



Transport Assessment

Universal Square Phase 4, Manchester

Cypresshawk Ltd

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1.0 Introduction

- 1.1 SLR have been appointed by Cypresshawk Ltd to provide highways and transport advice in support of a change of use application to facilitate the further expansion of the Global Banking School (GBS) at Universal Square in Ardwick, Manchester.
- 1.2 GBS delivers higher education level courses, providing undergraduate, postgraduate and Pearson HND programmes through partnerships with Leeds Trinity University, Buckingham New University and Leicester College.
- 1.3 The site location is shown in **Figure 1.1**.

Figure 1.1: Site Location



- 1.4 Universal Square is an established building offering office and support facilities to a range of occupiers.
- 1.5 The proposed development site falls within the jurisdiction of Manchester City Council (MCC) who are both the Local Planning and Highway Authority. MCC are supported by Transport for Greater Manchester (TfGM) in their role as co-ordinator for transport services within Greater Manchester.
- 1.6 This Transport Assessment (TA) provides information on the traffic and transport planning aspects of the development proposals and forms supplementary information to assist in the determination of a planning application.



Planning History

- 1.7 As a growing education provider, GBS has acquired space within Building 4 over the last two years. SLR prepared supporting transport documentation to support three applications for the change of use from office (Use Class E(g)(i)) to educational training centre use (Use Class F1(a)). These previous phases of the GBS training centre at Universal Square are summarised below:

Phase 1

- 1.8 A change of use application was submitted enabling GBS to occupy the second floor of the building, referred to as Phase 1. This comprised a floor area of 856sqm (9,213sqft), with the assessment based on around 250 students accessing the site each day.
- 1.9 SLR (formerly Vectos) supported the planning application for Phase 1 by preparing a Transport Statement. The number of vehicle trips that the proposed development would generate were considered by utilising mode share Journey to Work (JTW) data from the Office of National Statistics (ONS) 2011 Census.
- 1.10 The JTW mode share information was applied to the predicted arrival and departure profile of staff and students provided by GBS. On the basis of the time periods that vehicle movements were expected to occur, and the volume of traffic generated, it was demonstrated that the operation of site would have no material impact on the local highway.
- 1.11 MCC granted planning permission for Phase 1 in August 2019 (application reference: 122962/FU/2019), and the transport submission also included a Detailed Travel Plan which was conditioned by MCC.

Phase 2

- 1.12 To support the continuing expansion of GBS, a further change of use application was submitted in early 2020. This application aimed at enabling the GBS to expand into the third floor of Building 4 of Universal Square with planning permission granted in August 2020 (application reference: 126193/FO/2020).
- 1.13 This expansion was referred to as Phase 2 and the proposed layout of this new area comprised of learning space (computer labs/ library/ self-study rooms) providing around an additional 50% occupation capacity at the site, which was another 125 students. Therefore, the assessment in the supporting Transport Statement was based on 375 students accessing the site each day, which represented the cumulative number of students that could be accommodated across both floors at any one time.
- 1.14 To more accurately inform the volume of vehicle trips generated by the proposals as part of Phase 2, staff and students at the site were asked what mode of transport they undertook when travelling to and from Universal Square as part of a travel survey, and car drivers were asked to provide details on their car parking activity. The mode share results were applied to a person trip profile provided by GBS to assess the expected vehicle trip generation and associated car parking demand.



- 1.15 Based on the vehicle trip generation profile and the associated parking demands, it was concluded that the proposals would have no material impact on the operation of the surrounding highway network. In addition, as part of this application there were agreed improvements to the existing shuttle bus service between Universal Square and Manchester Piccadilly Rail Station to provide additional running times that coincided with the peak travel periods of GBS students accessing the site and to help minimise associated car traffic.

Phase 3

- 1.16 In order to support the GBS's future expansion plans, a third change of use application submission was prepared which enabled GBS to occupy a further 2,787sqm (30,000sqft) of space at the site.
- 1.17 With Phase 3 implemented, the overall floor space occupied by GBS at Universal Square would be circa 4,459sqm (48,000sqft). This accommodated approximately 6,600 students at the site.
- 1.18 Planning consent was granted in November 2021 (application reference: 130541/FO/2021).

Phase 4

- 1.19 In order to support the GBS's future expansion plans spanning the next three years, a fourth change of use application submission is being planned which would see GBS occupy a further 55,000sqft of additional space at the site by 2027. This will increase the total area occupied to 103,000sqft. It is projected that around 10,474 students will be enrolled at the site by 2027, which would be an increase compared with Phase 3 of 3,874 students and an additional 168 staff.
- 1.20 The proposed Phase 4 expansion is the subject of this TA report (to support a planning application).
- 1.21 The TA for Phase 3 set out a methodology for assessment of the impact of the change of use, which was accepted by MCC and TfGM. This TA follows the same overall approach and methodology.

Pre-Application Advice

- 1.22 Pre-app advice has been sought from MCC who have also consulted with TfGM. This has resulted in comments regarding the proposed development and the requirements for a TA. The comments received from TfGM are attached as **Appendix A** to this report.
- 1.23 This TA has been prepared to reflect the advice received from MCC and TfGM.

Travel Plan

- 1.24 A Travel Plan is in place for the GBS site. The latest version (dated October 2023) was accepted by MCC in December 2023.
- 1.25 The Travel Plan is considered fully in **Section 7** of this report.



Report Detail

1.26 Following this introductory chapter, this report is structured as follows:

- **Section 2: Baseline Conditions** – sets out the site location and the characteristics of the local highway network including a high-level desktop review of on-street parking provision and existing Traffic Regulation Orders on nearby roads. A review of accident data is also provided to examine any existing incident trends;
- **Section 3: Accessibility by Sustainable Travel Modes** – provides a detailed review of the sustainable transport options available to staff and students accessing the proposed development site. The accessibility of the site for pedestrians, cyclists and public transport users is assessed. The review of pedestrian accessibility is supported by a detailed audit of existing walking infrastructure;
- **Section 4: Proposed Development** – sets out the Phase 4 development proposals in greater detail;
- **Section 5: Traffic Analysis** – sets out the forecast development total person and vehicle trips for the relevant extant uses and proposed development at the site;
- **Section 6: Traffic Impact Assessment** – this Section sets out the predicted impact of the development proposals on the local highway network, including consideration of car parking;
- **Section 7: Travel Plan Strategy** – summarises the travel planning strategy for the development proposals; and
- **Section 8: Summary and Conclusions** – provides an overview of the preceding Sections of the report and draws conclusions on the acceptability of the proposals from a highways and transport perspective.



2.0 Baseline Conditions

Site Location & Context

- 2.1 The site lies to the southeast of Manchester City Centre in Ardwick in an area dominated by commercial land use.
- 2.2 Universal Square consists of five office buildings and a number of areas of surface car parking that are accessed via a junction with the A665 Devonshire Street North. The overall car parking provision at Universal Square is 823 spaces, including a dedicated visitor parking area of 25 spaces at the northern end of the site. There is also provision for drop-off and pick-up activity at Universal Square to accommodate students accessing the site by taxi, with a layby area off the A665 outside the main entrance to the site.
- 2.3 There are a wide range of local amenities situated within walking distance of Universal Square, and there are also good transport services available in close proximity to the site including Manchester Piccadilly Rail Station.

Local Highway Network

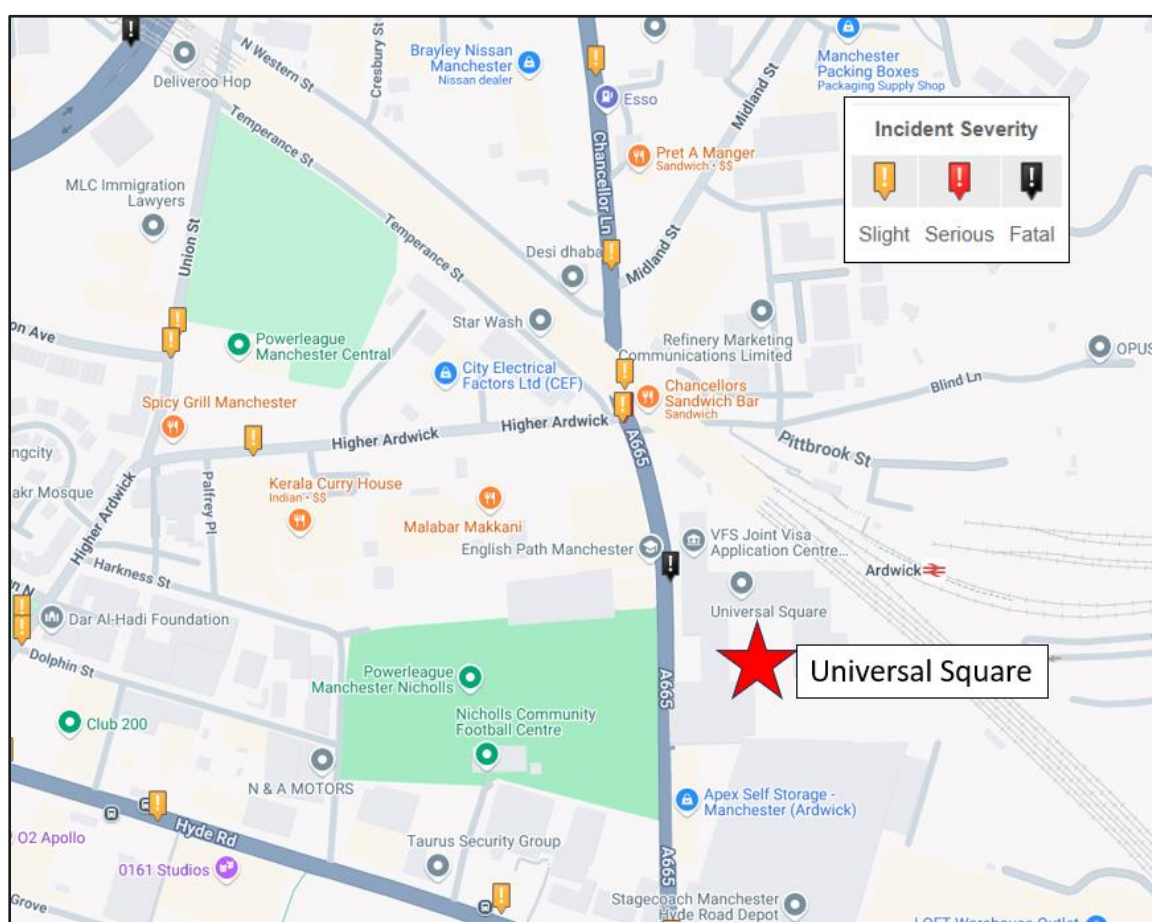
- 2.4 As noted above, vehicular access to the site is achieved from a priority-controlled T-junction with the A665 Devonshire Street North which runs in a north-south alignment on the western boundary of the site. In the vicinity of the site, the A665 is a single carriageway road subject to a 30mph speed restriction.
- 2.5 Around 60m to the north of the site access, the A665 connects with Higher Ardwick and Blind Lane forming a staggered crossroads with the A665 as the major road and the Higher Ardwick and Blind Lane forming the western and eastern minor arms of the junction, with Temperance Street forming a priority junction with the Higher Ardwick arm immediately adjacent to the A665.
- 2.6 Immediately to the north of the bridge under the railway, the A665 connects with Midland Street and North Western Street at a further staggered crossroads.
- 2.7 On its route northwards, the A665 becomes the A665 Chancellor Lane. Approximately 260m to the north of the junction with Midland Street, the A665 meets the A635 Fairfield Street at a signalised crossroad junction. To the north and west of this junction there are connections with the Manchester Inner Ring Road.
- 2.8 The A635 Fairfield Street/ A665 Chancellor Lane junction is provided with pedestrian crossing routes to assist pedestrians and cyclists.
- 2.9 Approximately 300m to the south of the site, the A665 forms a signalised crossroads junction with the A57 Hyde Road. The junction is provided with signalled pedestrian crossings on all four arms.
- 2.10 A further 200m to the south, the A665 forms a further signalised crossroads with the A6 Stockport Road. Again, there are signalled pedestrian crossings on all arms.



Accident Records

- 2.11 A review of accident records for the highway network has been undertaken using data available on the Crashmap website.
- 2.12 Crashmap uses data collected by the police about road traffic crashes occurring on British roads where someone is injured. This data is approved by the National Statistics Authority and reported on by the Department for Transport each year.
- 2.13 Traffic collision data has been obtained for the most recent five-year period (2018 - 2022). An extract of the accident map is provided below in **Figure 2.1** and this focusses on the A665 corridor in the vicinity of the site.

Figure 2.1: Accident Records



Source: Crashmap

- 2.14 As shown in the figure, five accidents have been reported along A665 in the immediate vicinity of the site and for a short distance to the north. One accident (close to the site access) was categorised as Fatal. With the remaining accidents categorised as 'Slight' in severity.
- 2.15 The fatal accident occurred on 2 December 2022 (Sunday). The incident involved a single car traveling normally along the carriageway before colliding with a nearby road sign/traffic signal. The car was fully occupied, resulting in serious injuries to three occupants, with one sustaining fatal injuries.

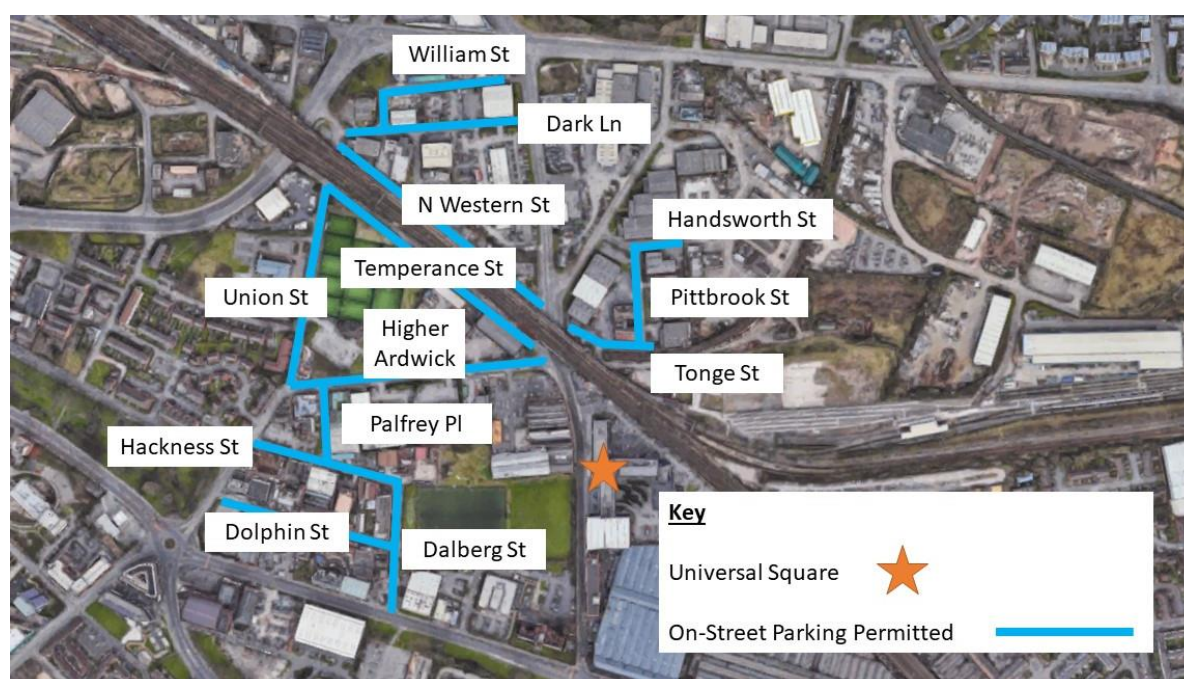


- 2.16 Overall, the analysis concludes that there are no material prevailing road safety issues in the vicinity of the site that would call into question the suitability of the proposed development in terms of road safety.

On-Street Parking Conditions

- 2.17 In the immediate vicinity of the site, the A665 and Midland Street are subject to parking restrictions through Traffic Regulation Orders (TROs) in the form of double yellow lines.
- 2.18 There are a number of surrounding roads which allow on-street parking at all times with no TROs in place. Nearby roads where on-street parking is permitted are shown in **Figure 2.3**. The highway layout of these streets in respect of safety considerations associated with on-street parking have been reviewed in more detail via a desktop review utilising Google Streetview.

Figure 2.3: On-Street Parking



- 2.19 As shown, there is a wide array of on-street parking in close proximity to the proposed development site.
- 2.20 On Higher Ardwick Street and Union Street, there is sufficient width in the carriageway to permit on-street parking on both sides without any impact on through traffic.
- 2.21 On Temperance Street the carriageway width varies between around 6-7m and on-street parking typically takes place on both sides of the carriageway restricting two-way traffic movements at certain points. However, through traffic volumes on this road are generally low as this road primarily acts as access to industrial units in the railway arches.
- 2.22 Similarly, the remaining roads identified in **Figure 2.3** typically experience on-street parking on both sides of the carriageway limiting the width to permit either a single vehicle or two vehicles passing at low speeds.



- 2.23 These roads are primarily access roads to industrial units and as a result are not considered to be heavily trafficked and the overall safety of road users would not be compromised as a result of additional on-street car parking demand.



3.0 Accessibility by Sustainable Travel Modes

Introduction

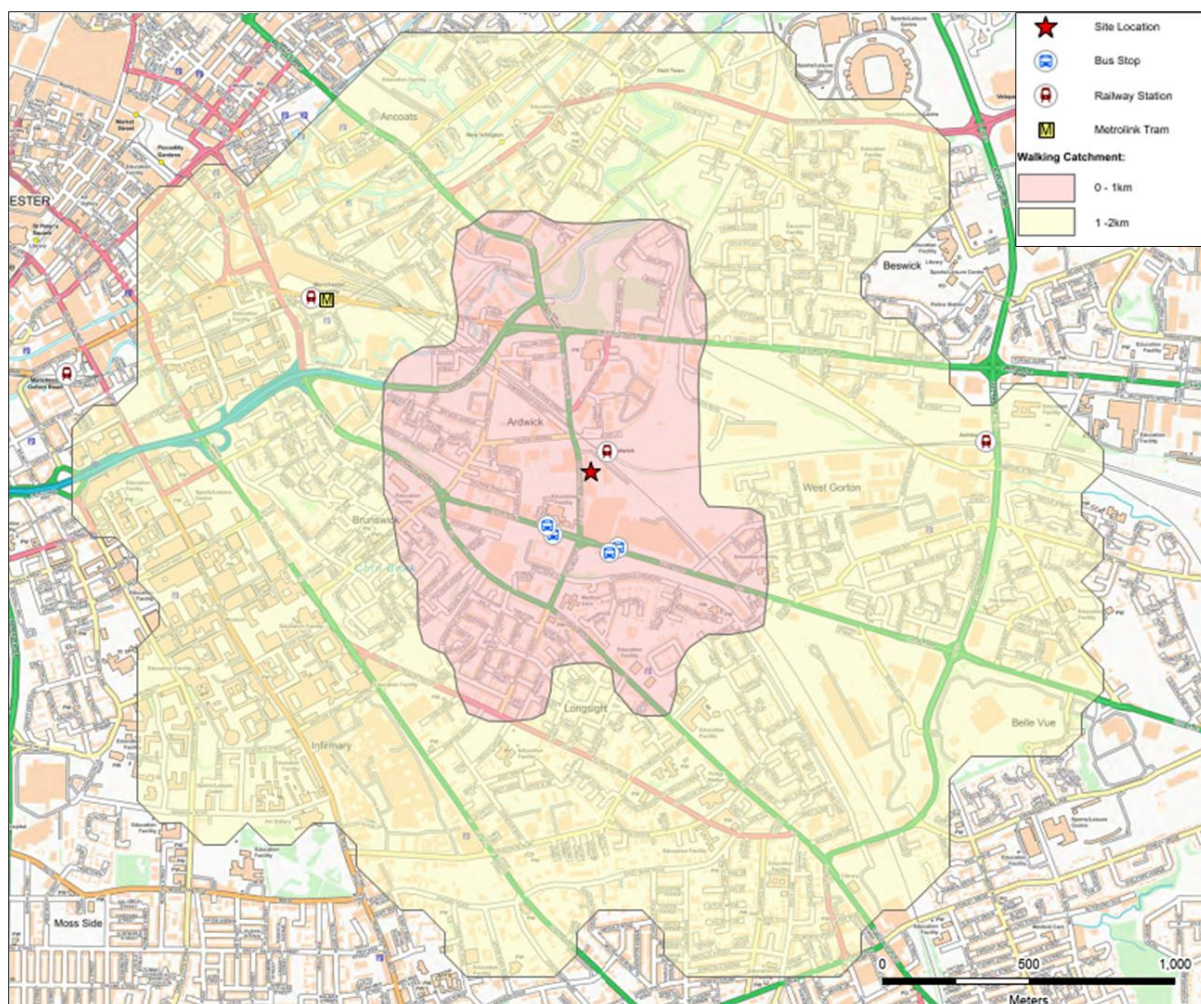
- 3.1 This section considers the accessibility of the site by sustainable modes including walking, cycling and public transport. The section also provides an audit of the active travel infrastructure on the A665 corridor and on the route to the A6/ Fairfield Street junction which is adjacent to Piccadilly rail station.

Access by Walking

- 3.2 The Institution of Highways and Transportation (IHT) document 'Guidelines for Providing for Journeys on Foot' (2000) contains suggested acceptable walking distances for pedestrians without mobility impairment for common facilities. The guidelines suggest that an acceptable walking distance for commuting and education is 1km, with the preferred maximum distance of 2km. Walking can also be promoted as part of a multi-modal journey, particularly with public transport.
- 3.3 A walking catchment plan has been prepared with 1km and 2km isochrones and is shown in **Figure 3.1**.



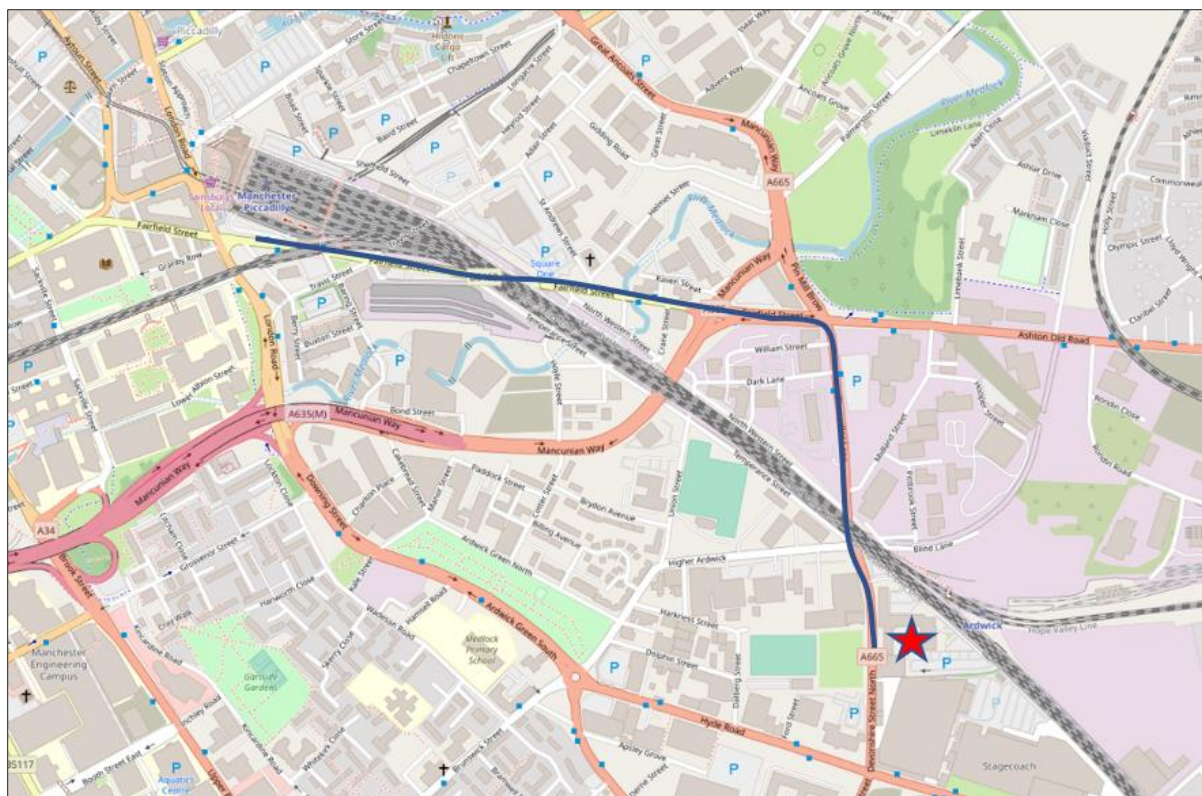
Figure 3.1: Walking Catchment Plan



- 3.4 The site is located within an established commercial area and benefits from good accessibility to the local services and amenities along the A57 Hyde Road and A6 Stockport Road, and with Manchester City Centre to the northwest. The roads in the vicinity of the site benefit from wide, good quality footways on both sides of carriageways, including the provision of dropped kerbs and tactile paving at key crossing locations. There is a controlled pedestrian crossing on the A665 directly adjacent to Universal Square entrance.
- 3.5 Within 400m of the site, GBS users would have access to bus stops on the A57 Hyde Road to the south of the site and the A57/ A665 signalised junction comprises of controlled pedestrian crossings to facilitate access to the two pairs of bus stops located at either side of this junction.
- 3.6 Manchester City Centre including Manchester Piccadilly Rail Station is within approximately 1.5km of the site. Students, staff and visitors would have access to/from the city centre using the existing footway network, and the most direct pedestrian walking route is via the A665 and Fairfield Street as shown in **Figure 3.2**.



Figure 3.2: Pedestrian Walking Route to City Centre



Walking Infrastructure Audit

- 3.7 An audit of nearby pedestrian facilities has been undertaken to consider the key pedestrian routes. This audit encompasses the route between the site and Piccadilly station (the A6/ Fairfield Street junction) to the north-west and the A665/ A6 junction to the south.
- 3.8 As noted in Section 2 of this report in a review of the accident record in the vicinity of the site, there are no identified underlying safety issues for pedestrians using the local network.

Site Access

- 3.9 The existing Universal Square car park site access junction with the A665 is shown in **Figure 3.3** at streetview level. This shows the provision of dropped kerbs with tactile paving to assist pedestrians crossing the site access arm of the junction.
- 3.10 While this provision would be suitable in most circumstances, to address the relatively wide junction bell mouth, an additional courtesy crossing point is in place around 15m back from the site access arm give-way line. This courtesy crossing is also provided with dropped kerbs and acts as a link between the Universal Square main pedestrian entrance and visitor car park on the northern side of the access road.



Figure 3.3: Universal Square Site Access



Source: Google Maps

North of the Site (A665/ Fairfield Street)

- 3.11 Around 40m to the north of the site access, the eastern footway along the A665 crosses Blind Lane and the western footway crosses Higher Ardwick.
- 3.12 To assist pedestrians crossing Blind Lane, dropped kerbs are provided with tactile paving at the southern crossing point. The A665/ Blind Lane junction is characterised by a relatively wide junction bell mouth on the Blind Lane arm and visibility along Blind Lane for pedestrians is restricted at the existing crossing point. However, Blind Lane itself is typically lightly trafficked and a narrow carriageway with slow vehicle speeds towards the A665, which acts to minimise this barrier and potential conflict issue.
- 3.13 There are some challenges for pedestrians seeking to cross Higher Ardwick before proceeding north along the western footway of the A665. The Higher Ardwick junction bell mouth is wide, which would discourage many pedestrians from attempting to cross at this location. The ability for pedestrians to cross at the junction bell mouth is further complicated by the adjoining Temperance Street that connects with Higher Ardwick just before its junction with the A665, although there is good visibility for pedestrians along Temperance Street from either side of Higher Ardwick next to the A665. The optimal route for pedestrians would be to proceed a short distance to the west along Higher Ardwick before crossing the carriageway where it begins to narrow.
- 3.14 Immediately to the north of the Blind Lane/ Higher Ardwick junctions, the footway on both sides of the carriageway crosses under a railway bridge. The footways at this point are wide and while no lighting is provided, the footway under the bridge only extends for around 30m meaning that daylight and light from adjacent streetlights penetrate under the bridge. The



footway is also visible from the road enhancing natural surveillance from passing motorists and other road users.

- 3.15 The footway on the eastern side of the A665 then meets Midland Street around 30m to the north of the railway bridge. Dropped kerbs are provided at the crossing point and there is a pedestrian refuge at the centre of the Midland Street carriageway to assist pedestrians. Immediately north of the Midland Street junction, there is a pedestrian crossing route of Chancellor Lane which is provided with dropped kerbs.
- 3.16 Immediately to the north of the railway bridge, the footway on the western side of the A665 crosses North Western Street. Dropped kerbs are provided to assist pedestrians.
- 3.17 Both footways continue north and meet several lightly trafficked junctions before meeting the A635 Fairfield Street/ A665 Chancellor Lane signalised junction. As noted previously, this junction is typically heavily trafficked. To address this, there are a range of facilities to assist pedestrians in negotiating the footway network at this location. This includes pedestrian refuge islands on all arms of the junction with guard railing provided at key points to facilitate 'walk with traffic' crossing movements within the phasing and staging sequence of the signalised junction. Dropped kerbs are also provided at all crossing points.

Route to the City Centre

- 3.18 Wide footways continue westward on Fairfield Street toward the city centre.
- 3.19 At the junction with the Inner Ring Road, there are signalled pedestrian crossings. These feature dropped kerbs and tactile paving.
- 3.20 Footways continue with only lightly trafficked side roads and accesses. The pedestrian route extends to Piccadilly rail station. From the rail station, there are established walking routes throughout the city centre.

South of the Site

- 3.21 Approximately 40m south of the vehicular site access, there is a signalised pedestrian crossing from the A665. This is outside the main pedestrian entrance to Universal Square and facilitates pedestrians crossing the carriageway. This crossing features nearside pedestrian indicators, dropped kerbs and tactile paving.
- 3.22 To the south of the site access junction, apart from several lightly trafficked site access junctions there are comparatively few conflict points along the footways towards where the A665 connects with the A57 Hyde Road.
- 3.23 To the south of the site, the A665 junction with the A57 is provided with formal crossing facilities on all arms to assist pedestrians. This includes pedestrian indicators, dropped kerbs and tactile paving along with refuge islands on the A57 arms.
- 3.24 Pedestrian footways continue, passing through some lightly trafficked accesses, to the A665 junction with the A6. This is also provided with formal crossing facilities on all arms including pedestrian indicators, dropped kerbs and tactile paving along with refuge islands on all but the southern arm.



Summary of Walking Audit

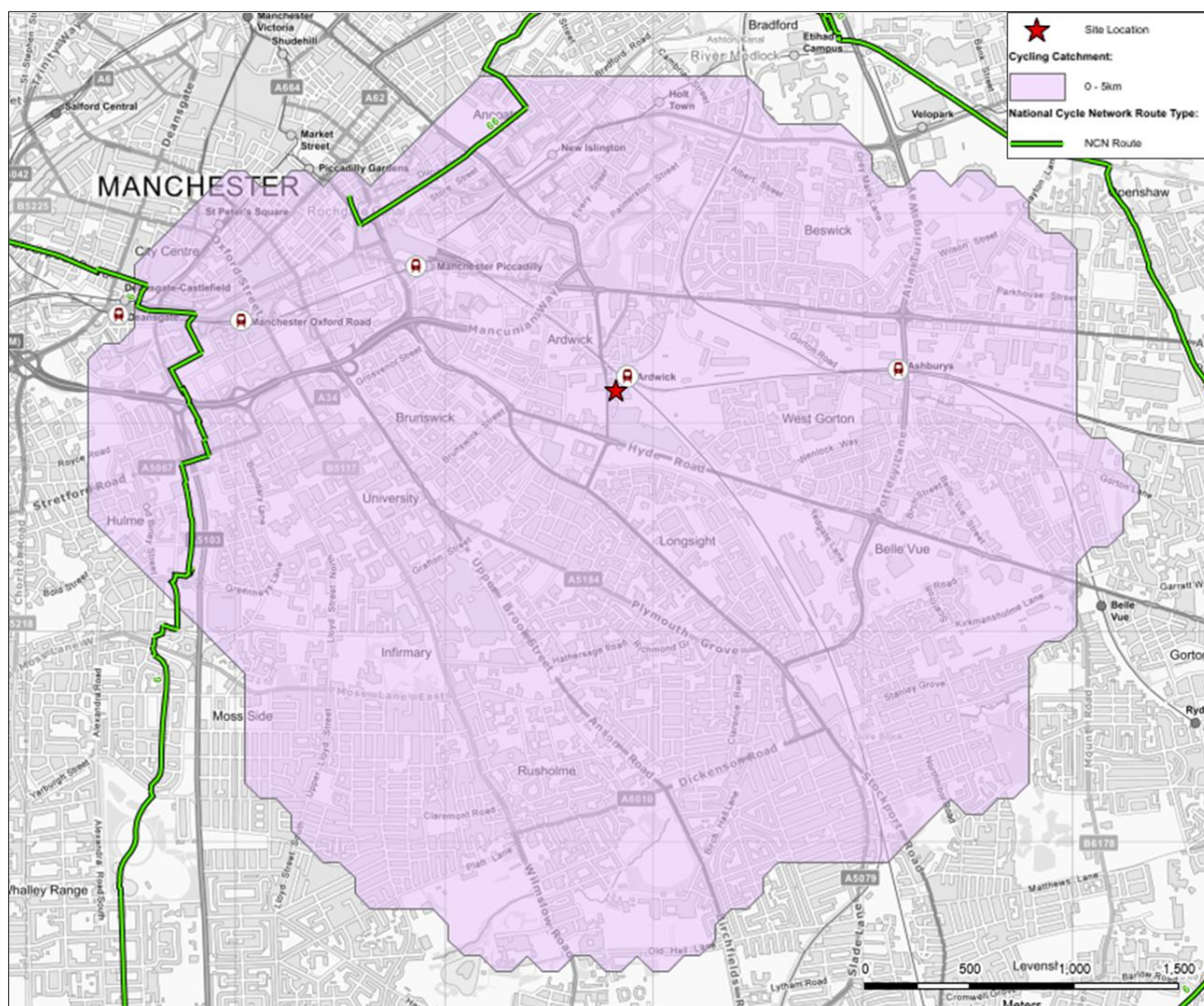
- 3.25 In summary, the existing pedestrian infrastructure around the site is of a good standard with few barriers to pedestrians.
- 3.26 The junction between the A665 and Higher Ardwick (including Temperance Street) has some constraints with a wide junction bell mouth which is not conducive to pedestrians crossing. However, this barrier is negated by the ability of pedestrians to cross further along Higher Ardwick where the carriageway narrows. Pedestrians also have the option of travelling north or south along the A665 on the opposite side of the carriageway away from the Higher Ardwick junction which is enabled by crossing opportunities at key signal junctions and a crossing point immediately adjacent to Universal Square.

Access by Cycle

- 3.27 An alternative mode of travel to and from the site could be achieved by bicycle, which has the potential to replace short car journeys.
- 3.28 The IHT and Department for Transport (DfT) document 'Cycle Friendly Infrastructure: Guidelines for Planning and Design' (1996) provides a guide on suggested cycle speeds associated with cyclists of varying confidence and ability. With reference to the guidance, a catchment of 5km would be available within approximately 20 minutes cycle time, using a speed of 10mph (16kph).
- 3.29 In addition, the DfT Local Transport Note 2/08 Cycle Infrastructure Design (2008) states that, 'many utility cycle journeys are under 3 miles (5 km) although for commuters a trip distance of over 5 miles (8 km) is not uncommon'.
- 3.30 A 5km cycle from the site encompasses a large extent of the built-up area of Manchester including the city centre and is shown in **Figure 3.4**.



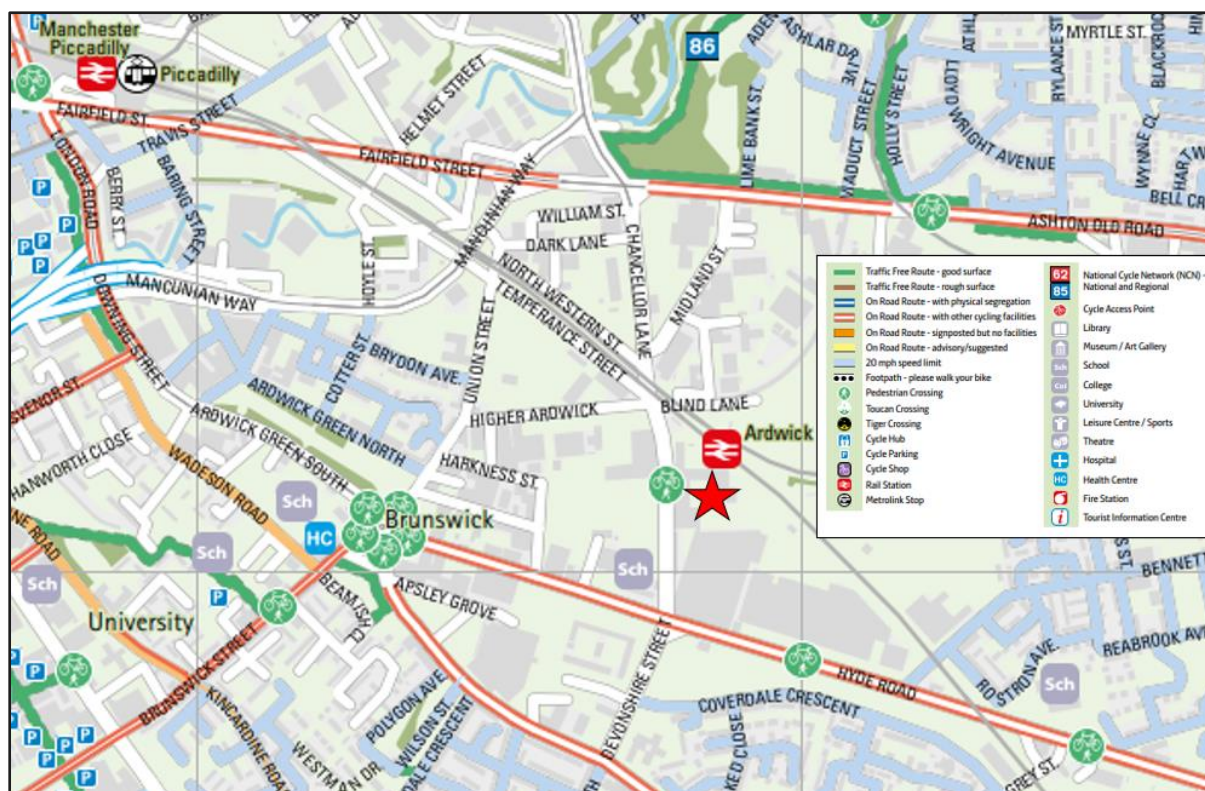
Figure 3.4: Cycle Catchment Plan



- 3.31 A 5km cycle from the site encompasses a large extent of the built-up area of Manchester including the city centre.
- 3.32 As shown in **Figure 3.5**, the site is well located in relation to the TfGM Cycle Network with the A57 Hyde Road, A6 Stockport Road and Fairfield Street designated as on-road cycle routes, with other cycling facilities. On Fairfield Street at the junction with the Inner Ring Road, there is a cycle lane for the ahead movement which assists cyclists making this movement across a significant left-turn traffic flow.



Figure 3.5: Extract from the Transport for Greater Manchester Cycle Map



- 3.33 To support GBS users to cycle there are four areas of external cycle parking at Universal Square in the form of uncovered Sheffield stands and covered cycle racks (providing capacity for approximately 47 cycles), together with a secure bike store provided at the rear of Building 4 which has capacity for 30 bikes. There are also showers and changing facilities available at within Universal Square.

Access by Public transport

Bus Services

- 3.34 The IHT document 'Guidelines for Planning for Public Transport in Developments' (1999) suggests that the maximum walking distance to the nearest bus stop should not exceed 400m and preferably be no more than 300m.
- 3.35 The closest bus stops are located on the A57 Hyde Road to the south of the site within a 350m walk and there are two pairs of bus stops on either side of the A665/ A57 signalised junction. These four bus stops consist of shelters with timetable information. The bus stops are served by four bus services (201, 202, 203, and 205.).
- 3.36 These routes provide high frequency bus connections throughout the week to Manchester Piccadilly Station and the Piccadilly Gardens in the city centre, thus facilitating multi-modal trips. Heading in the outbound direction these services provide links to a range of localities such as Hyde, Denton, Mottram, Reddish and Stockport, amongst other more local destinations.



Rail Services

- 3.37 The site is located approximately 1.5km from Manchester Piccadilly Rail Station which is around an 18 to 19-minute walk time (assuming an average walk speed of 80m per minute). It is accessible via the footways on the A665 and Fairfield Street. Manchester Piccadilly provides high frequency rail services to a wide range of local, regional and national destinations, as well as facilitating connections to the other major rail interchanges.
- 3.38 Piccadilly rail station also provides access to the Metrolink light rail network.

Shuttle Bus Service

- 3.39 A free shuttle bus service is available for tenants and visitors to the Universal Square site provided by the landlord, Cypresshawk Ltd. This runs between the site and Manchester Piccadilly Station on Monday to Friday.
- 3.40 The shuttle bus service that supports the wider Universal Square site consists of two 19-seater minibuses operated between 07:30 – 09:30 (first service from Piccadilly Station) and 16:30 – 18:30 (first service from Universal Square), Monday to Friday.
- 3.41 The operation of the service has been extended so that additional minibuses are available during the peak travel periods of GBS students. The extension to the service comprises of additional shuttle bus services running 09:45 to 11:05 and between 14:30 to 15:50. This demonstrates a commitment to access by sustainable modes of travel.

Summary

- 3.42 The proposed development site benefits from excellent accessibility by walking, cycling and public transport. There are good quality footways along routes surrounding the site which provide connections to bus stops on the A57, and into Manchester Piccadilly rail station and the city centre.
- 3.43 In addition, there is a free shuttle bus service which runs between Universal Square and Manchester Piccadilly Station in the weekday morning and evening peak periods that is available for tenants and visitors to use. This also runs at additional times outside of these peak periods to align with the peak arrival and departure times for the GBS students.
- 3.44 The site is therefore considered accessible by sustainable modes of transport.



4.0 Proposed Development

Previous GBS Development

- 4.1 There have been three previous phases of GBS development. The overall floor space occupied by GBS at Universal Square is circa 4,459sqm (48,000sqft) and the site accommodates up to 6,600 students along with 150 staff.

Phase 4 Proposed Re-Development

- 4.2 In order to support the GBS's future expansion plans the next three years, a fourth change of use application submission is now proposed. This would see GBS occupy a further 55,000sqft of additional space at the site by 2027, resulting in a total area of 103,000sqft. It is projected that around 10,474 students will be enrolled at the site by 2027, which would be an increase of 3,874 compared with the present. The expansion would also accommodate an additional 168 staff.
- 4.3 The planning application proposes a change of use of up to 55,000sqft of floorspace from offices (Class E) to a flexible commercial, business and service (Class E) and learning and non-residential institutions use (Class F.1) pursuant to Schedule 2, Part 3, Class V of the Town and Country Planning (General Permitted Development) Order.

Operational Hours

- 4.4 GBS operates daytime and evening classes. The timing of these classes are summarised below from information provided by GBS:
- Daytime 09:45-15:30; and
 - Evening 18:00-21:00.

On-Site Car Parking

- 4.5 The Universal Square building features an on-site car park which accommodates approximately 823 parking spaces.
- 4.6 At Universal Square parking spaces are allocated on a ratio of one space per 350sqft of floor space occupied. This equates to an existing parking entitlement with the Phase 3 of a total of 137 spaces. The proposed Phase 4 adds 55,000sqft which equates to a further parking allocation of 157 spaces. This results in a total parking allocation of 294 spaces.
- 4.7 MCC's adopted parking standards are contained within the MCC Core Strategy, and for higher and further education the maximum standard is 1 car parking space per two staff including parking for students. This equates to a parking provision of up to 159 spaces. Whilst the parking allocation exceeds that outlined in the parking standards, it should be noted that these spaces are already allocated to the floorspace associated with GBS.



5.0 Traffic Analysis

Existing Office Use Trip Generation

- 5.1 As noted earlier, the floor area proposed to be occupied by the Phase 4 expansion of GBS operations has extant planning permission for office use. The existing permitted office use of the floor space will generate vehicle movements. A trip forecasting exercise has been undertaken using the industry standard TRICS database of surveyed sites.
- 5.2 A summary of the extant vehicle trips associated with the permitted office use is provided in **Table 5.1** below for the hours 08:00-22:00. The full TRICS outputs which are the source of the trip rates are included as **Appendix F**. The TRICS outputs include information on the site selection filtering criteria used which is considered representative of the Universal Square site.
- 5.3 These are the same trip rates which were used to assess the extant office use for the Phase 3 expansion of GBS (May 2021).

Table 5.1: Existing Office Trip Generation

Hour	Trip Rate		Trip Generation		
	Arrive	Depart	Arrive	Depart	Two-Way
0800-0900	1.935	0.265	99	14	112
0900-1000	1.417	0.539	72	28	100
1000-1100	0.527	0.484	27	25	52
1100-1200	0.418	0.444	21	23	44
1200-1300	0.610	0.798	31	41	72
1300-1400	0.656	0.573	34	29	63
1400-1500	0.487	0.503	25	26	51
1500-1600	0.351	0.619	18	32	50
1600-1700	0.318	1.041	16	53	69
1700-1800	0.197	1.549	10	79	89
1800-1900	0.056	0.424	3	22	25

- 5.4 It should be further noted that Use Classes E and F, under which the existing office space is categorised, the development site is lawfully permitted to operate for any land use that falls within these classifications. As well as education, this may include high trip generating uses such as discount food stores.
- 5.5 The trip generation potential of the Phase 4 expansion plans should be considered in this context when assessing the likely impact of the proposals on the local highway network.

GBS Trip Generation

- 5.6 GBS currently operates a number of sites across the UK, including Universal Square, and as a result detailed information on the future staff and student numbers for Phase 3 has previously been made available.



- 5.7 A summary of the existing staff and student numbers is presented in **Table 5.2** along with the projected numbers once the proposed Phase 4 expansion is in place.

Table 5.2: Student & Staff Numbers

	Existing Phase 3	Phase 4	Net Change
Students	6,600	10,474	3,874
Staff	150	318	168

Student Attendance (Weekday)

- 5.8 SLR has engaged with senior representatives at the GBS to obtain detailed information on the attendance characteristics of the existing students at the campus to help inform the projections with regard to future trip generation.
- 5.9 Of the students enrolled at the site, it is understood that around 10% exclusively attend weekend classes. This results in an additional 3,486 students enrolled on classes on weekdays as a result of the Phase 4 expansion.
- 5.10 On a typical day, it is understood that up to around than 25% of the total weekday student enrolment will be allocated to classes on any particular day. This results in an additional 872 students on an individual weekday.
- 5.11 GBS currently records an average student attendance of around 75% to classes and lectures across their various sites and this level of attendance is anticipated to continue once Phase 4 is in operation. This equates to 654 students attending the site on a typical weekday.
- 5.12 Of those students in attendance, it is understood that around 85% will attend daytime classes and 15% evening classes. A summary of the additional Phase 4 students at the site is shown in **Table 5.3**.

Table 5.3: Weekday Student Attendance

Daytime/ evening	Student attendance
Daytime (85%)	556
Evening (15%)	98
Total	654



Arrival and Departure Profiles

- 5.13 In order to determine the likely timing of students arriving and departing the site, data has been provided from GBS's attendance register. This information was recorded for students attending the GBS in a previous survey undertaken in a typical week in 2019.
- 5.14 The attendance register recorded entry times to the site and this has been used to forecast the arrival times of Phase 4 students. The scheduled class end times set out in Section 4 have been used to determine the times that students are likely to depart the site as the register process does not record student departures.
- 5.15 Using this information, a weekday arrival and departure profile has been generated for this assessment. The daily profile for a staff and student arriving and departing the Universal Square site on a typical weekday is shown in **Table 5.4** below. These proportions follow the methodology used to assess the Phase 3 expansion.

Table 5.4: Arrival & Departure Profile

Hour	Staff		Students	
	Arrive	Depart	Arrive	Depart
0800-0900	10%			
0900-1000	70%		96%	
1000-1100			4%	
1100-1200				
1200-1300				
1300-1400				
1400-1500				
1500-1600				100%
1600-1700		10%		
1700-1800	20%	70%	44%	
1800-1900			56%	
1900-2000				
2000-2100				
2100-2200		20%		100%

Proposed Phase 4 Total Person Trips

- 5.16 The forecast total person trips for a typical weekday for both staff and students is presented in **Table 5.5**. These forecasts have been derived from the existing arrival and departure profile presented previously.



Table 5.5: Forecast Person Trips

Hour	Staff		Students		Combined		Total
	Arrive	Depart	Arrive	Depart	Arrive	Depart	
0800-0900	17				17		17
0900-1000	118		533		651		651
1000-1100			22		22		22
1100-1200							0
1200-1300							0
1300-1400							0
1400-1500							0
1500-1600				556		556	556
1600-1700		17				17	17
1700-1800	34	118	43		77	118	194
1800-1900			55		55		55
1900-2000							0
2000-2100							0
2100-2200		34		98		132	132

- 5.17 As shown, the development morning and evening peaks for predicted total person trips occur between 09:00-10:00 and 15:00-16:00, with 651 and 556 two-way person trips respectively.

Development Vehicle Trips

- 5.18 As noted earlier, a travel survey of existing staff and students was previously undertaken to establish travel behaviour. This was undertaken pre-Covid so would not have captured any changes resulting from post-Covid working patterns.
- 5.19 An updated travel survey of staff and students was undertaken in August 2024. The resultant surveyed mode share information for staff and students is presented in **Table 5.6** and is considered to represent a baseline position for the Phase 4 proposals at the site.



Table 5.6: GBS Mode Share – Baseline Travel Survey 2024

Mode	Mode Share
Car (Driver)	49%
Car Sharing (Passenger)	n/a
Walk	3%
Cycle	3%
Bus	1%
Train	23%
Tram	16%
Motorcycle/ Scooter	1%
Taxi/ Uber	1%
Other	3%

- 5.20 Using the total person trip movements presented and baseline mode share information, a profile of vehicle trips has been forecast. The arrivals and departures of vehicle trips associated with the Phase 4 proposals is shown in **Table 5.7**. The net change in vehicle trips when compared with the trip generation of the extant office use at the site is also shown.

Table 5.7: Forecast Vehicle Trips (Baseline Mode Share)

Hour	Staff		Students		Phase 4 Total		Change From Office Use	
	Arr	Dep	Arr	Dep	Arr	Dep	Arr	Dep
0800-0900	8				8		-46	-7
0900-1000	58		261		319		280	-15
1000-1100			11		11		-4	-13
1100-1200							-12	-12
1200-1300							-17	-22
1300-1400							-18	-16
1400-1500							-14	-14
1500-1600				272		272	-10	255
1600-1700		8				8	-9	-21
1700-1800	16	58	21		38	58	32	14
1800-1900			27		27		25	-12
1900-2000							0	0
2000-2100							0	0
2100-2200		16		48		65	0	65

- 5.21 As shown, during the typical highway network morning peak hour of 08:00-09:00 the proposals result in a decrease of 53 two-way trips whilst in the typical evening peak hour of 17:00-18:00, the proposals are forecast to generate 46 two-way vehicle trips. This is based on the baseline mode share conditions.



- 5.22 The most significant change in trip generation (compared to the existing office use) is an increase of 265 two-way trips in the 0900 – 1000 hour and an increase of 245 two-way trips in the 1500 – 1600 hour.
- 5.23 It should be noted that the forecast traffic generation of the revised use exceeds the parking capacity (294 spaces) which will be allocated to the GBS. This will necessitate some visitors to park on-street or in off-site car parking. In the event of the latter, these vehicles will not directly use the local highway network immediately surrounding the site. As such, the traffic generation forecasts are regarded as highly robust. The topic of car parking is discussed in detail later in this report.
- 5.24 As noted earlier, the existing use could be occupied by a higher trip generating use, such as a discount food store. In this case the proposed change of use would have a lesser impact on trip generation. This alternative use was also considered in the previous TA for Phase 3 though the core assessment was based on the use of office trip generation.
- 5.25 On the basis of the predicted net change in vehicle movements, it is concluded that the development proposals would not have any significant detrimental impact on the operation of the local highway network during the typical morning and evening peak hours.
- 5.26 As shown in **Table 5.7**, the peak hours for the development's vehicle trip generation lie outside the typical highway network peaks. This will act to lessen the impact of vehicle movements associated with the development proposals as there will be additional capacity available on the network during these off-peak periods. A total of 319 additional two-way vehicle movements are predicted between the hours of 09:00-10:00 and 272 two-way vehicle movements between the hours of 15:00-16:00.

Car Parking Restriction

- 5.27 It should be noted that the forecast traffic generation of the revised use exceeds the parking capacity (294 spaces) which will be allocated to the GBS. This will necessitate some visitors to park on-street or in other off-site car parking. This is known to already be the case. In the event of parking at other off-site parking, then these vehicles will not directly use the local highway network considered in the study area. As such, the traffic generation forecasts are regarded as highly robust.
- 5.28 The topic of car parking is discussed in greater detail later in this report.

Development Vehicle Trips – Future Baseline

- 5.29 As set out in previous applications and summarised in Section 6 of this report, a travel planning strategy is in place for the GBS building. The measures being implemented at the site will act to encourage a significant mode shift away from single occupancy car travel towards public transport, walking, cycling and car sharing.
- 5.30 Section 6 makes reference to a detailed Travel Plan (TP) for GBS, which has already been implemented at the site. With the initiatives proposed as part of the TP overall vehicle usage at the site would be expected to reduce amongst both staff and students with a mode shift reduction of 25% targeted over a five-year period from the adoption of the full Travel Plan.



Once this mode shift target is achieved this will result in a residual single occupancy car travel mode share of 27% for staff and 28% for students.

- 5.31 Assuming this mode shift is achieved, the resultant vehicle trips are shown in **Table 5.8** for a typical weekday. These compare with those shown for the baseline travel mode which were set out in **Table 5.7**.

Table 5.8: Forecast Vehicle Trips (Future Mode Share)

Hour	Staff		Students		Phase 4 Total		Change From Office Use	
	Arr	Dep	Arr	Dep	Arr	Dep	Arr	Dep
0800-0900	5				5		-49	-7
0900-1000	32		149		181		142	-15
1000-1100			6		6		-8	-13
1100-1200							-12	-12
1200-1300							-17	-22
1300-1400							-18	-16
1400-1500							-14	-14
1500-1600				156		156	-10	138
1600-1700		5				5	-9	-24
1700-1800	9	32	12		21	32	16	-11
1800-1900			15		15		14	-12
1900-2000							0	0
2000-2100							0	0
2100-2200		9		27		37	0	37

- 5.32 As illustrated, the projected future mode share of the site will result in fewer vehicle trips amongst staff and students associated with the proposals when compared to the baseline mode share. During the weekday network morning peak hour of 08:00-09:00 a reduction of 56 two-way trips is forecast whilst during the typical evening peak hour of 17:00-18:00, the proposed development will generate 5 two-way vehicle trips.
- 5.33 The development peak hours of 09:00-10:00 and 15:00-16:00 are forecast to see a net increase of 127 and 128 two-way vehicle trips respectively.

Trip Generation Summary

- 5.34 This forecasting exercise has demonstrated that the most intensive periods for vehicle movements associated with development traffic do not correspond with the typical peak hours on the highway network. The highest development traffic levels occur in the inter-peak period. As a result, the highway network will have capacity available to accommodate the additional vehicle trip demand which the proposed development will generate.



- 5.35 The vehicle trip forecasting for the development has initially been undertaken on a robust basis with a baseline mode share for single occupancy car travel. This baseline mode share does not account for the targeted mode shift away from this form of travel that will be achieved through the proposed development's travel planning strategy and excellent sustainable transport credentials associated with Universal Square. The implemented TP strategy and its associated initiatives will reduce the relative impact of development traffic on the local highway network.



6.0 Traffic Impact Assessment

Traffic Survey

- 6.1 It has been agreed with TfGM that traffic surveys would be undertaken at five junctions and the results would determine the appropriate study area based on the relative impact of the development on the network.
- 6.2 Consequently, manual classified turning count surveys were undertaken on Thursday 16th May 2024 at the following junctions:
- A665/ A57 Hyde Road
 - A665/ A635 Fairfield Street
 - A665/ A6 Stockport Road
 - A665/ Midland Street
 - A635/ Midland Street
- 6.3 These surveys were undertaken between the hours of 08:00-10:00 and 15:00-18:00 by an independent third-party data collection company. The full survey data has been included as **Appendix C**. It is understood that the Phase 3 expansion was effectively fully occupied at this time.
- 6.4 The development peak hour surveyed traffic flows have been converted into Passenger Car Units (PCUs) and are shown in traffic **Figure 1** of **Appendix D**.

Trip Distribution

- 6.5 A distribution for traffic to/ from the Universal Square site has been developed and is shown in **Figure 2**. The north/ south distribution of trips has been determined on the basis of surveyed traffic volumes on the A665 approaches to adjacent junctions. The remainder of the distribution is based on surveyed turning counts at the junctions.

Development Impact at Junctions

- 6.6 The development (change of use) impact has been considered at the surveyed junctions. The percentage impact of additional traffic for both the baseline mode share and for the target mode share is set out in **Table 6.1** below.



Table 6.1: Development Traffic Impact

Junction	Development Impact (49% Mode Share)		Development Impact (28% Mode Share)	
	AM	PM	AM	PM
A635/ A665	4.2%	3.1%	1.4%	1.2%
A635/ Midland St	1.5%	1.9%	0.5%	0.8%
A665/ Midland St	7.7%	8.4%	2.4%	3.6%
A665/ A57 Hyde Rd	2.8%	2.7%	0.9%	1.1%
A665/ A6 Stockport Rd	2.6%	2.4%	0.8%	1.0%

- 6.7 The impact of development traffic is less than 3% at the A635/ Midland Street junction, the A665/ Hyde Road junction and at the A665/ A6 Stockport Road junction. The development impact at these junctions is not considered to be significant and junction assessment is not considered necessary. Nevertheless, the A665/ A57 Hyde Road junction has been included for assessment for consistency with previous application for this site.
- 6.8 The scope of the junctions for detailed assessment therefore includes the following:
- A665/ A57 Hyde Road signalised junction,
 - A665/ A635 Fairfield Street signalised junction,
 - A665/ Midland Street priority-controlled junction.

Assessment Periods

- 6.9 As noted earlier, the most intensive periods for development traffic do not align with the typical weekday AM and PM network peak hours of 08:00-09:00 and 17:00-18:00.
- 6.10 In order to assess the full impact of the proposals, the busiest hours for development traffic have been adopted for this assessment, and are as follows:
- Weekday AM peak – 09:00-10:00
 - Weekday PM peak – 15:00-16:00
- 6.11 The development peak hour surveyed traffic flows have been converted into Passenger Car Units (PCUs) and are shown in Traffic **Figure 1** of **Appendix D**.
- 6.12 In pre-application correspondence, TfGM requested that traffic modelling should be undertaken using ‘demand flows’. In order to assess ‘demand flows’ the average queue during the hour may be added to the surveyed flows. The average queue is shown in **Figure 2**. As the additional queuing is not significant and as the assessment is considering non-peak hours, it is considered that ‘demand flows’ are unlikely to be appropriate and the surveyed flows have been used.
- 6.13 The traffic flows associated with the existing office use of the floor space at Universal Square are shown in **Figure 5**. This uses the trip distribution previously discussed. Finally, the traffic flows generated by the proposed development (change of use) are shown in **Figure 6**. This



assumes the existing 49% share of single use car trips and also makes no reduction which may be associated with car parking occurring at off-site locations. This is considered to be a highly robust assessment.

- 6.14 As noted earlier, Land Use Class E under which the existing office space is categorised, permits the site to operate for any land use that falls within this classification, which includes high trip generating uses such as a discount food store. However, to provide a robust assessment, only trips associated with the existing office use have been considered.
- 6.15 In addition, it should be noted that the development trip forecasts considered in the core assessment do not take account of the GBS Travel Plan which is expected to reduce the single occupancy car travel mode share for GBS site users by 2027, when the GBS is expected to be fully occupied. Again, this approach has ensured a robust assessment of the development trip impact on the local highway network.

Junction Capacity Assessment

A665 Chancellor Lane A635 Fairfield Street Junction

- 6.16 A capacity assessment has been undertaken using LinSig for the A665 Chancellor Lane/ A635 Fairfield Street junction to the north of the site. Signal data has previously been obtained from TfGM (for the Phase 3 application) and this has informed the modelling of this junction.
- 6.17 As noted earlier, average queues during the hour have been added to the survey flows to generate demand flows.
- 6.18 It is understood from the information provided by TfGM that the junction is under Split Cycle Offset Optimisation Technique (SCOOT) which has the ability to automatically adjust traffic signal times to adapt to traffic demand.
- 6.19 The model uses staging to match that used in the previous modelling for Phase 3.
- 6.20 The model assessment results are set out in **Table 6.2** below. This provides a summary of the 2027 Baseline and the 2027 Development scenarios. Results are expressed as Degree of Saturation (DoS), Mean Maximum Queue (MMQ) and Practical Reserve Capacity (PRC). The full LinSig output file has been provided as **Appendix E**.

Table 6.2: A665 Chancellor Lane/ A635 Fairfield Street Junction Results

Arm	Base – Existing Traffic				Development (GBS)			
	AM Peak		PM Peak		AM Peak		PM Peak	
	DoS	MMQ	DoS	MMQ	DoS	MMQ	DoS	MMQ
A635 Ashton Old Road	88.2	19	85.7	14	91.1	21	86.1	14
A665 Chancellor Lane	85.5	13	77.1	12	85.2	13	89.3	16
A635 Fairfield Street	86.4	12	85.5	16	91.1	14	86.7	16



Arm	Base – Existing Traffic				Development (GBS)			
	AM Peak		PM Peak		AM Peak		PM Peak	
	DoS	MMQ	DoS	MMQ	DoS	MMQ	DoS	MMQ
A665 Pin Mill Brow	77.1	11	63.8	9	89.0	14	64.6	9
PRC (%)	2.1		5.0		-1.2		0.8	

- 6.21 The results show that the A665 Chancellor Lane/ A635 Fairfield Street junction is forecast to operate within capacity in both the Baseline ‘Without Development’ and ‘With Development’ scenarios, though the junction is shown to be approaching capacity in the AM peak.
- 6.22 A comparison of the two scenarios demonstrates the minimal impact of the development proposals on the performance of the junction with. The junction retains has available capacity even with the addition of traffic from the proposed development.
- 6.23 It is therefore concluded that the existing junction is more than able to accommodate the additional traffic demand forecast to be generated by the proposed development during its most intensive arrival and departure periods.

A57 Hyde Road/ A665 Devonshire Street

- 6.24 The existing and future performance of the A57 Hyde Road/ A665 Devonshire Street signal junction, a model has been created in the LinSig software package which is the industry standard for assessment of signalled junctions. Signal data has previously been obtained from TfGM (for the Phase 3 application) and this has informed the modelling of this junction.
- 6.25 It is understood that the junction is under Microprocessor Optimised Vehicle Actuation (MOVA) control and as a result, stage and cycle times vary according to traffic demand. The previous signal timing data provided by TfGM for the junction was reviewed to understand the likely cycle times during the assessment periods.
- 6.26 The junction includes demand actuated pedestrian crossing facilities which are called relatively infrequently, with less than half of the cycles at the junction activating the relevant stages. However, to provide a robust assessment and to reflect that the GBS proposals will increase pedestrian movements to/ from the site, the LinSig model used in this assessment includes the pedestrian phases and stages every cycle.
- 6.27 The junction model is based on that which was previously used in the assessment of the Phase 3 expansion of GBS. The cycle times were informed by MOVA data. Only the cycle times that include the pedestrian facilities being called have been considered, this equates to a 90 second cycle time in the AM peak and a 124 second cycle time in the PM peak.
- 6.28 The model assessment results are set out in **Table 6.3** below which provides a summary of the 2027 Baseline’ and 2027 Development scenarios. Results are expressed as Degree of Saturation (DoS), Mean Maximum Queue (MMQ) and Practical Reserve Capacity (PRC). The full LinSig output file has been provided as **Appendix F**.



Table 6.3: A57 Hyde Road/ A665 Devonshire Street Junction Results Summary

Arm	Base – Existing Traffic				Development (GBS)			
	AM Peak		PM Peak		AM Peak		PM Peak	
	DoS	MMQ	DoS	MMQ	DoS	MMQ	DoS	MMQ
A57 Hyde Road (East)	75.6	13	57.9	11	78.0	13	59.0	11
A665 Devonshire Street (South)	59.2	10	48.1	11	67.1	12	60.3	11
A57 Hyde Road (West)	43.9	6	69.7	14	44.6	6	72.1	14
A665 Devonshire Street North	76.6	12	61.1	14	76.3	12	72.1	18
PRC (%)	17.4		29.1		15.3		24.7	

- 6.29 The results show that the A57 Hyde Road/ A665 Devonshire Street junction is forecast to operate within capacity in both the Baseline 'Without Development' and 'With Development' scenarios.
- 6.30 A comparison of the two scenarios demonstrates the minimal impact of the development proposals on the performance of the junction with PRC reducing by just 1.6% in the AM peak and 16.2% in the PM peak. The positive PRC values forecast for the 'With Development' scenario indicate that the junction has available capacity even with the addition of traffic from the proposed development.
- 6.31 It is therefore concluded that the existing junction is more than able to accommodate the additional traffic demand forecast to be generated by the proposed development during its most intensive arrival and departure periods.

A665/ Midland Street Junction

- 6.32 A capacity assessment has been undertaken using the 'Junctions 10' software package. The results are summarised in **Table 6.4** below with the full outputs in **Appendix G**.

Table 6.4: A665 Chancellor Lane/ A665 Midland Street Junction Results Summary

Arm	Base – Existing Traffic				Development (GBS)			
	AM Peak		PM Peak		AM Peak		PM Peak	
	RFC	Queue	RFC	Queue	RFC	Queue	RFC	Queue
Chancellor Ln (north)	0.06	0	0.01	0	0.07	0	0.02	0
Midland St	0.06	0	0.07	0	0.09	0	0.09	0
Chancellor Ln (south)	0.44	1	0.65	3	0.48	1	0.75	5
North Western St	0.06	0	0.03	0	0.07	0	0.04	0

- 6.33 The results show that the A665 Chancellor Lane/ Midland Street junction is forecast to operate within capacity in both the Base and 'With Development' scenarios.





Car Parking

Parking Accumulation

- 6.34 Using the vehicle trip arrival and departure information outlined in Section 5, a parking accumulation forecast has been derived for the GBS inclusive of the Phase 4 expansion.
- 6.35 Under baseline mode share conditions, a peak parking demand of around 338 vehicles would be expected on a weekday. With the projected future mode share (28% single occupancy car trips) achieved this parking demand would reduce significantly to a peak of 192 vehicles.
- 6.36 As noted earlier, Universal Square parking spaces are allocated on a ratio of one space per 350sqft occupied. The existing GBS allocation is a total of 137 spaces. The proposed Phase 4 adds 55,000sqft which equates to a further parking allocation of 157 spaces at Universal Square. This results in a total parking allocation of 294 spaces for the GBS.

Off-Site Car Parking

- 6.37 As detailed earlier the previous travel survey of staff and students (undertaken for the Phase 3 application) gathered information regarding where individuals parked their vehicles when visiting the Universal Square site. The results of the survey indicated the following:
- 15% of respondents used the Universal Square car park,
 - 43% parked in other off-street parking locations,
 - 42% parked on-street.
- 6.38 It should be noted that cars parked in other off-street car parks will not directly make a car-based trip to the site. This traffic will therefore not impact directly on the study area considered. This will likely reduce the overall traffic impact of the proposed development.
- 6.39 It is anticipated that such trips are likely to be a combined trip with some other journey purpose which would further reduce the traffic impact.

Additional Parking Capacity

- 6.40 In addition to the Universal Building car park that is located opposite the site, owing to its proximity to Manchester City Centre, the site is well positioned to access existing additional parking provision off-site. Significant off-street car parks within a reasonable walking distance include, but are not limited to, the following:
- Piccadilly Station;
 - Store Street;
 - Piccadilly Place;
 - Baird Street; and
 - Sheffield Street.



- 6.41 Taking the above information into account, it is not anticipated that the forecast level of peak parking demand as a result of the GBS Phase 4 proposals would lead to any undue pressure on existing parking provision around the site.

Summary

- 6.42 This Section has explored the predicted car parking demand for the GBS proposals and considered the likely requirements and impacts on existing provision. It is not considered that the level of parking demand would lead to any material impact on parking in the vicinity of the site, with the potential for a larger proportion of car parking to be accommodated on-site at Universal Square to minimise any additional pressure on local roadside parking in the vicinity of the site. In addition, there is a good provision of off-site car parks that are located within an acceptable walking distance of the site that can be utilised by students. This is a pattern amongst existing students attending the GBS Campus at Universal Square.



7.0 Travel Plan Update

7.1 As part of the GBS's Phase 3 development planning application, a Framework Travel Plan was submitted in May 2021. Further to this, a full Travel Plan was submitted to discharge a planning condition in November 2023.

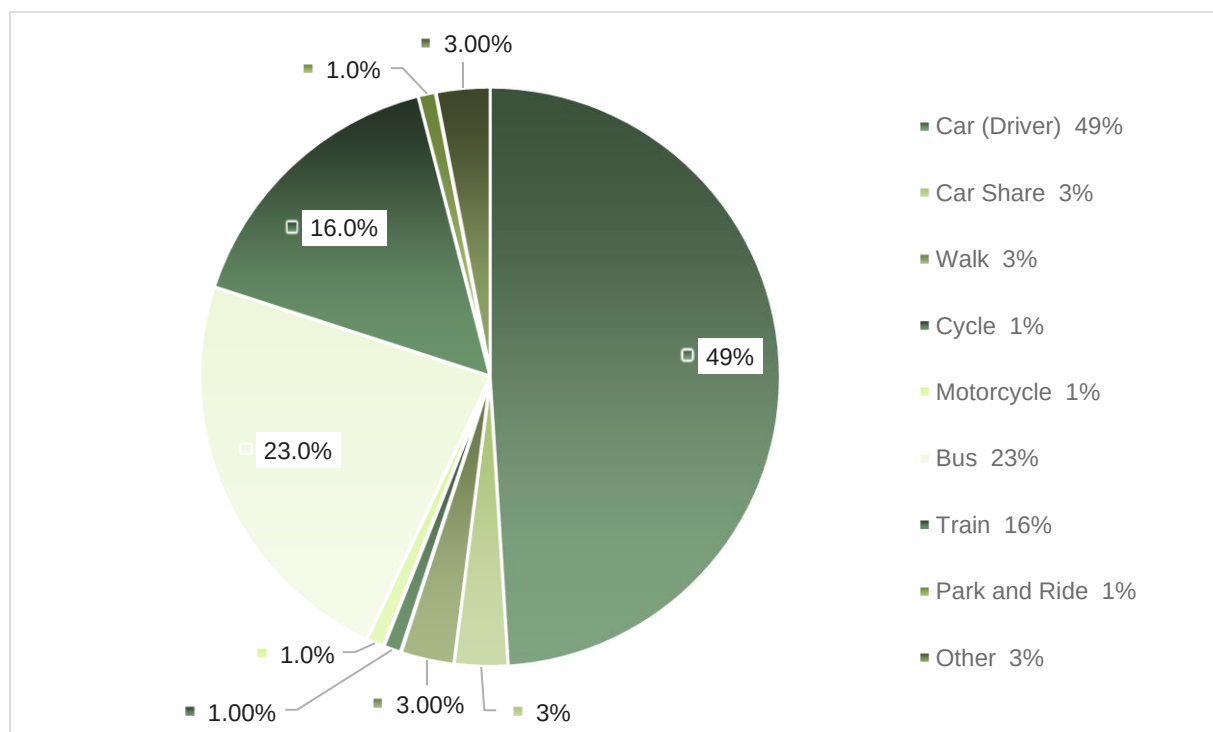
7.2 The currently adopted Travel Plan for GBS deals with the following principal matters:

- The measures proposed to be taken to reduce dependency on the private car by site users;
- Mechanisms for the implementation of the measures to reduce dependency on the private car;
- Measures for delivery of specified travel plan services; and
- Measures to monitor and review the effectiveness of the TP in achieving the objective of reducing dependency on the private car.

Travel Patterns

7.3 A recent travel survey was conducted in July 2024 to understand the travel related preferences among the students. The mode share result is presented in **Figure 7.1**.

Figure 7.1: Student's Mode Share (July 2024)



7.4 **Figure 7.2** demonstrates a majority of students at GBS currently choose to travel through sustainable modes of transport. However, car drivers still form a significant proportion of survey respondents (49%).



- 7.5 The proportion of students travelling by car has reduced from 53% which was recorded in the previous survey undertaken during 2021.



8.0 Summary & Conclusion

Summary

- 8.1 SLR have been appointed by Cypresshawk Ltd to provide highways and transport advice in support of a change of use application to facilitate the further expansion of the Global Banking School (GBS) at Universal Square in Ardwick, Manchester.
- 8.2 In order to support the GBS's future expansion plans over the next three years, a fourth change of use application submission has been prepared which would see the GBS occupy additional space of up to 55,000sqft at the site by 2027, resulting in a total floor area of 103,000sqft at the site.
- 8.3 Once Phase 4 is implemented, it is projected that up to 10,474 students will be enrolled at the site by the end of 2027. It is also estimated that GBS will employ around 318 staff by 2027 (an increase of 168 from Phase 3).
- 8.4 This TA has considered the highways and transport aspects of the proposal expansion of GBS at Universal Square. The following key conclusions have been drawn:
- The site is well connected to a highly developed and urbanised road network which has no identified underlying highway safety issues. There are numerous opportunities for on-street and off-street car parking within the vicinity of the site;
 - The proposed development site benefits from excellent accessibility by walking, cycling and public transport. There are footways along all of the roads surrounding the site which provide connections to bus stops on the A57, and into Manchester City Centre and to Manchester Piccadilly Rail Station. Cycle lane provision is available on the surrounding roads. There is good access to bus routes on the A57 and A6 to the south of the site. In addition, there is a free shuttle bus service which runs between Universal Square and Manchester Piccadilly Station that is available for tenants and visitors to use;
 - The most intensive periods for traffic associated with development traffic do not correspond with the typical weekday morning and evening peak hours on the highway network. The highest development traffic levels occur in the inter-peak period. As a result, the highway network has additional capacity available to accommodate the additional demand of the proposed GBS Phase 4 development;
 - The vehicle trip forecasting for the development has initially been undertaken on a robust basis with an existing mode share for single occupancy car use. This baseline mode share does not account for the targeted mode shift away from this car use that is anticipated to be through the proposed development's travel planning strategy and excellent sustainable transport options associated with Universal Square. The implemented TP strategy and its associated initiatives will reduce the relative impact of development traffic on the local highway network;
 - At Universal Square parking is allocated on a ratio of one space per 350sqft occupied. With the proposed GBS Phase 4 expansion in place this entitlement is an additional 137 car parking spaces resulting in a total for GBS of 294 spaces. Whilst the parking allocation exceeds that outlined in the MCC parking standards, it should be noted that these spaces are already allocated to the floorspace associated with GBS;

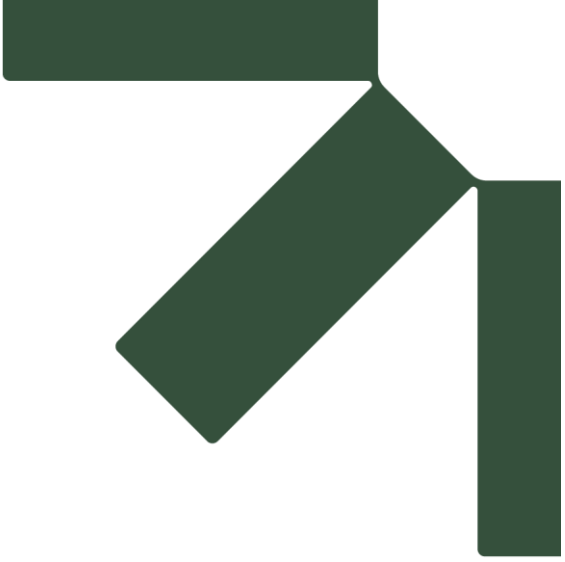


- It is not considered that the level of parking demand would lead to any material impact on parking in the vicinity of the site. Furthermore, there is a good provision of off-site car parks that are located within an acceptable walking distance of the site that can be utilised by students.

Conclusion

- 8.5 The site is located in a sustainable location, close to the city centre. The site benefits from excellent accessibility by walking, cycling and public transport, including a dedicated shuttle bus service linking to Manchester Piccadilly rail station and the city centre.
- 8.6 National Planning Policy states that. “*development should only be prevented or refused on highways grounds if the residual cumulative impacts on the road network would be severe*”. This report has demonstrated that the residual cumulative impact of the GBS Phase 4 proposals at Universal Square would not be severe, and on this basis, there are no material reasons why the proposed development should not be granted planning consent on highways and transportation grounds.





Appendix A TfGM Pre-Application Comments

Transport Assessment

Universal Square Phase 4, Manchester

Cypresshawk Ltd

SLR Project No.: 410.065709.00001

27 November 2024

Manchester City Council
P O Box 532
Town Hall
Manchester
M60 2LA

Our ref TRA/24/039

Your ref:

1st February 2024

Dear Sir / Madam

Location: Global Banking School at Universal Square, Devonshire Street North, Manchester, M12 6JH

Proposal: Phase 4 expansion of the Global Banking School - A further 5,110sqm (55,000sqft) of existing office floorspace to accommodate growing demand for their higher education level offering. This proposed expansion would facilitate a further 3,874 students on their roll by January 2027, increasing the overall number of students based out of the site to circa 10,500. These additional students associated with the proposed Phase 4 expansion would be supported by around 168 staff members on the basis of a projected 1:23 staff:student ratio.

Thank you for consulting Transport for Greater Manchester (TfGM) on the above scoping proposals. The following comments are offered as advice on transport issues for you to balance against other factors and are made in the context of TfGM's role in the planning process, as set out in the footnote below.¹

Background

TfGM scoping advice has been requested from Manchester City Council in respect of a change of use application to facilitate the further expansion of the Global Banking School (GBS) at Universal Square in Ardwick, Manchester.

¹TfGM does not have any planning powers and is not a statutory consultee in the planning process. The purpose of the advice offered is to suggest the best way to improve land use / transport integration through the development proposals. Advice is based on the information provided by the applicant, and it is not TfGM's role to undertake detailed verification unless specifically commissioned to do so. ²TfGM control and manage the traffic signals in Greater Manchester, as such any schemes that alter signalised junctions need to be agreed with TfGM. Additionally, where developments impact on signalised junctions, TfGM have a duty of care to ensure that these impacts are satisfactorily mitigated as part of the planning process.

1. Site Specific Comments

- Strategic Models should not be used in the determination of base flows.
- Traffic modelling should be undertaken using demand flows to ensure that results are realistic and representative of existing conditions. For congested junctions, demand flows can be derived using traffic count and queue survey data.
- A trip generation and distribution exercise should be provided to the Local Highway Authority (LHA) and TfGM at the earliest possible convenience to inform the scope of the assessment work.
- There is a planning condition as part of another development to add an all-red pedestrian green stage to the junction Albion Way – Great Bridgewater Street – the traffic assessment for the Viadux development should assume that this mitigation is in place. This is referred to in section 5.283.
- TfGM would expect that if the junction traffic volumes increase by 30 vehicles per hour due to the development, the junctions should be modelled. This includes any relevant priority controlled junctions. Such as Higher Ardwick – Chancellor Lane.
- The assessment times of 0900-1000 and 1500-1600 should be confirmed by the traffic surveys – the times may have changed since the last application.
- The traffic modelling of the junction of Ashton Old Road – Chancellor Lane should assume that the signal staging agreed in the previous application is in place – TfGM UTC will be able to provide details of the signal timings for the modelling
- The traffic modelling of the Hyde Road – Devonshire Street junction would take account of the actual appearance of any demand dependent stages – and because the junction is on MOVA control – account of the ‘average’ green times – TfGM UTC are able to provide a log of the signal timings as necessary.

- Previous planning permissions at this site proposed mitigation in terms of changing the alignment of the junction of Higher Ardwick – Chancellor Lane – there is no indication of the status of the delivery of this mitigation.
- Given that this is phase 4 of the development some indication – ideally including numbers – should be provided showing the current modal split for students and staffs. This will help demonstrate the appropriateness of the TRICS numbers.
- The effectiveness of the current Travel Plan should be covered, ideally with numerical evidence.

2. General Comments

- I. A description of current baseline traffic conditions in the area.
- II. An analysis of injury accidents during a recent five-year period, commenting on whether there are any underlying patterns of injury accidents that might be affected by the development.
- III. Traffic surveys and queue surveys (weekdays) - scope to be agreed with the Local Highway Authority (LHA), TfGM UTC and HFAS. TfGM UTC can be contacted in respect of the availability of any traffic counts in the area that could be used for the assessment.
- IV. A clear estimate of the level of new traffic likely to be associated with the development, based on an inspection of similar (and similarly-located) developments across the UK (excluding London) via the TRICS (or similar) database. The assessment work should be undertaken using a person-trip approach and applying the appropriate modal share percentages from local Census data. Other methodologies to determine trip rates are acceptable but these should be fully explained in the TA.
- V. A clearly defined methodology for determining the distribution / assignment of development trips onto the network i.e. understanding of where such new traffic is likely to distribute to/from, based on data sources such as a Census Journey-to-Work statistics and/or vehicle turning proportions at nearby junctions.
- VI. An assessment of traffic levels and impacts at the specified year of opening of the development, and at a future year at least five years later, with due regard for traffic growth (if any).

- VII. An understanding of the likely impacts of the proposed development considered alongside any other nearby committed developments.
- VIII. In the relevant TA, clear diagrams should be provided illustrating the following elements, each individually:
- Base Flows
 - Committed Development Flows
 - Proposed Flows
 - Proposed Distribution
 - Base plus Committed plus proposed development
 - Future plus Committed plus proposed development
- IX. TfGM HFAS recommends an increase of about 30vehs/hr at a junction as an appropriate threshold for considering the necessity of a traffic impact assessment; this is in preference to a percentage-increase threshold, which tends to favour development in already heavily-trafficked areas.
- X. The scope of the junctions to be assessed by detailed modelling should be agreed with TfGM (UTC) and the LHA in advance and will depend upon the outcome of the trip assessment and distribution exercise. For this reason, TfGM would advise that a trip generation and distribution exercise should be issued before submission of the planning application. Once this is undertaken it will be possible to finalise TfGM requirements in terms of the TA. This will largely depend on the amount of trip generation.
- XI. Clear details of proposed vehicular access arrangements including general servicing arrangements. An engineering drawing should be supplied showing the changes to the road network to fully understand the impact of the proposed development.
- XII. A swept path analysis should be provided for any vehicular access.
- XIII. A review of Traffic Regulation Orders on the surrounding streets in the vicinity of the development.
- XIV. An assessment of the likely environmental/traffic impacts of HGVs during the construction process.

3. Site Accessibility by Sustainable Modes

Walking and cycling should form the natural mode choice for shorter trips, and also provide a viable option to facilitate longer trips through providing easy access to

public transport. New developments should connect with, and enhance, existing walking and cycling networks in their vicinity, and also provide high quality facilities and networks for walking and cycling within development sites.

The TA should include a comprehensive review of the existing provision in the vicinity of the site for all pedestrians including those with disabilities. In addition to walking distances and pedestrian desire lines, pedestrian environment (including footway condition and widths) and pedestrian safety and security should be considered. An audit of the footways in the vicinity of the development should be undertaken and improvements identified.

A comprehensive review of the cycling infrastructure in the vicinity of the proposed development should also be undertaken. This should include an assessment of the connectivity of the site with existing cycle routes. The quality and condition of existing infrastructure, cyclist safety and security should also be considered.

The catchment area for cycling, walking and public transport should be captured in maps. The quality of the routes for pedestrians and cyclists should be described and this should include a description of any signing for cycle routes as appropriate.

The TA should provide a review of existing public transport services (including service frequency and location of nearest stations/stops), with a view to supporting improvements to existing public transport services as required, in particular, assess the quality of the surrounding bus infrastructure i.e. upgrade to shelters etc.

The TA should include a plan clearly showing details of the proposed pedestrian and cycle access points serving the site and linkages into the surrounding area. Connectivity with local public transport networks should be highlighted. The applicant should consider measures to encourage access by sustainable modes. Possible measures include but are not limited to the provision of pedestrian crossings, cycleways, cycle parking, new/improved footway ensuring that there are linkages into existing cycle and pedestrian facilities, as well as upgrades to existing bus stops (where appropriate).

TfGM would suggest that a pedestrian survey is carried out in the vicinity of the site, as per guidance <https://www.livingstreets.org.uk/media/1434/street-review-guidance-for-web.pdf> and included as part of the TA.

It should be highlighted that LTN/120 has been introduced by the DfT and this has changed the requirements for the design of cycling provision.

Details of cycle parking facilities for the proposed development (e.g., number of spaces, location and type) should be provided and shown on plan.

4. Mitigation Measures

Impacts of the development should be identified through the above assessment work. The applicant should identify appropriate mitigation to accommodate any increases in traffic generation and increased pedestrian and cyclist movements. Any appropriate mitigation should be identified in conjunction with TfGM UTC and the LHA who will be happy to work with the developer to agree an approach.

The TA should consider the impact of the development on the existing public transport networks in terms of extension of bus services, additional person trips. Mitigation measures should be considered where appropriate.

5. Travel Plan

A Framework Travel Plan for the development should accompany any future planning application.

6. Other

If there are any changes planned for bus infrastructure, for example relocation of existing bus stops or the creation of new bus parking areas, TfGM would request that the applicant liaise directly with TfGM's bus infrastructure which can be contacted at Shelters@tfgm.com.

7. Suggested Useful Guidance

In relation to walking, the importance of providing and maintaining good quality footways, free from obstruction and wide enough for when they are at their busiest, is critical to encourage and maximise walking levels associated with new developments. Useful guidance on street layouts which encourage walking is provided in Manual for Streets (Department for Transport, 2007). MfS provides guidance on lightly trafficked residential streets, and Manual for Streets 2 (CIHT, 2010) further develops the principles of the first Manual for Streets for application in wider circumstances on busier streets, including town and district centres.

In relation to cycling, infrastructure should be designed in accordance with current Greater Manchester Cycling Design Standards, the latest version of which is available from the TfGM website or by emailing cycling@tfgm.com. In particular, connections to/from and within developments should be designed in accordance with the Key Design Criteria of Safety, Coherence, Directness, Attractiveness and Comfort. A general principle is that infrastructure should be designed to be

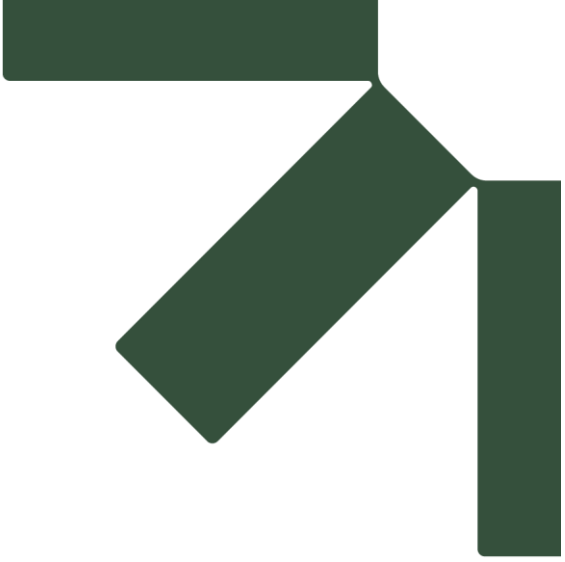
attractive to those who do not currently cycle, in order to drive the increase in cycling's mode share.

The Bee Network will be the largest joined-up system of walking and cycling routes in the UK and has been developed with all 10 Greater Manchester local authorities. More information on this is available on <https://www.tfgm.com> and TfGM would encourage the applicant to review the map online to determine whether there is an opportunity for this development to connect into the proposed Bee Network.

We hope you find these comments useful in the scoping process. Should you wish to discuss any matter further please do not hesitate to contact me.

Yours faithfully

Landuse Team,
landuse@tfgm.com



Appendix B TRICS Data

Transport Assessment

Universal Square Phase 4, Manchester

Cypresshawk Ltd

SLR Project No.: 410.065709.00001

27 November 2024

Calculation Reference: AUDIT-715001-210226-0221

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 02 - EMPLOYMENT

Category : A - OFFICE

TOTAL VEHICLES

Selected regions and areas:

02	SOUTH EAST	
	ES EAST SUSSEX	2 days
	SO SLOUGH	1 days
04	EAST ANGLIA	
	NF NORFOLK	2 days
05	EAST MIDLANDS	
	DS DERBYSHIRE	1 days
	LE LEICESTERSHIRE	1 days
06	WEST MIDLANDS	
	WM WEST MIDLANDS	1 days
07	YORKSHIRE & NORTH LINCOLNSHIRE	
	NY NORTH YORKSHIRE	1 days
08	NORTH WEST	
	LC LANCASHIRE	1 days
09	NORTH	
	CB CUMBRIA	1 days
10	WALES	
	PS POWYS	1 days
11	SCOTLAND	
	DU DUNDEE CITY	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: 178 to 5500 (units: sqm)
 Range Selected by User: 178 to 10000 (units: sqm)

Parking Spaces Range: All Surveys Included

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/12 to 08/09/20

*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	1 days
Tuesday	5 days
Wednesday	2 days
Thursday	4 days
Friday	1 days

*This data displays the number of selected surveys by day of the week.*Selected survey types:

Manual count	13 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	10
Suburban Area (PPS6 Out of Centre)	3

*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
Commercial Zone	2
Development Zone	1
Residential Zone	2
Built-Up Zone	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.

Secondary Filtering selection:

Use Class:

A1	2 days
B1	11 days

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order 2005 has been used for this purpose, which can be found within the Library module of TRICS®.

Filter by Use Class Breakdown:

All Surveys Included

Population within 500m Range:

All Surveys Included

Population within 1 mile:

5,001 to 10,000	2 days
10,001 to 15,000	1 days
15,001 to 20,000	3 days
20,001 to 25,000	2 days
25,001 to 50,000	5 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	2 days
50,001 to 75,000	1 days
75,001 to 100,000	3 days
100,001 to 125,000	1 days
125,001 to 250,000	3 days
250,001 to 500,000	1 days
500,001 or More	1 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	6 days
1.1 to 1.5	6 days
1.6 to 2.0	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.

Travel Plan:

Yes	3 days
No	10 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	13 days
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This data displays the number of selected surveys with PTAL Ratings.

LIST OF SITES relevant to selection parameters

1	CB-02-A-02	OFFICE		CUMBRIA
	PORT ROAD			
	CARLISLE			
	Edge of Town Centre			
	Industrial Zone			
	Total Gross floor area:	925 sqm		
	Survey date: FRIDAY	24/06/16		Survey Type: MANUAL
2	DS-02-A-01	REAL ESTATE DEVELOPERS		DERBYSHIRE
	PRIME PARK WAY			
	DERBY			
	Edge of Town Centre			
	No Sub Category			
	Total Gross floor area:	594 sqm		
	Survey date: WEDNESDAY	25/09/19		Survey Type: MANUAL
3	DU-02-A-01	OFFICES		DUNDEE CITY
	GREENMARKET			
	DUNDEE			
	Edge of Town Centre			
	Development Zone			
	Total Gross floor area:	3200 sqm		
	Survey date: THURSDAY	27/04/17		Survey Type: MANUAL
4	ES-02-A-11	HOUSING COMPANY		EAST SUSSEX
	THE SIDINGS			
	HASTINGS			
	ORE VALLEY			
	Suburban Area (PPS6 Out of Centre)			
	Residential Zone			
	Total Gross floor area:	186 sqm		
	Survey date: TUESDAY	17/11/15		Survey Type: MANUAL
5	ES-02-A-12	COUNCIL OFFICES		EAST SUSSEX
	VICARAGE LANE			
	HAILSHAM			
	Edge of Town Centre			
	Built-Up Zone			
	Total Gross floor area:	3640 sqm		
	Survey date: THURSDAY	26/11/15		Survey Type: MANUAL
6	LC-02-A-09	OFFICES		LANCASHIRE
	FURTHERGATE			
	BLACKBURN			
	Suburban Area (PPS6 Out of Centre)			
	Built-Up Zone			
	Total Gross floor area:	2600 sqm		
	Survey date: TUESDAY	04/06/13		Survey Type: MANUAL
7	LE-02-A-04	COUNCIL OFFICES		LEICESTERSHIRE
	BURTON STREET			
	MELTON MOWBRAY			
	Edge of Town Centre			
	Built-Up Zone			
	Total Gross floor area:	3981 sqm		
	Survey date: WEDNESDAY	30/11/16		Survey Type: MANUAL
8	NF-02-A-02	FINANCIAL PLANNERS		NORFOLK
	NORTH QUAY			
	GREAT YARMOUTH			
	Edge of Town Centre			
	Commercial Zone			
	Total Gross floor area:	894 sqm		
	Survey date: MONDAY	11/09/17		Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

9	NF-02-A-03 NORTH QUAY GREAT YARMOUTH	OFFICES		NORFOLK
	Edge of Town Centre Commercial Zone Total Gross floor area:		5500 sqm	
	Survey date: TUESDAY		12/09/17	Survey Type: MANUAL
10	NY-02-A-01 NORTH PARK ROAD HARROGATE	SOLICITORS		NORTH YORKSHIRE
	Edge of Town Centre Built-Up Zone Total Gross floor area:		178 sqm	
	Survey date: THURSDAY		04/10/18	Survey Type: MANUAL
11	PS-02-A-01 SEVERN ROAD WELSHPOOL	COUNCIL OFFICES		POWYS
	Edge of Town Centre No Sub Category Total Gross floor area:		3920 sqm	
	Survey date: TUESDAY		12/05/15	Survey Type: MANUAL
12	SO-02-A-02 BATH ROAD SLOUGH	COUNCIL OFFICES		SLOUGH
	Edge of Town Centre Built-Up Zone Total Gross floor area:		5050 sqm	
	Survey date: THURSDAY		27/02/14	Survey Type: MANUAL
13	WM-02-A-04 BOURNVILLE LANE BIRMINGHAM	OFFICE		WEST MIDLANDS
	Suburban Area (PPS6 Out of Centre) Residential Zone Total Gross floor area:		1800 sqm	
	Survey date: TUESDAY		10/11/15	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
BD-02-A-03	PT Accessibility Unrepresentative
ES-02-A-13	PT Accessibility Unrepresentative
GM-02-A-09	Parking Provision Unrepresentative
HF-02-A-03	PT Accessibility Unrepresentative
HF-02-A-04	PT Accessibility Unrepresentative
MT-02-A-02	PT Accessibility Unrepresentative
NY-02-A-02	Parking Provision Unrepresentative
SF-02-A-02	PT Accessibility Unrepresentative
SR-02-A-02	Surveyed during Covid-19
SW-02-A-01	PT Accessibility Unrepresentative
SW-02-A-02	PT Accessibility Unrepresentative
TW-02-A-08	PT Accessibility Unrepresentative
WO-02-A-02	PT Accessibility Unrepresentative

Vectos (North) Limited 4th Floor, Oxford Place, 61 Oxford St Manchester

Licence No: 715001

TRIP RATE for Land Use 02 - EMPLOYMENT/A - OFFICE

TOTAL VEHICLES

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

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 - 00:30									
00:30 - 01:00									
01:00 - 01:30									
01:30 - 02:00									
02:00 - 02:30									
02:30 - 03:00									
03:00 - 03:30									
03:30 - 04:00									
04:00 - 04:30									
04:30 - 05:00									
05:00 - 05:30									
05:30 - 06:00									
06:00 - 06:30									
06:30 - 07:00									
07:00 - 07:30	12	2691	0.121	12	2691	0.006	12	2691	0.127
07:30 - 08:00	12	2691	0.365	12	2691	0.040	12	2691	0.405
08:00 - 08:30	13	2498	0.875	13	2498	0.099	13	2498	0.974
08:30 - 09:00	13	2498	1.060	13	2498	0.166	13	2498	1.226
09:00 - 09:30	13	2498	0.915	13	2498	0.265	13	2498	1.180
09:30 - 10:00	13	2498	0.502	13	2498	0.274	13	2498	0.776
10:00 - 10:30	13	2498	0.302	13	2498	0.256	13	2498	0.558
10:30 - 11:00	13	2498	0.225	13	2498	0.228	13	2498	0.453
11:00 - 11:30	13	2498	0.209	13	2498	0.213	13	2498	0.422
11:30 - 12:00	13	2498	0.209	13	2498	0.231	13	2498	0.440
12:00 - 12:30	13	2498	0.259	13	2498	0.385	13	2498	0.644
12:30 - 13:00	13	2498	0.351	13	2498	0.413	13	2498	0.764
13:00 - 13:30	13	2498	0.336	13	2498	0.311	13	2498	0.647
13:30 - 14:00	13	2498	0.320	13	2498	0.262	13	2498	0.582
14:00 - 14:30	13	2498	0.274	13	2498	0.213	13	2498	0.487
14:30 - 15:00	13	2498	0.213	13	2498	0.290	13	2498	0.503
15:00 - 15:30	13	2498	0.188	13	2498	0.302	13	2498	0.490
15:30 - 16:00	13	2498	0.163	13	2498	0.317	13	2498	0.480
16:00 - 16:30	13	2498	0.142	13	2498	0.499	13	2498	0.641
16:30 - 17:00	13	2498	0.176	13	2498	0.542	13	2498	0.718
17:00 - 17:30	13	2498	0.117	13	2498	1.032	13	2498	1.149
17:30 - 18:00	13	2498	0.080	13	2498	0.517	13	2498	0.597
18:00 - 18:30	12	2691	0.050	12	2691	0.263	12	2691	0.313
18:30 - 19:00	12	2691	0.006	12	2691	0.161	12	2691	0.167
19:00 - 19:30									
19:30 - 20:00									
20:00 - 20:30									
20:30 - 21:00									
21:00 - 21:30									
21:30 - 22:00									
22:00 - 22:30									
22:30 - 23:00									
23:00 - 23:30									
23:30 - 24:00									
Total Rates:			7.458			7.285			14.743

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:	178 - 5500 (units: sqm)
Survey date date range:	01/01/12 - 08/09/20
Number of weekdays (Monday-Friday):	13
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	3
Surveys manually removed from selection:	13

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 shown. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

Vectos (North) Limited 4th Floor, Oxford Place, 61 Oxford St Manchester

Licence No: 715001

TRIP RATE for Land Use 02 - EMPLOYMENT/A - OFFICE

TAXIS

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

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 - 00:30									
00:30 - 01:00									
01:00 - 01:30									
01:30 - 02:00									
02:00 - 02:30									
02:30 - 03:00									
03:00 - 03:30									
03:30 - 04:00									
04:00 - 04:30									
04:30 - 05:00									
05:00 - 05:30									
05:30 - 06:00									
06:00 - 06:30									
06:30 - 07:00									
07:00 - 07:30	12	2691	0.000	12	2691	0.000	12	2691	0.000
07:30 - 08:00	12	2691	0.006	12	2691	0.006	12	2691	0.012
08:00 - 08:30	13	2498	0.022	13	2498	0.018	13	2498	0.040
08:30 - 09:00	13	2498	0.022	13	2498	0.018	13	2498	0.040
09:00 - 09:30	13	2498	0.022	13	2498	0.025	13	2498	0.047
09:30 - 10:00	13	2498	0.009	13	2498	0.015	13	2498	0.024
10:00 - 10:30	13	2498	0.003	13	2498	0.003	13	2498	0.006
10:30 - 11:00	13	2498	0.003	13	2498	0.003	13	2498	0.006
11:00 - 11:30	13	2498	0.000	13	2498	0.000	13	2498	0.000
11:30 - 12:00	13	2498	0.006	13	2498	0.006	13	2498	0.012
12:00 - 12:30	13	2498	0.000	13	2498	0.000	13	2498	0.000
12:30 - 13:00	13	2498	0.003	13	2498	0.003	13	2498	0.006
13:00 - 13:30	13	2498	0.003	13	2498	0.000	13	2498	0.003
13:30 - 14:00	13	2498	0.003	13	2498	0.006	13	2498	0.009
14:00 - 14:30	13	2498	0.003	13	2498	0.000	13	2498	0.003
14:30 - 15:00	13	2498	0.000	13	2498	0.003	13	2498	0.003
15:00 - 15:30	13	2498	0.006	13	2498	0.006	13	2498	0.012
15:30 - 16:00	13	2498	0.012	13	2498	0.012	13	2498	0.024
16:00 - 16:30	13	2498	0.006	13	2498	0.003	13	2498	0.009
16:30 - 17:00	13	2498	0.003	13	2498	0.006	13	2498	0.009
17:00 - 17:30	13	2498	0.034	13	2498	0.025	13	2498	0.059
17:30 - 18:00	13	2498	0.006	13	2498	0.015	13	2498	0.021
18:00 - 18:30	12	2691	0.003	12	2691	0.003	12	2691	0.006
18:30 - 19:00	12	2691	0.000	12	2691	0.000	12	2691	0.000
19:00 - 19:30									
19:30 - 20:00									
20:00 - 20:30									
20:30 - 21:00									
21:00 - 21:30									
21:30 - 22:00									
22:00 - 22:30									
22:30 - 23:00									
23:00 - 23:30									
23:30 - 24:00									
Total Rates:			0.175			0.176			0.351

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.

TRIP RATE for Land Use 02 - EMPLOYMENT/A - OFFICE

OGVS

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

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 - 00:30									
00:30 - 01:00									
01:00 - 01:30									
01:30 - 02:00									
02:00 - 02:30									
02:30 - 03:00									
03:00 - 03:30									
03:30 - 04:00									
04:00 - 04:30									
04:30 - 05:00									
05:00 - 05:30									
05:30 - 06:00									
06:00 - 06:30									
06:30 - 07:00									
07:00 - 07:30	12	2691	0.003	12	2691	0.000	12	2691	0.003
07:30 - 08:00	12	2691	0.003	12	2691	0.003	12	2691	0.006
08:00 - 08:30	13	2498	0.003	13	2498	0.003	13	2498	0.006
08:30 - 09:00	13	2498	0.006	13	2498	0.006	13	2498	0.012
09:00 - 09:30	13	2498	0.000	13	2498	0.003	13	2498	0.003
09:30 - 10:00	13	2498	0.000	13	2498	0.000	13	2498	0.000
10:00 - 10:30	13	2498	0.000	13	2498	0.000	13	2498	0.000
10:30 - 11:00	13	2498	0.003	13	2498	0.003	13	2498	0.006
11:00 - 11:30	13	2498	0.003	13	2498	0.003	13	2498	0.006
11:30 - 12:00	13	2498	0.000	13	2498	0.000	13	2498	0.000
12:00 - 12:30	13	2498	0.000	13	2498	0.000	13	2498	0.000
12:30 - 13:00	13	2498	0.000	13	2498	0.000	13	2498	0.000
13:00 - 13:30	13	2498	0.000	13	2498	0.000	13	2498	0.000
13:30 - 14:00	13	2498	0.000	13	2498	0.000	13	2498	0.000
14:00 - 14:30	13	2498	0.006	13	2498	0.006	13	2498	0.012
14:30 - 15:00	13	2498	0.000	13	2498	0.000	13	2498	0.000
15:00 - 15:30	13	2498	0.000	13	2498	0.000	13	2498	0.000
15:30 - 16:00	13	2498	0.003	13	2498	0.003	13	2498	0.006
16:00 - 16:30	13	2498	0.000	13	2498	0.000	13	2498	0.000
16:30 - 17:00	13	2498	0.000	13	2498	0.000	13	2498	0.000
17:00 - 17:30	13	2498	0.000	13	2498	0.000	13	2498	0.000
17:30 - 18:00	13	2498	0.000	13	2498	0.000	13	2498	0.000
18:00 - 18:30	12	2691	0.000	12	2691	0.000	12	2691	0.000
18:30 - 19:00	12	2691	0.000	12	2691	0.000	12	2691	0.000
19:00 - 19:30									
19:30 - 20:00									
20:00 - 20:30									
20:30 - 21:00									
21:00 - 21:30									
21:30 - 22:00									
22:00 - 22:30									
22:30 - 23:00									
23:00 - 23:30									
23:30 - 24:00									
Total Rates:			0.030			0.030			0.060

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.

Vectos (North) Limited 4th Floor, Oxford Place, 61 Oxford St Manchester

Licence No: 715001

TRIP RATE for Land Use 02 - EMPLOYMENT/A - OFFICE

PSVS

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

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 - 00:30									
00:30 - 01:00									
01:00 - 01:30									
01:30 - 02:00									
02:00 - 02:30									
02:30 - 03:00									
03:00 - 03:30									
03:30 - 04:00									
04:00 - 04:30									
04:30 - 05:00									
05:00 - 05:30									
05:30 - 06:00									
06:00 - 06:30									
06:30 - 07:00									
07:00 - 07:30	12	2691	0.000	12	2691	0.000	12	2691	0.000
07:30 - 08:00	12	2691	0.000	12	2691	0.000	12	2691	0.000
08:00 - 08:30	13	2498	0.003	13	2498	0.000	13	2498	0.003
08:30 - 09:00	13	2498	0.006	13	2498	0.000	13	2498	0.006
09:00 - 09:30	13	2498	0.000	13	2498	0.000	13	2498	0.000
09:30 - 10:00	13	2498	0.000	13	2498	0.000	13	2498	0.000
10:00 - 10:30	13	2498	0.000	13	2498	0.000	13	2498	0.000
10:30 - 11:00	13	2498	0.000	13	2498	0.000	13	2498	0.000
11:00 - 11:30	13	2498	0.003	13	2498	0.003	13	2498	0.006
11:30 - 12:00	13	2498	0.000	13	2498	0.000	13	2498	0.000
12:00 - 12:30	13	2498	0.000	13	2498	0.000	13	2498	0.000
12:30 - 13:00	13	2498	0.000	13	2498	0.000	13	2498	0.000
13:00 - 13:30	13	2498	0.000	13	2498	0.000	13	2498	0.000
13:30 - 14:00	13	2498	0.000	13	2498	0.000	13	2498	0.000
14:00 - 14:30	13	2498	0.000	13	2498	0.000	13	2498	0.000
14:30 - 15:00	13	2498	0.000	13	2498	0.000	13	2498	0.000
15:00 - 15:30	13	2498	0.000	13	2498	0.000	13	2498	0.000
15:30 - 16:00	13	2498	0.000	13	2498	0.000	13	2498	0.000
16:00 - 16:30	13	2498	0.000	13	2498	0.000	13	2498	0.000
16:30 - 17:00	13	2498	0.000	13	2498	0.000	13	2498	0.000
17:00 - 17:30	13	2498	0.000	13	2498	0.003	13	2498	0.003
17:30 - 18:00	13	2498	0.000	13	2498	0.000	13	2498	0.000
18:00 - 18:30	12	2691	0.000	12	2691	0.000	12	2691	0.000
18:30 - 19:00	12	2691	0.000	12	2691	0.000	12	2691	0.000
19:00 - 19:30									
19:30 - 20:00									
20:00 - 20:30									
20:30 - 21:00									
21:00 - 21:30									
21:30 - 22:00									
22:00 - 22:30									
22:30 - 23:00									
23:00 - 23:30									
23:30 - 24:00									
Total Rates:			0.012			0.006			0.018

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.

TRIP RATE for Land Use 02 - EMPLOYMENT/A - OFFICE

CYCLISTS

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

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 - 00:30									
00:30 - 01:00									
01:00 - 01:30									
01:30 - 02:00									
02:00 - 02:30									
02:30 - 03:00									
03:00 - 03:30									
03:30 - 04:00									
04:00 - 04:30									
04:30 - 05:00									
05:00 - 05:30									
05:30 - 06:00									
06:00 - 06:30									
06:30 - 07:00									
07:00 - 07:30	12	2691	0.000	12	2691	0.000	12	2691	0.000
07:30 - 08:00	12	2691	0.012	12	2691	0.006	12	2691	0.018
08:00 - 08:30	13	2498	0.018	13	2498	0.000	13	2498	0.018
08:30 - 09:00	13	2498	0.046	13	2498	0.000	13	2498	0.046
09:00 - 09:30	13	2498	0.006	13	2498	0.000	13	2498	0.006
09:30 - 10:00	13	2498	0.006	13	2498	0.000	13	2498	0.006
10:00 - 10:30	13	2498	0.009	13	2498	0.006	13	2498	0.015
10:30 - 11:00	13	2498	0.000	13	2498	0.006	13	2498	0.006
11:00 - 11:30	13	2498	0.000	13	2498	0.000	13	2498	0.000
11:30 - 12:00	13	2498	0.012	13	2498	0.012	13	2498	0.024
12:00 - 12:30	13	2498	0.003	13	2498	0.006	13	2498	0.009
12:30 - 13:00	13	2498	0.006	13	2498	0.009	13	2498	0.015
13:00 - 13:30	13	2498	0.006	13	2498	0.003	13	2498	0.009
13:30 - 14:00	13	2498	0.000	13	2498	0.009	13	2498	0.009
14:00 - 14:30	13	2498	0.003	13	2498	0.003	13	2498	0.006
14:30 - 15:00	13	2498	0.000	13	2498	0.003	13	2498	0.003
15:00 - 15:30	13	2498	0.012	13	2498	0.006	13	2498	0.018
15:30 - 16:00	13	2498	0.003	13	2498	0.009	13	2498	0.012
16:00 - 16:30	13	2498	0.000	13	2498	0.012	13	2498	0.012
16:30 - 17:00	13	2498	0.000	13	2498	0.003	13	2498	0.003
17:00 - 17:30	13	2498	0.000	13	2498	0.031	13	2498	0.031
17:30 - 18:00	13	2498	0.000	13	2498	0.018	13	2498	0.018
18:00 - 18:30	12	2691	0.000	12	2691	0.003	12	2691	0.003
18:30 - 19:00	12	2691	0.000	12	2691	0.003	12	2691	0.003
19:00 - 19:30									
19:30 - 20:00									
20:00 - 20:30									
20:30 - 21:00									
21:00 - 21:30									
21:30 - 22:00									
22:00 - 22:30									
22:30 - 23:00									
23:00 - 23:30									
23:30 - 24:00									
Total Rates:			0.142			0.148			0.290

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.

TRIP RATE for Land Use 02 - EMPLOYMENT/A - OFFICE

CARS

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

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 - 00:30									
00:30 - 01:00									
01:00 - 01:30									
01:30 - 02:00									
02:00 - 02:30									
02:30 - 03:00									
03:00 - 03:30									
03:30 - 04:00									
04:00 - 04:30									
04:30 - 05:00									
05:00 - 05:30									
05:30 - 06:00									
06:00 - 06:30									
06:30 - 07:00									
07:00 - 07:30	12	2691	0.105	12	2691	0.003	12	2691	0.108
07:30 - 08:00	12	2691	0.334	12	2691	0.025	12	2691	0.359
08:00 - 08:30	13	2498	0.770	13	2498	0.062	13	2498	0.832
08:30 - 09:00	13	2498	0.822	13	2498	0.114	13	2498	0.936
09:00 - 09:30	13	2498	0.764	13	2498	0.176	13	2498	0.940
09:30 - 10:00	13	2498	0.437	13	2498	0.216	13	2498	0.653
10:00 - 10:30	13	2498	0.253	13	2498	0.197	13	2498	0.450
10:30 - 11:00	13	2498	0.197	13	2498	0.191	13	2498	0.388
11:00 - 11:30	13	2498	0.179	13	2498	0.172	13	2498	0.351
11:30 - 12:00	13	2498	0.160	13	2498	0.191	13	2498	0.351
12:00 - 12:30	13	2498	0.206	13	2498	0.339	13	2498	0.545
12:30 - 13:00	13	2498	0.271	13	2498	0.333	13	2498	0.604
13:00 - 13:30	13	2498	0.280	13	2498	0.253	13	2498	0.533
13:30 - 14:00	13	2498	0.265	13	2498	0.219	13	2498	0.484
14:00 - 14:30	13	2498	0.237	13	2498	0.179	13	2498	0.416
14:30 - 15:00	13	2498	0.157	13	2498	0.222	13	2498	0.379
15:00 - 15:30	13	2498	0.148	13	2498	0.240	13	2498	0.388
15:30 - 16:00	13	2498	0.120	13	2498	0.253	13	2498	0.373
16:00 - 16:30	13	2498	0.102	13	2498	0.413	13	2498	0.515
16:30 - 17:00	13	2498	0.132	13	2498	0.493	13	2498	0.625
17:00 - 17:30	13	2498	0.065	13	2498	0.844	13	2498	0.909
17:30 - 18:00	13	2498	0.062	13	2498	0.456	13	2498	0.518
18:00 - 18:30	12	2691	0.040	12	2691	0.248	12	2691	0.288
18:30 - 19:00	12	2691	0.006	12	2691	0.127	12	2691	0.133
19:00 - 19:30									
19:30 - 20:00									
20:00 - 20:30									
20:30 - 21:00									
21:00 - 21:30									
21:30 - 22:00									
22:00 - 22:30									
22:30 - 23:00									
23:00 - 23:30									
23:30 - 24:00									
Total Rates:	6.112			5.966			12.078		

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.

TRIP RATE for Land Use 02 - EMPLOYMENT/A - OFFICE

LGVS

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

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 - 00:30									
00:30 - 01:00									
01:00 - 01:30									
01:30 - 02:00									
02:00 - 02:30									
02:30 - 03:00									
03:00 - 03:30									
03:30 - 04:00									
04:00 - 04:30									
04:30 - 05:00									
05:00 - 05:30									
05:30 - 06:00									
06:00 - 06:30									
06:30 - 07:00									
07:00 - 07:30	12	2691	0.003	12	2691	0.000	12	2691	0.003
07:30 - 08:00	12	2691	0.000	12	2691	0.003	12	2691	0.003
08:00 - 08:30	13	2498	0.012	13	2498	0.009	13	2498	0.021
08:30 - 09:00	13	2498	0.031	13	2498	0.015	13	2498	0.046
09:00 - 09:30	13	2498	0.031	13	2498	0.043	13	2498	0.074
09:30 - 10:00	13	2498	0.028	13	2498	0.015	13	2498	0.043
10:00 - 10:30	13	2498	0.025	13	2498	0.034	13	2498	0.059
10:30 - 11:00	13	2498	0.006	13	2498	0.018	13	2498	0.024
11:00 - 11:30	13	2498	0.018	13	2498	0.015	13	2498	0.033
11:30 - 12:00	13	2498	0.025	13	2498	0.015	13	2498	0.040
12:00 - 12:30	13	2498	0.025	13	2498	0.025	13	2498	0.050
12:30 - 13:00	13	2498	0.022	13	2498	0.022	13	2498	0.044
13:00 - 13:30	13	2498	0.015	13	2498	0.012	13	2498	0.027
13:30 - 14:00	13	2498	0.009	13	2498	0.012	13	2498	0.021
14:00 - 14:30	13	2498	0.012	13	2498	0.006	13	2498	0.018
14:30 - 15:00	13	2498	0.031	13	2498	0.028	13	2498	0.059
15:00 - 15:30	13	2498	0.015	13	2498	0.028	13	2498	0.043
15:30 - 16:00	13	2498	0.025	13	2498	0.025	13	2498	0.050
16:00 - 16:30	13	2498	0.018	13	2498	0.018	13	2498	0.036
16:30 - 17:00	13	2498	0.015	13	2498	0.012	13	2498	0.027
17:00 - 17:30	13	2498	0.009	13	2498	0.009	13	2498	0.018
17:30 - 18:00	13	2498	0.003	13	2498	0.000	13	2498	0.003
18:00 - 18:30	12	2691	0.003	12	2691	0.003	12	2691	0.006
18:30 - 19:00	12	2691	0.000	12	2691	0.000	12	2691	0.000
19:00 - 19:30									
19:30 - 20:00									
20:00 - 20:30									
20:30 - 21:00									
21:00 - 21:30									
21:30 - 22:00									
22:00 - 22:30									
22:30 - 23:00									
23:00 - 23:30									
23:30 - 24:00									
Total Rates:			0.381			0.367			0.748

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.

TRIP RATE for Land Use 02 - EMPLOYMENT/A - OFFICE

MOTOR CYCLES

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

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 - 00:30									
00:30 - 01:00									
01:00 - 01:30									
01:30 - 02:00									
02:00 - 02:30									
02:30 - 03:00									
03:00 - 03:30									
03:30 - 04:00									
04:00 - 04:30									
04:30 - 05:00									
05:00 - 05:30									
05:30 - 06:00									
06:00 - 06:30									
06:30 - 07:00									
07:00 - 07:30	12	2691	0.000	12	2691	0.000	12	2691	0.000
07:30 - 08:00	12	2691	0.000	12	2691	0.000	12	2691	0.000
08:00 - 08:30	13	2498	0.003	13	2498	0.000	13	2498	0.003
08:30 - 09:00	13	2498	0.000	13	2498	0.000	13	2498	0.000
09:00 - 09:30	13	2498	0.003	13	2498	0.000	13	2498	0.003
09:30 - 10:00	13	2498	0.000	13	2498	0.000	13	2498	0.000
10:00 - 10:30	13	2498	0.003	13	2498	0.000	13	2498	0.003
10:30 - 11:00	13	2498	0.000	13	2498	0.000	13	2498	0.000
11:00 - 11:30	13	2498	0.000	13	2498	0.000	13	2498	0.000
11:30 - 12:00	13	2498	0.000	13	2498	0.000	13	2498	0.000
12:00 - 12:30	13	2498	0.003	13	2498	0.000	13	2498	0.003
12:30 - 13:00	13	2498	0.003	13	2498	0.000	13	2498	0.003
13:00 - 13:30	13	2498	0.000	13	2498	0.000	13	2498	0.000
13:30 - 14:00	13	2498	0.003	13	2498	0.003	13	2498	0.006
14:00 - 14:30	13	2498	0.003	13	2498	0.003	13	2498	0.006
14:30 - 15:00	13	2498	0.000	13	2498	0.003	13	2498	0.003
15:00 - 15:30	13	2498	0.000	13	2498	0.003	13	2498	0.003
15:30 - 16:00	13	2498	0.000	13	2498	0.006	13	2498	0.006
16:00 - 16:30	13	2498	0.000	13	2498	0.000	13	2498	0.000
16:30 - 17:00	13	2498	0.000	13	2498	0.000	13	2498	0.000
17:00 - 17:30	13	2498	0.000	13	2498	0.000	13	2498	0.000
17:30 - 18:00	13	2498	0.000	13	2498	0.000	13	2498	0.000
18:00 - 18:30	12	2691	0.000	12	2691	0.000	12	2691	0.000
18:30 - 19:00	12	2691	0.000	12	2691	0.000	12	2691	0.000
19:00 - 19:30									
19:30 - 20:00									
20:00 - 20:30									
20:30 - 21:00									
21:00 - 21:30									
21:30 - 22:00									
22:00 - 22:30									
22:30 - 23:00									
23:00 - 23:30									
23:30 - 24:00									
Total Rates:			0.021			0.018			0.039

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-715001-210225-0233

TRIP RATE CALCULATION SELECTION PARAMETERS:

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

Selected regions and areas:

03	SOUTH WEST	
	SM SOMERSET	1 days
04	EAST ANGLIA	
	CA CAMBRIDGESHIRE	1 days
05	EAST MIDLANDS	
	NT NOTTINGHAMSHIRE	1 days
06	WEST MIDLANDS	
	WO WORCESTERSHIRE	1 days
09	NORTH	
	DH DURHAM	1 days
11	SCOTLAND	
	AD ABERDEEN CITY	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: 1023 to 2440 (units: sqm)
 Range Selected by User: 700 to 2703 (units: sqm)

Parking Spaces Range: All Surveys Included

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/12 to 21/12/19

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	1 days
Wednesday	1 days
Thursday	2 days
Friday	2 days

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

Selected survey types:

Manual count	6 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:

Suburban Area (PPS6 Out of Centre)	1
Edge of Town	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	2
Retail Zone	3
No Sub Category	1

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.

Secondary Filtering selection:

Use Class:

A1	6 days
----	--------

This data displays the number of surveys per Use Class classification within the selected set. The Use Classes Order 2005 has been used for this purpose, which can be found within the Library module of TRICS®.

Population within 500m Range:

All Surveys Included

Population within 1 mile:

1,001 to 5,000	1 days
5,001 to 10,000	3 days
20,001 to 25,000	1 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	1 days
125,001 to 250,000	1 days
250,001 to 500,000	1 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	2 days
1.1 to 1.5	4 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	6 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	1 days
No	4 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	6 days
-----------------	--------

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

LIST OF SITES relevant to selection parameters

1	AD-01-C-01	LIDL	ABERDEEN CITY
	GREENWELL ROAD		
	ABERDEEN		
	EAST TULLOS IND. ESTATE		
	Suburban Area (PPS6 Out of Centre)		
	Industrial Zone		
	Total Gross floor area:	1950 sqm	
	Survey date: MONDAY	18/11/19	Survey Type: MANUAL
2	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
3	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
4	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
5	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
6	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

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
CF-01-C-01	PT Accessibility Unrepresentative

Vectos (North) Limited 4th Floor, Oxford Place, 61 Oxford St Manchester

Licence No: 715001

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

TOTAL VEHICLES

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

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									
07:00 - 08:00	6	1924	0.269	6	1924	0.087	6	1924	0.356
08:00 - 09:00	6	1924	2.287	6	1924	1.542	6	1924	3.829
09:00 - 10:00	6	1924	3.058	6	1924	2.651	6	1924	5.709
10:00 - 11:00	6	1924	3.543	6	1924	3.353	6	1924	6.896
11:00 - 12:00	6	1924	4.401	6	1924	4.046	6	1924	8.447
12:00 - 13:00	6	1924	4.782	6	1924	4.566	6	1924	9.348
13:00 - 14:00	6	1924	4.306	6	1924	4.860	6	1924	9.166
14:00 - 15:00	6	1924	4.747	6	1924	4.600	6	1924	9.347
15:00 - 16:00	6	1924	4.462	6	1924	4.462	6	1924	8.924
16:00 - 17:00	6	1924	4.236	6	1924	4.054	6	1924	8.290
17:00 - 18:00	6	1924	4.020	6	1924	4.124	6	1924	8.144
18:00 - 19:00	6	1924	3.205	6	1924	3.595	6	1924	6.800
19:00 - 20:00	6	1924	2.616	6	1924	2.963	6	1924	5.579
20:00 - 21:00	6	1924	1.611	6	1924	2.105	6	1924	3.716
21:00 - 22:00	6	1924	0.494	6	1924	0.927	6	1924	1.421
22:00 - 23:00	6	1924	0.035	6	1924	0.199	6	1924	0.234
23:00 - 24:00									
Total Rates:			48.072			48.134			96.206

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:	1023 - 2440 (units: sqm)
Survey date range:	01/01/12 - 21/12/19
Number of weekdays (Monday-Friday):	6
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	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 shown. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

Vectos (North) Limited 4th Floor, Oxford Place, 61 Oxford St Manchester

Licence No: 715001

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

TAXIS

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

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									
07:00 - 08:00	6	1924	0.000	6	1924	0.000	6	1924	0.000
08:00 - 09:00	6	1924	0.009	6	1924	0.009	6	1924	0.018
09:00 - 10:00	6	1924	0.017	6	1924	0.009	6	1924	0.026
10:00 - 11:00	6	1924	0.017	6	1924	0.026	6	1924	0.043
11:00 - 12:00	6	1924	0.009	6	1924	0.009	6	1924	0.018
12:00 - 13:00	6	1924	0.000	6	1924	0.000	6	1924	0.000
13:00 - 14:00	6	1924	0.026	6	1924	0.026	6	1924	0.052
14:00 - 15:00	6	1924	0.009	6	1924	0.009	6	1924	0.018
15:00 - 16:00	6	1924	0.000	6	1924	0.000	6	1924	0.000
16:00 - 17:00	6	1924	0.009	6	1924	0.000	6	1924	0.009
17:00 - 18:00	6	1924	0.017	6	1924	0.017	6	1924	0.034
18:00 - 19:00	6	1924	0.009	6	1924	0.009	6	1924	0.018
19:00 - 20:00	6	1924	0.009	6	1924	0.017	6	1924	0.026
20:00 - 21:00	6	1924	0.009	6	1924	0.009	6	1924	0.018
21:00 - 22:00	6	1924	0.000	6	1924	0.000	6	1924	0.000
22:00 - 23:00	6	1924	0.000	6	1924	0.000	6	1924	0.000
23:00 - 24:00									
Total Rates:			0.140			0.140			0.280

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.

Vectos (North) Limited 4th Floor, Oxford Place, 61 Oxford St Manchester

Licence No: 715001

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

OGVS

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

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									
07:00 - 08:00	6	1924	0.000	6	1924	0.000	6	1924	0.000
08:00 - 09:00	6	1924	0.009	6	1924	0.009	6	1924	0.018
09:00 - 10:00	6	1924	0.035	6	1924	0.035	6	1924	0.070
10:00 - 11:00	6	1924	0.026	6	1924	0.035	6	1924	0.061
11:00 - 12:00	6	1924	0.035	6	1924	0.035	6	1924	0.070
12:00 - 13:00	6	1924	0.017	6	1924	0.017	6	1924	0.034
13:00 - 14:00	6	1924	0.026	6	1924	0.035	6	1924	0.061
14:00 - 15:00	6	1924	0.009	6	1924	0.000	6	1924	0.009
15:00 - 16:00	6	1924	0.009	6	1924	0.017	6	1924	0.026
16:00 - 17:00	6	1924	0.017	6	1924	0.017	6	1924	0.034
17:00 - 18:00	6	1924	0.009	6	1924	0.000	6	1924	0.009
18:00 - 19:00	6	1924	0.035	6	1924	0.026	6	1924	0.061
19:00 - 20:00	6	1924	0.000	6	1924	0.017	6	1924	0.017
20:00 - 21:00	6	1924	0.009	6	1924	0.009	6	1924	0.018
21:00 - 22:00	6	1924	0.009	6	1924	0.009	6	1924	0.018
22:00 - 23:00	6	1924	0.000	6	1924	0.000	6	1924	0.000
23:00 - 24:00									
Total Rates:			0.245			0.261			0.506

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.

Vectos (North) Limited 4th Floor, Oxford Place, 61 Oxford St Manchester

Licence No: 715001

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

CYCLISTS

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

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									
07:00 - 08:00	6	1924	0.009	6	1924	0.000	6	1924	0.009
08:00 - 09:00	6	1924	0.113	6	1924	0.087	6	1924	0.200
09:00 - 10:00	6	1924	0.087	6	1924	0.043	6	1924	0.130
10:00 - 11:00	6	1924	0.130	6	1924	0.104	6	1924	0.234
11:00 - 12:00	6	1924	0.061	6	1924	0.139	6	1924	0.200
12:00 - 13:00	6	1924	0.043	6	1924	0.069	6	1924	0.112
13:00 - 14:00	6	1924	0.078	6	1924	0.069	6	1924	0.147
14:00 - 15:00	6	1924	0.078	6	1924	0.069	6	1924	0.147
15:00 - 16:00	6	1924	0.078	6	1924	0.069	6	1924	0.147
16:00 - 17:00	6	1924	0.052	6	1924	0.052	6	1924	0.104
17:00 - 18:00	6	1924	0.130	6	1924	0.104	6	1924	0.234
18:00 - 19:00	6	1924	0.069	6	1924	0.113	6	1924	0.182
19:00 - 20:00	6	1924	0.035	6	1924	0.043	6	1924	0.078
20:00 - 21:00	6	1924	0.061	6	1924	0.052	6	1924	0.113
21:00 - 22:00	6	1924	0.009	6	1924	0.017	6	1924	0.026
22:00 - 23:00	6	1924	0.000	6	1924	0.000	6	1924	0.000
23:00 - 24:00									
Total Rates:			1.033			1.030			2.063

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.

Vectos (North) Limited 4th Floor, Oxford Place, 61 Oxford St Manchester

Licence No: 715001

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

CARS

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

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									
07:00 - 08:00	6	1924	0.260	6	1924	0.078	6	1924	0.338
08:00 - 09:00	6	1924	2.027	6	1924	1.351	6	1924	3.378
09:00 - 10:00	6	1924	2.798	6	1924	2.417	6	1924	5.215
10:00 - 11:00	6	1924	3.327	6	1924	3.110	6	1924	6.437
11:00 - 12:00	6	1924	4.158	6	1924	3.838	6	1924	7.996
12:00 - 13:00	6	1924	4.592	6	1924	4.418	6	1924	9.010
13:00 - 14:00	6	1924	4.037	6	1924	4.548	6	1924	8.585
14:00 - 15:00	6	1924	4.566	6	1924	4.410	6	1924	8.976
15:00 - 16:00	6	1924	4.245	6	1924	4.228	6	1924	8.473
16:00 - 17:00	6	1924	3.933	6	1924	3.786	6	1924	7.719
17:00 - 18:00	6	1924	3.760	6	1924	3.907	6	1924	7.667
18:00 - 19:00	6	1924	2.971	6	1924	3.370	6	1924	6.341
19:00 - 20:00	6	1924	2.426	6	1924	2.720	6	1924	5.146
20:00 - 21:00	6	1924	1.525	6	1924	1.958	6	1924	3.483
21:00 - 22:00	6	1924	0.459	6	1924	0.875	6	1924	1.334
22:00 - 23:00	6	1924	0.035	6	1924	0.199	6	1924	0.234
23:00 - 24:00									
Total Rates:		45.119			45.213				90.332

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.

Vectos (North) Limited 4th Floor, Oxford Place, 61 Oxford St Manchester

Licence No: 715001

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

LGVS

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

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									
07:00 - 08:00	6	1924	0.009	6	1924	0.009	6	1924	0.018
08:00 - 09:00	6	1924	0.243	6	1924	0.173	6	1924	0.416
09:00 - 10:00	6	1924	0.208	6	1924	0.191	6	1924	0.399
10:00 - 11:00	6	1924	0.173	6	1924	0.182	6	1924	0.355
11:00 - 12:00	6	1924	0.165	6	1924	0.147	6	1924	0.312
12:00 - 13:00	6	1924	0.156	6	1924	0.113	6	1924	0.269
13:00 - 14:00	6	1924	0.208	6	1924	0.243	6	1924	0.451
14:00 - 15:00	6	1924	0.147	6	1924	0.165	6	1924	0.312
15:00 - 16:00	6	1924	0.182	6	1924	0.191	6	1924	0.373
16:00 - 17:00	6	1924	0.251	6	1924	0.225	6	1924	0.476
17:00 - 18:00	6	1924	0.191	6	1924	0.156	6	1924	0.347
18:00 - 19:00	6	1924	0.173	6	1924	0.173	6	1924	0.346
19:00 - 20:00	6	1924	0.173	6	1924	0.191	6	1924	0.364
20:00 - 21:00	6	1924	0.061	6	1924	0.113	6	1924	0.174
21:00 - 22:00	6	1924	0.026	6	1924	0.043	6	1924	0.069
22:00 - 23:00	6	1924	0.000	6	1924	0.000	6	1924	0.000
23:00 - 24:00									
Total Rates:			2.366			2.315			4.681

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.

Vectos (North) Limited 4th Floor, Oxford Place, 61 Oxford St Manchester

Licence No: 715001

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

MOTOR CYCLES

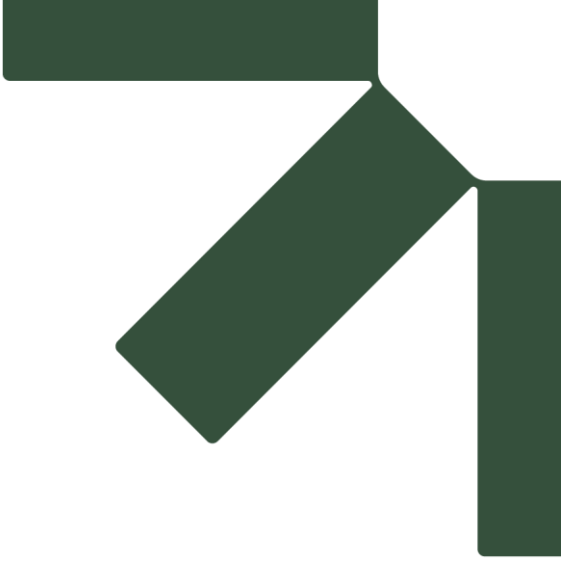
Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

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									
07:00 - 08:00	6	1924	0.000	6	1924	0.000	6	1924	0.000
08:00 - 09:00	6	1924	0.000	6	1924	0.000	6	1924	0.000
09:00 - 10:00	6	1924	0.000	6	1924	0.000	6	1924	0.000
10:00 - 11:00	6	1924	0.000	6	1924	0.000	6	1924	0.000
11:00 - 12:00	6	1924	0.035	6	1924	0.017	6	1924	0.052
12:00 - 13:00	6	1924	0.017	6	1924	0.017	6	1924	0.034
13:00 - 14:00	6	1924	0.009	6	1924	0.009	6	1924	0.018
14:00 - 15:00	6	1924	0.017	6	1924	0.017	6	1924	0.034
15:00 - 16:00	6	1924	0.026	6	1924	0.026	6	1924	0.052
16:00 - 17:00	6	1924	0.026	6	1924	0.026	6	1924	0.052
17:00 - 18:00	6	1924	0.043	6	1924	0.043	6	1924	0.086
18:00 - 19:00	6	1924	0.017	6	1924	0.017	6	1924	0.034
19:00 - 20:00	6	1924	0.009	6	1924	0.017	6	1924	0.026
20:00 - 21:00	6	1924	0.009	6	1924	0.017	6	1924	0.026
21:00 - 22:00	6	1924	0.000	6	1924	0.000	6	1924	0.000
22:00 - 23:00	6	1924	0.000	6	1924	0.000	6	1924	0.000
23:00 - 24:00									
Total Rates:			0.208	0.206			0.414		

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 C Traffic Survey

Transport Assessment

Universal Square Phase 4, Manchester

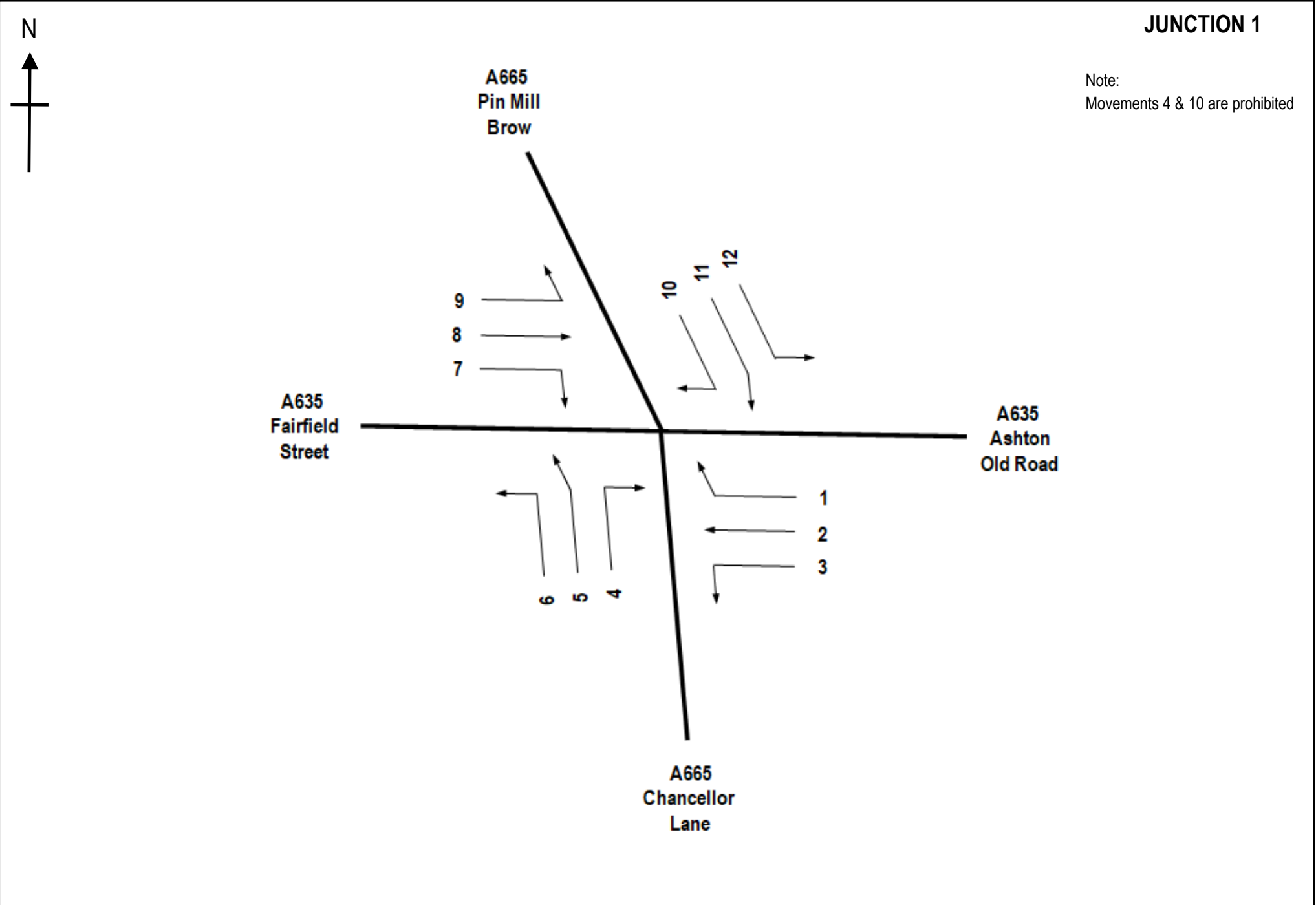
Cypresshawk Ltd

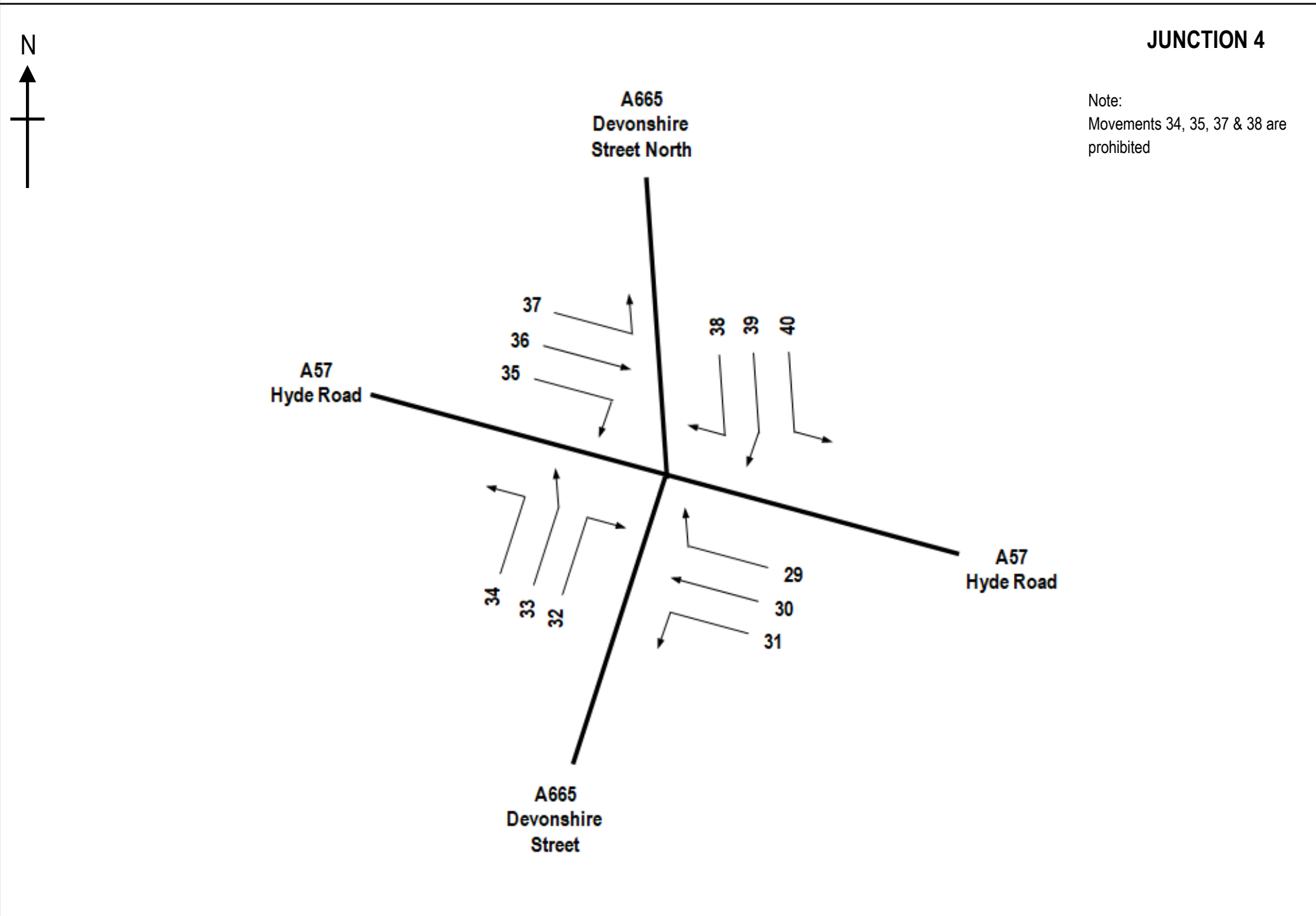
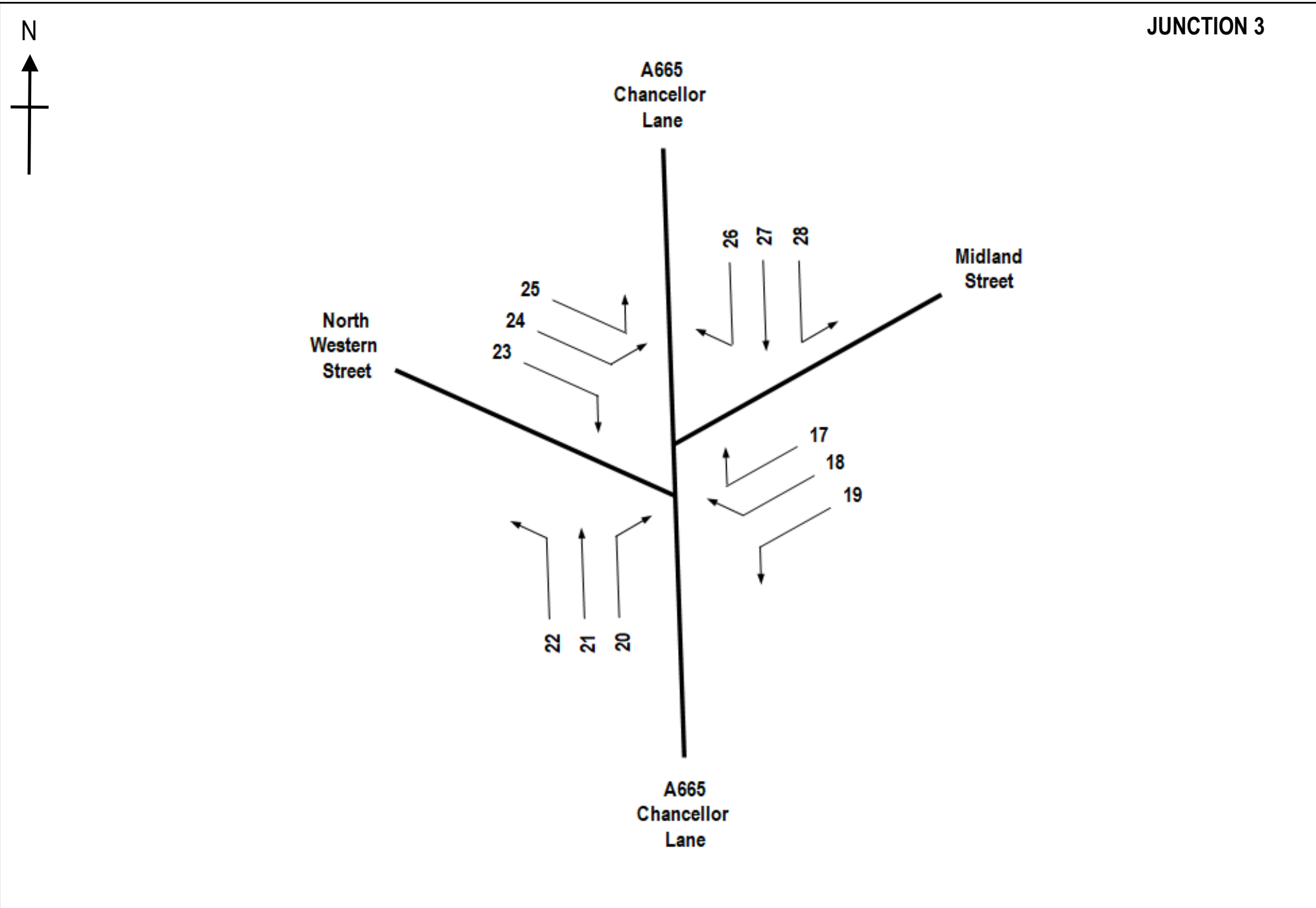
SLR Project No.: 410.065709.00001

27 November 2024

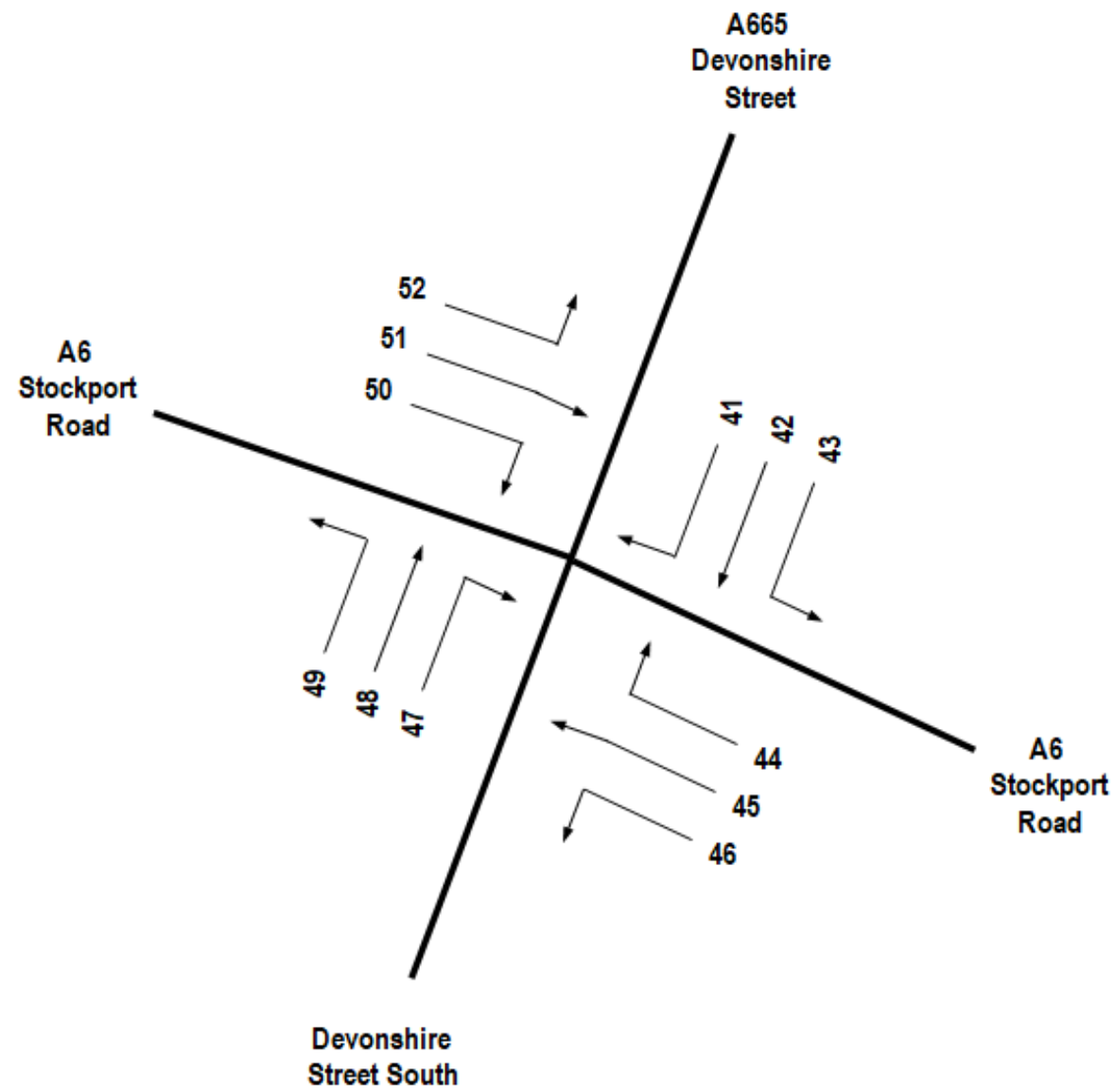
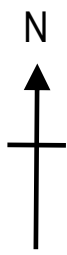
SURVEY CONTROL

Client:	SLR Consulting
Client Contact:	Aalisha Sorathiya
Survey Location:	Manchester
Date(s) of Survey:	Thursday 16th May 2024
Notes:	AM: Dry weather conditions; PM: Intervals of light rain
On Site Supervisor:	David Cheng/Neil Harley/Rachel Wong
Data Checking:	David Cheng
Survey Reference:	24.015 Universal Square, Manchester
Status:	Final
Date of Issue:	28th May 2024





DRAWING TITLE				Transport Data Specialists Ltd W: www.transportds.co.uk E: enquiries@transportds.co.uk T: 0777 625 2475 T: 0794 007 1260
TRAFFIC MOVEMENT REFERENCE				
JOB TITLE				
24.015 UNIVERSAL SQUARE, MANCHESTER				
DRAWN BY CC	DATE MAY 2024	SCALE NTS	REF FIGURE 2	



DRAWING TITLE

TRAFFIC MOVEMENT REFERENCE

JOB TITLE

24.015 UNIVERSAL SQUARE, MANCHESTER

DRAWN BY
CC

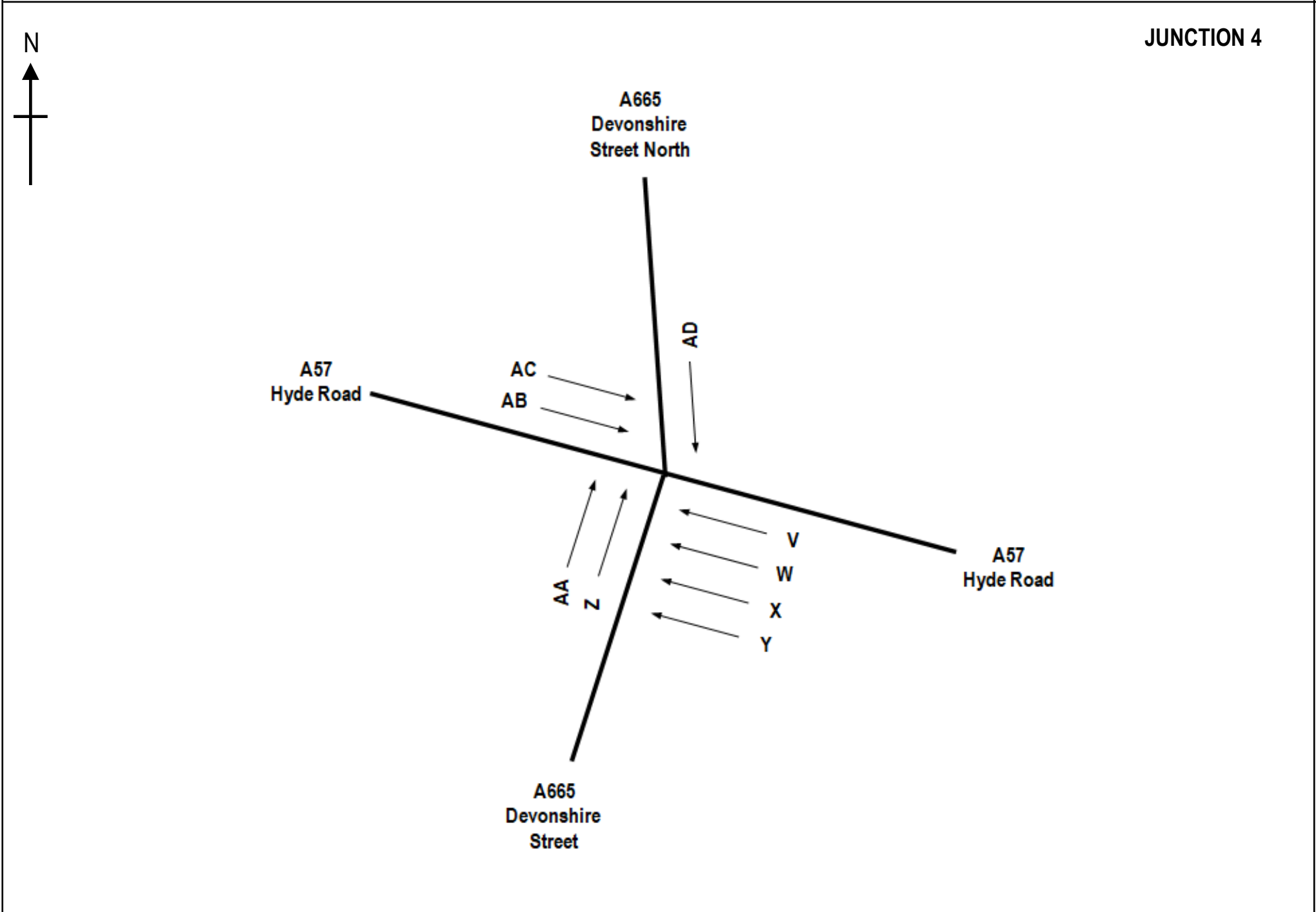
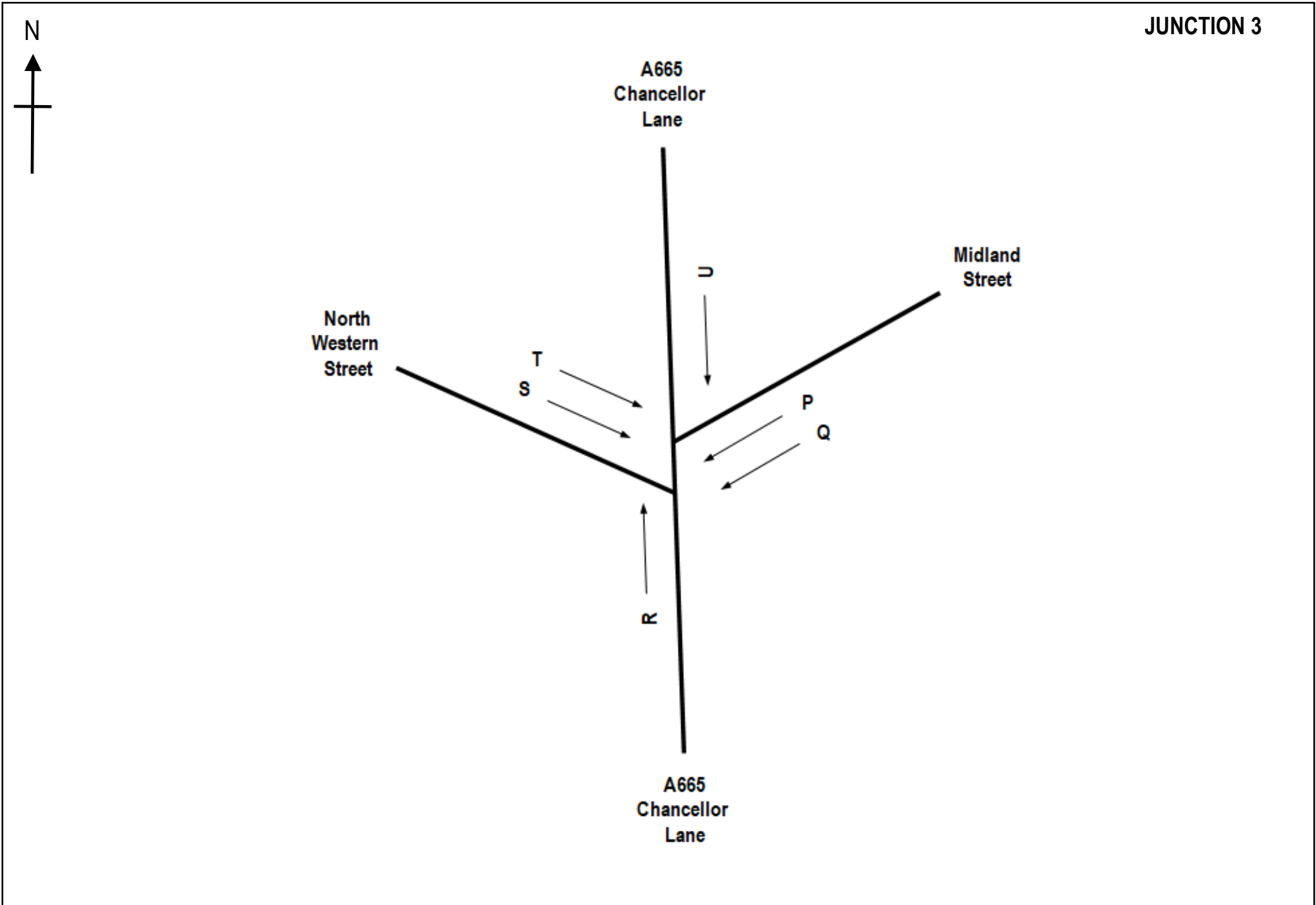
DATE
MAY 2024

SCALE
NTS

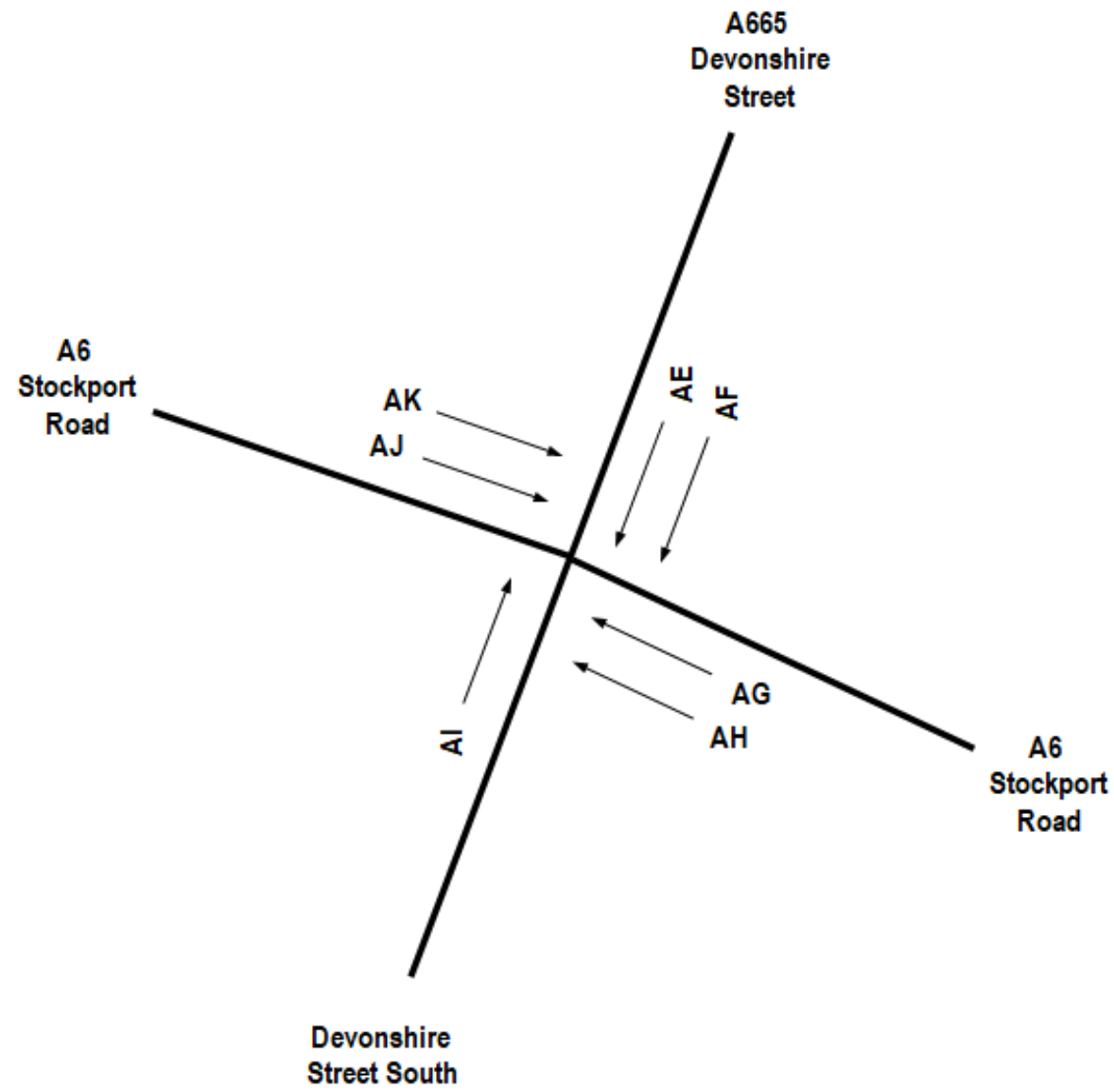
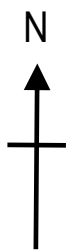
REF
FIGURE 3

**Transport Data
Specialists Ltd**

W: www.transportds.co.uk
E: enquiries@transportds.co.uk
T: 0777 625 2475 T: 0794 007 1260



DRAWING TITLE				Transport Data Specialists Ltd W: www.transportds.co.uk E: enquiries@transportds.co.uk T: 0777 625 2475 T: 0794 007 1260
QUEUE REFERENCE				
JOB TITLE				
24.015 UNIVERSAL SQUARE, MANCHESTER				
DRAWN BY CC	DATE MAY 2024	SCALE NTS	REF FIGURE 5	



DRAWING TITLE

QUEUE REFERENCE

JOB TITLE

24.015 UNIVERSAL SQUARE, MANCHESTER

DRAWN BY
CC

DATE
MAY 2024

SCALE
NTS

REF
FIGURE 6

**Transport Data
Specialists Ltd**

W: www.transportds.co.uk
E: enquiries@transportds.co.uk
T: 0777 625 2475 T: 0794 007 1260

Time Beginning	A665 Pin Mill Brow/A635 Fairfield Street/A665 Chancellor Lane/A635 Ashton Old Road - Thursday 16th May 2024																							
	1		2		3		4		5		6		7		8		9		10		11		12	
	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV
0730	25	4	272	15	57	0	0	0	131	5	30	0	20	1	129	11	0	0	0	0	142	0	17	1
0745	25	2	253	23	58	3	0	0	153	4	25	1	28	1	150	20	0	1	0	0	159	0	28	1
0800	19	3	289	17	64	3	0	1	158	2	27	1	23	1	129	11	2	0	0	0	173	5	10	2
0815	23	2	266	18	61	2	0	0	145	4	33	1	21	1	118	12	0	0	0	0	181	2	18	0
0830	17	1	259	21	52	5	0	0	154	9	22	2	24	1	121	11	0	0	0	0	142	4	19	0
0845	33	1	255	27	62	3	0	0	148	7	23	1	31	0	149	16	2	2	0	0	148	4	14	0
0900	30	3	230	29	46	3	0	0	146	2	24	0	34	0	107	18	0	1	0	0	170	6	16	3
0915	33	2	207	22	59	3	1	0	153	6	33	1	47	0	126	16	0	0	1	0	138	2	13	2
0930	40	3	195	22	48	2	0	0	120	6	30	1	34	1	74	10	0	1	0	0	140	7	19	1
0945	26	2	185	25	37	1	0	0	140	6	32	2	31	5	110	18	1	0	0	0	107	1	24	1
1000	26	5	128	20	24	3	0	0	154	4	30	0	44	0	116	19	0	0	0	0	107	3	20	2
1015	24	2	131	20	25	1	0	0	123	7	38	1	36	3	97	24	5	0	0	0	104	3	10	1
1030	19	7	142	16	26	0	0	0	130	3	27	1	35	1	122	19	3	0	0	0	102	4	18	6
1045	21	3	155	18	31	2	0	0	132	6	24	3	30	6	123	20	1	0	0	0	97	7	17	0
Time Beginning	A665 Pin Mill Brow/A635 Fairfield Street/A665 Chancellor Lane/A635 Ashton Old Road - Thursday 16th May 2024																							
	1		2		3		4		5		6		7		8		9		10		11		12	
	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV
1430	18	2	142	16	33	7	0	0	170	9	31	0	19	3	159	22	4	0	0	0	122	8	23	4
1445	22	1	155	12	41	1	0	0	126	6	35	2	26	5	187	19	4	0	0	0	130	5	26	4
1500	19	2	163	18	27	1	0	0	165	2	20	0	23	2	166	20	4	0	0	0	106	5	33	0
1515	28	0	150	7	29	0	0	0	139	1	29	0	26	1	186	13	6	0	0	0	116	1	40	1
1530	28	2	144	13	35	2	0	0	171	2	25	0	16	0	203	20	5	0	1	0	110	1	34	0
1545	24	0	143	6	32	3	0	0	161	6	19	0	21	0	206	18	1	2	0	0	132	3	30	2
1600	25	0	148	6	38	1	5	0	171	7	20	1	34	1	195	10	5	0	0	0	141	4	34	0
1615	18	0	132	10	30	2	1	0	139	0	29	0	24	1	173	10	1	0	0	0	156	3	49	1
1630	13	0	155	5	40	1	2	0	170	5	38	3	26	0	248	6	2	0	0	0	134	6	44	2
1645	15	1	170	7	32	1	1	0	165	3	35	0	18	0	221	9	1	1	0	0	129	1	60	0
1700	16	0	144	5	31	0	1	0	172	3	23	0	20	0	226	5	2	0	0	0	118	0	33	0
1715	16	1	163	9	31	0	0	0	178	1	31	0	15	0	223	7	1	0	0	0	144	0	38	0
1730	24	0	146	2	33	0	0	0	180	2	28	2	13	0	233	3	1	0	0	0	133	1	33	2
1745	19	0	127	7	34	1	1	0	145	2	22	2	16	1	209	2	2	0	0	0	136	1	49	1
1800	18	0	145	5	41	0	0	0	155	3	46	1	19	0	217	7	4	0	1	0	190	1	44	0
1815	13	0	154	5	31	0	0	0	110	0	42	2	20	1	176	9	1	0	1	0	160	1	44	0
1830	22	0	159	2	29	0	0	0	147	1	45	1	16	0	147	6	0	0	0	0	110	1	28	0
1845	21	0	128	3	23	0	0	0	131	2	28	0	9	3	130	2	0	0	0	0	129	1	22	1

Time Beginning	A635 Ashton Old Road/Midland Street - Thursday 16th May 2024							
	13		14		15		16	
	LV	HV	LV	HV	LV	HV	LV	HV
0730	356	19	15	0	4	0	145	12
0745	325	30	24	5	2	0	185	21
0800	365	20	32	1	2	1	138	14
0815	347	19	39	1	2	3	138	12
0830	330	24	39	2	5	3	138	11
0845	342	26	33	5	5	6	162	16
0900	300	33	23	1	5	1	123	22
0915	291	28	47	3	2	0	139	18
0930	286	24	34	2	7	2	99	11
0945	255	30	31	4	1	0	137	17
1000	170	24	21	1	4	2	134	23
1015	162	22	34	1	9	2	107	25
1030	184	22	32	0	3	1	138	26
1045	201	23	32	3	2	1	144	19
Time Beginning	A635 Ashton Old Road/Midland Street - Thursday 16th May 2024							
	13		14		15		16	
	LV	HV	LV	HV	LV	HV	LV	HV
1430	203	25	58	3	3	0	200	25
1445	202	13	57	2	3	0	205	24
1500	204	20	79	1	6	0	196	19
1515	200	8	65	1	8	0	224	15
1530	192	16	91	1	12	1	235	18
1545	196	7	70	3	2	0	238	22
1600	213	8	81	4	2	1	243	11
1615	171	8	92	0	1	0	229	11
1630	212	10	73	3	4	0	291	8
1645	212	8	81	1	3	0	282	9
1700	184	5	75	0	2	1	258	5
1715	214	8	72	3	2	0	259	7
1730	204	4	74	0	2	0	274	3
1745	176	8	75	1	1	0	262	3
1800	206	5	60	0	3	0	271	8
1815	201	4	67	0	3	0	217	9
1830	196	3	51	0	6	0	177	6
1845	161	2	42	2	3	0	148	4

Time Beginning	A665 Chancellor Lane/Midland Street/North Western Street - Thursday 16th May 2024																							
	17		18		19		20		21		22		23		24		25		26		27		28	
	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV
0730	0	0	0	0	1	3	19	1	165	5	0	0	0	1	0	0	2	0	1	0	202	2	8	1
0745	0	0	0	0	4	1	30	4	187	5	2	0	0	1	0	0	0	0	3	0	215	3	11	0
0800	2	0	0	0	3	2	33	0	187	5	2	1	0	1	0	1	0	0	1	0	245	7	9	1
0815	0	0	0	0	3	4	41	2	184	4	4	0	0	1	0	0	0	1	2	0	243	4	7	1
0830	0	2	0	0	1	2	43	2	175	11	6	1	0	1	1	0	0	0	3	0	191	8	15	1
0845	0	0	0	0	5	4	46	2	171	3	6	1	0	1	0	0	1	0	5	0	207	4	18	1
0900	2	0	0	0	6	0	23	5	178	2	6	1	0	0	1	0	0	0	9	0	211	8	15	1
0915	3	0	0	0	2	1	40	2	170	10	5	1	2	0	0	0	9	0	6	1	200	3	24	2
0930	0	0	0	0	3	2	38	6	152	9	4	0	2	0	0	0	0	1	5	1	182	8	18	1
0945	1	0	0	0	3	1	32	4	171	6	5	0	0	0	1	0	1	1	4	0	158	6	8	2
1000	2	0	0	0	7	1	27	2	179	3	6	0	0	0	2	0	0	0	2	0	146	6	18	0
1015	2	0	0	0	2	0	33	0	165	8	3	0	0	0	0	0	3	0	8	1	133	4	13	2
1030	1	0	0	0	2	1	27	0	146	4	1	0	0	0	0	0	1	0	2	0	149	3	3	1
1045	1	0	0	0	5	1	36	3	164	6	1	0	0	0	0	0	2	0	1	0	142	6	9	7

Time Beginning	A665 Chancellor Lane/Midland Street/North Western Street - Thursday 16th May 2024																							
	17		18		19		20		21		22		23		24		25		26		27		28	
	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV
1430	4	0	0	0	1	0	61	3	179	9	1	0	0	1	1	0	2	0	2	0	154	11	14	4
1445	2	0	0	0	6	0	42	4	139	7	3	0	1	0	1	0	1	0	1	0	192	11	9	7
1500	0	0	0	0	4	3	63	3	179	2	1	0	1	0	0	1	3	0	1	1	140	1	9	7
1515	0	0	0	0	6	0	62	2	164	1	0	0	1	0	2	0	1	0	2	0	164	1	15	0
1530	2	0	0	0	5	1	68	1	176	2	4	0	2	0	1	0	0	0	0	0	146	3	8	0
1545	5	0	0	0	5	0	70	3	162	8	2	0	0	0	1	0	2	0	1	0	177	4	11	0
1600	1	0	1	0	6	0	75	1	188	6	1	0	0	0	0	0	1	0	2	0	196	3	7	2
1615	1	0	0	0	1	0	80	1	172	4	5	0	2	0	1	0	0	0	3	0	203	9	13	0
1630	0	0	0	0	6	2	77	5	176	7	9	0	2	0	1	0	1	0	2	0	166	5	13	2
1645	3	0	2	0	10	1	66	0	154	4	9	0	3	1	1	0	2	0	3	0	182	4	10	1
1700	0	0	0	0	7	0	79	1	165	1	3	0	2	0	0	0	2	0	1	0	153	0	12	0
1715	2	0	4	0	7	0	61	1	174	2	7	0	1	0	2	1	1	0	3	0	163	2	16	1
1730	2	0	1	0	10	0	60	1	182	5	2	0	0	1	6	0	2	0	1	0	172	1	4	0
1745	4	0	1	0	8	0	49	2	143	6	6	0	1	0	2	0	1	0	0	0	199	2	6	0
1800	1	0	1	0	1	1	65	0	163	5	6	0	1	1	0	0	3	0	1	0	204	0	6	0
1815	1	0	1	0	4	0	49	1	147	3	2	0	0	0	1	0	1	0	1	0	201	2	7	0
1830	2	0	0	0	3	1	43	0	174	2	2	0	1	0	0	0	0	0	1	0	130	1	14	0
1845	4	0	0	0	6	0	41	1	145	2	5	0	1	0	1	0	3	0	0	0	164	4	10	1

Time Beginning	A665 Devonshire Street North/A57 Hyde Road/A665 Devonshire Street - Thursday 16th May 2024																							
	29		30		31		32		33		34		35		36		37		38		39		40	
	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV
0730	67	0	203	8	27	1	12	1	97	4	0	0	0	0	78	16	0	0	0	0	97	2	27	1
0745	66	1	200	14	20	1	27	0	138	2	0	0	0	0	114	5	0	0	0	0	98	0	26	3
0800	58	1	180	11	22	2	28	0	124	3	0	0	0	0	107	8	0	0	0	0	121	5	35	0
0815	84	0	185	5	23	1	22	1	142	2	0	0	0	0	96	7	0	0	0	0	109	2	23	0
0830	66	4	178	14	34	0	31	0	131	4	0	0	0	0	98	14	0	0	0	0	74	1	29	2
0845	56	1	185	9	38	4	19	1	156	2	0	0	0	0	89	11	0	0	0	0	85	7	32	1
0900	64	1	186	8	28	2	27	1	128	0	1	0	0	0	86	20	0	0	0	0	89	2	33	3
0915	56	1	171	16	28	2	13	1	116	6	0	0	0	0	85	18	0	0	0	0	65	2	23	1
0930	46	4	152	21	30	1	22	3	107	4	1	0	0	0	94	19	0	0	1	0	78	6	39	1
0945	56	1	161	25	21	0	25	2	91	4	0	0	0	0	79	24	0	0	1	0	84	6	21	1
1000	54	3	110	19	14	1	25	0	105	2	0	0	0	0	91	22	0	0	0	0	79	0	34	4
1015	41	6	98	24	31	1	24	1	110	1	0	0	0	0	104	24	1	0	0	0	69	1	30	3
1030	45	2	110	26	21	2	13	0	77	2	0	0	0	0	97	28	0	0	0	0	65	3	27	2
1045	27	2	88	24	26	2	20	0	86	4	0	0	0	0	95	15	1	0	0	0	84	2	33	4

Time Beginning	A665 Devonshire Street North/A57 Hyde Road/A665 Devonshire Street - Thursday 16th May 2024																							
	29		30		31		32		33		34		35		36		37		38		39		40	
	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV
1430	47	5	112	24	34	2	47	1	98	3	0	0	0	0	164	26	1	0	0	0	78	3	45	3
1445	42	2	113	17	28	2	28	0	82	4	0	0	0	0	161	19	0	0	0	0	84	2	54	2
1500	29	0	121	18	23	1	46	2	116	2	2	0	0	0	193	18	0	0	0	0	77	1	46	2
1515	42	1	97	14	27	2	40	3	99	1	1	0	0	0	162	15	0	0	0	0	82	0	51	2
1530	35	2	84	16	31	1	45	2	118	3	0	0	0	0	154	17	0	0	0	0	61	1	38	0
1545	45	0	122	11	32	0	32	1	110	4	0	0	0	0	148	15	0	0	0	0	85	0	49	0
1600	31	1	120	14	28	0	46	2	114	2	0	0	0	0	248	16	1	0	0	0	79	3	47	0
1615	49	0	92	11	22	2	62	1	119	3	1	0	0	0	193	17	0	0	0	0	64	1	54	1
1630	35	2	106	12	24	2	40	0	115	2	0	0	0	0	255	20	2	0	0	0	52	2	48	0
1645	28	0	104	11	30	1	45	1	124	1	0	0	0	0	236	13	1	0	0	0	94	4	38	1
1700	36	0	112	11	22	0	51	1	97	0	0	0	1	0	234	17	0	0	1	0	71	0	37	0
1715	27	0	87	10	22	2	52	1	113	0	0	0	0	0	207	8	1	0	0	0	78	0	50	0
1730	43	1	97	5	19	0	54	1	116	0	0	0	0	0	197	13	1	0	0	0	75	0	58	0
1745	28	1	87	11	24	1	41	0	94	1	0	0	0	0	208	12	0	0	0	0	83	0	61	0
1800	38	0	104	8	13	0	30	0	93	1	0	0	0	0	235	11	0	0	0	0	80	1	56	0
1815	39	1	119	6	20	0	41	2	95	1	0	0	0	0	157	10	0	0	0	0	103	0	62	1
1830	41	0	103	10	22	0	29	1	93	1	0	0	0	0	156	11	0	0	0	0	93	1	46	0
1845	36	0	121	10	22	0	20	0	86	0	0	0	0	0	106	11	0	0	0	0	91	1	41	3

Time Beginning	A665 Devonshire Street/A6 Stockport Road/Devonshire Street South - Thursday 16th May 2024																							
	41		42		43		44		45		46		47		48		49		50		51		52	
	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV
0730	8	0	63	1	59	2	82	3	103	13	4	0	4	0	25	1	3	0	2	0	49	10	7	0
0745	12	3	67	0	43	1	123	1	98	5	5	0	2	0	35	0	3	0	2	0	64	5	9	0
0800	18	1	56	1	70	5	86	2	89	8	1	0	6	0	56	1	4	0	1	1	57	7	4	1
0815	15	1	55	0	68	1	106	1	67	4	8	0	9	0	40	1	2	0	6	0	68	9	12	0
0830	17	0	58	0	55	0	91	4	87	6	11	0	5	0	66	1	10	0	3	0	48	6	7	1
0845	19	1	63	4	50	6	105	2	94	5	11	0	2	1	52	0	5	0	6	1	64	4	16	0
0900	14	1	43	2	61	1	106	2	122	6	5	0	5	0	35	1	9	0	4	0	59	10	24	1
0915	23	1	33	1	48	1	84	7	92	7	8	0	0	0	45	1	9	0	3	0	56	7	17	1
0930	24	2	43	0	42	3	95	3	105	7	7	0	6	0	30	1	8	0	4	0	60	4	13	1
0945	23	1	29	1	56	3	77	3	88	7	6	1	3	0	27	1	4	0	3	0	55	9	22	1
1000	23	0	36	1	44	1	68	2	79	10	5	0	2	0	37	0	8	0	6	0	62	7	20	1
1015	21	0	30	0	56	1	79	2	79	8	9	0	1	0	36	3	2	1	6	0	51	9	13	1
1030	23	1	32	2	42	2	50	1	87	6	6	0	1	0	32	0	9	0	9	0	66	4	13	2
1045	17	1	30	1	68	0	54	3	75	5	6	0	6	0	46	1	8	0	6	1	80	7	11	1

Time Beginning	A665 Devonshire Street/A6 Stockport Road/Devonshire Street South - Thursday 16th May 2024																							
	41		42		43		44		45		46		47		48		49		50		51		52	
	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV
1430	24	1	29	0	76	2	62	1	62	4	12	0	8	0	62	2	7	0	9	0	90	4	22	0
1445	11	1	37	0	65	3	43	1	86	8	10	0	6	0	45	0	7	0	13	0	120	6	19	0
1500	24	0	47	0	53	2	44	1	44	5	5	0	2	0	90	3	9	0	9	0	92	4	19	0
1515	8	1	31	0	68	2	53	3	57	6	7	0	7	0	75	0	6	0	6	0	76	7	19	3
1530	24	1	28	1	59	1	56	2	60	5	6	0	4	0	89	0	7	0	7	0	88	6	10	0
1545	9	0	31	0	69	0	60	3	70	6	7	0	1	1	65	1	10	0	6	1	100	5	20	0
1600	23	1	36	0	66	1	75	3	72	5	6	0	5	0	73	0	3	0	3	0	97	4	25	0
1615	11	1	39	1	53	1	61	1	69	7	7	0	4	0	80	0	2	0	9	0	120	5	21	1
1630	9	0	20	0	52	2	70	1	55	4	8	0	2	0	86	0	11	1	7	0	95	5	22	2
1645	16	1	44	0	61	2	69	1	83	7	8	0	3	0	72	1	6	0	13	0	98	6	29	1
1700	30	0	30	0	59	0	54	0	67	4	7	0	4	0	85	1	3	0	8	0	91	3	27	0
1715	11	0	30	1	48	2	67	0	73	0	3	0	6	0	76	0	6	0	8	0	101	6	18	0
1730	13	0	37	0	63	0	70	0	59	6	5	0	4	0	76	1	9	0	13	0	80	4	23	0
1745	12	0	26	1	72	1	55	0	62	6	8	0	1	0	57	1	7	0	4	0	111	4	10	0
1800	16	0	20	0	71	1	53	0	65	6	7	0	5	0	64	1	4	0	8	0	102	7	13	0
1815	17	0	30	0	73	0	65	2	59	3	9	0	2	0	50	0	3	0	8	0	97	7	16	0
1830	6	0	35	0	74	2	47	1	58	3	3	0	2	0	50	1	3	0	10	0	108	6	17	0
1845	11	0	37	0	74	1	64	1	76	8	3	0	3	0	37	0	1	0	7	0	75	2	6	0

Time Beginning	A665 Pin Mill Brow/A635 Fairfield Street/A665 Chancellor Lane/A635 Ashton Old Road, Queues (vehs) - Thursday 16th May 2024									
	A	B	C	D	E	F	G	H	I	J
0730	2	7	5	0	9	5	1	4	4	10
0735	3	1	4	1	5	7	1	6	2	7
0740	0	2	4	1	7	12	4	9	4	7
0745	0	5	3	1	5	7	5	15	5	7
0750	1	6	0	11	3	7	5	7	3	7
0755	0	3	2	0	7	9	3	10	3	4
0800	1	5	4	1	6	10	2	11	3	4
0805	1	4	8	0	6	7	3	6	10	9
0810	1	6	11	0	0	3	4	11	2	7
0815	1	2	4	0	9	8	5	5	6	8
0820	0	0	1	1	4	9	3	5	3	4
0825	0	3	4	1	3	12	0	7	2	7
0830	1	3	7	0	7	11	4	9	0	1
0835	0	4	0	9	4	7	1	3	3	5
0840	0	5	11	0	3	11	6	7	6	10
0845	0	6	12	1	6	10	4	7	4	4
0850	1	2	3	1	5	4	8	13	4	6
0855	1	7	7	1	7	7	3	12	4	5
0900	1	5	11	1	4	3	2	4	4	7
0905	3	5	1	1	4	7	4	6	3	5
0910	7	5	1	22	4	4	2	9	5	10
0915	2	1	5	0	4	10	4	12	3	3
0920	0	4	0	7	3	4	7	10	5	6
0925	2	1	5	1	6	11	8	10	7	9
0930	2	1	5	1	4	7	3	4	6	2
0935	4	3	3	1	2	8	4	8	4	6
0940	3	6	0	7	0	2	3	8	4	6
0945	0	5	0	6	2	4	1	7	1	2
0950	0	4	11	0	5	12	7	10	3	6
0955	0	1	1	1	4	10	14	9	3	4
1000	1	2	4	0	10	5	9	7	2	3
1005	2	0	3	0	8	10	12	15	2	6
1010	0	2	0	2	4	5	11	7	4	6
1015	0	2	6	0	2	6	4	4	1	1
1020	3	1	0	0	2	5	6	7	4	8
1025	0	0	3	0	9	14	1	1	4	4
1030	1	0	0	0	7	6	12	1	1	7
1035	1	3	5	0	2	4	6	12	3	9
1040	1	3	1	0	4	8	5	7	2	7
1045	0	3	3	0	1	3	6	12	0	3
1050	1	3	1	5	5	4	1	4	0	2
1055	1	6	1	6	3	4	5	4	2	1
1100	0	4	0	9	4	8	1	5	2	6

Time Beginning	A665 Pin Mill Brow/A635 Fairfield Street/A665 Chancellor Lane/A635 Ashton Old Road, Queues (vehs) - Thursday 16th May 2024									
	A	B	C	D	E	F	G	H	I	J
1430	0	1	1	1	5	19	7	16	3	8
1435	3	5	5	1	7	7	4	10	2	5
1440	1	1	0	3	4	10	9	15	5	8
1445	2	8	7	0	2	9	1	7	3	1
1450	2	2	1	0	10	9	21+	21+	3	10
1455	0	5	2	0	4	7	9	12	7	7
1500	1	2	0	0	3	5	6	9	4	7
1505	0	3	3	0	8	9	9	13	7	11
1510	0	4	0	0	1	5	7	13	9	9
1515	0	0	2	0	2	4	0	4	5	7
1520	1	5	5	0	2	4	2	3	6	12
1525	2	3	4	0	6	7	8	10	5	7
1530	4	1	6	0	3	6	6	21+	3	13
1535	1	2	1	1	7	9	9	17	1	1
1540	1	1	6	0	5	4	12	14	5	9
1545	2	0	0	4	4	12	8	8	7	14
1550	0	5	7	0	9	10	9	13	6	9
1555	0	9	6	0	4	5	11	17	7	13
1600	1	1	0	0	11	11	7	13	7	11
1605	1	5	0	4	6	7	21+	21+	2	10
1610	0	9	5	0	10	13	21+	21+	4	9
1615	0	5	7	0	7	11	12	13	9	9
1620	1	3	2	0	11	12	21+	21+	12	20
1625	4	2	0	5	8	12	20	21+	8	9
1630	0	2	0	4	7	40+	21+	21+	7	8
1635	1	0	1	1	9	21	8	11	7	28
1640	0	5	7	0	7	8	21+	21+	9	14
1645	0	1	3	1	9	15	21+	21+	12	15
1650	0	13	8	0	14	21	21+	21+	7	12
1655	0	8	3	0	7	40+	21+	21+	5	6
1700	1	1	1	0	9	40+	19	21+	9	7
1705	0	5	3	0	13	23	15	21+	5	1
1710	1	1	0	0	11	40+	15	21+	1	2
1715	0	4	3	1	7	40+	21+	21+	5	7
1720	0	3	2	1	14	40+	7	21+	5	4
1725	0	5	6	0	10	40+	16	21+	5	5
1730	2	0	0	1	7	22	13	15	5	8
1735	1	4	0	0	9	16	13	16	6	5
1740	2	5	4	0	9	18	21+	21+	0	0
1745	1	5	4	1	9	13	14	11	5	8
1750	0	0	0	7	9	11	21+	21+	7	10
1755	0	3	2	0	8	11	10	18	13	15
1800	0	3	2	0	8	10	21+	21+	13	16
1805	0	5	7	0	5	13	21+	21+	8	13
1810	1	8	5	1	6	9	7	10	14	12
1815	2	5	5	0	8	9	5	10	7	6
1820	1	5	3	0	5	5	12	15	6	8
1825	0	2	1	5	3	6	10	11	3	6
1830	2	8	7	0	4	8	8	9	6	10
1835	1	1	1	1	5	7	5	6	1	4
1840	0	4	4	1	2	7	3	3	5	6
1845	1	2	3	1	6	9	1	1	5	6
1850	0	1	0	1	6	6	3	9	5	5
1855	0	4	7	0	1	2	4	14	9	8
1900	0	1	2	0	1	1	6	6	2	5

Key:

 Reached next junction

Time Beginning	A635 Ashton Old Road/Midland Street, Queues (vehs) - Thursday 16th May 2024				
	K	L	M	N	O
0730	9	4	3	0	5
0735	9	5	0	0	15
0740	10	6	2	0	5
0745	3	6	2	1	0
0750	4	12	0	0	5
0755	3	4	1	1	5
0800	5	8	3	0	2
0805	4	8	0	0	1
0810	6	5	2	0	4
0815	3	4	1	0	4
0820	11	5	3	0	10
0825	5	7	8	0	2
0830	6	5	3	1	4
0835	0	2	3	0	9
0840	12	2	6	0	1
0845	8	6	1	1	1
0850	8	5	0	2	1
0855	7	9	3	1	1
0900	14	4	4	0	6
0905	10	4	1	1	3
0910	4	10	4	1	11
0915	6	8	4	0	7
0920	2	1	6	0	3
0925	8	5	8	0	1
0930	1	7	2	0	5
0935	4	4	0	1	0
0940	7	5	2	4	1
0945	2	2	2	0	3
0950	6	4	2	0	1
0955	0	0	1	0	3
1000	7	6	6	0	8
1005	2	1	0	0	4
1010	0	0	4	1	2
1015	1	1	0	1	2
1020	0	7	2	1	0
1025	4	1	4	2	1
1030	9	4	5	0	4
1035	2	3	2	1	3
1040	0	0	0	0	2
1045	1	7	0	0	0
1050	3	3	3	0	3
1055	4	2	5	0	1
1100	2	1	3	1	6

Time Beginning	A635 Ashton Old Road/Midland Street, Queues (vehs) - Thursday 16th May 2024				
	K	L	M	N	O
1430	5	5	6	0	6
1435	6	9	7	0	5
1440	1	0	21	2	9
1445	6	8	23	0	5
1450	1	0	1	0	7
1455	3	4	1	0	4
1500	2	0	9	0	7
1505	1	4	2	0	3
1510	1	3	6	0	9
1515	0	0	8	1	20
1520	5	3	6	0	5
1525	10	4	5	0	7
1530	5	5	13	1	24
1535	1	0	24	1	2
1540	2	7	15	0	9
1545	8	2	7	0	24
1550	1	2	7	0	25
1555	4	1	9	0	6
1600	0	1	23	0	22
1605	0	2	17	0	24
1610	4	2	24	0	7
1615	2	0	21	2	8
1620	1	1	24	0	24
1625	9	0	28	0	19
1630	8	5	19	0	5
1635	6	3	21	0	10
1640	3	1	38	0	9
1645	4	3	44	0	10
1650	2	1	37	1	19
1655	7	5	24	1	8
1700	3	5	20	0	19
1705	4	2	23	0	13
1710	2	0	35	0	19
1715	1	3	47	0	24
1720	5	5	32	0	23
1725	3	2	34	0	22
1730	2	3	43	0	23
1735	3	4	35	0	20
1740	4	1	29	0	9
1745	0	0	33	1	19
1750	5	7	18	0	19
1755	1	5	15	0	9
1800	3	1	7	0	17
1805	2	2	6	1	8
1810	9	2	6	0	11
1815	5	3	9	0	2
1820	2	0	7	0	6
1825	3	2	5	0	6
1830	2	2	4	0	2
1835	1	0	2	1	4
1840	0	0	5	0	13
1845	3	5	5	0	11
1850	3	1	3	0	2
1855	0	1	3	0	2
1900	1	4	6	0	3

Key:

 Reached next junction

 Reached next junction between the 5 minute spot queue survey

Time Beginning	A665 Chancellor Lane/Midland Street/North Western Street, Queues (vehs) - Thursday 16th May 2024					
	P	Q	R	S	T	U
0730	0	0	0	0	0	0
0735	0	0	0	0	0	0
0740	0	0	2	0	0	0
0745	0	0	1	0	0	0
0750	0	0	2	0	0	0
0755	0	0	0	0	0	0
0800	0	0	1	0	0	0
0805	0	0	0	0	0	0
0810	0	0	1	0	0	0
0815	0	0	0	0	0	0
0820	0	2	4	0	0	0
0825	0	0	0	0	0	0
0830	0	0	1	0	0	0
0835	0	0	0	0	0	0
0840	0	0	2	0	0	0
0845	0	0	0	0	0	0
0850	0	0	0	0	0	0
0855	0	0	2	0	0	0
0900	0	0	0	0	0	0
0905	0	0	0	0	0	2
0910	0	0	3	0	0	0
0915	0	0	0	0	0	0
0920	0	0	2	0	0	0
0925	0	0	0	0	0	0
0930	0	0	1	0	0	0
0935	0	0	2	0	0	0
0940	0	0	0	0	0	0
0945	0	0	0	0	0	0
0950	0	0	0	0	0	0
0955	0	0	0	0	0	0
1000	0	0	0	0	0	0
1005	0	0	0	0	0	0
1010	0	0	0	0	0	0
1015	0	0	0	0	0	0
1020	0	0	0	0	0	0
1025	0	0	0	0	0	0
1030	0	0	0	0	0	0
1035	0	0	0	0	0	0
1040	0	0	1	0	0	0
1045	0	0	1	0	0	0
1050	0	0	0	0	0	0
1055	0	0	0	0	0	0
1100	0	0	0	0	0	0

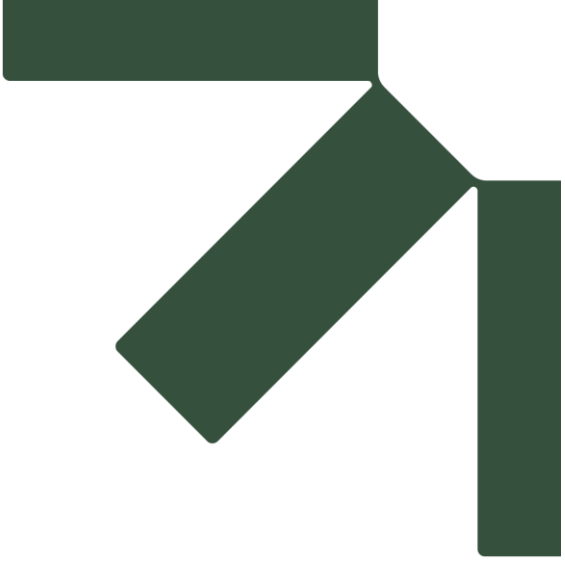
Time Beginning	A665 Chancellor Lane/Midland Street/North Western Street, Queues (vehs) - Thursday 16th May 2024					
	P	Q	R	S	T	U
1430	0	0	6	0	0	0
1435	0	0	0	0	0	0
1440	0	0	0	0	1	0
1445	0	0	1	0	0	0
1450	0	0	4	0	0	0
1455	0	0	0	0	0	0
1500	0	0	0	0	0	0
1505	0	0	11	0	0	0
1510	0	0	0	0	0	0
1515	0	0	0	0	0	0
1520	0	0	3	0	0	0
1525	0	0	0	0	0	0
1530	0	0	0	0	0	0
1535	0	0	0	0	0	0
1540	0	0	0	0	0	0
1545	0	0	0	0	0	0
1550	0	0	0	0	0	0
1555	0	0	2	0	0	0
1600	0	0	2	0	0	0
1605	0	0	2	0	0	0
1610	0	0	1	0	1	0
1615	0	0	0	0	0	0
1620	0	0	4	0	0	0
1625	0	0	2	0	0	0
1630	0	0	3	0	0	0
1635	0	0	1	0	0	0
1640	0	0	0	0	0	0
1645	0	0	3	0	0	0
1650	0	0	0	0	0	0
1655	0	1	2	0	0	0
1700	0	1	0	0	0	0
1705	0	0	1	0	0	0
1710	0	1	1	0	0	0
1715	0	1	0	0	0	0
1720	0	1	1	0	0	0
1725	0	0	1	0	0	0
1730	0	0	2	0	0	1
1735	0	0	1	0	0	0
1740	0	0	0	0	0	0
1745	0	0	0	0	0	1
1750	0	0	0	0	0	0
1755	0	0	0	0	0	0
1800	1	0	0	1	0	0
1805	0	1	0	0	0	1
1810	0	0	1	0	0	0
1815	0	0	0	0	0	0
1820	0	0	1	0	0	0
1825	0	0	0	0	0	0
1830	0	0	1	0	0	0
1835	0	0	2	0	0	0
1840	0	0	1	0	0	0
1845	0	1	2	0	0	0
1850	0	0	0	0	0	0
1855	0	0	0	0	0	0
1900	0	0	0	0	0	0

Time Beginning	A665 Devonshire Street North/A57 Hyde Road/A665 Devonshire Street, Queues (vehs) - Thursday 16th May 2024								
	V	W	X	Y	Z	AA	AB	AC	AD
0730	6	5	1	3	0	4	5	3	13
0735	2	4	2	1	2	6	4	2	8
0740	1	5	8	1	1	4	2	4	13
0745	3	4	2	1	0	2	3	1	6
0750	4	8	7	3	6	9	6	1	9
0755	4	3	3	2	1	10	2	3	4
0800	5	7	2	0	2	11	10	4	9
0805	4	7	5	4	2	7	4	2	7
0810	7	12	6	0	2	8	8	5	11
0815	12	18	5	0	3	8	3	3	5
0820	11	19	12	0	3	6	8	6	14
0825	4	4	3	1	0	10	7	3	11
0830	7	5	4	1	2	3	2	4	6
0835	5	11	8	2	1	6	2	0	15
0840	4	14	10	2	3	6	6	5	7
0845	8	7	3	0	0	8	2	5	8
0850	6	12	8	2	4	18	4	4	9
0855	5	16	6	2	0	4	1	5	12
0900	5	4	4	2	1	7	5	4	9
0905	4	2	3	1	4	13	7	10	10
0910	5	10	7	1	3	13	6	4	10
0915	2	5	2	0	0	5	1	4	4
0920	0	18	0	0	0	11	2	1	5
0925	12	16	5	1	1	6	4	5	6
0930	7	13	2	1	1	1	7	3	11
0935	6	6	4	2	0	7	7	5	8
0940	5	18	2	1	1	6	0	1	9
0945	6	7	7	1	0	2	0	0	6
0950	9	20	9	1	0	9	7	9	13
0955	6	2	5	1	1	7	1	4	8
1000	6	3	1	0	5	12	4	5	15
1005	3	2	5	0	0	5	4	2	12
1010	1	5	5	2	1	3	3	2	10
1015	2	9	3	1	1	3	1	4	9
1020	7	1	5	3	0	15	3	3	7
1025	2	0	3	0	1	7	5	4	8
1030	2	5	5	2	0	7	2	4	2
1035	0	4	2	0	1	0	6	10	6
1040	3	1	2	1	1	5	2	0	8
1045	2	2	4	0	0	8	6	5	15
1050	1	1	6	0	0	6	5	6	14
1055	3	5	2	0	2	14	2	4	3
1100	2	5	1	0	2	5	9	6	13

Time Beginning	A665 Devonshire Street North/A57 Hyde Road/A665 Devonshire Street, Queues (vehs) - Thursday 16th May 2024								
	V	W	X	Y	Z	AA	AB	AC	AD
1430	13	6	2	5	4	9	26	18	17
1435	8	8	7	1	8	16	20	17	12
1440	3	12	3	1	0	4	17	12	17
1445	6	11	4	0	3	11	15	14	14
1450	2	7	6	2	4	10	12	8	13
1455	2	9	7	2	0	2	12	5	15
1500	2	4	2	2	3	7	11	7	8
1505	3	24	10	0	5	11	11	8	10
1510	2	12	10	0	9	9	27	10	11
1515	4	3	4	2	6	7	9	5	7
1520	3	3	2	2	5	11	15	10	6
1525	7	11	6	1	3	9	10	9	13
1530	3	6	2	5	5	8	2	2	15
1535	7	3	6	2	2	5	9	7	7
1540	3	2	2	2	3	11	10	6	10
1545	3	6	6	2	3	9	29	21	18
1550	3	9	8	2	3	8	27	30	13
1555	3	6	3	2	7	7	29	25	14
1600	4	21	5	0	5	6	16	16	14
1605	2	4	3	2	6	5	20	12	15
1610	9	14	12	0	2	13	27	21	19
1615	11	10	5	1	10	21	23	17	11
1620	4	5	2	2	9	8	29	22	10
1625	2	9	2	2	6	13	30	28	12
1630	1	2	2	0	5	14	21	15	9
1635	2	4	5	1	10	9	30+	30+	10
1640	3	6	2	8	4	25	30+	30+	13
1645	0	6	3	9	2	10	30+	30+	12
1650	4	10	3	2	9	13	30+	30+	13
1655	0	5	2	1	8	15	30	26	8
1700	1	4	1	1	10	13	24	28	12
1705	1	9	5	1	8	12	30+	25	14
1710	1	3	3	2	11	10	25	19	13
1715	4	6	6	1	18	17	30+	30+	15
1720	4	5	5	2	15	14	30+	30+	6
1725	3	1	5	2	13	1	30	28	11
1730	8	9	1	0	11	13	22	18	11
1735	2	4	3	0	5	9	4	4	12
1740	4	5	5	1	2	2	26	16	15
1745	1	2	4	0	6	13	17	17	19
1750	4	9	2	5	4	10	14	11	8
1755	6	12	2	1	0	1	8	12	9
1800	1	4	3	1	0	8	24	21	16
1805	3	9	2	0	2	1	27	22	7
1810	0	5	1	0	0	9	15	8	12
1815	3	7	5	0	6	6	17	6	14
1820	5	20	8	2	1	1	11	12	9
1825	2	4	1	0	5	10	10	8	12
1830	6	9	4	2	0	5	8	9	17
1835	1	2	2	2	3	10	26	13	15
1840	2	11	7	2	1	7	2	3	13
1845	2	8	4	1	3	9	5	5	13
1850	1	6	1	1	1	4	3	2	6
1855	1	1	0	1	2	5	4	3	10
1900	5	4	3	2	0	5	8	4	6

Time Beginning	A665 Devonshire Street/A6 Stockport Road/Devonshire Street South, Queues (vehs) - Thursday 16th May 2024						
	AE	AF	AG	AH	AI	AJ	AK
0730	7	1	4	6	1	2	2
0735	2	0	4	0	3	0	2
0740	3	0	0	3	3	0	1
0745	4	0	10	10	1	0	3
0750	9	3	12	5	2	1	9
0755	11	3	6	8	2	0	8
0800	2	4	1	0	1	0	6
0805	5	0	6	4	4	1	3
0810	14	5	8	7	7	1	4
0815	4	5	1	8	7	2	11
0820	4	8	0	2	5	0	3
0825	7	0	14	7	3	0	8
0830	2	0	1	5	5	0	6
0835	3	1	7	4	8	0	4
0840	8	0	7	12	1	0	7
0845	4	1	2	3	2	0	5
0850	5	8	3	5	7	0	6
0855	8	5	10	10	12	1	7
0900	7	2	5	8	5	0	11
0905	3	3	16	7	4	0	7
0910	10	9	4	6	5	0	15
0915	6	2	7	3	4	1	8
0920	4	2	10	6	3	0	9
0925	3	0	1	4	2	1	4
0930	3	6	4	6	5	1	5
0935	3	3	5	2	0	1	1
0940	7	4	2	5	4	0	2
0945	4	3	7	3	1	2	9
0950	4	3	0	0	3	0	5
0955	2	1	6	3	3	0	4
1000	5	0	4	4	2	0	10
1005	1	1	2	1	2	0	3
1010	1	1	5	2	2	0	11
1015	0	0	0	1	1	0	3
1020	5	1	0	6	4	0	4
1025	1	0	4	5	1	0	4
1030	2	4	3	6	2	0	1
1035	3	3	0	0	0	1	7
1040	5	1	2	6	5	0	9
1045	1	1	0	0	1	0	2
1050	4	2	4	5	1	0	7
1055	4	3	2	5	8	1	13
1100	0	1	2	7	0	1	5

Time Beginning	A665 Devonshire Street/A6 Stockport Road/Devonshire Street South, Queues (vehs) - Thursday 16th May 2024						
	AE	AF	AG	AH	AI	AJ	AK
1430	5	8	8	3	15	1	6
1435	3	11	2	5	17	1	9
1440	9	5	7	8	10	0	7
1445	4	11	4	4	16	1	14
1450	2	5	2	8	5	1	8
1455	3	7	2	2	2	1	2
1500	7	8	2	0	15	1	13
1505	3	1	6	3	5	0	3
1510	4	5	2	4	8	0	9
1515	1	3	1	2	13	1	5
1520	5	0	4	1	16	1	8
1525	3	2	3	3	7	1	10
1530	3	8	2	6	15	1	10
1535	5	5	1	2	6	0	9
1540	6	2	3	4	12	0	6
1545	0	0	3	4	10	0	4
1550	0	7	3	0	9	1	8
1555	2	3	7	7	4	0	5
1600	4	7	5	5	3	0	7
1605	5	1	9	8	12	0	16
1610	4	3	8	7	10	0	15
1615	9	0	6	6	15	1	14
1620	6	0	5	0	10	1	13
1625	3	0	2	5	10	0	16
1630	2	6	1	3	8	1	15
1635	3	1	4	9	14	1	12
1640	2	0	3	7	14	1	8
1645	8	1	7	5	7	1	13
1650	8	0	2	4	12	0	10
1655	3	13	3	4	13	1	10
1700	6	2	1	2	11	0	10
1705	3	1	5	4	6	1	7
1710	3	2	2	6	7	2	13
1715	4	8	10	9	13	0	11
1720	4	1	0	10	21	0	6
1725	2	7	4	0	9	0	9
1730	5	6	1	6	16	2	8
1735	2	3	1	1	7	1	7
1740	2	8	2	8	15	1	10
1745	6	1	7	5	6	1	8
1750	2	4	1	2	5	1	17
1755	3	2	3	2	2	0	9
1800	0	1	3	6	7	0	3
1805	3	6	3	1	2	0	12
1810	3	2	2	0	7	4	8
1815	3	1	2	4	6	1	11
1820	3	6	5	8	2	1	17
1825	2	5	10	6	2	0	12
1830	2	6	4	3	5	1	8
1835	3	11	4	4	5	1	8
1840	0	0	3	1	1	0	4
1845	3	10	1	1	3	0	6
1850	4	3	1	1	1	0	4
1855	0	9	0	5	5	0	8
1900	4	10	2	6	3	1	9



Appendix D Traffic Figures

Transport Assessment

Universal Square Phase 4, Manchester

Cypresshawk Ltd

SLR Project No.: 410.065709.00001

27 November 2024

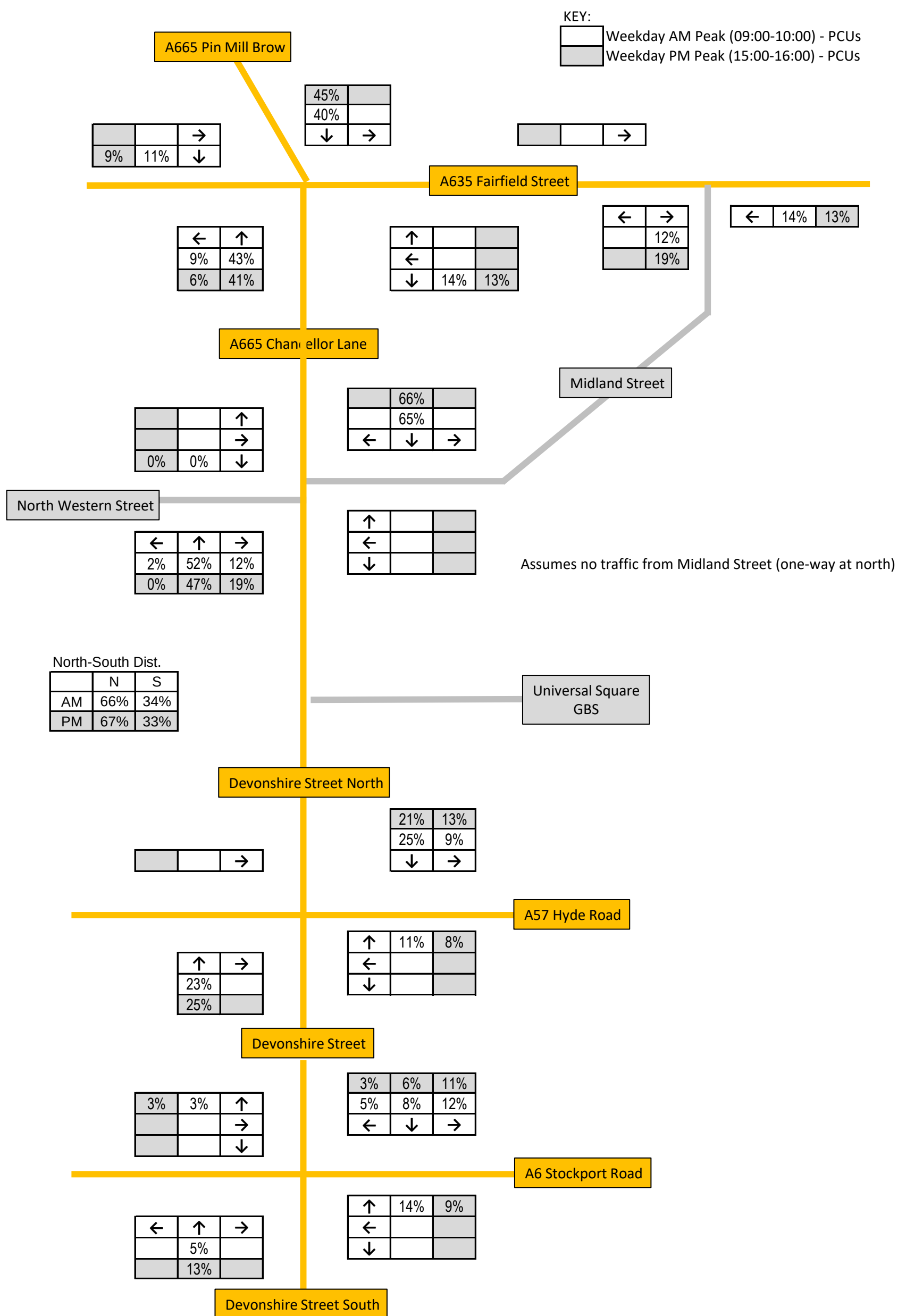
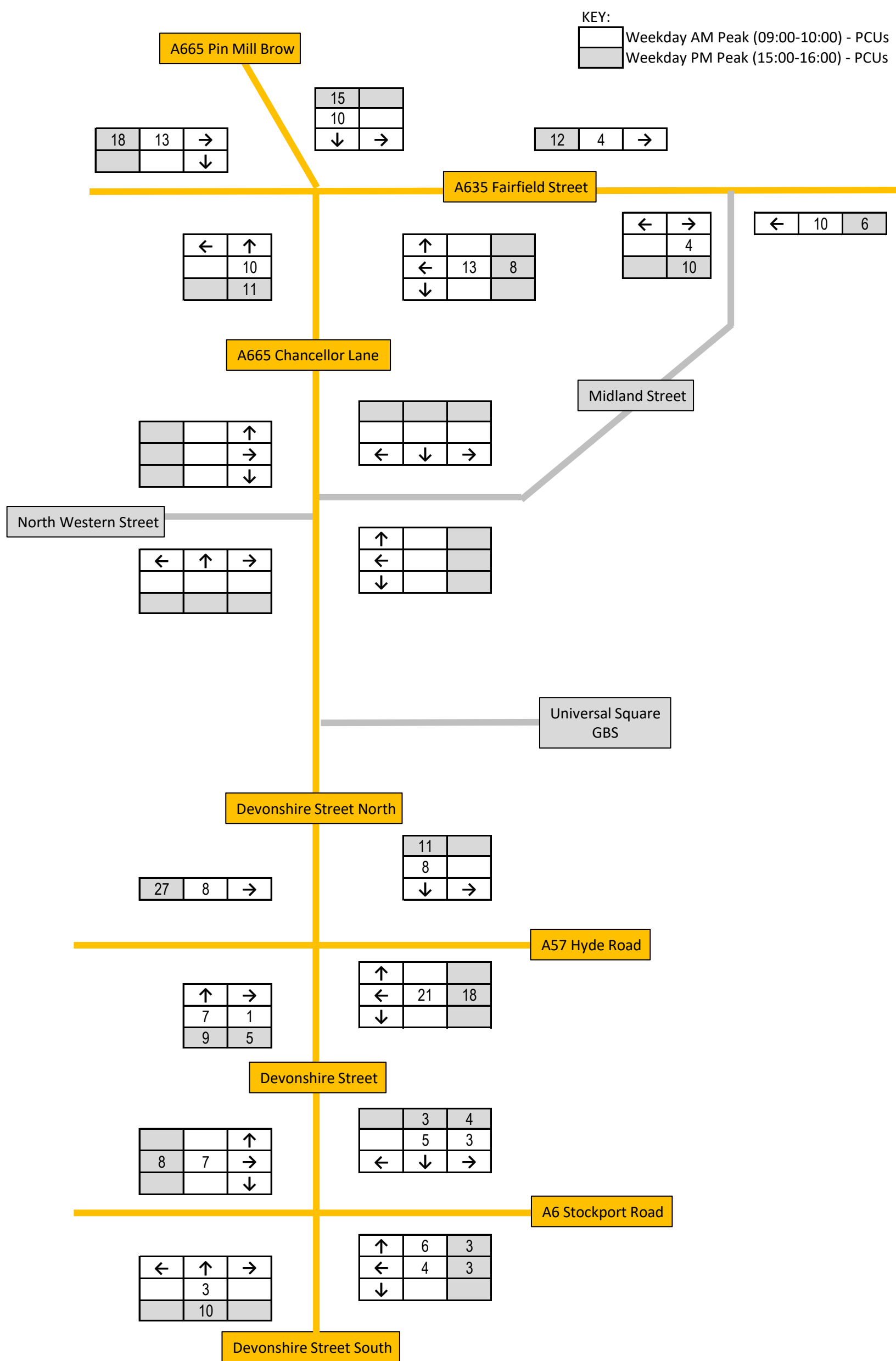


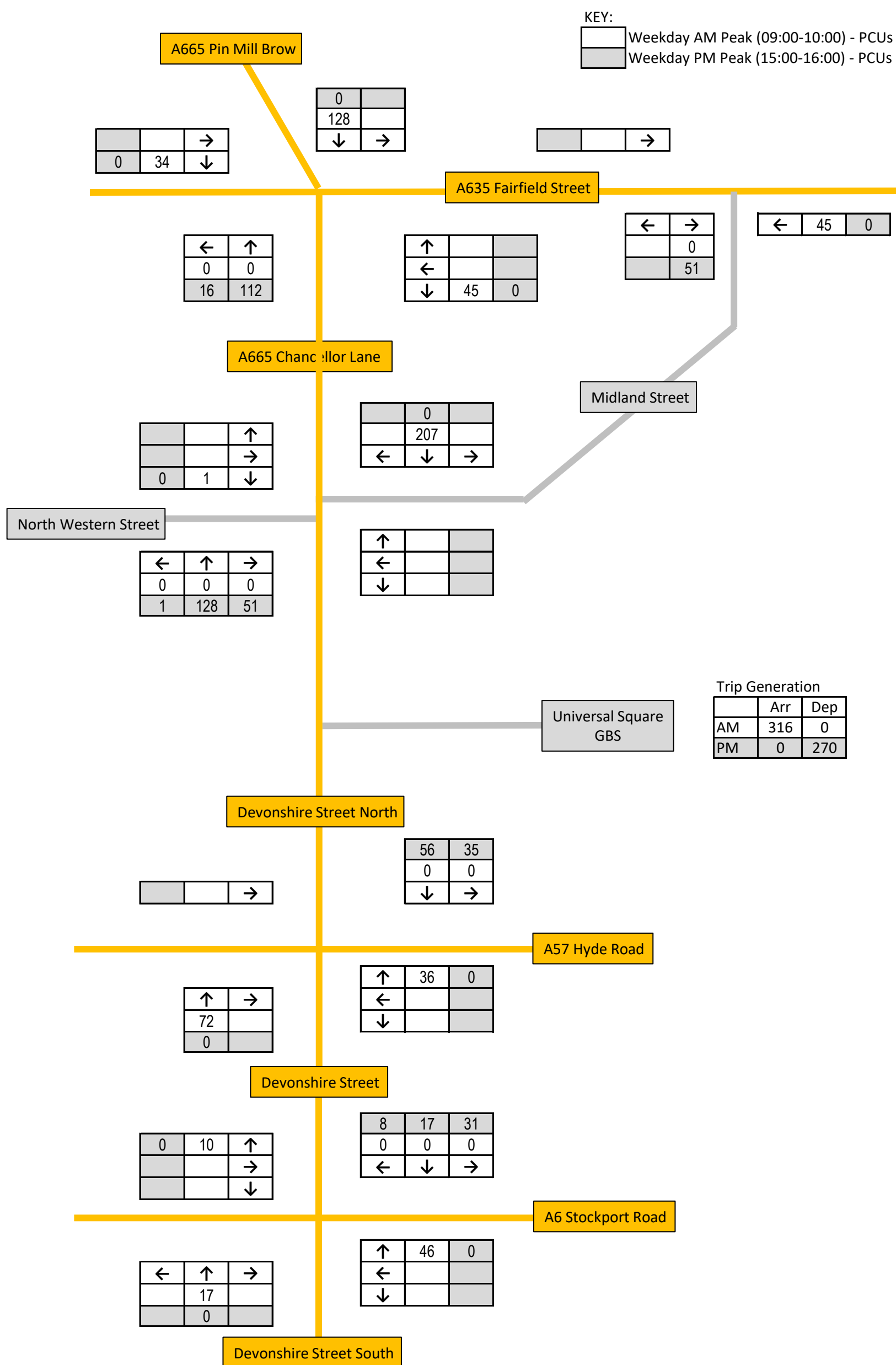
Figure 2

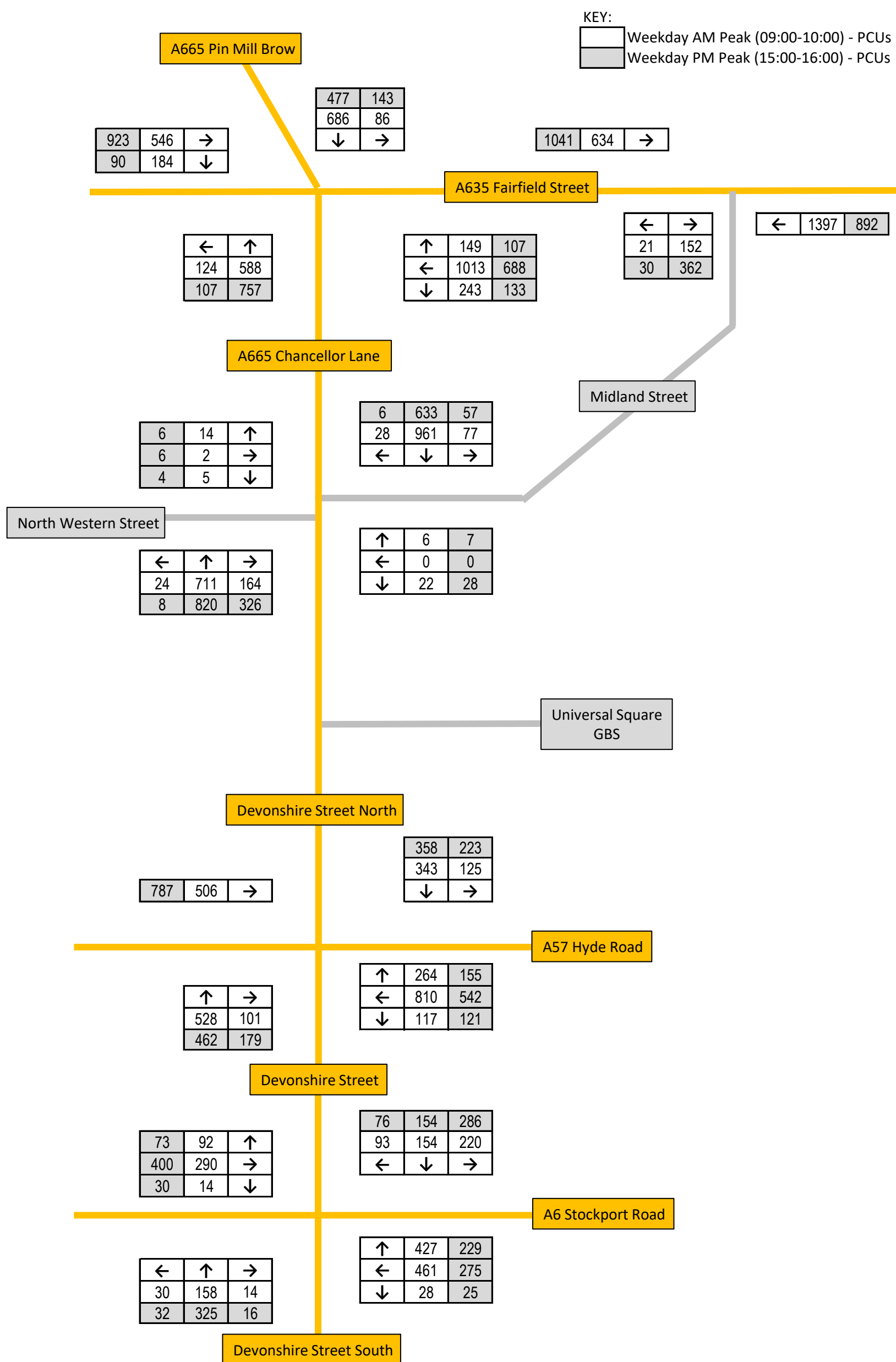
Traffic Distribution

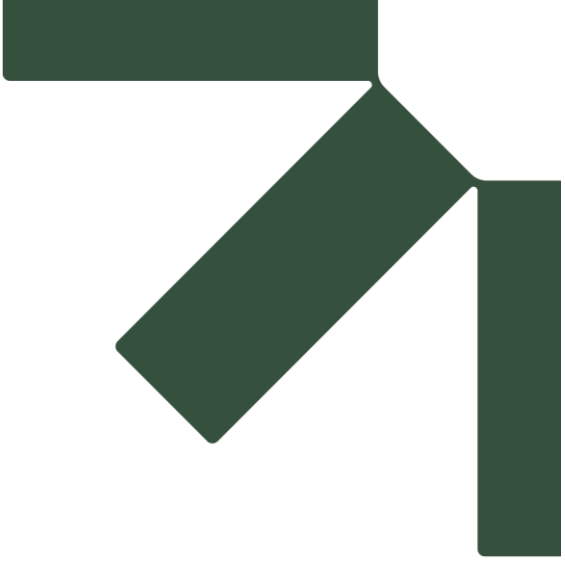
Distribution Based on Turning Counts











Appendix E Junction Model Output: A665/ Fairfield Street

Transport Assessment

Universal Square Phase 4, Manchester

Cypresshawk Ltd

SLR Project No.: 410.065709.00001

27 November 2024

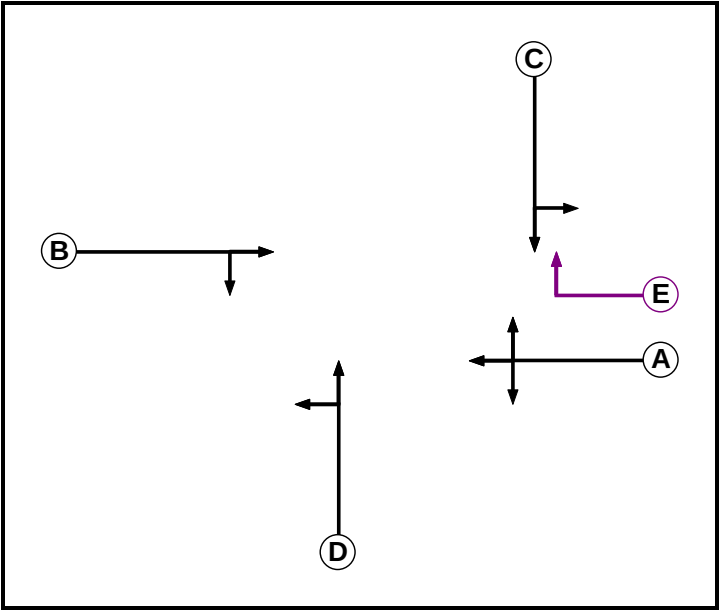
Basic Results Summary

Basic Results Summary

User and Project Details

Project:	VN211877 GBS Phase 3
Title:	A35 Fairfield Street/ A665 Chancellor Lane
Location:	
Additional detail:	
File name:	J1 A635-A665 v1a.lsg3x
Author:	
Company:	
Address:	

Phase Diagram



Basic Results Summary

Phase Intergreens Matrix

Terminating Phase	Starting Phase					
		A	B	C	D	E
	A		-	6	6	-
	B	-		8	8	5
	C	8	8		-	8
	D	8	8	-		8
	E	-	5	5	5	

Lane Input Data

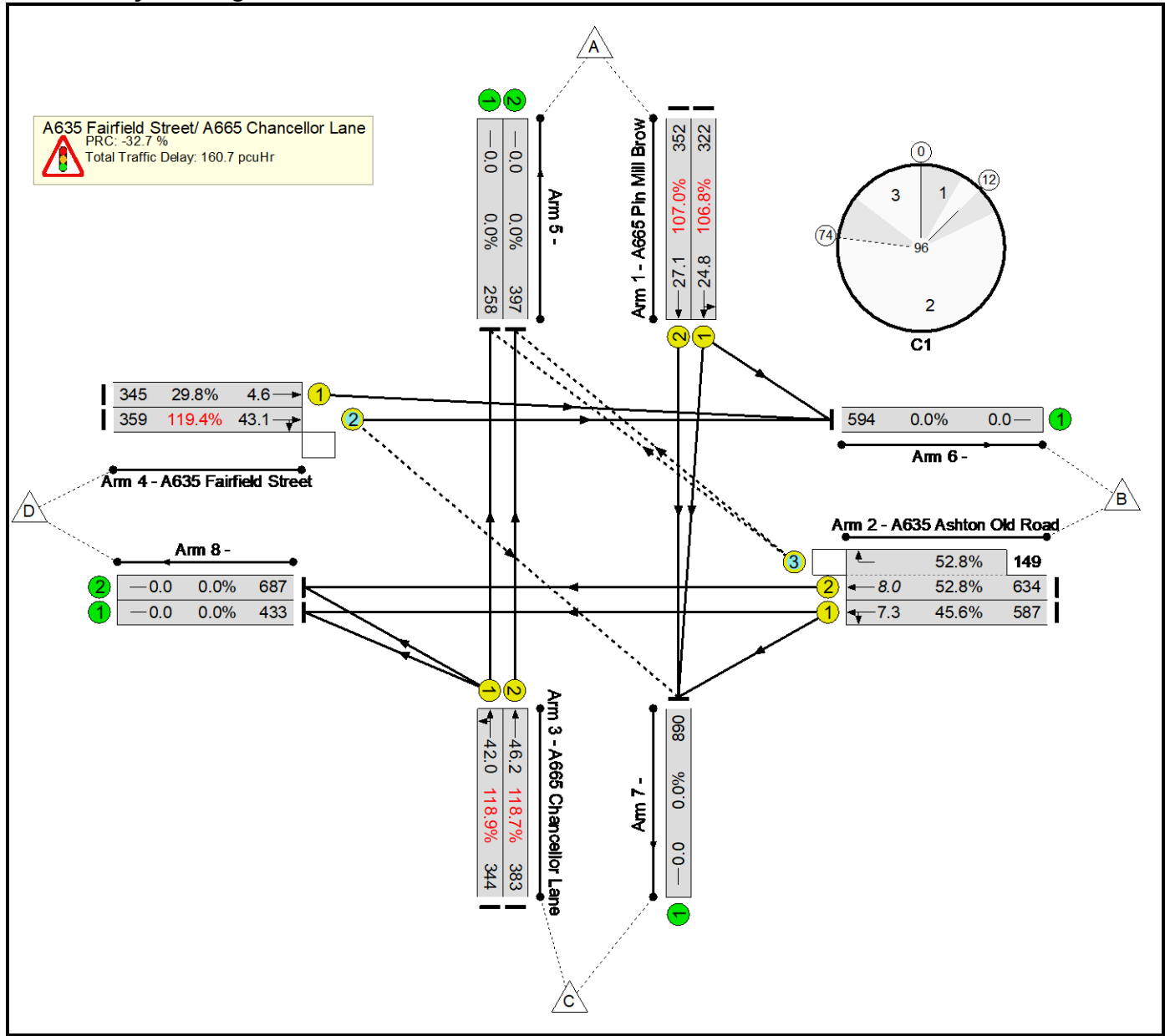
Junction: A635 Fairfield Street/ A665 Chancellor Lane												
Lane	Lane Type	Phases	Start Disp.	End Disp.	Physical Length (PCU)	Sat Flow Type	Def User Saturation Flow (PCU/Hr)	Lane Width (m)	Gradient	Nearside Lane	Turns	Turning Radius (m)
1/1 (A665 Pin Mill Brow)	U	C	2	3	60.0	Geom	-	3.50	0.00	Y	Arm 6 Left	22.00
											Arm 7 Ahead	Inf
1/2 (A665 Pin Mill Brow)	U	C	2	3	60.0	Geom	-	3.50	0.00	N	Arm 7 Ahead	Inf
2/1 (A635 Ashton Old Road)	U	A	2	3	60.0	Geom	-	3.00	0.00	Y	Arm 7 Left	14.00
											Arm 8 Ahead	Inf
2/2 (A635 Ashton Old Road)	U	A	2	3	60.0	Geom	-	3.50	0.00	Y	Arm 8 Ahead	Inf
2/3 (A635 Ashton Old Road)	O	A E	2	3	13.0	Geom	-	3.40	0.00	N	Arm 5 Right	25.00
3/1 (A665 Chancellor Lane)	U	D	2	3	60.0	Geom	-	3.10	0.00	Y	Arm 5 Ahead	Inf
											Arm 8 Left	14.00
3/2 (A665 Chancellor Lane)	U	D	2	3	60.0	Geom	-	3.10	0.00	N	Arm 5 Ahead	Inf
4/1 (A635 Fairfield Street)	U	B	2	3	60.0	Geom	-	3.00	0.00	Y	Arm 6 Ahead	Inf
4/2 (A635 Fairfield Street)	O	B	2	3	60.0	Geom	-	3.00	0.00	N	Arm 6 Ahead	Inf
											Arm 7 Right	30.00
5/1	U		2	3	60.0	Inf	-	-	-	-	-	-
5/2	U		2	3	60.0	Inf	-	-	-	-	-	-
6/1	U		2	3	60.0	Inf	-	-	-	-	-	-

Basic Results Summary

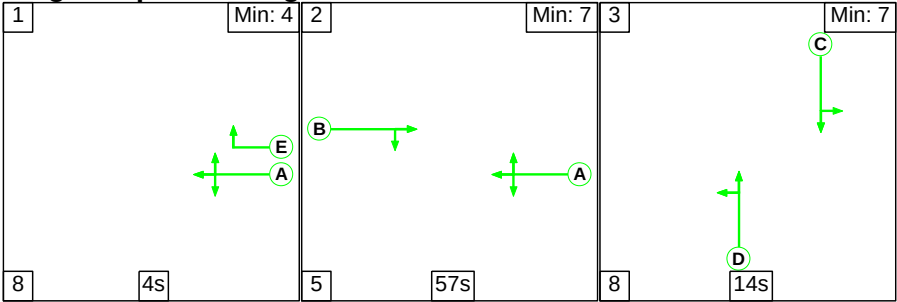
7/1	U		2	3	60.0	Inf	-	-	-	-	-	-
8/1	U		2	3	60.0	Inf	-	-	-	-	-	-
8/2	U		2	3	60.0	Inf	-	-	-	-	-	-

Scenario 1: '2024 Survey AM Earlier Staging' (FG1: '2024 Survey AM', Plan 1: 'Earlier Network Control Plan')

Network Layout Diagram



Stage Sequence Diagram



Basic Results Summary

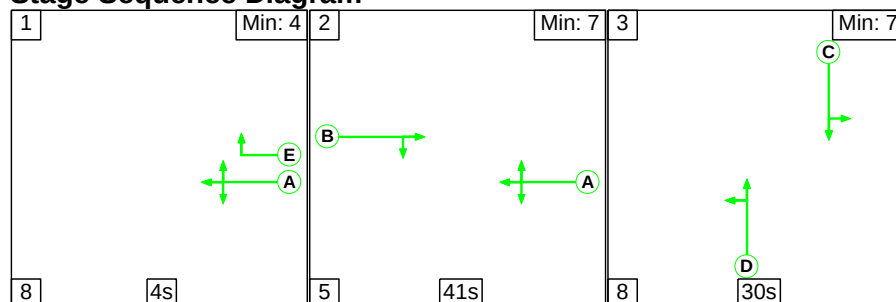
Traffic Flows, Actual
Actual Flow :

	Destination					
Origin		A	B	C	D	Tot.
	A	0	86	588	0	674
	B	149	0	208	1013	1370
	C	600	0	0	127	727
	D	0	546	158	0	704
	Tot.	749	632	954	1140	3475

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: A35 Fairfield Street/ A665 Chancellor Lane	-	-	-		-	-	-	-	-	-	119.4%	153	56	73	160.7	-	-
A635 Fairfield Street/ A665 Chancellor Lane	-	-	-		-	-	-	-	-	-	119.4%	153	56	73	160.7	-	-
1/1	A665 Pin Mill Brow Left Ahead	U	C		1	14	-	322	1930	302	106.8%	-	-	-	20.2	225.6	24.8
1/2	A665 Pin Mill Brow Ahead	U	C		1	14	-	352	2105	329	107.0%	-	-	-	22.0	225.1	27.1
2/1	A635 Ashton Old Road Left Ahead	U	A		1	66	-	587	1845	1288	45.6%	-	-	-	1.5	9.0	7.3
2/2+2/3	A635 Ashton Old Road Right Ahead	U+O	A	E	1	66	4	783	1965:1976	1201+282	52.8 : 52.8%	93	56	0	1.9	8.9	8.0
3/1	A665 Chancellor Lane Ahead Left	U	D		1	14	-	344	1852	289	118.9%	-	-	-	37.0	387.4	42.0
3/2	A665 Chancellor Lane Ahead	U	D		1	14	-	383	2065	323	118.7%	-	-	-	40.7	382.4	46.2
4/1	A635 Fairfield Street Ahead	U	B		1	57	-	345	1915	1157	29.8%	-	-	-	1.1	11.4	4.6
4/2	A635 Fairfield Street Ahead Right	O	B		1	57	-	359	2011	301	119.4%	60	0	73	36.3	364.1	43.1
C1 PRC for Signalled Lanes (%): -32.7 Total Delay for Signalled Lanes (pcuHr): 160.68 Cycle Time (s): 96 PRC Over All Lanes (%): -32.7 Total Delay Over All Lanes(pcuHr): 160.68																	

Network Layout Diagram



Basic Results Summary

Traffic Flows, Actual
Actual Flow :

	Destination					
Origin		A	B	C	D	Tot.
	A	0	143	485	0	628
	B	107	0	135	688	930
	C	658	0	0	93	751
	D	0	923	92	0	1015
	Tot.	765	1066	712	781	3324

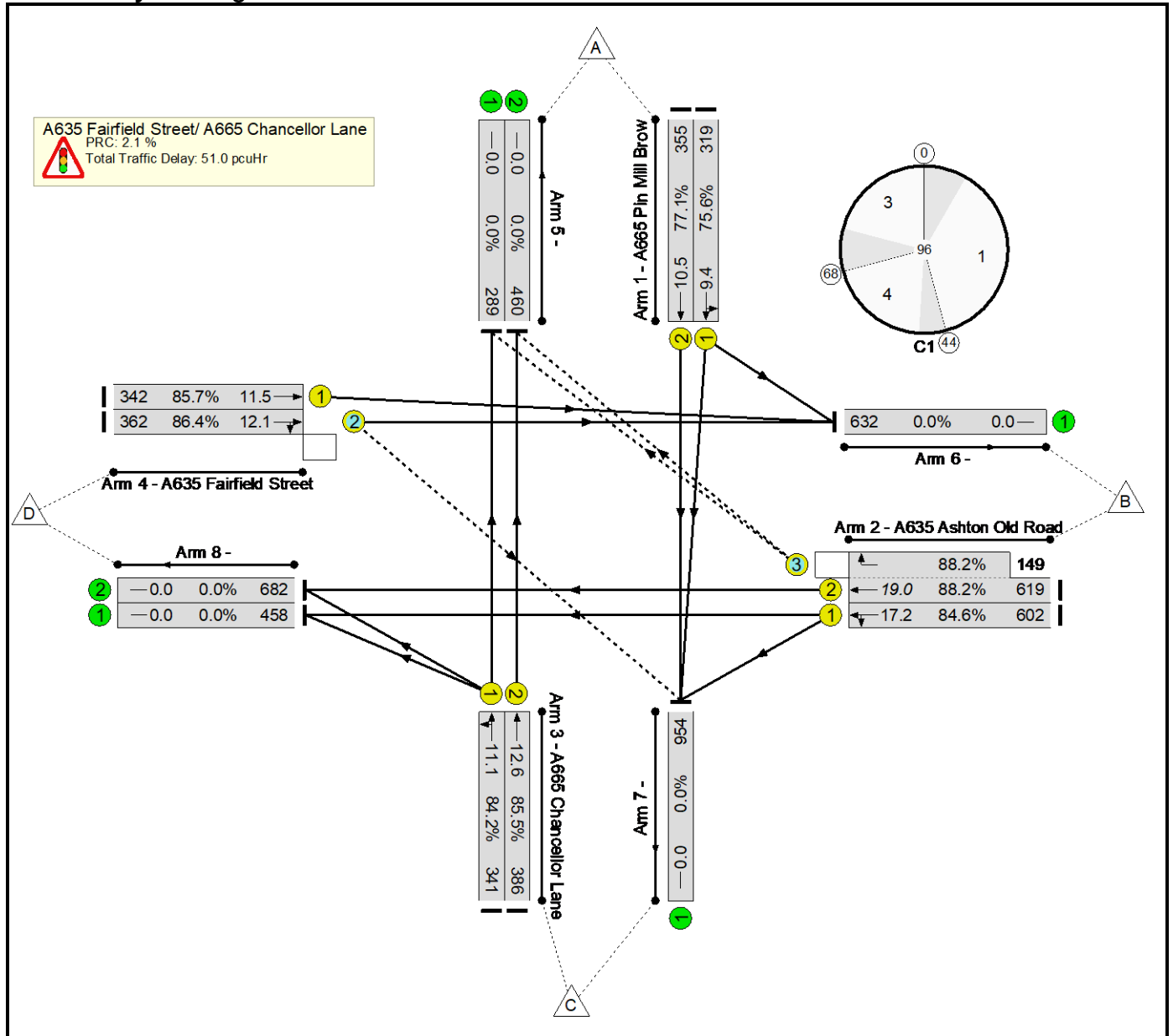
Network Results

C1	PRC for Signalled Lanes (%):	52.3	Total Delay for Signalled Lanes (pcuHr):	24.07	Cycle Time (s): 96
	PRC Over All Lanes (%):	52.3	Total Delay Over All Lanes(pcuHr):	24.07	

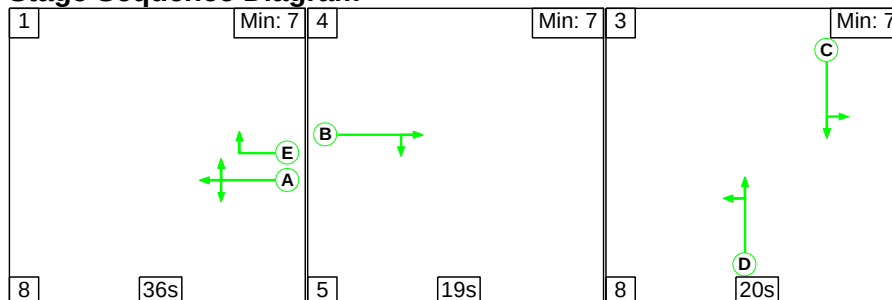
Basic Results Summary

Scenario 3: '2024 Survey AM Prev P3 Staging' (FG1: '2024 Survey AM', Plan 3: 'Proposed Network Control Plan 2')

Network Layout Diagram



Stage Sequence Diagram



Basic Results Summary

Traffic Flows, Actual
Actual Flow :

	Destination					
Origin		A	B	C	D	Tot.
	A	0	86	588	0	674
	B	149	0	208	1013	1370
	C	600	0	0	127	727
	D	0	546	158	0	704
	Tot.	749	632	954	1140	3475

Basic Results Summary

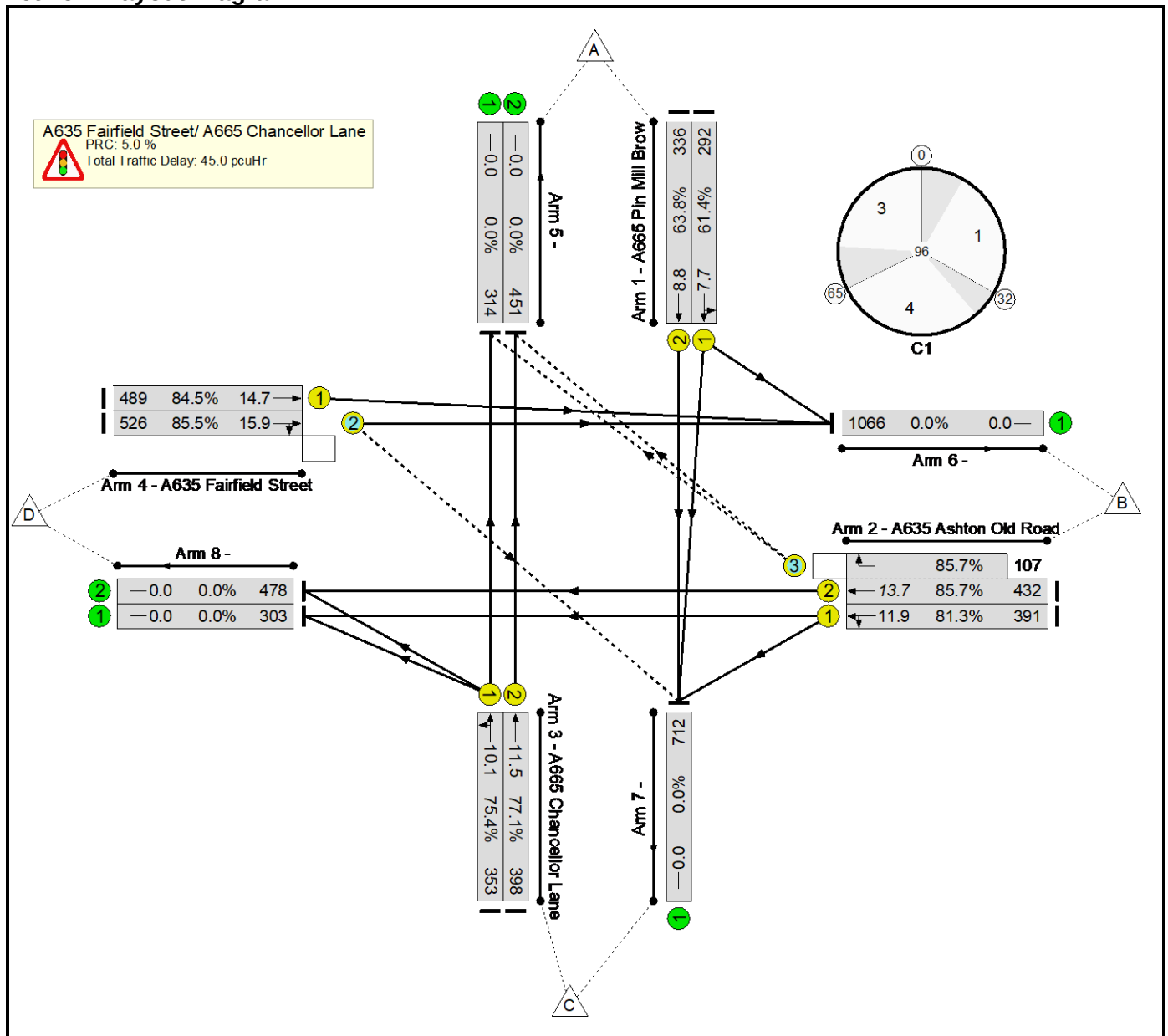
Network Results

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: A35 Fairfield Street/ A665 Chancellor Lane	-	-	-		-	-	-	-	-	-	88.2%	0	301	6	51.0	-	-
A635 Fairfield Street/ A665 Chancellor Lane	-	-	-		-	-	-	-	-	-	88.2%	0	301	6	51.0	-	-
1/1	A665 Pin Mill Brow Left Ahead	U	C		1	20	-	319	1930	422	75.6%	-	-	-	4.6	52.1	9.4
1/2	A665 Pin Mill Brow Ahead	U	C		1	20	-	355	2105	460	77.1%	-	-	-	5.1	51.8	10.5
2/1	A635 Ashton Old Road Left Ahead	U	A		1	36	-	602	1847	712	84.6%	-	-	-	7.1	42.5	17.2
2/2+2/3	A635 Ashton Old Road Right Ahead	U+O	A	E	1	36	36	768	1965:1976	702+169	88.2 : 88.2%	0	146	3	8.9	41.6	19.0
3/1	A665 Chancellor Lane Ahead Left	U	D		1	20	-	341	1851	405	84.2%	-	-	-	5.9	62.1	11.1
3/2	A665 Chancellor Lane Ahead	U	D		1	20	-	386	2065	452	85.5%	-	-	-	6.6	61.3	12.6
4/1	A635 Fairfield Street Ahead	U	B		1	19	-	342	1915	399	85.7%	-	-	-	6.2	65.5	11.5
4/2	A635 Fairfield Street Ahead Right	O	B		1	19	-	362	2011	419	86.4%	0	155	3	6.6	65.4	12.1
C1																	

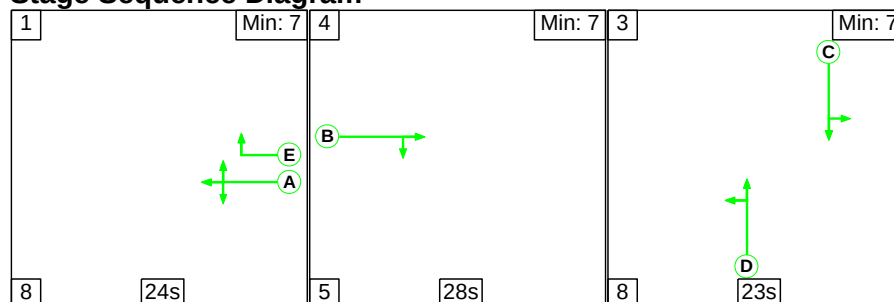
Basic Results Summary

Scenario 4: '2024 Survey PM Prev P3 Staging' (FG2: '2024 Survey PM', Plan 3: 'Proposed Network Control Plan 2')

Network Layout Diagram



Stage Sequence Diagram



Basic Results Summary

Traffic Flows, Actual
Actual Flow :

	Destination					
Origin		A	B	C	D	Tot.
	A	0	143	485	0	628
	B	107	0	135	688	930
	C	658	0	0	93	751
	D	0	923	92	0	1015
	Tot.	765	1066	712	781	3324

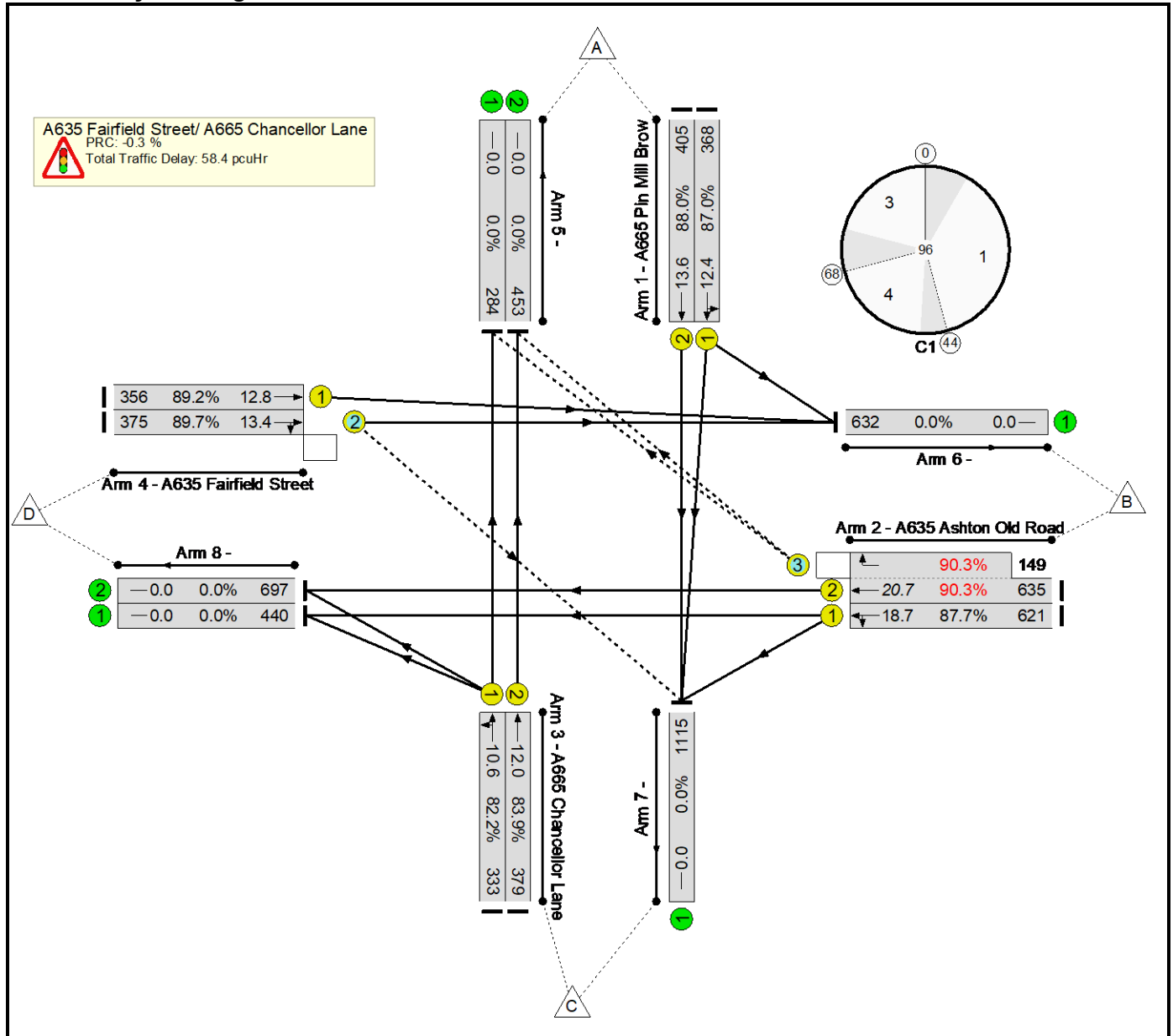
Network Results

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: A35 Fairfield Street/ A665 Chancellor Lane	-	-	-		-	-	-	-	-	-	85.7%	0	195	4	45.0	-	-
A635 Fairfield Street/ A665 Chancellor Lane	-	-	-		-	-	-	-	-	-	85.7%	0	195	4	45.0	-	-
1/1	A665 Pin Mill Brow Left Ahead	U	C		1	23	-	292	1902	475	61.4%	-	-	-	3.4	41.6	7.7
1/2	A665 Pin Mill Brow Ahead	U	C		1	23	-	336	2105	526	63.8%	-	-	-	3.9	41.5	8.8
2/1	A635 Ashton Old Road Left Ahead	U	A		1	24	-	391	1847	481	81.3%	-	-	-	5.7	52.4	11.9
2/2+2/3	A635 Ashton Old Road Right Ahead	U+O	A	E	1	24	24	539	1965:1976	504+125	85.7 : 85.7%	0	105	2	7.7	51.4	13.7
3/1	A665 Chancellor Lane Ahead Left	U	D		1	23	-	353	1872	468	75.4%	-	-	-	4.8	48.5	10.1
3/2	A665 Chancellor Lane Ahead	U	D		1	23	-	398	2065	516	77.1%	-	-	-	5.3	48.3	11.5
4/1	A635 Fairfield Street Ahead	U	B		1	28	-	489	1915	578	84.5%	-	-	-	6.8	50.4	14.7
4/2	A635 Fairfield Street Ahead Right	O	B		1	28	-	526	2037	615	85.5%	0	90	2	7.4	50.5	15.9
C1 PRC for Signalled Lanes (%): PRC Over All Lanes (%): Total Delay for Signalled Lanes (pcuHr): Total Delay Over All Lanes(pcuHr): Cycle Time (s): 96																	

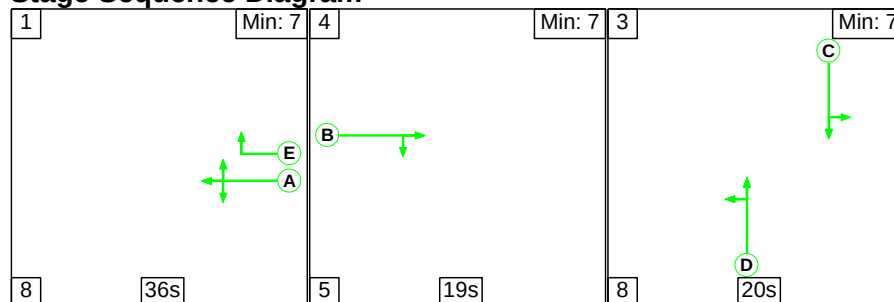
Basic Results Summary

Scenario 5: '2024 Base + Dev 49 AM' (FG5: '2024 Survey + Net Dev AM', Plan 3: 'Proposed Network Control Plan 2')

Network Layout Diagram



Stage Sequence Diagram



Basic Results Summary

Traffic Flows, Actual
Actual Flow :

	Destination					
Origin		A	B	C	D	Tot.
	A	0	86	687	0	773
	B	149	0	243	1013	1405
	C	588	0	0	124	712
	D	0	546	185	0	731
	Tot.	737	632	1115	1137	3621

Basic Results Summary

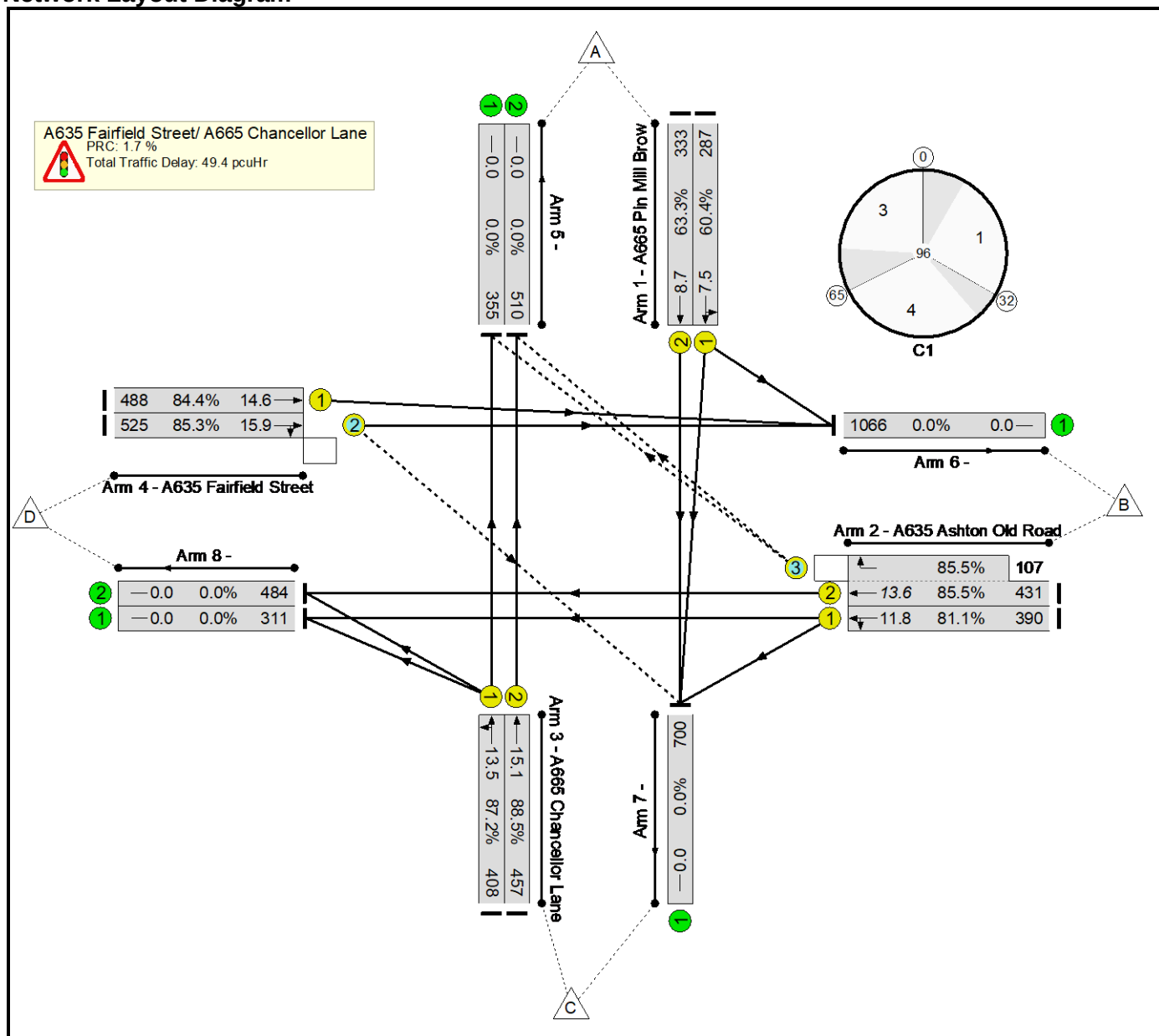
Network Results

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: A35 Fairfield Street/ A665 Chancellor Lane	-	-	-		-	-	-	-	-	-	90.3%	0	327	7	58.4	-	-
A635 Fairfield Street/ A665 Chancellor Lane	-	-	-		-	-	-	-	-	-	90.3%	0	327	7	58.4	-	-
1/1	A665 Pin Mill Brow Left Ahead	U	C		1	20	-	368	1934	423	87.0%	-	-	-	6.7	65.7	12.4
1/2	A665 Pin Mill Brow Ahead	U	C		1	20	-	405	2105	460	88.0%	-	-	-	7.3	65.3	13.6
2/1	A635 Ashton Old Road Left Ahead	U	A		1	36	-	621	1838	708	87.7%	-	-	-	8.0	46.5	18.7
2/2+2/3	A635 Ashton Old Road Right Ahead	U+O	A	E	1	36	36	784	1965:1976	703+165	90.3 : 90.3%	0	146	3	9.8	45.1	20.7
3/1	A665 Chancellor Lane Ahead Left	U	D		1	20	-	333	1851	405	82.2%	-	-	-	5.5	59.3	10.6
3/2	A665 Chancellor Lane Ahead	U	D		1	20	-	379	2065	452	83.9%	-	-	-	6.2	59.1	12.0
4/1	A635 Fairfield Street Ahead	U	B		1	19	-	356	1915	399	89.2%	-	-	-	7.2	72.9	12.8
4/2	A635 Fairfield Street Ahead Right	O	B		1	19	-	375	2006	418	89.7%	0	181	4	7.6	72.7	13.4
C1		PRC for Signalled Lanes (%):		-0.3		Total Delay for Signalled Lanes (pcuHr):		58.40		Cycle Time (s):		96					
		PRC Over All Lanes (%):		-0.3		Total Delay Over All Lanes(pcuHr):		58.40									

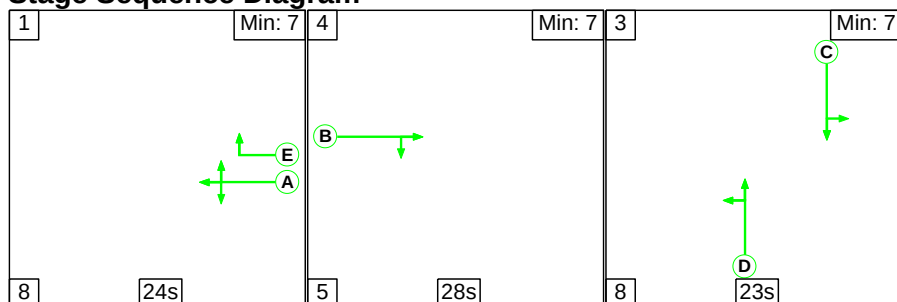
Basic Results Summary

Scenario 6: '2024 Base + Dev 49 PM' (FG6: '2024 Survey + Net Dev PM', Plan 3: 'Proposed Network Control Plan 2')

Network Layout Diagram



Stage Sequence Diagram



Basic Results Summary

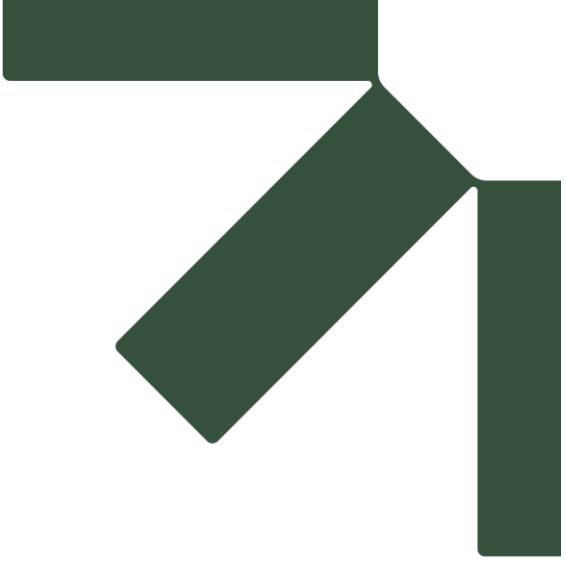
Traffic Flows, Actual
Actual Flow :

	Destination					
Origin		A	B	C	D	Tot.
	A	0	143	477	0	620
	B	107	0	133	688	928
	C	758	0	0	107	865
	D	0	923	90	0	1013
	Tot.	865	1066	700	795	3426

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: A35 Fairfield Street/ A665 Chancellor Lane	-	-	-		-	-	-	-	-	-	88.5%	0	193	4	49.4	-	-
A635 Fairfield Street/ A665 Chancellor Lane	-	-	-		-	-	-	-	-	-	88.5%	0	193	4	49.4	-	-
1/1	A665 Pin Mill Brow Left Ahead	U	C		1	23	-	287	1900	475	60.4%	-	-	-	3.3	41.3	7.5
1/2	A665 Pin Mill Brow Ahead	U	C		1	23	-	333	2105	526	63.3%	-	-	-	3.8	41.3	8.7
2/1	A635 Ashton Old Road Left Ahead	U	A		1	24	-	390	1847	481	81.1%	-	-	-	5.7	52.2	11.8
2/2+2/3	A635 Ashton Old Road Right Ahead	U+O	A	E	1	24	24	538	1965:1976	504+125	85.5 : 85.5%	0	105	2	7.6	51.1	13.6
3/1	A665 Chancellor Lane Ahead Left	U	D		1	23	-	408	1872	468	87.2%	-	-	-	7.0	61.7	13.5
3/2	A665 Chancellor Lane Ahead	U	D		1	23	-	457	2065	516	88.5%	-	-	-	7.9	61.9	15.1
4/1	A635 Fairfield Street Ahead	U	B		1	28	-	488	1915	578	84.4%	-	-	-	6.8	50.2	14.6
4/2	A635 Fairfield Street Ahead Right	O	B		1	28	-	525	2038	616	85.3%	0	88	2	7.3	50.2	15.9
C1																	
PRC for Signalled Lanes (%):							1.7	Total Delay for Signalled Lanes (pcuHr):					49.39	Cycle Time (s): 96			
PRC Over All Lanes (%):							1.7	Total Delay Over All Lanes(pcuHr):					49.39				



Appendix F Junction Model Output: A665/ Hyde Road

Transport Assessment

Universal Square Phase 4, Manchester

Cypresshawk Ltd

SLR Project No.: 410.065709.00001

27 November 2024

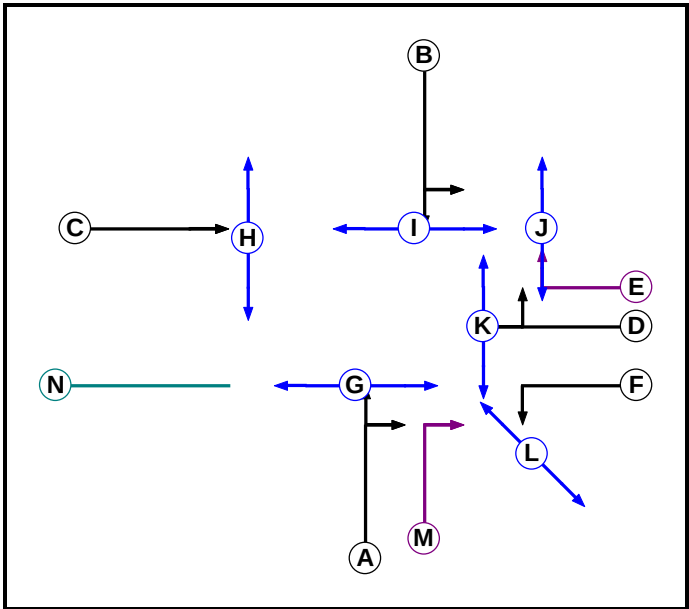
Basic Results Summary

Basic Results Summary

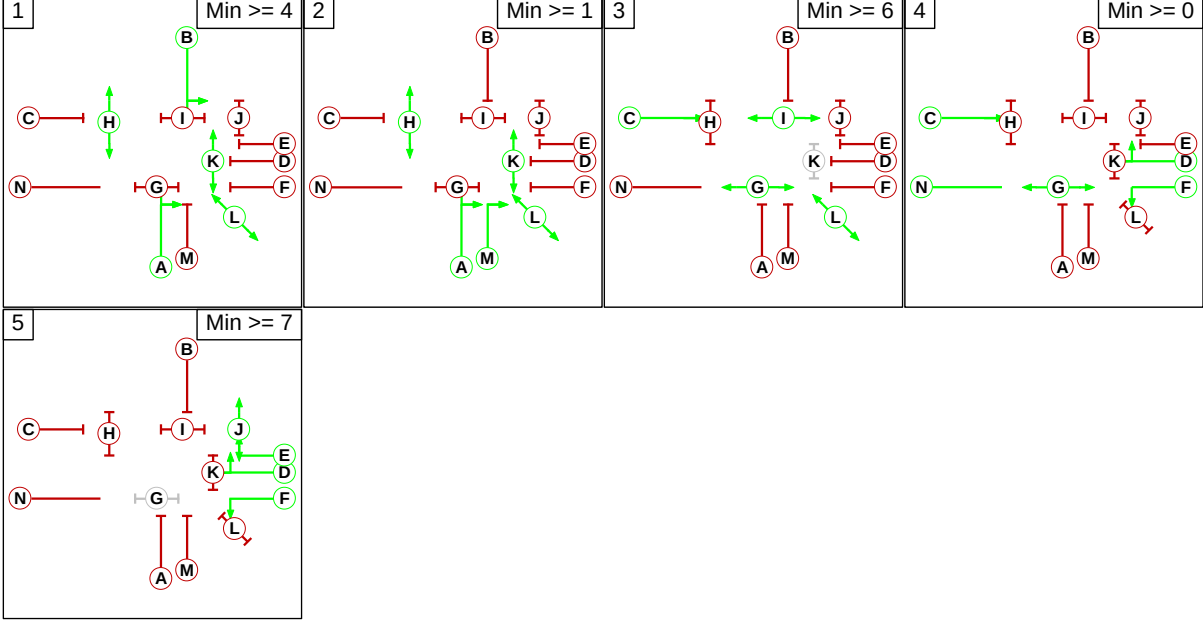
User and Project Details

Project:	VN211877 GBS Phase 3
Title:	A57 Hyde Road/ A665 Devonshire Street
Location:	
Additional detail:	
File name:	J4 A57 Hyde Rd-A665 Devonshire St v1a.lsg3x
Author:	
Company:	
Address:	

Phase Diagram



Stage Diagram



Basic Results Summary

Phase Intergreens Matrix

Terminating Phase		Starting Phase														
			A	B	C	D	E	F	G	H	I	J	K	L	M	N
		A		-	6	6	5	-	5	-	8	11	-	-	-	-
		B	-		5	6	6	8	9	-	5	10	-	-	3	-
		C	6	6		-	5	-	-	5	-	9	-	-	5	-
		D	6	6	-		-	-	-	9	10	-	5	-	6	-
		E	6	6	6	-		-	-	-	10	-	5	-	6	5
		F	-	5	-	-	-		-	-	-	-	-	5	-	-
		G	9	9	-	-	-	-		-	-	-	-	-	9	-
		H	-	-	6	7	-	-	-		-	-	-	-	-	-
		I	7	7	-	6	6	-	-	-		-	-	-	7	6
		J	5	5	5	-	-	-	-	-	-		-	-	5	5
		K	-	-	-	10	10	-	-	-	-	-		-	-	-
		L	-	-	-	-	-	5	-	-	-	-	-		-	5
		M	-	3	6	5	5	-	5	-	8	11	-	-		-
		N	-	-	-	-	-	-	-	-	-	-	-	-	-	

Lane Input Data

Junction: A57 Hyde Road/ A665 Devonshire Street												
Lane	Lane Type	Phases	Start Disp.	End Disp.	Physical Length (PCU)	Sat Flow Type	Def User Saturation Flow (PCU/Hr)	Lane Width (m)	Gradient	Nearside Lane	Turns	Turning Radius (m)
1/1 (A665 Devonshire Street North)	U	B	2	3	60.0	Geom	-	3.10	0.00	Y	Arm 5 Left	14.00
											Arm 6 Ahead	Inf
2/1 (A665 Devonshire Street)	U	A	2	3	60.0	Geom	-	3.25	0.00	Y	Arm 7 Ahead	Inf
2/2 (A665 Devonshire Street)	O	A M	2	3	60.0	Geom	-	3.00	0.00	N	Arm 5 Right	16.50
3/1 (A57 Hyde Road WB)	U	F	2	3	2.0	Geom	-	4.00	0.00	Y	Arm 6 Left	18.00
3/2 (A57 Hyde Road WB)	U	D	2	3	12.0	Geom	-	3.75	0.00	Y	Arm 8 Ahead	Inf
3/3 (A57 Hyde Road WB)	U	D	2	3	60.0	Geom	-	3.25	0.00	N	Arm 8 Ahead	Inf
3/4 (A57 Hyde Road WB)	O	D E	2	3	18.0	Geom	-	3.00	0.00	N	Arm 7 Right	16.50

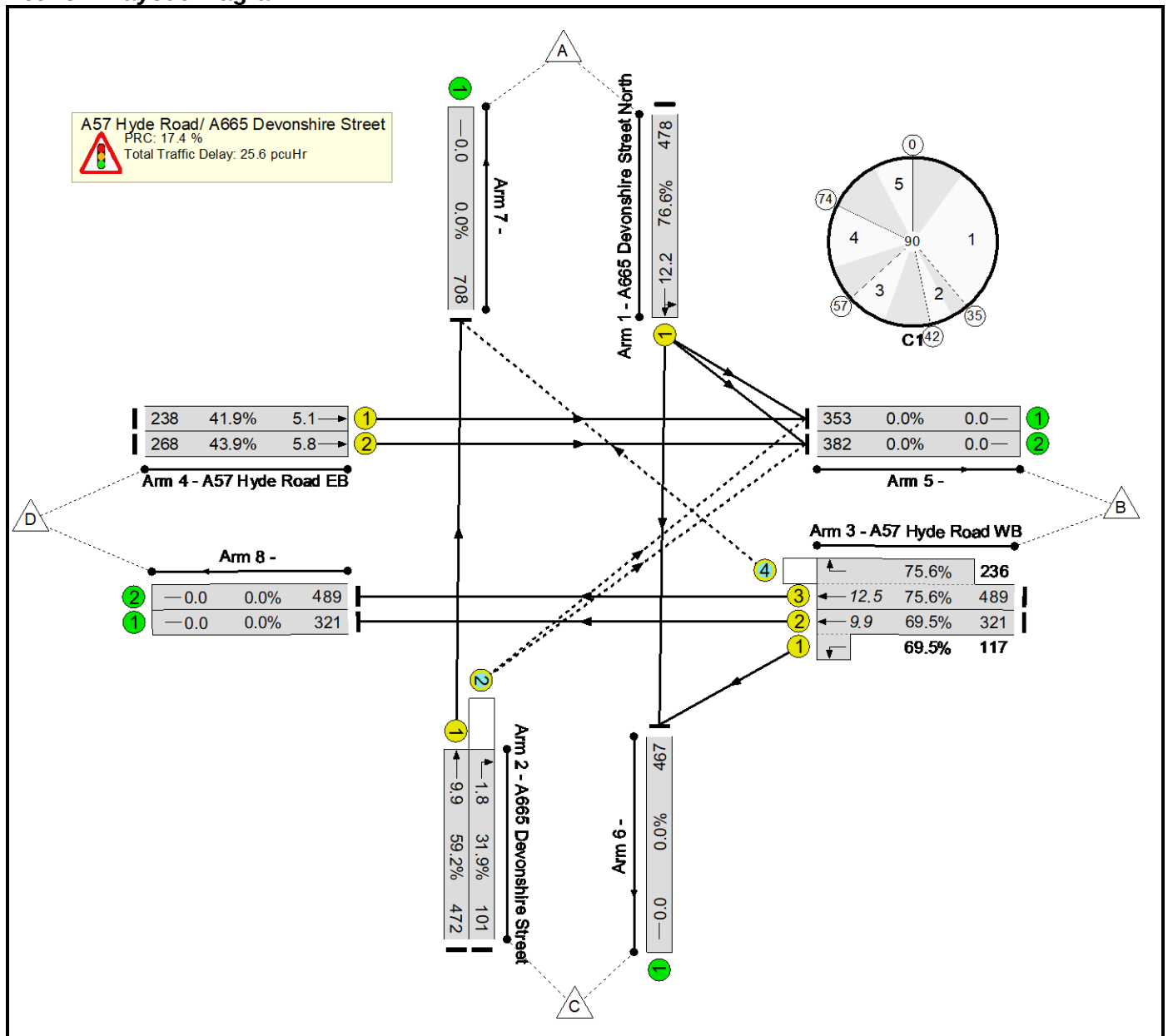
Basic Results Summary

4/1 (A57 Hyde Road EB)	U	C	2	3	60.0	Geom	-	2.80	0.00	Y	Arm 5 Ahead	Inf
4/2 (A57 Hyde Road EB)	U	C	2	3	60.0	Geom	-	2.80	0.00	N	Arm 5 Ahead	Inf
5/1	U		2	3	60.0	Inf	-	-	-	-	-	-
5/2	U		2	3	60.0	Inf	-	-	-	-	-	-
6/1	U		2	3	60.0	Inf	-	-	-	-	-	-
7/1	U		2	3	60.0	Inf	-	-	-	-	-	-
8/1	U		2	3	60.0	Inf	-	-	-	-	-	-
8/2	U		2	3	60.0	Inf	-	-	-	-	-	-

Basic Results Summary

Scenario 1: '2024 Survey AM' (FG1: '2024 Survey AM', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Traffic Flows, Actual

Actual Flow :

	Destination					
		A	B	C	D	Tot.
Origin	A	0	128	350	0	478
	B	236	0	117	810	1163
	C	472	101	0	0	573
	D	0	506	0	0	506
	Tot.	708	735	467	810	2720

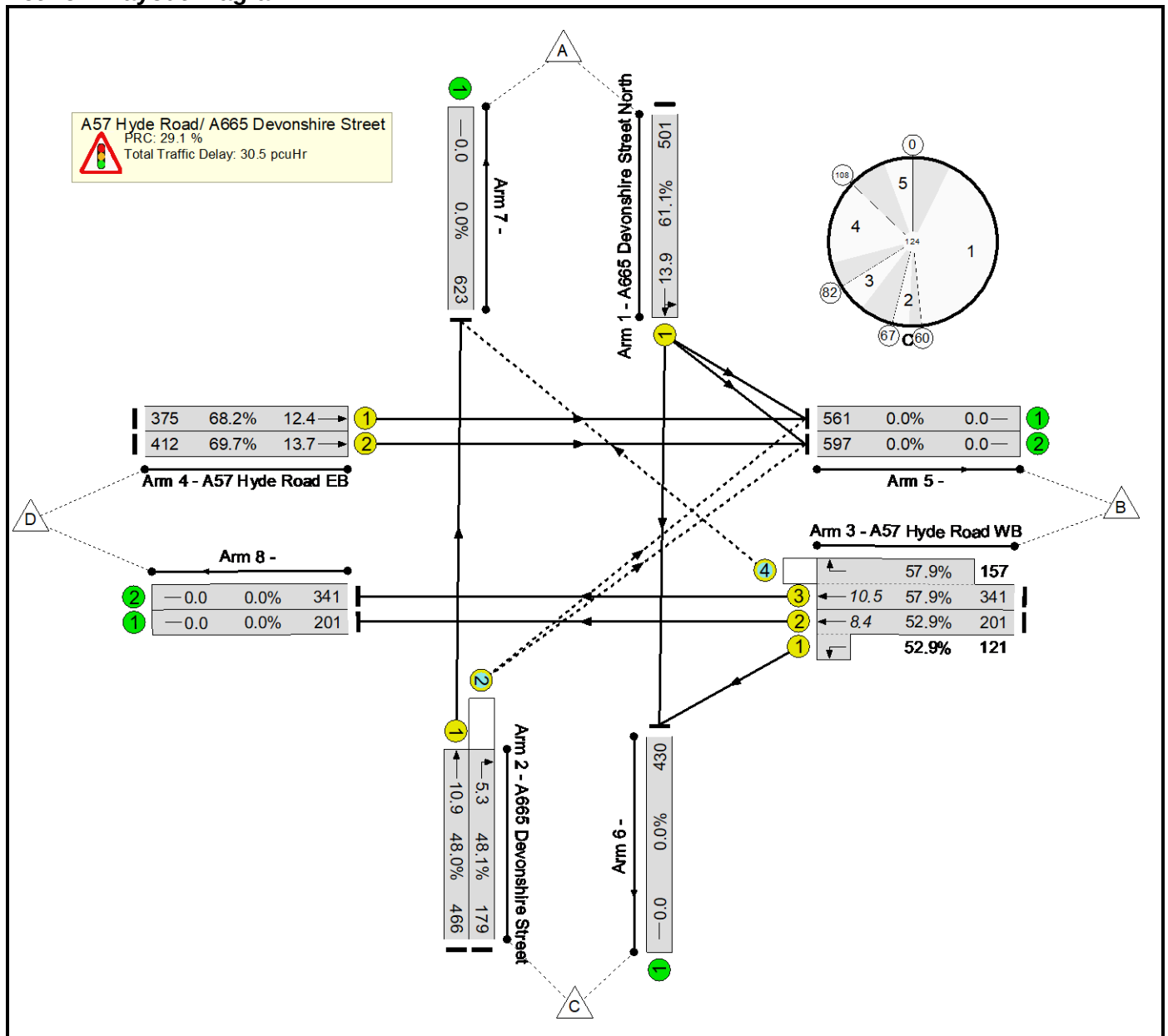
Network Results

C1	PRC for Signalled Lanes (%):	17.4	Total Delay for Signalled Lanes (pcuHr):	25.59	Cycle Time (s):	90
	PRC Over All Lanes (%):	17.4	Total Delay Over All Lanes(pcuHr):	25.59		

Basic Results Summary

Scenario 2: '2024 Survey PM' (FG2: '2024 Survey PM', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Traffic Flows, Actual

Actual Flow :

	Destination					
		A	B	C	D	Tot.
Origin	A	0	192	309	0	501
	B	157	0	121	542	820
	C	466	179	0	0	645
	D	0	787	0	0	787
	Tot.	623	1158	430	542	2753

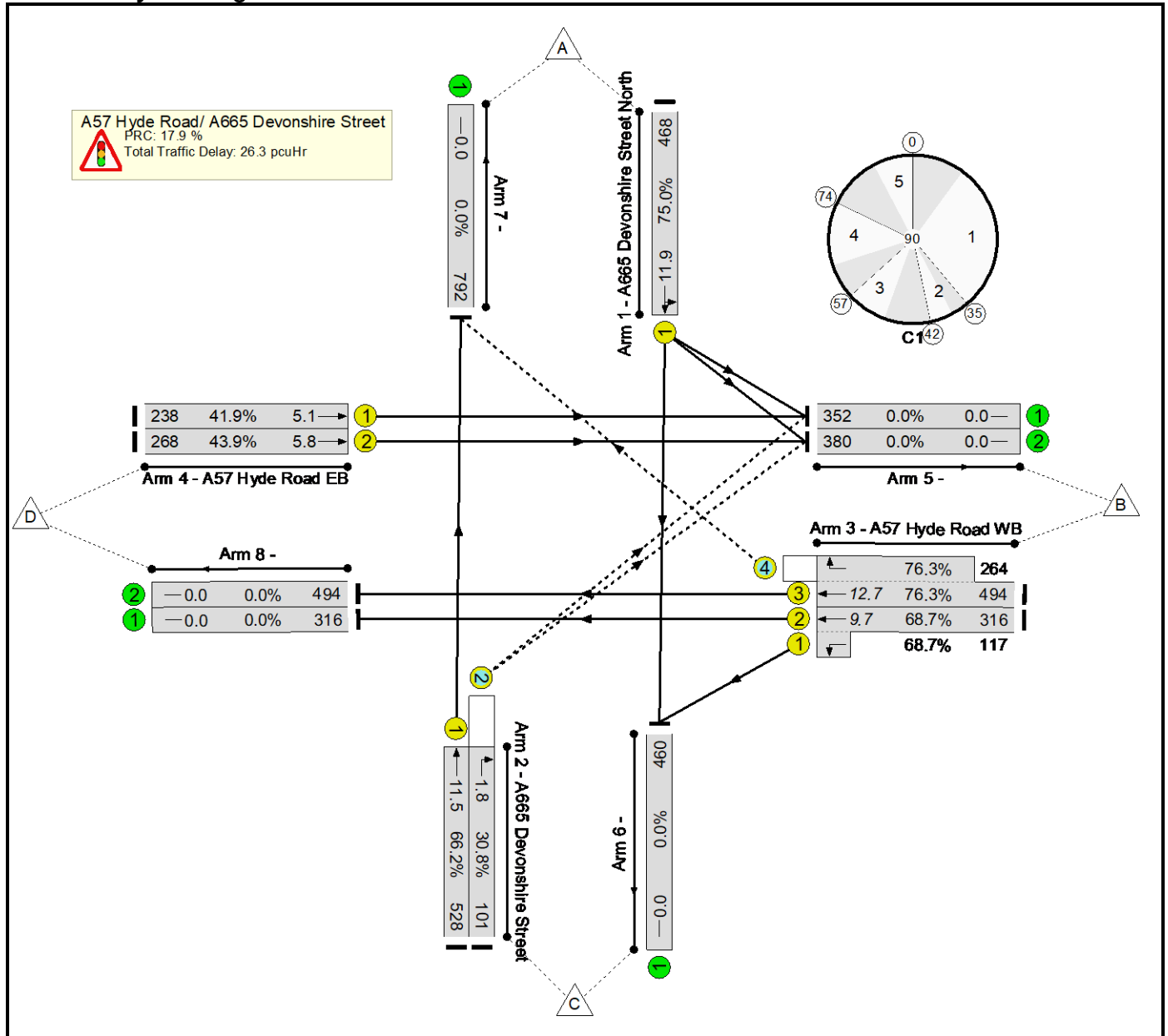
Network Results

C1	PRC for Signalled Lanes (%):	29.1	Total Delay for Signalled Lanes (pcuHr):	30.47	Cycle Time (s): 124
	PRC Over All Lanes (%):	29.1	Total Delay Over All Lanes(pcuHr):	30.47	

Basic Results Summary

Scenario 3: '2024 Survey With Dev AM' (FG5: '2024 Survey + Net Dev AM', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



Traffic Flows, Actual

Actual Flow :

	Destination					
		A	B	C	D	Tot.
Origin	A	0	125	343	0	468
	B	264	0	117	810	1191
	C	528	101	0	0	629
	D	0	506	0	0	506
	Tot.	792	732	460	810	2794

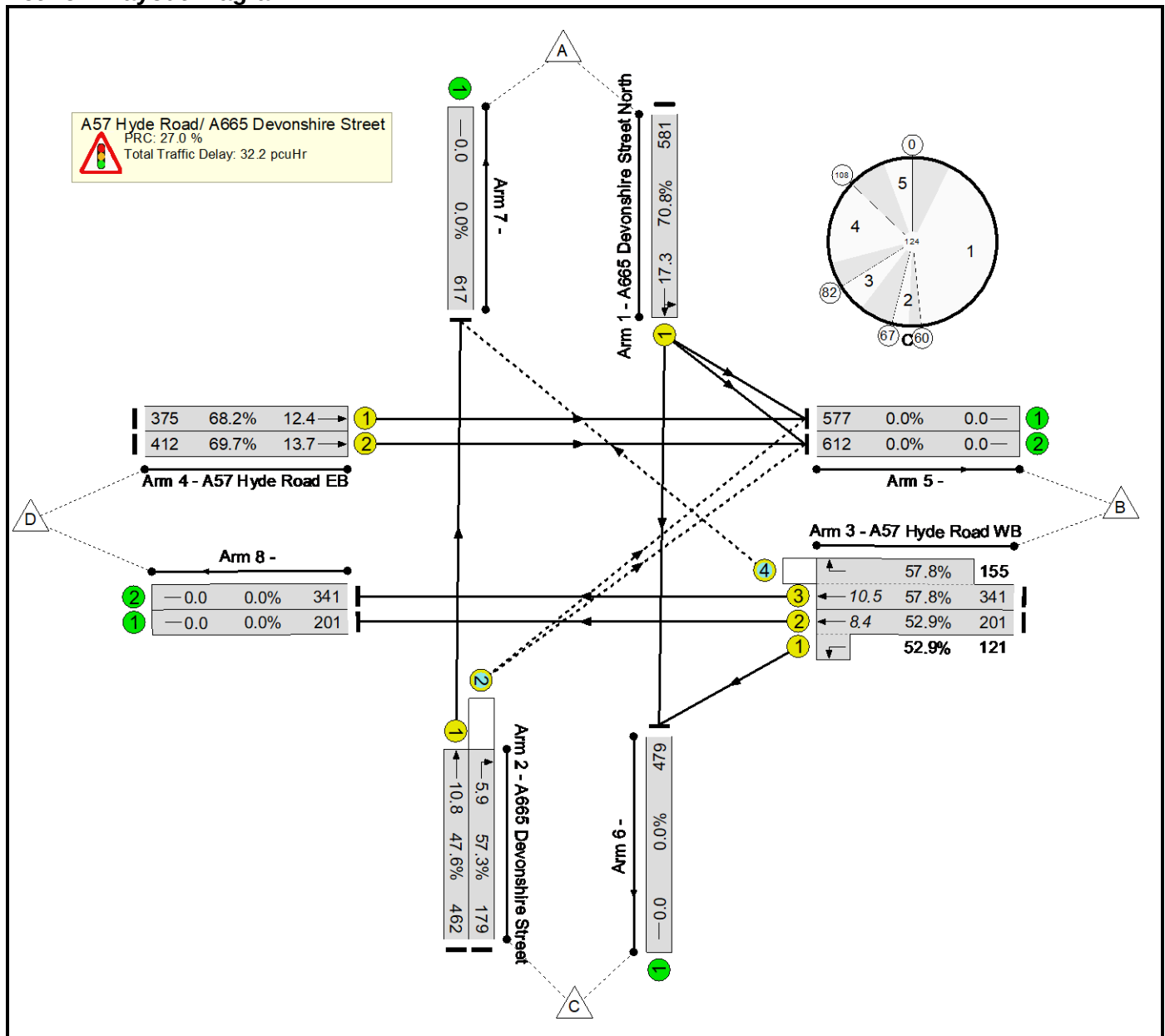
Network Results

C1	PRC for Signalled Lanes (%):	17.9	Total Delay for Signalled Lanes (pcuHr):	26.31	Cycle Time (s):	90
	PRC Over All Lanes (%):	17.9	Total Delay Over All Lanes(pcuHr):	26.31		

Basic Results Summary

Scenario 4: '2024 Survey With Dev PM' (FG6: '2024 Survey + Net Dev PM', Plan 1: 'Network Control Plan 1')

Network Layout Diagram



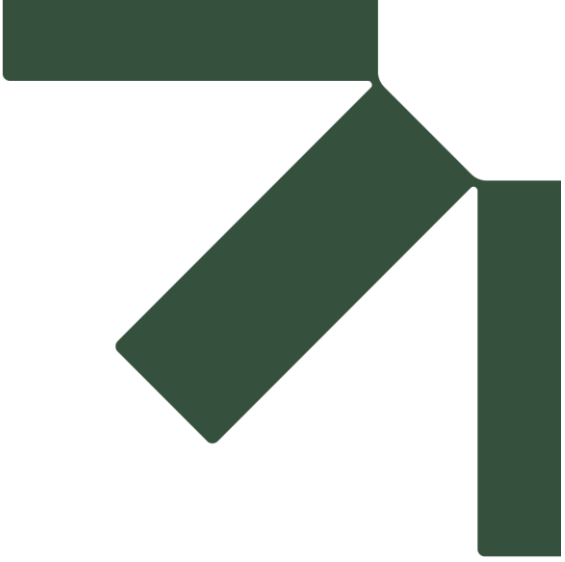
Traffic Flows, Actual

Actual Flow :

	Destination					
		A	B	C	D	Tot.
Origin	A	0	223	358	0	581
	B	155	0	121	542	818
	C	462	179	0	0	641
	D	0	787	0	0	787
	Tot.	617	1189	479	542	2827

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: A57 Hyde Road/ A665 Devonshire Street	-	-	-		-	-	-	-	-	-	70.8%	210	117	7	32.2	-	-
A57 Hyde Road/ A665 Devonshire Street	-	-	-		-	-	-	-	-	-	70.8%	210	117	7	32.2	-	-
1/1	A665 Devonshire Street North Left Ahead	U	B		1	54	-	581	1849	820	70.8%	-	-	-	5.7	35.4	17.3
2/1	A665 Devonshire Street Ahead	U	A		1	61	-	462	1940	970	47.6%	-	-	-	3.1	23.9	10.8
2/2	A665 Devonshire Street Right	O	A	M	1	61	4	179	1884	312	57.3%	149	25	4	2.9	58.1	5.9
3/2+3/1	A57 Hyde Road WB Left Ahead	U	D F		1	36:37	-	322	1990:1860	380+229	52.9 : 52.9%	-	-	-	3.7	41.3	8.4
3/3+3/4	A57 Hyde Road WB Right Ahead	U+O	D	E	1	36	11	496	2080:1884	590+268	57.8 : 57.8%	61	92	3	6.1	44.4	10.5
4/1	A57 Hyde Road EB Ahead	U	C		1	35	-	375	1895	550	68.2%	-	-	-	5.1	49.1	12.4
4/2	A57 Hyde Road EB Ahead	U	C		1	35	-	412	2035	591	69.7%	-	-	-	5.6	49.1	13.7
C1 PRC for Signalled Lanes (%): 27.0 Total Delay for Signalled Lanes (pcuHr): 32.21 Cycle Time (s): 124 PRC Over All Lanes (%): 27.0 Total Delay Over All Lanes(pcuHr): 32.21																	



Appendix G Junction Model Output: Chancellor Ln/ Midland Street

Transport Assessment

Universal Square Phase 4, Manchester

Cypresshawk Ltd

SLR Project No.: 410.065709.00001

27 November 2024

Junctions 10										
PICADY 10 - Priority Intersection Module										
Version: 10.1.1.1905										
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Filename: J3 A665 - Midland St v1a.j10

Path: N:\Vectos Job Data\2024\410.065709.00001 Universal Square, Ardwick GBS Phase 4 PA\Junctions

Report generation date: 10/06/2024 18:04:29

»2024 Survey, AM

»2024 Survey, PM

»Base + Dev (Demand), AM

»Base + Dev (Demand), PM

Summary of junction performance

	AM					PM				
	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Set ID	Queue (PCU)	Delay (s)	RFC	LOS
	2024 Survey									
Stream B-CD	D1	0.1	8.18	0.05	A	D2	0.1	7.35	0.06	A
Stream B-A		0.1	35.44	0.06	E		0.1	34.72	0.07	D
Stream AB-CD		0.1	9.56	0.08	A		0.0	9.61	0.02	A
Stream D-ABC		0.1	13.43	0.08	B		8.9	1384.41	999999999.00	F
Stream CD-AB		0.9	13.26	0.44	B		2.6	15.25	0.65	C
	Base + Dev (Demand)									
Stream B-CD	D3	0.1	9.44	0.06	A	D4	0.1	7.38	0.06	A
Stream B-A		0.1	58.59	0.10	F		0.1	53.89	0.10	F
Stream AB-CD		0.1	9.42	0.08	A		0.0	11.01	0.02	B
Stream D-ABC		0.1	15.68	0.09	C		13.8	5361.56	999999999.00	F
Stream CD-AB		1.2	15.41	0.50	C		5.3	18.12	0.76	C

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

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

File summary

File Description

Title	
Location	
Site number	
Date	07/06/2024
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	SLR\john.lancaster
Description	

Units

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

Analysis Options

Calculate Queue Percentiles	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
		0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2024 Survey	AM	ONE HOUR	08:45	10:15	15
D2	2024 Survey	PM	ONE HOUR	14:45	16:15	15
D3	Base + Dev (Demand)	AM	ONE HOUR	08:45	10:15	15
D4	Base + Dev (Demand)	PM	ONE HOUR	14:45	16:15	15

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

2024 Survey, AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm visibility to right	Arm B - Minor arm geometry	Visibility to right expected to have two components if the arm has two lanes, or two lanes in a flared section.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Arm D Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	A665 / Midland Street	Left-Right Stagger	Two-way	Two-way	Two-way	Two-way		0.93	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	0.93	A

Arms

Arms

Arm	Name	Description	Arm type
A	Chancellor Lane (N)		Major
B	Midland Street		Minor
C	Chancellor Lane (S)		Major
D	North Western St		Minor

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right-turn storage	Width for right-turn storage (m)	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
A	6.50		✓	2.80	65.0	✓	2.00
C	6.50		✓	2.80	100.0	✓	3.00

Major Arm Geometry Notes

Arm	Notes
A	RT storage is a total of 6 PCUs but is 'shared' by both movements
C	RT storage is a total of 6 PCUs but is 'shared' by both movements

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

Minor Arm Geometry

Arm	Minor arm type	Lane width (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate flare length	Flare length (PCU)	Visibility to left (m)	Visibility to right (m)
B	One lane plus flare		10.00	8.00	5.80	5.00	3.50		1.00	45	35
D	One lane	3.00								38	25

Minor Arm Geometry Notes

Arm	Notes
B	
D	Carriageway is wide but effective width is reduced by on-street parking

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for A-D	Slope for B-C	Slope for B-D	Slope for C-A	Slope for C-B	Slope for C-D	Slope for D-A	Slope for D-B
AB-D	652	-	-	-	-	-	0.247	0.247	0.247	-	-
B-A	488	0.087	0.220	0.220	-	-	0.138	0.314	-	0.138	0.314
B-CD	736	0.110	0.279	0.279	-	-	-	-	-	-	-
CD-B	673	0.255	0.255	0.255	-	-	-	-	-	-	-
D-AB	640	-	-	-	-	-	0.242	0.242	0.096	-	-
D-C	502	-	0.142	0.323	0.142	0.323	0.226	0.226	0.089	-	-

The slopes and intercepts shown above include custom intercept adjustments only.

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

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2024 Survey	AM	ONE HOUR	08:45	10:15	15

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	906	100.000
B		✓	28	100.000
C		✓	916	100.000
D		✓	20	100.000

Origin-Destination Data

Demand (PCU/hr)

	To				
		A	B	C	D
From	A	0	77	801	28
	B	6	0	22	0
	C	725	167	0	24
	D	14	2	4	0

Vehicle Mix

Heavy Vehicle %

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

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-CD	0.05	8.18	0.1	A
B-A	0.06	35.44	0.1	E
A-B				
A-C				
A-D				
AB-CD	0.08	9.56	0.1	A
AB-C				
D-ABC	0.08	13.43	0.1	B
C-D				
C-A				
C-B				
CD-AB	0.44	13.26	0.9	B
CD-A				

Main Results for each time segment

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	17	553	0.030	16	0.0	6.707	A
B-A	5	229	0.020	4	0.0	16.034	C
A-B	58			58			
A-C	603			603			
A-D	21			21			
AB-CD	21	482	0.044	21	0.0	7.801	A
AB-C	619			619			
D-ABC	15	405	0.037	15	0.0	9.240	A
C-D	18			18			
C-A	546			546			
C-B	126			126			
CD-AB	130	508	0.255	128	0.3	9.439	A
CD-A	554			554			

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	20	517	0.038	20	0.0	7.246	A
B-A	5	178	0.030	5	0.0	20.819	C
A-B	69			69			
A-C	720			720			
A-D	25			25			
AB-CD	25	451	0.056	25	0.1	8.464	A
AB-C	740			740			
D-ABC	18	360	0.050	18	0.1	10.526	B
C-D	22			22			
C-A	652			652			
C-B	150			150			
CD-AB	159	488	0.326	159	0.5	10.908	B
CD-A	657			657			

09:15 - 09:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	24	465	0.052	24	0.1	8.172	A
B-A	7	108	0.061	6	0.1	35.244	E
A-B	85			85			
A-C	882			882			
A-D	31			31			
AB-CD	31	408	0.077	31	0.1	9.555	A
AB-C	906			906			
D-ABC	22	290	0.076	22	0.1	13.415	B
C-D	26			26			
C-A	798			798			
C-B	184			184			
CD-AB	218	490	0.444	216	0.9	13.113	B
CD-A	782			782			

09:30 - 09:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	24	464	0.052	24	0.1	8.181	A
B-A	7	108	0.061	7	0.1	35.444	E
A-B	85			85			
A-C	882			882			
A-D	31			31			
AB-CD	31	408	0.077	31	0.1	9.559	A
AB-C	906			906			
D-ABC	22	290	0.076	22	0.1	13.428	B
C-D	26			26			
C-A	798			798			
C-B	184			184			
CD-AB	218	490	0.444	218	0.9	13.257	B
CD-A	782			782			

09:45 - 10:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	20	516	0.038	20	0.0	7.256	A
B-A	5	178	0.030	6	0.0	20.912	C
A-B	69			69			
A-C	720			720			
A-D	25			25			
AB-CD	25	451	0.056	25	0.1	8.471	A
AB-C	740			740			
D-ABC	18	360	0.050	18	0.1	10.539	B
C-D	22			22			
C-A	652			652			
C-B	150			150			
CD-AB	159	488	0.327	161	0.5	11.056	B
CD-A	657			657			

10:00 - 10:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	17	553	0.030	17	0.0	6.718	A
B-A	5	228	0.020	5	0.0	16.086	C
A-B	58			58			
A-C	603			603			
A-D	21			21			
AB-CD	21	482	0.044	21	0.0	7.807	A
AB-C	620			620			
D-ABC	15	404	0.037	15	0.0	9.248	A
C-D	18			18			
C-A	546			546			
C-B	126			126			
CD-AB	130	508	0.255	130	0.4	9.541	A
CD-A	554			554			

2024 Survey, PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm visibility to right	Arm B - Minor arm geometry	Visibility to right expected to have two components if the arm has two lanes, or two lanes in a flared section.
Last Run	Last Run	Stream D-ABC	Capacity of Minor Stream D-ABC has been reduced in timesegment(s) 3,4 due to traffic queuing at the center of the junction.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Arm D Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	A665 / Midland Street	Left-Right Stagger	Two-way	Two-way	Two-way	Two-way		8.20	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	8.20	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D2	2024 Survey	PM	ONE HOUR	14:45	16:15	15

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	708	100.000
B		✓	35	100.000
C		✓	995	100.000
D		✓	16	100.000

Origin-Destination Data

Demand (PCU/hr)

	To				
	A	B	C	D	
From	A	0	57	645	6
	B	7	0	28	0
	C	707	281	0	7
	D	6	6	4	0

Vehicle Mix

Heavy Vehicle %

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

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-CD	0.06	7.35	0.1	A
B-A	0.07	34.72	0.1	D
A-B				
A-C				
A-D				
AB-CD	0.02	9.61	0.0	A
AB-C				
D-ABC	999999999.00	1384.41	8.9	F
C-D				
C-A				
C-B				
CD-AB	0.65	15.25	2.6	C
CD-A				

Main Results for each time segment

14:45 - 15:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	21	593	0.036	21	0.0	6.290	A
B-A	5	234	0.023	5	0.0	15.767	C
A-B	43			43			
A-C	486			486			
A-D	5			5			
AB-CD	5	467	0.010	4	0.0	7.790	A
AB-C	507			507			
D-ABC	12	385	0.031	12	0.0	9.642	A
C-D	5			5			
C-A	532			532			
C-B	212			212			
CD-AB	230	572	0.402	227	0.7	10.369	B
CD-A	523			523			

15:00 - 15:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	25	564	0.045	25	0.0	6.683	A
B-A	6	184	0.034	6	0.0	20.281	C
A-B	51			51			
A-C	580			580			
A-D	5			5			
AB-CD	5	431	0.013	5	0.0	8.463	A
AB-C	605			605			
D-ABC	14	340	0.042	14	0.0	11.065	B
C-D	6			6			
C-A	636			636			
C-B	253			253			
CD-AB	300	593	0.505	298	1.1	12.158	B
CD-A	599			599			

15:15 - 15:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	31	521	0.059	31	0.1	7.337	A
B-A	8	115	0.067	8	0.1	33.326	D
A-B	63			63			
A-C	710			710			
A-D	7			7			
AB-CD	7	381	0.017	7	0.0	9.609	A
AB-C	741			741			
D-ABC	18	0	999999999.000	0	4.4	1384.405	F
C-D	8			8			
C-A	778			778			
C-B	309			309			
CD-AB	450	690	0.652	445	2.4	14.668	B
CD-A	637			637			

15:30 - 15:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	31	521	0.059	31	0.1	7.348	A
B-A	8	111	0.069	8	0.1	34.719	D
A-B	63			63			
A-C	710			710			
A-D	7			7			
AB-CD	7	381	0.017	7	0.0	9.609	A
AB-C	741			741			
D-ABC	18	0	999999999.000	0	8.9	531.089	F
C-D	8			8			
C-A	778			778			
C-B	309			309			
CD-AB	450	690	0.652	450	2.6	15.252	C
CD-A	637			637			

15:45 - 16:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	25	563	0.045	25	0.0	6.697	A
B-A	6	176	0.036	6	0.0	21.225	C
A-B	51			51			
A-C	580			580			
A-D	5			5			
AB-CD	5	431	0.013	5	0.0	8.465	A
AB-C	605			605			
D-ABC	14	340	0.042	50	0.0	14.007	B
C-D	6			6			
C-A	636			636			
C-B	253			253			
CD-AB	323	609	0.531	328	1.4	13.103	B
CD-A	602			602			

16:00 - 16:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	21	593	0.036	21	0.0	6.301	A
B-A	5	232	0.023	5	0.0	15.882	C
A-B	43			43			
A-C	486			486			
A-D	5			5			
AB-CD	5	467	0.010	5	0.0	7.792	A
AB-C	507			507			
D-ABC	12	385	0.031	12	0.0	9.651	A
C-D	5			5			
C-A	532			532			
C-B	212			212			
CD-AB	230	572	0.402	233	0.7	10.706	B
CD-A	523			523			

Base + Dev (Demand), AM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm visibility to right	Arm B - Minor arm geometry	Visibility to right expected to have two components if the arm has two lanes, or two lanes in a flared section.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Arm D Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	A665 / Midland Street	Left-Right Stagger	Two-way	Two-way	Two-way	Two-way		1.03	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	1.03	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D3	Base + Dev (Demand)	AM	ONE HOUR	08:45	10:15	15

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	1084	100.000
B		✓	28	100.000
C		✓	899	100.000
D		✓	21	100.000

Origin-Destination Data

Demand (PCU/hr)

	To				
	A	B	C	D	
From	A	0	77	979	28
	B	6	0	22	0
	C	711	164	0	24
	D	14	2	5	0

Vehicle Mix

Heavy Vehicle %

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

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-CD	0.06	9.44	0.1	A
B-A	0.10	58.59	0.1	F
A-B				
A-C				
A-D				
AB-CD	0.08	9.42	0.1	A
AB-C				
D-ABC	0.09	15.68	0.1	C
C-D				
C-A				
C-B				
CD-AB	0.50	15.41	1.2	C
CD-A				

Main Results for each time segment

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	17	515	0.032	16	0.0	7.212	A
B-A	5	202	0.022	4	0.0	18.250	C
A-B	58			58			
A-C	737			737			
A-D	21			21			
AB-CD	21	486	0.044	21	0.0	7.744	A
AB-C	753			753			
D-ABC	16	385	0.041	16	0.0	9.735	A
C-D	18			18			
C-A	535			535			
C-B	123			123			
CD-AB	128	476	0.269	126	0.4	10.269	B
CD-A	543			543			

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	20	471	0.042	20	0.0	7.971	A
B-A	5	146	0.037	5	0.0	25.653	D
A-B	69			69			
A-C	880			880			
A-D	25			25			
AB-CD	25	455	0.056	25	0.1	8.381	A
AB-C	900			900			
D-ABC	19	335	0.056	19	0.1	11.379	B
C-D	22			22			
C-A	639			639			
C-B	147			147			
CD-AB	159	453	0.352	158	0.6	12.206	B
CD-A	642			642			

09:15 - 09:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	24	407	0.060	24	0.1	9.407	A
B-A	7	69	0.096	6	0.1	57.699	F
A-B	85			85			
A-C	1078			1078			
A-D	31			31			
AB-CD	31	413	0.076	31	0.1	9.417	A
AB-C	1102			1102			
D-ABC	23	253	0.092	23	0.1	15.658	C
C-D	26			26			
C-A	783			783			
C-B	181			181			
CD-AB	231	466	0.496	229	1.2	15.123	C
CD-A	750			750			

09:30 - 09:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	24	406	0.060	24	0.1	9.435	A
B-A	7	68	0.097	7	0.1	58.587	F
A-B	85			85			
A-C	1078			1078			
A-D	31			31			
AB-CD	31	413	0.076	31	0.1	9.422	A
AB-C	1102			1102			
D-ABC	23	253	0.092	23	0.1	15.683	C
C-D	26			26			
C-A	783			783			
C-B	181			181			
CD-AB	231	466	0.496	231	1.2	15.411	C
CD-A	750			750			

09:45 - 10:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	20	470	0.042	20	0.0	7.994	A
B-A	5	145	0.037	6	0.0	25.866	D
A-B	69			69			
A-C	880			880			
A-D	25			25			
AB-CD	25	455	0.056	25	0.1	8.388	A
AB-C	900			900			
D-ABC	19	335	0.056	19	0.1	11.399	B
C-D	22			22			
C-A	639			639			
C-B	147			147			
CD-AB	159	453	0.352	162	0.6	12.473	B
CD-A	642			642			

10:00 - 10:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	17	515	0.032	17	0.0	7.226	A
B-A	5	201	0.022	5	0.0	18.328	C
A-B	58			58			
A-C	737			737			
A-D	21			21			
AB-CD	21	486	0.044	21	0.0	7.750	A
AB-C	754			754			
D-ABC	16	385	0.041	16	0.0	9.748	A
C-D	18			18			
C-A	535			535			
C-B	123			123			
CD-AB	128	476	0.269	129	0.4	10.405	B
CD-A	543			543			

Base + Dev (Demand), PM

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Minor arm visibility to right	Arm B - Minor arm geometry	Visibility to right expected to have two components if the arm has two lanes, or two lanes in a flared section.
Last Run	Last Run	Stream D-ABC	Capacity of Minor Stream D-ABC has been reduced in timesegment(s) 2,3,4,5 due to traffic queuing at the center of the junction.
Warning	Vehicle Mix		HV% is zero for all movements / time segments. Vehicle Mix matrix should be completed whether working in PCUs or Vehs. If HV% at the junction is genuinely zero, please ignore this warning.

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Arm D Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	A665 / Midland Street	Left-Right Stagger	Two-way	Two-way	Two-way	Two-way		25.37	D

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	25.37	D

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D4	Base + Dev (Demand)	PM	ONE HOUR	14:45	16:15	15

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	696	100.000
B		✓	35	100.000
C		✓	1171	100.000
D		✓	16	100.000

Origin-Destination Data

Demand (PCU/hr)

	To				
	A	B	C	D	
From	A	0	57	633	6
	B	7	0	28	0
	C	832	331	0	8
	D	6	6	4	0

Vehicle Mix

Heavy Vehicle %

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

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-CD	0.06	7.38	0.1	A
B-A	0.10	53.89	0.1	F
A-B				
A-C				
A-D				
AB-CD	0.02	11.01	0.0	B
AB-C				
D-ABC	999999999.00	5361.56	13.8	F
C-D				
C-A				
C-B				
CD-AB	0.76	18.12	5.3	C
CD-A				

Main Results for each time segment

14:45 - 15:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	21	595	0.035	21	0.0	6.267	A
B-A	5	211	0.025	5	0.0	17.504	C
A-B	43			43			
A-C	477			477			
A-D	5			5			
AB-CD	5	434	0.010	4	0.0	8.384	A
AB-C	497			497			
D-ABC	12	352	0.034	12	0.0	10.568	B
C-D	6			6			
C-A	626			626			
C-B	249			249			
CD-AB	284	605	0.470	281	1.0	10.998	B
CD-A	600			600			

15:00 - 15:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	25	566	0.044	25	0.0	6.657	A
B-A	6	156	0.040	6	0.0	23.986	C
A-B	51			51			
A-C	569			569			
A-D	5			5			
AB-CD	5	392	0.014	5	0.0	9.318	A
AB-C	594			594			
D-ABC	14	5	2.790	4	2.7	2824.300	F
C-D	7			7			
C-A	748			748			
C-B	298			298			
CD-AB	385	661	0.582	382	1.7	12.877	B
CD-A	663			663			

15:15 - 15:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	31	521	0.059	31	0.1	7.349	A
B-A	8	80	0.096	7	0.1	49.553	E
A-B	63			63			
A-C	697			697			
A-D	7			7			
AB-CD	7	333	0.020	7	0.0	11.014	B
AB-C	728			728			
D-ABC	18	0	999999999.000	0	7.1	5361.563	F
C-D	9			9			
C-A	916			916			
C-B	364			364			
CD-AB	675	885	0.763	662	4.8	16.339	C
CD-A	606			606			

15:30 - 15:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	31	519	0.059	31	0.1	7.379	A
B-A	8	74	0.104	8	0.1	53.890	F
A-B	63			63			
A-C	697			697			
A-D	7			7			
AB-CD	7	333	0.020	7	0.0	11.014	B
AB-C	728			728			
D-ABC	18	0	999999999.000	0	11.5	910.247	F
C-D	9			9			
C-A	916			916			
C-B	364			364			
CD-AB	675	885	0.763	673	5.3	18.124	C
CD-A	606			606			

15:45 - 16:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	25	564	0.045	25	0.0	6.679	A
B-A	6	145	0.043	7	0.0	26.040	D
A-B	51			51			
A-C	569			569			
A-D	5			5			
AB-CD	5	392	0.014	5	0.0	9.320	A
AB-C	594			594			
D-ABC	14	5	2.723	5	13.8	1030.407	F
C-D	7			7			
C-A	748			748			
C-B	298			298			
CD-AB	386	662	0.583	400	1.9	14.577	B
CD-A	663			663			

16:00 - 16:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-CD	21	594	0.035	21	0.0	6.282	A
B-A	5	200	0.026	5	0.0	18.543	C
A-B	43			43			
A-C	477			477			
A-D	5			5			
AB-CD	5	434	0.010	5	0.0	8.384	A
AB-C	498			498			
D-ABC	12	352	0.034	67	0.0	15.375	C
C-D	6			6			
C-A	626			626			
C-B	249			249			
CD-AB	318	625	0.509	321	1.2	11.983	B
CD-A	608			608			

Junctions 10							
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Filename: J3B A665 - N Western St 3Arm v1a.j10

Path: N:\Vectos Job Data\2024\410.065709.00001 Universal Square, Ardwick GBS Phase 4 PA\Junctions

Report generation date: 11/06/2024 17:44:07

- »2024 Survey, AM
- »2024 Survey, PM
- »Base With Dev, AM
- »Base With Dev, PM

Summary of junction performance

	AM					PM				
	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Set ID	Queue (PCU)	Delay (s)	RFC	LOS
	2024 Survey									
Stream B-AC	D1	0.1	11.42	0.06	B	D2	0.0	11.82	0.03	B
Stream C-AB		0.1	8.55	0.07	A		0.0	7.98	0.01	A
	Base With Dev									
Stream B-AC	D3	0.1	12.91	0.07	B	D4	0.0	13.34	0.04	B
Stream C-AB		0.1	8.46	0.07	A		0.0	8.64	0.02	A

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

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

File summary

File Description

Title	
Location	
Site number	
Date	11/06/2024
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	SLR\john.lancaster
Description	

Units

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

Analysis Options

Calculate Queue Percentiles	Calculate residual capacity	RFC Threshold	Average Delay threshold (s)	Queue threshold (PCU)
		0.85	36.00	20.00

Demand Set Summary

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2024 Survey	AM	ONE HOUR	08:45	10:15	15
D2	2024 Survey	PM	ONE HOUR	14:45	16:15	15
D3	Base With Dev	AM	ONE HOUR	08:45	10:15	15
D4	Base With Dev	PM	ONE HOUR	14:45	16:15	15

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

2024 Survey, AM

Data Errors and Warnings

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

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	Two-way	Two-way		0.28	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	0.28	A

Arms

Arms

Arm	Name	Description	Arm type
A	Chancellor Lane (S)		Major
B	North Western Street		Minor
C	Chancellor Lane (N)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right-turn storage	Width for right-turn storage (m)	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C	6.50		✓	2.80	65.0	✓	2.00

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

Minor Arm Geometry

Arm	Minor arm type	Lane width (m)	Visibility to left (m)	Visibility to right (m)
B	One lane	3.00	38	25

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
B-A	502	0.089	0.226	0.142	0.323
B-C	640	0.096	0.242	-	-
C-B	652	0.247	0.247	-	-

The slopes and intercepts shown above include custom intercept adjustments only.

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

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D1	2024 Survey	AM	ONE HOUR	08:45	10:15	15

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	749	100.000
B		✓	18	100.000
C		✓	851	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
		A	B	C
	A	0	24	725
	B	4	0	14
	C	823	28	0

Vehicle Mix

Heavy Vehicle %

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

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.06	11.42	0.1	B
C-AB	0.07	8.55	0.1	A
C-A				
A-B				
A-C				

Main Results for each time segment

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	14	430	0.032	13	0.0	8.640	A
C-AB	21	513	0.041	21	0.0	7.310	A
C-A	620			620			
A-B	18			18			
A-C	546			546			

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	16	392	0.041	16	0.0	9.573	A
C-AB	25	487	0.052	25	0.1	7.790	A
C-A	740			740			
A-B	22			22			
A-C	652			652			

09:15 - 09:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	20	335	0.059	20	0.1	11.419	B
C-AB	31	452	0.069	31	0.1	8.547	A
C-A	906			906			
A-B	26			26			
A-C	798			798			

09:30 - 09:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	20	335	0.059	20	0.1	11.424	B
C-AB	31	452	0.069	31	0.1	8.549	A
C-A	906			906			
A-B	26			26			
A-C	798			798			

09:45 - 10:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	16	392	0.041	16	0.0	9.581	A
C-AB	25	487	0.052	25	0.1	7.796	A
C-A	740			740			
A-B	22			22			
A-C	652			652			

10:00 - 10:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	14	430	0.032	14	0.0	8.647	A
C-AB	21	513	0.041	21	0.0	7.317	A
C-A	620			620			
A-B	18			18			
A-C	546			546			

2024 Survey, PM

Data Errors and Warnings

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

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	Two-way	Two-way		0.12	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	0.12	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D2	2024 Survey	PM	ONE HOUR	14:45	16:15	15

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	714	100.000
B		✓	10	100.000
C		✓	679	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
From		A	B	C
	A	0	7	707
	B	4	0	6
	C	673	6	0

Vehicle Mix

Heavy Vehicle %

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

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.03	11.82	0.0	B
C-AB	0.01	7.98	0.0	A
C-A				
A-B				
A-C				

Main Results for each time segment

14:45 - 15:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	8	404	0.019	7	0.0	9.080	A
C-AB	5	519	0.009	4	0.0	6.998	A
C-A	507			507			
A-B	5			5			
A-C	532			532			

15:00 - 15:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	9	368	0.024	9	0.0	10.031	B
C-AB	5	493	0.011	5	0.0	7.380	A
C-A	605			605			
A-B	6			6			
A-C	636			636			

15:15 - 15:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	11	316	0.035	11	0.0	11.816	B
C-AB	7	458	0.014	7	0.0	7.982	A
C-A	741			741			
A-B	8			8			
A-C	778			778			

15:30 - 15:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	11	316	0.035	11	0.0	11.819	B
C-AB	7	458	0.014	7	0.0	7.982	A
C-A	741			741			
A-B	8			8			
A-C	778			778			

15:45 - 16:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	9	368	0.024	9	0.0	10.035	B
C-AB	5	493	0.011	5	0.0	7.380	A
C-A	605			605			
A-B	6			6			
A-C	636			636			

16:00 - 16:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	8	404	0.019	8	0.0	9.083	A
C-AB	5	519	0.009	5	0.0	6.998	A
C-A	507			507			
A-B	5			5			
A-C	532			532			

Base With Dev, AM

Data Errors and Warnings

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

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	Two-way	Two-way		0.27	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	0.27	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D3	Base With Dev	AM	ONE HOUR	08:45	10:15	15

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	735	100.000
B		✓	19	100.000
C		✓	1029	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
From		A	B	C
	A	0	24	711
	B	5	0	14
	C	1001	28	0

Vehicle Mix

Heavy Vehicle %

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

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.07	12.91	0.1	B
C-AB	0.07	8.46	0.1	A
C-A				
A-B				
A-C				

Main Results for each time segment

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	14	410	0.035	14	0.0	9.100	A
C-AB	21	516	0.041	21	0.0	7.268	A
C-A	754			754			
A-B	18			18			
A-C	535			535			

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	17	367	0.047	17	0.0	10.289	B
C-AB	25	491	0.052	25	0.1	7.732	A
C-A	900			900			
A-B	22			22			
A-C	639			639			

09:15 - 09:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	21	300	0.070	21	0.1	12.897	B
C-AB	31	457	0.068	31	0.1	8.455	A
C-A	1102			1102			
A-B	26			26			
A-C	783			783			

09:30 - 09:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	21	300	0.070	21	0.1	12.906	B
C-AB	31	457	0.068	31	0.1	8.458	A
C-A	1102			1102			
A-B	26			26			
A-C	783			783			

09:45 - 10:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	17	367	0.047	17	0.0	10.298	B
C-AB	25	491	0.052	25	0.1	7.736	A
C-A	900			900			
A-B	22			22			
A-C	639			639			

10:00 - 10:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	14	410	0.035	14	0.0	9.109	A
C-AB	21	516	0.041	21	0.0	7.272	A
C-A	754			754			
A-B	18			18			
A-C	535			535			

Base With Dev, PM

Data Errors and Warnings

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

Junction Network

Junctions

Junction	Name	Junction type	Arm A Direction	Arm B Direction	Arm C Direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	Two-way	Two-way		0.12	A

Junction Network

Driving side	Lighting	Network delay (s)	Network LOS
Left	Normal/unknown	0.12	A

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Start time (HH:mm)	Finish time (HH:mm)	Time segment length (min)
D4	Base With Dev	PM	ONE HOUR	14:45	16:15	15

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	840	100.000
B		✓	10	100.000
C		✓	667	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
From	A	B	C	
	0	8	832	
	4	0	6	
	661	6	0	

Vehicle Mix

Heavy Vehicle %

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

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS
B-AC	0.04	13.34	0.0	B
C-AB	0.02	8.64	0.0	A
C-A				
A-B				
A-C				

Main Results for each time segment

14:45 - 15:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	8	381	0.020	7	0.0	9.623	A
C-AB	5	495	0.009	4	0.0	7.332	A
C-A	498			498			
A-B	6			6			
A-C	626			626			

15:00 - 15:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	9	341	0.026	9	0.0	10.857	B
C-AB	5	465	0.012	5	0.0	7.830	A
C-A	594			594			
A-B	7			7			
A-C	748			748			

15:15 - 15:30

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	11	281	0.039	11	0.0	13.337	B
C-AB	7	423	0.016	7	0.0	8.638	A
C-A	728			728			
A-B	9			9			
A-C	916			916			

15:30 - 15:45

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	11	281	0.039	11	0.0	13.344	B
C-AB	7	423	0.016	7	0.0	8.638	A
C-A	728			728			
A-B	9			9			
A-C	916			916			

15:45 - 16:00

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	9	341	0.026	9	0.0	10.861	B
C-AB	5	465	0.012	5	0.0	7.832	A
C-A	594			594			
A-B	7			7			
A-C	748			748			

16:00 - 16:15

Stream	Total Demand (PCU/hr)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-AC	8	381	0.020	8	0.0	9.631	A
C-AB	5	495	0.009	5	0.0	7.332	A
C-A	498			498			
A-B	6			6			
A-C	626			626			



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