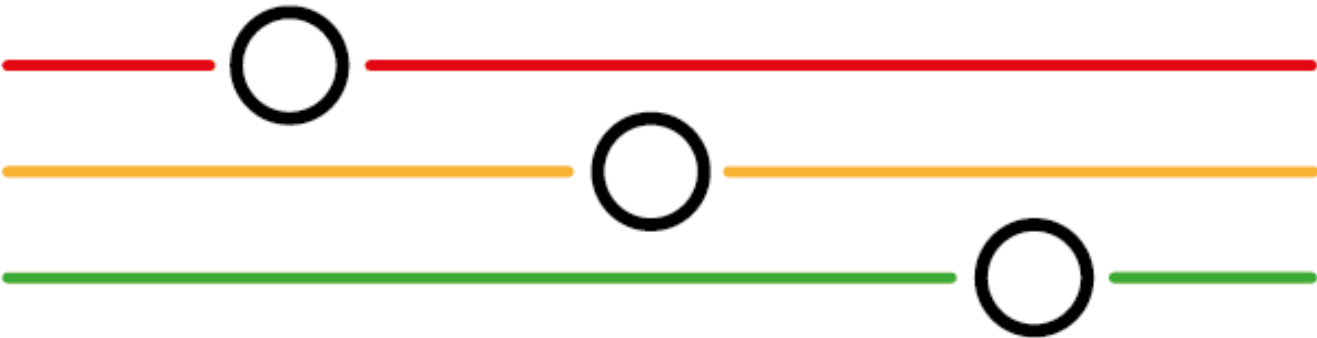




Lion Share Properties Ltd

Proposed Drive-Thru Coffee Shop Redevelopment,  
Victoria Retail Park, Victoria Street, Bury

# Transport Assessment

3704424



JULY 2024

## Report Details

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**Report Number:** 3704424-TA

**Report Title:** Transport Assessment, Proposed Drive-Thru Coffee Shop Redevelopment, Victoria Retail Park, Victoria Street, Bury

**Client:** Lion Share Properties Ltd

**Date:** 02 July 2024

**Status:** -



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# 1 Introduction

## 1.1 General

Dynamic Transport Planning Ltd is instructed by Lion Share Properties Ltd to report on the highways and transportation considerations related with the proposed redevelopment of an existing non-food retail building into a drive-thru coffee shop, at Victoria Retail Park, Victoria Street, Bury.

## 1.2 Site Location

The application site is currently occupied by an existing retail (Class E) building situated to the south of the Victoria Retail Park, accessed via Victoria Street. The site is located approximately 900m west of Bury Town Centre, 7.5km east of Bolton Town Centre and 12.5km north-west of Manchester City Centre.

The location of the site is illustrated at **Figure 1.1:**

**Figure 1.1: Site Location Plan**



### 1.3 Site History and Context

The application site has been subject to previous planning applications, one such application was submitted to Bury Council (BC) in January 2023 (Application Reference: 69299) for the proposed alteration to the external façade of the existing building, including partial demolition and external works to accommodate a drive-thru lane. The proposals were supported on highways grounds by a Transport Statement (TS) produced by DTP, where the application was subsequently refused on 11<sup>th</sup> April 2024.

Highways reasons for refusal were received regarding the proposed development which are summarised below:

- Concerns regarding the proposed servicing arrangements for the site and adjacent retail unit;
- Loss of car parking capacity from the existing retail park;
- Concerns regarding the drive-thru lane access and barrier location; and
- The proposed development would result in the intensification of the existing Victoria Street access junction.

The applicant has since revised the proposals for the site, where the conversion of the existing site to a similar drive-thru coffee shop forms the subject of a new application. Therefore, this Transport Assessment (TA) has been produced to support the resubmission and address the comments raised by the LHA and provide an assessment of the local highway network as a result of the redevelopment proposals.

### 1.4 Purpose and Structure of Report

The purpose of this report is to examine the redevelopment proposals in the context of the application site, review the layout proposals including swept-path analysis, calculate the trip generating potential of the proposed redevelopment and review the accessibility of the site by all modes of transport.

In accordance with best practice this Transport Assessment (TA) has been prepared with reference to the Department for Transport's (DfTs) "*Guidance on Transport Assessment*" document.

This report is structured as follows:

- Section 2 provides a reference to relevant planning policy;
- Section 3 sets out the existing conditions of and around the application site;
- Section 4 provides a description of the proposed redevelopment;
- Section 5 details sustainable access opportunities;

- Section 6 assesses the trip generating potential of the redevelopment proposals;
- Section 7 details the assessment methodology;
- Section 8 provides the junction capacity assessments; and
- Section 9 presents the summary and conclusions.

## 2 Policy Context

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### 2.1 General

It is necessary to understand the national and local planning policies which relate to the proposed redevelopment. Therefore, the following chapter sets out key policies and demonstrates how the proposals accord with them.

### 2.2 National Policy

#### 2.2.1 National Planning Policy Framework (NPPF), 2023

In December 2023, the Ministry of Housing, Communities and Local Government published the revised National Planning Policy Framework (NPPF) which is the latest revision of the NPPF since it was first published in 2012. The NPPF sets out the government's planning policies for England and how the policies should be applied to various developments, providing a framework for localised plans to be created.

Paragraph 108 of the latest NPPF discusses the key link between new developments and the transport network, stating that transport issues should be considered from the earliest stages of the planning process so that:

- *“The potential impacts of development on transport networks can be addressed;*
- *Opportunities from existing or proposed transport infrastructure, and changing transport technology and usage, are realised – for example in relation to the scale, location or density of development that can be accommodated;*
- *Opportunities to promote walking, cycling and public transport use are identified and pursued;*
- *The environmental impacts of traffic and transport infrastructure can be identified, assessed and taken into account – including appropriate opportunities for avoiding and mitigating any adverse effects, and for net environmental gains; and*
- *Ensure patterns of movement, streets, parking and other transport considerations are integral to the design of schemes and contribute to making high quality places.”*

Sustainability of developments is discussed in paragraph 109; whereby new developments should be centred around existing infrastructure. The NPPF also acknowledges that opportunities to maximise sustainable transport solutions will vary between urban and rural areas, which should be taken into account during the planning process, ensuring appropriate infrastructure is applied to all projects.

The NPPF discusses spatial planning in paragraph 110, where planning policies should support an appropriate mix of uses across an area to minimise the number and length of journeys needed for employment, shopping, leisure, education and other uses. Providing attractive and well-designed walking and cycling networks supported by associated facilities such as secure cycle parking.

Paragraph 114 of the new NPPF states that when assessing sites that may be allocated for development in plans, or specific applications for development, it should be ensured that:

- *“Appropriate opportunities to promote sustainable transport modes can be – or have been – taken up, given the type of development and its location;*
- *Safe and suitable access to the site can be achieved for all users;*
- *The design of streets, parking areas, other transport elements and the content of associated standards reflects current national guidance, including the National Design Guide and the National Model Design Code 45; and*
- *Any significant impacts from the development on the transport network (in terms of capacity and congestion), or on highway safety, can be cost effectively mitigated to an acceptable degree.”*

Paragraph 115 of the NPPF states *“Development should only be prevented or refused on highways grounds if there would be an unacceptable impact on highway safety, or the residual cumulative impacts on the road network would be severe”*.

Paragraph 116 of the NPPF states that applications for development should:

- *“Give priority first to pedestrian and cycle movements, both within the scheme and with neighbouring areas; and second – so far as possible – to facilitating access to high quality public transport, with layouts that maximise the catchment area for bus or other public transport services, and appropriate facilities that encourage public transport use;*
- *Address the needs of people with disabilities and reduced mobility in relation to all modes of transport;*
- *Create places that are safe, secure, and attractive – which minimise the scope for conflicts between pedestrians and vehicles, avoid unnecessary street clutter and respond to local character and design standards;*
- *Allow for the efficient delivery of good, and access by service and emergency vehicles; and*
- *Be designed to enable charging of plug-in and other ultra-low emission vehicles in safe, accessible and convenient locations”*.

Furthermore, Paragraph 117 states that all developments that generate significant amounts of movement should be supported by a Transport Statement or Transport Assessment.

## 2.3 Local Policy

### 2.3.1 Bury Unitary Development Plan

The Bury Unitary Development Plan (UDP) provides the framework for decision making and future development in the borough. The UDP identifies six key areas which the plan aims to address, including ‘Traffic Movements and the Transportation Network’, which highlights the increasing pressures on the road network within the region. Whereby, *“the concentration of employment, services and shopping in central locations will facilitate access by public transport, but measures are needed to encourage its use and make centres more pedestrian, and cyclist friendly”*.

Chapter 10 of the UDP discusses Highways and Transportation, where public transport is identified as having a positive role in providing alternatives to private car.

Policy HT3 of the UDP states that BC will encourage land use measures aimed at maintaining and increasing the use of public transport. Policy HT4 discusses the location of new developments within the vicinity of existing public transport infrastructure to *“support the principles of sustainable development and assist the implementation of a balanced transportation strategy”*.

### 2.3.2 Places for Everyone – Joint Development Plan

The Places for Everyone (PfE) Joint Development Plan Document is a long-term plan of nine Greater Manchester districts (Bolton, Bury, Manchester, Oldham, Rochdale, Salford, Tameside, Trafford and Wigan) for jobs, new homes and sustainable growth, adopted in March 2024.

The PfE plan aims to set out how the nine boroughs should develop until 2037, identifying the amount and spatial patterns of new development across the region, defining a new Green Belt boundary for Greater Manchester. The PfE plan will support the delivery of key infrastructure, transport networks and other utilities and protect the environmental assets across the regions.

Strategic Policy 14 discusses the transport network, where PfE aims to improve the existing network so that half of all daily trips can be made by non-car modes of transport. The PfE states that new developments will have a significant role in delivering the sustainable transport network, and as such should be integrated into existing infrastructure.

### 2.3.3 Greater Manchester Transport Strategy

The latest revision of the The Greater Manchester Transport Strategy (GMTS) was produced by TfGM in 2021, to support the vision of making Greater Manchester *“one of the best places in the world to grow up, get on and grow old”*. The GMTS highlights that transport is crucial in supporting sustainable growth in the region.

The GMTS outlines four key elements to achieving the overall vision:

- Supporting sustainable economic growth;

- Protecting our environment;
- Improving quality of life for all; and
- Developing an innovative city-region.

TfGM and local planning authorities will work with developers better integrate transport and new development in accordance with the principles of:

- Reducing the need to travel particularly by car;
- Maximising accessibility by sustainable modes;
- Making the best use existing infrastructure, particularly through increasing the density of development close to public nodes;
- Maximising opportunities to provide additional public transport; and
- Designing to encourage active travel.

Part 2 of the GMTS outlines the Policies set out by TfGM to achieve the aforementioned goals, by working with partners to ensure that mobility solutions, including car clubs, cycle hire and other forms of shared transport are available and fully integrated into the Greater Manchester transport network.

Policy 4 discusses working with developers to ensure that new developments are accessible by sustainable modes, and to reduce transport emissions and impacts on the highway network. As part of Policy 20, TfGM will work with developers and partners to ensure all streets are welcoming and safe spaces for all people, enabling more active travel.

In Policy 16 the GMTS aims to work with partners and developers to support a rapid transition towards low emissions vehicles in Greater Manchester.

## **2.4 Consideration of the Application Site against Policy Background**

In general, the relevant transport policies set out above follow similar themes and promote common aims. These are to provide sustainable development to encourage non-car modes of transport, to ensure the highway impact of new developments is acceptable or mitigated against, and to promote good site design with appropriate parking levels.

The above analysis of relevant national and local transport policies confirms that the proposed development is compliant with relevant transport planning policies and can specifically help contribute to economic growth and access to services whilst positively addressing the traffic impact of the development.

## 3 Existing Conditions

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### 3.1 General

The redevelopment site comprises an existing vacant retail unit (Class E), located to the southern extent of Victoria Retail Park, approximately 900m west of Bury Town Centre.

The application site situated directly to the west of an existing, operational retail unit, bounded to the north by the wider Victoria Retail Park parking provision. Victoria Street bounds the site to the east and with the B6196 Ainsworth Road to the south. A retaining wall bounds the site to the west, with the A58 Bolton Road to the south-east of the site, connecting to Victoria Street via a signal-controlled junction.

The wider area surrounding the site largely comprises mixed commercial/retail development to the north-east, east and south of the site, with residential developments located to the south-west.

The application site is currently occupied by a retail building comprising two non-food retail units with a combined 715m<sup>2</sup> Gross Floor Area (GFA). The wider site currently consists of the redevelopment site, and a food retail unit, supported by 103 parking spaces. Access to all units is provided from Victoria Street via a two-way priority junction, to the north-east of the redevelopment site.

### 3.2 Surrounding Highway Network

#### 3.2.1 Victoria Street

Victoria Street is formed of a single carriageway, which runs in a north-east/south-west orientation to the north-east of the redevelopment site. The road routes from its junction with A58 Bolton Road to the east of the site to a four-arm priority roundabout with Wood Street at its north-eastern end.

Within the vicinity of the site, the road is approximately 7m in width and subject to a 30mph speed limit, with double-yellow parking restrictions in place along both sides of the carriageway. The wider site access point forms a crossroad junction with Victoria Road and Olive Street, with a dropped kerb crossing point and tactile paving across the wider site access road.

Within the vicinity of the site, pedestrian footways are provided on both sides of the road, with access into the application site facilitated by a ramped access point off Victoria Street. PUFFIN crossing facilities are provided at the Victoria Street/Bolton Road signalised junction to the east of the site, with advanced cycle box markings on Victoria Road.

### **3.2.2 A58 Bolton Road**

A58 Bolton Road is a dual carriageway, within the vicinity of the site, which runs to the south of the site in a general east/west orientation, providing a connection to Bury Town Centre to the south-east of the site and towards Bolton Town Centre to the west. To the south-east of the site the road meets Victoria Street at a signalised junction.

Within the vicinity of the site, the eastbound carriageway has an approximate width of 9.5m which also includes a third dedicated bus lane on approach to the Bolton Road/Victoria Street junction. The westbound carriageway has an approximate width of 6.5m.

Bolton Road is subject to a 30mph speed-limit and has street-lighting provision within the vicinity of the site. Double-yellow line parking restrictions are also provided on both sides of the carriageway on the approach to the junction with Victoria Street.

Footways are provided on both sides of the carriageway within the vicinity of the site, with PUFFIN crossing facilities integrated into the northern and eastern signalised arms of the Bolton Road/Victoria Street junction. Cycle-advance box markings are also provided on each of the major approaches to the junction.

### **3.3 Road Safety**

Accident statistics have been obtained for the local highway network in the vicinity of the application site for the latest available five full years of data, covering 2018 – 2022, from the Department for Transport (DfT).

During the assessment period an incident of ‘slight’ severity was recorded on the northbound lane of the Victoria Street/A58 Bolton Road junction. Recorded in 2018, the incident involved a car and a motorcycle.

In 2018 an accident of ‘slight’ severity was reported at the wider site access junction, involving two cars.

On review of the data and given the nature of the local highway network and associated traffic volumes, it is considered that the existing accident record does not demonstrate any pre-existing patterns or trends of incidents that could be affected by the development proposals.

### **3.4 Baseline Traffic Data**

Classified traffic surveys were undertaken of the Victoria Retail Park / Victoria Street / Olive Street crossroad junction on Tuesday 4<sup>th</sup> June 2024, between 07:00 – 09:00, 12:00 – 13:00 and 16:00 – 18:00 and on Saturday 22<sup>nd</sup> June between 11:00 – 14:00.

Classified turning counts were obtained of the junction, analysis of the data identified the following peak hours periods and associated traffic flows in PCUs:

- AM Peak: 07:45 – 08:45 – 416 PCUs;
- Inter Peak: 12:00 – 13:00 – 429 PCUs;
- PM Peak: 16:45 – 17:45 – 559 PCUs; and
- Sat Peak: 11:15 – 12:15 – 700 PCUs.

Vehicle speeds were also recorded along Victoria Street, where the average northbound speed was recorded as 22mph and 21mph southbound. The 85<sup>th</sup> percentile speeds were also recorded as 26mph northbound and 24mph southbound.

The car parking occupancy of the existing Victoria Retail Park was also recorded every 15-minutes throughout the survey, which found a weekday peak occupancy of 72 spaces and a Saturday peak occupancy of 84.

## 4 Proposed Development

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### 4.1 General

The proposals for the site comprise the partial conversion of the existing 715m<sup>2</sup> non-food retail building into a drive-thru coffee shop (Unit 2), together with amendments to the associated car parking area and revisions to Unit 1 to provide a bin store and servicing area.

The drive-thru redevelopment will replace a vacant retail unit, which comprises a portion of the existing building. Minor modifications, including a reduction in the total floor area of the building, will be undertaken to accommodate construction of the drive-thru lane.

The redevelopment will reduce the existing total footprint of the building by approximately 55m<sup>2</sup> GFA, resulting in a total GFA of 185m<sup>2</sup> for the drive-thru coffee shop.

The proposed layout of the site can be found at **Appendix 1** of this report.

### 4.2 Proposed Site Access and Internal Arrangements

The existing vehicular access arrangements to the site from Victoria Street will be retained to serve the proposed redevelopment. The drive-thru lane serving the site will operate in a clockwise direction around the existing non-food retail building, with access to the drive-thru lane taken from the east of the retail unit and egress to its north-western corner.

A servicing area to the south of Unit 1 will be constructed, for use by vehicles servicing both units. An internal pedestrian route will also be provided, connecting the site's parking bays to the entrance of the main building.

A swept path analysis has been undertaken of the site access and internal arrangements for a 11.36m rigid vehicle, as the largest anticipated service vehicle, together with a large car along the drive-thru lane.

The vehicle tracking is shown on the plan included in **Appendix 2**.

### 4.3 Parking Provision

To facilitate the construction of the drive-thru lane the existing GFA of the unit will be reduced by approximately 55m<sup>2</sup>, with two standard parking bays removed and two mobility standard parking bays be relocated within the current parking area.

The relocated mobility standard parking bays will replace two child and parent parking bays at the site frontage. Additionally, six Electric Vehicle (EV) charging bays will be installed to the east of the redevelopment site.

Therefore, the proposed redevelopment will result in the loss of four parking bays from the existing wider site parking provision, resulting in a total of 99 parking bays remaining to serve the wider site.

A car parking occupancy survey was undertaken which recorded a peak occupancy of 84 vehicles. Therefore, given the reduction in the GFA of the building and car parking data, the revised parking provision resulting from the proposed redevelopment will have sufficient spare capacity to serve the wider retail park site. The capacity of the proposed parking provision is further discussed in **Chapter 6**.

The proposals also incorporate cycle parking provision in the form of eight 'Sheffield' cycle stands together with a cycle shelter, order to encourage access to the site by bike.

## 5 Access by Non-Car Modes

### 5.1 General

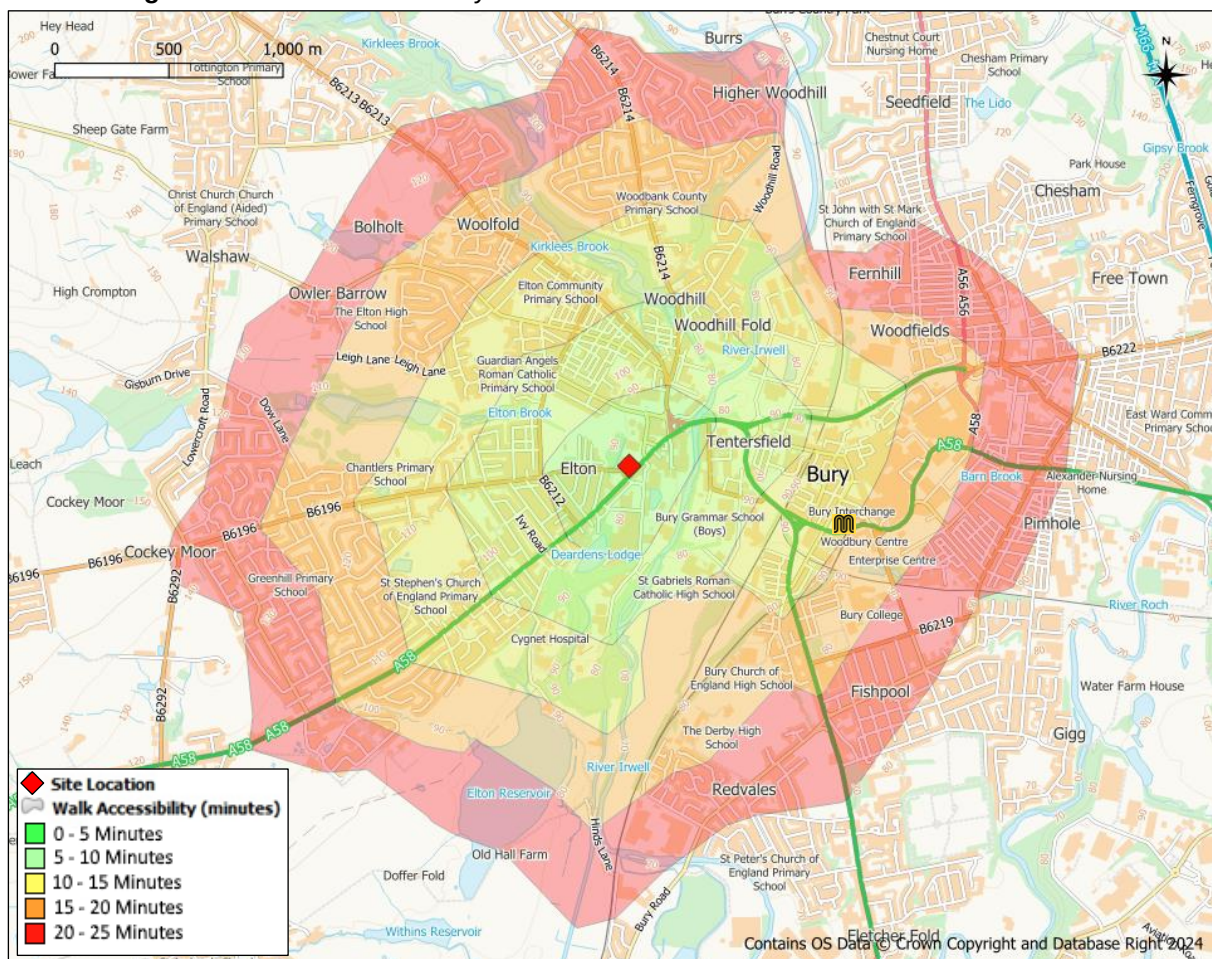
The location of the site offers the potential for customers and staff to access the site by sustainable modes of transport other than the private car. The opportunities for accessing the site by sustainable modes are discussed in more detail below.

### 5.2 Pedestrian Access

Relevant guidance provided in Manual for Streets (MfS) states that walking offers the greatest potential to replace short car trips, particularly those under 2km.

A walk accessibility plan is provided at **Figure 5.1**, highlighting the accessible walking area within approximately 2km of the site, equivalent to around a 25-minute walk.

**Figure 5.1 – Walk Accessibility Plan**



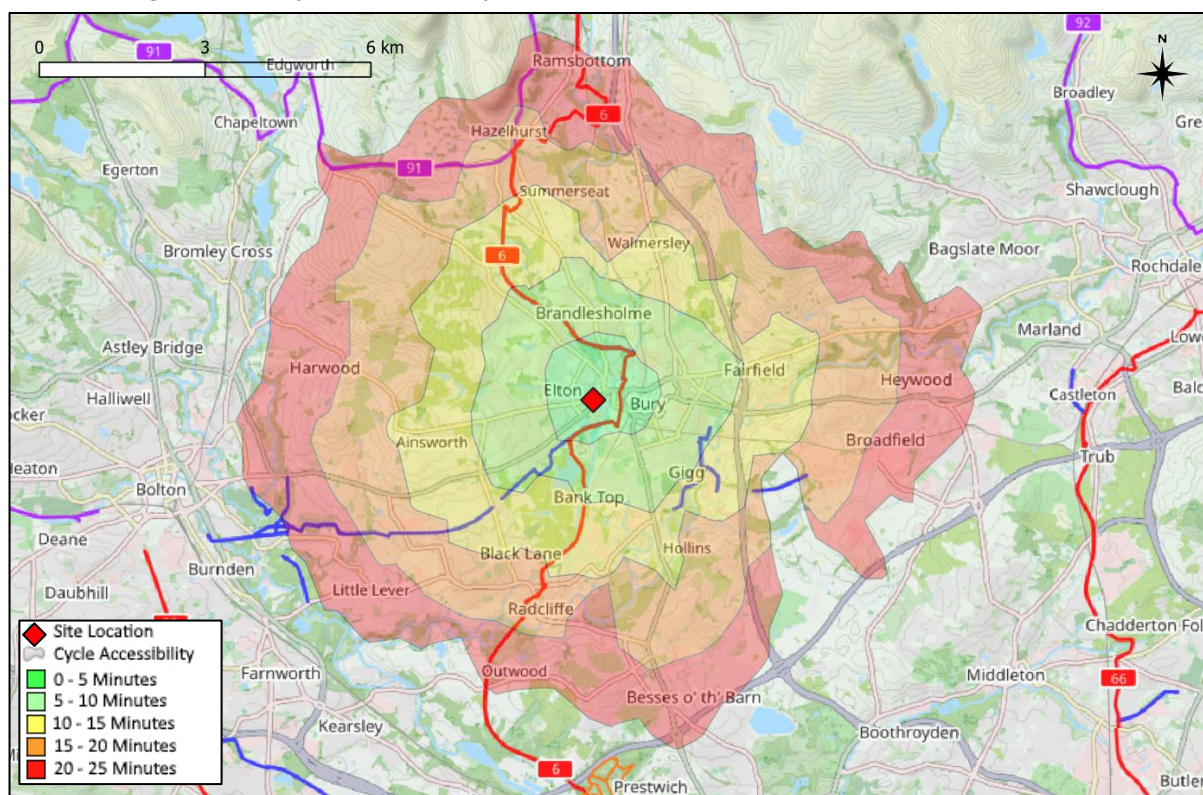
The plan indicates the residential area of Elton is accessible within a 10-minute walking distance of the site. Bury Town Centre, including the Bury Interchange Metrolink stop, is also indicated to be accessible within a 15-minute walking journey of the site.

Pedestrian access into the site is facilitated by the existing infrastructure within the vicinity of the site and its surrounding facilities.

### 5.3 Cycle Access

It is widely recognised that cycling has the potential to substitute shorter car journeys for work and leisure purposes. The areas reachable within around a 25-minute cycle journey, are identified at **Figure 5.2**:

**Figure 5.2 – Cycle Accessibility Plan**



Source: OpenStreetMap (2024)

The plan indicates that the significant majority of Bury is accessible within a 10-minute cycle journey of the site. The eastern outskirts of Bolton are accessible within a 25-minute cycle journey of the site. Other areas including the towns of Radcliffe, Heywood and Whitefield, are also located within the catchment, in addition to several Metrolink stops.

National Cycle Network (NCN) Route 6 runs to the east of the site and can be accessed within a five-minute cycle journey. NCN Route 6 runs in a general north/south orientation, providing mainly off-road connections from Bury Town Centre to Ramsbottom to the north and Radcliffe to the south of the site.

The site also benefits from the nearby provision of local cycle routes as shown in the Bury Local Cycle Map in **Figure 4.3**. The map indicates the provision of an on-road advisory cycle link adjacent of the site along A58 Bolton Road, allowing connection to the south-western residential areas of Bury and onto Bolton to the further west.

The map also indicates the provision of mixed on-road/off-road cycle links within the local infrastructure to the east and north-east of the site including NCN Route 6.

**Figure 4.3 – Bury Local Cycle Map**



Source: TfGM 2024

## 5.4 Public Transport Access

### 5.4.1 Bus

The nearest bus stops to the site are located 50-100m east of the redevelopment site along A58 Bolton Road, equivalent to around a one-minute walking journey, with the eastbound stop also supported by a dedicated bus filter lane. The bus stops benefit from a shelter, bus-box road markings, flagpole and timetable information.

A summary of the main bus routes which serve these stops is provided in **Table 5.1**:

**Table 5.1 – Bus Service Summary**

| Service | Route Description | Core Weekday Frequency |
|---------|-------------------|------------------------|
| 471     | Rochdale - Bolton | Every 10-Minutes       |
| 98      | Manchester - Bury | Every 30-Minutes       |
| 512     | Bury - Farnworth  | Hourly                 |

Source: Traveline

As the summary demonstrates there is a regular service available within the vicinity of the site to provide opportunities, particularly for staff, to travel to the site.

### 5.4.2 Light Rail

The nearest Metrolink station to the site is Bury Interchange, located approximately 1km to the south-east of the site, equivalent to an 18-minute walking distance. The station operates as the northern terminus to the Bury Line which runs from Manchester City Centre, making use of the former Manchester-to-Bury Railway Line.

Metrolink services depart every 12-minutes, with an increased frequency between Bury and Manchester City Centre during peak hours.

## 5.5 Accessibility Summary

Overall, it can be summarised that the site offers good potential for journeys to be undertaken by staff and customers by sustainable modes of travel.

## 6 Development Trip Generation

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### 6.1 General

This chapter provides an estimation of the likely levels of trip generation resulting from the proposed development on the adjacent highway network.

The redevelopment proposals include the conversion of an existing non-food retail unit to a drive-thru coffee shop, and therefore, do not seek to change the existing use class (Class E) of the retail unit.

However, the reduction of the current GFA of the building to facilitate the introduction of a drive-thru facility will add an additional operational element to the existing Class E unit, which has been assessed as part of the trip generation assessment below.

### 6.2 Trip Generation

#### 6.2.1 Proposed Drive-Thru Coffee Shop – Weekday

In order to quantify the potential trip generation of the proposed drive-thru facility, data from six drive-thru sites has been analysed to understand the breakdown of trips for customers dining in-house, those parking-up for take-away orders and those making use of the drive-thru facility. This data is included at **Appendix 3**.

On average across the sites, the data shows that just over 50% of the total trips use the drive-thru over a typical weekday, whilst just under 50% of trips are using the drive-thru at peak times. It is therefore, considered reasonable to assume that around 50% of drive-thru trips are typically made by those using the proposed drive-thru facility, as applied in the below trip generation.

Therefore, given the proposals are to retain an existing E-class unit, but to provide an additional operational element of a drive-thru lane, only 50% of the total GFA has been considered in the below trip generation assessment, in order to account for the uplift in vehicle trips.

The TRICS Database has been used to estimate the likely numbers of trips expected to be generated by the provision of a drive-thru lane by using the most similar appropriate category within the database. The selection criteria applied to derive the comparative sites are listed below:

- Land use – Hotel, Food & Drink, sub-category – Drive Through Coffee Shop;
- All London and Ireland sites excluded;
- Weekday or Saturday surveys only (as appropriate); and
- Selection by GFA.

A summary of the peak-hour trip rates is shown below in **Table 6.1** with the full TRICS output provided at **Appendix 4**:

**Table 6.1:** TRICS Trip Rates – Drive-Thru Coffee Shop (per 100m<sup>2</sup> GFA)

| Time Range      | Arrivals | Departures | Total   |
|-----------------|----------|------------|---------|
| 05:00-06:00     | 0.588    | 0          | 0.588   |
| 06:00-07:00     | 4.439    | 3.349      | 7.788   |
| 07:00-08:00     | 12.461   | 11.137     | 23.598  |
| 08:00-09:00     | 16.667   | 14.875     | 31.542  |
| 09:00-10:00     | 17.835   | 17.523     | 35.358  |
| 10:00-11:00     | 14.33    | 14.408     | 28.738  |
| 11:00-12:00     | 13.396   | 13.474     | 26.87   |
| 12:00-13:00     | 14.953   | 12.85      | 27.803  |
| 13:00-14:00     | 14.097   | 14.953     | 29.05   |
| 14:00-15:00     | 10.358   | 10.826     | 21.184  |
| 15:00-16:00     | 11.371   | 10.748     | 22.119  |
| 16:00-17:00     | 11.682   | 12.85      | 24.532  |
| 17:00-18:00     | 8.801    | 11.137     | 19.938  |
| 18:00-19:00     | 5.53     | 6.231      | 11.761  |
| 19:00-20:00     | 3.349    | 4.128      | 7.477   |
| 20:00-21:00     | 1.713    | 2.414      | 4.127   |
| 21:00-22:00     | 0.899    | 1.155      | 2.054   |
| Daily Trip Rate | 162.469  | 162.058    | 324.527 |

The above trip rates have been applied to half of the GFA of the proposed unit, which totals approximately 93m<sup>2</sup> (i.e., to represent a 50% increase in vehicular trips) to provide the anticipated vehicle movements. A parking accumulation exercise has also been undertaken for the proposed development, as shown in **Table 6.2**:

**Table 6.2:** Estimated Trip Generation – Drive-Thru Coffee Shop (per 93m<sup>2</sup> GFA)

| Time Range      | Arrivals | Departures | Total | Accumulation |
|-----------------|----------|------------|-------|--------------|
| 05:00-06:00     | 1        | 0          | 1     | 1            |
| 06:00-07:00     | 4        | 3          | 7     | 2            |
| 07:00-08:00     | 12       | 10         | 22    | 3            |
| 08:00-09:00     | 15       | 14         | 29    | 4            |
| 09:00-10:00     | 16       | 16         | 33    | 5            |
| 10:00-11:00     | 13       | 13         | 27    | 5            |
| 11:00-12:00     | 12       | 12         | 25    | 5            |
| 12:00-13:00     | 14       | 12         | 26    | 7            |
| 13:00-14:00     | 13       | 14         | 27    | 6            |
| 14:00-15:00     | 10       | 10         | 20    | 5            |
| 15:00-16:00     | 11       | 10         | 20    | 6            |
| 16:00-17:00     | 11       | 12         | 23    | 5            |
| 17:00-18:00     | 8        | 10         | 18    | 3            |
| 18:00-19:00     | 5        | 6          | 11    | 2            |
| 19:00-20:00     | 3        | 4          | 7     | 1            |
| 20:00-21:00     | 2        | 2          | 4     | 1            |
| 21:00-22:00     | 1        | 1          | 2     | 0            |
| Daily Trip Rate | 150      | 150        | 300   |              |

The results show that during the busiest peak hour (9:00-10:00) the drive-thru would result in around 33 additional two-way movements. This equates to around one vehicle either arriving or departing the site every two minutes during the busiest hour.

Additionally, the table shows that the peak parking accumulation of seven vehicles is anticipated to occur between 12:00-13:00, outside of peak use of the site and the traditional highway peak hours.

## 6.2.2 Proposed Drive-Thru Coffee Shop – Saturday

The same assessment has been undertaken for Saturday trip rate data as summarised at **Table 6.3** below with the full TRICS output included at **Appendix 4**.

**Table 6.3:** TRICS Trip Rates – Drive-Thru Restaurant (per 100m<sup>2</sup> GFA)

| Time Range      | Arrivals | Departures | Total   |
|-----------------|----------|------------|---------|
| 05:00-06:00     | 3.284    | 2.985      | 6.269   |
| 06:00-07:00     | 6.069    | 5.541      | 11.61   |
| 07:00-08:00     | 15.699   | 13.193     | 28.892  |
| 08:00-09:00     | 21.504   | 22.296     | 43.8    |
| 09:00-10:00     | 26.781   | 23.615     | 50.396  |
| 10:00-11:00     | 29.815   | 27.177     | 56.992  |
| 11:00-12:00     | 25.989   | 27.836     | 53.825  |
| 12:00-13:00     | 24.142   | 24.274     | 48.416  |
| 13:00-14:00     | 22.691   | 23.351     | 46.042  |
| 14:00-15:00     | 20.844   | 21.9       | 42.744  |
| 15:00-16:00     | 18.997   | 19.261     | 38.258  |
| 16:00-17:00     | 18.338   | 17.81      | 36.148  |
| 17:00-18:00     | 14.116   | 15.303     | 29.419  |
| 18:00-19:00     | 7.124    | 9.499      | 16.623  |
| 19:00-20:00     | 3.694    | 4.749      | 8.443   |
| 20:00-21:00     | 0.592    | 1.183      | 1.775   |
| Daily Trip Rate | 259.679  | 259.973    | 519.652 |

The above trip rates have been applied to the proposed development which has a GFA of around 93m<sup>2</sup>, resulting in the following anticipated vehicle movements for the development. A parking accumulation exercise has also been undertaken for the proposed development as shown in **Table 6.4**:

**Table 6.4:** Estimated Trip Generation – Drive-Thru Restaurant (93m<sup>2</sup> GFA)

| Time Range      | Arrivals | Departures | Total | Accumulation |
|-----------------|----------|------------|-------|--------------|
| 05:00-06:00     | 3        | 3          | 6     | 0            |
| 06:00-07:00     | 6        | 5          | 11    | 1            |
| 07:00-08:00     | 15       | 12         | 27    | 3            |
| 08:00-09:00     | 20       | 21         | 41    | 2            |
| 09:00-10:00     | 25       | 22         | 47    | 5            |
| 10:00-11:00     | 28       | 25         | 53    | 8            |
| 11:00-12:00     | 24       | 26         | 50    | 6            |
| 12:00-13:00     | 22       | 22         | 45    | 6            |
| 13:00-14:00     | 21       | 22         | 43    | 5            |
| 14:00-15:00     | 19       | 20         | 40    | 4            |
| 15:00-16:00     | 18       | 18         | 35    | 4            |
| 16:00-17:00     | 17       | 16         | 33    | 5            |
| 17:00-18:00     | 13       | 14         | 27    | 3            |
| 18:00-19:00     | 7        | 9          | 15    | 1            |
| 19:00-20:00     | 3        | 4          | 8     | 0            |
| 20:00-21:00     | 1        | 1          | 2     | 0            |
| Daily Trip Rate | 240      | 240        | 481   |              |

The results show that during the busiest Saturday peak hour (10:00-11:00) the proposed drive-thru would result in around 53 additional two-way movements. This would equate to around one vehicle movement every minute, during the busiest peak hour.

The above table also shows a peak parking accumulation of eight vehicles between 10:00-11:00.

Even allowing for the loss of four parking spaces to facilitate the construction of the drive-thru lane this results in 99 remaining parking spaces at the retail car park. The parking survey undertaken at the site showed a peak occupancy of 84 bays during the Saturday survey, therefore, even with the additional parking demand associated with the proposed development there remains sufficient capacity to serve the wider retail park.

### **6.2.3 Trip Types & Distribution**

It is noted that developments of this nature generate very low levels of 'new' or 'primary' vehicle trips. In terms of the types of trips that would be generated by the development, it is anticipated that the significant majority of trips would be linked with the existing uses present on the wider site and adjacent commercial and retail areas and that there would be negligible further trips that would involve additional vehicle movements on the local highway network.

### **6.2.4 Traffic Generation and Car Parking Summary**

The proposed redevelopment of the existing non-food retail unit to a smaller drive-thru coffee shop would provide updated facilities for the users of the wider retail area and in itself would not lead to any significant numbers of additional vehicle movements on the local highway network.

The car parking demand assessment has shown that there would be a peak accumulation of eight vehicles as a result of the development proposals, which would fit within the residual parking capacity based on the survey data. However, these vehicles could already be attributable to the lawful use of the site, with the proposals making the building smaller. Also, any linked trips across the retail park site have not been considered. Therefore, the actual number of vehicles accumulating as a result of the development would be lower than this.

## 7 Assessment Methodology

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### 7.1 Study Area

The study area has been identified as the existing Victoria Street / Victoria Retail Park / Olive Street crossroad junction.

### 7.2 Baseline Traffic Data

Classified turning count data was obtained for the junction on Tuesday 4<sup>th</sup> June 2024, between 07:00 – 09:00, 12:00 – 13:00 and 16:00 – 18:00 and on Saturday 22<sup>nd</sup> June between 11:00 – 14:00.

Analysis of the survey identified the following AM, Midday and PM weekday and Saturday peak hour periods, with the associated traffic figures presented in **Appendix 5**:

- AM: 07:45 – 08:45;
- Inter: 12:00 – 13:00;
- PM: 16:15 – 17:15; and
- Sat: 11:15 – 12:15.

### 7.3 Assessment Scenarios

Capacity assessments have been undertaken for the following scenarios to ensure that the surrounding local highway network can operate with the proposed development in place in 2024 and in 2029 to consider a +5 years post-application scenario:

- 2024 base;
- 2024 base + proposed development;
- 2029 (5 years post-application) base; and
- 2029 base + proposed development.

All assessment scenarios consider the AM, Midday and PM weekday and Saturday peak hour periods.

To account for background traffic growth, the observed traffic flows are typically factored using the DfT's TEMPRO 7.2 computer program using the National Trip End Model (NTEM) dataset 7.2 and the National Travel Model (NTM).

For the interrogation of the TEMPRO database the growth rates for 'car drivers only' were selected with the trip end type being defined as 'origin/destination', for the Middle Layer Super output Area (MSOA) Bury 009.

The traffic survey data collected in June 2024 was adjusted by applying a local growth rate. An NTM growth calculation for 'All' roads was weighted to each TEMPRO growth rate using the NTM dataset.

The growth factors are summarised in **Table 7.1**:

**Table 7.1 – TEMPRO Growth Factors**

|             | TEMPRO Growth Factors |        |        |        |
|-------------|-----------------------|--------|--------|--------|
|             | AM                    | Inter  | PM     | Sat    |
| 2024 – 2029 | 1.0503                | 1.0546 | 1.0496 | 1.0508 |

For the purposes of the assessment, the identified junction peak-hour traffic flows have been combined with the TRICS peak-hour trip generation figures to provide each 'with development' assessment scenario.

## 7.4 Development Distribution

As stated above developments of this nature are likely to generate relatively low levels of new or primary trips, where majority of trips would be drawn from traffic making use of the existing retail/commercial units within the vicinity of the site or from traffic already routing along the local highway network.

However, in order to inform a robust assessment of the site access junction, all trips have been assigned as 'new' trips. This is set out below and illustrated at **Appendix 6**:

- 'New' - (100%) development trip distribution has been based on the proportion of recorded traffic flows at the existing Victoria Street / Victoria Retail Park / Olive Street crossroad junction, with trips returning to their origin.

## 8 Anticipated Highway Impacts

This chapter describes the impact of the trips generated by the proposed development on the operation of the surrounding highway network.

### 8.1 Assessment Methodology

The JUNCTIONS 9 PICADY programme is used to assess the capacity and delay of priority junctions. The software program uses geometric parameters along with traffic flows for the junction to assess its performance. The outputs of the modelling program are the Ratio of the Flow to Capacity (RFC) and predicted queue lengths (MMQ) based on Passenger Car Units (PCUs) for individual approaches.

An RFC value between 0 and 0.85 indicates that the junction is operating well within capacity. An RFC value between 0.85 and 1.0 means that the junction is still operating within capacity, but localised delays and queues may occur. An RFC value over 1.0 signifies that the junction is operating above its predicted capacity. The following provides a summary of the operational analysis results in support of this assessment.

Stand-alone assessments have been undertaken using PICADY for both site access junctions for both AM, Midday and PM weekday and Saturday peak hour periods to understand the impact of the development proposals.

The following provides a summary of the operational analysis results of the assessed scenarios, with a full copy of the model outputs contained within **Appendix 6**.

### 8.2 Victoria Street / Victoria Retail Park / Olive Street Crossroad Junction

A PICADY model has been setup to assess the Victoria Street / Victoria Retail Park / Olive Street crossroad junction. The results of the 2024 'with' and 'without' development scenarios are summarised in **Table 8.1** and **Table 8.2**:

**Table 8.1** – Victoria Street/Victoria Retail Park/Olive Street Junction (Without Development 2024)

|                                    | 2024 Without Development |      |            |      |         |      |          |      |
|------------------------------------|--------------------------|------|------------|------|---------|------|----------|------|
|                                    | AM Peak                  |      | Inter Peak |      | PM Peak |      | Sat PEAK |      |
|                                    | RFC                      | MMQ  | RFC        | MMQ  | RFC     | MMQ  | RFC      | MMQ  |
| Victoria Retail Park (Site Access) | 0.09                     | 0.10 | 0.25       | 0.40 | 0.29    | 0.40 | 0.41     | 0.80 |
| Victoria Street (South)            | 0.16                     | 0.20 | 0.00       | 0.00 | 0.01    | 0.00 | 0.01     | 0.00 |
| Olive Street                       | 0.00                     | 0.00 | 0.00       | 0.00 | 0.00    | 0.00 | 0.00     | 0.00 |
| Victoria Street (North)            | 0.06                     | 0.10 | 0.09       | 0.10 | 0.09    | 0.20 | 0.14     | 0.30 |

**Table 8.2 – Victoria Street/Victoria Retail Park/Olive Street Junction (With Development 2024)**

|                                    | 2024 With Development |      |            |      |         |      |          |      |
|------------------------------------|-----------------------|------|------------|------|---------|------|----------|------|
|                                    | AM Peak               |      | Inter Peak |      | PM Peak |      | Sat PEAK |      |
|                                    | RFC                   | MMQ  | RFC        | MMQ  | RFC     | MMQ  | RFC      | MMQ  |
| Victoria Retail Park (Site Access) | 0.14                  | 0.20 | 0.31       | 0.50 | 0.33    | 0.50 | 0.47     | 1.00 |
| Victoria Street (South)            | 0.16                  | 0.30 | 0.00       | 0.00 | 0.01    | 0.00 | 0.01     | 0.00 |
| Olive Street                       | 0.00                  | 0.00 | 0.00       | 0.00 | 0.00    | 0.00 | 0.00     | 0.00 |
| Victoria Street (North)            | 0.09                  | 0.20 | 0.11       | 0.20 | 0.11    | 0.20 | 0.17     | 0.30 |

The results of the modelling show that the junction will continue to operate with significant levels of spare capacity and minimal queuing with the application of development related traffic in the 2024 scenario.

The results of the 2029 ‘with’ and ‘without’ development scenarios are summarised in **Table 8.3** and **Table 8.4**:

**Table 8.3 – Victoria Street/Victoria Retail Park/Olive Street Junction 2029**

|                                    | 2029 Without Development |      |            |      |         |      |          |      |
|------------------------------------|--------------------------|------|------------|------|---------|------|----------|------|
|                                    | AM Peak                  |      | Inter Peak |      | PM Peak |      | Sat PEAK |      |
|                                    | RFC                      | MMQ  | RFC        | MMQ  | RFC     | MMQ  | RFC      | MMQ  |
| Victoria Retail Park (Site Access) | 0.09                     | 0.10 | 0.27       | 0.40 | 0.30    | 0.50 | 0.44     | 0.80 |
| Victoria Street (South)            | 0.17                     | 0.30 | 0.00       | 0.00 | 0.01    | 0.00 | 0.01     | 0.00 |
| Olive Street                       | 0.00                     | 0.00 | 0.00       | 0.00 | 0.00    | 0.00 | 0.00     | 0.00 |
| Victoria Street (North)            | 0.06                     | 0.10 | 0.10       | 0.20 | 0.10    | 0.20 | 0.15     | 0.30 |

**Table 8. 4 – Victoria Street/Victoria Retail Park/Olive Street Junction 2029**

|                                    | 2029 With Development |      |            |      |         |      |          |      |
|------------------------------------|-----------------------|------|------------|------|---------|------|----------|------|
|                                    | AM Peak               |      | Inter Peak |      | PM Peak |      | Sat PEAK |      |
|                                    | RFC                   | MMQ  | RFC        | MMQ  | RFC     | MMQ  | RFC      | MMQ  |
| Victoria Retail Park (Site Access) | 0.15                  | 0.20 | 0.32       | 0.50 | 0.35    | 0.60 | 0.50     | 1.10 |
| Victoria Street (South)            | 0.17                  | 0.30 | 0.00       | 0.00 | 0.01    | 0.00 | 0.01     | 0.00 |
| Olive Street                       | 0.00                  | 0.00 | 0.00       | 0.00 | 0.00    | 0.00 | 0.00     | 0.00 |
| Victoria Street (North)            | 0.09                  | 0.20 | 0.12       | 0.20 | 0.11    | 0.20 | 0.18     | 0.30 |

The results again show that the junction will continue to operate with significant levels of spare capacity, with a maximum RFC of 0.50 and an associated queue of one vehicle at the Victoria Retail Park (site access) junction during the Saturday peak-hour period with the addition of development traffic.

Overall, the assessment of the development access junction suggests the junction would perform well with the addition of development traffic with spare capacity.

## 9 Summary and Conclusions

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Dynamic Transport Planning is instructed by Lion Share Properties to report on the anticipated highways and transportation considerations related with the proposed redevelopment of an existing retail store into a drive-thru coffee shop, off Victoria Street, Victoria Retail Park, Bury.

The proposed redevelopment of the site would see a reduction in the total GFA of the existing retail building and the construction of a new drive-thru lane with amendments to the existing car park.

A review of the highway accident data for the site access points and adjacent highway has been reviewed and identified no pre-existing patterns or trends of incidents that could be impacted by the redevelopment proposals.

A swept-path assessment has been undertaken which demonstrates that the largest anticipated service vehicle as well as a large car can be accommodated within the new servicing area to the south of the site.

A review of the site's accessibility has identified that the site is highly accessible by sustainable modes of travel, which would work to encourage access by sustainable modes for both staff and customers.

The TRICS database has been used to assess the trip generating potential of the proposed redevelopment, with a peak of 53 two-way trips during the busiest hour of the site. A parking accumulation exercise was also undertaken, which found a peak of eight vehicles associated with the proposed development.

A parking occupancy survey was undertaken which recorded a peak of 84 vehicles, even accounting for the loss of four car parking spaces resulting from the development, the remaining 99 parking spaces will, therefore, be sufficient to serve the wider retail park and proposed drive-thru unit.

The proposed partial redevelopment of the existing Class E building to provide a drive-thru coffee shop facility would provide updated facilities for the users of the surrounding retail areas and in itself would not lead to any significant numbers of additional vehicle movements on the local highway network.

Operational assessment of the site accesses demonstrates that the Victoria Street / Victoria Retail Park / Olive Street crossroad junction would operate with minimal levels of queuing and delay with the development traffic in both the opening year and five-years post opening.

The previous application at the site was refused, with four highways reasons for refusal, based on servicing, parking and site access, which have been comprehensively addressed by this resubmission.

The servicing arrangements for the adjacent unit have been confirmed by the operator, with additional vehicle tracking provided to demonstrate this.

A car parking survey and car park accumulation exercise have been undertaken which demonstrates that even with the addition of the development, headroom remains in the spare capacity available on site.

Additional swept path analysis and the relocation of the drive-thru lane height restrictor have addressed concerns regarding this.

A traffic survey and capacity model of the Victoria Street access junction have been undertaken to demonstrate that the access is able to accommodate any increase in vehicular activity associated with the development proposals.

It is concluded that, according to the tests set out in NPPF, it cannot be considered that there is a severe impact as a consequence of the proposed development. The proposed development is complementary and ancillary to the uses already on site, with a concept of development already approved in this location. The site is also situated in a highly accessible location and capacity assessments have shown no material impact on the local highway network.

Overall, on the basis of the above assessment it is concluded that there are no outstanding reasons why the proposed development should not be granted planning permission on highways grounds.

# Appendix 1

## Proposed Site Layout

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NOTE: DO NOT SCALE FROM THIS DRAWING. ALL ERRORS AND OMISSIONS TO BE REPORTED TO WALKER DESIGN. ALL INFORMATION TO BE CHECKED ON SITE PRIOR TO WORKS COMMENCING AND READ IN CONJUNCTION WITH ALL RELEVANT CONSULTANTS AND HEALTH AND SAFETY DRAWINGS AND INFORMATION.

| Area Schedule                                    |                           |       |
|--------------------------------------------------|---------------------------|-------|
| Description                                      | Gross Internal Area (GIA) |       |
|                                                  | Sq.m                      | Sq.ft |
| Site Area                                        | 2670                      | sq.m  |
| Existing Unit 1 - To be retained with amendments | 420                       | 4520  |
| Existing Unit 2 - COFFEE DT as amended           | 175                       | 1883  |
| Proposed patterned Concrete on Drive-Thru Lane   |                           |       |
| Buff paving to match existing                    |                           |       |
| Bark Chipping Landscape Area                     |                           |       |
| Concrete Trash & Cycle Area                      |                           |       |
| Existing Brick Pavilors                          |                           |       |
| Tactile Paving                                   |                           |       |
| Proposed Lighting Column                         |                           |       |
| Proposed Bollards                                |                           |       |
| Proposed Timber Fence                            |                           |       |
| Total                                            |                           |       |
| 595                                              |                           |       |
| 6403                                             |                           |       |
| Paving Schedule                                  |                           |       |
| Car parking Spaces                               | 10                        |       |
| Accessible Spaces                                | 2                         |       |
| EV Charging Spaces                               | 6                         |       |
| Total Spaces                                     | 18                        |       |

Lion Share Properties Ltd.

Client

Unit 1&2, Victoria Retail Park  
Bury

Project

Proposed Site Plan

Title

2613.P.103.D

Drawing No.

1:200

Scale@A1

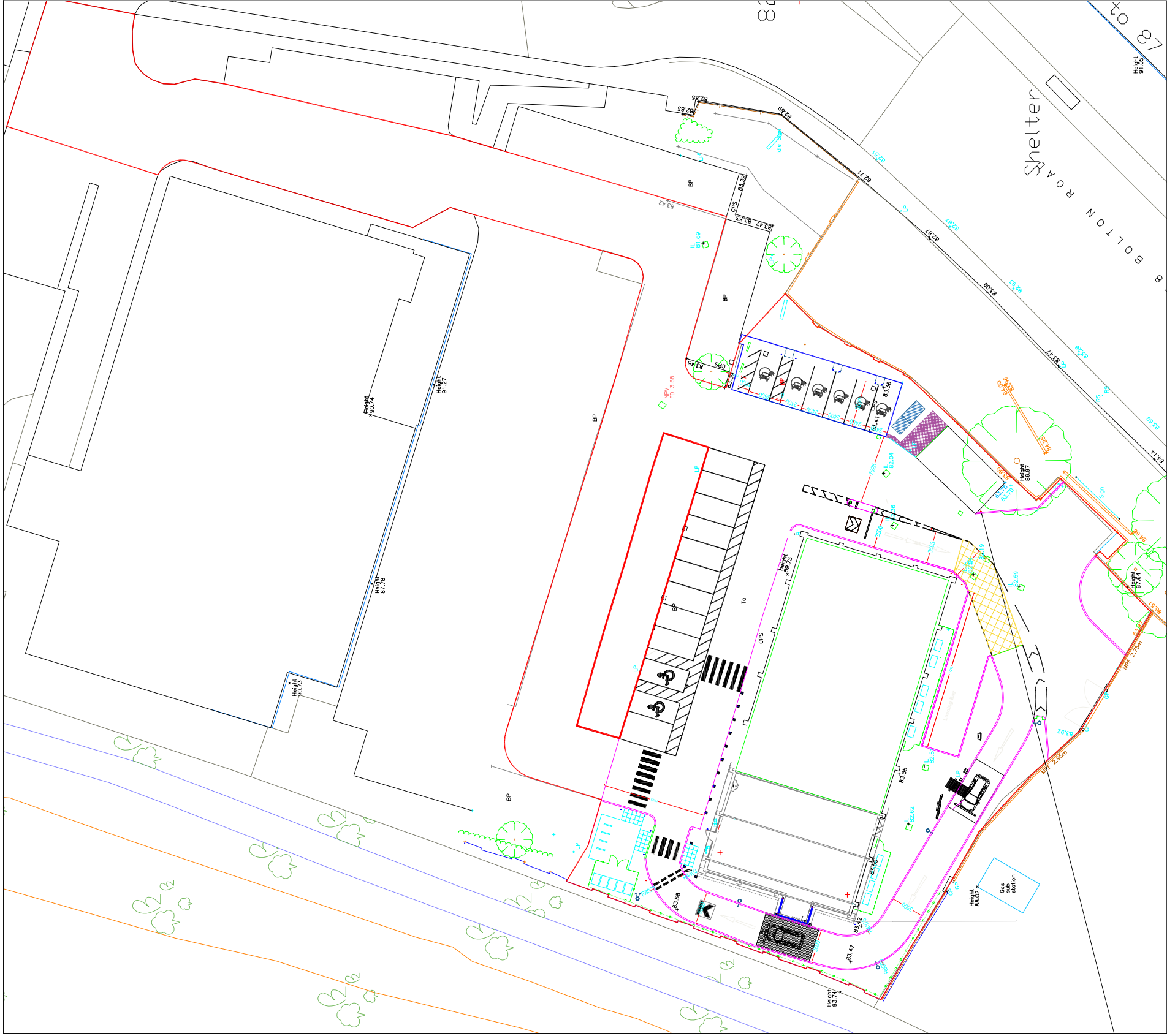
WALKER DESIGN

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Arena Approach, Horwich, Bolton, BL6 4LB  
Tel: 01204 837 822  
Email: info@walker-design.net

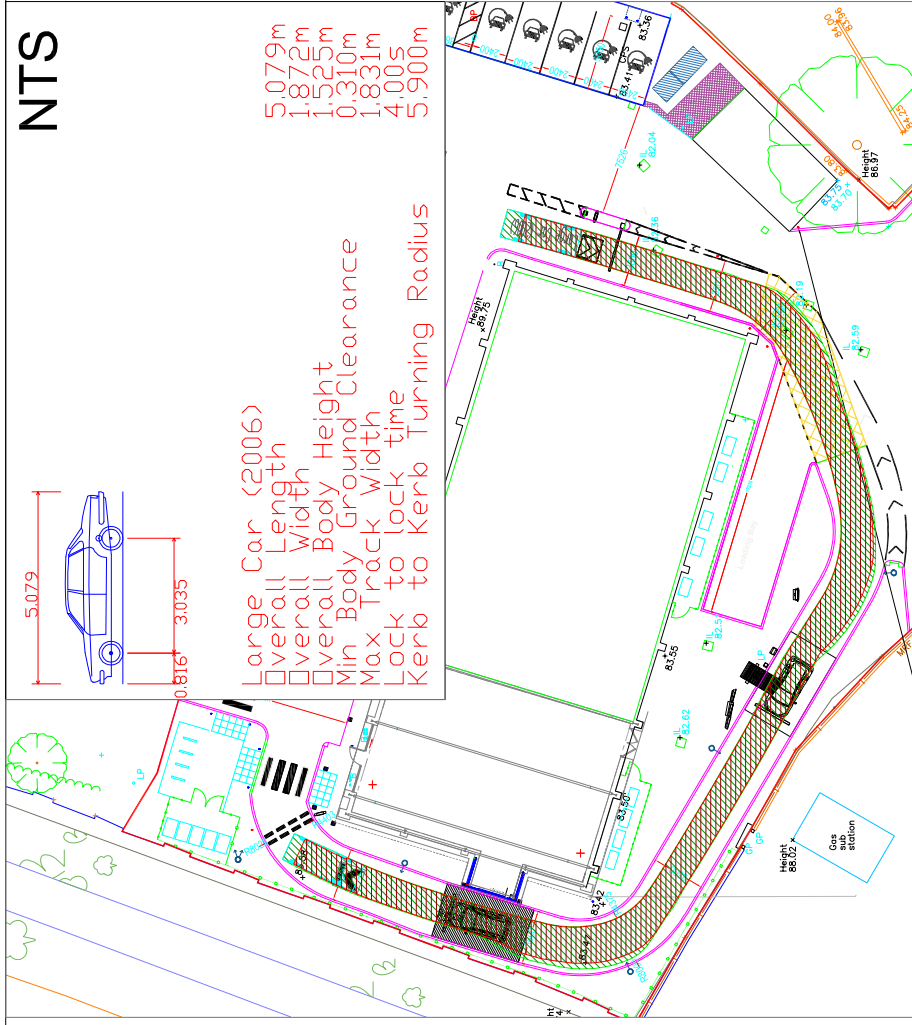
## Appendix 2

# Swept Path Analysis

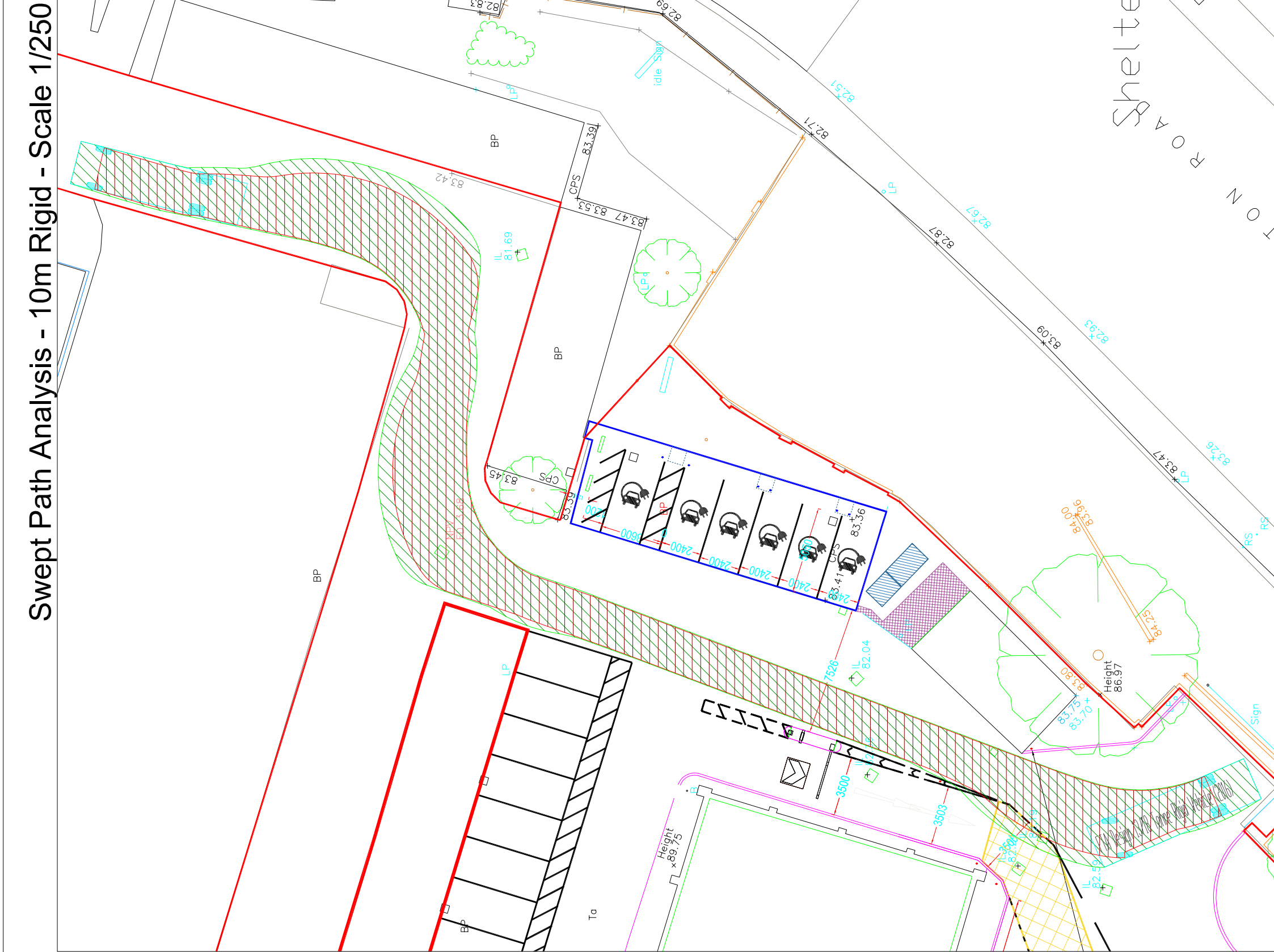
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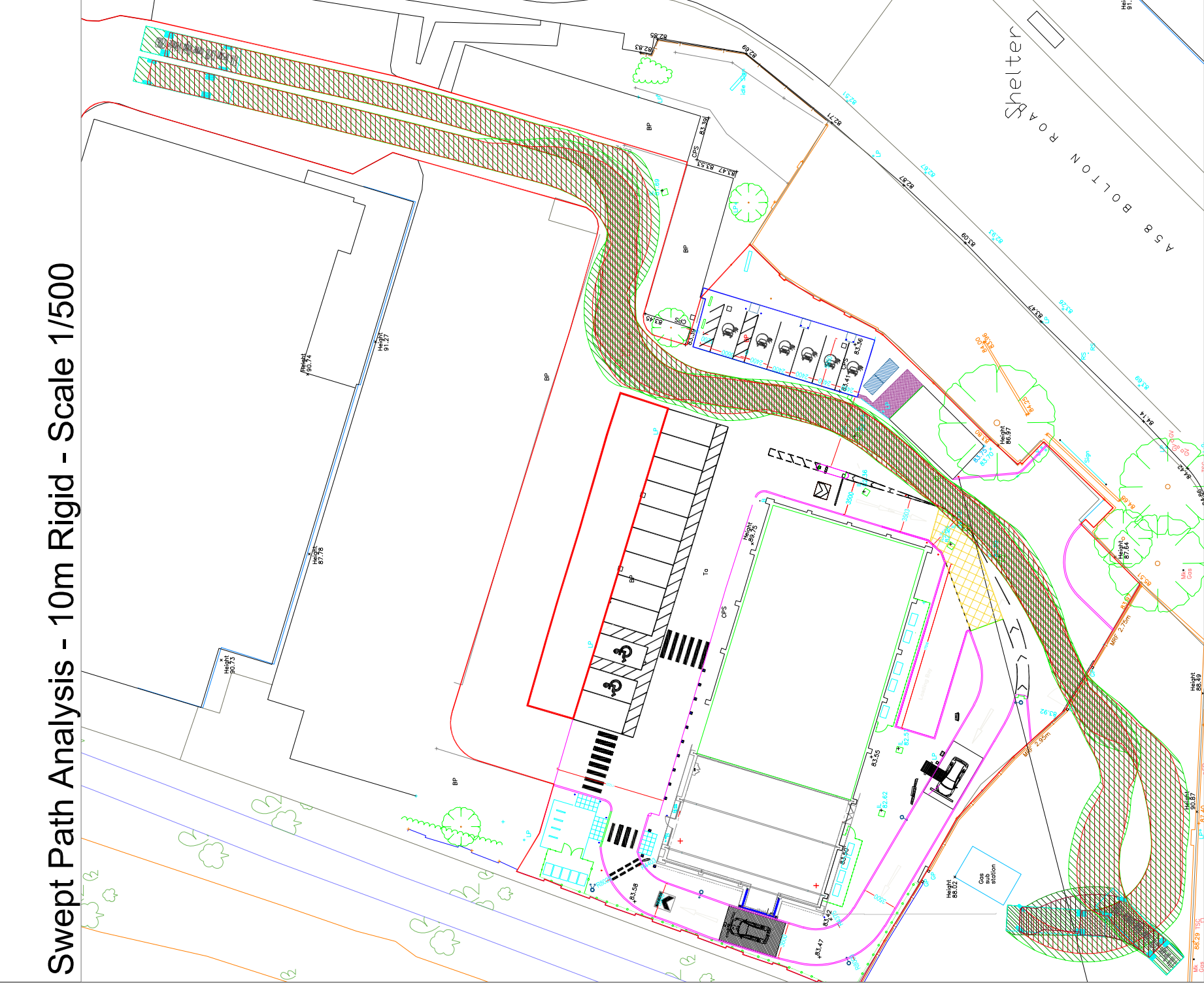
Proposed Site Layout - Scale 1/500



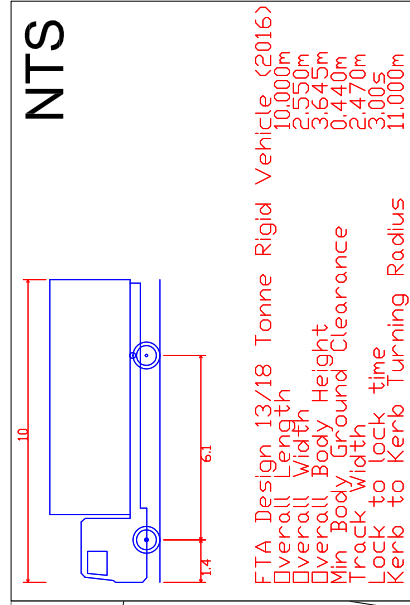
Swept Path Analysis - Large Car - Scale 1/500



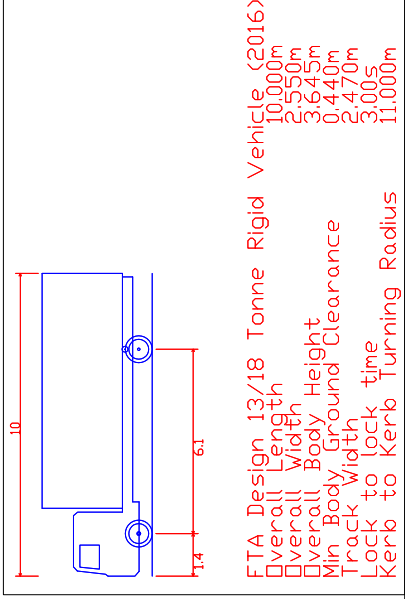
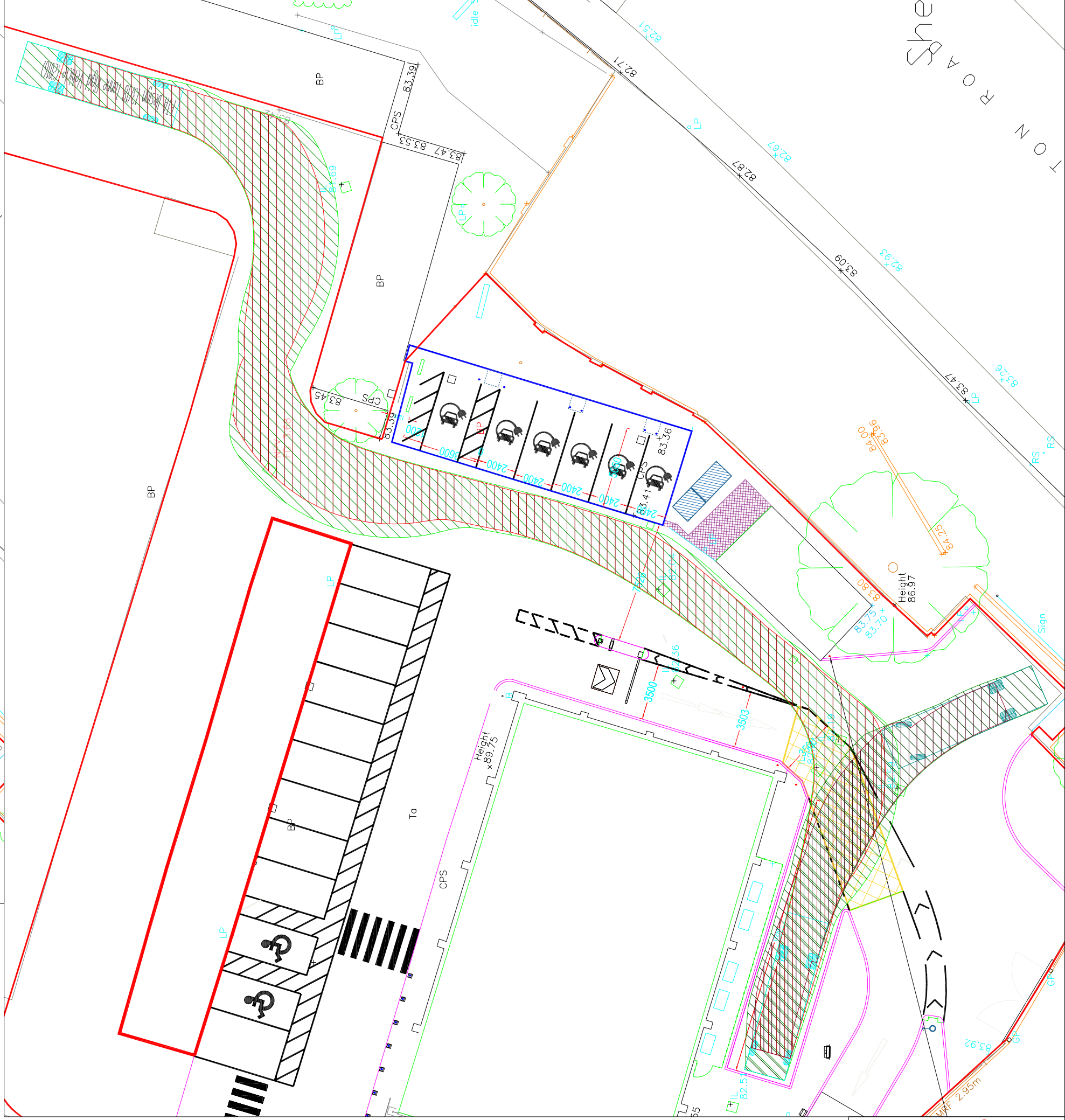
Swept Path Analysis - 10m Rigid - Scale 1/250



Swept Path Analysis - 10m Rigid - Scale 1/500



NTS

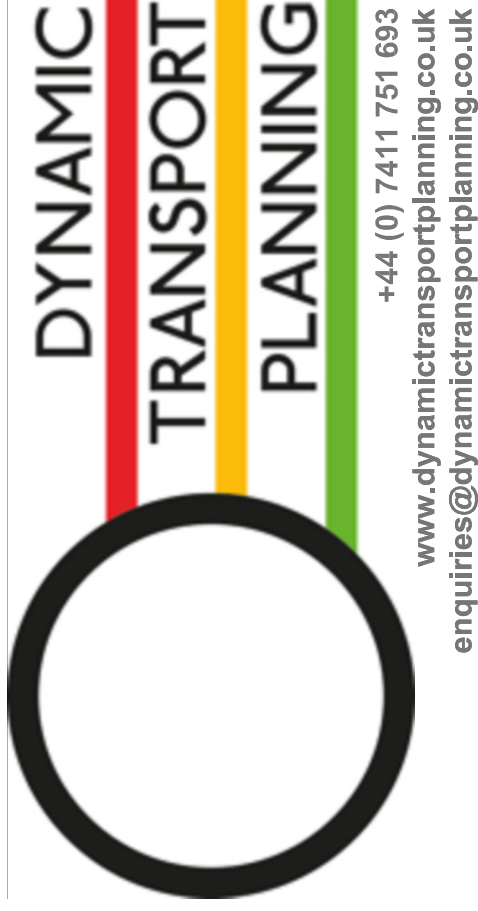


Tracking as agreed with Cadent in previous application

Notes

All levels are stated in metres.  
This drawing is to be read in colour.  
All dimensions are stated in Millimetres unless noted otherwise.  
Drawing provided for planning purposes and NOT for construction purposes.  
DTP are not responsible for the accuracy of data provided by clients or third parties.

| Rev. | Date     | Revisions                | Drawn |
|------|----------|--------------------------|-------|
| H    | 27.01.25 | Minor Update             | BF    |
| G    | 20.01.25 | Architect Update         | BF    |
| F    | 08.01.25 | Architect Update         | BF    |
| E    | 28.11.24 | Minor Site Layout Change | BF    |
| D    | 02.07.24 | Minor Site Layout Change | BF    |
| C    | 27.06.24 | Minor Site Layout Change | BF    |
| B    | 30.11.23 | Tracking Updated         | BF    |
| A    | 30.01.23 | Minor Site Layout Change | JB    |
| -    | 10.01.23 | First Issue              | JB    |



Client

Lion Share Properties Ltd

Project

Proposed Drive-Thru Coffee Shop  
Redevelopment, Victoria Retail Park,  
Bury

Drawing Title

Proposed Site Layout  
Swept Path Analysis  
10m Rigid & Large Car

|                |                    |          |                   |
|----------------|--------------------|----------|-------------------|
| Date           | January 2023       | Scale    | As Specified @ A1 |
| Drawn          | JB                 | Approved | GS                |
| Drawing Number | DTP/3704424/ATR001 |          |                   |
| Rev.           | H                  |          |                   |

## Appendix 3

### Transaction Data

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# Starbucks Drive Thru Sites - Transaction Data Average Results



STARBUCKS®

| Wednesday 16th May 2018 |        |          |            |                    |  |  |
|-------------------------|--------|----------|------------|--------------------|--|--|
| Time                    | Eat In | Take Out | Drive Thru | Total Transactions |  |  |
| 07:00                   | 4      | 7        | 22         | 31                 |  |  |
| 08:00                   | 5      | 11       | 27         | 42                 |  |  |
| 09:00                   | 7      | 14       | 21         | 39                 |  |  |
| 10:00                   | 7      | 14       | 11         | 33                 |  |  |
| 11:00                   | 7      | 11       | 13         | 28                 |  |  |
| 12:00                   | 9      | 12       | 10         | 29                 |  |  |
| 13:00                   | 10     | 12       | 11         | 30                 |  |  |
| 14:00                   | 7      | 7        | 9          | 21                 |  |  |
| 15:00                   | 10     | 6        | 5          | 18                 |  |  |
| 16:00                   | 8      | 8        | 10         | 23                 |  |  |
| 17:00                   | 7      | 8        | 8          | 23                 |  |  |
| 18:00                   | 7      | 7        | 8          | 19                 |  |  |
| 19:00                   | 2      | 2        | 2          | 3                  |  |  |
|                         |        |          |            |                    |  |  |
| Daily Total             | 88     | 119      | 156        | 338                |  |  |
| Percentage              | 26%    | 35%      | 46%        |                    |  |  |
| Peak Hour               | 19%    | 30%      | 54%        |                    |  |  |

| Friday 18th May 2018 |        |          |            |                    |  |  |
|----------------------|--------|----------|------------|--------------------|--|--|
| Time                 | Eat In | Take Out | Drive Thru | Total Transactions |  |  |
| 07:00                | 3      | 13       | 25         | 38                 |  |  |
| 08:00                | 9      | 10       | 26         | 42                 |  |  |
| 09:00                | 11     | 10       | 18         | 36                 |  |  |
| 10:00                | 11     | 8        | 14         | 30                 |  |  |
| 11:00                | 9      | 9        | 13         | 27                 |  |  |
| 12:00                | 10     | 12       | 13         | 32                 |  |  |
| 13:00                | 8      | 11       | 10         | 30                 |  |  |
| 14:00                | 6      | 9        | 10         | 22                 |  |  |
| 15:00                | 9      | 10       | 9          | 23                 |  |  |
| 16:00                | 7      | 11       | 14         | 24                 |  |  |
| 17:00                | 4      | 7        | 9          | 21                 |  |  |
| 18:00                | 2      | 7        | 7          | 14                 |  |  |
| 19:00                | 0      | 2        | 2          | 4                  |  |  |
|                      |        |          |            |                    |  |  |
| Daily Total          | 88     | 117      | 168        | 344                |  |  |
| Percentage           | 26%    | 34%      | 49%        |                    |  |  |
| Peak Hour            | 20%    | 27%      | 55%        |                    |  |  |

| Saturday 19th May 2018 |        |          |            |                    |  |  |
|------------------------|--------|----------|------------|--------------------|--|--|
| Time                   | Eat In | Take Out | Drive Thru | Total Transactions |  |  |
| 07:00                  | 1      | 5        | 9          | 13                 |  |  |
| 08:00                  | 4      | 7        | 17         | 23                 |  |  |
| 09:00                  | 6      | 8        | 16         | 26                 |  |  |
| 10:00                  | 8      | 8        | 19         | 31                 |  |  |
| 11:00                  | 7      | 8        | 17         | 30                 |  |  |
| 12:00                  | 6      | 10       | 12         | 26                 |  |  |
| 13:00                  | 7      | 7        | 10         | 20                 |  |  |
| 14:00                  | 5      | 7        | 13         | 23                 |  |  |
| 15:00                  | 7      | 6        | 8          | 19                 |  |  |
| 16:00                  | 5      | 6        | 6          | 15                 |  |  |
| 17:00                  | 4      | 7        | 7          | 15                 |  |  |
| 18:00                  | 3      | 5        | 5          | 11                 |  |  |
| 19:00                  | 0      | 2        | 1          | 3                  |  |  |
|                        |        |          |            |                    |  |  |
| Daily Total            | 63     | 85       | 139        | 256                |  |  |
| Percentage             | 25%    | 33%      | 54%        |                    |  |  |
| Peak Hour              | 23%    | 40%      | 46%        |                    |  |  |

Peak Hour percentage taken for 8-9AM and 5-6PM Weekday, 12-1pm Saturday  
Hourly Totals other than 19:00 (15 mins only)

Sites included: Preston; Deeside; Battlefield; Markham Vale; Stansted; St Helens

The above data has been provided for the sole purpose of estimating traffic movements for planning usage and should not be copied or reproduced without prior permission

## Appendix 4

# TRICS Output Report

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**TRIP RATE CALCULATION SELECTION PARAMETERS:**

Land Use : 06 - HOTEL, FOOD & DRINK  
 Category : J - DRIVE THROUGH COFFEE SHOP

**TOTAL VEHICLES**Selected regions and areas:

|           |                          |        |
|-----------|--------------------------|--------|
| <b>04</b> | <b>EAST ANGLIA</b>       |        |
|           | SF SUFFOLK               | 1 days |
| <b>05</b> | <b>EAST MIDLANDS</b>     |        |
|           | NM WEST NORTHAMPTONSHIRE | 1 days |
| <b>06</b> | <b>WEST MIDLANDS</b>     |        |
|           | HE HEREFORDSHIRE         | 1 days |
|           | WK WARWICKSHIRE          | 1 days |
| <b>11</b> | <b>SCOTLAND</b>          |        |
|           | PK PERTH & KINROSS       | 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: 140 to 420 (units: sqm)  
 Range Selected by User: 125 to 420 (units: sqm)

Parking Spaces Range: All Surveys Included

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/10 to 1/9/22

*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:

|           |        |
|-----------|--------|
| Tuesday   | 1 days |
| Wednesday | 2 days |
| Friday    | 2 days |

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

Selected survey types:

|                       |        |
|-----------------------|--------|
| Manual count          | 5 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                     | 4 |
| Free Standing (PPS6 Out of Town) | 1 |

*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     | 1 |
| Out of Town     | 1 |
| 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.*

Inclusion of Servicing Vehicles Counts:

|                             |                   |
|-----------------------------|-------------------|
| Servicing vehicles Included | X days - Selected |
| Servicing vehicles Excluded | 5 days - Selected |

**Secondary Filtering selection:**Use Class:

|           |        |
|-----------|--------|
| Not Known | 5 days |
|-----------|--------|

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

Population within 500m Range:

All Surveys Included

Population within 1 mile:

|                  |        |
|------------------|--------|
| 1,000 or Less    | 1 days |
| 1,001 to 5,000   | 2 days |
| 10,001 to 15,000 | 1 days |
| 20,001 to 25,000 | 1 days |

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

Population within 5 miles:

|                    |        |
|--------------------|--------|
| 5,001 to 25,000    | 2 days |
| 25,001 to 50,000   | 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 | 3 days |
| 1.1 to 1.5 | 2 days |

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

Travel Plan:

|    |        |
|----|--------|
| No | 5 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 | 5 days |
|-----------------|--------|

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

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

LIST OF SITES relevant to selection parameters

|          |                                  |                       |  |                              |
|----------|----------------------------------|-----------------------|--|------------------------------|
| <b>1</b> | <b>HE-06-J-01</b>                | <b>STARBUCKS</b>      |  | <b>HEREFORDSHIRE</b>         |
|          | LEDBURY ROAD                     |                       |  |                              |
|          | ROSS-ON-WYE                      |                       |  |                              |
|          | Edge of Town                     |                       |  |                              |
|          | Retail Zone                      |                       |  |                              |
|          | Total Gross floor area:          | 305 sqm               |  |                              |
|          | Survey date: TUESDAY             | 24/11/20              |  | Survey Type: MANUAL          |
| <b>2</b> | <b>NM-06-J-01</b>                | <b>BEWICHD COFFEE</b> |  | <b>WEST NORTHAMPTONSHIRE</b> |
|          | DARNELL WAY                      |                       |  |                              |
|          | NORTHAMPTON                      |                       |  |                              |
|          | Edge of Town                     |                       |  |                              |
|          | Industrial Zone                  |                       |  |                              |
|          | Total Gross floor area:          | 140 sqm               |  |                              |
|          | Survey date: FRIDAY              | 15/10/21              |  | Survey Type: MANUAL          |
| <b>3</b> | <b>PK-06-J-01</b>                | <b>STARBUCKS</b>      |  | <b>PERTH &amp; KINROSS</b>   |
|          | THE TRIANGLE                     |                       |  |                              |
|          | PERTH                            |                       |  |                              |
|          | INVERALMOND                      |                       |  |                              |
|          | Edge of Town                     |                       |  |                              |
|          | Industrial Zone                  |                       |  |                              |
|          | Total Gross floor area:          | 219 sqm               |  |                              |
|          | Survey date: WEDNESDAY           | 20/04/22              |  | Survey Type: MANUAL          |
| <b>4</b> | <b>SF-06-J-01</b>                | <b>COSTA COFFEE</b>   |  | <b>SUFFOLK</b>               |
|          | THORNEY WAY                      |                       |  |                              |
|          | STOWMARKET                       |                       |  |                              |
|          | Edge of Town                     |                       |  |                              |
|          | No Sub Category                  |                       |  |                              |
|          | Total Gross floor area:          | 200 sqm               |  |                              |
|          | Survey date: FRIDAY              | 25/09/20              |  | Survey Type: MANUAL          |
| <b>5</b> | <b>WK-06-J-01</b>                | <b>STARBUCKS</b>      |  | <b>WARWICKSHIRE</b>          |
|          | A46 WARWICK BY PASS              |                       |  |                              |
|          | NEAR WARWICK                     |                       |  |                              |
|          | BUDBROOKE SERVICES               |                       |  |                              |
|          | Free Standing (PPS6 Out of Town) |                       |  |                              |
|          | Out of Town                      |                       |  |                              |
|          | Total Gross floor area:          | 420 sqm               |  |                              |
|          | Survey date: WEDNESDAY           | 25/09/19              |  | 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.

TRIP RATE for Land Use 06 - HOTEL, FOOD &amp; DRINK/J - DRIVE THROUGH COFFEE SHOP

**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 | 2        | 170        | 0.588         | 2          | 170        | 0.000         | 2        | 170        | 0.588         |
| 06:00 - 07:00 | 5        | 257        | 4.439         | 5          | 257        | 3.349         | 5        | 257        | 7.788         |
| 07:00 - 08:00 | 5        | 257        | 12.461        | 5          | 257        | 11.137        | 5        | 257        | 23.598        |
| 08:00 - 09:00 | 5        | 257        | 16.667        | 5          | 257        | 14.875        | 5        | 257        | 31.542        |
| 09:00 - 10:00 | <b>5</b> | <b>257</b> | <b>17.835</b> | <b>5</b>   | <b>257</b> | <b>17.523</b> | <b>5</b> | <b>257</b> | <b>35.358</b> |
| 10:00 - 11:00 | 5        | 257        | 14.330        | 5          | 257        | 14.408        | 5        | 257        | 28.738        |
| 11:00 - 12:00 | 5        | 257        | 13.396        | 5          | 257        | 13.474        | 5        | 257        | 26.870        |
| 12:00 - 13:00 | 5        | 257        | 14.953        | 5          | 257        | 12.850        | 5        | 257        | 27.803        |
| 13:00 - 14:00 | 5        | 257        | 14.097        | 5          | 257        | 14.953        | 5        | 257        | 29.050        |
| 14:00 - 15:00 | 5        | 257        | 10.358        | 5          | 257        | 10.826        | 5        | 257        | 21.184        |
| 15:00 - 16:00 | 5        | 257        | 11.371        | 5          | 257        | 10.748        | 5        | 257        | 22.119        |
| 16:00 - 17:00 | 5        | 257        | 11.682        | 5          | 257        | 12.850        | 5        | 257        | 24.532        |
| 17:00 - 18:00 | 5        | 257        | 8.801         | 5          | 257        | 11.137        | 5        | 257        | 19.938        |
| 18:00 - 19:00 | 5        | 257        | 5.530         | 5          | 257        | 6.231         | 5        | 257        | 11.761        |
| 19:00 - 20:00 | 5        | 257        | 3.349         | 5          | 257        | 4.128         | 5        | 257        | 7.477         |
| 20:00 - 21:00 | 5        | 257        | 1.713         | 5          | 257        | 2.414         | 5        | 257        | 4.127         |
| 21:00 - 22:00 | 3        | 260        | 0.899         | 3          | 260        | 1.155         | 3        | 260        | 2.054         |
| 22:00 - 23:00 |          |            |               |            |            |               |          |            |               |
| 23:00 - 24:00 |          |            |               |            |            |               |          |            |               |
| Total Rates:  |          |            | 162.469       |            |            | 162.058       |          |            | 324.527       |

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:           | 140 - 420 (units: sqm) |
| Survey date range:                            | 01/01/10 - 01/09/22    |
| Number of weekdays (Monday-Friday):           | 5                      |
| Number of Saturdays:                          | 0                      |
| Number of Sundays:                            | 0                      |
| Surveys automatically removed from selection: | 0                      |
| Surveys manually removed from selection:      | 0                      |

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.

Calculation Reference: AUDIT-262601-230115-0108

**TRIP RATE CALCULATION SELECTION PARAMETERS:**

Land Use : 01 - RETAIL  
 Category : G - OTHER INDIVIDUAL NON-FOOD SUPERSTORE

**TOTAL VEHICLES**Selected regions and areas:

**02 SOUTH EAST**  
 KC KENT 1 days  
**10 WALES**  
 DB DENBIGHSHIRE 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: 470 to 800 (units: sqm)  
 Range Selected by User: 100 to 1000 (units: sqm)

Parking Spaces Range: All Surveys Included

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/10 to 1/09/22

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

Selected survey days:

Saturday 2 days

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

Selected survey types:

Manual count 2 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 2

*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:

Commercial Zone 1  
 Built-Up Zone 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.*

Inclusion of Servicing Vehicles Counts:

Servicing vehicles Included X days - Selected  
 Servicing vehicles Excluded 2 days - Selected

**Secondary Filtering selection:**Use Class:

E(a) 2 days

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

Population within 500m Range:

All Surveys Included

Population within 1 mile:

20,001 to 25,000 1 days

25,001 to 50,000 1 days

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

Population within 5 miles:

50,001 to 75,000 1 days

125,001 to 250,000 1 days

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

Car ownership within 5 miles:

1.1 to 1.5 2 days

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

Petrol filling station:

Included in the survey count 0 days

Excluded from count or no filling station 2 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:

No 2 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 2 days

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

LIST OF SITES relevant to selection parameters

|          |                         |                      |                     |
|----------|-------------------------|----------------------|---------------------|
| <b>1</b> | <b>DB-01-G-01</b>       | <b>BRANTANO</b>      | <b>DENBIGHSHIRE</b> |
|          | GREENFIELD PLACE        |                      |                     |
|          | RHYL                    |                      |                     |
|          | Edge of Town Centre     |                      |                     |
|          | Commercial Zone         |                      |                     |
|          | Total Gross floor area: | 800 sqm              |                     |
|          | Survey date: SATURDAY   | 22/10/11             | Survey Type: MANUAL |
| <b>2</b> | <b>KC-01-G-04</b>       | <b>MAJESTIC WINE</b> | <b>KENT</b>         |
|          | LONDON ROAD             |                      |                     |
|          | MAIDSTONE               |                      |                     |
|          | ROCKY HILL              |                      |                     |
|          | Edge of Town Centre     |                      |                     |
|          | Built-Up Zone           |                      |                     |
|          | Total Gross floor area: | 470 sqm              |                     |
|          | Survey date: SATURDAY   | 12/05/18             | 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.*

TRIP RATE for Land Use 01 - RETAIL/G - OTHER INDIVIDUAL NON-FOOD SUPERSTORE

**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 |          |            |              |            |            |              |          |            |               |
| 08:00 - 09:00 | 2        | 635        | 0.472        | 2          | 635        | 0.630        | 2        | 635        | 1.102         |
| 09:00 - 10:00 | 2        | 635        | 1.181        | 2          | 635        | 1.417        | 2        | 635        | 2.598         |
| 10:00 - 11:00 | 2        | 635        | 2.756        | 2          | 635        | 2.362        | 2        | 635        | 5.118         |
| 11:00 - 12:00 | 2        | 635        | 2.756        | 2          | 635        | 2.441        | 2        | 635        | 5.197         |
| 12:00 - 13:00 | 2        | 635        | 3.543        | 2          | 635        | 3.386        | 2        | 635        | 6.929         |
| 13:00 - 14:00 | 2        | 635        | 4.331        | 2          | 635        | 3.780        | 2        | 635        | 8.111         |
| 14:00 - 15:00 | <b>2</b> | <b>635</b> | <b>5.039</b> | <b>2</b>   | <b>635</b> | <b>5.906</b> | <b>2</b> | <b>635</b> | <b>10.945</b> |
| 15:00 - 16:00 | 2        | 635        | 3.701        | 2          | 635        | 3.937        | 2        | 635        | 7.638         |
| 16:00 - 17:00 | 2        | 635        | 3.307        | 2          | 635        | 3.228        | 2        | 635        | 6.535         |
| 17:00 - 18:00 | 2        | 635        | 1.260        | 2          | 635        | 1.417        | 2        | 635        | 2.677         |
| 18:00 - 19:00 | 2        | 635        | 0.236        | 2          | 635        | 0.315        | 2        | 635        | 0.551         |
| 19:00 - 20:00 | 2        | 635        | 0.000        | 2          | 635        | 0.236        | 2        | 635        | 0.236         |
| 20:00 - 21:00 | 1        | 800        | 0.000        | 1          | 800        | 0.000        | 1        | 800        | 0.000         |
| 21:00 - 22:00 |          |            |              |            |            |              |          |            |               |
| 22:00 - 23:00 |          |            |              |            |            |              |          |            |               |
| 23:00 - 24:00 |          |            |              |            |            |              |          |            |               |
| Total Rates:  |          |            | 28.582       |            |            | 29.055       |          |            | 57.637        |

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**

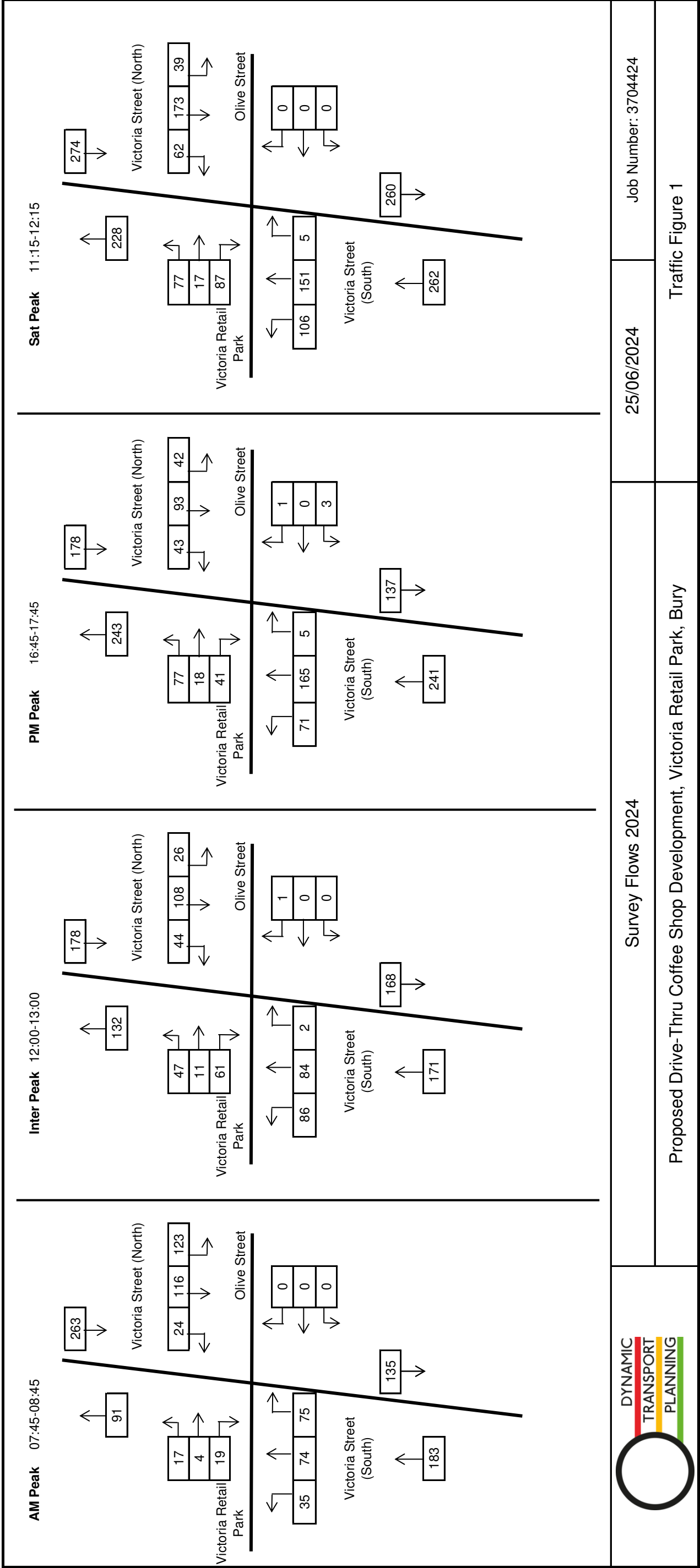
|                                               |                        |
|-----------------------------------------------|------------------------|
| Trip rate parameter range selected:           | 470 - 800 (units: sqm) |
| Survey date range:                            | 01/01/10 - 01/09/22    |
| Number of weekdays (Monday-Friday):           | 0                      |
| Number of Saturdays:                          | 2                      |
| Number of Sundays:                            | 0                      |
| Surveys automatically removed from selection: | 0                      |
| Surveys manually removed from selection:      | 0                      |

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.

## Appendix 5

# Traffic Figures

---



Sat Peak

11:15-12:15

274

228

77

17

87

62

173

39

Victoria Retail Park

Victoria Street (South)

106

151

5

0

0

0

260

262

Victoria Street (North)

Olive Street

DYNAMIC

TRANSPORT

PLANNING

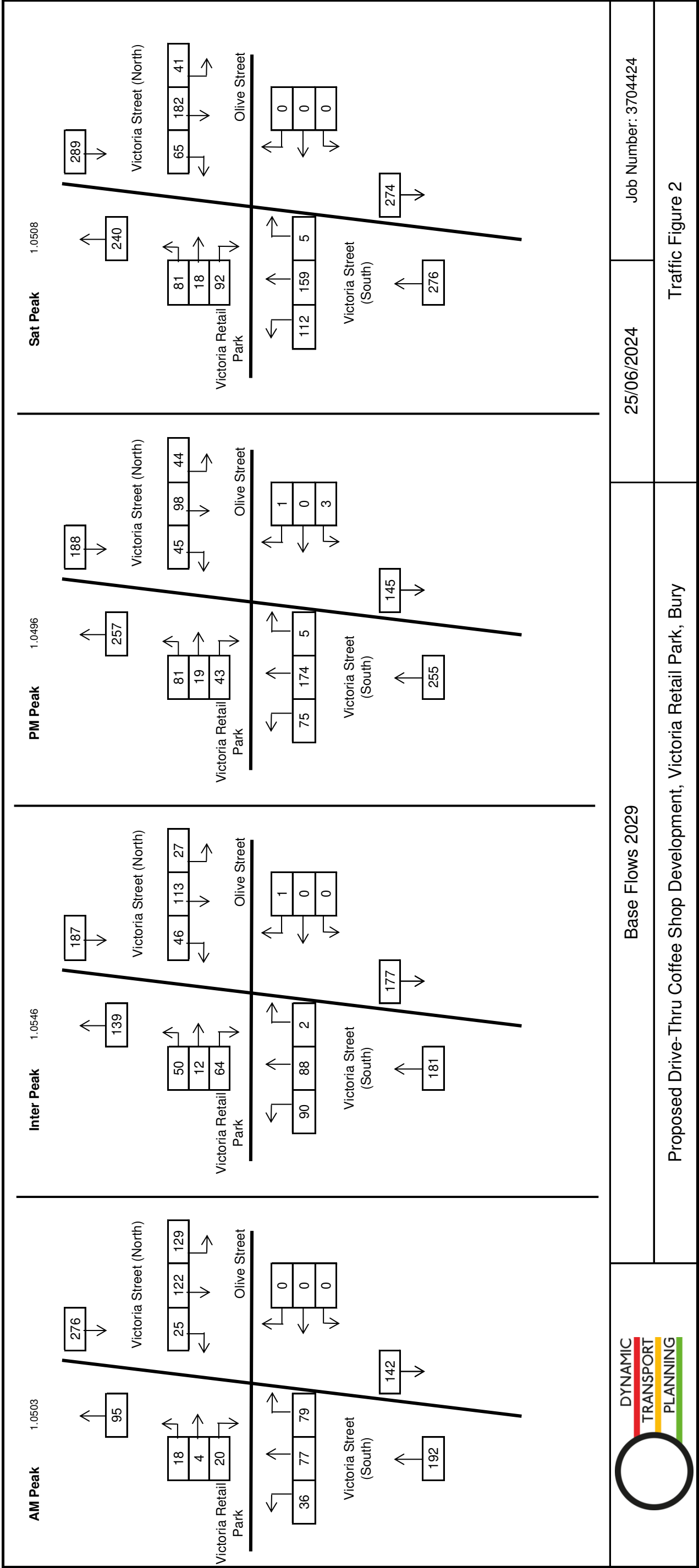
Survey Flows 2024

25/06/2024

Job Number: 3704424

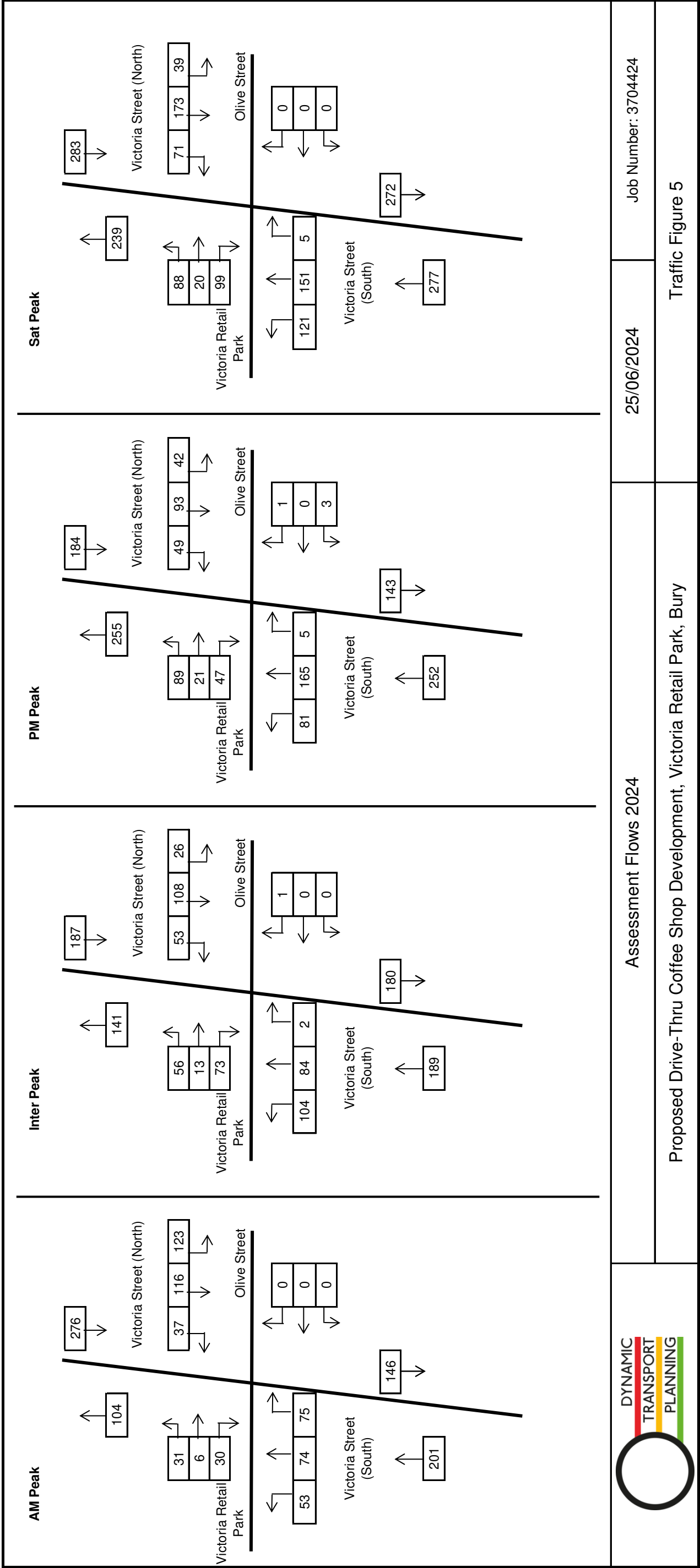
Proposed Drive-Thru Coffee Shop Development, Victoria Retail Park, Bury

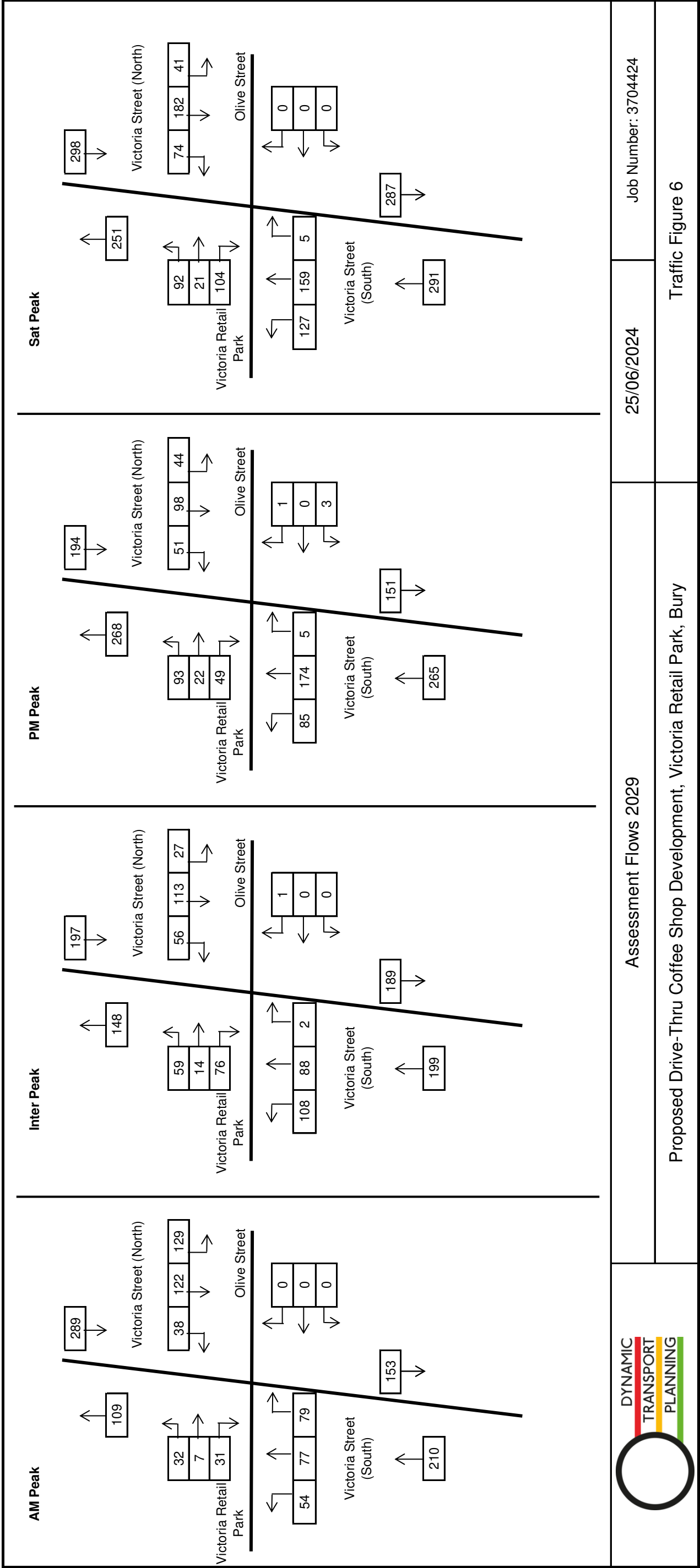
Traffic Figure 1





|                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                       |            |  |                     |  |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|--|---------------------|--|
| <div><div><div></div><div></div><div></div></div><div>DYNAMIC<br/>TRANSPORT<br/>PLANNING</div></div>                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                       | New Trip Assignment                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                       | 25/06/2024 |  | Job Number: 3704424 |  |
| Proposed Drive-Thru Coffee Shop Development, Victoria Retail Park, Bury                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                       | Traffic Figure 4                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                       |            |  |                     |  |
| <div><div><div>AM Peak</div><div>Arr 31</div><div>Dep 28</div></div><div><div>Victoria Retail Park</div><div>Victoria Street (South)</div><div>Victoria Street (North)</div><div>Olive Street</div></div><div><div>14</div><div>2</div><div>11</div><div>13</div><div>14</div><div>13</div><div>0</div><div>0</div><div>0</div><div>18</div><div>0</div><div>0</div><div>0</div><div>11</div><div>18</div></div></div> | <div><div><div>Inter Peak</div><div>Arr 28</div><div>Dep 24</div></div><div><div>Victoria Retail Park</div><div>Victoria Street (South)</div><div>Victoria Street (North)</div><div>Olive Street</div></div><div><div>9</div><div>2</div><div>12</div><div>9</div><div>9</div><div>9</div><div>0</div><div>0</div><div>0</div><div>18</div><div>0</div><div>0</div><div>0</div><div>12</div><div>18</div></div></div> | <div><div><div>PM Peak</div><div>Arr 16</div><div>Dep 21</div></div><div><div>Victoria Retail Park</div><div>Victoria Street (South)</div><div>Victoria Street (North)</div><div>Olive Street</div></div><div><div>12</div><div>3</div><div>6</div><div>12</div><div>6</div><div>6</div><div>0</div><div>0</div><div>0</div><div>10</div><div>0</div><div>0</div><div>0</div><div>10</div><div>6</div></div></div> | <div><div><div>Sat Peak</div><div>Arr 24</div><div>Dep 26</div></div><div><div>Victoria Retail Park</div><div>Victoria Street (South)</div><div>Victoria Street (North)</div><div>Olive Street</div></div><div><div>11</div><div>2</div><div>12</div><div>11</div><div>9</div><div>9</div><div>0</div><div>0</div><div>0</div><div>15</div><div>0</div><div>0</div><div>0</div><div>15</div><div>12</div></div></div> |            |  |                     |  |





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## Appendix 6

### Model Outputs

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| <b>Junctions 9</b>                                                                                                                                               |  |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| <b>PICADY 9 - Priority Intersection Module</b>                                                                                                                   |  |
| Version: 9.5.1.7462<br>© Copyright TRL Limited, 2019                                                                                                             |  |
| For sales and distribution information, program advice and maintenance, contact TRL:<br>+44 (0)1344 379777   software@trl.co.uk   www.trlsoftware.co.uk          |  |
| The users of this computer program for the solution of an engineering problem are in no way relieved of their responsibility for the correctness of the solution |  |

**Filename:** Site Crossroads PICADY.j9

**Path:** C:\Users\RachaelLough\Dynamic Transport Planning Limited\Dynamic Transport Planning Limited - Job Library\2024  
\3704424 - Victoria Retail Park, Bury\5 - Traffic Data

**Report generation date:** 27/06/2024 15:28:16

»2024 Base, AM  
»2024 Base , MID  
»2024 Base, PM  
»2024 Base , Sat  
»2029 Base , AM  
»2029 Base , MID  
»2029 Base, PM  
»2029 Base , Sat  
»2024 Base + Development, AM  
»2024 Base + Development, MID  
»2024 Base + Development, PM  
»2024 Base + Development , Sat  
»2029 Base + Development, AM  
»2029 Base + Development, MID  
»2029 Base + Development, PM  
»2029 Base + Development , Sat

2024 2029 2024+2029 2029+2024

## Summary of junction performance

|              | AM                      |             |      | MID    |             |      | PM     |             |      | Sat    |             |      |
|--------------|-------------------------|-------------|------|--------|-------------|------|--------|-------------|------|--------|-------------|------|
|              | Set ID                  | Queue (PCU) | RFC  | Set ID | Queue (PCU) | RFC  | Set ID | Queue (PCU) | RFC  | Set ID | Queue (PCU) | RFC  |
|              | 2024 Base               |             |      |        |             |      |        |             |      |        |             |      |
| Stream B-ACD | D1                      | 0.1         | 0.09 | D2     | 0.4         | 0.25 | D3     | 0.4         | 0.29 | D4     | 0.8         | 0.41 |
| Stream A-BCD |                         | 0.2         | 0.16 |        | 0.0         | 0.00 |        | 0.0         | 0.01 |        | 0.0         | 0.01 |
| Stream D-ABC |                         | 0.0         | 0.00 |        | 0.0         | 0.00 |        | 0.0         | 0.00 |        | 0.0         | 0.00 |
| Stream C-ABD |                         | 0.1         | 0.06 |        | 0.1         | 0.09 |        | 0.2         | 0.09 |        | 0.3         | 0.14 |
|              | 2029 Base               |             |      |        |             |      |        |             |      |        |             |      |
| Stream B-ACD | D5                      | 0.1         | 0.09 | D6     | 0.4         | 0.27 | D7     | 0.5         | 0.30 | D8     | 0.8         | 0.44 |
| Stream A-BCD |                         | 0.3         | 0.17 |        | 0.0         | 0.00 |        | 0.0         | 0.01 |        | 0.0         | 0.01 |
| Stream D-ABC |                         | 0.0         | 0.00 |        | 0.0         | 0.00 |        | 0.0         | 0.00 |        | 0.0         | 0.00 |
| Stream C-ABD |                         | 0.1         | 0.06 |        | 0.2         | 0.10 |        | 0.2         | 0.10 |        | 0.3         | 0.15 |
|              | 2024 Base + Development |             |      |        |             |      |        |             |      |        |             |      |
| Stream B-ACD | D9                      | 0.2         | 0.14 | D10    | 0.5         | 0.31 | D11    | 0.5         | 0.33 | D12    | 1.0         | 0.47 |
| Stream A-BCD |                         | 0.3         | 0.16 |        | 0.0         | 0.00 |        | 0.0         | 0.01 |        | 0.0         | 0.01 |
| Stream D-ABC |                         | 0.0         | 0.00 |        | 0.0         | 0.00 |        | 0.0         | 0.00 |        | 0.0         | 0.00 |
| Stream C-ABD |                         | 0.2         | 0.09 |        | 0.2         | 0.11 |        | 0.2         | 0.11 |        | 0.3         | 0.17 |
|              | 2029 Base + Development |             |      |        |             |      |        |             |      |        |             |      |
| Stream B-ACD | D13                     | 0.2         | 0.15 | D14    | 0.5         | 0.32 | D15    | 0.6         | 0.35 | D16    | 1.1         | 0.50 |
| Stream A-BCD |                         | 0.3         | 0.17 |        | 0.0         | 0.00 |        | 0.0         | 0.01 |        | 0.0         | 0.01 |
| Stream D-ABC |                         | 0.0         | 0.00 |        | 0.0         | 0.00 |        | 0.0         | 0.00 |        | 0.0         | 0.00 |
| Stream C-ABD |                         | 0.2         | 0.09 |        | 0.2         | 0.12 |        | 0.2         | 0.11 |        | 0.3         | 0.18 |

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  | AzureAD\JordanBell |
| Description |                    |

## Units

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

## Analysis Options

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

## Demand Set Summary

| ID  | Scenario name           | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|-----|-------------------------|------------------|----------------------|--------------------|---------------------|---------------------------|-------------------|
| D1  | 2024 Base               | AM               | ONE HOUR             | 07:30              | 09:00               | 15                        | ✓                 |
| D2  | 2024 Base               | MID              | ONE HOUR             | 11:45              | 13:15               | 15                        | ✓                 |
| D3  | 2024 Base               | PM               | ONE HOUR             | 16:30              | 18:00               | 15                        | ✓                 |
| D4  | 2024 Base               | Sat              | ONE HOUR             | 11:00              | 12:30               | 15                        | ✓                 |
| D5  | 2029 Base               | AM               | ONE HOUR             | 07:30              | 09:00               | 15                        | ✓                 |
| D6  | 2029 Base               | MID              | ONE HOUR             | 11:45              | 13:15               | 15                        | ✓                 |
| D7  | 2029 Base               | PM               | ONE HOUR             | 16:30              | 18:00               | 15                        | ✓                 |
| D8  | 2029 Base               | Sat              | ONE HOUR             | 11:00              | 12:30               | 15                        | ✓                 |
| D9  | 2024 Base + Development | AM               | ONE HOUR             | 07:30              | 09:00               | 15                        | ✓                 |
| D10 | 2024 Base + Development | MID              | ONE HOUR             | 11:45              | 13:15               | 15                        | ✓                 |
| D11 | 2024 Base + Development | PM               | ONE HOUR             | 16:30              | 18:00               | 15                        | ✓                 |
| D12 | 2024 Base + Development | Sat              | ONE HOUR             | 11:00              | 12:30               | 15                        | ✓                 |
| D13 | 2029 Base + Development | AM               | ONE HOUR             | 07:30              | 09:00               | 15                        | ✓                 |
| D14 | 2029 Base + Development | MID              | ONE HOUR             | 11:45              | 13:15               | 15                        | ✓                 |
| D15 | 2029 Base + Development | PM               | ONE HOUR             | 16:30              | 18:00               | 15                        | ✓                 |
| D16 | 2029 Base + Development | Sat              | ONE HOUR             | 11:00              | 12:30               | 15                        | ✓                 |

## Analysis Set Details

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

# 2024 Base, AM

## Data Errors and Warnings

No errors or warnings

## Junction Network

### Junctions

| Junction | Name     | Junction type | Major road direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|----------|----------|---------------|----------------------|-----------------------|--------------------|--------------|
| 1        | untitled | Crossroads    | Two-way              |                       | 2.45               | A            |

### Junction Network Options

| Driving side | Lighting       |
|--------------|----------------|
| Left         | Normal/unknown |

## Arms

### Arms

| Arm | Name     | Description | Arm type |
|-----|----------|-------------|----------|
| A   | untitled |             | Major    |
| B   | untitled |             | Minor    |
| C   | untitled |             | Major    |
| D   | untitled |             | Minor    |

### Major Arm Geometry

| Arm | Width of carriageway (m) | Has kerbed central reserve | Has right turn bay | Visibility for right turn (m) | Blocks? | Blocking queue (PCU) |
|-----|--------------------------|----------------------------|--------------------|-------------------------------|---------|----------------------|
| A   | 7.00                     |                            |                    | 100.0                         | ✓       | 0.00                 |
| C   | 7.00                     |                            |                    | 65.0                          | ✓       | 0.00                 |

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       | 3.50           | 20                     | 25                      |
| D   | One lane       | 3.20           | 25                     | 15                      |

## 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-A | 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 | Slope for D-C |
|--------------------|--------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| A-D                | 632                | -             | -             | -             | -             | -             | -             | 0.234         | 0.335         | 0.234         | -             | -             | -             |
| B-A                | 521                | 0.091         | 0.230         | 0.230         | -             | -             | -             | 0.144         | 0.328         | -             | 0.230         | 0.230         | 0.115         |
| B-C                | 672                | 0.098         | 0.249         | -             | -             | -             | -             | -             | -             | -             | -             | -             | -             |
| B-D, nearside lane | 521                | 0.091         | 0.230         | 0.230         | -             | -             | -             | 0.144         | 0.328         | 0.144         | -             | -             | -             |
| B-D, offside lane  | 521                | 0.091         | 0.230         | 0.230         | -             | -             | -             | 0.144         | 0.328         | 0.144         | -             | -             | -             |
| C-B                | 612                | 0.227         | 0.227         | 0.324         | -             | -             | -             | -             | -             | -             | -             | -             | -             |
| D-A                | 646                | -             | -             | -             | -             | -             | -             | 0.239         | -             | 0.095         | -             | -             | -             |
| D-B, nearside lane | 503                | 0.139         | 0.139         | 0.316         | -             | -             | -             | 0.221         | 0.221         | 0.088         | -             | -             | -             |
| D-B, offside lane  | 503                | 0.139         | 0.139         | 0.316         | -             | -             | -             | 0.221         | 0.221         | 0.088         | -             | -             | -             |
| D-C                | 503                | -             | 0.139         | 0.316         | 0.111         | 0.221         | 0.221         | 0.221         | 0.221         | 0.088         | -             | -             | -             |

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

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

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

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|----|---------------|------------------|----------------------|--------------------|---------------------|---------------------------|-------------------|
| D1 | 2024 Base     | AM               | ONE HOUR             | 07:30              | 09:00               | 15                        | ✓                 |

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

### Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|-----|------------|--------------|--------------|-------------------------|--------------------|
| A   |            | ONE HOUR     | ✓            | 184                     | 100.000            |
| B   |            | ONE HOUR     | ✓            | 40                      | 100.000            |
| C   |            | ONE HOUR     | ✓            | 283                     | 100.000            |
| D   |            | ONE HOUR     | ✓            | 0                       | 100.000            |

## Origin-Destination Data

### Demand (PCU/hr)

|      | To |     |    |    |     |
|------|----|-----|----|----|-----|
|      | A  | B   | C  | D  |     |
| From | A  | 0   | 35 | 74 | 75  |
|      | B  | 19  | 0  | 17 | 4   |
|      | C  | 116 | 24 | 0  | 123 |
|      | D  | 0   | 0  | 0  | 0   |

## Vehicle Mix

### Heavy Vehicle Percentages

|      | To |    |    |    |    |
|------|----|----|----|----|----|
|      | A  | B  | C  | D  |    |
| From | A  | 10 | 10 | 10 | 10 |
|      | B  | 10 | 10 | 10 | 10 |
|      | C  | 10 | 10 | 10 | 10 |
|      | D  | 10 | 10 | 10 | 10 |

## Results

### Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS | Average Demand (PCU/hr) | Total Junction Arrivals (PCU) |
|--------|---------|---------------|-----------------|---------|-------------------------|-------------------------------|
| B-ACD  | 0.09    | 8.38          | 0.1             | A       | 37                      | 55                            |
| A-BCD  | 0.16    | 7.30          | 0.2             | A       | 82                      | 123                           |
| A-B    |         |               |                 |         | 28                      | 42                            |
| A-C    |         |               |                 |         | 59                      | 88                            |
| D-ABC  | 0.00    | 0.00          | 0.0             | A       | 0                       | 0                             |
| C-ABD  | 0.06    | 5.89          | 0.1             | A       | 32                      | 48                            |
| C-D    |         |               |                 |         | 108                     | 161                           |
| C-A    |         |               |                 |         | 102                     | 152                           |



# 2024 Base , MID

## Data Errors and Warnings

No errors or warnings

## Junction Network

### Junctions

| Junction | Name     | Junction type | Major road direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|----------|----------|---------------|----------------------|-----------------------|--------------------|--------------|
| 1        | untitled | Crossroads    | Two-way              |                       | 3.41               | A            |

### Junction Network Options

| Driving side | Lighting       |
|--------------|----------------|
| Left         | Normal/unknown |

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|----|---------------|------------------|----------------------|--------------------|---------------------|---------------------------|-------------------|
| D2 | 2024 Base     | MID              | ONE HOUR             | 11:45              | 13:15               | 15                        | ✓                 |

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

### Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|-----|------------|--------------|--------------|-------------------------|--------------------|
| A   |            | ONE HOUR     | ✓            | 172                     | 100.000            |
| B   |            | ONE HOUR     | ✓            | 119                     | 100.000            |
| C   |            | ONE HOUR     | ✓            | 178                     | 100.000            |
| D   |            | ONE HOUR     | ✓            | 1                       | 100.000            |

## Origin-Destination Data

### Demand (PCU/hr)

|      | To |     |    |    |    |
|------|----|-----|----|----|----|
| From |    | A   | B  | C  | D  |
|      | A  | 0   | 88 | 84 | 2  |
|      | B  | 61  | 0  | 47 | 11 |
|      | C  | 108 | 44 | 0  | 28 |
|      | D  | 0   | 0  | 1  | 0  |

## Vehicle Mix

### Heavy Vehicle Percentages

|      | To |    |    |    |    |
|------|----|----|----|----|----|
| From |    | A  | B  | C  | D  |
|      | A  | 10 | 10 | 10 | 10 |
|      | B  | 10 | 10 | 10 | 10 |
|      | C  | 10 | 10 | 10 | 10 |
|      | D  | 10 | 10 | 10 | 10 |

## Results

### Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS | Average Demand (PCU/hr) | Total Junction Arrivals (PCU) |
|--------|---------|---------------|-----------------|---------|-------------------------|-------------------------------|
| B-ACD  | 0.25    | 10.31         | 0.4             | B       | 109                     | 164                           |
| A-BCD  | 0.00    | 5.82          | 0.0             | A       | 2                       | 4                             |
| A-B    |         |               |                 |         | 79                      | 118                           |
| A-C    |         |               |                 |         | 77                      | 115                           |
| D-ABC  | 0.00    | 0.00          | 0.0             | A       | 0                       | 0                             |
| C-ABD  | 0.09    | 6.52          | 0.1             | A       | 50                      | 75                            |
| C-D    |         |               |                 |         | 22                      | 33                            |
| C-A    |         |               |                 |         | 91                      | 137                           |

# 2024 Base, PM

## Data Errors and Warnings

No errors or warnings

## Junction Network

### Junctions

| Junction | Name     | Junction type | Major road direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|----------|----------|---------------|----------------------|-----------------------|--------------------|--------------|
| 1        | untitled | Crossroads    | Two-way              |                       | 3.31               | A            |

### Junction Network Options

| Driving side | Lighting       |
|--------------|----------------|
| Left         | Normal/unknown |

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|----|---------------|------------------|----------------------|--------------------|---------------------|---------------------------|-------------------|
| D3 | 2024 Base     | PM               | ONE HOUR             | 16:30              | 18:00               | 15                        | ✓                 |

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

### Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|-----|------------|--------------|--------------|-------------------------|--------------------|
| A   |            | ONE HOUR     | ✓            | 241                     | 100.000            |
| B   |            | ONE HOUR     | ✓            | 136                     | 100.000            |
| C   |            | ONE HOUR     | ✓            | 178                     | 100.000            |
| D   |            | ONE HOUR     | ✓            | 4                       | 100.000            |

## Origin-Destination Data

### Demand (PCU/hr)

|      | To |    |    |     |    |
|------|----|----|----|-----|----|
|      | A  | B  | C  | D   |    |
| From | A  | 0  | 71 | 165 | 5  |
|      | B  | 41 | 0  | 77  | 18 |
|      | C  | 93 | 43 | 0   | 42 |
|      | D  | 3  | 0  | 1   | 0  |

## Vehicle Mix

### Heavy Vehicle Percentages

|      | To |    |    |    |    |
|------|----|----|----|----|----|
|      | A  | B  | C  | D  |    |
| From | A  | 10 | 10 | 10 | 10 |
|      | B  | 10 | 10 | 10 | 10 |
|      | C  | 10 | 10 | 10 | 10 |
|      | D  | 10 | 10 | 10 | 10 |

## Results

### Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS | Average Demand (PCU/hr) | Total Junction Arrivals (PCU) |
|--------|---------|---------------|-----------------|---------|-------------------------|-------------------------------|
| B-ACD  | 0.29    | 10.56         | 0.4             | B       | 125                     | 187                           |
| A-BCD  | 0.01    | 5.57          | 0.0             | A       | 7                       | 10                            |
| A-B    |         |               |                 |         | 65                      | 97                            |
| A-C    |         |               |                 |         | 150                     | 225                           |
| D-ABC  | 0.00    | 0.00          | 0.0             | A       | 0                       | 0                             |
| C-ABD  | 0.09    | 6.69          | 0.2             | A       | 49                      | 74                            |
| C-D    |         |               |                 |         | 36                      | 53                            |
| C-A    |         |               |                 |         | 79                      | 118                           |

## 2024 Base , Sat

### Data Errors and Warnings

No errors or warnings

## Junction Network

### Junctions

| Junction | Name     | Junction type | Major road direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|----------|----------|---------------|----------------------|-----------------------|--------------------|--------------|
| 1        | untitled | Crossroads    | Two-way              |                       | 4.33               | A            |

### Junction Network Options

| Driving side | Lighting       |
|--------------|----------------|
| Left         | Normal/unknown |

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|----|---------------|------------------|----------------------|--------------------|---------------------|---------------------------|-------------------|
| D4 | 2024 Base     | Sat              | ONE HOUR             | 11:00              | 12:30               | 15                        | ✓                 |

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

### Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|-----|------------|--------------|--------------|-------------------------|--------------------|
| A   |            | ONE HOUR     | ✓            | 282                     | 100.000            |
| B   |            | ONE HOUR     | ✓            | 181                     | 100.000            |
| C   |            | ONE HOUR     | ✓            | 274                     | 100.000            |
| D   |            | ONE HOUR     | ✓            | 0                       | 100.000            |

## Origin-Destination Data

### Demand (PCU/hr)

|      | To |     |     |     |    |
|------|----|-----|-----|-----|----|
|      | A  | B   | C   | D   |    |
| From | A  | 0   | 106 | 151 | 5  |
|      | B  | 87  | 0   | 77  | 17 |
|      | C  | 173 | 62  | 0   | 39 |
|      | D  | 0   | 0   | 0   | 0  |

## Vehicle Mix

### Heavy Vehicle Percentages

|      | To |    |    |    |    |
|------|----|----|----|----|----|
|      | A  | B  | C  | D  |    |
| From | A  | 10 | 10 | 10 | 10 |
|      | B  | 10 | 10 | 10 | 10 |
|      | C  | 10 | 10 | 10 | 10 |
|      | D  | 10 | 10 | 10 | 10 |

## Results

### Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS | Average Demand (PCU/hr) | Total Junction Arrivals (PCU) |
|--------|---------|---------------|-----------------|---------|-------------------------|-------------------------------|
| B-ACD  | 0.41    | 13.78         | 0.8             | B       | 166                     | 249                           |
| A-BCD  | 0.01    | 5.62          | 0.0             | A       | 7                       | 10                            |
| A-B    |         |               |                 |         | 98                      | 144                           |
| A-C    |         |               |                 |         | 137                     | 206                           |
| D-ABC  | 0.00    | 0.00          | 0.0             | A       | 0                       | 0                             |
| C-ABD  | 0.14    | 6.54          | 0.3             | A       | 80                      | 120                           |
| C-D    |         |               |                 |         | 31                      | 47                            |
| C-A    |         |               |                 |         | 140                     | 210                           |

## 2029 Base , AM

### Data Errors and Warnings

No errors or warnings

## Junction Network

### Junctions

| Junction | Name     | Junction type | Major road direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|----------|----------|---------------|----------------------|-----------------------|--------------------|--------------|
| 1        | untitled | Crossroads    | Two-way              |                       | 2.50               | A            |

### Junction Network Options

| Driving side | Lighting       |
|--------------|----------------|
| Left         | Normal/unknown |

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|----|---------------|------------------|----------------------|--------------------|---------------------|---------------------------|-------------------|
| D5 | 2029 Base     | AM               | ONE HOUR             | 07:30              | 09:00               | 15                        | ✓                 |

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

### Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|-----|------------|--------------|--------------|-------------------------|--------------------|
| A   |            | ONE HOUR     | ✓            | 192                     | 100.000            |
| B   |            | ONE HOUR     | ✓            | 42                      | 100.000            |
| C   |            | ONE HOUR     | ✓            | 276                     | 100.000            |
| D   |            | ONE HOUR     | ✓            | 0                       | 100.000            |

## Origin-Destination Data

### Demand (PCU/hr)

|      | To |     |    |    |     |
|------|----|-----|----|----|-----|
|      | A  | B   | C  | D  |     |
| From | A  | 0   | 36 | 77 | 79  |
|      | B  | 20  | 0  | 18 | 4   |
|      | C  | 122 | 25 | 0  | 129 |
|      | D  | 0   | 0  | 0  | 0   |

## Vehicle Mix

### Heavy Vehicle Percentages

|      | To |    |    |    |    |
|------|----|----|----|----|----|
|      | A  | B  | C  | D  |    |
| From | A  | 10 | 10 | 10 | 10 |
|      | B  | 10 | 10 | 10 | 10 |
|      | C  | 10 | 10 | 10 | 10 |
|      | D  | 10 | 10 | 10 | 10 |

## Results

### Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS | Average Demand (PCU/hr) | Total Junction Arrivals (PCU) |
|--------|---------|---------------|-----------------|---------|-------------------------|-------------------------------|
| B-ACD  | 0.09    | 8.47          | 0.1             | A       | 39                      | 58                            |
| A-BCD  | 0.17    | 7.39          | 0.3             | A       | 87                      | 131                           |
| A-B    |         |               |                 |         | 28                      | 43                            |
| A-C    |         |               |                 |         | 61                      | 91                            |
| D-ABC  | 0.00    | 0.00          | 0.0             | A       | 0                       | 0                             |
| C-ABD  | 0.06    | 5.86          | 0.1             | A       | 34                      | 51                            |
| C-D    |         |               |                 |         | 113                     | 169                           |
| C-A    |         |               |                 |         | 106                     | 160                           |

## 2029 Base , MID

### Data Errors and Warnings

No errors or warnings

## Junction Network

### Junctions

| Junction | Name     | Junction type | Major road direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|----------|----------|---------------|----------------------|-----------------------|--------------------|--------------|
| 1        | untitled | Crossroads    | Two-way              |                       | 3.50               | A            |

### Junction Network Options

| Driving side | Lighting       |
|--------------|----------------|
| Left         | Normal/unknown |

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|----|---------------|------------------|----------------------|--------------------|---------------------|---------------------------|-------------------|
| D6 | 2029 Base     | MID              | ONE HOUR             | 11:45              | 13:15               | 15                        | ✓                 |

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

### Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|-----|------------|--------------|--------------|-------------------------|--------------------|
| A   |            | ONE HOUR     | ✓            | 180                     | 100.000            |
| B   |            | ONE HOUR     | ✓            | 126                     | 100.000            |
| C   |            | ONE HOUR     | ✓            | 186                     | 100.000            |
| D   |            | ONE HOUR     | ✓            | 1                       | 100.000            |

## Origin-Destination Data

### Demand (PCU/hr)

|      | To |     |    |    |    |
|------|----|-----|----|----|----|
|      | A  | B   | C  | D  |    |
| From | A  | 0   | 90 | 88 | 2  |
|      | B  | 64  | 0  | 50 | 12 |
|      | C  | 113 | 46 | 0  | 27 |
|      | D  | 0   | 0  | 1  | 0  |

## Vehicle Mix

### Heavy Vehicle Percentages

|      | To |    |    |    |    |
|------|----|----|----|----|----|
|      | A  | B  | C  | D  |    |
| From | A  | 10 | 10 | 10 | 10 |
|      | B  | 10 | 10 | 10 | 10 |
|      | C  | 10 | 10 | 10 | 10 |
|      | D  | 10 | 10 | 10 | 10 |

## Results

### Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS | Average Demand (PCU/hr) | Total Junction Arrivals (PCU) |
|--------|---------|---------------|-----------------|---------|-------------------------|-------------------------------|
| B-ACD  | 0.27    | 10.57         | 0.4             | B       | 115                     | 173                           |
| A-BCD  | 0.00    | 5.80          | 0.0             | A       | 3                       | 4                             |
| A-B    |         |               |                 |         | 82                      | 123                           |
| A-C    |         |               |                 |         | 80                      | 121                           |
| D-ABC  | 0.00    | 0.00          | 0.0             | A       | 0                       | 0                             |
| C-ABD  | 0.10    | 6.53          | 0.2             | A       | 53                      | 79                            |
| C-D    |         |               |                 |         | 23                      | 35                            |
| C-A    |         |               |                 |         | 95                      | 143                           |

## 2029 Base, PM

### Data Errors and Warnings

No errors or warnings

## Junction Network

### Junctions

| Junction | Name     | Junction type | Major road direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|----------|----------|---------------|----------------------|-----------------------|--------------------|--------------|
| 1        | untitled | Crossroads    | Two-way              |                       | 3.39               | A            |

### Junction Network Options

| Driving side | Lighting       |
|--------------|----------------|
| Left         | Normal/unknown |

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|----|---------------|------------------|----------------------|--------------------|---------------------|---------------------------|-------------------|
| D7 | 2029 Base     | PM               | ONE HOUR             | 16:30              | 18:00               | 15                        | ✓                 |

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

### Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|-----|------------|--------------|--------------|-------------------------|--------------------|
| A   |            | ONE HOUR     | ✓            | 254                     | 100.000            |
| B   |            | ONE HOUR     | ✓            | 143                     | 100.000            |
| C   |            | ONE HOUR     | ✓            | 187                     | 100.000            |
| D   |            | ONE HOUR     | ✓            | 4                       | 100.000            |

## Origin-Destination Data

### Demand (PCU/hr)

|      | To |    |    |     |    |
|------|----|----|----|-----|----|
|      | A  | B  | C  | D   |    |
| From | A  | 0  | 75 | 174 | 5  |
|      | B  | 43 | 0  | 81  | 19 |
|      | C  | 98 | 45 | 0   | 44 |
|      | D  | 3  | 0  | 1   | 0  |

## Vehicle Mix

### Heavy Vehicle Percentages

|      | To |    |    |    |    |
|------|----|----|----|----|----|
|      | A  | B  | C  | D  |    |
| From | A  | 10 | 10 | 10 | 10 |
|      | B  | 10 | 10 | 10 | 10 |
|      | C  | 10 | 10 | 10 | 10 |
|      | D  | 10 | 10 | 10 | 10 |

## Results

### Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS | Average Demand (PCU/hr) | Total Junction Arrivals (PCU) |
|--------|---------|---------------|-----------------|---------|-------------------------|-------------------------------|
| B-ACD  | 0.30    | 10.89         | 0.5             | B       | 131                     | 197                           |
| A-BCD  | 0.01    | 5.54          | 0.0             | A       | 7                       | 11                            |
| A-B    |         |               |                 |         | 68                      | 102                           |
| A-C    |         |               |                 |         | 158                     | 237                           |
| D-ABC  | 0.00    | 0.00          | 0.0             | A       | 0                       | 0                             |
| C-ABD  | 0.10    | 6.70          | 0.2             | A       | 52                      | 78                            |
| C-D    |         |               |                 |         | 37                      | 56                            |
| C-A    |         |               |                 |         | 82                      | 124                           |

## 2029 Base , Sat

### Data Errors and Warnings

No errors or warnings

## Junction Network

### Junctions

| Junction | Name     | Junction type | Major road direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|----------|----------|---------------|----------------------|-----------------------|--------------------|--------------|
| 1        | untitled | Crossroads    | Two-way              |                       | 4.56               | A            |

### Junction Network Options

| Driving side | Lighting       |
|--------------|----------------|
| Left         | Normal/unknown |

## Traffic Demand

### Demand Set Details

| ID | Scenario name | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|----|---------------|------------------|----------------------|--------------------|---------------------|---------------------------|-------------------|
| D8 | 2029 Base     | Sat              | ONE HOUR             | 11:00              | 12:30               | 15                        | ✓                 |

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

### Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|-----|------------|--------------|--------------|-------------------------|--------------------|
| A   |            | ONE HOUR     | ✓            | 276                     | 100.000            |
| B   |            | ONE HOUR     | ✓            | 191                     | 100.000            |
| C   |            | ONE HOUR     | ✓            | 288                     | 100.000            |
| D   |            | ONE HOUR     | ✓            | 0                       | 100.000            |

## Origin-Destination Data

### Demand (PCU/hr)

|      | To |     |     |     |    |
|------|----|-----|-----|-----|----|
|      | A  | B   | C   | D   |    |
| From | A  | 0   | 112 | 159 | 5  |
|      | B  | 92  | 0   | 81  | 18 |
|      | C  | 182 | 65  | 0   | 41 |
|      | D  | 0   | 0   | 0   | 0  |

## Vehicle Mix

### Heavy Vehicle Percentages

|      | To |    |    |    |    |
|------|----|----|----|----|----|
|      | A  | B  | C  | D  |    |
| From | A  | 10 | 10 | 10 | 10 |
|      | B  | 10 | 10 | 10 | 10 |
|      | C  | 10 | 10 | 10 | 10 |
|      | D  | 10 | 10 | 10 | 10 |

## Results

### Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS | Average Demand (PCU/hr) | Total Junction Arrivals (PCU) |
|--------|---------|---------------|-----------------|---------|-------------------------|-------------------------------|
| B-ACD  | 0.44    | 14.60         | 0.8             | B       | 175                     | 263                           |
| A-BCD  | 0.01    | 5.59          | 0.0             | A       | 7                       | 11                            |
| A-B    |         |               |                 |         | 102                     | 153                           |
| A-C    |         |               |                 |         | 144                     | 217                           |
| D-ABC  | 0.00    | 0.00          | 0.0             | A       | 0                       | 0                             |
| C-ABD  | 0.15    | 6.56          | 0.3             | A       | 86                      | 129                           |
| C-D    |         |               |                 |         | 33                      | 49                            |
| C-A    |         |               |                 |         | 146                     | 219                           |

# 2024 Base + Development, AM

## Data Errors and Warnings

No errors or warnings

## Junction Network

### Junctions

| Junction | Name     | Junction type | Major road direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|----------|----------|---------------|----------------------|-----------------------|--------------------|--------------|
| 1        | untitled | Crossroads    | Two-way              |                       | 2.92               | A            |

### Junction Network Options

| Driving side | Lighting       |
|--------------|----------------|
| Left         | Normal/unknown |

## Traffic Demand

### Demand Set Details

| ID | Scenario name           | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|----|-------------------------|------------------|----------------------|--------------------|---------------------|---------------------------|-------------------|
| D9 | 2024 Base + Development | AM               | ONE HOUR             | 07:30              | 09:00               | 15                        | ✓                 |

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

### Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|-----|------------|--------------|--------------|-------------------------|--------------------|
| A   |            | ONE HOUR     | ✓            | 202                     | 100.000            |
| B   |            | ONE HOUR     | ✓            | 67                      | 100.000            |
| C   |            | ONE HOUR     | ✓            | 276                     | 100.000            |
| D   |            | ONE HOUR     | ✓            | 0                       | 100.000            |

## Origin-Destination Data

### Demand (PCU/hr)

|      | To |     |    |    |     |
|------|----|-----|----|----|-----|
|      | A  | B   | C  | D  |     |
| From | A  | 0   | 53 | 74 | 75  |
|      | B  | 30  | 0  | 31 | 6   |
|      | C  | 116 | 37 | 0  | 123 |
|      | D  | 0   | 0  | 0  | 0   |

## Vehicle Mix

### Heavy Vehicle Percentages

|      | To |    |    |    |    |
|------|----|----|----|----|----|
|      | A  | B  | C  | D  |    |
| From | A  | 10 | 10 | 10 | 10 |
|      | B  | 10 | 10 | 10 | 10 |
|      | C  | 10 | 10 | 10 | 10 |
|      | D  | 10 | 10 | 10 | 10 |

## Results

### Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS | Average Demand (PCU/hr) | Total Junction Arrivals (PCU) |
|--------|---------|---------------|-----------------|---------|-------------------------|-------------------------------|
| B-ACD  | 0.14    | 8.91          | 0.2             | A       | 61                      | 92                            |
| A-BCD  | 0.16    | 7.23          | 0.3             | A       | 85                      | 127                           |
| A-B    |         |               |                 |         | 42                      | 63                            |
| A-C    |         |               |                 |         | 59                      | 88                            |
| D-ABC  | 0.00    | 0.00          | 0.0             | A       | 0                       | 0                             |
| C-ABD  | 0.09    | 6.04          | 0.2             | A       | 50                      | 75                            |
| C-D    |         |               |                 |         | 105                     | 157                           |
| C-A    |         |               |                 |         | 99                      | 148                           |

# 2024 Base + Development, MID

## Data Errors and Warnings

No errors or warnings

## Junction Network

### Junctions

| Junction | Name     | Junction type | Major road direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|----------|----------|---------------|----------------------|-----------------------|--------------------|--------------|
| 1        | untitled | Crossroads    | Two-way              |                       | 3.94               | A            |

### Junction Network Options

| Driving side | Lighting       |
|--------------|----------------|
| Left         | Normal/unknown |

## Traffic Demand

### Demand Set Details

| ID  | Scenario name           | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|-----|-------------------------|------------------|----------------------|--------------------|---------------------|---------------------------|-------------------|
| D10 | 2024 Base + Development | MID              | ONE HOUR             | 11:45              | 13:15               | 15                        | ✓                 |

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

### Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|-----|------------|--------------|--------------|-------------------------|--------------------|
| A   |            | ONE HOUR     | ✓            | 190                     | 100.000            |
| B   |            | ONE HOUR     | ✓            | 142                     | 100.000            |
| C   |            | ONE HOUR     | ✓            | 187                     | 100.000            |
| D   |            | ONE HOUR     | ✓            | 1                       | 100.000            |

## Origin-Destination Data

### Demand (PCU/hr)

|      | To |     |     |    |    |
|------|----|-----|-----|----|----|
|      | A  | B   | C   | D  |    |
| From | A  | 0   | 104 | 84 | 2  |
|      | B  | 73  | 0   | 56 | 13 |
|      | C  | 108 | 53  | 0  | 26 |
|      | D  | 0   | 0   | 1  | 0  |

## Vehicle Mix

### Heavy Vehicle Percentages

|      | To |    |    |    |    |
|------|----|----|----|----|----|
|      | A  | B  | C  | D  |    |
| From | A  | 10 | 10 | 10 | 10 |
|      | B  | 10 | 10 | 10 | 10 |
|      | C  | 10 | 10 | 10 | 10 |
|      | D  | 10 | 10 | 10 | 10 |

## Results

### Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS | Average Demand (PCU/hr) | Total Junction Arrivals (PCU) |
|--------|---------|---------------|-----------------|---------|-------------------------|-------------------------------|
| B-ACD  | 0.31    | 11.18         | 0.5             | B       | 130                     | 195                           |
| A-BCD  | 0.00    | 5.76          | 0.0             | A       | 2                       | 4                             |
| A-B    |         |               |                 |         | 95                      | 143                           |
| A-C    |         |               |                 |         | 77                      | 115                           |
| D-ABC  | 0.00    | 0.00          | 0.0             | A       | 0                       | 0                             |
| C-ABD  | 0.11    | 6.71          | 0.2             | A       | 60                      | 90                            |
| C-D    |         |               |                 |         | 22                      | 32                            |
| C-A    |         |               |                 |         | 90                      | 135                           |

# 2024 Base + Development, PM

## Data Errors and Warnings

No errors or warnings

## Junction Network

### Junctions

| Junction | Name     | Junction type | Major road direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|----------|----------|---------------|----------------------|-----------------------|--------------------|--------------|
| 1        | untitled | Crossroads    | Two-way              |                       | 3.77               | A            |

### Junction Network Options

| Driving side | Lighting       |
|--------------|----------------|
| Left         | Normal/unknown |

## Traffic Demand

### Demand Set Details

| ID  | Scenario name           | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|-----|-------------------------|------------------|----------------------|--------------------|---------------------|---------------------------|-------------------|
| D11 | 2024 Base + Development | PM               | ONE HOUR             | 16:30              | 18:00               | 15                        | ✓                 |

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

### Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|-----|------------|--------------|--------------|-------------------------|--------------------|
| A   |            | ONE HOUR     | ✓            | 251                     | 100.000            |
| B   |            | ONE HOUR     | ✓            | 157                     | 100.000            |
| C   |            | ONE HOUR     | ✓            | 184                     | 100.000            |
| D   |            | ONE HOUR     | ✓            | 4                       | 100.000            |

## Origin-Destination Data

### Demand (PCU/hr)

|      | To |    |    |     |    |
|------|----|----|----|-----|----|
|      | A  | B  | C  | D   |    |
| From | A  | 0  | 81 | 165 | 5  |
|      | B  | 47 | 0  | 89  | 21 |
|      | C  | 93 | 49 | 0   | 42 |
|      | D  | 3  | 0  | 1   | 0  |

## Vehicle Mix

### Heavy Vehicle Percentages

|      | To |    |    |    |    |
|------|----|----|----|----|----|
|      | A  | B  | C  | D  |    |
| From | A  | 10 | 10 | 10 | 10 |
|      | B  | 10 | 10 | 10 | 10 |
|      | C  | 10 | 10 | 10 | 10 |
|      | D  | 10 | 10 | 10 | 10 |

## Results

### Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS | Average Demand (PCU/hr) | Total Junction Arrivals (PCU) |
|--------|---------|---------------|-----------------|---------|-------------------------|-------------------------------|
| B-ACD  | 0.33    | 11.31         | 0.5             | B       | 144                     | 216                           |
| A-BCD  | 0.01    | 5.54          | 0.0             | A       | 7                       | 10                            |
| A-B    |         |               |                 |         | 74                      | 110                           |
| A-C    |         |               |                 |         | 150                     | 225                           |
| D-ABC  | 0.00    | 0.00          | 0.0             | A       | 0                       | 0                             |
| C-ABD  | 0.11    | 6.81          | 0.2             | A       | 56                      | 84                            |
| C-D    |         |               |                 |         | 35                      | 53                            |
| C-A    |         |               |                 |         | 78                      | 116                           |

# 2024 Base + Development , Sat

## Data Errors and Warnings

No errors or warnings

## Junction Network

### Junctions

| Junction | Name     | Junction type | Major road direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|----------|----------|---------------|----------------------|-----------------------|--------------------|--------------|
| 1        | untitled | Crossroads    | Two-way              |                       | 5.13               | A            |

### Junction Network Options

| Driving side | Lighting       |
|--------------|----------------|
| Left         | Normal/unknown |

## Traffic Demand

### Demand Set Details

| ID  | Scenario name           | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|-----|-------------------------|------------------|----------------------|--------------------|---------------------|---------------------------|-------------------|
| D12 | 2024 Base + Development | Sat              | ONE HOUR             | 11:00              | 12:30               | 15                        | ✓                 |

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

### Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|-----|------------|--------------|--------------|-------------------------|--------------------|
| A   |            | ONE HOUR     | ✓            | 277                     | 100.000            |
| B   |            | ONE HOUR     | ✓            | 207                     | 100.000            |
| C   |            | ONE HOUR     | ✓            | 283                     | 100.000            |
| D   |            | ONE HOUR     | ✓            | 0                       | 100.000            |

## Origin-Destination Data

### Demand (PCU/hr)

|      | To |     |     |     |    |
|------|----|-----|-----|-----|----|
|      | A  | B   | C   | D   |    |
| From | A  | 0   | 121 | 151 | 5  |
|      | B  | 99  | 0   | 88  | 20 |
|      | C  | 173 | 71  | 0   | 39 |
|      | D  | 0   | 0   | 0   | 0  |

## Vehicle Mix

### Heavy Vehicle Percentages

|      | To |    |    |    |    |
|------|----|----|----|----|----|
|      | A  | B  | C  | D  |    |
| From | A  | 10 | 10 | 10 | 10 |
|      | B  | 10 | 10 | 10 | 10 |
|      | C  | 10 | 10 | 10 | 10 |
|      | D  | 10 | 10 | 10 | 10 |

## Results

### Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS | Average Demand (PCU/hr) | Total Junction Arrivals (PCU) |
|--------|---------|---------------|-----------------|---------|-------------------------|-------------------------------|
| B-ACD  | 0.47    | 15.55         | 1.0             | C       | 190                     | 285                           |
| A-BCD  | 0.01    | 5.57          | 0.0             | A       | 7                       | 11                            |
| A-B    |         |               |                 |         | 110                     | 165                           |
| A-C    |         |               |                 |         | 137                     | 206                           |
| D-ABC  | 0.00    | 0.00          | 0.0             | A       | 0                       | 0                             |
| C-ABD  | 0.17    | 6.74          | 0.3             | A       | 92                      | 138                           |
| C-D    |         |               |                 |         | 31                      | 46                            |
| C-A    |         |               |                 |         | 137                     | 205                           |

# 2029 Base + Development, AM

## Data Errors and Warnings

No errors or warnings

## Junction Network

### Junctions

| Junction | Name     | Junction type | Major road direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|----------|----------|---------------|----------------------|-----------------------|--------------------|--------------|
| 1        | untitled | Crossroads    | Two-way              |                       | 2.97               | A            |

### Junction Network Options

| Driving side | Lighting       |
|--------------|----------------|
| Left         | Normal/unknown |

## Traffic Demand

### Demand Set Details

| ID  | Scenario name           | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|-----|-------------------------|------------------|----------------------|--------------------|---------------------|---------------------------|-------------------|
| D13 | 2029 Base + Development | AM               | ONE HOUR             | 07:30              | 09:00               | 15                        | ✓                 |

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

### Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|-----|------------|--------------|--------------|-------------------------|--------------------|
| A   |            | ONE HOUR     | ✓            | 210                     | 100.000            |
| B   |            | ONE HOUR     | ✓            | 70                      | 100.000            |
| C   |            | ONE HOUR     | ✓            | 289                     | 100.000            |
| D   |            | ONE HOUR     | ✓            | 0                       | 100.000            |

## Origin-Destination Data

### Demand (PCU/hr)

|      | To |     |    |    |     |
|------|----|-----|----|----|-----|
|      | A  | B   | C  | D  |     |
| From | A  | 0   | 54 | 77 | 79  |
|      | B  | 31  | 0  | 32 | 7   |
|      | C  | 122 | 38 | 0  | 129 |
|      | D  | 0   | 0  | 0  | 0   |

## Vehicle Mix

### Heavy Vehicle Percentages

|      | To |    |    |    |    |
|------|----|----|----|----|----|
|      | A  | B  | C  | D  |    |
| From | A  | 10 | 10 | 10 | 10 |
|      | B  | 10 | 10 | 10 | 10 |
|      | C  | 10 | 10 | 10 | 10 |
|      | D  | 10 | 10 | 10 | 10 |

## Results

### Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS | Average Demand (PCU/hr) | Total Junction Arrivals (PCU) |
|--------|---------|---------------|-----------------|---------|-------------------------|-------------------------------|
| B-ACD  | 0.15    | 9.06          | 0.2             | A       | 64                      | 98                            |
| A-BCD  | 0.17    | 7.33          | 0.3             | A       | 90                      | 135                           |
| A-B    |         |               |                 |         | 42                      | 64                            |
| A-C    |         |               |                 |         | 61                      | 91                            |
| D-ABC  | 0.00    | 0.00          | 0.0             | A       | 0                       | 0                             |
| C-ABD  | 0.09    | 6.01          | 0.2             | A       | 52                      | 78                            |
| C-D    |         |               |                 |         | 110                     | 164                           |
| C-A    |         |               |                 |         | 104                     | 155                           |

# 2029 Base + Development, MID

## Data Errors and Warnings

No errors or warnings

## Junction Network

### Junctions

| Junction | Name     | Junction type | Major road direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|----------|----------|---------------|----------------------|-----------------------|--------------------|--------------|
| 1        | untitled | Crossroads    | Two-way              |                       | 4.08               | A            |

### Junction Network Options

| Driving side | Lighting       |
|--------------|----------------|
| Left         | Normal/unknown |

## Traffic Demand

### Demand Set Details

| ID  | Scenario name           | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|-----|-------------------------|------------------|----------------------|--------------------|---------------------|---------------------------|-------------------|
| D14 | 2029 Base + Development | MID              | ONE HOUR             | 11:45              | 13:15               | 15                        | ✓                 |

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

### Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|-----|------------|--------------|--------------|-------------------------|--------------------|
| A   |            | ONE HOUR     | ✓            | 198                     | 100.000            |
| B   |            | ONE HOUR     | ✓            | 149                     | 100.000            |
| C   |            | ONE HOUR     | ✓            | 198                     | 100.000            |
| D   |            | ONE HOUR     | ✓            | 1                       | 100.000            |

## Origin-Destination Data

### Demand (PCU/hr)

|      | To |     |     |    |    |
|------|----|-----|-----|----|----|
|      | A  | B   | C   | D  |    |
| From | A  | 0   | 108 | 88 | 2  |
|      | B  | 76  | 0   | 59 | 14 |
|      | C  | 113 | 56  | 0  | 27 |
|      | D  | 0   | 0   | 1  | 0  |

## Vehicle Mix

### Heavy Vehicle Percentages

|      | To |    |    |    |    |
|------|----|----|----|----|----|
|      | A  | B  | C  | D  |    |
| From | A  | 10 | 10 | 10 | 10 |
|      | B  | 10 | 10 | 10 | 10 |
|      | C  | 10 | 10 | 10 | 10 |
|      | D  | 10 | 10 | 10 | 10 |

## Results

### Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS | Average Demand (PCU/hr) | Total Junction Arrivals (PCU) |
|--------|---------|---------------|-----------------|---------|-------------------------|-------------------------------|
| B-ACD  | 0.32    | 11.52         | 0.5             | B       | 137                     | 205                           |
| A-BCD  | 0.00    | 5.74          | 0.0             | A       | 2                       | 4                             |
| A-B    |         |               |                 |         | 99                      | 148                           |
| A-C    |         |               |                 |         | 80                      | 121                           |
| D-ABC  | 0.00    | 0.00          | 0.0             | A       | 0                       | 0                             |
| C-ABD  | 0.12    | 6.74          | 0.2             | A       | 64                      | 97                            |
| C-D    |         |               |                 |         | 22                      | 33                            |
| C-A    |         |               |                 |         | 93                      | 140                           |

# 2029 Base + Development, PM

## Data Errors and Warnings

No errors or warnings

## Junction Network

### Junctions

| Junction | Name     | Junction type | Major road direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|----------|----------|---------------|----------------------|-----------------------|--------------------|--------------|
| 1        | untitled | Crossroads    | Two-way              |                       | 3.88               | A            |

### Junction Network Options

| Driving side | Lighting       |
|--------------|----------------|
| Left         | Normal/unknown |

## Traffic Demand

### Demand Set Details

| ID  | Scenario name           | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|-----|-------------------------|------------------|----------------------|--------------------|---------------------|---------------------------|-------------------|
| D15 | 2029 Base + Development | PM               | ONE HOUR             | 16:30              | 18:00               | 15                        | ✓                 |

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

### Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|-----|------------|--------------|--------------|-------------------------|--------------------|
| A   |            | ONE HOUR     | ✓            | 264                     | 100.000            |
| B   |            | ONE HOUR     | ✓            | 164                     | 100.000            |
| C   |            | ONE HOUR     | ✓            | 193                     | 100.000            |
| D   |            | ONE HOUR     | ✓            | 4                       | 100.000            |

## Origin-Destination Data

### Demand (PCU/hr)

|      | To |    |    |     |    |
|------|----|----|----|-----|----|
| From |    | A  | B  | C   | D  |
|      | A  | 0  | 85 | 174 | 5  |
|      | B  | 49 | 0  | 93  | 22 |
|      | C  | 98 | 51 | 0   | 44 |
|      | D  | 3  | 0  | 1   | 0  |

## Vehicle Mix

### Heavy Vehicle Percentages

|      | To |    |    |    |    |
|------|----|----|----|----|----|
| From |    | A  | B  | C  | D  |
|      | A  | 10 | 10 | 10 | 10 |
|      | B  | 10 | 10 | 10 | 10 |
|      | C  | 10 | 10 | 10 | 10 |
|      | D  | 10 | 10 | 10 | 10 |

## Results

### Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS | Average Demand (PCU/hr) | Total Junction Arrivals (PCU) |
|--------|---------|---------------|-----------------|---------|-------------------------|-------------------------------|
| B-ACD  | 0.35    | 11.70         | 0.6             | B       | 150                     | 226                           |
| A-BCD  | 0.01    | 5.50          | 0.0             | A       | 7                       | 10                            |
| A-B    |         |               |                 |         | 77                      | 116                           |
| A-C    |         |               |                 |         | 158                     | 237                           |
| D-ABC  | 0.00    | 0.00          | 0.0             | A       | 0                       | 0                             |
| C-ABD  | 0.11    | 6.83          | 0.2             | A       | 59                      | 89                            |
| C-D    |         |               |                 |         | 37                      | 55                            |
| C-A    |         |               |                 |         | 81                      | 122                           |

# 2029 Base + Development , Sat

## Data Errors and Warnings

No errors or warnings

## Junction Network

### Junctions

| Junction | Name     | Junction type | Major road direction | Use circulating lanes | Junction Delay (s) | Junction LOS |
|----------|----------|---------------|----------------------|-----------------------|--------------------|--------------|
| 1        | untitled | Crossroads    | Two-way              |                       | 5.42               | A            |

### Junction Network Options

| Driving side | Lighting       |
|--------------|----------------|
| Left         | Normal/unknown |

## Traffic Demand

### Demand Set Details

| ID  | Scenario name           | Time Period name | Traffic profile type | Start time (HH:mm) | Finish time (HH:mm) | Time segment length (min) | Run automatically |
|-----|-------------------------|------------------|----------------------|--------------------|---------------------|---------------------------|-------------------|
| D16 | 2029 Base + Development | Sat              | ONE HOUR             | 11:00              | 12:30               | 15                        | ✓                 |

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

### Demand overview (Traffic)

| Arm | Linked arm | Profile type | Use O-D data | Average Demand (PCU/hr) | Scaling Factor (%) |
|-----|------------|--------------|--------------|-------------------------|--------------------|
| A   |            | ONE HOUR     | ✓            | 291                     | 100.000            |
| B   |            | ONE HOUR     | ✓            | 217                     | 100.000            |
| C   |            | ONE HOUR     | ✓            | 297                     | 100.000            |
| D   |            | ONE HOUR     | ✓            | 0                       | 100.000            |

## Origin-Destination Data

### Demand (PCU/hr)

|      | To |     |     |     |    |
|------|----|-----|-----|-----|----|
|      | A  | B   | C   | D   |    |
| From | A  | 0   | 127 | 159 | 5  |
|      | B  | 104 | 0   | 92  | 21 |
|      | C  | 182 | 74  | 0   | 41 |
|      | D  | 0   | 0   | 0   | 0  |

## Vehicle Mix

### Heavy Vehicle Percentages

|      | To |    |    |    |    |
|------|----|----|----|----|----|
|      | A  | B  | C  | D  |    |
| From | A  | 10 | 10 | 10 | 10 |
|      | B  | 10 | 10 | 10 | 10 |
|      | C  | 10 | 10 | 10 | 10 |
|      | D  | 10 | 10 | 10 | 10 |

## Results

### Results Summary for whole modelled period

| Stream | Max RFC | Max Delay (s) | Max Queue (PCU) | Max LOS | Average Demand (PCU/hr) | Total Junction Arrivals (PCU) |
|--------|---------|---------------|-----------------|---------|-------------------------|-------------------------------|
| B-ACD  | 0.50    | 16.60         | 1.1             | C       | 199                     | 299                           |
| A-BCD  | 0.01    | 5.54          | 0.0             | A       | 7                       | 11                            |
| A-B    |         |               |                 |         | 115                     | 173                           |
| A-C    |         |               |                 |         | 144                     | 217                           |
| D-ABC  | 0.00    | 0.00          | 0.0             | A       | 0                       | 0                             |
| C-ABD  | 0.18    | 6.77          | 0.3             | A       | 98                      | 147                           |
| C-D    |         |               |                 |         | 32                      | 48                            |
| C-A    |         |               |                 |         | 143                     | 214                           |