

St Mary's Gate Retail Park – Change of Use

Transport Assessment

13 August 2025

Revision Control

Revision	Producer	Checker	Reviewer	Approver	Changes
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This report dated 04 August 2025 has been prepared for Glenbrook Property Limited (the “Client”) in accordance with the terms and conditions of appointment dated 15 May 2025(the “Appointment”) between the Client and Arcadis Consulting (UK) Limited (“Arcadis”) for the purposes specified in the Appointment. For avoidance of doubt, no other person(s) may use or rely upon this report or its contents, and Arcadis accepts no responsibility for any such use or reliance thereon by any other third party.

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1 Introduction

1.1 Background

This Transport Assessment (TA) has been prepared by Arcadis Consulting UK Limited (Arcadis) on behalf of Glenbrook Investments Ltd to support the submission of a full planning application for Change of Use planning application for the former Carpetright store¹ to a discount food retailer off Whitworth Road, Rochdale.

The planning application is for the change of use of the existing non-food retail unit (Carpetright) to a food retail unit (Farm Foods) to replace their existing smaller store located on Yorkshire Street, on the southern side of the A58 St Mary's Gate, Rochdale. The total Gross Floor Area (GFA) of the proposed store is 936.65 sqm.

This TA should be considered and read in conjunction with accompanying application documents, in particular the application drawings, Planning Statement and Design & Access Statement

1.2 Document Structure

The structure of this Transport Assessment is as follows:

- **Section 2** describes the existing baseline transportation and movement conditions around the application site, along with any proposed changes.
- **Section 3** describes the proposed development, as it relates to transportation and movement.
- **Section 4** summarises an assessment of the potential impact of the development on the transportation and movement network.
- **Section 5** provides a summary and sets out the conclusions.

¹ Carpetright Ltd went into administration in July 2024 and vacated the current unit in January 2025.

2 Baseline

2.1 Site Location

The application site is located on the St Mary's Gate Retail Park on the northwest corner of the junction of St Mary's Gate (A58) and Whitworth Road (A671). Figure 1 refers.

Figure 1 Application Boundary (red) within St Mary's Gate Retail Park (yellow)



2.2 Access & Parking

2.2.1 Pedestrian and Cycle

Access for pedestrians and cyclists to the wider site can be gained from the following locations:

- Whitworth Road via steps located on the southern boundary of the application site.
- Corner of St Mary's Gate & Whitworth Street.
- Alongside vehicular access from Whitehall Street.
- Alongside vehicular access from Duke Street.

There is no customer cycle parking provided on the site.

2.2.2 Customer Vehicles

Access for customer vehicles to the wider site can currently be gained from the following locations:

- Duke Street from Whitworth Street (northbound only).
- Whitehall Street via:
 - Rope Street / High Street from St Mary's Gate (south).
 - Howard Street from Whitworth Road (north, east and west)

Egress from the site back to the wider highway network is via Whitehall Street only.

The implementation of the permitted Starbucks Drive-Thru (more details in Section 2.6) will amend the access from Duke Street to allow vehicles to enter and egress from / to the north via Queen Street / Duke Street.

There are currently a total of 225 car parking spaces on the site; 6 of which are dedicated disabled parking; and 8 are EV charging spaces. Car park users can park a vehicle for free for up to 3 hours, when displaying a ticket. After this, users are required to pay for parking.

The total number of spaces will reduce to 166 spaces with the implementation of the approved Starbucks Drive-Thru although the proposal does increase the number of disabled bays and provides cycle parking and motorcycle parking.

2.2.3 Servicing & Delivery Vehicles

Servicing and deliveries are currently undertaken at the rear of the building from a service yard directly access from Rope Street.

2.3 Highway Network

2.3.1 Public Highway Network

The application site is located centrally within the retail unit space car park of the existing St Mary's Gate Retail Park site which is located on the northwest corner of the junction of St Mary's Gate (A58) and Whitworth Road (A671). Figure 4 shows the extent of the public highway around the site. The site is surrounded by adopted public highway.

Figure 2 Public Highway Boundary



2.3.2 Collision Data

5 years of publicly available collision data for the public highway within the vicinity of the site has been extracted from CrashMap and the locations and type are shown in Figure 3 and summarised in Table 1.

Figure 3 Summary of 5 Year Collision Data between 2019 and 2023

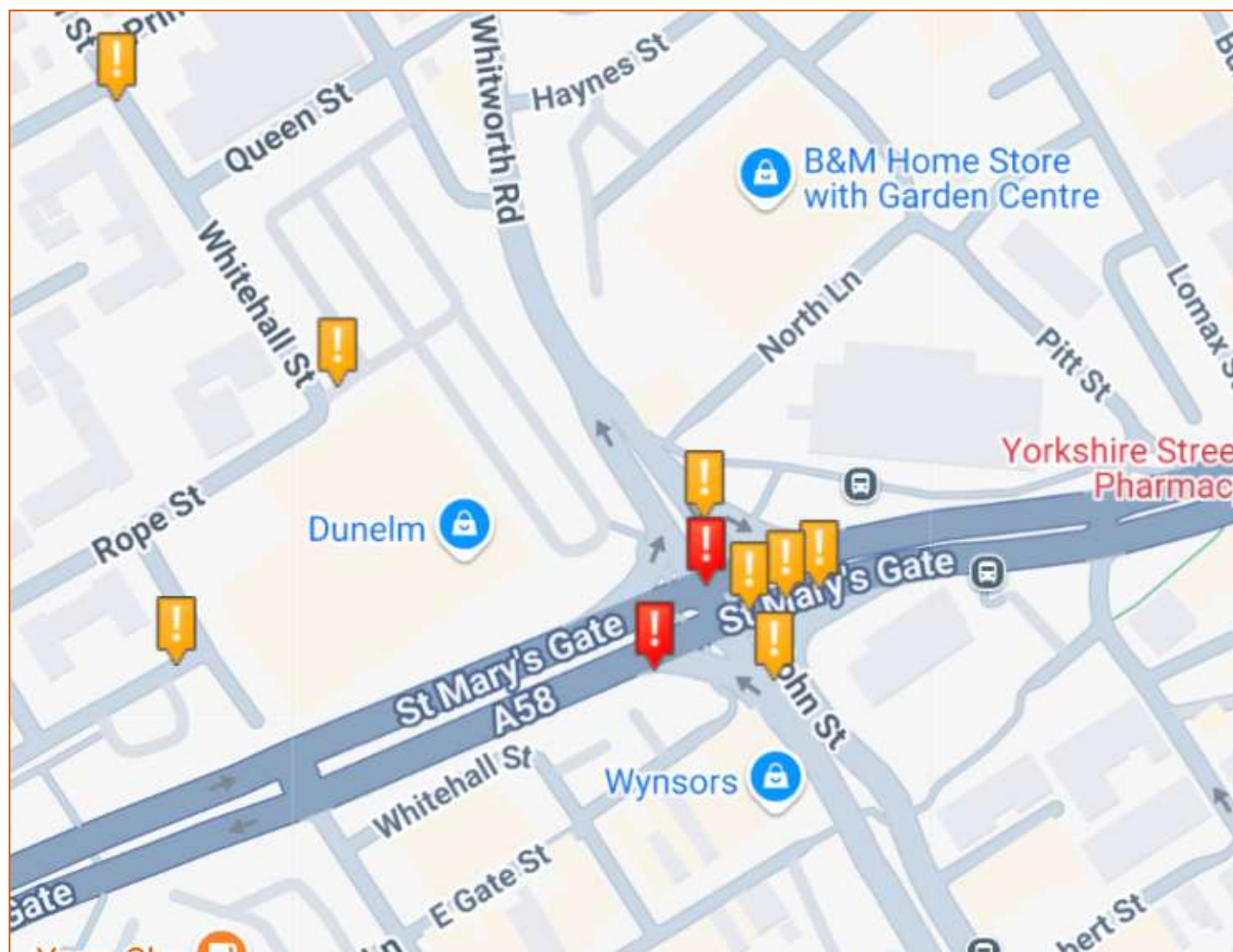


Table 1 Summary of collision data

Slight	Serious	Fatal	Total
8	2	0	10

2.4 Active Travel Routes

The site is surrounded on all sides with footways that provide direct connections to the surrounding residential areas and to Rochdale town centre. There are pedestrian crossing facilities of St Mary's Gate and Whitworth Road integrated into the existing traffic signals at the junction of the two roads. A new pedestrian crossing facility has also been provided across St Mary's Gate to the southwest of the site linking the site with the town centre, specifically Yorkshire Street and Hunters Lane – the location of the existing store and car park.

There are no dedicated cycle infrastructure within the immediate vicinity of the site; however, Rochdale Council has implemented additional cycle infrastructure along St Mary's Gate, including new crossing points, and at the time of writing constructing cycle infrastructure along Manchester Road as part of the Castleton to Rochdale route.

2.5 Public Transport Accessibility

The site is located on the northern edge of Rochdale Town centre on the confluence of 2 busy corridors that are served by bus-based public transport and within a 500m walking distance of the Rochdale Bus Station and Metrolink station (Rochdale to East Didsbury).

Numerous bus routes pass the site along St Mary's Gate and Whitworth Road, see Table 1, namely:

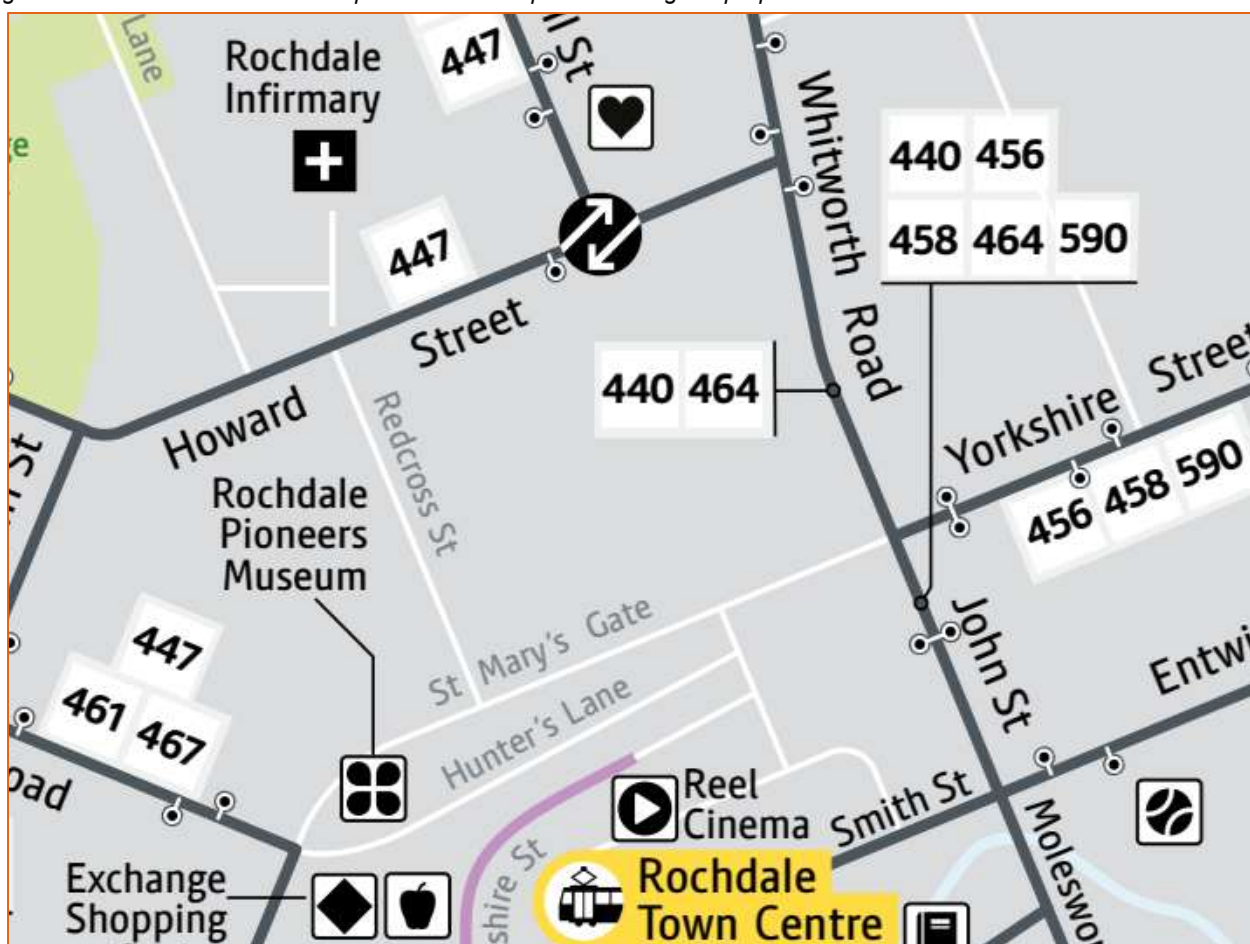
- Whitworth Road – 464, 862, 885, 999, R1
- St Mary's Gate – 458, 587, 590

The nearest bus stops are located:

- Whitworth Road – 170m to the north either side of the junction of Whitworth Road with Howard Street.
- St Mary's Gate – 160m south on the east side of the junction with Whitworth Road.
- Rochdale bus station is located 625m to the south.

The locations of the immediate bus stops can be seen in Figure 6².

Figure 4 Bee Network Public Transport Network Map surrounding the proposed site



² <https://tfgm.com/public-transport/network-maps-region>
www.arcadis.com

Table 2 Local Bus Services that pass the site

Route	Serving	Frequency Monday-Friday
440	Rochdale town centre, Shawclough, Syke	1 per hour
464	Rochdale, Whitworth, Bacup, Haslingden, Accrington	4 per hour
456	Rochdale, Wardle, Littleborough, Stansfield	1 per hour
458	Rochdale, Wardle, Littleborough, Stansfield	1 per hour
590	Rochdale, Littleborough, Todmorden, Hebden Bridge, Halifax	1 per hour
447	Buersil Head, Balderstone, Oldham Road – Rochdale, Shawclough, Healey, Whitworth.	1 per hour

2.6 Committed Development – Starbucks Drive-Thru

As noted earlier in the TA planning permission has been granted for a Starbucks Drive-Thru on the northern section of the existing car park. The proposal is comprised of:

- The construction of a new 171sqm (GIA) drive-thru coffee building.
- A drive-thru lane to three sides of the proposed building.
- Local reconfiguration of the car parking area.
- Footpath connections to Whitehall Street and Duke Street / Whitworth Street.
- Minor reconfiguration of Duke Street to prioritise access from the north for vehicles; retaining access from the south (Duke Street) and allowing egress to the north via Duke Street / Queen Street).

Figure 5 – Layout of Consented Starbuck Drive-Thru



3 Trip Generation Distribution Assignment

3.1 Development Description

The proposed development involves a Change of Use from non-food retail to food retail, specifically to accommodate the relocation and expansion of the discount food retailer Farmfoods from its nearby town centre location on Yorkshire Street.

The total Gross Floor Area (GFA) of the proposed store is 936 sqm.

3.2 Trip Generation

3.2.1 Existing Permitted Development Trips

The current unit for the potential discount food retailer was previously occupied by a non-food retailer which vacated the site in January 2025. The whole development currently has a flexible permission for a wider range of non-food retail users and as such the unit could be taken by another non-food retailer.

Using the TRICS database the potential maximum level of vehicular trip generation for the site has been calculated for the weekday and Saturday peak hours. The previous Transport Statement identified the weekday pm peak as 17.30 to 18.30. For the weekday PM peak, the network peak was 17:30 to 18:30 which straddles 2 hourly survey periods within TRICS. For robustness, the higher of the 2 peak hours (17:00 to 18:00) in terms of vehicular trip generation has been used.

Table 3 – Maximum Vehicular Trip Generation for Permitted Land Use

Weekday	Network AM Peak (08:00-09:00)			Peak Hour Total Veh Trips		
	Arrival	Departure	Total	Arrival	Departure	Total
Retail Non-Food	0.283	0.115	0.398	3	1	4

Weekday	Network Peak Trip Gen (17:00-18:00)			Peak Hour Total Veh Trips		
	Arrival	Departure	Total	Arrival	Departure	Total
Retail Non-Food (Existing from TRICS)	3.344	3.263	6.607	31	31	62

Saturday	Network Peak Trip Gen (14:00-15:00)			Peak Hour Total Veh Trips		
	Arrival	Departure	Total	Arrival	Departure	Total
Retail Non-Food (Existing from TRICS)	1.022	1.111	2.133	10	10	20

The TRICS outputs used for the permitted land uses have been reviewed by both the Local Highway Authority and Transport for Greater Manchester as part of the previous application on the site (24/00055/FUL) which was accepted by both organisations.

3.2.2 Proposed Development Trips

The TRICS database has been interrogated to generate a vehicular trip rate for a discount food retail store on the edge of a town centre for the identified network peaks. For the weekday PM peak, the network peak was 17:30 to 18:30 which straddles 2 hourly survey periods within TRICS.

For robustness, the higher of the 2 peak hours (17:00 to 18:00) in terms of vehicular trip generation has been used.

As advised by Transport for Greater Manchester (TfGM) the trip generation for the site was calculated for person trips for all peak hours and then utilise the 2021 Census Journey to Work (JtW) by car percentage for Rochdale, which is 51.04%.

This was applied to the person trips to derive the total number of vehicular trips in each peak hour.

Table 4 – Person Trip Generation Discount Food Retailer (TRICS)

Person Trip Generation						
User Group	AM Peak (08:00-09:00)			Total Person Trips		
	Arrival	Departure	Total	Arrival	Departure	Total
Retail Food Total Person Trips	2.780	1.947	4.727	26	18	44
User Group	PM Peak* (17:00-18:00)			Total Person Trips		
	Arrival	Departure	Total	Arrival	Departure	Total
Retail Food Total Person Trips	4.425	4.877	9.302	41	46	87
User Group	SAT Peak (14:00-15:00)			Total Person Trips		
	Arrival	Departure	Total	Arrival	Departure	Total
Retail Food Total Person Trips	10.762	11.009	21.771	101	103	203

Table 5 – Vehicular Trip Generation (2021 Census Journey to Work)

Vehicles						
Weekday	Trip Generation Rate			Total Veh Trips		
	Arrival	Departure	Total	Arrival	Departure	Total
Retail Food (Discount - 2021 JtW Percentage)	1.419	0.994	2.413	13	9	23
Weekday	Trip Generation Rate			Total Veh Trips		
	Arrival	Departure	Total	Arrival	Departure	Total
Retail Food (Discount - 2021 JtW Percentage)	2.259	2.489	4.748	21	23	44
Saturday	Trip Generation Rate			Total Veh Trips		
	Arrival	Departure	Total	Arrival	Departure	Total
Retail Food (Discount)	5.493	5.619	11.112	51	52	104

The current and proposed stores are in very sustainable locations for such land uses, and we consider this and the typical Farm Foods shopper that the JtW percentage split is a worst-case scenario.

3.2.3 Net Change Existing Permitted v Development Trips (Vehicles)

A comparison has been made of the net change in the number of existing permitted vehicular development trips for non-food retail and the proposed development.

Outputs from TRICS are contained in Appendix A.

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Table 6 – Net Change Existing Permitted v Development Trips (Vehicles)

Vehicles						
Weekday	Trip Generation Rate			Total Veh Trips		
User Group	Arrival	Departure	Total	Arrival	Departure	Total
Retail Non-Food (Existing from TRICS)	0.283	0.115	0.398	3	1	4
Retail Food (Discount - 2021 JtW Percentage)	1.419	0.994	2.413	13	9	23
Net Change	1.136	0.879	2.015	11	8	19
Weekday	Trip Generation Rate			Total Veh Trips		
User Group	Arrival	Departure	Total	Arrival	Departure	Total
Retail Non-Food (Existing from TRICS)	3.344	3.263	6.607	31	30	62
Retail Food (Discount - 2021 JtW Percentage)	2.259	2.489	4.748	21	23	44
Net Change	-1.085	-0.774	-1.859	-10	-7	-17
Saturday	Trip Generation Rate			Total Veh Trips		
User Group	Arrival	Departure	Total	Arrival	Departure	Total
Retail Non-Food (Existing from TRICS)	1.022	1.111	2.133	10	10	20
Retail Food (Discount)	5.493	5.619	11.112	51	52	104
Net Change	4.471	4.508	8.979	42	42	84

The comparison shows that there is a modest increase in vehicular trips in the AM peak hour and a modest reduction in the PM peak hour. During the Saturday peak hour there is a material increase in the number of vehicular trips.

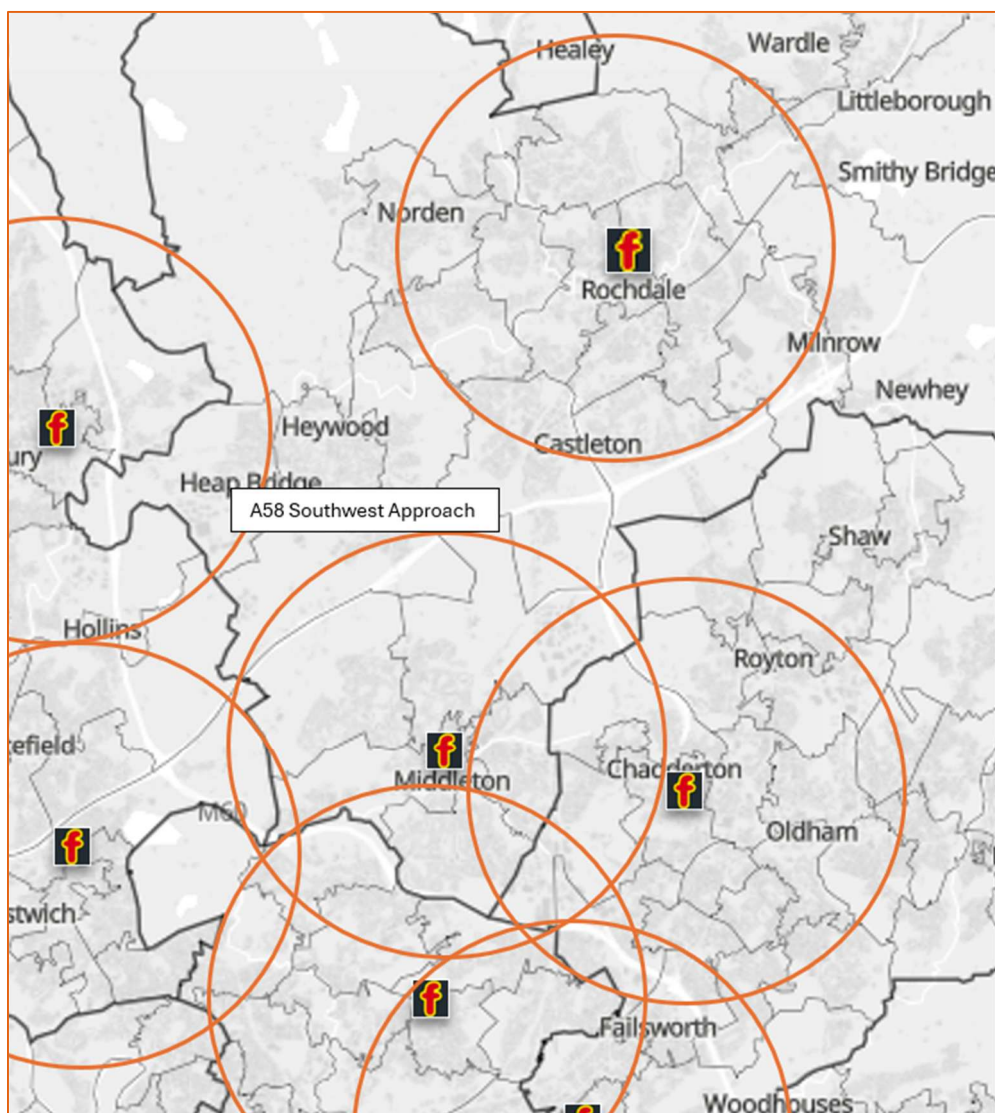
3.3 Distribution & Assignment

3.3.1 Distribution of Development Trips

The distribution of development trips was done using a 'Gravity Model' approach which derives the distribution of the future customers within the store catchment area based upon the spread of the population.

The catchment area for a typical store is defined by Farmfoods as a 10-minute drive or 2 miles radius, as shown Figure 6, which also identifies the catchment areas of existing stores nearby. Outside of this their customers tend to seek out other discount retailers' stores.

Figure 6 – Rochdale Farmfoods Catchment Area



Having defined the catchment area, we then undertook the following steps:

1. Identified all the Middle layer Super Output Areas (MSOA) for Rochdale that were wholly and partially within this catchment area. This is shown in Figure 7.
2. Extracted the number of adults over the age of 17 (driving age) within each of the MSOA. This is shown in Table 7.

Having undertaken these steps, the total population within the catchment area and their geographical spread across the catchment area was known.

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Figure 7 – MSOA Boundaries and Numbering

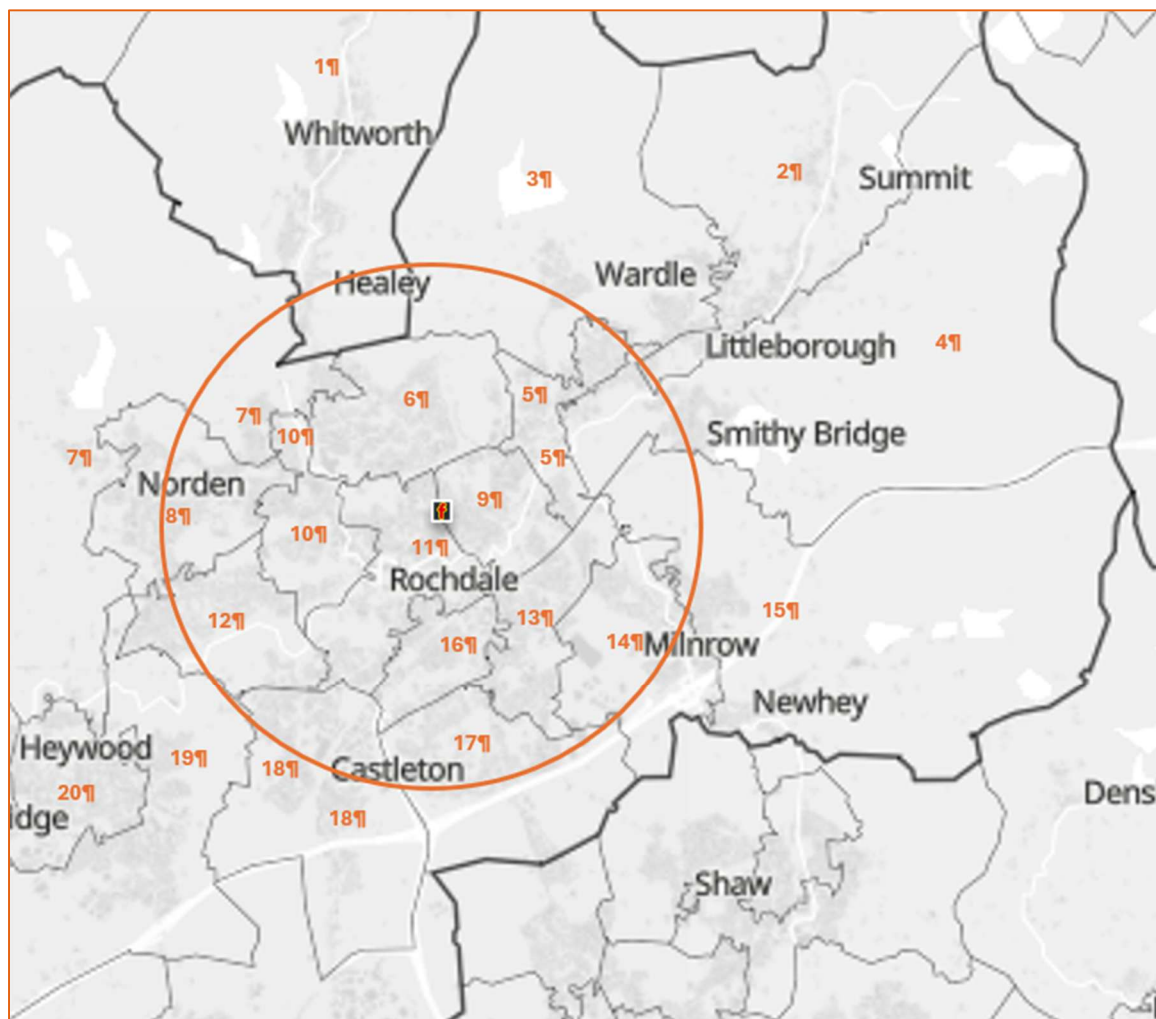


Table 7 – Population of MSOA Within Catchment Area

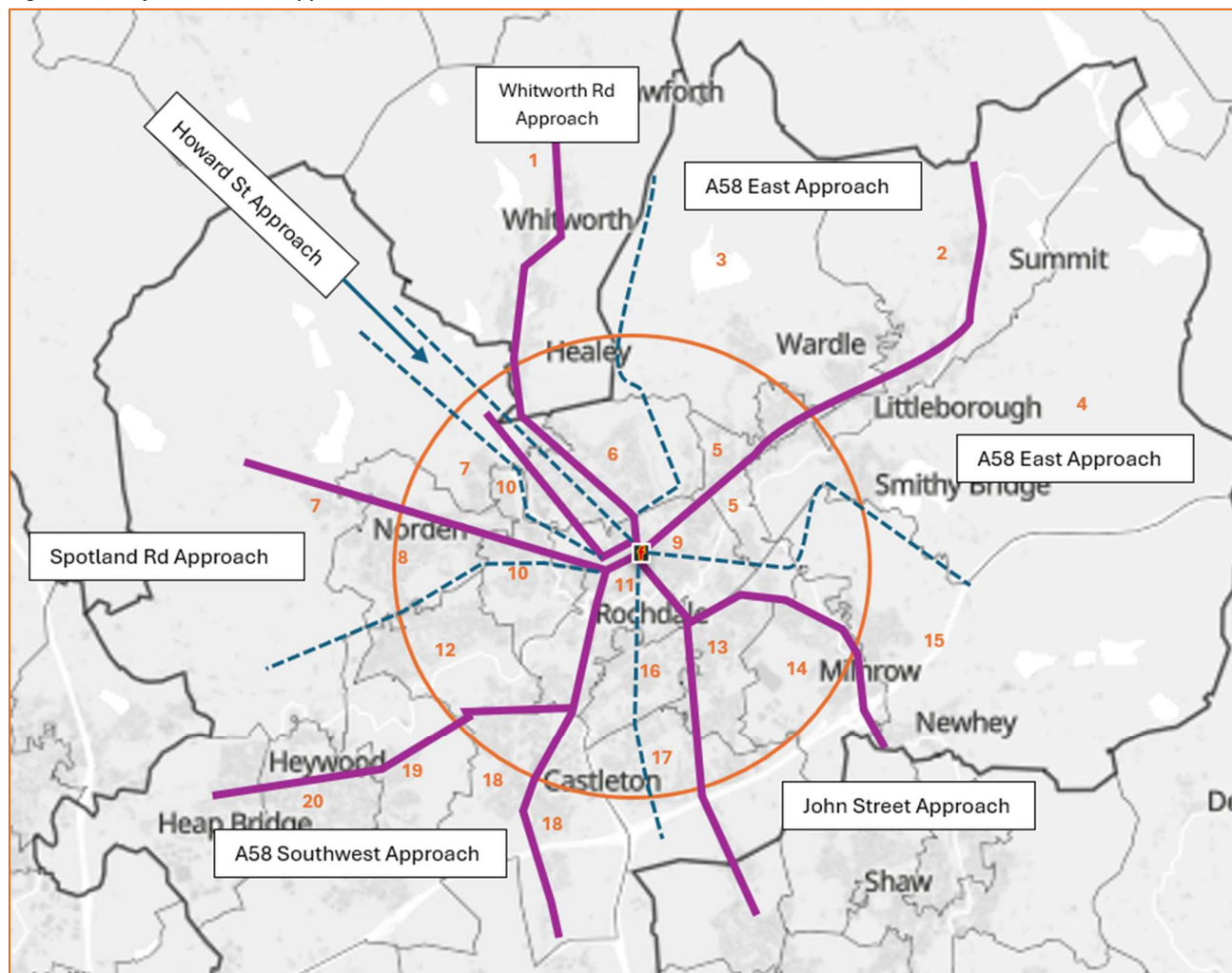
Map Reference	MSOA Code	MSOA Name	MSOA Total Population	MSOA Total Population 17+
1	E02005286	Rossendale 009 - Whitworth	7,510	6,014
2	E02001132	Rochdale 001 - Littleborough North & Calderbrooke	6,461	5,153
3	E02001133	Rochdale 002 - Littleborough West & Wardle	6,166	4,880
4	E02001134	Rochdale 003 - Littleborough South & Smithy Bridge	6,253	5,061
5	E02001135	Rochdale 004 - Hurstead & Smallbridge	7,614	5,432
6	E02001136	Rochdale 005 - Healy, Skye & Shawclough	9,192	7,329
7	E02001137	Rochdale 006 - Hooley Bridge & Norden West	6,196	4,908
8	E02001138	Rochdale 007 - Norden East & Bagslate Moor	8,930	7,155
9	E02001139	Rochdale 008 - Wardleworth & Newbold Brow	9,273	6,466
10	E02001140	Rochdale 009 - Spotland Bridge	7,572	5,734
11	E02001141	Rochdale 010 - Central Rochdale & Mandale Park	12,525	9,297
12	E02001142	Rochdale 011 - Springfield Park	5,920	4,827
13	E02001143	Rochdale 012 - Kingsway	10,653	7,652
14	E02001144	Rochdale 013 - Milnrow West	6,139	4,842
15	E02001145	Rochdale 014 - Milnrow East & Newhey	7,119	5,699
16	E02001146	Rochdale 015 - Deepdish	9,165	6,488
17	E02001147	Rochdale 016 - Balderstone & Kirkholt	9,059	6,796
18	E02001148	Rochdale 017 - Castleton & Trub	10,010	7,958
19	E02001151	Rochdale 020 - Heywood Hopwood & Siddal Moor	9,421	7,523
20	E02001149	Rochdale 018 - Heywood Town	9,710	7,714
		Grand Totals	155,178	119,214

3.3.2 Assignment of Development Trips

With the geographical spread of the population across the catchment area the next step undertaken were:

1. Define the key highway corridors / routes across the catchment area that lead to / from the proposed store and identify the likely route a MSOA population would use to arrive at the store.

Figure 8 – Key Corridors & Approaches



Where there was a choice of routes through a MSA the percentage of the specific MSA population were assigned to these routes using a visual estimation based on the coverage of the built-up area. This process was also followed where a portion of the built-up area of a MSA could not use a specific key corridor and reassigned to one they were able to.

2. Assign the population from each MSOA to the start of a route as it enters the study area.

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Table 8 – Assignment of Population to Arrival / Departure Routes

Map Reference	MSOA Code	MSOA Name	MSOA Total Population	MSOA Total Population 17+	A58 East	Spotland	A58 Southwest	Whitworth Rd	Howard Street	John St	Enwistle St
1	E02005286	Rossendale 009 - Whitworth	7,510	6,014				6,014			
2	E02001132	Rochdale 001 - Littleborough North & Calderbrooke	6,461	5,153	5,153						
3	E02001133	Rochdale 002 - Littleborough West & Wardle	6,166	4,880	4,880						
4	E02001134	Rochdale 003 - Littleborough South & Smithy Bridge	6,253	5,061	5,061						
5	E02001135	Rochdale 004 - Hurstead & Smallbridge	7,614	5,432	5,432						
6	E02001136	Rochdale 005 - Healy, Skye & Shawclough	9,192	7,329				5,497	1,832		
7	E02001137	Rochdale 006 - Hooley Bridge & Norden West	6,196	4,908		4,908					
8	E02001138	Rochdale 007 - Norden East & Bagslate Moor	8,930	7,155		7,155					
9	E02001139	Rochdale 008 - Wardleworth & Newbold Brow	9,273	6,466	1,810		2,586			1,940	129
10	E02001140	Rochdale 009 - Spotland Bridge	7,572	5,734		4,301	1,434				
11	E02001141	Rochdale 010 - Central Rochdale & Mandale Park	12,525	9,297		2,324	4,184	1,395	930	465	
12	E02001142	Rochdale 011 - Springfield Park	5,920	4,827			4,827				
13	E02001143	Rochdale 012 - Kingsway	10,653	7,652						7,652	
14	E02001144	Rochdale 013 - Milnrow West	6,139	4,842						4,842	
15	E02001145	Rochdale 014 - Milnrow East & Newhey	7,119	5,699						5,699	
16	E02001146	Rochdale 015 - Deeplish	9,165	6,488			3,244			3,244	
17	E02001147	Rochdale 016 - Balderstone & Kirkholt	9,059	6,796			3,398			3,398	
18	E02001148	Rochdale 017 - Castleton & Trub	10,010	7,958			7,958				
19	E02001151	Rochdale 020 - Heywood Hopwood & Siddal Moor	9,421	7,523			7,523				
20	E02001149	Rochdale 018 - Heywood Town	9,710	7,714			7,714				
		Grand Totals	155,178	119,214	22,336	18,688	35,154	12,905	2,762	27,240	129
				%age	18.74%	15.68%	29.49%	10.83%	2.32%	22.85%	0.11%

3. Assigned the development trips to each of these approach roads to the site from each direction for the arrivals and returning departures for each of the 3 peak periods.

- St Mary's Gate (East) = 18.74%
- St Mary's Gate (West) / Manchester Road = 29.49%
- John Street = 22.85%
- Whitworth Road = 10.83%
- Spotland Road = 15.68%
- B6377/Falinge Road/Howard Street = 2.32%
- Entwistle Road = 0.11%

The routing of both arrivals and departures reflect the current road layout on the approaches and the committed change to the access arrangements resulting from Starbucks.

3.4 Traffic Growth & Committed Development

The new store is scheduled to open in mid-2026, and as such, no background traffic growth has been assumed within the assessment timeframe. This approach ensures that the analysis remains focused on the direct impacts of the proposed development and any relevant committed developments in the area.

The Starbucks Drive-Thru is anticipated to be completed and operational in early 2026, prior to the opening of the proposed Farmfoods store. By including the traffic associated with Starbucks, the assessment provides a robust and realistic evaluation of the future traffic conditions and ensures that the combined impacts of both developments on the local transport network have been fully considered. This ensures compliance with planning policy and a thorough understanding of the development's potential effects on traffic flow and network performance.

The approved Starbucks development flows are contained in Appendix B.

3.5 Development Flows

Development flows for the weekday AM and PM peak hours and Saturday peak hour are provided in Appendix C.

4 Impact on Movement Network

4.1 Highway Network

During the scope discussions with TfGM and RBC Highways 3 junctions were identified for closer examination of their operation, namely:

- Whitworth Road / John Street / St Marys Gate
- St Marys Gate / Spotland Road / Hunters Lane
- John Street / Smith Street / Entwisle Road

Manual Turning Count (MTC) data and Queue Length survey data was collected for each of these junctions for the 3 peak hours.

- Weekday AM Peak Hour.
- Weekday PM Peak Hour.
- Weekend (Saturday) Peak Hour.

The following modelling scenarios were undertaken for these 3 junctions using LinSig.

- 2025 Base (MTCs).
- 2025 Base + Committed Development (Starbucks).
- 2025 Base + Committed Development + Proposed Development.

Signal timing and staging for each of these junctions was obtained from TfGM's Urban Traffic Control team have been incorporated into the models. The timing and staging settings have been retained in all modelling scenarios. Information is provided in Appendix D.

Table 9 provides a detailed summary of the Degree of Saturation (DoS) outputs from the LinSig modelling for all scenarios on a junction-by-junction basis and for every movement within the junction.

The full LinSig modelling output reports for all junctions are contained in Appendix E.

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Table 9 – Summary of LinSig DoS Outputs: Whitworth Road / John Street / St Mary's Gate

Junction	Lane Description (Validated Lanes)	AM Peak			PM Peak			Weekend Peak		
		DOS (%)			DOS (%)			DOS (%)		
		LinSig Base Model	Base + Starbucks	Base + Starbucks + CD	LinSig Base Model	Base + Starbucks	Base + Starbucks + CD	LinSig Base Model	Base + Starbucks	Base + Starbucks + CD
St. Mary's Gate_Whitworth Rd_John Street	Yorkshire Street West Bound Right (Flare)	82.7%	88.2%	89.1%	99.7%	99.4%	99.5%	97.9%	98.8%	101.2%
	Yorkshire Street West Bound Ahead	82.7%	88.2%	89.1%	99.7%	99.4%	99.5%	97.9%	98.8%	101.2%
	Yorkshire Street West Bound Ahead	85.3%	85.3%	85.3%	79.4%	86.7%	90.3%	76.0%	94.7%	100.3%
	Yorkshire Street West Bound Left (Flare)	85.3%	85.3%	85.3%	79.4%	86.7%	90.3%	76.0%	94.7%	100.3%
	John St. North Bound Right (Flare)	71.4%	72.4%	73.3%	98.6%	99.4%	101.1%	96.8%	98.9%	102.7%
	John St. North Bound Ahead	71.4%	72.4%	73.3%	98.6%	99.4%	101.1%	96.8%	98.9%	102.7%
	John St. North Bound Left	28.2%	28.2%	28.2%	36.7%	36.7%	36.7%	40.8%	40.8%	40.8%
	St. Mary's gate East Bound Right (Flare)	82.7%	82.7%	84.3%	95.9%	95.9%	97.7%	89.5%	89.5%	91.9%
	St. Mary's gate East Bound Ahead	82.7%	80.4%	83.1%	95.9%	95.9%	97.7%	89.5%	89.5%	91.9%
	St. Mary's gate East Bound Ahead	97.3%	97.3%	97.3%	83.0%	83.0%	83.3%	93.3%	93.3%	93.3%
	St. Mary's gate East Bound Left (Flare)	97.3%	97.3%	97.3%	83.0%	83.0%	83.3%	93.3%	93.3%	93.3%
	Whitworth Rd. South Bound Right	19.8%	24.2%	24.2%	24.8%	27.5%	28.1%	30.9%	35.4%	37.4%
St. Mary's Gate_Hunters Lane_Spotland Road	Whitworth Rd. South Bound Ahead	94.7%	94.7%	94.7%	98.5%	98.5%	98.5%	94.1%	94.1%	96.3%
	Whitworth Rd. South Bound Left (Flare)	94.7%	94.7%	94.7%	98.5%	98.5%	98.5%	94.1%	94.1%	96.3%
	St. Mary's gate West Bound Right (Flare)	72.2%	72.2%	72.2%	73.5%	73.5%	74.1%	90.9%	90.9%	90.9%
	St. Mary's gate West Bound Ahead	72.2%	72.2%	72.2%	73.5%	73.5%	74.1%	90.9%	90.9%	90.9%
	St. Mary's gate West Bound Ahead	39.2%	41.0%	43.8%	24.5%	39.7%	39.9%	41.0%	41.0%	41.1%
	St. Mary's gate West Bound Left (Flare)	39.2%	41.0%	43.8%	24.5%	39.7%	39.9%	41.0%	41.0%	41.1%
	Hunters Lane North Bound Ahead & Right	42.0%	42.0%	42.0%	79.3%	79.3%	79.3%	74.8%	74.8%	74.8%
	Hunters Lane North Bound Left	7.8%	7.8%	7.9%	21.8%	22.6%	22.6%	18.5%	18.5%	18.5%
	St. Mary's gate East Bound Right (Flare)	78.9%	91.0%	87.3%	86.6%	83.1%	83.7%	76.5%	76.5%	78.0%
	St. Mary's gate East Bound Ahead	78.9%	91.0%	87.3%	86.6%	83.1%	83.7%	76.5%	76.5%	78.0%
	St. Mary's gate East Bound Ahead	99.9%	89.0%	93.5%	99.9%	104.1%	104.8%	86.3%	86.3%	87.7%
	St. Mary's gate East Bound Left (Flare)	99.9%	89.0%	93.5%	99.9%	104.1%	104.8%	86.3%	86.3%	87.7%
John Street with Smith Street & Entwisle Road Junction	Spotland Road South Bound Ahead & Right	65.4%	65.4%	65.8%	56.1%	56.1%	57.0%	61.8%	61.8%	63.2%
	Spotland Road South Bound Left	71.8%	70.7%	71.8%	52.6%	52.7%	53.1%	61.8%	61.8%	63.2%
	Smith Street East Bound Ahead & Right	21.3%	21.3%	21.3%	35.4%	35.4%	35.4%	46.6%	46.6%	46.6%
	Smith Street East Bound Left	21.3%	21.3%	21.3%	35.4%	35.4%	35.4%	46.6%	46.6%	46.6%
	John Street South Bound Right	61.5%	62.7%	63.0%	96.8%	96.8%	97.6%	70.0%	69.8%	70.8%
	John Street South Bound Ahead	61.5%	62.7%	63.0%	96.8%	96.8%	97.6%	70.0%	69.8%	70.8%
	John Street South Bound Ahead & Left	59.3%	58.0%	58.4%	91.3%	91.3%	91.7%	68.6%	68.8%	70.0%
	Entwisle Road West Bound Ahead & Right	39.7%	39.7%	39.8%	52.7%	52.7%	52.8%	53.7%	53.7%	53.7%
	Entwisle Road West Bound Left	39.7%	39.7%	39.8%	52.7%	52.7%	52.8%	53.7%	53.7%	53.7%
	Molesworth Street North Bound Ahead & Left	58.6%	54.4%	54.6%	77.7%	71.8%	72.2%	84.3%	78.2%	79.2%
	Molesworth Street North Bound Ahead	67.1%	71.7%	72.0%	84.9%	88.7%	89.0%	86.6%	90.0%	90.7%
	Molesworth Street North Bound Right	67.1%	71.7%	72.0%	84.9%	88.7%	89.0%	86.6%	90.0%	90.7%

The addition of the development traffic to those peaks periods results in very small increases in the Degree of Saturation on some of the movements / lanes between the Base and Base + Starbucks. The minor rise in saturation does not result in any material increase in driver delays or length of queues on the approach to the junctions beyond what is typical for the area.

The development scenario is considered to be a 'worst-case' as no traffic has been discounted to reflect the following local factors:

- The reassignment of the existing demand that would transfer to the site from the Hunters Lane car park serving the store that may have already be passing through 1 or more of these junctions.
- Linked trips of existing town centre users that may have already be passing through 1 or more of these junctions.
- Pass-by trips that may have already be passing through 1 or more of these junctions.
- The high number of local Rochdale residents that travel to the town centre by public transport and as pedestrians.

4.2 Active Travel Network

The relocation and expansion of the existing store will result in an increase in footfall on the footways surrounding the store and wider retail park. The development is expected to generate an increase in pedestrian activity, which can be comfortably accommodated within the existing infrastructure. Furthermore, the surrounding pedestrian network has sufficient capacity, with well-maintained footpaths, crossings, and connectivity to key destinations.

No significant changes to pedestrian movement patterns or safety issues are anticipated, ensuring the existing network can continue to operate effectively without adverse effects.

Given the nature of the development there is the anticipated to be a minimal increase in cycling activity is minimal and can be adequately supported by the existing and emerging infrastructure.

4.3 Public Transport (Buses) Network

The proposed development is not likely to have a material impact on the bus network, given its location on the edge of the town centre where public transport services are frequent and well-established. The existing bus network has sufficient capacity to accommodate any additional demand generated by the development, with multiple routes serving the area and providing convenient access to key destinations.

5 Summary & Conclusion

5.1 Summary

This Transport Assessment (TA) evaluates the potential transportation and movement impacts of the proposed change of use of the Carpetright store to a Farmfoods store at St Mary's Gate Retail Park, Rochdale.

The proposed development involves relocating and expanding Farmfoods from its current location in Rochdale town centre, with a total Gross Floor Area (GFA) of 936.65 sqm. The analysis considered baseline transportation conditions, trip generation, traffic distribution, and the impact on various networks, including highways, active travel, and public transport.

The assessment determined the following:

1. **Highway Network:** Detailed junction modelling for three key junctions revealed that the proposed development will not severe impact on the operational performance of the network and safety, even when combined with the committed Starbucks Drive-Thru development.

While there is existing congestion during peak hours due to the strategic nature of the junctions, the additional traffic generated by the development is negligible and does not exacerbate delays or queuing beyond current levels.

2. **Active Travel:** The development is expected to increase pedestrian activity around the site, but the existing infrastructure, including footways and crossings, is sufficient to accommodate the additional demand comfortably. Similarly, the expected increase in cycling activity is minimal and can be supported by the existing infrastructure without requiring modifications.
3. **Public Transport:** The site is well-served by frequent public transport services, including buses and the nearby Metrolink station. The existing public transport network has adequate capacity to support any additional demand generated by the development without adverse impacts.

5.2 Conclusion

The National Planning Policy Framework (NPPF) establishes that development should only be prevented or refused on transport grounds if the residual cumulative impacts on the road network are **severe** (Paragraph 111).

In the case of this development, while there is a small measurable increase in traffic and a small rise in the Degree of Saturation on certain movements, these changes are not of a magnitude that would constitute a severe impact. The NPPF seeks to balance the need for sustainable development with ensuring that transport networks remain functional and safe, and the evidence provided demonstrates that the affected junctions will continue to operate near enough as they do without the development.

Therefore, in accordance with the NPPF, the proposed development is acceptable in transport terms.

Furthermore, the existing infrastructure provides safe and efficient access for pedestrians, cyclists, and vehicles, ensuring compliance with NPPF principles. The analysis also confirms that the development does not compromise highway safety, as collision data for the area shows no significant trends or risks that would be exacerbated by the proposal. As such, the development aligns with NPPF requirements to promote safe, sustainable, and efficient transport systems.

Appendix A

TRICS

Calculation Reference: AUDIT-111301-250206-0249

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 01 - RETAIL
Category : C - DISCOUNT FOOD STORES
MULTI-MODAL TOTAL VEHICLES

Selected regions and areas:

02	SOUTH EAST	
	SO SLOUGH	1 days
	WS WEST SUSSEX	4 days
03	SOUTH WEST	
	BC BOURNEMOUTH CHRISTCHURCH & POOLE	1 days
	SM SOMERSET	1 days
	WL WILTSHIRE	1 days
04	EAST ANGLIA	
	CA CAMBRIDGESHIRE	2 days
	NF NORFOLK	1 days
05	EAST MIDLANDS	
	LN LINCOLNSHIRE	1 days
	NN NORTH NORTHAMPTONSHIRE	3 days
	NT NOTTINGHAMSHIRE	1 days
06	WEST MIDLANDS	
	WO WORCESTERSHIRE	2 days
07	YORKSHIRE & NORTH LINCOLNSHIRE	
	NY NORTH YORKSHIRE	1 days
08	NORTH WEST	
	GT WARRINGTON	1 days
09	NORTH	
	DH DURHAM	1 days
	NB NORTHUMBERLAND	1 days
	TW TYNE & WEAR	2 days
10	WALES	
	CF CARDIFF	1 days
11	SCOTLAND	
	AD ABERDEEN CITY	1 days
	SR STIRLING	1 days
14	LEINSTER	
	WX WEXFORD	1 days

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

Primary Filtering selection:

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

Parameter: Gross floor area
Actual Range: 570 to 2624 (units: sqm)
Range Selected by User: 526 to 2773 (units: sqm)

Parking Spaces Range: All Surveys Included

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/16 to 25/06/24

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

Selected survey days:

Monday	2 days
Tuesday	8 days
Wednesday	3 days
Thursday	11 days
Friday	4 days

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

Selected survey types:

Manual count	28 days
Directional ATC Count	0 days

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

Selected Locations:

Edge of Town Centre	9
Suburban Area (PPS6 Out of Centre)	6
Edge of Town	8
Neighbourhood Centre (PPS6 Local Centre)	5

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

Selected Location Sub Categories:

Industrial Zone	4
Development Zone	2
Residential Zone	5
Retail Zone	7
Built-Up Zone	2
High Street	2
No Sub Category	6

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

Inclusion of Servicing Vehicles Counts:

Servicing vehicles Included	29 days - Selected
Servicing vehicles Excluded	18 days - Selected

Secondary Filtering selection:

Use Class:

E(a) 28 days

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order (England) 2020 has been used for this purpose, which can be found within the Library module of TRICS®.

Population within 500m Range:

All Surveys Included

Secondary Filtering selection (Cont.):

Population within 1 mile:

1,001 to 5,000	2 days
5,001 to 10,000	5 days
10,001 to 15,000	4 days
15,001 to 20,000	2 days
20,001 to 25,000	4 days
25,001 to 50,000	10 days
50,001 to 100,000	1 days

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

Population within 5 miles:

5,001 to 25,000	2 days
25,001 to 50,000	3 days
50,001 to 75,000	3 days
75,001 to 100,000	6 days
100,001 to 125,000	1 days
125,001 to 250,000	8 days
250,001 to 500,000	5 days

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

Car ownership within 5 miles:

0.6 to 1.0	10 days
1.1 to 1.5	17 days
2.1 to 2.5	1 days

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

Petrol filling station:

Included in the survey count	0 days
Excluded from count or no filling station	28 days

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

Travel Plan:

Not Known	1 days
Yes	6 days
No	21 days

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

PTAL Rating:

No PTAL Present	28 days
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This data displays the number of selected surveys with PTAL Ratings.

Covid-19 Restrictions	Yes	At least one survey within the selected data set was undertaken at a time of Covid-19 restrictions
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LIST OF SITES relevant to selection parameters

1	AD-01-C-02	LIDL		ABERDEEN CITY
	GREENWELL ROAD			
	ABERDEEN			
	Suburban Area (PPS6 Out of Centre)			
	Industrial Zone			
	Total Gross floor area:	1950 sqm		
	Survey date: WEDNESDAY	09/06/21	Survey Type: MANUAL	
2	BC-01-C-02	ICELAND		BOURNEMOUTH CHRISTCHURCH & POOLE
	CHRISTCHURCH ROAD			
	BOURNEMOUTH			
	BOSCOMBE			
	Neighbourhood Centre (PPS6 Local Centre)			
	High Street			
	Total Gross floor area:	600 sqm		
	Survey date: TUESDAY	20/09/22	Survey Type: MANUAL	
3	CA-01-C-01	LIDL		CAMBRIDGESHIRE
	CROMWELL ROAD			
	WISBECH			
	Edge of Town			
	Retail Zone			
	Total Gross floor area:	1466 sqm		
	Survey date: FRIDAY	21/10/16	Survey Type: MANUAL	
4	CA-01-C-02	ICELAND		CAMBRIDGESHIRE
	HISTON ROAD			
	CAMBRIDGE			
	ARBURY			
	Neighbourhood Centre (PPS6 Local Centre)			
	No Sub Category			
	Total Gross floor area:	768 sqm		
	Survey date: THURSDAY	22/06/23	Survey Type: MANUAL	
5	CF-01-C-01	LIDL		CARDIFF
	EAST TYNDALL STREET			
	CARDIFF			
	Suburban Area (PPS6 Out of Centre)			
	Development Zone			
	Total Gross floor area:	2568 sqm		
	Survey date: THURSDAY	29/06/17	Survey Type: MANUAL	
6	DH-01-C-01	ALDI		DURHAM
	WATLING ROAD			
	BISHOP AUCKLAND			
	Edge of Town			
	Retail Zone			
	Total Gross floor area:	1023 sqm		
	Survey date: THURSDAY	06/04/17	Survey Type: MANUAL	
7	GT-01-C-01	LIDL		WARRINGTON
	FENNEL STREET			
	WARRINGTON			
	Edge of Town Centre			
	Retail Zone			
	Total Gross floor area:	1450 sqm		
	Survey date: THURSDAY	15/04/21	Survey Type: MANUAL	

LIST OF SITES relevant to selection parameters (Cont.)

8	LN-01-C-01	LIDL	LINCOLNSHIRE
	RICHMOND DRIVE		
	SKEGNESS		
	Edge of Town Centre		
	Built-Up Zone		
	Total Gross floor area:	2398 sqm	
	Survey date: TUESDAY	19/07/16	Survey Type: MANUAL
9	NB-01-C-01	LIDL	NORTHUMBERLAND
	SCHALKSMUHLE ROAD		
	BEDLINGTON		
	Edge of Town Centre		
	No Sub Category		
	Total Gross floor area:	2450 sqm	
	Survey date: MONDAY	12/06/17	Survey Type: MANUAL
10	NF-01-C-01	LIDL	NORFOLK
	AYLSHAM ROAD		
	NORWICH		
	Neighbourhood Centre (PPS6 Local Centre)		
	No Sub Category		
	Total Gross floor area:	2555 sqm	
	Survey date: FRIDAY	29/11/19	Survey Type: MANUAL
11	NN-01-C-01	ALDI	NORTH NORTHAMPTONSHIRE
	SAXON WAY WEST		
	CORBY		
	GREAT OAKLEY		
	Edge of Town		
	Development Zone		
	Total Gross floor area:	1924 sqm	
	Survey date: TUESDAY	14/06/22	Survey Type: MANUAL
12	NN-01-C-02	LIDL	NORTH NORTHAMPTONSHIRE
	MARINERS WAY		
	KETTERING		
	Edge of Town Centre		
	Retail Zone		
	Total Gross floor area:	1850 sqm	
	Survey date: MONDAY	27/06/22	Survey Type: MANUAL
13	NN-01-C-04	LIDL	NORTH NORTHAMPTONSHIRE
	NEWTON ROAD		
	RUSHDEN		
	Edge of Town Centre		
	Residential Zone		
	Total Gross floor area:	2624 sqm	
	Survey date: TUESDAY	19/07/16	Survey Type: MANUAL
14	NT-01-C-01	LIDL	NOTTINGHAMSHIRE
	CHAPEL LANE		
	BINGHAM		
	Edge of Town		
	Industrial Zone		
	Total Gross floor area:	2440 sqm	
	Survey date: FRIDAY	15/07/16	Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

15	NY-01-C-03	ALDI		NORTH YORKSHIRE
	STONEBRIDGE GATE			
	RIPON			
	Edge of Town Centre			
	Residential Zone			
	Total Gross floor area:	1551 sqm		
	Survey date: FRIDAY	20/05/22		Survey Type: MANUAL
16	SM-01-C-01	LIDL		SOMERSET
	SEAWARD WAY			
	MINEHEAD			
	Edge of Town			
	No Sub Category			
	Total Gross floor area:	2247 sqm		
	Survey date: THURSDAY	22/06/17		Survey Type: MANUAL
17	SO-01-C-01	LIDL		SLOUGH
	BATH ROAD			
	SLOUGH			
	Suburban Area (PPS6 Out of Centre)			
	Retail Zone			
	Total Gross floor area:	1880 sqm		
	Survey date: THURSDAY	22/09/22		Survey Type: MANUAL
18	SR-01-C-01	LIDL		STIRLING
	PLAYERS ROAD			
	STIRLING			
	Edge of Town Centre			
	Built-Up Zone			
	Total Gross floor area:	2442 sqm		
	Survey date: THURSDAY	01/06/17		Survey Type: MANUAL
19	TW-01-C-01	ALDI		TYNE & WEAR
	EDGEFIELD AVENUE			
	NEWCASTLE			
	FAWDON			
	Neighbourhood Centre (PPS6 Local Centre)			
	No Sub Category			
	Total Gross floor area:	1798 sqm		
	Survey date: TUESDAY	30/04/19		Survey Type: MANUAL
20	TW-01-C-02	ALDI		TYNE & WEAR
	FOXHUNTERS ROAD			
	WHITLEY BAY			
	Suburban Area (PPS6 Out of Centre)			
	Residential Zone			
	Total Gross floor area:	1600 sqm		
	Survey date: TUESDAY	17/05/22		Survey Type: MANUAL
21	WL-01-C-02	LIDL		WILTSHIRE
	HUNGERDOWN LANE			
	CHIPPENHAM			
	Suburban Area (PPS6 Out of Centre)			
	Residential Zone			
	Total Gross floor area:	2125 sqm		
	Survey date: TUESDAY	09/05/23		Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

22	WO-01-C-01	LIDL	WORCESTERSHIRE
	BLACKPOLE ROAD		
	WORCESTER		
	BRICKFIELDS		
	Edge of Town		
	Retail Zone		
	Total Gross floor area:	2417 sqm	
	Survey date: WEDNESDAY	13/07/16	Survey Type: MANUAL
23	WO-01-C-02	LIDL	WORCESTERSHIRE
	WORCESTER ROAD		
	MALVERN		
	Edge of Town Centre		
	Residential Zone		
	Total Gross floor area:	1471 sqm	
	Survey date: TUESDAY	26/06/18	Survey Type: MANUAL
24	WS-01-C-04	ICELAND	WEST SUSSEX
	GORING ROAD		
	WORTHING		
	GORING-BY-SEA		
	Neighbourhood Centre (PPS6 Local Centre)		
	High Street		
	Total Gross floor area:	570 sqm	
	Survey date: THURSDAY	12/05/22	Survey Type: MANUAL
25	WS-01-C-05	LIDL	WEST SUSSEX
	WESTHAMPNETT ROAD		
	CHICHESTER		
	Edge of Town		
	Retail Zone		
	Total Gross floor area:	2125 sqm	
	Survey date: THURSDAY	08/09/22	Survey Type: MANUAL
26	WS-01-C-06	LIDL	WEST SUSSEX
	FOUNDRY LANE		
	HORSHAM		
	Suburban Area (PPS6 Out of Centre)		
	Industrial Zone		
	Total Gross floor area:	1616 sqm	
	Survey date: WEDNESDAY	07/09/22	Survey Type: MANUAL
27	WS-01-C-07	LIDL	WEST SUSSEX
	NEWLANDS ROAD		
	BOGNOR REGIS		
	Edge of Town		
	Industrial Zone		
	Total Gross floor area:	2159 sqm	
	Survey date: THURSDAY	21/09/23	Survey Type: MANUAL
28	WX-01-C-01	ALDI	WEXFORD
	TRINITY STREET		
	WEXFORD		
	Edge of Town Centre		
	No Sub Category		
	Total Gross floor area:	1297 sqm	
	Survey date: THURSDAY	20/04/23	Survey Type: MANUAL

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

MANUALLY DESELECTED SITES

Site Ref	Reason for Deselection
AN-01-C-02	Ireland
AN-01-C-03	Ireland
AN-01-C-04	Ireland
DE-01-C-01	Ireland
DL-01-C-01	Ireland
DN-01-C-01	Ireland
KE-01-C-01	Ireland

MANUALLY DESELECTED SITES (Cont.)

Site Ref	Reason for Deselection
LU-01-C-02	Ireland
MG-01-C-01	Ireland

TRIP RATE for Land Use 01 - RETAIL/C - DISCOUNT FOOD STORES
MULTI-MODAL TOTAL VEHICLES
 Calculation factor: 100 sqm
 BOLD print indicates peak (busiest) period
 Total People to Total Vehicles ratio (all time periods and directions): 2.49

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00	4	2191	0.285	4	2191	0.023	4	2191	0.308
07:00 - 08:00	27	1854	0.551	27	1854	0.186	27	1854	0.737
08:00 - 09:00	28	1834	2.780	28	1834	1.947	28	1834	4.727
09:00 - 10:00	28	1834	3.645	28	1834	3.187	28	1834	6.832
10:00 - 11:00	28	1834	4.229	28	1834	3.841	28	1834	8.070
11:00 - 12:00	28	1834	4.622	28	1834	4.441	28	1834	9.063
12:00 - 13:00	28	1834	4.721	28	1834	4.727	28	1834	9.448
13:00 - 14:00	28	1834	4.513	28	1834	4.805	28	1834	9.318
14:00 - 15:00	28	1834	4.731	28	1834	4.659	28	1834	9.390
15:00 - 16:00	28	1834	4.733	28	1834	4.717	28	1834	9.450
16:00 - 17:00	28	1834	4.764	28	1834	4.879	28	1834	9.643
17:00 - 18:00	28	1834	4.425	28	1834	4.877	28	1834	9.302
18:00 - 19:00	28	1834	3.615	28	1834	3.896	28	1834	7.511
19:00 - 20:00	28	1834	2.531	28	1834	2.893	28	1834	5.424
20:00 - 21:00	26	1931	1.668	26	1931	2.074	26	1931	3.742
21:00 - 22:00	25	1977	0.743	25	1977	1.137	25	1977	1.880
22:00 - 23:00	24	1998	0.023	24	1998	0.217	24	1998	0.240
23:00 - 24:00									
Total Rates:			52.579			52.506			105.085

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

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

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Parameter summary

Trip rate parameter range selected:

570 - 2624 (units: sqm)

Survey date date range:

01/01/16 - 25/06/24

Number of weekdays (Monday-Friday):

28

Number of Saturdays:

0

Number of Sundays:

0

Surveys automatically removed from selection:

3

Surveys manually removed from selection:

9

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

TRIP RATE for Land Use 01 - RETAIL/C - DISCOUNT FOOD STORES
MULTI-MODAL TOTAL PEOPLE
 Calculation factor: 100 sqm
 BOLD print indicates peak (busiest) period
 Total People to Total Vehicles ratio (all time periods and directions): 1.29

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00	4	2191	0.536	4	2191	0.034	4	2191	0.570
07:00 - 08:00	27	1854	0.873	27	1854	0.248	27	1854	1.121
08:00 - 09:00	28	1834	4.641	28	1834	3.259	28	1834	7.900
09:00 - 10:00	28	1834	6.296	28	1834	5.479	28	1834	11.775
10:00 - 11:00	28	1834	7.414	28	1834	6.688	28	1834	14.102
11:00 - 12:00	28	1834	8.235	28	1834	8.002	28	1834	16.237
12:00 - 13:00	28	1834	8.634	28	1834	8.588	28	1834	17.222
13:00 - 14:00	28	1834	8.074	28	1834	8.525	28	1834	16.599
14:00 - 15:00	28	1834	8.259	28	1834	8.119	28	1834	16.378
15:00 - 16:00	28	1834	8.673	28	1834	8.518	28	1834	17.191
16:00 - 17:00	28	1834	8.545	28	1834	8.771	28	1834	17.316
17:00 - 18:00	28	1834	7.895	28	1834	8.613	28	1834	16.508
18:00 - 19:00	28	1834	6.520	28	1834	6.952	28	1834	13.472
19:00 - 20:00	28	1834	4.322	28	1834	5.035	28	1834	9.357
20:00 - 21:00	26	1931	2.901	26	1931	3.694	26	1931	6.595
21:00 - 22:00	25	1977	1.339	25	1977	2.066	25	1977	3.405
22:00 - 23:00	24	1998	0.029	24	1998	0.442	24	1998	0.471
23:00 - 24:00									
Total Rates:			93.186			93.033			186.219

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

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

Calculation Reference: AUDIT-111301-250206-0212

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 01 - RETAIL
Category : C - DISCOUNT FOOD STORES
MULTI-MODAL TOTAL VEHICLES

Selected regions and areas:

02	SOUTH EAST	
	ES EAST SUSSEX	1 days
03	SOUTH WEST	
	SM SOMERSET	1 days
04	EAST ANGLIA	
	NF NORFOLK	1 days
	SF SUFFOLK	2 days
05	EAST MIDLANDS	
	LN LINCOLNSHIRE	3 days
	NN NORTH NORTHAMPTONSHIRE	1 days
	NT NOTTINGHAMSHIRE	1 days
06	WEST MIDLANDS	
	WM WEST MIDLANDS	1 days
	WO WORCESTERSHIRE	1 days
08	NORTH WEST	
	MS MERSEYSIDE	2 days
09	NORTH	
	NB NORTHUMBERLAND	1 days
10	WALES	
	CF CARDIFF	1 days
11	SCOTLAND	
	LO WEST LOTHIAN	1 days
	SR STIRLING	1 days

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

Primary Filtering selection:

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

Parameter: Gross floor area
Actual Range: 1286 to 2773 (units: sqm)
Range Selected by User: 526 to 2773 (units: sqm)

Parking Spaces Range: All Surveys Included

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/16 to 25/06/24

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

Selected survey days:
Saturday 18 days

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

Selected survey types:
Manual count 18 days
Directional ATC Count 0 days

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

Selected Locations:
Edge of Town Centre 5
Suburban Area (PPS6 Out of Centre) 5
Edge of Town 4
Neighbourhood Centre (PPS6 Local Centre) 4

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

Selected Location Sub Categories:
Industrial Zone 1
Development Zone 1
Residential Zone 6
Retail Zone 1
Built-Up Zone 3
High Street 1
No Sub Category 5

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

Inclusion of Servicing Vehicles Counts:
Servicing vehicles Included 14 days - Selected
Servicing vehicles Excluded 8 days - Selected

Secondary Filtering selection:

Use Class:
E(a) 18 days

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order (England) 2020 has been used for this purpose, which can be found within the Library module of TRICS®.

Population within 500m Range:
All Surveys Included

Secondary Filtering selection (Cont.):

Population within 1 mile:

5,001 to 10,000	3 days
10,001 to 15,000	2 days
15,001 to 20,000	3 days
20,001 to 25,000	2 days
25,001 to 50,000	7 days
50,001 to 100,000	1 days

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

Population within 5 miles:

5,001 to 25,000	1 days
25,001 to 50,000	1 days
50,001 to 75,000	1 days
75,001 to 100,000	3 days
125,001 to 250,000	7 days
250,001 to 500,000	5 days

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

Car ownership within 5 miles:

0.5 or Less	2 days
0.6 to 1.0	6 days
1.1 to 1.5	8 days
1.6 to 2.0	2 days

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

Petrol filling station:

Included in the survey count	0 days
Excluded from count or no filling station	18 days

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

Travel Plan:

Not Known	1 days
Yes	2 days
No	15 days

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

PTAL Rating:

No PTAL Present	18 days
-----------------	---------

This data displays the number of selected surveys with PTAL Ratings.

Covid-19 Restrictions	Yes	At least one survey within the selected data set was undertaken at a time of Covid-19 restrictions
-----------------------	-----	--

LIST OF SITES relevant to selection parameters

1	CF-01-C-01	LIDL	CARDIFF
	EAST TYNDALL STREET		
	CARDIFF		
	Suburban Area (PPS6 Out of Centre)		
	Development Zone		
	Total Gross floor area:	2568 sqm	
	Survey date: SATURDAY	01/07/17	Survey Type: MANUAL
2	ES-01-C-02	LIDL	EAST SUSSEX
	SEASIDE		
	EASTBOURNE		
	ST. ANTHONY'S HILL		
	Neighbourhood Centre (PPS6 Local Centre)		
	Residential Zone		
	Total Gross floor area:	1493 sqm	
	Survey date: SATURDAY	16/03/24	Survey Type: MANUAL
3	LN-01-C-01	LIDL	LINCOLNSHIRE
	RICHMOND DRIVE		
	SKEGNESS		
	Edge of Town Centre		
	Built-Up Zone		
	Total Gross floor area:	2398 sqm	
	Survey date: SATURDAY	16/07/16	Survey Type: MANUAL
4	LN-01-C-02	LIDL	LINCOLNSHIRE
	DIXON STREET		
	LINCOLN		
	NEW BOULTHAM		
	Suburban Area (PPS6 Out of Centre)		
	No Sub Category		
	Total Gross floor area:	2233 sqm	
	Survey date: SATURDAY	28/10/17	Survey Type: MANUAL
5	LN-01-C-03	ALDI	LINCOLNSHIRE
	NEWARK ROAD		
	LINCOLN		
	BRACEBRIDGE		
	Suburban Area (PPS6 Out of Centre)		
	High Street		
	Total Gross floor area:	1485 sqm	
	Survey date: SATURDAY	28/10/17	Survey Type: MANUAL
6	LO-01-C-01	LIDL	WEST LoTHIAN
	ALDERSTONE ROAD		
	LIVINGSTON		
	Edge of Town Centre		
	No Sub Category		
	Total Gross floor area:	2220 sqm	
	Survey date: SATURDAY	12/06/21	Survey Type: MANUAL
7	MS-01-C-04	LIDL	MERSEYSIDE
	OXTON ROAD		
	BIRKENHEAD		
	Neighbourhood Centre (PPS6 Local Centre)		
	Residential Zone		
	Total Gross floor area:	1900 sqm	
	Survey date: SATURDAY	17/04/21	Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

8	MS-01-C-05	ALDI		MERSEYSIDE
	VULCAN PARK COURT			
	NEWTON-LE-WILLOWS			
	VULCAN VILLAGE			
	Edge of Town			
	Residential Zone			
	Total Gross floor area:	1729 sqm		
	Survey date: SATURDAY	24/04/21	Survey Type: MANUAL	
9	NB-01-C-01	LIDL		NORTHUMBERLAND
	SCHALKSMUHLE ROAD			
	BEDLINGTON			
	Edge of Town Centre			
	No Sub Category			
	Total Gross floor area:	2450 sqm		
	Survey date: SATURDAY	10/06/17	Survey Type: MANUAL	
10	NF-01-C-02	LIDL		NORFOLK
	AYLSHAM ROAD			
	NORWICH			
	Neighbourhood Centre (PPS6 Local Centre)			
	No Sub Category			
	Total Gross floor area:	2773 sqm		
	Survey date: SATURDAY	10/09/22	Survey Type: MANUAL	
11	NN-01-C-04	LIDL		NORTH NORTHAMPTONSHIRE
	NEWTON ROAD			
	RUSHDEN			
	Edge of Town Centre			
	Residential Zone			
	Total Gross floor area:	2624 sqm		
	Survey date: SATURDAY	16/07/16	Survey Type: MANUAL	
12	NT-01-C-01	LIDL		NOTTINGHAMSHIRE
	CHAPEL LANE			
	BINGHAM			
	Edge of Town			
	Industrial Zone			
	Total Gross floor area:	2440 sqm		
	Survey date: SATURDAY	16/07/16	Survey Type: MANUAL	
13	SF-01-C-01	ALDI		SUFFOLK
	HINES ROAD			
	IPSWICH			
	Suburban Area (PPS6 Out of Centre)			
	Residential Zone			
	Total Gross floor area:	1530 sqm		
	Survey date: SATURDAY	26/06/21	Survey Type: MANUAL	
14	SF-01-C-02	LIDL		SUFFOLK
	LONDON ROAD			
	IPSWICH			
	Suburban Area (PPS6 Out of Centre)			
	Built-Up Zone			
	Total Gross floor area:	1425 sqm		
	Survey date: SATURDAY	26/06/21	Survey Type: MANUAL	

LIST OF SITES relevant to selection parameters (Cont.)

15	SM-01-C-01	LIDL	SOMERSET
	SEAWARD WAY		
	MINEHEAD		
	Edge of Town		
	No Sub Category		
	Total Gross floor area:	2247 sqm	
	Survey date: SATURDAY	24/06/17	Survey Type: MANUAL
16	SR-01-C-01	LIDL	STIRLING
	PLAYERS ROAD		
	STIRLING		
	Edge of Town Centre		
	Built-Up Zone		
	Total Gross floor area:	2442 sqm	
	Survey date: SATURDAY	03/06/17	Survey Type: MANUAL
17	WM-01-C-03	ALDI	WEST MIDLANDS
	RADFORD ROAD		
	COVENTRY		
	RADFORD		
	Neighbourhood Centre (PPS6 Local Centre)		
	Residential Zone		
	Total Gross floor area:	1286 sqm	
	Survey date: SATURDAY	19/11/22	Survey Type: MANUAL
18	WO-01-C-01	LIDL	WORCESTERSHIRE
	BLACKPOLE ROAD		
	WORCESTER		
	BRICKFIELDS		
	Edge of Town		
	Retail Zone		
	Total Gross floor area:	2417 sqm	
	Survey date: SATURDAY	16/07/16	Survey Type: MANUAL

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

MANUALLY DESELECTED SITES

Site Ref	Reason for Deselection
WC-01-C-01	Ireland

TRIP RATE for Land Use 01 - RETAIL/C - DISCOUNT FOOD STORES
MULTI-MODAL TOTAL VEHICLES
 Calculation factor: 100 sqm
 BOLD print indicates peak (busiest) period
 Total People to Total Vehicles ratio (all time periods and directions): 2.65

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00	2	2511	0.219	2	2511	0.080	2	2511	0.299
07:00 - 08:00	18	2092	0.603	18	2092	0.109	18	2092	0.712
08:00 - 09:00	18	2092	3.176	18	2092	2.353	18	2092	5.529
09:00 - 10:00	18	2092	4.214	18	2092	3.452	18	2092	7.666
10:00 - 11:00	18	2092	5.125	18	2092	4.559	18	2092	9.684
11:00 - 12:00	18	2092	6.320	18	2092	5.937	18	2092	12.257
12:00 - 13:00	18	2092	5.980	18	2092	6.264	18	2092	12.244
13:00 - 14:00	18	2092	5.688	18	2092	5.637	18	2092	11.325
14:00 - 15:00	18	2092	5.404	18	2092	5.547	18	2092	10.951
15:00 - 16:00	18	2092	5.332	18	2092	5.619	18	2092	10.951
16:00 - 17:00	18	2092	4.788	18	2092	5.085	18	2092	9.873
17:00 - 18:00	18	2092	4.065	18	2092	4.312	18	2092	8.377
18:00 - 19:00	18	2092	2.945	18	2092	3.611	18	2092	6.556
19:00 - 20:00	18	2092	2.225	18	2092	2.666	18	2092	4.891
20:00 - 21:00	18	2092	1.378	18	2092	1.691	18	2092	3.069
21:00 - 22:00	18	2092	0.733	18	2092	1.017	18	2092	1.750
22:00 - 23:00	16	2169	0.055	16	2169	0.187	16	2169	0.242
23:00 - 24:00									
Total Rates:			58.250			58.126			116.376

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Parameter summary

Trip rate parameter range selected:
 Survey date date range:
 Number of weekdays (Monday-Friday):
 Number of Saturdays:
 Number of Sundays:
 Surveys automatically removed from selection:
 Surveys manually removed from selection:

1286 - 2773 (units: sqm)
 01/01/16 - 25/06/24
 0
 18
 0
 0
 1

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

Hyder Consulting St Mellons Business Park Cardiff

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TRIP RATE for Land Use 01 - RETAIL/C - DISCOUNT FOOD STORES

MULTI-MODAL TOTAL PEOPLE

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Total People to Total Vehicles ratio (all time periods and directions): 1.35

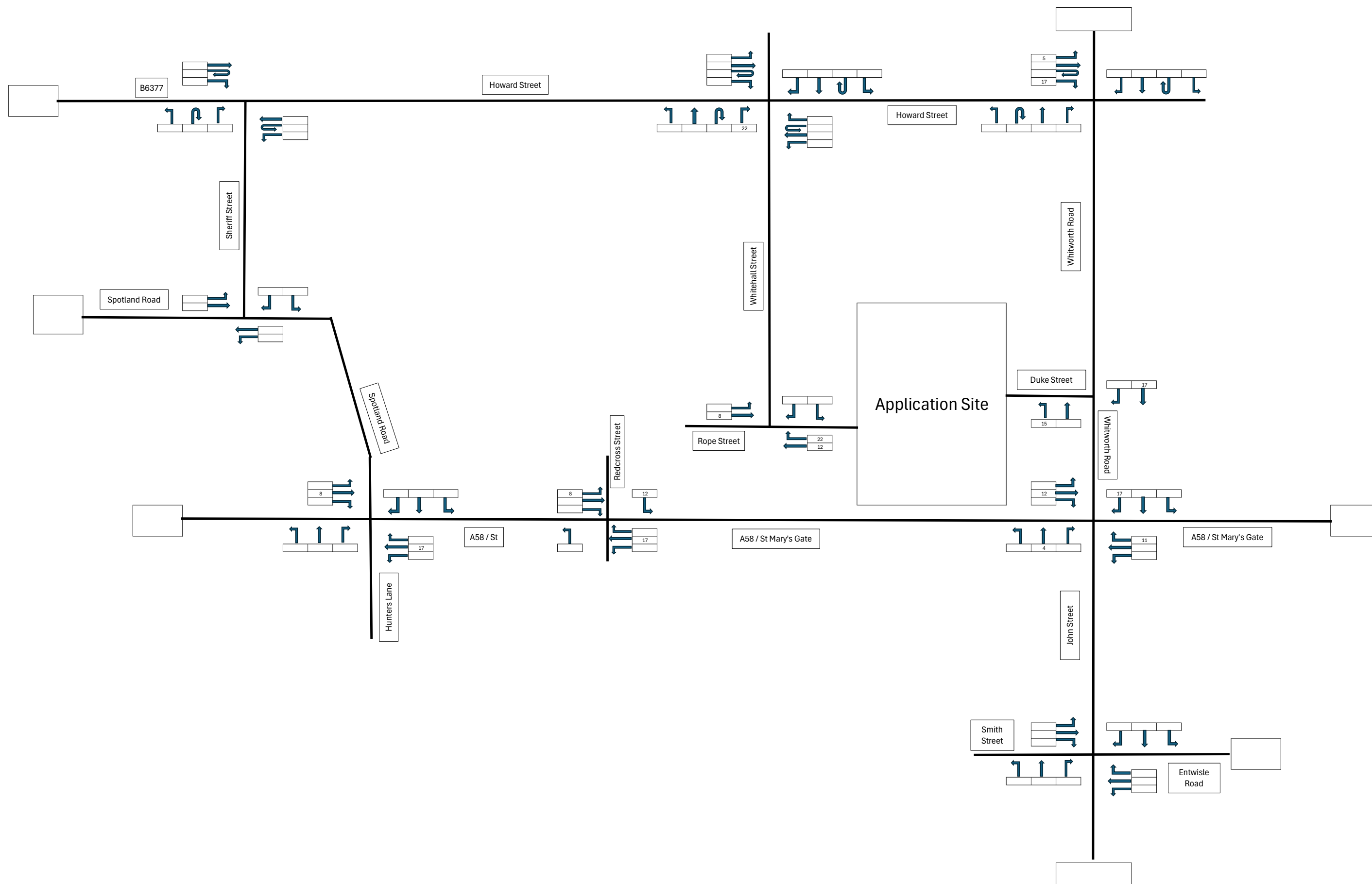
Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00	2	2511	0.617	2	2511	0.100	2	2511	0.717
07:00 - 08:00	18	2092	1.097	18	2092	0.212	18	2092	1.309
08:00 - 09:00	18	2092	5.489	18	2092	4.041	18	2092	9.530
09:00 - 10:00	18	2092	7.488	18	2092	6.195	18	2092	13.683
10:00 - 11:00	18	2092	9.634	18	2092	8.330	18	2092	17.964
11:00 - 12:00	18	2092	11.437	18	2092	10.850	18	2092	22.287
12:00 - 13:00	18	2092	11.256	18	2092	11.742	18	2092	22.998
13:00 - 14:00	18	2092	10.985	18	2092	10.659	18	2092	21.644
14:00 - 15:00	18	2092	10.762	18	2092	11.009	18	2092	21.771
15:00 - 16:00	18	2092	10.499	18	2092	10.990	18	2092	21.489
16:00 - 17:00	18	2092	9.437	18	2092	9.859	18	2092	19.296
17:00 - 18:00	18	2092	7.937	18	2092	8.654	18	2092	16.591
18:00 - 19:00	18	2092	5.866	18	2092	6.954	18	2092	12.820
19:00 - 20:00	18	2092	4.461	18	2092	5.321	18	2092	9.782
20:00 - 21:00	18	2092	2.751	18	2092	3.396	18	2092	6.147
21:00 - 22:00	18	2092	1.423	18	2092	2.074	18	2092	3.497
22:00 - 23:00	16	2169	0.107	16	2169	0.372	16	2169	0.479
23:00 - 24:00									
Total Rates:		111.246			110.758			222.004	

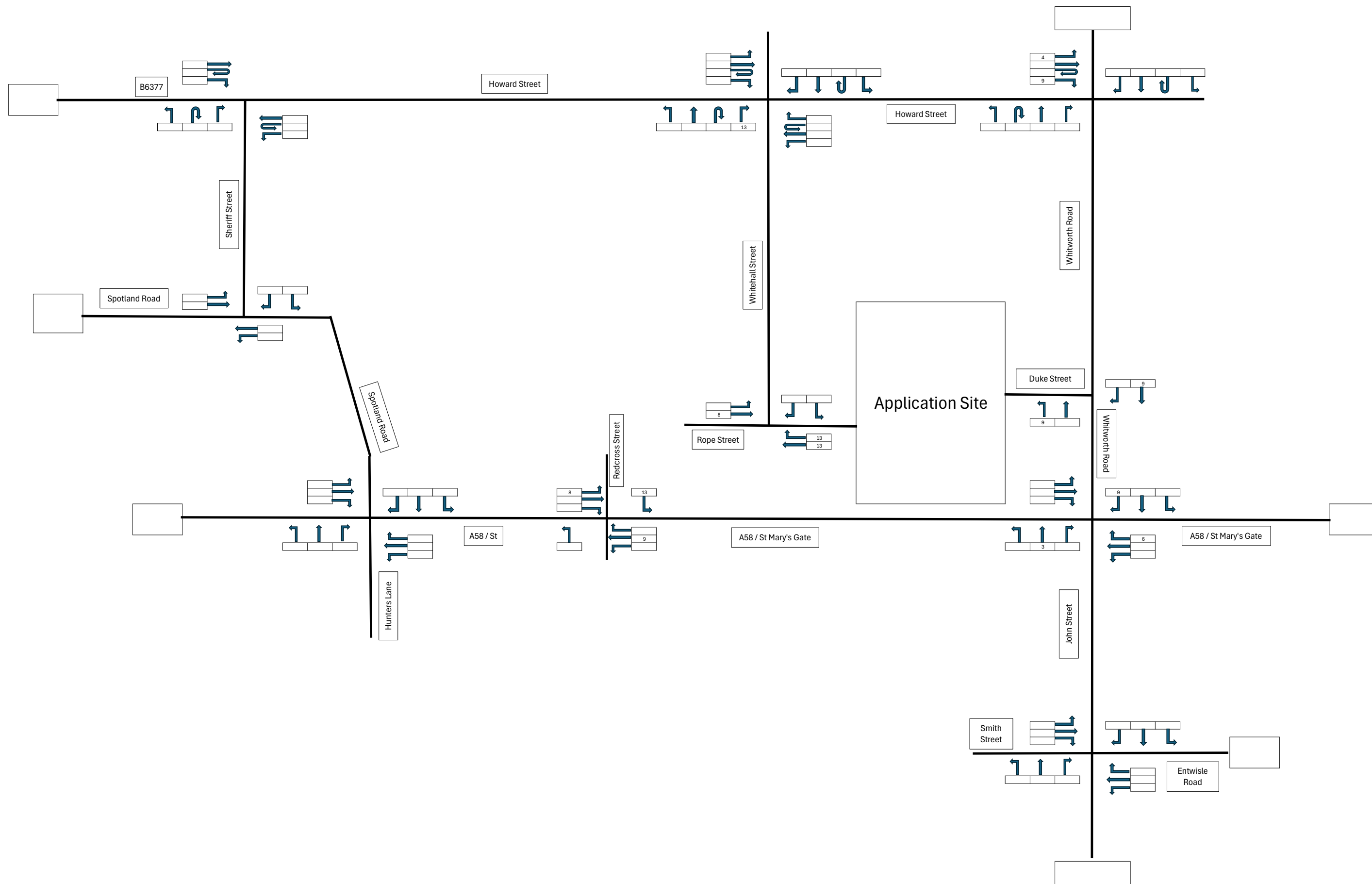
This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are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

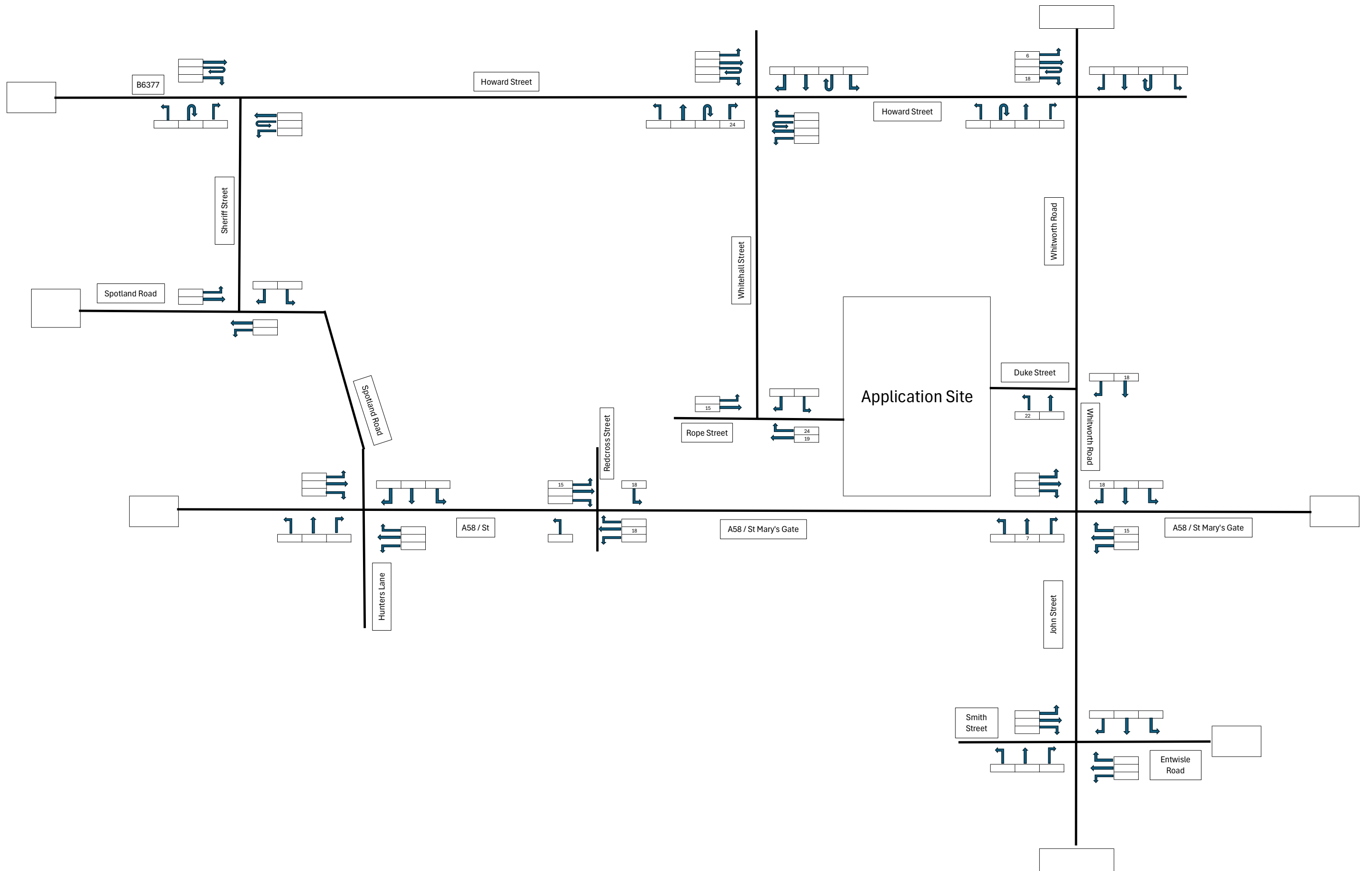
To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected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

Appendix B

Starbucks Flows

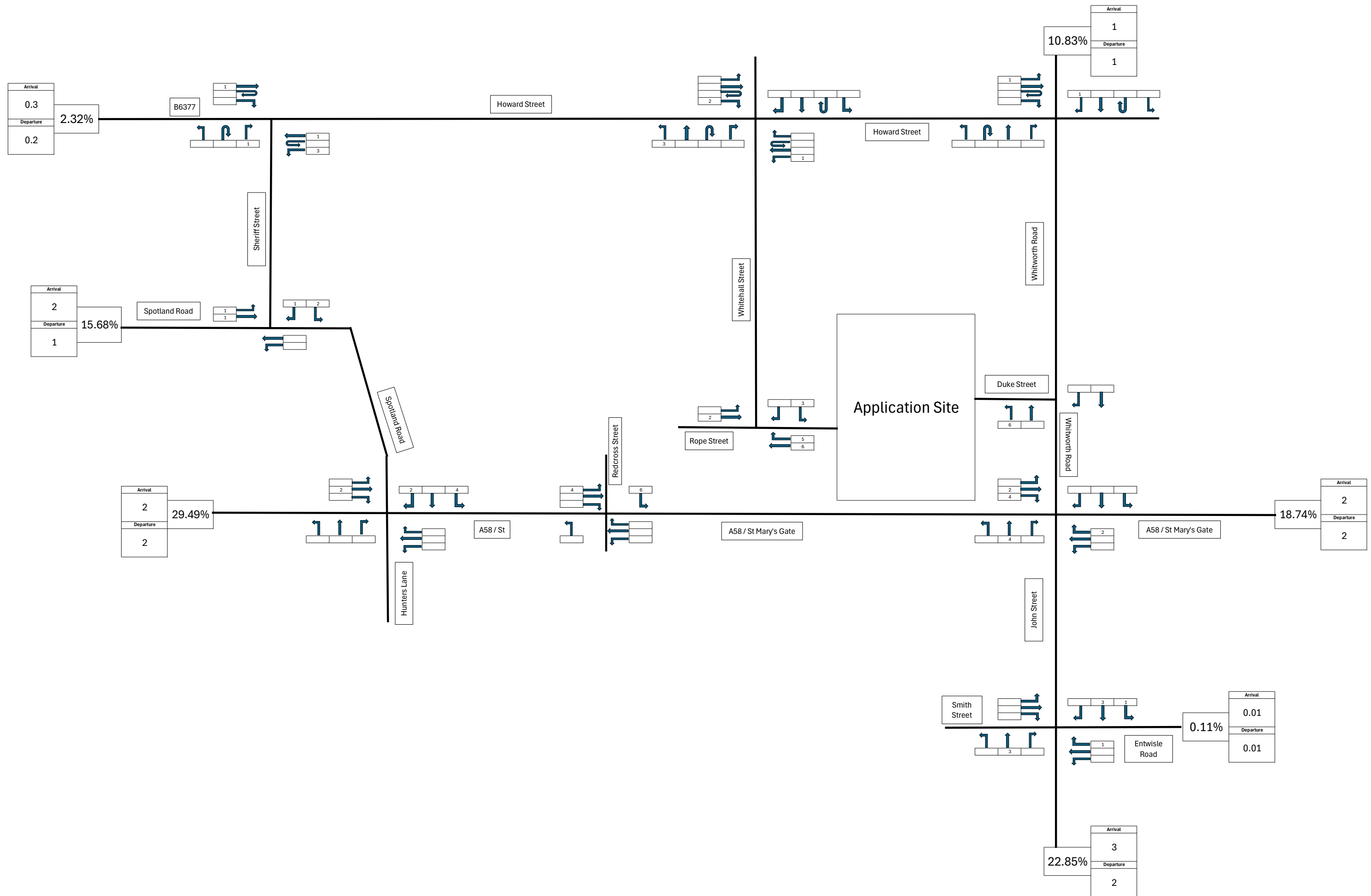


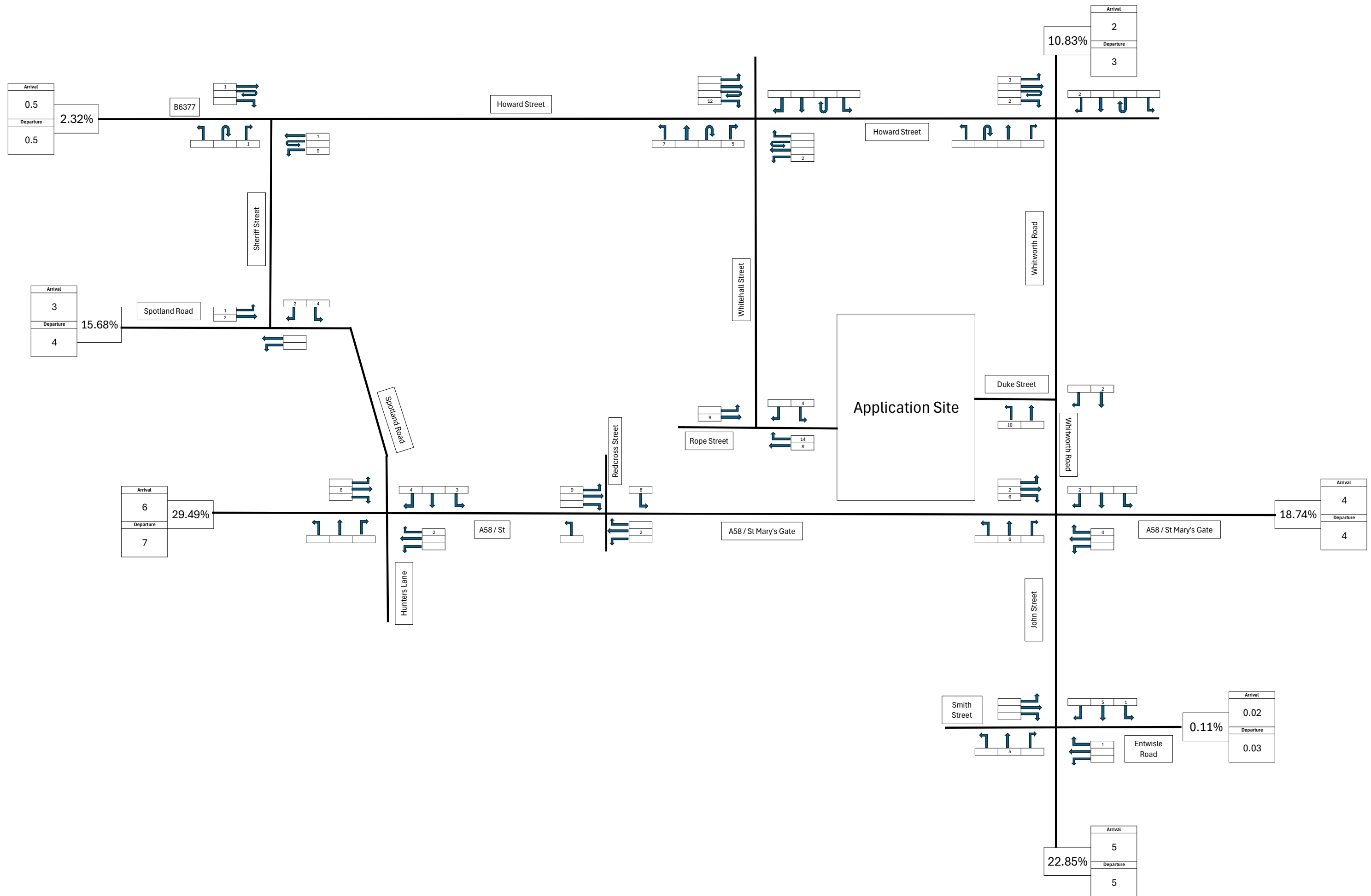


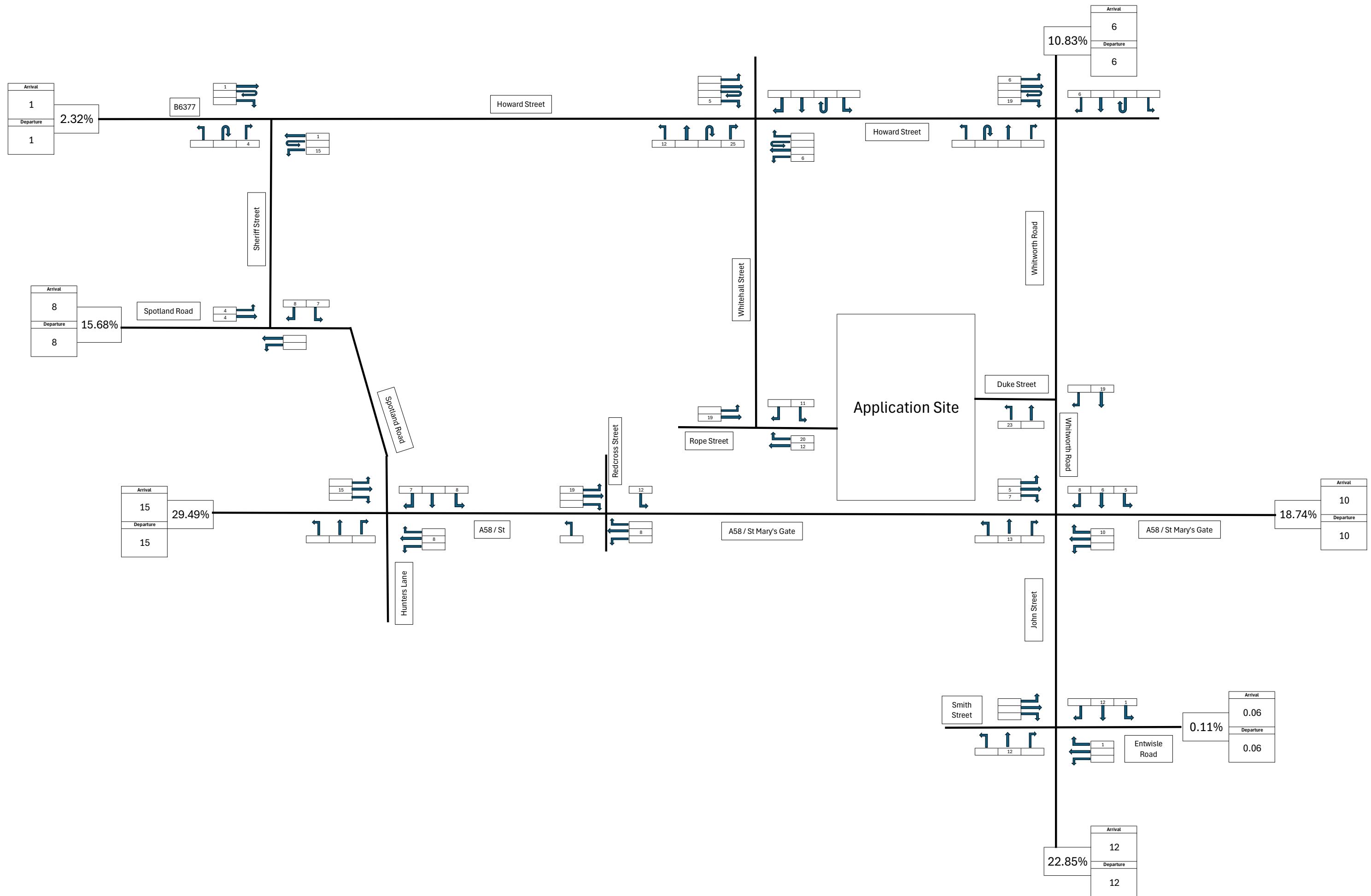


Appendix C

Development Flows







Appendix D

Signal Timing & Staging Data

Urban Traffic Control Unit

Client: Arcadis
Subject: Controller data and traffic signal timings information
Doc: 1315_Info_Jul_25_OL
Author: Oscar Law
Location: John St / Molesworth St / Smith St / Entwistle Rd - 1315

This Site Operates under (XXX) Control**Staging**

1.	Molesworth Street (Phase B) Entwistle Road Left Turn (Phase E) Pedestrians across Molesworth Street Entrance (Phase I)
2.	John Street (Phase A) Pedestrians across Molesworth Street Stop Line (Phase H) Pedestrians across Entwistle Road Left Turn (Phase J)
3.	Smith Street (Phase C) Pedestrians across Molesworth Street Stop Line (Phase H) Pedestrians across Entwistle Road Left Turn (Phase J)
4.	Entwistle Road Ahead and Right Turn (Phase D) Entwistle Road Left Turn (Phase E) Pedestrians across Molesworth Street Stop Line (Phase H) Pedestrians across Molesworth Street Entrance (Phase I)

Please note, phases F and G are not in use.

Note: The attached drawing shows a detailed staging diagram. Note that this layout is based on Ordnance Survey data and is not taken from a topographical survey. The geometry and lane markings are correct to the best of our knowledge, however, changes may have been implemented by the Highway Authority without the involvement of the UTC Unit. The UTC Unit cannot be held responsible for any omissions or errors on the drawing.

Controller phase minimum greens and intergreens

Minimum phase green	To From	A	B	C	D	E	F	G	H	I	J
7	A		6	6	6	8	-	-	-	8	-
7	B	6		8	6	-	-	-	5	-	-
7	C	6	6		6	9	-	-	-	10	-
7	D	7	6	9		-	-	-	-	-	-
7	E	4	-	4	-		-	-	-	-	5
-	F	-	-	-	-	-		-	-	-	-
-	G	-	-	-	-	-	-		-	-	-
6	H	-	9	-	-	-	-	-		-	-
5	I	7	-	7	-	-	-	-	-		-
5	J	-	-	-	-	6	-	-	-	-	

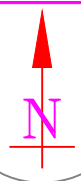
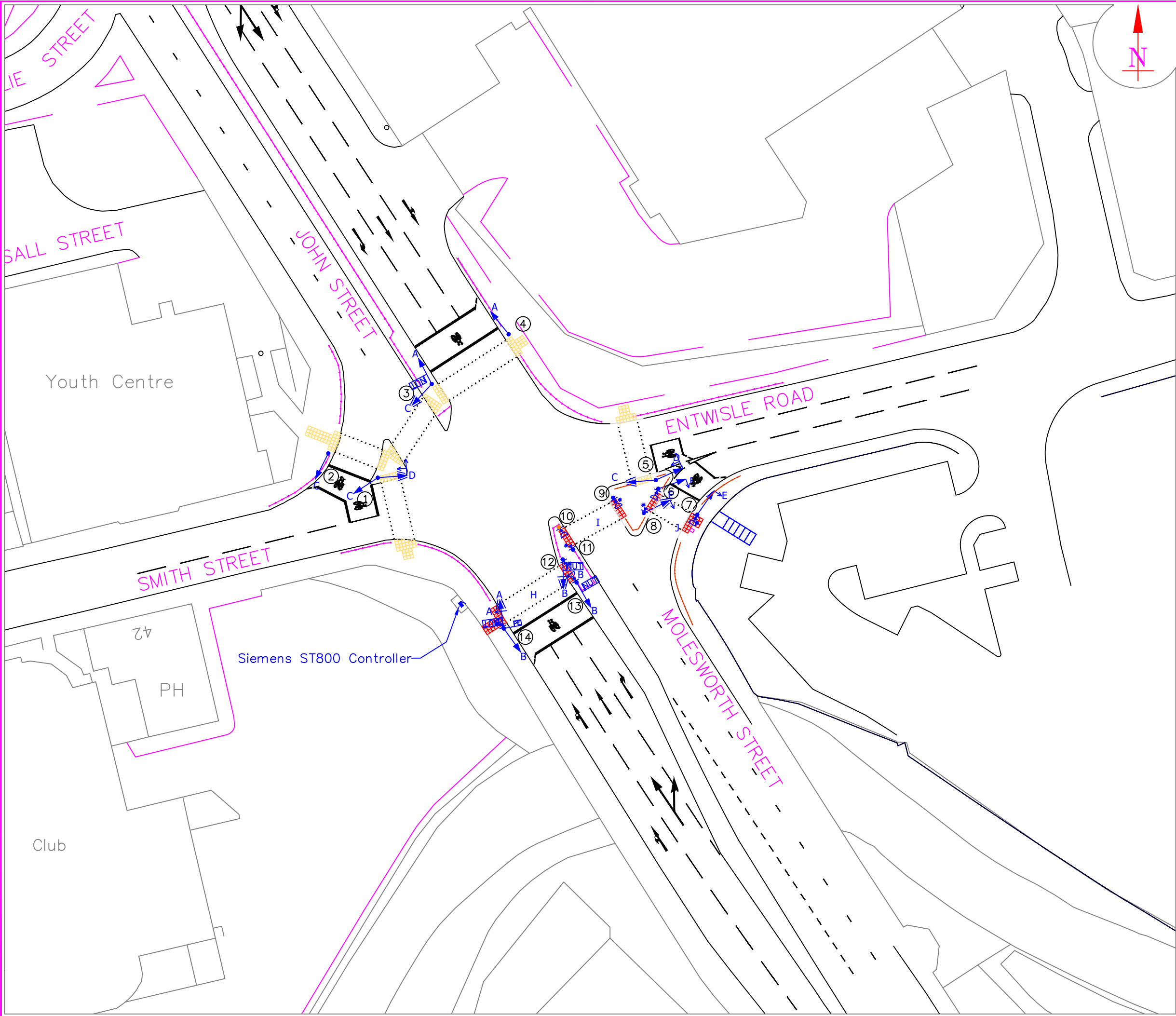
Phase Delays

Phase	B	runs on for an additional 1	seconds on the change from stage 1	to	2
Phase	E	runs on for an additional 3	seconds on the change from stage 1	to	2
Phase	E	runs on for an additional 4	seconds on the change from stage 1	to	3
Phase	I	runs on for an additional 1	seconds on the change from stage 1	to	3
Phase	J	runs on for an additional 2	seconds on the change from stage 2	to	1
Phase	J	runs on for an additional 2	seconds on the change from stage 2	to	4
Phase	J	runs on for an additional 3	seconds on the change from stage 3	to	1
Phase	J	runs on for an additional 3	seconds on the change from stage 3	to	4
Phase	D	runs on for an additional 3	seconds on the change from stage 4	to	1
Phase	E	runs on for an additional 3	seconds on the change from stage 4	to	2
Phase	E	runs on for an additional 5	seconds on the change from stage 4	to	3
Phase	I	runs on for an additional 2	seconds on the change from stage 4	to	3

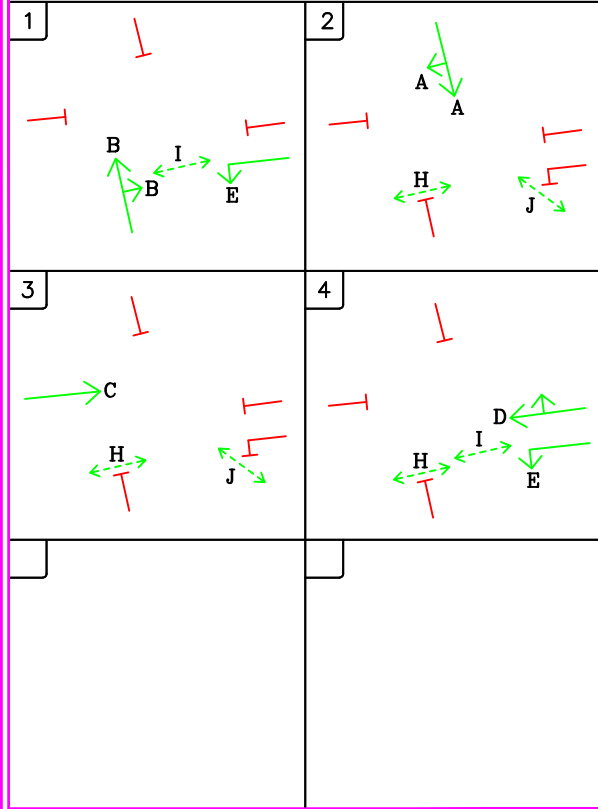
Stage Lengths

SCOOT

The site operates under SCOOT Control. The green times are variable throughout the day depending on traffic conditions on site. The SCOOT maximum cycle time for this region is 112 seconds and the site will run up to this cycle time during the peak periods.

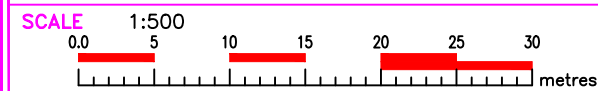


Staging Diagrams



C	ASLs installed	14/10/2013	MW
B	Staging and phase rewiring	18/02/2009	EAC
A	Site survey & photographs	21/04/2008	PM
REVISIONS		DATE	BY APP

John St/Molesworth St, Town Centre
Rochdale (1315 - Ex RM Site 5/005)



OS-REF		CHECKED ON SITE BY	PM
DATE	18/03/2008	CHECKED BY	
STATUS	As Built	DRAWN BY	JJS HS
ORIGINAL DRAWING SIZE	A3	CAD FILE	Sig1315
XREF			REV
DRAWING No.	A3/05/1315/02		A

Association of Greater Manchester Authorities
GREATER MANCHESTER URBAN TRAFFIC CONTROL UNIT, GMUTC

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GMPTE LA 100022610 2007



Urban Traffic Control Unit

Client: Arcadis
Subject: Controller data and traffic signal timings information
Doc: 1609_Info_Jul_25_OL
Author: Oscar Law
Location: St Mary's Gate / Yorkshire St / Whitworth Rd / John St, Rochdale - 1609

This Site Operates under SCOOT Control

Staging

1.	St Mary's Gate Ahead (Phase A) Yorkshire Street Ahead (Phase B) St Mary's Gate Left Turn (Phase E) Yorkshire Street Left Turn (Phase G) Pedestrians across Phase H Stop Line (Phase J) Pedestrians across Phase C Exit Side (Phase N) Pedestrians across Phase D Stop Line (Phase O) Pedestrians across Phase F Stop Line (Phase P)
2.	Yorkshire Street Ahead (Phase B) Whitworth Road Left Turn (Phase F) Yorkshire Street Left Turn (Phase G) Pedestrians across Phase H Stop Line (Phase J) Pedestrians across Phases A and I Stop Line (Phase L) Pedestrians across Phase E Stop Line (Phase M) Pedestrians across Phase D Stop Line (Phase O) Yorkshire Street Right Turn (Phase Q)
3.	Whitworth Road Ahead and Right Turn (Phase D) Whitworth Road Left Turn (Phase F) Pedestrians across Phase H Stop Line (Phase J) Pedestrians across Phases A and I Stop Line (Phase L) Pedestrians across Phase E Stop Line (Phase M)
4.	John Street Ahead and Right Turn (Phase C) John Street Left Turn (Phase H) Pedestrians across Phase B Exit Side (Phase K) Pedestrians across Phases A and I Stop Line (Phase L) Pedestrians across Phase E Stop Line (Phase M) Pedestrians across Phase D Stop Line (Phase O)

	Pedestrians across Phase F Stop Line (Phase P)
5.	St Mary's Gate Ahead (Phase A) St Mary's Gate Left Turn (Phase E) John Street Left Turn (Phase H) St Mary's Gate Right Turn (Phase I) Pedestrians across Phase B Exit Side (Phase K) Pedestrians across Phase C Exit Side (Phase N) Pedestrians across Phase D Stop Line (Phase O) Pedestrians across Phase F Stop Line (Phase P)

Note: The attached drawing shows a detailed staging diagram. Note that this layout is based on Ordnance Survey data and is not taken from a topographical survey. The geometry and lane markings are correct to the best of our knowledge, however, changes may have been implemented by the Highway Authority without the involvement of the UTC Unit. The UTC Unit cannot be held responsible for any omissions or errors on the drawing.

Controller phase minimum greens and intergreens

Minimum phase green	To From	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
7	A			6	6		7						6					6
7	B			6	6				7	6		9						
7	C	7	7		6	8	7			6					11			7
7	D	7	7	6				8	8	6		11			6	6		7
7	E			5										6				4
7	F	5		5													6	
7	G				5					5								
7	H		5		5						6							
7	I		7	6	6			9					6					7
5	J								5									
5	K		6		6													
6	L	9								9								
5	M					5												
5	N			6	6													6
5	O				6													
5	P						6											
7	Q	6		6	6	9				6					10			

Phase Delays

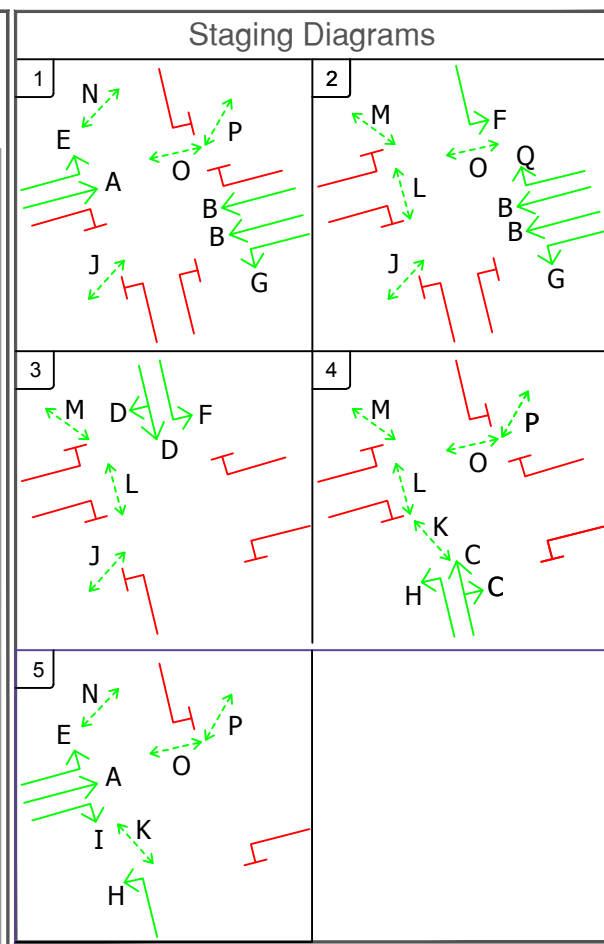
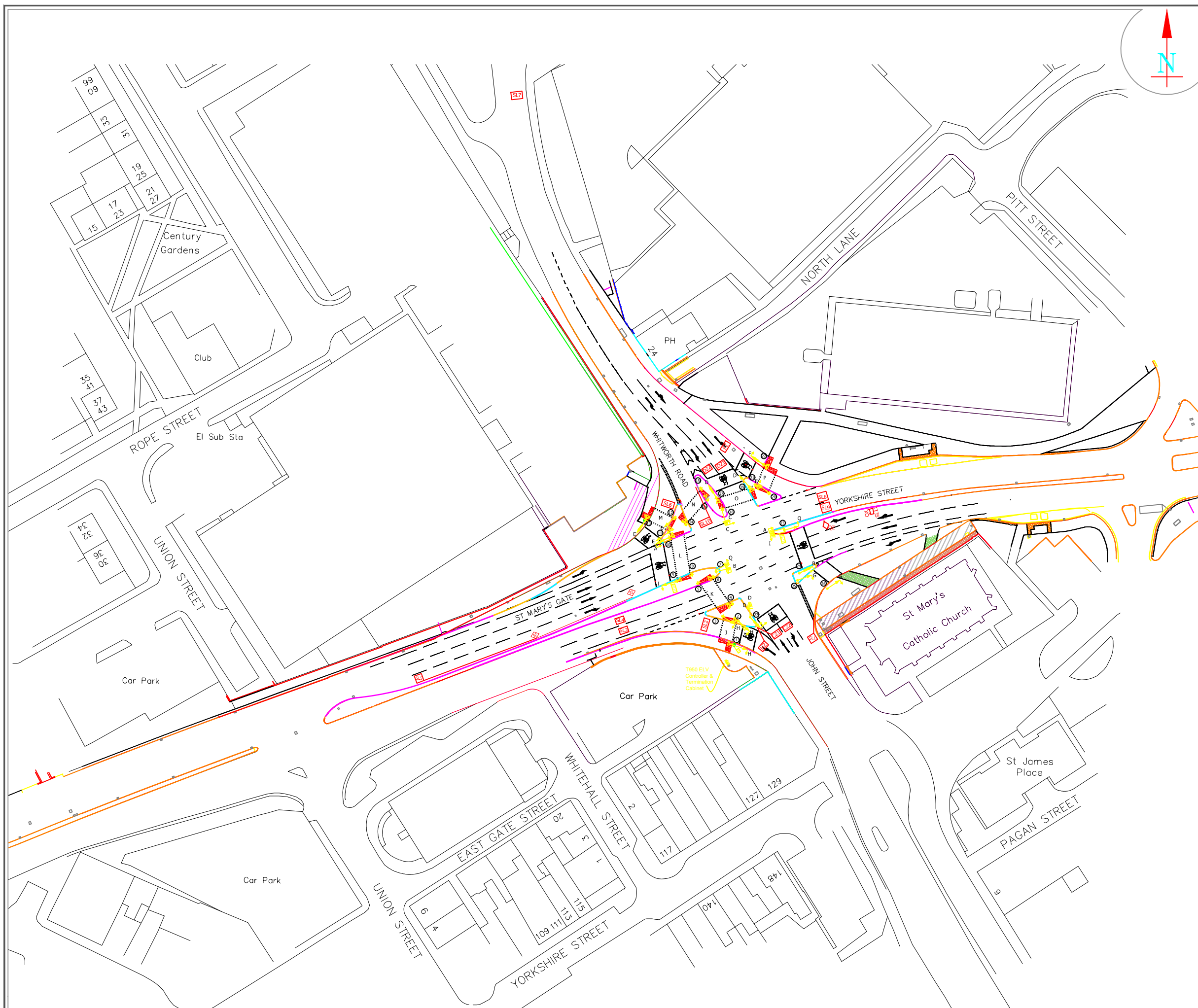
Phase	E	runs on for an additional 1	seconds on the change from stage 1 to 2
Phase	P	runs on for an additional 2	seconds on the change from stage 1 to 2
Phase	E	runs on for an additional 1	seconds on the change from stage 1 to 3
Phase	G	runs on for an additional 1	seconds on the change from stage 1 to 3
Phase	P	runs on for an additional 2	seconds on the change from stage 1 to 3
Phase	E	runs on for an additional 1	seconds on the change from stage 1 to 4
Phase	G	runs on for an additional 4	seconds on the change from stage 1 to 4
Phase	J	runs on for an additional 2	seconds on the change from stage 1 to 4

Phase	G	runs on for an additional 1	seconds on the change from stage 1	to 5
Phase	J	runs on for an additional 2	seconds on the change from stage 1	to 5
Phase	F	runs on for an additional 4	seconds on the change from stage 2	to 1
Phase	M	runs on for an additional 4	seconds on the change from stage 2	to 1
Phase	G	runs on for an additional 1	seconds on the change from stage 2	to 3
Phase	F	runs on for an additional 1	seconds on the change from stage 2	to 4
Phase	G	runs on for an additional 1	seconds on the change from stage 2	to 4
Phase	J	runs on for an additional 2	seconds on the change from stage 2	to 4
Phase	F	runs on for an additional 3	seconds on the change from stage 2	to 5
Phase	G	runs on for an additional 3	seconds on the change from stage 2	to 5
Phase	J	runs on for an additional 2	seconds on the change from stage 2	to 5
Phase	M	runs on for an additional 4	seconds on the change from stage 2	to 5
Phase	F	runs on for an additional 3	seconds on the change from stage 3	to 1
Phase	F	runs on for an additional 1	seconds on the change from stage 3	to 4
Phase	J	runs on for an additional 3	seconds on the change from stage 3	to 4
Phase	F	runs on for an additional 4	seconds on the change from stage 3	to 5
Phase	J	runs on for an additional 3	seconds on the change from stage 3	to 5
Phase	H	runs on for an additional 2	seconds on the change from stage 4	to 1
Phase	K	runs on for an additional 3	seconds on the change from stage 4	to 1
Phase	M	runs on for an additional 3	seconds on the change from stage 4	to 1
Phase	H	runs on for an additional 2	seconds on the change from stage 4	to 2
Phase	K	runs on for an additional 1	seconds on the change from stage 4	to 2
Phase	P	runs on for an additional 2	seconds on the change from stage 4	to 2
Phase	H	runs on for an additional 1	seconds on the change from stage 4	to 3
Phase	P	runs on for an additional 2	seconds on the change from stage 4	to 3
Phase	M	runs on for an additional 6	seconds on the change from stage 4	to 5
Phase	H	runs on for an additional 2	seconds on the change from stage 5	to 1
Phase	K	runs on for an additional 1	seconds on the change from stage 5	to 1
Phase	E	runs on for an additional 3	seconds on the change from stage 5	to 2
Phase	H	runs on for an additional 2	seconds on the change from stage 5	to 2
Phase	K	runs on for an additional 1	seconds on the change from stage 5	to 2
Phase	N	runs on for an additional 1	seconds on the change from stage 5	to 2
Phase	P	runs on for an additional 2	seconds on the change from stage 5	to 2
Phase	E	runs on for an additional 3	seconds on the change from stage 5	to 3
Phase	H	runs on for an additional 2	seconds on the change from stage 5	to 3
Phase	I	runs on for an additional 1	seconds on the change from stage 5	to 3
Phase	K	runs on for an additional 1	seconds on the change from stage 5	to 3
Phase	N	runs on for an additional 1	seconds on the change from stage 5	to 3
Phase	O	runs on for an additional 1	seconds on the change from stage 5	to 3
Phase	P	runs on for an additional 2	seconds on the change from stage 5	to 3
Phase	C	runs on for an additional 3	seconds on the change from stage 4	to 5

Stage Lengths

SCOOT

The site operates under SCOOT Control. The green times are variable throughout the day depending on traffic conditions on site. The SCOOT maximum cycle time for this region is 112 seconds and the site will run up to this cycle time during the peak periods.



REVISIONS		DATE	BY	APP
SCALE 1:1000				
0 5 10 15 20 25 30 35 40 45 50 55 60 metres				
St Marys Gate/Yorkshire St/Whitworth Rd/John St				
Rochdale [1609]				
SUBDISTRICT		Town Centre		
OS_REF		STATUS	As built	
DATE	Apr 2016	DWG CHCKD BY	-	
DRAWN BY	CT	SITE CHCKD BY	-	
FILENAME	Sig1609.dwg			
XREFS				REV
DWG No.	A3 / 05 / 1609 / 01			-

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Urban Traffic Control Unit

Client: Arcadis
Subject: Controller data and traffic signal timings information
Doc: 1306_Info_Jul_25_OL
Author: Oscar Law
Location: St. Mary's Gate/Spotland Road/Hunters Lane - x1306

This Site Operates under SCOOT Control

Staging

1.	St. Mary's Gate Northeast Side Ahead Only (Phase A) St Mary's Gate Northeast Side Right Turn (Phase B)
2.	St. Mary's Gate Northeast Side Ahead Only (Phase A) St Mary's Gate Southwest Side Ahead Only (Phase C)
3.	St Mary's Gate Southwest Side Ahead Only (Phase C) St Mary's Gate Southwest Side Right Turn (Phase D)
4.	Spotland Road (Phase E)
5.	Hunters Lane (Phase F)

Note: The attached drawing shows a detailed staging diagram. Note that this layout is based on Ordnance Survey data and is not taken from a topographical survey. The geometry and lane markings are correct to the best of our knowledge, however, changes may have been implemented by the Highway Authority without the involvement of the UTC Unit. The UTC Unit cannot be held responsible for any omissions or errors on the drawing.

Controller phase minimum greens and intergreens

Minimum phase green	To From	A	B	C	D	E	F
7	A		-	-	5	5	6
7	B	-		7	7	6	5
7	C	-	5		-	6	5
7	D	6	6	-		6	6
7	E	6	6	5	5		5
7	F	6	6	7	7	6	

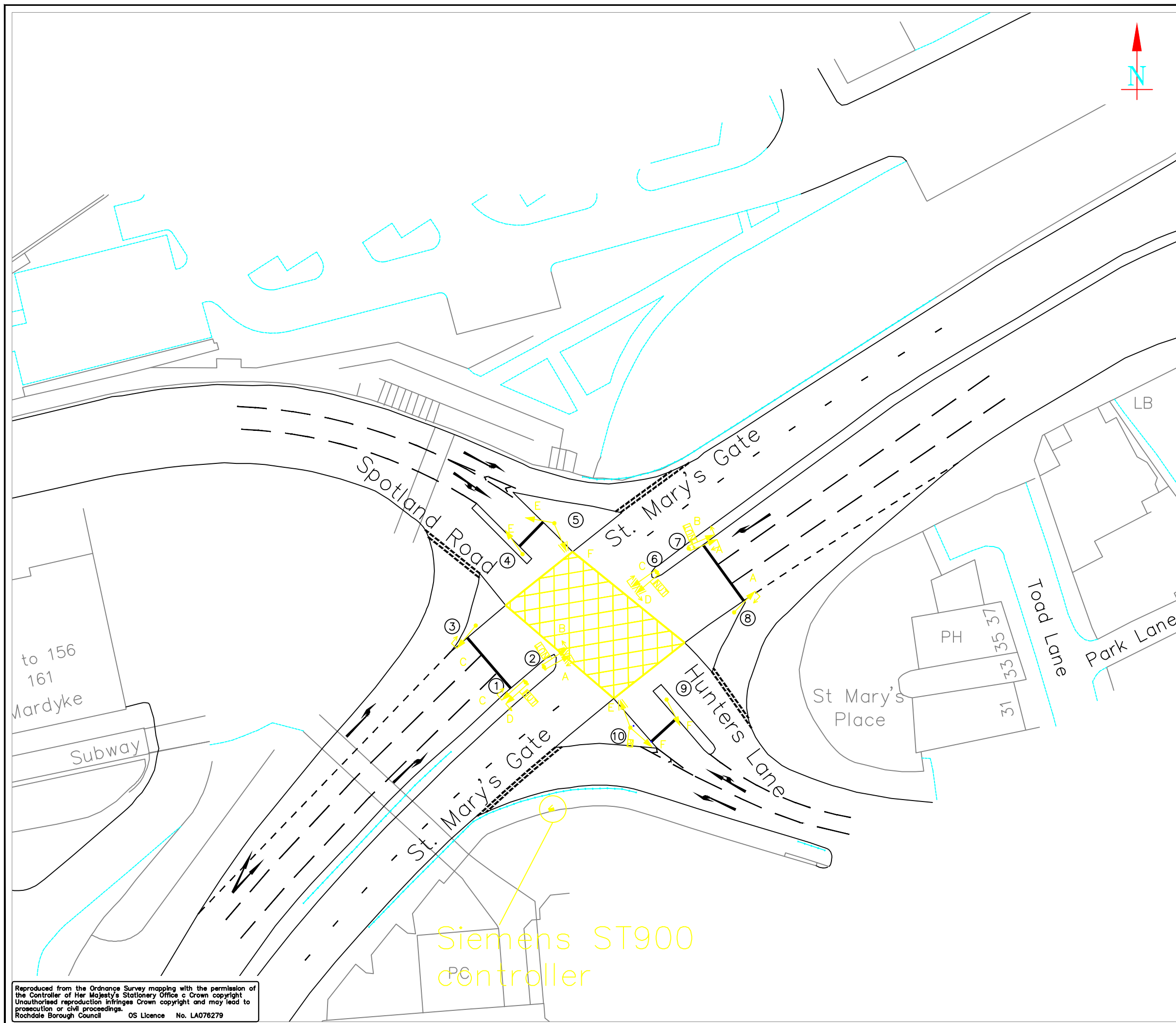
Phase Delays

There are no phase delays.

Stage Lengths

SCOOT

The site operates under SCOOT Control. The green times are variable throughout the day depending on traffic conditions on site. The SCOOT maximum cycle time for this region is 112 seconds and the site will run up to this cycle time during the peak periods.



Staging Diagrams

1

2

3

4

5

6

Note:
1) Ducting information is purely indicative.

A	Site survey & photos	05.03.10	PM
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REVISIONS		DATE	BY	APP

St. Mary's Gate/Spotland Road/Hunters Lane
Rochdale (1306)

SCALE 1:500
0.0 5 10 15 20 25 30 metres

OS-REF		CHECKED ON SITE BY	PM
DATE	19/10/09	CHECKED BY	
STATUS	As Built	DRAWN BY	GH
ORIGINAL DRAWING SIZE	A3	CAD FILE	Sig 1306
XREF			REV
DRAWING No.	A3/5/1306/2 A		

Association of Greater Manchester Authorities
GREATER MANCHESTER URBAN TRAFFIC CONTROL UNIT

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Appendix E

LinSig Output Sheets

Basic Results Summary

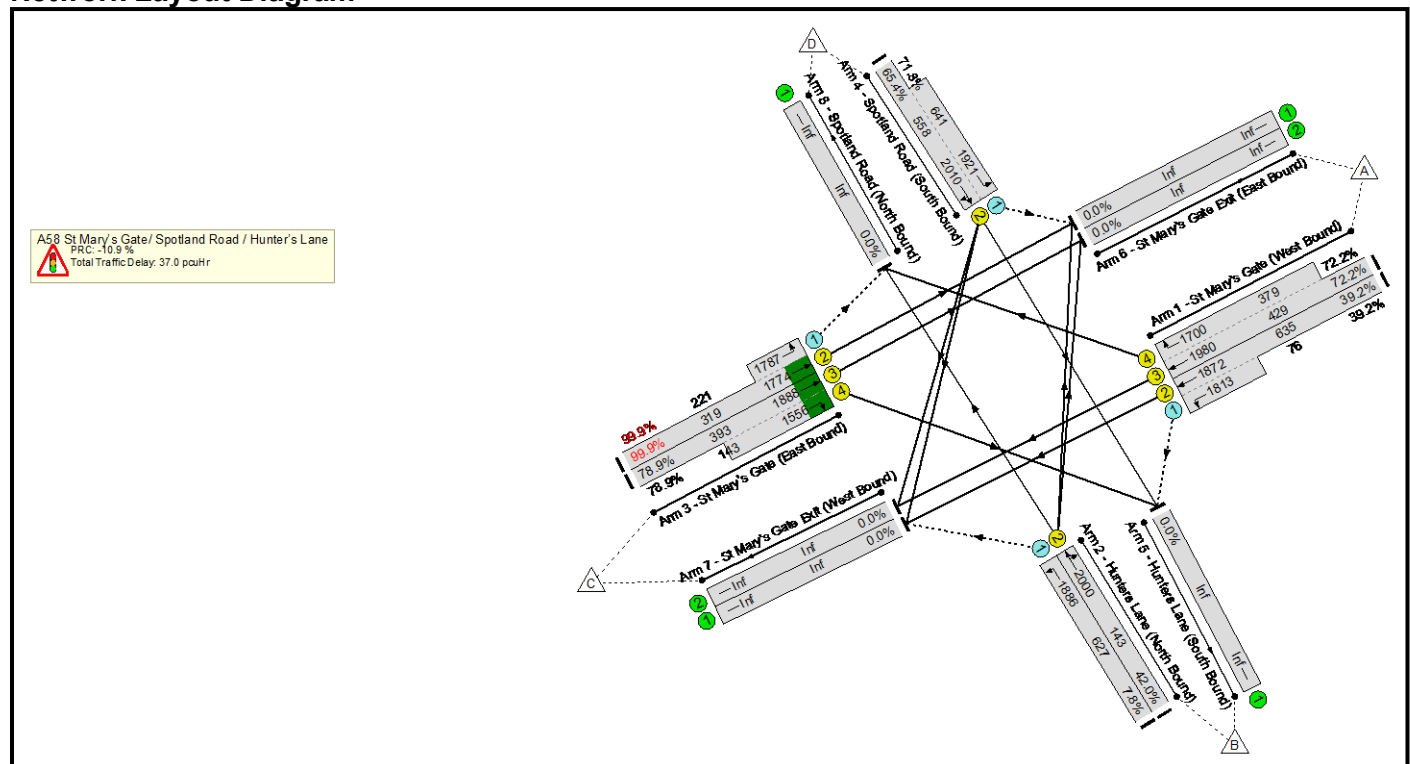
Basic Results Summary

User and Project Details

Project:	30246667 - Supermarket CoU Rochdale
Title:	A58 St. Mary's Gate/Spotland Road/Hunter's Lane Modelling
Location:	Rochdale, UK
Site Ref(s):	1306
Additional detail:	
File name:	J2 Base Model v2.lsg3x
Author:	
Company:	Arcadis Consulting (UK) Limited
Address:	

Scenario 1: 'Base AM Peak' (FG1: 'Base AM Peak', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

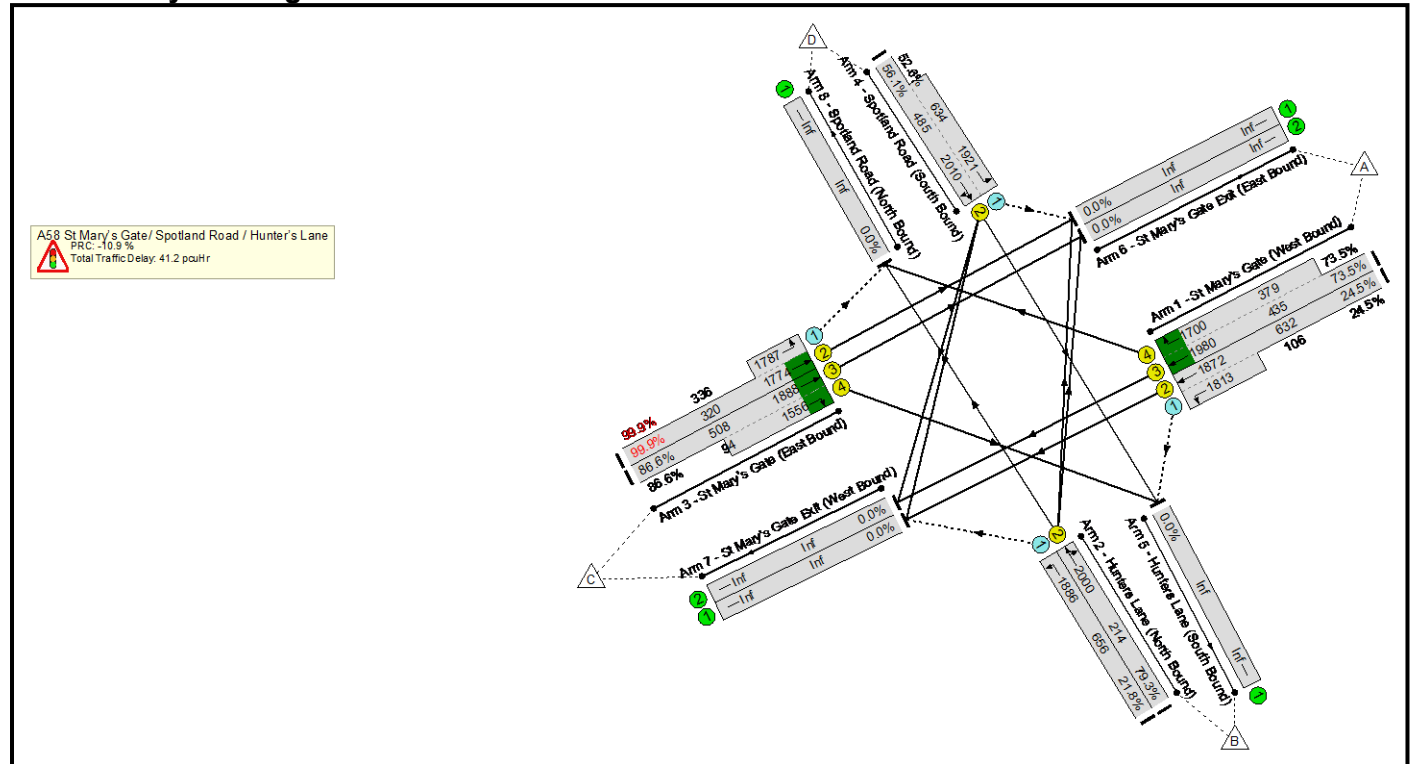
Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: A58 St. Mary's Gate/Spotland Road/Hunter's Lane Modelling	-	-	-		-	-	-	-	-	-	99.9%	197	563	0	37.0	-	-
A58 St Mary's Gate/ Spotland Road / Hunter's Lane	-	-	-		-	-	-	-	-	-	99.9%	197	563	0	37.0	-	-
1/2+1/1	St Mary's Gate (West Bound) Left Ahead	U+O	A -		1	40	-	279	1872:1813	635+76	39.2 : 39.2%	13	17	0	2.1	27.3	5.9
1/3+1/4	St Mary's Gate (West Bound) Ahead Right	U	A B		1	40:24	-	584	1980:1700	429+379	72.2 : 72.2%	-	-	-	6.6	41.0	9.1
2/1	Hunters Lane (North Bound) Left	O	-		-	-	-	49	1886	627	7.8%	34	15	0	0.0	3.1	0.0
2/2	Hunters Lane (North Bound) Right Ahead	U	F		1	7	-	60	2000	143	42.0%	-	-	-	1.2	71.3	2.1
3/2+3/1	St Mary's Gate (East Bound) Ahead Left	U+O	C -		1	22	-	540	1774:1787	319+221	99.9 : 99.9%	15	206	0	15.8	105.0	25.1
3/3+3/4	St Mary's Gate (East Bound) Right Ahead	U	C D		1	22:8	-	423	1888:1556	393+143	78.9 : 78.9%	-	-	-	6.8	58.2	10.8
4/2+4/1	Spotland Road (South Bound) Ahead Left Right	U+O	E -		1	35	-	825	2010:1921	558+641	65.4 : 71.8%	135	325	0	4.4	19.0	10.4
C1 - St. Mary's Gate/Spotland Road/Hunters Lane				PRC for Signalled Lanes (%):			-10.9	Total Delay for Signalled Lanes (pcuHr):				36.91	Cycle Time (s): 112				
				PRC Over All Lanes (%):			-10.9	Total Delay Over All Lanes(pcuHr):				36.95					

Basic Results Summary

Scenario 2: 'Base PM Peak' (FG2: 'Base PM Peak', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

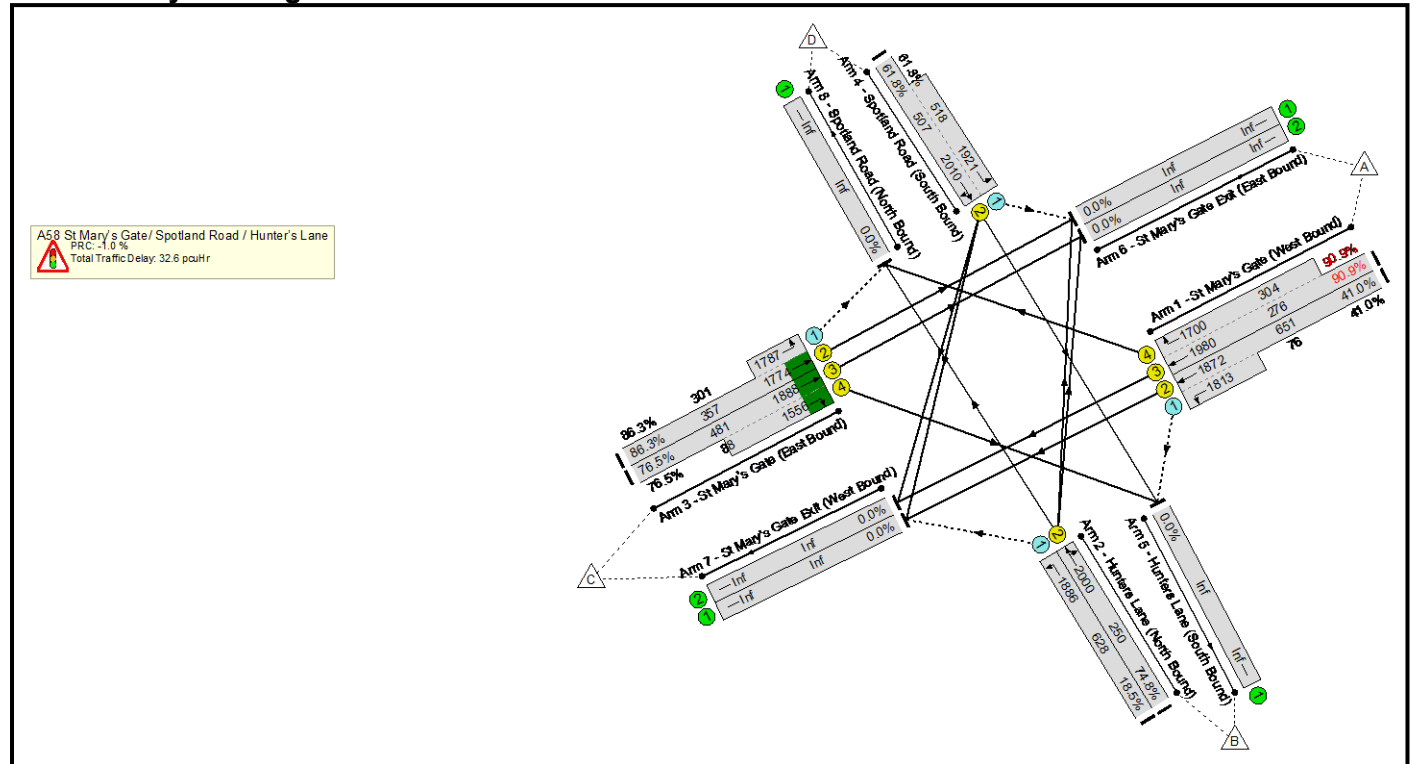
Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: A58 St. Mary's Gate/Spotland Road/Hunter's Lane Modelling	-	-	-		-	-	-	-	-	-	99.9%	262	576	0	41.2	-	-
A58 St Mary's Gate/ Spotland Road / Hunter's Lane	-	-	-		-	-	-	-	-	-	99.9%	262	576	0	41.2	-	-
1/2+1/1	St Mary's Gate (West Bound) Left Ahead	U+O	A -		1	41	-	181	1872:1813	632+106	24.5 : 24.5%	10	16	0	1.2	23.7	3.4
1/3+1/4	St Mary's Gate (West Bound) Ahead Right	U	A B		1	41:23	-	599	1980:1700	435+379	73.5 : 73.5%	-	-	-	6.8	40.6	9.4
2/1	Hunters Lane (North Bound) Left	O	-		-	-	-	143	1886	656	21.8%	88	55	0	0.1	3.5	0.1
2/2	Hunters Lane (North Bound) Right Ahead	U	F		1	11	-	170	2000	214	79.3%	-	-	-	4.1	86.4	6.9
3/2+3/1	St Mary's Gate (East Bound) Ahead Left	U+O	C -		1	28	-	656	1774:1787	320+336	99.9 : 99.9%	36	300	0	17.1	93.8	28.2
3/3+3/4	St Mary's Gate (East Bound) Right Ahead	U	C D		1	28:12	-	521	1888:1556	508+94	86.6 : 86.6%	-	-	-	8.6	59.1	16.6
4/2+4/1	Spotland Road (South Bound) Ahead Left Right	U+O	E -		1	26	-	605	2010:1921	485+634	56.1 : 52.6%	128	205	0	3.4	20.3	8.0
C1 - St. Mary's Gate/Spotland Road/Hunters Lane				PRC for Signalled Lanes (%):			-10.9	Total Delay for Signalled Lanes (pcuHr):				41.09	Cycle Time (s): 112				
				PRC Over All Lanes (%):			-10.9	Total Delay Over All Lanes(pcuHr):				41.23					

Basic Results Summary

Scenario 3: 'Base Weekend Peak' (FG3: 'Base Weekend Peak', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

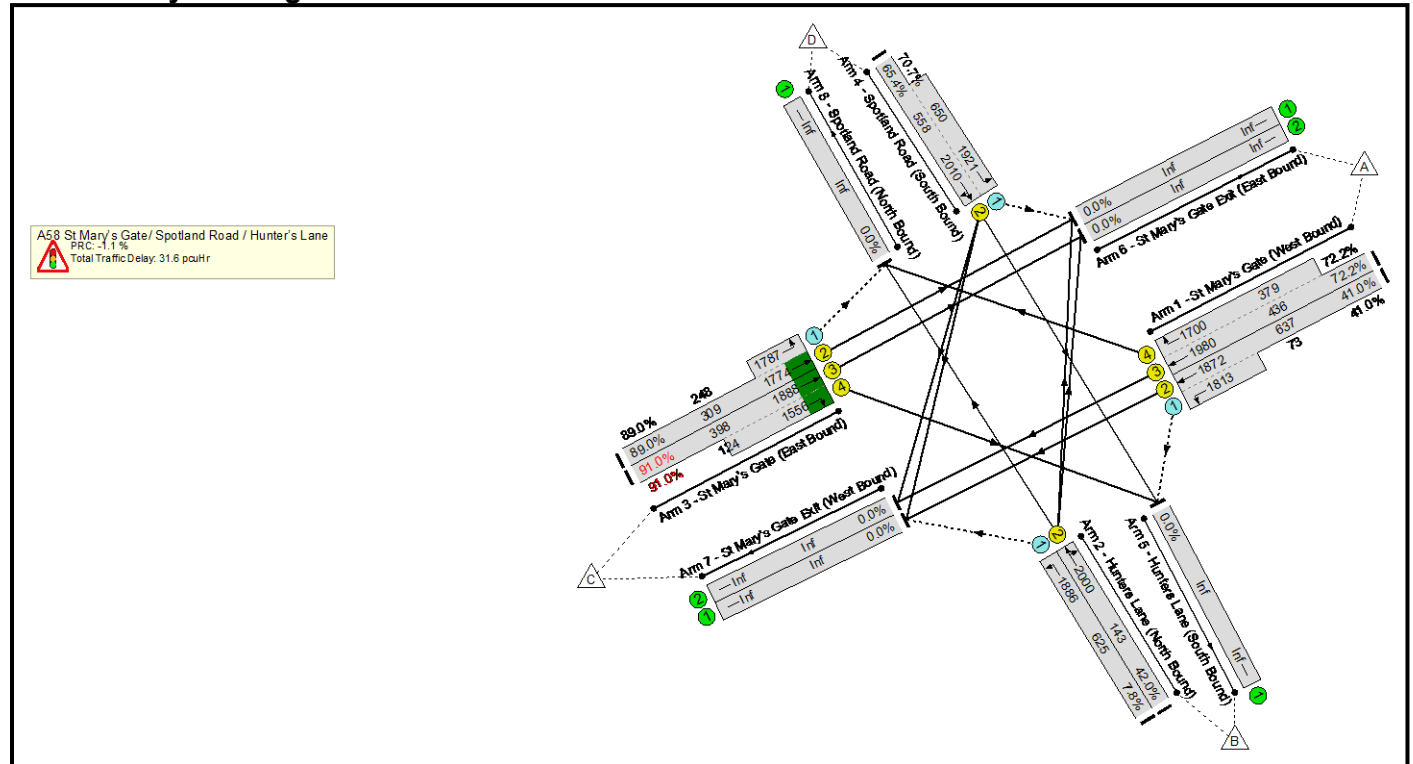
Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: A58 St. Mary's Gate/Spotland Road/Hunter's Lane Modelling	-	-	-		-	-	-	-	-	-	90.9%	251	476	0	32.6	-	-
A58 St Mary's Gate/ Spotland Road / Hunter's Lane	-	-	-		-	-	-	-	-	-	90.9%	251	476	0	32.6	-	-
1/2+1/1	St Mary's Gate (West Bound) Left Ahead	U+O	A -		1	41	-	298	1872:1813	651+76	41.0 : 41.0%	11	20	0	2.2	27.1	6.4
1/3+1/4	St Mary's Gate (West Bound) Ahead Right	U	A B		1	41:19	-	527	1980:1700	276+304	90.9 : 90.9%	-	-	-	9.5	64.9	12.7
2/1	Hunters Lane (North Bound) Left	O	-		-	-	-	116	1886	628	18.5%	74	42	0	0.1	3.5	0.1
2/2	Hunters Lane (North Bound) Right Ahead	U	F		1	13	-	187	2000	250	74.8%	-	-	-	3.9	74.6	7.0
3/2+3/1	St Mary's Gate (East Bound) Ahead Left	U+O	C -		1	28	-	568	1774:1787	357+301	86.3 : 86.3%	32	227	0	6.5	41.4	15.5
3/3+3/4	St Mary's Gate (East Bound) Right Ahead	U	C D		1	28:8	-	435	1888:1556	481+88	76.5 : 76.5%	-	-	-	6.3	52.2	12.2
4/2+4/1	Spotland Road (South Bound) Ahead Left Right	U+O	E -		1	28	-	633	2010:1921	507+518	61.8 : 61.8%	134	186	0	4.0	22.6	9.3
C1 - St. Mary's Gate/Spotland Road/Hunters Lane				PRC for Signalled Lanes (%):			-1.0	Total Delay for Signalled Lanes (pcuHr):				32.44	Cycle Time (s): 112				
				PRC Over All Lanes (%):			-1.0	Total Delay Over All Lanes(pcuHr):				32.55					

Basic Results Summary

Scenario 4: 'Base + Starbucks AM Peak' (FG4: 'Base + Starbucks AM Peak', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

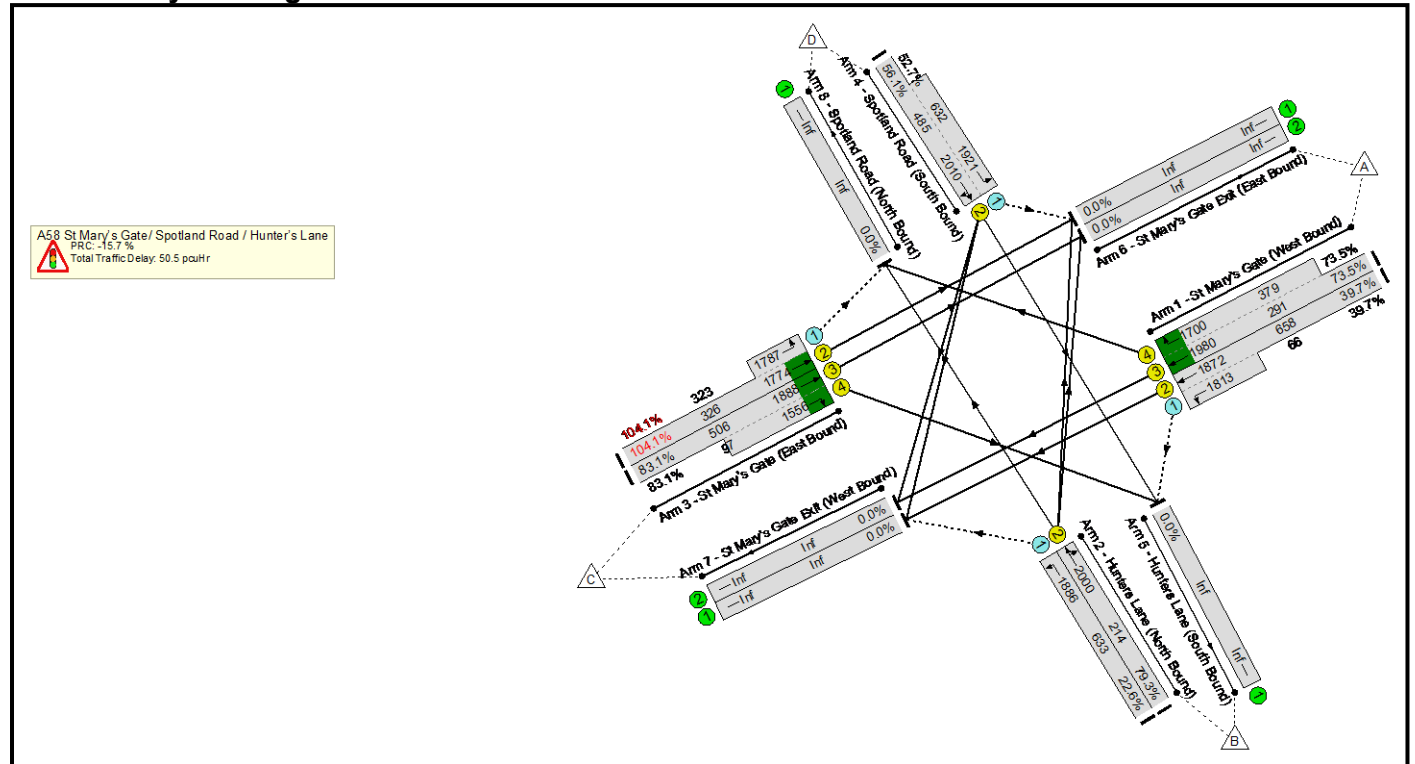
Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: A58 St. Mary's Gate/Spotland Road/Hunter's Lane Modelling	-	-	-		-	-	-	-	-	-	91.0%	212	548	0	31.6	-	-
A58 St Mary's Gate/ Spotland Road / Hunter's Lane	-	-	-		-	-	-	-	-	-	91.0%	212	548	0	31.6	-	-
1/2+1/1	St Mary's Gate (West Bound) Left Ahead	U+O	A -		1	40	-	291	1872:1813	637+73	41.0 : 41.0%	13	17	0	2.2	27.7	6.3
1/3+1/4	St Mary's Gate (West Bound) Ahead Right	U	A B		1	40:24	-	589	1980:1700	436+379	72.2 : 72.2%	-	-	-	6.7	40.9	9.1
2/1	Hunters Lane (North Bound) Left	O	-		-	-	-	49	1886	625	7.8%	34	15	0	0.0	3.1	0.0
2/2	Hunters Lane (North Bound) Right Ahead	U	F		1	7	-	60	2000	143	42.0%	-	-	-	1.2	71.3	2.1
3/2+3/1	St Mary's Gate (East Bound) Ahead Left	U+O	C -		1	22	-	496	1774:1787	309+248	89.0 : 89.0%	22	199	0	7.1	51.3	14.7
3/3+3/4	St Mary's Gate (East Bound) Right Ahead	U	C D		1	22:8	-	475	1888:1556	398+124	91.0 : 91.0%	-	-	-	10.0	76.1	15.8
4/2+4/1	Spotland Road (South Bound) Ahead Left Right	U+O	E -		1	35	-	825	2010:1921	558+650	65.4 : 70.7%	144	316	0	4.3	18.9	10.4
C1 - St. Mary's Gate/Spotland Road/Hunters Lane				PRC for Signalled Lanes (%):			-1.1	Total Delay for Signalled Lanes (pcuHr):				31.56	Cycle Time (s): 112				
				PRC Over All Lanes (%):			-1.1	Total Delay Over All Lanes(pcuHr):				31.60					

Basic Results Summary

Scenario 5: 'Base + Starbucks PM Peak' (FG5: 'Base + Starbucks PM Peak', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

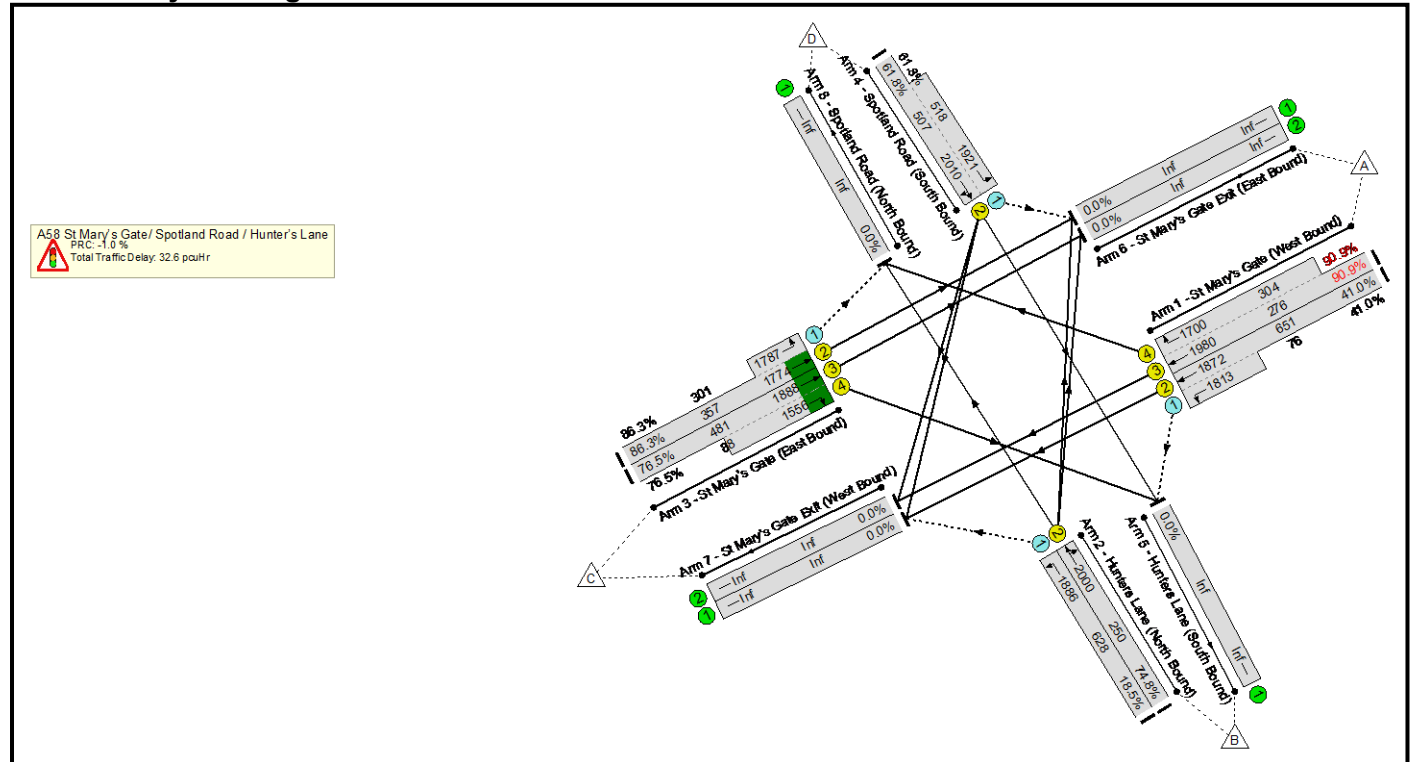
Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: A58 St. Mary's Gate/Spotland Road/Hunter's Lane Modelling	-	-	-		-	-	-	-	-	-	104.1%	236	590	0	50.5	-	-
A58 St Mary's Gate/ Spotland Road / Hunter's Lane	-	-	-		-	-	-	-	-	-	104.1%	236	590	0	50.5	-	-
1/2+1/1	St Mary's Gate (West Bound) Left Ahead	U+O	A -		1	41	-	287	1872:1813	658+66	39.7 : 39.7%	10	16	0	2.2	27.2	6.2
1/3+1/4	St Mary's Gate (West Bound) Ahead Right	U	A B		1	41:23	-	493	1980:1700	291+379	73.5 : 73.5%	-	-	-	5.9	43.2	9.4
2/1	Hunters Lane (North Bound) Left	O	-		-	-	-	143	1886	633	22.6%	88	55	0	0.1	3.7	0.1
2/2	Hunters Lane (North Bound) Right Ahead	U	F		1	11	-	170	2000	214	79.3%	-	-	-	4.1	86.4	6.9
3/2+3/1	St Mary's Gate (East Bound) Ahead Left	U+O	C -		1	28	-	675	1774:1787	326+323	104.1 : 104.1%	10	314	0	27.2	144.8	39.7
3/3+3/4	St Mary's Gate (East Bound) Right Ahead	U	C D		1	28:12	-	502	1888:1556	506+97	83.1 : 83.1%	-	-	-	7.6	54.8	15.0
4/2+4/1	Spotland Road (South Bound) Ahead Left Right	U+O	E -		1	26	-	605	2010:1921	485+632	56.1 : 52.7%	128	205	0	3.4	20.3	8.0
C1 - St. Mary's Gate/Spotland Road/Hunters Lane				PRC for Signalled Lanes (%): -15.7				Total Delay for Signalled Lanes (pcuHr): 50.39				Cycle Time (s): 112					
				PRC Over All Lanes (%): -15.7				Total Delay Over All Lanes(pcuHr): 50.53									

Basic Results Summary

Scenario 6: 'Base + Starbucks Weekend Peak' (FG6: 'Base + Starbucks Weekend Peak', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

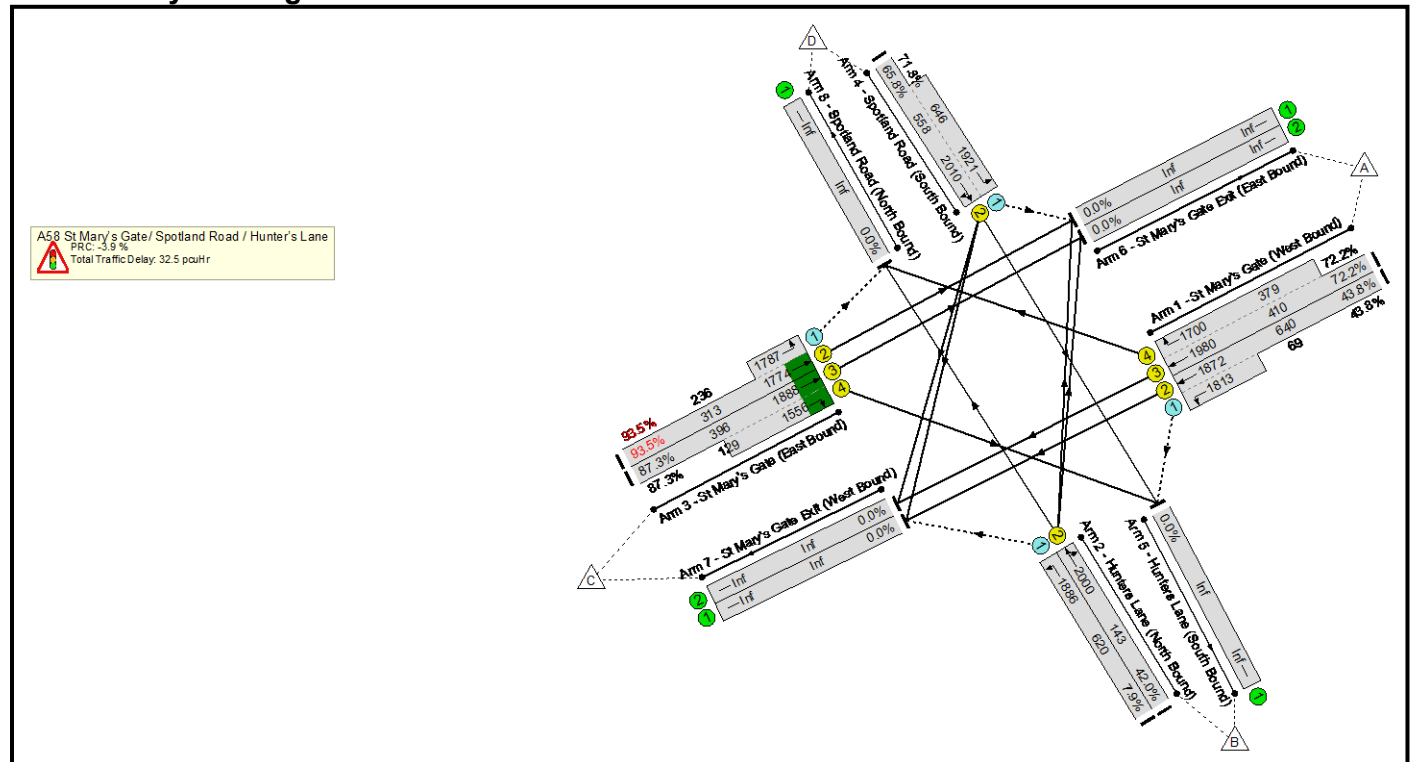
Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: A58 St. Mary's Gate/Spotland Road/Hunter's Lane Modelling	-	-	-		-	-	-	-	-	-	90.9%	251	476	0	32.6	-	-
A58 St Mary's Gate/ Spotland Road / Hunter's Lane	-	-	-		-	-	-	-	-	-	90.9%	251	476	0	32.6	-	-
1/2+1/1	St Mary's Gate (West Bound) Left Ahead	U+O	A -		1	41	-	298	1872:1813	651+76	41.0 : 41.0%	11	20	0	2.2	27.1	6.4
1/3+1/4	St Mary's Gate (West Bound) Ahead Right	U	A B		1	41:19	-	527	1980:1700	276+304	90.9 : 90.9%	-	-	-	9.5	64.9	12.7
2/1	Hunters Lane (North Bound) Left	O	-		-	-	-	116	1886	628	18.5%	74	42	0	0.1	3.5	0.1
2/2	Hunters Lane (North Bound) Right Ahead	U	F		1	13	-	187	2000	250	74.8%	-	-	-	3.9	74.6	7.0
3/2+3/1	St Mary's Gate (East Bound) Ahead Left	U+O	C -		1	28	-	568	1774:1787	357+301	86.3 : 86.3%	32	227	0	6.5	41.4	15.5
3/3+3/4	St Mary's Gate (East Bound) Right Ahead	U	C D		1	28:8	-	435	1888:1556	481+88	76.5 : 76.5%	-	-	-	6.3	52.2	12.2
4/2+4/1	Spotland Road (South Bound) Ahead Left Right	U+O	E -		1	28	-	633	2010:1921	507+518	61.8 : 61.8%	134	186	0	4.0	22.6	9.3
C1 - St. Mary's Gate/Spotland Road/Hunters Lane				PRC for Signalled Lanes (%):			-1.0	Total Delay for Signalled Lanes (pcuHr):				32.44	Cycle Time (s): 112				
				PRC Over All Lanes (%):			-1.0	Total Delay Over All Lanes(pcuHr):				32.55					

Basic Results Summary

Scenario 7: 'Base + Starbucks + CD AM Peak' (FG7: 'Base + Starbucks + CD AM Peak', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

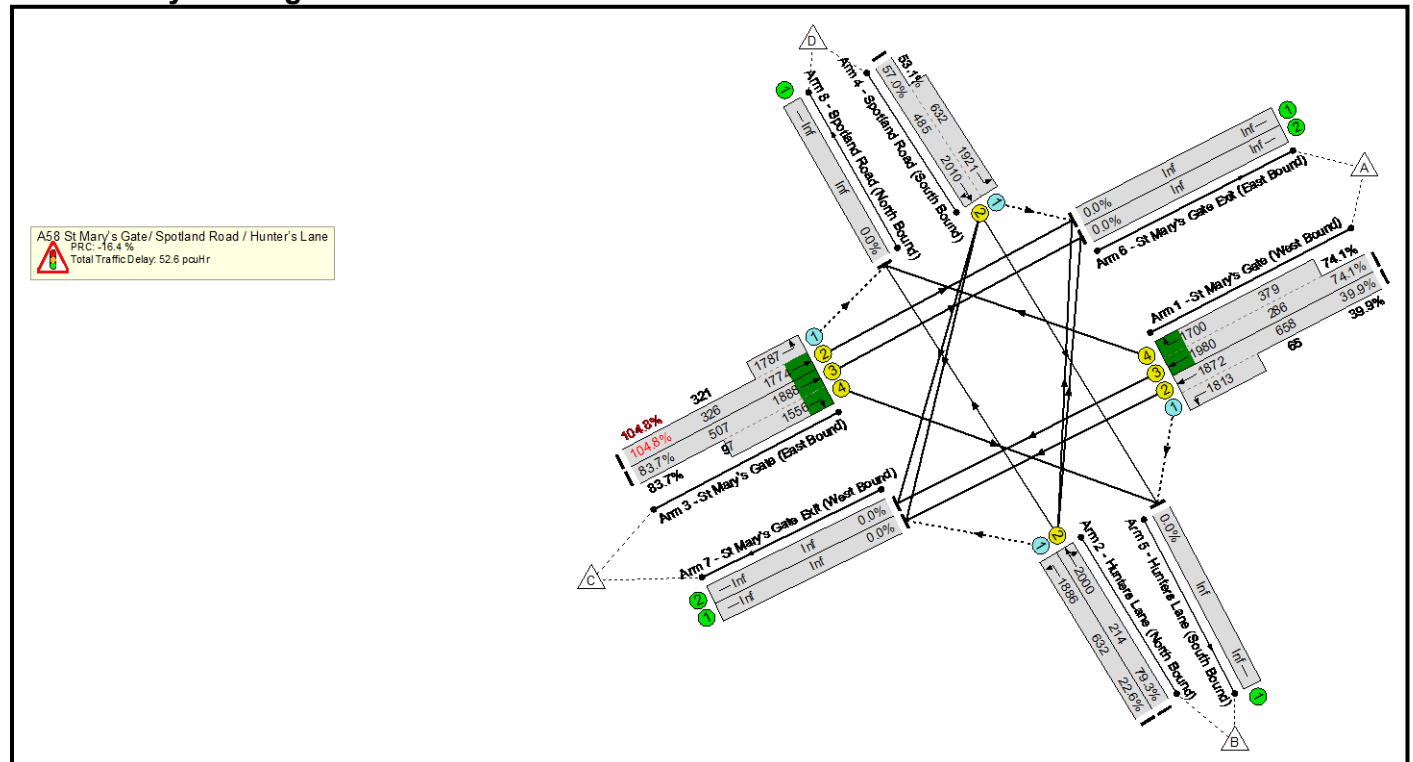
Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: A58 St. Mary's Gate/Spotland Road/Hunter's Lane Modelling	-	-	-		-	-	-	-	-	-	93.5%	203	561	0	32.5	-	-
A58 St Mary's Gate/ Spotland Road / Hunter's Lane	-	-	-		-	-	-	-	-	-	93.5%	203	561	0	32.5	-	-
1/2+1/1	St Mary's Gate (West Bound) Left Ahead	U+O	A -		1	40	-	310	1872:1813	640+69	43.8 : 43.8%	13	17	0	2.4	28.4	6.8
1/3+1/4	St Mary's Gate (West Bound) Ahead Right	U	A B		1	40:24	-	570	1980:1700	410+379	72.2 : 72.2%	-	-	-	6.5	41.2	9.1
2/1	Hunters Lane (North Bound) Left	O	-		-	-	-	49	1886	620	7.9%	34	15	0	0.0	3.2	0.0
2/2	Hunters Lane (North Bound) Right Ahead	U	F		1	7	-	60	2000	143	42.0%	-	-	-	1.2	71.3	2.1
3/2+3/1	St Mary's Gate (East Bound) Ahead Left	U+O	C -		1	22	-	514	1774:1787	313+236	93.5 : 93.5%	16	205	0	9.3	65.1	17.6
3/3+3/4	St Mary's Gate (East Bound) Right Ahead	U	C D		1	22:8	-	459	1888:1556	396+129	87.3 : 87.3%	-	-	-	8.7	67.9	13.7
4/2+4/1	Spotland Road (South Bound) Ahead Left Right	U+O	E -		1	35	-	831	2010:1921	558+646	65.8 : 71.8%	141	323	0	4.4	19.0	10.5
C1 - St. Mary's Gate/Spotland Road/Hunters Lane				PRC for Signalled Lanes (%):			-3.9	Total Delay for Signalled Lanes (pcuHr):				32.50	Cycle Time (s): 112				
				PRC Over All Lanes (%):			-3.9	Total Delay Over All Lanes(pcuHr):				32.55					

Basic Results Summary

Scenario 8: 'Base + Starbucks + CD PM Peak' (FG8: 'Base + Starbucks + CD PM Peak', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

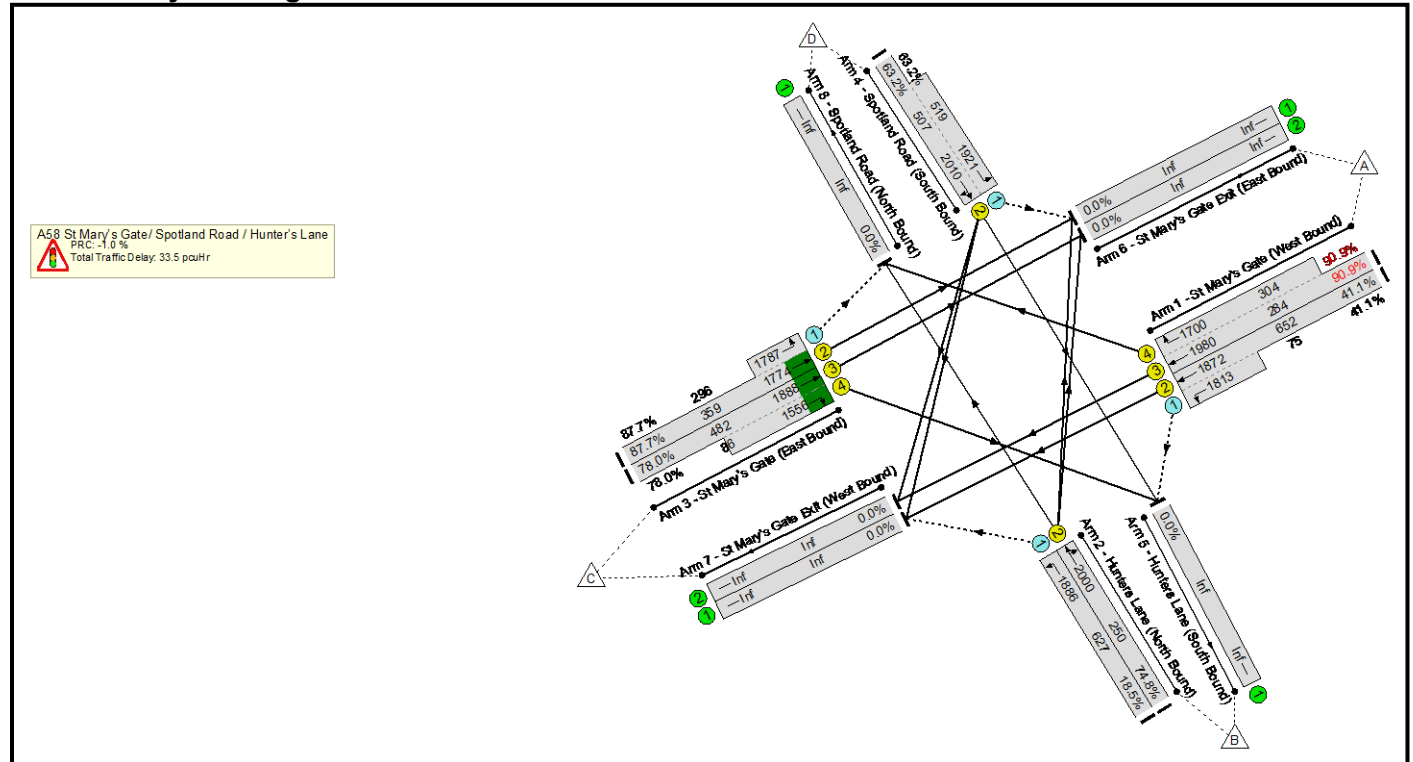
Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: A58 St. Mary's Gate/Spotland Road/Hunter's Lane Modelling	-	-	-		-	-	-	-	-	-	104.8%	231	595	0	52.6	-	-
A58 St Mary's Gate/ Spotland Road / Hunter's Lane	-	-	-		-	-	-	-	-	-	104.8%	231	595	0	52.6	-	-
1/2+1/1	St Mary's Gate (West Bound) Left Ahead	U+O	A -		1	41	-	289	1872:1813	658+65	39.9 : 39.9%	10	16	0	2.2	27.3	6.2
1/3+1/4	St Mary's Gate (West Bound) Ahead Right	U	A B		1	41:23	-	493	1980:1700	286+379	74.1 : 74.1%	-	-	-	6.0	43.6	9.5
2/1	Hunters Lane (North Bound) Left	O	-		-	-	-	143	1886	632	22.6%	88	55	0	0.1	3.7	0.1
2/2	Hunters Lane (North Bound) Right Ahead	U	F		1	11	-	170	2000	214	79.3%	-	-	-	4.1	86.4	6.9
3/2+3/1	St Mary's Gate (East Bound) Ahead Left	U+O	C -		1	28	-	678	1774:1787	326+321	104.8 : 104.8%	3	317	0	29.0	154.0	41.7
3/3+3/4	St Mary's Gate (East Bound) Right Ahead	U	C D		1	28:12	-	505	1888:1556	507+97	83.7 : 83.7%	-	-	-	7.8	55.4	15.2
4/2+4/1	Spotland Road (South Bound) Ahead Left Right	U+O	E -		1	26	-	612	2010:1921	485+632	57.0 : 53.1%	129	207	0	3.5	20.4	8.1
C1 - St. Mary's Gate/Spotland Road/Hunters Lane				PRC for Signalled Lanes (%): -16.4				Total Delay for Signalled Lanes (pcuHr): 52.49				Cycle Time (s): 112					
				PRC Over All Lanes (%): -16.4				Total Delay Over All Lanes(pcuHr): 52.63									

Basic Results Summary

Scenario 9: 'Base + Starbucks + CD Weekend Peak' (FG9: 'Base + Starbucks + CD Weekend Peak', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: A58 St. Mary's Gate/Spotland Road/Hunter's Lane Modelling	-	-	-		-	-	-	-	-	-	90.9%	254	481	0	33.5	-	-
A58 St Mary's Gate/ Spotland Road / Hunter's Lane	-	-	-		-	-	-	-	-	-	90.9%	254	481	0	33.5	-	-
1/2+1/1	St Mary's Gate (West Bound) Left Ahead	U+O	A -		1	41	-	299	1872:1813	652+75	41.1 : 41.1%	11	20	0	2.2	27.1	6.4
1/3+1/4	St Mary's Gate (West Bound) Ahead Right	U	A B		1	41:19	-	534	1980:1700	284+304	90.9 : 90.9%	-	-	-	9.6	64.5	12.7
2/1	Hunters Lane (North Bound) Left	O	-		-	-	-	116	1886	627	18.5%	74	42	0	0.1	3.5	0.1
2/2	Hunters Lane (North Bound) Right Ahead	U	F		1	13	-	187	2000	250	74.8%	-	-	-	3.9	74.6	7.0
3/2+3/1	St Mary's Gate (East Bound) Ahead Left	U+O	C -		1	28	-	575	1774:1787	359+296	87.7 : 87.7%	32	227	0	7.0	43.9	16.3
3/3+3/4	St Mary's Gate (East Bound) Right Ahead	U	C D		1	28:8	-	443	1888:1556	482+86	78.0 : 78.0%	-	-	-	6.5	53.2	12.6
4/2+4/1	Spotland Road (South Bound) Ahead Left Right	U+O	E -		1	28	-	648	2010:1921	507+519	63.2 : 63.2%	138	190	0	4.1	22.8	9.6
C1 - St. Mary's Gate/Spotland Road/Hunters Lane				PRC for Signalled Lanes (%):			-1.0	Total Delay for Signalled Lanes (pcuHr):				33.37	Cycle Time (s): 112				
				PRC Over All Lanes (%):			-1.0	Total Delay Over All Lanes(pcuHr):				33.48					

Basic Results Summary

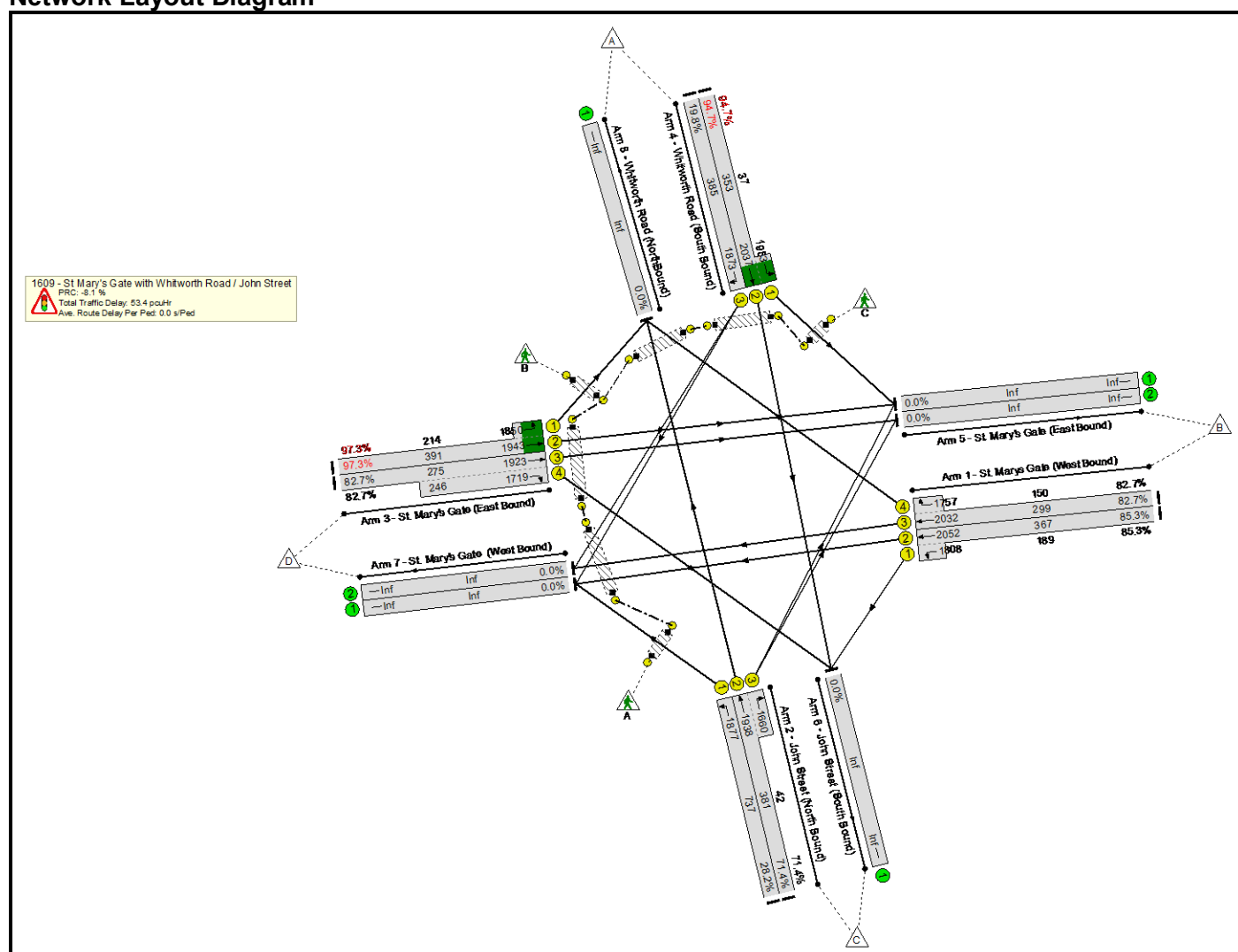
Basic Results Summary

User and Project Details

Project:	30246667 - Supermarket CoU Rochdale
Title:	A58 St Mary's Gate/Whitworth Road / John Street Modelling
Location:	Rochdale. UK
Site Ref(s):	1609
Additional detail:	
File name:	J1_1609 Base Model v2.lsg3x
Author:	
Company:	Arcadis Consulting (UK) Limited
Address:	

Scenario 1: 'Base_AM Peak' (FG1: 'Base_AM Peak', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Network Results

Basic Results Summary

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: A58 St Mary's Gate/Whitworth Road / John Street Modelling	-	-	-		-	-	-	-	-	-	97.3%	0	0	0	53.4	-	-
1609 - St Mary's Gate with Whitworth Road / John Street	-	-	-		-	-	-	-	-	-	97.3%	0	0	0	53.4	-	-
1/2+1/1	St. Marys Gate (West Bound) Left Ahead	U	B G		1	28:27	-	474	2052:1808	367+189	85.3 : 85.3%	-	-	-	7.7	58.7	15.2
1/3+1/4	St. Marys Gate (West Bound) Ahead Right	U	B Q		1	28:14	-	371	2032:1757	299+150	82.7 : 82.7%	-	-	-	6.4	61.7	11.8
2/1	John Street (North Bound) Left	U	H		1	43	-	208	1877	737	28.2%	-	-	-	1.5	26.6	4.6
2/2+2/3	John Street (North Bound) Right Ahead	U	C		1	22	-	302	1938:1660	381+42	71.4 : 71.4%	-	-	-	4.7	55.6	9.4
3/2+3/1	St. Mary's Gate (East Bound) Ahead Left	U	A E		1	29	-	588	1943:1850	391+214	97.3 : 97.3%	-	-	-	14.9	91.4	25.2
3/3+3/4	St. Mary's Gate (East Bound) Ahead Right	U	A I		1	29:15	-	430	1923:1719	275+246	82.7 : 82.7%	-	-	-	7.0	59.0	8.4
4/2+4/1	Whitworth Road (South Bound) Left Ahead	U	D F		1	22:41	-	369	2037:1953	353+37	94.7 : 94.7%	-	-	-	10.2	100.0	16.7
4/3	Whitworth Road (South Bound) Right	U	D		1	22	-	76	1873	385	19.8%	-	-	-	0.9	42.7	2.1
Ped Link: P1	St. Mary's Gate Ped X	-	L		1	67	-	0	-	43071	0.0%	-	-	-	0.0	0.0	0.0

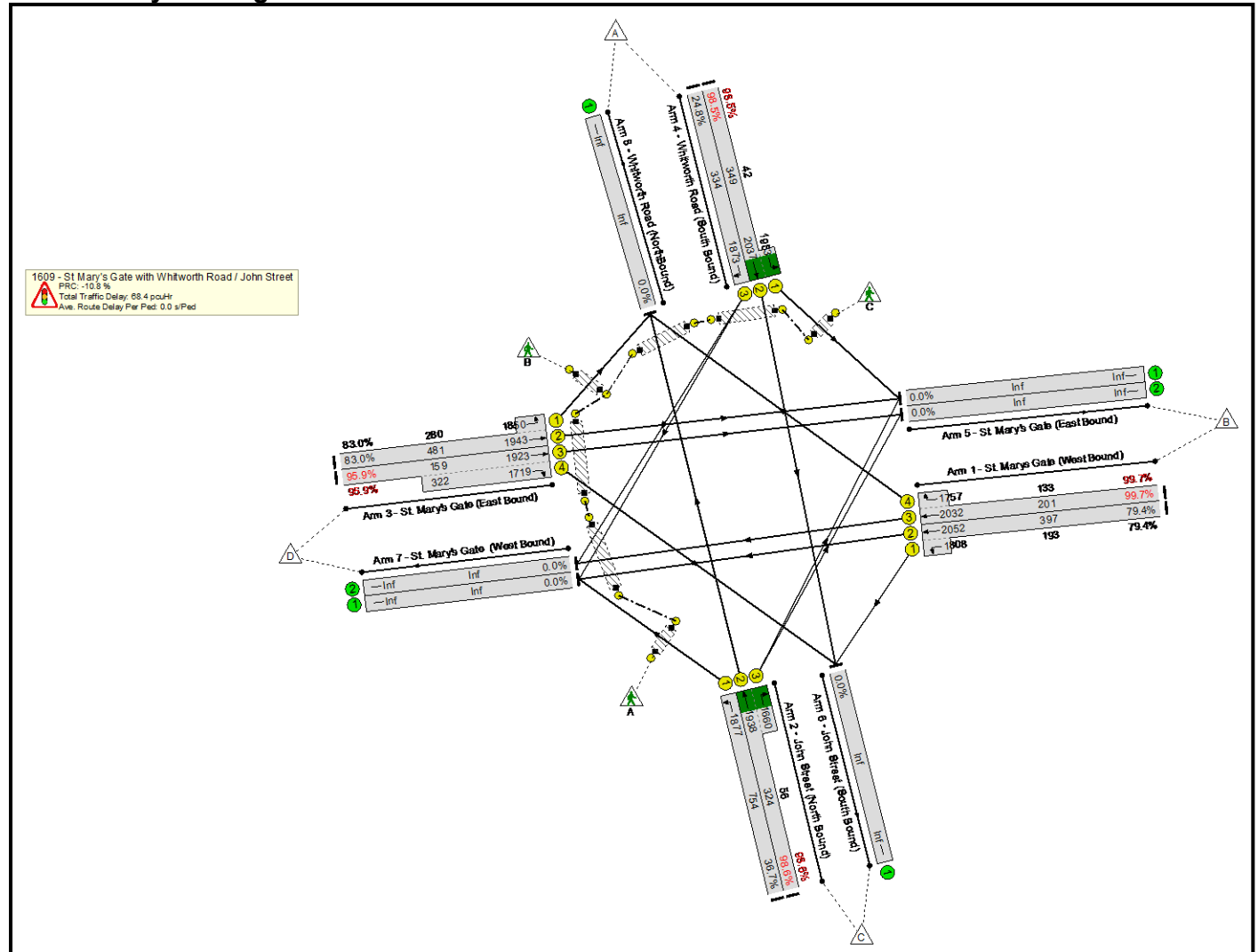
Basic Results Summary

Ped Link: P2	St. Mary's Gate Ped X	-	K		1	39	-	0	-	25071	0.0%	-	-	-	0.0	0.0	0.0
Ped Link: P3	St. Mary's Gate Ped X	-	M		1	72	-	0	-	46286	0.0%	-	-	-	0.0	0.0	0.0
Ped Link: P4	St. Mary's Gate Ped X	-	J		1	58	-	0	-	37286	0.0%	-	-	-	0.0	0.0	0.0
Ped Link: P5	Whitworth Road Ped X	-	P		1	59	-	0	-	37929	0.0%	-	-	-	0.0	0.0	0.0
Ped Link: P6	Whitworth Road Ped X	-	N		1	25	-	0	-	16071	0.0%	-	-	-	0.0	0.0	0.0
Ped Link: P7	Whitworth Road Ped X	-	O		1	78	-	0	-	50143	0.0%	-	-	-	0.0	0.0	0.0
C1 - St Mary's Gate / Yorkshire St / Whitworth Rd / John St, Rochdale - 1609																	
PRC for Signalled Lanes (%):									-8.1								
PRC Over All Lanes (%):									-8.1								
Total Delay for Signalled Lanes (pcuHr):											53.41						
Total Delay Over All Lanes(pcuHr):											53.41						
Cycle Time (s):															112		

Basic Results Summary

Scenario 2: 'Base_PM Peak' (FG2: 'Base_PM Peak', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Network Results

Basic Results Summary

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: A58 St Mary's Gate/Whitworth Road / John Street Modelling	-	-	-		-	-	-	-	-	-	99.7%	0	0	0	68.4	-	-
1609 - St Mary's Gate with Whitworth Road / John Street	-	-	-		-	-	-	-	-	-	99.7%	0	0	0	68.4	-	-
1/2+1/1	St. Marys Gate (West Bound) Left Ahead	U	B G		1	30:29	-	468	2052:1808	397+193	79.4 : 79.4%	-	-	-	6.6	50.6	13.9
1/3+1/4	St. Marys Gate (West Bound) Ahead Right	U	B Q		1	30:10	-	333	2032:1757	201+133	99.7 : 99.7%	-	-	-	12.7	137.7	17.3
2/1	John Street (North Bound) Left	U	H		1	44	-	277	1877	754	36.7%	-	-	-	2.1	27.3	6.3
2/2+2/3	John Street (North Bound) Right Ahead	U	C		1	18	-	374	1938:1660	324+56	98.6 : 98.6%	-	-	-	13.2	127.3	19.2
3/2+3/1	St. Mary's Gate (East Bound) Ahead Left	U	A E		1	40	-	631	1943:1850	481+280	83.0 : 83.0%	-	-	-	7.7	43.9	18.3
3/3+3/4	St. Mary's Gate (East Bound) Ahead Right	U	A I		1	40:20	-	461	1923:1719	159+322	95.9 : 95.9%	-	-	-	11.8	91.9	16.3
4/2+4/1	Whitworth Road (South Bound) Left Ahead	U	D F		1	19:34	-	385	2037:1953	349+42	98.5 : 98.5%	-	-	-	13.2	123.5	20.0
4/3	Whitworth Road (South Bound) Right	U	D		1	19	-	83	1873	334	24.8%	-	-	-	1.1	46.7	2.4
Ped Link: P1	St. Mary's Gate Ped X	-	L		1	56	-	0	-	36000	0.0%	-	-	-	0.0	0.0	0.0

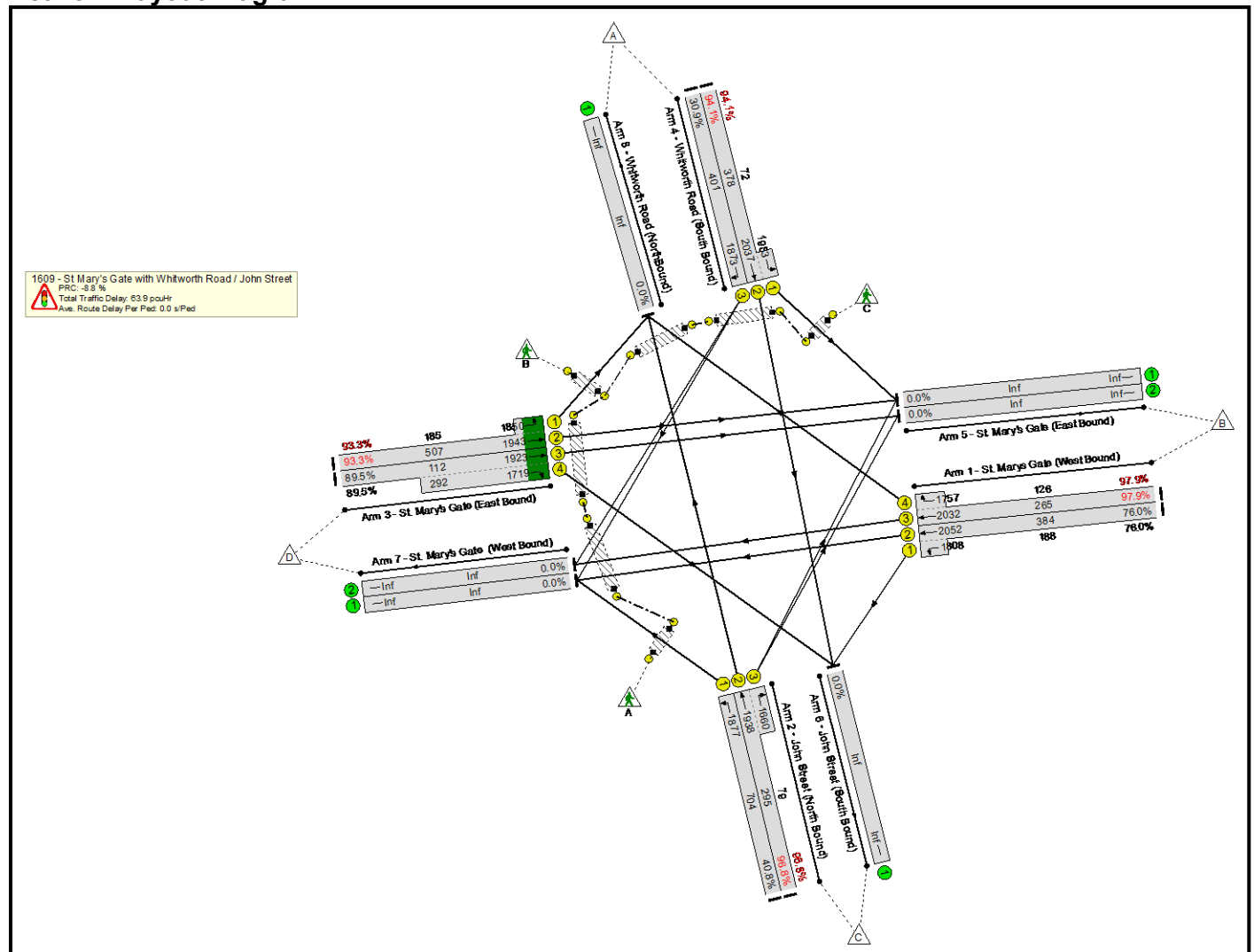
Basic Results Summary

Ped Link: P2	St. Mary's Gate Ped X	-	K		1	40	-	0	-	25714	0.0%	-	-	-	0.0	0.0	0.0
Ped Link: P3	St. Mary's Gate Ped X	-	M		1	61	-	0	-	39214	0.0%	-	-	-	0.0	0.0	0.0
Ped Link: P4	St. Mary's Gate Ped X	-	J		1	57	-	0	-	36643	0.0%	-	-	-	0.0	0.0	0.0
Ped Link: P5	Whitworth Road Ped X	-	P		1	66	-	0	-	42429	0.0%	-	-	-	0.0	0.0	0.0
Ped Link: P6	Whitworth Road Ped X	-	N		1	36	-	0	-	23143	0.0%	-	-	-	0.0	0.0	0.0
Ped Link: P7	Whitworth Road Ped X	-	O		1	81	-	0	-	52071	0.0%	-	-	-	0.0	0.0	0.0
C1 - St Mary's Gate / Yorkshire St / Whitworth Rd / John St, Rochdale - 1609																	
PRC for Signalled Lanes (%):									-10.8								
PRC Over All Lanes (%):									-10.8								
Total Delay for Signalled Lanes (pcuHr):											68.38						
Total Delay Over All Lanes(pcuHr):											68.38						
Cycle Time (s):															112		

Basic Results Summary

Scenario 3: 'Base_Weekend Peak' (FG3: 'Base_Weekend Peak', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Network Results

Basic Results Summary

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: A58 St Mary's Gate/Whitworth Road / John Street Modelling	-	-	-		-	-	-	-	-	-	97.9%	0	0	0	63.9	-	-
1609 - St Mary's Gate with Whitworth Road / John Street	-	-	-		-	-	-	-	-	-	97.9%	0	0	0	63.9	-	-
1/2+1/1	St. Marys Gate (West Bound) Left Ahead	U	B G		1	29:28	-	435	2052:1808	384+188	76.0 : 76.0%	-	-	-	5.9	49.2	12.5
1/3+1/4	St. Marys Gate (West Bound) Ahead Right	U	B Q		1	29:10	-	383	2032:1757	265+126	97.9 : 97.9%	-	-	-	12.4	116.2	18.5
2/1	John Street (North Bound) Left	U	H		1	41	-	287	1877	704	40.8%	-	-	-	2.4	30.1	6.9
2/2+2/3	John Street (North Bound) Right Ahead	U	C		1	18	-	362	1938:1660	295+79	96.8 : 96.8%	-	-	-	11.6	115.7	17.0
3/2+3/1	St. Mary's Gate (East Bound) Ahead Left	U	A E		1	36	-	646	1943:1850	507+185	93.3 : 93.3%	-	-	-	11.8	65.9	23.8
3/3+3/4	St. Mary's Gate (East Bound) Ahead Right	U	A I		1	36:17	-	361	1923:1719	112+292	89.5 : 89.5%	-	-	-	7.7	76.3	11.5
4/2+4/1	Whitworth Road (South Bound) Left Ahead	U	D F		1	23:38	-	424	2037:1953	378+72	94.1 : 94.1%	-	-	-	10.6	89.7	18.0
4/3	Whitworth Road (South Bound) Right	U	D		1	23	-	124	1873	401	30.9%	-	-	-	1.5	43.5	3.5
Ped Link: P1	St. Mary's Gate Ped X	-	L		1	60	-	0	-	38571	0.0%	-	-	-	0.0	0.0	0.0

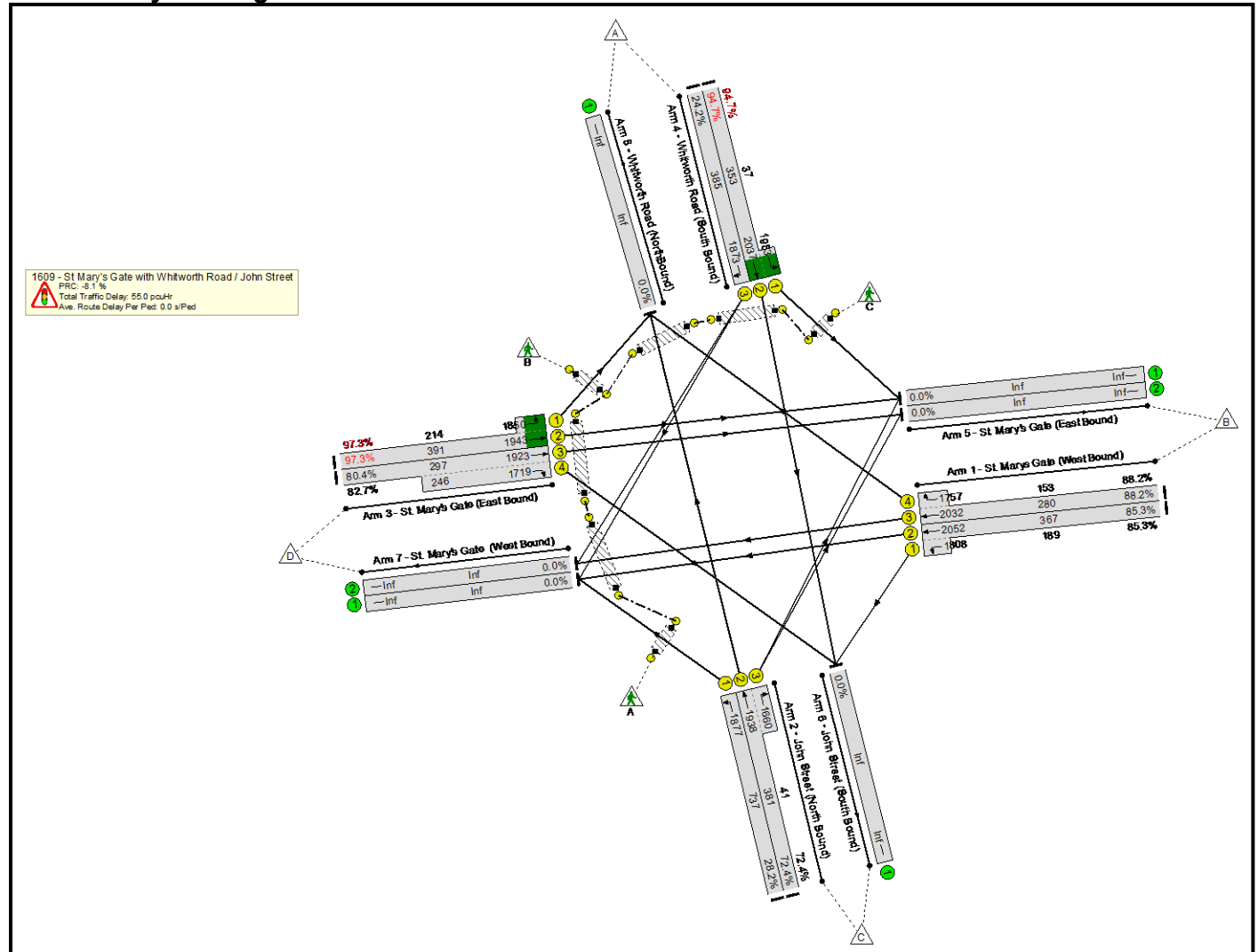
Basic Results Summary

Ped Link: P2	St. Mary's Gate Ped X	-	K		1	37	-	0	-	23786	0.0%	-	-	-	0.0	0.0	0.0
Ped Link: P3	St. Mary's Gate Ped X	-	M		1	65	-	0	-	41786	0.0%	-	-	-	0.0	0.0	0.0
Ped Link: P4	St. Mary's Gate Ped X	-	J		1	60	-	0	-	38571	0.0%	-	-	-	0.0	0.0	0.0
Ped Link: P5	Whitworth Road Ped X	-	P		1	62	-	0	-	39857	0.0%	-	-	-	0.0	0.0	0.0
Ped Link: P6	Whitworth Road Ped X	-	N		1	32	-	0	-	20571	0.0%	-	-	-	0.0	0.0	0.0
Ped Link: P7	Whitworth Road Ped X	-	O		1	77	-	0	-	49500	0.0%	-	-	-	0.0	0.0	0.0
C1 - St Mary's Gate / Yorkshire St / Whitworth Rd / John St, Rochdale - 1609																	
PRC for Signalled Lanes (%):									-8.8								
PRC Over All Lanes (%):									-8.8								
Total Delay for Signalled Lanes (pcuHr):											63.88						
Total Delay Over All Lanes(pcuHr):											63.88						
Cycle Time (s):															112		

Basic Results Summary

Scenario 4: 'Base + Starbucks_AM Peak' (FG4: 'Base + Starbucks_AM Peak', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Network Results

Basic Results Summary

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: A58 St Mary's Gate/Whitworth Road / John Street Modelling	-	-	-		-	-	-	-	-	-	97.3%	0	0	0	55.0	-	-
1609 - St Mary's Gate with Whitworth Road / John Street	-	-	-		-	-	-	-	-	-	97.3%	0	0	0	55.0	-	-
1/2+1/1	St. Marys Gate (West Bound) Left Ahead	U	B G		1	28:27	-	474	2052:1808	367+189	85.3 : 85.3%	-	-	-	7.7	58.7	15.2
1/3+1/4	St. Marys Gate (West Bound) Ahead Right	U	B Q		1	28:14	-	382	2032:1757	280+153	88.2 : 88.2%	-	-	-	7.6	71.7	13.2
2/1	John Street (North Bound) Left	U	H		1	43	-	208	1877	737	28.2%	-	-	-	1.5	26.6	4.6
2/2+2/3	John Street (North Bound) Right Ahead	U	C		1	22	-	306	1938:1660	381+41	72.4 : 72.4%	-	-	-	4.8	56.2	9.6
3/2+3/1	St. Mary's Gate (East Bound) Ahead Left	U	A E		1	29	-	588	1943:1850	391+214	97.3 : 97.3%	-	-	-	14.9	91.4	25.2
3/3+3/4	St. Mary's Gate (East Bound) Ahead Right	U	A I		1	29:15	-	442	1923:1719	297+246	80.4 : 82.7%	-	-	-	7.0	57.1	8.3
4/2+4/1	Whitworth Road (South Bound) Left Ahead	U	D F		1	22:41	-	369	2037:1953	353+37	94.7 : 94.7%	-	-	-	10.2	100.0	16.7
4/3	Whitworth Road (South Bound) Right	U	D		1	22	-	93	1873	385	24.2%	-	-	-	1.1	43.4	2.6
Ped Link: P1	St. Mary's Gate Ped X	-	L		1	67	-	0	-	43071	0.0%	-	-	-	0.0	0.0	0.0

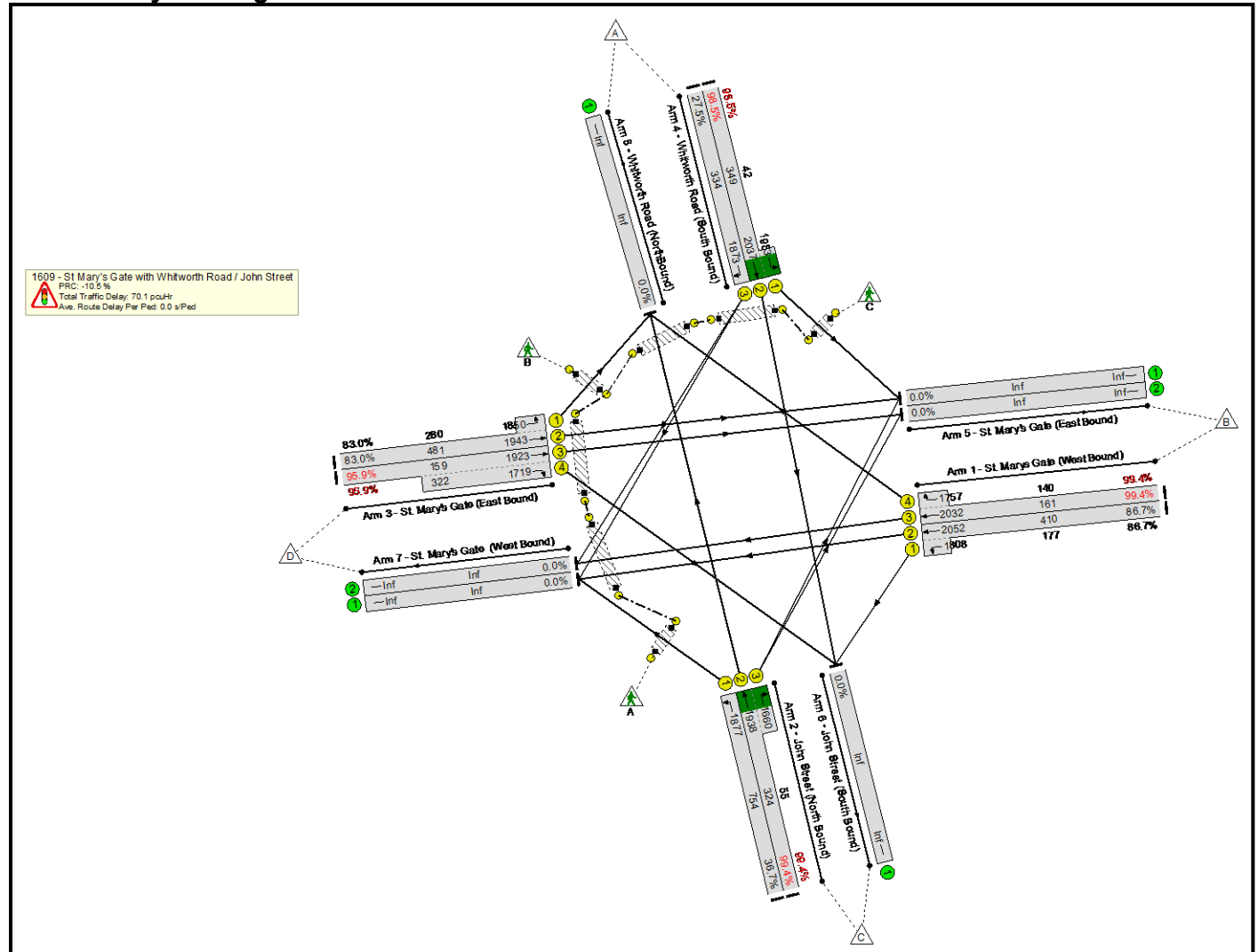
Basic Results Summary

Ped Link: P2	St. Mary's Gate Ped X	-	K		1	39	-	0	-	25071	0.0%	-	-	-	0.0	0.0	0.0
Ped Link: P3	St. Mary's Gate Ped X	-	M		1	72	-	0	-	46286	0.0%	-	-	-	0.0	0.0	0.0
Ped Link: P4	St. Mary's Gate Ped X	-	J		1	58	-	0	-	37286	0.0%	-	-	-	0.0	0.0	0.0
Ped Link: P5	Whitworth Road Ped X	-	P		1	59	-	0	-	37929	0.0%	-	-	-	0.0	0.0	0.0
Ped Link: P6	Whitworth Road Ped X	-	N		1	25	-	0	-	16071	0.0%	-	-	-	0.0	0.0	0.0
Ped Link: P7	Whitworth Road Ped X	-	O		1	78	-	0	-	50143	0.0%	-	-	-	0.0	0.0	0.0
C1 - St Mary's Gate / Yorkshire St / Whitworth Rd / John St, Rochdale - 1609																	
PRC for Signalled Lanes (%):									-8.1								
PRC Over All Lanes (%):									-8.1								
Total Delay for Signalled Lanes (pcuHr):											54.96						
Total Delay Over All Lanes(pcuHr):											54.96						
Cycle Time (s):															112		

Basic Results Summary

Scenario 5: 'Base + Starbucks_PM Peak' (FG5: 'Base + Starbucks_PM Peak', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Network Results

Basic Results Summary

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: A58 St Mary's Gate/Whitworth Road / John Street Modelling	-	-	-		-	-	-	-	-	-	99.4%	0	0	0	70.1	-	-
1609 - St Mary's Gate with Whitworth Road / John Street	-	-	-		-	-	-	-	-	-	99.4%	0	0	0	70.1	-	-
1/2+1/1	St. Marys Gate (West Bound) Left Ahead	U	B G		1	30:29	-	508	2052:1808	410+177	86.7 : 86.7%	-	-	-	8.3	58.8	16.9
1/3+1/4	St. Marys Gate (West Bound) Ahead Right	U	B Q		1	30:10	-	299	2032:1757	161+140	99.4 : 99.4%	-	-	-	11.8	141.8	15.0
2/1	John Street (North Bound) Left	U	H		1	44	-	277	1877	754	36.7%	-	-	-	2.1	27.3	6.3
2/2+2/3	John Street (North Bound) Right Ahead	U	C		1	18	-	377	1938:1660	324+55	99.4 : 99.4%	-	-	-	14.0	134.1	20.1
3/2+3/1	St. Mary's Gate (East Bound) Ahead Left	U	A E		1	40	-	631	1943:1850	481+280	83.0 : 83.0%	-	-	-	7.7	43.9	18.3
3/3+3/4	St. Mary's Gate (East Bound) Ahead Right	U	A I		1	40:20	-	461	1923:1719	159+322	95.9 : 95.9%	-	-	-	11.8	91.9	16.3
4/2+4/1	Whitworth Road (South Bound) Left Ahead	U	D F		1	19:34	-	385	2037:1953	349+42	98.5 : 98.5%	-	-	-	13.2	123.5	20.0
4/3	Whitworth Road (South Bound) Right	U	D		1	19	-	92	1873	334	27.5%	-	-	-	1.2	47.2	2.6
Ped Link: P1	St. Mary's Gate Ped X	-	L		1	56	-	0	-	36000	0.0%	-	-	-	0.0	0.0	0.0

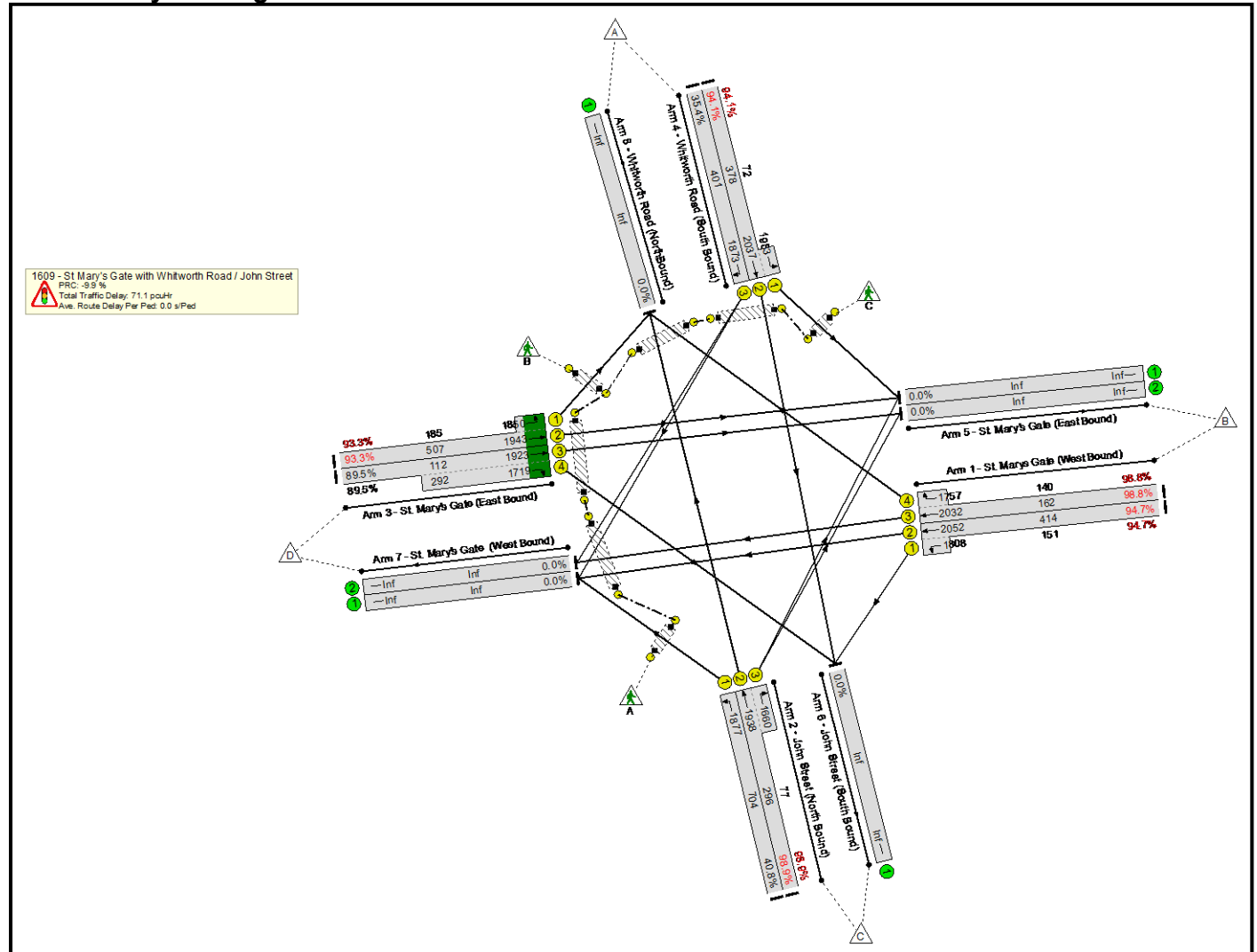
Basic Results Summary

Ped Link: P2	St. Mary's Gate Ped X	-	K		1	40	-	0	-	25714	0.0%	-	-	-	0.0	0.0	0.0						
Ped Link: P3	St. Mary's Gate Ped X	-	M		1	61	-	0	-	39214	0.0%	-	-	-	0.0	0.0	0.0						
Ped Link: P4	St. Mary's Gate Ped X	-	J		1	57	-	0	-	36643	0.0%	-	-	-	0.0	0.0	0.0						
Ped Link: P5	Whitworth Road Ped X	-	P		1	66	-	0	-	42429	0.0%	-	-	-	0.0	0.0	0.0						
Ped Link: P6	Whitworth Road Ped X	-	N		1	36	-	0	-	23143	0.0%	-	-	-	0.0	0.0	0.0						
Ped Link: P7	Whitworth Road Ped X	-	O		1	81	-	0	-	52071	0.0%	-	-	-	0.0	0.0	0.0						
C1 - St Mary's Gate / Yorkshire St / Whitworth Rd / John St, Rochdale - 1609																							
PRC for Signalled Lanes (%):						-10.5						Total Delay for Signalled Lanes (pcuHr):				70.08		Cycle Time (s):		112			
PRC Over All Lanes (%):						-10.5						Total Delay Over All Lanes(pcuHr):						70.08					

Basic Results Summary

Scenario 6: 'Base + Starbucks_Weekend Peak' (FG6: 'Base + Starbucks_Weekend Peak', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Network Results

Basic Results Summary

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: A58 St Mary's Gate/Whitworth Road / John Street Modelling	-	-	-		-	-	-	-	-	-	98.9%	0	0	0	71.1	-	-
1609 - St Mary's Gate with Whitworth Road / John Street	-	-	-		-	-	-	-	-	-	98.9%	0	0	0	71.1	-	-
1/2+1/1	St. Marys Gate (West Bound) Left Ahead	U	B G		1	29:28	-	535	2052:1808	414+151	94.7 : 94.7%	-	-	-	12.1	81.8	21.6
1/3+1/4	St. Marys Gate (West Bound) Ahead Right	U	B Q		1	29:10	-	298	2032:1757	162+140	98.8 : 98.8%	-	-	-	11.4	137.2	14.6
2/1	John Street (North Bound) Left	U	H		1	41	-	287	1877	704	40.8%	-	-	-	2.4	30.1	6.9
2/2+2/3	John Street (North Bound) Right Ahead	U	C		1	18	-	369	1938:1660	296+77	98.9 : 98.9%	-	-	-	13.4	130.9	18.9
3/2+3/1	St. Mary's Gate (East Bound) Ahead Left	U	A E		1	36	-	646	1943:1850	507+185	93.3 : 93.3%	-	-	-	11.8	65.9	23.8
3/3+3/4	St. Mary's Gate (East Bound) Ahead Right	U	A I		1	36:17	-	361	1923:1719	112+292	89.5 : 89.5%	-	-	-	7.7	76.3	11.5
4/2+4/1	Whitworth Road (South Bound) Left Ahead	U	D F		1	23:38	-	424	2037:1953	378+72	94.1 : 94.1%	-	-	-	10.6	89.7	18.0
4/3	Whitworth Road (South Bound) Right	U	D		1	23	-	142	1873	401	35.4%	-	-	-	1.7	44.3	4.0
Ped Link: P1	St. Mary's Gate Ped X	-	L		1	60	-	0	-	38571	0.0%	-	-	-	0.0	0.0	0.0

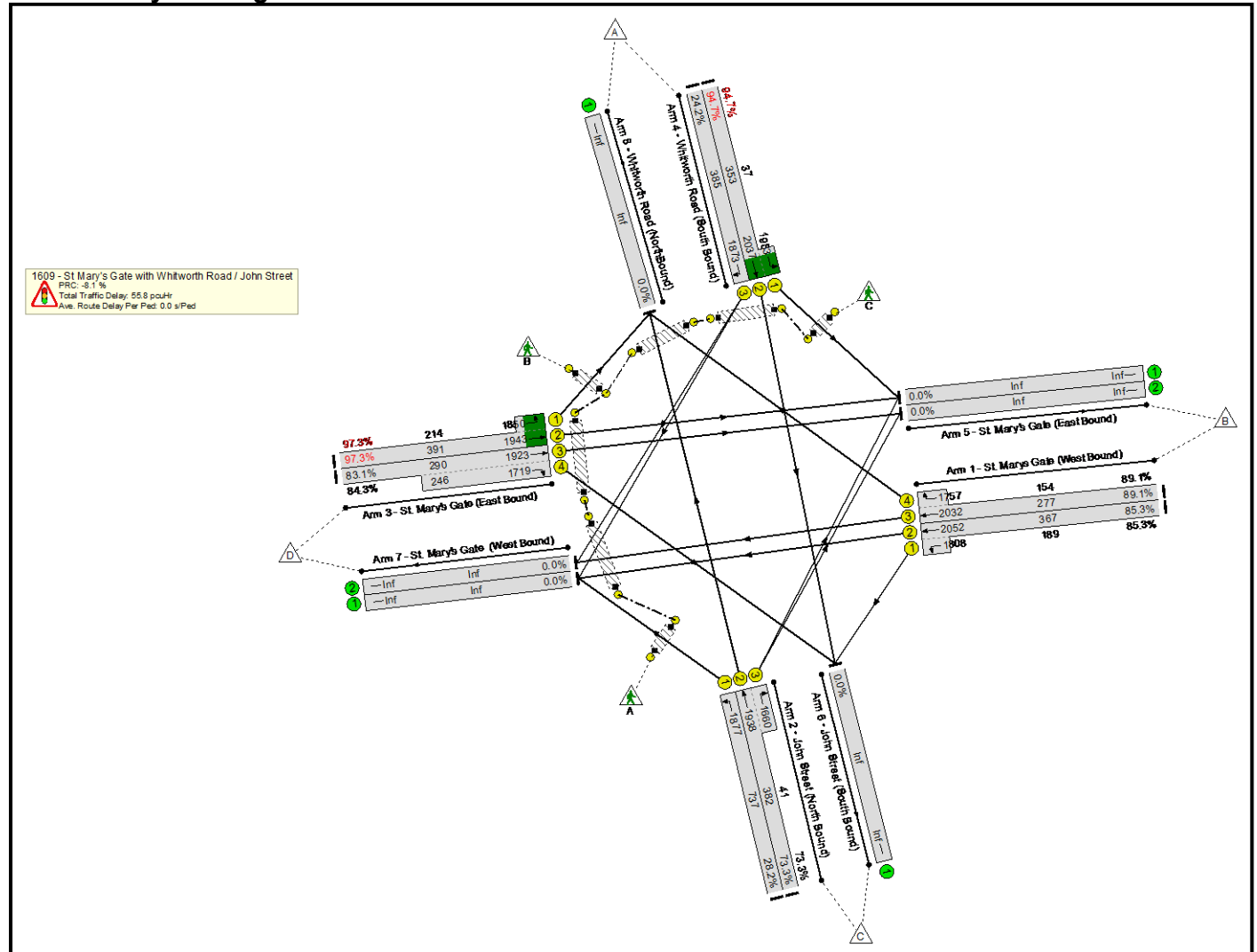
Basic Results Summary

Ped Link: P2	St. Mary's Gate Ped X	-	K		1	37	-	0	-	23786	0.0%	-	-	-	0.0	0.0	0.0
Ped Link: P3	St. Mary's Gate Ped X	-	M		1	65	-	0	-	41786	0.0%	-	-	-	0.0	0.0	0.0
Ped Link: P4	St. Mary's Gate Ped X	-	J		1	60	-	0	-	38571	0.0%	-	-	-	0.0	0.0	0.0
Ped Link: P5	Whitworth Road Ped X	-	P		1	62	-	0	-	39857	0.0%	-	-	-	0.0	0.0	0.0
Ped Link: P6	Whitworth Road Ped X	-	N		1	32	-	0	-	20571	0.0%	-	-	-	0.0	0.0	0.0
Ped Link: P7	Whitworth Road Ped X	-	O		1	77	-	0	-	49500	0.0%	-	-	-	0.0	0.0	0.0
C1 - St Mary's Gate / Yorkshire St / Whitworth Rd / John St, Rochdale - 1609																	
PRC for Signalled Lanes (%):										-9.9							
PRC Over All Lanes (%):										-9.9							
Total Delay for Signalled Lanes (pcuHr):										71.12							
Total Delay Over All Lanes(pcuHr):										71.12							
Cycle Time (s):															112		

Basic Results Summary

Scenario 7: 'Base + Starbucks + CD_AM Peak' (FG7: 'Base + Starbucks + CD_AM Peak', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Network Results

Basic Results Summary

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: A58 St Mary's Gate/Whitworth Road / John Street Modelling	-	-	-		-	-	-	-	-	-	97.3%	0	0	0	55.8	-	-
1609 - St Mary's Gate with Whitworth Road / John Street	-	-	-		-	-	-	-	-	-	97.3%	0	0	0	55.8	-	-
1/2+1/1	St. Marys Gate (West Bound) Left Ahead	U	B G		1	28:27	-	474	2052:1808	367+189	85.3 : 85.3%	-	-	-	7.7	58.7	15.2
1/3+1/4	St. Marys Gate (West Bound) Ahead Right	U	B Q		1	28:14	-	384	2032:1757	277+154	89.1 : 89.1%	-	-	-	7.9	74.2	13.5
2/1	John Street (North Bound) Left	U	H		1	43	-	208	1877	737	28.2%	-	-	-	1.5	26.6	4.6
2/2+2/3	John Street (North Bound) Right Ahead	U	C		1	22	-	310	1938:1660	382+41	73.3 : 73.3%	-	-	-	4.9	56.8	9.8
3/2+3/1	St. Mary's Gate (East Bound) Ahead Left	U	A E		1	29	-	588	1943:1850	391+214	97.3 : 97.3%	-	-	-	14.9	91.4	25.2
3/3+3/4	St. Mary's Gate (East Bound) Ahead Right	U	A I		1	29:15	-	448	1923:1719	290+246	83.1 : 84.3%	-	-	-	7.4	59.6	8.7
4/2+4/1	Whitworth Road (South Bound) Left Ahead	U	D F		1	22:41	-	369	2037:1953	353+37	94.7 : 94.7%	-	-	-	10.2	100.0	16.7
4/3	Whitworth Road (South Bound) Right	U	D		1	22	-	93	1873	385	24.2%	-	-	-	1.1	43.4	2.6
Ped Link: P1	St. Mary's Gate Ped X	-	L		1	67	-	0	-	43071	0.0%	-	-	-	0.0	0.0	0.0

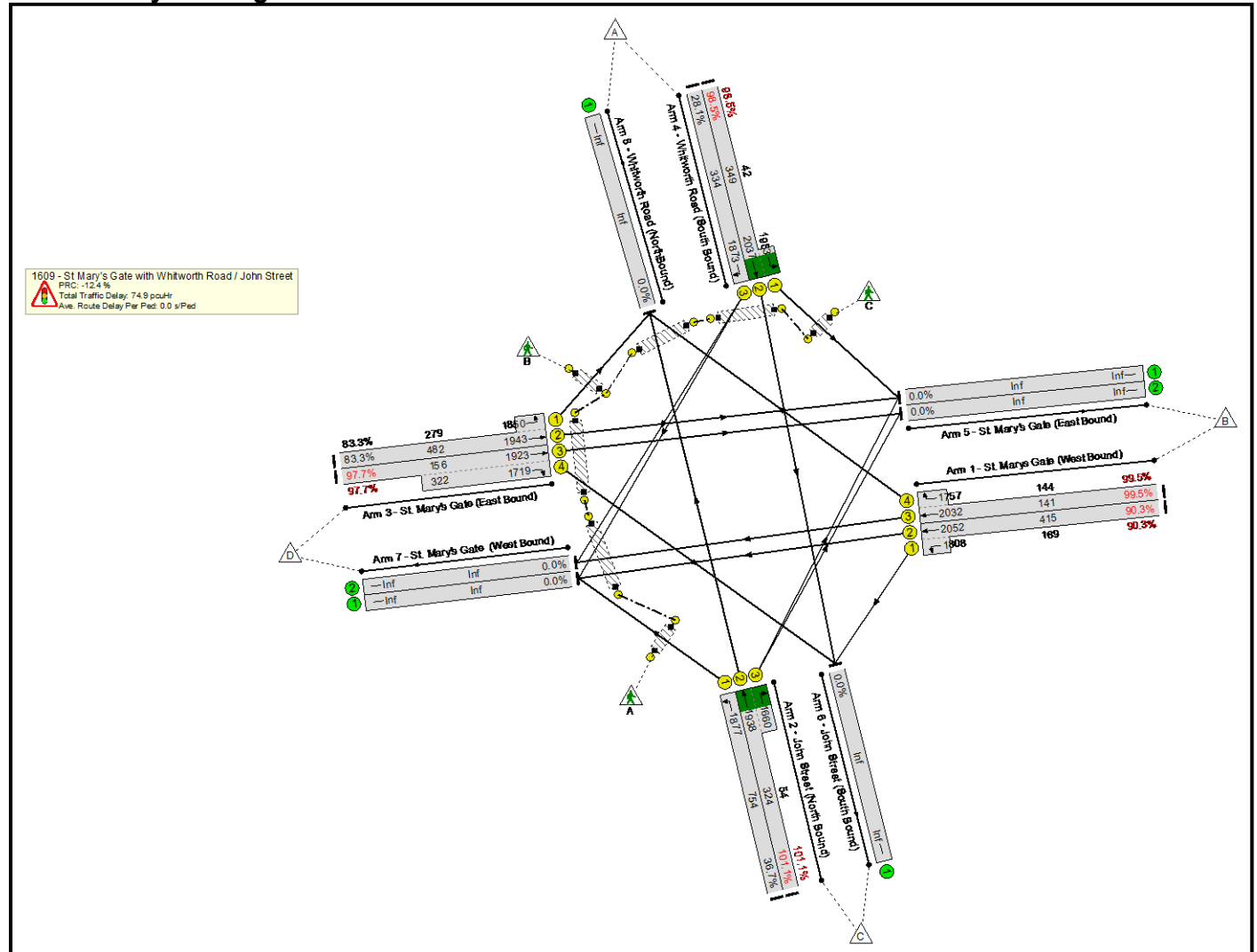
Basic Results Summary

Ped Link: P2	St. Mary's Gate Ped X	-	K		1	39	-	0	-	25071	0.0%	-	-	-	0.0	0.0	0.0
Ped Link: P3	St. Mary's Gate Ped X	-	M		1	72	-	0	-	46286	0.0%	-	-	-	0.0	0.0	0.0
Ped Link: P4	St. Mary's Gate Ped X	-	J		1	58	-	0	-	37286	0.0%	-	-	-	0.0	0.0	0.0
Ped Link: P5	Whitworth Road Ped X	-	P		1	59	-	0	-	37929	0.0%	-	-	-	0.0	0.0	0.0
Ped Link: P6	Whitworth Road Ped X	-	N		1	25	-	0	-	16071	0.0%	-	-	-	0.0	0.0	0.0
Ped Link: P7	Whitworth Road Ped X	-	O		1	78	-	0	-	50143	0.0%	-	-	-	0.0	0.0	0.0
C1 - St Mary's Gate / Yorkshire St / Whitworth Rd / John St, Rochdale - 1609																	
PRC for Signalled Lanes (%):									-8.1								
PRC Over All Lanes (%):									-8.1								
Total Delay for Signalled Lanes (pcuHr):											55.78						
Total Delay Over All Lanes(pcuHr):											55.78						
Cycle Time (s):															112		

Basic Results Summary

Scenario 8: 'Base + Starbucks + CD_PM Peak' (FG8: 'Base + Starbucks + CD_PM Peak', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

Basic Results Summary

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: A58 St Mary's Gate/Whitworth Road / John Street Modelling	-	-	-		-	-	-	-	-	-	101.1%	0	0	0	74.9	-	-
1609 - St Mary's Gate with Whitworth Road / John Street	-	-	-		-	-	-	-	-	-	101.1%	0	0	0	74.9	-	-
1/2+1/1	St. Marys Gate (West Bound) Left Ahead	U	B G		1	30:29	-	528	2052:1808	415+169	90.3 : 90.3%	-	-	-	9.6	65.7	18.7
1/3+1/4	St. Marys Gate (West Bound) Ahead Right	U	B Q		1	30:10	-	283	2032:1757	141+144	99.5 : 99.5%	-	-	-	11.5	146.3	14.1
2/1	John Street (North Bound) Left	U	H		1	44	-	277	1877	754	36.7%	-	-	-	2.1	27.3	6.3
2/2+2/3	John Street (North Bound) Right Ahead	U	C		1	18	-	383	1938:1660	324+54	101.1 : 101.1%	-	-	-	16.0	150.5	22.2
3/2+3/1	St. Mary's Gate (East Bound) Ahead Left	U	A E		1	40	-	633	1943:1850	482+279	83.3 : 83.3%	-	-	-	7.8	44.2	18.4
3/3+3/4	St. Mary's Gate (East Bound) Ahead Right	U	A I		1	40:20	-	467	1923:1719	156+322	97.7 : 97.7%	-	-	-	13.4	103.5	18.1
4/2+4/1	Whitworth Road (South Bound) Left Ahead	U	D F		1	19:34	-	385	2037:1953	349+42	98.5 : 98.5%	-	-	-	13.2	123.5	20.0
4/3	Whitworth Road (South Bound) Right	U	D		1	19	-	94	1873	334	28.1%	-	-	-	1.2	47.3	2.7
Ped Link: P1	St. Mary's Gate Ped X	-	L		1	56	-	0	-	36000	0.0%	-	-	-	0.0	0.0	0.0

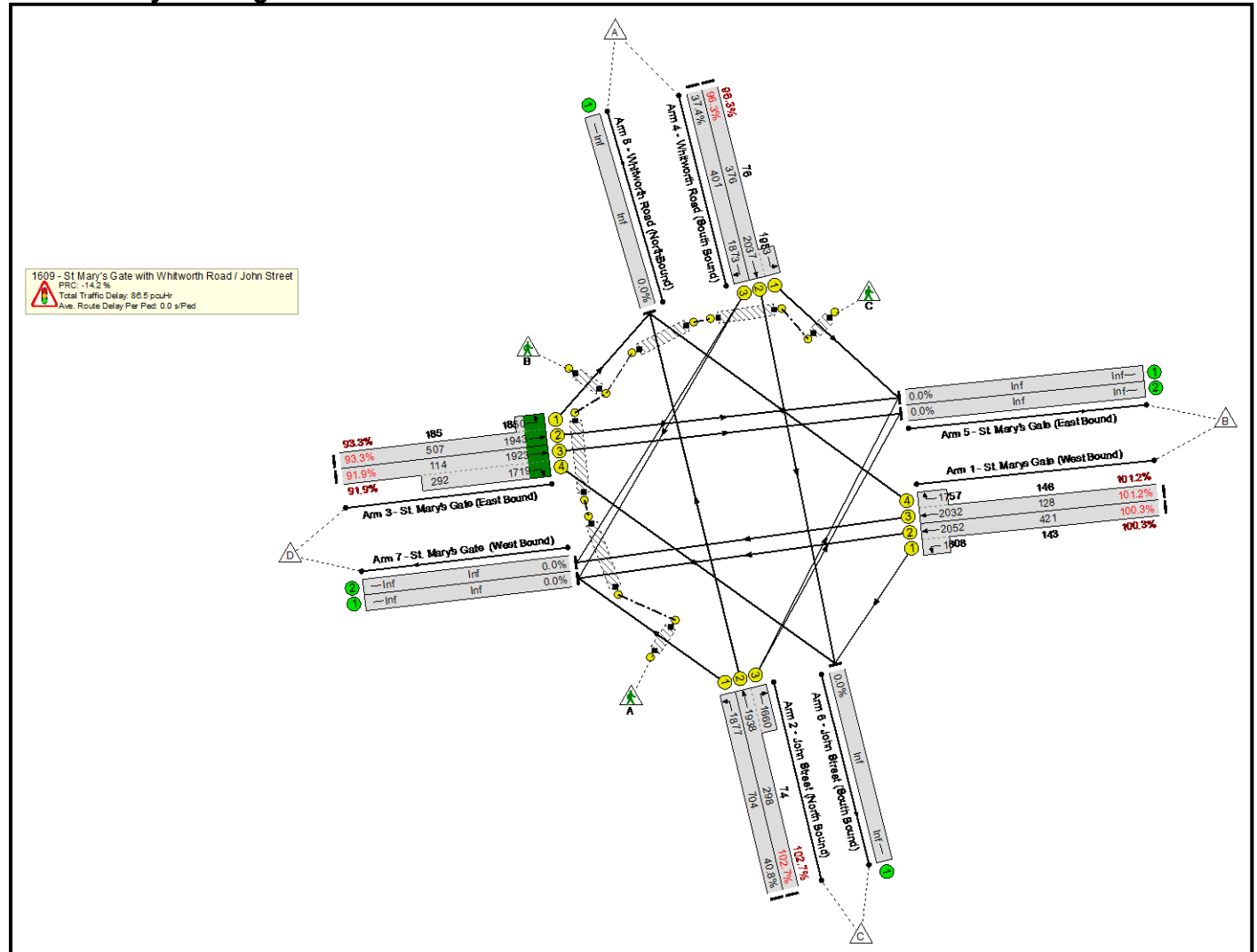
Basic Results Summary

Ped Link: P2	St. Mary's Gate Ped X	-	K		1	40	-	0	-	25714	0.0%	-	-	-	0.0	0.0	0.0				
Ped Link: P3	St. Mary's Gate Ped X	-	M		1	61	-	0	-	39214	0.0%	-	-	-	0.0	0.0	0.0				
Ped Link: P4	St. Mary's Gate Ped X	-	J		1	57	-	0	-	36643	0.0%	-	-	-	0.0	0.0	0.0				
Ped Link: P5	Whitworth Road Ped X	-	P		1	66	-	0	-	42429	0.0%	-	-	-	0.0	0.0	0.0				
Ped Link: P6	Whitworth Road Ped X	-	N		1	36	-	0	-	23143	0.0%	-	-	-	0.0	0.0	0.0				
Ped Link: P7	Whitworth Road Ped X	-	O		1	81	-	0	-	52071	0.0%	-	-	-	0.0	0.0	0.0				
C1 - St Mary's Gate / Yorkshire St / Whitworth Rd / John St, Rochdale - 1609																					
PRC for Signalled Lanes (%):										-12.4			Total Delay for Signalled Lanes (pcuHr):			74.88		Cycle Time (s):		112	
PRC Over All Lanes (%):										-12.4			Total Delay Over All Lanes(pcuHr):			74.88					

Basic Results Summary

Scenario 9: 'Base + Starbucks + CD_Weekend Peak' (FG9: 'Base + Starbucks + CD_Weekend Peak', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Network Results

Basic Results Summary

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: A58 St Mary's Gate/Whitworth Road / John Street Modelling	-	-	-		-	-	-	-	-	-	102.7%	0	0	0	86.5	-	-
1609 - St Mary's Gate with Whitworth Road / John Street	-	-	-		-	-	-	-	-	-	102.7%	0	0	0	86.5	-	-
1/2+1/1	St. Marys Gate (West Bound) Left Ahead	U	B G		1	29:28	-	565	2052:1808	421+143	100.3 : 100.3%	-	-	-	18.7	119.1	29.1
1/3+1/4	St. Marys Gate (West Bound) Ahead Right	U	B Q		1	29:10	-	278	2032:1757	128+146	101.2 : 101.2%	-	-	-	12.8	165.9	15.5
2/1	John Street (North Bound) Left	U	H		1	41	-	287	1877	704	40.8%	-	-	-	2.4	30.1	6.9
2/2+2/3	John Street (North Bound) Right Ahead	U	C		1	18	-	382	1938:1660	298+74	102.7 : 102.7%	-	-	-	18.1	170.1	23.9
3/2+3/1	St. Mary's Gate (East Bound) Ahead Left	U	A E		1	36	-	646	1943:1850	507+185	93.3 : 93.3%	-	-	-	11.8	65.9	23.8
3/3+3/4	St. Mary's Gate (East Bound) Ahead Right	U	A I		1	36:17	-	373	1923:1719	114+292	91.9 : 91.9%	-	-	-	8.6	83.2	12.7
4/2+4/1	Whitworth Road (South Bound) Left Ahead	U	D F		1	23:38	-	435	2037:1953	376+76	96.3 : 96.3%	-	-	-	12.2	101.0	19.8
4/3	Whitworth Road (South Bound) Right	U	D		1	23	-	150	1873	401	37.4%	-	-	-	1.9	44.7	4.3
Ped Link: P1	St. Mary's Gate Ped X	-	L		1	60	-	0	-	38571	0.0%	-	-	-	0.0	0.0	0.0

Basic Results Summary

Ped Link: P2	St. Mary's Gate Ped X	-	K		1	37	-	0	-	23786	0.0%	-	-	-	0.0	0.0	0.0
Ped Link: P3	St. Mary's Gate Ped X	-	M		1	65	-	0	-	41786	0.0%	-	-	-	0.0	0.0	0.0
Ped Link: P4	St. Mary's Gate Ped X	-	J		1	60	-	0	-	38571	0.0%	-	-	-	0.0	0.0	0.0
Ped Link: P5	Whitworth Road Ped X	-	P		1	62	-	0	-	39857	0.0%	-	-	-	0.0	0.0	0.0
Ped Link: P6	Whitworth Road Ped X	-	N		1	32	-	0	-	20571	0.0%	-	-	-	0.0	0.0	0.0
Ped Link: P7	Whitworth Road Ped X	-	O		1	77	-	0	-	49500	0.0%	-	-	-	0.0	0.0	0.0
C1 - St Mary's Gate / Yorkshire St / Whitworth Rd / John St, Rochdale - 1609																	
PRC for Signalled Lanes (%): -14.2 Total Delay for Signalled Lanes (pcuHr): 86.47 Cycle Time (s): 112																	
PRC Over All Lanes (%): -14.2 Total Delay Over All Lanes(pcuHr): 86.47																	

Basic Results Summary

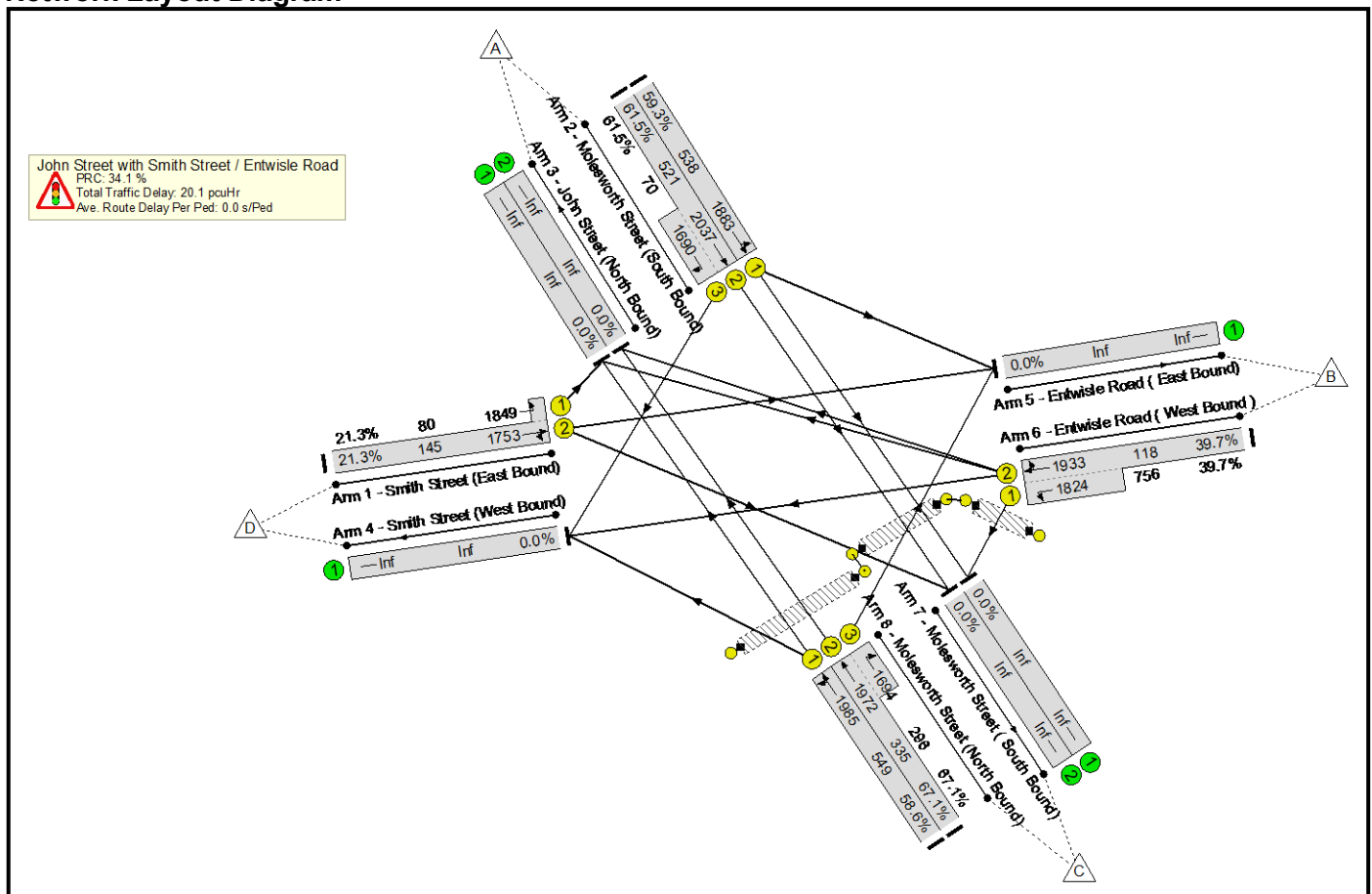
Basic Results Summary

User and Project Details

Project:	30246667 - Supermarket CoU Rochdale
Title:	A671 John St/Molesworth St/B6266 Entwisle Rd/Smith St Modelling
Location:	Rochdale, UK
Site Ref(s):	1315
Additional detail:	
File name:	J3 Base Model v3.lsg3x
Author:	
Company:	Arcadis Consulting (UK) Limited
Address:	

Scenario 1: 'Base AM Peak' (FG1: 'Base AM Peak', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Basic Results Summary

Network Results

Basic Results Summary

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: A671 John St/Molesworth St/B6266 Entwisle Rd/Smith St Modelling	-	-	-		-	-	-	-	-	-	67.1%	0	0	0	20.1	-	-
John Street with Smith Street / Entwisle Road	-	-	-		-	-	-	-	-	-	67.1%	0	0	0	20.1	-	-
1/2+1/1	Smith Street (East Bound) Left Ahead Right	U	C		1	12	-	48	1753:1849	145+80	21.3 : 21.3%	-	-	-	0.7	54.6	1.0
2/1	Molesworth Street (South Bound) Left Ahead	U	A		1	31	-	319	1883	538	59.3%	-	-	-	3.8	42.6	9.2
2/2+2/3	Molesworth Street (South Bound) Right Ahead	U	A		1	31	-	363	2037:1690	521+70	61.5 : 61.5%	-	-	-	4.2	41.8	9.8
6/2+6/1	Entwisle Road (West Bound) Right Ahead Left	U	D E		1	15:50	-	347	1933:1824	118+756	39.7 : 39.7%	-	-	-	2.5	26.3	6.4
8/1	Molesworth Street (North Bound) Ahead Left	U	B		1	30	-	322	1985	549	58.6%	-	-	-	3.8	42.8	9.3
8/2+8/3	Molesworth Street (North Bound) Ahead Right	U	B		1	30	-	424	1972:1694	335+296	67.1 : 67.1%	-	-	-	5.0	42.2	9.1
Ped Link: P1	Unnamed Ped Link	-	H		1	68	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P2	Unnamed Ped Link	-	I		1	46	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P3	Unnamed Ped Link	-	J		1	51	-	0	-	0	0.0%	-	-	-	-	-	-

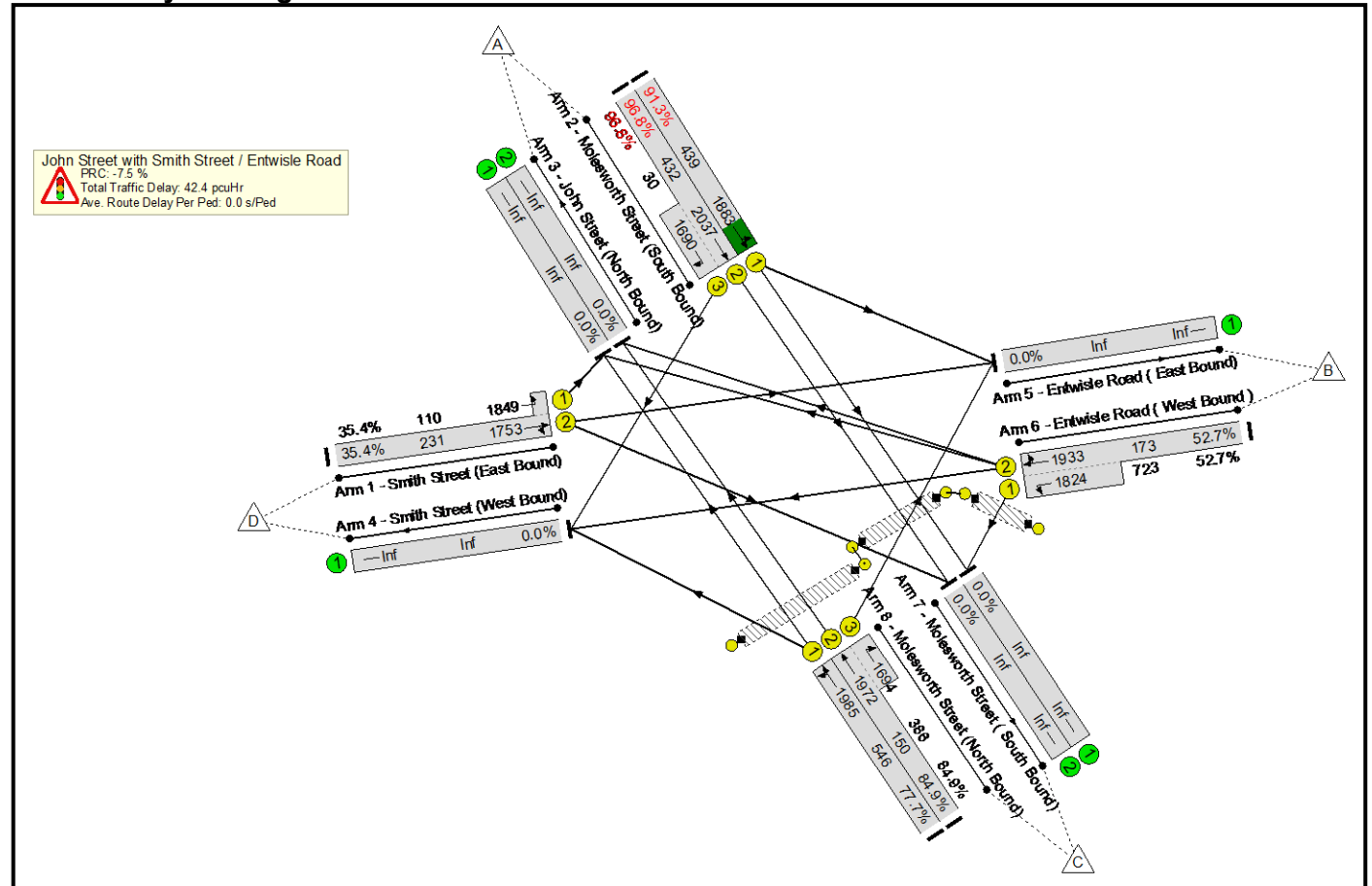
Basic Results Summary

C1 - 1315	PRC for Signalled Lanes (%):	34.1	Total Delay for Signalled Lanes (pcuHr):	20.06	Cycle Time (s):	112
	PRC Over All Lanes (%):	34.1	Total Delay Over All Lanes(pcuHr):	20.06		

Basic Results Summary

Scenario 2: 'Base PM Peak' (FG2: 'Base PM Peak', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Network Results

Basic Results Summary

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: A671 John St/Molesworth St/B6266 Entwisle Rd/Smith St Modelling	-	-	-		-	-	-	-	-	-	96.8%	0	0	0	42.4	-	-
John Street with Smith Street / Entwisle Road	-	-	-		-	-	-	-	-	-	96.8%	0	0	0	42.4	-	-
1/2+1/1	Smith Street (East Bound) Left Ahead Right	U	C		1	21	-	121	1753:1849	231+110	35.4 : 35.4%	-	-	-	1.7	50.4	3.3
2/1	Molesworth Street (South Bound) Left Ahead	U	A		1	26	-	401	1883	439	91.3%	-	-	-	9.3	83.2	17.2
2/2+2/3	Molesworth Street (South Bound) Right Ahead	U	A		1	26	-	447	2037:1690	432+30	96.8 : 96.8%	-	-	-	13.2	106.2	21.8
6/2+6/1	Entwisle Road (West Bound) Right Ahead Left	U	D E		1	17:54	-	472	1933:1824	173+723	52.7 : 52.7%	-	-	-	4.2	32.2	9.8
8/1	Molesworth Street (North Bound) Ahead Left	U	B		1	32	-	424	1985	546	77.7%	-	-	-	6.4	54.5	14.6
8/2+8/3	Molesworth Street (North Bound) Ahead Right	U	B		1	32	-	455	1972:1694	150+386	84.9 : 84.9%	-	-	-	7.6	60.4	15.4
Ped Link: P1	Unnamed Ped Link	-	H		1	74	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P2	Unnamed Ped Link	-	I		1	50	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P3	Unnamed Ped Link	-	J		1	55	-	0	-	0	0.0%	-	-	-	-	-	-

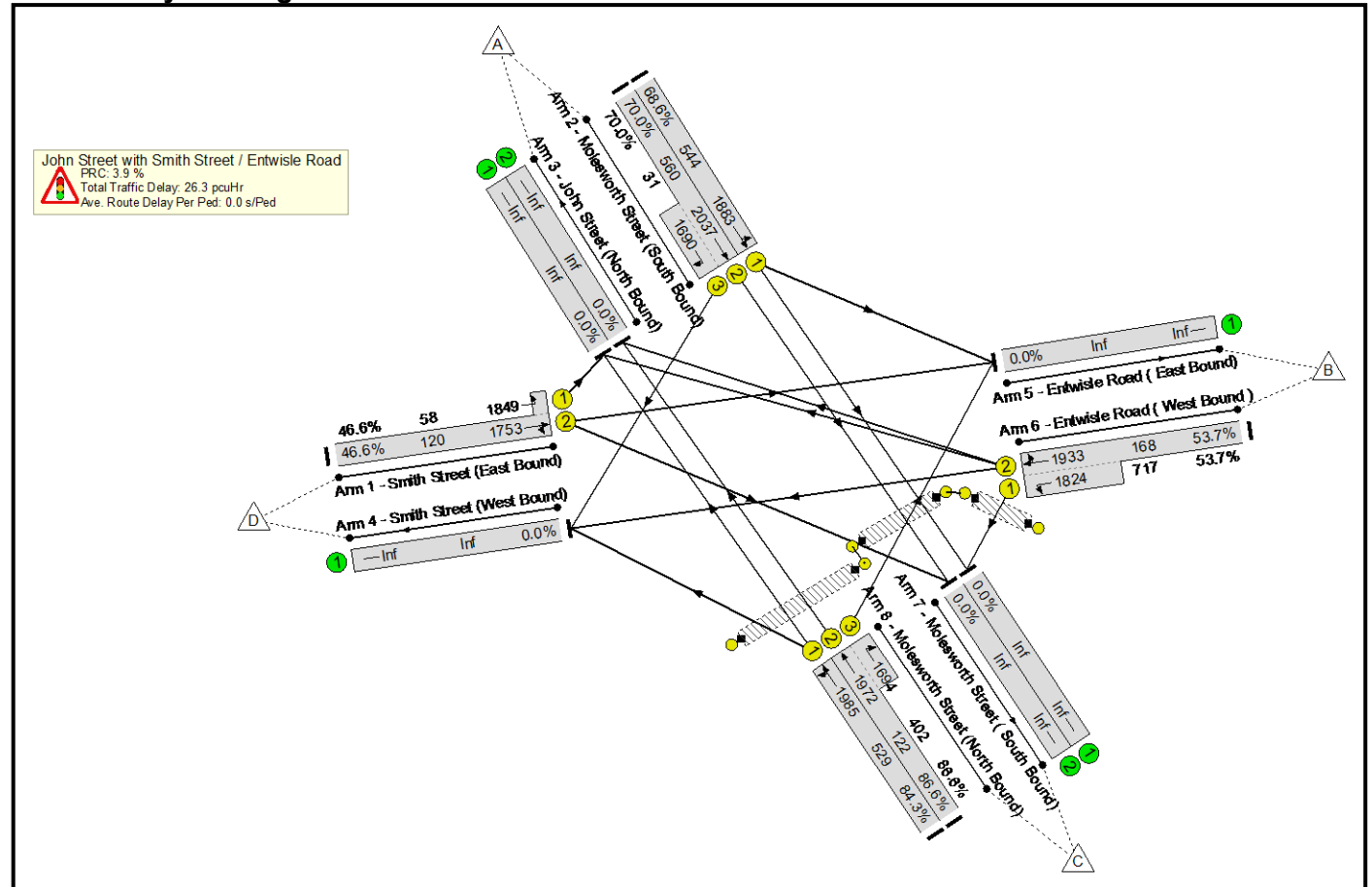
Basic Results Summary

C1 - 1315	PRC for Signalled Lanes (%):	-7.5	Total Delay for Signalled Lanes (pcuHr):	42.42	Cycle Time (s):	120
	PRC Over All Lanes (%):	-7.5	Total Delay Over All Lanes(pcuHr):	42.42		

Basic Results Summary

Scenario 3: 'Base Weekend Peak' (FG3: 'Base Weekend Peak', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Network Results

Basic Results Summary

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: A671 John St/Molesworth St/B6266 Entwisle Rd/Smith St Modelling	-	-	-		-	-	-	-	-	-	86.6%	0	0	0	26.3	-	-
John Street with Smith Street / Entwisle Road	-	-	-		-	-	-	-	-	-	86.6%	0	0	0	26.3	-	-
1/2+1/1	Smith Street (East Bound) Left Ahead Right	U	C		1	7	-	83	1753:1849	120+58	46.6 : 46.6%	-	-	-	1.3	57.2	1.9
2/1	Molesworth Street (South Bound) Left Ahead	U	A		1	25	-	373	1883	544	68.6%	-	-	-	4.0	38.8	9.3
2/2+2/3	Molesworth Street (South Bound) Right Ahead	U	A		1	25	-	414	2037:1690	560+31	70.0 : 70.0%	-	-	-	4.4	38.2	10.1
6/2+6/1	Entwisle Road (West Bound) Right Ahead Left	U	D E		1	11:39	-	475	1933:1824	168+717	53.7 : 53.7%	-	-	-	3.3	25.4	7.5
8/1	Molesworth Street (North Bound) Ahead Left	U	B		1	23	-	446	1985	529	84.3%	-	-	-	6.4	51.6	13.1
8/2+8/3	Molesworth Street (North Bound) Ahead Right	U	B		1	23	-	454	1972:1694	122+402	86.6 : 86.6%	-	-	-	6.8	53.9	12.6
Ped Link: P1	Unnamed Ped Link	-	H		1	53	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P2	Unnamed Ped Link	-	I		1	35	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P3	Unnamed Ped Link	-	J		1	40	-	0	-	0	0.0%	-	-	-	-	-	-

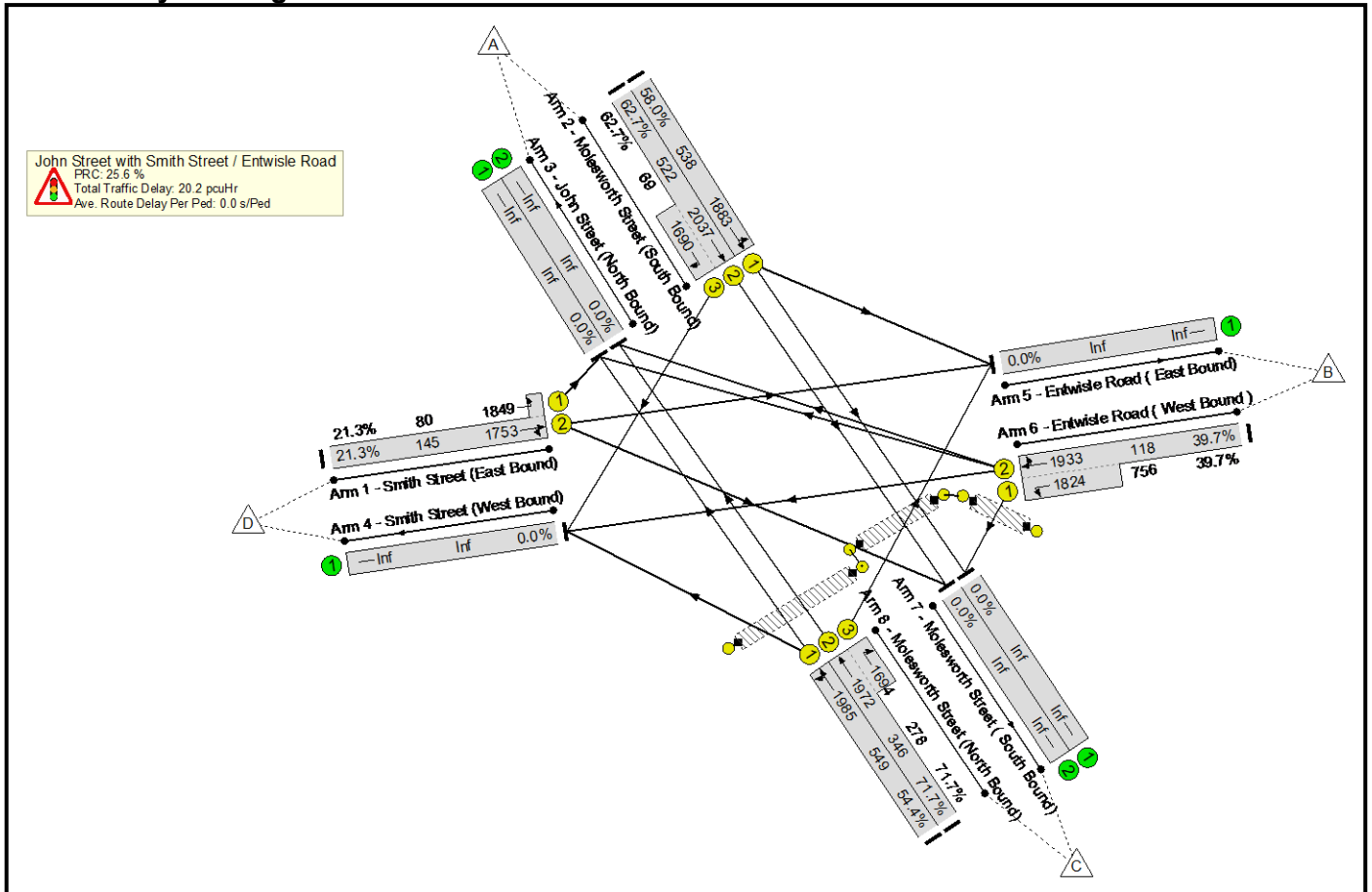
Basic Results Summary

C1 - 1315	PRC for Signalled Lanes (%):	3.9	Total Delay for Signalled Lanes (pcuHr):	26.27	Cycle Time (s):	90
	PRC Over All Lanes (%):	3.9	Total Delay Over All Lanes(pcuHr):	26.27		

Basic Results Summary

Scenario 4: 'Base + Starbucks AM Peak' (FG4: 'Base + Starbucks AM Peak', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Network Results

Basic Results Summary

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: A671 John St/Molesworth St/B6266 Entwisle Rd/Smith St Modelling	-	-	-		-	-	-	-	-	-	71.7%	0	0	0	20.2	-	-
John Street with Smith Street / Entwisle Road	-	-	-		-	-	-	-	-	-	71.7%	0	0	0	20.2	-	-
1/2+1/1	Smith Street (East Bound) Left Ahead Right	U	C		1	12	-	48	1753:1849	145+80	21.3 : 21.3%	-	-	-	0.7	54.6	1.0
2/1	Molesworth Street (South Bound) Left Ahead	U	A		1	31	-	312	1883	538	58.0%	-	-	-	3.7	42.2	8.9
2/2+2/3	Molesworth Street (South Bound) Right Ahead	U	A		1	31	-	370	2037:1690	522+69	62.7 : 62.7%	-	-	-	4.3	42.2	10.0
6/2+6/1	Entwisle Road (West Bound) Right Ahead Left	U	D E		1	15:50	-	347	1933:1824	118+756	39.7 : 39.7%	-	-	-	2.5	26.3	6.4
8/1	Molesworth Street (North Bound) Ahead Left	U	B		1	30	-	299	1985	549	54.4%	-	-	-	3.5	41.6	8.5
8/2+8/3	Molesworth Street (North Bound) Ahead Right	U	B		1	30	-	447	1972:1694	346+278	71.7 : 71.7%	-	-	-	5.5	44.3	10.5
Ped Link: P1	Unnamed Ped Link	-	H		1	68	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P2	Unnamed Ped Link	-	I		1	46	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P3	Unnamed Ped Link	-	J		1	51	-	0	-	0	0.0%	-	-	-	-	-	-

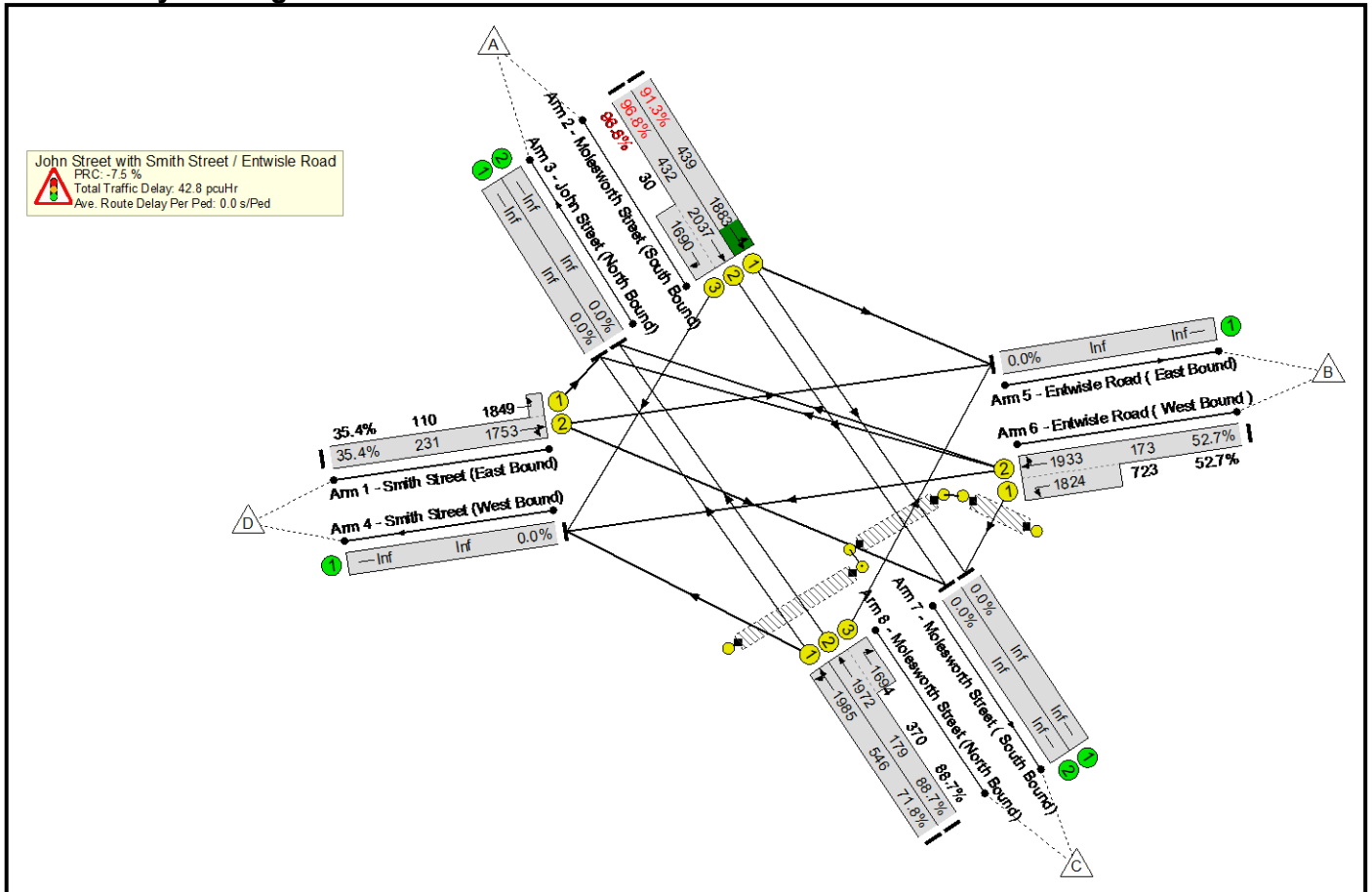
Basic Results Summary

C1 - 1315	PRC for Signalled Lanes (%):	25.6	Total Delay for Signalled Lanes (pcuHr):	20.22	Cycle Time (s):	112
	PRC Over All Lanes (%):	25.6	Total Delay Over All Lanes(pcuHr):	20.22		

Basic Results Summary

Scenario 5: 'Base + Starbucks PM Peak' (FG5: 'Base + Starbucks PM Peak', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Network Results

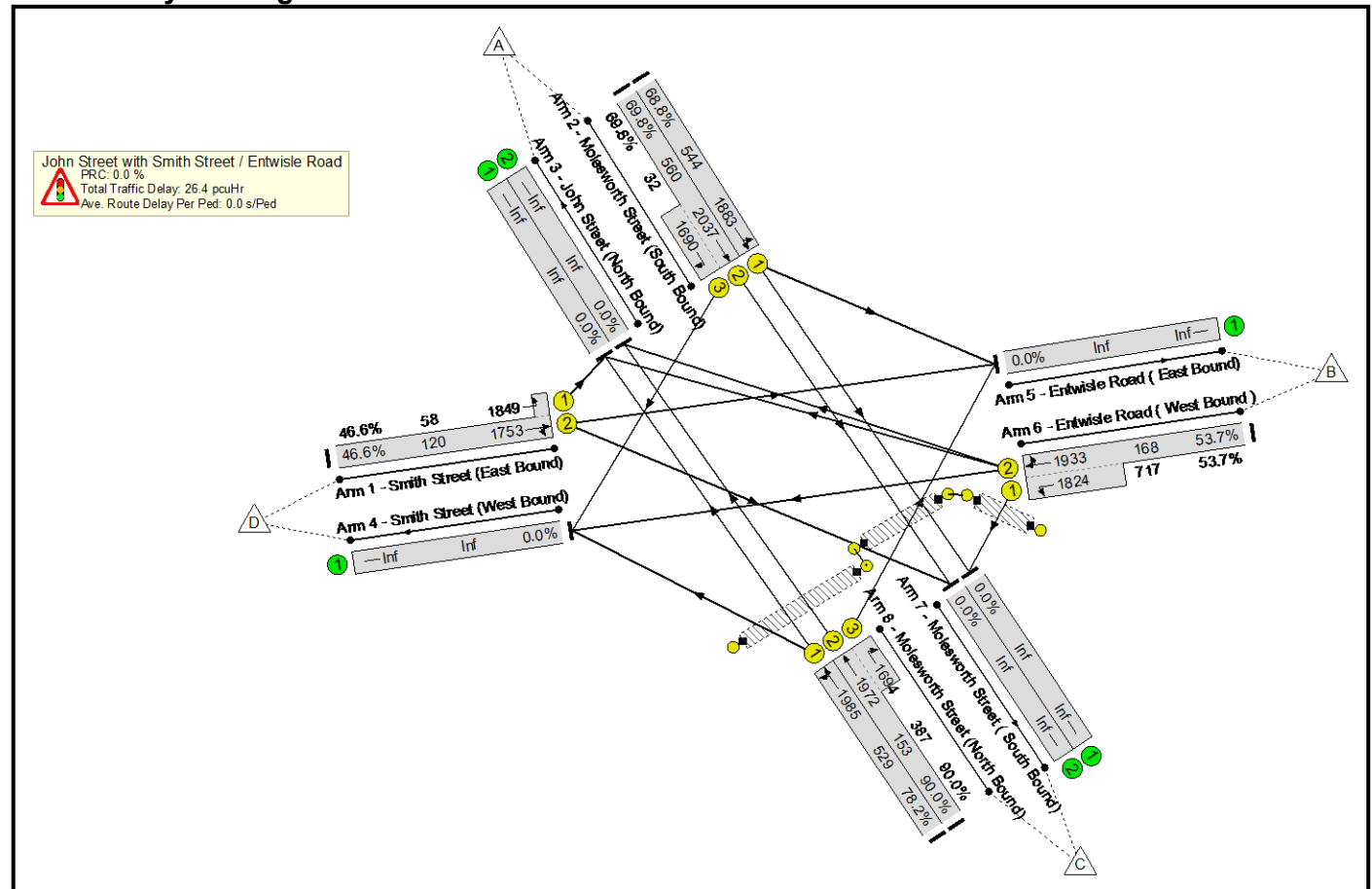
Basic Results Summary

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: A671 John St/Molesworth St/B6266 Entwisle Rd/Smith St Modelling	-	-	-		-	-	-	-	-	-	96.8%	0	0	0	42.8	-	-
John Street with Smith Street / Entwisle Road	-	-	-		-	-	-	-	-	-	96.8%	0	0	0	42.8	-	-
1/2+1/1	Smith Street (East Bound) Left Ahead Right	U	C		1	21	-	121	1753:1849	231+110	35.4 : 35.4%	-	-	-	1.7	50.4	3.3
2/1	Molesworth Street (South Bound) Left Ahead	U	A		1	26	-	401	1883	439	91.3%	-	-	-	9.3	83.2	17.2
2/2+2/3	Molesworth Street (South Bound) Right Ahead	U	A		1	26	-	447	2037:1690	432+30	96.8 : 96.8%	-	-	-	13.2	106.2	21.8
6/2+6/1	Entwisle Road (West Bound) Right Ahead Left	U	D E		1	17:54	-	472	1933:1824	173+723	52.7 : 52.7%	-	-	-	4.2	32.2	9.8
8/1	Molesworth Street (North Bound) Ahead Left	U	B		1	32	-	392	1985	546	71.8%	-	-	-	5.5	50.8	13.0
8/2+8/3	Molesworth Street (North Bound) Ahead Right	U	B		1	32	-	487	1972:1694	179+370	88.7 : 88.7%	-	-	-	8.9	65.9	17.2
Ped Link: P1	Unnamed Ped Link	-	H		1	74	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P2	Unnamed Ped Link	-	I		1	50	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P3	Unnamed Ped Link	-	J		1	55	-	0	-	0	0.0%	-	-	-	-	-	-

Basic Results Summary

C1 - 1315	PRC for Signalled Lanes (%):	-7.5	Total Delay for Signalled Lanes (pcuHr):	42.81	Cycle Time (s):	120
	PRC Over All Lanes (%):	-7.5	Total Delay Over All Lanes(pcuHr):	42.81		

Network Layout Diagram



Basic Results Summary

Network Results

Basic Results Summary

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: A671 John St/Molesworth St/B6266 Entwisle Rd/Smith St Modelling	-	-	-		-	-	-	-	-	-	90.0%	0	0	0	26.4	-	-
John Street with Smith Street / Entwisle Road	-	-	-		-	-	-	-	-	-	90.0%	0	0	0	26.4	-	-
1/2+1/1	Smith Street (East Bound) Left Ahead Right	U	C		1	7	-	83	1753:1849	120+58	46.6 : 46.6%	-	-	-	1.3	57.2	1.9
2/1	Molesworth Street (South Bound) Left Ahead	U	A		1	25	-	374	1883	544	68.8%	-	-	-	4.0	38.9	9.3
2/2+2/3	Molesworth Street (South Bound) Right Ahead	U	A		1	25	-	413	2037:1690	560+32	69.8 : 69.8%	-	-	-	4.4	38.2	9.9
6/2+6/1	Entwisle Road (West Bound) Right Ahead Left	U	D E		1	11:39	-	475	1933:1824	168+717	53.7 : 53.7%	-	-	-	3.3	25.4	7.5
8/1	Molesworth Street (North Bound) Ahead Left	U	B		1	23	-	414	1985	529	78.2%	-	-	-	5.3	45.7	11.3
8/2+8/3	Molesworth Street (North Bound) Ahead Right	U	B		1	23	-	486	1972:1694	153+387	90.0 : 90.0%	-	-	-	8.0	59.6	14.1
Ped Link: P1	Unnamed Ped Link	-	H		1	53	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P2	Unnamed Ped Link	-	I		1	35	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P3	Unnamed Ped Link	-	J		1	40	-	0	-	0	0.0%	-	-	-	-	-	-

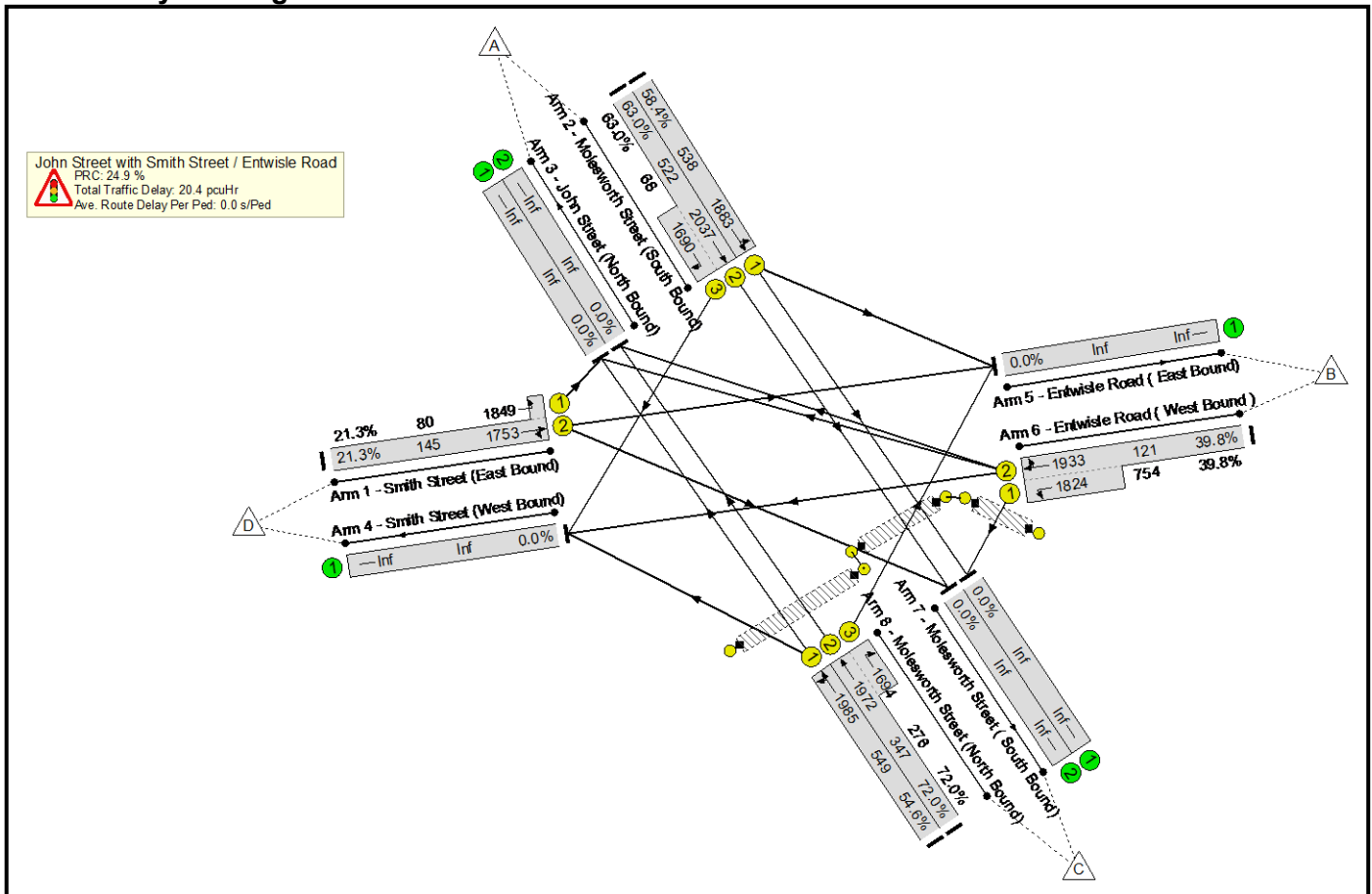
Basic Results Summary

C1 - 1315	PRC for Signalled Lanes (%):	0.0	Total Delay for Signalled Lanes (pcuHr):	26.38	Cycle Time (s):	90
	PRC Over All Lanes (%):	0.0	Total Delay Over All Lanes(pcuHr):	26.38		

Basic Results Summary

Scenario 7: 'Base + Starbucks + CD AM Peak' (FG7: 'Base + Starbucks + CD AM Peak', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Network Results

Basic Results Summary

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: A671 John St/Molesworth St/B6266 Entwisle Rd/Smith St Modelling	-	-	-		-	-	-	-	-	-	72.0%	0	0	0	20.4	-	-
John Street with Smith Street / Entwisle Road	-	-	-		-	-	-	-	-	-	72.0%	0	0	0	20.4	-	-
1/2+1/1	Smith Street (East Bound) Left Ahead Right	U	C		1	12	-	48	1753:1849	145+80	21.3 : 21.3%	-	-	-	0.7	54.6	1.0
2/1	Molesworth Street (South Bound) Left Ahead	U	A		1	31	-	314	1883	538	58.4%	-	-	-	3.7	42.3	9.1
2/2+2/3	Molesworth Street (South Bound) Right Ahead	U	A		1	31	-	372	2037:1690	522+68	63.0 : 63.0%	-	-	-	4.4	42.4	10.1
6/2+6/1	Entwisle Road (West Bound) Right Ahead Left	U	D E		1	15:50	-	348	1933:1824	121+754	39.8 : 39.8%	-	-	-	2.5	26.4	6.4
8/1	Molesworth Street (North Bound) Ahead Left	U	B		1	30	-	300	1985	549	54.6%	-	-	-	3.5	41.7	8.5
8/2+8/3	Molesworth Street (North Bound) Ahead Right	U	B		1	30	-	449	1972:1694	347+276	72.0 : 72.0%	-	-	-	5.5	44.5	10.6
Ped Link: P1	Unnamed Ped Link	-	H		1	68	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P2	Unnamed Ped Link	-	I		1	46	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P3	Unnamed Ped Link	-	J		1	51	-	0	-	0	0.0%	-	-	-	-	-	-

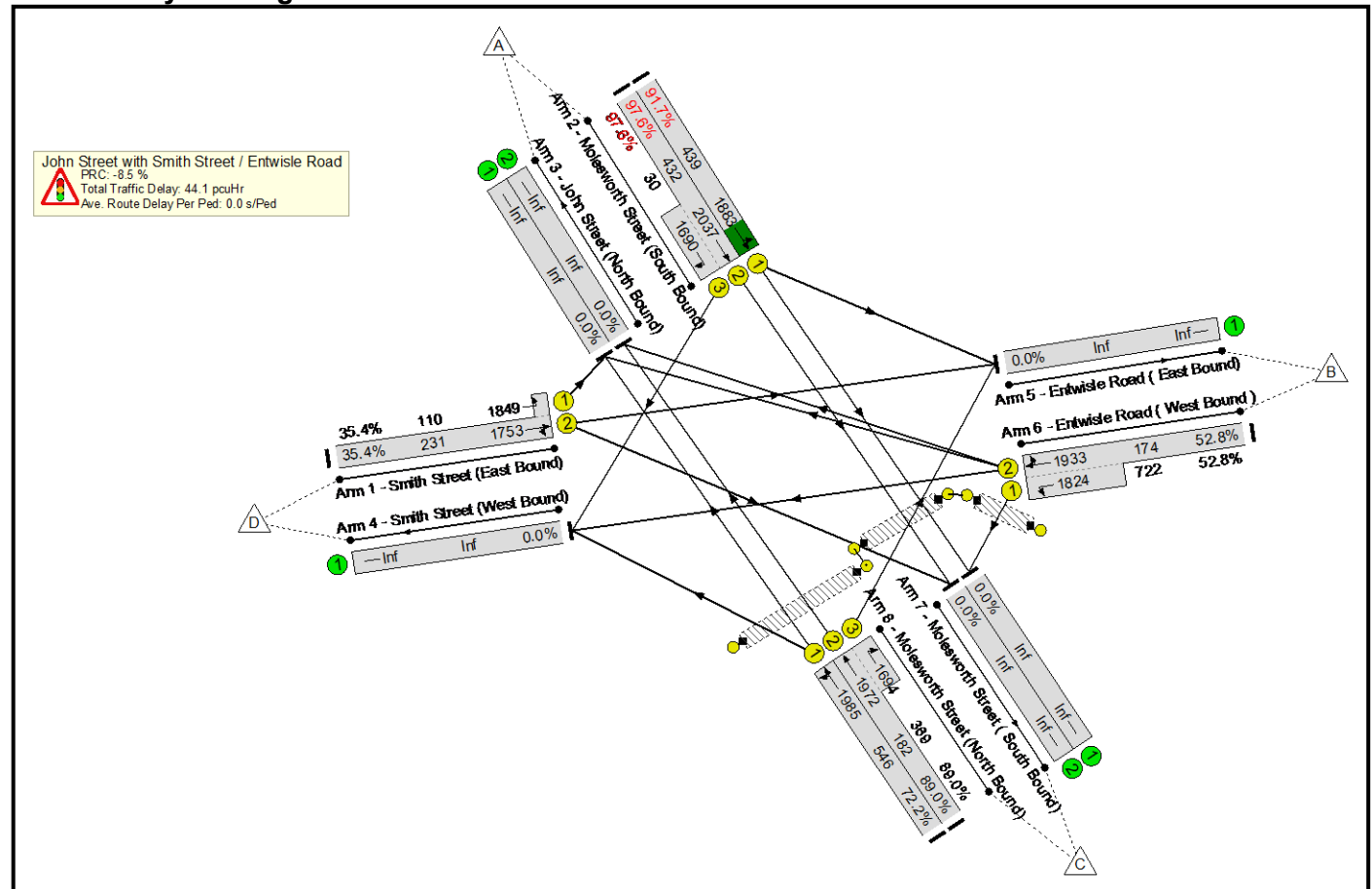
Basic Results Summary

C1 - 1315	PRC for Signalled Lanes (%):	24.9	Total Delay for Signalled Lanes (pcuHr):	20.37	Cycle Time (s):	112
	PRC Over All Lanes (%):	24.9	Total Delay Over All Lanes(pcuHr):	20.37		

Basic Results Summary

Scenario 8: 'Base + Starbucks + CD PM Peak' (FG8: 'Base + Starbucks + CD PM Peak', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Network Results

Basic Results Summary

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: A671 John St/Molesworth St/B6266 Entwisle Rd/Smith St Modelling	-	-	-		-	-	-	-	-	-	97.6%	0	0	0	44.1	-	-
John Street with Smith Street / Entwisle Road	-	-	-		-	-	-	-	-	-	97.6%	0	0	0	44.1	-	-
1/2+1/1	Smith Street (East Bound) Left Ahead Right	U	C		1	21	-	121	1753:1849	231+110	35.4 : 35.4%	-	-	-	1.7	50.4	3.3
2/1	Molesworth Street (South Bound) Left Ahead	U	A		1	26	-	403	1883	439	91.7%	-	-	-	9.5	84.6	17.5
2/2+2/3	Molesworth Street (South Bound) Right Ahead	U	A		1	26	-	451	2037:1690	432+30	97.6 : 97.6%	-	-	-	14.0	111.9	22.8
6/2+6/1	Entwisle Road (West Bound) Right Ahead Left	U	D E		1	17:54	-	473	1933:1824	174+722	52.8 : 52.8%	-	-	-	4.2	32.3	9.8
8/1	Molesworth Street (North Bound) Ahead Left	U	B		1	32	-	394	1985	546	72.2%	-	-	-	5.6	51.0	13.1
8/2+8/3	Molesworth Street (North Bound) Ahead Right	U	B		1	32	-	490	1972:1694	182+369	89.0 : 89.0%	-	-	-	9.1	66.5	17.4
Ped Link: P1	Unnamed Ped Link	-	H		1	74	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P2	Unnamed Ped Link	-	I		1	50	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P3	Unnamed Ped Link	-	J		1	55	-	0	-	0	0.0%	-	-	-	-	-	-

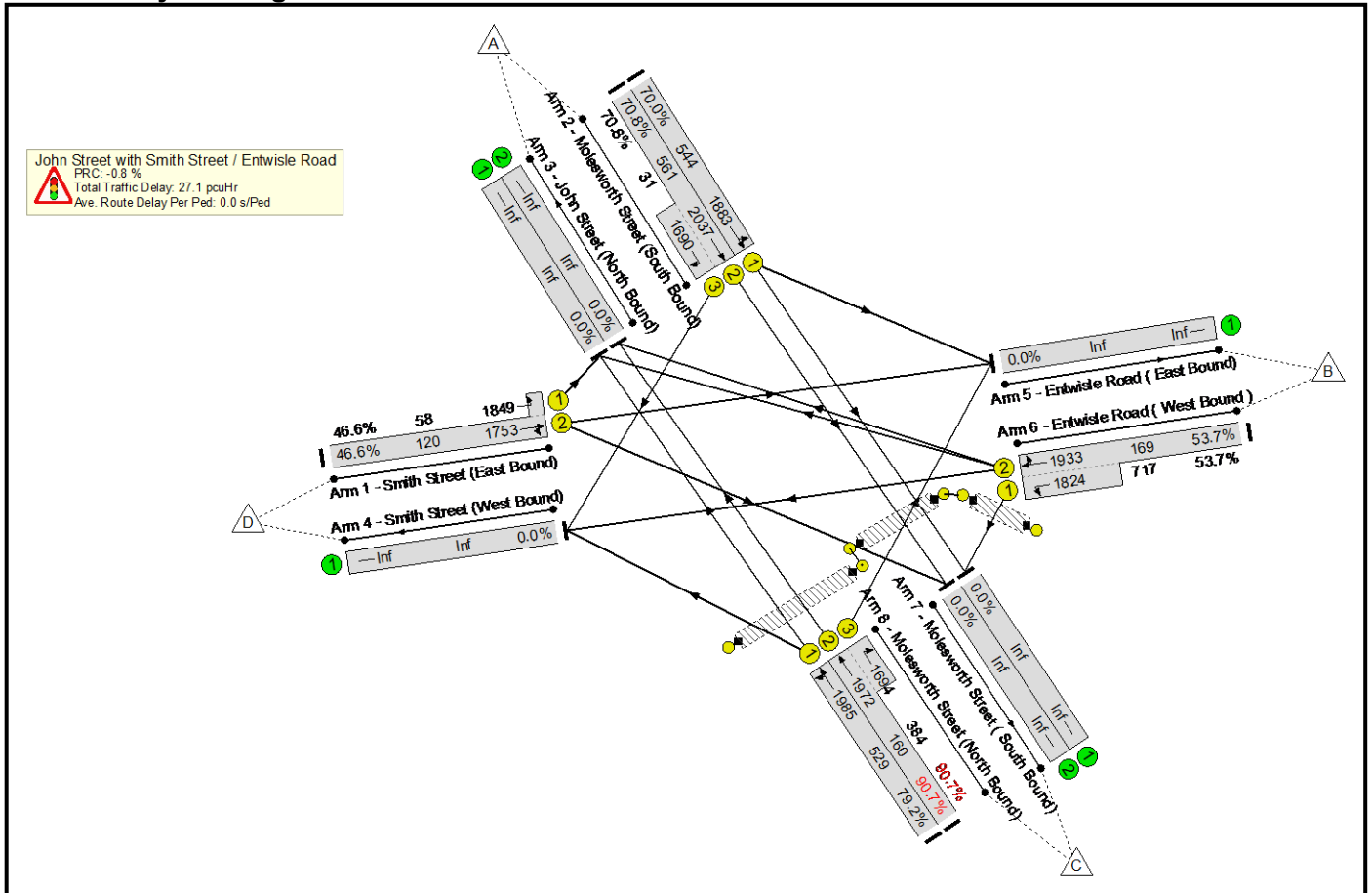
Basic Results Summary

C1 - 1315	PRC for Signalled Lanes (%):	-8.5	Total Delay for Signalled Lanes (pcuHr):	44.07	Cycle Time (s):	120
	PRC Over All Lanes (%):	-8.5	Total Delay Over All Lanes(pcuHr):	44.07		

Basic Results Summary

Scenario 9: 'Base + Starbucks + CD Weekend Peak' (FG9: 'Base + Starbucks + CD Weekend Peak', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Network Results

Basic Results Summary

Item	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network: A671 John St/Molesworth St/B6266 Entwisle Rd/Smith St Modelling	-	-	-		-	-	-	-	-	-	90.7%	0	0	0	27.1	-	-
John Street with Smith Street / Entwisle Road	-	-	-		-	-	-	-	-	-	90.7%	0	0	0	27.1	-	-
1/2+1/1	Smith Street (East Bound) Left Ahead Right	U	C		1	7	-	83	1753:1849	120+58	46.6 : 46.6%	-	-	-	1.3	57.2	1.9
2/1	Molesworth Street (South Bound) Left Ahead	U	A		1	25	-	381	1883	544	70.0%	-	-	-	4.2	39.4	9.6
2/2+2/3	Molesworth Street (South Bound) Right Ahead	U	A		1	25	-	419	2037:1690	561+31	70.8 : 70.8%	-	-	-	4.5	38.6	10.2
6/2+6/1	Entwisle Road (West Bound) Right Ahead Left	U	D E		1	11:39	-	476	1933:1824	169+717	53.7 : 53.7%	-	-	-	3.4	25.4	7.5
8/1	Molesworth Street (North Bound) Ahead Left	U	B		1	23	-	419	1985	529	79.2%	-	-	-	5.4	46.5	11.5
8/2+8/3	Molesworth Street (North Bound) Ahead Right	U	B		1	23	-	493	1972:1694	160+384	90.7 : 90.7%	-	-	-	8.4	61.1	14.5
Ped Link: P1	Unnamed Ped Link	-	H		1	53	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P2	Unnamed Ped Link	-	I		1	35	-	0	-	0	0.0%	-	-	-	-	-	-
Ped Link: P3	Unnamed Ped Link	-	J		1	40	-	0	-	0	0.0%	-	-	-	-	-	-

Basic Results Summary

C1 - 1315	PRC for Signalled Lanes (%):	-0.8	Total Delay for Signalled Lanes (pcuHr):	27.13	Cycle Time (s):	90
	PRC Over All Lanes (%):	-0.8	Total Delay Over All Lanes(pcuHr):	27.13		

Arcadis Consulting (UK) Limited
Suite 1A
Four Piccadilly Place
Manchester
M1 3BN
United Kingdom
Phone: +44 161 245 8700

www.arcadis.com