

Transport Assessment

Proposed Discount Foodstore George Richards Way, Altrincham

Orchard Street Investment Management Ltd & Lidl Great Britain Ltd

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1.0 INTRODUCTION

Overview

- 1.1 SCP have been appointed by Orchard Street Investment Management Ltd and Lidl Great Britain Ltd to provide specialist transport planning and engineering advice in support of their proposed development for a new food store, new egress and associated car parking located at Altrincham Retail Park, off George Richards Way, Altrincham.
- 1.2 This Transport Assessment (TA) provides details on the previously submitted planning application and provides the supporting information necessary to enable the impact of the proposal to be properly determined. The report assesses the capacity of the retail park / George Richards Way signalised junction and the A56 Manchester Road / George Richards Way signalised junction.
- 1.3 This TA has been prepared to support a detailed planning application and it has been produced in accordance with the Department for Transport's (DfT's) March 2007 "Guidance on Transport Assessment" document (now superseded, but still good practice in many respects) and the Planning Practice Guidance (PPG) "Transport Evidence in Plan Making" document.

Relevant Planning History

- 1.4 A planning application for the site was previously submitted on the 26th June 2019 (planning reference: 98127/FUL/19).
- 1.5 The proposal was for: "Extension, refurbishment and subdivision of the existing Homebase store to provide a downsized unit for Homebase and a new Class A1 food retail unit. The application also proposes the relocation of the Homebase garden centre, the reconfiguration of the existing car park and associated landscaping, and the creation of a new egress from the site."
- 1.6 The application was supported by a Draft Travel Plan, Transport Assessment and subsequent Highway Technical Notes.
- 1.7 The application was refused on 17th July 2020 with the following reasons given:

"1 There is a sequentially preferable site which is available within a reasonable period and also potentially suitable to accommodate the proposed foodstore development. When demonstrating flexibility on issues such as format and scale, it has not been adequately demonstrated by the applicant that this alternative site is not suitable. As such, it is considered that the application



proposal fails to satisfy the sequential test at paragraph 86 of the NPPF and thus a reason to refuse the application at paragraph 90 of the NPPF applies. The proposal is also contrary to saved Policy S11 of the Revised Trafford Unitary Development Plan and Policy W2 of the Trafford Core Strategy

2 The proposed development involves the introduction of a new point of egress for customer traffic onto George Richards Way which has the potential to introduce significant vehicular conflict. It has not been adequately demonstrated by the applicant that this would not have an unacceptable impact on highway safety and thus a reason to refuse the application at paragraph 109 of the NPPF applies. The proposal is also contrary to Policy L4 of the Trafford Core Strategy."

1.8 More specifically, in terms of highway matters, Trafford Council's concerns regarding highway safety related to the potential for lane changing manoeuvres on George Richards Way in the vicinity of the proposed egress. Further evidence to demonstrate that there would be no unacceptable impact on highway safety was requested by Trafford Council from the applicant prior to the July committee meeting. The applicant considered that there was sufficient information already before the Council for a positive recommendation to be made and so the decision was taken not to make any further technical submissions at that time.

Further Consultation with the LHA and TfGM

- 1.9 Following the refusal of the previous application, the list of further information requested by the Council was revisited and meetings were held with officers of Trafford Council and of Transport for Greater Manchester (TfGM) to examine the extent to which further technical submissions would be required. The following items were discussed:-
 - Further site surveys to determine the level of vehicle lane change manoeuvres and the point at which drivers commence changing lane on approach to the Manchester Road junction;
 - Microsimulation modelling in order to ascertain gaps in traffic flow along George Richards Way;
 - Further analysis of collision data, including regarding collision type and the contributory factors; and
 - Further tracking information for cars and light goods vehicles when making a right turn from the car park onto the proposed egress.



1.10 All information requested and listed above has now been discussed and provided to the LHA. Details of the findings are given below.

Site Surveys

- 1.11 Video surveys were commissioned by SCP to take place on Saturday 8th August 2020 in order to observe the vehicle movements at the retail junction and at the location of the proposed egress, in particular to observe the level of weaving taking place.
- 1.12 The locations of the cameras are shown on the plan in **Figure 1.1** below.

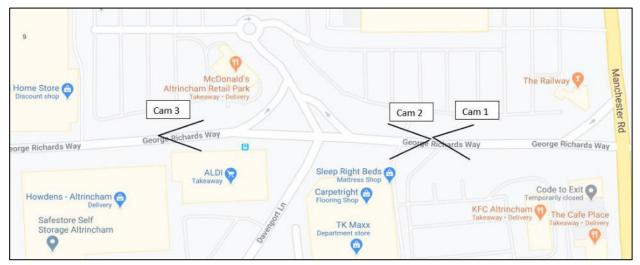


Figure 1.1: Camera Location

Source: Nationwide Data Collection

- 1.13 The level of lane changing taking place along George Richards Way in the vicinity of the proposed egress has been assessed by analysis of video footage from Camera 1 during the Saturday peak hour (12:00 13:00). The full video footage has been made available to the LHA.
- 1.14 A vehicle was counted as changing lane only if they entered the camera view in the offside lane and proceeded to change into the nearside lane whilst still in camera view. Vehicles changing from nearside to offside lane were not counted since that movement is away from the point at which traffic may emerge from the site, not towards it. The camera view is shown in Figure 1.2 below.



Figure 1.2: View from Camera 1



1.15 Of the 239 vehicles observed travelling eastbound along George Richards Way in the offside lane between 12pm and 1pm on the given day, 34 vehicles changed into the nearside lane whilst in the camera view. This equates to approximately 14% of all eastbound vehicles in that period, but more importantly, just one vehicle movement every two minutes. This is not considered to be indicative of a significant last-minute lane-changing behaviour, particular for such an urban location. Furthermore, given that it is unlikely for a car to emerge from the egress if there is any oncoming traffic in either lane, the level of lane-changing taking place does not suggest any cause for concern in terms of highways safety.

Microsimulation Modelling

1.16 Various Vissim model simulations have been presented to the LHA, all of which illustrate that there are more than adequate gaps within the eastbound traffic flow and that vehicles using the proposed egress experience minimal delay when accessing the road network under the current two-lane configuration of George Richards Way.

Collision Data

1.17 Collision data has been presented to the LHA with the details included in Section 3 of this TA.

Tracking Information

- 1.18 Swept path analysis of various vehicles using the internal layout and proposed egress have been undertaken and are presented within this TA.
- 1.19 This TA sets out further amendments to the proposed egress which have been developed through close consultation with the LHA and which demonstrate that there is no highway-related reason to withhold planning permission for the scheme.



Report Structure

- 1.20 The scope and content of this report is set out as follows:
 - Section 2 reviews the relevant national transport planning policy applicable to the site;
 - Section 3 describes the existing site and provides a review of local accident analysis for the local highway network;
 - Section 4 provides a review of the current site accessibility;
 - Section 5 provides a detailed description of the development proposal including parking provision, access arrangements and circulation;
 - Section 6; provides a forecast of the site's likely trip generation and how this is likely to distribute onto the local highway network;
 - Section 7 provides forecast capacity assessments of the local highway network to review the potential impacts of the proposed development on the local highway infrastructure, and;
 - Section 8 provides a summary and concludes the report.

2.0 TRANSPORT PLANNING POLICY

2.1 This section of the report reviews the national, regional and local transport policy considered relevant to the proposed site and development.

National Transport Policy

The National Planning Policy Framework (NPPF) (2019)

- 2.2 On 19th February 2019, the Ministry of Housing, Communities and Local Government published a new National Planning Policy Framework (NPPF), which replaced the document that was first published on 27th March 2012 and updated on 24th July 2018.
- 2.3 The new NPPF in paragraph 103 states that "significant development should be focused in locations which are or can be made sustainable, through limiting the need to travel and offering a genuine choice of transport modes. This can help reduce congestion and emissions and improve air quality and public health. However, opportunities to maximise sustainable transport solutions will vary between urban and rural areas, and this should be taken into account in both plan-making and decision making."
- 2.4 In paragraph 108 the NPPF states that when considering planning applications, it should be ensured that:
 - Appropriate opportunities to promote sustainable transport can be or have been taken up, given the location and type of development;
 - Safe and suitable access to the site can be achieved for all users; and
 - Any significant impacts from the development on the transport network (in terms of capacity and congestion), or on highway safety, can be cost effectively mitigated to an acceptable degree.
- 2.5 NPPF paragraph 109 states that "Development should only be prevented or refused on highway grounds if there would be an unacceptable impact on highway safety, or the residual cumulative impacts on the road network would be severe".
- 2.6 In relation to paragraph 109, developments should be in accordance with paragraph 110, which states:
 - Give priority first to pedestrians and cycle movements, both within the scheme and with neighbouring areas; and second so far as possible to facilitating access to high quality

public transport, with layouts that maximise the catchment area for bus or other public transport services, and appropriate facilities that encourage public transport use;

- Address the needs of people with disabilities and reduce mobility in relation to all modes of transport;
- Create places that are safe, secure and attractive which minimise the scope for conflicts between pedestrians, cyclists and vehicles, avoid unnecessary street clutter, and respond to local character and design standards;
- Allow for the efficient delivery of goods, and access by service and emergency vehicles; and
- Be designed to enable charging of plug-in and other ultra-low emission vehicles in safe, accessible and convenient locations.
- 2.7 Paragraph 111 of the NPPF states that all developments that will generate significant amounts of movement should be required to provide a travel plan, and the application should be supported by a transport statement or transport assessment so that the likely impacts of the proposal can be assessed.

Summary

2.8 In the previously application, the scheme was found to be compliant with all transport policy with the exception of Paragraph 109 of the NPPF in respect of the highway safety and impact of the proposed egress on the road network. This TA now provides further information to illustrate that the proposed development is compliant with all relevant transport planning policies and can help contribute to their objectives.



3.0 EXISTING CONDITIONS

The Site

- 3.1 The Application Site is located approximately 1.6km to the north west of Altrincham town centre, within Altrincham Retail Park, a commercial zone within the Broadheath area. The site is currently occupied by Homebase.
- 3.2 **Figure 3.1** and **Figure 3.2** show the location of the site in relation to its surroundings in its local and wider context.



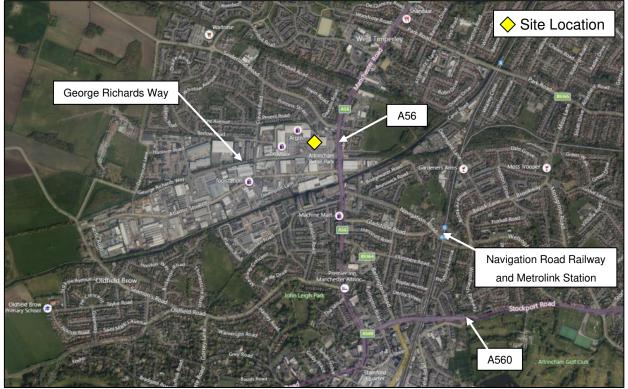
Figure 3.1: Site Location – Local Context Plan

Source: Google Earth

- 3.3 The application site and other units within the retail park are accessed via the signalised junction with George Richards Way and then via a mini-roundabout into the car park area. Pedestrians access the site from George Richards Way and the A56, Manchester Road.
- 3.4 The units are serviced from the service yard to the north of the retail park, via Craven Road.



Figure 3.2: Site Location – Wider Context Plan



Source: Bing Maps

3.5 **Figure 3.2** shows the site in its wider context. The surrounding area comprises a mix of commercial uses including warehousing, industrial and retail uses. To the immediate north lie residential properties.

Surrounding Highway Network

A56 Manchester Road

- 3.6 The A56 runs north-south to the east of the application site and connects the site with Sale to the north and Altrincham to the south. The single carriageway road varies in width, has a 30mph speed limit in the vicinity of the site and has footways on both sides of the carriageway.
- 3.7 In the vicinity of the site, the A56 has two lanes in each direction which widen to three northbound lanes and four southbound lanes at the approach to the A56 / George Richards Way signalised junction, with two of southbound lanes being dedicated right turn lanes onto George Richards Way.

George Richards Way

3.8 George Richards Way runs east-west to the south of the application site from its priority junction with Baltic Road and Dairyhouse Lane to the west to its signalised junction with Manchester



Road and Viaduct Road to the east. Footways and street lighting are provided along both sides of the carriageway. Within the vicinity of the site there are double yellow lines on both sides of the carriageway to prevent on-street parking.

3.9 The single point of access to and egress from the application site is currently obtained via the signalised junction with George Richards Way and Davenport Lane, circa 170m to the west of the A56.

Traffic Surveys

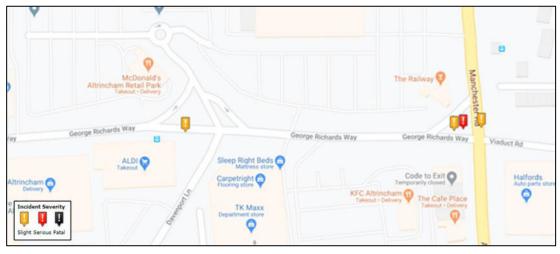
- 3.10 Traffic surveys were commissioned to record peak hour classified turning counts at the following junctions:
 - George Richards Way / A56 / Viaduct Road signalised junction
 - George Richards Way / Davenport Lane / Retail park signalised junction
 - George Richards Way / southern retail park access
- 3.11 The traffic surveys were undertaken on Friday 13th March 2016 between 16:00 and 19:00, and Saturday 14th March 2016 between 11:00 and 17:00.
- 3.12 It is agreed with the LHA that these traffic surveys remain fit for the purpose of baseline and with-development capacity assessment at the retail park and Manchester Rd junctions with George Richards Way.

Personal Injury Collision Analysis

3.13 Personal injury collision (PIC) records have been obtained from Crashmap for the period from January 2015 to December 2019, which represents the most recent five year data period currently available. The study area includes George Richards Way within the vicinity of the site and its junctions with the retail park and Manchester Road. The PIC data and study area is shown in **Figure 3.3**.



Figure 3.3: PIC Plan



Source: Crashmap

3.14 Of the four collisions, three occurred outside of Lidl trading hours (8am-10pm). Further details for each of the collisions are given in **Table 3.1**.

Location	Date & Time	Severity	Numberofvehicles/Numberofcasualties	Weather	Details
GRW / Retail Park Junction	Tuesday 27 th October 2015 07:30AM	Slight	One Vehicle One Pedestrian	Fine conditions Dry Daylight	Vehicle in the act of turning left collided (nearside) with a pedestrian who was using the crossing facility to cross from the driver's offside.
GRW / Manchester Rd Junction	Thursday 5 th January 2017 13:58PM	Slight	Two Vehicles (HGV over 7.5t and Other vehicle) One casualty (driver of Other vehicle)	Fine conditions Dry Daylight	HGV and other vehicle proceeding normally along the carriageway. Nearside of HGV collided with front of other vehicle. Driver of other vehicle, who was aged over 75, recorded a slight injury.
GRW / Manchester Rd Junction	Tuesday 30 th May 2017 23:55PM	Slight	Two Vehicles (car and cycle) One casualty (cyclist)	Fine conditions Dry Darkness (streetlights present and lit)	Car in the act of turning right collided with cyclist who was proceeding normally along the carriageway.
GRW / Manchester Rd	Friday 22 nd June	Serious	Two Vehicles (Car and Taxi) One serious casualty	Fine conditions Dry	Taxi which was proceedingnormallyalongthecarriagewaycollided

Table 3.1: Collision Data



Junction	2018	(Driver of car)	Darkness	car which was in the act of
	22:30PM	Four slight casualties (3	(streetlights	turning right.
		passengers in the car	present and lit)	
		and driver of the taxi)		

3.15 Given the scale of the junctions and the existing traffic flows, this is not considered to be an excessive number of collisions within the five year study period. Furthermore, there are no recorded collisions within the immediate vicinity of the proposed egress. It is therefore considered that there are no existing safety problems associated with the road network surrounding the application site. It is not anticipated that the traffic associated with the proposed development would result in any significant safety implications on the adjacent highway network.



4.0 ACCESSIBILITY

- 4.1 An overview of the accessibility of the site if provided within the previous TA.
- 4.2 In summary;
 - Footways in the vicinity of the site are at least 2m wide with sufficient crossing facilities on George Richards Way at the retail park signalised junction and the A56 signalised junction.
 - There are pedestrian walkways along the retail frontage of all units with zebra crossings at appropriate locations to connect pedestrians to the local pedestrian network.
 - There is a shared footway / cycleway along the southern side of George Richards Way and advanced cycle stop lines at the George Richards Way / Manchester Road junction.
 - Within the retail park there is cycle parking for up to 8 bicycles at the Homebase entrance, cycle parking for up to 14 bicycles to the south west corner of the Homebase building and cycle parking for a further 20 bicycles to the west of Currys PC World.
 - The closest bus stop is located to the east of the Application Site on Manchester Road, within 150m of the proposed store entrances. The stop is served by numerous bus routes, with typically over 10 services an hour during the day. Destinations include Piccadilly Gardens, The Trafford Centre, Sale and Wythenshawe.
 - A further bus stop is located adjacent to ALDI on George Richards Way with hourly departures to Warrington.
 - The nearest rail services are at Navigation Road, a circa 1.1km walk from the proposed store entrance. The station is served by trains operated by Northern with regular services to Manchester Piccadilly and Chester.
- 4.3 Overall, it is considered that the site has excellent levels of accessibility by non-car modes.

5.0 PROPOSED DEVELOPMENT

- 5.1 The proposals include partial reconfiguration of Unit 1 and the garden centre to create two units along with alterations to the service yard and the construction of a new garden centre, with Homebase downsizing and the new Unit 1A to be occupied by an A1 discount foodstore.
- 5.2 Unit 1 currently has a Gross Floor Area (GFA) of 5,016sqm plus a garden centre. The proposals will result in Unit 1 reducing to 3,612sqm plus the garden centre, and Unit 1A a GFA of 1,858sqm with a net sales area of 1,272sqm.
- 5.3 The proposed internal site layout (the site egress will be discussed later) is shown in **Figure 5.1** and provided to scale in **Appendix 1**.

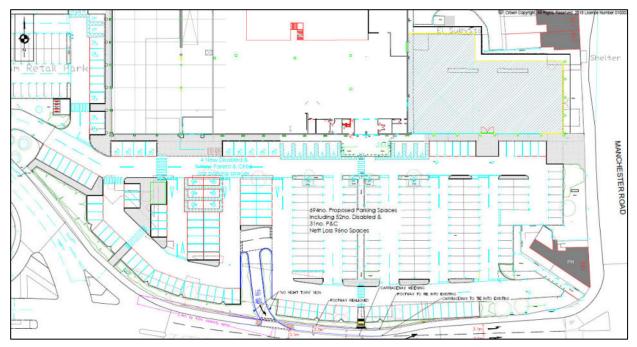


Figure 5.1: Proposed Internal Site Layout

Source: The Harris Partnership

Access Arrangements

Customer/Staff Access

- 5.4 Customer/Staff vehicular access will continue to be taken from George Richards Way and then via a mini-roundabout into the car park area.
- 5.5 The proposals include the reconfiguration of the existing car park in front of the Lidl unit and the inclusion of a new left-turn only egress onto George Richards Way eastbound between the main retail park access and Manchester Road.

- 5.6 Drawing number "SCP/190052/SK08 Rev C", within **Appendix 2**, provides a scale plan of the proposed egress.
- 5.7 Amendments to the proposed egress, when compared to the December 2019 highway submission (planning reference: 98127/FUL/19) may be summarised as follows:-
 - The egress is now positioned approximately 10m further west, and therefore further away from the start of the left turn lane to Manchester Road north;
 - The central traffic island has been extended to the west to prevent right turns into and out of the egress; and
 - The design of the ramp has been reconfigured and lengthened to provide a gradient of no more than 1:20.
- 5.8 A visibility splay for the proposed egress that has an 'x' (minor arm setback distance) of 2.4m and a 'y' (major road visibility) distance of 43m is shown in "SCP/190052/SK08 Rev C". The splay bisects a small section of guardrail on the radius out of the retail park, shown in Figure 5.2 below.



Figure 5.2: Guard Rail on George Richards Way

Source: Google Maps

- 5.9 **Figure 5.2** shows that you can clearly see vehicles through the guardrail, however, if the rail is considered to be an obstruction and the removal of that section was considered necessary, there is guardrail on the other side to still prevent anyone from crossing at that location.
- 5.10 Swept path analysis of the internal layout and egress is shown at "SCP/190052/ATRSK08 Rev C" in **Appendix 2**. The plan shows that vehicles including a 7.5t box van are able to use the

proposed egress, although it is expected most vehicles using the egress will be smaller than this.

5.11 Pedestrian access to the site will be provided at the existing location on Manchester Road, to the east of the application site and at two locations on George Richards Way; one at the existing access point to the north east of the retail park signalised junction, and the other directly south of the Homebase store entrance and in between the two existing pedestrian access points which will be closed. Once within the site, appropriate pedestrian routes to the store entrances are provided with suitable crossing points across car park aisles.

Servicing

- 5.12 Both units will be serviced from the service yard to the north of the units with access as per existing via Craven Road.
- 5.13 It is unlikely that there will be any change in the deliveries associated with the Homebase.
- 5.14 Deliveries to the Lidl will be made by articulated lorry. Drawings SCP/190052/ATR01 Rev A and SCP/190052/ATR02 Rev A in **Appendix 2** illustrates the swept path analysis of a 16.5m long articulated lorry with tail left entering the service yard, turning within the service yard, reversing into the service area and then exiting the service yard in a forward gear.
- 5.15 It is anticipated that there will be one to two dedicated deliveries per average day and up to three deliveries during seasonal peak periods, such as Easter and Christmas. Recycling and waste will be taken away by the same delivery vehicles, reducing the number of vehicles visiting the store per day.
- 5.16 Deliveries will typically take place outside the normal highway peak hours to minimise any disruption or conflict with surrounding residents.

Parking

Parking Standards and Provision

- 5.17 There is currently parking for up to 790 cars including 48 disabled car parking bays and 18 spaces for families with children.
- 5.18 ANPR data was gathered at the entrance of the car park to measure the existing occupancy levels on a typical Wednesday and Saturday. The data revealed a peak of 278 spaces (35%) occupied on the Wednesday and 345 spaces (47%) occupied on the Saturday.

- 5.19 The proposals will result in the loss of 96 spaces from the eastern car park thereby reducing the overall number of spaces to 694. In summary, there would be 4 additional spaces allocated for disabled users, 10 additional spaces allocated for families with children and 110 fewer standard spaces. All proposed disabled and parent and child spaces will be clearly marked and positioned close to the store entrances.
- 5.20 The previous submitted TA showed that the proposed LIDL is expected to generate a demand for up to 84 spaces on a Saturday which suggests a peak demand of 429 spaces for the entire car park, just over 60% of the total capacity.
- 5.21 The data also demonstrates that there is sufficient additional space within the car park to accommodate particularly busy periods such as Easter and Christmas. Peak trading times at Christmas and Easter typically generate up to 10% additional custom and lead to an increase in the average length of stay. Therefore, although the proposed development will result in an increased demand for parking, the availability of spaces under normal and peak trading conditions will be unaffected.
- 5.22 Within the application site there are 11 Sheffield stands; 4 located at the existing Homebase entrance and 7 to the south west corner of the existing garden centre.
- 5.23 The proposals include the removal of the 7 stands located on the south west corner. These will be replaced with 8 stands; 4 located to the west of the proposed store and 4 located to the south of the proposed store entrance. The 4 stands located at the Homebase entrance will be retained. The stands are in full view of the car park and will therefore be under continuous surveillance while the stores are trading.
- 5.24 The current parking standards for Trafford for A1 land use are set out in **Table 5.1**.

Standards for A1	Vehicle (Maximum)	Cycle (Minimum)	Disabled (Minimum)			
land use	Food store	Food store Food store		Over 200		
A1 Food Retail (1,858sqm)	1 space per 14 sqm	1 space per 140sqm Minimum of 2 spaces	3 bays of 6%, whichever is greater	4 bays plus 4% of total capacity		
Provision	132	13	8	N/A		
		Application site				
Provision	Included within wider car park	16	6	N/A		

Table 5.1: Greater Manchester Parking standards and proposed development provision

5.25 **Table 5.1** demonstrates that the parking provision outlined above is in broad accordance with the requirements set out by the parking standards. Furthermore, assessment of the current car

park usage and the estimated future demand illustrates that the provisions are more than sufficient to accommodate demand.

5.26 **Table 5.1** indicates that there is a shortfall of 2 dedicated disabled parking spaces, however parent and child parking will also be available for blue badge holders as accessible spaces and therefore the total provision of new accessible spaces is 16.

6.0 TRIP GENERATION, DISTRIBUTION AND ASSIGNMENT

- 6.1 The trip generating potential for the proposed development was calculated within the previous TA. It was previously agreed that traffic growth factor would not be applied.
- 6.2 The trip rates and resultant flows for the existing and proposed uses for the weekday PM peak and Saturday peak hours are provided in **Table 6.1**, **Table 6.2** and **Table 6.3**.

Table 6.1: Existing Homebase Weekday PM and Saturday Peak Hour Trip Rates and Trip Generation (per 100m²)

Existing Homebase Estimated Weekday PM and Saturday Peak Hour Trip Rates and Trip Generation							
Cimilar Lidl Stores	Weekday PM Pea	ık (1700 1800)	Saturday Peak (1200 1300)				
Similar Lidl Stores	Arrivals Departures		Arrivals	Departures			
Vehicle Trip Rate	1.402	1.473	2.665	2.718			
Vehicle Trip Generation	88	92	166	170			

Table 6.2: Proposed Homebase Weekday PM and Saturday Peak Hour Trip Rates and Trip Generation (per 100m²)

Proposed Homebase Estimated Weekday PM and Saturday Peak Hour Trip Rates and Trip Generation							
Similar Lidl Stores	Weekday PM Pea	ık (1700 1800)	Saturday Peak (1200 1300)				
	Arrivals Departures		Arrivals	Departures			
Vehicle Trip Rate	1.402	1.473	2.665	2.718			
Vehicle Trip Generation	68	71	129	132			

Table 6.3: Proposed Lidl Weekday PM and Saturday Peak Hour Trip Rates and TripGeneration (per 100m² RFA)

Proposed LidI Estimated Weekday PM and Saturday Peak Hour Trip Rates and Trip Generation							
Similar Lidl Stores	Weekday PM Pea	ak (1700 1800)	Saturday Peak (1200 1300)				
	Arrivals	Departures	Arrivals	Departures			
Vehicle Trip Rate	3.91	3.965	6.023	6.449			
Vehicle Trip Generation	73	74	112	120			

- 6.3 **Table 6.1** shows that the existing Homebase is expected to generate 180 two-way trips during the PM peak and 336 two-way trips during the Saturday peak.
- 6.4 **Table 6.2** shows that the proposed Homebase is expected to generate 139 two-way trips during the PM peak and 261 two-way trips during the Saturday peak.
- 6.5 To provide a robust assessment it is assumed that there is no change to the number of trips to the Homebase, i.e. the existing trips observed within the traffic surveys are used.
- 6.6 **Table 6.3** shows that the proposed LIDL is expected to generate 147 two-way trips during the PM peak and 232 two-way trips during the Saturday peak.

Trip Types

- 6.7 The above flows do not take into account the presence of diverted, linked and pass-by trips. It was agreed within the previous TA that due to the quantum of retail and nature of the surrounding area and roads that the assumed trip types for the proposed LIDL are:
 - Diverted / Pass-by Trips (already on the network) 45%
 - Linked Trips (already visiting the retail park) 15%
 - New Trips (new to the network) 40%
- 6.8 The breakdown by trip type of the Lidl trips is shown in **Table 6.4**.

Table 6.4: Assumed Trip Breakdown by Type (Lidl)

Proposed Lidl									
Trip breakdown by type									
	Weekday PM 18	Peak (1700 00)	Saturday Peak (1200 1300)						
	Arrivals	Departures	Arrivals	Departures					
Diverted / Pass-by Trips (45%)	33	33	50	54					
Linked Trips (15%)	11	11	17	18					
New Trips (40%)	29	30	45	48					
Total	73	74	112	120					

Proposed Egress

6.9 When departing the retail park, it is assumed that all Lidl traffic travelling east and 10% of all existing retail park traffic also travelling east upon exiting the Park would use the new egress.



Committed Development

6.10 There are no committed developments to consider.

Flow Diagrams

- 6.11 Flow diagrams 01 06, based on those within the previous application's TA, are provided in Appendix 3. These flow diagrams set out the distribution of observed and proposed LidI trips on the local highway network as follows:
 - Flow 01 Observed Scenario (PM Peak 1700 1800)
 - Flow 02 Observed Scenario (SAT Peak 1200 1300)
 - Flow 03 Foodstore Trips (PM Peak 1700 1800)
 - Flow 04 Foodstore Trips (SAT Peak 1200 1300)
 - Flow 05 Development Scenario (PM Peak 1700 1800)
 - Flow 06 Development Scenario (SAT Peak 1200 1300)
- 6.12 Flow diagrams 05 and 06 have been amended since the previous TA to account for the new distribution of traffic using the proposed egress based on the assumption at para 6.9 above. This addresses comments made previously by Trafford Council concerning underestimating the degree to which the egress would be used.



7.0 ANTICIPATED HIGHWAY IMPACTS

- 7.1 This Chapter describes the impact of the additional trips generated by the proposed development on the operation of the local highway network including the junctions of George Richards Way with the Retail Park and with Manchester Rd.
- 7.2 Capacity assessments were provided within the previous TA however these have been updated following consultation with Trafford Council and TfGM and the LinSig models are now fully approved by both bodies.

Assessment Methodology

- 7.3 Assessment of the signal controlled junctions has been undertaken using LinSig software. LinSig software presents results as a percentage Degree of Saturation (DoS) and corresponding likely traffic queues (Q, measured in pcus) for each modelled link at the junctions. For Traffic Signals it is generally accepted that DoS of 90% or less on individual links represents satisfactory signal operation. DoS of between 90% and 100% represent variable operation which warrants further investigation and values in excess of 100% represent overloaded conditions.
- 7.4 LinSig assessments have been undertaken for the baseline and with development traffic scenarios during the PM and Saturday Peak. **Table 7.1** and **Table 7.2** below shows the results of these operational assessments for each of the signalised junctions, with the full LinSig outputs included at **Appendix 4**.

Arm	Baseline				'With Development'			
	PM I	PM Peak		SAT Peak		PM Peak		Peak
	(1700	1800)	(1200	1300)	(1700	1800)	(1200	1300)
	DoS	Q	DoS	Q	DoS	Q	DoS	Q
GRW West Ahead / Left	57.9%	4.9	65.1%	4.3	59.1%	4.9	67.8%	5.0
GRW West Ahead / Right	46.9%	4.4	51.1%	3.7	46.2%	4.4	59.6%	4.6
Park Exit Left	29.7%	4.8	49.1%	9.4	26.3%	4.2	41.9%	7.7
Park Exit Ahead / Right	63.2%	5.3	69.2%	6.1	67.2%	6.1	74.6%	7.2
Davenport Lane	62.9%	9.7	72.1%	11.6	64.4%	9.8	79.4%	12.5
GRW East Ahead / Left	26.0%	2.7	21.7%	2.2	25.5%	2.6	20.0%	2.1
GRW East Right	43.2%	5.0	73.1%	11.4	52.2%	6.2	80.1%	13.5

Table 7.1: George Richards Way / Retail Park Junction

		Baseline				'With Development'			
Arm	PM I	Peak	SAT	SAT Peak		Peak	SAT	Peak	
	(1700	1800)	(1200	1300)	(1700	1800)	(1200	1300)	
	DoS	Q	DoS	Q	DoS	Q	DoS	Q	
GRW West Left Ahead Right	73.2%	5.9	86.1%	11.8	74.8%	6.3	89.9%	13.7	
GRW West Right	70.1%	6.5	78.1%	9.4	68.6%	6.4	83.7%	11.4	
A56 North Ahead / Left	59.5%	8.1	62.5%	8.5	59.8%	8.1	62.1%	8.5	
A56 North Right	68.9%	5.0	81.7%	8.5	70.0%	5.2	84.3%	8.3	
Viaduct Road	20.7%	0.9	44.9%	2.1	20.7%	0.9	45.6%	2.2	
A56 South Ahead / Left	70.7%	13.0	84.3%	17.7	73.3%	13.4	87.8%	18.9	
A56 South Ahead / Right	73.5%	15.1	86.4%	20.5	76.0%	15.5	89.6%	22.0	
Proposed Egress	-	-	-	-	11.1%	0.2	21.3%	0.1	

Table 7.2: George Richards Way / Manchester Road Junction

- 7.5 The LinSig assessments indicate that there will be no operational issues at the either of the signalised junctions for any of the modelled scenarios.
- 7.6 With the proposed development and proposed egress in place, the maximum DoS will be below the traditional 90% design capacity. A maximum DoS of 76.0% is reported for the weekday PM peak hour and of 89.9% for the Saturday afternoon peak hour.
- 7.7 With regard to queue lengths, the above results show that there would be a minimal increase with the worst affected link experiencing an additional 2.1 pcus when compared to the base scenarios.
- 7.8 The results in **Table 7.1** show that the proposed egress will help to alleviate congestion for vehicle turning left out of the retail park with a reduction of 0.6 pcus during the weekday PM peak hour and a reduction of 1.7 pcus during the Saturday peak hour. The reduction in queues during the Saturday peak to 7.7 pcus (44.3m) suggests that vehicles will no longer impede on the mini roundabout when exiting the park.
- 7.9 The results in **Table 7.2** show that queues back from Manchester Road along George Richards Way are expected to reach a maximum of 13.7 pcus which is approximately 79m, meaning that queues are not expected to reach as far back as the proposed egress.

- 7.10 Based on the above results, it is evident that the proposed addition of LidI to the retail park, with the consequent uplift in demand associated the addition of a discount food retailer, would have no material impact on the operation of either of the signalised junctions.
- 7.11 Moreover, the proposed new egress will reduce queueing on the left turn out of the retail park by on average 2 pcus every cycle. While this may appear relatively minor, the length of the left turn lane exiting the retail park is sufficient to accommodate around 8 to 9 cars before the internal mini-roundabout is blocked. The new egress will result in the mean maximum queue reducing from 9.4 on a Saturday to under 7.7 and will therefore result in a more reliable performance of the existing left turn out of the retail park. The internal mini-roundabout will, as a result, operate more efficiently and become blocked by queuing traffic less often.

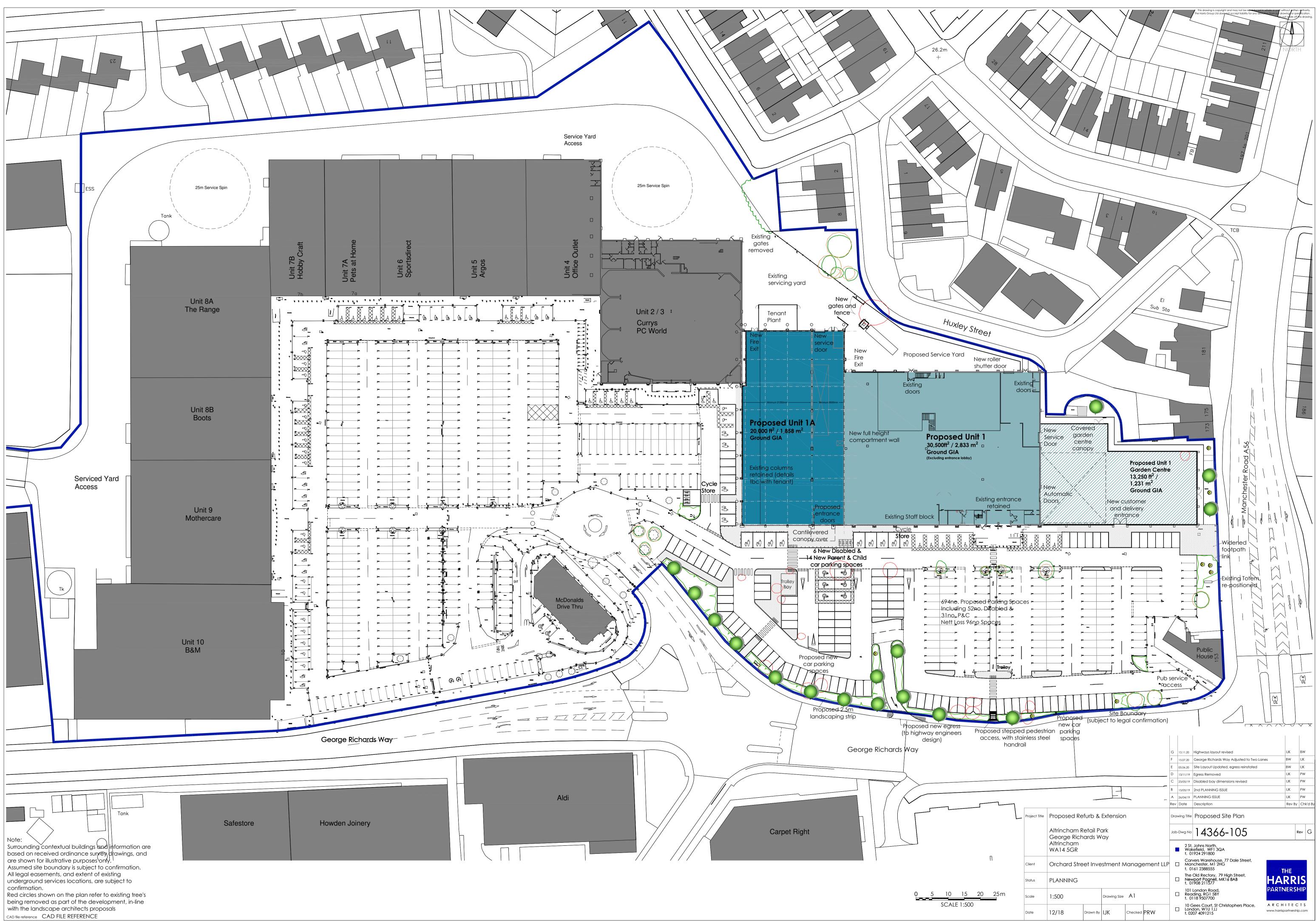
8.0 SUMMARY AND CONCLUSIONS

- 8.1 This Transport Assessment (TA) has been prepared on behalf of Lidl in support of their proposed development which comprises a new food store, new egress and associated car parking located at Altrincham Retail Park, off George Richards Way, Altrincham.
- 8.2 The proposals include partial reconfiguration of Unit 1 and the garden centre to create two units along with alterations to the service yard and the construction of a new garden centre, with Homebase downsizing and the new Unit 1A to be occupied by an A1 discount foodstore.
- 8.3 Unit 1 currently has a Gross Floor Area (GFA) of 5,016sqm plus a garden centre. The proposals will result in Unit 1 reducing to 3,612sqm plus the garden centre, and Unit 1A a GFA of 1,858sqm with a net sales area of 1,272sqm.
- 8.4 The sustainability of the site has been assessed in terms of its accessibility by walking, cycling and public transport modes. The site benefits from an excellent level of accessibility by non-car modes. The site has excellent accessibility for employees and customers travelling by foot or bike from the surrounding areas and the proposals include additional cycle parking provision to cater for such road users. The majority of staff and customers will live within the local area and walk, cycle, and potentially use public transport, which are all viable alternatives to the privately-owned car.
- 8.5 The most recent five-year safety record has been examined. The nature and number of personal injury collisions recorded raises no particular highway safety concerns. The evidence presented illustrates that the area in close proximity to the proposed egress does not have any highway safety problems.
- 8.6 The development will be accessed from the existing signalised retail park junction at George Richards Way and then via a mini roundabout. The proposals include a new egress directly onto George Richards Way to alleviate congestion when leaving the retail park.
- 8.7 Pedestrian access to the site will be provided at the existing location on Manchester Road, to the east of the application site and at two locations on George Richards Way; one at the existing access point to the north east of the retail park signalised junction, and the other directly south of the Homebase store entrance, in between the two existing pedestrian access points which will be closed.
- 8.8 Both units will be serviced from the service yard to the north of the units with access as per existing via Craven Road.

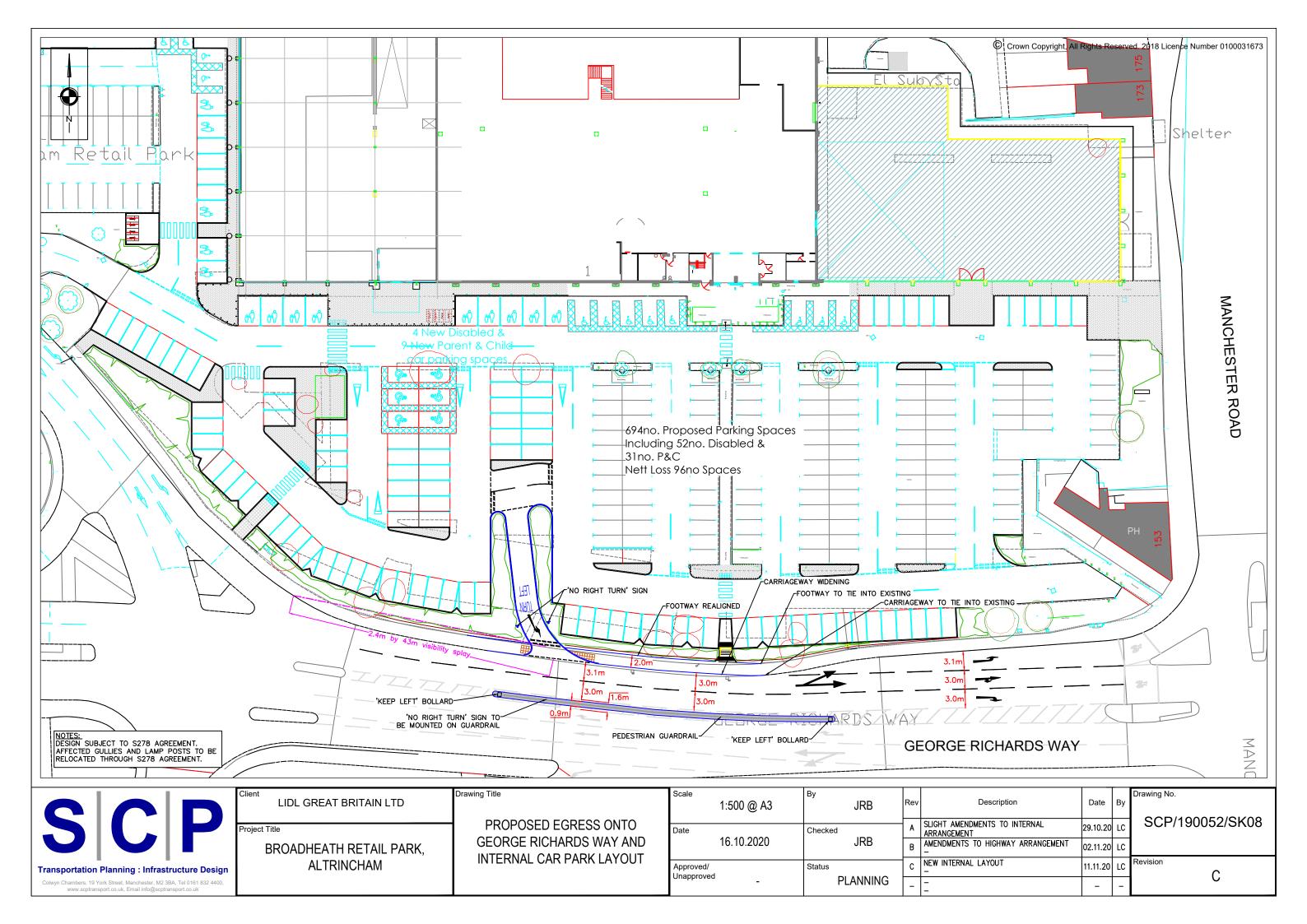


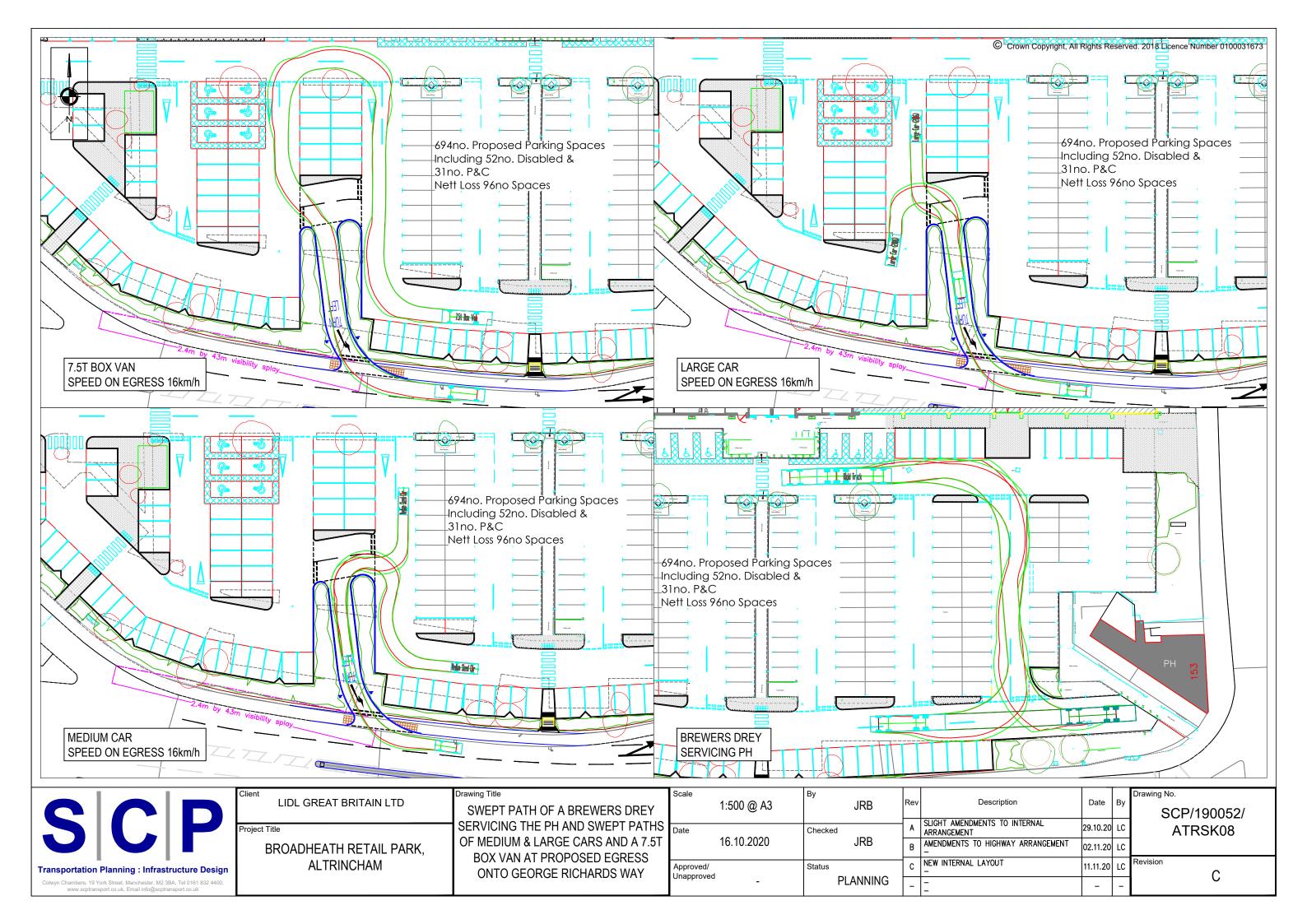
- 8.9 The proposals will result in the loss of 98 spaces from the eastern car park thereby reducing the overall number of spaces to 692 including 16 disabled car parking bays and 14 spaces for families with children. In summary, there would be 4 additional spaces allocated for disabled users, 10 additional spaces allocated for families with children and 112 fewer standard spaces. Parking demand has been assessed along with the use of ANPR data and shows that availability of spaces under normal and peak trading conditions will be unaffected.
- 8.10 The trip generating potential of the proposed development has been estimated. The assessment is considered to be robust given that no account has been taken of the smaller Homebase store and a higher percentage of diverted trips are expected due to the proximity of the ALDI and ASDA supermarkets.
- 8.11 The impact of the additional trips on the highway network together with the introduction of the new egress has been assessed using LinSig. The LinSig model has been checked and approved by TfGM.
- 8.12 Capacity tests on the George Richards Way / Retail Park signalised junction and the George Richards Way / Manchester Road signalised junction show that the development would have no material impact on the operation of the signalised junctions and would in fact improve the performance of the existing left turn out of the retail park
- 8.13 In conclusion, this Transport Assessment has demonstrated that the impact of the proposed development and proposed egress on the local highway network can be easily and safely accommodated by all modes and it is therefore concluded that there are no highways-related reasons to withhold planning permission for the proposed development.

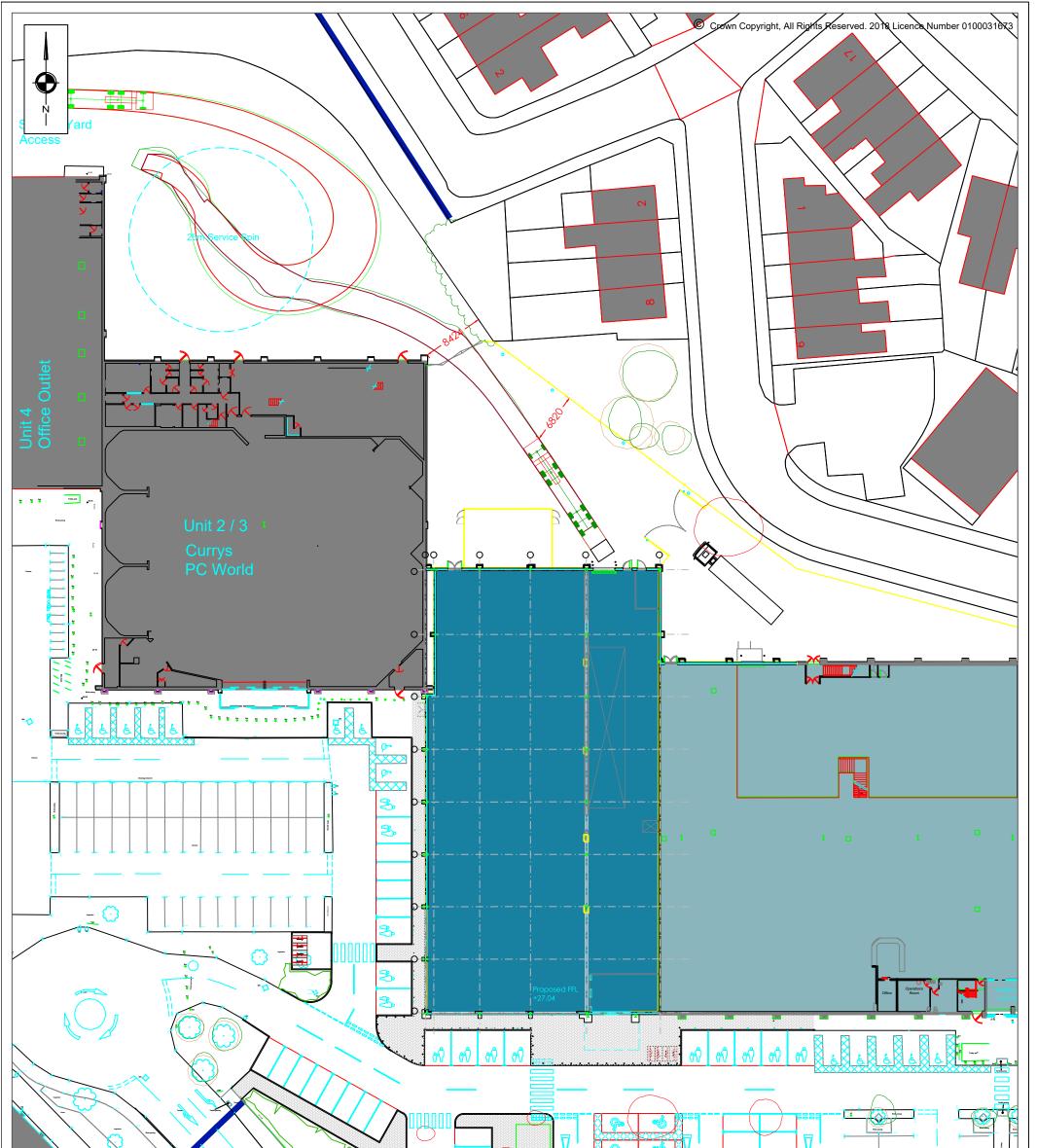
APPENDIX 1



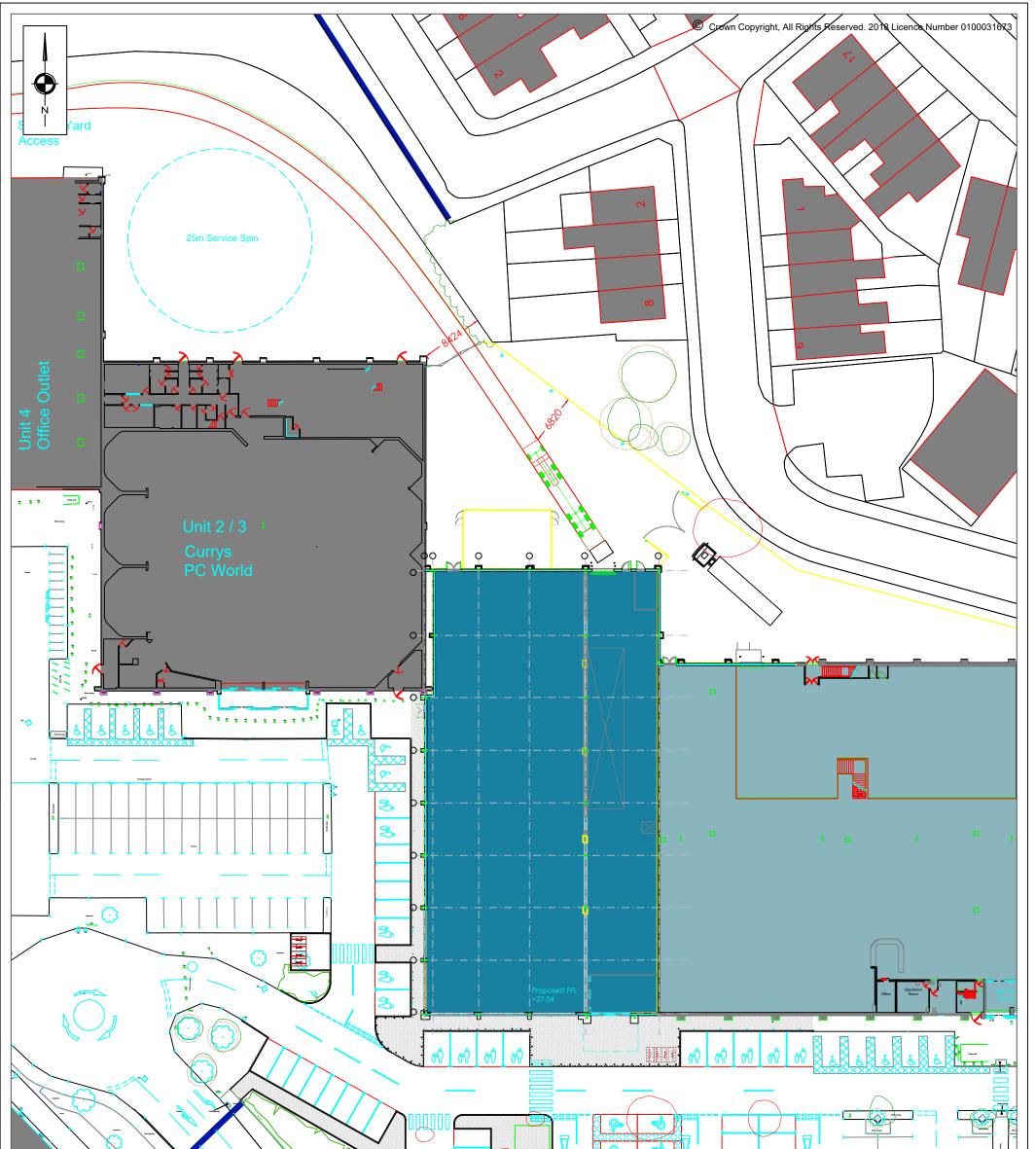
APPENDIX 2





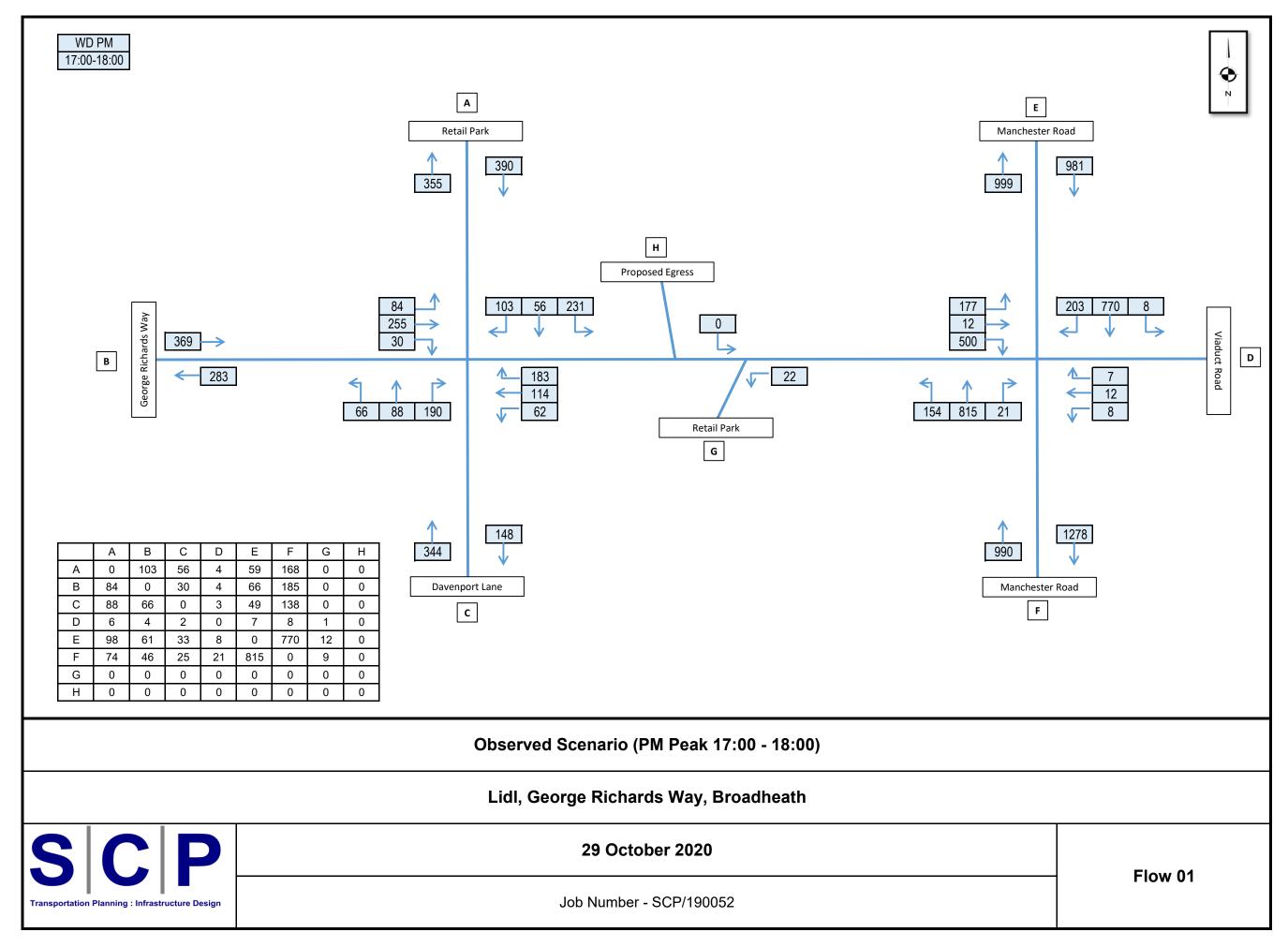


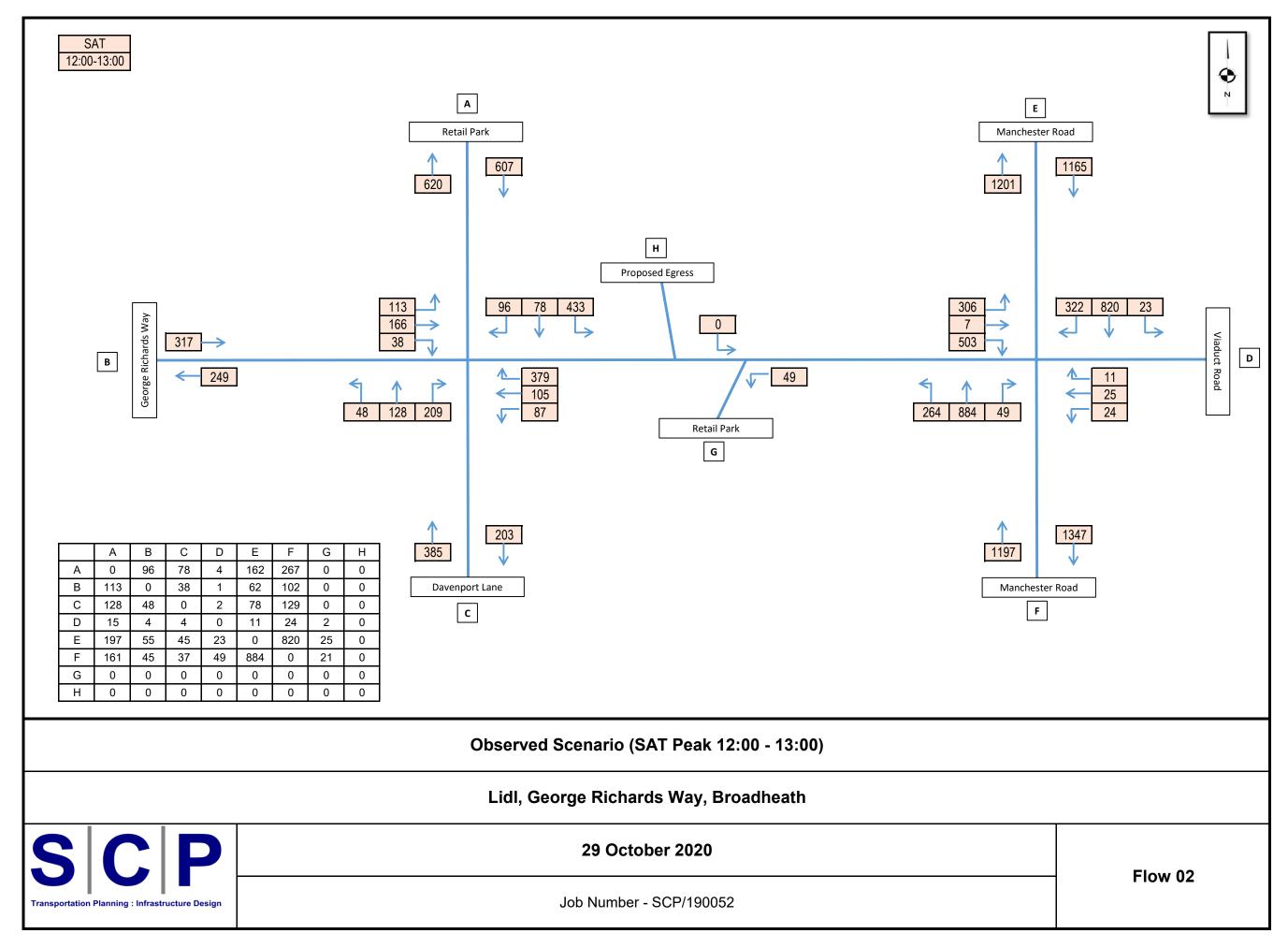
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	-	Drawing Title SWEPT PATH	Scale		Drawing No.
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SCP	RETAIL PARK	MAXIMUM LEGAL	Date	Checked	ATR01
	GEORGE RICHARDS WAY	ARTICULATED VEHICLE	24.01.2019	JRB	
Transportation Planning : Infrastructure Design		WITH TAIL LIFT	Approved/		Revision
31 Southampton Row, London, WC1B 5HJ, Tel 020 3376 6660 www.scptransport.co.uk, Email info@scptransport.co.uk	For Lidl UK GmbH	(INBOUND)	Unapproved -	PLANNING	А

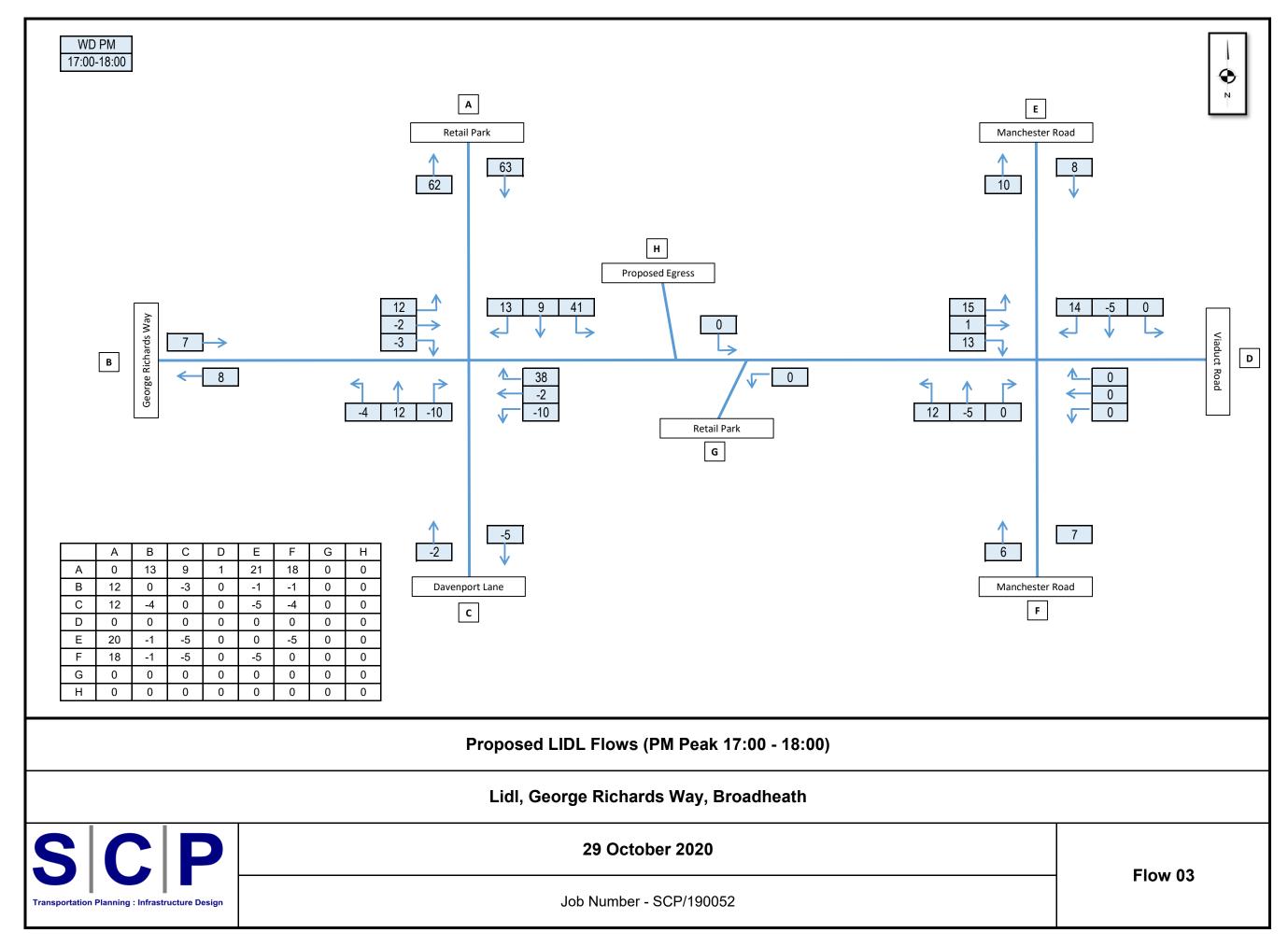


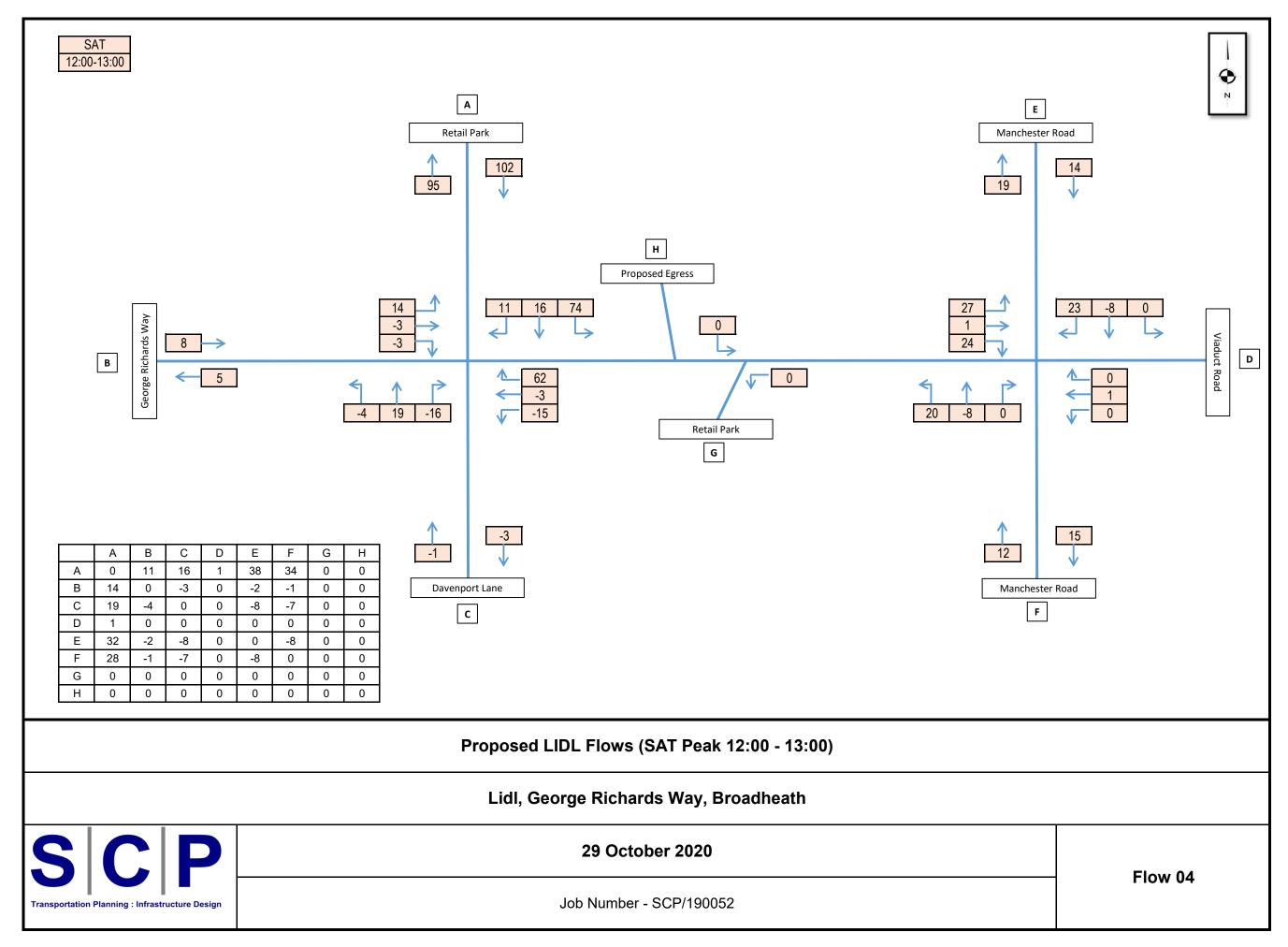
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SCP	RETAIL PARK	MAXIMUM LEGAL	Date	Checked	ATR02
	GEORGE RICHARDS WAY	ARTICULATED VEHICLE	24.01.2019	JRB	
Transportation Planning : Infrastructure Design			Approved/ Unapproved		Revision
31 Southampton Row, London, WC1B 5HJ, Tel 020 3376 6660 www.scptransport.co.uk, Email info@scptransport.co.uk	For Lidl UK GmbH	(OUTBOUND)	- -	PLANNING	A

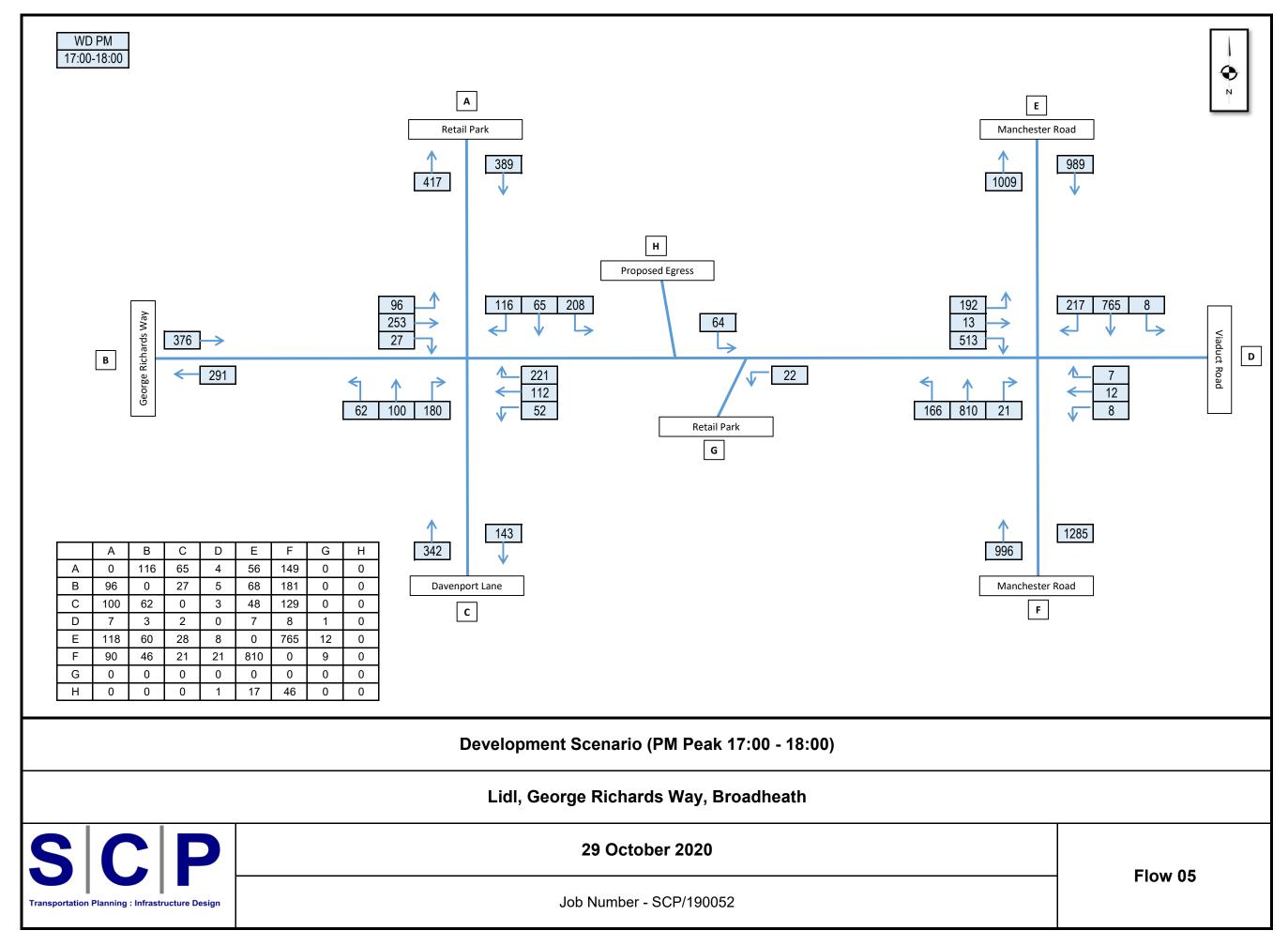
APPENDIX 3

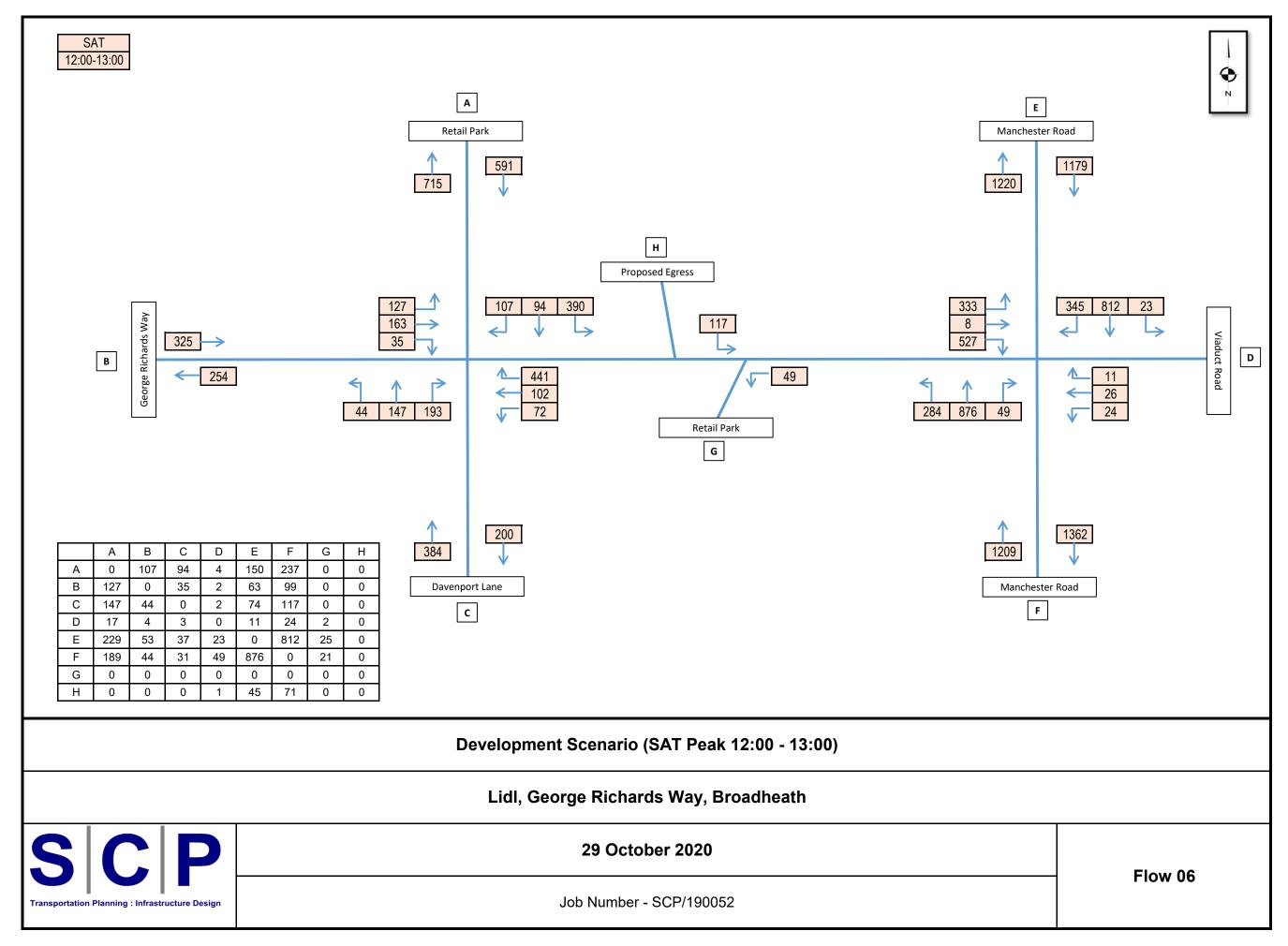












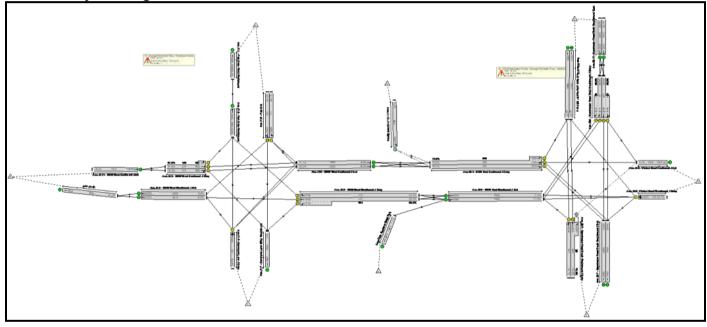
APPENDIX 4

Basic Results Summary Basic Results Summary

User and Project Details

	SCP 2020 TA Model Altrincham Retail Park with proposed slip.lsg3x
Address:	

Scenario 1: 'F01 - PM Peak Observed' (FG1: 'F01 - PM Peak Observed', Plan 1: 'Network Control Plan 1') Network Layout Diagram



ltem	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	-	-	-		-	-	-	-	-	-	73.5%	21	0	0	44.8	-	-
J1: George Richards Way / Davenport Lane	-	-	-		-	-	-	-	-	-	63.2%	0	0	0	16.9	-	-
1/1	Park Entry North Northbound	U	-		-	-	-	350	1940	1940	18.0%	-	-	-	0.1	1.1	0.1
2/1	Park Entry Northbound Ahead	U	-		-	-	-	350	1940	1940	18.0%	-	-	-	0.1	1.1	0.1
3/2+3/1	GRW West Eastbound J Entry Left Ahead	U	C1:B C1:G		1	17	-	221	1930:1805	237+145	57.9 : 57.9%	-	-	-	3.1	51.1	4.9
3/3	GRW West Eastbound J Entry Right Ahead	U	C1:B		1	17	-	148	1892	315	46.9%	-	-	-	2.1	51.4	4.4
4/1	GRW West Westbound J Exit Ahead	U	-		-	-	-	177	1915	1915	9.2%	-	-	-	0.1	1.0	0.1
4/2	GRW West Westbound J Exit Ahead	U	-		-	-	-	103	2055	2055	5.0%	-	-	-	0.0	0.9	0.0
5/1	Park Exit Left	U	C1:D		1	44	-	231	1866	777	29.7%	-	-	-	1.6	24.3	4.8
5/2	Park Exit Right Ahead	U	C1:F		1	13	-	159	1940	251	63.2%	-	-	-	2.8	63.7	5.3
6/1	Davenport Lane J Entry Ahead Left Right	U	C1:C		1	31	-	344	1845	547	62.9%	-	-	-	4.0	41.7	9.7
7/1	Davenport Lane ENtry Southbound	U	-		-	-	-	146	1940	1940	7.5%	-	-	-	0.0	1.0	0.0
8/2+8/1	GRW West Westbound J Entry Ahead Left	U	C1:A C1:E		1:2	24:40	-	171	1885:1753	427+231	26.0 : 26.0%	-	-	-	1.0	20.3	2.7

Basic Results S	ummary															
8/3	GRW West Westbound J Entry Right	U	C1:A	1	24	-	178	1778	412	43.2%	-	-	-	1.5	31.2	
9/1	GRW West Eastbound J Exit Ahead	U	-	-	-	-	266	1885	1885	14.1%	-	-	-	0.1	1.1	
9/2	GRW West Eastbound J Exit Ahead	U	-	-	-	-	410	2025	2025	20.2%	-	-	-	0.1	1.1	
10/1	Proposed Egress Left	о	-	-	-	-	0	1940	656	0.0%	0	0	0	0.0	0.0	
11/1	GRW West Eastbound start Ahead	U	-	-	-	-	369	1915	1915	19.3%	-	-	-	0.1	1.2	
12/1		U	-	-	-	-	280	1940	1940	14.4%	-	-	-	0.1	1.1	
J2: A56 Manchester Road / George Richards Way / Viaduct Road	-	-	-	-	-	-	-	-	-	73.5%	21	0	0	28.0	-	
1/2+1/1	GRW East Eastbound J Entry Left Ahead Right	U	C2:D C2:E	1	22:41	-	391	1783:1885	296+238	73.2 : 73.2%	-	-	-	4.0	37.2	
1/3	GRW East Eastbound J Entry Right	U	C2:D	1	22	-	285	1910	407	70.1%	-	-	-	3.5	44.0	
2/1	GRW East Westbound J Exit Ahead Left	U	-	-	-	-	222	1885	1885	11.8%	-	-	-	0.1	1.1	
2/2	GRW East Westbound J Exit Ahead	U	-	-	-	-	149	2025	2025	7.4%	-	-	-	0.0	1.0	
3/1	Manchester Road North Northbound	U	-	-	-	-	477	1965	1965	24.3%	-	-	-	0.2	1.2	
3/2	Manchester Road North Northbound	U	-	-	-	-	519	2105	2105	24.7%	-	-	-	0.2	1.1	

5.0

0.6

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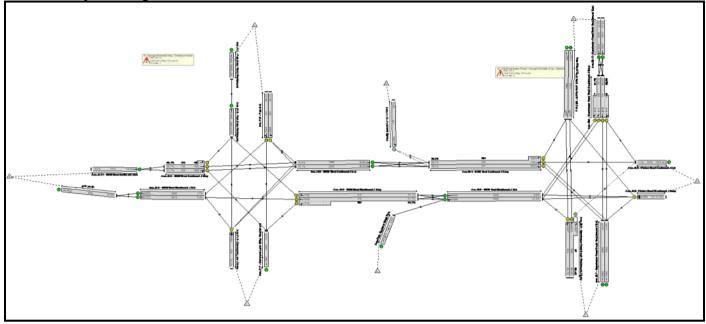
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Basic Results S	Summary															
4/2+4/1	Manchester Road North Southbound J Entry Left Ahead	U	C2:A	1	55	-	778	2040:1895	687+620	59.5 : 59.5%	-	-	-	4.1	19.0	8.1
4/3+4/4	Manchester Road North Southbound J Entry Right	U	C2:B	1	10	-	204	1817:1951	97+199	68.9 : 68.9%	-	-	-	3.7	65.5	5.0
5/1	Viaduct Road Eastbound J Exit	U	-	-	-	-	40	1940	1940	2.1%	-	-	-	0.0	0.9	0.0
6/1	Viaduct Road Westbound J Entry Ahead Right Left	U	C2:F	1	7	-	28	1823	135	20.7%	-	-	-	0.5	63.9	0.9
7/1	Manchester Road South Southbound J Exit	U	-	-	-	-	575	1925	1925	29.9%	-	-	-	0.2	1.3	0.2
7/2	Manchester Road South Southbound J Exit	U	-	-	-	-	694	2065	2065	33.6%	-	-	-	0.3	1.3	0.3
8/1	Manchester Road South Northbound J Entry Left Ahead	U	C2:C	1	37	-	457	1838	647	70.7%	-	-	-	5.0	39.6	13.0
8/2+8/3	Manchester Road South Northbound J Entry Ahead Right	U+O	C2:C	1	37	-	533	2055:1807	697+29	73.5 : 73.5%	21	0	0	5.9	39.6	15.1
9/1	Southern Retail Park	U	-	-	-	-	22	1940	1940	1.1%	-	-	-	0.0	0.9	0.0
10/1	Manchester Road North Southbound Start Ahead	U	-	-	-	-	435	1915	1915	22.7%	-	-	-	0.1	1.2	0.1
10/2	Manchester Road North Southbound Start Ahead	U	-	-	-	-	547	2055	2055	26.6%	-	-	-	0.2	1.2	0.2

Basic Results Summary						
	C1 C2	PRC for Signalled Lanes (%): PRC for Signalled Lanes (%):	42.3 22.5	Total Delay for Signalled Lanes (pcuHr): Total Delay for Signalled Lanes (pcuHr):	16.11 26.72	Cycle Time (s): 108 Cycle Time (s): 108
		PRC Over All Lanes (%):	22.5	Total Delay Over All Lanes(pcuHr):	44.82	

Basic Results Summary Scenario 2: 'F02- SAT Peak Observed' (FG2: 'F02 - SAT Peak Observed ', Plan 1: 'Network Control Plan 1') Network Layout Diagram



ltem	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-		-	-	-	-	-	-	86.4%	49	0	0	62.8	-	-
J1: George Richards Way / Davenport Lane	-	-	-		-	-	-	-	-	-	73.1%	0	0	0	22.3	-	-
1/1	Park Entry North Northbound	U	-		-	-	-	614	1940	1940	31.6%	-	-	-	0.2	1.4	0.2
2/1	Park Entry Northbound Ahead	U	-		-	-	-	614	1940	1940	31.6%	-	-	-	0.2	1.4	0.2
3/2+3/1	GRW West Eastbound J Entry Left Ahead	U	C1:B C1:G		1	12	-	201	1930:1805	135+174	65.1 : 65.1%	-	-	-	3.4	60.8	4.3
3/3	GRW West Eastbound J Entry Right Ahead	U	C1:B		1	12	-	115	1868	225	51.1%	-	-	-	1.9	60.8	3.7
4/1	GRW West Westbound J Exit Ahead	U	-		-	-	-	152	1915	1915	7.9%	-	-	-	0.0	1.0	0.0
4/2	GRW West Westbound J Exit Ahead	U	-		-	-	-	96	2055	2055	4.7%	-	-	-	0.0	0.9	0.0
5/1	Park Exit Left	U	C1:D		1	50	-	433	1866	881	49.1%	-	-	-	2.8	23.6	9.4
5/2	Park Exit Right Ahead	U	C1:F		1	13	-	174	1940	251	69.2%	-	-	-	3.3	67.5	6.1
6/1	Davenport Lane J Entry Ahead Left Right	U	C1:C		1	30	-	385	1861	534	72.1%	-	-	-	5.0	46.5	11.6
7/1	Davenport Lane ENtry Southbound	U	-		-	-	-	202	1940	1940	10.4%	-	-	-	0.1	1.0	0.1
8/2+8/1	GRW West Westbound J Entry Ahead Left	U	C1:A C1:E		1:2	30:45	-	190	1885:1753	479+397	21.7 : 21.7%	-	-	-	1.1	20.7	2.2

basic Results 5	unnary															
8/3	GRW West Westbound J Entry Right	U	C1:A	1	30	-	373	1778	510	73.1%	-	-	-	3.8	36.5	11.4
9/1	GRW West Eastbound J Exit Ahead	U	-	-	-	-	339	1885	1885	18.0%	-	-	-	0.1	1.2	0.1
9/2	GRW West Eastbound J Exit Ahead	U	-	-	-	-	468	2025	2025	23.1%	-	-	-	0.2	1.2	0.2
10/1	Proposed Egress Left	0	-	-	-	-	0	1940	537	0.0%	0	0	0	0.0	0.0	0.0
11/1	GRW West Eastbound start Ahead	U	-	-	-	-	316	1915	1915	16.5%	-	-	-	0.1	1.1	0.1
12/1		U	-	-	-	-	248	1940	1940	12.8%	-	-	-	0.1	1.1	0.1
J2: A56 Manchester Road / George Richards Way / Viaduct Road	-	-	-	-	-	-	-	-	-	86.4%	49	0	0	40.5	-	
1/2+1/1	GRW East Eastbound J Entry Left Ahead Right	U	C2:D C2:E	1	20:40	-	517	1782:1885	250+351	86.1 : 86.1%	-	-	-	6.9	48.3	11.8
1/3	GRW East Eastbound J Entry Right	U	C2:D	1	20	-	290	1910	371	78.1%	-	-	-	4.5	55.4	9.4
2/1	GRW East Westbound J Exit Ahead Left	U	-	-	-	-	411	1885	1885	21.8%	-	-	-	0.1	1.2	0.1
2/2	GRW East Westbound J Exit Ahead	U	-	-	-	-	200	2025	2025	9.9%	-	-	-	0.1	1.0	0.1
3/1	Manchester Road North Northbound	U	-	-	-	-	588	1965	1965	29.9%	-	-	-	0.2	1.3	0.2
3/2	Manchester Road North Northbound	U	-	-	-	-	609	2105	2105	28.9%	-	-	-	0.2	1.2	0.2

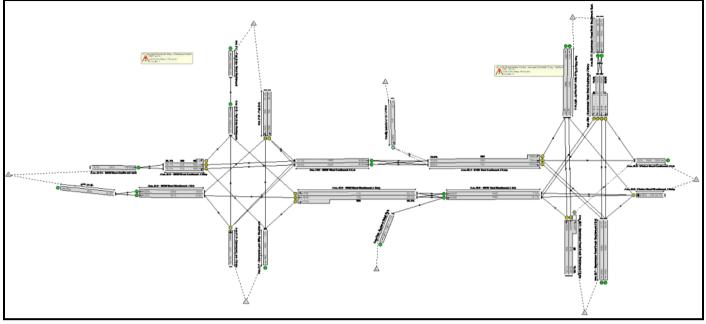
Basic Results Summary

Basic Results S	Summary															
4/2+4/1	Manchester Road North Southbound J Entry Left Ahead	U	C2:A	1	57	-	843	2040:1887	701+648	62.5 : 62.5%	-	-	-	4.3	18.3	8.5
4/3+4/4	Manchester Road North Southbound J Entry Right	U	C2:B	1	11	-	322	1817:1951	189+217	76.7 : 81.7%	-	-	-	6.0	67.3	7.0
5/1	Viaduct Road Eastbound J Exit	U	-	-	-	-	79	1940	1940	4.1%	-	-	-	0.0	1.0	0.0
6/1	Viaduct Road Westbound J Entry Ahead Right Left	U	C2:F	1	7	-	60	1805	134	44.9%	-	-	-	1.2	72.1	2.1
7/1	Manchester Road South Southbound J Exit	U	-	-	-	-	614	1925	1925	31.9%	-	-	-	0.2	1.4	0.2
7/2	Manchester Road South Southbound J Exit	U	-	-	-	-	728	2065	2065	35.3%	-	-	-	0.3	1.3	0.3
8/1	Manchester Road South Northbound J Entry Left Ahead	U	C2:C	1	38	-	550	1807	653	84.3%	-	-	-	7.4	48.4	17.7
8/2+8/3	Manchester Road South Northbound J Entry Ahead Right	U+O	C2:C	1	38	-	647	2055:1807	692+57	86.4 : 86.4%	49	0	0	8.7	48.3	20.5
9/1	Southern Retail Park	U	-	-	-	-	48	1940	1940	2.5%	-	-	-	0.0	1.0	0.0
10/1	Manchester Road North Southbound Start Ahead	U	-	-	-	-	521	1915	1915	27.2%	-	-	-	0.2	1.3	0.2
10/2	Manchester Road North Southbound Start Ahead	U	-	-	-	-	644	2055	2055	31.3%	-	-	-	0.2	1.3	0.2

Ba	sic Results Summary							
		C1	PRC for Signalled Lanes (%):	23.1	Total Delay for Signalled Lanes (pcuHr):	21.28	Cycle Time (s): 108	
		C2	PRC for Signalled Lanes (%): PRC Over All Lanes (%):	4.2 4.2	Total Delay for Signalled Lanes (pcuHr): Total Delay Over All Lanes(pcuHr):	38.98 62.85	Cycle Time (s): 108	

Basic Results Summary Scenario 3: 'F03 - PM Peak Proposed' (FG3: 'F03 - PM Peak Proposed (Lidl +10% use)', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



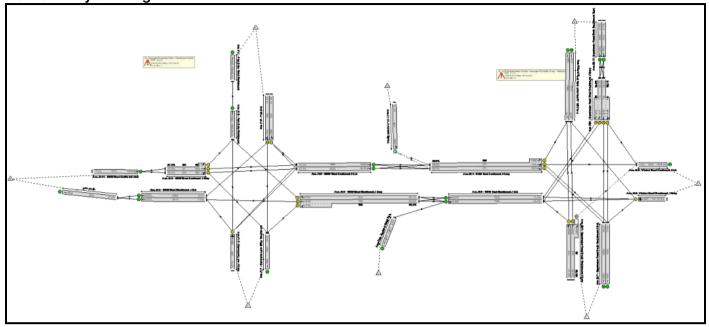
ltem	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-		-	-	-	-	-	-	76.0%	85	0	0	47.0	-	-
J1: George Richards Way / Davenport Lane	-	-	-		-	-	-	-	-	-	67.2%	64	0	0	17.8	-	-
1/1	Park Entry North Northbound	U	-		-	-	-	411	1940	1940	21.2%	-	-	-	0.1	1.2	0.1
2/1	Park Entry Northbound Ahead	U	-		-	-	-	411	1940	1940	21.2%	-	-	-	0.1	1.2	0.1
3/2+3/1	GRW West Eastbound J Entry Left Ahead	U	C1:B C1:G		1	17	-	231	1930:1805	228+162	59.1 : 59.1%	-	-	-	3.3	51.2	4.9
3/3	GRW West Eastbound J Entry Right Ahead	U	C1:B		1	17	-	146	1895	316	46.2%	-	-	-	2.1	51.2	4.4
4/1	GRW West Westbound J Exit Ahead	U	-		-	-	-	171	1915	1915	8.9%	-	-	-	0.0	1.0	0.0
4/2	GRW West Westbound J Exit Ahead	U	-		-	-	-	116	2055	2055	5.6%	-	-	-	0.0	0.9	0.0
5/1	Park Exit Left	U	C1:D		1	45	-	209	1866	795	26.3%	-	-	-	1.3	23.1	4.2
5/2	Park Exit Right Ahead	U	C1:F		1	14	-	181	1940	269	67.2%	-	-	-	3.2	64.1	6.1
6/1	Davenport Lane J Entry Ahead Left Right	U	C1:C		1	30	-	342	1849	531	64.4%	-	-	-	4.1	43.1	9.8
7/1	Davenport Lane ENtry Southbound	U	-		-	-	-	143	1940	1940	7.4%	-	-	-	0.0	1.0	0.0
8/2+8/1	GRW West Westbound J Entry Ahead Left	U	C1:A C1:E		1:2	24:39	-	160	1885:1753	428+200	25.5 : 25.5%	-	-	-	1.0	21.7	2.6

Basic Results S	ummary															
8/3	GRW West Westbound J Entry Right	U	C1:A	1	24	-	215	1778	412	52.2%	-	-	-	1.9	32.6	6.2
9/1	GRW West Eastbound J Exit Ahead	U	-	-	-	-	266	1885	1885	14.1%	-	-	-	0.1	1.1	0.1
9/2	GRW West Eastbound J Exit Ahead	U	-	-	-	-	377	2025	2025	18.6%	-	-	-	0.1	1.1	0.1
10/1	Proposed Egress Left	0	-	-	-	-	64	1940	574	11.1%	64	0	0	0.1	3.6	0.2
11/1	GRW West Eastbound start Ahead	U	-	-	-	-	377	1915	1915	19.7%	-	-	-	0.1	1.2	0.1
12/1		U	-	-	-	-	287	1940	1940	14.8%	-	-	-	0.1	1.1	0.1
J2: A56 Manchester Road / George Richards Way / Viaduct Road	-	-	-	-	-	-	-	-	-	76.0%	21	0	0	29.2	-	-
1/2+1/1	GRW East Eastbound J Entry Left Ahead Right	U	C2:D C2:E	1	23:42	-	416	1784:1885	303+253	74.8 : 74.8%	-	-	-	4.4	37.9	6.3
1/3	GRW East Eastbound J Entry Right	U	C2:D	1	23	-	291	1910	424	68.6%	-	-	-	3.4	41.7	6.4
2/1	GRW East Westbound J Exit Ahead Left	U	-	-	-	-	246	1885	1885	13.1%	-	-	-	0.1	1.1	0.1
2/2	GRW East Westbound J Exit Ahead	U	-	-	-	-	151	2025	2025	7.5%	-	-	-	0.0	1.0	0.0
3/1	Manchester Road North Northbound	U	-	-	-	-	483	1965	1965	24.6%	-	-	-	0.2	1.2	0.2
3/2	Manchester Road North Northbound	U	-	-	-	-	523	2105	2105	24.8%	-	-	-	0.2	1.1	0.2

Basic Results S	ummary		i.		i.	i.						1				
4/2+4/1	Manchester Road North Southbound J Entry Left Ahead	U	C2:A	1	54	-	773	2040:1895	675+617	59.8 : 59.8%	-	-	-	4.2	19.6	8.1
4/3+4/4	Manchester Road North Southbound J Entry Right	U	C2:B	1	10	-	218	1817:1951	113+199	70.0 : 70.0%	-	-	-	3.9	65.2	5.2
5/1	Viaduct Road Eastbound J Exit	U	-	-	-	-	42	1940	1940	2.2%	-	-	-	0.0	0.9	0.0
6/1	Viaduct Road Westbound J Entry Ahead Right Left	U	C2:F	1	7	-	28	1823	135	20.7%	-	-	-	0.5	63.9	0.9
7/1	Manchester Road South Southbound J Exit	U	-	-	-	-	583	1925	1925	30.3%	-	-	-	0.2	1.3	0.2
7/2	Manchester Road South Southbound J Exit	U	-	-	-	-	695	2065	2065	33.7%	-	-	-	0.3	1.3	0.3
8/1	Manchester Road South Northbound J Entry Left Ahead	U	C2:C	1	36	-	460	1832	628	73.3%	-	-	-	5.3	41.7	13.4
8/2+8/3	Manchester Road South Northbound J Entry Ahead Right	U+O	C2:C	1	36	-	537	2055:1807	679+28	76.0 : 76.0%	21	0	0	6.2	41.8	15.5
9/1	Southern Retail Park	U	-	-	-	-	22	1940	1940	1.1%	-	-	-	0.0	0.9	0.0
10/1	Manchester Road North Southbound Start Ahead	U	-	-	-	-	442	1915	1915	23.1%	-	-	-	0.2	1.2	0.2
10/2	Manchester Road North Southbound Start Ahead	U	-	-	-	-	549	2055	2055	26.7%	-	-	-	0.2	1.2	0.2

Basic Results Summary						
	C1	PRC for Signalled Lanes (%):	34.0	Total Delay for Signalled Lanes (pcuHr):	16.93	Cycle Time (s): 108
	C2	PRC for Signalled Lanes (%): PRC Over All Lanes (%):	18.4 18.4	Total Delay for Signalled Lanes (pcuHr): Total Delay Over All Lanes(pcuHr):	27.98 47.03	Cycle Time (s): 108

Basic Results Summary Scenario 4: 'F04 - SAT Peak Proposed 10%' (FG4: 'F04 - SAT Peak Proposed (Lidl + 10% use)', Plan 1: 'Network Control Plan 1') Network Layout Diagram



ltem	Lane Description	Lane Type	Full Phase	Arrow Phase	Num Greens	Total Green (s)	Arrow Green (s)	Demand Flow (pcu)	Sat Flow (pcu/Hr)	Capacity (pcu)	Deg Sat (%)	Turners In Gaps (pcu)	Turners When Unopposed (pcu)	Turners In Intergreen (pcu)	Total Delay (pcuHr)	Av. Delay Per PCU (s/pcu)	Mean Max Queue (pcu)
Network	-	-	-		-	-	-	-	-	-	89.9%	166	0	0	71.0	-	-
J1: George Richards Way / Davenport Lane	-	-	-		-	-	-	-	-	-	80.1%	117	0	0	24.6	-	-
1/1	Park Entry North Northbound	U	-		-	-	-	709	1940	1940	36.5%	-	-	-	0.3	1.5	0.3
2/1	Park Entry Northbound Ahead	U	-		-	-	-	709	1940	1940	36.5%	-	-	-	0.3	1.5	0.3
3/2+3/1	GRW West Eastbound J Entry Left Ahead	U	C1:B C1:G		1	12	-	191	1930:1805	94+187	67.8 : 67.8%	-	-	-	3.4	64.1	5.0
3/3	GRW West Eastbound J Entry Right Ahead	U	C1:B		1	12	-	135	1881	226	59.6%	-	-	-	2.4	64.4	4.6
4/1	GRW West Westbound J Exit Ahead	U	-		-	-	-	145	1915	1915	7.6%	-	-	-	0.0	1.0	0.0
4/2	GRW West Westbound J Exit Ahead	U	-		-	-	-	107	2055	2055	5.2%	-	-	-	0.0	0.9	0.0
5/1	Park Exit Left	U	C1:D		1	53	-	391	1866	933	41.9%	-	-	-	2.2	20.4	7.7
5/2	Park Exit Right Ahead	U	C1:F		1	14	-	201	1940	269	74.6%	-	-	-	3.9	69.9	7.2
6/1	Davenport Lane J Entry Ahead Left Right	U	C1:C		1	27	-	384	1866	484	79.4%	-	-	-	5.8	54.7	12.5
7/1	Davenport Lane ENtry Southbound	U	-		-	-	-	200	1940	1940	10.3%	-	-	-	0.1	1.0	0.1
8/2+8/1	GRW West Westbound J Entry Ahead Left	U	C1:A C1:E		1:2	32:44	-	172	1885:1753	505+355	20.0 : 20.0%	-	-	-	1.0	20.3	2.1

Basic Results S	unnary															
8/3	GRW West Westbound J Entry Right	U	C1:A	1	32	-	435	1778	543	80.1%	-	-	-	4.6	38.3	13.5
9/1	GRW West Eastbound J Exit Ahead	U	-	-	-	-	292	1885	1885	15.5%	-	-	-	0.1	1.1	0.1
9/2	GRW West Eastbound J Exit Ahead	U	-	-	-	-	456	2025	2025	22.5%	-	-	-	0.1	1.1	0.1
10/1	Proposed Egress Left	0	-	-	-	-	117	1940	550	21.3%	117	0	0	0.1	4.2	0.1
11/1	GRW West Eastbound start Ahead	U	-	-	-	-	326	1915	1915	17.0%	-	-	-	0.1	1.1	0.1
12/1		U	-	-	-	-	252	1940	1940	13.0%	-	-	-	0.1	1.1	0.1
J2: A56 Manchester Road / George Richards Way / Viaduct Road	-		-	-	-	-	-	-	-	89.9%	49	0	0	46.4	-	
1/2+1/1	GRW East Eastbound J Entry Left Ahead Right	U	C2:D C2:E	1	20:41	-	554	1782:1885	247+369	89.9 : 89.9%	-	-	-	8.5	55.5	13.7
1/3	GRW East Eastbound J Entry Right	U	C2:D	1	20	-	311	1910	371	83.7%	-	-	-	5.7	65.7	11.4
2/1	GRW East Westbound J Exit Ahead Left	U	-	-	-	-	433	1885	1885	23.0%	-	-	-	0.1	1.2	0.1
2/2	GRW East Westbound J Exit Ahead	U	-	-	-	-	222	2025	2025	11.0%	-	-	-	0.1	1.0	0.1
3/1	Manchester Road North Northbound	U	-	-	-	-	603	1965	1965	30.7%	-	-	-	0.2	1.3	0.2
3/2	Manchester Road North Northbound	U	-	-	-	-	616	2105	2105	29.3%	-	-	-	0.2	1.2	0.2

Basic Results Summary

Basic Results S	ummary		i.		i.	i.										
4/2+4/1	Manchester Road North Southbound J Entry Left Ahead	U	C2:A	1	57	-	835	2040:1886	704+641	62.1 : 62.1%	-	-	-	4.2	18.2	8.5
4/3+4/4	Manchester Road North Southbound J Entry Right	U	C2:B	1	12	-	344	1817:1951	173+235	84.3 : 84.3%	-	-	-	6.9	72.1	8.3
5/1	Viaduct Road Eastbound J Exit	U	-	-	-	-	81	1940	1940	4.2%	-	-	-	0.0	1.0	0.0
6/1	Viaduct Road Westbound J Entry Ahead Right Left	U	C2:F	1	7	-	61	1807	134	45.6%	-	-	-	1.2	72.4	2.2
7/1	Manchester Road South Southbound J Exit	U	-	-	-	-	612	1925	1925	31.8%	-	-	-	0.2	1.4	0.2
7/2	Manchester Road South Southbound J Exit	U	-	-	-	-	748	2065	2065	36.2%	-	-	-	0.3	1.4	0.3
8/1	Manchester Road South Northbound J Entry Left Ahead	U	C2:C	1	37	-	556	1800	633	87.8%	-	-	-	8.4	54.3	18.9
8/2+8/3	Manchester Road South Northbound J Entry Ahead Right	U+O	C2:C	1	37	-	654	2055:1807	675+55	89.6 : 89.6%	49	0	0	9.9	54.2	22.0
9/1	Southern Retail Park	U	-	-	-	-	48	1940	1940	2.5%	-	-	-	0.0	1.0	0.0
10/1	Manchester Road North Southbound Start Ahead	U	-	-	-	-	523	1915	1915	27.3%	-	-	-	0.2	1.3	0.2
10/2	Manchester Road North Southbound Start Ahead	U	-	-	-	-	656	2055	2055	31.9%	-	-	-	0.2	1.3	0.2

Basic Results Summary							
	C1	PRC for Signalled Lanes (%):	12.4	Total Delay for Signalled Lanes (pcuHr):	23.38	Cycle Time (s): 108	
	C2	PRC for Signalled Lanes (%):	0.1	Total Delay for Signalled Lanes (pcuHr):	44.79	Cycle Time (s): 108	
		PRC Over All Lanes (%):	0.1	Total Delay Over All Lanes(pcuHr):	71.03		