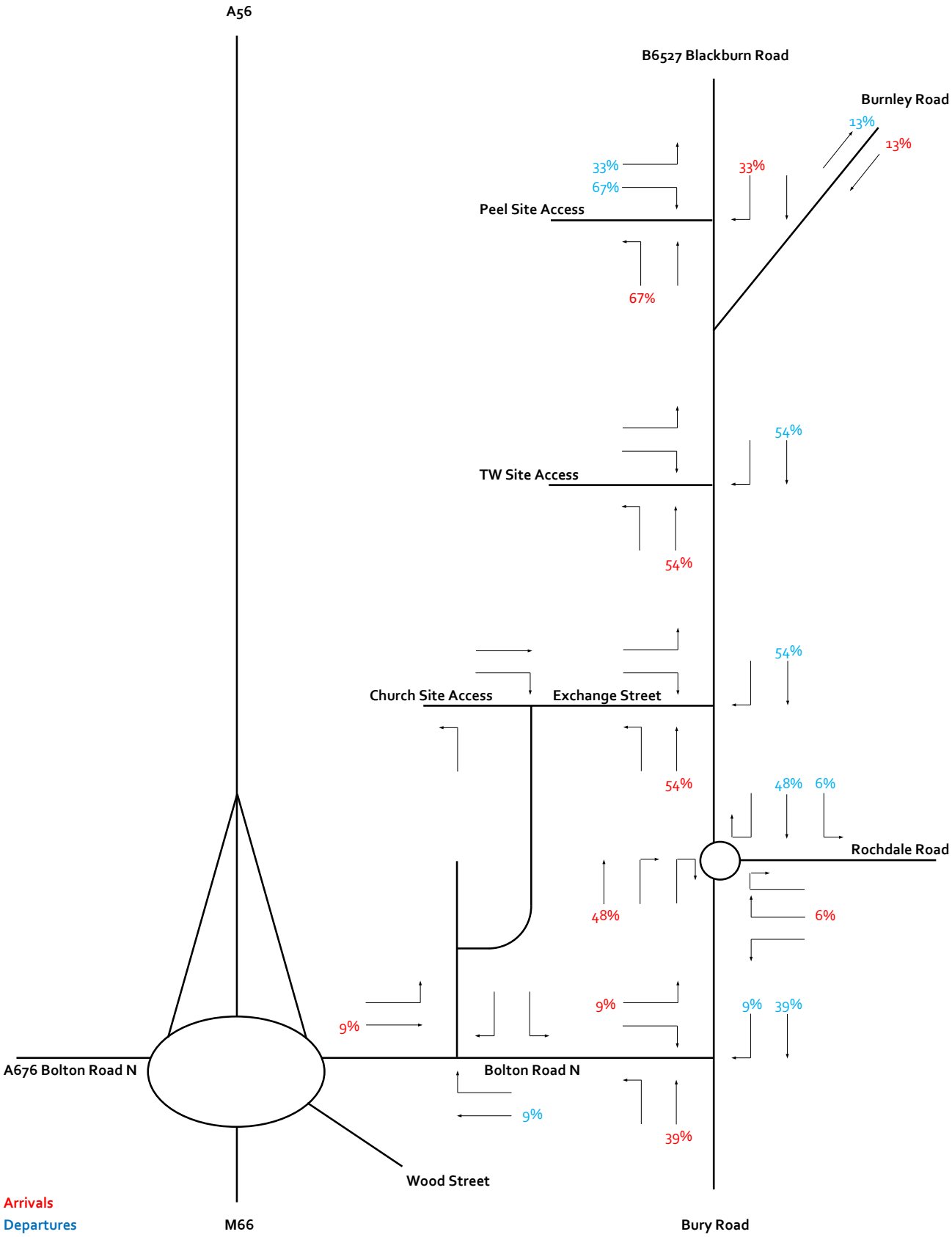

Figure 9 Proposed Peel Land Vehicular Distribution

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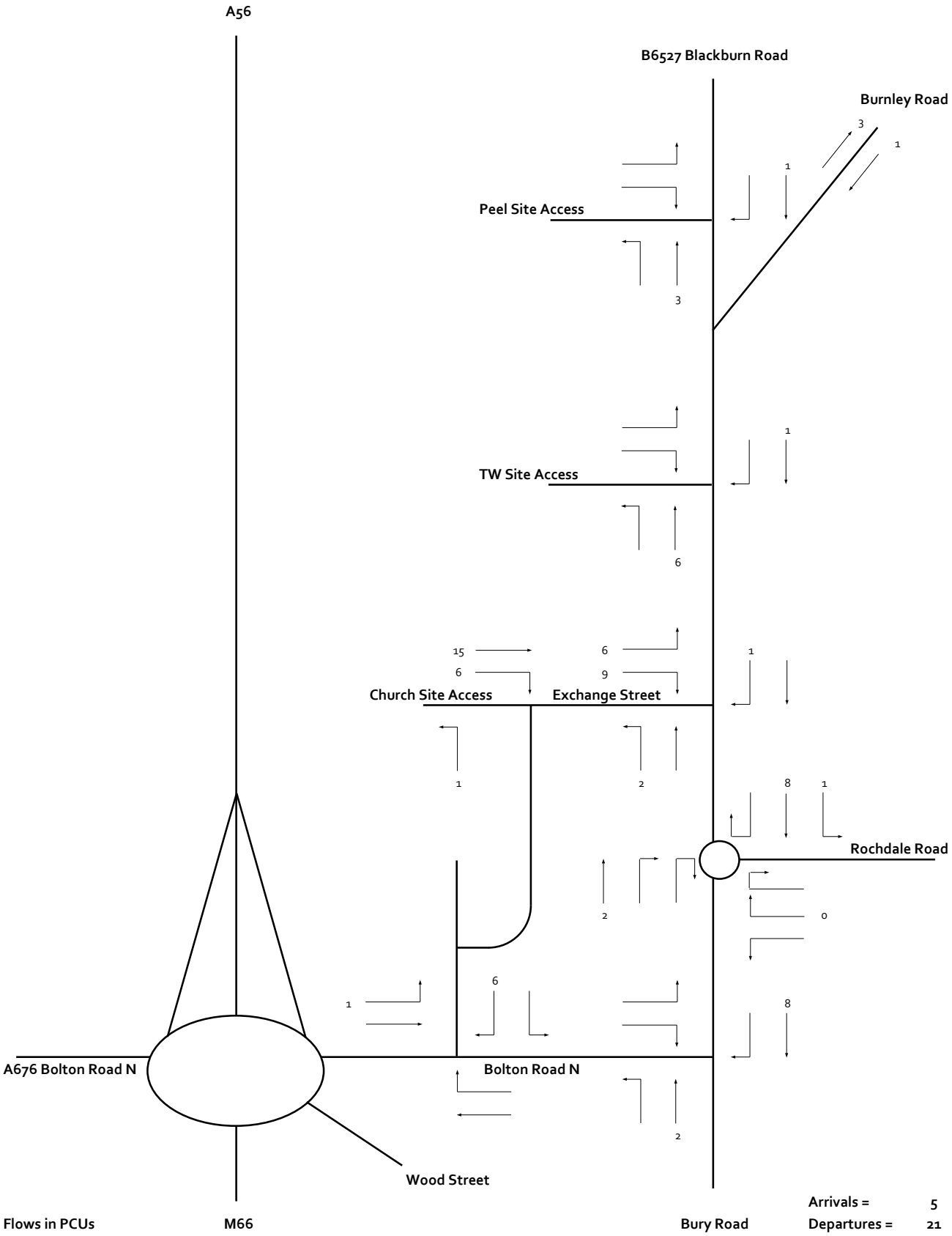

Figure 10 Proposed Church Land Trips - AM Peak

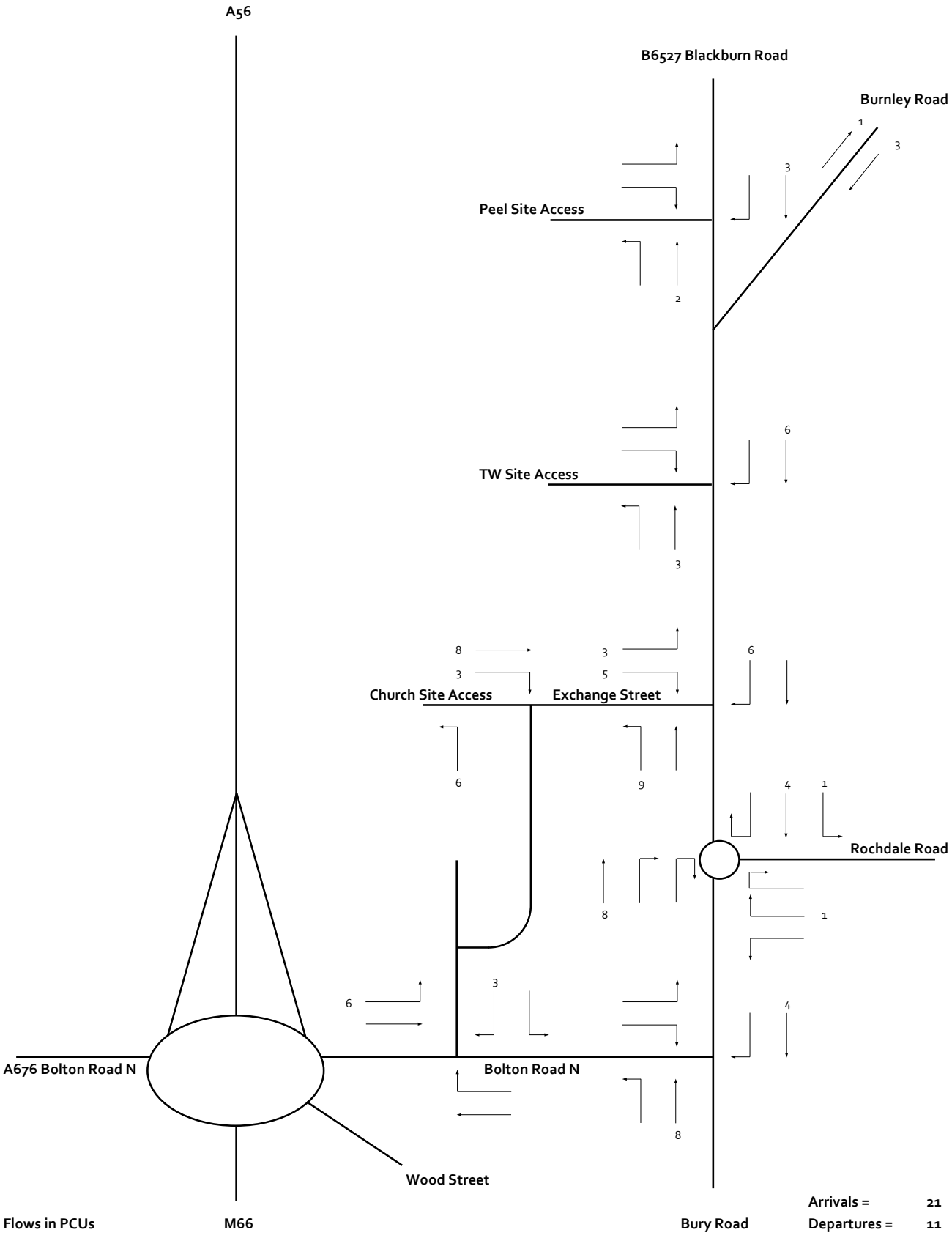

Figure 11 Proposed Church Land Trips - PM Peak

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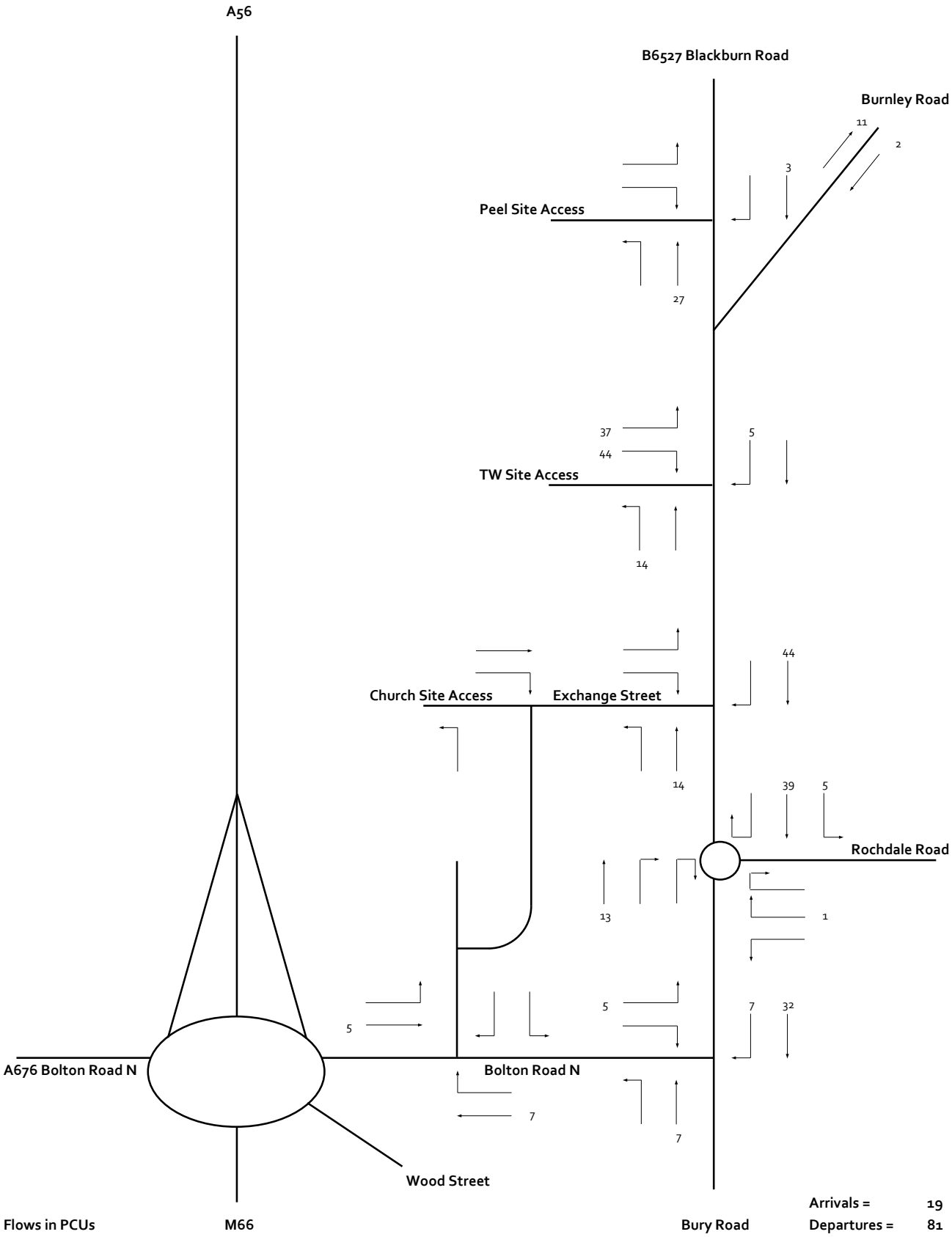

Figure 12 Proposed TW Site Trips - AM Peak

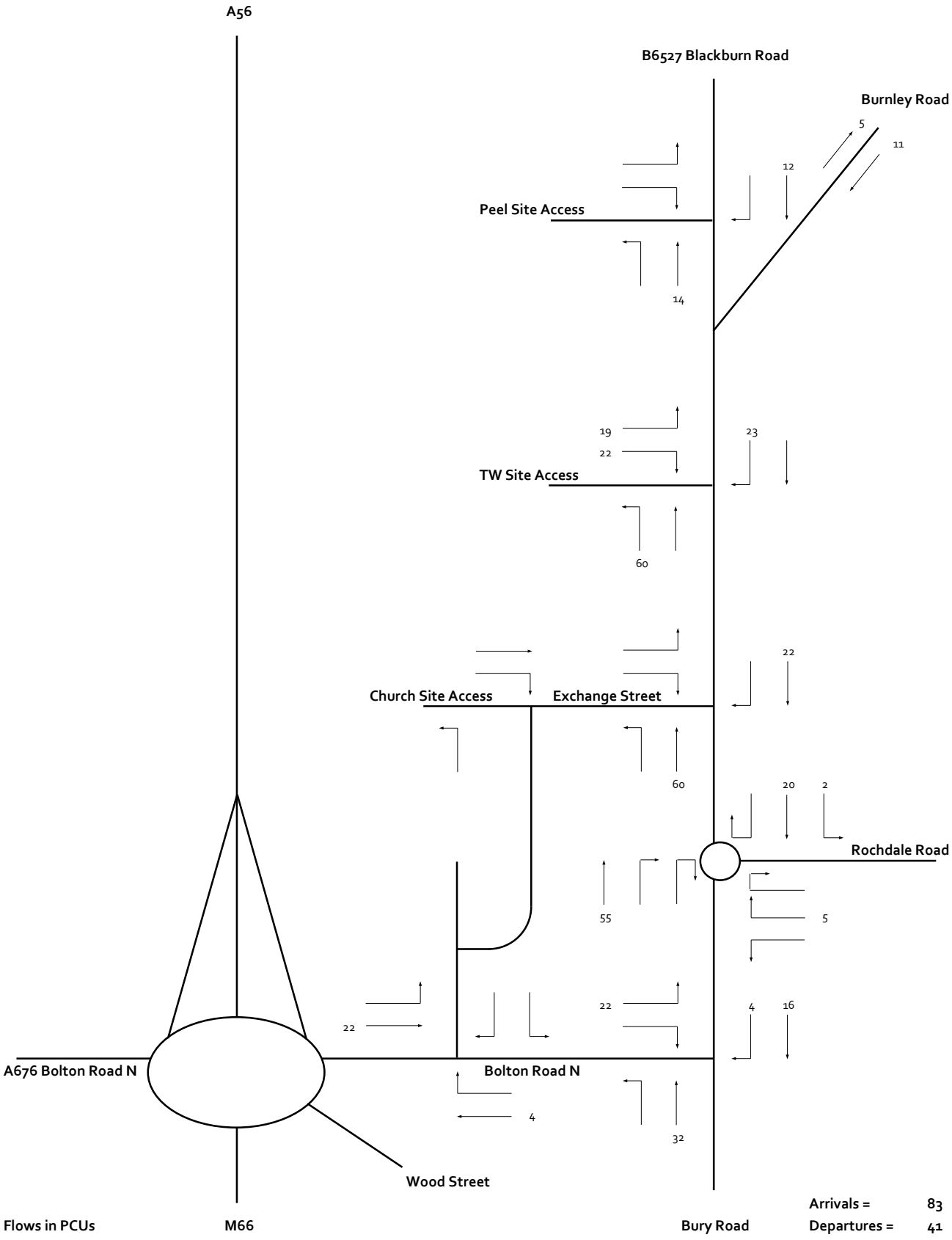

Figure 13 Proposed TW Land Trips - PM Peak

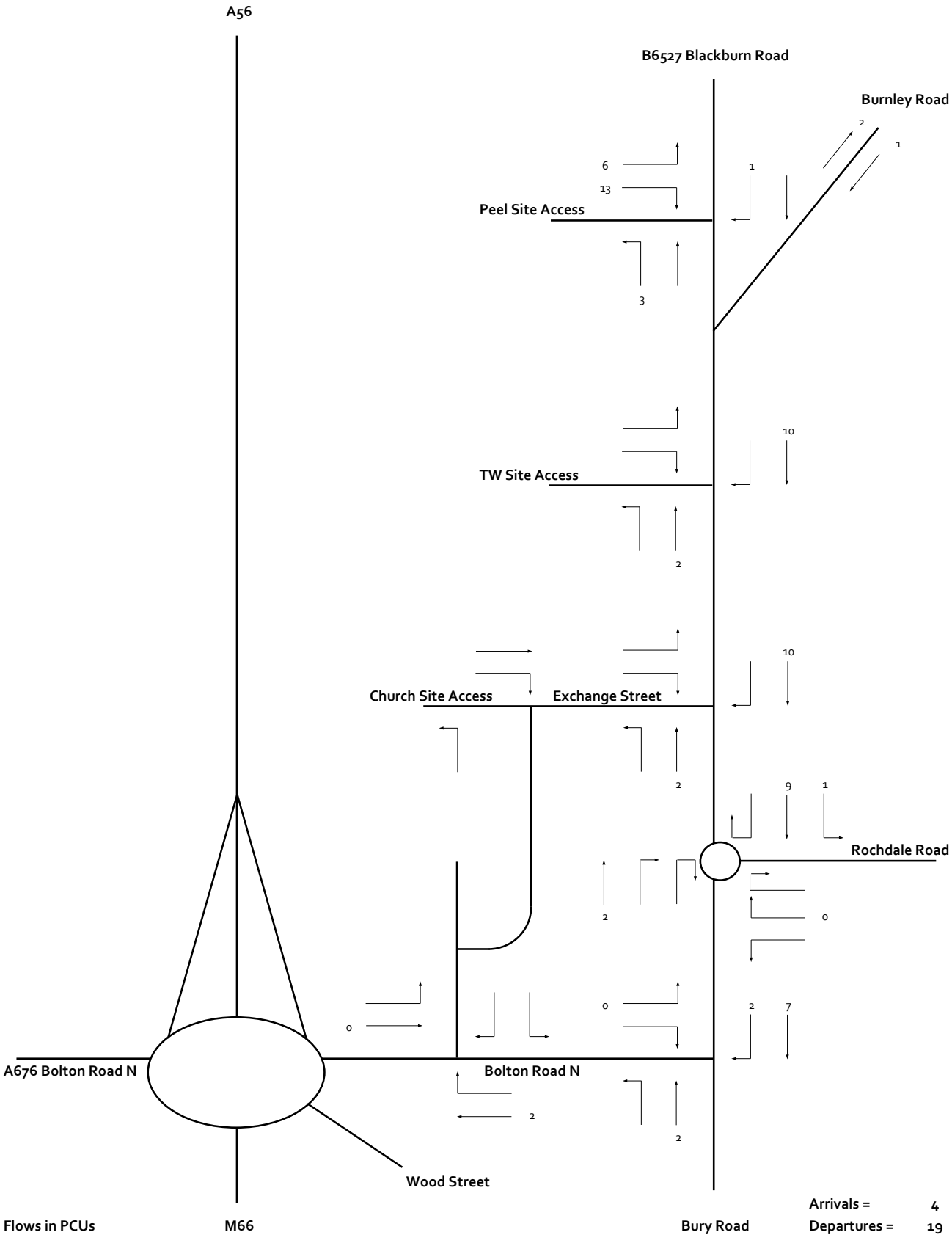

Figure 14 Proposed Peel Land Trips - AM Peak

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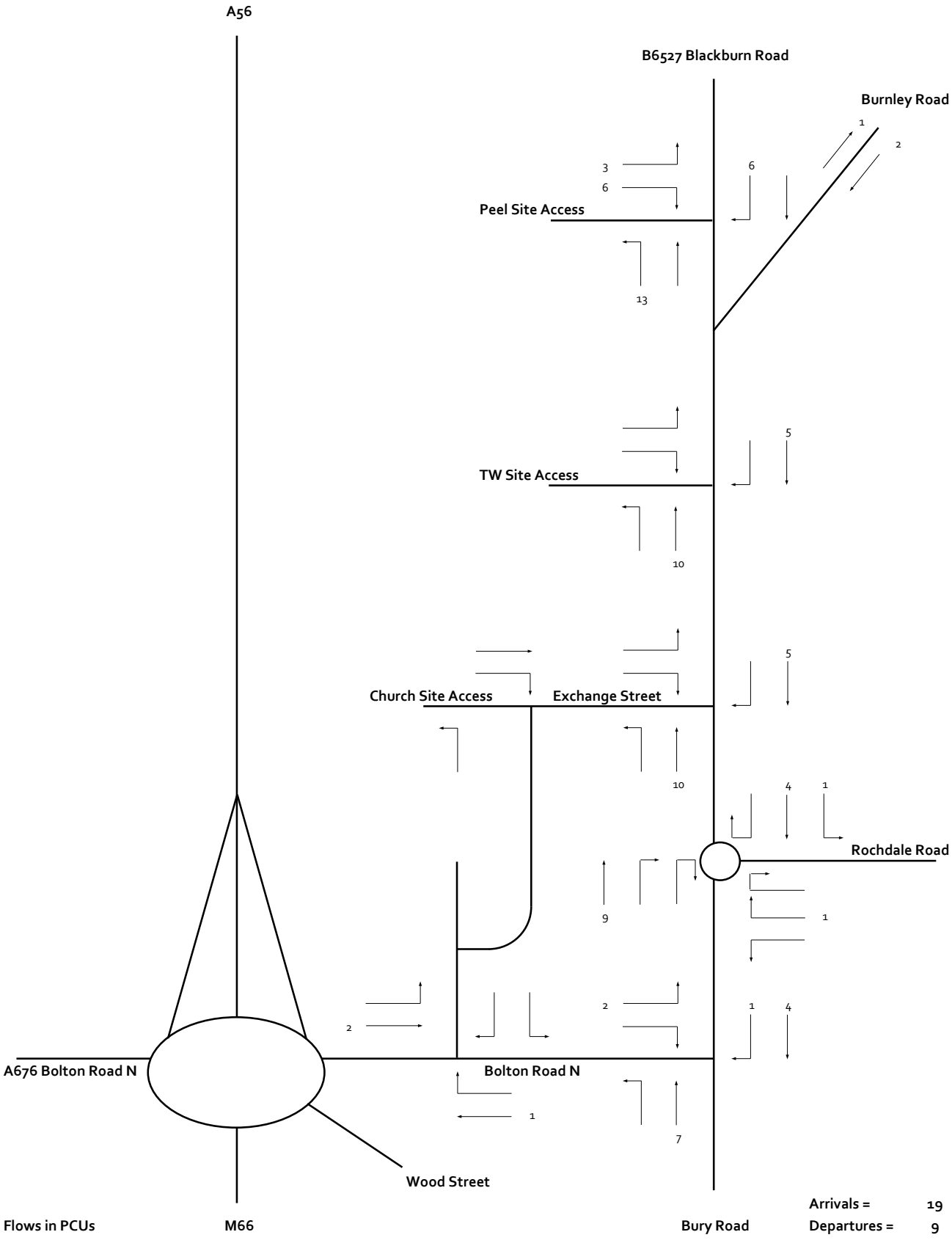

Figure 15 Proposed Peel Land Trips - PM Peak

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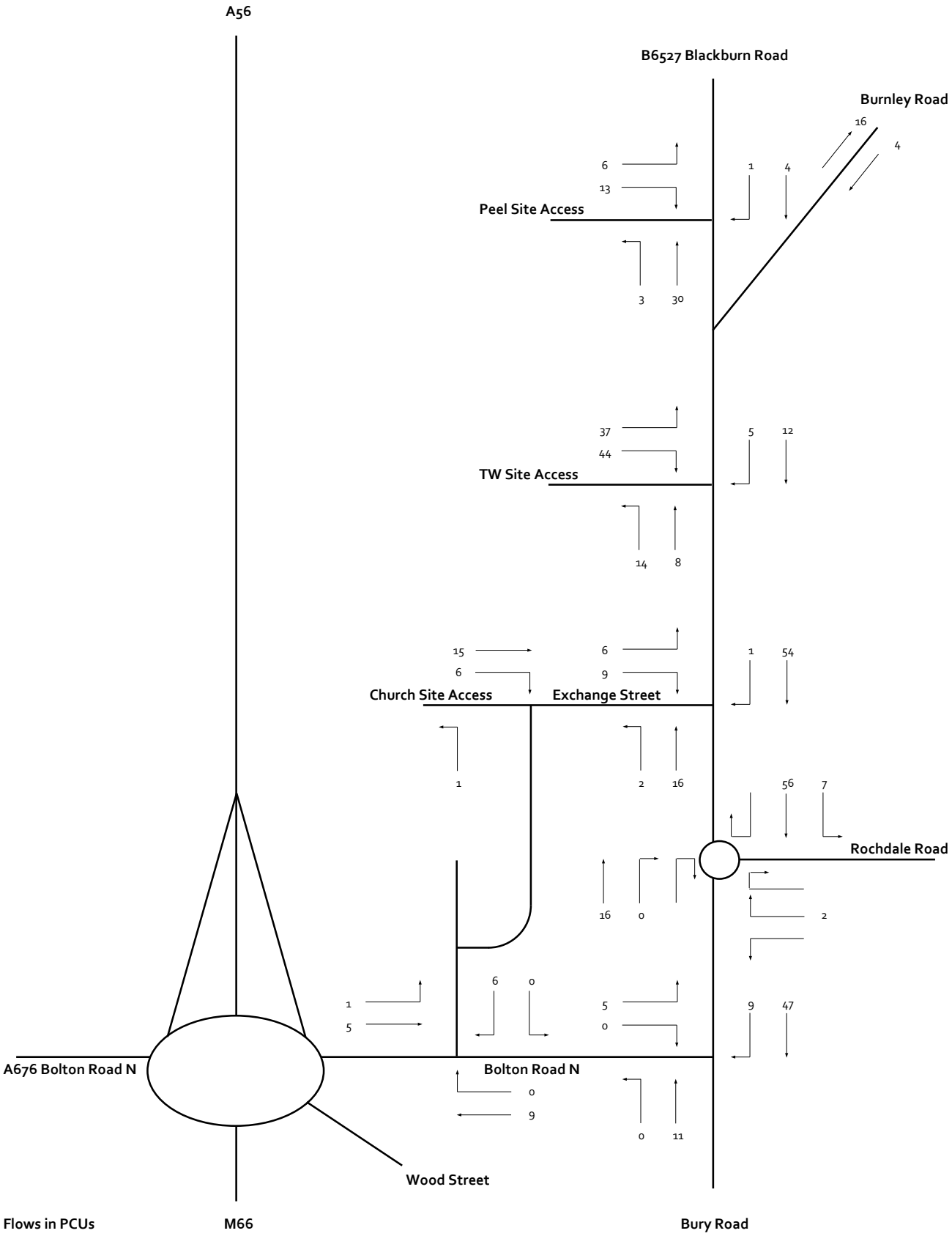

Figure 16 Total Proposed Residential Allocation Trips - AM Peak

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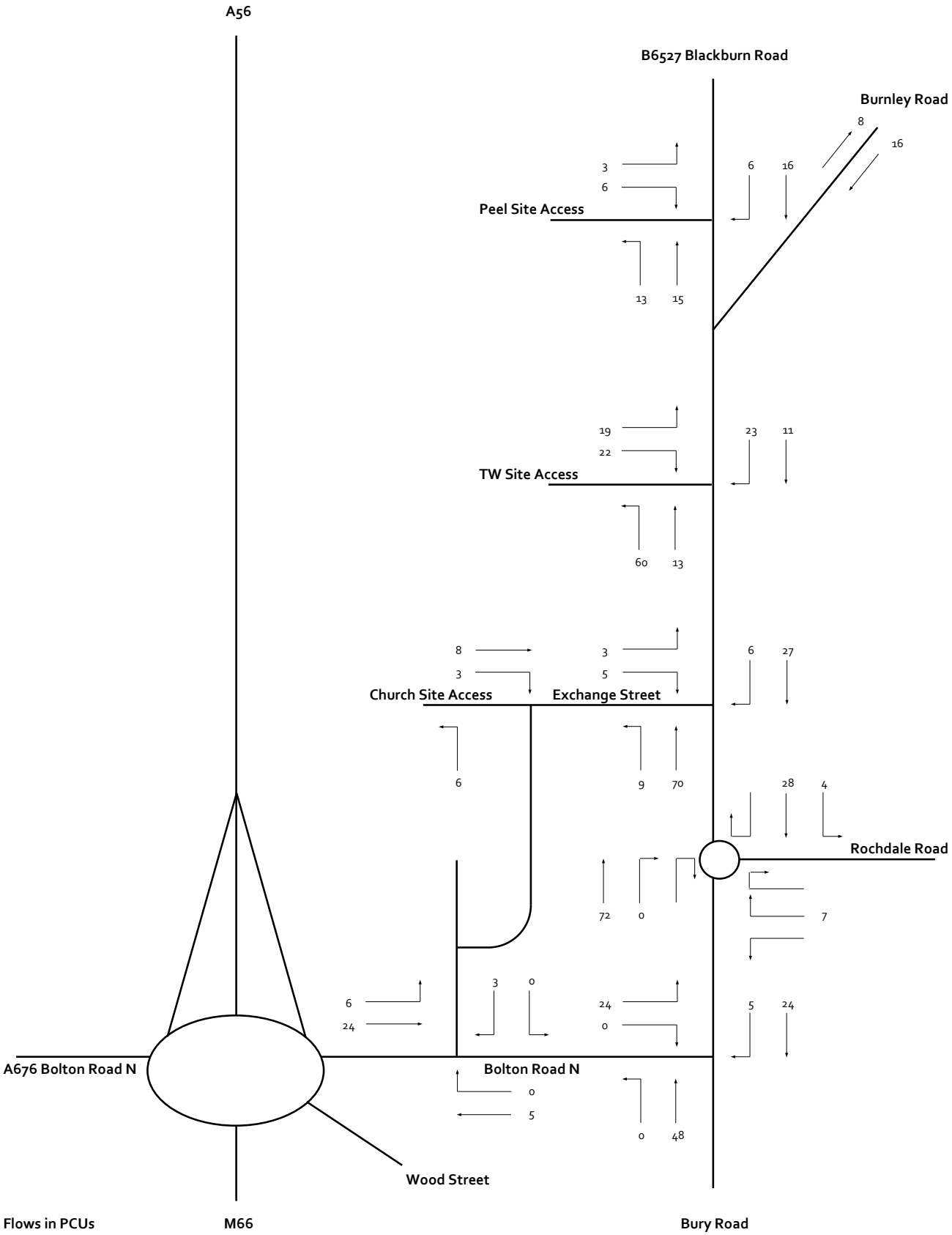

Figure 17 Total Proposed Residential Allocation Trips - PM Peak

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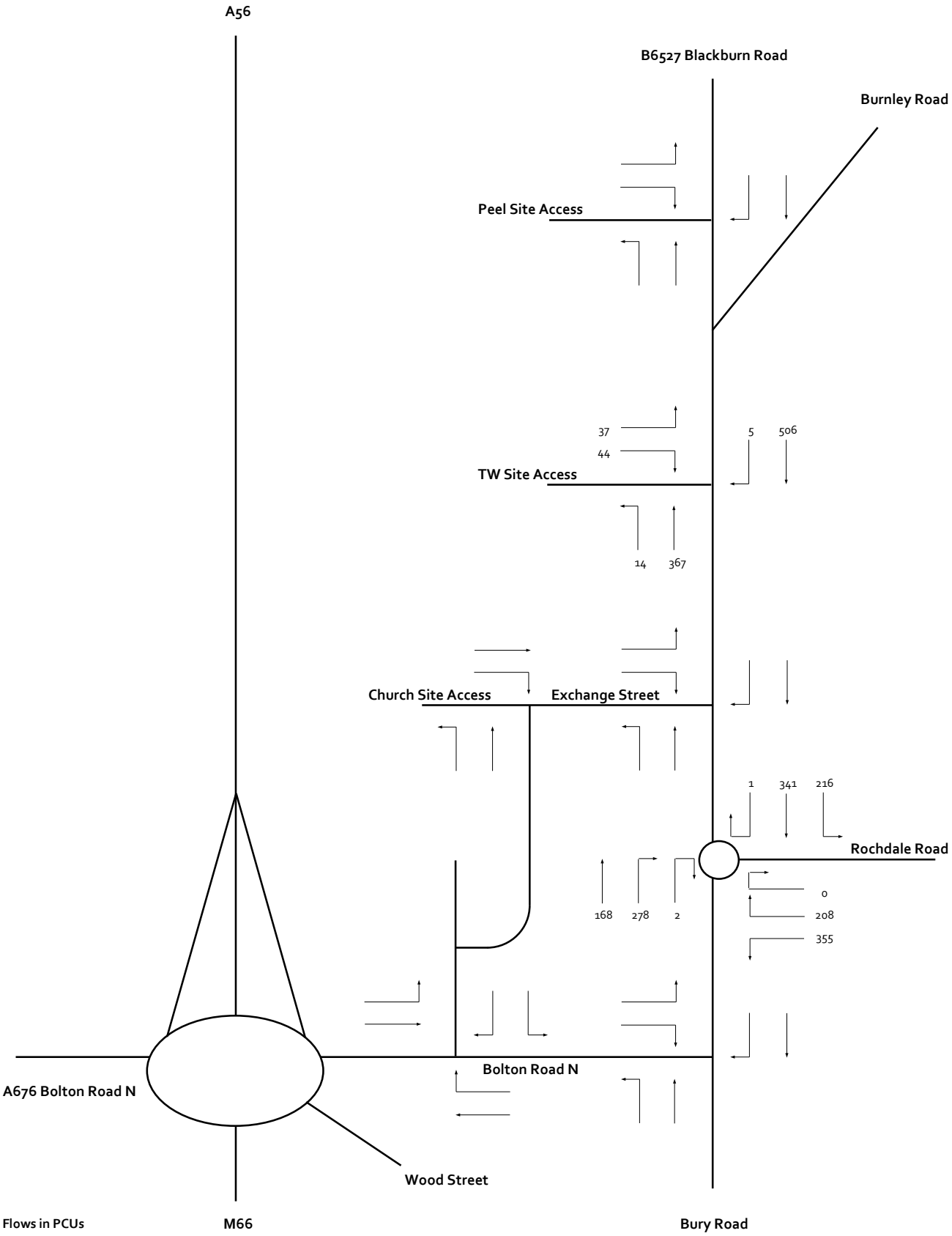

Figure 18 2024 'With Allocation' Flows - Weekday AM Peak

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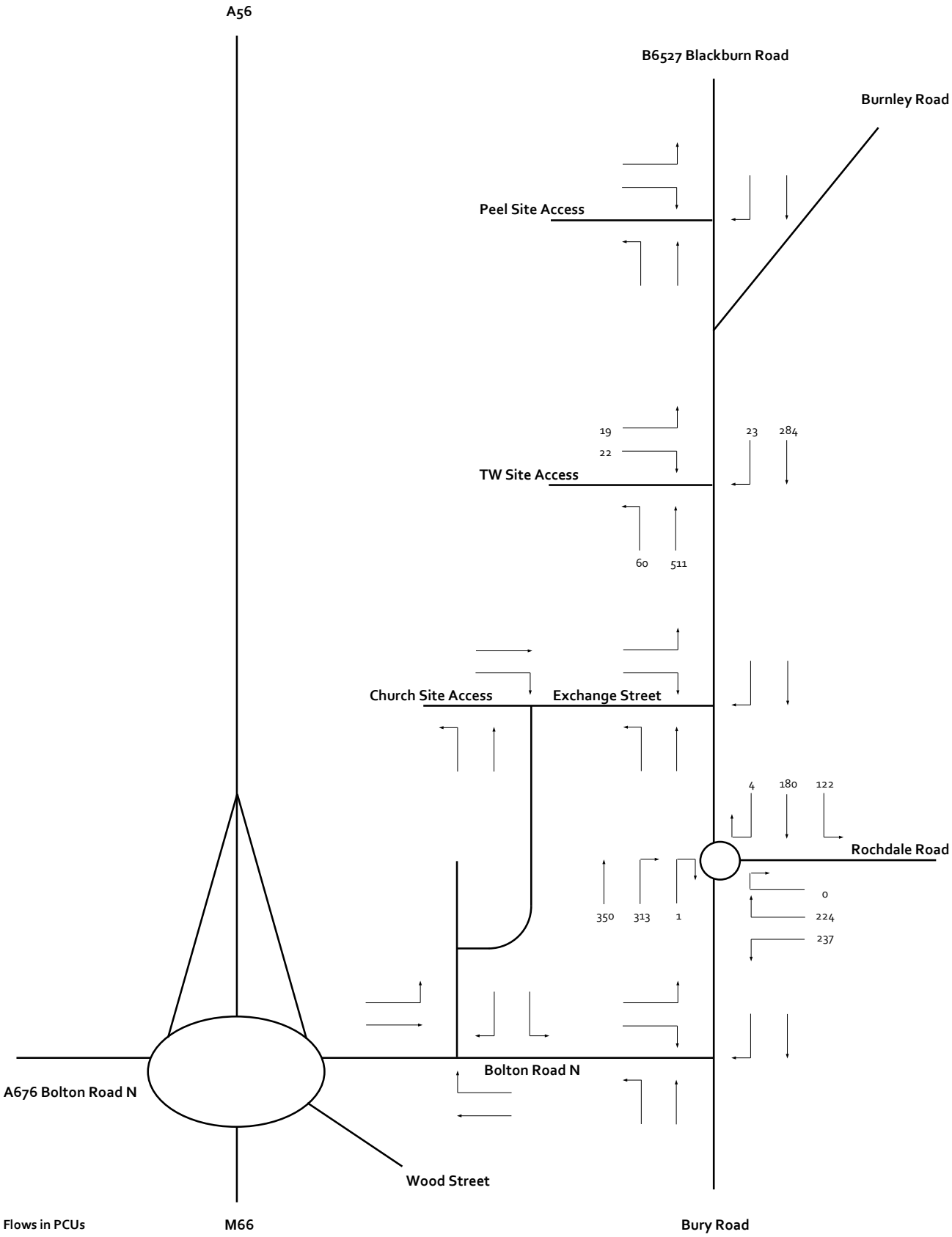

Figure 19 2024 'With Allocation' Flows - Weekday PM Peak

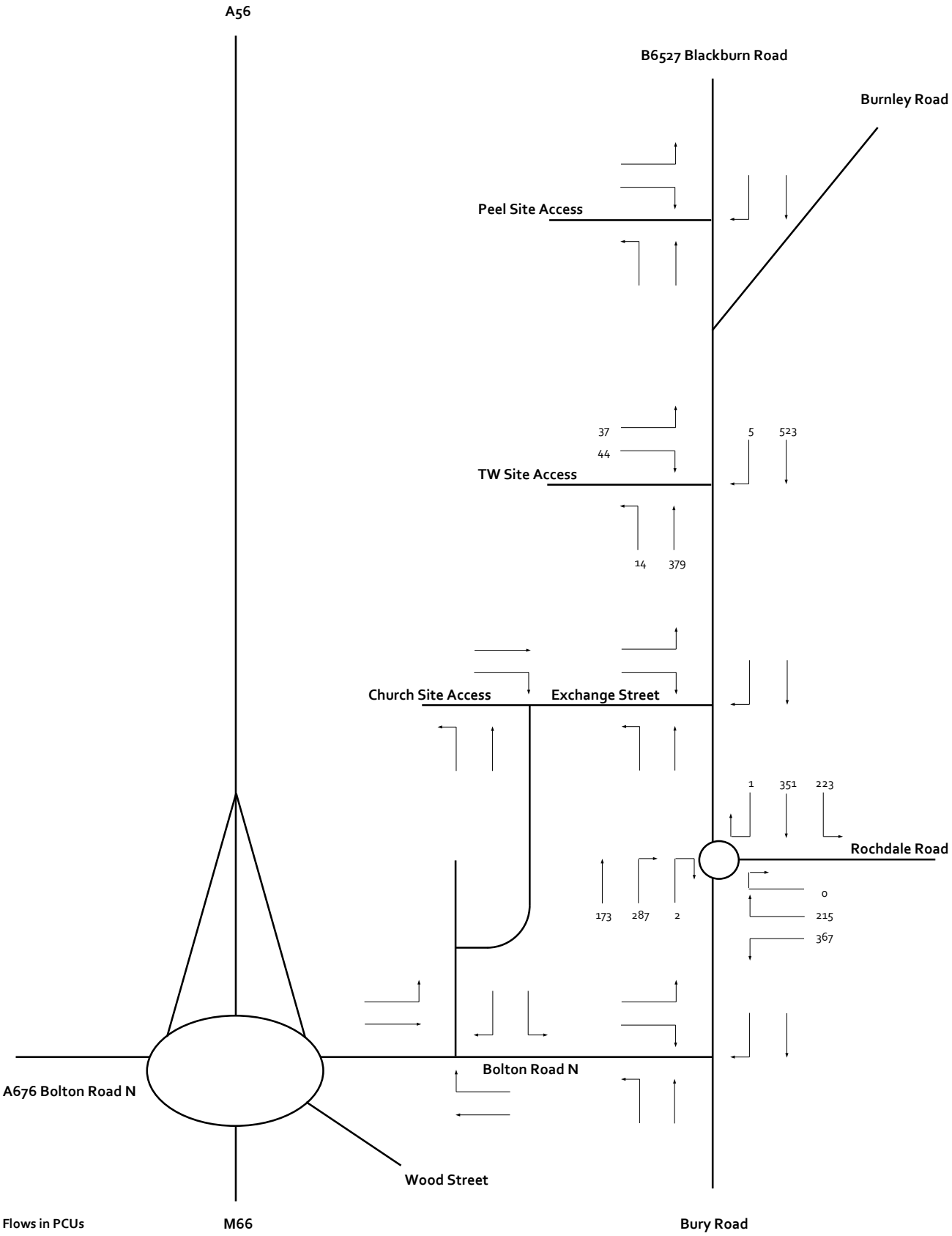

Figure 20 2034 'With Allocation' Flows - Weekday AM Peak

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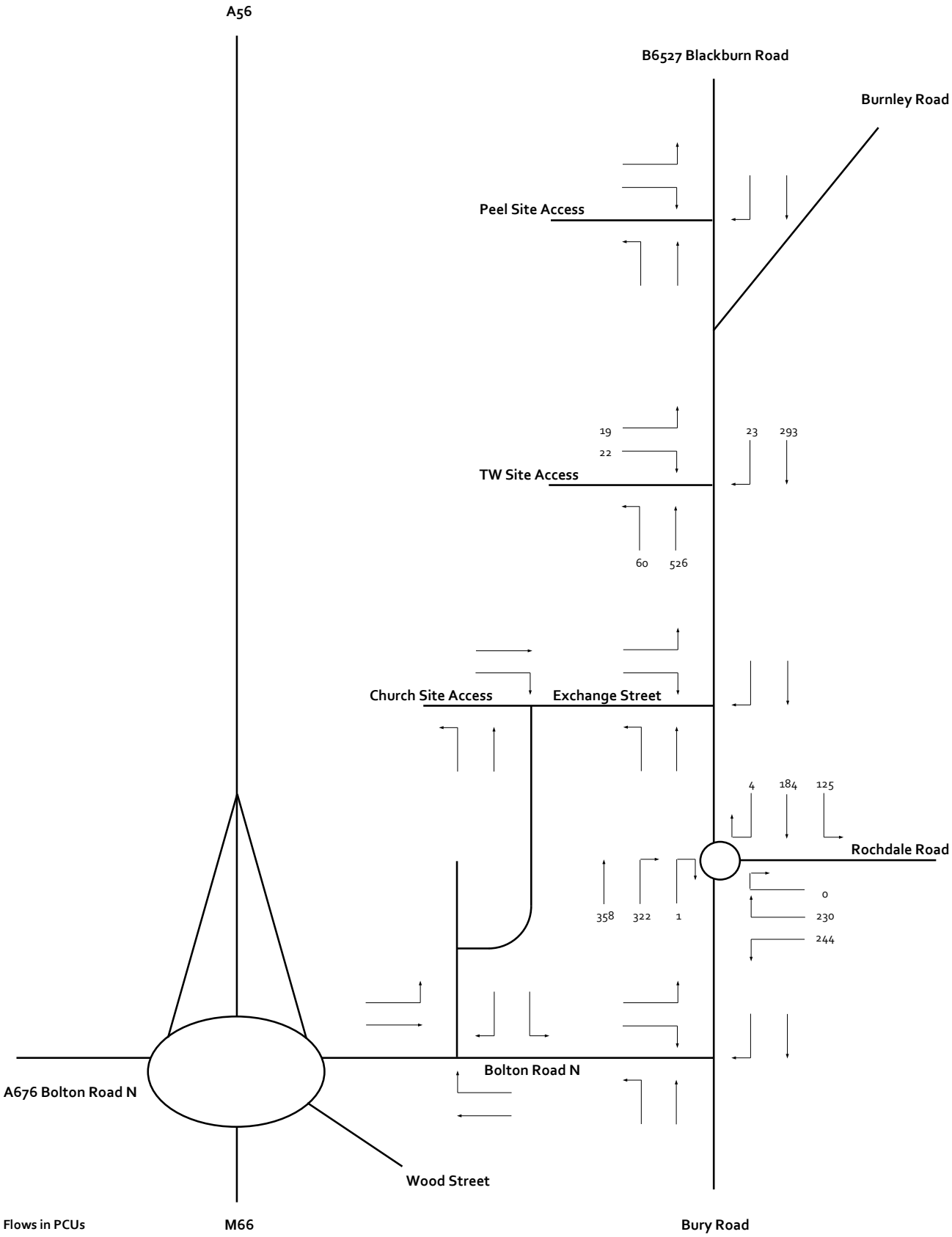

Figure 21 2034 'With Allocation' Flows - Weekday PM Peak

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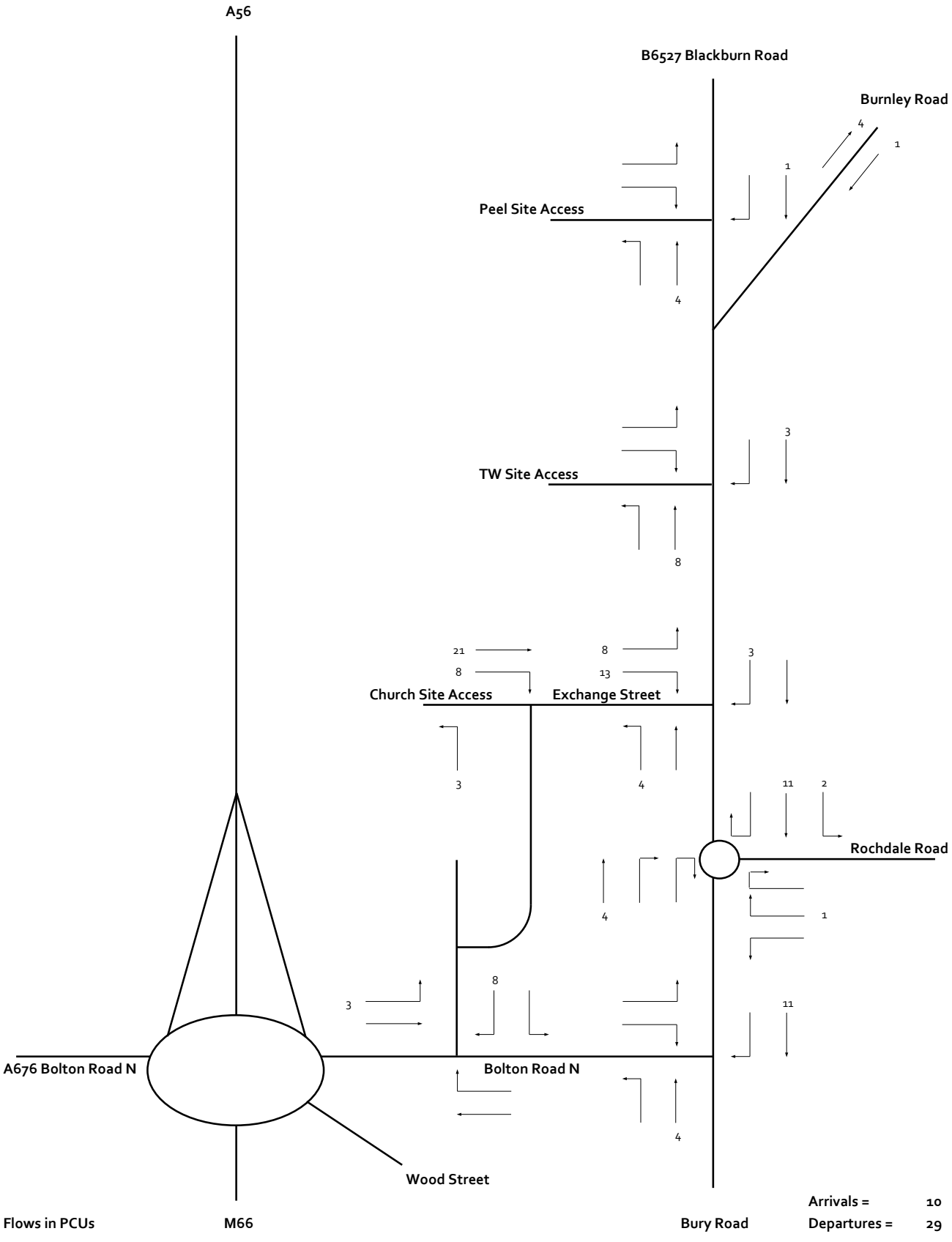

Figure 22 Proposed Church Land Sensitivity Trips - AM Peak

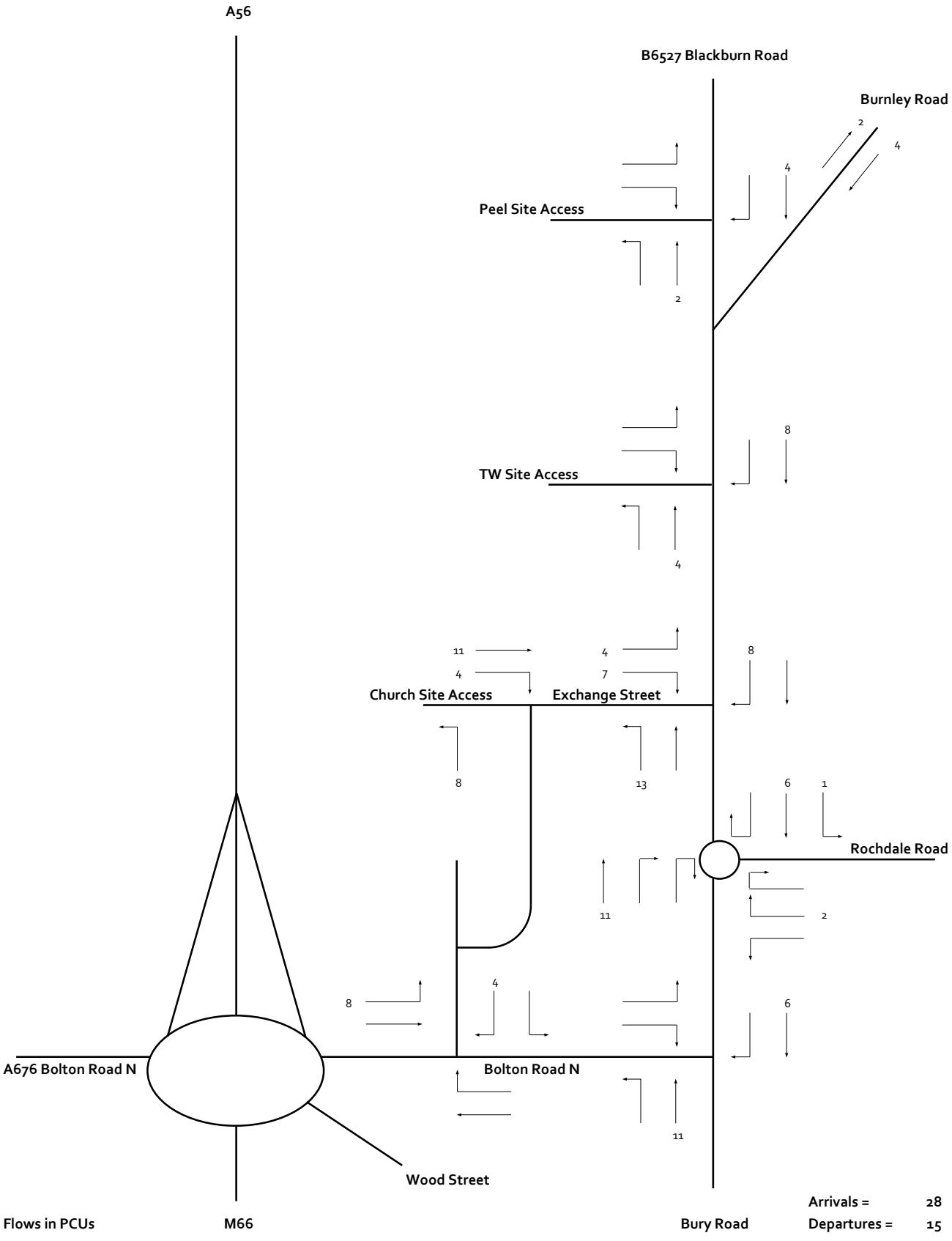

Figure 23 Proposed Church Land Sensitivity Trips - PM Peak

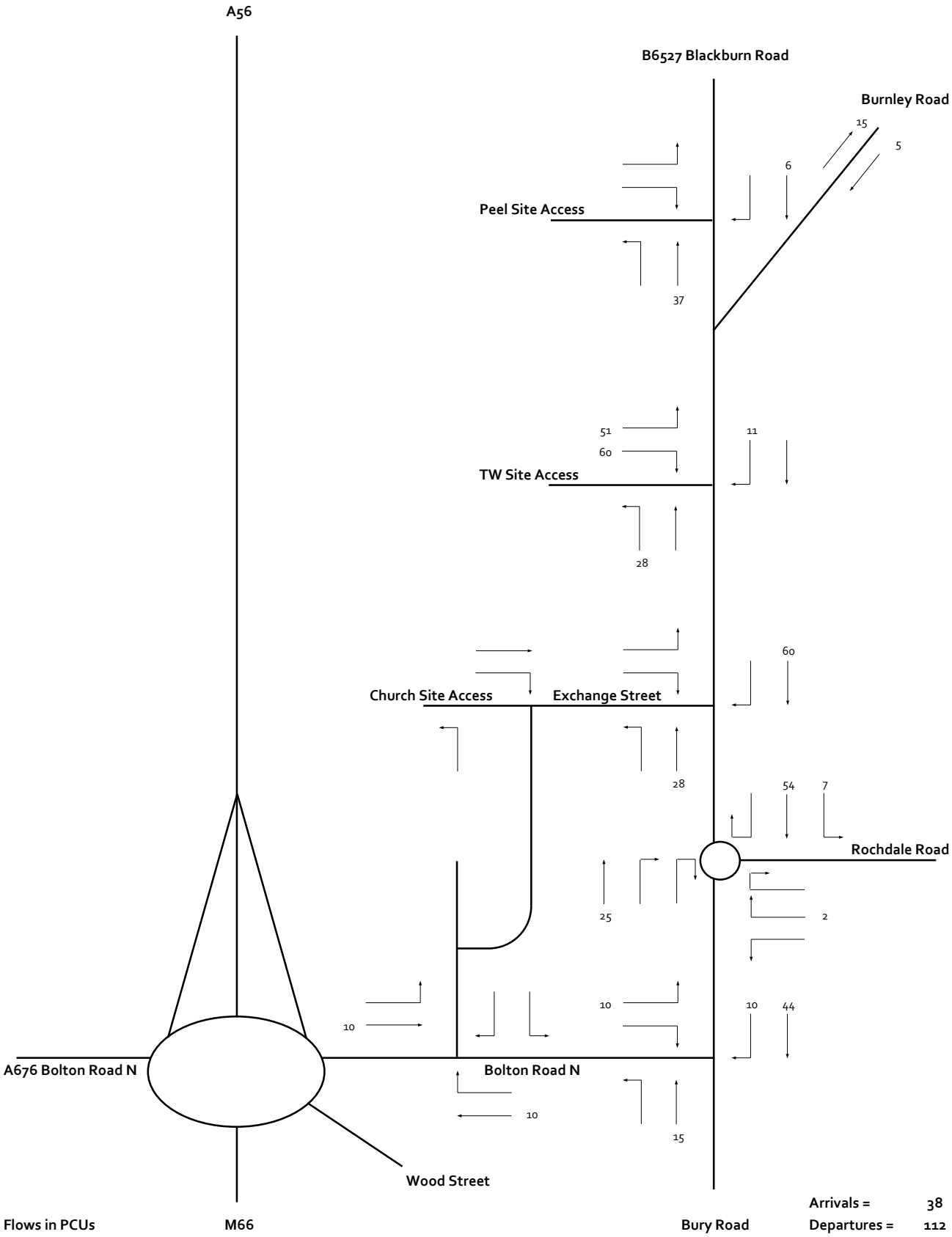

Figure 24 Proposed TW Land Sensitivity Trips - AM Peak

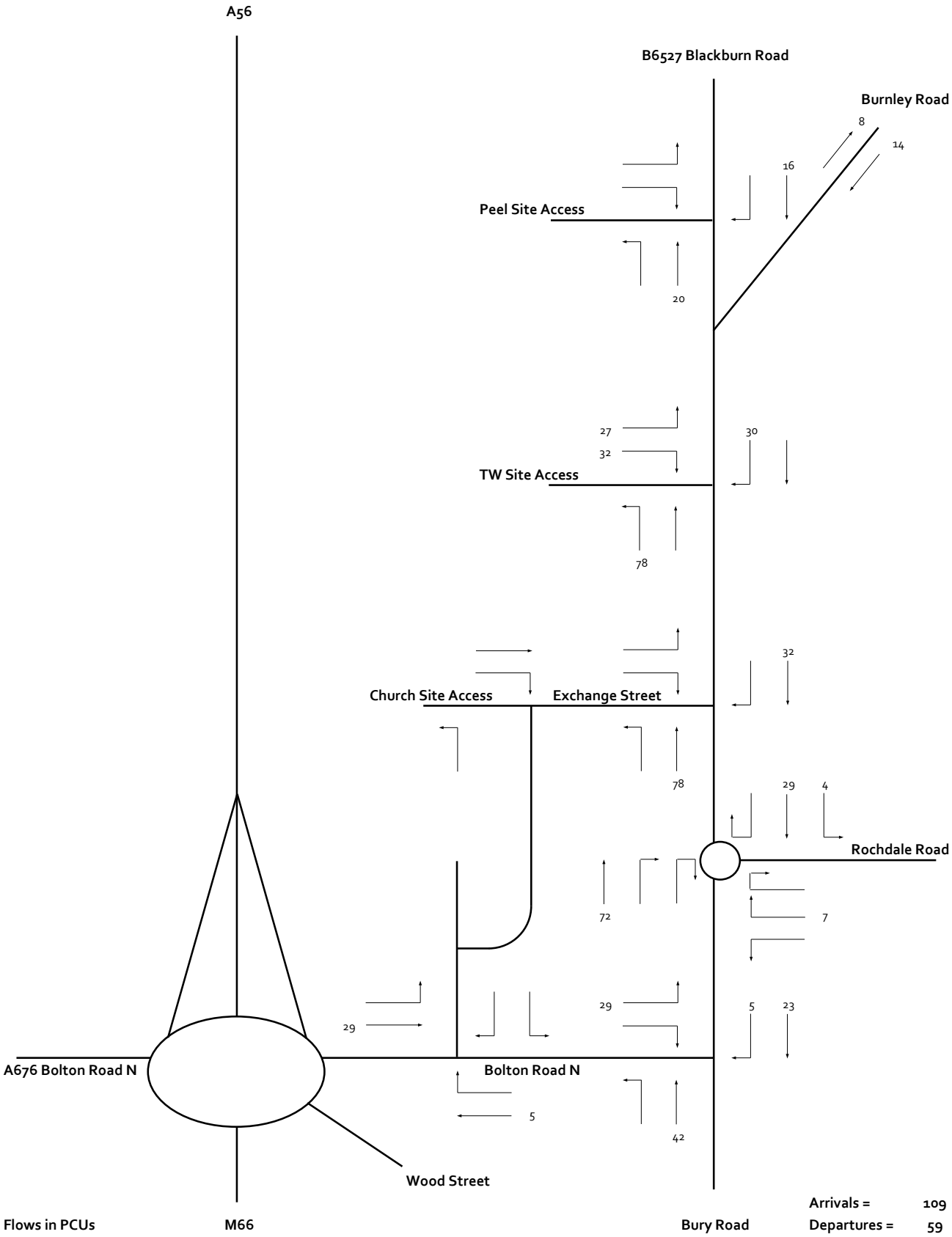

Figure 25 Proposed TW Land Sensitivity Trips - PM Peak

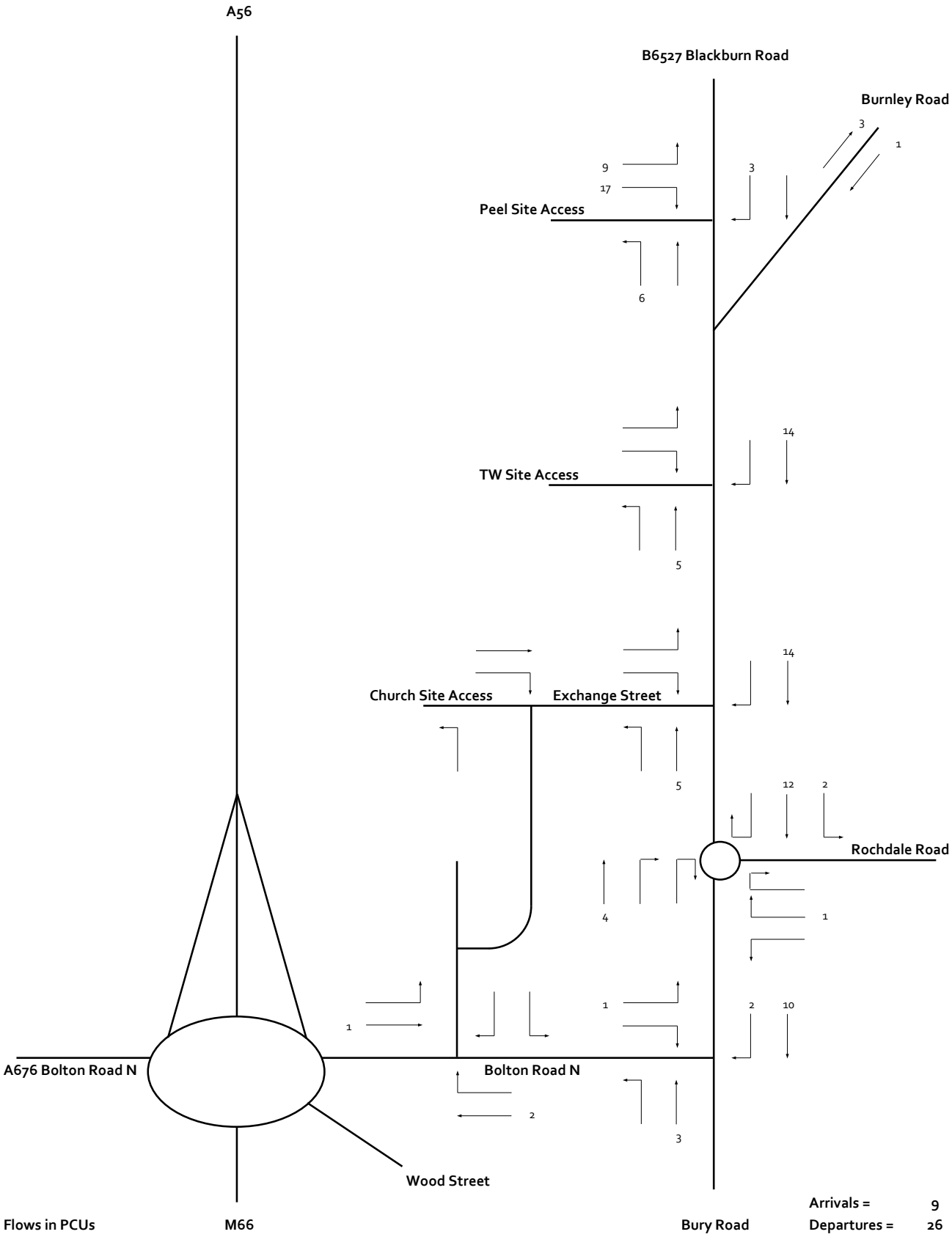

Figure 26 Proposed Peel Land Sensitivity Trips - AM Peak

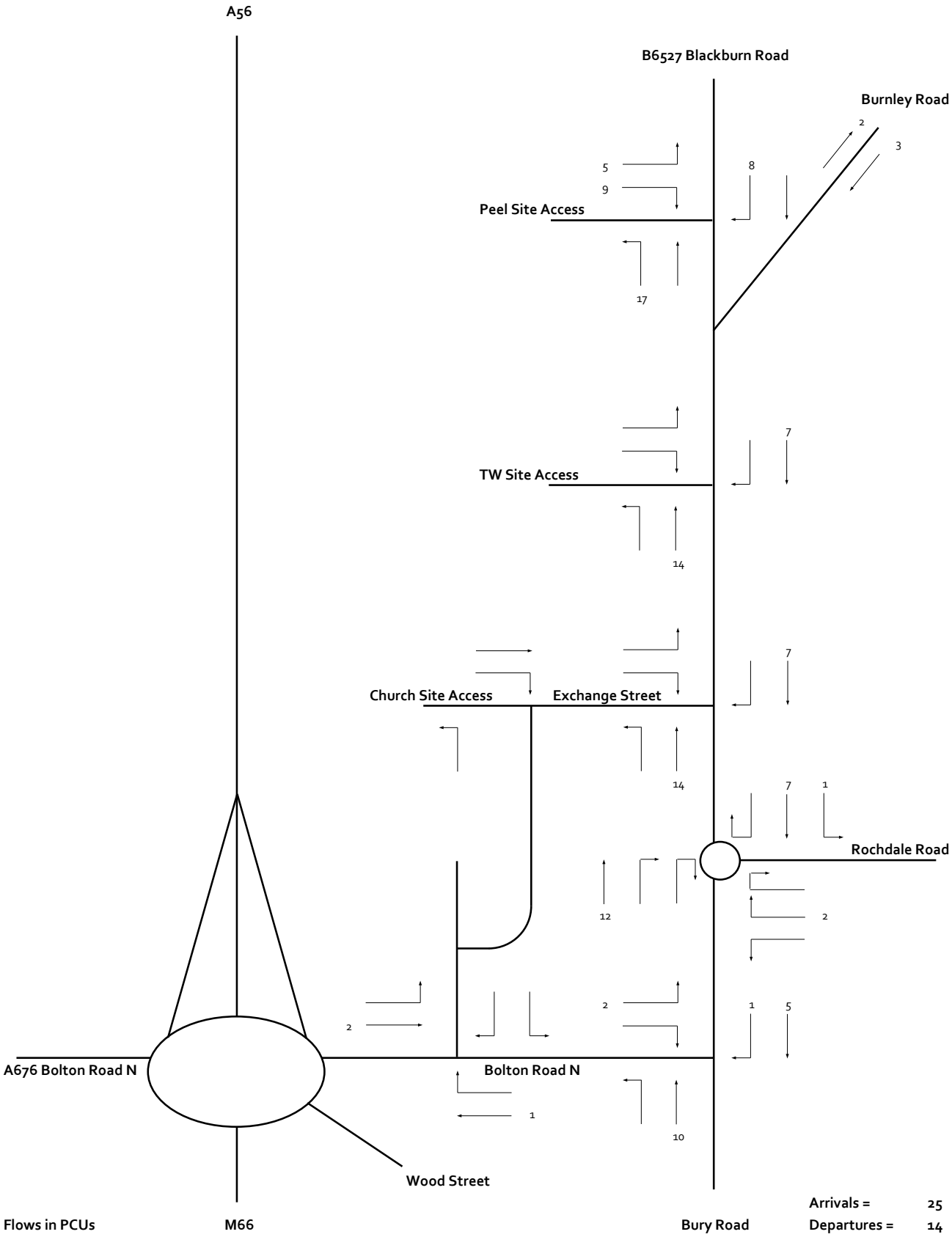

Figure 27 Proposed Peel Land Sensitivity Trips - PM Peak

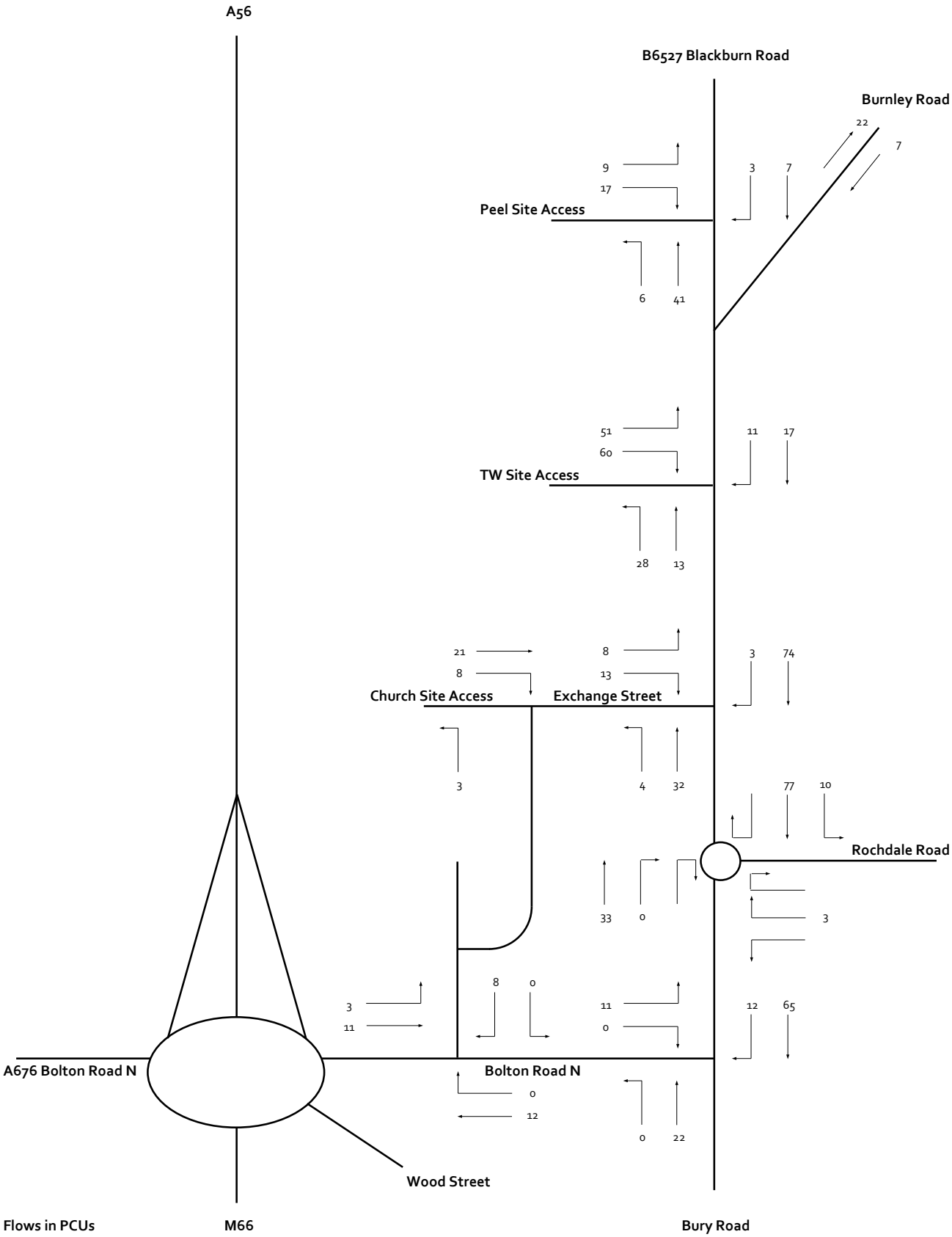

Figure 28 Total Proposed Residential Allocation Sensitivity Trips - AM Peak

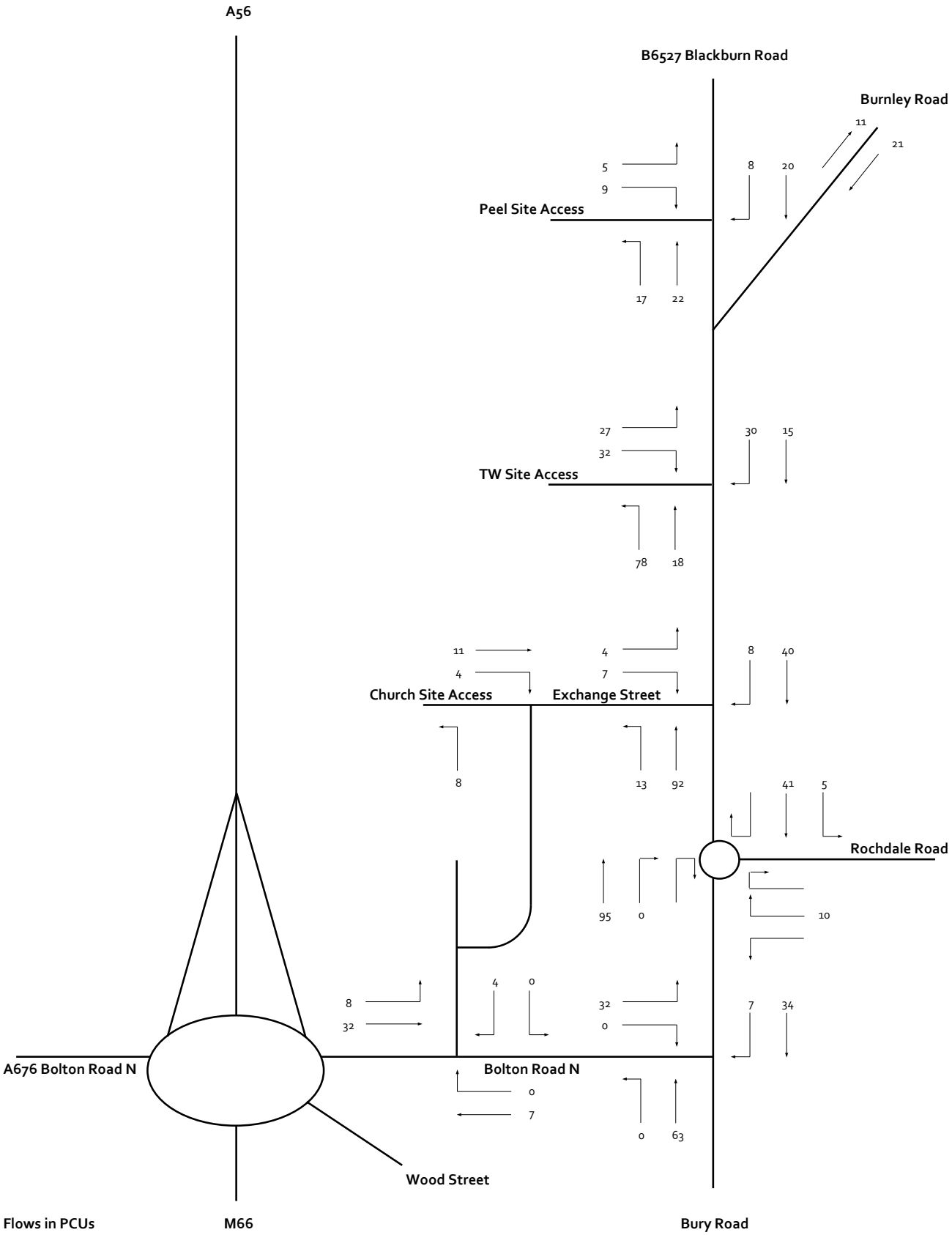

Figure 29 Total Proposed Residential Allocation Sensitivity Trips - PM Peak

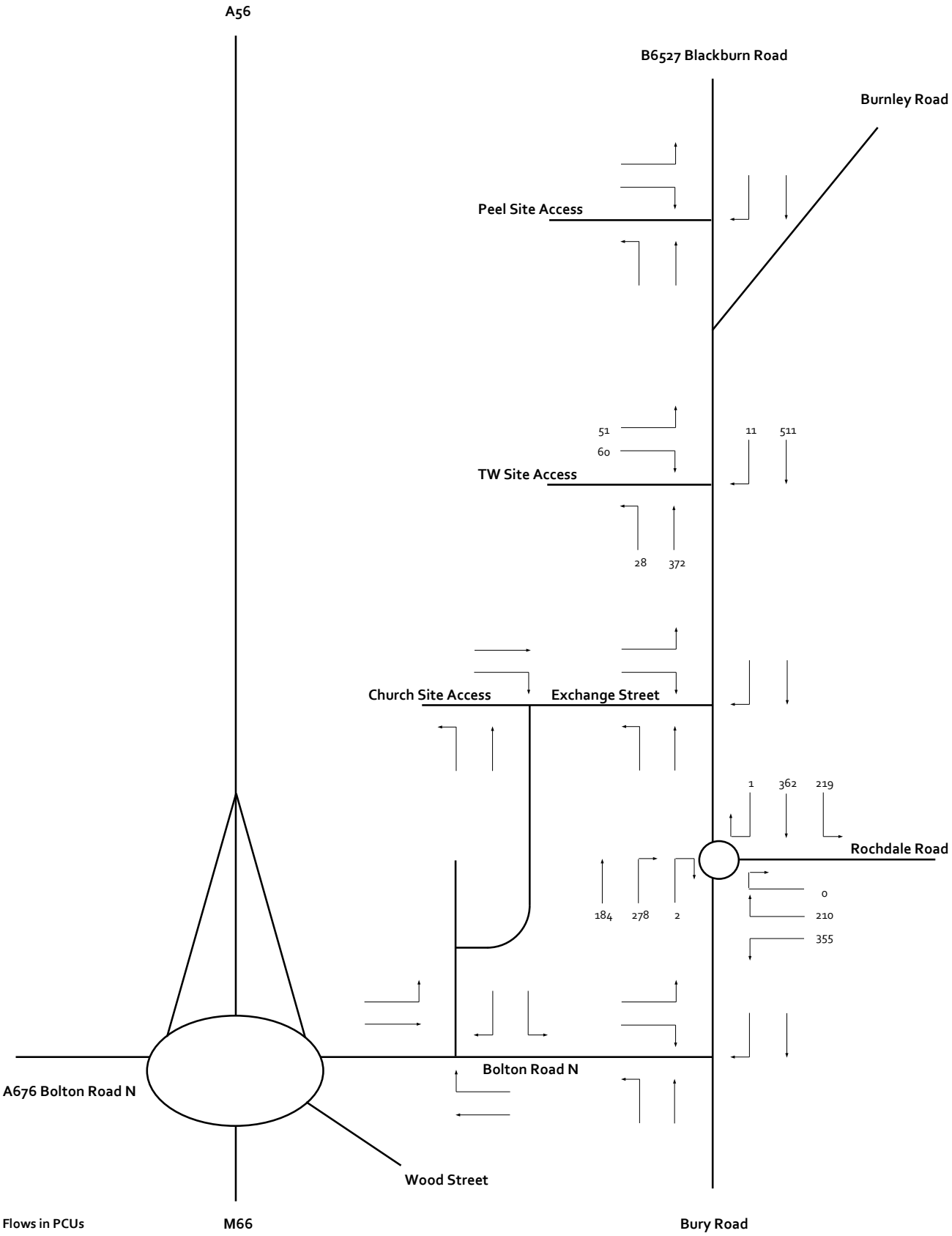

Figure 30 2024 'With Allocation' Sensitivity Flows - Weekday AM Peak

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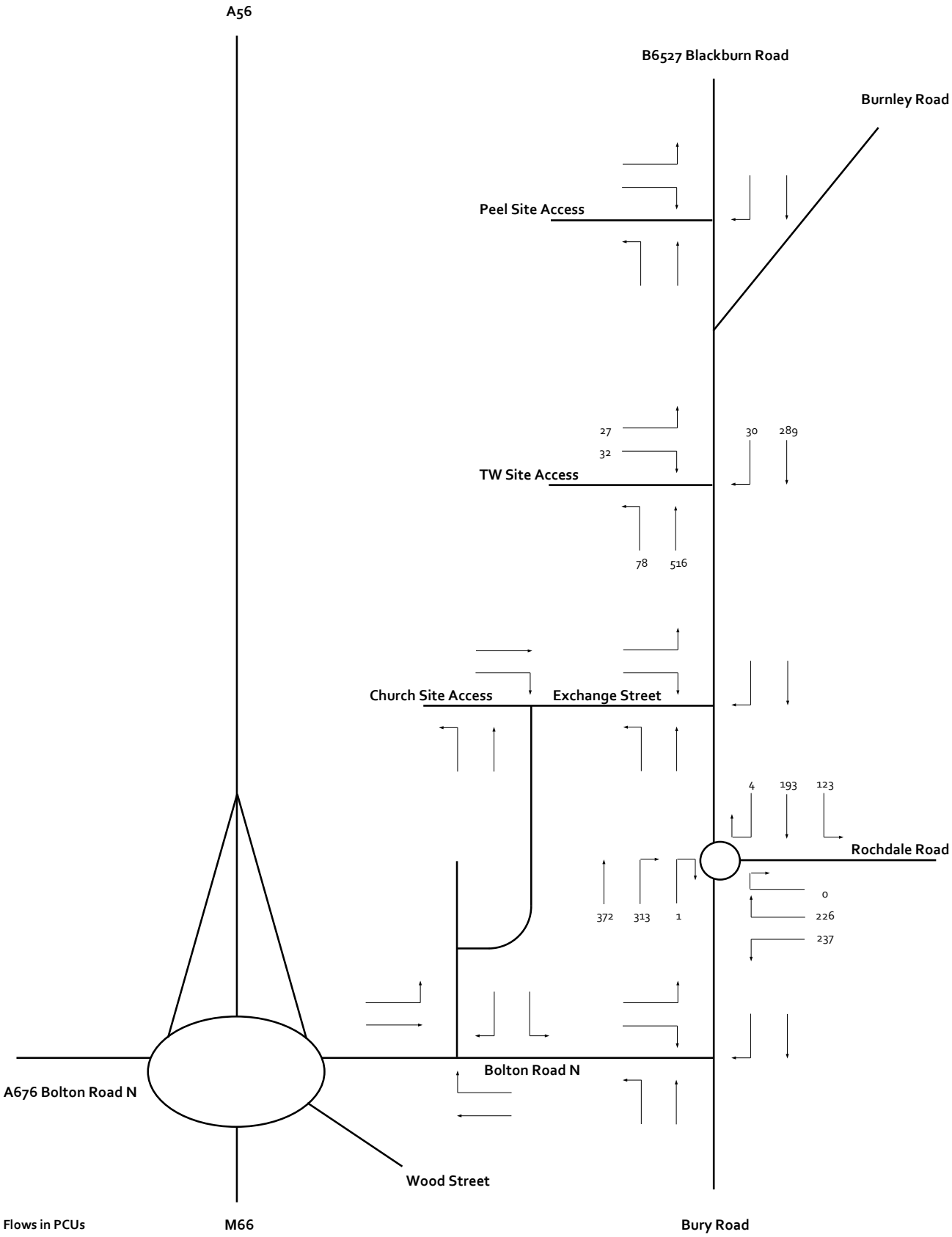

Figure 31 2024 'With Allocation' Sensitivity Flows - Weekday PM Peak

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TRANSPORT PLANNING & DESIGN
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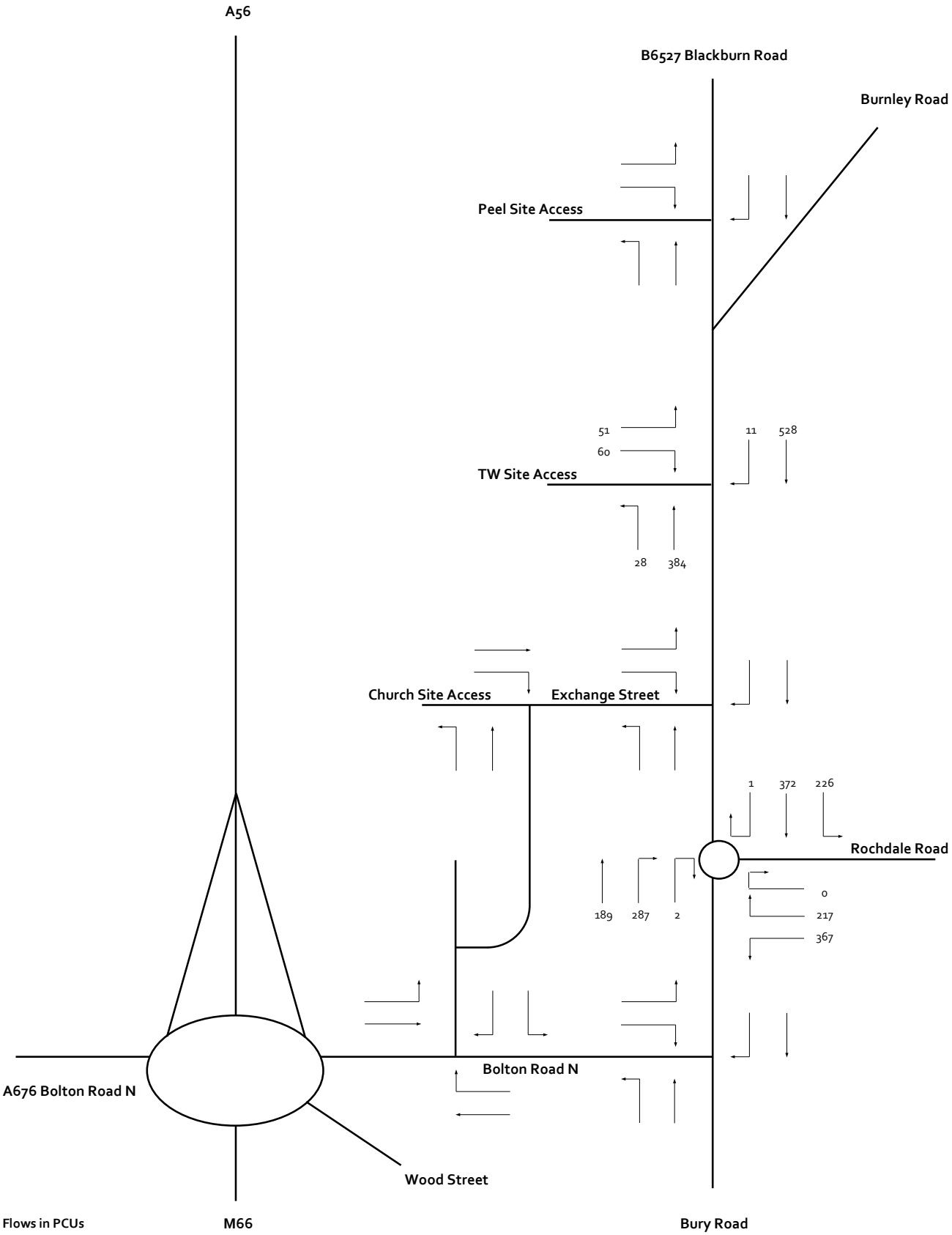

Figure 32 2034 'With Allocation' Sensitivity Flows - Weekday AM Peak

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TRANSPORT PLANNING & DESIGN
Incorporating Croft Transport Planning & Design

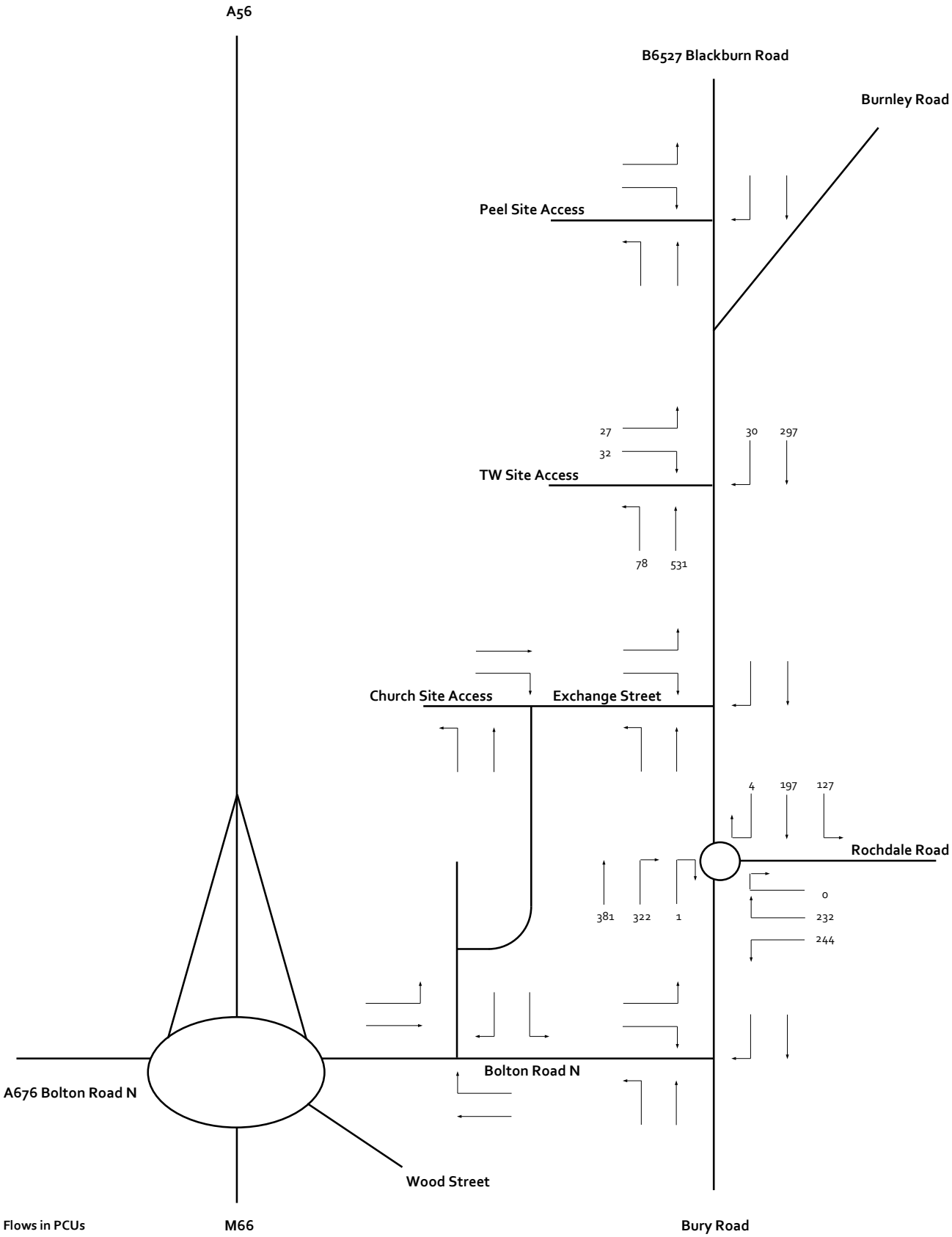

Figure 33 2034 'With Allocation' Sensitivity Flows - Weekday PM Peak

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APPENDICES

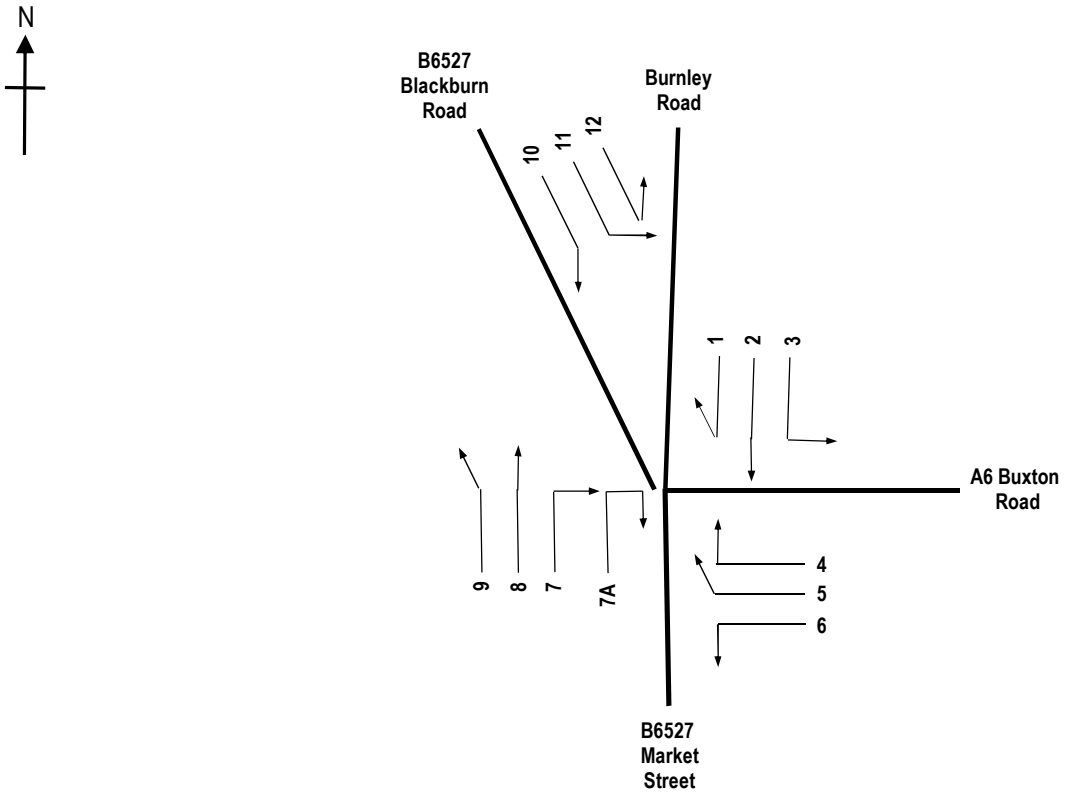
APPENDIX 1

2019 Survey Data

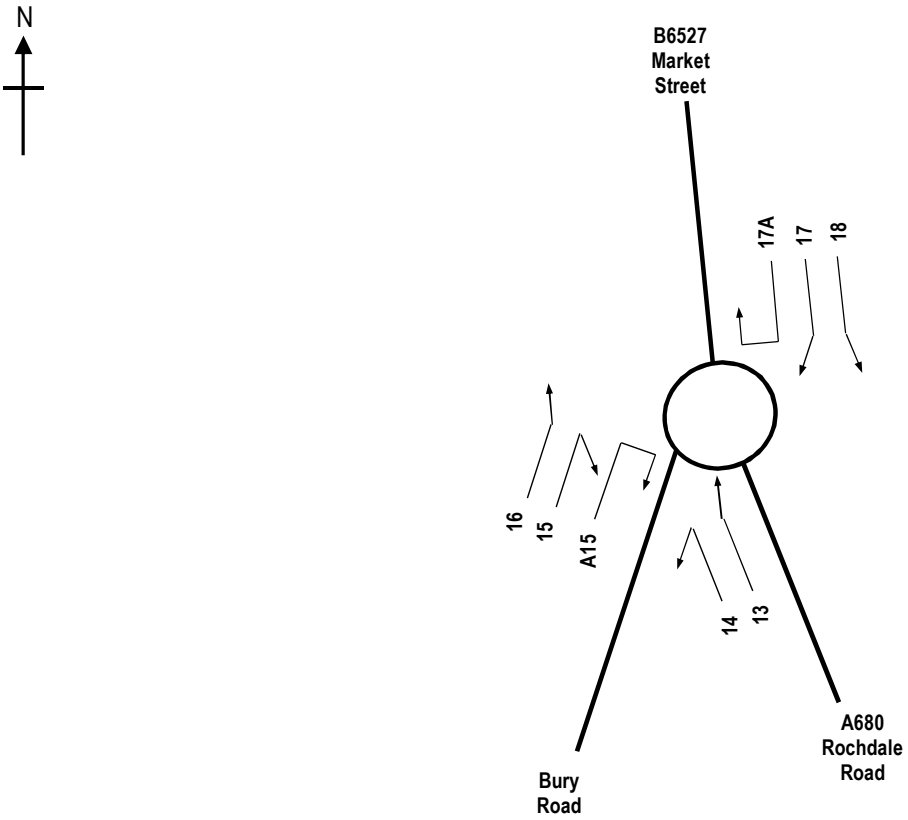
SURVEY CONTROL

Client:	Croft Transport Planning & Design
Client Contact:	Tim Russell
Survey Location:	Edenfield
Date(s) of Survey:	Wednesday 12th June 2019
Notes:	
On Site Supervisor:	David Cheng
Data Checking:	David Cheng
Survey Reference:	2019.107 Edenfield
Status:	Final
Date of Issue:	18th June 2019

JUNCTION 1



JUNCTION 2



DRAWING TITLE

TRAFFIC MOVEMENT REFERENCE

JOB TITLE

2019.107 EDENFIELD

DRAWN BY	DATE	SCALE	REF
DC	JUN 2019	NTS	FIGURE 1

signal surveys

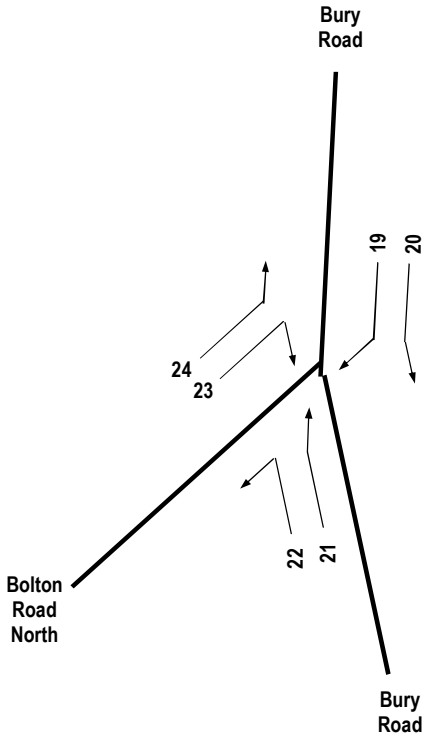
Traffic Counts and Car Park Surveys

Parkway House, Palatine Road, Northenden, Manchester, M22 4DB

Tel 0161 998 4226

N

JUNCTION 3



DRAWING TITLE **TRAFFIC MOVEMENT REFERENCE**			
JOB TITLE **2019.107 EDENFIELD**			
DRAWN BY DC	DATE JUN 2019	SCALE NTS	REF FIGURE 2

signal surveys

Traffic Counts and Car Park Surveys

Parkway House, Palatine Road, Northenden, Manchester, M22 4DB

Tel 0161 998 4226

Time Beginning	Burnley Road/B6527 Blackburn Road/B6527 Market Street - Wednesday 12th June 2019																									
	1		2		3		4		5		6		7A		7		8		9		10		11		12	
	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV
0700	5	0	40	1	0	0	0	0	0	0	0	0	0	0	0	0	26	1	7	0	41	1	0	0	3	0
0715	12	0	58	2	0	0	1	0	0	0	0	0	0	0	0	0	34	1	8	1	44	0	0	0	4	0
0730	22	0	66	3	1	0	0	0	0	0	1	0	0	0	0	0	39	1	19	1	54	1	0	0	9	0
0745	15	0	54	1	0	0	0	0	0	0	0	0	0	0	0	0	45	0	33	1	43	3	0	0	7	0
0800	35	0	59	1	0	0	0	0	0	0	0	0	0	0	0	0	52	2	38	2	48	1	0	0	14	0
0815	50	0	59	0	0	0	0	0	0	0	0	0	0	0	0	0	63	2	26	3	51	0	0	0	25	0
0830	46	0	56	3	0	0	0	0	1	0	1	0	0	0	1	0	47	1	26	1	39	1	1	0	28	0
0845	11	0	36	2	1	0	0	0	2	0	1	0	0	0	2	0	36	0	25	2	41	0	0	0	20	0
0900	9	0	47	1	0	0	0	0	0	0	1	0	0	0	0	0	38	0	38	1	22	3	0	0	22	0
0915	5	0	34	1	0	0	0	0	1	0	0	0	0	0	0	0	13	0	17	3	26	2	0	0	9	0

Time Beginning	Burnley Road/B6527 Blackburn Road/B6527 Market Street - Wednesday 12th June 2019																									
	1		2		3		4		5		6		7A		7		8		9		10		11		12	
	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV
1530	15	0	28	1	0	0	0	0	1	0	0	0	1	0	1	0	39	3	27	1	19	0	1	0	16	0
1545	7	0	27	1	0	0	0	0	1	0	0	0	0	0	0	0	35	1	39	1	21	1	0	0	12	0
1600	10	0	30	2	0	0	0	0	1	0	1	0	0	0	1	0	47	0	46	3	21	3	0	0	19	0
1615	11	0	31	0	0	0	0	0	0	0	2	0	1	0	0	0	52	2	50	1	24	3	0	0	15	0
1630	23	0	37	2	0	0	0	0	0	0	0	0	0	0	0	0	56	0	50	0	15	0	0	0	20	0
1645	22	0	32	1	0	0	1	0	0	0	1	0	0	0	0	0	60	0	53	2	35	1	1	0	24	0
1700	21	0	39	1	0	0	0	0	0	0	0	0	0	0	1	0	59	3	65	0	30	0	0	0	23	0
1715	16	0	27	1	0	0	0	0	0	0	0	0	1	0	0	0	54	1	48	1	29	0	0	0	31	0
1730	25	0	34	1	0	0	0	0	0	0	0	0	0	0	1	0	62	1	46	1	24	1	0	0	31	0
1745	12	0	33	2	0	0	0	0	0	0	0	0	0	0	0	0	58	0	39	4	18	1	0	0	23	1

Time Beginning	B6527 Market Street/A680 Rochdale Road/Bury Road - Wednesday 12th June 2019															
	13		14		15A		15		16		17A		17		18	
	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV
0700	25	0	54	2	0	0	32	2	7	1	1	0	47	4	36	2
0715	26	2	49	1	0	0	44	4	15	2	1	0	61	2	45	0
0730	45	1	78	5	1	0	59	3	23	2	0	0	63	5	54	1
0745	45	1	63	7	1	0	50	6	32	3	0	0	71	5	42	0
0800	49	1	95	2	0	0	61	6	39	1	1	0	63	2	48	1
0815	52	2	73	4	0	0	62	4	27	7	0	0	54	1	55	0
0830	40	0	62	5	1	0	48	4	27	3	0	0	66	4	29	3
0845	41	0	64	7	0	0	34	7	37	4	1	0	42	2	26	1
0900	22	2	55	5	0	0	37	6	33	1	0	0	57	3	33	0
0915	19	2	33	5	0	0	35	5	17	2	0	0	38	4	19	1

Time Beginning	B6527 Market Street/A680 Rochdale Road/Bury Road - Wednesday 12th June 2019															
	13		14		15A		15		16		17A		17		18	
	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV
1530	23	4	44	2	0	0	63	4	32	3	0	0	29	2	22	0
1545	33	2	69	5	0	0	38	5	44	1	2	0	36	2	18	0
1600	46	1	62	3	0	0	68	5	49	7	0	0	29	2	22	1
1615	51	1	55	1	0	0	69	4	56	5	0	0	32	2	22	2
1630	45	2	54	3	0	0	59	2	54	1	1	0	27	3	21	1
1645	53	0	61	3	1	0	62	2	58	5	0	0	35	4	30	0
1700	60	1	56	1	0	0	90	0	61	1	2	0	40	2	28	0
1715	51	0	61	0	0	0	75	3	63	0	1	0	31	1	25	0
1730	43	1	43	1	0	0	68	0	71	3	1	0	26	1	30	1
1745	57	1	61	2	0	0	63	0	64	3	0	0	29	2	21	1

Time Beginning	Bury Road/Bolton Road North - Wednesday 12th June 2019											
	19		20		21		22		23		24	
	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV
0700	58	2	44	3	6	0	0	0	0	0	35	1
0715	57	1	64	1	19	2	0	0	1	0	45	2
0730	78	4	78	3	22	1	1	0	3	0	58	0
0745	83	5	51	6	16	5	1	0	2	0	60	4
0800	99	1	59	1	23	1	2	0	0	0	67	4
0815	81	2	47	4	25	5	1	0	0	0	66	4
0830	83	1	58	3	31	3	0	0	0	0	44	2
0845	71	5	38	4	23	3	4	0	0	0	46	3
0900	61	6	51	1	29	4	3	0	1	0	51	2
0915	36	2	37	6	31	2	4	0	0	0	29	5

Time Beginning	Bury Road/Bolton Road North - Wednesday 12th June 2019											
	19		20		21		22		23		24	
	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV
1530	41	1	32	1	31	2	1	0	1	0	64	4
1545	64	4	39	2	34	3	6	0	2	0	58	1
1600	50	3	39	2	52	5	3	0	5	0	68	4
1615	56	3	33	0	55	5	8	0	4	0	75	3
1630	55	1	31	3	52	2	4	0	1	0	63	1
1645	59	2	35	1	51	2	4	0	2	0	76	2
1700	53	0	44	2	52	1	5	0	2	0	99	0
1715	62	0	35	1	55	1	6	0	2	0	84	0
1730	40	1	36	0	60	1	6	0	1	0	83	1
1745	70	1	23	1	54	1	6	0	3	0	74	1

APPENDIX 2

JUNCTIONS9 Output for the

Market Street/Rochdale Road Mini-Roundabout

Junctions 9

ARCADY 9 - Roundabout Module

Filename: Bury Road - Rochdale Road Mini.j9 01.10.19.j9
Path: Z:\projects\1537 Market Street, Edenfield\Arcady
Report generation date: 02/10/2019 13:19:02

Summary of junction performance

	AM				PM			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
	2024 Base Flows							
Arm 1	1.1	8.18	0.53	A	0.4	5.64	0.30	A
Arm 2	3.5	22.76	0.78	C	1.3	10.38	0.57	B
Arm 3	1.0	8.46	0.50	A	2.3	13.99	0.70	B
	2034 Base Flows							
Arm 1	1.2	8.61	0.55	A	0.4	5.76	0.31	A
Arm 2	4.2	26.82	0.81	D	1.4	10.90	0.59	B
Arm 3	1.1	8.84	0.52	A	2.5	15.27	0.72	C
	2024 With Allocation Flows							
Arm 1	1.5	9.54	0.60	A	0.5	5.94	0.34	A
Arm 2	4.4	29.13	0.82	D	1.4	11.19	0.59	B
Arm 3	1.1	8.82	0.52	A	3.6	19.94	0.79	C
	2034 With Allocation Flows							
Arm 1	1.6	10.16	0.62	B	0.5	6.07	0.35	A
Arm 2	5.6	36.21	0.86	E	1.5	11.75	0.61	B
Arm 3	1.2	9.23	0.54	A	4.2	22.52	0.81	C
	2024 With Allocation Sensitivity Flows							
Arm 1	1.6	10.19	0.62	B	0.5	6.08	0.35	A
Arm 2	5.0	33.08	0.84	D	1.5	11.55	0.60	B
Arm 3	1.2	9.21	0.54	A	4.2	22.85	0.81	C
	2034 With Allocation Sensitivity Flows							
Arm 1	1.8	10.90	0.64	B	0.6	6.23	0.36	A
Arm 2	6.5	42.08	0.88	E	1.6	12.15	0.62	B
Arm 3	1.3	9.67	0.56	A	5.0	26.44	0.84	D

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	
Location	
Site number	
Date	17/10/2018
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	Cadworkstation4\Kyle
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	2024 Base Flows	AM	FLAT	08:00	09:00	60	15
D2	2024 Base Flows	PM	FLAT	17:00	18:00	60	15
D3	2034 Base Flows	AM	FLAT	08:00	09:00	60	15
D4	2034 Base Flows	PM	FLAT	17:00	18:00	60	15
D5	2024 With Allocation Flows	AM	FLAT	08:00	09:00	60	15
D6	2024 With Allocation 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
D9	2024 With Allocation Sensitivity Flows	AM	FLAT	08:00	09:00	60	15
D10	2024 With Allocation Sensitivity Flows	PM	FLAT	17:00	18:00	60	15
D11	2034 With Allocation Sensitivity Flows	AM	FLAT	08:00	09:00	60	15
D12	2034 With Allocation Sensitivity Flows	PM	FLAT	17:00	18:00	60	15

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

2024 Base 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	13.76	B

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	2024 Base 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		✓	495	100.000
2		✓	562	100.000
3		✓	431	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		1	2	3
From	1	1	209	285
	2	207	0	355
	3	151	278	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	0.53	8.18	1.1	A
2	0.78	22.76	3.5	C
3	0.50	8.46	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	495	277	937	0.528	491	1.1	7.989	A
2	562	285	721	0.780	549	3.2	19.721	C
3	431	203	860	0.501	427	1.0	8.248	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	495	280	935	0.529	495	1.1	8.173	A
2	562	288	719	0.781	561	3.4	22.524	C
3	431	208	857	0.503	431	1.0	8.450	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	495	280	935	0.529	495	1.1	8.175	A
2	562	288	719	0.781	562	3.4	22.689	C
3	431	208	857	0.503	431	1.0	8.454	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	495	280	935	0.529	495	1.1	8.177	A
2	562	288	719	0.781	562	3.5	22.757	C
3	431	208	857	0.503	431	1.0	8.456	A

2024 Base 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	11.02	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)
D2	2024 Base 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		✓	274	100.000
2		✓	453	100.000
3		✓	592	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		1	2	3
From	1	4	118	152
	2	216	0	237
	3	278	313	1

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	0.30	5.64	0.4	A
2	0.57	10.38	1.3	B
3	0.70	13.99	2.3	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	274	309	915	0.299	272	0.4	5.584	A
2	453	156	800	0.566	448	1.3	10.074	B
3	592	218	851	0.696	583	2.2	13.075	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	274	314	912	0.300	274	0.4	5.639	A
2	453	157	800	0.566	453	1.3	10.376	B
3	592	220	849	0.697	592	2.2	13.957	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	274	314	912	0.300	274	0.4	5.640	A
2	453	157	800	0.566	453	1.3	10.378	B
3	592	220	849	0.697	592	2.3	13.983	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	274	314	912	0.300	274	0.4	5.640	A
2	453	157	800	0.566	453	1.3	10.377	B
3	592	220	849	0.697	592	2.3	13.991	B

2034 Base 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	15.56	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)
D3	2034 Base 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		✓	511	100.000
2		✓	581	100.000
3		✓	445	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		1	2	3
From	1	1	216	294
	2	214	0	367
	3	156	287	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	8.61	1.2	A
2	0.81	26.82	4.2	D
3	0.52	8.84	1.1	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	511	286	931	0.549	506	1.2	8.385	A
2	581	294	716	0.812	566	3.8	22.236	C
3	445	209	856	0.520	441	1.1	8.586	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	511	289	929	0.550	511	1.2	8.605	A
2	581	297	714	0.814	580	4.1	26.376	D
3	445	215	853	0.522	445	1.1	8.828	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	511	289	929	0.550	511	1.2	8.607	A
2	581	297	714	0.814	581	4.2	26.702	D
3	445	215	852	0.522	445	1.1	8.834	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	511	289	929	0.550	511	1.2	8.609	A
2	581	297	714	0.814	581	4.2	26.824	D
3	445	215	852	0.522	445	1.1	8.836	A

2034 Base 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	11.79	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 Base 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		✓	281	100.000
2		✓	467	100.000
3		✓	609	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		1	2	3
From	1	4	121	156
	2	223	0	244
	3	286	322	1

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	0.31	5.76	0.4	A
2	0.59	10.90	1.4	B
3	0.72	15.27	2.5	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	281	318	910	0.309	279	0.4	5.695	A
2	467	160	798	0.585	462	1.4	10.541	B
3	609	224	846	0.720	599	2.4	14.081	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	281	323	906	0.310	281	0.4	5.757	A
2	467	161	797	0.586	467	1.4	10.893	B
3	609	227	844	0.721	609	2.5	15.217	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	281	323	906	0.310	281	0.4	5.758	A
2	467	161	797	0.586	467	1.4	10.897	B
3	609	227	844	0.721	609	2.5	15.254	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	281	323	906	0.310	281	0.4	5.758	A
2	467	161	797	0.586	467	1.4	10.900	B
3	609	227	844	0.721	609	2.5	15.266	C

2024 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	16.37	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)
D5	2024 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		✓	558	100.000
2		✓	563	100.000
3		✓	448	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		1	2	3
From	1	1	216	341
	2	208	0	355
	3	168	278	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	0.60	9.54	1.5	A
2	0.82	29.13	4.4	D
3	0.52	8.82	1.1	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	558	277	937	0.596	552	1.4	9.224	A
2	563	340	687	0.819	547	3.9	23.641	C
3	448	203	860	0.521	444	1.1	8.568	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	558	280	935	0.597	558	1.5	9.534	A
2	563	344	685	0.822	562	4.2	28.534	D
3	448	209	857	0.523	448	1.1	8.812	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	558	280	935	0.597	558	1.5	9.539	A
2	563	344	685	0.822	563	4.4	28.969	D
3	448	209	856	0.523	448	1.1	8.818	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	558	280	935	0.597	558	1.5	9.541	A
2	563	344	685	0.822	563	4.4	29.135	D
3	448	209	856	0.523	448	1.1	8.821	A

2024 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	14.12	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)
D6	2024 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		✓	306	100.000
2		✓	461	100.000
3		✓	664	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		1	2	3
From	1	4	122	180
	2	224	0	237
	3	350	313	1

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	5.94	0.5	A
2	0.59	11.19	1.4	B
3	0.79	19.94	3.6	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	306	308	916	0.334	304	0.5	5.859	A
2	461	184	783	0.588	455	1.4	10.804	B
3	664	225	846	0.785	651	3.3	17.449	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	306	314	912	0.335	306	0.5	5.935	A
2	461	185	783	0.589	461	1.4	11.181	B
3	664	228	844	0.787	663	3.5	19.765	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	306	314	912	0.335	306	0.5	5.937	A
2	461	185	783	0.589	461	1.4	11.188	B
3	664	228	844	0.787	664	3.6	19.890	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	306	314	912	0.335	306	0.5	5.937	A
2	461	185	783	0.589	461	1.4	11.190	B
3	664	228	844	0.787	664	3.6	19.936	C

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	19.26	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)
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		✓	575	100.000
2		✓	582	100.000
3		✓	462	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		1	2	3
From	1	1	223	351
	2	215	0	367
	3	173	287	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	0.62	10.16	1.6	B
2	0.86	36.21	5.6	E
3	0.54	9.23	1.2	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	575	286	931	0.618	569	1.6	9.776	A
2	582	350	681	0.854	563	4.8	27.198	D
3	462	209	856	0.540	457	1.1	8.926	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	575	289	929	0.619	575	1.6	10.154	B
2	582	354	679	0.857	580	5.3	34.837	D
3	462	215	852	0.542	462	1.2	9.220	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	575	289	929	0.619	575	1.6	10.161	B
2	582	354	679	0.857	581	5.5	35.802	E
3	462	216	852	0.542	462	1.2	9.231	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	575	289	929	0.619	575	1.6	10.163	B
2	582	354	679	0.857	582	5.6	36.209	E
3	462	216	852	0.542	462	1.2	9.233	A

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	15.53	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		✓	313	100.000
2		✓	474	100.000
3		✓	681	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		1	2	3
From	1	4	125	184
	2	230	0	244
	3	358	322	1

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	0.35	6.07	0.5	A
2	0.61	11.75	1.5	B
3	0.81	22.52	4.2	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	313	316	911	0.344	311	0.5	5.979	A
2	474	188	781	0.607	468	1.5	11.302	B
3	681	231	842	0.809	666	3.8	19.110	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	313	323	906	0.345	313	0.5	6.066	A
2	474	189	780	0.608	474	1.5	11.743	B
3	681	234	840	0.811	680	4.0	22.230	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	313	323	906	0.345	313	0.5	6.068	A
2	474	189	780	0.608	474	1.5	11.750	B
3	681	234	840	0.811	681	4.1	22.441	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	313	323	906	0.345	313	0.5	6.068	A
2	474	189	780	0.608	474	1.5	11.753	B
3	681	234	840	0.811	681	4.2	22.517	C

2024 With Allocation Sensitivity 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	17.93	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)
D9	2024 With Allocation Sensitivity 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		✓	582	100.000
2		✓	565	100.000
3		✓	464	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		1	2	3
From	1	1	219	362
	2	210	0	355
	3	184	278	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	0.62	10.19	1.6	B
2	0.84	33.08	5.0	D
3	0.54	9.21	1.2	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	582	277	937	0.621	576	1.6	9.796	A
2	565	361	675	0.838	548	4.3	25.696	D
3	464	205	859	0.540	459	1.1	8.909	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	582	280	935	0.622	582	1.6	10.177	B
2	565	365	672	0.841	563	4.7	32.017	D
3	464	210	855	0.542	464	1.2	9.196	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	582	280	935	0.622	582	1.6	10.187	B
2	565	365	672	0.841	564	4.9	32.708	D
3	464	211	855	0.543	464	1.2	9.206	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	582	280	935	0.622	582	1.6	10.189	B
2	565	365	672	0.841	565	5.0	33.081	D
3	464	211	855	0.543	464	1.2	9.207	A

2024 With Allocation Sensitivity 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	15.63	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)
D10	2024 With Allocation Sensitivity 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		✓	320	100.000
2		✓	463	100.000
3		✓	686	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		1	2	3
From	1	4	123	193
	2	226	0	237
	3	372	313	1

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	0.35	6.08	0.5	A
2	0.60	11.55	1.5	B
3	0.81	22.85	4.2	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	320	307	917	0.349	318	0.5	5.989	A
2	463	197	775	0.597	457	1.4	11.125	B
3	686	227	844	0.813	671	3.9	19.310	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	320	314	912	0.351	320	0.5	6.075	A
2	463	198	775	0.598	463	1.5	11.536	B
3	686	230	842	0.814	685	4.1	22.542	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	320	314	912	0.351	320	0.5	6.077	A
2	463	198	775	0.598	463	1.5	11.546	B
3	686	230	842	0.814	686	4.2	22.766	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	320	314	912	0.351	320	0.5	6.077	A
2	463	198	775	0.598	463	1.5	11.550	B
3	686	230	842	0.814	686	4.2	22.847	C

2034 With Allocation Sensitivity 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	21.51	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)
D11	2034 With Allocation Sensitivity 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		✓	599	100.000
2		✓	584	100.000
3		✓	478	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		1	2	3
From	1	1	226	372
	2	217	0	367
	3	189	287	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	0.64	10.90	1.8	B
2	0.88	42.08	6.5	E
3	0.56	9.67	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	599	286	931	0.643	592	1.7	10.414	B
2	584	371	669	0.873	563	5.3	29.775	D
3	478	210	856	0.559	473	1.2	9.420	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	599	289	929	0.645	599	1.8	10.888	B
2	584	375	666	0.877	581	6.0	39.806	E
3	478	217	851	0.562	478	1.3	9.646	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	599	289	929	0.645	599	1.8	10.897	B
2	584	375	666	0.877	583	6.3	41.387	E
3	478	218	851	0.562	478	1.3	9.660	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	599	289	929	0.645	599	1.8	10.899	B
2	584	375	666	0.877	583	6.5	42.082	E
3	478	218	851	0.562	478	1.3	9.665	A

2034 With Allocation Sensitivity 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	17.53	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)
D12	2034 With Allocation Sensitivity 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		✓	328	100.000
2		✓	476	100.000
3		✓	704	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		1	2	3
From	1	4	127	197
	2	232	0	244
	3	381	322	1

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	0.36	6.23	0.6	A
2	0.62	12.15	1.6	B
3	0.84	26.44	5.0	D

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	328	315	912	0.360	326	0.6	6.121	A
2	476	201	773	0.616	470	1.5	11.650	B
3	704	233	840	0.838	686	4.4	21.385	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	328	322	907	0.362	328	0.6	6.221	A
2	476	202	772	0.616	476	1.6	12.137	B
3	704	236	839	0.840	703	4.8	25.885	D

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	328	323	906	0.362	328	0.6	6.224	A
2	476	202	772	0.616	476	1.6	12.146	B
3	704	236	839	0.840	703	4.9	26.284	D

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	328	323	906	0.362	328	0.6	6.225	A
2	476	202	772	0.616	476	1.6	12.149	B
3	704	236	838	0.840	704	5.0	26.437	D

APPENDIX 3

JUNCTIONS9 Output for the

Potential Market Street/Site Access Junction

Junctions 9

PICADY 9 - Priority Intersection Module

Filename: Market Street - TW Site Access.j9
Path: Z:\projects\1537 Market Street, Edenfield\Picady
Report generation date: 02/10/2019 14:53:35

Summary of junction performance

	AM				PM			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
	2024 With Allocation Flows							
Stream B-C	0.1	7.34	0.08	A	0.0	6.66	0.04	A
Stream B-A	0.2	12.04	0.14	B	0.1	11.16	0.07	B
Stream C-B	0.0	6.38	0.01	A	0.1	6.87	0.11	A
	2034 With Allocation Flows							
Stream B-C	0.1	7.39	0.08	A	0.1	7.63	0.05	A
Stream B-A	0.2	12.27	0.14	B	0.1	11.65	0.06	B
Stream C-B	0.0	6.42	0.01	A	0.1	7.38	0.05	A
	2024 With Allocation Sensitivity Flows							
Stream B-C	0.1	7.74	0.11	A	0.1	7.86	0.07	A
Stream B-A	0.2	13.05	0.19	B	0.1	12.04	0.09	B
Stream C-B	0.0	6.52	0.02	A	0.1	7.53	0.06	A
	2034 With Allocation Sensitivity Flows							
Stream B-C	0.1	7.80	0.11	A	0.1	7.93	0.07	A
Stream B-A	0.2	13.33	0.20	B	0.1	12.25	0.09	B
Stream C-B	0.0	6.56	0.02	A	0.1	7.61	0.07	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	Market Street, Edenfield
Location	Edenfield
Site number	
Date	01/10/2019
Version	
Status	(new file)
Identifier	
Client	Taylor Wimpey
Jobnumber	1537
Enumerator	Croft Transport Solutions and Highway Design
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

Calculate Queue Percentiles	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
		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)
D1	2024 With Allocation Flows	AM	ONE HOUR	08:00	09:30	15
D2	2024 With Allocation Flows	PM	ONE HOUR	17:00	18:30	15
D3	2034 With Allocation Flows	AM	ONE HOUR	08:00	09:30	15
D4	2034 With Allocation Flows	PM	ONE HOUR	17:00	18:30	15
D5	2024 With Allocation Sensitivity Flows	AM	ONE HOUR	08:00	09:30	15
D6	2024 With Allocation Sensitivity Flows	PM	ONE HOUR	17:00	18:30	15
D7	2034 With Allocation Sensitivity Flows	AM	ONE HOUR	08:00	09:30	15
D8	2034 With Allocation Sensitivity Flows	PM	ONE HOUR	17:00	18:30	15

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

2024 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	Market Street/ TW Site Access	T-Junction	Two-way		0.86	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	untitled		Major
B	untitled		Minor
C	untitled		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	7.00		✓	3.00	80.0		-

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 (Left) (m)	Lane Width (Right) (m)	Visibility to left (m)	Visibility to right (m)
B	Two lanes	2.75	2.75	85	67

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	525	0.092	0.231	0.146	0.330
1	B-C	649	0.095	0.241	-	-
1	C-B	674	0.250	0.250	-	-

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)
D1	2024 With Allocation Flows	AM	ONE HOUR	08:00	09:30	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 (%)
A		✓	381	100.000
B		✓	81	100.000
C		✓	511	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	14	367
	B	44	0	37
	C	506	5	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
B-C	0.08	7.34	0.1	A
B-A	0.14	12.04	0.2	B
C-A				
C-B	0.01	6.38	0.0	A
A-B				
A-C				

Main Results for each time segment

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	28	570	0.049	28	0.1	6.636	A
B-A	33	404	0.082	33	0.1	9.696	A
C-A	381			381			
C-B	4	603	0.006	4	0.0	6.010	A
A-B	11			11			
A-C	276			276			

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	33	554	0.060	33	0.1	6.913	A
B-A	40	380	0.104	39	0.1	10.564	B
C-A	455			455			
C-B	4	589	0.008	4	0.0	6.161	A
A-B	13			13			
A-C	330			330			

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	41	531	0.077	41	0.1	7.336	A
B-A	48	347	0.139	48	0.2	12.023	B
C-A	557			557			
C-B	6	569	0.010	5	0.0	6.382	A
A-B	15			15			
A-C	404			404			

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	41	531	0.077	41	0.1	7.337	A
B-A	48	347	0.139	48	0.2	12.037	B
C-A	557			557			
C-B	6	569	0.010	6	0.0	6.382	A
A-B	15			15			
A-C	404			404			

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	33	554	0.060	33	0.1	6.919	A
B-A	40	380	0.104	40	0.1	10.583	B
C-A	455			455			
C-B	4	589	0.008	5	0.0	6.164	A
A-B	13			13			
A-C	330			330			

09:15 - 09:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	28	570	0.049	28	0.1	6.642	A
B-A	33	404	0.082	33	0.1	9.721	A
C-A	381			381			
C-B	4	603	0.006	4	0.0	6.010	A
A-B	11			11			
A-C	276			276			

2024 With Allocation Flows, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	Market Street/ TW Site Access	T-Junction	Two-way		0.85	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)
D2	2024 With Allocation Flows	PM	ONE HOUR	17:00	18:30	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 (%)
A		✓	307	100.000
B		✓	41	100.000
C		✓	571	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	23	284
	B	22	0	19
	C	511	60	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
B-C	0.04	6.66	0.0	A
B-A	0.07	11.16	0.1	B
C-A				
C-B	0.11	6.87	0.1	A
A-B				
A-C				

Main Results for each time segment

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	14	590	0.024	14	0.0	6.250	A
B-A	17	403	0.041	16	0.0	9.300	A
C-A	385			385			
C-B	45	617	0.073	45	0.1	6.294	A
A-B	17			17			
A-C	214			214			

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	17	578	0.030	17	0.0	6.413	A
B-A	20	380	0.052	20	0.1	10.003	B
C-A	459			459			
C-B	54	605	0.089	54	0.1	6.528	A
A-B	21			21			
A-C	255			255			

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	21	562	0.037	21	0.0	6.656	A
B-A	24	347	0.070	24	0.1	11.155	B
C-A	563			563			
C-B	66	590	0.112	66	0.1	6.869	A
A-B	25			25			
A-C	313			313			

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	21	562	0.037	21	0.0	6.656	A
B-A	24	347	0.070	24	0.1	11.160	B
C-A	563			563			
C-B	66	590	0.112	66	0.1	6.872	A
A-B	25			25			
A-C	313			313			

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	17	578	0.030	17	0.0	6.414	A
B-A	20	379	0.052	20	0.1	10.013	B
C-A	459			459			
C-B	54	605	0.089	54	0.1	6.533	A
A-B	21			21			
A-C	255			255			

18:15 - 18:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	14	590	0.024	14	0.0	6.251	A
B-A	17	403	0.041	17	0.0	9.313	A
C-A	385			385			
C-B	45	617	0.073	45	0.1	6.304	A
A-B	17			17			
A-C	214			214			

2034 With Allocation Flows, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	Market Street/ TW Site Access	T-Junction	Two-way		0.84	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)
D3	2034 With Allocation Flows	AM	ONE HOUR	08:00	09:30	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 (%)
A		✓	393	100.000
B		✓	81	100.000
C		✓	528	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	14	379
	B	44	0	37
	C	523	5	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
B-C	0.08	7.39	0.1	A
B-A	0.14	12.27	0.2	B
C-A				
C-B	0.01	6.42	0.0	A
A-B				
A-C				

Main Results for each time segment

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	28	568	0.049	28	0.1	6.664	A
B-A	33	400	0.083	33	0.1	9.801	A
C-A	394			394			
C-B	4	600	0.006	4	0.0	6.033	A
A-B	11			11			
A-C	285			285			

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	33	551	0.060	33	0.1	6.949	A
B-A	40	375	0.105	39	0.1	10.712	B
C-A	470			470			
C-B	4	586	0.008	4	0.0	6.189	A
A-B	13			13			
A-C	341			341			

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	41	528	0.077	41	0.1	7.388	A
B-A	48	342	0.142	48	0.2	12.260	B
C-A	576			576			
C-B	6	566	0.010	5	0.0	6.420	A
A-B	15			15			
A-C	417			417			

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	41	528	0.077	41	0.1	7.389	A
B-A	48	342	0.142	48	0.2	12.274	B
C-A	576			576			
C-B	6	566	0.010	6	0.0	6.420	A
A-B	15			15			
A-C	417			417			

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	33	551	0.060	33	0.1	6.956	A
B-A	40	375	0.105	40	0.1	10.732	B
C-A	470			470			
C-B	4	586	0.008	5	0.0	6.190	A
A-B	13			13			
A-C	341			341			

09:15 - 09:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	28	568	0.049	28	0.1	6.670	A
B-A	33	400	0.083	33	0.1	9.826	A
C-A	394			394			
C-B	4	600	0.006	4	0.0	6.033	A
A-B	11			11			
A-C	285			285			

2034 With Allocation Flows, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	Market Street/ TW Site Access	T-Junction	Two-way		0.59	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)
D4	2034 With Allocation Flows	PM	ONE HOUR	17:00	18:30	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 (%)
A		✓	586	100.000
B		✓	41	100.000
C		✓	316	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	60	526
	B	19	0	22
	C	293	23	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
B-C	0.05	7.63	0.1	A
B-A	0.06	11.65	0.1	B
C-A				
C-B	0.05	7.38	0.1	A
A-B				
A-C				

Main Results for each time segment

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	17	545	0.030	16	0.0	6.811	A
B-A	14	392	0.037	14	0.0	9.527	A
C-A	221			221			
C-B	17	564	0.031	17	0.0	6.581	A
A-B	45			45			
A-C	396			396			

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	20	524	0.038	20	0.0	7.135	A
B-A	17	366	0.047	17	0.0	10.322	B
C-A	263			263			
C-B	21	543	0.038	21	0.0	6.895	A
A-B	54			54			
A-C	473			473			

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	24	496	0.049	24	0.1	7.634	A
B-A	21	330	0.063	21	0.1	11.645	B
C-A	323			323			
C-B	25	513	0.049	25	0.1	7.379	A
A-B	66			66			
A-C	579			579			

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	24	496	0.049	24	0.1	7.634	A
B-A	21	330	0.063	21	0.1	11.651	B
C-A	323			323			
C-B	25	513	0.049	25	0.1	7.379	A
A-B	66			66			
A-C	579			579			

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	20	524	0.038	20	0.0	7.137	A
B-A	17	366	0.047	17	0.0	10.329	B
C-A	263			263			
C-B	21	543	0.038	21	0.0	6.897	A
A-B	54			54			
A-C	473			473			

18:15 - 18:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	17	545	0.030	17	0.0	6.815	A
B-A	14	392	0.037	14	0.0	9.543	A
C-A	221			221			
C-B	17	564	0.031	17	0.0	6.587	A
A-B	45			45			
A-C	396			396			

2024 With Allocation Sensitivity Flows, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	Market Street/ TW Site Access	T-Junction	Two-way		1.21	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)
D5	2024 With Allocation Sensitivity Flows	AM	ONE HOUR	08:00	09:30	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 (%)
A		✓	400	100.000
B		✓	111	100.000
C		✓	522	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	28	372
	B	60	0	51
	C	511	11	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
B-C	0.11	7.74	0.1	A
B-A	0.19	13.05	0.2	B
C-A				
C-B	0.02	6.52	0.0	A
A-B				
A-C				

Main Results for each time segment

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	38	564	0.068	38	0.1	6.847	A
B-A	45	400	0.113	45	0.1	10.122	B
C-A	385			385			
C-B	8	599	0.014	8	0.0	6.093	A
A-B	21			21			
A-C	280			280			

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	46	546	0.084	46	0.1	7.196	A
B-A	54	375	0.144	54	0.2	11.184	B
C-A	459			459			
C-B	10	584	0.017	10	0.0	6.265	A
A-B	25			25			
A-C	334			334			

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	56	521	0.108	56	0.1	7.738	A
B-A	66	342	0.193	66	0.2	13.028	B
C-A	563			563			
C-B	12	564	0.021	12	0.0	6.519	A
A-B	31			31			
A-C	410			410			

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	56	521	0.108	56	0.1	7.742	A
B-A	66	342	0.193	66	0.2	13.054	B
C-A	563			563			
C-B	12	564	0.021	12	0.0	6.519	A
A-B	31			31			
A-C	410			410			

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	46	546	0.084	46	0.1	7.205	A
B-A	54	375	0.144	54	0.2	11.214	B
C-A	459			459			
C-B	10	584	0.017	10	0.0	6.267	A
A-B	25			25			
A-C	334			334			

09:15 - 09:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	38	563	0.068	38	0.1	6.860	A
B-A	45	400	0.113	45	0.1	10.160	B
C-A	385			385			
C-B	8	599	0.014	8	0.0	6.095	A
A-B	21			21			
A-C	280			280			

2024 With Allocation Sensitivity Flows, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	Market Street/ TW Site Access	T-Junction	Two-way		0.83	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)
D6	2024 With Allocation Sensitivity Flows	PM	ONE HOUR	17:00	18:30	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 (%)
A		✓	594	100.000
B		✓	59	100.000
C		✓	319	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	78	516
	B	27	0	32
	C	289	30	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
B-C	0.07	7.86	0.1	A
B-A	0.09	12.04	0.1	B
C-A				
C-B	0.06	7.53	0.1	A
A-B				
A-C				

Main Results for each time segment

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	24	543	0.044	24	0.0	6.931	A
B-A	20	391	0.052	20	0.1	9.705	A
C-A	218			218			
C-B	23	563	0.040	22	0.0	6.663	A
A-B	59			59			
A-C	388			388			

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	29	522	0.055	29	0.1	7.294	A
B-A	24	365	0.067	24	0.1	10.570	B
C-A	260			260			
C-B	27	541	0.050	27	0.1	7.004	A
A-B	70			70			
A-C	464			464			

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	35	493	0.071	35	0.1	7.862	A
B-A	30	329	0.090	30	0.1	12.032	B
C-A	318			318			
C-B	33	511	0.065	33	0.1	7.532	A
A-B	86			86			
A-C	568			568			

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	35	493	0.071	35	0.1	7.864	A
B-A	30	329	0.090	30	0.1	12.040	B
C-A	318			318			
C-B	33	511	0.065	33	0.1	7.532	A
A-B	86			86			
A-C	568			568			

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	29	522	0.055	29	0.1	7.300	A
B-A	24	365	0.067	24	0.1	10.581	B
C-A	260			260			
C-B	27	541	0.050	27	0.1	7.006	A
A-B	70			70			
A-C	464			464			

18:15 - 18:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	24	543	0.044	24	0.0	6.936	A
B-A	20	391	0.052	20	0.1	9.719	A
C-A	218			218			
C-B	23	563	0.040	23	0.0	6.667	A
A-B	59			59			
A-C	388			388			

2034 With Allocation Sensitivity Flows, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	Market Street/ TW Site Access	T-Junction	Two-way		1.20	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)
D7	2034 With Allocation Sensitivity Flows	AM	ONE HOUR	08:00	09:30	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 (%)
A		✓	412	100.000
B		✓	111	100.000
C		✓	539	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	28	384
	B	60	0	51
	C	528	11	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
B-C	0.11	7.80	0.1	A
B-A	0.20	13.33	0.2	B
C-A				
C-B	0.02	6.56	0.0	A
A-B				
A-C				

Main Results for each time segment

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	38	561	0.068	38	0.1	6.877	A
B-A	45	396	0.114	45	0.1	10.236	B
C-A	398			398			
C-B	8	597	0.014	8	0.0	6.116	A
A-B	21			21			
A-C	289			289			

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	46	543	0.084	46	0.1	7.236	A
B-A	54	371	0.145	54	0.2	11.351	B
C-A	475			475			
C-B	10	582	0.017	10	0.0	6.294	A
A-B	25			25			
A-C	345			345			

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	56	518	0.108	56	0.1	7.796	A
B-A	66	336	0.197	66	0.2	13.305	B
C-A	581			581			
C-B	12	561	0.022	12	0.0	6.558	A
A-B	31			31			
A-C	423			423			

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	56	518	0.108	56	0.1	7.801	A
B-A	66	336	0.197	66	0.2	13.334	B
C-A	581			581			
C-B	12	561	0.022	12	0.0	6.558	A
A-B	31			31			
A-C	423			423			

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	46	543	0.084	46	0.1	7.245	A
B-A	54	371	0.145	54	0.2	11.385	B
C-A	475			475			
C-B	10	582	0.017	10	0.0	6.297	A
A-B	25			25			
A-C	345			345			

09:15 - 09:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	38	561	0.068	38	0.1	6.888	A
B-A	45	396	0.114	45	0.1	10.276	B
C-A	398			398			
C-B	8	597	0.014	8	0.0	6.116	A
A-B	21			21			
A-C	289			289			

2034 With Allocation Sensitivity 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	Market Street/ TW Site Access	T-Junction	Two-way		0.82	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)
D8	2034 With Allocation Sensitivity Flows	PM	ONE HOUR	17:00	18:30	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 (%)
A		✓	609	100.000
B		✓	59	100.000
C		✓	327	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	78	531
	B	27	0	32
	C	297	30	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
B-C	0.07	7.93	0.1	A
B-A	0.09	12.25	0.1	B
C-A				
C-B	0.07	7.61	0.1	A
A-B				
A-C				

Main Results for each time segment

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	24	540	0.045	24	0.0	6.968	A
B-A	20	387	0.052	20	0.1	9.793	A
C-A	224			224			
C-B	23	560	0.040	22	0.0	6.705	A
A-B	59			59			
A-C	400			400			

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	29	519	0.055	29	0.1	7.343	A
B-A	24	361	0.067	24	0.1	10.697	B
C-A	267			267			
C-B	27	537	0.050	27	0.1	7.057	A
A-B	70			70			
A-C	477			477			

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	35	489	0.072	35	0.1	7.932	A
B-A	30	324	0.092	30	0.1	12.235	B
C-A	327			327			
C-B	33	507	0.065	33	0.1	7.606	A
A-B	86			86			
A-C	585			585			

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	35	489	0.072	35	0.1	7.935	A
B-A	30	324	0.092	30	0.1	12.249	B
C-A	327			327			
C-B	33	507	0.065	33	0.1	7.606	A
A-B	86			86			
A-C	585			585			

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	29	519	0.055	29	0.1	7.349	A
B-A	24	361	0.067	24	0.1	10.713	B
C-A	267			267			
C-B	27	537	0.050	27	0.1	7.059	A
A-B	70			70			
A-C	477			477			

18:15 - 18:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	24	540	0.045	24	0.0	6.976	A
B-A	20	387	0.052	20	0.1	9.811	A
C-A	224			224			
C-B	23	560	0.040	23	0.0	6.711	A
A-B	59			59			
A-C	400			400			