

Proposed Drive-thru Coffee Shop and Convenience Store
Haverhill Road, Haverhill

WELLSFIELD ASSOCIATES

Transport Statement

July 2023





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1 INTRODUCTION

1.1 Introduction

- 1.1.1 Eddisons have been instructed by Wellsfield Associates to advise on the traffic and transportation issues relating proposals for a drive-thru coffee shop and convenience store at the former Fox Inn Public House off the A143 Haverhill Road in Haverhill.
- 1.1.2 The report provides information on the traffic and transport planning aspects of the development proposals and will form supplementary information to assist in the determination of a forthcoming planning application.
- 1.1.3 Following this introduction, Section 2 provides a description of the existing site and the development proposals.
- 1.1.4 Section 3 provides an assessment of the existing accessibility of the site by non-car modes, before Section 4 which considers the traffic impact of the proposed development. Section 5 draws together the conclusions to this report.



2 DEVELOPMENT SITE AND PROPOSALS

2.1 Existing Site

- 2.1.1 The application site is located approximately 1.3 kilometres north-west of Haverhill town centre. The location of the site is shown in **Plan 1**.
- 2.1.2 The site is bound to the north and west by the A143 Haverhill Road, whilst the Great Wisley Park residential development bounds the site to the east and woodland bounds the site to the south.
- 2.1.3 The site was previously occupied by the Fox Inn Public House and its associated car parking. Vehicular access into the site is off the A143 Haverhill Road via a priority controlled junction which was constructed as part of the improvements to the A143 Haverhill Road provided as part of the Wisley Park and North-West Haverhill Strategic Site developments. The current access has a width of circa 7 metres with formal kerbed radii.
- 2.1.4 Within the vicinity of the application site, the A143 Haverhill Road is a single-carriageway road with a carriageway width of approximately 7.3 metres. The speed limit of the road is 30mph.
- 2.1.5 To the west the A143 Haverhill Road provides an arm of the recently constructed A143 Haverhill Road/Farrant Road roundabout. To the west Farrant Road provides access into the North-west Haverhill Strategic Site, whilst to the south the A143 Haverhill Road continues to provide access into the Haverhill. It should be noted that the Haverhill Relief Road when constructed will also be accessed via a fourth arm of this roundabout junction.



- 2.1.6 To the east of the application site, the A143 Haverhill Road forms the A143 Haverhill Road/Gurteen Avenue roundabout junction. To the south Gurteen Avenue provides access into the Wisley Park residential development, whilst to the east it provides access to the wider highway network including Bury St. Edmunds.

2.2 Development Proposals

- 2.2.1 The planning application proposals are for the provision of a drive-thru coffee shop (Class A3) with a gross floor area of 204 sqm and Convenience Store of 371 sqm.
- 2.2.2 The proposed site layout is displayed on **Plan 2**.

Vehicular Access

- 2.2.3 It is proposed that vehicular access into the site will be provided via the existing vehicular access off A143 Haverhill Road. However, the access will be amended to widen the access width to circa 28 metres to facilitate vehicular access and a pedestrian refuge. These works can be provided within the site application boundary and extent of adopted highway and does not require any third party land.

Pedestrian and Cycle Access

- 2.2.4 Pedestrian and cycle access into the site will be provided for via pedestrian/cycle link off the A141 Haverhill Road via the existing pedestrian/cycle facilities located alongside the southern side of the carriageway. Details of where the link will connect with the existing infrastructure will be discussed and agreed with the local highway authority post submission of the planning application.



Parking Provision

- 2.2.5 It is proposed that a total of 31 car parking spaces including 2 mobility impaired spaces and 1 parent and child space. The proposed car parking provision is based on the applicant's experience of other developments of this nature and will ensure that sufficient capacity is provided on the site to accommodate demand at busier periods.
- 2.2.6 Cycle parking is provided in the form of 6 Sheffield style parking bays (parking for up to 12 bicycles), this provision is located in a safe and convenient location adjacent to each of the proposed units.

Servicing

- 2.2.7 The proposed drive-thru coffee unit and Convenience Store will be serviced from within the internal layouts of the site.
- 2.2.8 The typical HGV that would be likely to serve the Coffee drive-thru unit would be a large rigid HGV. It is likely that only one delivery per day would be made by HGV to each unit. A tracking exercise using a 11.2 metre rigid has been undertaken and the swept path of the 11.2 metre HGV is shown on **Plan 3**. This swept path analysis demonstrates that the drive-thru coffee unit can be serviced in a safe and efficient manner.
- 2.2.9 With regard to the Convenience Store, servicing will be undertaken within the service area located to the east of the proposed unit. The largest vehicle to service the site will be that of a 10.2 metre, and a swept path of the 10.2 metre HGV is shown on **Plan 3**. This swept path analysis demonstrates that the Convenience Store can also be serviced in a safe and efficient manner.



- 2.2.10 Deliveries to the site will be programmed to avoid busy periods for the units and where required parking spaces will be kept clear to allow servicing to be undertaken quickly and efficiently.



3 ACCESSIBILITY BY NON CAR MODES

3.1 Introduction

3.1.1 In order to accord with the aspirations of the National Planning Policy Framework (NPPF), any new proposals should extend the choice in transport and secure mobility in a way that supports sustainable development.

3.1.2 The presumption in favour of sustainable development is a central theme running through the framework and transport planning policies are seen as a key element of delivering sustainable development as well as contributing to wider sustainability and health objectives. To achieve these objectives, paragraph 30 states that when making decisions, local authorities should: *'Support a pattern of development which, where reasonable to do so, facilitates the use of sustainable modes of transport.'*

3.1.3 One of the core principles of the NPPF is to *'actively manage patterns of growth to make the fullest use of public transport, walking and cycling and focus significant development in locations which are or can be made sustainable.'*

3.1.4 New proposals should therefore attempt to influence the mode of travel to the development in terms of gaining a shift in modal split towards non-car modes, thus assisting in meeting the aspirations of current national and local planning policy.

3.1.5 The accessibility of the proposed site has been considered by the following modes of transport:

- accessibility on foot;
- accessibility by cycle;
- accessibility by bus;



3.2 Accessibility on Foot

- 3.2.1 It is important to create a choice of direct, safe, and attractive routes between where people live and where they need to travel in their day-to-day life. This philosophy clearly encourages the opportunity to walk whatever the journey purpose and also helps to create more active streets and more vibrant neighbourhoods.
- 3.2.2 Extensive pedestrian facilities are provided on the A143 Haverhill Road in the vicinity of the application site. A shared 3 metre pedestrian/cycleway is located on the southern side of the carriageway along the frontage of the site. To the east it provides access to the Wisley Park residential development, whilst to the west it provides access to the pedestrian facilities located at the A143 Haverhill Road/Farrant Road roundabout.
- 3.2.3 Pedestrian refuges with associated dropped kerbs and tactile paving are located on the A143 Haverhill Road arms of the roundabout. To the north, these provide access into the Boyton Place residential development and the wider strategic site, whilst to the south the footway provision provides access into Haverhill.
- 3.2.4 Within the Institution of Highways and Transportation (IHT) document, entitled "Guidelines for Providing for Journeys on Foot", a distance of 800 metres is identified as the preferred maximum distance for town centres.
- 3.2.5 Good practice suggests that walking is the most important mode of travel at the local level and offers the greatest potential to replace short car journeys, particularly those under 2 kilometres. In addition, the DfT National Travel Survey of 2006 confirms that 78% of all trips less than a mile (1.6km) are carried out on foot.

- 3.2.6 In addition, within the 'The Local Shop Report 2022' which was produced by the Association of Convenience Stores (ACS) it states that 51% of customers to local shops travel less than a quarter of a mile and that 57% of customers travel by foot. It also states that 50% of local shop staff walk to work and the average journey time is 13 minutes.
- 3.2.7 **Plan 4** shows the pedestrian catchment for 800 metres and 2 kilometres from the centre of the site and provides an illustrative indication of the areas that can be reached based on a leisurely walk from the site.
- 3.2.8 As can be seen, the 800-metre catchment includes areas of the northern areas of Haverhill including the Wisley Park and Boyton Place residential development. Whilst the 2 kilometre catchment encompasses large parts of Haverhill including Chalkstone. The proposed development is therefore, within walking distance of a large number of existing and proposed residential areas.
- 3.2.9 In light of the above review, a pedestrian catchment of 2 kilometres from the centre of the site, using all usable pedestrian routes, has been provided in **Plan 6** and provides an illustrative indication of the areas that can be reached based on a leisurely walk from the site.
- 3.2.10 As illustrated, the development site benefits from being located within close proximity to the residential areas located with the Haverhill area, which will provide the opportunity for customers and staff to travel to the proposed site by foot, therefore reducing the reliance on the private car.



3.3 Accessibility by Cycle

- 3.3.1 A distance of 5 kilometres is generally accepted as a distance where cycling has the potential to replace short car journeys.
- 3.3.2 This distance equates to a journey of around 25 minutes based on a leisurely cycle speed of 12 kilometres per hour and would encompass Haverhill, Kedington, Sturmer, Withersfield, Little Wrating and Little Thurlow.
- 3.3.3 Although there are designated cycle routes within the vicinity of the site. As detailed previously, a shared pedestrian/cycleway is located along the A143 Haverhill Road which links with the facilities located within Wisley Park and Boyton Place.
- 3.3.4 As stated previously, cycle parking provision is proposed as part of the development proposals.
- 3.3.5 The site can therefore be considered as being accessible by cycle.

3.4 Accessibility by Bus

- 3.4.1 The nearest bus stops to the site are located on the A143 Haverhill Road around 350 metres (less than 5 minute walk) south-west of the application site, these can be accessed via the pedestrian infrastructure located in the vicinity of the site. All the nearest bus stops to the site are shown on **Plan 3**.
- 3.4.2 A summary of the services available from the nearest bus stops to the site is provided in **Table 3.1** below.

Servic No	Route	Monday – Friday (per hour)				Sat	Sun
		AM Peak	Midday	PM Peak	Eve		
131	Haverhill - Haverhill	1	1	1	1	0	0
131A	Haverhill - Haverhill	1	1	1	1	0.5	0
14	Bury St Edmunds – Haverhill	1	0	Service at 14:55 & 15:45	0	1 service at 10:15	0
14A	Bury St Edmunds – Haverhill	0	0	Service at 16:48	0	0	0
15A	Bury St Edmunds – Haverhill	Service at 07:48	0	1	0	0	0

Table 3.1 - Existing Bus Services In Vicinity of Site

- 3.4.3 As can be seen from Table 3.1, the nearest bus stops provide access to bus services to destinations such as Haverhill, Bury St. Edmunds, Stradishall and Horringer. The no. 131 service operates from approximately 06:30am to around 19:00pm, making travel by public transport a real alternative to travelling by car for commuting trips.
- 3.4.4 As demonstrated, the development site benefits from a reliable bus network travelling within the Haverhill area which will provide the opportunity for staff to travel to the proposed site by bus, therefore reducing the reliance on the private car.



3.5 Accessibility Summary

3.5.1 The site has been considered in terms of accessibility by non-car modes, including walking, cycling and public transport.

3.5.2 The following conclusions can be drawn from this section of the report:

- The site is accessible on foot with the proposed footway provision linking with the existing provision which gives local employees and customers a choice about how they travel.
- The site is accessible by cycle with Haverhill area and the surrounding areas within a cycling distance of the application site.
- The services from the bus stops on the A143 Haverhill Road connect the site to the surrounding areas of Haverhill.

3.5.3 In light of the above, it is considered the site is accessible by non-car modes and will cater for needs of the development's employees and assist in promoting a choice of travel modes other than the private car.



4 TRAFFIC IMPACT ANALYSIS

4.1 Introduction

4.1.1 Having established that the proposed development site is accessible by modes of travel other than the private car and would be in general accordance with transport policies, the following section considers the traffic impact of the development proposals on the local highway network.

4.2 Surveyed Flows

4.2.1 In order to establish current levels of traffic, a 7 day Automated Traffic Count (ATC) was undertaken on Haverhill Road, adjacent to the application site between Wednesday 14th and Tuesday 20th June 2023.

4.2.2 The full traffic survey data is contained within **Appendix 1**.

4.2.3 Analysis of the traffic survey data indicates that the peak weekday was Tuesday 20th June 2023 and that that the weekday AM peak occurred between 0800 and 0900 hours and the weekday PM peak occurred between 1700 and 1800 hours.

4.2.4 **Figures 1** and **2** provide the 2023 surveyed traffic flows converted into passenger car units (PCUs), the unit of analysis, for the weekday AM and PM peak periods respectively.



4.3 Growthed Flows

4.3.1 In order to factor the surveyed traffic flows to the future assessment year of 2028 (ten years post submission of the planning application for robustness) a TEMPRO (Version 80) adjusted National Road Traffic Model (NTM) growth factor was applied for the St. Edmundsbury 011 MSOA where the site is located.

- 2023 to 2028 AM Peak = 1.0539;
- 2023 to 2028 PM Peak = 1.04365;

4.3.2 These growth factors have been applied to the 2023 Surveyed Flows for the Weekday AM, PM s and the 2028 Growthed Flows are displayed in **Figures 4** and **5**.

4.4 Committed Development

4.4.1 The growth factors used derive the growth flows will include the committed developments located within the vicinity of the application. As such, the growthed flows represent the base traffic flows.

4.5 Proposed Trip Distribution

4.5.1 The directional distribution of the traffic associated with the proposals has been assigned to the local highway network in line with the observed vehicle movements.

4.5.2 The resulting traffic trip distribution for the AM peak period is shown in **Figure 5** whilst the proposed distribution for PM peak traffic is shown in **Figure 6**.



4.6 Proposed Development

The planning application proposals are for the provision of a drive-thru coffee shop with a gross floor area of 204 sqm and a convenience store with a gross floor area of 371 sqm.

Proposed Coffee Drive-thru Unit Traffic Generation

4.6.1 To calculate the likely level of trips to be generated by the proposed Coffee Drive-thru, reference has been made to traffic survey information which relates to Costa Coffee shops (with a drive-thru facility). The survey information sets out the traffic generation, trip types and drive-thru queues based on existing Costa restaurants located in Cambridge, Warrington, Didcot, Bedford, Sheffield and Banbury. The Note is appended to this report as **Appendix 2**.

4.6.2 The average traffic generation established from the surveys undertaken are summarised below in **Table 4.1**.

Peak Period	Trip Generation	
	Arr	Dep
Weekday AM Peak	86	80
Weekday PM Peak	71	72
Saturday Peak	83	78

Table 4.1 – Average Costa Coffee Drive-thru Traffic Generation



- 4.6.3 Based on the above, the proposed Coffee drive-thru unit is forecast to generate a total of 166 two-way trips in the Weekday AM peak and 143 two-way trips in the Weekday PM peak. Whilst during the Saturday peak period the proposed unit is forecast to generate 168 two-way trips.
- 4.6.4 Of course, given the land use type, the vast majority of the trips associated with the proposed development will not be new to the highway network with a high proportion being pass-by trips already on the highway network.
- 4.6.5 As way of demonstration reference has again been made to Costa Coffee survey data. The customers at the stores were surveyed to determine the trip types and essentially what proportion of the trips (set out in Table 4.1 above) are existing (pass-by/diverted) and what proportion were new trips, with the primary purpose of visiting the drive-thru coffee shops.
- 4.6.6 The average pass-by/diverted percentage is noted to be 90% on a weekday. In view of this, the following trip type proportions, and corresponding vehicle trips, have been adopted.
- 4.6.7 It is important to note there is also likely to be level of cross-visitation trips with the neighbouring convenience store and vice versa, however, to provide a robust assessment, no reduction to the traffic generation has been applied to take into account this trip type.

Trip Type	Trip Type Proportions		Trips			
	AM Peak	PM Peak	AM Peak		PM Peak	
			Arr	Dep	Arr	Dep
Primary Trips	10%	10%	9	8	7	7
Pass-by Trips	90%	90%	77	72	64	65
Total	100%	100%	86	80	71	72

Table 4.2 Proposed Coffee Drive-thru Trips by Type

4.6.8 The proposed primary and pass-by/diverted trips for the Coffee Drive-thru have been assigned to the local highway network using the proposed trip distribution contained within Figures 5 and 6 and observed traffic movements have been used for the pass-by trips.

4.6.9 The resultant Coffee Drive-thru primary new trips and pass-by trips are displayed in **Figures 7 to 10** for the Weekday peak periods.

Proposed Convenience Store Generation

4.6.10 The development proposals would provide a Convenience store with a gross floor area of 371 square metres.

4.6.11 In order to predict the likely vehicular trips associated with the proposed Co-operative store, an interrogation of the TRICS version database has been undertaken in the field of 'Retail – Convenience Store' using all sites of less than 500 square metres excluding those located in Greater London and Ireland as well as those located in town centre or edge of town locations.

4.6.12 **Table 4.3** below summarises the trip rates and traffic generation for the proposed Convenience Store whilst the full TRICS output is contained within **Appendix 3**.

Peak Period	Trip Rates (per 100sqm)		Trip Generation	
	Arr	Dep	Arr	Dep
Weekday AM Peak	7.968	7.65	30	28
Weekday PM Peak	9.498	10.479	35	39

Table 4.3 - Forecast Trip Generation of Proposed Convenience Store (371sqm)

4.6.13 The proposed convenience store is forecast to generate a total of 58 two-way trips in the Weekday AM peak and 44 two-way trips in the Weekday PM peak.

4.6.14 Of course, given the land use type, the vast majority of the trips associated with the proposed development will not be new to the highway network. This is due to the linked nature of food retail shopping and the 'walk in' catchment of these types of local store.

Trip Types

4.6.15 For these trips the origin and destination zones are not the same and the retail use is an intermediate stop on a route between two trip ends. Linked trips can be further broken down into:

- Pass-by linked trips – these are linked trips already present on the road network directly adjacent to the site, where the retail use is an intermediate stop on the normal route taken.



- Diverted linked trips – these are similar to pass-by trips in that the retail use is an intermediate stop, but in this instance the trip is already present on the local road network but not the road(s) from which the site is taken;
- Cross visitation linked trips – these are trips that have multiple destinations, either within the proposed development site or with adjacent uses. In such instances it is customary to only 'count' that those trips once for the development as a whole.

4.6.16 Haverhill Road is a key route into and out of Haverhill and is used by commuters travelling to Bury St. Edmunds. Therefore, a large proportion of trade to the store will pass-by at the Haverhill Road/Site Access junction.

4.6.17 In view of this, the following trip type proportions, and corresponding vehicle trips, have been adopted.

Trip Type	Trip Type Proportions		Trips			
	AM Peak	PM Peak	AM Peak		PM Peak	
			Arr	Dep	Arr	Dep
Primary Trips	30%	30%	9	9	11	12
Pass-by Trips	70%	70%	21	20	24	27
Total	100%	100%	20	21	35	39

Table 4.4 Proposed Convenience Store Trips by Type

4.6.18 For the purpose of this traffic impact analysis, primary new trips and pass-by trips have been assigned to the highway network using the trip distribution displayed in **Figures 5** and **6**.

- 4.6.19 The proposed primary new trips for the Convenience Store for the Weekday AM and PM peak periods are displayed in **Figures 11** and **12**. Whilst the Pass-by Trips for the proposed development are displayed in **Figures 13** and **14**.

4.7 Total Development Flows

- 4.7.1 To calculate the total development flows for the development site, the Coffee Drive-thru unit development flows displayed in Figures 7 to 10 have been added to the total Convenience Store flows displayed in Figures 11 to 14. The resultant total development flows are displayed in **Figures 15** and **16**.

4.8 With Development Flows

- 4.8.1 To calculate the 2028 With Development Flows, the proposed development flows contained within Figures 15 and 16 have been added to the 2028 Growthed Flows displayed in Figures 3 and 4. The resultant 2028 'With Development' Flows are displayed in **Figures 17** and **18** for the Weekday peak periods.

4.9 Capacity Assessments

- 4.9.1 For the purposes of this traffic impact analysis capacity assessments have been undertaken of the A143 Haverhill Road/Proposed Site Access priority controlled junction.

A143 Haverhill Road/Proposed Site Access Priority Controlled Junction

- 4.9.2 To assess the operation of the proposed A143 Haverhill Road/Site Access junction priority controlled site access junction the computer program JUNCTIONS 9 has been utilised.



4.9.3 The operation of the junction has been assessed using the 2028 'With Development' flows. The results of this analysis are summarised below in **Table 4.5** whilst the full output is contained within **Appendix 4**.

Arm	2028 With Development Flows			
	Weekday AM		Weekday PM	
	RFC	Q	RFC	RFC
Site Access Left	0.11	0	0.14	0
Site Access Right	0.18	0	0.17	0
Haverhill Road (w) Right-turn	0.18	0	0.15	0

Table 4.5- Summary of JUNCTIONS g Results for the Haverhill Road/Site Access Junction – 2028 With Development Flows

4.9.4 As can be seen in Table 4.5, the Haverhill Road/Site Access junction is forecast to operate well within its theoretical capacity in the 2028 With Development scenarios.

4.9.5 Based on the above it is concluded that the proposed site access junction can accommodate the levels of traffic forecast to be generated by the proposed development.



Impact on Wider Highway Network

- 4.9.6 The DfT document 'Guidance on Transport Assessment' provided some suggested thresholds in respect to traffic impact and, at Appendix B, states that the formal assessment of a junction may not be required for developments that would typically generate fewer than 30 two-way additional trips. It is acknowledged that the DfT guidance was withdrawn in 2014, however, the document still represents the best practice as the document sets out a pragmatic approach to assessing the transport impacts of a development.
- 4.9.7 The proposed development is forecast to result in between 10 and 21 two-way additional movements at the A143 Haverhill Road/Farrant Road and A143 Haverhill Road/Gurteen Avenue roundabout junctions. This equates to 1 additional vehicle every 2 minutes even in the peak periods.
- 4.9.8 Based on the above, the proposed development will have a minimal impact on the operation on the wider highway network and no further detailed analysis is required as part of this traffic impact analysis.

4.10 Traffic Impact Summary

The above has demonstrated that the proposed development will have a minimal impact on the local highway network even based on the robust assumptions included within the assessments.



5 CONCLUSIONS

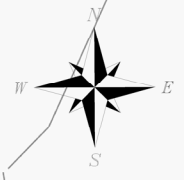
5.1.1 This report has considered the traffic and transportation issues relating to the proposals for a drive-thru coffee shop and convenience store at the former Fox Inn Public House off the A143 Haverhill Road in Haverhill.

5.1.2 The following conclusions have been drawn with regard to the proposed development:

- The existing pedestrian infrastructure located in the vicinity of the site will enable safe pedestrian movement between the development site and the residential areas located within the surrounding areas of Haverhill.
- The site can be accessed in a safe and efficient manner.
- The parking provision within the site and the surrounding highway network will have sufficient capacity to accommodate the demand generated by the proposed development.
- The proposals will not result in a severe impact on the operation of the local highway network.

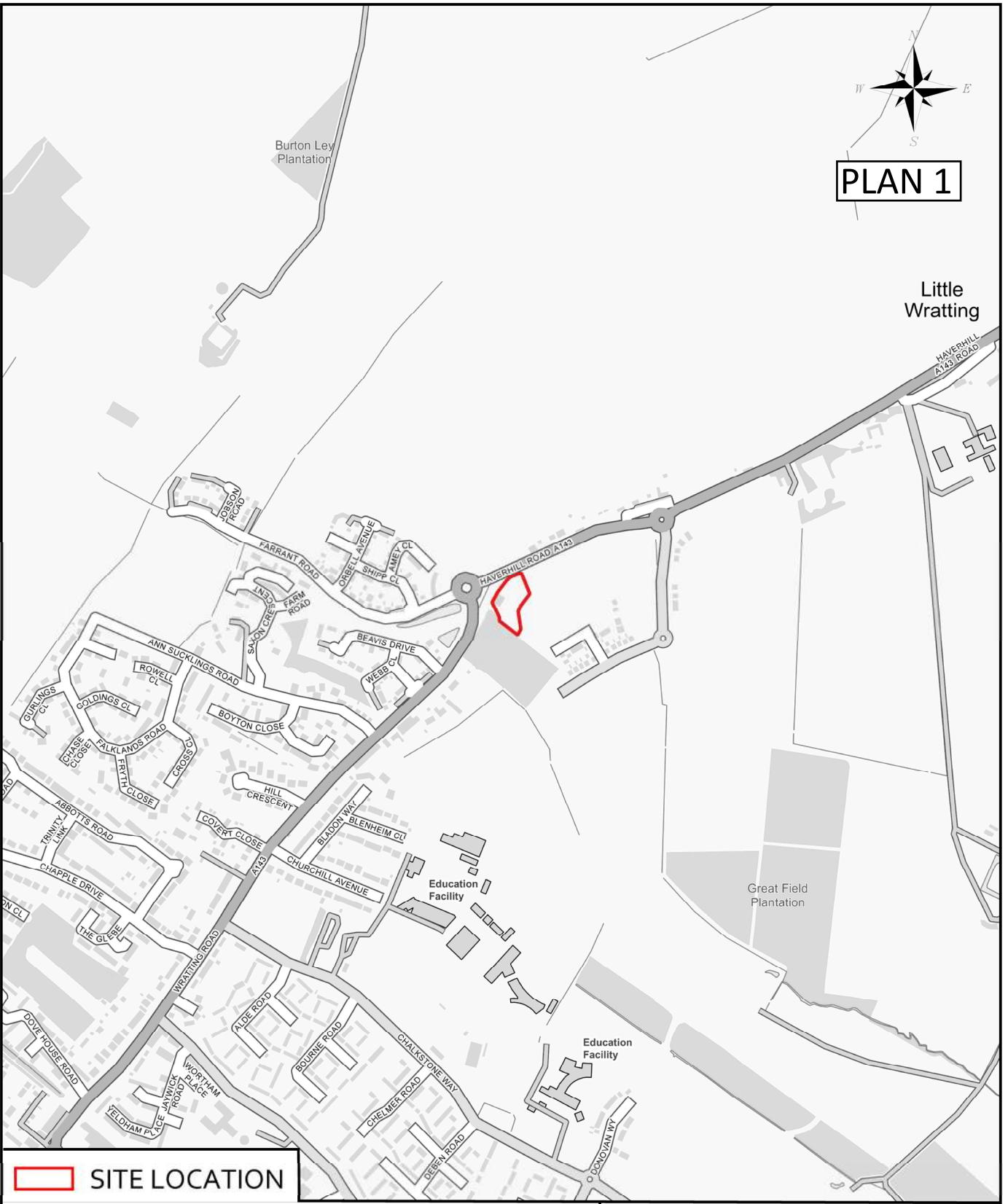
5.1.3 Based on the above it is the conclusion of this Report that there are no material reasons why the proposed development should not be granted planning consent on highways or transportation grounds.

PLANS



PLAN 1

Little
Wrating



 **SITE LOCATION**

CLIENT:

WELLSFIELD ASSOCIATES

DRAWING TITLE:

**THE FOX INN, HAVERHILL
SITE LOCATION**

Eddisons
340 Deansgate
Manchester
M3 4LY

Email: info@croffts.co.uk
Tel: 0161 837 7380
Web: www.eddisons.com/services/transport-planning

DRAWING NUMBER:

4103-01

REVISION:

-

DRAWN:

LG

DATE:

15.06.23

CHECKED:

TSB

DATE:

15.06.23

SCALES:

NTS @ A4



Z:\projects\4103 The Fox Inn, Haverhill Road, Haverhill\GIS\Workspaces\4103-01.dwg

REVISION

A. PEDESTRIAN ACCESS REMOVED; 2no. PARKING BAYS ADDED	21.04.23
B. DRIVE-THRU UNIT EXTENDED; RETAIL SALES/BOH SPLIT AMENDED; EV HUB ADDED	24.04.23
C. DRIVE-THRU UNIT AMENDED	05.05.23
D. ACCESS/TRACKING AMENDED	12.06.23

DRAWING STAGE - FEASIBILITY

OPENING HOURS - TBC
Proposed 6-11am (inc. sun & bank hols)

LOCAL AUTHORITY
West Suffolk Council

	ASDA Sales Floor Area
	ASDA BOH Area
	Proposed Plant Area (located on roof)

AREA SCHEDULE

Site area -	awaiting demise plan
Proposed Sales area -	2800 sq ft
Proposed back up area -	1200sq ft
Parcel room -	tbc sq ft
Proposed Sales/back up split -	70/30%

STORE TYPE	DELIVERY INFORMATION
tbc	CAGE DRAG DISTANCE -
	LORRY TYPE
	10.2M RIGID
	16.2M TRAILER

PROJECT TYPE	DEVELOPMENT TYPE
DEVELOPER SHELL NEW BUILD	MIXED USE WITH RESIDENTIAL
DEVELOPER SHELL CONVERSION	MIXED USE WITH OFFICE
ASDA LED NEW BUILD	MIXED USE WITH OTHER RETAIL
ASDA LED CONVERSION	STANDALONE
ASDA EXTENSION	PFS
ASDA REFIT	

PARKING SPACES

STANDARD SPACES - 26
ACCESSIBLE SPACES - 2
PARENT/CHILD SPACES - 1
CYCLE SPACES - yes
MOTORCYCLE SPACES - tbc
ELECTRIC VEHICLE CHARGING POINTS - 6 (if required)

PLAN 2

*****PRELIMINARY*****

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project **SCHEME 06**

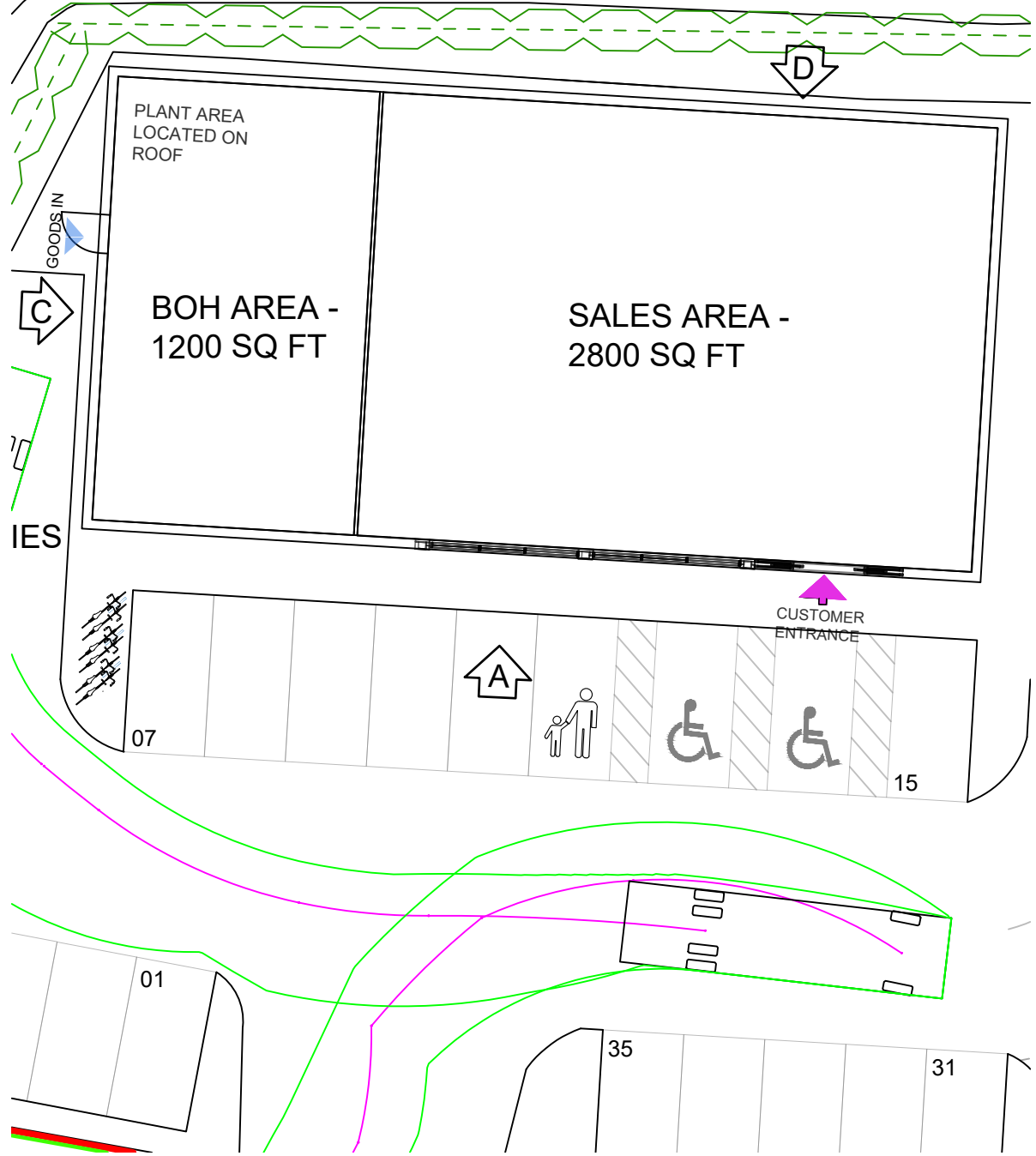
The Fox P.H.
Haverhill Road
Little Wratting
Cambridgeshire
CB9 7UD

FEASIBILITY PLAN

date **APR 23** drawn **MCK**

scale **1:200, 1:500 @ A3** drg no. **3774-07d**

EXISTING HEDGE / TREES RETAINED ALONG BOUND, POSITION TO BE CONFIRMED



FLOOR PLAN
SCALE 1:200



AERIAL VIEW OF SITE (nts)



VIEW OF SITE FROM HAVERHILL ROAD - 1

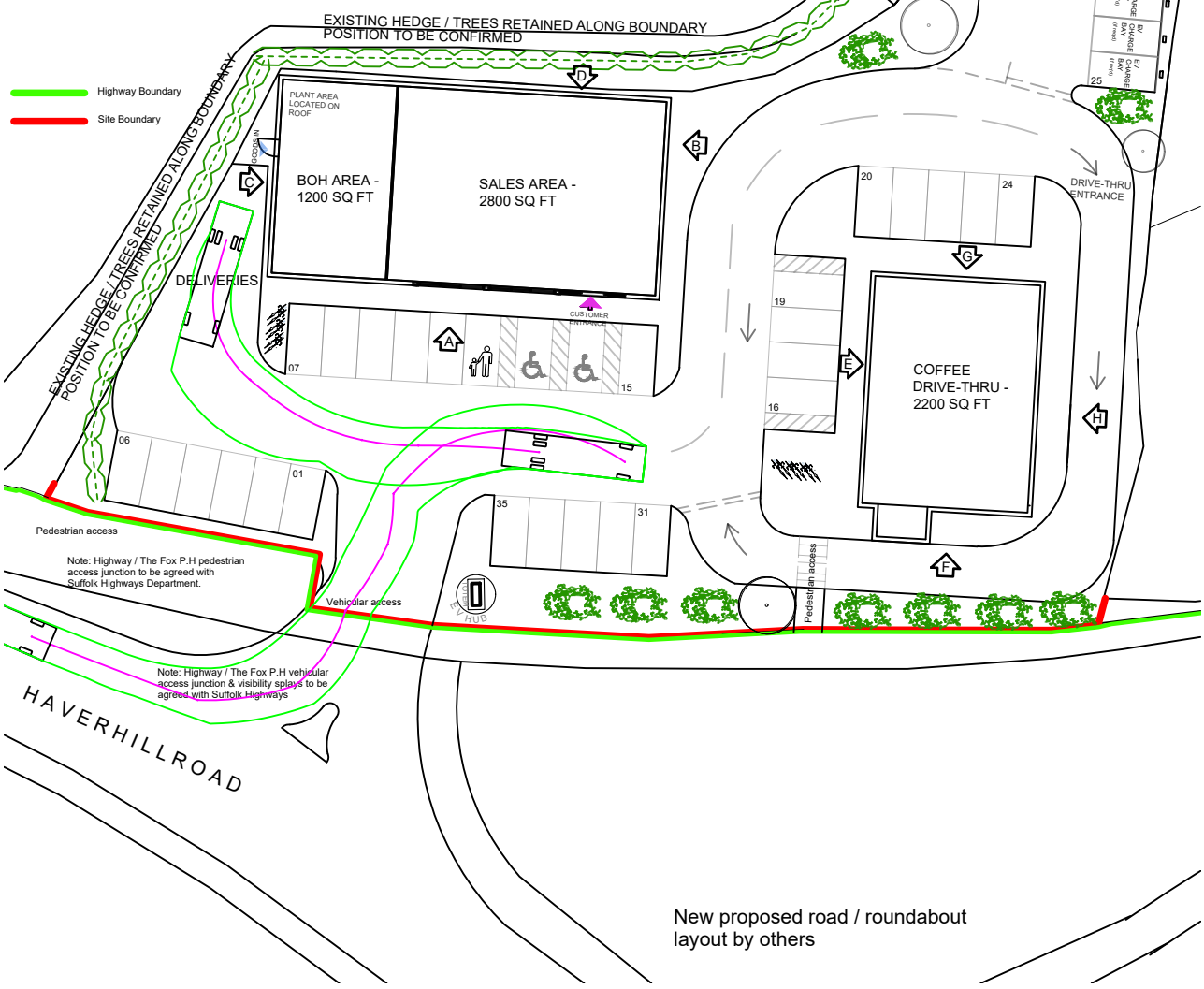


VIEW OF SITE FROM HAVERHILL ROAD - 2

Highway Boundary
Site Boundary

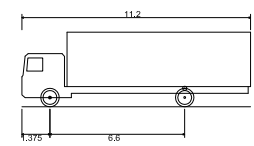
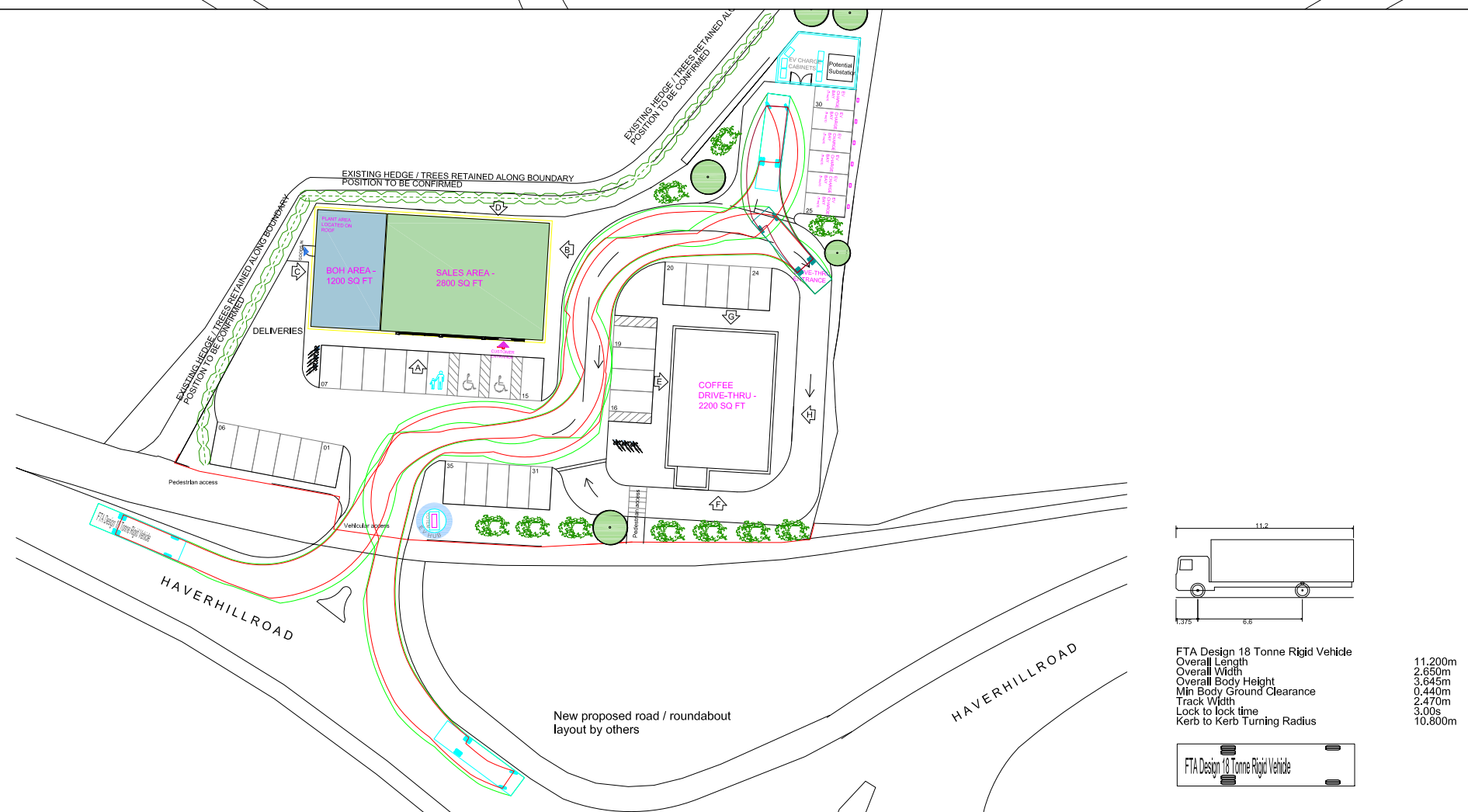
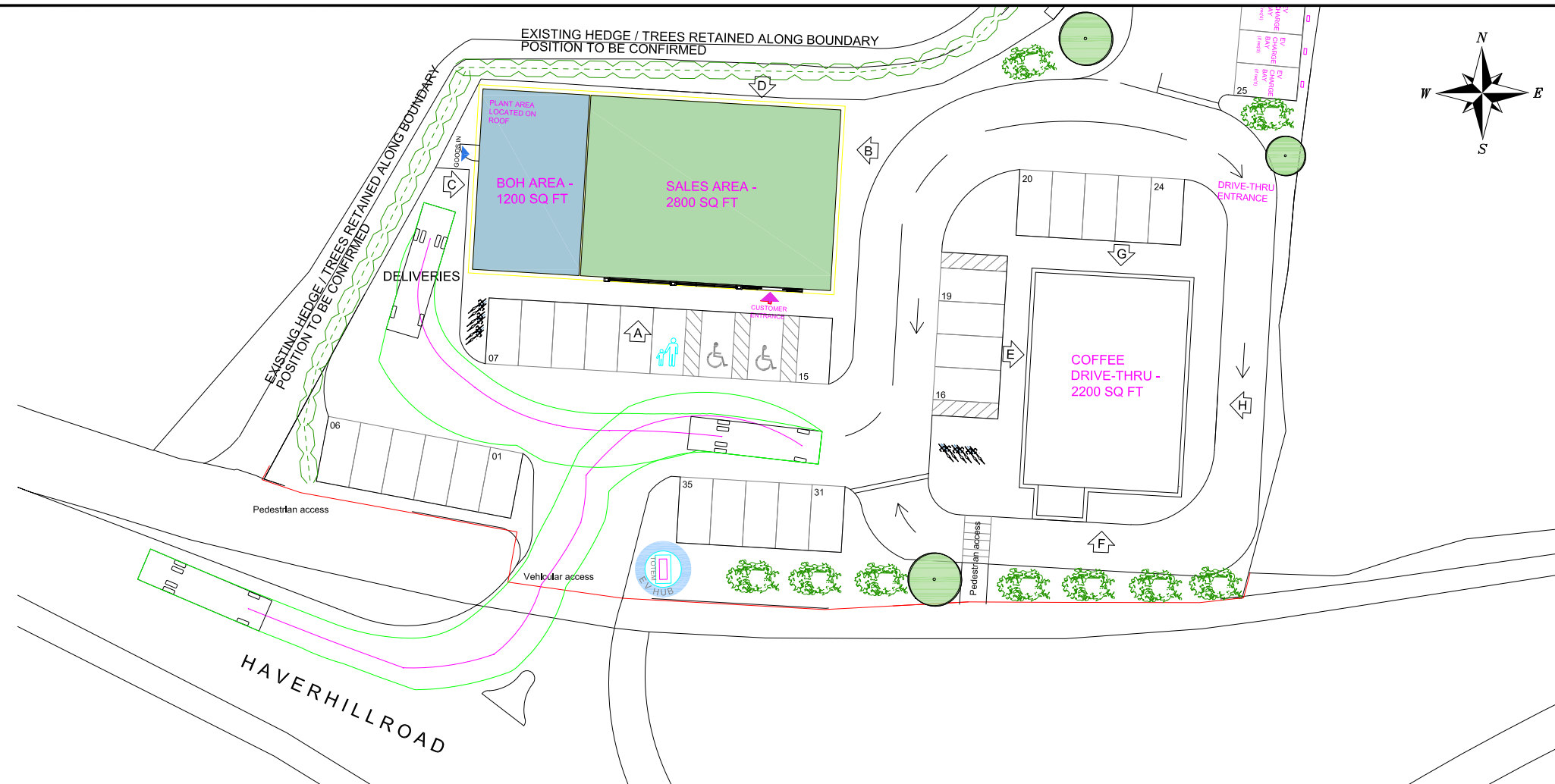
SITE PLAN

SCALE 1:500



New proposed road / roundabout layout by others

Z:\projects\4103 The Fox Inn, Haverhill Road, Haverhill\CAD\EDDISONS Drawings\4103-SP01.dwg



FTA Design 18 Tonne Rigid Vehicle
 Overall Length 11.200m
 Overall Width 2.650m
 Overall Body Height 3.845m
 Min Body Ground Clearance 0.440m
 Track Width 2.470m
 Lock to lock time 3.00s
 Kerb to Kerb Turning Radius 10.800m



NOTES

PLAN 3

REV	DETAILS	DRAWN	CHECKED	DATE

CLIENT: **WELLSFIELD ASSOCIATES**

PROJECT: **THE FOX INN, HAVERHILL ROAD, HAVERHILL**

DRAWING TITLE: **SWEPT PATH ANALYSIS**

SCALES: **1:500 @ A3**

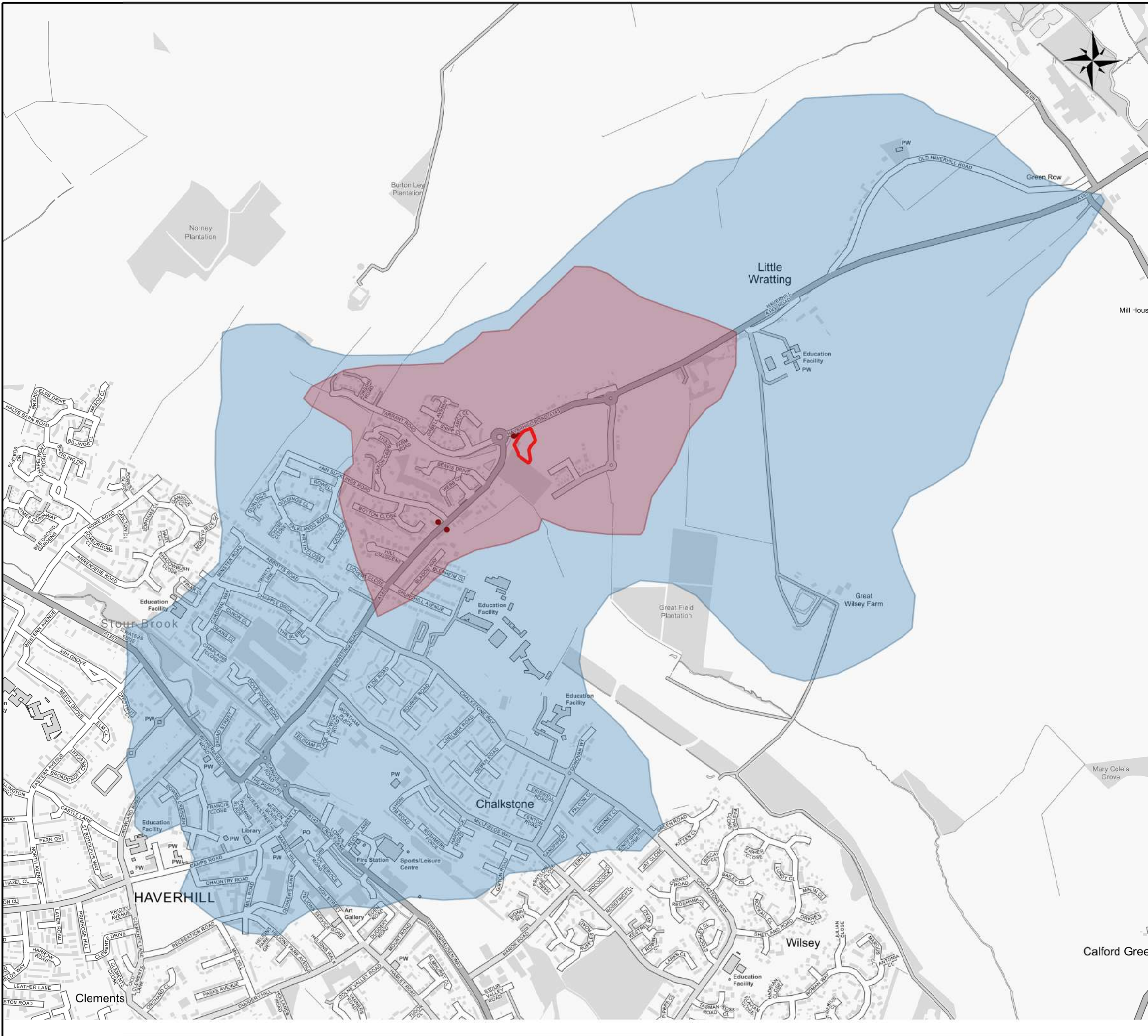
DRAWN: LG	CHECKED: TSB	DATE: JUL 23	
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Eddisons
340 Deansgate
Manchester
M3 4LY

Email: info@croftts.co.uk
Tel: 0161 837 7380
Web: www.eddisons.com/services/transport-planning

DRAWING NUMBER: 4103-SP01	REVISION: -
----------------------------------	-------------

Eddisons



NOTES

- Site Location
- 800m Pedestrian Catchment
- 2km Pedestrian Catchment
- Nearest Bus Stops

PLAN 4

REV	DETAILS	DRAWN	CHECKED	DATE

CLIENT: **WELLSFIELD ASSOCIATES**

PROJECT: **THE FOX INN, HAVERHILL**

DRAWING TITLE: **800M & 2KM PEDESTRIAN CATCHMENT WITH AMENITIES**

SCALES: **NTS @ A3**

DRAWN: LG	CHECKED: TSB	DATE: JUN 23
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Eddisons
340 Deansgate
Manchester
M3 4LY

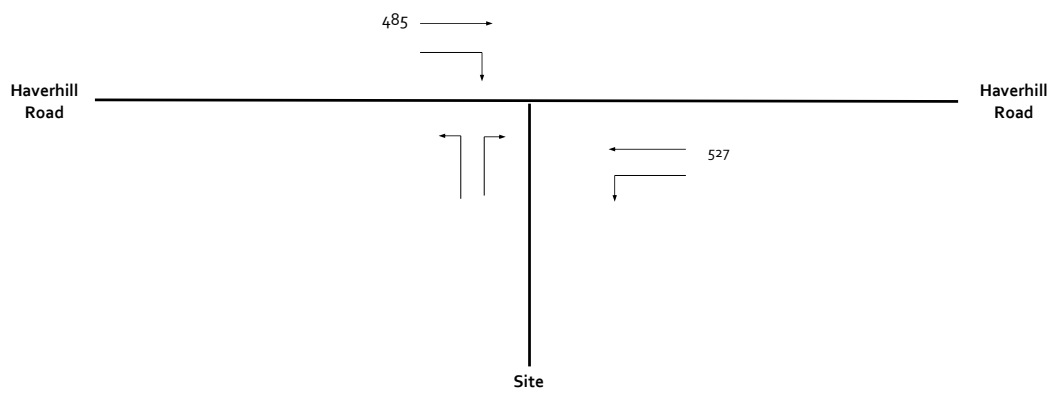
Email: info@crofts.co.uk
Tel: 0161 837 7380
Web: www.eddisons.com/services/transport-planning

DRAWING NUMBER: 4103-03	REVISION: -
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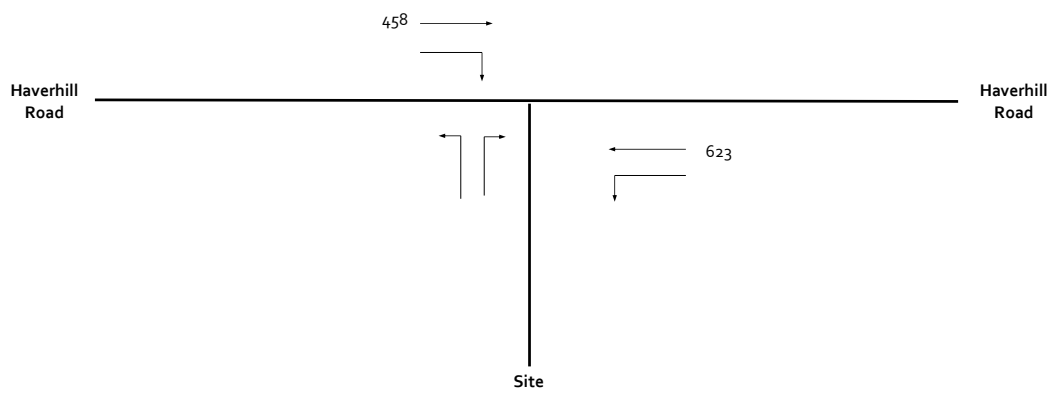
Z:\projects\4103 The Fox Inn, Haverhill Road, Haverhill\GIS\Workspaces\4103-03.dwg

FIGURES



Flows in PCUs

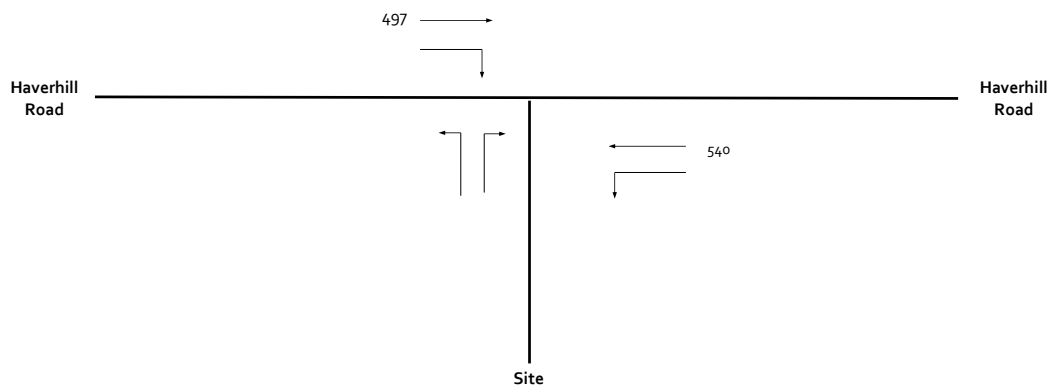
Figure 1 2023 Surveyed Flows - Weekday AM Peak (0800 - 0900)



Flows in PCUs

Figure 2 2023 Surveyed Flows - Weekday PM Peak (1700 - 1800)

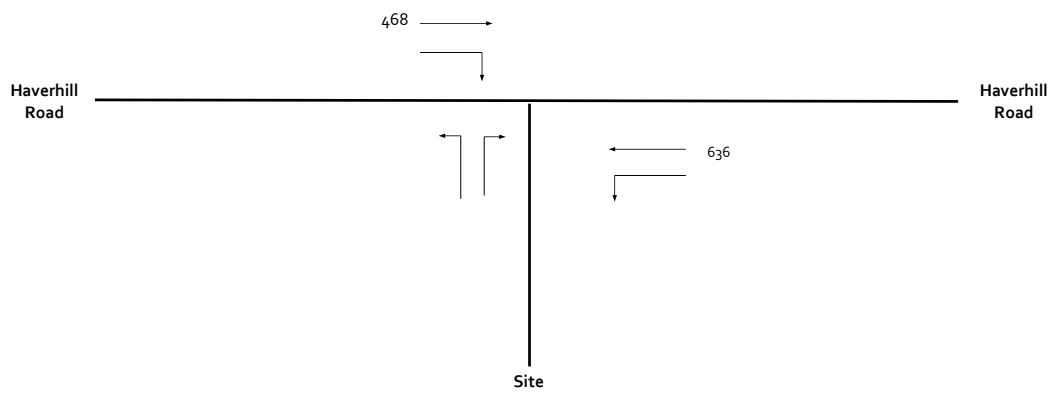




2023-2028 Growth Factor 1.025

Figure 1 2028 Grownthed Flows - Weekday AM Peak





2023-2028 Growth Factor 1.021

Figure 2 2028 Growthed Flows - Weekday PM Peak



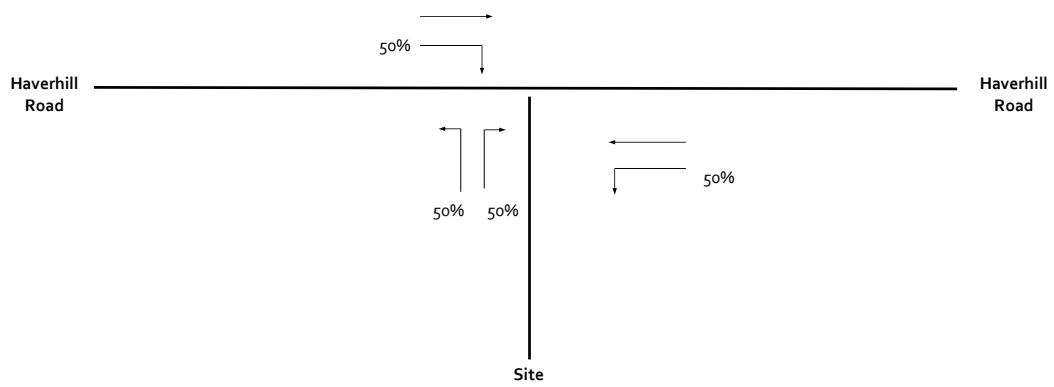


Figure 5 Proposed Trip Distribution - Weekday AM Peak

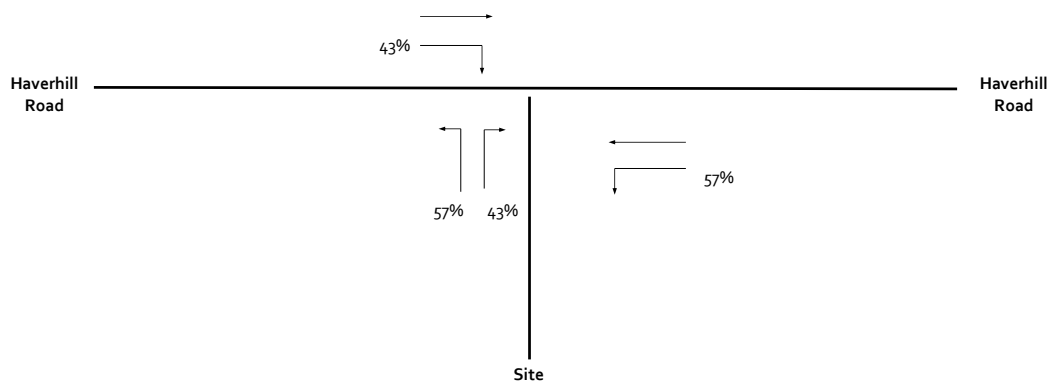
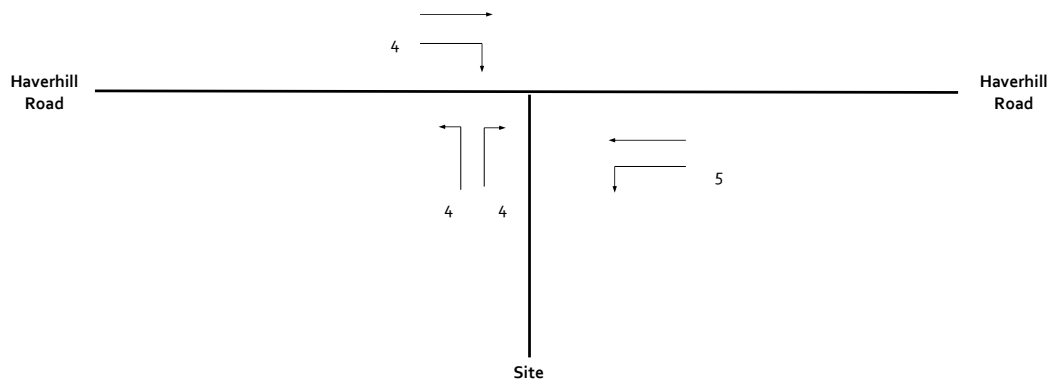


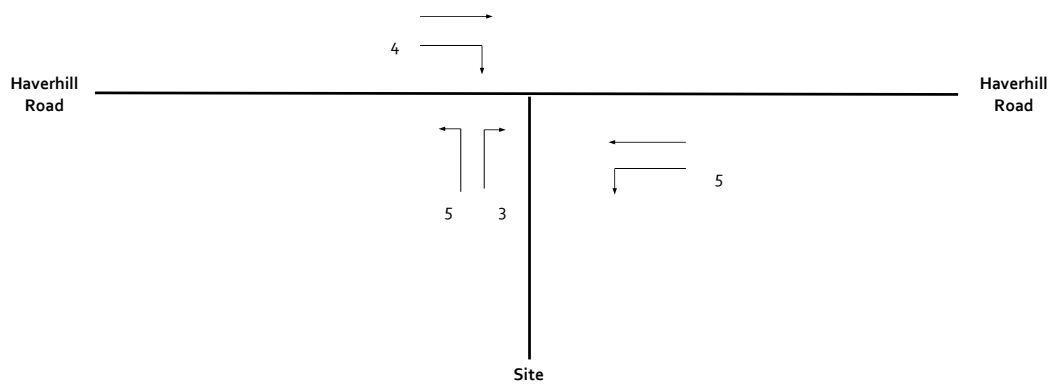
Figure 6 Proposed Trip Distribution - Weekday PM Peak



ARR 9
 DEP 8

Figure 7 Proposed Drive-thru Coffee Unit - Primary New Trips - Weekday AM Peak

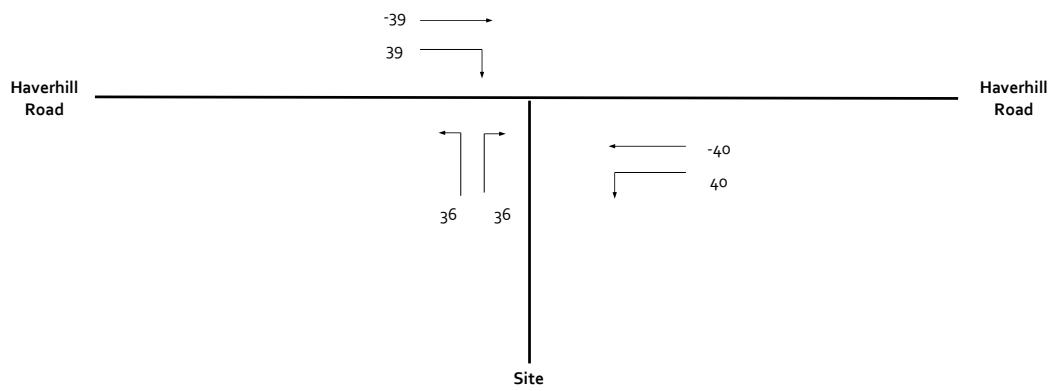




ARR 9
 DEP 8

Figure 8 Proposed Drive-thru Coffee Unit - Primary New Trips - Weekday PM Peak

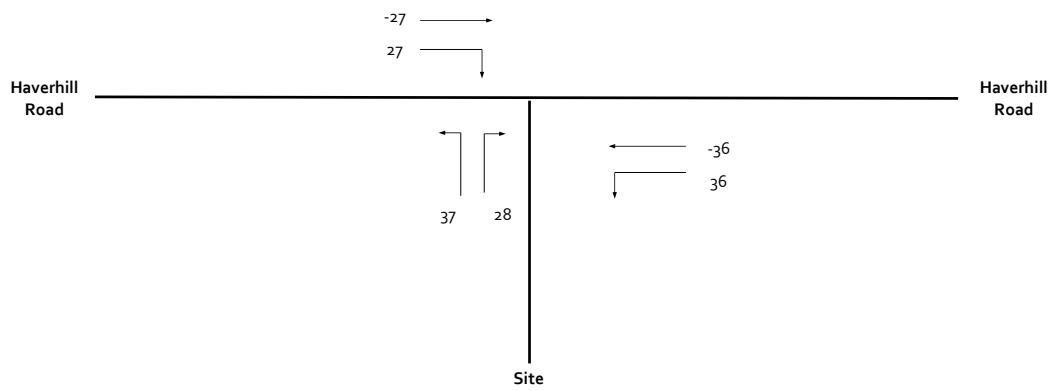




ARR 77
 DEP 72

Figure 9 Proposed Drive-thru Coffee Unit - Pass-by Trips - Weekday AM Peak

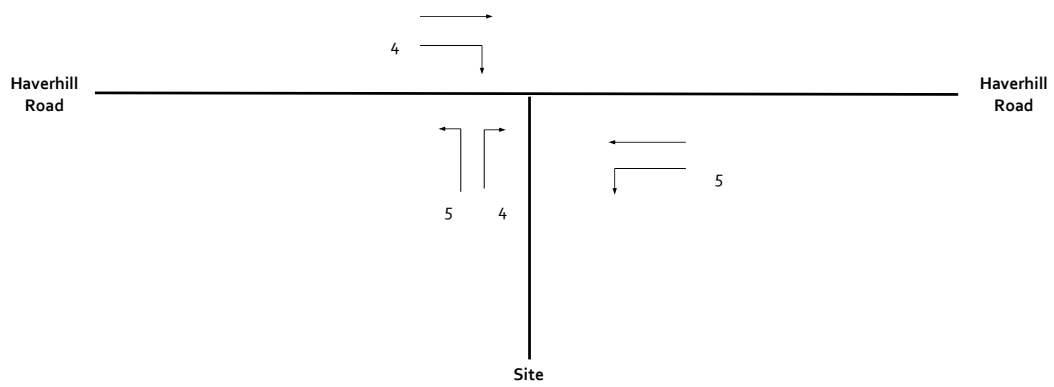




ARR 64
 DEP 65

Figure 10 Proposed Pass-by Trips - Drive-thru Coffee Unit - Weekday PM Peak

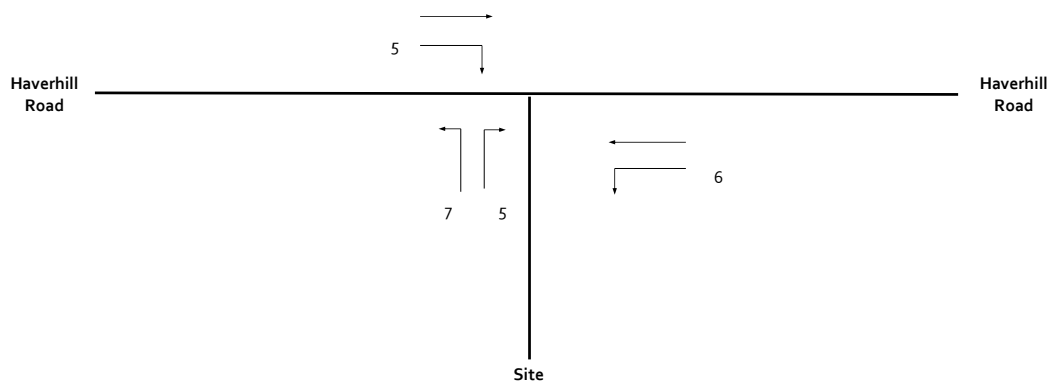




ARR 9
 DEP 9

Figure 11 Proposed Primary New Trips - Convenience Store - Weekday AM Peak

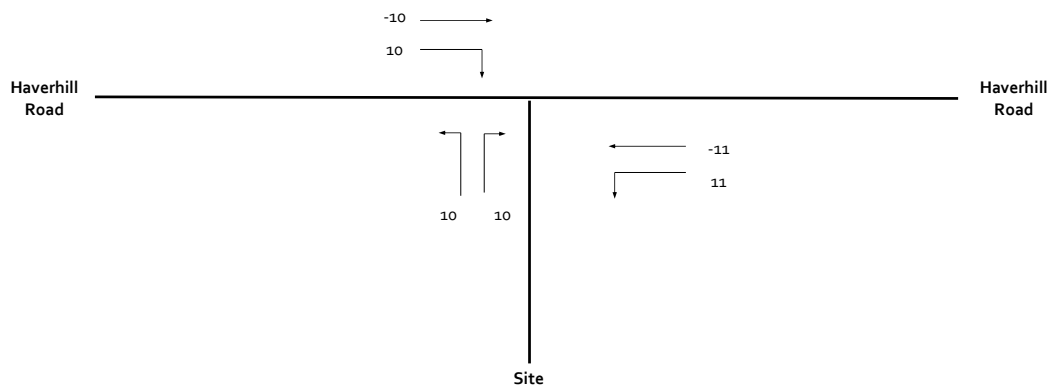




ARR 11
 DEP 12

Figure 12 Proposed Primary New Trips - Convenience Store - Weekday PM Peak

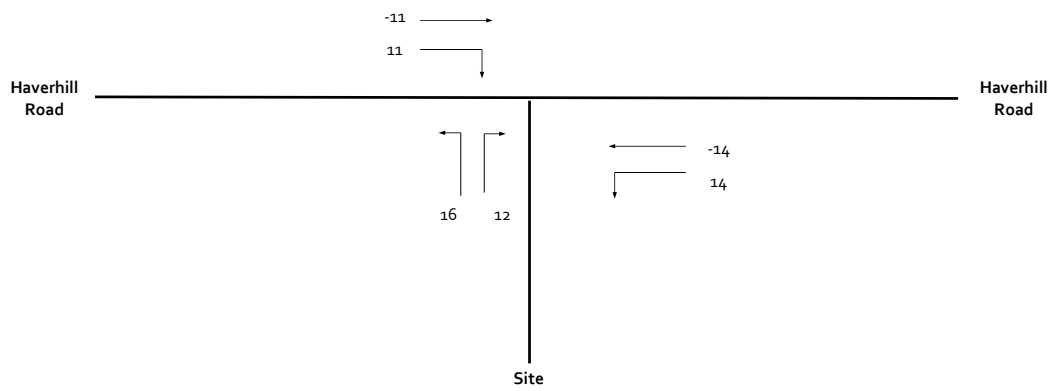




ARR 21
 DEP 20

Figure 13 Proposed Convenience Store- Pass-by Trips - Weekday AM Peak





ARR 25
 DEP 27

Figure 14 Proposed Convenience Store- Pass-by Trips - Weekday PM Peak



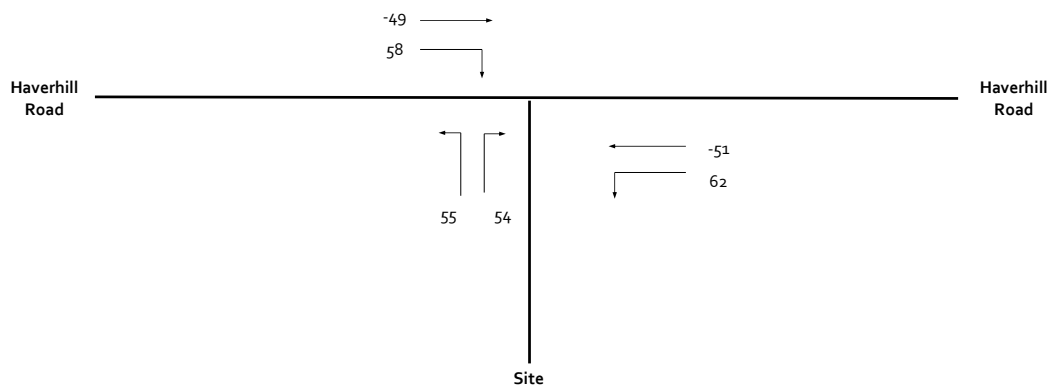


Figure 15 Total Proposed Development Flows - Weekday AM Peak

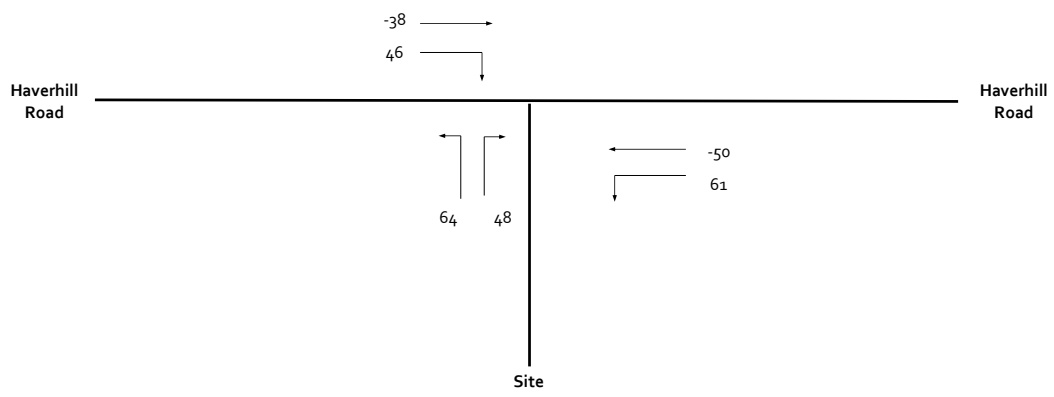


Figure 15 Total Proposed Development Flows - Weekday AM Peak

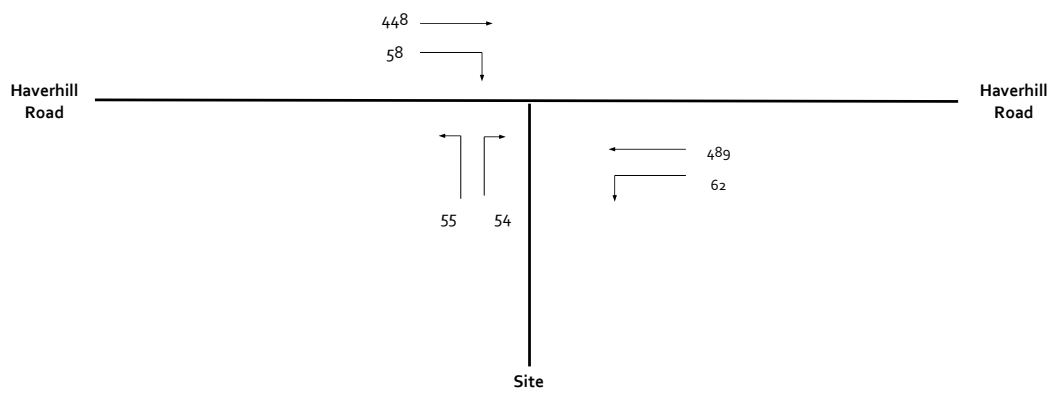


Figure 17 2028 With Development Flows - Weekday AM Peak

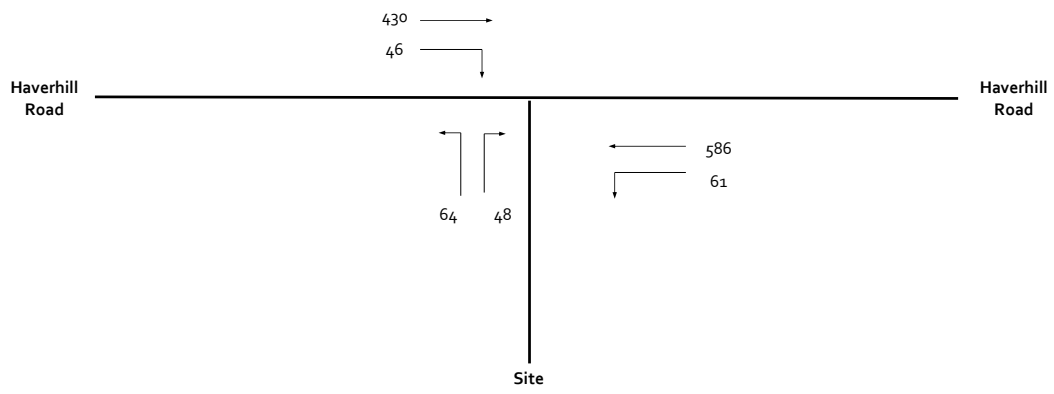


Figure 18 2028 Growthed Flows - Weekday PM Peak

APPENDICES

APPENDIX 1

Traffic Count Data

Haverhill ATC, Haverhill Road

Direction: Eastbound

	Total Volume	LIGHT	OGV1	OGV2	BUS
Wed 14 Jun 2023	4682	3974	625	30	53
Thu 15 Jun 2023	4820	4146	567	56	51
Fri 16 Jun 2023	4837	4166	576	46	49
Sat 17 Jun 2023	4292	3961	284	22	25
Sun 18 Jun 2023	3433	3211	200	12	10
Mon 19 Jun 2023	4476	3825	576	34	41
Tue 20 Jun 2023	4661	3975	602	40	44
5 Day Ave.	4695	4017	589	41	48
7 Day Ave.	4457	3894	490	34	39

Direction: Westbound

	Total Volume	LIGHT	OGV1	OGV2	BUS
Wed 14 Jun 2023	4830	3890	823	53	64
Thu 15 Jun 2023	4940	4046	793	50	51
Fri 16 Jun 2023	4973	4092	792	37	52
Sat 17 Jun 2023	3612	3236	345	9	22
Sun 18 Jun 2023	2919	2615	293	3	8
Mon 19 Jun 2023	4666	3814	765	40	47
Tue 20 Jun 2023	4684	3839	751	43	51
5 Day Ave.	4819	3936	785	45	53
7 Day Ave.	4375	3647	652	34	42

Direction: Total Flow

	Total Volume	LIGHT	OGV1	OGV2	BUS
Wed 14 Jun 2023	9512	7864	1448	83	117
Thu 15 Jun 2023	9760	8192	1360	106	102
Fri 16 Jun 2023	9810	8258	1368	83	101
Sat 17 Jun 2023	7904	7197	629	31	47
Sun 18 Jun 2023	6352	5826	493	15	18
Mon 19 Jun 2023	9142	7639	1341	74	88
Tue 20 Jun 2023	9345	7814	1353	83	95
5 Day Ave.	9514	7953	1374	86	101
7 Day Ave.	8832	7541	1142	68	81

	Total Volume	LIGHT	OGV1	OGV2	BUS
Wed 14 Jun 2023	100.0%	84.9%	13.3%	0.6%	1.1%
Thu 15 Jun 2023	100.0%	86.0%	11.8%	1.2%	1.1%
Fri 16 Jun 2023	100.0%	86.1%	11.9%	1.0%	1.0%
Sat 17 Jun 2023	100.0%	92.3%	6.6%	0.5%	0.6%
Sun 18 Jun 2023	100.0%	93.5%	5.8%	0.3%	0.3%
Mon 19 Jun 2023	100.0%	85.5%	12.9%	0.8%	0.9%
Tue 20 Jun 2023	100.0%	85.3%	12.9%	0.9%	0.9%
5 Day Ave.	100.0%	85.6%	12.5%	0.9%	1.0%
7 Day Ave.	100.0%	87.4%	11.0%	0.8%	0.9%

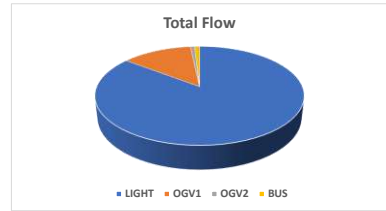
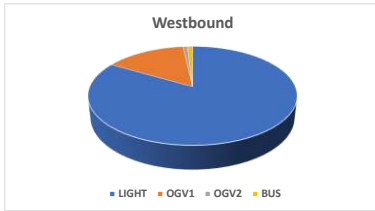
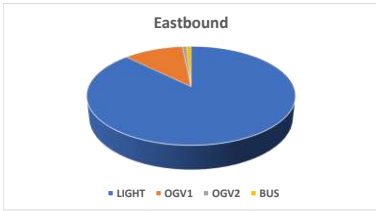
	Total Volume	LIGHT	OGV1	OGV2	BUS
Wed 14 Jun 2023	100.0%	80.5%	17.0%	1.1%	1.3%
Thu 15 Jun 2023	100.0%	81.9%	16.1%	1.0%	1.0%
Fri 16 Jun 2023	100.0%	82.3%	15.9%	0.7%	1.0%
Sat 17 Jun 2023	100.0%	89.6%	9.6%	0.2%	0.6%
Sun 18 Jun 2023	100.0%	89.6%	10.0%	0.1%	0.3%
Mon 19 Jun 2023	100.0%	81.7%	16.4%	0.9%	1.0%
Tue 20 Jun 2023	100.0%	82.0%	16.0%	0.9%	1.1%
5 Day Ave.	100.0%	81.7%	16.3%	0.9%	1.1%
7 Day Ave.	100.0%	83.4%	14.9%	0.8%	1.0%

	Total Volume	LIGHT	OGV1	OGV2	BUS
Wed 14 Jun 2023	100.0%	82.7%	15.2%	0.9%	1.2%
Thu 15 Jun 2023	100.0%	83.9%	13.9%	1.1%	1.0%
Fri 16 Jun 2023	100.0%	84.2%	13.9%	0.8%	1.0%
Sat 17 Jun 2023	100.0%	91.1%	8.0%	0.4%	0.6%
Sun 18 Jun 2023	100.0%	91.7%	7.8%	0.2%	0.3%
Mon 19 Jun 2023	100.0%	83.6%	14.7%	0.8%	1.0%
Tue 20 Jun 2023	100.0%	83.6%	14.5%	0.9%	1.0%
5 Day Ave.	100.0%	83.6%	14.4%	0.9%	1.1%
7 Day Ave.	100.0%	85.4%	12.9%	0.8%	0.9%

Paul Castle Associates

Paul Castle Associates

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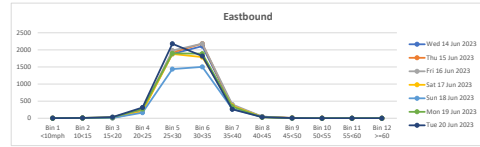


Haverhill ATC, Haverhill Road

Direction: Eastbound

	Total Volume	85th Percentile	Mean Average	Standard Deviation	Bin 1 <10mph	Bin 2 10<15	Bin 3 15<20	Bin 4 20<25	Bin 5 25<30	Bin 6 30<35	Bin 7 35<40	Bin 8 40<45	Bin 9 45<50	Bin 10 50<55	Bin 11 55<60	Bin 12 >=60
Wed 14 Jun 2023	4652	34.5	30.4	4.1	2	7	16	234	1832	2110	369	49	9	2	1	1
Thu 15 Jun 2023	4820	34.5	30.3	4.0	0	9	23	268	1924	2183	358	41	9	5	0	0
Fri 16 Jun 2023	4837	34.6	30.5	3.9	0	5	11	195	1981	2182	405	49	7	0	1	1
Sat 17 Jun 2023	4292	34.5	30.4	4.0	2	1	11	196	1881	1789	363	37	9	1	1	1
Sun 18 Jun 2023	3433	34.5	30.4	3.9	2	2	8	162	1439	1503	277	36	3	0	1	0
Mon 19 Jun 2023	4476	34.3	30.1	4.0	0	11	29	271	1897	1891	341	28	7	1	0	0
Tue 20 Jun 2023	4661	33.8	29.7	4.0	2	10	34	315	2179	1820	261	33	5	1	1	0
5 Day Avg.	4695	34.4	30.2	4.0	1	8	23	257	1973	2037	347	40	7	2	1	0
7 Day Avg.	4457	34.4	30.3	4.0	1	6	19	234	1883	1925	339	39	7	1	1	0

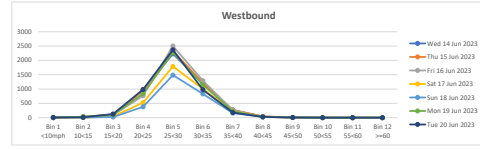
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Direction: Westbound

	Total Volume	85th Percentile	Mean Average	Standard Deviation	Bin 1 <10mph	Bin 2 10<15	Bin 3 15<20	Bin 4 20<25	Bin 5 25<30	Bin 6 30<35	Bin 7 35<40	Bin 8 40<45	Bin 9 45<50	Bin 10 50<55	Bin 11 55<60	Bin 12 >=60
Wed 14 Jun 2023	4830	33.1	28.2	4.7	0	23	90	960	2229	1208	266	41	10	3	0	0
Thu 15 Jun 2023	4940	33.0	28.2	4.7	1	28	114	937	2326	1215	271	43	5	0	0	0
Fri 16 Jun 2023	4973	33.0	28.4	4.5	3	32	95	763	2501	1290	256	27	4	1	0	1
Sat 17 Jun 2023	3612	33.4	28.8	4.4	0	1	41	524	1787	1004	215	31	6	3	0	0
Sun 18 Jun 2023	2919	33.3	28.9	4.3	1	7	22	378	1485	832	161	26	7	0	0	0
Mon 19 Jun 2023	4666	32.9	28.1	4.7	9	30	104	838	2277	1149	222	30	5	2	0	0
Tue 20 Jun 2023	4684	32.3	27.6	4.5	5	14	126	985	2369	974	176	27	6	0	0	0
5 Day Avg.	4819	32.9	28.1	4.6	4	25	106	897	2340	1167	238	34	6	1	0	0
7 Day Avg.	4375	33.0	28.3	4.5	3	19	85	769	2139	1096	224	32	6	1	0	0

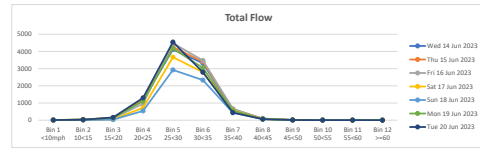
Paul Castle Associates



Direction: Total Flow

	Total Volume	85th Percentile	Mean Average	Standard Deviation	Bin 1 <10mph	Bin 2 10<15	Bin 3 15<20	Bin 4 20<25	Bin 5 25<30	Bin 6 30<35	Bin 7 35<40	Bin 8 40<45	Bin 9 45<50	Bin 10 50<55	Bin 11 55<60	Bin 12 >=60
Wed 14 Jun 2023	9512	34.0	29.3	4.5	2	30	106	1194	4111	3318	635	90	19	5	1	1
Thu 15 Jun 2023	9760	33.9	29.2	4.5	1	37	137	1205	4250	3398	629	84	14	5	0	0
Fri 16 Jun 2023	9810	33.9	29.4	4.4	3	37	106	958	4482	3472	661	76	11	1	1	2
Sat 17 Jun 2023	7904	34.0	29.7	4.2	2	2	52	720	3668	2763	578	68	15	4	1	1
Sun 18 Jun 2023	6352	34.0	29.7	4.2	3	9	30	540	2924	2335	438	62	10	0	1	0
Mon 19 Jun 2023	9142	33.7	29.1	4.5	9	41	133	1109	4174	3040	563	58	12	3	0	0
Tue 20 Jun 2023	9245	33.2	28.7	4.4	7	24	162	1300	4548	2798	437	60	11	1	1	0
5 Day Avg.	9514	33.8	29.1	4.4	4	34	129	1153	4313	3204	585	74	13	3	1	1
7 Day Avg.	8832	33.8	29.3	4.4	4	26	104	1004	4022	3021	563	71	13	3	1	1

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Haverhill ATC, Haverhill Road

Direction: Eastbound

	Total Volume	85th Percentile	Mean Average	Standard Deviation	Bin 1 <10mph	Bin 2 10<15	Bin 3 15<20	Bin 4 20<25	Bin 5 25<30	Bin 6 30<35	Bin 7 35<40	Bin 8 40<45	Bin 9 45<50	Bin 10 50<55	Bin 11 55<60	Bin 12 >=60
Wed 14 Jun 2023	502	33.5	29.6	3.7	0	0	0	42	236	196	26	1	1	0	0	0
Thu 15 Jun 2023	546	33.3	29.5	3.7	0	2	3	36	264	220	18	3	0	0	0	0
Fri 16 Jun 2023	582	33.8	29.9	3.8	0	0	0	36	283	223	35	3	2	0	0	0
Sat 17 Jun 2023	710	34.0	30.1	3.8	1	0	4	18	356	277	47	5	1	1	0	0
Sun 18 Jun 2023	634	34.1	30.3	3.7	0	0	0	26	292	263	45	8	0	0	0	0
Mon 19 Jun 2023	516	33.5	29.4	4.0	0	0	3	44	269	166	30	1	2	1	0	0
Tue 20 Jun 2023	513	32.4	28.6	3.7	0	2	6	46	296	148	14	1	0	0	0	0
5 Day Ave.	532	33.3	29.4	3.8	0	1	2	41	270	191	25	2	1	0	0	0
7 Day Ave.	572	33.5	29.6	3.8	0	1	2	35	285	213	31	3	1	0	0	0

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Direction: Westbound

	Total Volume	85th Percentile	Mean Average	Standard Deviation	Bin 1 <10mph	Bin 2 10<15	Bin 3 15<20	Bin 4 20<25	Bin 5 25<30	Bin 6 30<35	Bin 7 35<40	Bin 8 40<45	Bin 9 45<50	Bin 10 50<55	Bin 11 55<60	Bin 12 >=60
Wed 14 Jun 2023	502	33.0	28.6	4.3	0	0	6	81	246	142	22	3	2	0	0	0
Thu 15 Jun 2023	532	32.1	27.6	4.3	0	0	14	117	274	102	21	4	0	0	0	0
Fri 16 Jun 2023	580	32.8	27.9	4.7	2	5	14	88	317	127	25	1	0	0	0	1
Sat 17 Jun 2023	562	32.2	28.0	4.0	0	0	12	96	299	134	19	2	0	0	0	0
Sun 18 Jun 2023	533	32.9	28.8	3.9	0	0	1	71	284	146	29	1	1	0	0	0
Mon 19 Jun 2023	528	31.5	27.7	3.7	0	1	4	102	309	97	13	2	0	0	0	0
Tue 20 Jun 2023	518	31.3	27.0	4.2	0	1	22	115	285	81	11	3	0	0	0	0
5 Day Ave.	532	32.1	27.8	4.2	0	1	12	101	286	110	18	3	0	0	0	0
7 Day Ave.	536	32.3	27.9	4.2	0	1	10	96	288	118	20	2	0	0	0	0

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Direction: Total Flow

	Total Volume	85th Percentile	Mean Average	Standard Deviation	Bin 1 <10mph	Bin 2 10<15	Bin 3 15<20	Bin 4 20<25	Bin 5 25<30	Bin 6 30<35	Bin 7 35<40	Bin 8 40<45	Bin 9 45<50	Bin 10 50<55	Bin 11 55<60	Bin 12 >=60
Wed 14 Jun 2023	1004	33.3	29.1	4.0	0	0	6	123	482	338	48	4	3	0	0	0
Thu 15 Jun 2023	1078	32.8	28.6	4.1	0	2	17	153	538	322	39	7	0	0	0	0
Fri 16 Jun 2023	1162	33.4	28.9	4.4	2	5	14	124	600	350	60	4	2	0	0	1
Sat 17 Jun 2023	1272	33.4	29.2	4.0	1	0	16	114	655	411	66	7	1	1	0	0
Sun 18 Jun 2023	1167	33.6	29.6	3.9	0	0	1	97	576	409	74	9	1	0	0	0
Mon 19 Jun 2023	1044	32.6	28.5	4.0	0	1	7	146	578	263	43	3	2	1	0	0
Tue 20 Jun 2023	1031	32.0	27.8	4.0	0	3	28	161	581	229	25	4	0	0	0	0
5 Day Ave.	1064	32.8	28.6	4.1	0	2	14	141	556	300	43	4	1	0	0	0
7 Day Ave.	1108	33.0	28.8	4.1	0	2	13	131	573	332	51	5	1	0	0	0

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Haverhill ATC, Haverhill Road

Direction: Eastbound

	Total Volume	85th Percentile	Mean Average	Standard Deviation	Bin 1 <10mph	Bin 2 10<15	Bin 3 15<20	Bin 4 20<25	Bin 5 25<30	Bin 6 30<35	Bin 7 35<40	Bin 8 40<45	Bin 9 45<50	Bin 10 50<55	Bin 11 55<60	Bin 12 >=60
Wed 14 Jun 2023	634	33.9	30.2	3.6	0	0	3	33	261	299	37	1	0	0	0	0
Thu 15 Jun 2023	664	33.9	29.8	4.0	0	3	1	43	315	252	46	2	2	0	0	0
Fri 16 Jun 2023	707	34.3	30.3	3.8	0	0	3	34	307	301	54	8	0	0	0	0
Sat 17 Jun 2023	573	34.3	30.4	3.8	0	0	2	24	250	245	47	3	2	0	0	0
Sun 18 Jun 2023	522	34.5	30.4	4.0	0	0	0	28	217	235	35	5	1	0	1	0
Mon 19 Jun 2023	629	33.3	29.7	3.4	0	0	0	36	311	253	26	3	0	0	0	0
Tue 20 Jun 2023	658	33.7	29.6	3.9	0	1	5	51	308	256	29	8	0	0	0	0
5 Day Ave.	658	33.8	29.9	3.8	0	1	2	39	300	272	38	4	0	0	0	0
7 Day Ave.	627	34.0	30.0	3.8	0	1	2	36	281	263	39	4	1	0	0	0

Paul Castle Associates

Direction: Westbound

	Total Volume	85th Percentile	Mean Average	Standard Deviation	Bin 1 <10mph	Bin 2 10<15	Bin 3 15<20	Bin 4 20<25	Bin 5 25<30	Bin 6 30<35	Bin 7 35<40	Bin 8 40<45	Bin 9 45<50	Bin 10 50<55	Bin 11 55<60	Bin 12 >=60
Wed 14 Jun 2023	665	31.9	27.4	4.3	0	10	14	138	342	143	18	0	0	0	0	0
Thu 15 Jun 2023	703	32.4	27.6	4.7	0	7	17	160	328	152	37	2	0	0	0	0
Fri 16 Jun 2023	740	32.0	27.8	4.1	1	2	7	158	377	168	26	1	0	0	0	0
Sat 17 Jun 2023	506	32.3	27.9	4.2	0	0	7	110	250	119	16	3	1	0	0	0
Sun 18 Jun 2023	487	32.5	28.4	4.0	0	0	2	88	245	131	18	3	0	0	0	0
Mon 19 Jun 2023	658	32.0	27.3	4.6	2	6	18	151	323	134	21	3	0	0	0	0
Tue 20 Jun 2023	649	31.3	26.9	4.2	1	5	16	173	330	109	13	2	0	0	0	0
5 Day Ave.	683	31.9	27.4	4.4	1	6	14	156	340	141	23	2	0	0	0	0
7 Day Ave.	630	32.1	27.6	4.3	1	4	12	140	314	137	21	2	0	0	0	0

Paul Castle Associates

Direction: Total Flow

	Total Volume	85th Percentile	Mean Average	Standard Deviation	Bin 1 <10mph	Bin 2 10<15	Bin 3 15<20	Bin 4 20<25	Bin 5 25<30	Bin 6 30<35	Bin 7 35<40	Bin 8 40<45	Bin 9 45<50	Bin 10 50<55	Bin 11 55<60	Bin 12 >=60
Wed 14 Jun 2023	1299	33.1	28.7	4.2	0	10	17	171	603	442	55	1	0	0	0	0
Thu 15 Jun 2023	1367	33.3	28.7	4.5	0	10	18	203	643	404	83	4	2	0	0	0
Fri 16 Jun 2023	1447	33.3	29.0	4.2	1	2	10	192	684	469	80	9	0	0	0	0
Sat 17 Jun 2023	1079	33.6	29.2	4.2	0	0	9	134	500	364	63	6	3	0	0	0
Sun 18 Jun 2023	1009	33.7	29.4	4.1	0	0	2	116	462	366	53	8	1	0	1	0
Mon 19 Jun 2023	1287	32.9	28.5	4.2	2	6	18	187	634	387	47	6	0	0	0	0
Tue 20 Jun 2023	1307	32.7	28.2	4.3	1	6	21	224	638	365	42	10	0	0	0	0
5 Day Ave.	1341	33.1	28.6	4.3	1	7	17	195	640	413	61	6	0	0	0	0
7 Day Ave.	1256	33.2	28.8	4.2	1	5	14	175	595	400	60	6	1	0	0	0

Paul Castle Associates

Haverhill ATC, Haverhill Road

Direction: Eastbound

14/06/2023

Hour Beginning	Total Volume	LIGHT	OGV1	OGV2	BUS
00:00	7	6	1	0	0
01:00	10	8	1	0	1
02:00	14	6	7	0	1
03:00	4	3	1	0	0
04:00	25	19	6	0	0
05:00	72	59	12	0	1
06:00	228	182	37	1	8
07:00	473	400	67	0	6
08:00	443	370	63	5	5
09:00	283	234	40	6	3
10:00	261	215	36	4	6
11:00	241	193	44	3	1
12:00	241	192	41	4	4
13:00	279	237	36	3	3
14:00	288	230	52	1	5
15:00	346	291	49	1	5
16:00	343	296	46	0	1
17:00	383	355	27	0	1
18:00	256	231	24	0	1
19:00	170	154	14	1	1
20:00	122	115	7	0	0
21:00	102	94	7	1	0
22:00	63	57	6	0	0
23:00	28	27	1	0	0
Total					
12H(7-19)	3837	3244	525	27	41
16H(6-22)	4459	3789	590	30	50
18H(6-24)	4550	3873	597	30	50
24H(0-24)	4682	3974	625	30	53
AM Peak	07:00	07:00	07:00	09:00	06:00
	473	400	67	6	8
PM Peak	17:00	17:00	14:00	12:00	14:00
	383	355	52	4	5

Paul Castle Associates

Direction: Westbound

Hour Beginning	Total Volume	LIGHT	OGV1	OGV2	BUS
00:00	8	8	0	0	0
01:00	4	2	2	0	0
02:00	12	11	1	0	0
03:00	15	15	0	0	0
04:00	12	7	5	0	0
05:00	68	54	13	0	1
06:00	158	121	30	5	2
07:00	396	313	74	4	5
08:00	416	312	95	4	5
09:00	304	226	72	3	3
10:00	249	194	45	7	3
11:00	253	201	45	3	4
12:00	296	233	52	7	4
13:00	271	210	53	4	4
14:00	288	225	48	8	7
15:00	377	296	75	1	5
16:00	457	371	74	3	9
17:00	464	387	73	0	4
18:00	294	261	30	0	3
19:00	150	132	14	1	3
20:00	135	121	11	1	2
21:00	118	112	4	2	0
22:00	56	50	6	0	0
23:00	29	28	1	0	0
Total					
12H(7-19)	4065	3229	736	44	56
16H(6-22)	4626	3715	795	53	63
18H(6-24)	4711	3793	802	53	63
24H(0-24)	4830	3890	823	53	64
AM Peak	08:00	07:00	08:00	10:00	07:00
	416	313	95	7	5
PM Peak	17:00	17:00	15:00	14:00	16:00
	464	387	75	8	9

Paul Castle Associates

Direction: Total Flow

Hour Beginning	Total Volume	LIGHT	OGV1	OGV2	BUS
00:00	15	14	1	0	0
01:00	14	10	3	0	1
02:00	26	17	8	0	1
03:00	19	18	1	0	0
04:00	37	26	11	0	0
05:00	140	113	25	0	2
06:00	386	303	67	6	10
07:00	869	713	141	4	11
08:00	859	682	158	9	10
09:00	587	460	112	9	6
10:00	510	409	81	11	9
11:00	494	394	89	6	5
12:00	537	425	93	11	8
13:00	550	447	89	7	7
14:00	576	455	100	9	12
15:00	723	587	124	2	10
16:00	800	667	120	3	10
17:00	847	742	100	0	5
18:00	550	492	54	0	4
19:00	320	286	28	2	4
20:00	257	236	18	1	2
21:00	220	206	11	3	0
22:00	119	107	12	0	0
23:00	57	55	2	0	0
Total					
12H(7-19)	7902	6473	1261	71	97
16H(6-22)	9085	7504	1385	83	113
18H(6-24)	9261	7666	1399	83	113
24H(0-24)	9512	7864	1448	83	117
AM Peak	07:00	07:00	08:00	10:00	07:00
	869	713	158	11	11
PM Peak	17:00	17:00	15:00	12:00	14:00
	847	742	124	11	12

Paul Castle Associates

Haverhill ATC, Haverhill Road

Direction: Eastbound

15/06/2023

Hour Beginning	Total Volume	LIGHT	OGV1	OGV2	BUS
00:00	14	11	3	0	0
01:00	17	14	1	1	1
02:00	9	8	0	0	1
03:00	12	8	3	0	1
04:00	13	11	2	0	0
05:00	65	53	9	1	2
06:00	193	157	29	1	6
07:00	447	383	59	3	2
08:00	398	322	66	6	4
09:00	229	182	32	6	9
10:00	283	235	36	8	4
11:00	263	218	36	5	4
12:00	285	241	38	3	3
13:00	243	191	43	5	4
14:00	296	253	37	5	1
15:00	368	315	44	6	3
16:00	411	364	44	2	1
17:00	385	357	27	1	0
18:00	270	244	20	3	3
19:00	248	231	17	0	0
20:00	147	140	6	0	1
21:00	107	99	8	0	0
22:00	68	60	7	0	1
23:00	49	49	0	0	0
Total					
12H(7-19)	3878	3305	482	53	38
16H(6-22)	4573	3932	542	54	45
18H(6-24)	4690	4041	549	54	46
24H(0-24)	4820	4146	567	56	51
AM Peak	07:00	07:00	08:00	10:00	09:00
	447	383	66	8	9
PM Peak	16:00	16:00	15:00	15:00	13:00
	411	364	44	6	4

Paul Castle Associates

Direction: Westbound

Hour Beginning	Total Volume	LIGHT	OGV1	OGV2	BUS
00:00	10	9	1	0	0
01:00	5	3	1	0	1
02:00	7	6	1	0	0
03:00	20	18	2	0	0
04:00	15	11	4	0	0
05:00	63	50	12	0	1
06:00	170	124	39	5	2
07:00	362	291	66	3	2
08:00	441	349	86	2	4
09:00	298	237	53	6	2
10:00	246	172	59	10	5
11:00	286	226	54	3	3
12:00	268	207	51	4	6
13:00	291	220	63	5	3
14:00	294	232	53	7	2
15:00	409	353	49	2	5
16:00	447	373	67	0	7
17:00	413	358	51	1	3
18:00	282	250	30	0	2
19:00	220	197	20	1	2
20:00	160	149	10	1	0
21:00	112	104	8	0	0
22:00	77	65	11	0	1
23:00	44	42	2	0	0
Total					
12H(7-19)	4037	3268	682	43	44
16H(6-22)	4699	3842	759	50	48
18H(6-24)	4820	3949	772	50	49
24H(0-24)	4940	4046	793	50	51
AM Peak	08:00	08:00	08:00	10:00	10:00
	441	349	86	10	5
PM Peak	16:00	16:00	16:00	14:00	16:00
	447	373	67	7	7

Paul Castle Associates

Direction: Total Flow

Hour Beginning	Total Volume	LIGHT	OGV1	OGV2	BUS
00:00	24	20	4	0	0
01:00	22	17	2	1	2
02:00	16	14	1	0	1
03:00	32	26	5	0	1
04:00	28	22	6	0	0
05:00	128	103	21	1	3
06:00	363	281	68	6	8
07:00	809	674	125	6	4
08:00	839	671	152	8	8
09:00	527	419	85	12	11
10:00	529	407	95	18	9
11:00	549	444	90	8	7
12:00	553	448	89	7	9
13:00	534	411	106	10	7
14:00	590	485	90	12	3
15:00	777	668	93	8	8
16:00	858	737	111	2	8
17:00	798	715	78	2	3
18:00	552	494	50	3	5
19:00	468	428	37	1	2
20:00	307	289	16	1	1
21:00	219	203	16	0	0
22:00	145	125	18	0	2
23:00	93	91	2	0	0
Total					
12H(7-19)	7915	6573	1164	96	82
16H(6-22)	9272	7774	1301	104	93
18H(6-24)	9510	7990	1321	104	95
24H(0-24)	9760	8192	1360	106	102
AM Peak	08:00	07:00	08:00	10:00	09:00
	839	674	152	18	11
PM Peak	16:00	16:00	16:00	14:00	12:00
	858	737	111	12	9

Paul Castle Associates

Haverhill ATC, Haverhill Road

Direction: Eastbound

16/06/2023

Hour Beginning	Total Volume	LIGHT	OGV1	OGV2	BUS
00:00	21	18	2	0	1
01:00	8	7	0	0	1
02:00	9	7	1	1	0
03:00	10	8	1	0	1
04:00	18	16	2	0	0
05:00	79	68	8	0	3
06:00	173	141	27	1	4
07:00	402	329	61	6	6
08:00	402	332	61	4	5
09:00	261	222	30	6	3
10:00	279	242	31	5	1
11:00	303	247	47	5	4
12:00	328	264	51	7	6
13:00	278	235	40	2	1
14:00	317	270	43	2	2
15:00	390	329	51	4	6
16:00	367	330	36	1	0
17:00	358	326	31	0	1
18:00	281	262	18	0	1
19:00	192	182	9	1	0
20:00	129	113	14	1	1
21:00	88	86	2	0	0
22:00	88	79	8	0	1
23:00	56	53	2	0	1
Total					
12H(7-19)	3966	3388	500	42	36
16H(6-22)	4548	3910	552	45	41
18H(6-24)	4692	4042	562	45	43
24H(0-24)	4837	4166	576	46	49
AM Peak	07:00	08:00	07:00	07:00	07:00
	402	332	61	6	6
PM Peak	15:00	16:00	12:00	12:00	12:00
	390	330	51	7	6

Paul Castle Associates

Direction: Westbound

Hour Beginning	Total Volume	LIGHT	OGV1	OGV2	BUS
00:00	19	16	2	1	0
01:00	7	6	0	0	1
02:00	15	13	1	0	1
03:00	16	15	1	0	0
04:00	19	14	4	0	1
05:00	63	54	7	1	1
06:00	155	119	32	4	0
07:00	358	282	71	2	3
08:00	422	328	85	1	8
09:00	346	275	64	4	3
10:00	300	242	53	4	1
11:00	280	224	49	4	3
12:00	289	230	52	4	3
13:00	302	237	56	4	5
14:00	349	284	59	2	4
15:00	391	328	60	1	2
16:00	434	359	66	1	8
17:00	399	354	43	0	2
18:00	281	254	24	1	2
19:00	189	161	24	2	2
20:00	106	93	13	0	0
21:00	94	82	11	1	0
22:00	98	87	9	0	2
23:00	41	35	6	0	0
Total					
12H(7-19)	4151	3397	682	28	44
16H(6-22)	4695	3852	762	35	46
18H(6-24)	4834	3974	777	35	48
24H(0-24)	4973	4092	792	37	52
AM Peak	08:00	08:00	08:00	06:00	08:00
	422	328	85	4	8
PM Peak	16:00	16:00	16:00	12:00	16:00
	434	359	66	4	8

Paul Castle Associates

Direction: Total Flow

Hour Beginning	Total Volume	LIGHT	OGV1	OGV2	BUS
00:00	40	34	4	1	1
01:00	15	13	0	0	2
02:00	24	20	2	1	1
03:00	26	23	2	0	1
04:00	37	30	6	0	1
05:00	142	122	15	1	4
06:00	328	260	59	5	4
07:00	760	611	132	8	9
08:00	824	660	146	5	13
09:00	607	497	94	10	6
10:00	579	484	84	9	2
11:00	583	471	96	9	7
12:00	617	494	103	11	9
13:00	580	472	96	6	6
14:00	666	554	102	4	6
15:00	781	657	111	5	8
16:00	801	689	102	2	8
17:00	757	680	74	0	3
18:00	562	516	42	1	3
19:00	381	343	33	3	2
20:00	235	206	27	1	1
21:00	182	168	13	1	0
22:00	186	166	17	0	3
23:00	97	88	8	0	1
Total					
12H(7-19)	8117	6785	1182	70	80
16H(6-22)	9243	7762	1314	80	87
18H(6-24)	9526	8016	1339	80	91
24H(0-24)	9810	8258	1368	83	101
AM Peak	08:00	08:00	08:00	09:00	08:00
	824	660	146	10	13
PM Peak	16:00	16:00	15:00	12:00	12:00
	801	689	111	11	9

Paul Castle Associates

Haverhill ATC, Haverhill Road

Direction: Eastbound

17/06/2023

Hour Beginning	Total Volume	LIGHT	OGV1	OGV2	BUS
00:00	29	24	3	1	1
01:00	22	21	1	0	0
02:00	22	13	5	1	3
03:00	14	11	3	0	0
04:00	22	18	2	1	1
05:00	35	25	8	0	2
06:00	71	57	12	2	0
07:00	148	127	17	2	2
08:00	259	237	20	0	2
09:00	326	293	29	1	3
10:00	382	353	22	4	3
11:00	328	313	14	1	0
12:00	372	356	11	3	2
13:00	314	297	16	0	1
14:00	299	272	25	1	1
15:00	274	251	21	1	1
16:00	261	244	16	0	1
17:00	279	263	15	1	0
18:00	232	216	15	1	0
19:00	186	176	9	0	1
20:00	134	128	6	0	0
21:00	116	108	6	2	0
22:00	99	93	6	0	0
23:00	68	65	2	0	1
Total					
12H(7-19)	3474	3222	221	15	16
16H(6-22)	3981	3691	254	19	17
18H(6-24)	4148	3849	262	19	18
24H(0-24)	4292	3961	284	22	25
AM Peak	10:00	10:00	09:00	10:00	02:00
	382	353	29	4	3
PM Peak	12:00	12:00	14:00	12:00	12:00
	372	356	25	3	2

Paul Castle Associates

Direction: Westbound

Hour Beginning	Total Volume	LIGHT	OGV1	OGV2	BUS
00:00	41	35	6	0	0
01:00	14	11	3	0	0
02:00	8	8	0	0	0
03:00	11	7	3	0	1
04:00	12	6	5	0	1
05:00	31	28	2	0	1
06:00	45	36	9	0	0
07:00	131	111	19	0	1
08:00	191	177	14	0	0
09:00	251	223	26	1	1
10:00	284	242	38	3	1
11:00	278	256	21	0	1
12:00	272	246	23	2	1
13:00	255	215	37	1	2
14:00	276	243	28	1	4
15:00	230	209	20	0	1
16:00	240	222	18	0	0
17:00	281	257	23	0	1
18:00	223	204	14	0	5
19:00	178	170	7	0	1
20:00	124	112	11	1	0
21:00	94	92	2	0	0
22:00	73	64	9	0	0
23:00	69	62	7	0	0
Total					
12H(7-19)	2912	2605	281	8	18
16H(6-22)	3353	3015	310	9	19
18H(6-24)	3495	3141	326	9	19
24H(0-24)	3612	3236	345	9	22
AM Peak	10:00	11:00	10:00	10:00	03:00
	284	256	38	3	1
PM Peak	17:00	17:00	13:00	12:00	18:00
	281	257	37	2	5

Paul Castle Associates

Direction: Total Flow

Hour Beginning	Total Volume	LIGHT	OGV1	OGV2	BUS
00:00	70	59	9	1	1
01:00	36	32	4	0	0
02:00	30	21	5	1	3
03:00	25	18	6	0	1
04:00	34	24	7	1	2
05:00	66	53	10	0	3
06:00	116	93	21	2	0
07:00	279	238	36	2	3
08:00	450	414	34	0	2
09:00	577	516	55	2	4
10:00	666	595	60	7	4
11:00	606	569	35	1	1
12:00	644	602	34	5	3
13:00	569	512	53	1	3
14:00	575	515	53	2	5
15:00	504	460	41	1	2
16:00	501	466	34	0	1
17:00	560	520	38	1	1
18:00	455	420	29	1	5
19:00	364	346	16	0	2
20:00	258	240	17	1	0
21:00	210	200	8	2	0
22:00	172	157	15	0	0
23:00	137	127	9	0	1
Total					
12H(7-19)	6386	5827	502	23	34
16H(6-22)	7334	6706	564	28	36
18H(6-24)	7643	6990	588	28	37
24H(0-24)	7904	7197	629	31	47
AM Peak	10:00	10:00	10:00	10:00	09:00
	666	595	60	7	4
PM Peak	12:00	12:00	13:00	12:00	14:00
	644	602	53	5	5

Paul Castle Associates

Haverhill ATC, Haverhill Road

Direction: Eastbound

18/06/2023

Hour Beginning	Total Volume	LIGHT	OGV1	OGV2	BUS
00:00	41	36	5	0	0
01:00	14	12	2	0	0
02:00	16	14	2	0	0
03:00	9	8	1	0	0
04:00	9	8	1	0	0
05:00	26	23	2	0	1
06:00	51	44	6	0	1
07:00	73	66	7	0	0
08:00	121	107	13	0	1
09:00	191	171	17	1	2
10:00	290	270	20	0	0
11:00	344	327	15	2	0
12:00	347	326	20	1	0
13:00	306	292	10	3	1
14:00	280	265	14	0	1
15:00	242	227	13	2	0
16:00	246	232	12	1	1
17:00	219	210	8	1	0
18:00	193	182	11	0	0
19:00	139	131	7	0	1
20:00	118	112	6	0	0
21:00	76	71	5	0	0
22:00	57	54	1	1	1
23:00	25	23	2	0	0
Total					
Total 12H(7-19)	2852	2675	160	11	6
16H(6-22)	3236	3033	184	11	8
18H(6-24)	3318	3110	187	12	9
24H(0-24)	3433	3211	200	12	10
AM Peak	11:00	11:00	10:00	11:00	09:00
	344	327	20	2	2
PM Peak	12:00	12:00	12:00	13:00	13:00
	347	326	20	3	1

Paul Castle Associates

Direction: Westbound

Hour Beginning	Total Volume	LIGHT	OGV1	OGV2	BUS
00:00	30	25	5	0	0
01:00	13	12	1	0	0
02:00	10	6	4	0	0
03:00	13	9	4	0	0
04:00	6	3	3	0	0
05:00	14	10	3	0	1
06:00	24	21	3	0	0
07:00	40	36	4	0	0
08:00	74	59	13	0	2
09:00	176	154	22	0	0
10:00	256	228	28	0	0
11:00	277	251	26	0	0
12:00	299	273	24	1	1
13:00	234	211	21	1	1
14:00	252	227	23	1	1
15:00	235	220	15	0	0
16:00	204	180	23	0	1
17:00	231	212	19	0	0
18:00	215	191	24	0	0
19:00	116	102	14	0	0
20:00	80	76	4	0	0
21:00	58	54	4	0	0
22:00	46	40	5	0	1
23:00	16	15	1	0	0
Total					
Total 12H(7-19)	2493	2242	242	3	6
16H(6-22)	2771	2495	267	3	6
18H(6-24)	2833	2550	273	3	7
24H(0-24)	2919	2615	293	3	8
AM Peak	11:00	11:00	10:00	00:00	08:00
	277	251	28	0	2
PM Peak	12:00	12:00	12:00	12:00	12:00
	299	273	24	1	1

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Direction: Total Flow

Hour Beginning	Total Volume	LIGHT	OGV1	OGV2	BUS
00:00	71	61	10	0	0
01:00	27	24	3	0	0
02:00	26	20	6	0	0
03:00	22	17	5	0	0
04:00	15	11	4	0	0
05:00	40	33	5	0	2
06:00	75	65	9	0	1
07:00	113	102	11	0	0
08:00	195	166	26	0	3
09:00	367	325	39	1	2
10:00	546	498	48	0	0
11:00	621	578	41	2	0
12:00	646	599	44	2	1
13:00	540	503	31	4	2
14:00	532	492	37	1	2
15:00	477	447	28	2	0
16:00	450	412	35	1	2
17:00	450	422	27	1	0
18:00	408	373	35	0	0
19:00	255	233	21	0	1
20:00	198	188	10	0	0
21:00	134	125	9	0	0
22:00	103	94	6	1	2
23:00	41	38	3	0	0
Total					
Total 12H(7-19)	5345	4917	402	14	12
16H(6-22)	6007	5528	451	14	14
18H(6-24)	6151	5660	460	15	16
24H(0-24)	6352	5826	493	15	18
AM Peak	11:00	11:00	10:00	11:00	08:00
	621	578	48	2	3
PM Peak	12:00	12:00	12:00	13:00	13:00
	646	599	44	4	2

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Haverhill ATC, Haverhill Road

Direction: Eastbound

19/06/2023

Hour Beginning	Total Volume	LIGHT	OGV1	OGV2	BUS
00:00	25	22	3	0	0
01:00	10	7	2	0	1
02:00	10	8	0	0	2
03:00	11	10	1	0	0
04:00	23	21	2	0	0
05:00	57	51	5	0	1
06:00	185	146	32	2	5
07:00	407	339	60	5	3
08:00	416	336	73	4	3
09:00	258	207	45	3	3
10:00	264	214	42	3	5
11:00	252	214	35	1	2
12:00	255	209	39	6	1
13:00	233	203	23	3	4
14:00	308	258	44	3	3
15:00	321	261	53	2	5
16:00	344	291	51	2	0
17:00	362	333	29	0	0
18:00	261	248	11	0	2
19:00	185	176	9	0	0
20:00	104	94	10	0	0
21:00	100	95	5	0	0
22:00	56	55	1	0	0
23:00	29	27	1	0	1
Total					
12H(7-19)	3681	3113	505	32	31
16H(6-22)	4255	3624	561	34	36
18H(6-24)	4340	3706	563	34	37
24H(0-24)	4476	3825	576	34	41
AM Peak	08:00 416	07:00 339	08:00 73	07:00 5	06:00 5
PM Peak	17:00 362	17:00 333	15:00 53	12:00 6	15:00 5

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Direction: Westbound

Hour Beginning	Total Volume	LIGHT	OGV1	OGV2	BUS
00:00	13	12	1	0	0
01:00	5	3	2	0	0
02:00	8	8	0	0	0
03:00	14	11	3	0	0
04:00	17	14	3	0	0
05:00	65	49	14	0	2
06:00	151	112	36	2	1
07:00	352	291	59	1	1
08:00	428	336	85	2	5
09:00	305	234	65	4	2
10:00	272	215	50	3	4
11:00	256	200	48	4	4
12:00	229	184	37	3	5
13:00	308	253	46	8	1
14:00	296	232	57	4	3
15:00	362	287	68	3	4
16:00	456	380	71	1	4
17:00	409	356	48	1	4
18:00	274	238	29	2	5
19:00	156	140	13	1	2
20:00	118	107	10	1	0
21:00	89	79	10	0	0
22:00	54	48	6	0	0
23:00	29	25	4	0	0
Total					
12H(7-19)	3947	3206	663	36	42
16H(6-22)	4461	3644	732	40	45
18H(6-24)	4544	3717	742	40	45
24H(0-24)	4666	3814	765	40	47
AM Peak	08:00 428	08:00 336	08:00 85	09:00 4	08:00 5
PM Peak	16:00 456	16:00 380	16:00 71	13:00 8	12:00 5

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Direction: Total Flow

Hour Beginning	Total Volume	LIGHT	OGV1	OGV2	BUS
00:00	38	34	4	0	0
01:00	15	10	4	0	1
02:00	18	16	0	0	2
03:00	25	21	4	0	0
04:00	40	35	5	0	0
05:00	122	100	19	0	3
06:00	336	258	68	4	6
07:00	759	630	119	6	4
08:00	844	672	158	6	8
09:00	563	441	110	7	5
10:00	536	429	92	6	9
11:00	508	414	83	5	6
12:00	484	393	76	9	6
13:00	541	456	69	11	5
14:00	604	490	101	7	6
15:00	683	548	121	5	9
16:00	800	671	122	3	4
17:00	771	689	77	1	4
18:00	535	486	40	2	7
19:00	341	316	22	1	2
20:00	222	201	20	1	0
21:00	189	174	15	0	0
22:00	110	103	7	0	0
23:00	58	52	5	0	1
Total					
12H(7-19)	7628	6319	1168	68	73
16H(6-22)	8716	7268	1293	74	81
18H(6-24)	8884	7423	1305	74	82
24H(0-24)	9142	7639	1341	74	88
AM Peak	08:00 844	08:00 672	08:00 158	09:00 7	10:00 9
PM Peak	16:00 800	17:00 689	16:00 122	13:00 11	15:00 9

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Haverhill ATC, Haverhill Road

Direction: Eastbound

20/06/2023

Hour Beginning	Total Volume	LIGHT	OGV1	OGV2	BUS
00:00	11	10	0	0	1
01:00	11	5	5	0	1
02:00	4	3	1	0	0
03:00	10	8	2	0	0
04:00	16	11	4	1	0
05:00	72	61	10	0	1
06:00	202	171	25	1	5
07:00	458	390	59	6	3
08:00	418	351	60	1	6
09:00	236	191	37	4	4
10:00	269	215	47	3	4
11:00	244	198	39	4	3
12:00	267	216	42	4	5
13:00	255	216	32	3	4
14:00	311	245	60	4	2
15:00	347	287	55	3	2
16:00	335	290	43	2	0
17:00	380	354	24	2	0
18:00	268	247	20	0	1
19:00	174	161	11	2	0
20:00	131	120	10	0	1
21:00	135	123	11	0	1
22:00	69	67	2	0	0
23:00	38	35	3	0	0
Total					
12H(7-19)	3788	3200	518	36	34
16H(6-22)	4430	3775	575	39	41
18H(6-24)	4537	3877	580	39	41
24H(0-24)	4661	3975	602	40	44
AM Peak	07:00	07:00	08:00	07:00	08:00
	458	390	60	6	6
PM Peak	17:00	17:00	14:00	12:00	12:00
	380	354	60	4	5

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Direction: Westbound

Hour Beginning	Total Volume	LIGHT	OGV1	OGV2	BUS
00:00	10	9	0	1	0
01:00	7	4	2	0	1
02:00	4	3	1	0	0
03:00	13	13	0	0	0
04:00	18	15	3	0	0
05:00	69	58	10	0	1
06:00	163	132	28	3	0
07:00	313	249	60	3	1
08:00	449	371	69	4	5
09:00	348	277	62	5	4
10:00	262	204	50	3	5
11:00	256	199	51	3	3
12:00	250	194	47	4	5
13:00	262	209	46	4	3
14:00	265	194	62	5	4
15:00	384	309	68	2	5
16:00	427	350	72	1	4
17:00	458	403	50	3	2
18:00	269	235	30	1	3
19:00	159	142	14	0	3
20:00	113	106	5	0	2
21:00	101	91	9	1	0
22:00	55	48	7	0	0
23:00	29	24	5	0	0
Total					
12H(7-19)	3943	3194	667	38	44
16H(6-22)	4479	3665	723	42	49
18H(6-24)	4563	3737	735	42	49
24H(0-24)	4684	3839	751	43	51
AM Peak	08:00	08:00	08:00	09:00	08:00
	449	371	69	5	5
PM Peak	17:00	17:00	16:00	14:00	12:00
	458	403	72	5	5

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Direction: Total Flow

Hour Beginning	Total Volume	LIGHT	OGV1	OGV2	BUS
00:00	21	19	0	1	1
01:00	18	9	7	0	2
02:00	8	6	2	0	0
03:00	23	21	2	0	0
04:00	34	26	7	1	0
05:00	141	119	20	0	2
06:00	365	303	53	4	5
07:00	771	639	119	9	4
08:00	867	722	129	5	11
09:00	584	468	99	9	8
10:00	531	419	97	6	9
11:00	500	397	90	7	6
12:00	517	410	89	8	10
13:00	517	425	78	7	7
14:00	576	439	122	9	6
15:00	731	596	123	5	7
16:00	762	640	115	3	4
17:00	838	757	74	5	2
18:00	537	482	50	1	4
19:00	333	303	25	2	3
20:00	244	226	15	0	3
21:00	236	214	20	1	1
22:00	124	115	9	0	0
23:00	67	59	8	0	0
Total					
12H(7-19)	7731	6394	1185	74	78
16H(6-22)	8909	7440	1298	81	90
18H(6-24)	9100	7614	1315	81	90
24H(0-24)	9345	7814	1353	83	95
AM Peak	08:00	08:00	08:00	07:00	08:00
	867	722	129	9	11
PM Peak	17:00	17:00	15:00	14:00	12:00
	838	757	123	9	10

Paul Castle Associates

APPENDIX 2

Costa Coffee Traffic Data Information

Drive Thru Operations, Baseline Traffic & Customer Surveys Summary Report

25 Southampton Buildings
London
WC2A 1AL

Project Reference: 1604-09/TN/01

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Technical Note: Survey Results Summary

1 INTRODUCTION

- 1.1 Transport Planning Associates has been instructed by Costa Limited to review the traffic generation, modal share and traffic related aspects of its Drive-Thru sites across England. The results of the review will be used to support future Costa Drive-Thru planning applications.
- 1.2 In order to provide a representative sample of 'average' sites, those considered to be 'top' and 'bottom end' performers were excluded from the list of Costa sites, to leave the mid-band performers from which to select the sites. The sites selected were located in Didcot, Cambridge, Bedford, Warrington, Sheffield and Banbury, details of which are provided in the table below, with location plans of the sites included at **Appendix A**.

Table 1 Site Locations

Site Location	Description	Passing Traffic
Cambridge	Roadside off A428, shared with McDonald's Drive Thru. Shared parking.	27,865
Warrington	Prominent roundabout location. Shared with supermarket and small retail parade.	49,953
Didcot	Urban roadside (A4130) off the A34, next to petrol garage and McDonald's. 36 car parking spaces	63,042
Bedford	Retail park location, including M&S Simply Food. Shared parking.	28,957
Sheffield	Opposite Meadowhall Shopping Centre and next to large Next superstore. 20 car parking spaces.	28,336
Banbury	Urban roadside off A road into town centre.	32,496

1.3 To identify traffic generation and activity, traffic surveys were commissioned to record the following:

- Peak hour traffic flows;
- The pass-by and diverted trips to the site;
- Maximum queues at drive thru;
- Vehicle occupants; and,
- Age range of visitors.

1.4 The surveys were conducted by PCC Traffic Information Consultancy, on one weekday, and one Saturday over two weeks. The number of vehicles driving in and out of the site, were observed at 15-minute intervals between 6am and 7pm, with an interviewer stationed at the drive-thru. A copy of the questionnaire, and the survey results is included in **Appendix B**.

2 SURVEY RESULTS

Peak Hour Traffic Generation

2.1 Peak hour traffic flows were observed from both weekday, and Saturday surveys for all six sites. As the peak times varied for each site, two-way traffic flows were observed during the two busiest hours on each day (weekday and Saturday) for each site.

2.2 Peak hour traffic generation is summarised in the tables below, which show the survey results for the following:

- Total vehicles accessing the site (car park and drive-thru)
- Car park traffic generation; and,
- Drive-thru traffic generation.

Table 2 Total Peak Hour Traffic Attraction

Site	Weekday				Saturday			
	AM Peak		PM Peak		AM Peak		PM Peak	
	In	Out	In	Out	In	Out	In	Out
Cambridge*	231	240	247	234	223	216	217	219
Warrington*	291	253	259	258	273	244	259	250
Didcot	100	93	75	79	108	101	102	97
Bedford	72	71	59	66	72	70	69	62

Sheffield	87	83	79	79	57	60	58	54
Banbury	84	72	71	65	104	79	89	110
Average**	86	80	71	72	85	78	80	81

*Cambridge & Warrington entry points shared with other uses

**Excludes Cambridge & Warrington

2.3 The table shows the sites at Warrington and Cambridge generate the highest movements on both weekdays and Saturdays. This correlates to the location of the sites, with the Cambridge site in a prominent location on the side of the A428, and the Warrington site situated on a roundabout off the A49, next to a supermarket.

2.4 The correlation between site location and the volume of vehicles is also reflected in the trip generation for the other sites, whereby the sites in less prominent locations, generated less trips.

Table 3 Car Park Peak Hour Traffic Generation

Site	Weekday				Saturday			
	AM Peak		PM Peak		AM Peak		PM Peak	
	In	Out	In	Out	In	Out	In	Out
Cambridge*	183	192	218	205	188	181	190	192
Warrington*	265	227	238	237	232	203	236	227
Didcot	68	61	52	56	78	71	72	67
Bedford	40	39	42	49	46	44	42	35
Sheffield	71	67	63	63	46	49	47	43
Banbury	51	39	45	39	78	53	63	84
Average**	58	52	49	52	62	54	56	57

*Cambridge & Warrington entry points shared with other uses

**Excludes Cambridge & Warrington

2.5 The average number of vehicles using the car park on weekdays is 217 during the AM peak, and 218 trips during the PM peak. This equates to approximately 3.6 vehicles per minute in both the AM and PM peak hours. At weekends, the number of trips during the busiest hours decrease by 5 vehicles during the AM peak, and by 7 vehicles during the PM peak.

Table 4 Drive-Thru Peak Hour Traffic Generation

Site	Weekday		Saturday	
	AM Peak	PM Peak	AM Peak	PM Peak
Didcot	27	23	30	30
Cambridge	48	29	35	27
Bedford	32	17	26	27
Warrington	26	21	41	23
Sheffield	16	16	11	11
Banbury	33	26	26	26
Average	30	22	28	24

- 2.6 The table shows that the number of vehicles using the drive-thru lane ranged from 11 to 48 vehicles during the peak hours across the sites. The site at Cambridge generated the highest number of vehicles using the drive-thru lane, while the site at Sheffield generated the lowest.

Pass-by/Diverted Trips

- 2.7 While considering the potential number of vehicular trips to each site during the peak hours, the surveys also ascertained whether the purpose of the trips were to visit Costa only, or whether they were part of a pass-by, or diverted trip while travelling to somewhere else. The survey identified the reasons for visits as 'commuting to/from work', 'on the school run', 'shopping' or 'other'.
- 2.8 The percentages of pass-by/diverted trips for each site, as well as an overall average, is summarised in Table 5.

Table 5 Pass-by and Diverted Trips

Site	Pass-by and Diverted Trips (%)	
	Weekday	Saturday
Didcot	89.59	81.45
Cambridge	94.62	89.11
Bedford	82.81	95.11
Warrington	98.44	93.91
Sheffield	79.23	77.94
Banbury	98.03	90.10
Average	90	88

- 2.9 The results showed that 98% of trips to the sites located in Warrington and Banbury were pass-by or diverted trips on weekdays. This percentage reduced slightly at both sites on Saturdays, when the percentage of pass-by trips was 94% at Warrington, and 90% at Banbury. In other words, the sites generated little traffic in their own right.
- 2.10 The site at Sheffield generated a higher number of primary purpose trips in comparison with the other sites; 79% of the total number of trips were recorded as pass-by or diverted on weekdays, and 78% were recorded as pass-by on weekends. This site, unlike the sites at Banbury and Warrington, is located opposite a shopping centre, and next to a clothing superstore. With this site also generating the lowest number of vehicles at the drive-thru, as previously mentioned, it is considered that this site's location is more likely to generate primary purpose trips.
- 2.11 The table shows that, as an overall average, approximately 90% of trips to the sites were pass-by, or diverted trips on weekdays, and 88% were pass-by or diverted trips on a Saturday. This suggests that the sites do not generate a significant number of primary purpose trips during the week, and at weekends, when primary trips for leisure purposes are more likely to occur, only up to 12% of visits to the sites were primary purpose trips.

Queues

- 2.12 As well as the number of vehicles visiting the site, the maximum queue length at the drive-thru, and time of day that the queue occurred, was also observed. The queues and times that were recorded for each site, as well as the average queue length and time of occurrence for all sites, are set out in the table below.

Table 6 Queue Lengths – Maximum Recorded Queues

Location	Weekday		Saturday	
	Max Q.	Time	Max Q.	Time
Didcot	5	07:30-07:45	8	10:15-10:30
Cambridge	9	07:45-08:00*	9	10:30-10:45
Bedford	9	14:45-15:00	7	10:15-10:30
Warrington	8	07:30-07:45	10	10:15-10:45**
Sheffield	6	07:45-08:00	4	08:00-08:15+
Banbury	3	06:45-07:00++	4	12:00-12:15
Average	7		7	

*Also 09:30-09:45

**10 vehicle max queue recorded in two consecutive periods

+Also 09:45-10:00 and 11:15-11:30

++Also 08:30-08:45

- 2.13 The table shows that the mean maximum queue length was 7 vehicles, occurring on weekdays and Saturdays. The longest queue recorded was 10 vehicles, at Warrington, on the Saturday.
- 2.14 It should be noted that the maximum queue occurring in each 15 minutes was recorded, rather than a 'snapshot' recording. For all six sites, the maximum queue length reduced in the following 15 minute interval on both weekdays and weekends, with the exception of the site at Bedford where the maximum queue length stayed the same during the following 15 minute interval on Saturday. This suggests that queues would have only reached the maximum vehicle length for short periods of time.
- 2.15 For four out of the six sites, the number of vehicles queuing was at a maximum during at least one of the two peak hours on both days. The remaining two sites, located in Cambridge and Sheffield, recorded the maximum queue during the 15 minute period preceding one of the two peak hours.

Vehicle Occupants

- 2.16 Although not a usual traffic issue, the number of occupants per vehicle was also recorded, and is summarised in Table 7.

Table 7 Vehicle Occupants

Site No.	Location	Average Vehicle Occupants	
		Weekday	Saturday
1	Didcot	1	2
2	Cambridge	1	2
3	Bedford	1	2
4	Warrington	1	2
5	Sheffield	1	2
6	Banbury	1	1
Average		1	2

- 2.17 The table above shows that the average number of vehicle occupants across the sites equated to 1 occupant per vehicle on weekdays, and up to 2 at weekends. Results were consistent across all sites, except at the Banbury site, where the average number of vehicle occupants was 1 on a Saturday.

Age Groups

- 2.18 As well as the number of visitors travelling to the site by car, the survey also obtained the age range of visitors for both weekdays and Saturdays, a summary of which is set out in Table 8.

Table 8 Age Range of Visitors to Costa Sites

Day	Site	Visitor Age Range (%)		
		18-30	30-50	50+
Weekday	Didcot	43.2	51.4	5.5
	Cambridge	38.5	50.8	10.8
	Bedford	45.7	47.5	6.8
	Warrington	30.5	44.9	24.6
	Sheffield	31.54	61.5	6.9
	Banbury	34.2	42.1	23.7
Average Weekday		37	50	13
Saturday	1 - Didcot	56.1	39.5	4.4
	2 - Cambridge	36.7	54	9.3
	3 - Bedford	41.3	51.6	7.1
	4 - Warrington	31.3	49.6	19.1
	5 - Sheffield	36	58.8	5.2
	6 - Banbury	41.1	44.1	14.9
Average Saturday		40	50	10
Average (Total)		39	50	11

- 2.19 The results from the survey suggest that the majority of visitors were aged 30-50, with 50% of survey participants in this category. By a difference of 11% overall, the 18-30 age range also made a significant contribution to the overall number of visitors.
- 2.20 Across all sites, the 50+ age group contributed to less than 25% of trips to the site, while the other two categories varied slightly as the most common age group. The difference between these two groups ranged from 3% to 30% across both weekdays and weekend.
- 2.21 Five out of the six sites showed that the 30-50 group was the most common age range of visitors across both days, with the one exception at Site 1, Didcot, where 56% of the visitors on the Saturday were aged 18-30, while 40% of the visitors were aged 30-50.

Car Park Demand

- 2.22 Car park demand has been calculated from the entry and exit profile, at the four sites with dedicated vehicle access. Table 9

Table 9 Site Locations

Site Location	Peak Car Park Demand		Car Park Capacity
	Weekday	Saturday	
Didcot	22	30	36
Bedford	13	12	20
Sheffield	30*	23	24
Banbury	22	34	34

*Car park full with 6 vehicles in DT lane / circulating

- 2.23 The parking demand results show that most of the parking areas were well utilised, with Sheffield and Banbury being full during peak hours. Survey staff indicated that the Cambridge and Warrington car parks also filled during peak hours, with the Cambridge site being particularly busy, for extended periods of the day.

3 SUMMARY

- 3.1 The surveys showed that the average number of peak hour vehicle arrivals at the four sites with separate car parks was 86 on weekday mornings and 71 during the weekday PM peaks. On Saturdays, the mean average of vehicles entering the sites was 85 vehicles in the AM peak and 80 during the PM peak. Of these trips, the majority (90%) were pass-by or diverted, with a slight increase in primary purpose trips on weekends.
- 3.2 The surveys also showed that the location of sites correlated to the traffic attraction, and the purpose of visit to each site. In terms of pass-by/diverted trips, the sites at Warrington and Banbury generated the highest number of trips, and the site at Sheffield generated the lowest.
- 3.3 In terms of queues, the average maximum queue length across the sites was 7 vehicles.

The surveys also obtained the number of occupants per vehicle, as well as the age range of visitors to the site. The results showed that the average number of occupants was 1 on weekdays, and up to 2 at weekends, and also that the most common age range of visitors was between 30 and 50, across both weekdays and weekends.

APPENDIX 3

TRICS Output – Convenience Store

Calculation Reference: AUDIT-851401-230710-0756

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 01 - RETAIL
 Category : 0 - CONVENIENCE STORE
 MULTI-MODAL TOTAL VEHICLES

Selected regions and areas:

02	SOUTH EAST WS WEST SUSSEX	2 days
03	SOUTH WEST SD SWINDON	1 days
04	EAST ANGLIA NF NORFOLK	1 days
07	YORKSHIRE & NORTH LINCOLNSHIRE NY NORTH YORKSHIRE	1 days
09	NORTH CU CUMBERLAND TV TEES VALLEY TW TYNE & WEAR	1 days 1 days 1 days
10	WALES CF CARDIFF	1 days
11	SCOTLAND AS ABERDEENSHIRE	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: 245 to 500 (units: sqm)
 Range Selected by User: 70 to 500 (units: sqm)

Parking Spaces Range: All Surveys Included

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/15 to 17/09/22

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:

Monday	1 days
Wednesday	2 days
Thursday	1 days
Friday	3 days
Saturday	2 days
Sunday	1 days

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

Selected survey types:

Manual count	10 days
Directional ATC Count	0 days

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

Selected Locations:

Suburban Area (PPS6 Out of Centre)	5
Edge of Town	1
Neighbourhood Centre (PPS6 Local Centre)	4

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

Selected Location Sub Categories:

Residential Zone	7
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	5 days - Selected
Servicing vehicles Excluded	5 days - Selected

Secondary Filtering selection:

Use Class:

E(a)	9 days
F2(a)	1 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:

1,001 to 5,000	1 days
5,001 to 10,000	2 days
10,001 to 15,000	1 days
15,001 to 20,000	2 days
25,001 to 50,000	4 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
75,001 to 100,000	1 days
125,001 to 250,000	6 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	5 days
1.1 to 1.5	5 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	10 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	10 days
----	---------

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

PTAL Rating:

No PTAL Present	10 days
-----------------	---------

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

LIST OF SITES relevant to selection parameters

1	AS-01-O-01 REDCLOAK DRIVE STONEHAVEN	CO-OP		ABERDEENSHIRE
	Edge of Town Residential Zone Total Gross floor area:		275 sqm	
	<i>Survey date: WEDNESDAY</i>		<i>20/04/22</i>	<i>Survey Type: MANUAL</i>
2	CF-01-O-02 HEOL-Y-DERI CARDIFF RHIWBINA	CO-OPERATIVE		CARDIFF
	Neighbourhood Centre (PPS6 Local Centre) Residential Zone Total Gross floor area:		350 sqm	
	<i>Survey date: FRIDAY</i>		<i>07/10/16</i>	<i>Survey Type: MANUAL</i>
3	CU-01-O-01 DENTON STREET CARLISLE	CO-OPERATIVE		CUMBERLAND
	Suburban Area (PPS6 Out of Centre) Built-Up Zone Total Gross floor area:		300 sqm	
	<i>Survey date: SATURDAY</i>		<i>25/06/16</i>	<i>Survey Type: MANUAL</i>
4	NF-01-O-03 HALL ROAD NORWICH LAKENHAM	CO-OP DAILY		NORFOLK
	Suburban Area (PPS6 Out of Centre) Residential Zone Total Gross floor area:		458 sqm	
	<i>Survey date: SATURDAY</i>		<i>17/09/22</i>	<i>Survey Type: MANUAL</i>
5	NY-01-O-03 FOREST ROAD NORTHALLERTON	CO-OPERATIVE		NORTH YORKSHIRE
	Suburban Area (PPS6 Out of Centre) Residential Zone Total Gross floor area:		305 sqm	
	<i>Survey date: MONDAY</i>		<i>19/09/16</i>	<i>Survey Type: MANUAL</i>
6	SD-01-O-01 THE CIRCLE SWINDON	ONE STOP		SWINDON
	Suburban Area (PPS6 Out of Centre) Residential Zone Total Gross floor area:		292 sqm	
	<i>Survey date: FRIDAY</i>		<i>23/09/16</i>	<i>Survey Type: MANUAL</i>
7	TV-01-O-01 CLIFTON AVENUE BILLINGHAM	SAINSBURY'S LOCAL		TEES VALLEY
	Neighbourhood Centre (PPS6 Local Centre) Residential Zone Total Gross floor area:		245 sqm	
	<i>Survey date: SUNDAY</i>		<i>22/05/22</i>	<i>Survey Type: MANUAL</i>
8	TW-01-O-02 ETHEL TERRACE SUNDERLAND CASTLETOWN	CO-OPERATIVE		TYNE & WEAR
	Suburban Area (PPS6 Out of Centre) Residential Zone Total Gross floor area:		330 sqm	
	<i>Survey date: FRIDAY</i>		<i>07/04/17</i>	<i>Survey Type: MANUAL</i>

LIST OF SITES relevant to selection parameters (Cont.)

9	WS-01-O-01	CO-OP	WEST SUSSEX
	GORING ROAD		
	WORTHING		
	GORING-BY-SEA		
	Neighbourhood Centre (PPS6 Local Centre)		
	High Street		
	Total Gross floor area:	500 sqm	
	Survey date:	THURSDAY	12/05/22
			Survey Type: MANUAL
10	WS-01-O-02	SAINSBURY'S LOCAL	WEST SUSSEX
	GORING ROAD		
	WORTHING		
	GORING-BY-SEA		
	Neighbourhood Centre (PPS6 Local Centre)		
	High Street		
	Total Gross floor area:	409 sqm	
	Survey date:	WEDNESDAY	11/05/22
			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/O - CONVENIENCE STORE

MULTI-MODAL TOTAL VEHICLES

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Total People to Total Vehicles ratio (all time periods and directions): 2.48

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	3	401	0.748	3	401	0.333	3	401	1.081
06:00 - 07:00	6	378	1.941	6	378	1.676	6	378	3.617
07:00 - 08:00	10	346	5.572	10	346	5.254	10	346	10.826
08:00 - 09:00	10	346	7.968	10	346	7.650	10	346	15.618
09:00 - 10:00	10	346	7.477	10	346	7.102	10	346	14.579
10:00 - 11:00	10	346	6.986	10	346	6.813	10	346	13.799
11:00 - 12:00	10	346	8.141	10	346	8.112	10	346	16.253
12:00 - 13:00	10	346	9.036	10	346	8.603	10	346	17.639
13:00 - 14:00	10	346	6.726	10	346	6.784	10	346	13.510
14:00 - 15:00	10	346	7.881	10	346	7.968	10	346	15.849
15:00 - 16:00	10	346	7.997	10	346	7.881	10	346	15.878
16:00 - 17:00	10	346	9.180	10	346	8.314	10	346	17.494
17:00 - 18:00	10	346	9.498	10	346	10.479	10	346	19.977
18:00 - 19:00	10	346	8.978	10	346	8.863	10	346	17.841
19:00 - 20:00	10	346	7.506	10	346	7.159	10	346	14.665
20:00 - 21:00	9	352	4.067	9	352	4.918	9	352	8.985
21:00 - 22:00	8	362	3.314	8	362	3.728	8	362	7.042
22:00 - 23:00	4	403	0.931	4	403	0.931	4	403	1.862
23:00 - 24:00	3	456	0.000	3	456	0.366	3	456	0.366
Total Rates:			113.947			112.934			226.881

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: 245 - 500 (units: sqm)
Survey date date range: 01/01/15 - 17/09/22
Number of weekdays (Monday-Friday): 7
Number of Saturdays: 2
Number of Sundays: 1
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 show. Finally, the number of survey days that have been manually removed from the selected set outside of the standard filtering procedure are displayed.

APPENDIX 4

Junctions 9 Output – A143 Haverhill Road/Site Access

Junctions 9
PICADY 9 - Priority Intersection Module
Version: 9.5.2.1013 © Copyright TRL Limited, 2019
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Filename: Haverhill Road-Site Access.j9
 Path: Z:\projects\4103 The Fox Inn, Haverhill Road, Haverhill\Arcady
 Report generation date: 10/07/2023 11:28:27

»2028 With Development Flows, AM
 »2028 With Development Flows, PM

Summary of junction performance

	AM					PM				
	Set ID	Queue (PCU)	Delay (s)	RFC	LOS	Set ID	Queue (PCU)	Delay (s)	RFC	LOS
2028 With Development Flows										
Stream B-C	D1	0.1	7.64	0.11	A	D2	0.2	7.99	0.14	A
Stream B-A		0.2	13.19	0.18	B		0.2	14.06	0.17	B
Stream C-AB		0.5	5.24	0.18	A		0.4	5.27	0.15	A

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	Haverhill Road, Haverhill
Location	Haverhill Road/Proposed Site Access
Site number	
Date	10/07/2023
Version	
Status	TIA
Identifier	
Client	Wellsfield
Jobnumber	4103
Enumerator	Eddisons
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	2028 With Development Flows	AM	ONE HOUR	07:45	09:15	15	✓
D2	2028 With Development Flows	PM	ONE HOUR	16:45	18:15	15	✓

Analysis Set Details

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

2028 With Development Flows, AM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		1.52	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	Haverhill Road (w)		Major
B	Site Access		Minor
C	Haverhill Road (W)		Major

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)
C	9.00			70.0	✓	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	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate flare length	Flare length (PCU)	Visibility to left (m)	Visibility to right (m)
B	One lane plus flare	10.00	6.00	4.60	4.10	4.00	✓	2.00	48	56

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
B-A	543	0.086	0.217	0.137	0.310
B-C	689	0.092	0.232	-	-
C-B	615	0.207	0.207	-	-

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	2028 With Development Flows	AM	ONE HOUR	07:45	09:15	15	✓

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	✓	551	100.000
B		ONE HOUR	✓	109	100.000
C		ONE HOUR	✓	508	100.000

Origin-Destination Data

Demand (PCU/hr)

From	To		
	A	B	C
A	0	62	489
B	54	0	55
C	448	58	0

Vehicle Mix

Heavy Vehicle Percentages

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

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-C	0.11	7.64	0.1	A	50	76
B-A	0.18	13.19	0.2	B	50	74
C-AB	0.18	5.24	0.5	A	112	169
C-A					352	528
A-B					57	85
A-C					449	673

Main Results for each time segment

07:45 - 08:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	41	10	584	0.071	41	0.0	0.1	6.630	A
B-A	41	10	399	0.102	40	0.0	0.1	10.022	B
C-AB	78	19	767	0.102	77	0.0	0.2	5.219	A
C-A	303	78			303				
A-B	47	12			47				
A-C	368	92			368				

08:00 - 08:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	49	12	562	0.088	49	0.1	0.1	7.019	A
B-A	49	12	371	0.131	48	0.1	0.1	11.155	B
C-AB	105	26	800	0.132	105	0.2	0.3	5.182	A
C-A	349	87			349				
A-B	56	14			56				
A-C	440	110			440				

08:15 - 08:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	61	15	532	0.114	60	0.1	0.1	7.633	A
B-A	59	15	332	0.179	59	0.1	0.2	13.163	B
C-AB	153	38	849	0.181	153	0.3	0.5	5.182	A
C-A	404	101			404				
A-B	68	17			68				
A-C	538	135			538				

08:30 - 08:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	61	15	532	0.114	61	0.1	0.1	7.640	A
B-A	59	15	332	0.179	59	0.2	0.2	13.193	B
C-AB	154	38	849	0.181	154	0.5	0.5	5.191	A
C-A	403	101			403				
A-B	68	17			68				
A-C	538	135			538				

08:45 - 09:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	49	12	562	0.088	50	0.1	0.1	7.027	A
B-A	49	12	371	0.131	49	0.2	0.2	11.185	B
C-AB	106	26	801	0.132	106	0.5	0.3	5.198	A
C-A	349	87			349				
A-B	56	14			56				
A-C	440	110			440				

09:00 - 09:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	41	10	583	0.071	41	0.1	0.1	6.646	A
B-A	41	10	399	0.102	41	0.2	0.1	10.059	B
C-AB	78	20	767	0.102	79	0.3	0.2	5.238	A
C-A	303	78			303				
A-B	47	12			47				
A-C	368	92			368				

2028 With Development Flows, PM

Data Errors and Warnings

No errors or warnings

Junction Network

Junctions

Junction	Name	Junction type	Major road direction	Use circulating lanes	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way		1.37	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	2028 With Development Flows	PM	ONE HOUR	18:45	18:15	15	✓

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	✓	647	100.000
B		ONE HOUR	✓	112	100.000
C		ONE HOUR	✓	478	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
		A	B	C
From	A	0	61	588
	B	48	0	64
	C	430	46	0

Vehicle Mix

Heavy Vehicle Percentages

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

Results

Results Summary for whole modelled period

Stream	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)
B-C	0.14	7.99	0.2	A	59	88
B-A	0.17	14.06	0.2	B	44	68
C-AB	0.15	5.27	0.4	A	89	133
C-A					348	522
A-B					56	84
A-C					538	807

Main Results for each time segment

16:45 - 17:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	48	12	581	0.083	48	0.0	0.1	6.745	A
B-A	36	9	379	0.095	36	0.0	0.1	10.474	B
C-AB	61	15	745	0.082	61	0.0	0.2	5.260	A
C-A	297	74			297				
A-B	46	11			46				
A-C	441	110			441				

17:00 - 17:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	58	14	556	0.103	57	0.1	0.1	7.216	A
B-A	43	11	350	0.123	43	0.1	0.1	11.737	B
C-AB	83	21	775	0.107	83	0.2	0.2	5.205	A
C-A	345	86			345				
A-B	55	14			55				
A-C	527	132			527				

17:15 - 17:30

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	70	18	521	0.135	70	0.1	0.2	7.986	A
B-A	53	13	309	0.171	53	0.1	0.2	14.031	B
C-AB	121	30	818	0.148	120	0.2	0.4	5.167	A
C-A	403	101			403				
A-B	67	17			67				
A-C	645	161			645				

17:30 - 17:45

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	70	18	521	0.135	70	0.2	0.2	7.994	A
B-A	53	13	309	0.171	53	0.2	0.2	14.080	B
C-AB	121	30	818	0.148	121	0.4	0.4	5.177	A
C-A	403	101			403				
A-B	67	17			67				
A-C	645	161			645				

17:45 - 18:00

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	58	14	556	0.104	58	0.2	0.1	7.229	A
B-A	43	11	350	0.123	43	0.2	0.1	11.768	B
C-AB	83	21	775	0.107	84	0.4	0.2	5.217	A
C-A	345	88			345				
A-B	55	14			55				
A-C	527	132			527				

18:00 - 18:15

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Capacity (PCU/hr)	RFC	Throughput (PCU/hr)	Start queue (PCU)	End queue (PCU)	Delay (s)	Unsignalised level of service
B-C	48	12	581	0.083	48	0.1	0.1	6.764	A
B-A	36	9	379	0.095	36	0.1	0.1	10.508	B
C-AB	62	15	745	0.083	62	0.2	0.2	5.273	A
C-A	297	74			297				
A-B	46	11			46				
A-C	441	110			441				



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