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Lidl UK GmbH

**PROPOSED DISCOUNT FOODSTORE,
NON-FOOD RETAIL AND DRIVE-THRU RESTAURANT,
UTTOXETER**

Transport Assessment

VN70885

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1 INTRODUCTION

1.1 Introduction

1.1.1 Vectos have been commissioned by Lidl UK GmbH to provide transport and highways advice to support a hybrid planning application for the development of an area of land located to the north of Brookside Road in Uttoxeter. The site lies within the jurisdiction of East Staffordshire Borough Council (ESBC), with Staffordshire County Council (SCC) acting as highways authority.

1.1.2 This report provides information on the traffic and transport planning aspects of the development proposals and forms supplementary information to assist in the determination of the planning application.

1.2 Development Site and Location

1.2.1 The location of the site is shown in **Plan 1**, with **Plan 2** then illustrating the site in a more local context.

1.2.2 The site is located on the eastern side of Uttoxeter town centre, and is bound by the Dovefields Retail Park to the north, buildings used for light industry to the east, Brookside Road to the south and the A518 Town Meadows Way to the west.

1.2.3 The existing site layout, including application red line boundary, is illustrated in **Plan 3**.

1.2.4 The existing site comprises a number of buildings which are used for light industrial purposes. The site's existing occupiers take vehicle access from Brookside Road via a priority controlled junction. At present, vehicles park on an ad-hoc basis on areas of hardstanding within the site.

1.3 Proposed Development

1.3.1 It is proposed that the planning application be submitted in hybrid form. As such, detailed planning consent will be applied for:

- A Lidl foodstore with a gross internal floor area (GIA) of 2,125 sqm (22,873 sqft);
- Two non-food retail units, each with a GIA of 700 sqm (7,535 sqft);
- 182 car parking spaces; and
- Customer and service vehicle access from Brookside Close.

1.3.2 In addition, outline planning permission will be applied for:

- A Drive Thru A3/ A5 Restaurant with a GIA of 169 sqm (1,819 sqft).

1.3.3 The proposed site layout is shown in **Plan 4**.

1.3.4 The proposals include the widening of Brookside Road to 6 metres in width for the length between the customer and service vehicle access points inclusive, together with a 2 metre footway along the northern side of Brookside Road for the length of the site frontage.

1.3.5 The proposals also include the provision of a vehicular and pedestrian link which will connect the proposed development site with the Dovefields Retail Park to the north.

1.3.6 The construction of a new Lidl foodstore on the application site will result in the closure of the existing Lidl store at the Dovefields Retail Park a short distance to the north. Lidl will then dispose of the Dovefields Retail Park site, with the intention that this be reoccupied for non-food retail purposes.

1.4 Scope of Assessment

1.4.1 This Transport Assessment has been prepared in accordance with guidance provided by the Department for Transport on *'Travel Plans, Transport Assessment and Statements'* (2014) document, as well as paying due notice to the now superseded DfT *'Guidance on Transport Assessments'* document.

1.4.2 The report has also been prepared with reference to Staffordshire County Council's *'Guidelines for Transport Assessments and Travel Plans'* document.

1.4.3 Following this introduction this report provides the following information:

- **Section 2** – Provides a review of baseline site conditions, including the surrounding highway network and accident statistics;
- **Section 3** – Summarises the pertinent national and local planning policy guidelines;
- **Section 4** – Provides a review of the site's accessibility by sustainable modes of travel;
- **Section 5** – Provides a detailed description of the development proposals;
- **Section 6** – Provides a traffic impact assessment of the proposed development;
- **Section 7** – Outlines the proposed car parking provision and servicing arrangements; and
- **Section 8** – Provides the conclusions of the report.

2 BASELINE CONDITIONS

2.1 Introduction

2.1.1 **Section 2** of this report provides a review of the baseline conditions in the vicinity of the site, including a description of the location of the site, the existing highway network and a review of personal injury accident data for the local highway network.

2.2 Site Location and Existing Development

2.2.1 The site is situated on the eastern side of Uttoxeter approximately 500 metres from the town’s retail centre in an area comprising a mix of retail, residential and light industrial premises.

2.2.2 The Dovefields Retail Park is located immediately to the north of the site. This development includes a Tesco foodstore and PFS, Argos, KFC, Carpetright, B&Q, B&M Bargains and Pets at Home store, together with leisure uses including a Cine Bowl and health club.

2.2.3 The Dovefields Retail Park also includes the existing Lidl foodstore, which is located on the western side of Town Meadows Way. This existing store has a gross floor area of 1,230sqm, and takes vehicle access from a left in/ left out priority controlled junction with Town Meadows Way.

2.2.4 Uttoxeter Racecourse is located to the south-east of the site, with extensive residential areas located to the south and south-west.

2.2.5 The site is currently occupied by a number of light industrial uses which take access from Brookside Road via a priority controlled junction. The existing traffic flow generated by the uses on the site was recorded during July 2017 traffic surveys and is summarised in **Table 2.1** below. However, our understanding is that at the time of the surveys (and at present) the existing site is not fully occupied, and as such the site has the potential to generate a greater volume of traffic than the surveys suggest.

	Arr	Dep	Two-way
Weekday Peak Hour (1630-1730)	1	4	5
Saturday Peak Hour (1100-1200)	1	1	2

Table 2.1: Existing Site Traffic

2.3 Surrounding Highway Network

2.3.1 The local highway network in the vicinity of the site is shown in **Figure 2.1** below.



Figure 2.1: Local Highway Network

2.3.2 Brookside Road is an unclassified road which runs to the south of the site in an east/west orientation. The road runs for approximately 250 metres, is subject to a 30 mph speed limit, and is a no-through route to the east.

2.3.3 In conjunction with the Brookside Business park development, which has been recommended for approval subject to the Section 106 Agreement being completed, it proposed that Brookside Road be upgraded and improved to adoptable standards.

2.3.4 In addition to providing access to the existing uses on the site, Brookside Road also provides access to Uttoxeter rail station. There are two access junctions on Brookside Road serving Station Road, which are located approximately 25 and 125 metres to the east of the A518 roundabout. Both junctions are simple priority T-junctions, with Station Road forming the minor arm at both junctions.

- 2.3.5 At its western end Brookside Road forms a priority controlled roundabout junction with the A518 Town Meadows Way to the north, the A518 Bridge Street to the south and Bridge Street to the west. Pedestrian movements at this junction are supported by refuge islands with dropped kerbs and tactile paving located on all arms.
- 2.3.6 The A518 Town Meadows Way runs in a northerly direction from the junction with Brookside Road, is subject to a 40mph speed restriction, and includes street lit footways on both sides of the carriageway. The road provides a dual carriageway in a southbound direction, with a single lane running northwards.
- 2.3.7 The Bridge Street arm of the Brookside Road roundabout provides access to a Waitrose supermarket via Trinity Road, and thereafter provides vehicular and pedestrian access into Uttoxeter town centre. Meanwhile the A518 Bridge Street arm provides access to residential areas to the south of Uttoxeter.
- 2.3.8 Approximately 160 metres to the north of the Brookside Road roundabout the A518 forms a left in/ left out junction with the existing Lidl foodstore. A further 75 metres north of this junction, the southbound carriageway of the A518 forms a left in/ left out junction with the main area of car parking associated with the Dovefields Retail Park, including the car park adjacent to the Tesco foodstore.
- 2.3.9 A further 170 metres north of this junction the A518 forms the northern and southern arms of a four-arm priority controlled roundabout with the Dovefields Retail Park to the east and the A522 Dove Bank to the west. From this location Dove Bank provides vehicle access towards Uttoxeter town centre, while the northern A518 arm forms a further priority controlled roundabout with Dove Way and Derby Road, from where connections are provided to the A50, A500 and thereafter the M6 and M1 motorways.

2.4 Collision Statistics

- 2.4.1 Traffic collision data has been extracted from the crashmap.co.uk website for the latest five year period. The data has been examined for the extent of the site frontage of Brookside Road, together with an area of the A518 Town Meadows Way including the roundabout junctions with Bridge Street to the south and Dove Bank to the north.

2.4.2 **Figure 2.2** below presents the Crashmap data for the Town Meadows Way/ Brookside Road roundabout and associated approach roads. This reveals that in the last five years of data no incidents have occurred on Brookside Road or Town Meadows Way, including at the roundabout junction of the two roads, and at the left in/ left out junctions of Town Meadows Way with the Lidl foodstore and Dovefields Retail Park.

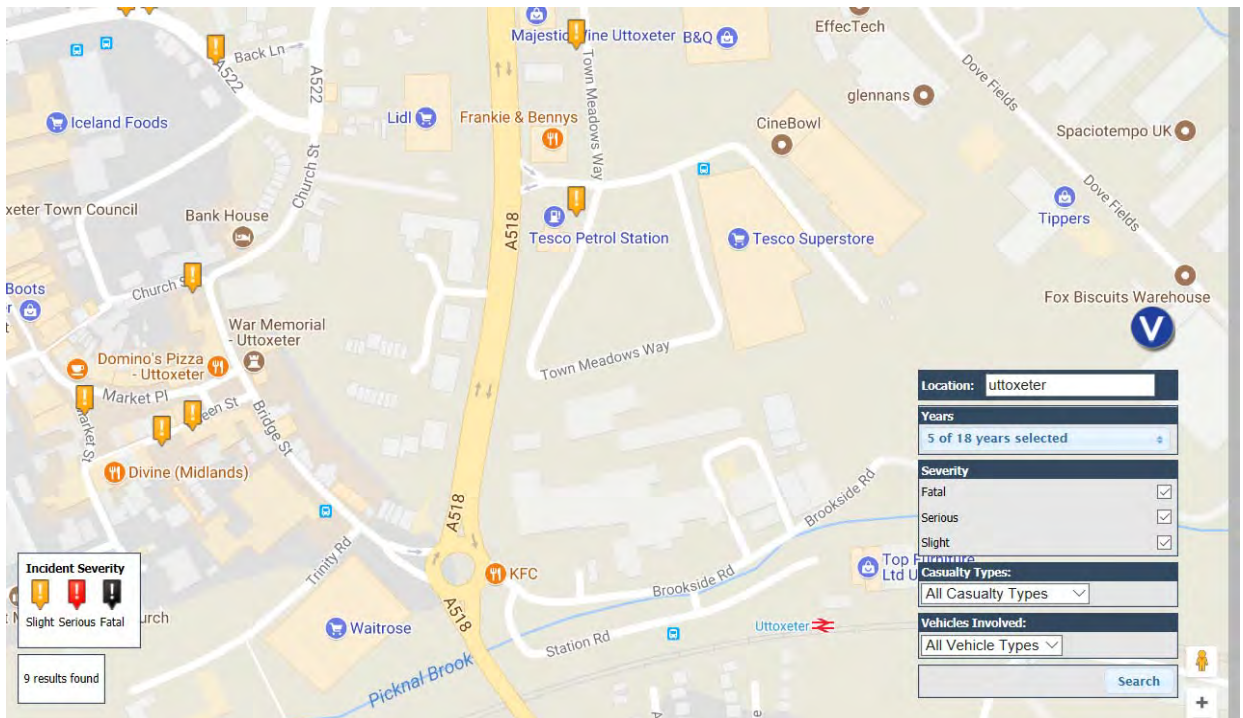


Figure 2.2 Town Meadows Way/ Brookside Road Accident Data

2.4.3 **Figure 2.3** below then provides the accident data for the Town Meadows Way/ Dove Bank roundabout.

2.4.4 This reveals that a total of four incidents have occurred at this junction, all of which were classified as slight. This equates to less than one incident per year, which at a priority controlled roundabout is not considered to suggest any material design deficiencies.

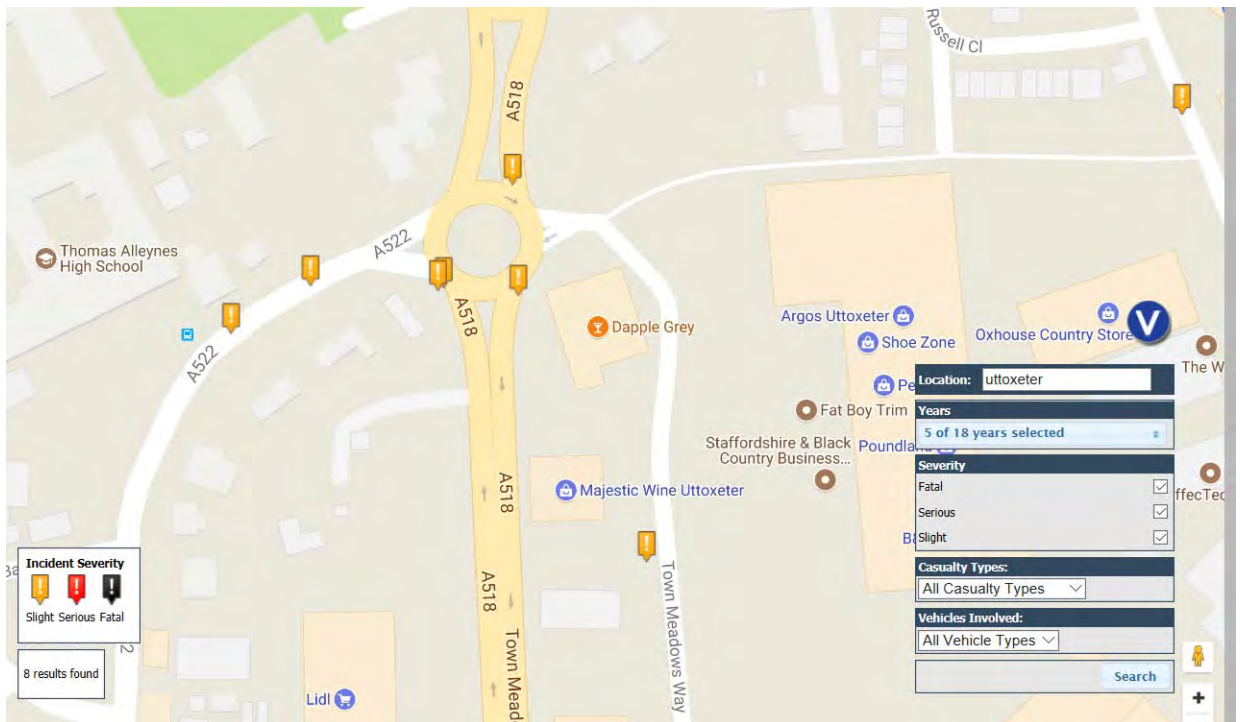


Figure 2.3 Town Meadows Way/ Dove Bank Accident Data

2.4.5 It is therefore concluded that there are no existing accident blackspots on the highway network in the vicinity of the site.

3 TRANSPORT PLANNING CONSIDERATIONS

3.1 Introduction

3.1.1 **Section 3** of this reports provide a review of the pertinent national and local planning policy guidelines.

3.2 National Planning Policy

3.2.1 The main source of national policy regarding the transport planning aspects of new development can be found in the Department of Communities and Local Government (DCLG) 'National Planning Policy Framework' (March 2012). This document replaces previous planning guidance and policy notes.

3.3 National Planning Policy Framework

3.3.1 The National Planning Policy Framework (NPPF) was published by the Department for Communities and Local Government (DCLG) in March 2012 and provides guidance for English Council's in producing local plans and making decisions on planning applications.

3.3.1 The key message of the NPPF is that sustainable development should go ahead without delay and the planning system should facilitate such development.

3.3.2 At the heart of the NPPF is a presumption in favour of sustainable development, which is to be seen as a golden thread for plan making and decision taking. This presumption in favour of sustainable development relates to both plan making and decision taking. It requires that planning authorities should positively seek opportunities to meet the development needs of their area and that Local Plans should meet objectively assessed needs unless the adverse impacts of doing so would 'significantly and demonstrably' outweigh the benefits when assessed against the policies of the NPPF, or where the Framework indicates development should be restricted.

3.3.3 The NPPF indicates that all developments that generate significant amounts of movement should be supported by a Transport Statement or Transport Assessment. Plans and decisions should take account of whether:

- The opportunities for sustainable transport modes have been taken up depending on the nature and location of the site, to reduce the need for major transport infrastructure;
- Safe and suitable access to the site can be achieved for all people; and

- Improvements can be undertaken within the transport network that cost effectively limits the significant impacts of the development. Development should only be prevented or refused on transport grounds where the residual cumulative impacts of development are severe.

3.4 Local Planning Policy

3.4.1 Pertinent local planning policy in relation to the development site is contained in the Staffordshire Local Transport Plan and The East Staffordshire Borough Council Local Plan.

Staffordshire Local Transport Plan 3 (2011-2026)

3.4.2 The Staffordshire Local Transport Plan 3 (SLTP3) was published in 2011 and sets out Staffordshire County Council's proposals for transport within the county, including walking, cycling, public transport, car-based travel and freight. The plan is a long term policy which runs up until 2026 and provides a strategy in managing and maintaining local roads and footways.

3.4.3 Contained within the plan is the vision for transport in Staffordshire. Within this vision are a number of principles that the plan is based upon which include the following:

- Supporting growth;
- Maintaining the highway network;
- Making transport easier to use;
- Improving safety and security;
- Reducing road transport emissions;
- Improving health and quality of life; and
- Respecting the environment.

3.4.4 Set out within the Local Transport Plan is a vision to support new developments that are situated in sustainable locations, as stated within Policy 5.1:

“Supporting new development that includes or is located in areas with good public transport links, well-connected to walking and cycling networks and facilities, and where the demand of ‘place’ and ‘movement’ is considered together”.

3.4.5 As will be outlined in Section 4, the proposed development is sited in a highly sustainable location which will encourage the use of non-car modes of travel. The development will also increase retail choice and employment opportunities in Uttoxeter and has the potential to enhance the quality of life for local residents.

East Staffordshire Borough Council Local Plan Strategy (2012)

3.4.6 The East Staffordshire Borough Local Plan was adopted in 2012 and will be in operation until 2031. The plan sets out the Council's policies and proposals for the use and development of land and buildings.

3.4.7 One of the key challenges for the Local Plan is to manage the impact of growth on local transport networks. Amongst the twelve strategic objectives of the Local Plan is Strategic Object 3 (SO3). This strategic objective relates to the accessibility and transport infrastructure of new development and states:

"To ensure that new development will be supported by effective transport infrastructure and wherever possible, designed in a way that reduces the need and desire to travel by car through encouraging the use of public transport, walking, cycling and rail travel".

3.4.8 Relating to transport is Strategic Policy 35 which again concerns accessibility and sustainable travel. The policy states that the Council is committed to developing a well-integrated community connected by a sustainable transport system which connects people to jobs, services and community facilities.

3.4.9 Listed within this policy are a number of bullet points that underpin this policy such as:

- Supporting measures which facilitate the modal shift to public transport, cycling and walking demonstrated in a travel plan;
- Promoting and supporting traffic management measures and environmental improvements which increase safety, improve air quality, and make our towns and villages more attractive;
- Promoting electronic communications allowing businesses to operate throughout the borough reducing the need to travel;
- Ensuring development proposals provide appropriate infrastructure measures to mitigate the adverse effects of development traffic and other environmental and safety impacts (individually or cumulatively);

- Securing appropriate provision or contributions towards the cost of any necessary highway improvements, provision of public transport services and facilities, and walking and cycling facilities in line with the most up to date Staffordshire County Council Integrated Transport Strategy; and
- Requiring developments which are likely to have an impact on the wider highway infrastructure to be accompanied by a transport assessment clearly setting out how the likely impacts of the development will be addressed.

4 ACCESSIBILITY BY SUSTAINABLE MODES OF TRAVEL

4.1 Introduction

4.1.1 Having outlined the importance which national and local planning policy guidelines place on sites being developed in sustainable locations, **Section 4** of the report considers the accessibility of the site by the following modes of transport:

- Accessibility on foot;
- Accessibility by cycle;
- Accessibility by bus; and
- Accessibility by rail.

4.2 Accessibility on Foot

4.2.1 The Chartered Institution of Highways and Transportation document entitled 'Providing for Journeys on Foot' offers guidance on what are considered to be acceptable walking distances. Table 3.2 of the document states that the acceptable maximum walking distance for commuting trips is 2 kilometres. A maximum distance for pedestrians to town centre facilities such as a foodstore is considered to be 800 metres.

4.2.2 In accordance with this guidance **Plan 5** presents the 800 metre and 2 kilometre pedestrian catchments of the site. This plan demonstrates that a range of retail and civic amenities located within Uttoxeter town centre are within 800 metres walk of the site, together with the entirety of the Dovefields Retail Park. Meanwhile the 2 kilometre catchment area extends to include the whole of the town centre, as well as residential areas to the south and west of the town.

4.2.3 **Plan 5** therefore demonstrates that the site is ideally placed to encourage both retail and employment based trips to be undertaken on foot.

4.2.4 Pedestrian access to the site from the surrounding highway network will be provided from Brookside Road at the site access junction, with a dedicated ramped pedestrian access also provided from the A518 Town Meadows Way.

- 4.2.5 To support pedestrian trips to the site street lit footways are provided along both sides of Brookside Road between the location of the proposed site access junction and the roundabout junction with the A518.
- 4.2.6 Pedestrian movements across the A518 roundabout are then assisted by dropped kerbs, tactile paving and pedestrian refuges which are provided on all four arms of the roundabout, while a pedestrian underpass also connects Station Road and Trinity Road.
- 4.2.7 Street lit footways are also provided along both sides of the A518 Town Meadows Way. Pedestrian movements across this road are supported by a TOUCAN controlled pedestrian crossing, again including dropped kerbs and tactile paving, which is located approximately 65 metres north of the Brookside road roundabout. This controlled crossing point is close to the ramped pedestrian access to the site from the A518.
- 4.2.8 Using this safe crossing point, pedestrian connections are available between the site and Uttoxeter town centre via Bridge Street which again provides comprehensive pedestrian facilities. These comprehensive facilities will therefore help to encourage linked pedestrian trips between the site and amenities located with the town centre.
- 4.2.9 Pedestrian connections to the adjacent Dovefields Retail Park are currently available via Town Meadows Way. However, the development scheme includes a proposal to create a direct link in the northwest corner of the site which will provide pedestrians (and others) direct access between the proposed development site and the Retail Park. This connection will help to encourage linked pedestrian trips between the two sites.
- 4.2.10 The site is therefore concluded to be highly accessible on foot.

4.3 Accessibility by Bicycle

- 4.3.1 An alternative mode of travel to the site would be achieved by bicycle.
- 4.3.2 The National Planning Policy Framework (NPPF) replaced all existing planning policy statements. However, the PPG 13 companion guide 'A Guide to Better Transport – Reducing the need to travel through land use and transport planning' has not been replaced by the NPPF and as such is still considered to provide relevant guidance. With respect to cycling this document states that "the bicycle is an effective mode for short trips of up to 3 to 5 miles (5-8km)".

- 4.3.3 With this in mind **Plan 6** displays a 5 kilometre cycle catchment from the site. This would equate to a journey of around 25 minutes using a leisurely cycle speed of 12 kilometres per hour, and based upon the above guidance this catchment represents the lower threshold of the potential cycle catchment of the site.
- 4.3.4 This plan illustrates that the 5 kilometre cycling catchment area encompasses the entirety of Uttoxeter, along with surrounding residential areas such as Doveridge, Bramshall and Stamshall.
- 4.3.5 Reference to the Uttoxeter cycle map indicates that there are extensive cycle facilities in the vicinity of the site which support journeys by bicycle. This includes cycle paths provided on both sides of Town Meadows Way, which are supported by TOUCAN crossing facilities provided in two locations which aid east/west cycle movements. In addition, the majority of roads within the centre of Uttoxeter are identified as advisory cycle routes. An extract of Staffordshire County Council’s Uttoxeter cycle map is provided as **Figure 4.1** below.

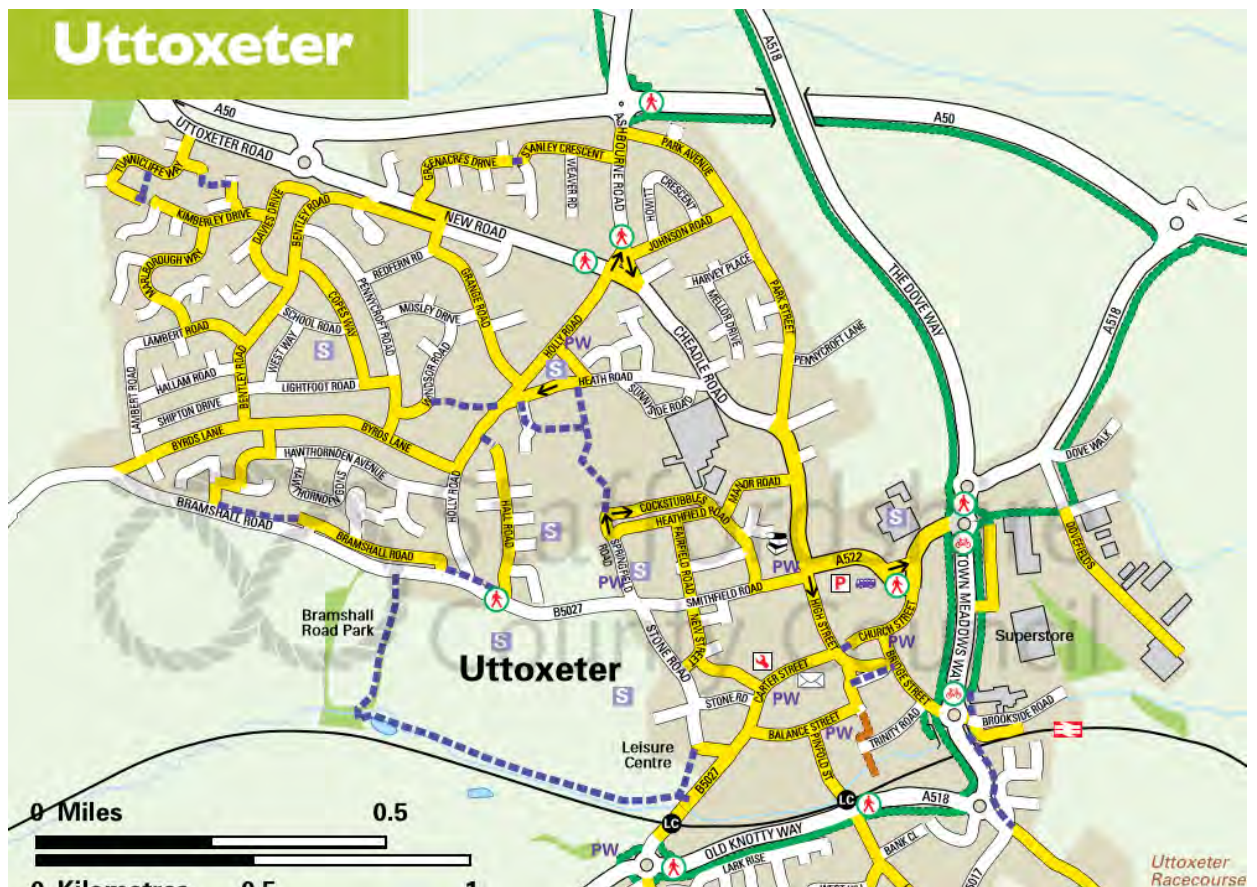


Figure 4.1: Uttoxeter Cycle Map

4.3.6 An off-carriageway cycleway is also provided on the west side of the A518 to the south of the Brookside Road roundabout junction which provides a route to the residential area to the south-west of the proposed development. In addition, cyclist may use the subway which runs under the A518 and links Station Road with Bridge Street.

4.3.7 Further afield Sustrans identify a traffic free cycle route which runs along the northern perimeter of the Dovefields Retail Park, before connecting with Derby Road and thereafter the A50 and National Cycle Route 549. This national route connects Hurdlow in the Peak District with Etwall via Waterhouses and Uttoxeter.

4.3.8 The proposed development is therefore considered to be accessible by bicycle.

4.4 Accessibility by Bus

4.4.1 The Chartered Institute of Highways and Transportation's (CIHT) document 'Planning for Public Transport in Developments' states that "new developments should be located so that public transport trips involve a walking distance of less than 400m from the nearest bus stop".

4.4.2 The closest bus stops to the site are located on Station Road to the south of the site. These stops provide bus shelters, timetable information and yellow bus box road markings, and are easily accessible from the site via the existing pedestrian infrastructure provided on Station Road. The stop serves the No 32A, 402, 403, SW1 and 402A services.

4.4.3 Further bus stops are located within 400 metres of the site on Bridge Street to the west, and adjacent to the Tesco foodstore to the north. The Bridge Street bus stop provides a flagpost, while the stops adjacent to Tesco provide a shelter and timetable information.

4.4.4 Again, both stops are accessible from the development site via the existing pedestrian network, with connections to the stops adjacent to Tesco assisted by the link which will be provided between the site and the Dovefields Retail Park.

4.4.5 The locations of these stops, together with other stops in the vicinity of the site, are shown on **Plan 2**, with a summary of the frequency of bus services provided in **Table 4.1**.

Service No.	Route	Approximate Frequency (services per hour in each direction unless stated)					
		Mon-Fri				Sat	Sun
		AM Peak	Midday	PM Peak	Evening		
32A	Uttoxeter Town Centre - Hanley	1	1	1	1	1	1
402	Burton upon Trent - Uttoxeter Town Centre	0	1	0	0	1	0
402A	Burton upon Trent - Uttoxeter Town Centre (Commuter Service)	Commuter Service, 07:15 from Burton upon Trent to Uttoxeter. 15:15, 16:30, 17:50 from Uttoxeter to Burton upon Trent				Services at 15:15 and 16:30	0
403	Burton upon Trent - Uttoxeter Town Centre	0	0	0	0	0	0
SWI	Uttoxeter Town Centre - Derby	1	1	1	0	1	1

Table 4.1: Bus Services Operating Within the Site Vicinity

4.4.6 **Table 4.1** demonstrates that the services near the site operate with an hourly frequency during the week and at weekends to destinations including Uttoxeter town centre, Hanley and Derby. Additional services are also available to Burton upon Trent.

4.4.7 It is therefore evident that there are a number of services operating within a short walk of the site, providing the opportunity for both customers and employees to utilise this mode of travel. The development site is therefore concluded to be highly accessible by bus.

4.5 Accessibility by Rail

4.5.1 The site is ideally located to take advantage of local rail services, being located approximately 120 metres walk from Uttoxeter Railway Station. Footways are provided along Station Road to assist pedestrian connectivity from the site to the railway station.

4.5.2 Rail services operating from Uttoxeter Station are summarised in **Table 4.2** below.

Route	Max. Frequency (Peak Periods) Monday to Friday	
	Frequency	Duration
Tutbury & Hatton, Derby	1 per hour	30 minutes
Blythe Bridge, Longton, Stoke-on-Trent, Kidsgrove, Crewe	1 per hour	57 minutes

Table 4.2: Rail Services Operating from Uttoxeter Station

4.5.3 Uttoxeter Station sits on the Derby to Crewe line, with hourly connections available in both directions to destinations including Tutbury & Hatton, Longton, Stoke-on-Trent, Kidsgrove, Alsager and Crewe.

4.5.4 Services from Uttoxeter Station are operated by East Midlands Trains who allow bicycles on their trains free of charge and without reservations. As such, the potential also exists for customers and staff to undertake a linked bicycle/ rail trip.

4.5.5 The site is therefore concluded to be highly accessible by rail.

4.6 Framework Travel Plan

4.6.1 To support and promote sustainable travel practices amongst staff and customers the applicant proposes a Travel Plan. A framework of this document is provided in **Appendix A**.

5 PROPOSED DEVELOPMENT

5.1 Introduction

5.1.1 This section outlines the development proposals for which planning consent is sought.

5.2 Built Development Proposals

5.2.1 It is proposed that the planning application will be submitted in hybrid form. As such, detailed planning consent will be applied for:

- A Lidl foodstore with a gross internal floor area (GIA) of 2,125 sqm (22,873 sqft); and
- Two non-food retail units, each with a GIA of 700 sqm (7,535 sqft);

5.2.2 In addition, outline planning permission will be applied for:

- A Drive Thru Restaurant with a GIA of 169 sqm (1,819 sqft).

5.2.3 The proposed site layout is shown in **Plan 4**.

5.2.4 As previously outlined the construction of a new Lidl foodstore on the application site will result in the closure of the existing Lidl store at the Dovefields Retail Park a short distance to the north. Lidl will then dispose of the Dovefields Retail Park site.

5.3 Access Proposals

Customer Vehicle Access

5.3.1 Customer vehicle access to the site is proposed from Brookside Road, via a priority controlled junction which is to be positioned in the approximate same location as the existing access to the site. This junction will include a pedestrian refuge with tactile paving and dropped kerbs to assist pedestrian connectivity.

5.3.2 The proposed site access junction is presented in **Plan 7**.

5.3.3 The site access junction will then lead to car park associated with the Lidl foodstore and adjacent non-food retail units. Although the detail of the outline element of the proposals is yet to be confirmed, it is suggested that a minor arm be provided off the main road into the site which will lead to a separate area of car parking and drive thru lane associated with the restaurant use.

- 5.3.4 The proposals also include the widening and resurfacing of Brookside Road to 6 metres in width for the length between the customer and service vehicle access points inclusive. This proposal accords with the scheme approved for the adjacent Brookside Business Park development.
- 5.3.5 The proposals include the provision of a vehicular and pedestrian link in the northwest corner of the site which will connect the proposed development site with the Dovefields Retail Park to the north. This link will therefore allow pedestrian, cyclists and motorist to move between the two sites without having to travel along the A518 Town Meadows Way.

Service Vehicle Access

- 5.3.6 It is proposed that a dedicated service vehicle access be provided approximately 80 metres to the east of the customer access.
- 5.3.7 This access will lead to service areas associated with the Lidl store and the non-food retail uses. The service area will provide a turning circle space which will allow Lidl vehicles to approach the foodstore unloading dock in reverse gear.
- 5.3.8 It is proposed that the outline element of the development will be serviced via the customer access junction. While such arrangements will be confirmed as part of any Reserved Matters application, typically such restaurant type uses are serviced infrequently and with small rigid vehicles.

Pedestrian Access

- 5.3.9 Pedestrian access to the site from the surrounding highway network is proposed from two locations. Pedestrian infrastructure will be provided at the site access junction with Brookside Road, which will include footway provision, dropped kerbs, tactile paving and a central pedestrian refuge.
- 5.3.10 A second dedicated pedestrian access point will be provided from Town Meadows Way. This access will be ramped to facilitate access for all users, and has been positioned to support the desire line identified by the TOUCAN crossing point on the A518.
- 5.3.11 Pedestrian access will also be enhanced through the provision of a 2 metre footway to be provided along the northern side of Brookside Road for the extent of the site frontage. This proposal will enhance future pedestrian connectivity between the site and the Brookside Business Park development.

- 5.3.12 Within the site pedestrian routes will be clearly identified which will lead from the pedestrian access points to store frontages. These pedestrian routes will be supplemented by tactile paving which will identify traffic lanes for visually impaired pedestrians.
- 5.3.13 In addition, as previously outlined a link will be provided in the northwest corner of the site to connect it with the Dovefields Retail Park. This connection will be accessible for pedestrians, and will help to encourage linked pedestrian trips between the two developments.

Cycle Access

- 5.3.14 Cycle access to the site will be achievable from the aforementioned access points with Brookside Road, Town Meadows Way and the Dovefields Retail Park.
- 5.3.15 To encourage cycle trips to the site the development will provide a total of 18 Sheffield cycle hoops for customers, 5 which will be located adjacent to the Lidl store and 13 adjacent to the non-food retail units and drive thru restaurant site. The site as a whole will therefore provide parking for 36 bicycles.
- 5.3.16 To support staff trips by bicycle, Lidl employees are permitted to park their bicycles within the store warehouse.

5.4 Car Parking

- 5.4.1 It is proposed that a total of 182 car parking spaces be provided for the Lidl foodstore and non-food retail units. This provision will include 11 spaces for mobility impaired users and 12 parent/ child spaces which will be conveniently located for store entrance points.
- 5.4.2 It is not proposed that car parking spaces be demarked between the Lidl store and non-food retail uses.
- 5.4.3 It is suggested that the restaurant element of the proposals could provide a total of 24 car parking spaces, including two spaces for mobility impaired users. However, this detail will be confirmed at Reserved Matters stage.

6 TRAFFIC IMPACT ASSESSMENT

6.1 Introduction

6.1.1 **Section 6** of this report provides a traffic impact assessment of the development proposals.

6.2 Baseline Traffic Flows

6.2.1 Baseline traffic flows for the local highway network have been obtained from traffic surveys which were undertaken by Signal Surveys on Friday 14th July 2017 between 1600 and 1900 and on Saturday 15th July between 1100 and 1400.

6.2.2 The traffic surveys were undertaken at:

- A518 Town Meadows Way/ Brookside Road/ A518/ Bridge Street junction;
- Site Access/ Brookside Road junction;
- A518 Town Meadows Way/ Dovefields Retail Park Access; and
- A518 Town Meadows Way/ A522 Dove Bank/ A518/ Retail Park Access.

6.2.3 From the traffic surveys the following peak hours have been identified:

- Weekday PM peak hour: 16:30 -17:30;
- Saturday peak hour: 11:00-12:00.

6.2.4 **Figure 1** and **Figure 2** present the 2017 Baseline peak hour flows for the PM and Saturday peak hours respectively. The flows are displayed in passenger car units (PCU's), which is the unit for analysis. The raw traffic survey data is contained in **Appendix B**.

6.3 Existing Site Traffic

6.3.1 As explained in Section 2 the site presently accommodates a variety of light industrial uses, and the peak hour traffic generation of the site was recorded in the surveys undertaken in July 2017, albeit we understand the site is not currently operating to its full potential.

6.3.2 The surveyed traffic flows associated with the existing sites, as presented in **Table 2.1** have been distributed across the local highway network based upon surveyed turning proportions. The resultant AM and PM peak hour traffic flows are presented in **Figures 3** and **4** respectively.

6.4 Assessment Years

6.4.1 Department for Transport guidelines state that the traffic impact of development proposals should be considered for a scenario of five years post registration of a planning application. This equates to a 2022 future year.

6.4.2 It is commonly accepted that the application of background traffic growth factors, together with committed development traffic and traffic relating to a proposed development, will invariably lead to the double counting of traffic flows. This is because such committed and proposed developments would be expected to be included within the TEMPRO growth forecasts.

6.4.3 As such there is reasoned justification for not including background growth factors and committed development traffic flows. In this respect we are aware that the Transport Assessments prepared by M-EC in relation to the mixed use development on Dove Way, and Sanderson Associates in relation to the JCB Heavy Products Factory site, both included TEMPRO growth factors but excluded committed developments.

6.4.4 However, in order to provide a robust assessment, this traffic impact assessment has included both background traffic growth forecasts and committed development traffic.

6.4.5 To derive future year traffic growth forecasts the TEMPRO database version 7.2 for the Uttoxeter area has been interrogated. The resultant 2017 to 2022 NTEM adjusted future year traffic forecasts are presented in **Table 6.1** below.

	PM Peak Hour	Saturday Peak Hour
2017 – 2022 Factor	1.0568	1.0552

Table 6.1: TEMPRO 2017 – 2022 Growth Factors

6.5 Committed Development

6.5.1 The following committed development sites have been included in this traffic impact assessment.

Brookside Business Park

6.5.2 The proposed development site is located adjacent to the Brookside Business Park, on which site a planning application was submitted in 2015 for residential and employment/ trade uses (LPA Ref: P/2015/00299).

- 6.5.3 Our understanding is that the application was recommended for approval subject to the Section 106 Agreement being completed. While to date the Section 106 remains unsigned, for robustness this development has been included in this analysis.
- 6.5.4 The Brookside Business Park development was supported by a Transport Assessment prepared by WYG Transport Planning. Figure 6 of this report details the PM peak hour proposed development traffic flows which have been adopted in this assessment.
- 6.5.5 WYG's report included no Saturday analysis presumably because the development was not considered to have a material impact during this time period. Accordingly, no allowance for the Saturday impact of this committed development has been included in this analysis.
- 6.5.6 The PM peak hour traffic flows relating to the Brookside Business Park development are presented in **Figure 5**.
- 6.5.7 The Brookside Business Park included traffic flows relating to four committed development sites. Of these, two (LPA Ref: OU/05254/018/JR/PO and P/2012/00771) have subsequently been constructed and now accommodate Waitrose and Asda foodstore respectively, while the application for the Dove Way mixed use development (LPA Ref: P/2011/01134) has now lapsed.

West Uttoxeter Mixed Use Development

- 6.5.8 As a result, the only previously considered committed development included in this analysis is the West Uttoxeter Mixed Use development (LPA Ref: P/2013/00882) on Bramshall Road.
- 6.5.9 The application was supported by a July 2013 Transport Assessment prepared by Croft Transport Solutions, with Figure 22 of this report providing the PM peak hour development traffic flows. These traffic flows have been adopted for the purpose of this assessment.
- 6.5.10 Croft's report also included no Saturday analysis. Again, it is presumed that this is because the development was not considered to have a material impact during this time period, and accordingly a similar approach has been adopted in this analysis.
- 6.5.11 The PM peak hour traffic flows relating to the West Uttoxeter Mixed Use development are presented in **Figure 6**.

6.6 2022 Baseline 'Without Development' Traffic Flows

6.6.1 To derive the 2022 Baseline 'Without Development' traffic flows the traffic flows attributed to the existing developments on the site have firstly been removed from the 2017 Baseline traffic flows to derive baseline without existing development flows. The 2017 – 2022 TEMPRO growth factors have then been applied to these traffic flows.

6.6.2 The existing and committed development traffic flows have then been added to these growthed traffic flows to derive the 2022 Baseline 'Without Development' traffic flows. These are presented in **Figures 7** and **8** for the weekday PM and Saturday peak hours respectively.

6.7 Vehicle Trip Generation

6.7.1 To derive traffic flows relating to the proposed developments on the site version 7.1.3 of the TRICS database has been interrogated. The following paragraphs describe this methodology and the resultant trip rates.

Lidl Foodstore Trip Rates

6.7.2 Vehicle trip rates for the proposed Lidl foodstore have been calculated based upon the following parameters, with the TRICS output files included in **Appendix C**.

- Retail/ Discount Foodstore land use selected;
- Lidl surveys undertaken in 2016 selected;
- Trip rates calculated based upon gross floor area (GFA);
- Sites in Greater London and Ireland removed;
- Sites in edge of town centre and edge of town sites selected; and
- Average trip rates calculated.

6.7.3 The Lidl foodstore format has changed considerably in recent years, and this has altered the trip generation characteristics. However, by focussing the TRICS analysis on Lidl stores surveys undertaken since 2016 it is considered that the trip rates accurately reflect the latest store formats and trip generation characteristics.

6.7.4 However, it is noted that the survey at the Lidl store in Skegness (LN-01-C-01) has been excluded from the trip rate analysis. This is because this survey was undertaken in mid-July and therefore could have been influenced by heightened tourism activity which Skegness experiences during the summer. In such circumstances any trip rates calculated including this site would be misrepresentative.

6.7.5 The resultant PM and Saturday trip rates and trips are presented in **Table 6.2** below

	Average Trip Rate (trips/100 sqm)			Trips (2,125 sqm)		
	Arr	Dep	Two-way	Arr	Dep	Two-way
Weekday Peak Hour (1630-1730)	3.941	3.986	7.927	84	85	168
Saturday Peak Hour (1100-1200)	5.066	4.491	9.557	108	95	203

Table 6.2: Proposed Lidl Average Vehicle Trip Rates and Trips

6.7.6 **Table 6.2** indicates that the proposed Lidl foodstore is predicted to generate 168 two-way vehicle trips during the weekday PM peak hour and 203 two-way vehicle trips during the Saturday peak hour.

Non-Food Retail

6.7.7 Vehicle trip rates for the proposed non-food retail units have been calculated based upon the following parameters, with the TRICS output files included in **Appendix D**.

- Retail/ Other Individual Non- Food Superstore land use selected;
- Trip rates calculated based upon gross floor area (GFA);
- Sites with GFA between 500 and 2,500sqm selected;
- Sites in Greater London and Ireland removed;
- Sites in edge of town centre and edge of town sites selected; and
- Average trip rates calculated.

6.7.8 The resultant PM and Saturday trip rates and trips are presented in **Table 6.3** below

	Average Trip Rate (trips/100 sqm)			Trips (1,400 sqm)		
	Arr	Dep	Two-way	Arr	Dep	Two-way
Weekday Peak Hour (1630-1730)	1.675	1.734	3.409	23	24	47
Saturday Peak Hour (1100-1200)	2.714	2.357	5.071	38	33	71

Table 6.3: Proposed Non-food Retail Average Vehicle Trip Rates and Trips

6.7.9 **Table 6.3** indicates that the proposed non-food retail units are predicted to generate 47 two-way vehicle trips during the weekday PM peak hour and 71 two-way vehicle trips during the Saturday peak hour.

Drive-Thru Restaurant

6.7.10 Vehicle trip rates for the proposed drive thru restaurant have been calculated based upon the following parameters, with the TRICS output files included in **Appendix E**.

- Hotel, Food & Drink/ Fast Food Drive Through land use selected;
- Trip rates calculated based upon gross floor area (GFA);
- Sites with GFA between 180 and 800 sqm selected;
- Sites in Greater London and Ireland removed; and
- Average trip rates calculated.

6.7.11 The hybrid application only applies for outline planning permission for the drive thru restaurant element of the development, and no end user is currently attached to this. However, the TRICS analysis has focussed on McDonalds and KFC type uses which in trip rates terms are considered to be at the higher end of drive thru type uses. This is therefore considered to provide a robust assessment of the potential traffic generation of this land use.

6.7.12 The resultant PM and Saturday trip rates and trips are presented in **Table 6.4** below

	Average Trip Rate (trips/100 sqm)			Trips (169 sqm)		
	Arr	Dep	Two-way	Arr	Dep	Two-way
Weekday Peak Hour (1630-1730)	10.301	10.2055	20.506	17	17	35
Saturday Peak Hour (1100-1200)	6.745	4.399	11.144	11	7	19

Table 6.4: Proposed Drive Thru Restaurant Average Vehicle Trip Rates and Trips

6.7.13 **Table 6.4** indicates that the proposed drive thru restaurant is predicted to generate 35 two-way vehicle trips during the weekday PM peak hour and 19 two-way vehicle trips during the Saturday peak hour.

6.8 Existing Lidl Foodstore

6.8.1 The construction of a new Lidl foodstore on this site will result in the closure of the existing 1,230sqm Lidl store at the Dovefields Retail Park a short distance to the north. Lidl will then dispose of the Dovefields Retail Park site, with the intention that this be reoccupied for non-food retail purposes.

6.8.2 **Table 6.5** below provides a comparison of the traffic generation of the existing site if occupied by Lidl and for non-food retail purposes, based upon the aforementioned trip rates.

	Existing Lidl Store			Proposed Non-Food Retail			Difference		
	Arr	Dep	Two way	Arr	Dep	Two way	Arr	Dep	Two Way
Weekday Peak Hour (1630-1730)	48	49	97	21	21	42	+28	+28	+56
Saturday Peak Hour (1100-1200)	62	55	118	33	29	62	+29	+26	+55

Table 6.5: Existing Lidl Site Trip Generation Comparison

6.8.3 This table indicates that the existing Lidl store would be expected to generate approximately 55 less vehicle trips during the PM and Saturday peak hours if occupied for non-food retail purposes.

6.8.4 In considering the traffic impact of the proposed development it would therefore be reasonable to reduce the traffic generation at the existing site, and on the surrounding highway network, by an equivalent amount. This would act to reduce the overall net impact of the proposals.

6.8.5 However, to provide a succinct and robust assessment, the traffic generated by the existing Lidl store has been retained on the local highway network. This approach provides the highways authority with additional surety regarding the conclusions drawn in this report.

6.9 Trip Types

6.9.1 The trip generations presented in **Tables 6.2 to 6.4** will not be all new trips on the local highway network, rather a proportion will form linked trips with a wider journey purpose, or will be cross visitation trips with other retail opportunities within and surrounding the site.

6.9.2 The different trip types that shopping trips fall into are identified below:

Primary Trips

6.9.3 The primary shopping trip is one which is distributed to the road network as having the same origin prior to visiting the site as destination on leaving the site. These trips are predominantly home-based trips but may also be made from work or other locations. Primary trips are further broken down into:

- Newly generated trips – in terms of foodstores these types of trips are virtually zero as people must already buy their food from somewhere.
- Transfer trips – this refers to customers who transfer to the new store from alternative stores in both the direct vicinity and surrounding areas. In the case of foodstores all primary trips are redistributed primary shopping trips.

6.9.4 It is recognised that a large proportion of customers to the proposed Lidl store will transfer from the existing Lidl store on the A518. However, equally it is recognised that the increase in the floor area of the new Lidl store will likely increase customer numbers. As explained above it would be expected that any increase in customer numbers would occur as a direct result of transfer trips from surrounding retail opportunities, most notably the Tesco and Waitrose foodstores.

6.9.5 The impact of such transfer trips is that they would have only a localised traffic impact. However, to provide a robust assessment it has been assumed that all primary trips will be new to the proposed development and surrounding highway network.

Linked Trips

- 6.9.6 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 access 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’ those trips once for the development as a whole.
- 6.9.7 Given the prominent location of the site from the A518 it would be expected that the proposed development would generate a considerable proportion of pass-by trips, in particular during network peak hours.
- 6.9.8 In addition, the proximity of the development site to the Dovefields Retail Park, coupled with the variety of uses on the site, mean that a considerable proportion of cross visitation trips could reasonably be expected to occur. Such cross-visitation trips would not appear on the local highway network.
- 6.9.9 In view of this, the following trip type proportions, and corresponding vehicle trips, have been adopted.

Trip Type	Trip Type Proportions		Trips			
	PM Peak	Sat Peak	PM Peak		Sat Peak	
			Arr	Dep	Arr	Dep
Primary Trips	50%	70%	42	42	75	67
Pass By Trips	50%	30%	42	42	32	29
Total	100%	100%	84	85	108	95

Table 6.6: Proposed Lidl Foodstore Trips by Type

6.9.10 With regards the non-food retail uses it would be expected that as well as primary and linked pass-by trips, a proportion of customers to this use would visit before/ visiting the Lidl store (or Dovefields Retail Park) as the primary trip purpose. Such cross-visitation trips are therefore also accounted for in **Table 6.7** below.

Trip Type	Trip Type Proportions		Trips			
	PM Peak	Sat Peak	PM Peak		Sat Peak	
			Arr	Dep	Arr	Dep
Primary Trips	50%	50%	12	12	19	16
Pass By Trips	25%	25%	6	6	9	8
Cross Visitation Trips	25%	25%	6	6	9	8
Total	100%	100%	23	24	38	33

Table 6.7: Proposed Non-Food Retail Trips by Type

6.9.11 With regards the drive thru restaurant use, it would be reasonably expected that during network peak times all trips to this development would be linked pass-by or cross visitation trips. This is because customers to such a use would be unlikely to make a dedicated trip when the surrounding highway network is perceived to be at it busiest. As such the following trip types for this land use have been adopted.

	Trip Type Proportions		Trips			
	PM Peak	Sat Peak	PM Peak		Sat Peak	
			Arr	Dep	Arr	Dep
Cross Visitation Trips	50%	50%	9	9	6	4
Pass By Trips	50%	50%	9	9	6	4
Total	100%	100%	18	18	11	7

Table 6.8: Proposed Drive-Thru Restaurant Trips by Type

6.10 Traffic Distribution

6.10.1 Primary trips have been distributed across the local highway network based upon surveyed turning proportions, with pass-by trips distributed across the A518/ Brookside Road roundabout in the same manner.

6.10.2 The resultant primary and pass-by trip distributions for the PM and Saturday peak hours are displayed in **Figures 9 to 12**.

6.11 Proposed Development Trips

6.11.1 The Lidl foodstore primary trips are presented in **Figure 13** and **Figure 14** for the PM and Saturday peak hours respectively.

6.11.2 The Lidl foodstore pass-by trips are presented in **Figures 15** and **16** for the PM and Saturday peak hours respectively.

6.11.3 The non-food retail primary trips are presented in **Figure 17** and **Figure 18** for the PM and Saturday peak hours respectively.

6.11.4 The non-food retail pass-by trips are presented in **Figures 19** and **20** for the PM and Saturday peak hours respectively.

6.11.5 The drive thru pass-by trips are presented in **Figure 21** and **Figure 22** for the PM and Saturday peak hours respectively.

6.11.6 The primary and pass-by trips have then been combined to produce Total Development Trips. These are presented in **Figure 23** for the PM peak hour and **Figure 24** for the Saturday peak hour.

6.12 2022 Baseline 'With Development' Traffic Flows

6.12.1 The 2022 Baseline 'With Development' traffic flow have been calculated by adding the total development traffic flows to the 2022 Baseline 'Without Development' traffic flows, with the existing development traffic removed.

6.12.2 The resultant PM and Saturday peak hour 2022 Baseline 'With Development' traffic flows are presented in **Figure 25** for the PM peak hour and **Figure 26** for the Saturday peak hour.

6.13 Net Impact

6.13.1 When considering the traffic impact of the development proposals it is important to consider how in practice the increases in traffic would occur across the study area. In this regard **Table 6.9** below illustrates the actual increase in traffic numbers predicted to occur as a result of the development, together with the increase in vehicles per minute.

	PM Peak				Saturday Peak			
	Baseline w/out dev	Baseline with dev	Increase	Increase / min	Baseline w/out dev	Baseline with dev	Increase	Increase / min
Site Access/ Brookside Road	64	280	217	3.6	58	322	264	4.4
Brookside Road E	28	28	0	0.0	26	26	0	0.0
Site Access	4	112	108	1.8	1	124	123	2.0
Brookside Road W	32	141	109	1.8	31	171	141	2.3
A518/ Brookside Road Rbt	2561	2721	160	2.7	2224	2441	216	3.6
A518 N	1206	1230	24	0.4	952	990	38	0.6
Brookside Road	82	190	108	1.8	67	190	123	2.0
A518 S	930	951	21	0.3	803	840	37	0.6
Bridge Street	342	350	8	0.1	402	421	19	0.3
A518/ Dove Bank Rbt	2955	2997	42	0.7	2735	2805	70	1.2
A518 N	1283	1301	18	0.3	986	1011	25	0.4
Town Meadows Way	324	324	0	0.0	339	339	0	0.0
A518 S	913	931	17	0.3	919	952	33	0.5
Dove Bank	434	441	6	0.1	492	504	13	0.2

Table 6.9: Proposed Development Net Impact

6.13.2 **Table 6.9** demonstrates that at the A518/ Brookside Road roundabout the proposed development is predicted to result in an increase of around 3 vehicles per minute during both the PM and Saturday peak hours. However, the majority of this increase in traffic is predicted to occur on the lightly trafficked Brookside Road arm of the junction, with a maximum increase on the A518 of around one vehicle every two minutes on a Saturday.

6.13.3 Turning to the A518/ Dove Bank roundabout the results indicate that the junction is predicted to experience an increase of around 1 vehicle per minute during both peak hours. Such changes in peak hour traffic flow are less than that which would be expected to occur through daily fluctuations in flow, and as such are forecast to have an immaterial impact upon the overall operation of the junction.

6.13.4 It is reiterated that the results presented in **Table 6.9** take no account for the conversion of the existing Lidl site to non-food retail uses. As a result, the changes in traffic flow predicted to occur as a result of the development proposals would in practice be significantly less than **Table 6.9** forecasts.

6.14 Junction Capacity Assessment

6.14.1 To fully appraise the impact of the proposed development capacity assessments have been undertaken for the following junctions:

- A518/ Brookside Road roundabout;
- A518 Dove Bank roundabout; and
- Brookside Road/ Site Access junction.

6.14.2 Junction capacity assessments have been undertaken using the TRL developed JUNCTIONS 8 programme, which is the industry standard package for assessing priority controlled roundabouts and T-junctions.

A518 Town Meadows Way/Brookside Road/A518/Bridge Street

6.14.3 The A518 Town Meadows Way/Brookside Road/A518/Bridge Street priority controlled roundabout has been assessed based upon its existing layout.

6.14.4 The junction has firstly been assessed using the 2022 Baseline ‘Without Development’ traffic flows, with the results of this assessment presented in **Table 6.10**, and the full modelling output files included in **Appendix F**.

Movement	Weekday PM Peak		Saturday Peak	
	RFC	Q (pcu)	RFC	Q (pcu)
A518 Town Meadows Way	0.78	3	0.61	2
Brookside Road	0.22	0	0.14	0
A518	0.62	2	0.54	1
Bridge Street	0.33	0	0.37	1

Table 6.10: 2022 Baseline ‘Without Development’ Traffic Flow JUNCTIONS Results

6.14.5 The results of the JUNCTIONS assessment demonstrate that under 2022 Baseline ‘Without Development’ highway conditions the A518 Town Meadows Way/Brookside Road/A518/Bridge Street roundabout is forecast to operate within capacity and without material levels of queuing on any arm.

6.14.6 The junction has then been assessed using the 2022 Baseline ‘With Development’ traffic flows with the results of this analysis shown in **Table 6.11** below.

Movement	Weekday PM Peak		Saturday Peak	
	RFC	Q (pcu)	RFC	Q (pcu)
A518 Town Meadows Way	0.81	4	0.66	2
Brookside Road	0.49	1	0.40	1
A518	0.65	2	0.59	1
Bridge Street	0.34	1	0.41	1

Table 6.11: 2022 Baseline ‘With Development’ Traffic Flow JUNCTIONS Results

6.14.7 The results of the JUNCTIONS assessment demonstrate that the introduction of traffic generated by the proposed development would not materially alter the operation of the junction, with all arms continuing to operate within capacity during both the PM and Saturday peak hours.

6.14.8 The results also demonstrate that the junction would experience only minimal levels of queuing, with a maximum queue of 4 vehicles suggested on the northern A518 arm of the junction during the PM peak hour, an increase of 1 vehicle compared with the ‘Without Development’ scenario.

6.15 A518 Town Meadows Way / A522 Dove Bank Roundabout

6.15.1 The A518 Town Meadows Way/ Dove Bank junction has firstly been assessed using the 2022 Baseline ‘Without Development’ traffic flows, with the results of this analysis shown in **Table 6.12** and the full modelling output files included in **Appendix G**.

Movement	Weekday PM Peak		Saturday Peak	
	RFC	Q (pcu)	RFC	Q (pcu)
A518	0.81	4	0.66	2
Dovefields Retail Park	0.79	3	0.58	1
A518 Town Meadows Way	0.75	3	0.73	3
A522 Dove Bank	0.64	2	0.71	2

Table 6.12: 2022 Baseline ‘Without Development’ Traffic Flow JUNCTIONS Results

6.15.2 The results presented in **Table 6.12** demonstrate that the A519/ Dove Bank roundabout is forecast to operate within capacity and without extensive queuing during both the PM and Saturday peak hours.

6.15.3 The junction has then been assessed using the 2022 Baseline ‘With Development’ traffic flows with the results of this analysis shown in **Table 6.13** below.

Movement	Weekday PM Peak		Saturday Peak	
	RFC	Q (pcu)	RFC	Q (pcu)
A518	0.82	5	0.68	2
Dovefields Retail Park	0.81	4	0.60	1
A518 Town Meadows Way	0.77	3	0.76	3
A522 Dove Bank	0.66	2	0.75	3

Table 6.13: 2022 Baseline ‘With Development’ Traffic Flow JUNCTIONS Results

6.15.4 The results of the JUNCTIONS assessment demonstrate that the introduction of traffic generated by the proposed development would not materially alter the operation of the junction, with all arms continuing to operate within capacity during both the PM and Saturday peak hours, and a maximum RFC of 0.82 on the northern A518 arm.

6.15.5 The results also indicate that there would be only minimal changes in the level of queuing at the junction compared to the ‘Without Development’ scenario.

6.16 Brookside Road/ Proposed Site Access Junction

6.16.1 The proposed site access junction on Brookside Road has been assessed based upon the layout presented in **Plan 7**.

6.16.2 The junction has been assessed using the 2022 Baseline ‘With Development’ traffic flows, with the results of this analysis shown in **Table 6.14** and the full modelling output files included in **Appendix H**.

Movement	Weekday PM Peak		Saturday Peak	
	RFC	Q (pcu)	RFC	Q (pcu)
Site Access	0.22	0	0.26	0
Brookside Road	0.00	0	0.00	0

Table 6.14: 2022 Baseline ‘With Development’ Traffic Flow PICADY Results

6.16.3 The results of the assessment demonstrate that the proposed site access junction is forecast to operate well within capacity, with a maximum RFC of 0.22 recorded on the site access arm of the junction during the PM peak hour, and a maximum RFC of 0.26 recorded on the site access arm during the Saturday peak hour.

6.17 Traffic Impact Assessment Conclusions

6.17.1 The traffic impact assessment has been undertaken using particularly robust parameters, including the adoption of both committed development traffic and background traffic growth, and the retention of traffic flows pertaining to the existing Lidl foodstore on Town Meadows Way.

6.17.2 Even allowing for these robust assessment parameters it has been concluded that the proposed development would not have a material impact upon the operation of any junction within the vicinity of the site, with the local highway network continuing to operate within capacity and without material increases in queuing.

6.17.3 Based upon the findings of the traffic impact assessment it is also concluded that there is no reason to believe highway safety would be worsened as a result of the development proposals.

7 CAR PARKING AND SERVICING

7.1 Introduction

7.1.1 **Section 7** of the report considers proposed car parking and servicing arrangements.

7.2 Car Parking Proposals

7.2.1 It is proposed that the Lidl foodstore and adjacent non-food retail units be supported by a 182 space car park. This provision will include 11 spaces for mobility impaired users and 12 parent/ child spaces.

7.2.2 It is not proposed that car parking spaces be demarked between the Lidl store and non-food retail uses, with customers to both uses free to park on site as is convenient.

7.2.3 It is suggested that the restaurant element of the proposals could provide a total of 24 car parking spaces, including two spaces for mobility impaired users. However, this detail will be confirmed at Reserved Matters stage, and as such the parking proposals of this element of the development have not been considered at this time.

7.3 Car Parking Standards

7.3.1 Car parking standards for East Staffordshire are set out in the Supplementary Planning Document (SPD) 'Parking Standards' which was adopted in October 2017. The standards represent the minimum spaces expected to be provided, unless exceptional circumstances can be demonstrated.

Food Retail

7.3.2 The Council's parking standards for food retail units equate to 1 space per 14 sqm. Based on this standard, and the Lidl store's gross internal floor area of 2,125 sqm, the minimum parking requirement is 152 spaces.

Non-Food Retail

7.3.3 For non-food retail uses the Council's minimum parking standards are 1 space per 20 sqm. Therefore, based on these standards, and the two non-food retail units combined gross internal floor area of 1,400 sqm, the minimum requirement is 70 spaces.

- 7.3.4 As such, the minimum parking requirement for the development based upon East Staffordshire Borough Council’s parking standards is 222 spaces.
- 7.3.5 It can be seen that the level of parking proposed does not meet the minimum standards set out by Borough Council for the Lidl foodstore and two non-food retail units individually. However, as outlined in Section 6 it is expected that the development will generate a high level of cross visitation trips, both between the retail uses provided on the site, and with the adjacent Dovefields Retail Park.
- 7.3.6 It is therefore considered that to require the minimum parking standards for both the Lidl foodstore and non-food retail units to be provided in isolation would lead to an excess of parking on the site, and would thereby encourage private car travel over the use of more sustainable modes.
- 7.3.7 To this end it has been demonstrated that the location of the site is highly accessible and therefore there are excellent opportunities for customers and staff to use non-car modes to travel to the site.

7.4 Car Parking Demand

- 7.4.1 To further consider the appropriateness of the proposed car parking provision a car parking demand profile has been prepared. To generate a parking accumulation profile the previously described TRICS trip rate assessment for the Lidl store and non-food retail uses has been revisited.
- 7.4.2 The resultant weekday car parking demand profile for the development is presented in **Table 7.1** below. It is noted that this analysis does not allow for any cross visitation between the Lidl store and adjacent non-food units and is therefore particularly robust.

	Lidl Foodstore			Non-Food Retail Units			Combined Accumulation
	Arr	Dep	Acc	Arr	Dep	Acc	
06:00-07:00	2	0	2				2
07:00-08:00	5	2	5	1	0	1	6
08:00-09:00	44	31	19	9	7	4	22
09:00-10:00	57	47	28	21	19	6	34
10:00-11:00	60	55	34	21	21	6	40
11:00-12:00	77	70	41	25	23	8	49
12:00-13:00	79	78	41	36	27	18	59
13:00-14:00	80	95	27	25	25	18	45
14:00-15:00	88	79	36	28	22	24	60
15:00-16:00	95	89	42	27	33	18	60
16:00-17:00	86	88	40	28	27	19	59
17:00-18:00	81	82	40	19	22	17	56

18:00-19:00	63	70	33	14	18	13	45
19:00-20:00	54	59	27	7	15	5	32
20:00-21:00	36	45	18	0	3	2	20

Table 7.1 – Weekday Parking Accumulation Profile

7.4.3 The results in **Table 7.1** demonstrate that the proposed development is forecast to experience a maximum parking demand of 60 spaces during the week.

7.4.4 **Table 7.2** below then provides the car parking demand profile for the development on a Saturday. Again, this analysis does not take account of any cross visitation between the land uses.

	Lidl Foodstore			Non-Food Retail Units			Combined Accumulation
	Arr	Dep	Acc	Arr	Dep	Acc	
06:00-07:00	6	1	6	0	0	0	6
07:00-08:00	7	0	12	0	0	0	15
08:00-09:00	43	28	27	5	4	4	31
09:00-10:00	63	53	36	16	11	9	45
10:00-11:00	93	87	42	31	25	15	57
11:00-12:00	108	95	54	38	33	20	74
12:00-13:00	100	107	47	42	35	27	74
13:00-14:00	95	86	55	39	43	23	78
14:00-15:00	93	97	51	48	50	21	72
15:00-16:00	91	98	43	45	36	30	73
16:00-17:00	96	95	44	36	48	18	62
17:00-18:00	74	70	49	14	29	4	52
18:00-19:00	66	80	35	1	4	1	35
19:00-20:00	35	52	18	0	1	0	18
20:00-21:00	23	25	16	0	0	0	16
21:00-22:00	12	18	10	0	0	0	10

Table 7.2 – Saturday Parking Accumulation Profile

7.4.5 The results presented in **Table 7.2** demonstrate that the proposed development is forecast to experience a maximum parking demand of 78 spaces on a Saturday.

7.4.6 It is therefore concluded that the proposed 182 car parking spaces is sufficient to meet the projected car parking demand. In view of this, the propensity for the cross-visitation trips to occur between the uses on the site, and the sites highly accessible location for travel by non-car modes, it is concluded that there are exceptional reasons why a parking provision below the Council’s minimum standards should be acceptable.

7.5 Parking Spaces for Mobility Impaired Users

7.5.1 For shopping, recreation and leisure purposes the Council's SPD states that development should provide one accessible space per disabled member of staff, plus 3 spaces or 6% of total capacity, whichever is greater. The Council's standards state that where the number of disabled staff is not known, the total number of accessible spaces provided should be 5% of those available.

7.5.2 The proposed development will provide a total of 11 spaces for mobility impaired users which will be located close to building entrance points. This represents 6% of the total car parking provision and is therefore in accordance with the Council's adopted standards.

7.6 Motorcycle Parking

7.6.1 In terms of motorcycle parking the SPD states that two safe motorcycle parking spaces will be required in any car park with more than 25 spaces.

7.6.2 In accordance with this standard the proposed development will provide two motorcycle parking spaces.

7.7 Bicycle Parking

7.7.1 With regards cycle parking the SPD states that A1 developments should provide 1 cycle stand per 10 employees and 1 visitor stand per 200 sqm.

7.7.2 In the context of the proposed A1 floor area of 3,525 sqm this would equate to a visitor cycle parking provision of 18 cycle stands. Accordingly, this level of visitor cycle parking is provided within the development, with 'Sheffield' type cycle stands conveniently located on store frontages.

7.7.3 In addition, as previously outlined to support staff trips by bicycle, Lidl employees are permitted to park their bicycles within the store warehouse.

7.8 Servicing

7.8.1 The service area for the Lidl foodstore and non-food retail units will be located to the east of the proposed buildings. Access to this area is to be provided from a priority controlled junction approximately 80 metres to the east of the customer access junction.

7.8.2 The secure service area will include a turning circle, which will allow Lidl vehicles to turn within the site and then approach the unloading area in a reverse gear.

- 7.8.3 The proposed development will receive deliveries from a maximum 16.5 metre articulated vehicle. The Lidl foodstore would receive 1 to 2 deliveries per day using this vehicle. The service frequency of the non-food units will be subject to end user requirements, however, it would be expected that deliveries would be received on an equally infrequent basis.
- 7.8.4 The proposed site access junction with Brookside Road, and internal site layout, have been assessed in the AutoTRACK programme using a 16.5 metre articulated vehicle. This analysis is presented in **Plan 8** which demonstrates that all required manoeuvres can be safely undertaken.
- 7.8.5 The fast food restaurant would receive deliveries via the customer access junction. Again, servicing requirements would be dependent on the end user, however, typically such uses would receive a single delivery per day using a small rigid vehicle.
- 7.8.6 Accordingly, the site access junction has been tracked using a 10 metre rigid vehicle. This assessment is presented in **Plan 9** which again demonstrates that required vehicle movements can be safely undertaken.

8 CONCLUSIONS

8.1 Introduction

8.1.1 Vectos have been commissioned by Lidl UK GmbH to provide transport and highways advice to support a hybrid planning application for the development of an area of land located to the north of Brookside Road in Uttoxeter. The site lies within the jurisdiction of East Staffordshire Borough Council (ESBC), while Staffordshire County Council (SCC) act as highways authority.

8.1.2 The planning application will be submitted in hybrid form, with detailed planning consent applied for:

- A Lidl foodstore with a gross internal floor area (GIA) of 2,125 sqm (22,873 sqft);
- Two non-food retail units, each with a GIA of 700 sqm (7,535 sqft);
- 182 car parking spaces; and
- Customer and service vehicle access from Brookside Close.

8.1.3 In addition, outline planning permission will be applied for:

- A Drive Thru A3/ A5 Restaurant with a GIA of 169 sqm (1,819 sqft).

8.1.4 The following conclusions can be drawn from the report:

- In accordance with planning policy guidance, which promotes sustainable development, the site has been demonstrated to be highly accessible on foot, by bicycle and by public transport.
- To encourage travel by sustainable modes a Framework Travel Plan has been prepared.
- A review of historical collision data has demonstrated that there are no existing accident blackspots in the vicinity of the site. Based upon the findings of the traffic impact assessment it has been concluded that there is no reason to believe highway safety would be worsened as a result of the development proposals.
- A robust traffic impact assessment of the proposed development has been undertaken, which has considered the trip generation of the proposed development, paying due cognisance to trip type characteristics. From this assessment it was concluded that the proposed development would not materially alter the operation of any existing junction on the local highway network, and that the site access junction would operate within capacity.

- The Lidl foodstore and non-food retail units parking proposals have been reviewed in the context of adopted car parking standards and anticipated demand. This review has concluded that there are exceptional reasons to support the proposed car parking provision, and that it is an appropriate quantum to accommodate anticipated demand. It has also been demonstrated that the mobility impaired, motorcycle and bicycle parking provision fully accord with the Council's standards.
- A review of the proposed servicing arrangements has been undertaken, including an AutoTRACK assessment. This has demonstrated that all required vehicle movements can be safely undertaken.

8.2 Transport Assessment Conclusions

- 8.2.1 The development site is in a highly sustainable location, with infrastructure to be provided in conjunction with the development to encourage staff and customer travel by sustainable modes. The development proposals would not have a detrimental impact upon either the operation or safety of the local highway network, and a quantum of car parking has been provided that is appropriate to the scale of development.
- 8.2.2 The development proposals have therefore been demonstrated to accord with the policies adopted in the ESBC Local Plan, most notably Strategic Policy 35.
- 8.2.3 The National Planning Policy Framework states that *“Development should only be prevented or refused on transport grounds where the residual cumulative impacts of development are severe”*.
- 8.2.4 This report has demonstrated that the residual cumulative impacts of the proposed development would not be severe, and therefore in accordance with NPPF guidance there are no reasons why the planning application should be refused on highway or transportation grounds.

FIGURES

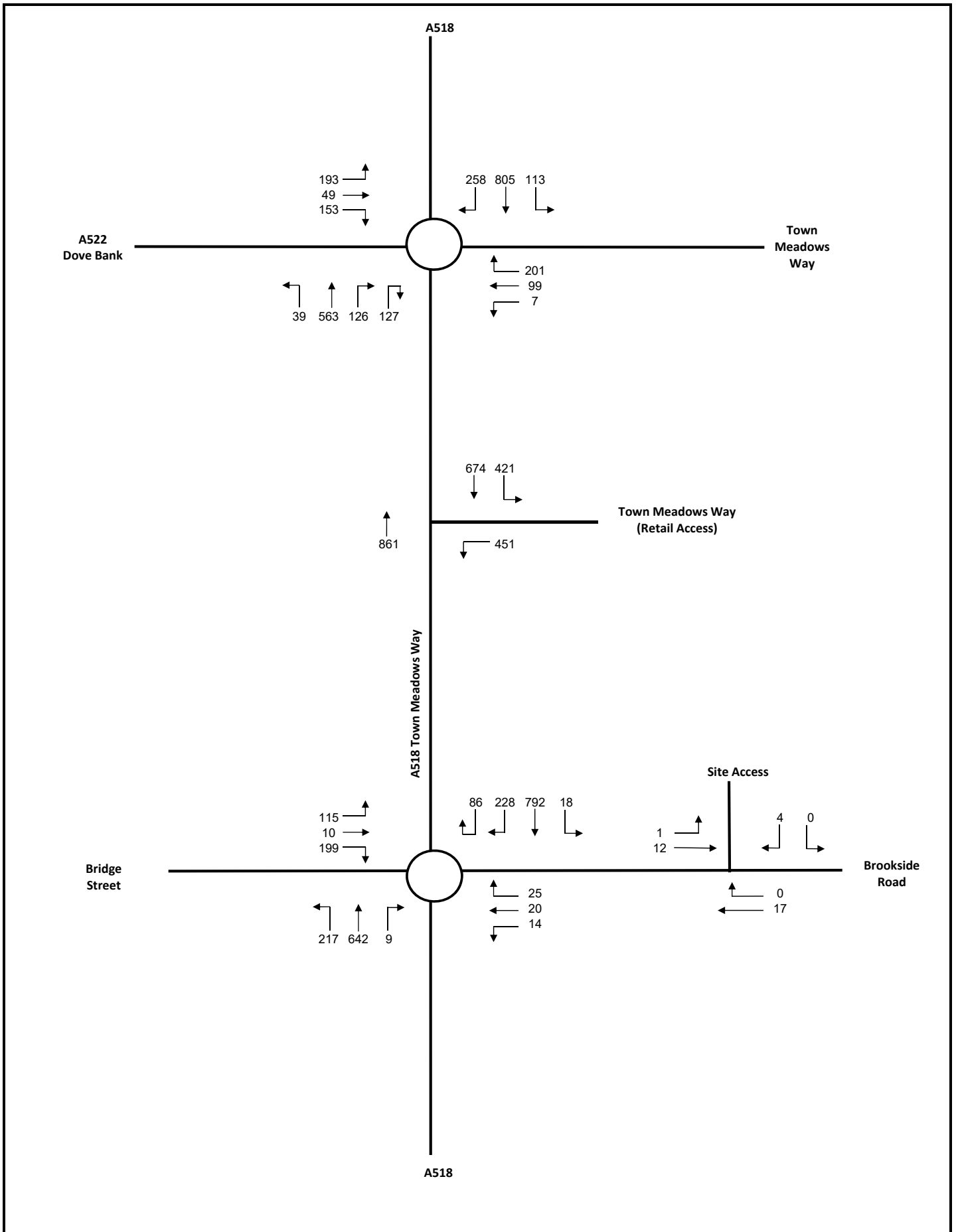


Figure 1

2017 Baseline Traffic Flows (PCU's)
PM Peak Hour (16:30 - 17:30)

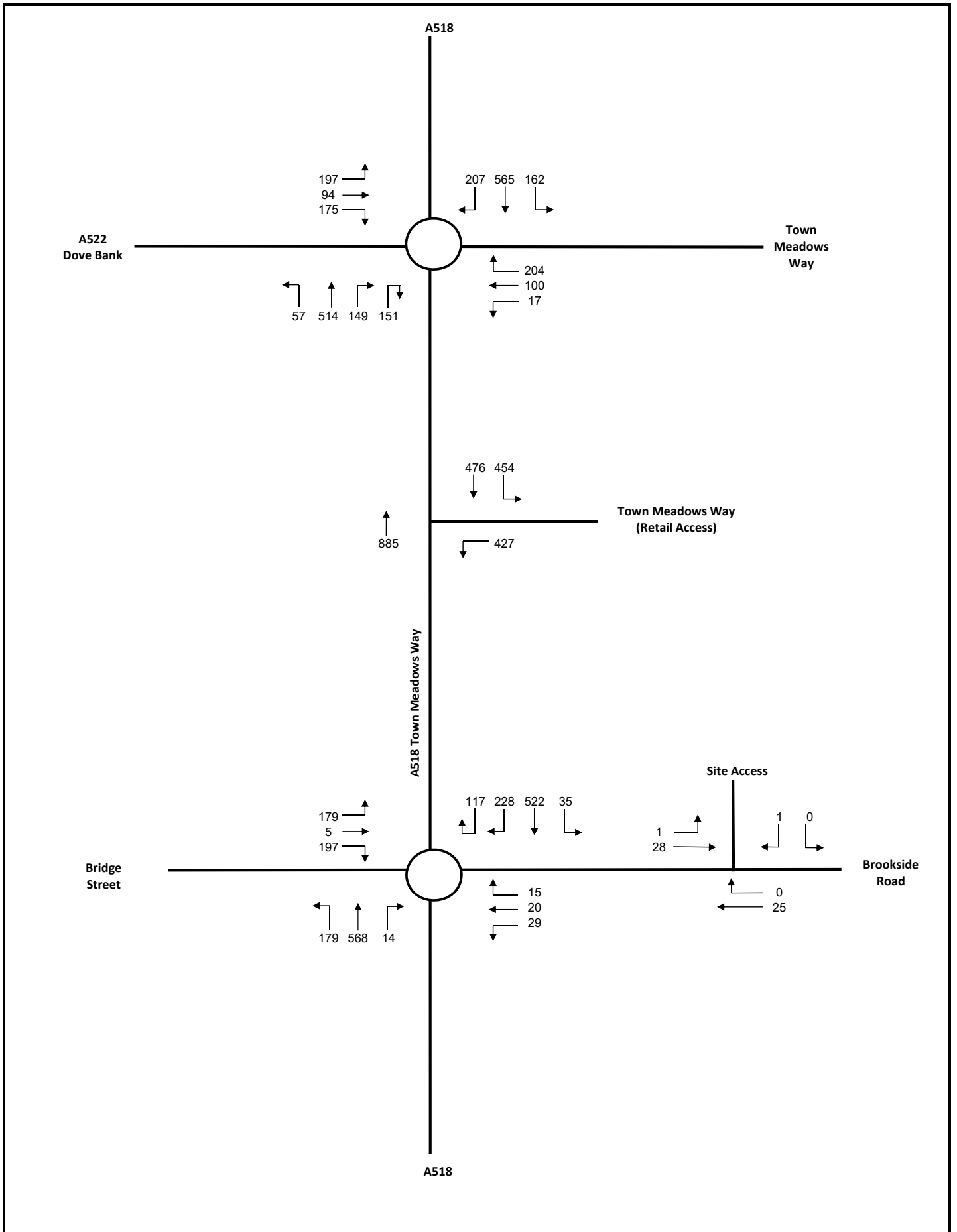


Figure 2

2017 Baseline Traffic Flows (PCU's)
Saturday Peak Hour (11:00 - 12:00)



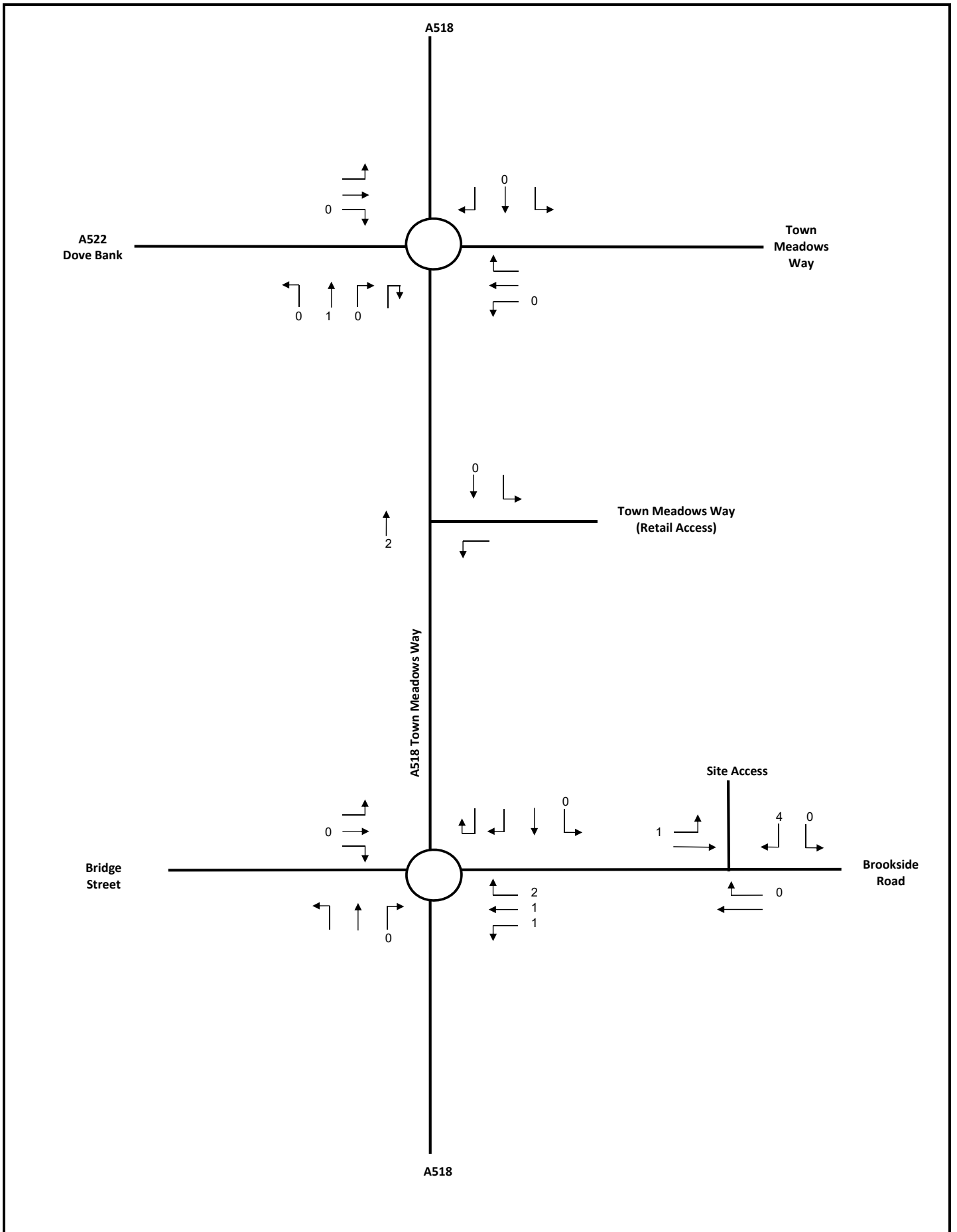


Figure 3

2017 Existing Site Traffic (PCU's)
PM Peak Hour (16:30 - 17:30)

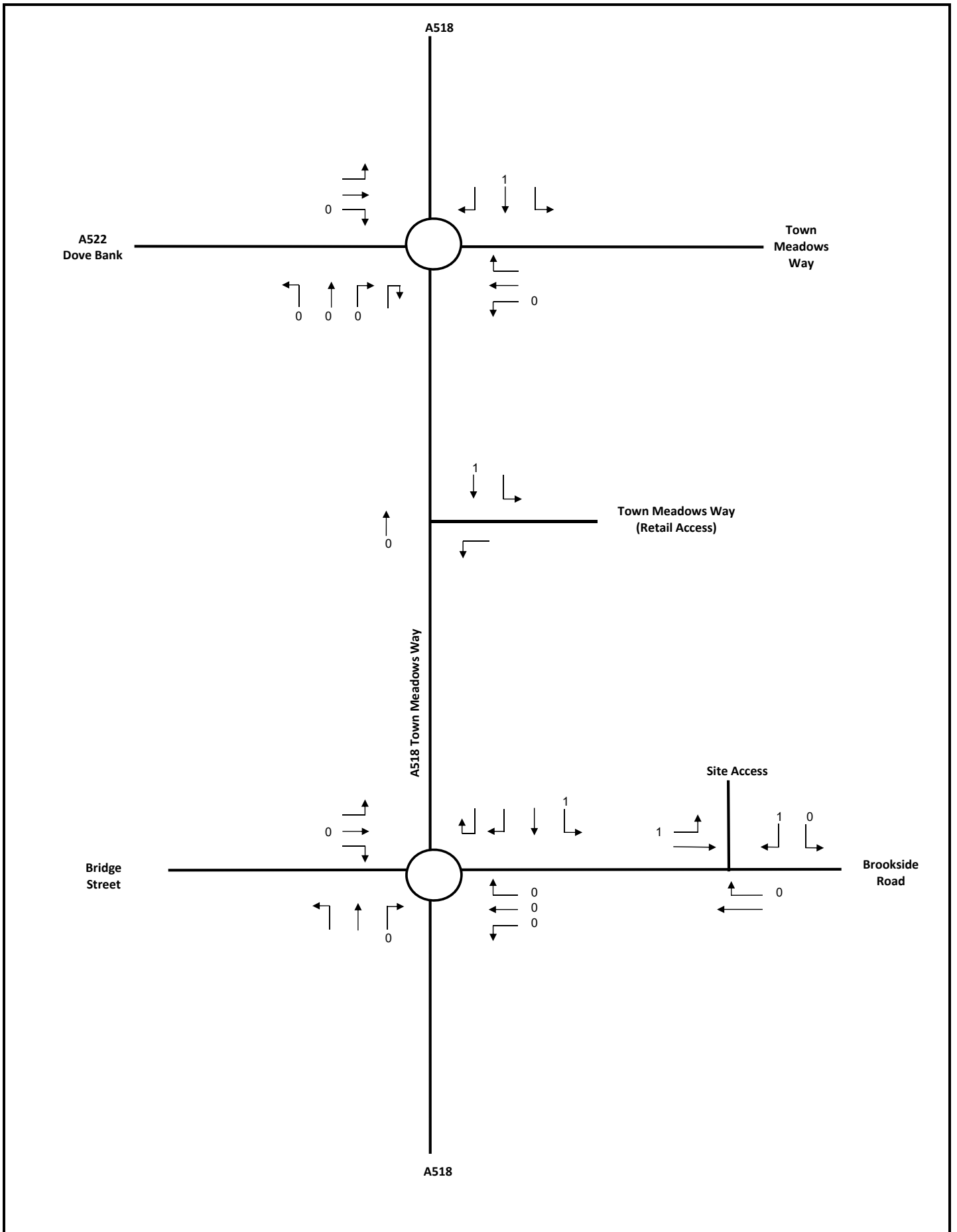


Figure 4

2017 Existing Site Traffic (PCU's)
 Saturday Peak Hour (11:00 - 12:00)

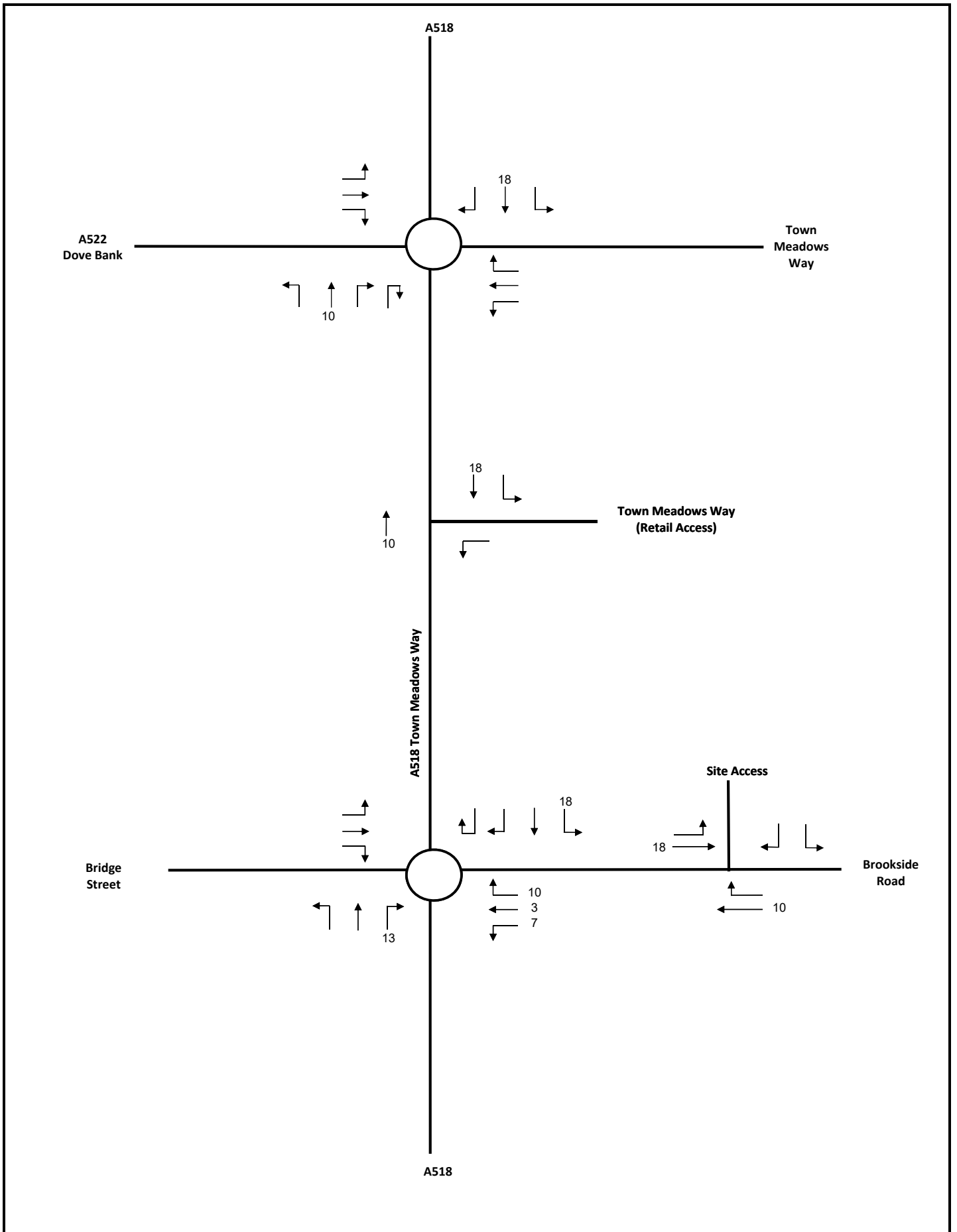


Figure 5

Brookside Business Park Traffic Flows (LPA Ref: P/2015/00299)
PM Peak Hour

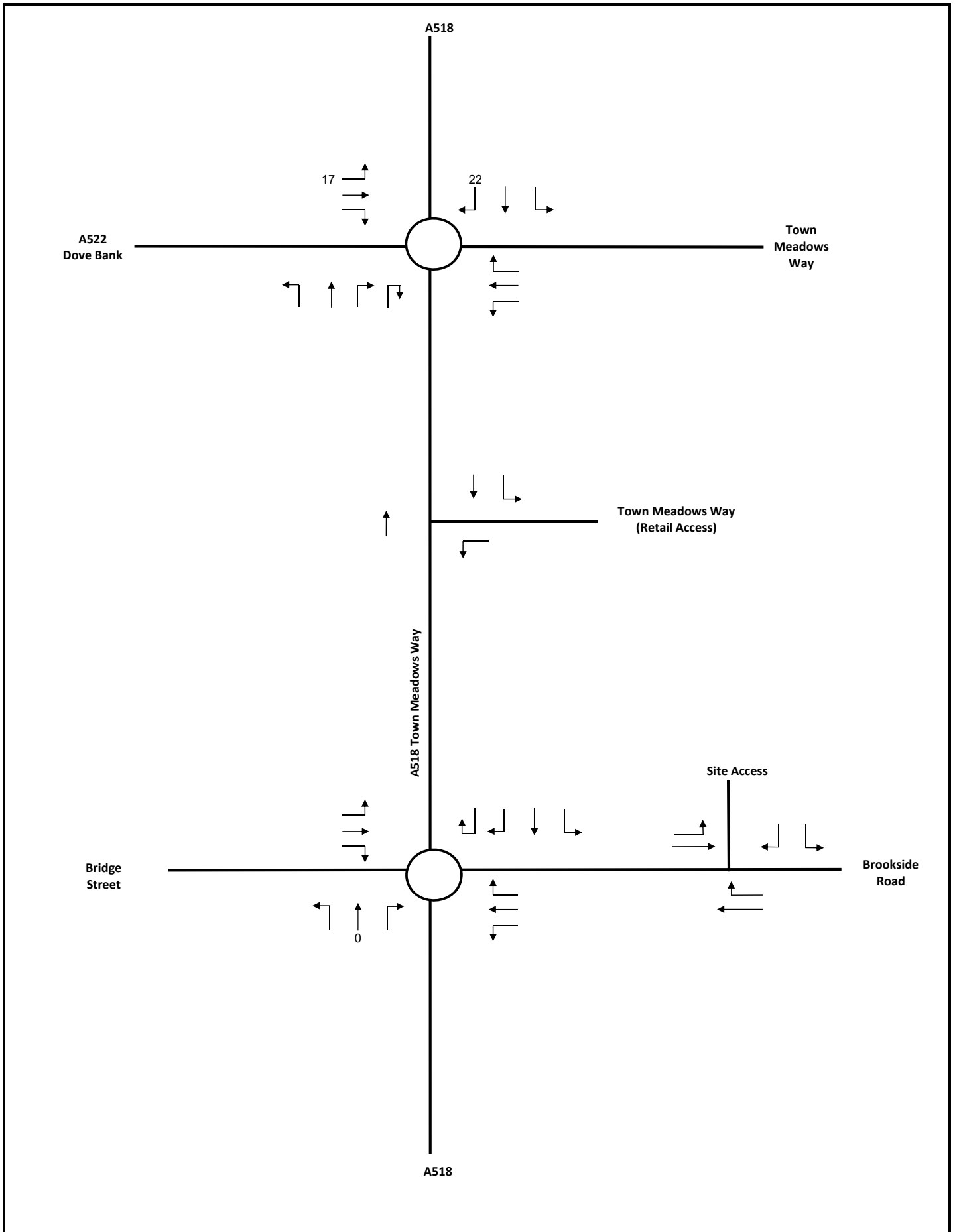


Figure 6

West Uttoxeter Mixed Use Development Traffic Flows (LPA Ref: P/2013/00882)
PM Peak Hour



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Registered address: Vectos Platts Limited, 4th Floor Oxford Place, 61 Oxford Street, Manchester, M1 6EQ

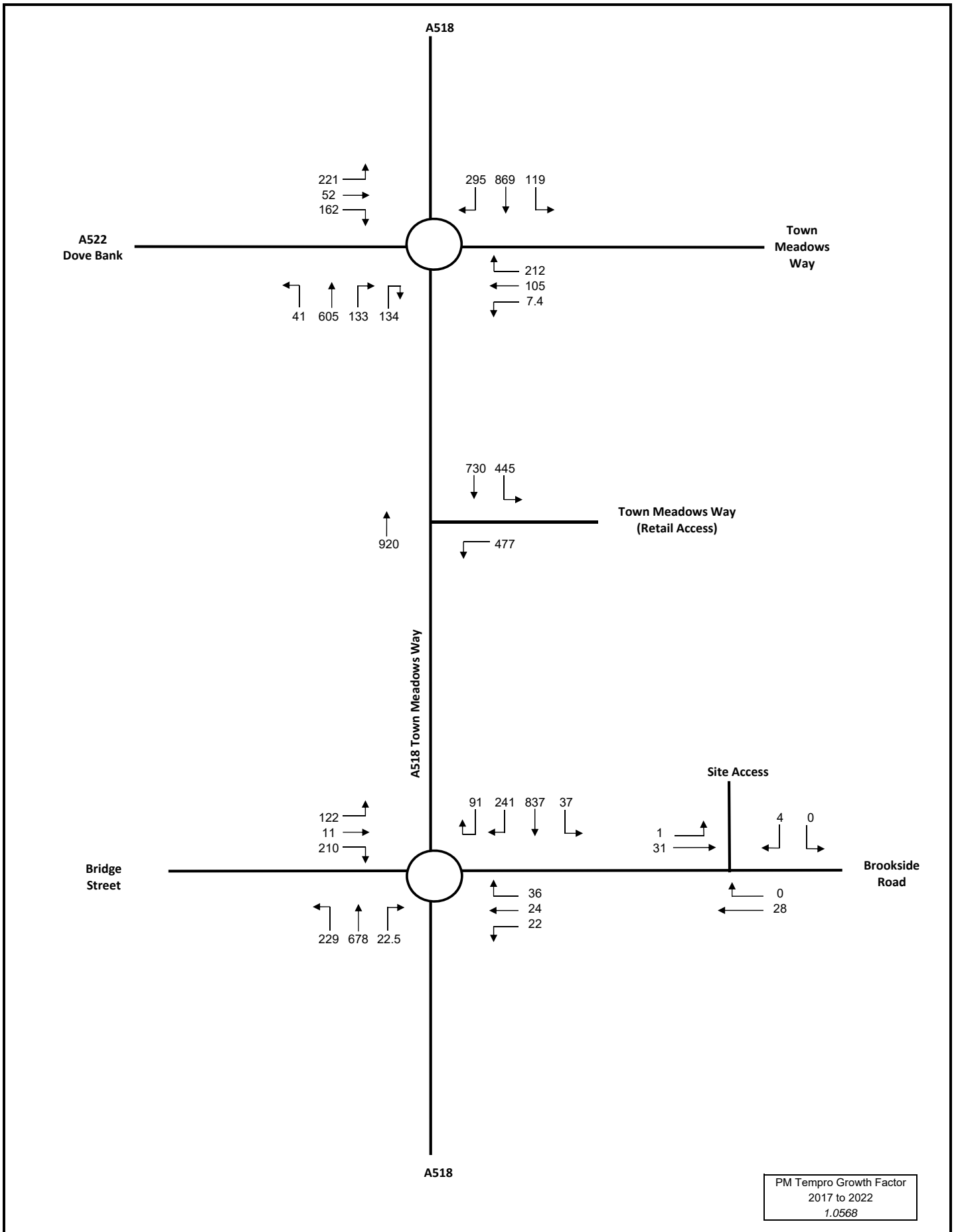


Figure 7

2022 Baseline Without Development Traffic Flows (PCU's)
 PM Peak Hour (16:30 - 17:30)



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 Tel: 0161 228 1008 www.vectos.co.uk
 Company no: 07794271
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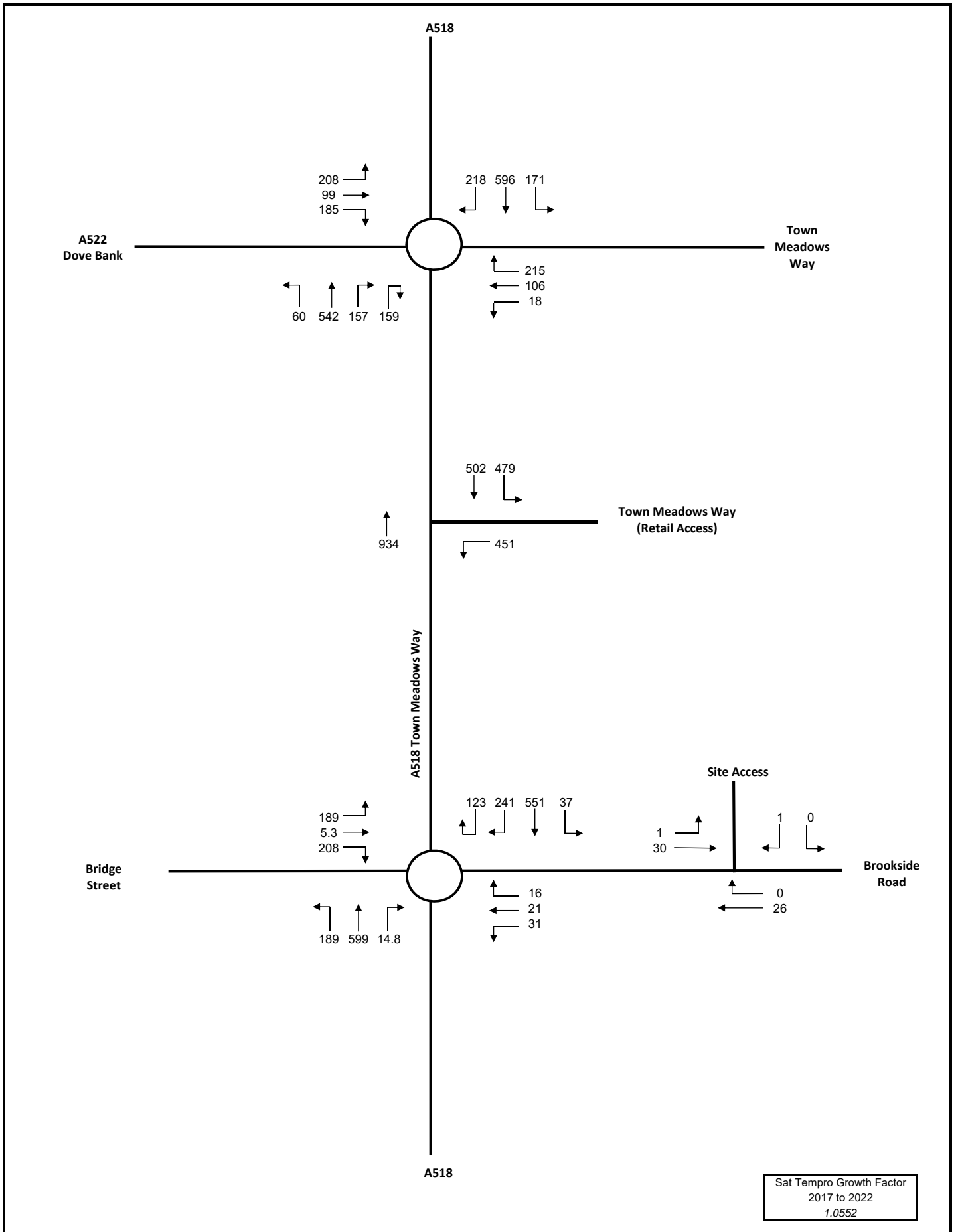


Figure 8

2022 Baseline Without Development Traffic Flows (PCU's)
 Saturday Peak Hour (11:00 - 12:00)

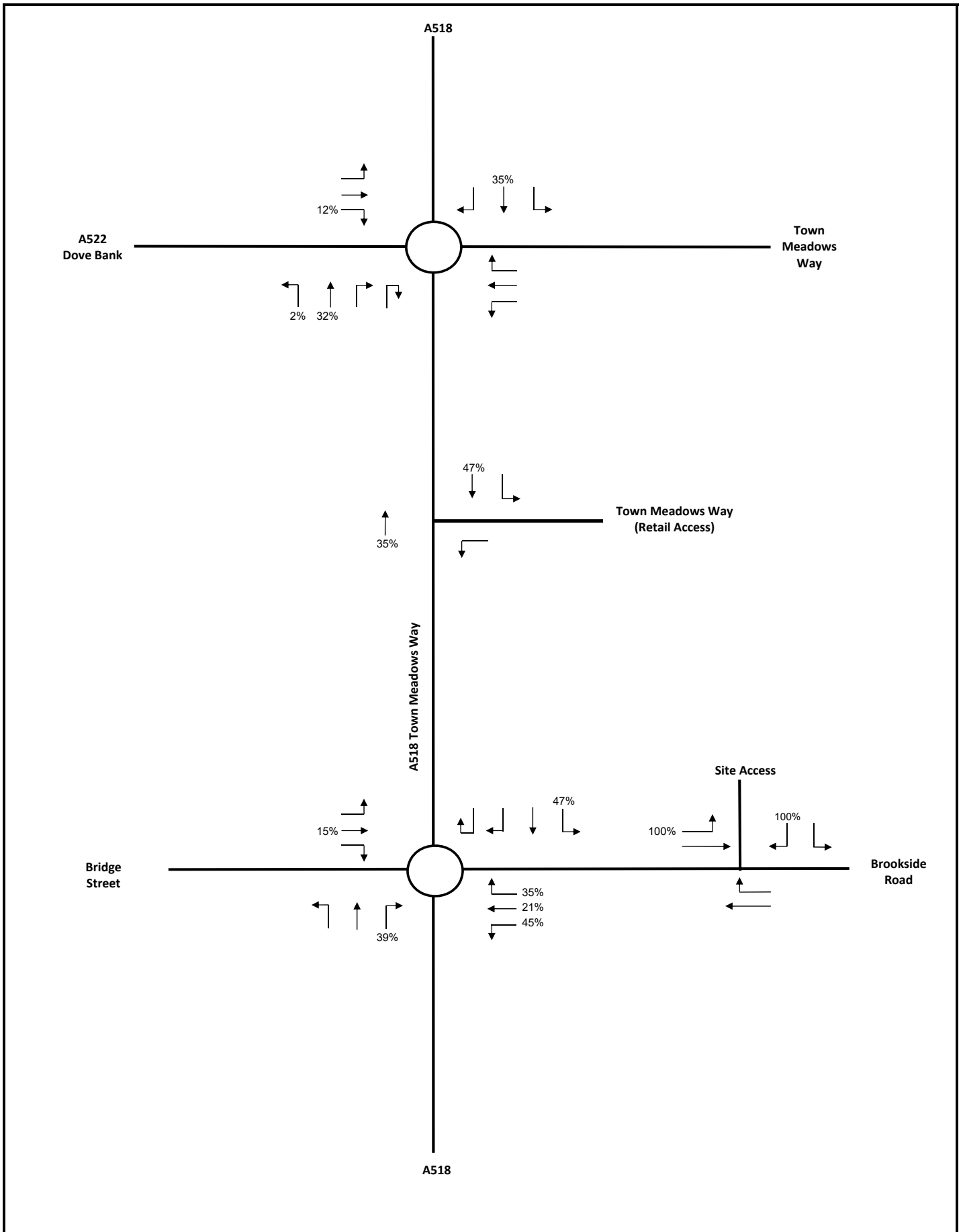


Figure 9
Primary Trip Distribution
Weekday Peak Hour (16:30-17:30)

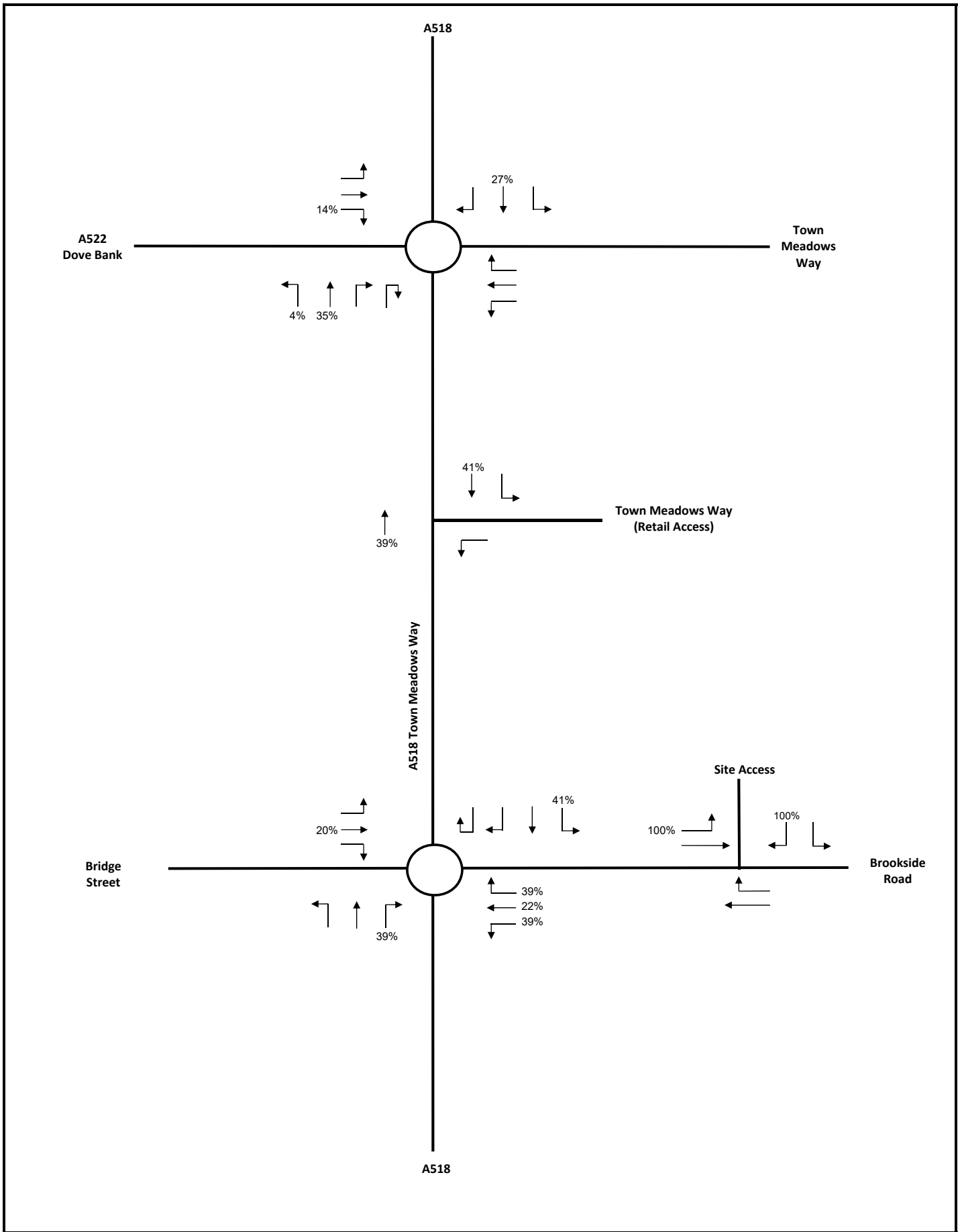


Figure 10

Primary Trip Distribution
Saturday Peak Hour (11:00 - 12:00)

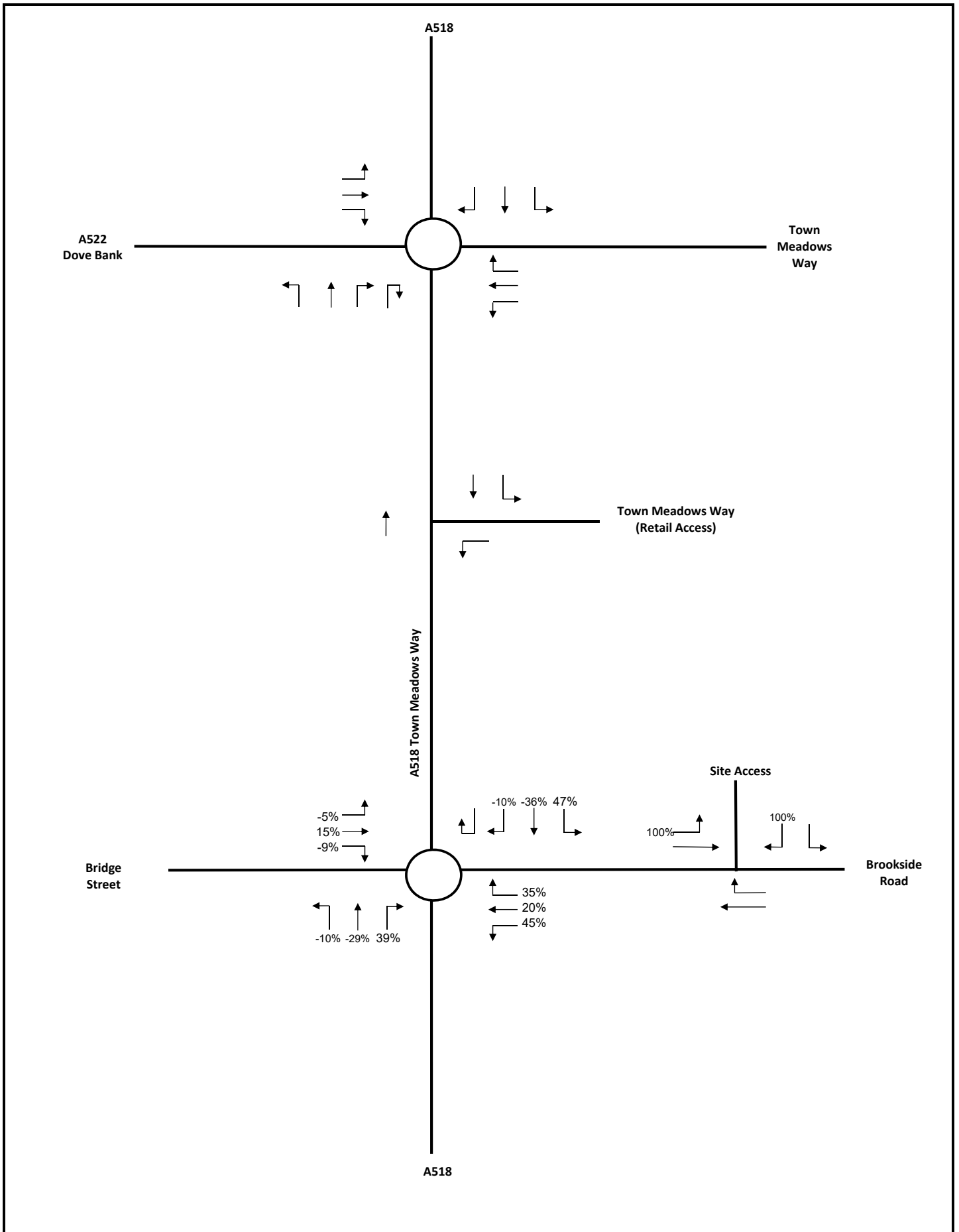


Figure 11

Pass-By Trip Distribution
PM Peak Hour (16:30 - 17:30)

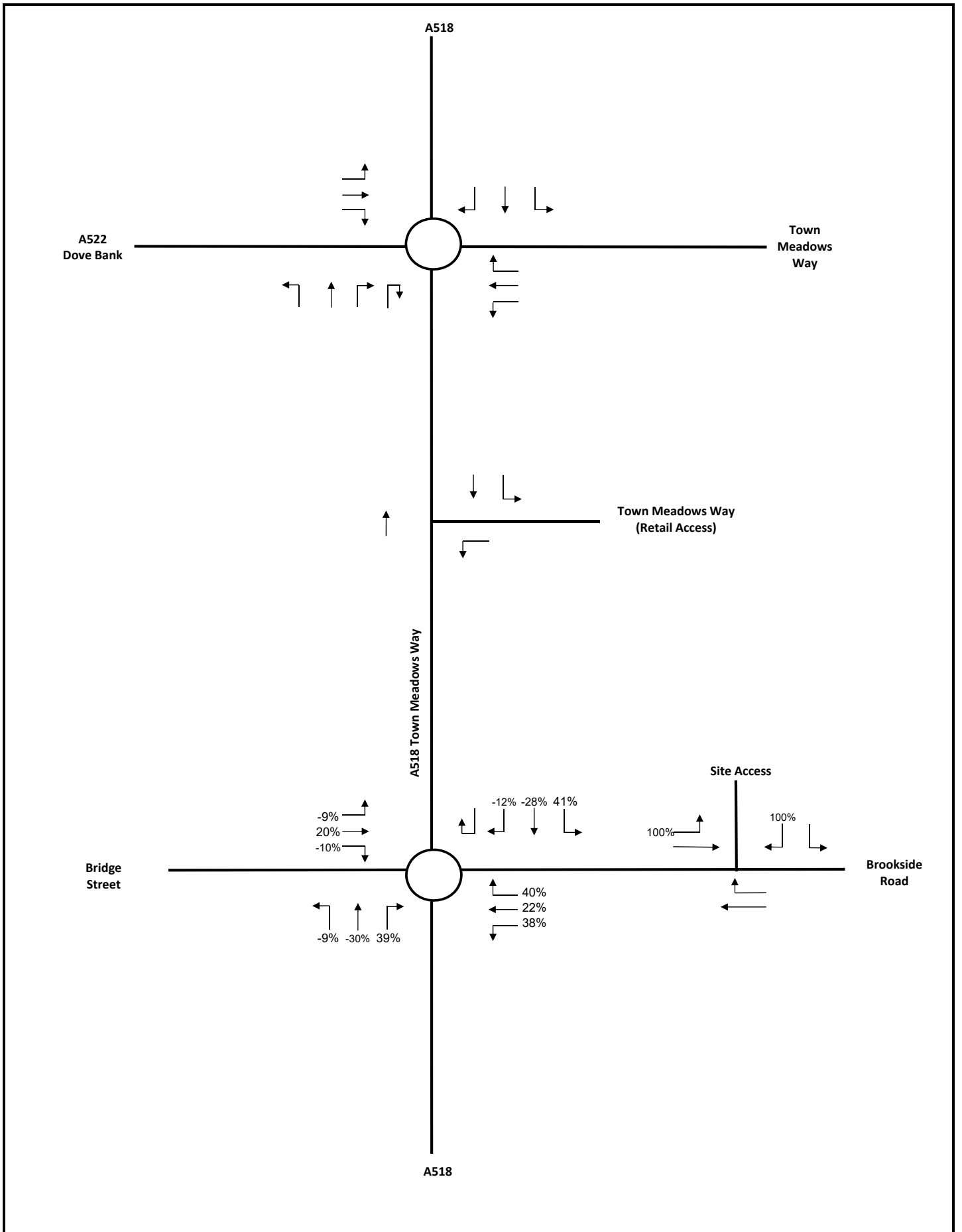


Figure 12

Pass-By Trip Distribution
Saturday Peak Hour (11:00 - 12:00)

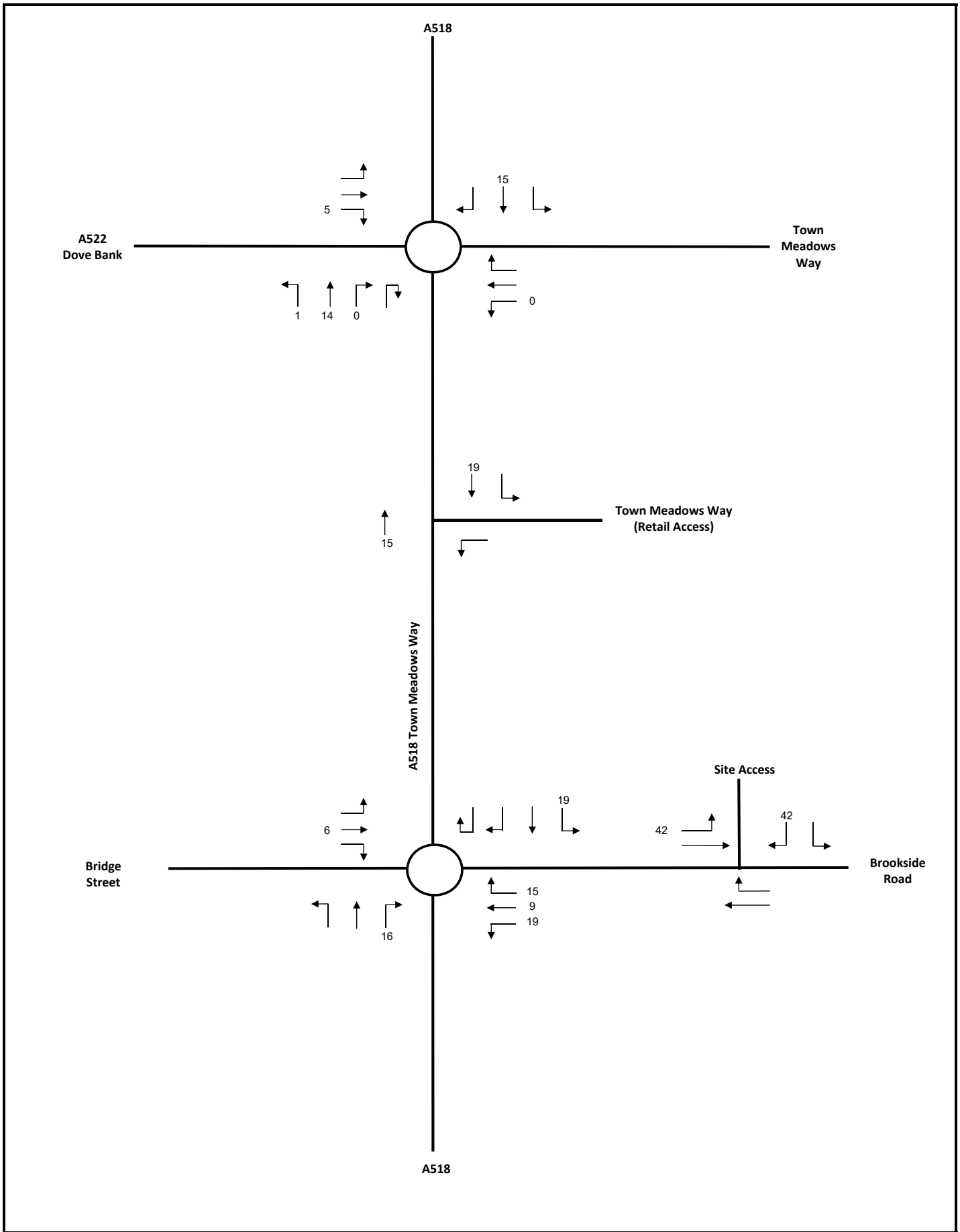


Figure 13
 Lidl Primary Trip Traffic Flows
 Weekday Peak Hour (16:30-17:30)

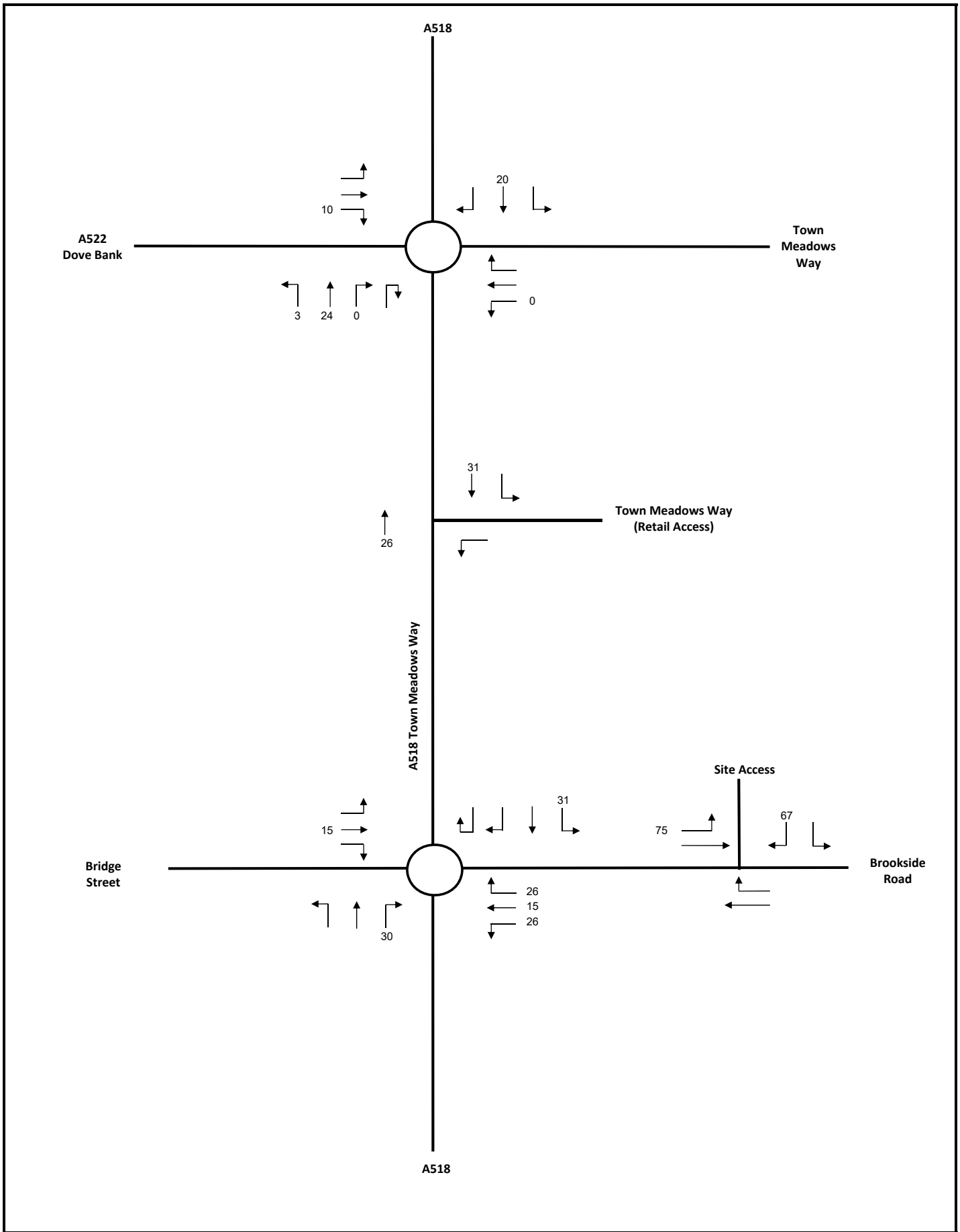


Figure 14
 Lidl Primary Trip Traffic Flows
 Saturday Peak Hour (11:00 - 12:00)

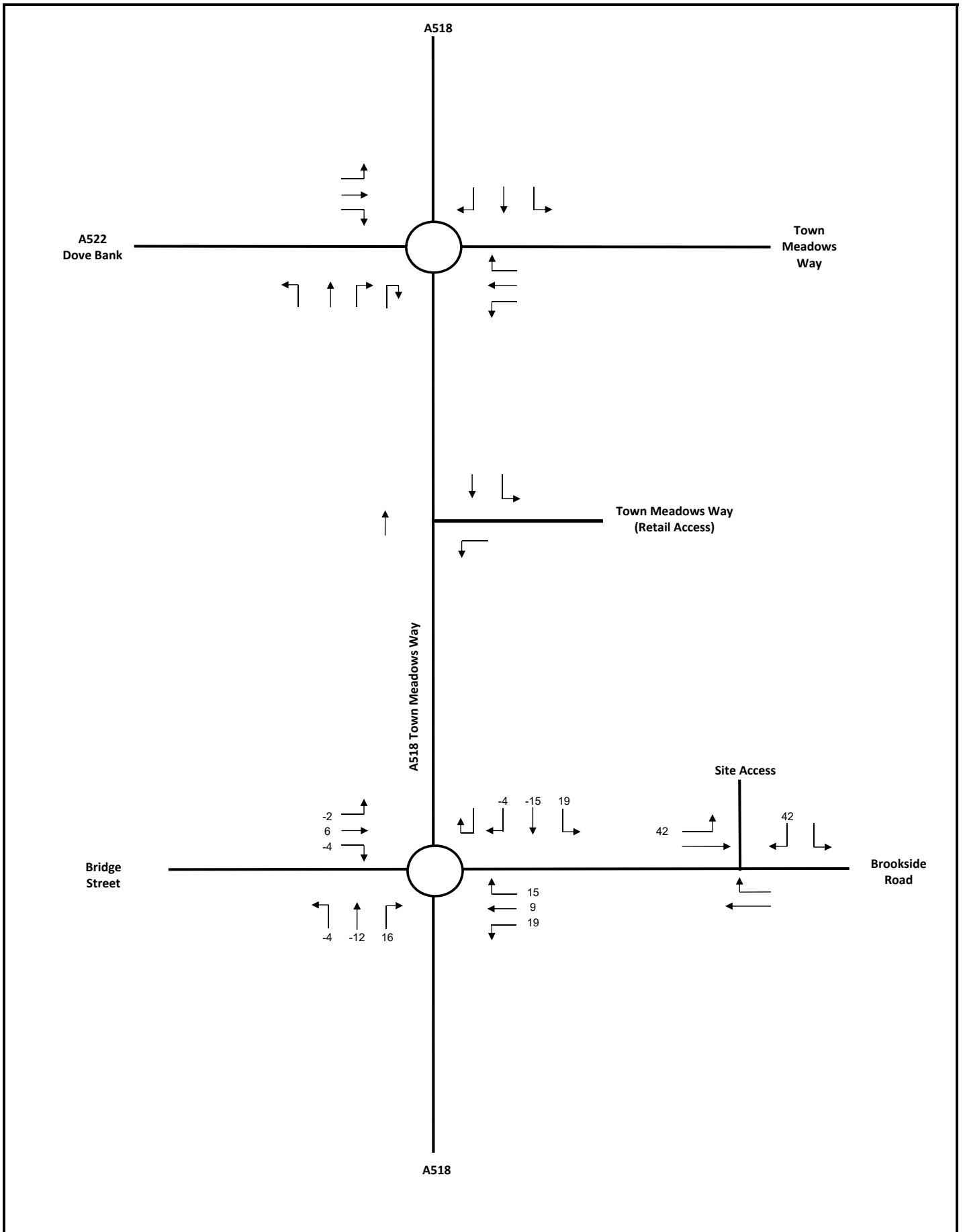


Figure 15
 Lidl Pass By Trip Traffic Flows
 Weekday Peak Hour (16:30-17:30)

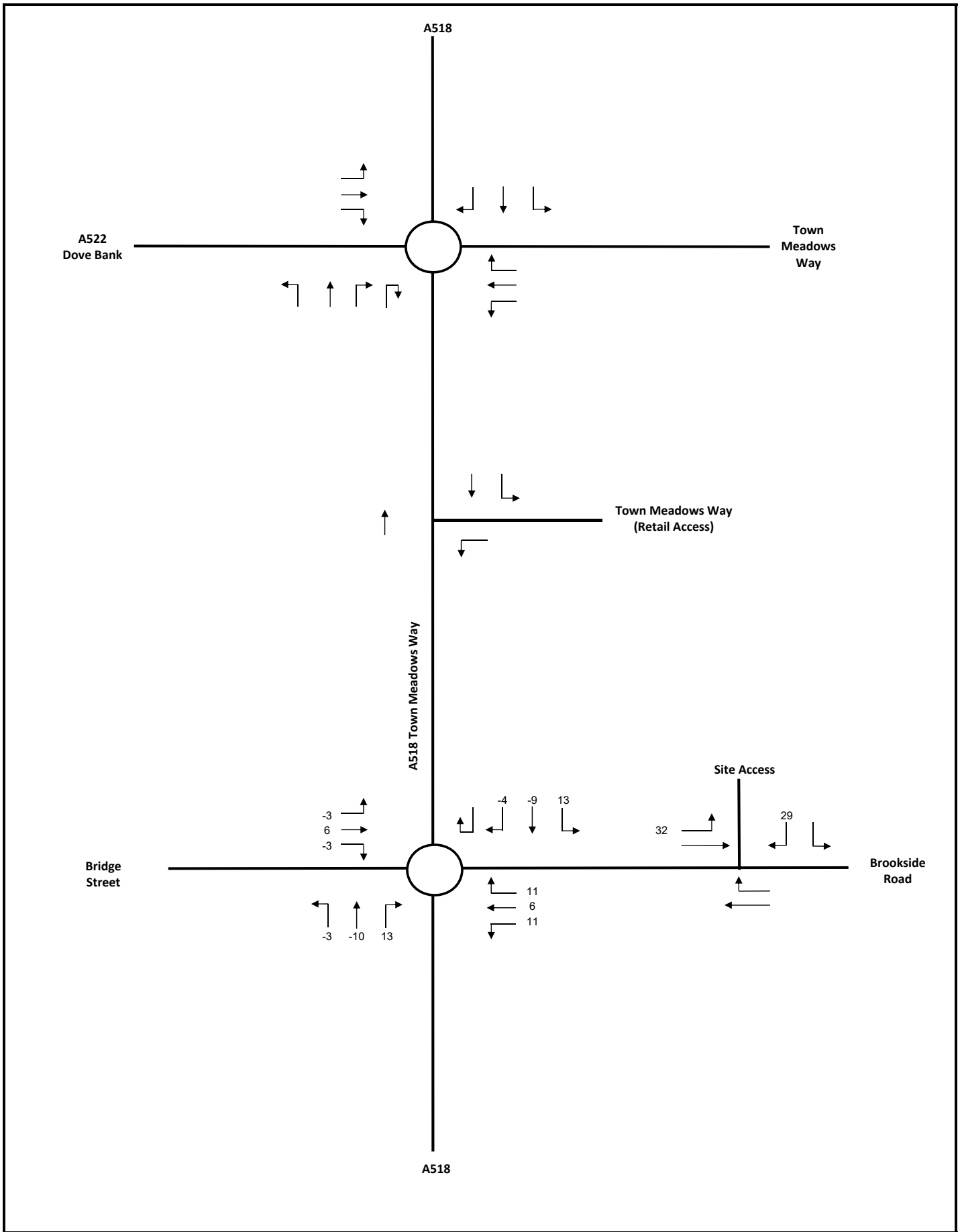


Figure 16
 Lidl Pass By Trip Traffic Flows
 Saturday Peak Hour (11:00 - 12:00)

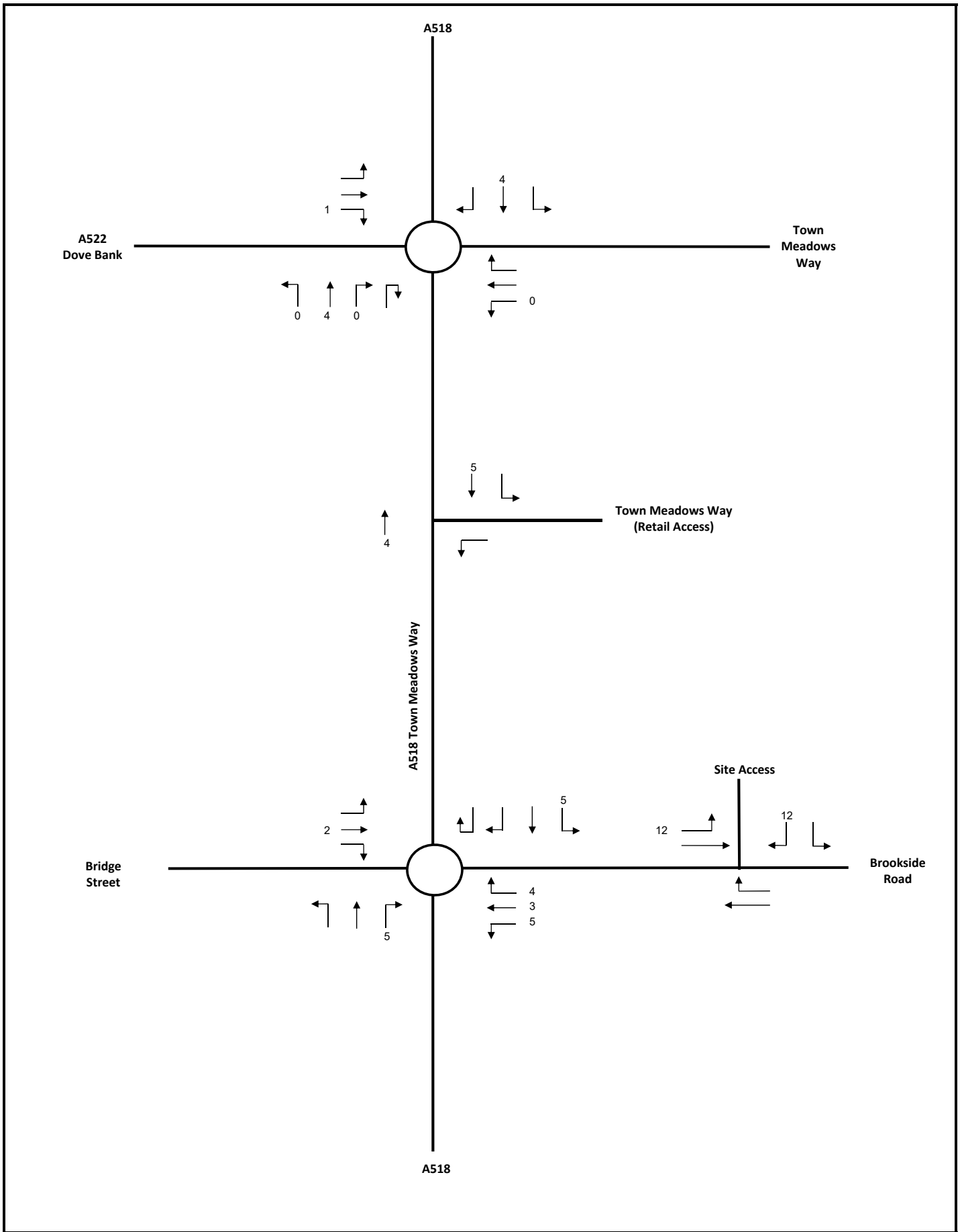


Figure 17

Non Food Retail Primary Trip Traffic Flows
Weekday Peak Hour (16:30-17:30)

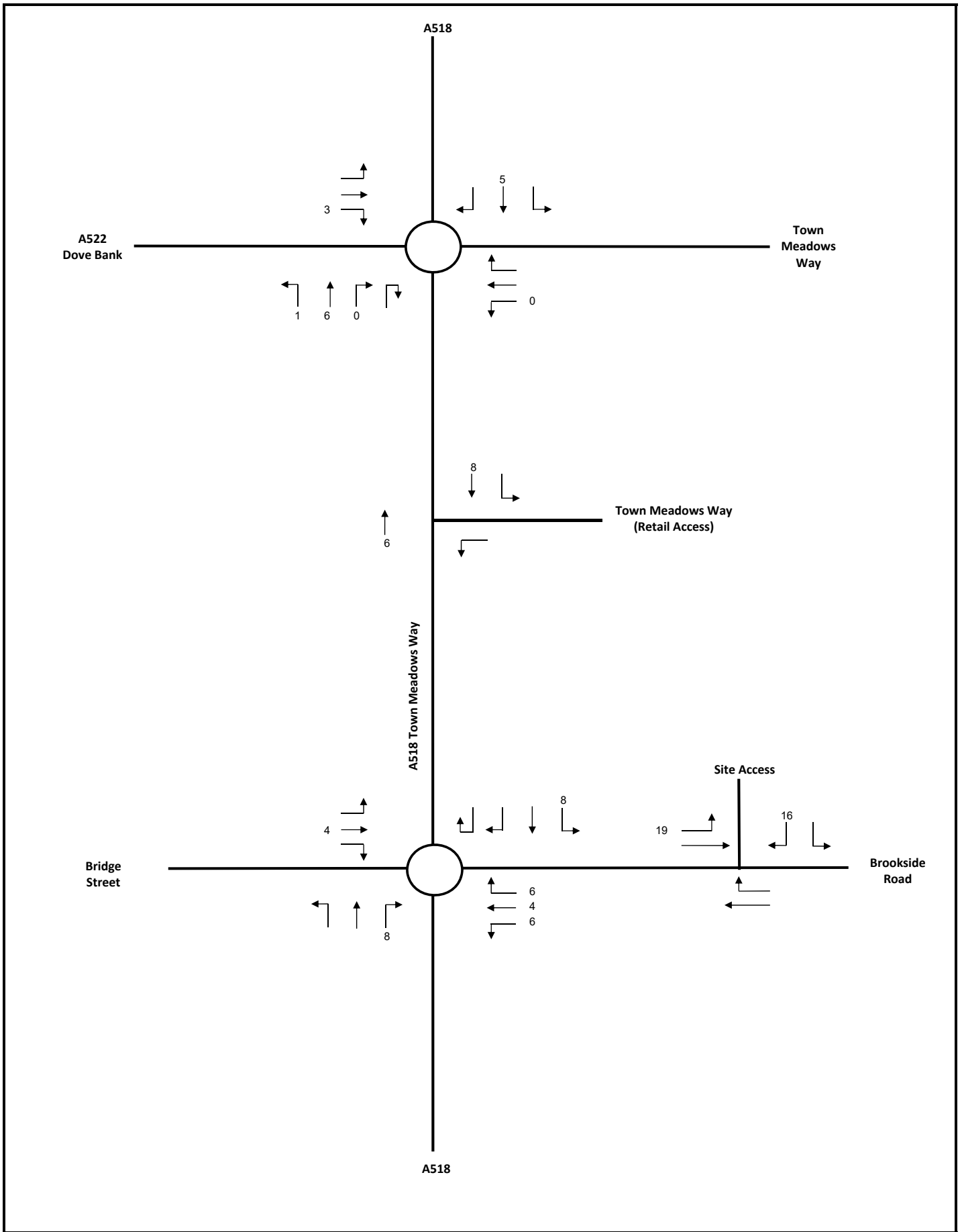


Figure 18

Non Food Retail Primary Trip Traffic Flows
Saturday Peak Hour (11:00 - 12:00)

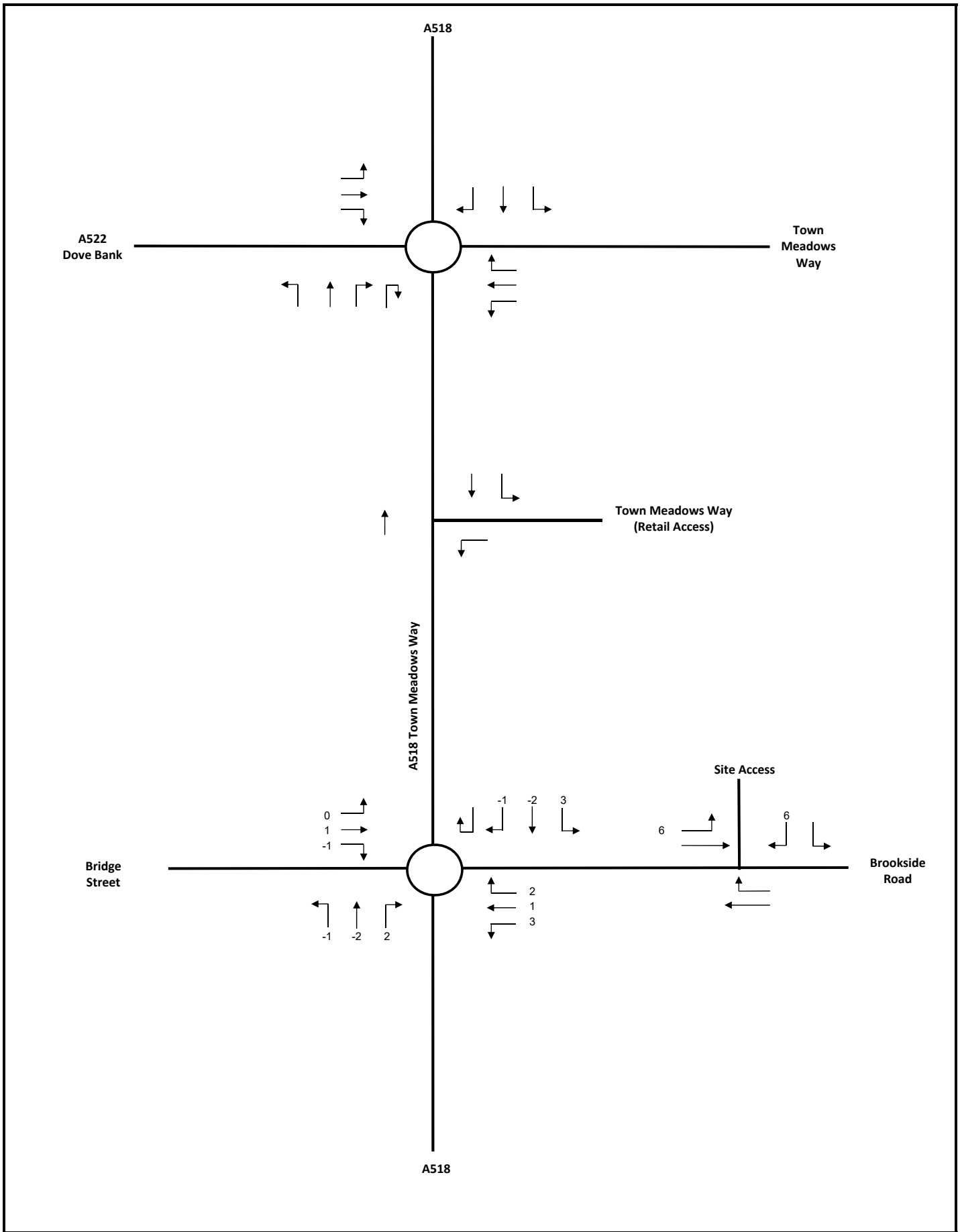


Figure 19
 Non Food Retail Pass By Trip Traffic Flows
 Weekday Peak Hour (16:30-17:30)

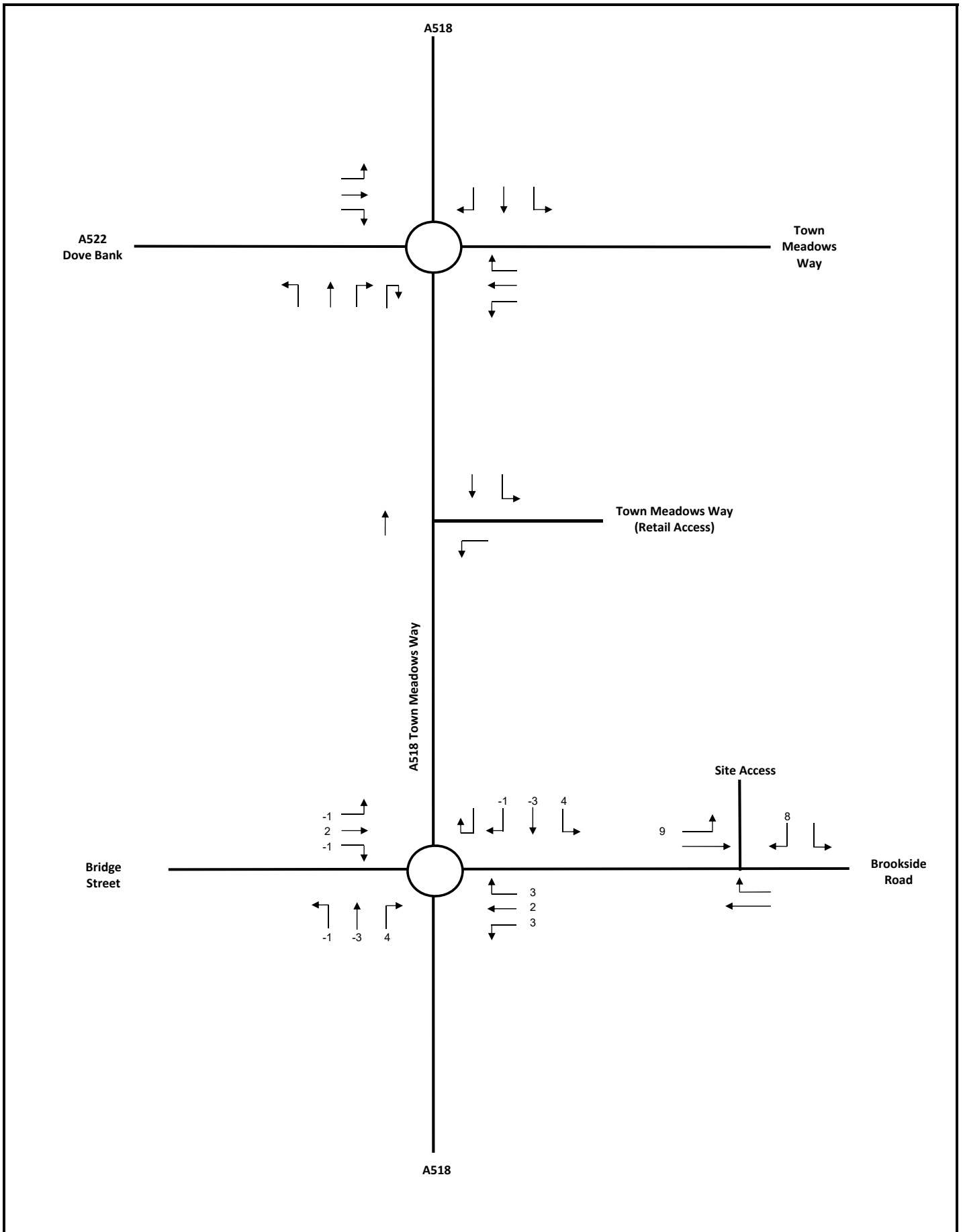


Figure 20

Non Food Retail Pass By Trip Traffic Flows
Saturday Peak Hour (11:00 - 12:00)

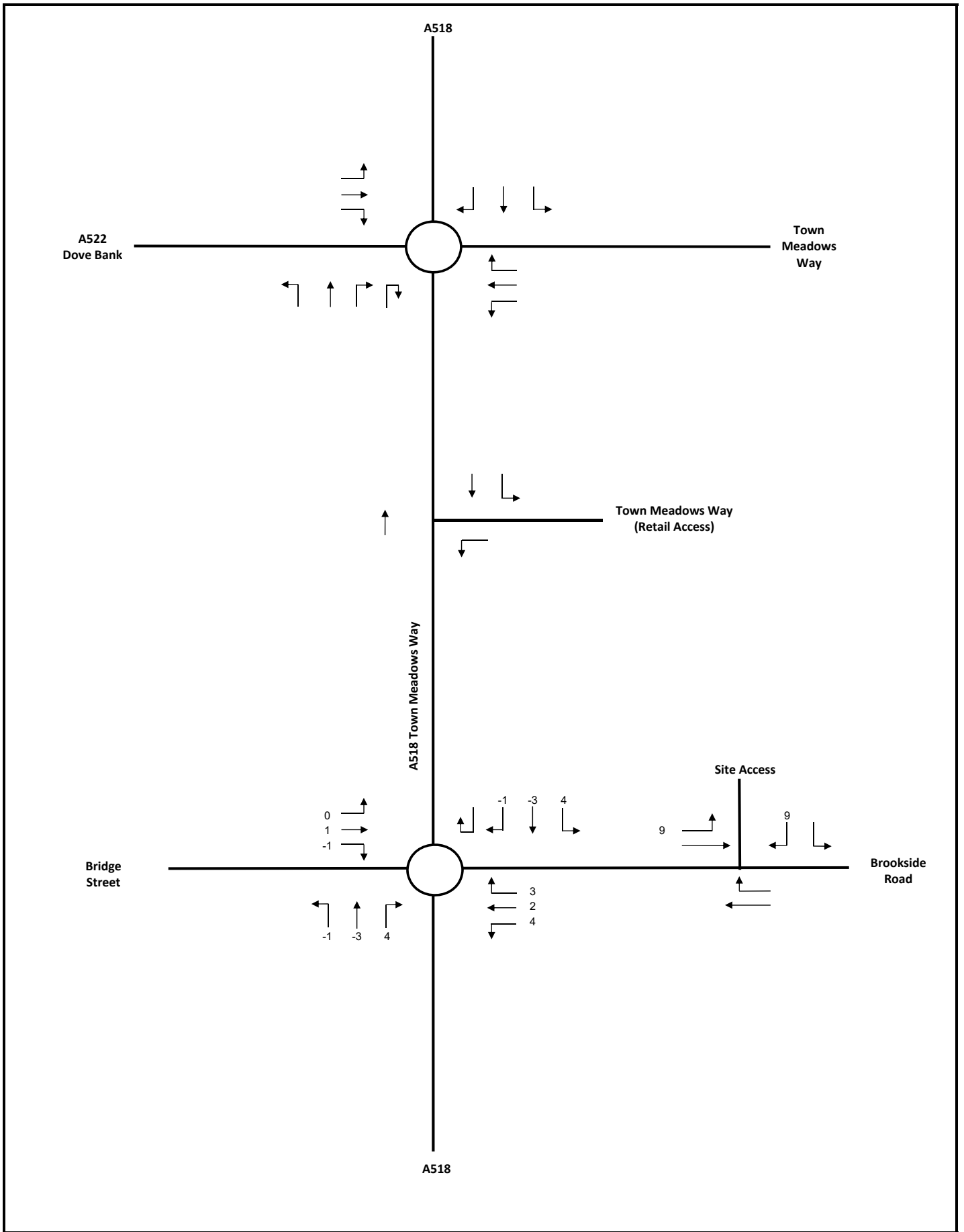


Figure 21
 Drive Thru Pass By Trip Traffic Flows
 Weekday Peak Hour (16:30-17:30)

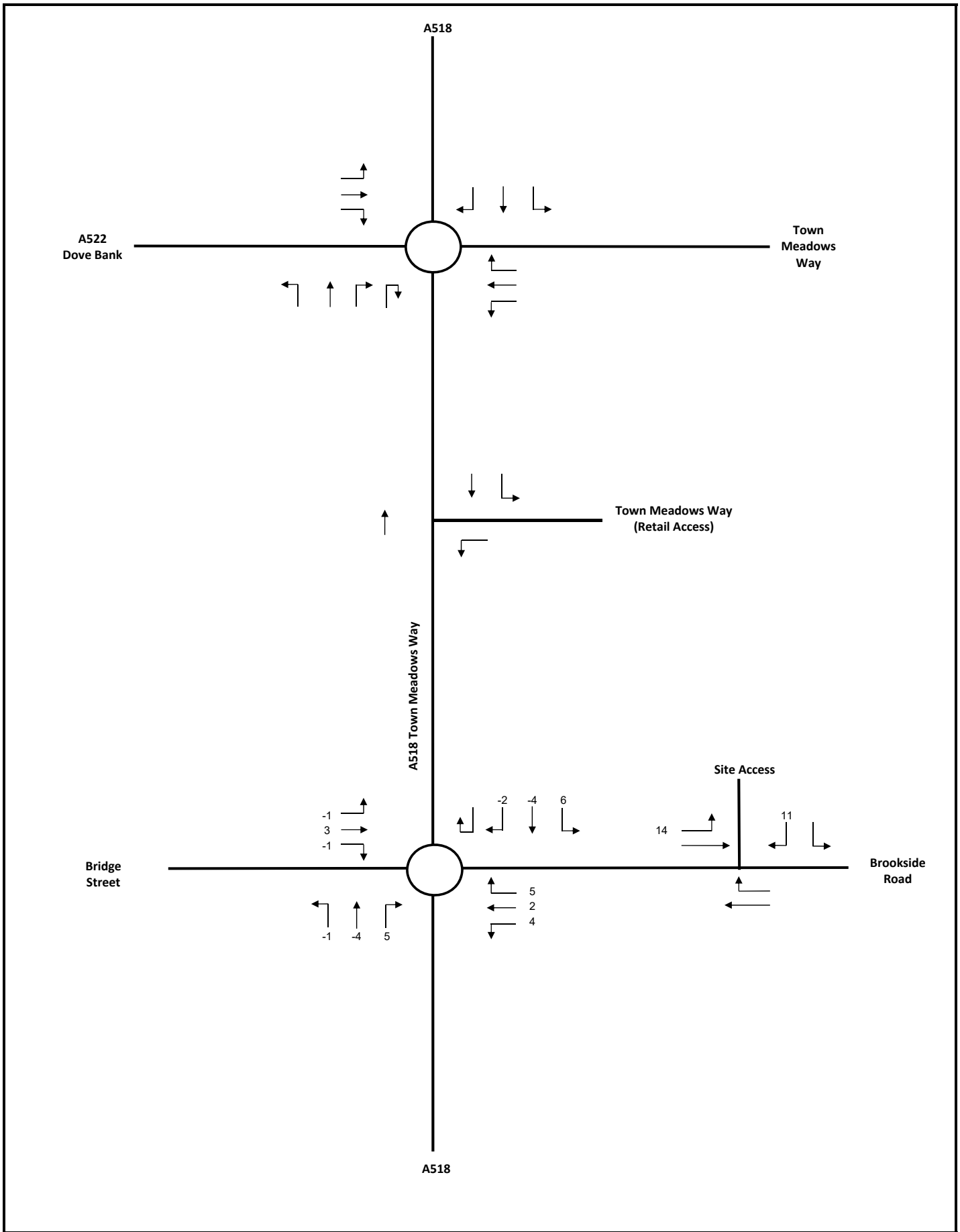


Figure 22
 Drive Thru Pass By Trip Traffic Flows
 Saturday Peak Hour (11:00 - 12:00)

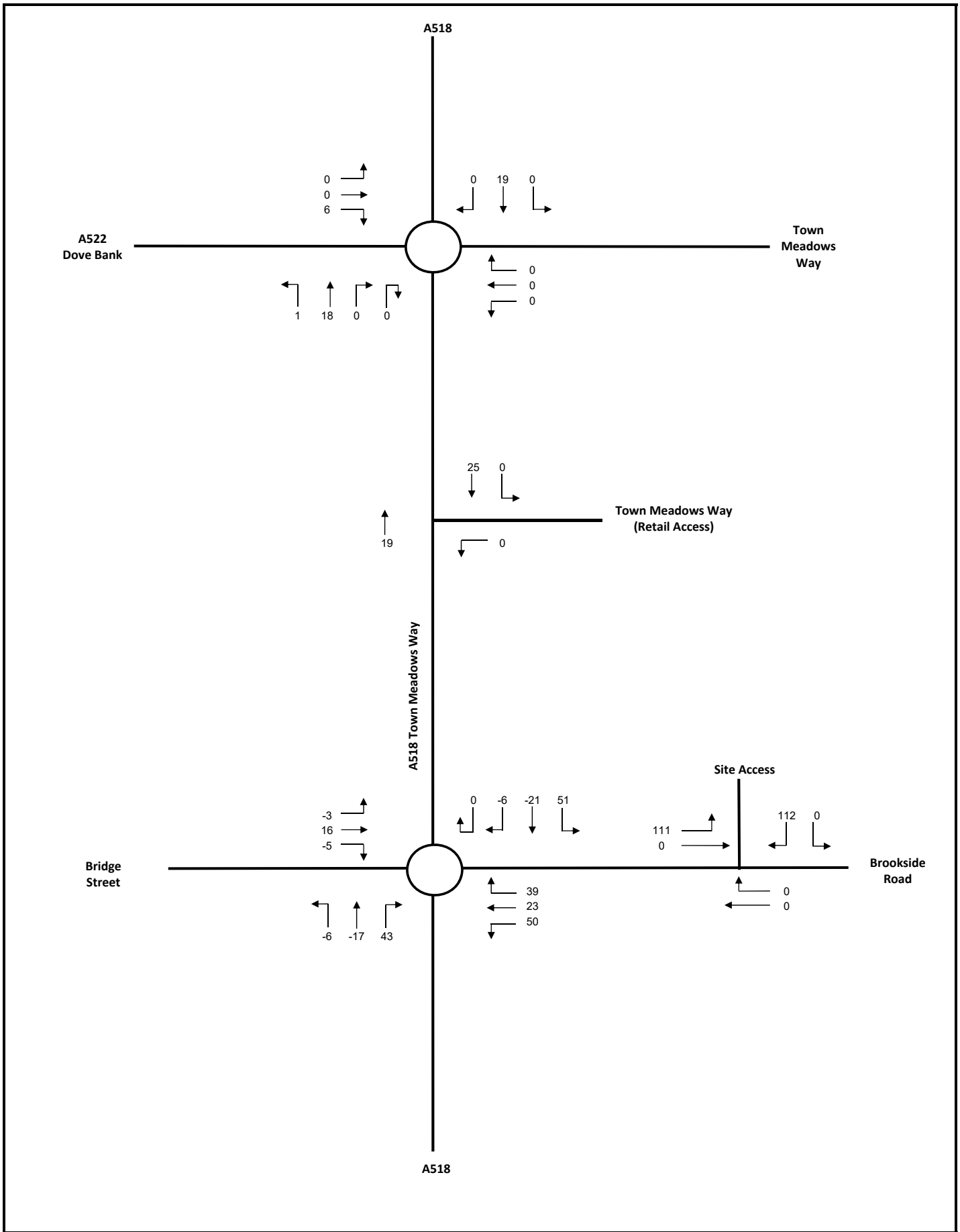


Figure 23

Total Development Traffic Flows
Weekday Peak Hour (16:30-17:30)

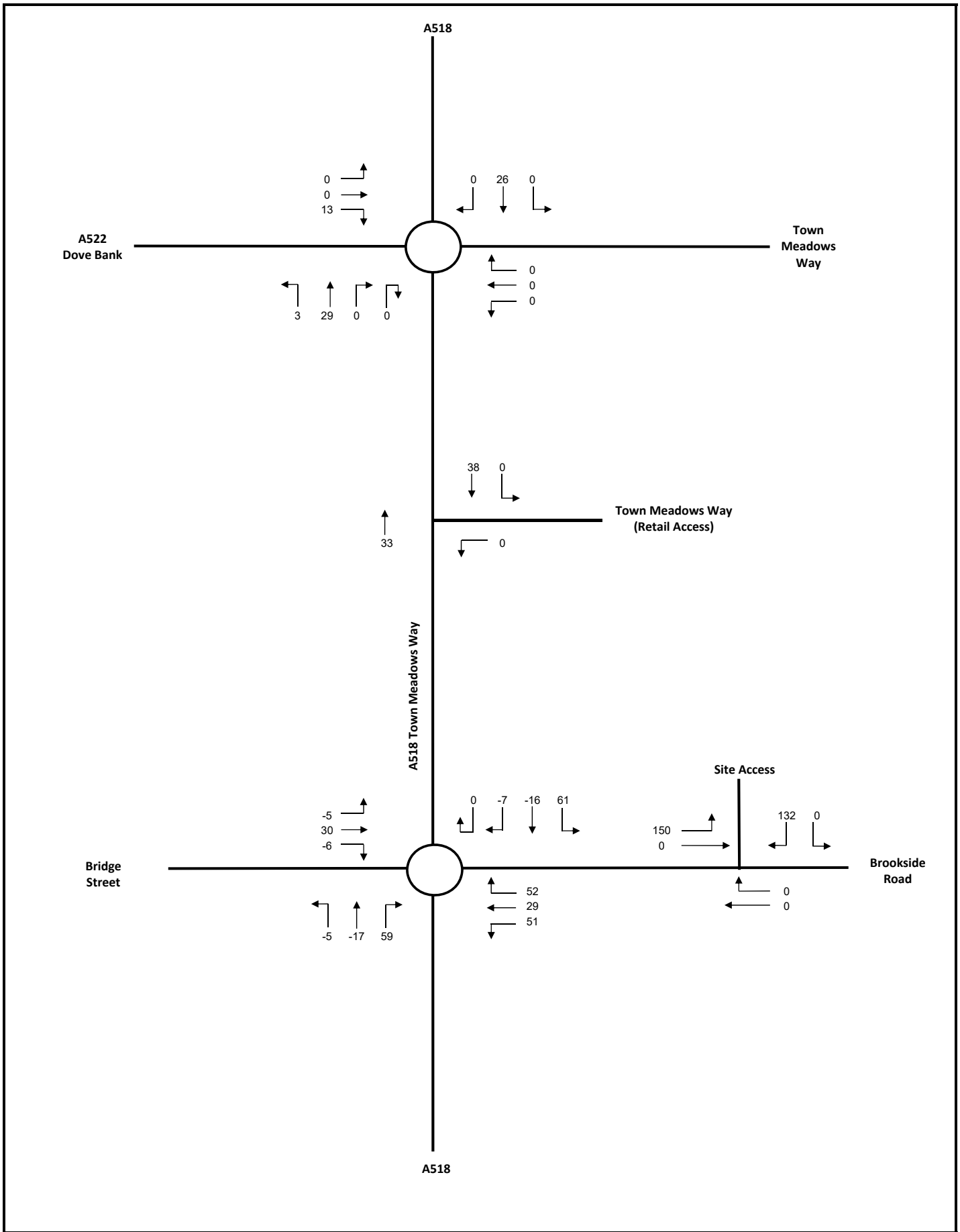


Figure 24

Total Development Traffic Flows
Saturday Peak Hour (11:00 - 12:00)

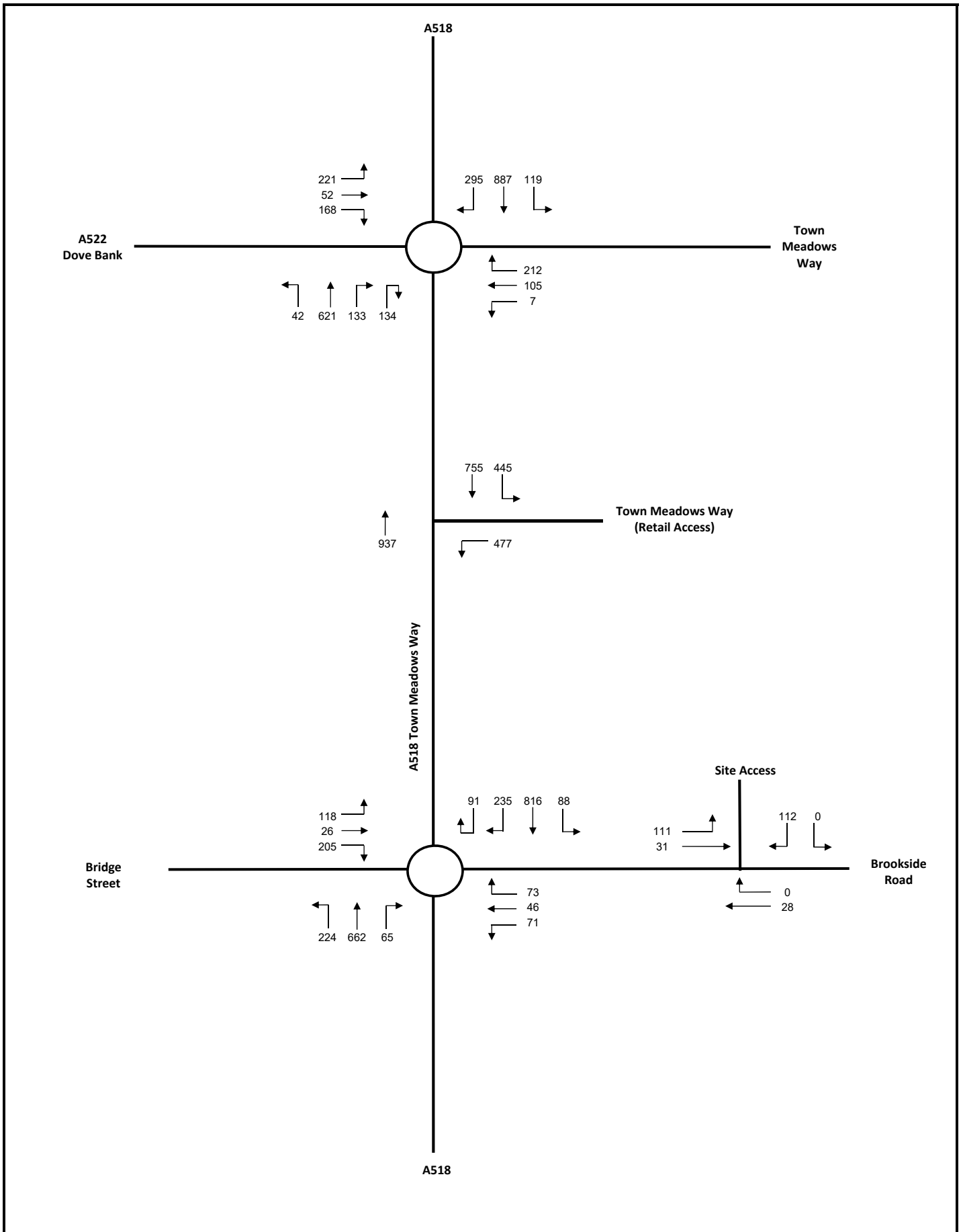


Figure 25
 2022 Baseline With Development Traffic Flows (PCUs)
 Weekday Peak Hour (16:30-17:30)

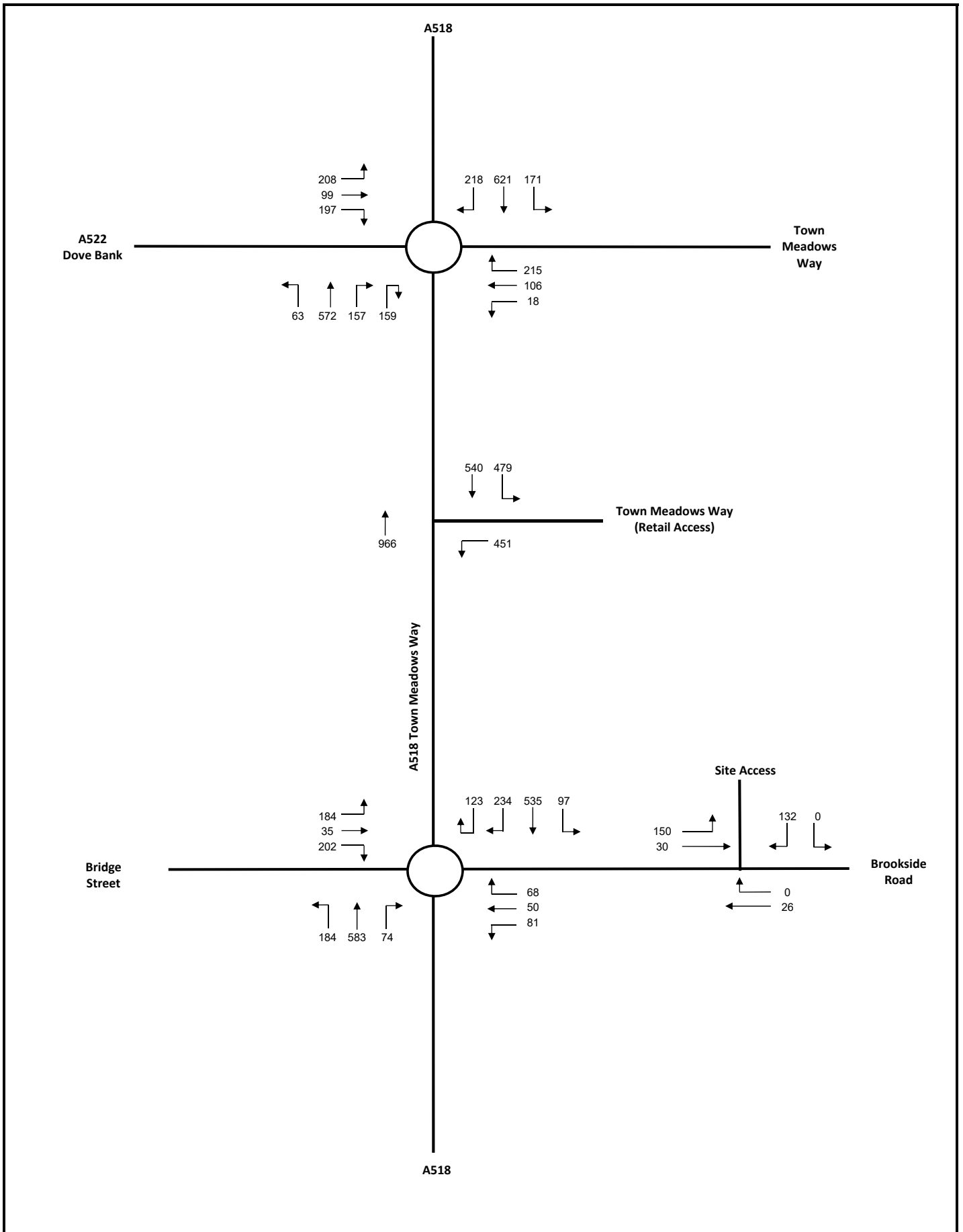


Figure 26

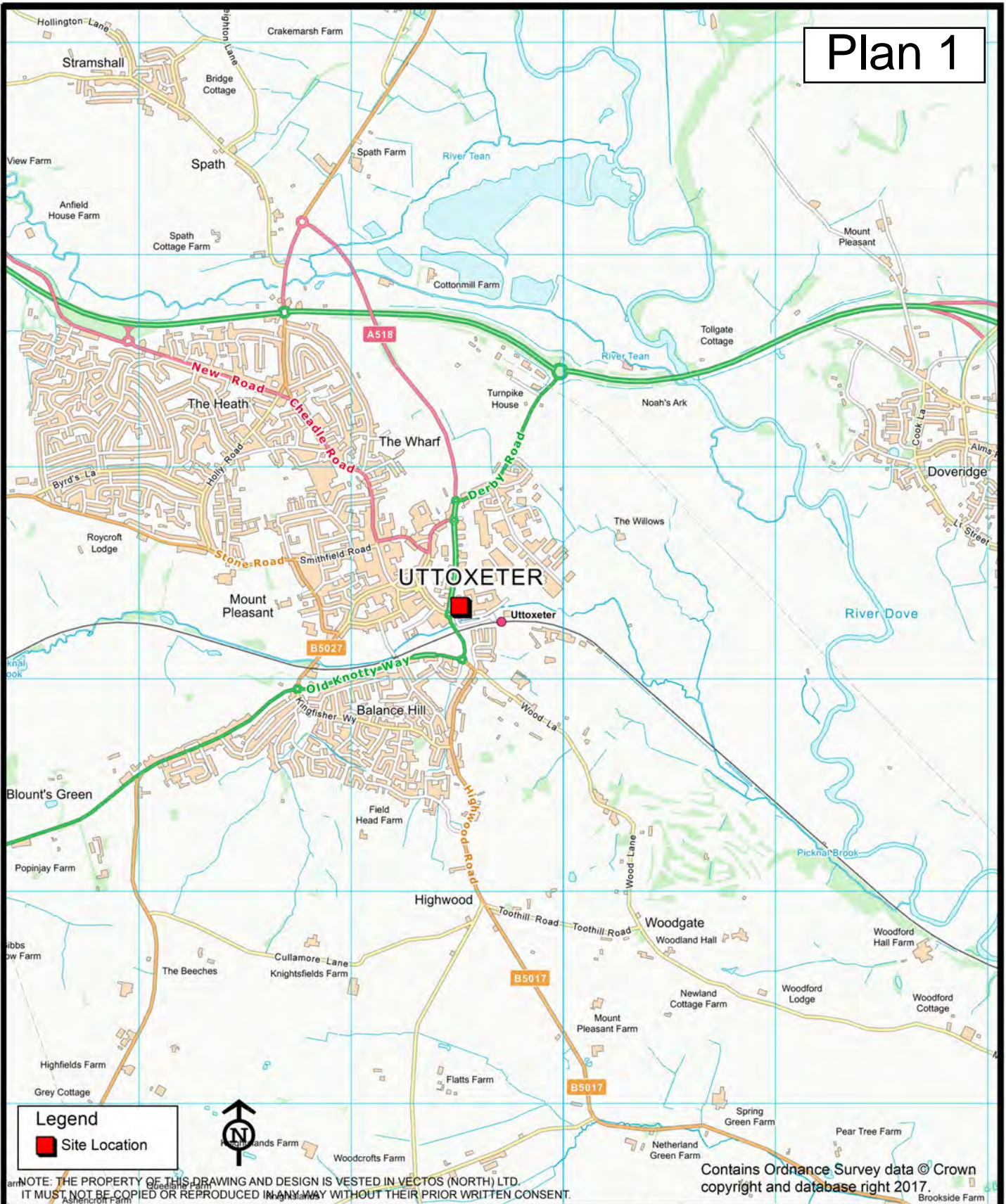
2022 Baseline With Development Traffic Flows (PCUs)
 Saturday Peak Hour (11:00 - 12:00)



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PLANS

Plan 1



Legend
■ Site Location



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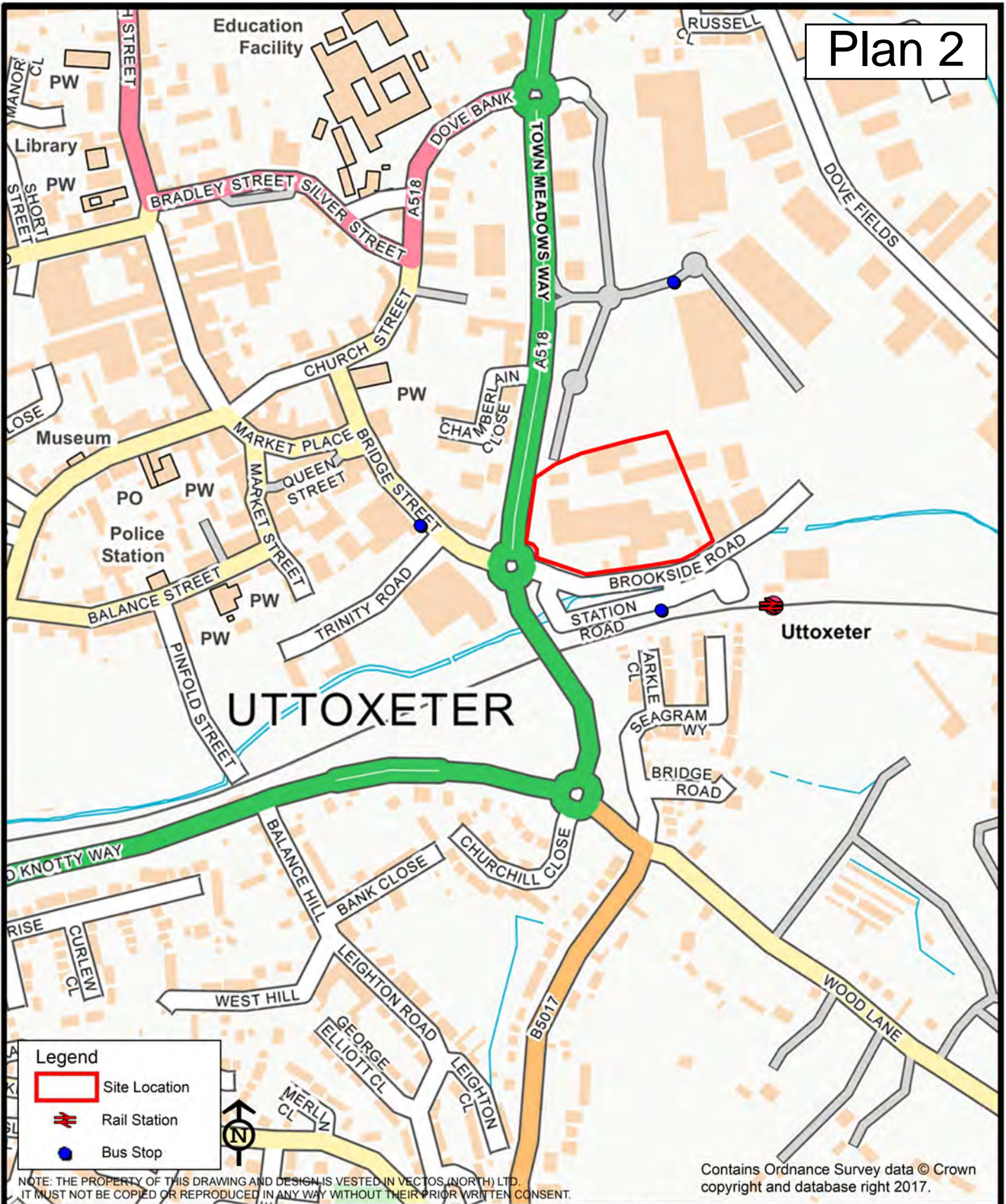
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Proposed Retail Development, Uttoxeter

DRAWING TITLE:
Site Location (Wider Context)



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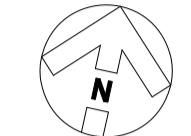
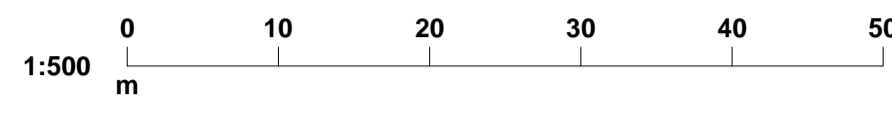
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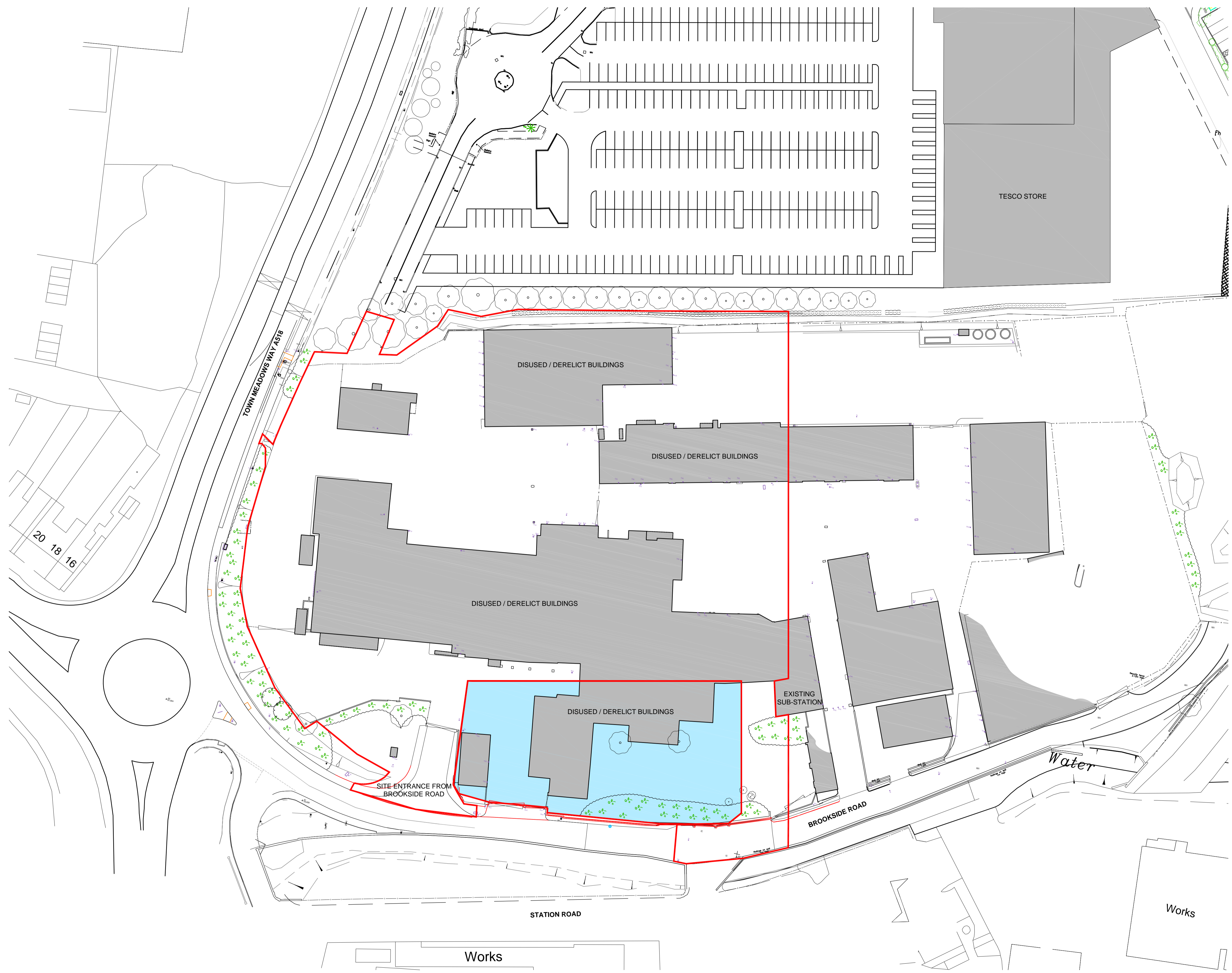
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 Ordinance Survey, received from M J BARRETT DEVELOPMENTS, dig A-02-101, dated OCT 2016, first issue.
 Topographical Survey by Green Hatch, drawing 15541a_OGL, received via email on 27/07/2017.
 TO BE READ IN CONJUNCTION WITH HCD DRAWINGS:
 A-PL-001 - SITE LOCATION PLAN
 A-PL-003 - PROPOSED SITE PLAN
 A-PL-004 - PROPOSED STORE PLAN
 A-PL-005 - PROPOSED RETAIL UNIT BUILDING PLAN
 A-PL-006 - PROPOSED STORE ROOF PLAN
 A-PL-007 - PROPOSED RETAIL UNIT ROOF PLAN
 A-PL-008 - PROPOSED STORE ELEVATIONS
 A-PL-009 - PROPOSED RETAIL UNIT ELEVATIONS
 A-PL-010 - PROPOSED SITE SECTIONS



 Outline Planning Application Boundary Only



REVISION C	BY: DJW	CHECKED:	DATE: 09/04/2018
Issued for Planning. Red Line Boundaries Updated adjacent sub-station. Scale of drawing changed to 1:500.			
REVISION B	BY: DJW	CHECKED:	DATE: 03/01/2018
Issued for Planning. Red Line Boundaries Updated to include site access junction, service road access/ egress junction, top of pedestrian ramp and Tesco shared site access. Site Boundary area updated.			
REVISION A	BY: DJW	CHECKED:	DATE: 28/11/2017
Issued for Planning. Red Line Boundaries Updated.			
REVISION *	BY: DJW	CHECKED:	DATE: 15/11/2017
Initial issue			

PLANNING

PLOT DATE:



CLIENT:
LiDL UK GmbH
BROOKSIDE ROAD
UTTOXETER

EXISTING SITE PLAN

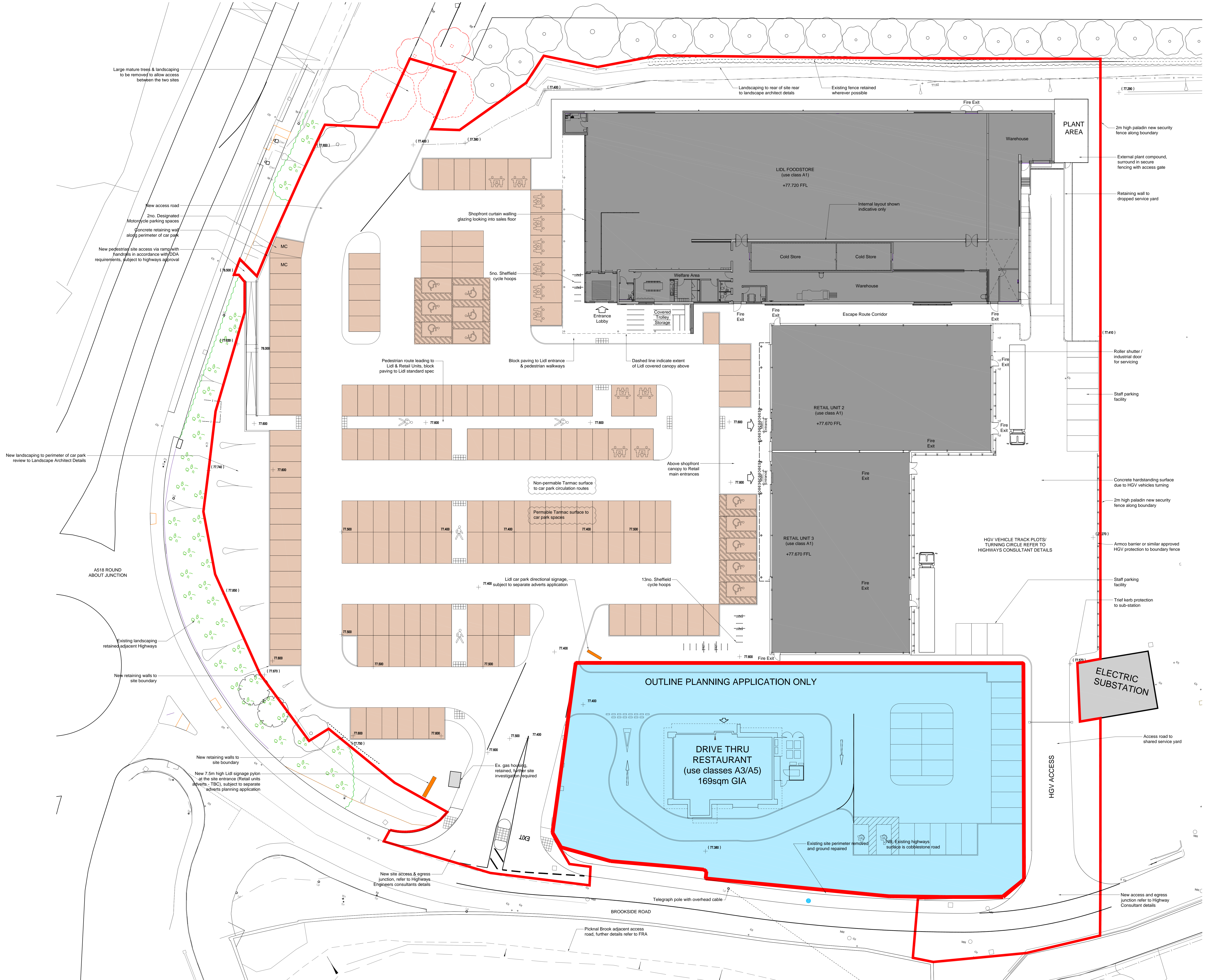
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Hadfield Cawkwell Davidson

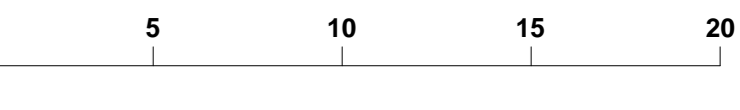
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 JOB NO: **2017-119** | DRAWING NO: **A-PL-002 | C**

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 Notes contained on site access & Egress Junctions.
 TO BE READ IN CONJUNCTION WITH HCD DRAWINGS:
 A.PL-001 - SITE LOCATION PLAN
 A.PL-002 - EXISTING SITE PLAN
 A.PL-003 - PROPOSED STORE PLAN
 A.PL-004 - PROPOSED RETAIL UNIT BUILDING PLAN
 A.PL-005 - PROPOSED RETAIL UNIT ROOF PLAN
 A.PL-006 - PROPOSED RETAIL UNIT ELEVATIONS
 A.PL-007 - PROPOSED RETAIL UNIT ELEVATIONS
 A.PL-008 - PROPOSED RETAIL UNIT ELEVATIONS
 A.PL-009 - PROPOSED SITE SECTIONS



Foodstore Areas			
Sales Area	1325 m ²	14,262 ft ²	
Gross Internal Area	2125 m ²	22,873 ft ²	
Gross External Area	2206 m ²	23,745 ft ²	
Retail Area Unit 2			
Gross Internal Area	700 m ²	7,535 ft ²	
Gross External Area	730 m ²	7,856 ft ²	
Retail Area Unit 3			
Gross Internal Area	700 m ²	7,535 ft ²	
Gross External Area	730 m ²	7,856 ft ²	
Car Parking Numbers			
Customer Parking	149		
Disabled Parking	11		
Parent & Child	12		
Staff	10		
Grand Total:	182		
Shared Cycle Hoops on site	18		
Motorcycle Parking	2		

Outline Planning Application Boundary Only			
GIA	GEA	Max. Height	
Drive Thru Restaurant	169m ² / 1819sqft	200m ² / 2153sqft	5 - 6m

PERMEABLE TARMAC AREAS

REVISION D BY D.J.W. DATED 09/04/2018
 Scale of drawing amended to 1:200. Site levels added as per FRA. Highways consultant on site read on.
 REVISION C BY D.J.W. DATED 20/02/2018
 Revised for Planning. Permeable tarmac to car park spaces added and to be read in conjunction with Flood Risk Assessment. Non-permeable tarmac surface to circulation routes in car park.
 REVISION B BY D.J.W. DATED 03/01/2018
 Revised for Planning. Red Line Boundaries Updated to include site access junction. On-site road access across junction, top of pedestrian ramp and Tesco shared site access. Site Boundary area updated.
 REVISION A BY D.J.W. DATED 22/11/2017
 Revised for Planning. Application boundary updated. Cycle parking moved closer to Lidl main store entrance.
 REVISION BY D.J.W. DATED 15/11/2017
 Revised for Planning.

PLANNING



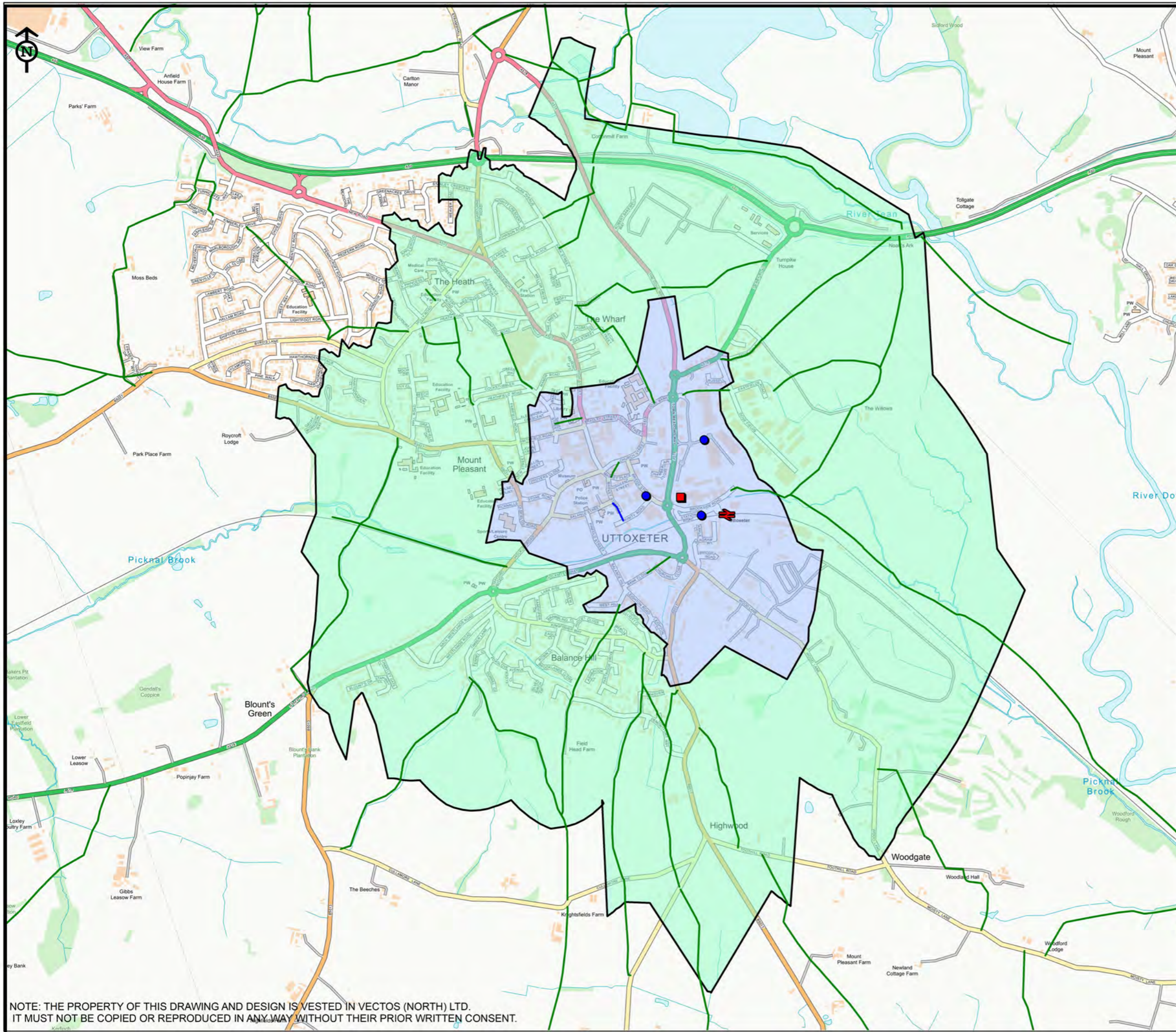
LIDL UK GmbH
 BROOKSIDE ROAD
 UTTOXETER

PROPOSED SITE PLAN

SCALE: 1:200 @ A0
 DATE: OCTOBER 2017

Hadfield Cawkwell Davidson
 Brookgrove Lodge, 13 Brookgrove Rd, Sheffield, S10 2JZ. T 0114 266 8881 www.hcd.co.uk

Architecture | Engineering | Interior Design | Masterplanning | Urban Design
 2017-119 | A-PL-003 | D



Plan 5

- Legend**
- Site Location
 - ⚡ Rail Station
 - Bus Stop
- Pedestrian Catchments**
- 0 - 800m
 - 800m - 2km
- Local PRoW's**
- Byway
 - Bridleway
 - Footpath
 - Restricted Byway

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CLIENT:
Lidl UK GmbH

PROJECT TITLE:
Proposed Retail Development, Uttoxeter

DRAWING TITLE:
Pedestrian Catchments with local PRoW's

SCALE:
1:15,000 at A3

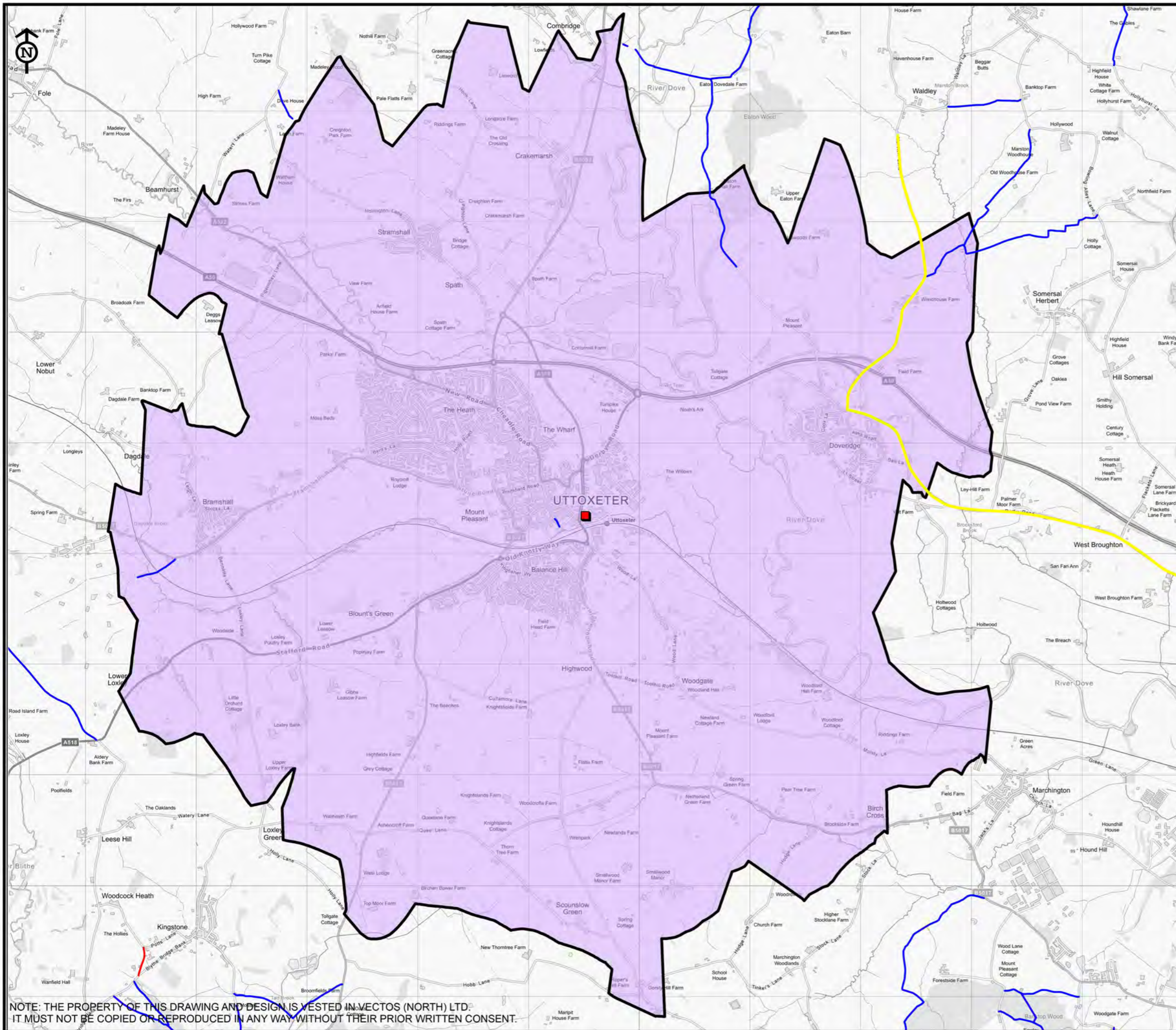
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Plan 6

- Legend**
- Site Location
 - ✈ Rail Station
 - Bus Stop
- Local PRoW's**
- Byway
 - Bridleway
 - Restricted Byway
 - National Cycle Route
- Cycle Catchment**
- 0 - 5km

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CLIENT:
Lidl UK GmbH

PROJECT TITLE:
Proposed Retail Development, Uttoxeter

DRAWING TITLE:
Cycle Catchment with Local Cycle Routes

SCALE:
N.T.S.

DRAWN: PJ	CHECKED: ER	DATE: 24.10.17
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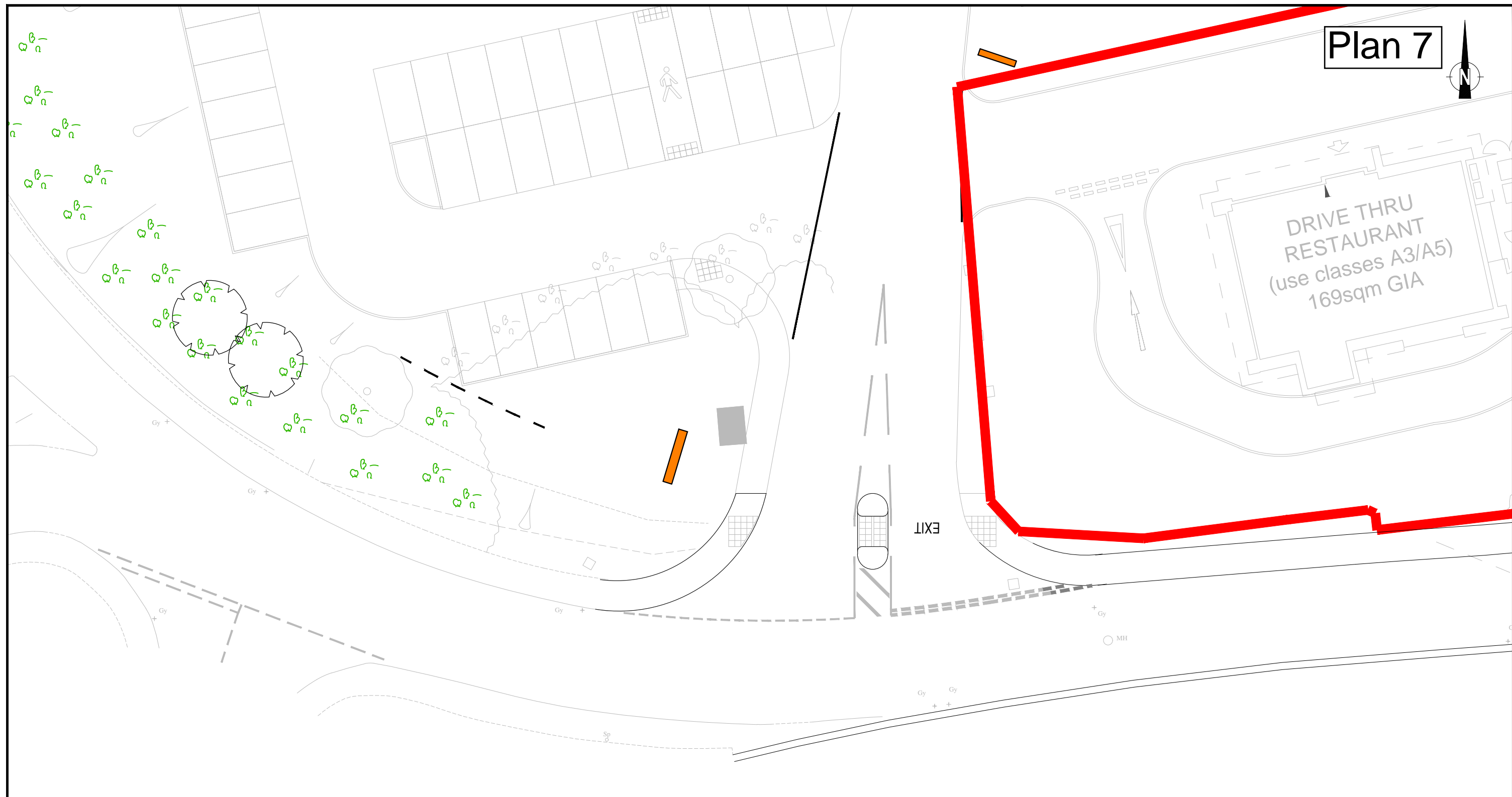


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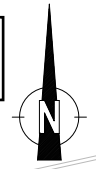
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Plan 7



DRIVE THRU RESTAURANT
(use classes A3/A5)
169sqm GIA

EXIT

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A	Updated Layout	PJ	RW	19.04.18

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Proposed Retail Development, Uttoxeter

Site Access Layout

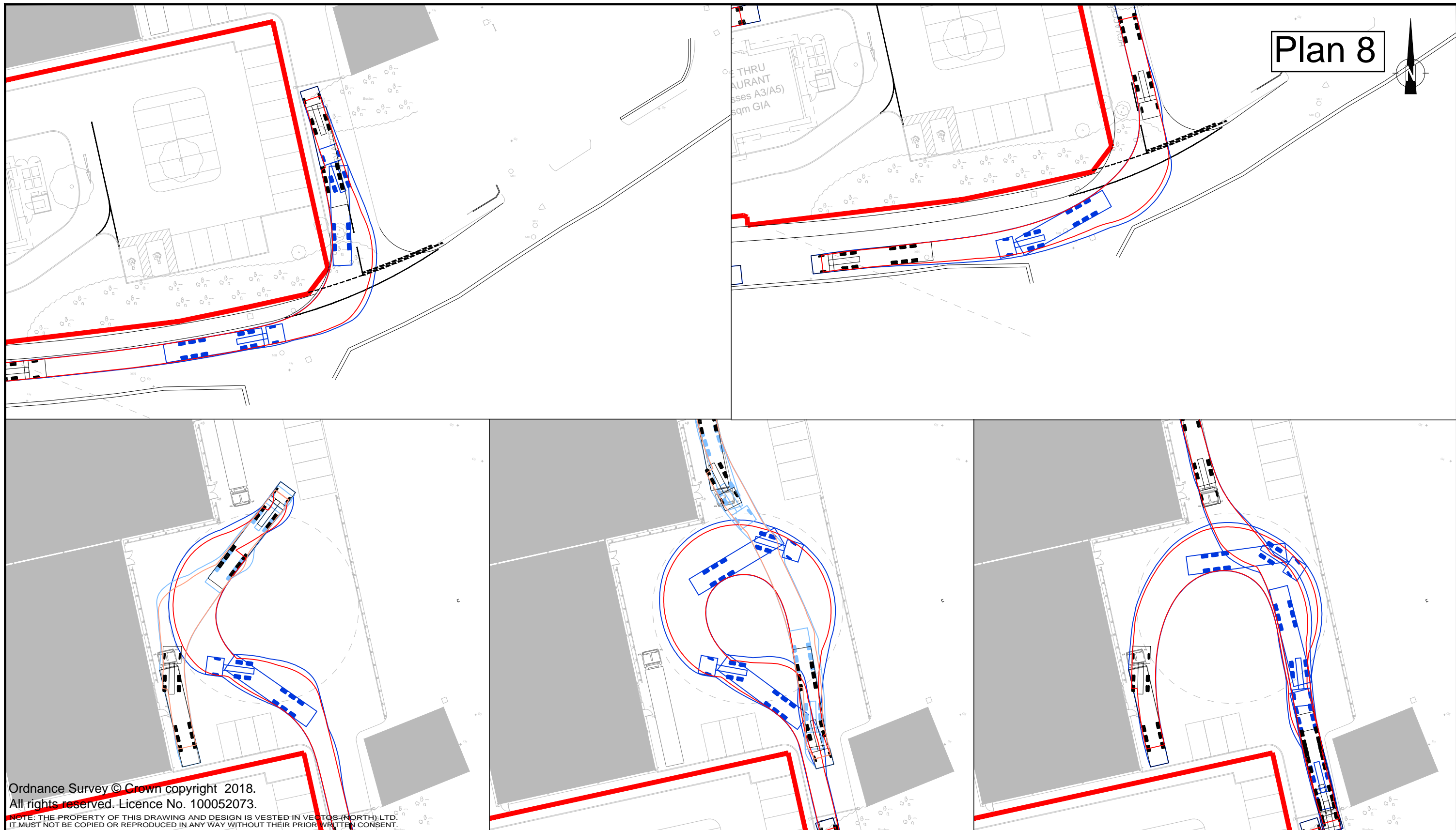
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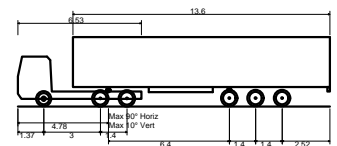


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A	Updated Layout	PJ	RW	19.04.18

Notes:
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Max Legal Length (UK) Articulated Vehicle (16.5m)
Overall Length 16.500m
Overall Width 2.550m
Overall Body Height 3.681m
Min Body Ground Clearance 0.411m
Max Track Width 2.500m
Lock to lock time 6.00s
Kerb to Kerb Turning Radius 6.530m

Proposed Retail Development, Uttoxeter

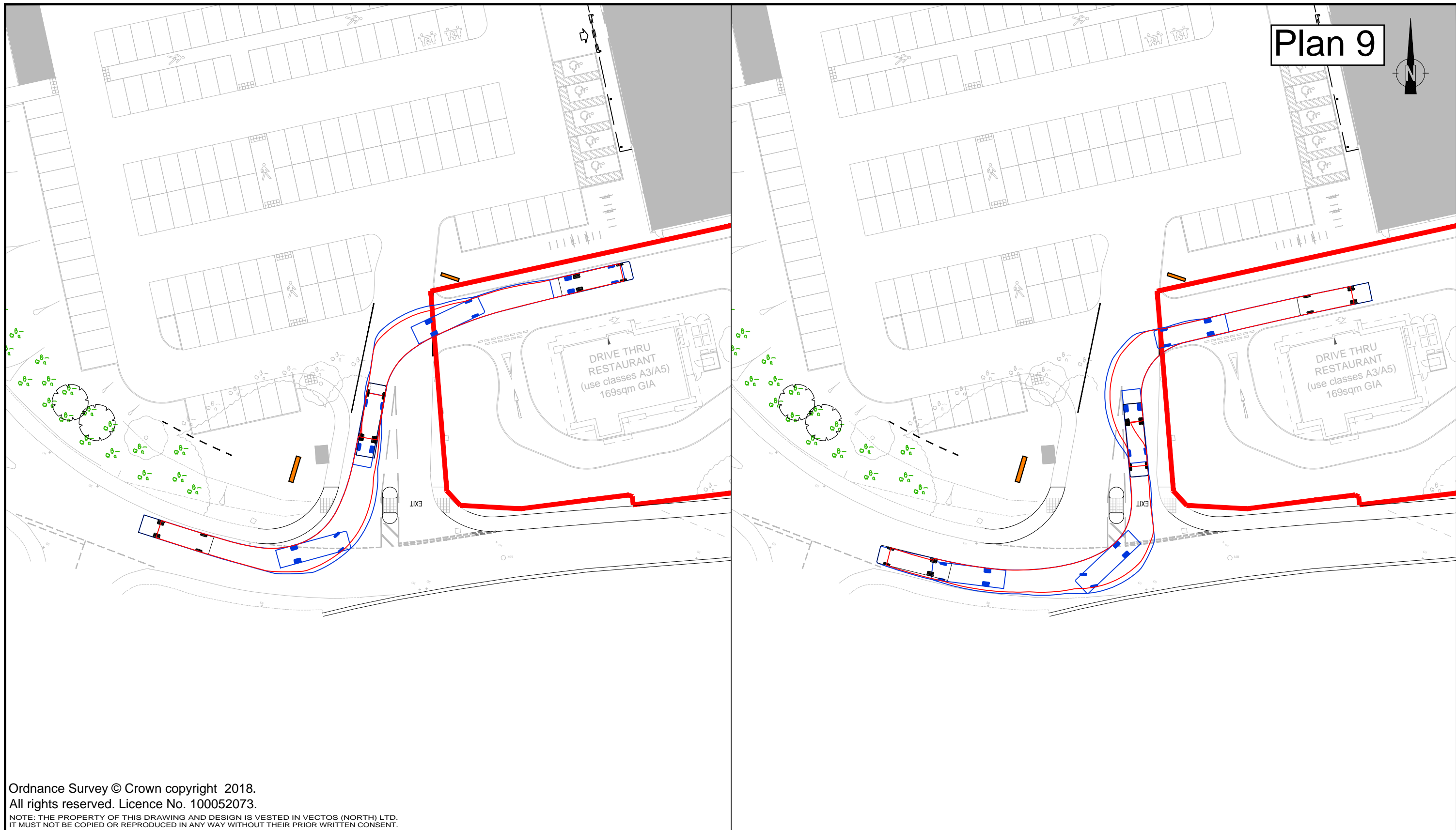
HGV Access with 16.5m Articulated Vehicle Access

Lidl UK GmbH



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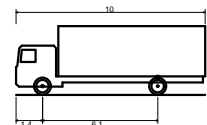


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A	Updated Layout	PJ	RW	19.04.18

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FTA Design HG Rigid Vehicle (1998)
Overall Length 10.000m
Overall Width 2.500m
Overall Body Height 3.645m
Min Body Ground Clearance 0.440m
Track Width 2.470m
Lock to lock time 3.00s
Kerb to Kerb Turning Radius 11.000m

Proposed Retail Development, Uttoxeter

Lidl UK GmbH

Delivery Vehicle Access with 10m Rigid Vehicle



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APPENDICES

Appendix A

Framework Travel Plan

Lidl UK GmbH

**PROPOSED DISCOUNT FOODSTORE,
NON-FOOD RETAIL AND DRIVE-THRU RESTAURANT,
UTTOXETER**

Framework Foodstore Travel Plan

VN70855

April 2018

REPORT CONTROL

Document: Framework Foodstore Travel Plan

Project: Proposed Discount Foodstore, Non-Food Retail and Café Drive-Thru Road, Uttoxeter

Client: Lidl UK GmbH

Job Number: VN70885

File Origin: N:\Vectos Job Data\2017\VN70855 Lidl Uttoxeter\Docs\Reports\Travel Plan

Document Checking:

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Review By	Richard Whiting	Initialled:	RW
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Issue	Date	Status	Checked for Issue
1	26/10/17	First Draft	RW
2	09/01/18	FINAL	RW
3			
4			

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PLANS

Plan FTP1 Proposed Site Layout Plan

1 INTRODUCTION

1.1 Introduction

1.1.1 Vectos have been commissioned by Lidl UK GmbH to provide transport and highways advice to support a hybrid planning application for the development of an area of land located to the north of Brookside Road in Uttoxeter. The site lies within the jurisdiction of East Staffordshire Borough Council (ESBC), with Staffordshire County Council (SCC) acting as highways authority.

1.2 Site Location

1.2.1 The site is located on the eastern side of Uttoxeter town centre, and is bound by the Dovefields Retail Park to the north, buildings used for light industry to the east, Brookside Road to the south and the A518 Town Meadows Way to the west. The site location is shown in **Figure 1.1** below.



Figure 1.1: Site Location

1.3 Development Proposals

1.3.1 It is proposed that the planning application be submitted in hybrid form. As such, detailed planning consent will be applied for:

- A Lidl foodstore with a gross internal floor area (GIA) of 2,125 sqm (22,873 sqft);

- Two non-food retail units, each with a GIA of 700 sqm (7,535 sqft);
- 182 car parking spaces; and
- Customer and service vehicle access from Brookside Close.

1.3.2 In addition, outline planning permission will be applied for:

- A Drive Thru A3/ A5 Restaurant with a GIA of 169 sqm (1,819 sqft).

1.3.3 The proposed site layout is shown in **Plan FTP1**.

1.3.4 The proposals include the provision of a vehicular and pedestrian link which will connect the proposed development site with the Dovefields Retail Park to the north. A pedestrian connection will also be provided from the site to Town Meadows Way to connect with an existing TOUCAN crossing, while a 2 metre footway will be provided on the northern side of Brookside Close.

1.3.5 The construction of a new Lidl foodstore on the application site will result in the closure of the existing Lidl store at the Dovefields Retail Park a short distance to the north. Lidl will then dispose of the Dovefields Retail Park site, with the intention that this be reoccupied for non-food retail purposes.

1.4 The Travel Plan

1.4.1 This report provides a Framework Travel Plan for the proposed Lidl foodstore element of the development. The document provides a template for a Full Travel Plan which will be submitted to the Council for approval once the proposed development is operational.

1.4.2 The preparation and adoption of a Travel Plan is an important element in managing the demand for travel to all modern developments. The Department for Transport issued a guide on the preparation of such Travel Plans in April 2009 in a document entitled “Good Practice Guidelines – Delivering Travel Plans through the Planning Process”.

1.4.3 The National Planning Policy Framework (NPPF) document (March 2012) also highlights the role that Travel Plans can play in facilitating sustainable travel. NPPF stating that:

“All developments which generate significant amounts of movements should be required to provide a Travel Plan”.

1.4.4 A Travel Plan is a long-term management strategy for a site that seeks to encourage more sustainable travel and to reduce single occupancy car use. Whilst consideration will be given to promoting sustainable modes to customers, this document primarily sets out a framework for the staff who will be employed at the foodstore.

1.4.5 The Travel Plan is a dynamic and 'living' document that will be updated regularly to reflect changes in its environs. It should be noted that a Travel Plan starts with writing the paper document and will evolve over time. The report will be improved, monitored, reviewed and adjusted to reflect changing circumstances.

1.5 Travel Plan Aims

1.5.1 In their 'Guidelines for Transport Assessments and Travel Plans' SCC outline the aims and objectives of a Travel Plan to be *"a strategy to minimise the number of single car occupancy motor vehicles visiting a development, thereby reducing congestion and mitigating the impact of travel on the environment. A main objective is therefore to achieve a modal change from the car to more sustainable forms of transport"*

1.5.2 To this end SCC state that a Travel Plan should deliver sustainable transport objectives which seek to:

- Manage the demand for travel to a site;
- Improve the availability and choice of travel mode to a site;
- Reduce the need to travel (to and from the site);
- Reduce the number of vehicles attending the site, particularly single occupancy vehicles;
- Reduce the costs associated with on-site parking provision and congestion;
- Provide the absolute minimum possible car parking spaces on site;
- Improve the safety and security of people who travel to the site;
- Promote the increased use of cycling, walking and public transport and therefore healthier living;
- Promote integration between different transport modes;
- Promote co-ordination between developments on larger sites;
- Make positive changes to attitudes in relation to the use of alternative transport modes;
- Provide clear information to employees, customers and visitors on the alternative modes of transport to and from the site;

- Improve accessibility for non-car users and the disabled; and
- Promote the development of a transport system which enhances the environment and supports a sustainable economy.

1.5.3 The principle strands of the Plan are set out as follows;

- Appointment of a Travel Plan Co-ordinator.
- Ensuring travel awareness.
- Ensuring the availability of travel information for staff.
- The promotion of car sharing amongst staff.

1.6 Plan Administration

1.6.1 The Travel Plan Co-ordinator for the Uttoxeter Lidl store will be the Store Manager.

1.6.2 Any change in the Travel Plan Co-ordinator will be notified to the pertinent authorities.

1.6.3 The Travel Plan Co-ordinator will be the first point of contact for staff and other outside organisations in all matters regarding travel. They will maintain an up-to-date file containing all correspondence to and from staff relating to the Travel Plan.

1.6.4 The Travel Plan Co-ordinator position will last a minimum of 5 years beyond commencement of the operation of the foodstore to ensure that the Travel Plan is adopted as an integral part of the site.

1.7 Key Responsibilities

1.7.1 The key responsibilities of the Travel Plan Co-ordinator include:

- To implement and review the Travel Plan;
- To raise awareness of sustainable transport among staff and customers;
- To promote and organise publicity and awareness events such as Walk to Work Week (May), Bike Week (June) and Liftshare Week (October);
- To provide Personal Travel Planning advice for any staff requiring transport information;
- To liaise with the pertinent authority and employees in order to successfully implement Travel Plan Actions;
- To coordinate the monitoring programme for the Travel Plan;



- To update any noticeboards located in staff and visitor areas with up-to-date travel information (such as walking and cycling maps and bus timetable information).

2 ACCESSIBILITY BY SUSTAINABLE MODES OF TRAVEL

2.1 Introduction

The accessibility to good transport infrastructure has a potential to reduce the need to travel by single occupancy car and to encourage people to make sustainable transport choices to access jobs, local facilities and services.

2.1.1 This section considers the accessibility of the site by the following modes of transport:

- Accessibility on foot;
- Accessibility by cycle;
- Accessibility by public transport;
- Accessibility by train.

2.2 Accessibility on Foot

2.2.1 The Chartered Institution of Highways and Transportation document entitled 'Providing for Journeys on Foot' offers guidance on what are considered to be acceptable walking distances. Table 3.2 of the document states that the acceptable maximum walking distance for commuting trips is 2 kilometres. A maximum distance for pedestrians to town centre facilities such as a foodstore is considered to be 800 metres.

2.2.2 In accordance with this guidance **Figure 2.1** presents the 800 metre and 2-kilometre pedestrian catchments of the site. This plan demonstrates that a range of retail and civic amenities located within Uttoxeter town centre are within 800 metres walk of the site, together with the entirety of the Dovefields Retail Park. Meanwhile the 2-kilometre catchment area extends to include the whole of the town centre, as well as residential areas to the south and west of the town.

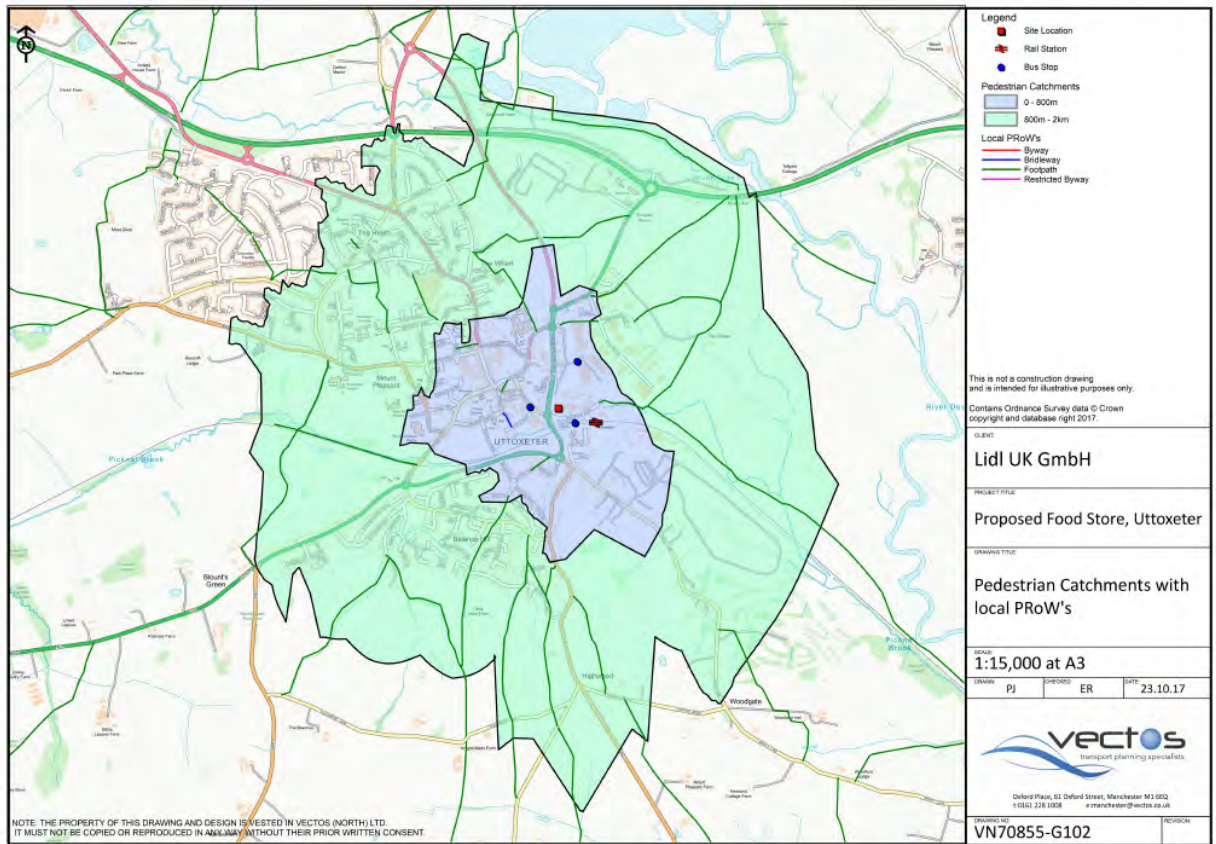


Figure 2.1: Pedestrian Catchment Plan

- 2.2.3 **Figure 2.1** therefore demonstrates that the site is ideally placed to encourage both retail and employment based trips to be undertaken on foot.
- 2.2.4 Pedestrian access to the site from the surrounding highway network will be provided from Brookside Road at the site access junction, with a dedicated ramped pedestrian access also provided from the A518 Town Meadows Way.
- 2.2.5 To support pedestrian trips to the site street lit footways are provided along both sides of Brookside Road between the location of the proposed site access junction and the roundabout junction with the A518.
- 2.2.6 Pedestrian movements across the A518 roundabout are then assisted by dropped kerbs, tactile paving and pedestrian refuges which are provided on all four arms of the roundabout, while a pedestrian underpass also connects Station Road and Trinity Road.

- 2.2.7 Street lit footways are also provided along both sides of the A518 Town Meadows Way. Pedestrian movements across this road are supported by a TOUCAN controlled pedestrian crossing, again including dropped kerbs and tactile paving, which is located approximately 65 metres north of the Brookside road roundabout. This controlled crossing point is close to the ramped pedestrian access to the site from the A518.
- 2.2.8 Using this safe crossing point, pedestrian connections are available between the site and Uttoxeter town centre via Bridge Street which again provides comprehensive pedestrian facilities. These comprehensive facilities will therefore help to encourage linked pedestrian trips between the site and amenities located with the town centre.
- 2.2.9 Pedestrian access to the site from the surrounding highway network is proposed from two locations. Pedestrian infrastructure will be provided at the site access junction with Brookside Road, which will include footway provision, dropped kerbs, tactile paving and a central pedestrian refuge.
- 2.2.10 A second dedicated pedestrian access point will be provided from Town Meadows Way. This access will be ramped to facilitate access for all users, and has been positioned to support the desire line identified by the TOUCAN crossing point on the A518.
- 2.2.11 Within the site pedestrian routes will be clearly identified which will lead from the pedestrian access points to store frontages. These pedestrian routes will be supplemented by tactile paving which will identify traffic lanes for visually impaired pedestrians.
- 2.2.12 Pedestrian connections to the adjacent Dovefields Retail Park are currently available via Town Meadows Way. However, the development scheme includes a proposal to create a direct link in the northwest corner of the site which will provide pedestrians (and others) direct access between the proposed development site and the Retail Park. This connection will help to encourage linked pedestrian trips between the two sites.
- 2.2.13 The site is therefore concluded to be highly accessible on foot.

2.3 Accessibility by Bicycle

- 2.3.1 An alternative mode of travel to the site would be achieved by bicycle.

2.3.2 The National Planning Policy Framework (NPPF) replaced all existing planning policy statements. However, the PPG 13 companion guide ‘A Guide to Better Transport – Reducing the need to travel through land use and transport planning’ has not been replaced by the NPPF and as such is still considered to provide relevant guidance. With respect to cycling this document states that “the bicycle is an effective mode for short trips of up to 3 to 5 miles (5-8km)”.

2.3.3 With this in mind **Figure 2.2** displays a 5-kilometre cycle catchment from the site. This would equate to a journey of around 25 minutes using a leisurely cycle speed of 12 kilometres per hour, and based upon the above guidance this catchment represents the lower threshold of the potential cycle catchment of the site.

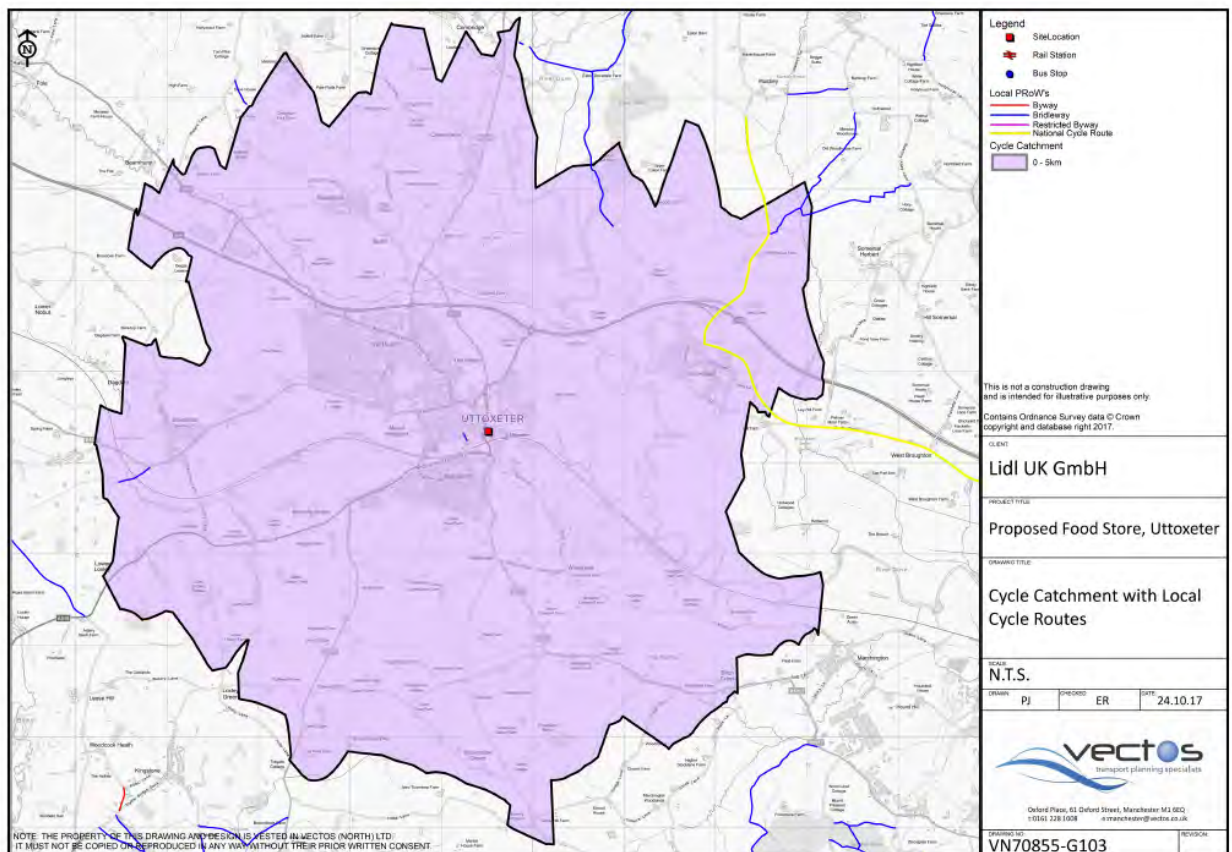


Figure 2.2: Cycle Catchment Plan

2.3.4 This plan illustrates that the 5-kilometre cycling catchment area encompasses the entirety of Uttoxeter, along with surrounding residential areas such as Doveridge, Bramshall and Stamshall.

2.3.5 Reference to the Uttoxeter cycle map indicates that there are extensive cycle facilities in the vicinity of the site which support journeys by bicycle. This includes cycle paths provided on both sides of Town Meadows Way, which are supported by TOUCAN crossing facilities provided in two locations which aid east/west cycle movements. In addition, the majority of roads within the centre of Uttoxeter are identified as advisory cycle routes. An extract of Staffordshire County Council’s Uttoxeter cycle map is provided as **Figure 2.3** below.



Figure 2.3: Uttoxeter Cycle Map

2.3.6 An off-carriageway cycleway is also provided on the west side of the A518 to the south of the Brookside Road roundabout junction which provides a route to the residential area to the south-west of the proposed development. In addition, cyclist may use the subway which runs under the A518 and links Station Road with Bridge Street.

- 2.3.7 Further afield Sustrans identify a traffic free cycle route which runs along the northern perimeter of the Dovefields Retail Park, before connecting with Derby Road and thereafter the A50 and National Cycle Route 549. This national route connects Hurdlow in the Peak District with Etwall via Waterhouses and Uttoxeter.
- 2.3.8 Cycle access to the site will be achievable from the access points with Brookside Road, Town Meadows Way and the Dovefields Retail Park.
- 2.3.9 To encourage cycle trips to the site the development will provide a total of 18 Sheffield cycle hoops for customers, 5 which will be located adjacent to the Lidl store and 13 adjacent to the non-food retail units and drive thru restaurant site. The site as a whole will therefore provide parking for 36 bicycles.
- 2.3.10 To support staff trips by bicycle, Lidl employees are permitted to park their bicycles within the store warehouse.
- 2.3.11 The proposed development is therefore considered to be accessible by bicycle.

2.4 Accessibility by Bus

- 2.4.1 The Chartered Institute of Highways and Transportation's (CIHT) document 'Planning for Public Transport in Developments' states that "new developments should be located so that public transport trips involve a walking distance of less than 400m from the nearest bus stop".
- 2.4.2 The closest bus stops to the site are located on Station Road to the south of the site. These stops provide bus shelters, timetable information and yellow bus box road markings, and are easily accessible from the site via the existing pedestrian infrastructure provided on Station Road. The stop serves the No 32A, 402, 403, SW1 and 402A services.
- 2.4.3 Further bus stops are located within 400 metres of the site on Bridge Street to the west, and adjacent to the Tesco foodstore to the north. The Bridge Street bus stop provides a flagpost, while the stops adjacent to Tesco provide a shelter and timetable information.
- 2.4.4 Again, both stops are accessible from the development site via the existing pedestrian network, with connections to the stops adjacent to Tesco assisted by the link which will be provided between the site and the Dovefields Retail Park.

2.4.5 A summary of the frequency of bus services provided in **Table 2.1**.

Service No.	Route	Approximate Frequency (services per hour in each direction unless stated)					
		Mon-Fri				Sat	Sun
		AM Peak	Midday	PM Peak	Evening		
32A	Uttoxeter Town Centre - Hanley	1	1	1	1	1	1
402	Burton upon Trent - Uttoxeter Town Centre	0	1	0	0	1	0
402A	Burton upon Trent - Uttoxeter Town Centre (Commuter Service)	Commuter Service, 07:15 from Burton upon Trent to Uttoxeter. 15:15, 16:30, 17:50 from Uttoxeter to Burton upon Trent				Services at 15:15 and 16:30	0
403	Burton upon Trent - Uttoxeter Town Centre	0	0	0	0	0	0
SWI	Uttoxeter Town Centre - Derby	1	1	1	0	1	1

Table 2.1: Bus Services Operating Within the Site Vicinity

2.4.6 **Table 2.1** demonstrates that the services near the site operate with an hourly frequency during the week and at weekends to destinations including Uttoxeter town centre, Hanley and Derby. Additional services are also available to Burton upon Trent.

2.4.7 It is therefore evident that there are a number of services operating within a short walk of the site, providing the opportunity for both customers and employees to utilise this mode of travel. The development site is therefore concluded to be highly accessible by bus.

2.5 Accessibility by Rail

2.5.1 The site is ideally located to take advantage of local rail services, being located approximately 120 metres walk from Uttoxeter Railway Station. Footways are provided along Station Road to assist pedestrian connectivity from the site to the railway station.

2.5.2 Rail services operating from Uttoxeter Station are summarised in **Table 2.2** below.

Route	Max. Frequency (Peak Periods) Monday to Friday	
	Frequency	Duration
Tutbury & Hatton, Derby	1 per hour	30 minutes
Blythe Bridge, Longton, Stoke-on-Trent, Kidsgrove, Crewe	1 per hour	57 minutes

Table 2.2: Rail Services Operating from Uttoxeter Station

- 2.5.3 Uttoxeter Station sits on the Derby to Crewe line, with hourly connections available in both directions to destinations including Tutbury & Hatton, Longton, Stoke-on-Trent, Kidsgrove, Alsager and Crewe.
- 2.5.4 Services from Uttoxeter Station are operated by East Midlands Trains who allow bicycles on their trains free of charge and without reservations. As such, the potential also exists for customers and staff to undertake a linked bicycle/ rail trip.
- 2.5.5 The site is therefore concluded to be highly accessible by rail.

3 MANAGEMENT MEASURES

3.1 Introduction

3.1.1 The following measures will be delivered through the Travel Plan by the Travel Plan Co-ordinator:

- Travel Awareness
- Staff 'Welcome Pack'
- Car Sharing
- Cycle Measures
- Walking Measures
- Public Transport Measures
- Sustainable Travel Promotions

3.2 Travel Awareness

3.2.1 Lidl staff will be made aware of the existence of the Travel Plan and a copy of the plan will be made available to the Council.

3.2.2 'Welcome Packs' will be given to new staff when they start work at the development.

3.2.3 Noticeboards will be located in staff areas to provide up-to-date travel information (such as walking and cycling maps and bus timetable information), and information on useful websites to encourage sustainable travel. The noticeboards will also include contact details for the Travel Plan Co-ordinator and news on any sustainable travel initiatives which the store may be running.

3.2.4 Noticeboards will also be provided in public areas for customers, providing information on suggested walking and cycling routes, the locations of local bus stops, including bus timetables, and the locations of on-site infrastructure such as cycle parking facilities.

3.3 Staff 'Welcome Pack'

3.3.1 Prior to commencement of operation of the development a 'Welcome Pack' will be provided to staff starting work at the site. The 'Welcome Pack' will subsequently be provided to all new staff prior to them commencing work at the store.

- 3.3.2 The 'Welcome Pack' will include a Travel Information Brochure. This provides a background on the aims of the Travel Plan and includes information for staff on sustainable travel options including walking, cycling and public transport.
- 3.3.3 The packs will also include current information on safe walking and cycling routes in the area, and will promote the health benefits of these forms of travel. The pack will also include details on facilities provided on site to promote these forms of travel, including the locations of cycle parking.
- 3.3.4 The 'Welcome Pack' will also provide up-to-date information on bus services, including suggested walking routes to local bus stops, up-to-date timetable information, and website addresses to allow them to access real-time travel information.

3.4 Cycle Measures

- 3.4.1 Eighteen cycle parking spaces will be provided as part of the development. Five of these will be located adjacent to the Lidl store and 13 adjacent to the non-food retail units and drive thru restaurant site. The site as a whole will therefore provide parking for 36 bicycles.
- 3.4.2 In addition, to support staff trips by bicycle, Lidl employees are permitted to park their bicycles within the store warehouse.
- 3.4.3 The Travel Information Brochure provided to staff will include information on cycling to the site, including the location of designated cycle routes and where these can be accessed. Similar information will also be provided on staff noticeboards.
- 3.4.4 The Travel Plan Co-ordinator will establish contact with the cycling officers of Staffordshire County Council and will retain active contact with officers to ensure that any future improvements to the cycling network and cycling maps are fed through to staff.
- 3.4.5 Lidl staff will also be provided with information on the BikeBUDI scheme via the Travel Information Brochure and on notice boards. Information on the scheme is available on the website www.bikebudi.com.
- 3.4.6 The BikeBUDI scheme is also part of the National Lift Share Group and aims to match individuals with others cycling the same journey so they can ride together. The matches are displayed in both table and map format, allowing the user to easily find the most suitable people.

3.5 Walking Measures

- 3.5.1 The Travel Information Brochure will include information promoting the benefits of walking, in particular the health benefits. Staff will also be provided with information on suggested walking routes in Uttoxeter, local amenities which are within walking distance of the site, and the location of suggested safe crossing points.
- 3.5.2 Lidl staff will be provided with information on WalkBUDi scheme through information contained within the Travel Information Brochure. Information on the scheme is available on the website www.walkbudi.com.
- 3.5.3 The WalkBUDi scheme is part of the National Lift Share Network and is simple and free to use. It matches individuals with others walking the same way so they can walk together. The matches are displayed in both table and map format, allowing the user to easily find the most suitable people.
- 3.5.4 The WalkBUDi scheme aims to help individuals to meet others wanting to travel the same way.

3.6 Public Transport Measures

- 3.6.1 Public transport timetable information will also be provided on noticeboards provided in staff areas, while staff will also be provided with plans showing suggested walking routes to local bus stops.
- 3.6.2 Visitors to the store will also be made aware of the public transport opportunities available for travel to the site. This will be done at the time their meetings are arranged.
- 3.6.3 The benefits of travelling to the site by bus, as well as the location of local bus stops, will be provided in the Travel Information Brochure. Public transport timetable information will also be provided in the 'Welcome Packs' and on noticeboards provided in staff areas.

3.7 Staff Lockers

- 3.7.1 Lockers will be provided for staff, allowing those who walk or cycle to the site (amongst others) to securely store any necessary belongings.

3.8 Car Sharing

3.8.1 The benefits of car sharing will be promoted to staff. The Travel Information Brochure will outline the environmental and cost saving benefits of travelling with other people, and will include information on with details of websites such as www.liftshare.com or www.blablacar.com which provides a database of people wishing to car share on certain journeys.

3.8.2 As well as the potential to use websites to find car share companions, the Travel Information Brochure will highlight the opportunity to find car sharing companions amongst work colleagues. Information of staff looking to car share will be provided on staff notice boards, and the Travel Plan Co-ordinator will, if necessary, act a point of contact to unite potential car sharers (although given the small number of staff the development will employ it would be expected that staff will all be familiar to each other).

3.9 Motorcycles and other Powered Two Wheelers

3.9.1 Travelling by a motorcycle is cheaper than by car and is more environmentally friendly option. Motorcycle takes up less road space and therefore reduces congestion.

3.9.2 The health, social and environmental benefits of riding a motorcycle will be promoted to Lidl staff within Travel Information Brochure, which will also provide a plan identifying the location of dedicated motorcycle/ moped parking within Uttoxeter.

3.10 Sustainable Travel Promotions

3.10.1 A number of sustainable travel promotions are held nationally throughout the course of the year. These include:

- Bike Week.
- Walk to Work Week.
- Liftshare Week.

3.10.2 The Travel Plan Co-ordinator will publicise these events on the staff noticeboard and will encourage staff to participate wherever possible.

4 TRAVEL PLAN MONITORING

4.1 Introduction

- 4.1.1 It is anticipated that a maximum of up to 40 members of staff will be employed at the Lidl store, of which 4 are expected to be employed on a full time basis, with the remainder employed on a part-time basis. Typically, around 6 staff are present on site at any one time during trading hours.
- 4.1.2 Given the limited number of staff who will be employed on site at any one time it is considered there will be little merit in setting modal shift targets for the store as a single member of staff changing travel mode would result in a disproportionate change in modal share.
- 4.1.3 Therefore rather than undertaking staff travel surveys, or establish travel targets, this Travel Plan is focussed upon the practical measures which will help to influence modal shift in Lidl staff.
- 4.1.4 However, the Travel Plan is intended to be a dynamic document, and the information provided to staff needs to be monitored to ensure that it is up-to-date and remains relevant. If any feedback has been received from staff regarding the effectiveness of the Plan, including ways this could be improved, the Travel Plan Co-ordinator will consider ways to update documents or information to reflect this.
- 4.1.5 As such the Travel Plan Co-ordinator will carry out an annual review of the Travel Plan including the following:
- Check Welcome Packs and Travel Information Brochures have been effectively issued to staff;
 - Check information provided in the Travel Information Brochure and on staff noticeboards regarding pedestrian, cycle and public transport is up-to-date. In particular check that any timetable information provided is current;
 - Check that bicycle parking is well maintained;
 - Check that details of the sustainable travel events promoted are current and determine next event dates;
 - Action any feedback received from staff over preceding year.
- 4.1.6 Notification of any changes to the Travel Plan or Travel Information Brochure will be placed on the staff noticeboard to ensure staff are aware of the changes.

4.2 Travel Plan Actions

4.2.1 The Travel Plan Coordinator (TPC) will provide employees with the Welcome Pack and offer a travel planning advise when requested. In terms of operation, the schedule for Travel Plan actions is shown in **Table 4.1**.

Travel Plan Actions	Start Date	Responsibility
Appoint a Travel Plan Co-ordinator	Prior to Occupation	Lidl
Provide secure cycle parking	Prior to Occupation	Lidl
Contact with officers from ESBC and SCC to agreed formal Travel Plan document	Prior to Occupation	TPC
Prepare walking and cycling maps	Prior to Occupation	TPC
Collate Travel Information Brochure and other information to be provided in 'Welcome Pack'	Prior to occupation	TPC
Distribution of staff 'Welcome Pack'	When required to all new starters	TPC
Review, update and reissue of Travel Plan and Travel Information Brochure (including public transport service information) as required	Annually	TPC
Update of the Travel Plan notice board	When required	TPC
Travel Plan measures promoted throughout development via noticeboards, email and posters	When required	TPC
Monitoring of Welcome Packs and Travel Information Brochures distribution; Check information provided in the Travel Information Brochure and on staff noticeboards regarding pedestrian, cycle and public transport is up-to-date. In particular check that any timetable information provided is current;	Ongoing	TPC

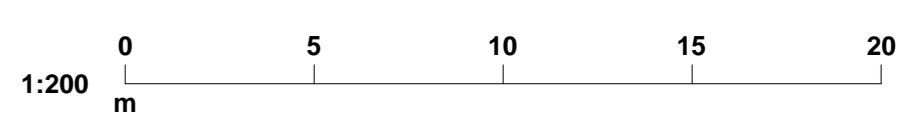
Check that bicycle parking is well maintained; Action any feedback received from staff over preceding year.		
A revised Travel Plan will be submitted to East Staffordshire Borough Council if required.	When required	TPC
Check that details of the sustainable travel events promoted are current and determine next event dates.	May, June, October each year	TPC

Table 4.1 – Travel Plan Framework Timescales

4.2.2 The Review of the Travel Plan will be undertaken for a 5-year period. Thereafter the strategy for its continuation will be discussed between Lidl and the pertinent authorities.

PLANS

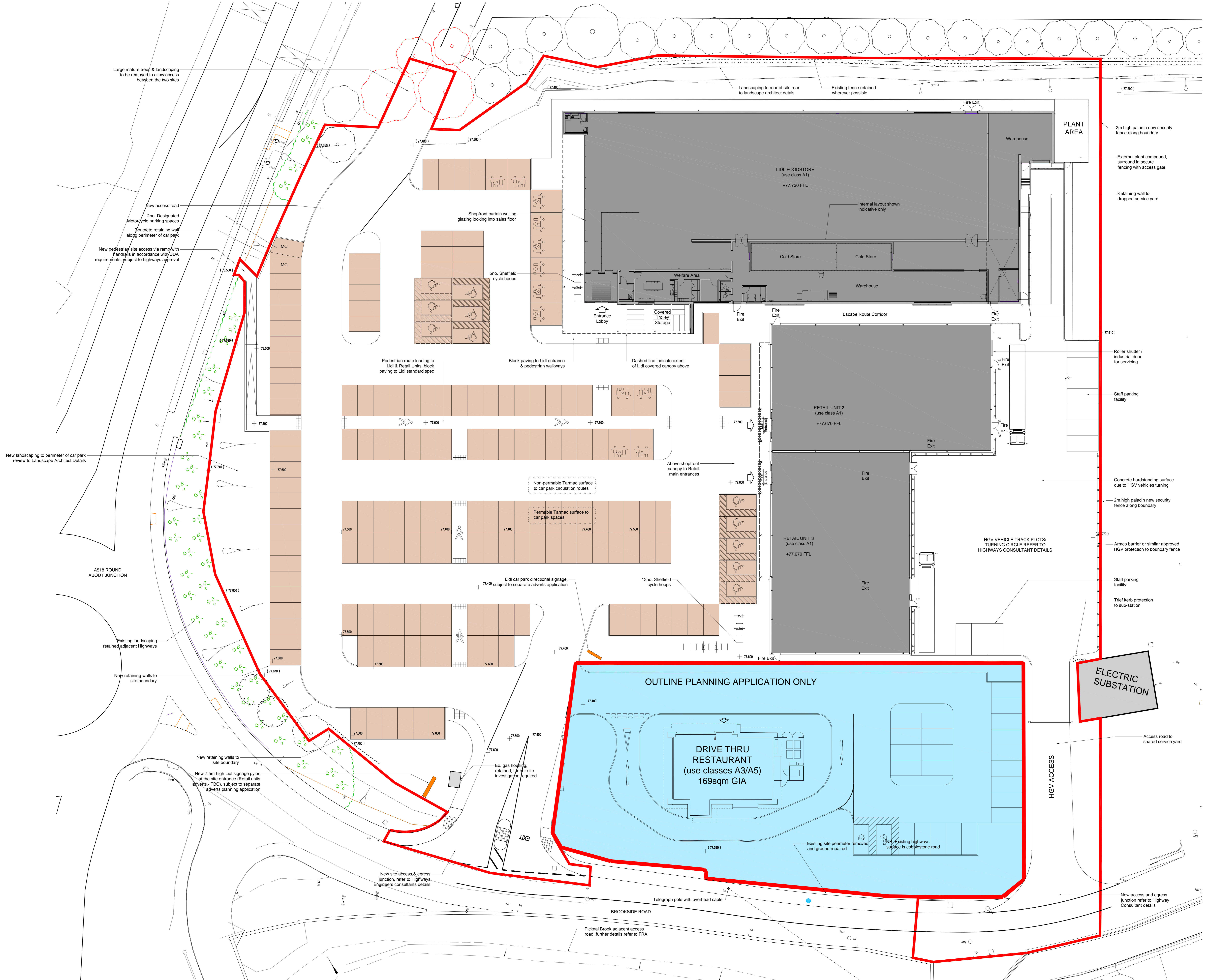
THIS DRAWING IS STRICTLY NOT TO BE USED FOR CONSTRUCTION PURPOSES.
 PROPOSED LEVELS SUBJECT TO DESIGN DEVELOPMENT.
 DRAINAGE STRATEGY & RAIN WATER PIPES SUBJECT TO DESIGN DEVELOPMENT.
 THIS DRAWING CONSISTS OF THE FOLLOWING THREE PARTS INFORMATION & DRAWINGS:
 Outline Survey, IJ Crown Copyright 2015. All rights reserved. Licence number 1000225.
 Topographical Survey by Green Heath, drawing 155414, OGL received via email on 27/07/2017.
 Notes contained on site access & Egress Junctions.
 TO BE READ IN CONJUNCTION WITH HCD DRAWINGS:
 A.PL-001 - SITE LOCATION PLAN
 A.PL-002 - EXISTING SITE PLAN
 A.PL-003 - PROPOSED STORE PLAN
 A.PL-004 - PROPOSED RETAIL UNIT BUILDING PLAN
 A.PL-005 - PROPOSED RETAIL UNIT ROOF PLAN
 A.PL-006 - PROPOSED STORE ELEVATIONS
 A.PL-007 - PROPOSED RETAIL UNIT ELEVATIONS
 A.PL-008 - PROPOSED SITE SECTIONS



Foodstore Areas			
Sales Area	1325 m ²	14,262 ft ²	
Gross Internal Area	2125 m ²	22,873 ft ²	
Gross External Area	2206 m ²	23,745 ft ²	
Retail Area Unit 2			
Gross Internal Area	700 m ²	7,535 ft ²	
Gross External Area	730 m ²	7,856 ft ²	
Retail Area Unit 3			
Gross Internal Area	700 m ²	7,535 ft ²	
Gross External Area	730 m ²	7,856 ft ²	
Car Parking Numbers			
Customer Parking	149		
Disabled Parking	11		
Parent & Child	12		
Staff	10		
Grand Total:	182		
Shared Cycle Hoops on site	18		
Motorcycle Parking	2		

Outline Planning Application Boundary Only			
GIA	GEA	Max. Height	
Drive Thru Restaurant	169m ² / 1819sqft	200m ² / 2153sqft	5 - 6m

PERMEABLE TARMAC AREAS



OUTLINE PLANNING APPLICATION ONLY

DRIVE THRU RESTAURANT
 (use classes A3/A5)
 169sqm GIA

EXISTING SITE PERIMETER REMOVED AND GROUND REPAIRED

ELECTRIC SUBSTATION

REVISION	BY	DATE	DESCRIPTION
0000 D	in D.J.W.	09/04/2018	Scale of drawing amended to 1:200. Site levels added as per FRA. Highways consultant on site road on.
0000 C	in D.J.W.	20/02/2018	Revised for Planning. Permeable tarmac to car park spaces added and to be read in conjunction with Flood Risk Assessment. Non-permeable tarmac surface to circulation routes in car park.
0000 B	in D.J.W.	03/01/2018	Revised for Planning. Red Line Boundaries Updated to include site access junction. Site road access agreed junction, top of pedestrian ramp and Tesco shared site access. Site Boundary area updated.
0000 A	in D.J.W.	22/11/2017	Revised for Planning. Application boundary updated. Cycle parking moved closer to Lidl main store entrance.
0000	in D.J.W.	15/11/2017	Issued for Planning.

PLANNING

LIDL UK GmbH
BROOKSIDE ROAD
UTTOKETER

PROPOSED SITE PLAN

SCALE: 1:200 @ A0 DATE: OCTOBER 2017

Appendix B

Traffic Survey Data

SURVEY CONTROL

Client: Vectos

Client Contact: Oliver McLaughlin

Survey Location: Uttoxeter

Date(s) of Survey: Friday 14 July 2017
Saturday 15 July 2017

Notes: Weather Conditions:
Friday: Dry with sunny intervals
Saturday: Cloudy with intermittent drizzles, then dried up

On Site Supervisor: Neil Harley

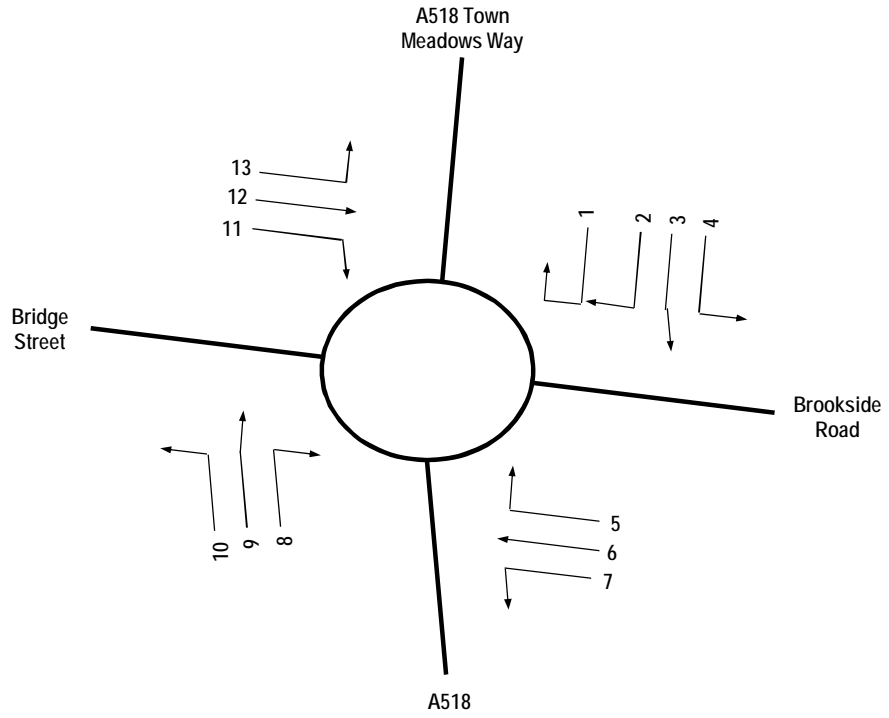
Data Checking: David Cheng

Survey Reference: 2017.118 Uttoxeter

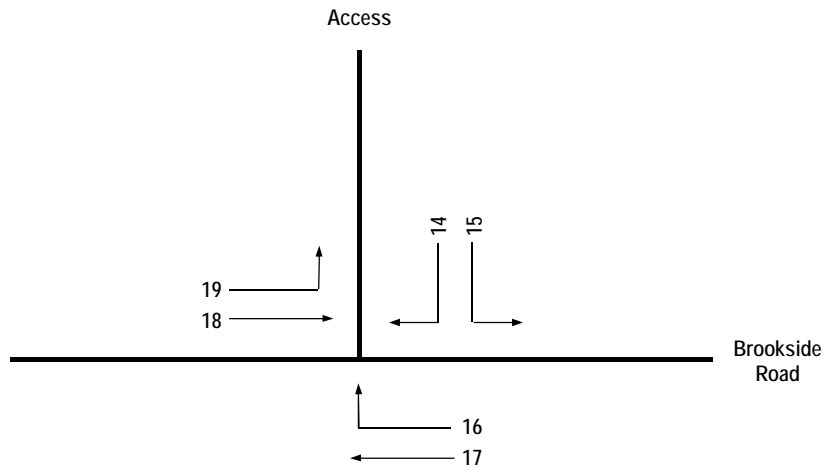
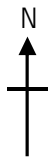
Status: Final

Date of Issue: 26 July 2017

JUNCTION 1



JUNCTION 2



DRAWING TITLE

TRAFFIC MOVEMENT REFERENCE

JOB TITLE

2017.118 UTTOXETER

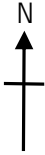
DRAWN BY
DC

DATE
JUL 2017

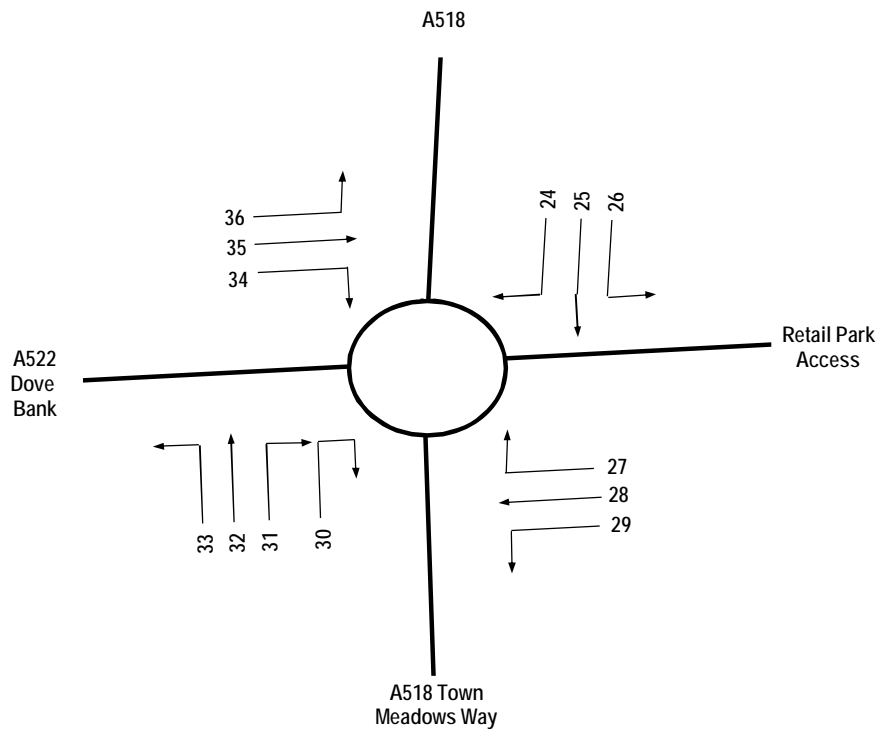
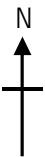
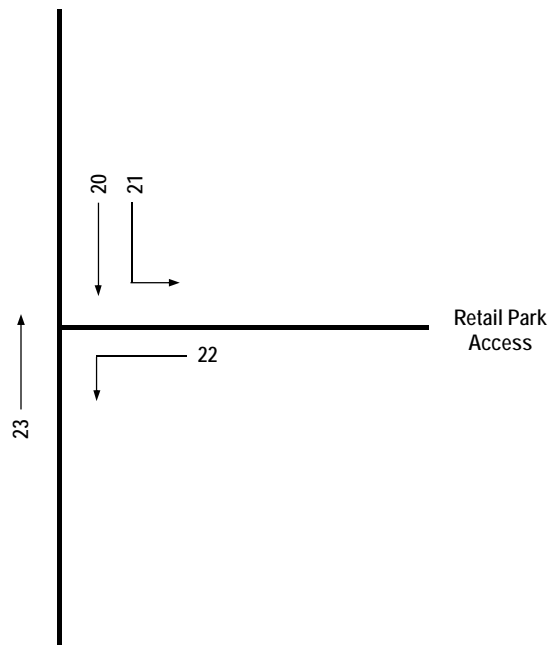
SCALE
NTS

REF
FIGURE 2

signal surveys
Traffic Counts and Car Park Surveys
Parkway House, Palatine Road, Northenden, Manchester,
M22 4DB
Tel 0161 998 4226 Fax 0161 998 1189



A518 Town
Meadows Way



DRAWING TITLE

TRAFFIC MOVEMENT REFERENCE

JOB TITLE

2017.118 UTTOXETER

signal surveys
Traffic Counts and Car Park Surveys
Parkway House, Palatine Road, Northenden, Manchester,
M22 4DB
Tel 0161 998 4226 Fax 0161 998 1189

DRAWN BY
DC

DATE
JUL 2017

SCALE
NTS

REF
FIGURE 2

Time Beginning	A518 Town Meadows Way/Brookside Road/A518/Bridge Street - Friday 14 July 2017																									
	1		2		3		4		5		6		7		8		9		10		11		12		13	
	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV
1600	20	0	48	0	154	9	1	0	9	0	0	0	2	0	5	0	114	7	55	0	55	0	5	0	39	0
1615	22	0	39	0	192	13	1	1	6	0	1	0	0	1	2	0	142	10	53	0	40	0	2	1	22	0
1630	20	1	65	2	178	11	2	0	7	0	0	0	6	0	3	0	137	6	40	1	50	2	7	0	24	0
1645	16	0	48	0	175	8	6	0	0	0	4	1	2	0	4	0	176	5	58	0	37	0	1	0	28	0
1700	31	0	42	0	197	4	4	1	12	0	5	0	4	0	2	0	145	6	62	0	63	0	1	0	33	0
1715	17	0	69	0	184	6	2	1	6	0	1	0	2	0	0	0	144	3	53	1	43	1	1	0	30	0
1730	22	1	43	1	192	5	1	1	9	0	3	0	4	0	2	1	159	6	45	1	50	0	2	0	17	0
1745	10	0	52	1	162	2	5	1	2	0	3	0	0	1	2	0	135	4	39	0	53	0	0	0	26	0
1800	21	0	49	0	155	2	5	0	1	1	11	0	8	0	4	0	135	4	39	0	44	0	2	0	25	0
1815	18	0	36	0	139	1	1	0	8	0	0	0	0	0	0	0	112	0	37	0	46	1	2	0	14	0
1830	17	0	42	1	95	4	0	0	4	0	0	0	1	0	3	0	114	4	34	0	38	0	0	0	16	0
1845	14	0	45	0	114	1	4	0	4	0	0	0	1	0	1	0	108	2	48	0	29	0	3	0	15	0
Time Beginning	A518 Town Meadows Way/Brookside Road/A518/Bridge Street - Saturday 15 July 2017																									
	1		2		3		4		5		6		7		8		9		10		11		12		13	
	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV
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1145	35	0	59	0	131	2	12	0	5	0	7	0	4	0	3	0	120	1	38	0	49	0	0	0	46	0
1200	22	0	53	0	147	4	4	1	8	0	2	0	7	1	4	0	130	2	48	0	41	0	2	0	42	0
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1245	21	0	55	0	134	1	5	0	2	0	3	0	2	0	4	0	134	0	31	0	47	0	5	0	37	0
1300	26	0	51	0	122	0	5	0	4	0	6	0	3	2	2	0	115	1	39	0	39	0	5	0	36	0
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1445	31	0	41	0	102	2	3	0	2	0	2	0	3	0	3	0	98	1	31	0	39	0	3	0	29	0

Brookside Road/Access - Friday 14 July 2017												
Time Beginning	14		15		16		17		18		19	
	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV
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1615	1	0	0	0	0	0	4	0	3	1	1	0
1630	4	0	0	0	0	0	6	0	3	0	0	0
1645	0	0	0	0	0	0	2	0	3	0	0	0
1700	0	0	0	0	0	0	2	0	1	1	0	0
1715	0	0	0	0	0	0	7	0	1	1	1	0
1730	10	0	0	0	0	0	1	0	1	2	1	0
1745	1	0	0	0	0	0	1	0	0	1	0	0
1800	0	0	0	0	0	0	1	1	1	0	0	0
1815	1	0	0	0	0	0	2	0	1	0	0	0
1830	0	0	0	0	0	0	0	0	1	0	0	0
1845	2	0	0	0	0	0	0	0	1	0	2	0

Brookside Road/Access - Saturday 15 July 2017												
Time Beginning	14		15		16		17		18		19	
	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV
1100	0	0	0	0	0	0	10	0	5	1	0	0
1115	0	0	0	0	0	0	6	0	5	0	0	0
1130	0	0	0	0	0	0	8	0	8	0	0	0
1145	1	0	0	0	0	0	1	0	8	0	1	0
1200	1	0	0	0	0	0	5	0	5	1	1	0
1215	0	0	0	0	0	0	4	0	2	0	0	0
1230	0	0	0	0	0	0	7	0	5	0	0	0
1245	0	0	0	0	0	0	3	0	3	0	0	0
1300	0	0	0	0	0	0	6	0	9	1	0	0
1315	0	0	0	0	0	0	3	0	4	0	0	0
1330	0	0	0	0	0	0	0	0	2	0	0	0
1345	0	0	0	0	0	0	0	0	6	0	0	0
1400	1	0	0	0	0	0	4	0	5	1	1	0
1415	1	0	0	0	0	0	1	0	3	0	1	0
1430	0	0	0	0	0	0	1	0	4	0	0	0
1445	0	0	0	0	0	0	0	0	3	0	0	0

Time Beginning		A518 Two Meadows Way/Retail Park Access - Friday 14 July 2017							
		20		21		22		23	
		LV	HV	LV	HV	LV	HV	LV	HV
1600	143	11	96	0	86	0	187	7	
1615	161	12	96	1	96	1	182	11	
1630	158	10	111	2	112	2	188	7	
1645	145	7	123	0	97	0	226	7	
1700	161	4	82	0	121	0	212	6	
1715	148	10	101	0	117	0	191	2	
1730	146	6	97	1	108	1	211	6	
1745	132	2	101	2	96	2	166	3	
1800	135	2	86	0	85	0	181	4	
1815	116	1	90	1	81	1	146	0	
1830	92	4	86	1	62	1	150	4	
1845	90	2	82	0	88	0	140	3	
Time Beginning		A518 Two Meadows Way/Retail Park Access - Saturday 15 July 2017							
		20		21		22		23	
		LV	HV	LV	HV	LV	HV	LV	HV
1100	96	1	94	2	94	2	236	1	
1115	119	2	122	0	100	0	215	3	
1130	119	3	117	2	110	3	218	0	
1145	126	2	113	0	113	0	204	2	
1200	117	4	99	1	112	1	211	1	
1215	111	1	93	0	110	0	211	1	
1230	109	3	108	2	109	2	178	4	
1245	99	0	80	0	110	0	194	0	
1300	111	0	90	2	86	1	172	1	
1315	86	2	84	1	76	0	165	1	
1330	96	1	72	1	78	2	168	1	
1345	81	0	100	0	79	0	172	4	
1400	76	1	89	1	100	1	173	0	
1415	63	3	74	1	104	0	173	2	
1430	83	1	68	2	85	2	154	0	
1445	81	3	81	1	95	0	155	1	

A518 Town Meadows Way/A522 Dove Bank/A518/Retail Park Access - Friday 14 July 2017																										
Time Beginning	24		25		26		27		28		29		30		31		32		33		34		35		36	
	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV
1600	57	1	171	9	18	0	40	0	32	0	0	0	28	0	20	0	133	7	13	0	35	1	22	0	74	3
1615	72	2	182	12	26	0	46	1	20	0	3	0	29	1	21	0	119	9	11	0	42	1	21	0	74	1
1630	64	2	195	12	29	0	44	0	24	0	2	0	31	0	32	0	124	7	8	0	37	0	5	0	50	2
1645	64	0	187	8	32	0	48	0	23	0	3	0	40	0	39	0	135	8	8	0	36	0	11	0	44	1
1700	70	2	180	3	29	0	51	0	23	0	2	0	25	1	27	0	135	3	12	1	37	0	23	0	46	1
1715	50	1	179	9	23	0	58	0	29	0	0	0	29	0	28	0	129	2	9	0	43	0	10	0	45	0
1730	46	2	169	7	31	0	37	0	26	0	5	0	28	0	29	0	134	6	8	0	38	0	6	0	60	0
1745	40	0	157	3	17	0	52	0	13	0	4	0	30	0	30	0	112	3	13	0	37	1	17	0	34	1
1800	66	0	162	2	18	0	38	0	26	0	0	0	27	0	26	0	114	5	8	0	26	0	12	0	38	2
1815	50	2	148	1	23	0	38	0	15	0	2	0	25	0	24	0	91	0	3	0	27	0	9	0	32	1
1830	42	1	108	6	21	0	39	0	28	0	4	0	26	0	29	0	90	4	6	0	42	0	2	0	31	0
1845	42	0	104	1	22	0	52	0	19	0	2	0	24	0	30	0	84	2	11	1	45	0	6	0	35	2

A518 Town Meadows Way/A522 Dove Bank/A518/Retail Park Access - Saturday 15 July 2017																										
Time Beginning	24		25		26		27		28		29		30		31		32		33		34		35		36	
	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV	LV	HV
1100	61	0	111	2	33	0	52	0	25	0	6	0	38	0	36	0	132	1	16	0	35	1	26	0	53	1
1115	52	0	132	2	40	0	48	0	22	1	2	0	40	0	42	0	128	3	13	0	50	0	19	0	54	0
1130	48	0	138	6	45	0	43	1	22	0	4	0	36	0	38	0	118	0	11	0	52	0	24	1	39	1
1145	44	1	156	4	44	0	59	0	29	0	5	0	37	0	33	0	122	3	17	0	36	0	21	1	47	0
1200	46	0	132	3	44	0	52	0	30	0	4	0	50	0	28	0	138	1	9	1	34	1	29	0	41	0
1215	41	0	122	0	36	0	62	0	27	0	6	0	39	0	20	0	134	0	10	0	41	0	36	0	55	0
1230	32	0	123	4	21	0	58	0	29	0	2	0	43	0	30	0	108	3	11	0	42	1	26	0	36	1
1245	30	0	112	0	27	0	50	1	25	0	2	0	45	0	28	0	108	0	7	0	25	0	24	0	39	0
1300	35	1	121	1	22	0	55	0	31	0	2	0	45	1	21	0	92	0	16	0	36	1	17	1	35	0
1315	32	1	96	2	36	0	55	0	24	0	7	0	40	0	28	0	88	1	12	0	27	0	25	0	32	0
1330	29	0	90	1	22	0	62	0	22	0	14	0	41	0	25	0	93	1	8	0	23	0	21	0	26	1
1345	39	1	106	0	35	0	53	0	12	0	4	0	39	0	35	0	94	2	6	0	32	0	21	0	28	0
1400	23	0	100	1	41	0	62	0	26	1	3	0	35	0	40	0	102	2	7	0	27	1	30	0	50	1
1415	30	1	85	4	32	0	54	1	21	0	5	0	25	0	25	0	101	0	13	0	23	1	25	0	35	1
1430	36	1	99	1	27	0	57	0	25	0	4	0	26	1	29	0	96	0	8	0	25	0	36	0	40	1
1445	33	0	100	5	28	0	39	0	20	0	3	0	24	2	28	0	92	1	12	0	34	0	22	0	32	1

Appendix C

Lidl TRICS Output Data

TRIP RATE CALCULATION SELECTION PARAMETERS:

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

Selected regions and areas:

05	EAST MIDLANDS	
	NR NORTHAMPTONSHIRE	1 days
	NT NOTTINGHAMSHIRE	1 days
06	WEST MIDLANDS	
	WO WORCESTERSHIRE	1 days
17	ULSTER (NORTHERN IRELAND)	
	AN ANTRIM	1 days

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

Secondary 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: 1325 to 2624 (units: sqm)
 Range Selected by User: 700 to 2703 (units: sqm)

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/09 to 12/10/16

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

Selected survey days:

Tuesday	1 days
Wednesday	2 days
Friday	1 days

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

Selected survey types:

Manual count	4 days
Directional ATC Count	0 days

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

Selected Locations:

Edge of Town Centre	1
Edge of Town	3

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

Selected Location Sub Categories:

Industrial Zone	1
Development Zone	1
Residential Zone	1
Retail 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.

Secondary Filtering selection:

Use Class:

A1	4 days
----	--------

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

Population within 1 mile:

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

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

Population within 5 miles:

25,001 to 50,000	1 days
50,001 to 75,000	1 days
75,001 to 100,000	1 days
250,001 to 500,000	1 days

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

Car ownership within 5 miles:

1.1 to 1.5	3 days
1.6 to 2.0	1 days

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

Petrol filling station:

Included in the survey count	0 days
Excluded from count or no filling station	4 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:

Yes	1 days
No	3 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	4 days
-----------------	--------

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

LIST OF SITES relevant to selection parameters

1	AN-01-C-02 BELFAST ROAD	LIDL		ANTRIM
	CARRICKFERGUS Edge of Town Development Zone Total Gross floor area:		1325 sqm	
	Survey date: WEDNESDAY		12/10/16	Survey Type: MANUAL
2	NR-01-C-02 NEWTON ROAD	LIDL		NORTHAMPTONSHIRE
	RUSHDEN Edge of Town Centre Residential Zone Total Gross floor area:		2624 sqm	
	Survey date: TUESDAY		19/07/16	Survey Type: MANUAL
3	NT-01-C-01 CHAPEL LANE	LIDL		NOTTINGHAMSHIRE
	BINGHAM Edge of Town Industrial Zone Total Gross floor area:		2440 sqm	
	Survey date: FRIDAY		15/07/16	Survey Type: MANUAL
4	WO-01-C-01 BLACKPOLE ROAD BRICKFIELDS WORCESTER Edge of Town Retail Zone Total Gross floor area:	LIDL	2417 sqm	WORCESTERSHIRE
	Survey date: WEDNESDAY		13/07/16	Survey Type: MANUAL

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

MANUALLY DESELECTED SITES

Site Ref	Reason for Deselection
AR-01-C-01	Pre-2016 site
DO-01-C-01	Pre-2016 site
GW-01-C-01	Pre-2016 site
HI-01-C-02	Pre-2016 site
LN-01-C-01	Inapplicable site location
NY-01-C-02	Pre-2016 site
PK-01-C-02	Pre-2016 site

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

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00	1	2624	0.114	1	2624	0.000	1	2624	0.114
07:00 - 08:00	4	2202	0.227	4	2202	0.091	4	2202	0.318
08:00 - 09:00	4	2202	2.078	4	2202	1.442	4	2202	3.520
09:00 - 10:00	4	2202	2.669	4	2202	2.214	4	2202	4.883
10:00 - 11:00	4	2202	2.816	4	2202	2.566	4	2202	5.382
11:00 - 12:00	4	2202	3.600	4	2202	3.282	4	2202	6.882
12:00 - 13:00	4	2202	3.713	4	2202	3.691	4	2202	7.404
13:00 - 14:00	4	2202	3.782	4	2202	4.452	4	2202	8.234
14:00 - 15:00	4	2202	4.145	4	2202	3.702	4	2202	7.847
15:00 - 16:00	4	2202	4.452	4	2202	4.202	4	2202	8.654
16:00 - 17:00	4	2202	4.054	4	2202	4.122	4	2202	8.176
17:00 - 18:00	4	2202	3.827	4	2202	3.850	4	2202	7.677
18:00 - 19:00	4	2202	2.975	4	2202	3.305	4	2202	6.280
19:00 - 20:00	4	2202	2.521	4	2202	2.794	4	2202	5.315
20:00 - 21:00	4	2202	1.681	4	2202	2.101	4	2202	3.782
21:00 - 22:00	4	2202	0.318	4	2202	0.852	4	2202	1.170
22:00 - 23:00	3	2494	0.027	3	2494	0.267	3	2494	0.294
23:00 - 24:00									
Total Rates:			42.999			42.933			85.932

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.

Parameter summary

Trip rate parameter range selected:	1325 - 2624 (units: sqm)
Survey date date range:	01/01/09 - 12/10/16
Number of weekdays (Monday-Friday):	4
Number of Saturdays:	0
Number of Sundays:	0
Surveys automatically removed from selection:	3
Surveys manually removed from selection:	7

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

TRIP RATE CALCULATION SELECTION PARAMETERS:

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

Selected regions and areas:

05	EAST MIDLANDS	
	NR NORTHAMPTONSHIRE	1 days
	NT NOTTINGHAMSHIRE	1 days
06	WEST MIDLANDS	
	WO WORCESTERSHIRE	1 days

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

Secondary 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: 2417 to 2624 (units: sqm)
 Range Selected by User: 700 to 2703 (units: sqm)

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/09 to 12/10/16

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

Selected survey days:

Saturday 3 days

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

Selected survey types:

Manual count 3 days
 Directional ATC Count 0 days

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

Selected Locations:

Edge of Town Centre 1
 Edge of Town 2

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

Selected Location Sub Categories:

Industrial Zone 1
 Residential Zone 1
 Retail 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.

Secondary Filtering selection:

Use Class:

A1	3 days
----	--------

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

Population within 1 mile:

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

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

Population within 5 miles:

50,001 to 75,000	1 days
75,001 to 100,000	1 days
250,001 to 500,000	1 days

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

Car ownership within 5 miles:

1.1 to 1.5	3 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	3 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:

Yes	1 days
No	2 days

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

PTAL Rating:

No PTAL Present	3 days
-----------------	--------

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

LIST OF SITES relevant to selection parameters

1	NR-01-C-02 NEWTON ROAD	LIDL		NORTHAMPTONSHIRE
	RUSHDEN Edge of Town Centre Residential Zone			
	Total Gross floor area:		2624 sqm	
	Survey date: SATURDAY		16/07/16	Survey Type: MANUAL
2	NT-01-C-01 CHAPEL LANE	LIDL		NOTTINGHAMSHIRE
	BINGHAM Edge of Town Industrial Zone			
	Total Gross floor area:		2440 sqm	
	Survey date: SATURDAY		16/07/16	Survey Type: MANUAL
3	WO-01-C-01 BLACKPOLE ROAD BRICKFIELDS WORCESTER	LIDL		WORCESTERSHIRE
	Edge of Town Retail Zone			
	Total Gross floor area:		2417 sqm	
	Survey date: SATURDAY		16/07/16	Survey Type: MANUAL

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

MANUALLY DESELECTED SITES

Site Ref	Reason for Deselection
LN-01-C-01	Inapplicable site location

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

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00	1	2624	0.305	1	2624	0.038	1	2624	0.343
07:00 - 08:00	3	2494	0.321	3	2494	0.013	3	2494	0.334
08:00 - 09:00	3	2494	2.005	3	2494	1.310	3	2494	3.315
09:00 - 10:00	3	2494	2.954	3	2494	2.513	3	2494	5.467
10:00 - 11:00	3	2494	4.371	3	2494	4.104	3	2494	8.475
11:00 - 12:00	3	2494	5.066	3	2494	4.491	3	2494	9.557
12:00 - 13:00	3	2494	4.705	3	2494	5.053	3	2494	9.758
13:00 - 14:00	3	2494	4.451	3	2494	4.064	3	2494	8.515
14:00 - 15:00	3	2494	4.371	3	2494	4.585	3	2494	8.956
15:00 - 16:00	3	2494	4.278	3	2494	4.625	3	2494	8.903
16:00 - 17:00	3	2494	4.518	3	2494	4.478	3	2494	8.996
17:00 - 18:00	3	2494	3.489	3	2494	3.275	3	2494	6.764
18:00 - 19:00	3	2494	3.101	3	2494	3.756	3	2494	6.857
19:00 - 20:00	3	2494	1.631	3	2494	2.433	3	2494	4.064
20:00 - 21:00	3	2494	1.096	3	2494	1.176	3	2494	2.272
21:00 - 22:00	3	2494	0.588	3	2494	0.869	3	2494	1.457
22:00 - 23:00	3	2494	0.027	3	2494	0.214	3	2494	0.241
23:00 - 24:00									
Total Rates:			47.277			46.997			94.274

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.

Parameter summary

Trip rate parameter range selected:	2417 - 2624 (units: sqm)
Survey date date range:	01/01/09 - 12/10/16
Number of weekdays (Monday-Friday):	0
Number of Saturdays:	3
Number of Sundays:	0
Surveys automatically removed from selection:	0
Surveys manually removed from selection:	1

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

Appendix D

Non-Food Retail TRICS Output Data

Calculation Reference: AUDIT-715001-171024-1059

TRIP RATE CALCULATION SELECTION PARAMETERS:

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

Selected regions and areas:

09	NORTH	
	CB CUMBRIA	1 days
11	SCOTLAND	
	EB CITY OF EDINBURGH	1 days

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

Secondary 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: 932 to 2500 (units: sqm)
 Range Selected by User: 500 to 2500 (units: sqm)

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/09 to 22/10/11

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:

Wednesday	1 days
Friday	1 days

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

Selected survey types:

Manual count	2 days
Directional ATC Count	0 days

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

Selected Locations:

Edge of Town Centre	1
Edge of Town	1

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

Selected Location Sub Categories:

Retail Zone	1
Built-Up Zone	1

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

Secondary Filtering selection:

Use Class:

A1	2 days
----	--------

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

Population within 1 mile:

15,001 to 20,000	1 days
50,001 to 100,000	1 days

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

Population within 5 miles:

125,001 to 250,000	1 days
250,001 to 500,000	1 days

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

Car ownership within 5 miles:

0.6 to 1.0	1 days
1.1 to 1.5	1 days

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

Petrol filling station:

Included in the survey count	0 days
Excluded from count or no filling station	2 days

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

Travel Plan:

No	2 days
----	--------

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

PTAL Rating:

No PTAL Present	2 days
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This data displays the number of selected surveys with PTAL Ratings.

LIST OF SITES relevant to selection parameters

1	CB-01-G-02 JAMES STREET	STAPLES		CUMBRIA
	CARLISLE			
	Edge of Town Centre			
	Built-Up Zone			
	Total Gross floor area:		2500 sqm	
	Survey date: FRIDAY		05/02/10	Survey Type: MANUAL
2	EB-01-G-01 GYLEMUIR ROAD	PETS AT HOME		CITY OF EDINBURGH
	THE GYLE			
	EDINBURGH			
	Edge of Town			
	Retail Zone			
	Total Gross floor area:		932 sqm	
	Survey date: WEDNESDAY		27/10/10	Survey Type: MANUAL

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

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

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00	1	2500	0.080	1	2500	0.000	1	2500	0.080
08:00 - 09:00	2	1716	0.641	2	1716	0.466	2	1716	1.107
09:00 - 10:00	2	1716	1.515	2	1716	1.369	2	1716	2.884
10:00 - 11:00	2	1716	1.515	2	1716	1.486	2	1716	3.001
11:00 - 12:00	2	1716	1.777	2	1716	1.632	2	1716	3.409
12:00 - 13:00	2	1716	2.593	2	1716	1.894	2	1716	4.487
13:00 - 14:00	2	1716	1.807	2	1716	1.807	2	1716	3.614
14:00 - 15:00	2	1716	1.981	2	1716	1.573	2	1716	3.554
15:00 - 16:00	2	1716	1.952	2	1716	2.331	2	1716	4.283
16:00 - 17:00	2	1716	1.981	2	1716	1.923	2	1716	3.904
17:00 - 18:00	2	1716	1.369	2	1716	1.544	2	1716	2.913
18:00 - 19:00	2	1716	1.020	2	1716	1.311	2	1716	2.331
19:00 - 20:00	2	1716	0.524	2	1716	1.049	2	1716	1.573
20:00 - 21:00	2	1716	0.000	2	1716	0.233	2	1716	0.233
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			18.755			18.618			37.373

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.

Parameter summary

Trip rate parameter range selected: 932 - 2500 (units: sqm)
 Survey date date range: 01/01/09 - 22/10/11
 Number of weekdays (Monday-Friday): 2
 Number of Saturdays: 0
 Number of Sundays: 0
 Surveys automatically removed from selection: 0
 Surveys manually removed from selection: 0

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

Calculation Reference: AUDIT-715001-171024-1011

TRIP RATE CALCULATION SELECTION PARAMETERS:

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

Selected regions and areas:

06	WEST MIDLANDS	
	WO WORCESTERSHIRE	1 days
10	WALES	
	DB DENBIGHSHIRE	1 days

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

Secondary 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: 800 to 2000 (units: sqm)
 Range Selected by User: 500 to 2500 (units: sqm)

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/09 to 22/10/11

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

Selected survey days:

Saturday 2 days

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

Selected survey types:

Manual count	2 days
Directional ATC Count	0 days

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

Selected Locations:

Edge of Town Centre 2

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

Selected Location Sub Categories:

Commercial Zone	1
Built-Up Zone	1

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

Secondary Filtering selection:

Use Class:

A1	2 days
----	--------

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

Population within 1 mile:

15,001 to 20,000	1 days
20,001 to 25,000	1 days

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

Population within 5 miles:

50,001 to 75,000	1 days
100,001 to 125,000	1 days

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

Car ownership within 5 miles:

1.1 to 1.5	2 days
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This data displays the number of selected surveys within stated ranges of average cars owned per residential dwelling, within a radius of 5-miles of selected survey sites.

Petrol filling station:

Included in the survey count	0 days
Excluded from count or no filling station	2 days

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

Travel Plan:

No	2 days
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This data displays the number of surveys within the selected set that were undertaken at sites with Travel Plans in place, and the number of surveys that were undertaken at sites without Travel Plans.

PTAL Rating:

No PTAL Present	2 days
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This data displays the number of selected surveys with PTAL Ratings.

LIST OF SITES relevant to selection parameters

1	DB-01-G-01 GREENFIELD PLACE	BRANTANO		DENBIGHSHIRE
	RHYL Edge of Town Centre Commercial Zone			
	Total Gross floor area:		800 sqm	
	Survey date: SATURDAY		22/10/11	Survey Type: MANUAL
2	WO-01-G-01 TYBRIDGE STREET	PC WORLD		WORCESTERSHIRE
	WORCESTER Edge of Town Centre Built-Up Zone			
	Total Gross floor area:		2000 sqm	
	Survey date: SATURDAY		20/06/09	Survey Type: MANUAL

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

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

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00									
08:00 - 09:00	2	1400	0.357	2	1400	0.250	2	1400	0.607
09:00 - 10:00	2	1400	1.143	2	1400	0.821	2	1400	1.964
10:00 - 11:00	2	1400	2.179	2	1400	1.750	2	1400	3.929
11:00 - 12:00	2	1400	2.714	2	1400	2.357	2	1400	5.071
12:00 - 13:00	2	1400	3.000	2	1400	2.500	2	1400	5.500
13:00 - 14:00	2	1400	2.786	2	1400	3.071	2	1400	5.857
14:00 - 15:00	2	1400	3.393	2	1400	3.536	2	1400	6.929
15:00 - 16:00	2	1400	3.179	2	1400	2.571	2	1400	5.750
16:00 - 17:00	2	1400	2.571	2	1400	3.393	2	1400	5.964
17:00 - 18:00	2	1400	1.000	2	1400	2.036	2	1400	3.036
18:00 - 19:00	2	1400	0.036	2	1400	0.250	2	1400	0.286
19:00 - 20:00	2	1400	0.000	2	1400	0.071	2	1400	0.071
20:00 - 21:00	2	1400	0.000	2	1400	0.000	2	1400	0.000
21:00 - 22:00									
22:00 - 23:00									
23:00 - 24:00									
Total Rates:			22.358			22.606			44.964

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.

Parameter summary

Trip rate parameter range selected: 800 - 2000 (units: sqm)
 Survey date date range: 01/01/09 - 22/10/11
 Number of weekdays (Monday-Friday): 0
 Number of Saturdays: 2
 Number of Sundays: 0
 Surveys automatically removed from selection: 0
 Surveys manually removed from selection: 0

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

Appendix E

Fast Food Restaurant TRICS Output Data

Calculation Reference: AUDIT-715001-150707-0738

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 06 - HOTEL, FOOD & DRINK
 Category : D - FAST FOOD - DRIVE THROUGH
 VEHICLES

Selected regions and areas:

02	SOUTH EAST	
	SO SLOUGH	1 days
04	EAST ANGLIA	
	CA CAMBRIDGESHIRE	1 days
05	EAST MIDLANDS	
	NR NORTHAMPTONSHIRE	1 days
06	WEST MIDLANDS	
	WM WEST MIDLANDS	1 days
10	WALES	
	CO CONWY	1 days
	NW NEWPORT	1 days
11	SCOTLAND	
	EB CITY OF EDINBURGH	1 days

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

Filtering Stage 2 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: 220 to 480 (units: sqm)
 Range Selected by User: 182 to 800 (units: sqm)

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/07 to 21/11/12

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

Selected survey days:

Tuesday	2 days
Wednesday	3 days
Friday	1 days
Saturday	1 days

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

Selected survey types:

Manual count	7 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)	3
Edge of Town	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:

Commercial Zone	1
Residential Zone	3
Retail Zone	1
Out of Town	1
No Sub Category	1

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

Filtering Stage 3 selection:

Use Class:

A3	3 days
A5	4 days

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

Population within 1 mile:

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

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

Population within 5 miles:

25,001 to 50,000	1 days
100,001 to 125,000	2 days
125,001 to 250,000	3 days
500,001 or More	1 days

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

Car ownership within 5 miles:

0.6 to 1.0	4 days
1.1 to 1.5	3 days

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

Travel Plan:

No	7 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.

LIST OF SITES relevant to selection parameters

1	CA-06-D-01	MCDONALDS		CAMBRIDGESHIRE
	NEWMARKET ROAD			
	CAMBRIDGE			
	Suburban Area (PPS6 Out of Centre)			
	Residential Zone			
	Total Gross floor area:		450 sqm	
	Survey date:	WEDNESDAY	19/10/11	Survey Type: MANUAL
2	CO-06-D-01	MCDONALD'S		CONWY
	RHUDDLAN ROAD			
	ABERGELE			
	Edge of Town			
	Out of Town			
	Total Gross floor area:		410 sqm	
	Survey date:	FRIDAY	21/10/11	Survey Type: MANUAL
3	EB-06-D-01	MCDONALDS		CITY OF EDINBURGH
	GYLEMUIR ROAD			
	EDINBURGH			
	Suburban Area (PPS6 Out of Centre)			
	Residential Zone			
	Total Gross floor area:		475 sqm	
	Survey date:	WEDNESDAY	18/06/08	Survey Type: MANUAL
4	NR-06-D-01	MCDONALDS		NORTHAMPTONSHIRE
	MARQUEE DRIVE			
	NORTHAMPTON			
	Edge of Town			
	Commercial Zone			
	Total Gross floor area:		220 sqm	
	Survey date:	TUESDAY	22/05/07	Survey Type: MANUAL
5	NW-06-D-01	KFC		NEWPORT
	SPYTTY ROAD			
	NEWPORT			
	Edge of Town			
	Retail Zone			
	Total Gross floor area:		341 sqm	
	Survey date:	SATURDAY	16/10/10	Survey Type: MANUAL
6	SO-06-D-01	MCDONALD'S		SLOUGH
	WINDSOR ROAD			
	SLOUGH			
	Edge of Town			
	Residential Zone			
	Total Gross floor area:		480 sqm	
	Survey date:	WEDNESDAY	21/11/12	Survey Type: MANUAL
7	WM-06-D-01	BURGER KING		WEST MIDLANDS
	KINGSBURY ROAD			
	ERDINGTON			
	BIRMINGHAM			
	Suburban Area (PPS6 Out of Centre)			
	No Sub Category			
	Total Gross floor area:		250 sqm	
	Survey date:	TUESDAY	25/11/08	Survey Type: MANUAL

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

TRIP RATE for Land Use 06 - HOTEL, FOOD & DRINK/D - FAST FOOD - DRIVE THROUGH
VEHICLES

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00	1	480	0.417	1	480	0.000	1	480	0.417
06:00 - 07:00	3	447	2.761	3	447	2.164	3	447	4.925
07:00 - 08:00	4	390	7.628	4	390	6.282	4	390	13.910
08:00 - 09:00	5	380	8.995	5	380	8.259	5	380	17.254
09:00 - 10:00	6	359	7.438	6	359	7.299	6	359	14.737
10:00 - 11:00	7	375	7.159	7	375	7.464	7	375	14.623
11:00 - 12:00	7	375	8.454	7	375	7.502	7	375	15.956
12:00 - 13:00	7	375	14.280	7	375	13.519	7	375	27.799
13:00 - 14:00	7	375	14.395	7	375	14.433	7	375	28.828
14:00 - 15:00	7	375	10.739	7	375	11.957	7	375	22.696
15:00 - 16:00	7	375	9.977	7	375	10.129	7	375	20.106
16:00 - 17:00	7	375	10.472	7	375	10.434	7	375	20.906
17:00 - 18:00	7	375	10.129	7	375	9.977	7	375	20.106
18:00 - 19:00	7	375	10.777	7	375	11.196	7	375	21.973
19:00 - 20:00	7	375	9.216	7	375	9.558	7	375	18.774
20:00 - 21:00	7	375	6.474	7	375	7.121	7	375	13.595
21:00 - 22:00	7	375	4.684	7	375	4.798	7	375	9.482
22:00 - 23:00	5	385	3.583	5	385	4.258	5	385	7.841
23:00 - 24:00	2	478	0.733	2	478	1.257	2	478	1.990
Total Rates:			148.311			147.607			295.918

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.

Parameter summary

Trip rate parameter range selected: 220 - 480 (units: sqm)
 Survey date range: 01/01/07 - 21/11/12
 Number of weekdays (Monday-Friday): 6
 Number of Saturdays: 1
 Number of Sundays: 0
 Surveys manually removed from selection: 0

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

Calculation Reference: AUDIT-715001-150707-0749

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 06 - HOTEL, FOOD & DRINK
 Category : D - FAST FOOD - DRIVE THROUGH
 VEHICLES

Selected regions and areas:

10 WALES
 NW NEWPORT 1 days

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

Filtering Stage 2 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: 341 to 341 (units: sqm)
 Range Selected by User: 123 to 800 (units: sqm)

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/07 to 15/12/12

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

Selected survey days:

Saturday 1 days

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

Selected survey types:

Manual count 1 days
 Directional ATC Count 0 days

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

Selected Locations:

Edge of Town 1

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

Selected Location Sub Categories:

Retail 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.

Filtering Stage 3 selection:

Use Class:

A5 1 days

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

Filtering Stage 3 selection (Cont.):

Population within 1 mile:

10,001 to 15,000 1 days

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

Population within 5 miles:

125,001 to 250,000 1 days

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

Car ownership within 5 miles:

0.6 to 1.0 1 days

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

Travel Plan:

No 1 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.

LIST OF SITES relevant to selection parameters

1 NW-06-D-01 KFC NEWPORT
 SPYTTY ROAD

NEWPORT
 Edge of Town
 Retail Zone

Total Gross floor area: 341 sqm
 Survey date: SATURDAY 16/10/10 Survey Type: MANUAL

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

MANUALLY DESELECTED SITES

Site Ref	Reason for Deselection
CR-06-D-01	Ireland
DL-06-D-02	Ireland

TRIP RATE for Land Use 06 - HOTEL, FOOD & DRINK/D - FAST FOOD - DRIVE THROUGH
VEHICLES

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00									
06:00 - 07:00									
07:00 - 08:00									
08:00 - 09:00	1	341	0.293	1	341	0.293	1	341	0.586
09:00 - 10:00	1	341	0.587	1	341	0.587	1	341	1.174
10:00 - 11:00	1	341	2.346	1	341	2.053	1	341	4.399
11:00 - 12:00	1	341	6.745	1	341	4.399	1	341	11.144
12:00 - 13:00	1	341	12.903	1	341	10.557	1	341	23.460
13:00 - 14:00	1	341	17.009	1	341	16.422	1	341	33.431
14:00 - 15:00	1	341	17.302	1	341	17.595	1	341	34.897
15:00 - 16:00	1	341	15.836	1	341	17.889	1	341	33.725
16:00 - 17:00	1	341	13.490	1	341	12.610	1	341	26.100
17:00 - 18:00	1	341	10.557	1	341	11.437	1	341	21.994
18:00 - 19:00	1	341	12.903	1	341	13.490	1	341	26.393
19:00 - 20:00	1	341	12.317	1	341	12.903	1	341	25.220
20:00 - 21:00	1	341	5.572	1	341	6.745	1	341	12.317
21:00 - 22:00	1	341	6.158	1	341	4.985	1	341	11.143
22:00 - 23:00	1	341	2.639	1	341	4.399	1	341	7.038
23:00 - 24:00									
Total Rates:			136.657			136.364			273.021

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.

Parameter summary

Trip rate parameter range selected: 341 - 341 (units: sqm)
 Survey date date range: 01/01/07 - 15/12/12
 Number of weekdays (Monday-Friday): 0
 Number of Saturdays: 1
 Number of Sundays: 0
 Surveys manually removed from selection: 2

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

Appendix F

A518/ Brookside Road JUNCTIONS Modelling Output Files

<h1>Junctions 8</h1>
<h2>ARCADY 8 - Roundabout Module</h2>
Version: 8.0.6.541 [19821,26/11/2015] © Copyright TRL Limited, 2017
For sales and distribution information, program advice and maintenance, contact TRL: Tel: +44 (0)1344 770758 email: software@trl.co.uk Web: http://www.trlsoftware.co.uk
The users of this computer program for the solution of an engineering problem are in no way relieved of their responsibility for the correctness of the solution

Filename: South Rbt - A518 Brookside Rd v2 - Arm2single.arc8
Path: N:\Vectos Job Data\2017\VN70855 Lidl Uttoxeter\Arcady
Report generation date: 20/11/2017 16:33:30

- « (Default Analysis Set) - Base + Dev, Sat
- » Junction Network
- » Arms
- » Traffic Flows
- » Entry Flows
- » Turning Proportions
- » Vehicle Mix
- » Results

Summary of junction performance

	PM				Sat			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
A1 - Base								
Arm 1	0.28	11.19	0.22	B	0.16	7.74	0.14	A
Arm 2	3.55	17.11	0.79	C	2.22	12.03	0.69	B
Arm 3	0.48	4.62	0.33	A	0.58	4.70	0.37	A
Arm 4	3.46	9.59	0.78	A	1.56	5.40	0.61	A
A1 - Base + Dev								
Arm 1	0.94	16.42	0.49	C	0.65	10.74	0.40	B
Arm 2	5.01	23.67	0.84	C	3.36	17.29	0.78	C
Arm 3	0.52	4.93	0.34	A	0.68	5.29	0.41	A
Arm 4	4.24	11.59	0.81	B	1.91	6.39	0.66	A

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

"D1 - Base, PM" model duration: 16:00 - 17:30

"D2 - Base, Sat" model duration: 11:00 - 12:30

"D3 - Base + Dev, PM" model duration: 16:00 - 17:30

"D4 - Base + Dev, Sat " model duration: 11:00 - 12:30

Run using Junctions 8.0.6.541 at 20/11/2017 16:33:29

File summary

Title	(untitled)
Location	
Site Number	
Date	30/10/2017
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	Office
Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)
5.75			N/A	0.85	36.00	20.00

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

(Default Analysis Set) - Base + Dev, Sat

Data Errors and Warnings

Severity	Area	Item	Description
Warning	Geometry	Arm 4 - Roundabout Geometry	Effective flare length is over 30m, which is outside the normal range. Treat capacities with increasing caution.

Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	ARCADY		✓				100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Relationship
Base + Dev, Sat	Base + Dev	Sat	Base Flows	ONE HOUR	11:00	12:30	90	15				✓		

Junction Network

Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Do Geometric Delay	Junction Delay (s)	Junction LOS
1	A518 / Brookside Rd	Roundabout	1,2,3,4				9.73	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description
1	1	Brookside Road	
2	2	A518 S Bridge St	
3	3	Bridge Street	
4	4	A518 N Town Meadows Way	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
1	0.00	99999.00		0.00
2	0.00	99999.00		0.00
3	0.00	99999.00		0.00
4	0.00	99999.00		0.00

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
1	3.30	5.70	8.90	8.50	43.00	71.00	
2	3.30	3.90	25.00	41.00	43.00	25.00	
3	3.50	8.00	20.00	20.00	43.00	51.00	
4	4.00	6.40	33.00	50.00	43.00	25.00	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		(calculated)	(calculated)	0.454	1100.486
2		(calculated)	(calculated)	0.552	1218.284
3		(calculated)	(calculated)	0.616	1718.188
4		(calculated)	(calculated)	0.685	1886.043

The slope and intercept shown above include any corrections and adjustments.

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
1	ONE HOUR	✓	199.00	100.000
2	ONE HOUR	✓	657.00	100.000
3	ONE HOUR	✓	421.00	100.000
4	ONE HOUR	✓	989.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		To			
		1	2	3	4
From	1	0.000	81.000	50.000	68.000
	2	74.000	0.000	0.000	583.000
	3	35.000	202.000	0.000	184.000
	4	97.000	535.000	234.000	123.000

Turning Proportions (PCU) - Junction 1 (for whole period)

		To			
		1	2	3	4
From	1	0.00	0.41	0.25	0.34
	2	0.11	0.00	0.00	0.89
	3	0.08	0.48	0.00	0.44
	4	0.10	0.54	0.24	0.12

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

		To			
		1	2	3	4
From	1	1.000	1.000	1.000	1.000
	2	1.000	1.000	1.000	1.000
	3	1.000	1.000	1.000	1.000
	4	1.000	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To			
From		1	2	3	4
	1	0.0	0.0	0.0	0.0
	2	0.0	0.0	0.0	0.0
	3	0.0	0.0	0.0	0.0
	4	0.0	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
1	0.40	10.74	0.65	B	182.61	273.91	37.94	8.31	0.42	37.94	8.31
2	0.78	17.29	3.36	C	602.87	904.31	167.14	11.09	1.86	167.17	11.09
3	0.41	5.29	0.68	A	386.32	579.48	42.44	4.39	0.47	42.44	4.39
4	0.66	6.39	1.91	A	907.52	1361.29	111.72	4.92	1.24	111.73	4.92

Main Results for each time segment

Main results: (11:00-11:15)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
1	149.82	37.45	148.79	154.27	820.31	0.00	728.44	293.64	0.206	0.00	0.26	6.201	A
2	494.62	123.66	490.93	613.19	355.91	0.00	1021.93	838.63	0.484	0.00	0.92	6.735	A
3	316.95	79.24	315.70	212.84	634.00	0.00	1327.74	1030.85	0.239	0.00	0.31	3.552	A
4	744.57	186.14	741.56	716.68	233.02	0.00	1726.50	1424.04	0.431	0.00	0.75	3.645	A

Main results: (11:15-11:30)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
1	178.90	44.72	178.44	184.77	982.03	0.00	655.10	293.64	0.273	0.26	0.37	7.547	A
2	590.63	147.66	588.45	734.22	426.25	0.00	983.12	838.63	0.601	0.92	1.47	9.069	A
3	378.47	94.62	377.99	254.87	759.83	0.00	1250.24	1030.85	0.303	0.31	0.43	4.126	A
4	889.09	222.27	887.73	858.76	279.07	0.00	1694.97	1424.04	0.525	0.75	1.09	4.452	A

Main results: (11:30-11:45)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
1	219.10	54.78	218.03	225.62	1201.16	0.00	555.71	293.64	0.394	0.37	0.64	10.627	B
2	723.37	180.84	716.31	898.01	521.19	0.00	930.74	838.63	0.777	1.47	3.23	16.270	C
3	463.53	115.88	462.57	311.66	925.84	0.00	1148.00	1030.85	0.404	0.43	0.67	5.244	A
4	1088.91	272.23	1085.70	1047.33	341.08	0.00	1652.51	1424.04	0.659	1.09	1.89	6.316	A

Main results: (11:45-12:00)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
1	219.10	54.78	219.07	226.74	1204.43	0.00	554.23	293.64	0.395	0.64	0.65	10.739	B
2	723.37	180.84	722.86	900.56	522.94	0.00	929.77	838.63	0.778	3.23	3.36	17.286	C
3	463.53	115.88	463.50	312.66	933.13	0.00	1143.51	1030.85	0.405	0.67	0.68	5.293	A
4	1088.91	272.23	1088.83	1054.29	342.34	0.00	1651.64	1424.04	0.659	1.89	1.91	6.394	A

Main results: (12:00-12:15)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
1	178.90	44.72	179.96	186.40	986.82	0.00	652.92	293.64	0.274	0.65	0.38	7.627	A
2	590.63	147.66	597.88	737.98	428.80	0.00	981.71	838.63	0.602	3.36	1.55	9.547	A
3	378.47	94.62	379.42	256.33	770.35	0.00	1243.76	1030.85	0.304	0.68	0.44	4.170	A
4	889.09	222.27	892.28	868.83	280.93	0.00	1693.69	1424.04	0.525	1.91	1.12	4.511	A

Main results: (12:15-12:30)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
1	149.82	37.45	150.30	155.53	825.13	0.00	726.26	293.64	0.206	0.38	0.26	6.254	A
2	494.62	123.66	497.00	617.03	358.40	0.00	1020.55	838.63	0.485	1.55	0.95	6.906	A
3	316.95	79.24	317.45	214.26	641.13	0.00	1323.34	1030.85	0.240	0.44	0.32	3.579	A
4	744.57	186.14	745.98	723.90	234.68	0.00	1725.36	1424.04	0.432	1.12	0.76	3.680	A

Queueing Delay Results for each time segment
Queueing Delay results: (11:00-11:15)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	3.73	0.25	6.201	A	A
2	13.24	0.88	6.735	A	A
3	4.58	0.31	3.552	A	A
4	10.99	0.73	3.645	A	A

Queueing Delay results: (11:15-11:30)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	5.42	0.36	7.547	A	A
2	20.99	1.40	9.069	A	A
3	6.35	0.42	4.126	A	A
4	15.96	1.06	4.452	A	A

Queueing Delay results: (11:30-11:45)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	9.17	0.61	10.627	B	B
2	43.53	2.90	16.270	C	B
3	9.80	0.65	5.244	A	A
4	27.15	1.81	6.316	A	A

Queueing Delay results: (11:45-12:00)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	9.66	0.64	10.739	B	B
2	49.66	3.31	17.286	C	B
3	10.13	0.68	5.293	A	A
4	28.60	1.91	6.394	A	A

Queueing Delay results: (12:00-12:15)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	5.93	0.40	7.627	A	A
2	24.83	1.66	9.547	A	A
3	6.75	0.45	4.170	A	A
4	17.29	1.15	4.511	A	A

Queueing Delay results: (12:15-12:30)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	4.03	0.27	6.254	A	A
2	14.88	0.99	6.906	A	A
3	4.83	0.32	3.579	A	A
4	11.73	0.78	3.680	A	A



Appendix G

A518/ Dove Bank JUNCTIONS Modelling Output Files

<h1>Junctions 8</h1>
<h2>ARCADY 8 - Roundabout Module</h2>
Version: 8.0.6.541 [19821,26/11/2015] © Copyright TRL Limited, 2017
For sales and distribution information, program advice and maintenance, contact TRL: Tel: +44 (0)1344 770758 email: software@trl.co.uk Web: http://www.trlsoftware.co.uk
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Filename: North Rbt - A518 Dove Bank v2.arc8
 Path: N:\Vectos Job Data\2017\VN70855 Lidl Uttoxeter\Arcady
 Report generation date: 15/11/2017 09:51:28

- « (Default Analysis Set) - Base + Dev, Sat
- » Junction Network
- » Arms
- » Traffic Flows
- » Entry Flows
- » Turning Proportions
- » Vehicle Mix
- » Results

Summary of junction performance

	PM				Sat			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
A1 - Base								
Arm 1	3.32	35.46	0.79	E	1.34	13.16	0.58	B
Arm 2	2.99	10.98	0.75	B	2.67	9.67	0.73	A
Arm 3	1.72	13.17	0.64	B	2.41	16.52	0.71	C
Arm 4	4.16	10.89	0.81	B	1.89	6.35	0.66	A
A1 - Base + Dev								
Arm 1	3.81	41.07	0.81	E	1.46	14.39	0.60	B
Arm 2	3.22	11.62	0.77	B	3.05	10.71	0.76	B
Arm 3	1.85	14.04	0.66	B	2.89	19.43	0.75	C
Arm 4	4.54	11.74	0.82	B	2.07	6.79	0.68	A

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

"D1 - Base, PM" model duration: 16:00 - 17:30

"D2 - Base, Sat" model duration: 11:00 - 12:30

"D3 - Base + Dev, PM" model duration: 16:00 - 17:30

"D4 - Base + Dev, Sat " model duration: 11:00 - 12:30

Run using Junctions 8.0.6.541 at 15/11/2017 09:51:27

File summary

Title	(untitled)
Location	
Site Number	
Date	30/10/2017
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	Office
Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)
5.75			N/A	0.85	36.00	20.00

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

(Default Analysis Set) - Base + Dev, Sat

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set (s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	ARCADY		✓				100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Relationshi
Base + Dev, Sat	Base + Dev	Sat	Development Flows	ONE HOUR	11:00	12:30	90	15				✓		

Junction Network

Junctions

Junction	Name	Junction Type	Arm Order	Grade Separated	Large Roundabout	Do Geometric Delay	Junction Delay (s)	Junction LOS
1	A518 / Dove Bank	Roundabout	1,2,3,4				11.31	B

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description
1	1	Retail Access	
2	2	A518 S Town Meadows Way	
3	3	Dove Bank	
4	4	A518 North	

Capacity Options

Arm	Minimum Capacity (PCU/hr)	Maximum Capacity (PCU/hr)	Assume Flat Start Profile	Initial Queue (PCU)
1	0.00	99999.00		0.00
2	0.00	99999.00		0.00
3	0.00	99999.00		0.00
4	0.00	99999.00		0.00

Roundabout Geometry

Arm	V - Approach road half-width (m)	E - Entry width (m)	I' - Effective flare length (m)	R - Entry radius (m)	D - Inscribed circle diameter (m)	PHI - Conflict (entry) angle (deg)	Exit Only
1	3.60	5.20	8.00	22.00	40.00	32.00	
2	3.50	7.50	25.00	26.00	40.00	49.00	
3	3.20	5.50	13.00	34.00	40.00	22.00	
4	7.50	8.00	2.00	16.00	40.00	57.00	

Slope / Intercept / Capacity

Roundabout Slope and Intercept used in model

Arm	Enter slope and intercept directly	Entered slope	Entered intercept (PCU/hr)	Final Slope	Final Intercept (PCU/hr)
1		(calculated)	(calculated)	0.578	1382.951
2		(calculated)	(calculated)	0.637	1760.333
3		(calculated)	(calculated)	0.613	1482.327
4		(calculated)	(calculated)	0.691	2107.060

The slope and intercept shown above include any corrections and adjustments.

Traffic Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
1	ONE HOUR	✓	339.00	100.000
2	ONE HOUR	✓	951.00	100.000
3	ONE HOUR	✓	504.00	100.000
4	ONE HOUR	✓	1010.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		To			
		1	2	3	4
From	1	0.000	18.000	106.000	215.000
	2	157.000	159.000	63.000	572.000
	3	99.000	197.000	0.000	208.000
	4	171.000	621.000	218.000	0.000

Turning Proportions (PCU) - Junction 1 (for whole period)

		To			
		1	2	3	4
From	1	0.00	0.05	0.31	0.63
	2	0.17	0.17	0.07	0.60
	3	0.20	0.39	0.00	0.41
	4	0.17	0.61	0.22	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

		To			
		1	2	3	4
From	1	1.000	1.000	1.000	1.000
	2	1.000	1.000	1.000	1.000
	3	1.000	1.000	1.000	1.000
	4	1.000	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To			
		1	2	3	4
From	1	0.0	0.0	0.0	0.0
	2	0.0	0.0	0.0	0.0
	3	0.0	0.0	0.0	0.0
	4	0.0	0.0	0.0	0.0

Results

Results Summary for whole modelled period

Arm	Max RFC	Max Delay (s)	Max Queue (PCU)	Max LOS	Average Demand (PCU/hr)	Total Junction Arrivals (PCU)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
1	0.60	14.39	1.46	B	311.07	466.61	74.29	9.55	0.83	74.30	9.55
2	0.76	10.71	3.05	B	872.65	1308.98	157.02	7.20	1.74	157.03	7.20
3	0.75	19.43	2.89	C	462.48	693.72	131.29	11.36	1.46	131.30	11.36
4	0.68	6.79	2.07	A	926.79	1390.19	115.61	4.99	1.28	115.62	4.99

Main Results for each time segment

Main results: (11:00-11:15)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
1	255.22	63.80	253.56	319.88	895.64	0.00	865.41	371.46	0.295	0.00	0.41	5.869	A
2	715.96	178.99	712.36	745.61	403.58	0.00	1503.08	1320.48	0.476	0.00	0.90	4.532	A
3	379.44	94.86	376.92	289.96	825.98	0.00	976.06	582.19	0.389	0.00	0.63	5.983	A
4	760.38	190.10	757.45	744.83	458.07	0.00	1790.47	1567.49	0.425	0.00	0.73	3.474	A

Main results: (11:15-11:30)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
1	304.75	76.19	303.79	382.95	1072.07	0.00	763.45	371.46	0.399	0.41	0.66	7.815	A
2	854.93	213.73	852.90	892.54	483.32	0.00	1452.25	1320.47	0.589	0.90	1.41	5.986	A
3	453.09	113.27	451.40	347.16	989.07	0.00	876.10	582.19	0.517	0.63	1.05	8.443	A
4	907.97	226.99	906.52	891.95	548.51	0.00	1727.96	1567.49	0.525	0.73	1.10	4.374	A

Main results: (11:30-11:45)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
1	373.25	93.31	370.19	467.14	1308.90	0.00	626.60	371.46	0.596	0.66	1.42	13.865	B
2	1047.07	261.77	1040.84	1089.35	589.74	0.00	1384.42	1320.47	0.756	1.41	2.97	10.293	B
3	554.91	138.73	548.15	423.91	1206.66	0.00	742.73	582.19	0.747	1.05	2.74	17.913	C
4	1112.03	278.01	1108.26	1087.04	667.78	0.00	1645.53	1567.49	0.676	1.10	2.04	6.654	A

Main results: (11:45-12:00)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
1	373.25	93.31	373.08	469.94	1315.32	0.00	622.89	371.46	0.599	1.42	1.46	14.388	B
2	1047.07	261.77	1046.75	1095.14	593.26	0.00	1382.18	1320.47	0.758	2.97	3.05	10.706	B
3	554.91	138.73	554.32	425.99	1214.02	0.00	738.22	582.19	0.752	2.74	2.89	19.434	C
4	1112.03	278.01	1111.90	1094.97	673.37	0.00	1641.67	1567.49	0.677	2.04	2.07	6.790	A

Main results: (12:00-12:15)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
1	304.75	76.19	307.87	386.95	1081.27	0.00	758.14	371.46	0.402	1.46	0.68	8.050	A
2	854.93	213.73	861.27	900.82	488.32	0.00	1449.07	1320.47	0.590	3.05	1.46	6.190	A
3	453.09	113.27	460.21	350.12	999.47	0.00	869.72	582.19	0.521	2.89	1.11	8.937	A
4	907.97	226.99	911.75	903.22	556.47	0.00	1722.46	1567.49	0.527	2.07	1.13	4.462	A

Main results: (12:15-12:30)

Arm	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Exit Flow (PCU/hr)	Circulating Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	Saturation Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
1	255.22	63.80	256.25	322.45	902.01	0.00	861.73	371.46	0.296	0.68	0.42	5.955	A
2	715.96	178.99	718.13	751.16	407.09	0.00	1500.85	1320.48	0.477	1.46	0.92	4.611	A
3	379.44	94.86	381.28	292.15	833.07	0.00	971.71	582.19	0.390	1.11	0.65	6.117	A
4	760.38	190.10	761.90	751.80	462.55	0.00	1787.37	1567.49	0.425	1.13	0.75	3.514	A

Queueing Delay Results for each time segment
Queueing Delay results: (11:00-11:15)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	6.01	0.40	5.869	A	A
2	13.06	0.87	4.532	A	A
3	9.09	0.61	5.983	A	A
4	10.71	0.71	3.474	A	A

Queueing Delay results: (11:15-11:30)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	9.49	0.63	7.815	A	A
2	20.37	1.36	5.986	A	A
3	15.11	1.01	8.443	A	A
4	16.01	1.07	4.374	A	A

Queueing Delay results: (11:30-11:45)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	19.82	1.32	13.865	B	B
2	41.10	2.74	10.293	B	B
3	36.72	2.45	17.913	C	B
4	29.10	1.94	6.654	A	A

Queueing Delay results: (11:45-12:00)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	21.70	1.45	14.388	B	B
2	45.25	3.02	10.706	B	B
3	42.50	2.83	19.434	C	B
4	30.90	2.06	6.790	A	A

Queueing Delay results: (12:00-12:15)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	10.72	0.71	8.050	A	A
2	23.01	1.53	6.190	A	A
3	17.83	1.19	8.937	A	A
4	17.46	1.16	4.462	A	A

Queueing Delay results: (12:15-12:30)

Arm	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
1	6.56	0.44	5.955	A	A
2	14.22	0.95	4.611	A	A
3	10.05	0.67	6.117	A	A
4	11.43	0.76	3.514	A	A



Appendix H

Proposed Site Access/ Brookside Road JUNCTIONS Modelling Output Files

Junctions 8

PICADY 8 - Priority Intersection Module

Version: 8.0.6.541 [19821,26/11/2015]
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Filename: Site Access - Brookside Rd v2.arc8

Path: N:\Vectos Job Data\2017\VN70855 Lidl Uttoxeter\Arcady

Report generation date: 20/11/2017 16:14:23

Summary of junction performance

	PM				Saturday			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
	A1 - Base							
Stream B-C	0.00	0.00	0.00	A	0.00	0.00	0.00	A
Stream B-A	0.00	0.00	0.00	A	0.00	0.00	0.00	A

Stream C-AB	0.00	0.00	0.00	A	0.00	0.00	0.00	A
Stream C-A	-	-	-	-	-	-	-	-
Stream A-B	-	-	-	-	-	-	-	-
Stream A-C	-	-	-	-	-	-	-	-
A1 - Base + Dev								
Stream B-C	0.00	0.00	0.00	A	0.00	0.00	0.00	A
Stream B-A	0.29	8.37	0.22	A	0.36	8.91	0.26	A
Stream C-AB	0.00	0.00	0.00	A	0.00	0.00	0.00	A
Stream C-A	-	-	-	-	-	-	-	-
Stream A-B	-	-	-	-	-	-	-	-
Stream A-C	-	-	-	-	-	-	-	-

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

"D1 - Base, PM" model duration: 16:15 - 17:45

"D2 - Base, Saturday" model duration: 10:45 - 12:15

"D3 - Base + Dev, PM " model duration: 16:15 - 17:45

"D4 - Base + Dev, Saturday" model duration: 10:45 - 12:15

Run using Junctions 8.0.6.541 at 20/11/2017 16:14:22

File summary

Title	(untitled)
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Location	
Site Number	
Date	30/10/2017
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	
Enumerator	Office
Description	

Analysis Options

Vehicle Length (m)	Do Queue Variations	Calculate Residual Capacity	Residual Capacity Criteria Type	RFC Threshold	Average Delay Threshold (s)	Queue Threshold (PCU)
5.75			N/A	0.85	36.00	20.00

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

(Default Analysis Set) - Base + Dev, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

Name	Roundabout Capacity Model	Description	Include In Report	Use Specific Demand Set(s)	Specific Demand Set(s)	Locked	Network Flow Scaling Factor (%)	Network Capacity Scaling Factor (%)	Reason For Scaling Factors
(Default Analysis Set)	N/A		✓				100.000	100.000	

Demand Set Details

Name	Scenario Name	Time Period Name	Description	Traffic Profile Type	Model Start Time (HH:mm)	Model Finish Time (HH:mm)	Model Time Period Length (min)	Time Segment Length (min)	Results For Central Hour Only	Single Time Segment Only	Locked	Run Automatically	Use Relationship	Relationship
Base + Dev, PM	Base + Dev	PM		ONE HOUR	16:15	17:45	90	15				✓		

Junction Network

Junctions

Junction	Name	Junction Type	Major Road Direction	Arm Order	Do Geometric Delay	Junction Delay (s)	Junction LOS
1	Brookside Rd Site Access	T-Junction	Two-way	A,B,C		8.37	A

Junction Network Options

Driving Side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Arm	Name	Description	Arm Type
A	A	Brookside Rd (West)		Major
B	B	Site Access		Minor
C	C	Brookside Rd (East)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Width of kerbed central reserve (m)	Has right turn bay	Width For Right Turn (m)	Visibility For Right Turn (m)	Blocks?	Blocking Queue (PCU)
C	6.00		0.00		2.20	60.00	✓	0.00

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

Minor Arm Geometry

Arm	Minor Arm Type	Lane Width (m)	Lane Width (Left) (m)	Lane Width (Right) (m)	Width at give-way (m)	Width at 5m (m)	Width at 10m (m)	Width at 15m (m)	Width at 20m (m)	Estimate Flare Length	Flare Length (PCU)	Visibility To Left (m)	Visibility To Right (m)
-----	----------------	----------------	-----------------------	------------------------	-----------------------	-----------------	------------------	------------------	------------------	-----------------------	--------------------	------------------------	-------------------------

B	One lane plus flare				8.00	5.00	4.50	4.50	4.00		1.00	25	30
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Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	580.594	0.106	0.267	0.168	0.382
1	B-C	498.018	0.076	0.193	-	-
1	C-B	608.710	0.236	0.236	-	-

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 Flows

Demand Set Data Options

Default Vehicle Mix	Vehicle Mix Varies Over Time	Vehicle Mix Varies Over Turn	Vehicle Mix Varies Over Entry	Vehicle Mix Source	PCU Factor for a HV (PCU)	Default Turning Proportions	Estimate from entry/exit counts	Turning Proportions Vary Over Time	Turning Proportions Vary Over Turn	Turning Proportions Vary Over Entry
		✓	✓	HV Percentages	2.00				✓	✓

Entry Flows

General Flows Data

Arm	Profile Type	Use Turning Counts	Average Demand Flow (PCU/hr)	Flow Scaling Factor (%)
A	ONE HOUR	✓	142.00	100.000
B	ONE HOUR	✓	112.00	100.000
C	ONE HOUR	✓	28.00	100.000

Turning Proportions

Turning Counts / Proportions (PCU/hr) - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.000	111.000	31.000
	B	112.000	0.000	0.000
	C	28.000	0.000	0.000

Turning Proportions (PCU) - Junction 1 (for whole period)

		To		
		A	B	C
From				

	A	0.00	0.78	0.22
	B	1.00	0.00	0.00
	C	1.00	0.00	0.00

Vehicle Mix

Average PCU Per Vehicle - Junction 1 (for whole period)

		To		
		A	B	C
From	A	1.000	1.000	1.000
	B	1.000	1.000	1.000
	C	1.000	1.000	1.000

Heavy Vehicle Percentages - Junction 1 (for whole period)

		To		
		A	B	C
From	A	0.0	0.0	0.0
	B	0.0	0.0	0.0
	C	0.0	0.0	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)	Total Queueing Delay (PCU-min)	Average Queueing Delay (s)	Rate Of Queueing Delay (PCU-min/min)	Inclusive Total Queueing Delay (PCU-min)	Inclusive Average Queueing Delay (s)
B-C	0.00	0.00	0.00	A	0.00	0.00	0.00	0.00	0.00	0.00	0.00
B-A	0.22	8.37	0.29	A	102.77	154.16	20.29	7.90	0.23	20.29	7.90
C-AB	0.00	0.00	0.00	A	0.00	0.00	0.00	0.00	0.00	0.00	0.00
C-A	-	-	-	-	25.69	38.54	-	-	-	-	-
A-B	-	-	-	-	101.86	152.78	-	-	-	-	-
A-C	-	-	-	-	28.45	42.67	-	-	-	-	-

Main Results for each time segment

Main results: (16:15-16:30)

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-C	0.00	0.00	0.00	0.00	468.86	0.000	0.00	0.00	0.000	A

B-A	84.32	21.08	83.62	0.00	561.97	0.150	0.00	0.17	7.515	A
C-AB	0.00	0.00	0.00	0.00	583.50	0.000	0.00	0.00	0.000	A
C-A	21.08	5.27	21.08	0.00	-	-	-	-	-	-
A-B	83.57	20.89	83.57	0.00	-	-	-	-	-	-
A-C	23.34	5.83	23.34	0.00	-	-	-	-	-	-

Main results: (16:30-16:45)

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-C	0.00	0.00	0.00	0.00	463.01	0.000	0.00	0.00	0.000	A
B-A	100.69	25.17	100.51	0.00	558.36	0.180	0.17	0.22	7.863	A
C-AB	0.00	0.00	0.00	0.00	578.60	0.000	0.00	0.00	0.000	A
C-A	25.17	6.29	25.17	0.00	-	-	-	-	-	-
A-B	99.79	24.95	99.79	0.00	-	-	-	-	-	-
A-C	27.87	6.97	27.87	0.00	-	-	-	-	-	-

Main results: (16:45-17:00)

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-C	0.00	0.00	0.00	0.00	455.05	0.000	0.00	0.00	0.000	A

B-A	123.31	30.83	123.05	0.00	553.36	0.223	0.22	0.28	8.361	A
C-AB	0.00	0.00	0.00	0.00	571.84	0.000	0.00	0.00	0.000	A
C-A	30.83	7.71	30.83	0.00	-	-	-	-	-	-
A-B	122.21	30.55	122.21	0.00	-	-	-	-	-	-
A-C	34.13	8.53	34.13	0.00	-	-	-	-	-	-

Main results: (17:00-17:15)

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-C	0.00	0.00	0.00	0.00	455.00	0.000	0.00	0.00	0.000	A
B-A	123.31	30.83	123.31	0.00	553.36	0.223	0.28	0.29	8.370	A
C-AB	0.00	0.00	0.00	0.00	571.84	0.000	0.00	0.00	0.000	A
C-A	30.83	7.71	30.83	0.00	-	-	-	-	-	-
A-B	122.21	30.55	122.21	0.00	-	-	-	-	-	-
A-C	34.13	8.53	34.13	0.00	-	-	-	-	-	-

Main results: (17:15-17:30)

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-C	0.00	0.00	0.00	0.00	462.91	0.000	0.00	0.00	0.000	A

B-A	100.69	25.17	100.94	0.00	558.36	0.180	0.29	0.22	7.874	A
C-AB	0.00	0.00	0.00	0.00	578.60	0.000	0.00	0.00	0.000	A
C-A	25.17	6.29	25.17	0.00	-	-	-	-	-	-
A-B	99.79	24.95	99.79	0.00	-	-	-	-	-	-
A-C	27.87	6.97	27.87	0.00	-	-	-	-	-	-

Main results: (17:30-17:45)

Stream	Total Demand (PCU/hr)	Junction Arrivals (PCU)	Entry Flow (PCU/hr)	Pedestrian Demand (Ped/hr)	Capacity (PCU/hr)	RFC	Start Queue (PCU)	End Queue (PCU)	Delay (s)	LOS
B-C	0.00	0.00	0.00	0.00	468.67	0.000	0.00	0.00	0.000	A
B-A	84.32	21.08	84.50	0.00	561.97	0.150	0.22	0.18	7.544	A
C-AB	0.00	0.00	0.00	0.00	583.50	0.000	0.00	0.00	0.000	A
C-A	21.08	5.27	21.08	0.00	-	-	-	-	-	-
A-B	83.57	20.89	83.57	0.00	-	-	-	-	-	-
A-C	23.34	5.83	23.34	0.00	-	-	-	-	-	-

Queueing Delay Results for each time segment

Queueing Delay results: (16:15-16:30)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service

B-C	0.00	0.00	0.000	A	A
B-A	2.53	0.17	7.515	A	A
C-AB	0.00	0.00	0.000	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Queueing Delay results: (16:30-16:45)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	0.00	0.00	0.000	A	A
B-A	3.19	0.21	7.863	A	A
C-AB	0.00	0.00	0.000	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Queueing Delay results: (16:45-17:00)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
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B-C	0.00	0.00	0.000	A	A
B-A	4.14	0.28	8.361	A	A
C-AB	0.00	0.00	0.000	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Queueing Delay results: (17:00-17:15)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	0.00	0.00	0.000	A	A
B-A	4.27	0.28	8.370	A	A
C-AB	0.00	0.00	0.000	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Queueing Delay results: (17:15-17:30)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
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B-C	0.00	0.00	0.000	A	A
B-A	3.42	0.23	7.874	A	A
C-AB	0.00	0.00	0.000	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-

Queueing Delay results: (17:30-17:45)

Stream	Queueing Total Delay (PCU-min)	Queueing Rate Of Delay (PCU-min/min)	Average Delay Per Arriving Vehicle (s)	Unsignalised Level Of Service	Signalised Level Of Service
B-C	0.00	0.00	0.000	A	A
B-A	2.73	0.18	7.544	A	A
C-AB	0.00	0.00	0.000	A	A
C-A	-	-	-	-	-
A-B	-	-	-	-	-
A-C	-	-	-	-	-