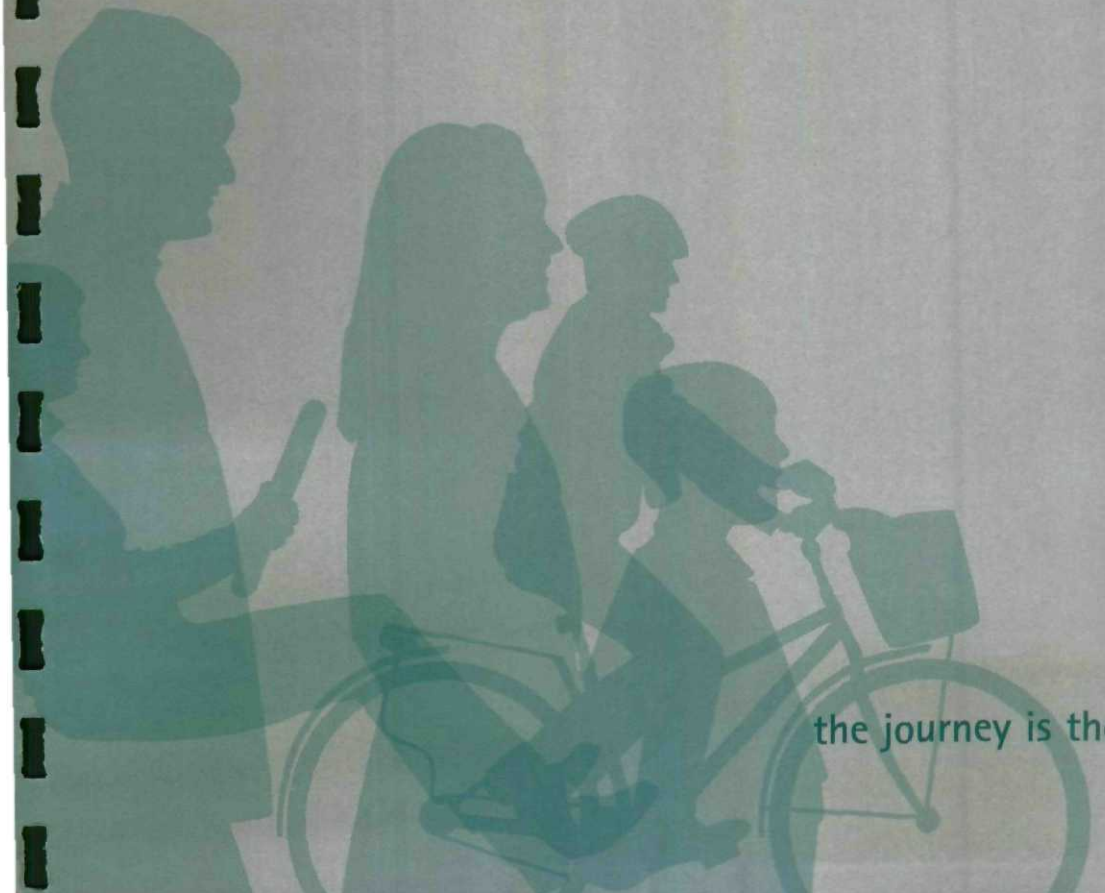
Proposed Aldi Store at Claycliffe Road/Barugh Green Road, Barnsley

TRANSPORT ASSESSMENT

July 2010



the journey is the reward

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Harris Partnership Drawing No. Proposed Layout

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1. INTRODUCTION

1.1 Mayer Brown (MB) have been commissioned to examine the transport implications of a proposal by Aldi to develop a local centre at Barugh Green, Barnsley.

1.2 The proposed foodstore has a Gross Internal Floor Area (GIA) of 1,410m^2 and a Sales Area of 990m^2 and is located between the A637, Claycliffe Road and the A635, Barugh Green Road. In addition, two small units are proposed, the first having a gross internal area of 744m^2 comprising 325m^2 of net internal non-food retail space at ground level and 306m^2 of office space at first floor level. The second unit is proposed to have a gross internal area of 442m^2 comprising 204m^2 of net internal non-food retail space at ground level and 186m^2 of office space at first floor level.

1.3 This report provides a description of the existing site as well as the local highway network and relevant transport policy.

1.4 An appraisal of the accessibility by non-car modes is also provided. Following a detailed description of the development proposals, details of the trip generation potential of the site are provided.

1.5 This Transport Assessment (TA) also provides details of highway impact upon the local road network as well as an appraisal of injury accident history on the local road network.

1.6 Finally the report is summarised and conclusions drawn.

1.7 Consultations with Alan Starkley of Barnsley Metropolitan Borough Council determined the content of this TA prior to its preparation. A Draft Travel Plan has also been prepared as part of this application.

1.8 A previous TA (ref: 4199/03/001) dated August 2007 was prepared for an earlier application on this site, but that application was subsequently withdrawn for reasons not associated with highways matters.

1.9 More recently, in February 2009, a TA was prepared by Sanderson Associates (CE) Ltd. for the site for a mixed use development which was granted planning approval (Application Reference 2009/0191) comprising:

- 1,638m^2 GFA of offices;
- 395m^2 GFA foodstore;
- 295m^2 GFA retail unit; and
- 589m^2 GFA trade units

1.10 Certain elements of the assessments provided in the Sanderson Associates TA are made reference to throughout this TA, whilst comparisons with the approved development in terms of highways impact are also made.

2. ALDI TRAVEL CHARACTERISTICS

Customer Travel Patterns

2.1 Aldi Stores are typically a modest sized local store with a carefully selected and limited range of good quality exclusive own labels. Stores are complimentary to the existing pattern of trade both in terms of small independent shops and larger superstores.

2.2 Experience from existing Aldi stores reveal that a significant proportion of the customers regularly walk from the surrounding residential areas to purchase a carrier bag of food as opposed to large weekly purchases at food superstores that normally involve bulk purchases to be taken away by car.

2.3 Customers often also visit other shops or facilities as part of their shopping trip which may include visiting local specialist retailers such as a newsagents, butchers, etc., thus making linked trips on foot or by car and, as such Aldi can promote sustainable travel in line with Government policy.

2.4 Consideration of the multi-modal surveys in the TRICS 2010(a) database shows that approximately 72% of trips to discount food stores are made in vehicles (cars/vans/taxis). Out of the 28% that are made sustainably, 25% are made on foot, 2% are made using public transport and 1% are made by cycle.

2.5 In survey data that we have available from other Aldi stores, it can be seen that only 30% of car trips to a store were by single occupancy vehicles. It therefore appears that there is a reasonable element of car sharing taking place in terms of trips to Aldi stores.

2.6 In order to establish customer travel patterns to this store, a survey of a random sample of customers will be undertaken across a day following the opening of the store. The survey will be undertaken at the checkout and will comprise the following questions:

- *How did you travel to the store today?* (with a list of options to choose from - Car (as driver by self), Car (as driver with passengers), Car (as a passenger), Bus, Taxi, Walk, Cycle, Motorcycle.
- *Is your journey to the store today:*
  a) solely to visit Aldi (including the other local shops)
  b) part of another journey (e.g. journey to work)

Staff Travel Patterns

2.7 Aldi Stores typically employ around thirty employees at each store. All employees are part-time working on a shift pattern except for the Store Manager. The number of employees present within the store at any one point in time is dependant upon the trading pattern and flow of customers, but typically ranges between two to five at maximum. Aldi stores have advised that the majority of store staff tend to live locally to the store they work at.

2.8 In order to establish the travel patterns of staff at the time of the introduction of the Plan, a Staff Travel Survey (included in Appendix B) will be undertaken after opening of the store.

2. SITE LOCATION AND LOCAL HIGHWAY NETWORK

Site Location

2.1 The proposed Aldi site is located in Barugh Green, approximately 3km north-west of Barnsley town centre. The site is located between the A635, Barugh Green Road which runs along the southern boundary of the site and the A637, Claycliffe Road which runs along the north-eastern boundary of the site. This location is illustrated in the Figure below.



Figure 2.1 – Site Location

2.2 Part of the site is occupied by a public house (The Chestnut Tree) whilst the remainder of the site is currently undeveloped. Immediately to the west of the site the Claycliffe Business Park is located, which comprises small light industrial and warehouse units. To the north and west of this a residential area exists, which is bounded by the A635, Barugh Green Road to the south, the B6428, Barugh Lane to the west and the A637, Claycliffe Road to the north.

2.3 On the north-eastern side of the A637, Claycliffe Road there is a mixture of warehousing, storage units and car dealerships. Similar development exists on the eastern side of Whaley Road (east of the site), whilst further east along either side of Wilthorpe Road, residential development predominates in the direction of Barnsley town centre.

Local Highway Network

2.4 Vehicular access into the car park serving the existing public house is currently provided from the A637, Claycliffe Road. The access takes the form of a priority junction onto the A637, Claycliffe Road. The A637, Claycliffe Road has a 40mph speed limit and is between 6m and 8m in width in the vicinity of the site with a pedestrian footway running along its northern side. Approximately 800m north-west of the site this road meets the B6428, Barugh Lane at a mini-roundabout before continuing to link with further settlements to the north-west.

2.5 Immediately to the east of the site the A637, Claycliffe Road meets the A635 Barugh Green Road, Whaley Road and Wilthorpe Road by means of a roundabout. Splitter islands are provided on each arm of this roundabout whilst flaring on the approach of each arm to the roundabout allows vehicles to position according to the intended direction of travel at the roundabout.

2.6 Whaley Road provides access to a mixture of light industrial/warehousing units, car dealerships and small offices which exist on either side of this road to the north east of the proposed Aldi site. Pedestrian footways exist on either side of this road which has a 30mph speed limit.

2.7 Wilthorpe Road has a 40mph speed limit and provides access to the centre of Barnsley. Pedestrian footways exist on either side of this road which is predominantly residential in character.

2.8 The A635, Barugh Green Road runs along the southern boundary of the site. On the approach to the roundabout there is a 40mph speed limit in operation, whilst to the east of this, the speed limit is 60mph. The signs denoting the change in speed limit are in the vicinity of the pub. This road has pedestrian footways on either side and is approximately 7.3m in width, whilst the road provides a link to settlements to the west of Barugh Green.

2.9 Buses operate on the local road network with the A635 Barugh Green Road, Wilthorpe Road and the A637, Claycliffe Road being part of bus routes.

3. PLANNING POLICY

3.1 There are a variety of sources of planning policy which provide guidance in relation to the proposal for the Aldi development. These include:

- Planning Policy Guidance 13 (PPG13) – Transport, 2001
- The Yorkshire and Humber Regional Spatial Strategy to 2026
- South Yorkshire Second Local Transport Plan 2006-2011

PPG13

3.2 The objective of PPG13 'Transport' guidance is to integrate planning and transport at national, regional, strategic and local level to:

- promote more sustainable transport choices for both people and for moving freight;
- promote accessibility to jobs, shopping, leisure facilities and services by public transport, walking and cycling; and
- reduce the need to travel, especially by car

3.3 Details of the sustainable accessibility of the proposed development at Barugh Green are subsequently provided in this report.

The Yorkshire and Humber Regional Spatial Strategy to 2026

3.4 The Yorkshire and Humber Plan (The Plan) aims to guide development in the region over the next 15 to 20 years by providing a broad and long term development strategy for the region. The Plan places an emphasis on the need to reduce the pressure in the region on housing, the environment and transport in a sustainable manner.

3.5 The RSS incorporates the Regional Transport Strategy (RTS) to ensure integration of land use and transport planning. The RTS recognises that transport will have a significant effect on economic development in the region, and on people's quality of life. However, the RTS also recognises that the environmental impact of transport is of increasing concern and therefore sets out policies to reduce the number and length of journeys by road.

3.6 Policy T1 of the RTS – 'Personal Travel Reduction and Mode Shift' – sets out that the Region will aim to reduce travel demand, traffic growth and congestion, shift to modes with lower environmental impacts through measures such as improved facilities for pedestrians and cyclists and Travel Plans.

3.7 Authorities in the Region are required to develop appropriate parking strategies to help to manage the demand for travel. Policy T2 – *'Parking Policy'* – sets a range of parking standards, that are suitable for the region, based upon the principles of PPG13.

South Yorkshire Second Local Transport Plan (LTP2) 2006-2011

3.8 The South Yorkshire Second Local Transport Plan sets out the longer term vision of what transport will look like in the future and identifies how local transport plays a key role in supporting the transformation of South Yorkshire.

3.9 The LTP2 describes the four shared priorities which have been agreed between central and local government and which form the basis of South Yorkshire's transport strategy, these being:

- Tackling congestion;
- Delivering accessibility;
- Providing safer roads; and
- Providing better air quality

3.10 The LTP2 notes the key transport challenges that are faced in South Yorkshire, which include:

- Addressing the way in which transport affects the communities of South Yorkshire's quality of life in terms of how they get access to the opportunities they need and the environmental and social effects of car growth; and
- To secure the strategic and local transport infrastructure and services which will develop and sustain the county's long term economic transformation

3.11 Amongst the proposed measures to achieve the priorities highlighted above are:

- Achieving modal shift from the private car by promoting public transport;
- Managing demand and reducing the need to travel through integrating transport, land use and parking policies and enhancing the role of Travel Planning; and
- Supporting physical regeneration, incorporating access and transport to help deliver truly sustainable communities

3.12 With reference to the proposed development and access to public transport, in this sense the site is in a very sustainable location, whilst the Draft Travel Plan submitted in conjunction with this TA will aim to develop the use of sustainable transport modes.

4. ACCESSIBILITY

4.1 It is considered that the site of the proposed development is in a good location for access by sustainable transport modes. The descriptions below consider the accessibility by walking, cycling and public transport.

Accessibility on Foot

4.2 In terms of pedestrian facilities, national and local guidance requires sustainable access be given a high priority with regards to development.

4.3 There are various guidelines relating to journey distances which people are prepared to make on foot;

4.4 IHT Guidelines for Providing Journeys on Foot states;

- *"The average length of a walk journey is 1km. This differs little by age or sex and has remained constant since 1975/76."*

4.5 Places, Streets & Movement guidelines state;

- *"A priority for planners should be to enable people to have access to local facilities on foot or by bicycle. Ideally this should mean a local shop for daily needs within five to eight minutes walk (400m) of home. If possible there should also be a mixture of shops, businesses and other uses within walking distance."*

4.6 Planning Policy Guidance Note 13 – Transport states;

- *"walking offers the greatest potential to replace short car trips, particularly under 2km"*

4.7 PPG13 – A Guide to Better Practice, considers;

'it not unreasonable for shoppers to walk 1 mile (1.8km) and cycle 5 miles (8km) between homes and shops.'

4.8 Based on the above a 1km walking catchment for the proposed site is shown in the Figure below.



Figure 4.1 – 1km Walking Catchment

4.9 The Figure above illustrates considerable residential areas to the east and west of the site being within walking distance of the proposed development.

4.10 Pedestrian movement in the area is assisted by the presence of street lighting and a footway varying between 1.5m and 2m in width on the north side of the A637, Claycliffe Road. This is accompanied by a footway on the south side of the A637, Claycliffe Road between the site access and the roundabout to the east. This footway leads into the site which will be accompanied by a footway on the western side of the access.

4.11 Splitter islands and dropped kerbs are present on all arms of the A637, Claycliffe Road/Whaley Road/Wilthorpe Road/A635, Barugh Green Road roundabout. Footways and streetlighting are also provided on both sides of Whaley Road, Wilthorpe Road and the A635, Barugh Green Road. These also provide access to nearby bus shelters.

4.12 On site pedestrian facilities are also proposed to aid movement within the site and encourage linked walking trips between the different elements of the site. These are discussed in further detail in Section 5.

4.13 In conclusion, it can be said that the site has good pedestrian connections to local residential areas which are within walking distance of the site.

Accessibility by Cycle

4.14 PPG13 (March 2001) states that cycling "*has clear potential to substitute for short car trips, particularly those under 5km*". The extent of a 5km catchment is shown below.

4.15 The catchment includes Barnsley as well as other settlements, including Mapplewell, Kexborough, Cawthorne and Silkstone.

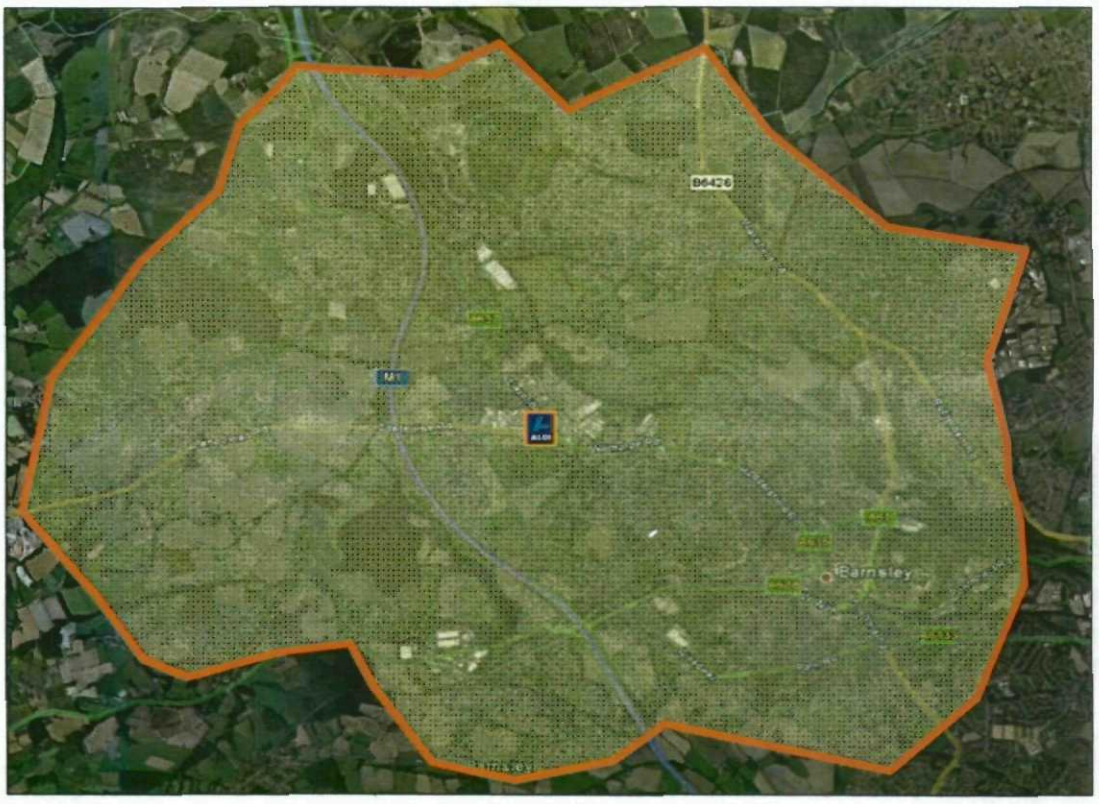


Figure 4.2 – Cycling Catchment Area

4.16 Whilst there are no specific cycling facilities in the immediate local area, cycle parking provision is included as part of the development proposals. This is discussed in further detail in Section 5.

4.17 In conclusion, there are a number of nearby settlements which could generate cycling trips to and from the site whilst the provision of cycle parking as part of the development will encourage trips to be made by cycle.

Accessibility by Public Transport

4.18 Bus stops are located both on the A635, Barugh Green Road and the A637, Claycliffe Road. The Barugh Green Road bus stops have shelters, seating and timetable information and are located between 90m (westbound) and 140m (eastbound) from the proposed Aldi store entrance. Timetable information is provided at the stop on Claycliffe Road, this being located approximately 90m from the proposed Aldi store entrance.

4.19 The bus stops are well within the normal maximum walking distance (300-400m) considered acceptable according to The Institution of Highways and Transportation (IHT) publication '*Guidelines for Providing for Journeys on Foot*' [2000].

4.20 The Table below provides details of bus service frequencies.

No.	Route	Frequency (Mins)			
		Mon-Fri	Sat	Sun	Eve
18	Barnsley – Gawber – Wilthorpe – **Barugh Green Road** – Mapplewell- Staincross	60	60	-	-
92/ A	Barnsley – Gawber – **Barugh Green Road** - Cawthorne	60	60	120	60 until 21:00
93	Barnsley – Gawber – **Barugh Green Road** - Darton	60	60	-	-
95/ A	Barnsley – Wilthorpe – Barugh Green Road – Darton - Kexborough	30	30	60	60

Table 4.1 – Bus Service Frequencies

4.21 The Table above demonstrates a high level of bus service frequency with 5 buses an hour being provided during the day (Monday to Saturday) and available in very close proximity to the site.

4.22 In conclusion, the site is well placed for bus trips to be made to and from the site with a high level of bus frequency and bus stops in very close proximity to the site.

5. DEVELOPMENT PROPOSALS

Buildings

5.1 The proposed local centre development includes a 1,410m^2 GFA Aldi store with a Sales Area of 990m^2. This would be developed on the northern part of the site with vehicular access taken from the A637, Claycliffe Road. In addition, 2 smaller mixed non-food retail/office units of 744m^2 and 442m^2 in size are proposed for the southern part of the site taking access from the A635, Barugh Green Road, whilst the existing public house on the eastern part of the site would remain in place.

5.2 The Harris Partnership Drawing provides an illustration of these proposals.

Access

5.3 The existing access onto Claycliffe Road is proposed to be widened as part of the development proposals, thus allowing separate right and left turn lanes for traffic exiting the site. This proposal is illustrated on the drawing ALDIBARUGH.1/01 provided towards the rear of this report. The proposed 2 lane arrangement extends over a distance of approximately 25m.

5.4 At the same time a ghost island right turn is proposed on Claycliffe Road to assist right turn movement into the site without impeding south-eastbound traffic on Claycliffe Road. Some widening of Claycliffe Road in the vicinity of the site access will allow a right turn facility to be provided extending over a distance of approximately 25m.

5.5 As well as serving the Aldi store this access will continue to serve the existing public house which will then have its own separate internal access to provide access to its own car park within the site.

5.6 In line with the existing consent a new access is proposed in the same location onto Barugh Green Road. This will continue to take the form of a priority junction and is intended to serve the smaller retail/office units only, which will have their own parking provision. A pedestrian route through the middle of the site will allow visitors to access both parts of the site without the need for additional vehicular trips.

5.7 In relation to the access proposals it is worth noting previous work undertaken by Sanderson Associates (CE) in relation to the TA they prepared for this site in February 2009, for the approved development.

5.8 Specifically, Section 4 of the TA states that:

> "*In accordance with TD42/95 and using the speed survey data contained in paragraph 2.10* [of the previous TA], *visibility splays of 90m to the north and 70m to the south should be provided from the site access onto Claycliffe Road. 'Manual for Streets' states that an x-distance in excess of 2.4m is not generally required in built up areas, which is the case in this situation and the required visibility splays are attainable at the required x-distance of 2.4m.*
>
> *There is vegetation and planting along either side of the access which would be trimmed to (and maintained) below 1.05m above carriageway level where necessary, to preserve the visibility splays.*"

5.9 Also, in relation to an access on Barugh Green Road, Section 4 of the Sanderson Associates TA states that:

> "*Using the speed survey data contained in paragraph 2.10* [of the previous TA], *in accordance with TD42/95 visibility splays of 120m to the west and 90m to the east should be provided from the access onto Barugh Green Road. As previously stated 'Manual for Streets' advises that an x-distance in excess of 2.4m is not generally required in built up areas and the required visibility splays are attainable at this x-distance.*"

5.10 The access points are located in the same location approved as part of the existing consent. Therefore the same level of visibility can be achieved as described above. Given that the approved development proposed an access in this location, it is considered that an access in the same location for the development now being put forward would be acceptable.

Parking Provision

5.11 For the Aldi part of the site, 75 parking spaces are proposed, including 4 disabled spaces and 4 parent and child bays located in close proximity to the store entrance. For the separate area of parking adjacent to the two smaller retail units, 41 parking spaces are proposed, including 2 disabled spaces.

5.12 Barnsley Metropolitan Borough Council's Unitary Development Plan (UDP) does not provide details of parking standards for food retail development although maximum parking standards for non-food retail and offices (applicable to the two smaller units) are specified as being 1 space per $20m^2$ and 1 space per $30m^2$ respectively. However, guidance does not specify the threshold of development size above which this rate applies. PPG13 suggests that the thresholds should apply for GFA's over $1,000m^2$ for non-food retail and over $2,500m^2$ for offices. The total non-food and office floor areas proposed at this local centre are lower, therefore it is considered that this standard would not apply.

5.13 It is considered a realistic assumption that not all Aldi customers will necessarily choose to park in the northern part of the site or indeed that all customers visiting the smaller units will choose to park in the area of parking immediately adjacent to the two smaller units. The decision of where to park could be governed by the direction of travel or whether customers are intending to undertake linked trips between the different retail establishments.

5.14 Planning Policy Guidance 13 (PPG13) provides details of national parking standards, these being 1 space per $14m^2$ for food retail and 1 space per $20m^2$ for non-food retail where the gross floorspace of the development exceeds $1,000m^2$. For office development the standard is 1 space per $30m^2$ where development exceeds $2,500m^2$. On the basis of the proposed Aldi store with a gross floor area of $1,410m^2$, the maximum parking provision would be 101 spaces, whilst 75 spaces are proposed on the Aldi part of the site. Therefore on this basis the total parking provision of 116 spaces is considered acceptable given the food-retail parking standard and the fact that the smaller non-food retail/office units will generate a demand for parking in their own right.

5.15 Barnsley Metropolitan Borough Council's UDP Supplementary Planning Document 32 '*Parking Transport Assessments and Travel Plans*' advises that disabled parking provision should be provided at a rate of 4% of the total number of spaces. With 4 disabled spaces out of 75 spaces being provided on the Aldi part of the site and 2 disabled spaces out of 41 spaces being provided close to the smaller retail units, this requirement is satisfied in both cases whilst the same can be said for the site as a whole.

Cycle Parking Provision

5.16 A total of 5 'Sheffield' style cycle stands are proposed in close proximity to the Aldi store entrance, allowing for parking of 10 cycles. The same level of parking provision is proposed on the southern part of the site to serve the smaller retail units.

6. TRIP GENERATION AND DISTRIBUTION

Development Trip Generation

6.1 Section 7 provides details of traffic surveys which have been undertaken to determine existing traffic flows on the local road network. These have been undertaken for the weekday PM peak and Saturday peak periods, these being the principal times for trip generation associated with the development proposals. The derived peak hours are specified in the Tables below.

6.2 To provide an assessment of the trip generation of the development proposals the TRICS 2010(a) database has been referenced. Within the land use category 'Retail' the sub-category 'Discount Foodstores' has been referenced to provide an assessment of the trip generation of the proposed Aldi store.

6.3 To provide an assessment of the trip generation of the smaller retail unit/office element of the development, the previously agreed 'retail' and 'office' trip rates used in the Sanderson Associates (CE) TA have been used to provide a consistent approach, whilst the TRICS 2010(a) database has been referenced to obtain Saturday trip rates for the smaller retail units.

6.4 The trip rates which have been used are provided in the Table below, whilst full TRICS details are provided in Appendix A.

	Weekday PM Peak (16:30-17:30)		Saturday Peak (11:30-12:30)	
	Arrivals	**Departures**	**Arrivals**	**Departures**
Aldi Store	3.982	3.864	6.260	5.954
Non-food retail	6.556	6.563	5.407	5.348
Office	0.339	1.478	0	0

Table 6.1 – Trip Rates per 100m^2 GFA for Aldi Store and Non-Food Retail/Office Units

6.5 Applying the rates in the Table above to the proposed development yields the level of trips shown in the Table below.

	Weekday PM Peak (16:30-17:30)		Saturday Peak (11:30-12:30)	
	Arrivals	**Departures**	**Arrivals**	**Departures**
Aldi Store	56	54	88	84
Non-food units	35	35	29	28
Office	2	7	0	0
Development total	**93**	**96**	**117**	**112**

Table 6.2 – Trip Generation for Aldi Store and Non-Food Retail/Office Units

Linked Trips

6.6 The '*Guidance on Transport Assessment*' [March 2007] advises that consideration should be given to the existence of linked trips when considering new retail development.

6.7 With the Aldi store and non-food retail/office units being proposed adjacent to each other and connected by a pedestrian route it is reasonable to assume that there will be an element of 'linked trips' whereby shoppers combine trips to the Aldi store and

non-food retail units or workers at the offices proposed on site combine their day at the office with a visit to the Aldi store and/or the non-food retail element.

6.8 The existence of linked trips is a recognised pattern and TRICS reports have been prepared to examine the level of linked trips which occur at mixed use and multi-use sites. However, little research has been undertaken to evaluate the level of trip linkage which occurs between a discount food retailer and small local non-food retail shops or between an office and a discount food retailer and/or non-food retailer. Clearly the two components would offer a different shopping experience and can complement each other whilst adjacent office and retail development also provide the opportunity for linked trips to be made.

6.9 Research suggests that linked trips could be in the region of 20-30% and therefore for the purposes of this TA it has been assumed that 20% of Aldi trips are linked to the non-food retail/office units proposed on the site. Consequently, the figures presented below represent the total additional peak hour traffic predicted as a result of the Aldi development proposals, taking linked trips into consideration.

	Weekday PM Peak (16:30-17:30)	Saturday Peak (11:30-12:30)
Arrivals	45	71
Departures	44	67
Total	**99**	**138**

Table 6.3 – Weekday PM Peak and Saturday Peak Hour Trips for Development Proposals

Trip Types

6.10 It is now recognised that shoppers already driving on the highway network make the majority of car trips to new food retail stores. Most are probably making an existing shopping trip to another similar store, whilst others may be on their way home from work. Therefore, a proportion will already be passing the site on Claycliffe Road and Barugh Green Road.

6.11 Published studies, undertaken at newly opened foodstores, have shown that the number of completely new trips on the highway network resulting from the opening of a new store is very low (less than 5%), particularly during the PM peak periods. The studies show that what actually occurs is a change in existing traffic patterns.

6.12 The studies have identified three main trip types to a food store. These are:-

- Primary Transferred – These trips were previously made to another competing store or shopping centre and have transferred to the new store, or make an additional stop at the new store. Some of these may already be passing the new store.
- Diverted – These trips are part of a trip chain in which the visit to the store forms an intermediate stop between the trip origin and the final trip destination (e.g. work to home). The trip to the store involves a diversion from the route that would otherwise be followed.
- Pass-by – These trips are also part of a trip chain but do not involve a diversion as they are already passing the store. They do not include Primary Transferred trips that may also be passing the store.

6.13 On this basis during the weekday PM and Saturday peaks, we have assigned 30% of additional development traffic as pass-by and 70% would be new to the local highway network i.e. primary transfer traffic. Given the site's location it is not considered that the application of diverted trips would be applicable in this instance.

6.14 With effectively two accesses being provided to the site from Claycliffe Road and Barugh Green Road the potential for diverted trips will be limited. Whilst there is the potential for diverted trips from the Whaley Road-Wilthorpe Road movement, this is considered to be very small due to the nature of development in the Whaley Road area and the layout of the local highway network.

6.15 The Table below shows the vehicle trips by trip type made to the Aldi store and non-food retail units.

Trip Type	Weekday PM Peak (16:30-17:30)		Saturday Peak (11:30-12:30)	
	Arrivals	Departures	Arrivals	Departures
Aldi Primary	31	31	49	47
Aldi Pass-by	13	13	21	20
Aldi Sub-total	**45**	**44**	**71**	**67**
Non-food Retail Units Primary	24	24	20	20
Non-Food Units Pass-by	10	10	9	8
Non-Food Retail Sub-total	**35**	**35**	**29**	**28**
Office Sub-total	**2**	**7**	**0**	**0**
Development Total	**82**	**86**	**100**	**95**

Table 6.4 – Trip Generation for Aldi Store and Non-Food Retail Units by Trip Type

6.16 The traffic flow diagrams provided in Appendix B provide confirmation of these trip type flow assumptions on the local road network.

6.17 For comparison purposes the Table below provides a summary of the predicted level of trips generated by the consented scheme as presented in paragraph 4.20 of the Sanderson Associates TA.

	Weekday PM Peak (17:00-18:00)	Weekday AM Peak (08:00-09:00)
Arrivals	30	52
Departures	58	18
Total	**88**	**70**

Table 6.5 – Weekday PM Peak and AM Peak Hour Trips for Consented Development

6.18 The main component of the consented scheme and the main traffic generator is offices. Offices generate a high number of trips in the normal weekday AM and PM peak hours as employees travel to and from work.

6.19 With the Aldi store being the main element of the scheme now being proposed, this will not generate a significant level of traffic during the weekday AM peak hour. Consequently, a reduction in the level of traffic during the weekday AM peak hour can be expected, when compared to the consented scheme.

6.20 Whilst the development now being proposed indicates a higher level of traffic generation in the weekday PM peak hour when compared to the consented scheme, it should be noted that the Sanderson Associates (CE) TA used TRICS 'Discount Foodstores' trip rates in determining the level of traffic predicted to be generated by the 395m^2 foodstore proposed as part of the consented scheme.

6.21 It is our view that a discount foodstore operator such as Aldi would not occupy a building of such a small demise which would be more likely occupied by a retailer such as a 'Tesco Express' or a 'Spar'. This type of operation would generate considerably more traffic than that agreed in the extant consent thereby meaning that the predicted weekday PM peak trips for the consented and proposed schemes would be more comparable, with the proposed scheme possibly having a lower level of trip generation than the consented scheme.

Traffic Growth

6.22 For junction capacity assessment purposes, the existing traffic on the local highway network has been factored to a proposed opening year of 2011 with a design year assessment of 2016 also provided, in accordance with '*Guidance on Transport Assessment*' [March 2007]. The junctions discussed later in this TA have been assessed for these future years, with and without the proposed development in place.

6.23 A combination of TEMPRO and NRTF data has been used to growth the traffic for both the weekday PM peak and Saturday peak. The growth factors applied are shown in the table below.

	2010-2011	2010-2016
Weekday PM Peak	1.021	1.074
Saturday Peak	1.013	1.098

Table 6.6 - Traffic Growth Factors

6.24 On the basis of the trip generation and distribution assumptions described above, as well as the relevant traffic growth factors, the following Section provides the results of junction capacity assessments.

8. PERSONAL INJURY ACCIDENT HISTORY

8.1 Accident data has been obtained from Barnsley Metropolitan Borough Council for the 62 month period from 1st January 2005 to 13th March 2010.

8.2 The accident records cover the surrounding junctions and local highway network as identified in the traffic impact and capacity assessment sections of this TA. Appendix G includes an extract showing the area over which the accident analysis has been undertaken.

8.3 The total length of carriageway (excluding surrounding residential and estate roads) assessed as part of the accident analysis is approximately 1.5km.

8.4 Full details of this data are provided in Appendix G.

8.5 A total of 17 accidents were recorded during the period, all of which were classed as slight accidents. The 17 accidents involved a total of 30 casualties as shown in the tables below.

	Fatal	Serious	Slight	Total
Motor vehicles excl. two-wheels	0	0	14	14
Two-wheeled motor vehicles	0	0	1	1
Pedal cycle	0	0	2	2
Horses and others	0	0	0	0
Total	**0**	**0**	**17**	**17**

Table 8.1 - Accident data broken down by vehicle classification

	Fatal	Serious	Slight	Total
Vehicle driver	0	0	14	**14**
Passenger	0	0	11	**11**
Motorcycle rider	0	0	1	**1**
Cyclist	0	0	2	**2**
Pedestrian	0	0	2	**2**
Other	0	0	0	**0**
Total	**0**	**0**	**30**	**30**

Table 8.2 - Accident data broken down by casualty classification

8.6 The data has been studied and is broken down under the following sections of the local highway network.

4 arm roundabout between A635 Barugh Green Road / A637 Claycliffe Road / Whaley Road

8.7 Seven slight accidents were recorded at the roundabout over the 62 month period.

8.8 Five of the accidents occurred as a result of a driver judgement error such as pulling onto the roundabout and colliding with an oncoming vehicle.

8.9 One accident involved a pedestrian who tripped over their shoelace and collided with a vehicle.

8.10 One accident involved a collision between a vehicle and cyclist.

A635 Barugh Green Road (between the roundabout to the east and the junction with Cannon Way to the west)

8.11 Two slight accidents occurred along this section of the local highway network. Both accidents occurred along the mainline carriageway i.e. neither occurred at a junction with the adjoining estate roads.

8.12 One of the accidents involved a collision between a moving vehicle and a parked vehicle and can be attributed to driver judgement error.

8.13 The second accident involved a collision between a vehicle and a pedestrian. Using the accident data information it would appear that the vehicle mounted the pavement and can therefore again be attributed to driver judgement error.

A637 Claycliffe Road (between the roundabout to the south and the junction with Whaley Road to the north)

8.14 Five slight accidents occurred along this section of the local highway network.

8.15 Two of the accidents occurred at the junction between A637 Claycliffe Road and Medina Way and involved right turning traffic to / from the junction.

8.16 The remaining three accidents involved rear shunts to stationary vehicles along the main carriageway.

A635 Barugh Green Road (between the roundabout to the north and the junction with Redbrook Road to the south)

8.17 Two slight accidents occurred along this section of the local highway network. Both accidents occurred at the junction between A635 Barugh Green Road and Redbrook Road.

8.18 One of the accidents involved a rear shunt as a vehicle waited to turn onto the A635 Barugh Green Road from Redbrook Road.

8.19 The second accident involved a vehicle pulling out into the path of an oncoming cyclist.

Whaley Road

8.20 One accident occurred along Whaley Road. The accident involved a single vehicle losing control, colliding with a metal fence and overturning.

Summary of Personal Injury Accident History

8.21 We would consider that the accident history on the local highway network, taken over a 62 month period, can be considered as low. The descriptions of the accidents provided by Barnsley Metropolitan Borough Council suggest that the majority of the accidents occured as a result of driver error.

8.22 In summary, it can be concluded that whilst the proposed development will result in some additional traffic on the local highway network it is not expected that road safety will be materially compromised.

9. BUS STOP INTERACTION

9.1 During pre-application discussions undertaken prior to the submission of the TA prepared by Sanderson Associates in February 2009, concerns were raised in relation to the potential conflict between traffic using the new site access to Barugh Green Road and buses stopped at the existing bus stop opposite the site access. These concerns related to both the existing and future situation once full occupation of the development took place.

9.2 To address these concerns Sanderson Associates undertook a survey of bus arrival, dwell time and passenger numbers at both bus stops on Barugh Green Road, in proximity to the site. This was undertaken in January 2009.

9.3 In summary, in terms of the existing situation, the TA concluded that the infrequent use of the bus stop and length of stay would not give rise to any circumstances that would affect the operation of the proposed site access. Further detail on this assessment as well as Sanderson Associates' assessment of the post-development situation can be found by referring to Section 7 of the TA prepared by Sanderson Associates, which concluded that the potential for conflict between vehicles accessing the site and buses using the bus stop was very low.

9.4 With reference to the development now being proposed, the TRICS 2010(a) database has been referenced to calculate the peak hour multi-modal traffic generations from the proposed development. Using the same site selection process undertaken to determine the vehicle trip generation for the development proposals, where multi-modal data is available, the TRICS database has been interrogated to yield the figures presented below. Full TRICS data is included in Appendix A.

9.5 The Table below shows the total person trip rates split according to the Aldi store and non-food retail food units, for a weekday PM peak and Saturday peak.

	Weekday PM Peak (16:30-17:30)		Saturday Peak (11:30-12:30)	
	Arrivals	Departures	Arrivals	Departures
Aldi Store	7.055	7.183	13.360	12.910
Non-food units	13.934	14.775	12.864	12.257
Office units	0.248	1.968	0	0

Table 9.1 – Total Person Trip Rates per 100m^2 GFA for Aldi Store and Non-Food Retail Units

9.6 Applying the rates in the Table above according to the proposed floor areas of the development yields the total person trips shown in the Table below. In accordance with the methodology previously described, the Aldi trips have been reduced by 20% to take account of linked trips with the rest of the development.

	Weekday PM Peak (16:30-17:30)		Saturday Peak (11:30-12:30)	
	Arrivals	Departures	Arrivals	Departures
Aldi Store	80	81	151	146
Non-food units	74	78	68	65
Office units	1	10	0	0
Development total	**155**	**169**	**219**	**211**

Table 9.2 – Total Person Trips for Aldi Store and Non-Food Retail Units

9.7 Using TRICS and applying the same methodology the following Tables summarise the modal split of the total person trips predicted in connection with each part of the development. The Table below provides the predicted modal split for the Aldi store.

	Weekday PM Peak (16:30-17:30)			Saturday Peak (11:30-12:30)		
	2-way Trip Rate	% Split	Number of Trips	2-way Trip Rate	% Split	Number of Trips
Pedestrian	3.474	24.4	39	5.402	20.6	61
Cyclist	0.161	1.1	2	0.054	0.02	1
Public Transport	0.289	2.0	3	0.324	1.2	4
Vehicle occupants	10.315	72.4	117	20.490	78.0	232
Total	**14.239**	**100**	**161**	**26.270**	**100**	**297**

Table 9.3 – Predicted Number of Two Way Trips by Mode for Aldi Store

9.8 The Table below provides the predicted modal split for the Non-food retail units.

	Weekday PM Peak (16:30-17:30)			Saturday Peak (11:30-12:30)		
	2-way Trip Rate	% Split	Number of Trips	2-way Trip Rate	% Split	Number of Trips
Pedestrian	10.976	38.2	58	4.005	16.0	21
Cyclist	0.585	2.0	3	0.364	1.4	2
Public Transport	0.150	0.5	1	0.000	0	0
Vehicle occupants	16.997	59.2	90	20.752	82.6	110
Total	**28.708**	**100**	**152**	**25.121**	**100**	**133**

Table 9.4 – Predicted Number of Two Way Trips by Mode for Non-food retail units

9.9 The Table below provides the predicted modal split for the Non-food retail units.

	Weekday PM Peak (16:30-17:30)			Saturday Peak (11:30-12:30)		
	2-way Trip Rate	% Split	Number of Trips	2-way Trip Rate	% Split	Number of Trips
Pedestrian	0.162	7.3	1	0	0	0
Cyclist	0.058	3.1	0	0	0	0
Public Transport	0.276	12.3	2	0	0	0
Vehicle occupants	1.717	76.8	8	0	0	0
Total	**2.213**	**100**	**11**	**0**	**0**	**0**

Table 9.5 – Predicted Number of Two Way Trips by Mode for Office units

9.10 Looking at the two Tables presented above, the predicted total two-way trips by mode for the development as a whole can be summarised as follows:

- Weekday PM Peak
  - Pedestrians – 98
  - Cyclists – 5
  - Public Transport Users – 6
  - Vehicle Occupants – 215
- Saturday Peak
  - Pedestrians – 82
  - Cyclists – 3
  - Public Transport Users – 4
  - Vehicle Occupants - 342

9.11 In terms of the predicted level of trips made using public transport, the predicted numbers are slightly lower than those predicted to be generated by the approved development put forward in the Sanderson Associates TA, dated February 2009. Therefore, in this respect, we would draw the same conclusions, namely that "*the small number of additional passengers would not in practice make any material impact upon dwell time at any of the bus stops in the vicinity of the site*" and that "*the potential for any conflict between buses waiting at the stop and vehicles accessing the site is very low and could not be held as a valid cause for concern on highway safety grounds*".

10. SUMMARY AND CONCLUSIONS

10.1 This TA has been prepared by Mayer Brown to provide an assessment of a proposal to provide a local centre consisting of an Aldi foodstore with a Gross Internal Area (GIA) of 1,410m^2 and a Sales Area of 990m^2 on land located between the A637, Claycliffe Road and the A635, Barugh Green Road.

10.2 In addition, two small units are proposed, the first having a gross internal area of 744m^2 comprising 325m^2 of net internal non-food retail space at ground level and 306m^2 of office space at first floor level. The second unit is proposed to have a gross internal area of 442m^2 comprising 204m^2 of net internal non-food retail space at ground level and 186m^2 of office space at first floor level.

10.3 The TA has provided a description of the local highway network, followed by details of relevant local and national policy. Subsequently Section 4 has confirmed the sustainable accessibility of the site.

10.4 A previous TA prepared by Sanderson Associates provides details of an approved development comprising offices (1,638m^2 GFA), a foodstore (395m^2), a retail unit (295m^2) and trade units (589m^2).

10.5 Following a detailed description of the development proposals and the methodology applied to determine the trip generation and distribution resulting from the development proposals, Section 7 has provided a summary of the results of junction capacity assessments which have been undertaken at both the existing and proposed accesses on the A637, Claycliffe Road and the A635, Barugh Green Road, as well as the roundabout where these two roads meet Wilthorpe Road and Whaley Road.

10.6 These assessments have shown that both accesses are predicted to operate well within capacity with the proposed development traffic whilst there is little difference predicted in the operation of the roundabout with and without the development traffic.

10.7 A comparison has also been made between the results of capacity assessments undertaken as part of the TA prepared by Sanderson Associates (CE) for the approved development on the site and capacity assessments with the traffic anticipated through the proposed Aldi development. This comparison has concluded that the traffic impact of the approved and proposed developments are very similar.

10.8 This TA has also provided an assessment of the historical road accident record for the local road network which has concluded that there has historically been a low level of accidents on the local road network and that road safety would not be materially compromised by the additional traffic generated by the development proposals.

10.9 Finally, in response to previous concerns raised by the Council in relation to potential conflict between vehicles using the proposed Barugh Green Road access and buses stopping in the vicinity of the site access, this TA has referenced previous work undertaken by Sanderson Associates in conjunction with our own assessment of multi-modal traffic generated by the site. This analysis has concluded that with the additional public transport use generated by visitors to the proposed development the potential for conflict between buses stopping near the site and vehicles accessing the site, is very low.

10.10 Therefore, in summary, it can be concluded that there are no highway and transportation reasons why the proposed Aldi and non-food retail units development should not proceed.

APPENDIX A

TRICS 2010(a) Output

TRIP RATE CALCULATION SELECTION PARAMETERS:

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

VEHICLES

Selected regions and areas:

03	**SOUTH WEST**		
	DC	DORSET	1 days
05	**EAST MIDLANDS**		
	NR	NORTHAMPTONSHIRE	1 days
06	**WEST MIDLANDS**		
	SH	SHROPSHIRE	1 days
08	**NORTH WEST**		
	MS	MERSEYSIDE	2 days
10	**WALES**		
	GW	GWYNEDD	1 days
	PS	POWYS	1 days
11	**SCOTLAND**		
	HI	HIGHLAND	1 days
17	**ULSTER (NORTHERN IRELAND)**		
	TY	TYRONE	1 days

Filtering Stage 2 selection:

Parameter: Gross floor area
Range: 1150 to 1900 (units: sqm)

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/02 to 10/07/09

Selected survey days:

Monday	2 days
Tuesday	3 days
Wednesday	2 days
Friday	2 days

Selected survey types:

Manual count	8 days
Directional ATC Count	1 days

Selected Locations:

Edge of Town Centre	3
Suburban Area (PPS6 Out of Centre)	4
Edge of Town	1
Neighbourhood Centre (PPS6 Local Centre)	1

Selected Location Sub Categories:

Industrial Zone	1
Commercial Zone	1
Residential Zone	2
Retail Zone	1
No Sub Category	4

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

VEHICLES

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00	1	1266	0.000	1	1266	0.000	1	1266	0.000
01:00 - 02:00	1	1266	0.000	1	1266	0.000	1	1266	0.000
02:00 - 03:00	1	1266	0.000	1	1266	0.000	1	1266	0.000
03:00 - 04:00	1	1266	0.000	1	1266	0.000	1	1266	0.000
04:00 - 05:00	1	1266	0.000	1	1266	0.000	1	1266	0.000
05:00 - 06:00	1	1266	0.000	1	1266	0.000	1	1266	0.000
06:00 - 07:00	1	1266	0.158	1	1266	0.000	1	1266	0.158
07:00 - 08:00	6	1383	0.265	6	1383	0.133	6	1383	0.398
08:00 - 09:00	9	1328	0.887	9	1328	0.535	9	1328	1.422
09:00 - 10:00	9	1328	2.794	9	1328	2.016	9	1328	4.810
10:00 - 11:00	9	1328	4.065	9	1328	3.580	9	1328	7.645
11:00 - 12:00	**9**	**1328**	**4.701**	9	1328	4.124	9	1328	8.825
12:00 - 13:00	9	1328	4.316	**9**	**1328**	**4.651**	**9**	**1328**	**8.967**
13:00 - 14:00	9	1328	3.881	9	1328	3.772	9	1328	7.653
14:00 - 15:00	9	1328	4.400	9	1328	4.333	9	1328	8.733
15:00 - 16:00	9	1328	3.973	9	1328	4.090	9	1328	8.063
16:00 - 17:00	9	1328	3.982	9	1328	3.864	9	1328	7.846
17:00 - 18:00	9	1328	3.388	9	1328	3.906	9	1328	7.294
18:00 - 19:00	9	1328	3.179	9	1328	3.647	9	1328	6.826
19:00 - 20:00	9	1328	1.455	9	1328	2.267	9	1328	3.722
20:00 - 21:00	3	1303	1.535	3	1303	2.353	3	1303	3.888
21:00 - 22:00	1	1266	0.000	1	1266	0.000	1	1266	0.000
22:00 - 23:00	1	1266	0.000	1	1266	0.000	1	1266	0.000
23:00 - 24:00	1	1266	0.158	1	1266	0.395	1	1266	0.553
Total Rates:			43.137			43.666			86.803

Parameter summary

Trip rate parameter range selected:	1150 - 1900 (units: sqm)
Survey date date range:	01/01/02 - 10/07/09
Number of weekdays (Monday-Friday):	11
Number of Saturdays:	0
Number of Sundays:	0
Surveys manually removed from selection:	0

TRIP RATE CALCULATION SELECTION PARAMETERS:

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

VEHICLES

Selected regions and areas:

03	**SOUTH WEST**		
	DC	DORSET	1 days
05	**EAST MIDLANDS**		
	NR	NORTHAMPTONSHIRE	1 days
06	**WEST MIDLANDS**		
	SH	SHROPSHIRE	1 days
08	**NORTH WEST**		
	MS	MERSEYSIDE	2 days
10	**WALES**		
	GW	GWYNEDD	1 days
	PS	POWYS	1 days
11	**SCOTLAND**		
	HI	HIGHLAND	1 days
17	**ULSTER (NORTHERN IRELAND)**		
	TY	TYRONE	1 days

Filtering Stage 2 selection:

Parameter: Gross floor area
Range: 1150 to 1900 (units: sqm)

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/02 to 10/07/09

Selected survey days:

Monday	2 days
Tuesday	3 days
Wednesday	2 days
Friday	2 days

Selected survey types:

Manual count	8 days
Directional ATC Count	1 days

Selected Locations:

Edge of Town Centre	3
Suburban Area (PPS6 Out of Centre)	4
Edge of Town	1
Neighbourhood Centre (PPS6 Local Centre)	1

Selected Location Sub Categories:

Industrial Zone	1
Commercial Zone	1
Residential Zone	2
Retail Zone	1
No Sub Category	4

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

VEHICLES

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00	1	1266	0.000	1	1266	0.000	1	1266	0.000
01:00 - 02:00	1	1266	0.000	1	1266	0.000	1	1266	0.000
02:00 - 03:00	1	1266	0.000	1	1266	0.000	1	1266	0.000
03:00 - 04:00	1	1266	0.000	1	1266	0.000	1	1266	0.000
04:00 - 05:00	1	1266	0.000	1	1266	0.000	1	1266	0.000
05:00 - 06:00	1	1266	0.000	1	1266	0.000	1	1266	0.000
06:00 - 07:00	1	1266	0.158	1	1266	0.000	1	1266	0.158
07:00 - 08:00	6	1383	0.265	6	1383	0.133	6	1383	0.398
08:00 - 09:00	9	1328	0.887	9	1328	0.535	9	1328	1.422
09:00 - 10:00	9	1328	2.794	9	1328	2.016	9	1328	4.810
10:00 - 11:00	9	1328	4.065	9	1328	3.580	9	1328	7.645
11:00 - 12:00	**9**	**1328**	**4.701**	9	1328	4.124	9	1328	8.825
12:00 - 13:00	9	1328	4.316	**9**	**1328**	**4.651**	**9**	**1328**	**8.967**
13:00 - 14:00	9	1328	3.881	9	1328	3.772	9	1328	7.653
14:00 - 15:00	9	1328	4.400	9	1328	4.333	9	1328	8.733
15:00 - 16:00	9	1328	3.973	9	1328	4.090	9	1328	8.063
16:00 - 17:00	9	1328	3.982	9	1328	3.864	9	1328	7.846
17:00 - 18:00	9	1328	3.388	9	1328	3.906	9	1328	7.294
18:00 - 19:00	9	1328	3.179	9	1328	3.647	9	1328	6.826
19:00 - 20:00	9	1328	1.455	9	1328	2.267	9	1328	3.722
20:00 - 21:00	3	1303	1.535	3	1303	2.353	3	1303	3.888
21:00 - 22:00	1	1266	0.000	1	1266	0.000	1	1266	0.000
22:00 - 23:00	1	1266	0.000	1	1266	0.000	1	1266	0.000
23:00 - 24:00	1	1266	0.158	1	1266	0.395	1	1266	0.553
Total Rates:			43.137			43.666			86.803

Parameter summary

Trip rate parameter range selected:	1150 - 1900 (units: sqm)
Survey date date range:	01/01/02 - 10/07/09
Number of weekdays (Monday-Friday):	11
Number of Saturdays:	0
Number of Sundays:	0
Surveys manually removed from selection:	0

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 01 - RETAIL
Category : I - SHOPPING CENTRE - LOCAL SHOPS

VEHICLES

Selected regions and areas:

02	**SOUTH EAST**		
	EX	ESSEX	1 days
03	**SOUTH WEST**		
	SG	SOUTH GLOUCESTERSHIRE	1 days
05	**EAST MIDLANDS**		
	DS	DERBYSHIRE	1 days
	NR	NORTHAMPTONSHIRE	1 days
06	**WEST MIDLANDS**		
	SH	SHROPSHIRE	1 days
	WM	WEST MIDLANDS	1 days
	WO	WORCESTERSHIRE	1 days
07	**YORKSHIRE & NORTH LINCOLNSHIRE**		
	NY	NORTH YORKSHIRE	1 days
08	**NORTH WEST**		
	CH	CHESHIRE	1 days
09	**NORTH**		
	TW	TYNE & WEAR	1 days
10	**WALES**		
	CF	CARDIFF	1 days

Filtering Stage 2 selection:

Parameter: Gross floor area
Range: 210 to 1200 (units: sqm)

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/02 to 24/06/09

Selected survey days:

Monday	1 days
Tuesday	2 days
Wednesday	3 days
Thursday	1 days
Friday	4 days

Selected survey types:

Manual count	11 days
Directional ATC Count	0 days

Selected Locations:

Suburban Area (PPS6 Out of Centre)	2
Edge of Town	3
Neighbourhood Centre (PPS6 Local Centre)	6

Selected Location Sub Categories:

Commercial Zone	1
Residential Zone	9
No Sub Category	1

TRIP RATE for Land Use 01 - RETAIL/I - SHOPPING CENTRE - LOCAL SHOPS

VEHICLES

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00	0	0	0.000	0	0	0.000	0	0	0.000
01:00 - 02:00	0	0	0.000	0	0	0.000	0	0	0.000
02:00 - 03:00	0	0	0.000	0	0	0.000	0	0	0.000
03:00 - 04:00	0	0	0.000	0	0	0.000	0	0	0.000
04:00 - 05:00	0	0	0.000	0	0	0.000	0	0	0.000
05:00 - 06:00	0	0	0.000	0	0	0.000	0	0	0.000
06:00 - 07:00	0	0	0.000	0	0	0.000	0	0	0.000
07:00 - 08:00	11	679	4.512	11	679	4.097	11	679	8.609
08:00 - 09:00	11	679	6.467	11	679	6.159	11	679	12.626
09:00 - 10:00	11	679	6.654	11	679	6.145	11	679	12.799
10:00 - 11:00	11	679	6.266	11	679	6.333	11	679	12.599
11:00 - 12:00	11	679	6.333	11	679	6.333	11	679	12.666
12:00 - 13:00	11	679	7.632	11	679	7.417	11	679	15.049
13:00 - 14:00	11	679	6.668	11	679	6.761	11	679	13.429
14:00 - 15:00	11	679	6.453	11	679	6.641	11	679	13.094
15:00 - 16:00	11	679	7.150	11	679	6.949	11	679	14.099
16:00 - 17:00	**11**	**679**	**7.873**	**11**	**679**	**7.926**	**11**	**679**	**15.799**
17:00 - 18:00	11	679	7.324	11	679	7.618	11	679	14.942
18:00 - 19:00	11	679	6.828	11	679	6.801	11	679	13.629
19:00 - 20:00	10	687	4.847	10	687	5.036	10	687	9.883
20:00 - 21:00	7	664	2.172	7	664	2.581	7	664	4.753
21:00 - 22:00	1	820	0.244	1	820	0.488	1	820	0.732
22:00 - 23:00	0	0	0.000	0	0	0.000	0	0	0.000
23:00 - 24:00	0	0	0.000	0	0	0.000	0	0	0.000
Total Rates:			87.423			87.285			174.708

Parameter summary

Trip rate parameter range selected:	210 - 1200 (units: sqm)
Survey date date range:	01/01/02 - 24/06/09
Number of weekdays (Monday-Friday):	11
Number of Saturdays:	0
Number of Sundays:	0
Surveys manually removed from selection:	4

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 01 - RETAIL
Category : I - SHOPPING CENTRE - LOCAL SHOPS

VEHICLES

Selected regions and areas:

01	**GREATER LONDON**		
	WH	WANDSWORTH	1 days
02	**SOUTH EAST**		
	HF	HERTFORDSHIRE	1 days
06	**WEST MIDLANDS**		
	WO	WORCESTERSHIRE	1 days
11	**SCOTLAND**		
	FI	FIFE	1 days

Filtering Stage 2 selection:

Parameter: Gross floor area
Range: 599 to 1500 (units: sqm)

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/02 to 24/06/09

Selected survey days:

Saturday	4 days

Selected survey types:

Manual count	4 days
Directional ATC Count	0 days

Selected Locations:

Suburban Area (PPS6 Out of Centre)	2
Edge of Town	1
Neighbourhood Centre (PPS6 Local Centre)	1

Selected Location Sub Categories:

Residential Zone	4

TRIP RATE for Land Use 01 - RETAIL/I - SHOPPING CENTRE - LOCAL SHOPS

VEHICLES

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00	0	0	0.000	0	0	0.000	0	0	0.000
01:00 - 02:00	0	0	0.000	0	0	0.000	0	0	0.000
02:00 - 03:00	0	0	0.000	0	0	0.000	0	0	0.000
03:00 - 04:00	0	0	0.000	0	0	0.000	0	0	0.000
04:00 - 05:00	0	0	0.000	0	0	0.000	0	0	0.000
05:00 - 06:00	0	0	0.000	0	0	0.000	0	0	0.000
06:00 - 07:00	0	0	0.000	0	0	0.000	0	0	0.000
07:00 - 08:00	4	1011	2.226	4	1011	1.979	4	1011	4.205
08:00 - 09:00	4	1011	3.290	4	1011	2.943	4	1011	6.233
09:00 - 10:00	4	1011	4.625	4	1011	4.081	4	1011	8.706
10:00 - 11:00	4	1011	4.947	4	1011	5.194	4	1011	10.141
11:00 - 12:00	4	1011	6.134	4	1011	5.590	4	1011	11.724
12:00 - 13:00	4	1011	4.972	4	1011	5.145	4	1011	10.117
13:00 - 14:00	4	1011	5.343	4	1011	5.318	4	1011	10.661
14:00 - 15:00	4	1011	5.417	4	1011	5.862	4	1011	11.279
15:00 - 16:00	4	1011	5.070	4	1011	4.996	4	1011	10.066
16:00 - 17:00	4	1011	5.392	4	1011	5.145	4	1011	10.537
17:00 - 18:00	4	1011	5.936	4	1011	5.714	4	1011	11.650
18:00 - 19:00	**4**	**1011**	**6.159**	**4**	**1011**	**6.233**	**4**	**1011**	**12.392**
19:00 - 20:00	1	824	5.097	1	824	4.369	1	824	9.466
20:00 - 21:00	1	824	3.034	1	824	2.791	1	824	5.825
21:00 - 22:00	1	824	1.578	1	824	1.820	1	824	3.398
22:00 - 23:00	0	0	0.000	0	0	0.000	0	0	0.000
23:00 - 24:00	0	0	0.000	0	0	0.000	0	0	0.000
Total Rates:			69.220			67.180			136.400

Parameter summary

Trip rate parameter range selected:	599 - 1500 (units: sqm)
Survey date date range:	01/01/02 - 24/06/09
Number of weekdays (Monday-Friday):	0
Number of Saturdays:	4
Number of Sundays:	0
Surveys manually removed from selection:	4

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 01 - RETAIL
Category : C - DISCOUNT FOOD STORES
MULTI-MODAL CYCLISTS

Selected regions and areas:

05	**EAST MIDLANDS**		
	NR	NORTHAMPTONSHIRE	1 days
06	**WEST MIDLANDS**		
	SH	SHROPSHIRE	1 days
08	**NORTH WEST**		
	MS	MERSEYSIDE	2 days
10	**WALES**		
	GW	GWYNEDD	1 days
	PS	POWYS	1 days
11	**SCOTLAND**		
	HI	HIGHLAND	1 days

Filtering Stage 2 selection:

Parameter: Gross floor area
Range: 1150 to 1900 (units: sqm)

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/02 to 10/07/09

Selected survey days:

Monday	2 days
Tuesday	2 days
Wednesday	2 days
Friday	1 days

Selected survey types:

Manual count	7 days
Directional ATC Count	0 days

Selected Locations:

Edge of Town Centre	3
Suburban Area (PPS6 Out of Centre)	2
Edge of Town	1
Neighbourhood Centre (PPS6 Local Centre)	1

Selected Location Sub Categories:

Industrial Zone	1
Residential Zone	2
Retail Zone	1
No Sub Category	3

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

MULTI-MODAL CYCLISTS

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00	0	0	0.000	0	0	0.000	0	0	0.000
01:00 - 02:00	0	0	0.000	0	0	0.000	0	0	0.000
02:00 - 03:00	0	0	0.000	0	0	0.000	0	0	0.000
03:00 - 04:00	0	0	0.000	0	0	0.000	0	0	0.000
04:00 - 05:00	0	0	0.000	0	0	0.000	0	0	0.000
05:00 - 06:00	0	0	0.000	0	0	0.000	0	0	0.000
06:00 - 07:00	0	0	0.000	0	0	0.000	0	0	0.000
07:00 - 08:00	4	1424	0.000	4	1424	0.000	4	1424	0.000
08:00 - 09:00	7	1336	0.000	7	1336	0.032	7	1336	0.032
09:00 - 10:00	7	1336	0.053	7	1336	0.043	7	1336	0.096
10:00 - 11:00	7	1336	0.021	7	1336	0.021	7	1336	0.042
11:00 - 12:00	7	1336	0.075	7	1336	0.032	7	1336	0.107
12:00 - 13:00	7	1336	0.053	7	1336	0.053	7	1336	0.106
13:00 - 14:00	7	1336	0.032	7	1336	0.053	7	1336	0.085
14:00 - 15:00	7	1336	0.075	7	1336	0.064	7	1336	0.139
15:00 - 16:00	7	1336	0.043	7	1336	0.032	7	1336	0.075
16:00 - 17:00	**7**	**1336**	**0.086**	7	1336	0.075	7	1336	0.161
17:00 - 18:00	7	1336	0.075	**7**	**1336**	**0.096**	**7**	**1336**	**0.171**
18:00 - 19:00	7	1336	0.011	7	1336	0.011	7	1336	0.022
19:00 - 20:00	7	1336	0.021	7	1336	0.021	7	1336	0.042
20:00 - 21:00	1	1310	0.000	1	1310	0.076	1	1310	0.076
21:00 - 22:00	0	0	0.000	0	0	0.000	0	0	0.000
22:00 - 23:00	0	0	0.000	0	0	0.000	0	0	0.000
23:00 - 24:00	0	0	0.000	0	0	0.000	0	0	0.000
Total Rates:			0.545			0.609			1.154

Parameter summary

Trip rate parameter range selected:	1150 - 1900 (units: sqm)
Survey date date range:	01/01/02 - 10/07/09
Number of weekdays (Monday-Friday):	7
Number of Saturdays:	0
Number of Sundays:	0
Surveys manually removed from selection:	0

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

MULTI-MODAL VEHICLE OCCUPANTS

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00	0	0	0.000	0	0	0.000	0	0	0.000
01:00 - 02:00	0	0	0.000	0	0	0.000	0	0	0.000
02:00 - 03:00	0	0	0.000	0	0	0.000	0	0	0.000
03:00 - 04:00	0	0	0.000	0	0	0.000	0	0	0.000
04:00 - 05:00	0	0	0.000	0	0	0.000	0	0	0.000
05:00 - 06:00	0	0	0.000	0	0	0.000	0	0	0.000
06:00 - 07:00	0	0	0.000	0	0	0.000	0	0	0.000
07:00 - 08:00	4	1424	0.351	4	1424	0.176	4	1424	0.527
08:00 - 09:00	7	1336	0.951	7	1336	0.502	7	1336	1.453
09:00 - 10:00	7	1336	2.918	7	1336	1.903	7	1336	4.821
10:00 - 11:00	7	1336	4.992	7	1336	4.458	7	1336	9.450
11:00 - 12:00	7	1336	5.473	7	1336	5.152	7	1336	10.625
12:00 - 13:00	7	1336	5.345	7	1336	5.623	7	1336	10.968
13:00 - 14:00	7	1336	4.906	7	1336	4.810	7	1336	9.716
14:00 - 15:00	7	1336	6.125	7	1336	5.869	7	1336	11.994
15:00 - 16:00	**7**	**1336**	**6.221**	**7**	**1336**	**6.317**	**7**	**1336**	**12.538**
16:00 - 17:00	7	1336	5.013	7	1336	5.302	7	1336	10.315
17:00 - 18:00	7	1336	4.917	7	1336	5.665	7	1336	10.582
18:00 - 19:00	7	1336	4.126	7	1336	4.906	7	1336	9.032
19:00 - 20:00	7	1336	1.614	7	1336	2.320	7	1336	3.934
20:00 - 21:00	1	1310	0.000	1	1310	0.611	1	1310	0.611
21:00 - 22:00	0	0	0.000	0	0	0.000	0	0	0.000
22:00 - 23:00	0	0	0.000	0	0	0.000	0	0	0.000
23:00 - 24:00	0	0	0.000	0	0	0.000	0	0	0.000
Total Rates:			52.952			53.614			106.566

Parameter summary

Trip rate parameter range selected:	1150 - 1900 (units: sqm)
Survey date date range:	01/01/02 - 10/07/09
Number of weekdays (Monday-Friday):	7
Number of Saturdays:	0
Number of Sundays:	0
Surveys manually removed from selection:	0

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

MULTI-MODAL PEDESTRIANS

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00	0	0	0.000	0	0	0.000	0	0	0.000
01:00 - 02:00	0	0	0.000	0	0	0.000	0	0	0.000
02:00 - 03:00	0	0	0.000	0	0	0.000	0	0	0.000
03:00 - 04:00	0	0	0.000	0	0	0.000	0	0	0.000
04:00 - 05:00	0	0	0.000	0	0	0.000	0	0	0.000
05:00 - 06:00	0	0	0.000	0	0	0.000	0	0	0.000
06:00 - 07:00	0	0	0.000	0	0	0.000	0	0	0.000
07:00 - 08:00	4	1424	0.105	4	1424	0.053	4	1424	0.158
08:00 - 09:00	7	1336	0.278	7	1336	0.182	7	1336	0.460
09:00 - 10:00	7	1336	1.005	7	1336	0.877	7	1336	1.882
10:00 - 11:00	7	1336	1.657	7	1336	1.400	7	1336	3.057
11:00 - 12:00	7	1336	1.486	7	1336	1.304	7	1336	2.790
12:00 - 13:00	7	1336	1.668	**7**	**1336**	**1.828**	7	1336	3.496
13:00 - 14:00	7	1336	1.464	7	1336	1.325	7	1336	2.789
14:00 - 15:00	7	1336	1.379	7	1336	1.571	7	1336	2.950
15:00 - 16:00	7	1336	1.796	7	1336	1.721	**7**	**1336**	**3.517**
16:00 - 17:00	**7**	**1336**	**1.849**	7	1336	1.625	7	1336	3.474
17:00 - 18:00	7	1336	1.475	7	1336	1.561	7	1336	3.036
18:00 - 19:00	7	1336	1.272	7	1336	1.668	7	1336	2.940
19:00 - 20:00	7	1336	0.545	7	1336	0.620	7	1336	1.165
20:00 - 21:00	1	1310	0.000	1	1310	0.076	1	1310	0.076
21:00 - 22:00	0	0	0.000	0	0	0.000	0	0	0.000
22:00 - 23:00	0	0	0.000	0	0	0.000	0	0	0.000
23:00 - 24:00	0	0	0.000	0	0	0.000	0	0	0.000
Total Rates:			15.979			15.811			31.790

Parameter summary

Trip rate parameter range selected:	1150 - 1900 (units: sqm)
Survey date date range:	01/01/02 - 10/07/09
Number of weekdays (Monday-Friday):	7
Number of Saturdays:	0
Number of Sundays:	0
Surveys manually removed from selection:	0

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

MULTI-MODAL PUBLIC TRANSPORT USERS

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	0	0	0.000	0	0	0.000	0	0	0.000
01:00 - 02:00	0	0	0.000	0	0	0.000	0	0	0.000
02:00 - 03:00	0	0	0.000	0	0	0.000	0	0	0.000
03:00 - 04:00	0	0	0.000	0	0	0.000	0	0	0.000
04:00 - 05:00	0	0	0.000	0	0	0.000	0	0	0.000
05:00 - 06:00	0	0	0.000	0	0	0.000	0	0	0.000
06:00 - 07:00	0	0	0.000	0	0	0.000	0	0	0.000
07:00 - 08:00	4	1424	0.000	4	1424	0.000	4	1424	0.000
08:00 - 09:00	7	1336	0.150	7	1336	0.107	7	1336	0.257
09:00 - 10:00	7	1336	0.139	7	1336	0.107	7	1336	0.246
10:00 - 11:00	**7**	**1336**	**0.278**	**7**	**1336**	**0.289**	**7**	**1336**	**0.567**
11:00 - 12:00	7	1336	0.150	7	1336	0.128	7	1336	0.278
12:00 - 13:00	7	1336	0.257	7	1336	0.289	7	1336	0.546
13:00 - 14:00	7	1336	0.128	7	1336	0.096	7	1336	0.224
14:00 - 15:00	7	1336	0.064	7	1336	0.160	7	1336	0.224
15:00 - 16:00	7	1336	0.278	7	1336	0.182	7	1336	0.460
16:00 - 17:00	7	1336	0.107	7	1336	0.182	7	1336	0.289
17:00 - 18:00	7	1336	0.086	7	1336	0.086	7	1336	0.172
18:00 - 19:00	7	1336	0.032	7	1336	0.053	7	1336	0.085
19:00 - 20:00	7	1336	0.000	7	1336	0.011	7	1336	0.011
20:00 - 21:00	1	1310	0.000	1	1310	0.000	1	1310	0.000
21:00 - 22:00	0	0	0.000	0	0	0.000	0	0	0.000
22:00 - 23:00	0	0	0.000	0	0	0.000	0	0	0.000
23:00 - 24:00	0	0	0.000	0	0	0.000	0	0	0.000
Total Rates:			1.669			1.690			3.359

Parameter summary

Trip rate parameter range selected:	1150 - 1900 (units: sqm)
Survey date date range:	01/01/02 - 10/07/09
Number of weekdays (Monday-Friday):	7
Number of Saturdays:	0
Number of Sundays:	0
Surveys manually removed from selection:	0

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

MULTI-MODAL TOTAL PEOPLE

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00	0	0	0.000	0	0	0.000	0	0	0.000
01:00 - 02:00	0	0	0.000	0	0	0.000	0	0	0.000
02:00 - 03:00	0	0	0.000	0	0	0.000	0	0	0.000
03:00 - 04:00	0	0	0.000	0	0	0.000	0	0	0.000
04:00 - 05:00	0	0	0.000	0	0	0.000	0	0	0.000
05:00 - 06:00	0	0	0.000	0	0	0.000	0	0	0.000
06:00 - 07:00	0	0	0.000	0	0	0.000	0	0	0.000
07:00 - 08:00	4	1424	0.457	4	1424	0.228	4	1424	0.685
08:00 - 09:00	7	1336	1.379	7	1336	0.823	7	1336	2.202
09:00 - 10:00	7	1336	4.115	7	1336	2.929	7	1336	7.044
10:00 - 11:00	7	1336	6.948	7	1336	6.168	7	1336	13.116
11:00 - 12:00	7	1336	7.183	7	1336	6.617	7	1336	13.800
12:00 - 13:00	7	1336	7.322	7	1336	7.793	7	1336	15.115
13:00 - 14:00	7	1336	6.531	7	1336	6.285	7	1336	12.816
14:00 - 15:00	7	1336	7.643	7	1336	7.664	7	1336	15.307
15:00 - 16:00	**7**	**1336**	**8.338**	**7**	**1336**	**8.252**	**7**	**1336**	**16.590**
16:00 - 17:00	7	1336	7.055	7	1336	7.183	7	1336	14.238
17:00 - 18:00	7	1336	6.553	7	1336	7.408	7	1336	13.961
18:00 - 19:00	7	1336	5.441	7	1336	6.638	7	1336	12.079
19:00 - 20:00	7	1336	2.181	7	1336	2.972	7	1336	5.153
20:00 - 21:00	1	1310	0.000	1	1310	0.763	1	1310	0.763
21:00 - 22:00	0	0	0.000	0	0	0.000	0	0	0.000
22:00 - 23:00	0	0	0.000	0	0	0.000	0	0	0.000
23:00 - 24:00	0	0	0.000	0	0	0.000	0	0	0.000
Total Rates:			71.146			71.723			142.869

Parameter summary

Trip rate parameter range selected:	1150 - 1900 (units: sqm)
Survey date date range:	01/01/02 - 10/07/09
Number of weekdays (Monday-Friday):	7
Number of Saturdays:	0
Number of Sundays:	0
Surveys manually removed from selection:	0

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 01 - RETAIL
Category : C - DISCOUNT FOOD STORES
MULTI-MODAL CYCLISTS

Selected regions and areas:

06	**WEST MIDLANDS**		
	HE	HEREFORDSHIRE	1 days
07	**YORKSHIRE & NORTH LINCOLNSHIRE**		
	NY	NORTH YORKSHIRE	1 days
09	**NORTH**		
	CB	CUMBRIA	1 days
10	**WALES**		
	CP	CAERPHILLY	1 days
	SW	SWANSEA	1 days

Filtering Stage 2 selection:

Parameter: Gross floor area
Range: 900 to 1250 (units: sqm)

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/02 to 10/07/09

Selected survey days:

Saturday	5 days

Selected survey types:

Manual count	5 days
Directional ATC Count	0 days

Selected Locations:

Edge of Town Centre	1
Suburban Area (PPS6 Out of Centre)	3
Edge of Town	1

Selected Location Sub Categories:

Commercial Zone	1
Residential Zone	2
Built-Up Zone	1
No Sub Category	1

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

MULTI-MODAL CYCLISTS

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00	0	0	0.000	0	0	0.000	0	0	0.000
01:00 - 02:00	0	0	0.000	0	0	0.000	0	0	0.000
02:00 - 03:00	0	0	0.000	0	0	0.000	0	0	0.000
03:00 - 04:00	0	0	0.000	0	0	0.000	0	0	0.000
04:00 - 05:00	0	0	0.000	0	0	0.000	0	0	0.000
05:00 - 06:00	0	0	0.000	0	0	0.000	0	0	0.000
06:00 - 07:00	0	0	0.000	0	0	0.000	0	0	0.000
07:00 - 08:00	3	1228	0.000	3	1228	0.000	3	1228	0.000
08:00 - 09:00	5	1111	0.036	5	1111	0.000	5	1111	0.036
09:00 - 10:00	5	1111	0.090	5	1111	0.072	5	1111	0.162
10:00 - 11:00	5	1111	0.072	5	1111	0.054	5	1111	0.126
11:00 - 12:00	5	1111	0.000	5	1111	0.054	5	1111	0.054
12:00 - 13:00	5	1111	0.018	5	1111	0.036	5	1111	0.054
13:00 - 14:00	5	1111	0.126	5	1111	0.090	5	1111	0.216
14:00 - 15:00	5	1111	0.072	5	1111	0.054	5	1111	0.126
15:00 - 16:00	**5**	**1111**	**0.144**	**5**	**1111**	**0.108**	**5**	**1111**	**0.252**
16:00 - 17:00	5	1111	0.036	5	1111	0.090	5	1111	0.126
17:00 - 18:00	5	1111	0.054	5	1111	0.108	5	1111	0.162
18:00 - 19:00	5	1111	0.018	5	1111	0.018	5	1111	0.036
19:00 - 20:00	1	900	0.000	1	900	0.000	1	900	0.000
20:00 - 21:00	0	0	0.000	0	0	0.000	0	0	0.000
21:00 - 22:00	0	0	0.000	0	0	0.000	0	0	0.000
22:00 - 23:00	0	0	0.000	0	0	0.000	0	0	0.000
23:00 - 24:00	0	0	0.000	0	0	0.000	0	0	0.000
Total Rates:			0.666			0.684			1.350

Parameter summary

Trip rate parameter range selected:	900 - 1250 (units: sqm)
Survey date date range:	01/01/02 - 10/07/09
Number of weekdays (Monday-Friday):	0
Number of Saturdays:	5
Number of Sundays:	0
Surveys manually removed from selection:	0

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

MULTI-MODAL VEHICLE OCCUPANTS

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00	0	0	0.000	0	0	0.000	0	0	0.000
01:00 - 02:00	0	0	0.000	0	0	0.000	0	0	0.000
02:00 - 03:00	0	0	0.000	0	0	0.000	0	0	0.000
03:00 - 04:00	0	0	0.000	0	0	0.000	0	0	0.000
04:00 - 05:00	0	0	0.000	0	0	0.000	0	0	0.000
05:00 - 06:00	0	0	0.000	0	0	0.000	0	0	0.000
06:00 - 07:00	0	0	0.000	0	0	0.000	0	0	0.000
07:00 - 08:00	3	1228	0.678	3	1228	0.136	3	1228	0.814
08:00 - 09:00	5	1111	2.629	5	1111	1.278	5	1111	3.907
09:00 - 10:00	5	1111	7.058	5	1111	5.059	5	1111	12.117
10:00 - 11:00	5	1111	9.219	5	1111	8.444	5	1111	17.663
11:00 - 12:00	5	1111	10.425	5	1111	10.065	5	1111	20.490
12:00 - 13:00	5	1111	10.227	5	1111	9.795	5	1111	20.022
13:00 - 14:00	5	1111	10.767	5	1111	10.965	5	1111	21.732
14:00 - 15:00	**5**	**1111**	**10.947**	5	1111	9.867	5	1111	20.814
15:00 - 16:00	5	1111	10.047	**5**	**1111**	**11.955**	**5**	**1111**	**22.002**
16:00 - 17:00	5	1111	7.886	5	1111	8.696	5	1111	16.582
17:00 - 18:00	5	1111	4.717	5	1111	5.942	5	1111	10.659
18:00 - 19:00	5	1111	1.692	5	1111	2.179	5	1111	3.871
19:00 - 20:00	1	900	1.667	1	900	3.000	1	900	4.667
20:00 - 21:00	0	0	0.000	0	0	0.000	0	0	0.000
21:00 - 22:00	0	0	0.000	0	0	0.000	0	0	0.000
22:00 - 23:00	0	0	0.000	0	0	0.000	0	0	0.000
23:00 - 24:00	0	0	0.000	0	0	0.000	0	0	0.000
Total Rates:			87.959			87.381			175.340

Parameter summary

Trip rate parameter range selected:	900 - 1250 (units: sqm)
Survey date date range:	01/01/02 - 10/07/09
Number of weekdays (Monday-Friday):	0
Number of Saturdays:	5
Number of Sundays:	0
Surveys manually removed from selection:	0

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

MULTI-MODAL PEDESTRIANS

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00	0	0	0.000	0	0	0.000	0	0	0.000
01:00 - 02:00	0	0	0.000	0	0	0.000	0	0	0.000
02:00 - 03:00	0	0	0.000	0	0	0.000	0	0	0.000
03:00 - 04:00	0	0	0.000	0	0	0.000	0	0	0.000
04:00 - 05:00	0	0	0.000	0	0	0.000	0	0	0.000
05:00 - 06:00	0	0	0.000	0	0	0.000	0	0	0.000
06:00 - 07:00	0	0	0.000	0	0	0.000	0	0	0.000
07:00 - 08:00	3	1228	0.054	3	1228	0.054	3	1228	0.108
08:00 - 09:00	5	1111	0.576	5	1111	0.252	5	1111	0.828
09:00 - 10:00	5	1111	1.350	5	1111	1.656	5	1111	3.006
10:00 - 11:00	5	1111	2.377	5	1111	2.305	5	1111	4.682
11:00 - 12:00	5	1111	2.773	5	1111	2.629	5	1111	5.402
12:00 - 13:00	**5**	**1111**	**2.791**	**5**	**1111**	**2.935**	**5**	**1111**	**5.726**
13:00 - 14:00	5	1111	2.143	5	1111	2.107	5	1111	4.250
14:00 - 15:00	5	1111	2.431	5	1111	2.755	5	1111	5.186
15:00 - 16:00	5	1111	2.665	5	1111	2.305	5	1111	4.970
16:00 - 17:00	5	1111	1.602	5	1111	1.764	5	1111	3.366
17:00 - 18:00	5	1111	1.710	5	1111	2.053	5	1111	3.763
18:00 - 19:00	5	1111	0.702	5	1111	0.540	5	1111	1.242
19:00 - 20:00	1	900	0.111	1	900	0.556	1	900	0.667
20:00 - 21:00	0	0	0.000	0	0	0.000	0	0	0.000
21:00 - 22:00	0	0	0.000	0	0	0.000	0	0	0.000
22:00 - 23:00	0	0	0.000	0	0	0.000	0	0	0.000
23:00 - 24:00	0	0	0.000	0	0	0.000	0	0	0.000
Total Rates:			21.285			21.911			43.196

Parameter summary

Trip rate parameter range selected:	900 - 1250 (units: sqm)
Survey date date range:	01/01/02 - 10/07/09
Number of weekdays (Monday-Friday):	0
Number of Saturdays:	5
Number of Sundays:	0
Surveys manually removed from selection:	0

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

MULTI-MODAL PUBLIC TRANSPORT USERS

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00	0	0	0.000	0	0	0.000	0	0	0.000
01:00 - 02:00	0	0	0.000	0	0	0.000	0	0	0.000
02:00 - 03:00	0	0	0.000	0	0	0.000	0	0	0.000
03:00 - 04:00	0	0	0.000	0	0	0.000	0	0	0.000
04:00 - 05:00	0	0	0.000	0	0	0.000	0	0	0.000
05:00 - 06:00	0	0	0.000	0	0	0.000	0	0	0.000
06:00 - 07:00	0	0	0.000	0	0	0.000	0	0	0.000
07:00 - 08:00	3	1228	0.000	3	1228	0.000	3	1228	0.000
08:00 - 09:00	5	1111	0.000	5	1111	0.000	5	1111	0.000
09:00 - 10:00	5	1111	0.180	**5**	**1111**	**0.180**	**5**	**1111**	**0.360**
10:00 - 11:00	5	1111	0.180	5	1111	0.054	5	1111	0.234
11:00 - 12:00	5	1111	0.162	5	1111	0.162	5	1111	0.324
12:00 - 13:00	**5**	**1111**	**0.216**	5	1111	0.072	5	1111	0.288
13:00 - 14:00	5	1111	0.144	5	1111	0.144	5	1111	0.288
14:00 - 15:00	5	1111	0.090	5	1111	0.126	5	1111	0.216
15:00 - 16:00	5	1111	0.072	5	1111	0.072	5	1111	0.144
16:00 - 17:00	5	1111	0.000	5	1111	0.072	5	1111	0.072
17:00 - 18:00	5	1111	0.000	5	1111	0.018	5	1111	0.018
18:00 - 19:00	5	1111	0.000	5	1111	0.000	5	1111	0.000
19:00 - 20:00	1	900	0.000	1	900	0.000	1	900	0.000
20:00 - 21:00	0	0	0.000	0	0	0.000	0	0	0.000
21:00 - 22:00	0	0	0.000	0	0	0.000	0	0	0.000
22:00 - 23:00	0	0	0.000	0	0	0.000	0	0	0.000
23:00 - 24:00	0	0	0.000	0	0	0.000	0	0	0.000
Total Rates:			1.044			0.900			1.944

Parameter summary

Trip rate parameter range selected:	900 - 1250 (units: sqm)
Survey date date range:	01/01/02 - 10/07/09
Number of weekdays (Monday-Friday):	0
Number of Saturdays:	5
Number of Sundays:	0
Surveys manually removed from selection:	0

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

MULTI-MODAL TOTAL PEOPLE

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00	0	0	0.000	0	0	0.000	0	0	0.000
01:00 - 02:00	0	0	0.000	0	0	0.000	0	0	0.000
02:00 - 03:00	0	0	0.000	0	0	0.000	0	0	0.000
03:00 - 04:00	0	0	0.000	0	0	0.000	0	0	0.000
04:00 - 05:00	0	0	0.000	0	0	0.000	0	0	0.000
05:00 - 06:00	0	0	0.000	0	0	0.000	0	0	0.000
06:00 - 07:00	0	0	0.000	0	0	0.000	0	0	0.000
07:00 - 08:00	3	1228	0.733	3	1228	0.190	3	1228	0.923
08:00 - 09:00	5	1111	3.241	5	1111	1.530	5	1111	4.771
09:00 - 10:00	5	1111	8.678	5	1111	6.968	5	1111	15.646
10:00 - 11:00	5	1111	11.847	5	1111	10.857	5	1111	22.704
11:00 - 12:00	5	1111	13.360	5	1111	12.910	5	1111	26.270
12:00 - 13:00	5	1111	13.252	5	1111	12.838	5	1111	26.090
13:00 - 14:00	5	1111	13.180	5	1111	13.306	5	1111	26.486
14:00 - 15:00	**5**	**1111**	**13.540**	5	1111	12.802	5	1111	26.342
15:00 - 16:00	5	1111	12.928	**5**	**1111**	**14.440**	**5**	**1111**	**27.368**
16:00 - 17:00	5	1111	9.525	5	1111	10.623	5	1111	20.148
17:00 - 18:00	5	1111	6.482	5	1111	8.120	5	1111	14.602
18:00 - 19:00	5	1111	2.413	5	1111	2.737	5	1111	5.150
19:00 - 20:00	1	900	1.778	1	900	3.556	1	900	5.334
20:00 - 21:00	0	0	0.000	0	0	0.000	0	0	0.000
21:00 - 22:00	0	0	0.000	0	0	0.000	0	0	0.000
22:00 - 23:00	0	0	0.000	0	0	0.000	0	0	0.000
23:00 - 24:00	0	0	0.000	0	0	0.000	0	0	0.000
Total Rates:			110.957			110.877			221.834

Parameter summary

Trip rate parameter range selected:	900 - 1250 (units: sqm)
Survey date date range:	01/01/02 - 10/07/09
Number of weekdays (Monday-Friday):	0
Number of Saturdays:	5
Number of Sundays:	0
Surveys manually removed from selection:	0

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 01 - RETAIL
Category : I - SHOPPING CENTRE - LOCAL SHOPS
VEHICLES

Selected regions and areas:

02	**SOUTH EAST**		
	HF	HERTFORDSHIRE	1 days
06	**WEST MIDLANDS**		
	WO	WORCESTERSHIRE	1 days
11	**SCOTLAND**		
	FI	FIFE	1 days

Filtering Stage 2 selection:

Parameter: Gross floor area
Range: 599 to 1120 (units: sqm)

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/02 to 24/06/09

Selected survey days:

Saturday	3 days

Selected survey types:

Manual count	3 days
Directional ATC Count	0 days

Selected Locations:

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

Selected Location Sub Categories:

Residential Zone	3

LIST OF SITES relevant to selection parameters

1 FI-01-I-01 LOCAL SHOPS, GLENROTHES FIFE
53 BIGHTY AVENUE

GLENROTHES
Neighbourhood Centre (PPS6 Local Centre)
Residential Zone
Total Gross floor area: 824 sqm
Survey date: SATURDAY 21/05/05 Survey Type: MANUAL

2 HF-01-I-01 LOCAL SHOPS, ST ALBANS HERTFORDSHIRE
NEW HOUSE PARK

ST ALBANS
Edge of Town
Residential Zone
Total Gross floor area: 1120 sqm
Survey date: SATURDAY 23/02/02 Survey Type: MANUAL

3 WO-01-I-01 LOCAL SHOPS, WORCESTER WORCESTERSHIRE
AMBLESIDE DRIVE
WARNDON
WORCESTER
Suburban Area (PPS6 Out of Centre)
Residential Zone
Total Gross floor area: 599 sqm
Survey date: SATURDAY 16/03/02 Survey Type: MANUAL

TRIP RATE for Land Use 01 - RETAIL/I - SHOPPING CENTRE - LOCAL SHOPS

VEHICLES

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

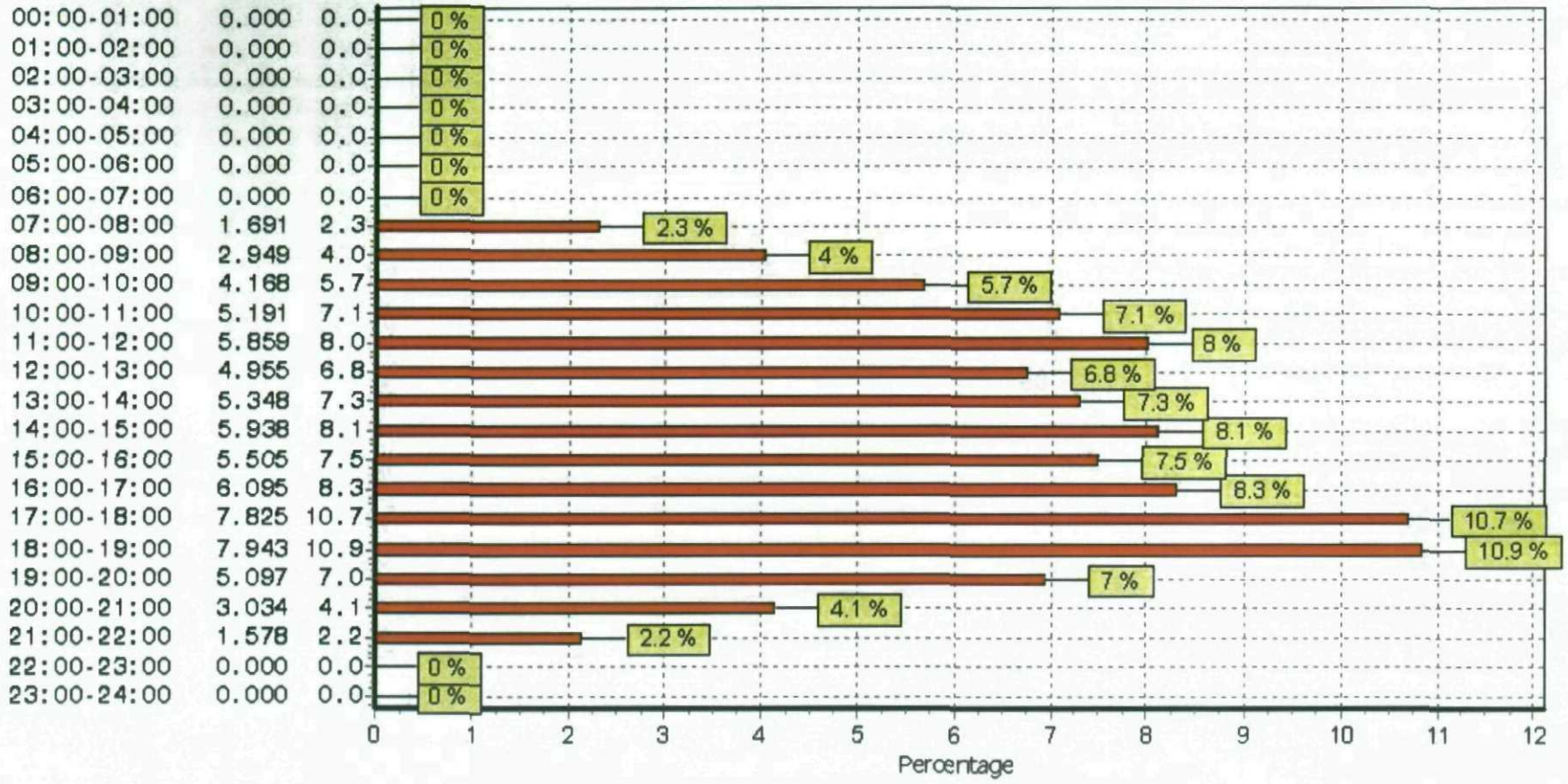
	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00	0	0	0.000	0	0	0.000	0	0	0.000
01:00 - 02:00	0	0	0.000	0	0	0.000	0	0	0.000
02:00 - 03:00	0	0	0.000	0	0	0.000	0	0	0.000
03:00 - 04:00	0	0	0.000	0	0	0.000	0	0	0.000
04:00 - 05:00	0	0	0.000	0	0	0.000	0	0	0.000
05:00 - 06:00	0	0	0.000	0	0	0.000	0	0	0.000
06:00 - 07:00	0	0	0.000	0	0	0.000	0	0	0.000
07:00 - 08:00	3	848	1.691	3	848	1.652	3	848	3.343
08:00 - 09:00	3	848	2.949	3	848	2.635	3	848	5.584
09:00 - 10:00	3	848	4.168	3	848	3.657	3	848	7.825
10:00 - 11:00	3	848	5.191	3	848	5.151	3	848	10.342
11:00 - 12:00	3	848	5.859	3	848	5.663	3	848	11.522
12:00 - 13:00	3	848	4.955	3	848	5.033	3	848	9.988
13:00 - 14:00	3	848	5.348	3	848	5.545	3	848	10.893
14:00 - 15:00	3	848	5.938	3	848	6.252	3	848	12.190
15:00 - 16:00	3	848	5.505	3	848	5.545	3	848	11.050
16:00 - 17:00	3	848	6.095	3	848	5.741	3	848	11.836
17:00 - 18:00	3	848	7.825	3	848	7.118	3	848	14.943
18:00 - 19:00	**3**	**848**	**7.943**	**3**	**848**	**8.061**	**3**	**848**	**16.004**
19:00 - 20:00	1	824	5.097	1	824	4.369	1	824	9.466
20:00 - 21:00	1	824	3.034	1	824	2.791	1	824	5.825
21:00 - 22:00	1	824	1.578	1	824	1.820	1	824	3.398
22:00 - 23:00	0	0	0.000	0	0	0.000	0	0	0.000
23:00 - 24:00	0	0	0.000	0	0	0.000	0	0	0.000
Total Rates:			73.176			71.033			144.209

Parameter summary

Trip rate parameter range selected:	599 - 1120 (units: sqm)
Survey date date range:	01/01/02 - 24/06/09
Number of weekdays (Monday-Friday):	0
Number of Saturdays:	3
Number of Sundays:	0
Surveys manually removed from selection:	5

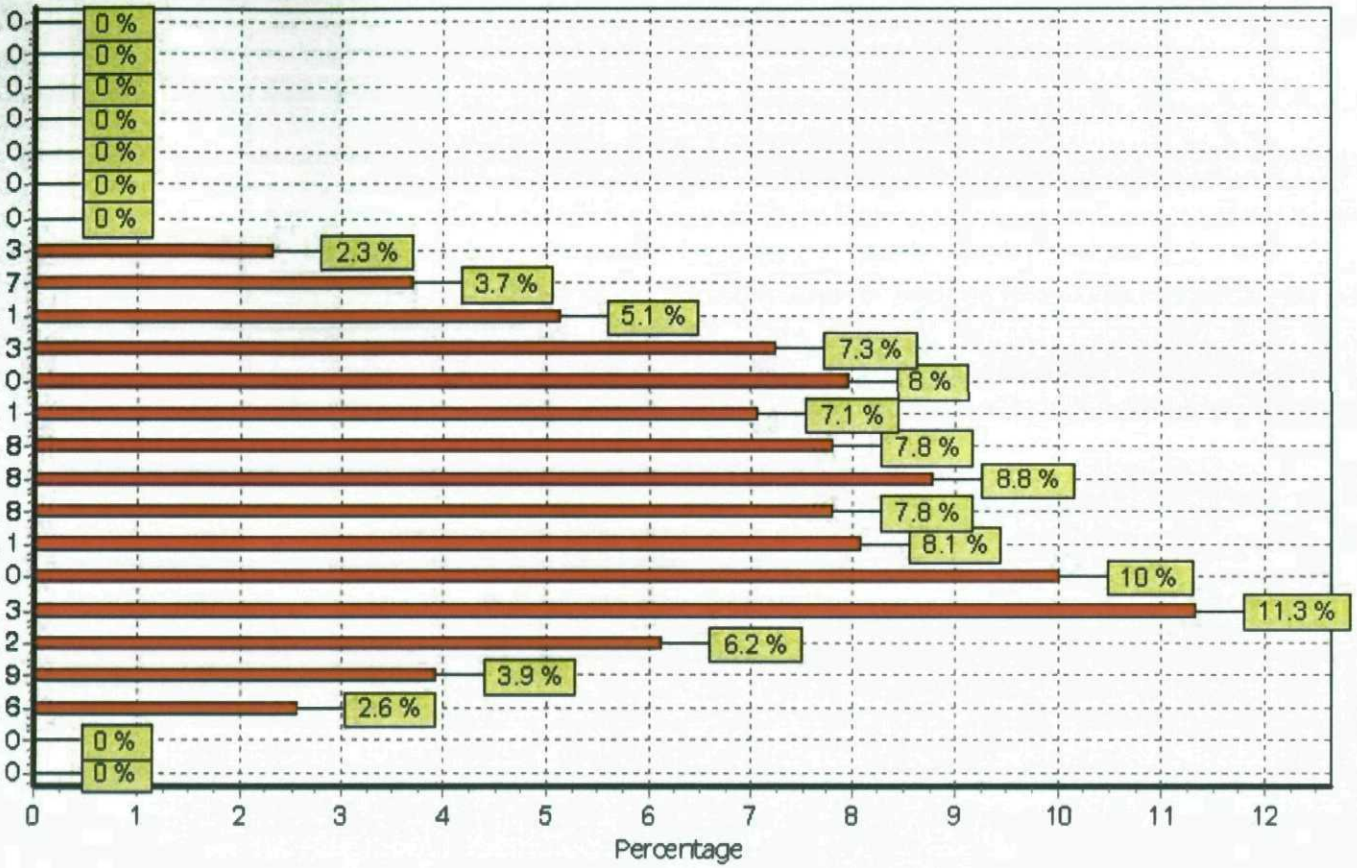
TRIP RATE GRAPH - ARRIVALS 01 - RETAIL I - SHOPPING CENTRE - LOCAL SHOPS VEHICLES

TIME	RATE	%
00:00-01:00	0.000	0.0
01:00-02:00	0.000	0.0
02:00-03:00	0.000	0.0
03:00-04:00	0.000	0.0
04:00-05:00	0.000	0.0
05:00-06:00	0.000	0.0
06:00-07:00	0.000	0.0
07:00-08:00	1.691	2.3
08:00-09:00	2.949	4.0
09:00-10:00	4.168	5.7
10:00-11:00	5.191	7.1
11:00-12:00	5.859	8.0
12:00-13:00	4.955	6.8
13:00-14:00	5.348	7.3
14:00-15:00	5.938	8.1
15:00-16:00	5.505	7.5
16:00-17:00	6.095	8.3
17:00-18:00	7.825	10.7
18:00-19:00	7.943	10.9
19:00-20:00	5.097	7.0
20:00-21:00	3.034	4.1
21:00-22:00	1.578	2.2
22:00-23:00	0.000	0.0
23:00-24:00	0.000	0.0



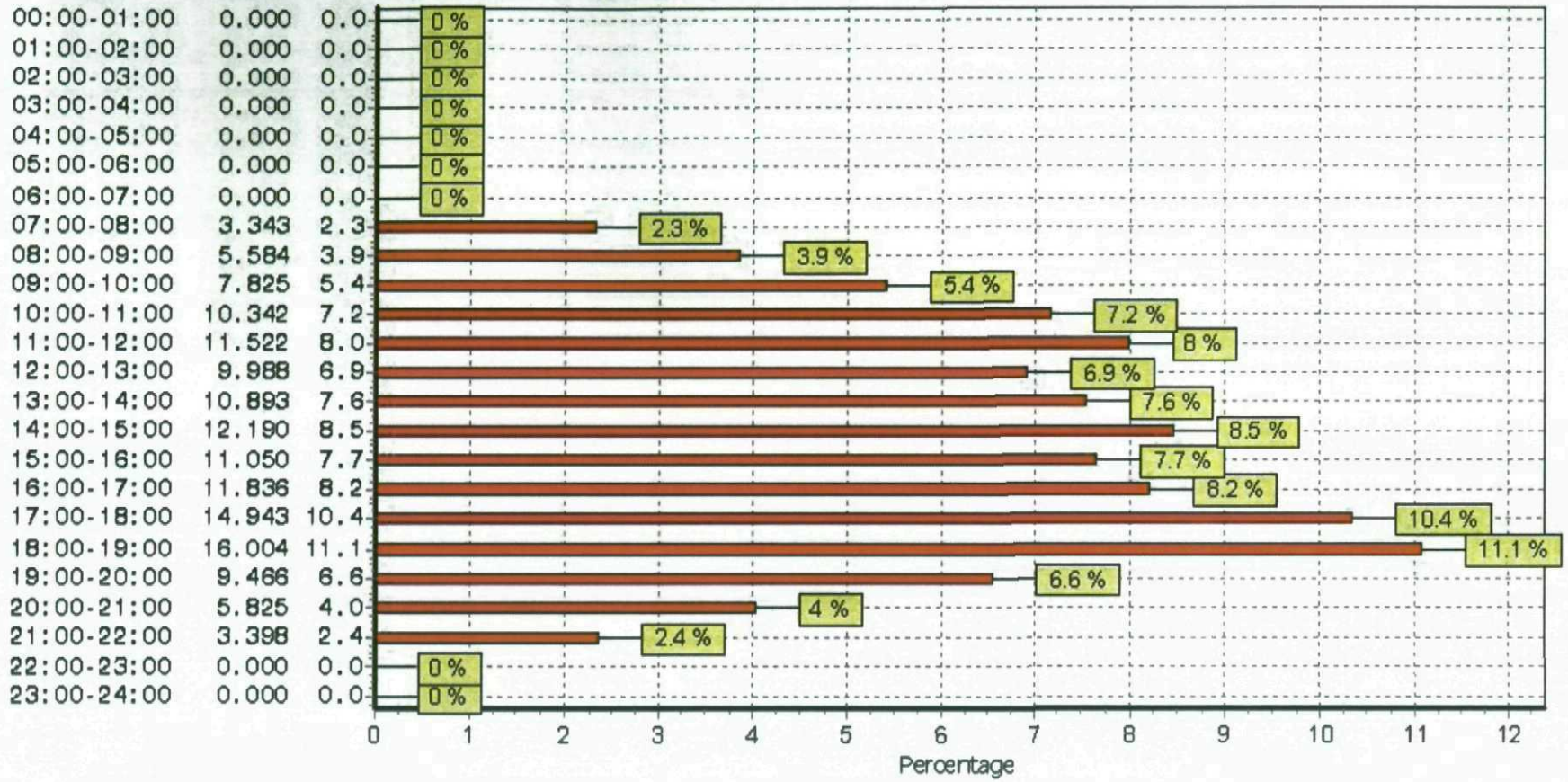
TRIP RATE GRAPH - DEPARTURES 01 - RETAIL I - SHOPPING CENTRE - LOCAL SHOPS VEHICLES

TIME	RATE	%
00:00-01:00	0.000	0.0
01:00-02:00	0.000	0.0
02:00-03:00	0.000	0.0
03:00-04:00	0.000	0.0
04:00-05:00	0.000	0.0
05:00-06:00	0.000	0.0
06:00-07:00	0.000	0.0
07:00-08:00	1.652	2.3
08:00-09:00	2.635	3.7
09:00-10:00	3.657	5.1
10:00-11:00	5.151	7.3
11:00-12:00	5.663	8.0
12:00-13:00	5.033	7.1
13:00-14:00	5.545	7.8
14:00-15:00	6.252	8.8
15:00-16:00	5.545	7.8
16:00-17:00	5.741	8.1
17:00-18:00	7.118	10.0
18:00-19:00	8.061	11.3
19:00-20:00	4.369	6.2
20:00-21:00	2.791	3.9
21:00-22:00	1.820	2.6
22:00-23:00	0.000	0.0
23:00-24:00	0.000	0.0



TRIP RATE GRAPH - TOTALS 01 - RETAIL I - SHOPPING CENTRE - LOCAL SHOPS VEHICLES

TIME	RATE	%
00:00-01:00	0.000	0.0
01:00-02:00	0.000	0.0
02:00-03:00	0.000	0.0
03:00-04:00	0.000	0.0
04:00-05:00	0.000	0.0
05:00-06:00	0.000	0.0
06:00-07:00	0.000	0.0
07:00-08:00	3.343	2.3
08:00-09:00	5.584	3.9
09:00-10:00	7.825	5.4
10:00-11:00	10.342	7.2
11:00-12:00	11.522	8.0
12:00-13:00	9.988	6.9
13:00-14:00	10.893	7.6
14:00-15:00	12.190	8.5
15:00-16:00	11.050	7.7
16:00-17:00	11.836	8.2
17:00-18:00	14.943	10.4
18:00-19:00	16.004	11.1
19:00-20:00	9.466	6.6
20:00-21:00	5.825	4.0
21:00-22:00	3.398	2.4
22:00-23:00	0.000	0.0
23:00-24:00	0.000	0.0



TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 01 - RETAIL
Category : I - SHOPPING CENTRE - LOCAL SHOPS
MULTI-MODAL CYCLISTS

Selected regions and areas:

02	**SOUTH EAST**		
	EX	ESSEX	1 days
03	**SOUTH WEST**		
	SG	SOUTH GLOUCESTERSHIRE	1 days
05	**EAST MIDLANDS**		
	DS	DERBYSHIRE	1 days
	NR	NORTHAMPTONSHIRE	1 days
06	**WEST MIDLANDS**		
	SH	SHROPSHIRE	1 days
	WM	WEST MIDLANDS	1 days
07	**YORKSHIRE & NORTH LINCOLNSHIRE**		
	NY	NORTH YORKSHIRE	1 days
09	**NORTH**		
	TW	TYNE & WEAR	1 days
10	**WALES**		
	CF	CARDIFF	1 days

Filtering Stage 2 selection:

Parameter: Gross floor area
Range: 240 to 1200 (units: sqm)

Public Transport Provision:
Selection by: Include all surveys

Date Range: 01/01/02 to 24/06/09

Selected survey days:

Monday	1 days
Tuesday	2 days
Wednesday	3 days
Thursday	1 days
Friday	2 days

Selected survey types:

Manual count	9 days
Directional ATC Count	0 days

Selected Locations:

Suburban Area (PPS6 Out of Centre)	1
Edge of Town	3
Neighbourhood Centre (PPS6 Local Centre)	5

Selected Location Sub Categories:

Commercial Zone	1
Residential Zone	7
No Sub Category	1

TRIP RATE for Land Use 01 - RETAIL/I - SHOPPING CENTRE - LOCAL SHOPS

MULTI-MODAL CYCLISTS

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00	0	0	0.000	0	0	0.000	0	0	0.000
01:00 - 02:00	0	0	0.000	0	0	0.000	0	0	0.000
02:00 - 03:00	0	0	0.000	0	0	0.000	0	0	0.000
03:00 - 04:00	0	0	0.000	0	0	0.000	0	0	0.000
04:00 - 05:00	0	0	0.000	0	0	0.000	0	0	0.000
05:00 - 06:00	0	0	0.000	0	0	0.000	0	0	0.000
06:00 - 07:00	0	0	0.000	0	0	0.000	0	0	0.000
07:00 - 08:00	9	740	0.255	9	740	0.255	9	740	0.510
08:00 - 09:00	9	740	0.120	9	740	0.045	9	740	0.165
09:00 - 10:00	9	740	0.090	9	740	0.075	9	740	0.165
10:00 - 11:00	9	740	0.105	9	740	0.105	9	740	0.210
11:00 - 12:00	9	740	0.045	9	740	0.060	9	740	0.105
12:00 - 13:00	9	740	0.045	9	740	0.060	9	740	0.105
13:00 - 14:00	9	740	0.060	9	740	0.075	9	740	0.135
14:00 - 15:00	9	740	0.120	9	740	0.075	9	740	0.195
15:00 - 16:00	9	740	0.180	9	740	0.135	9	740	0.315
16:00 - 17:00	**9**	**740**	**0.300**	**9**	**740**	**0.285**	**9**	**740**	**0.585**
17:00 - 18:00	9	740	0.195	9	740	0.195	9	740	0.390
18:00 - 19:00	9	740	0.105	9	740	0.150	9	740	0.255
19:00 - 20:00	9	740	0.060	9	740	0.075	9	740	0.135
20:00 - 21:00	6	740	0.023	6	740	0.045	6	740	0.068
21:00 - 22:00	1	820	0.000	1	820	0.000	1	820	0.000
22:00 - 23:00	0	0	0.000	0	0	0.000	0	0	0.000
23:00 - 24:00	0	0	0.000	0	0	0.000	0	0	0.000
Total Rates:			1.703			1.635			3.338

Parameter summary

Trip rate parameter range selected:	240 - 1200 (units: sqm)
Survey date date range:	01/01/02 - 24/06/09
Number of weekdays (Monday-Friday):	9
Number of Saturdays:	0
Number of Sundays:	0
Surveys manually removed from selection:	3

TRIP RATE for Land Use 01 - RETAIL/I - SHOPPING CENTRE - LOCAL SHOPS

MULTI-MODAL VEHICLE OCCUPANTS

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	0	0	0.000	0	0	0.000	0	0	0.000
01:00 - 02:00	0	0	0.000	0	0	0.000	0	0	0.000
02:00 - 03:00	0	0	0.000	0	0	0.000	0	0	0.000
03:00 - 04:00	0	0	0.000	0	0	0.000	0	0	0.000
04:00 - 05:00	0	0	0.000	0	0	0.000	0	0	0.000
05:00 - 06:00	0	0	0.000	0	0	0.000	0	0	0.000
06:00 - 07:00	0	0	0.000	0	0	0.000	0	0	0.000
07:00 - 08:00	9	740	4.429	9	740	3.979	9	740	8.408
08:00 - 09:00	9	740	7.417	9	740	6.862	9	740	14.279
09:00 - 10:00	9	740	7.387	9	740	7.057	9	740	14.444
10:00 - 11:00	9	740	6.802	9	740	6.847	9	740	13.649
11:00 - 12:00	9	740	6.862	9	740	6.742	9	740	13.604
12:00 - 13:00	9	740	8.078	9	740	7.763	9	740	15.841
13:00 - 14:00	9	740	6.997	9	740	6.757	9	740	13.754
14:00 - 15:00	9	740	6.712	9	740	6.847	9	740	13.559
15:00 - 16:00	9	740	7.958	9	740	7.703	9	740	15.661
16:00 - 17:00	**9**	**740**	**8.468**	**9**	**740**	**8.529**	**9**	**740**	**16.997**
17:00 - 18:00	9	740	7.417	9	740	7.763	9	740	15.180
18:00 - 19:00	9	740	7.372	9	740	7.297	9	740	14.669
19:00 - 20:00	9	740	5.811	9	740	6.036	9	740	11.847
20:00 - 21:00	6	740	2.815	6	740	3.266	6	740	6.081
21:00 - 22:00	1	820	0.244	1	820	0.732	1	820	0.976
22:00 - 23:00	0	0	0.000	0	0	0.000	0	0	0.000
23:00 - 24:00	0	0	0.000	0	0	0.000	0	0	0.000
Total Rates:			94.769			94.180			188.949

Parameter summary

Trip rate parameter range selected:	240 - 1200 (units: sqm)
Survey date date range:	01/01/02 - 24/06/09
Number of weekdays (Monday-Friday):	9
Number of Saturdays:	0
Number of Sundays:	0
Surveys manually removed from selection:	3

TRIP RATE for Land Use 01 - RETAIL/I - SHOPPING CENTRE - LOCAL SHOPS

MULTI-MODAL PEDESTRIANS

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00	0	0	0.000	0	0	0.000	0	0	0.000
01:00 - 02:00	0	0	0.000	0	0	0.000	0	0	0.000
02:00 - 03:00	0	0	0.000	0	0	0.000	0	0	0.000
03:00 - 04:00	0	0	0.000	0	0	0.000	0	0	0.000
04:00 - 05:00	0	0	0.000	0	0	0.000	0	0	0.000
05:00 - 06:00	0	0	0.000	0	0	0.000	0	0	0.000
06:00 - 07:00	0	0	0.000	0	0	0.000	0	0	0.000
07:00 - 08:00	9	740	2.973	9	740	2.808	9	740	5.781
08:00 - 09:00	**9**	**740**	**8.213**	9	740	7.462	9	740	15.675
09:00 - 10:00	9	740	4.054	9	740	4.009	9	740	8.063
10:00 - 11:00	9	740	3.769	9	740	3.483	9	740	7.252
11:00 - 12:00	9	740	4.189	9	740	4.099	9	740	8.288
12:00 - 13:00	9	740	5.811	9	740	5.465	9	740	11.276
13:00 - 14:00	9	740	3.904	9	740	4.700	9	740	8.604
14:00 - 15:00	9	740	3.378	9	740	3.769	9	740	7.147
15:00 - 16:00	9	740	7.477	**9**	**740**	**8.559**	**9**	**740**	**16.036**
16:00 - 17:00	9	740	5.120	9	740	5.856	9	740	10.976
17:00 - 18:00	9	740	4.895	9	740	4.565	9	740	9.460
18:00 - 19:00	9	740	2.658	9	740	3.258	9	740	5.916
19:00 - 20:00	9	740	2.643	9	740	3.288	9	740	5.931
20:00 - 21:00	6	740	0.923	6	740	0.946	6	740	1.869
21:00 - 22:00	1	820	0.366	1	820	0.366	1	820	0.732
22:00 - 23:00	0	0	0.000	0	0	0.000	0	0	0.000
23:00 - 24:00	0	0	0.000	0	0	0.000	0	0	0.000
Total Rates:			60.373			62.633			123.006

Parameter summary

Trip rate parameter range selected:	240 - 1200 (units: sqm)
Survey date date range:	01/01/02 - 24/06/09
Number of weekdays (Monday-Friday):	9
Number of Saturdays:	0
Number of Sundays:	0
Surveys manually removed from selection:	3

TRIP RATE for Land Use 01 - RETAIL/I - SHOPPING CENTRE - LOCAL SHOPS

MULTI-MODAL PUBLIC TRANSPORT USERS

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	**0**	**0**	**0.000**	**0**	**0**	**0.000**	**0**	**0**	**0.000**
01:00 - 02:00	0	0	0.000	0	0	0.000	0	0	0.000
02:00 - 03:00	0	0	0.000	0	0	0.000	0	0	0.000
03:00 - 04:00	0	0	0.000	0	0	0.000	0	0	0.000
04:00 - 05:00	0	0	0.000	0	0	0.000	0	0	0.000
05:00 - 06:00	0	0	0.000	0	0	0.000	0	0	0.000
06:00 - 07:00	0	0	0.000	0	0	0.000	0	0	0.000
07:00 - 08:00	1	824	0.000	1	824	0.000	1	824	0.000
08:00 - 09:00	1	824	0.000	1	824	0.000	1	824	0.000
09:00 - 10:00	1	824	0.000	1	824	0.000	1	824	0.000
10:00 - 11:00	1	824	0.000	1	824	0.000	1	824	0.000
11:00 - 12:00	1	824	0.000	1	824	0.000	1	824	0.000
12:00 - 13:00	1	824	0.000	1	824	0.000	1	824	0.000
13:00 - 14:00	1	824	0.000	1	824	0.000	1	824	0.000
14:00 - 15:00	1	824	0.000	1	824	0.000	1	824	0.000
15:00 - 16:00	1	824	0.000	1	824	0.000	1	824	0.000
16:00 - 17:00	1	824	0.000	1	824	0.000	1	824	0.000
17:00 - 18:00	1	824	0.000	1	824	0.000	1	824	0.000
18:00 - 19:00	1	824	0.000	1	824	0.000	1	824	0.000
19:00 - 20:00	1	824	0.000	1	824	0.000	1	824	0.000
20:00 - 21:00	1	824	0.000	1	824	0.000	1	824	0.000
21:00 - 22:00	1	824	0.000	1	824	0.000	1	824	0.000
22:00 - 23:00	0	0	0.000	0	0	0.000	0	0	0.000
23:00 - 24:00	0	0	0.000	0	0	0.000	0	0	0.000
Total Rates:			0.000			0.000			0.000

Parameter summary

Trip rate parameter range selected:	824 - 824 (units: sqm)
Survey date date range:	01/01/02 - 24/06/09
Number of weekdays (Monday-Friday):	0
Number of Saturdays:	1
Number of Sundays:	0
Surveys manually removed from selection:	2

TRIP RATE for Land Use 01 - RETAIL/I - SHOPPING CENTRE - LOCAL SHOPS

MULTI-MODAL TOTAL PEOPLE

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

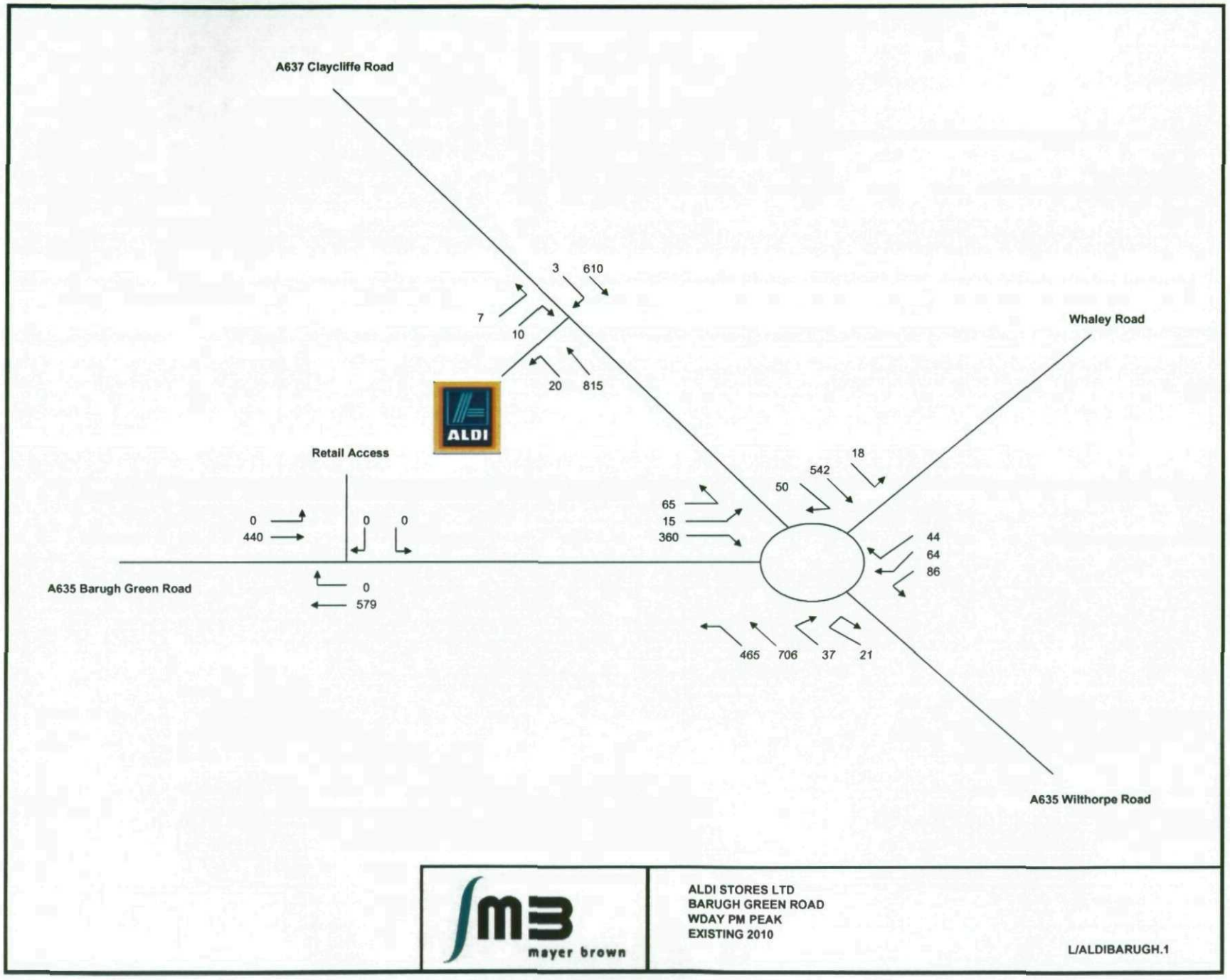
	ARRIVALS			DEPARTURES			TOTALS		
Time Range	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00	0	0	0.000	0	0	0.000	0	0	0.000
01:00 - 02:00	0	0	0.000	0	0	0.000	0	0	0.000
02:00 - 03:00	0	0	0.000	0	0	0.000	0	0	0.000
03:00 - 04:00	0	0	0.000	0	0	0.000	0	0	0.000
04:00 - 05:00	0	0	0.000	0	0	0.000	0	0	0.000
05:00 - 06:00	0	0	0.000	0	0	0.000	0	0	0.000
06:00 - 07:00	0	0	0.000	0	0	0.000	0	0	0.000
07:00 - 08:00	1	824	6.432	1	824	6.553	1	824	12.985
08:00 - 09:00	1	824	10.558	1	824	9.587	1	824	20.145
09:00 - 10:00	1	824	13.471	1	824	11.772	1	824	25.243
10:00 - 11:00	1	824	14.563	1	824	12.379	1	824	26.942
11:00 - 12:00	1	824	12.864	1	824	12.257	1	824	25.121
12:00 - 13:00	1	824	12.500	1	824	11.650	1	824	24.150
13:00 - 14:00	1	824	10.922	1	824	15.291	1	824	26.213
14:00 - 15:00	1	824	11.650	1	824	12.621	1	824	24.271
15:00 - 16:00	1	824	9.709	1	824	9.709	1	824	19.418
16:00 - 17:00	1	824	12.621	1	824	12.379	1	824	25.000
17:00 - 18:00	1	824	13.228	1	824	14.684	1	824	27.912
18:00 - 19:00	**1**	**824**	**21.966**	**1**	**824**	**20.267**	**1**	**824**	**42.233**
19:00 - 20:00	1	824	14.078	1	824	15.291	1	824	29.369
20:00 - 21:00	1	824	9.466	1	824	9.587	1	824	19.053
21:00 - 22:00	1	824	4.248	1	824	4.854	1	824	9.102
22:00 - 23:00	0	0	0.000	0	0	0.000	0	0	0.000
23:00 - 24:00	0	0	0.000	0	0	0.000	0	0	0.000
Total Rates:			178.276			178.881			357.157

Parameter summary

Trip rate parameter range selected:	824 - 824 (units: sqm)
Survey date date range:	01/01/02 - 24/06/09
Number of weekdays (Monday-Friday):	0
Number of Saturdays:	1
Number of Sundays:	0
Surveys manually removed from selection:	2

APPENDIX B

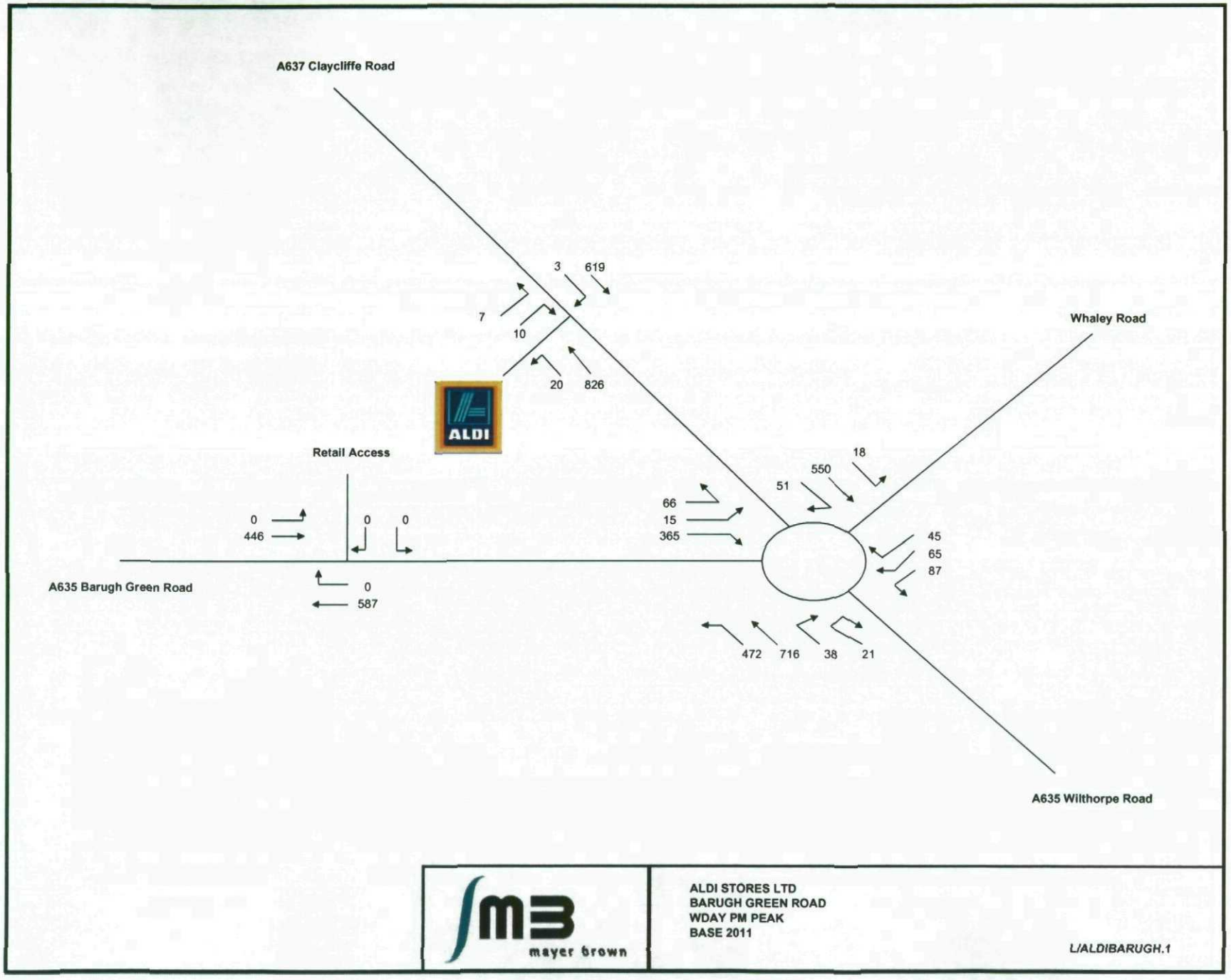
Traffic Flow Diagrams

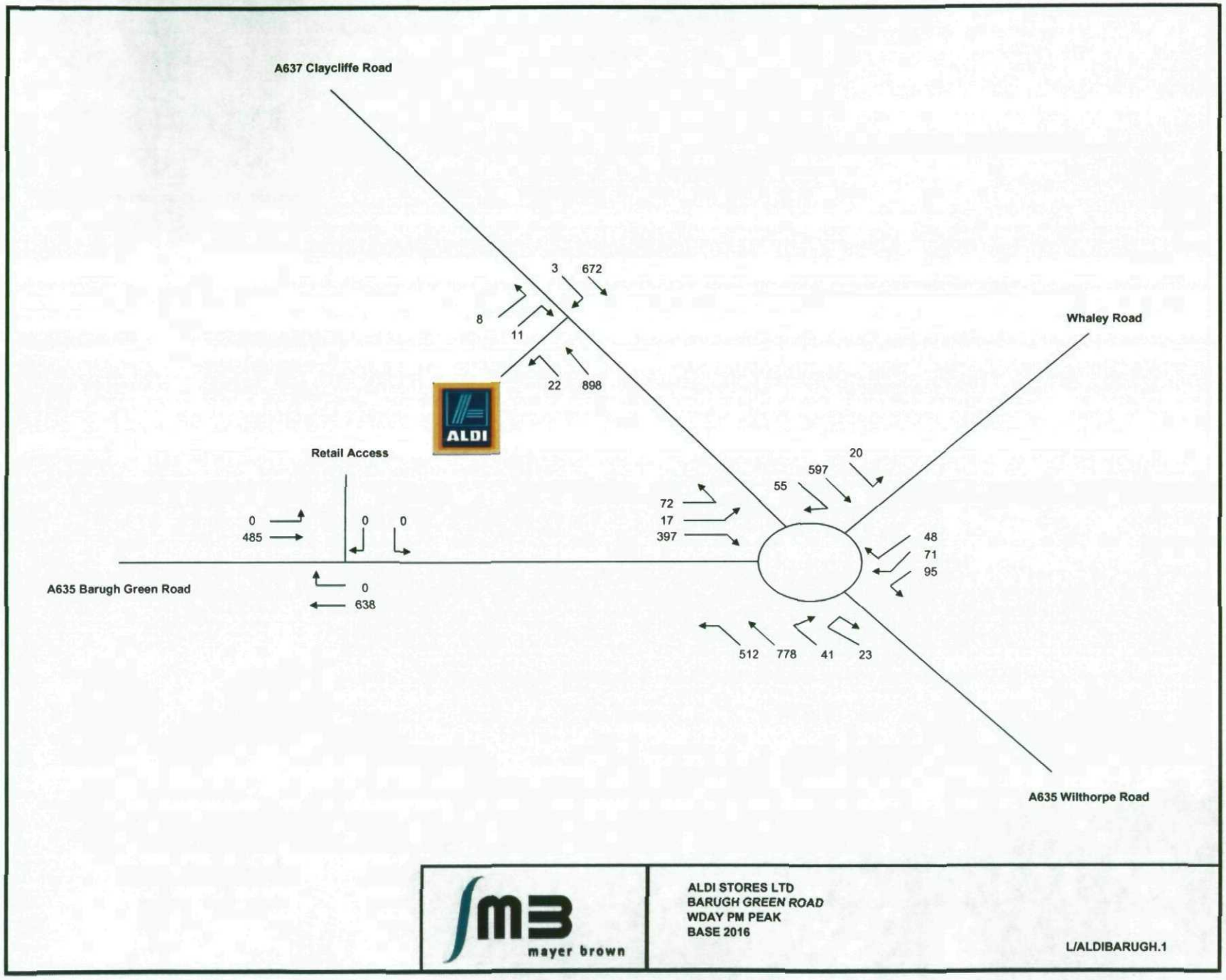


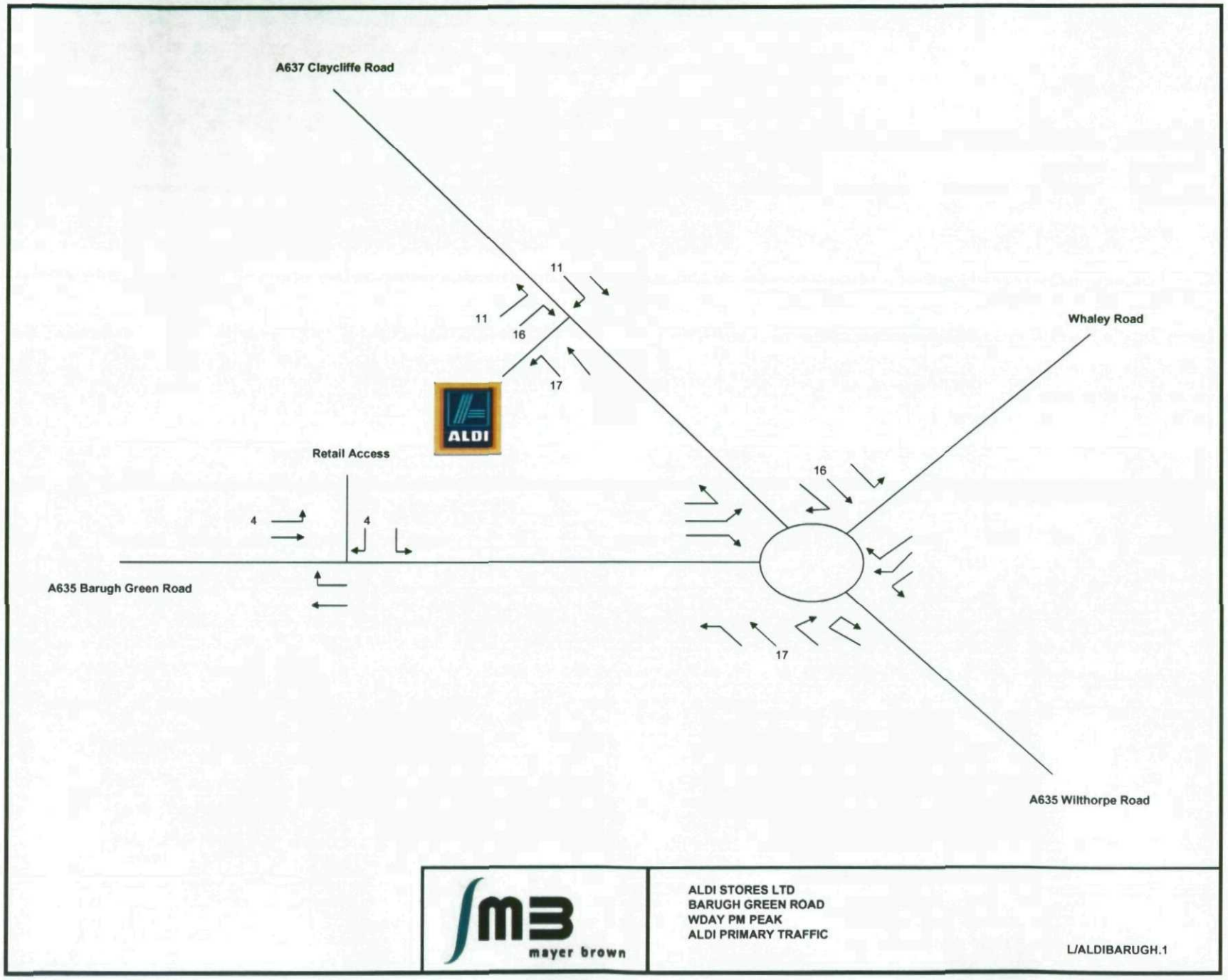
mayer brown

ALDI STORES LTD
BARUGH GREEN ROAD
WDAY PM PEAK
EXISTING 2010

L/ALDIBARUGH.1


A637 Claycliffe Road
3
619
7
10
20
826
Whaley Road
ALDI
Retail Access
18
550
51
66
15
365
0
446
0
0
45
65
87
A635 Barugh Green Road
0
587
472
716
38
21
A635 Wilthorpe Road
mayer brown
ALDI STORES LTD
BARUGH GREEN ROAD
WDAY PM PEAK
BASE 2011
L/ALDIBARUGH.1

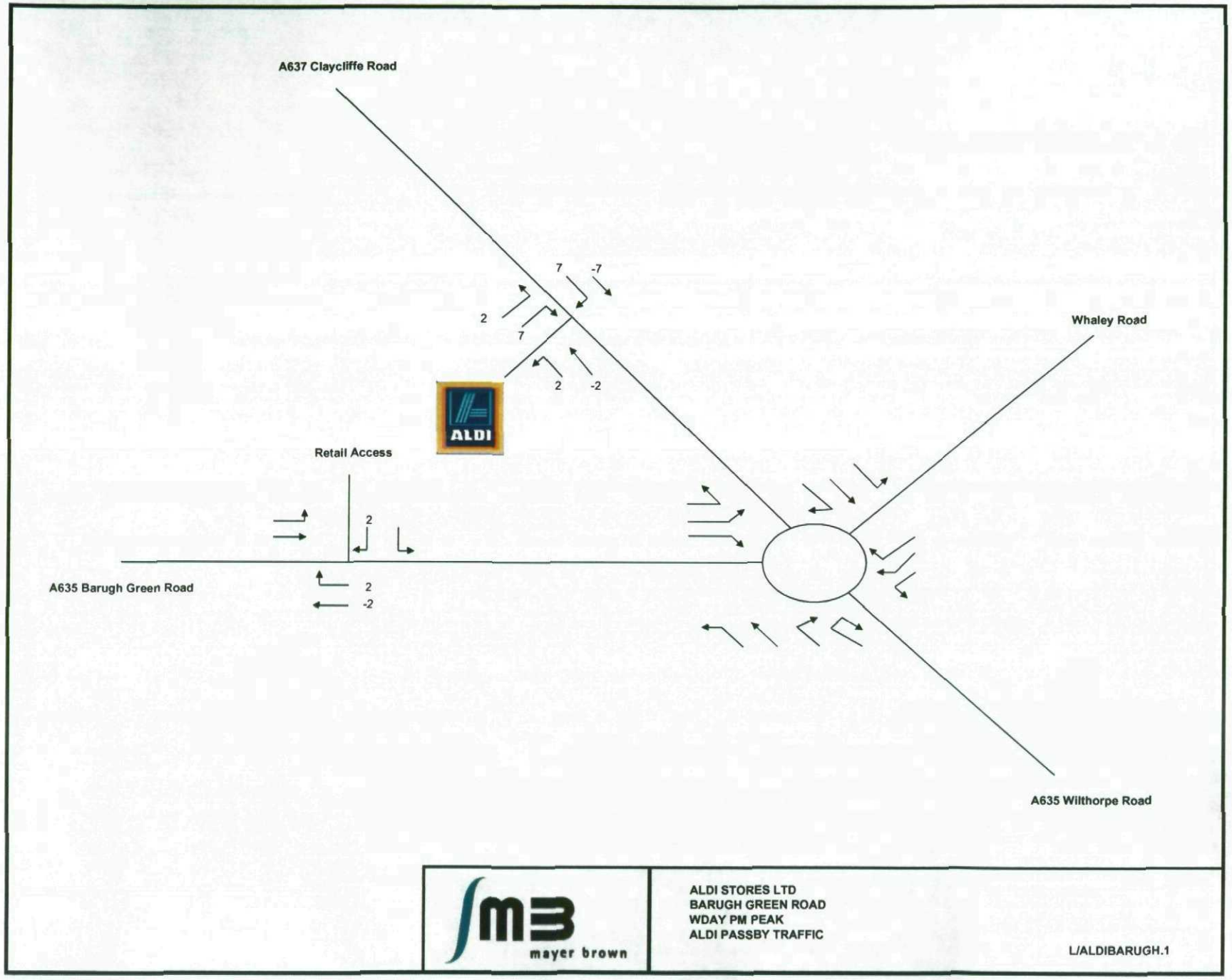

A637 Claycliffe Road
3
672
8
11
22
898
Whaley Road
ALDI
Retail Access
20
597
55
72
17
397
0
485
0
0
48
71
95
A635 Barugh Green Road
0
638
512
778
41
23
A635 Wilthorpe Road
mayer brown
ALDI STORES LTD
BARUGH GREEN ROAD
WDAY PM PEAK
BASE 2016
L/ALDIBARUGH.1



mayer brown

ALDI STORES LTD
BARUGH GREEN ROAD
WDAY PM PEAK
ALDI PRIMARY TRAFFIC

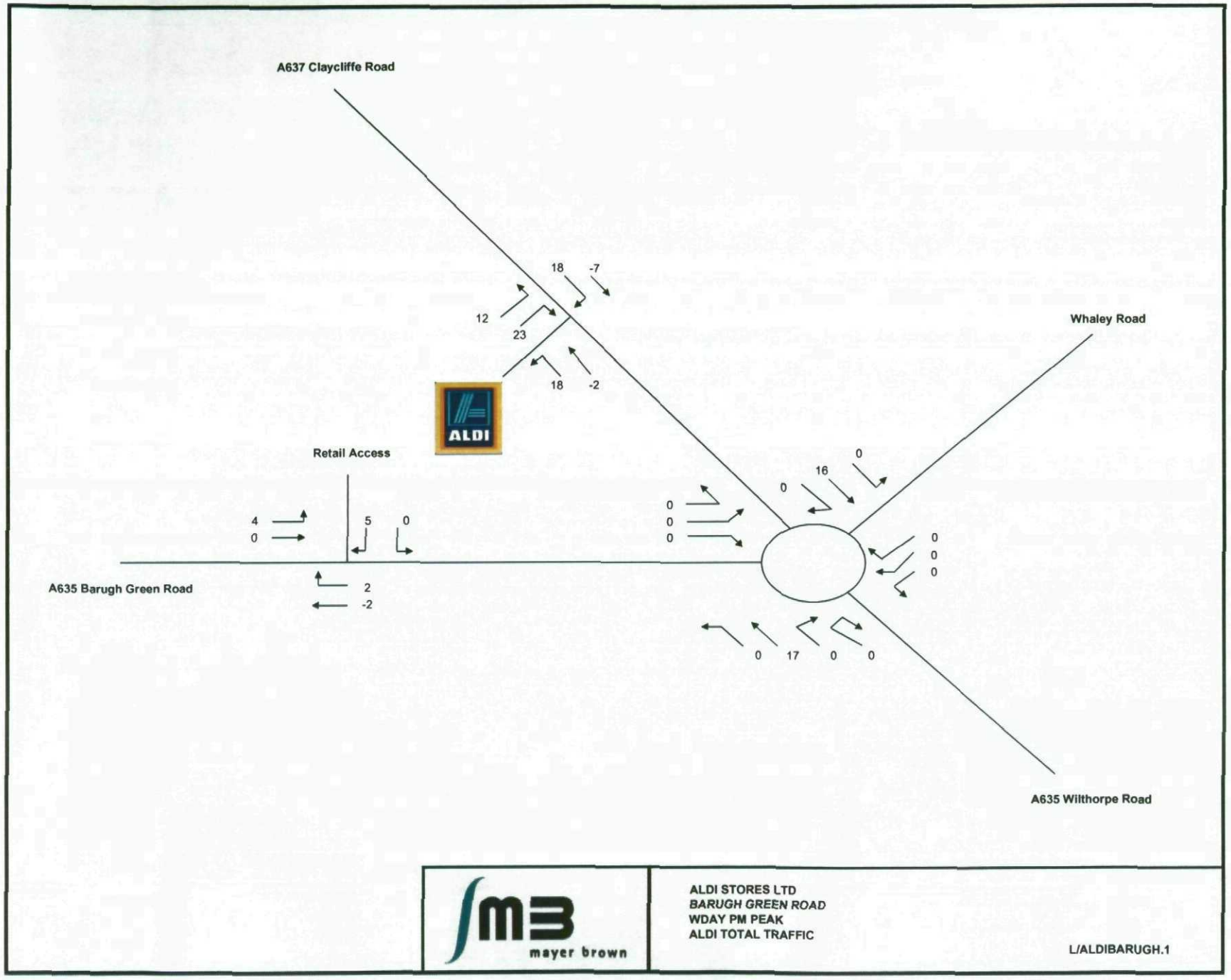
L/ALDIBARUGH.1



mayer brown

ALDI STORES LTD
BARUGH GREEN ROAD
WDAY PM PEAK
ALDI PASSBY TRAFFIC

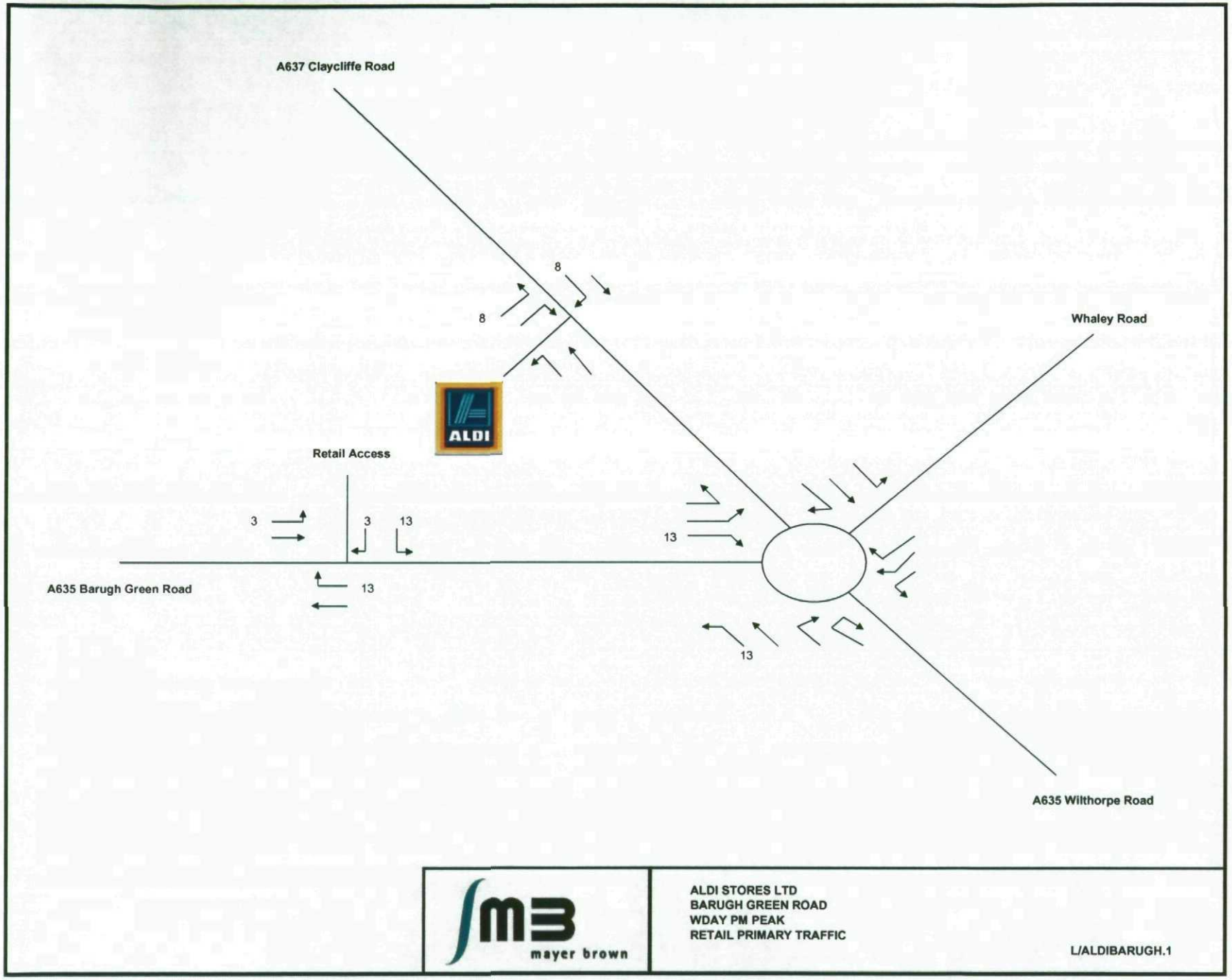
L/ALDIBARUGH.1



mayer brown

ALDI STORES LTD
BARUGH GREEN ROAD
WDAY PM PEAK
ALDI TOTAL TRAFFIC

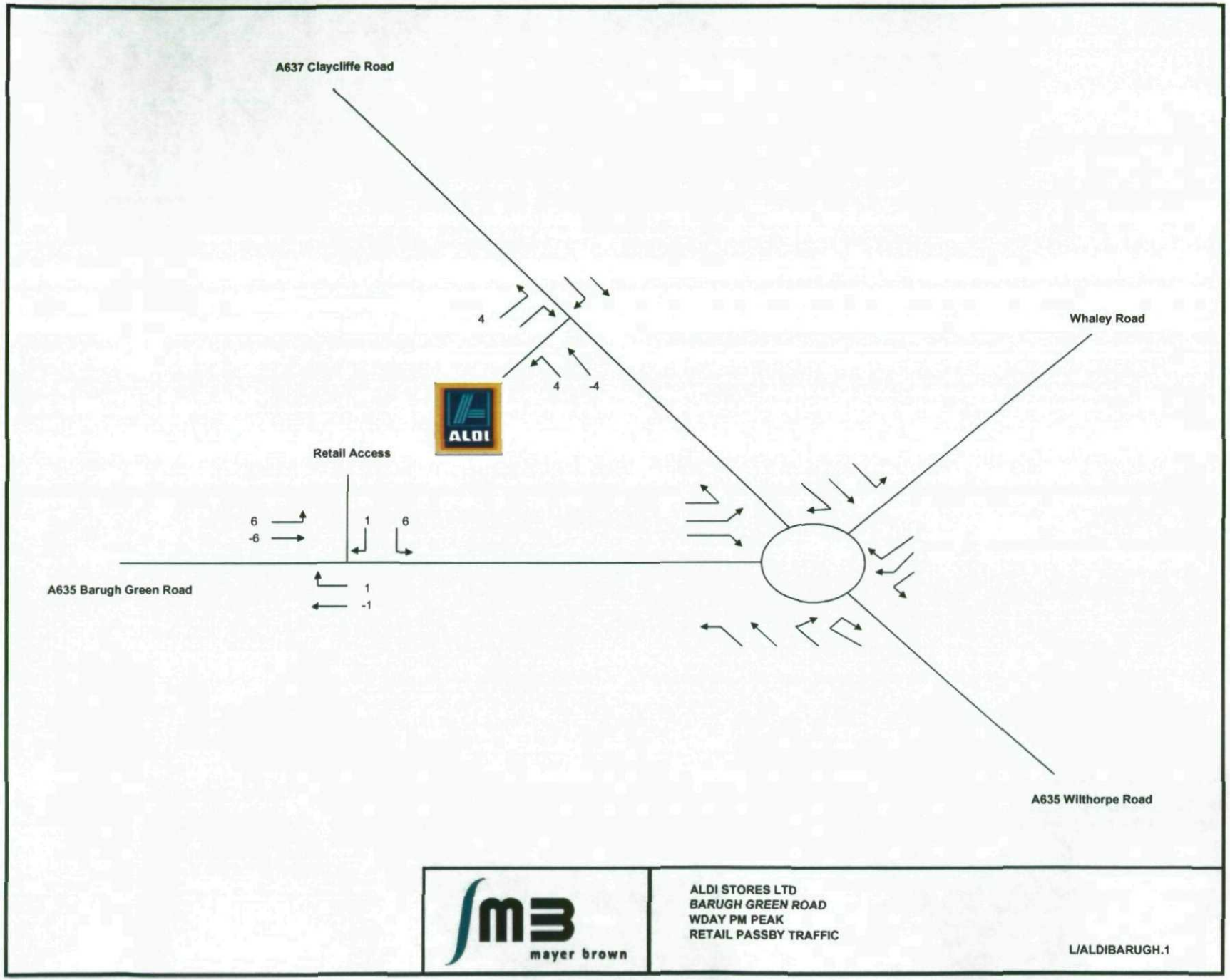
L/ALDIBARUGH.1



mayer brown

ALDI STORES LTD
BARUGH GREEN ROAD
WDAY PM PEAK
RETAIL PRIMARY TRAFFIC

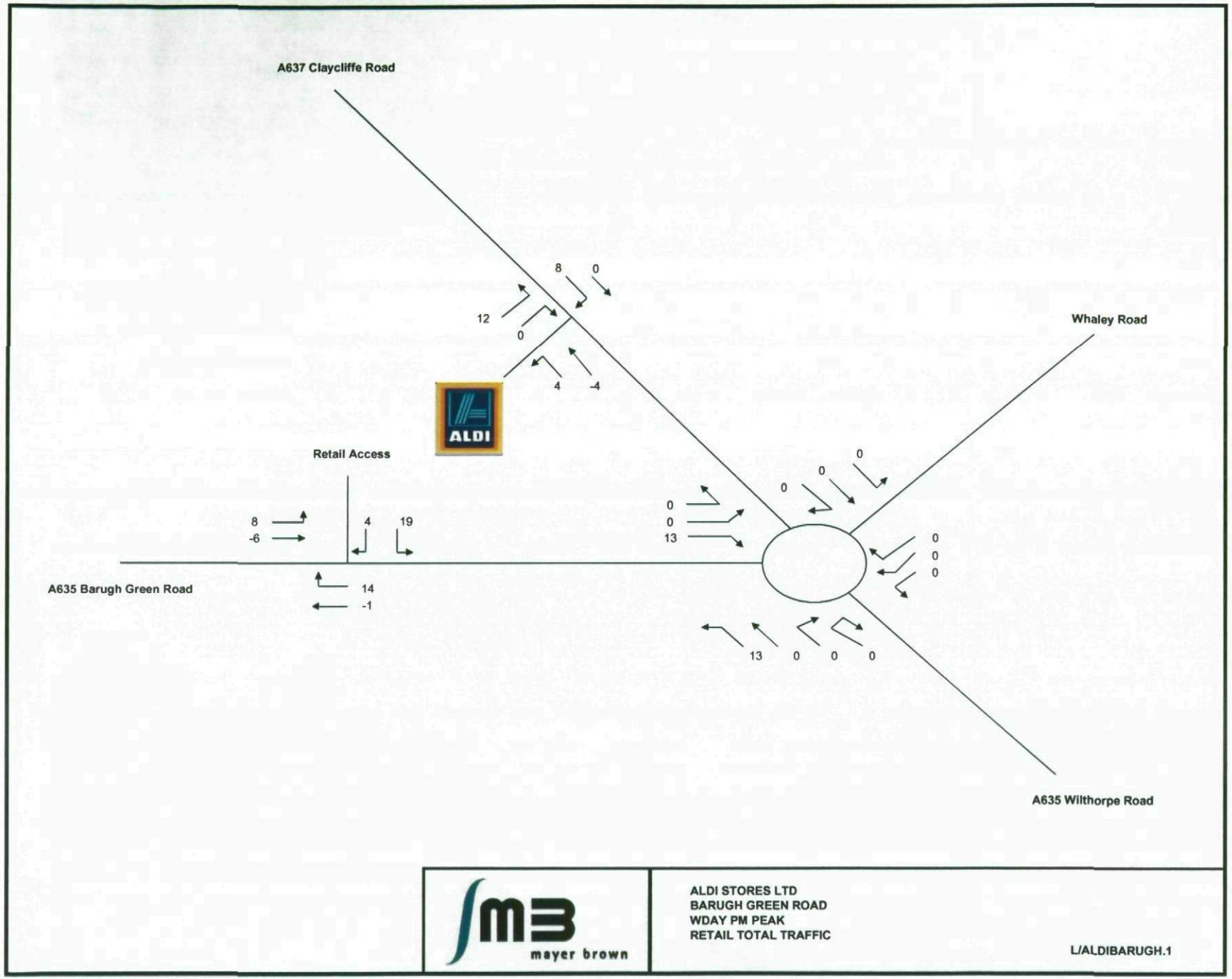
L/ALDIBARUGH.1



mayer brown

ALDI STORES LTD
BARUGH GREEN ROAD
WDAY PM PEAK
RETAIL PASSBY TRAFFIC

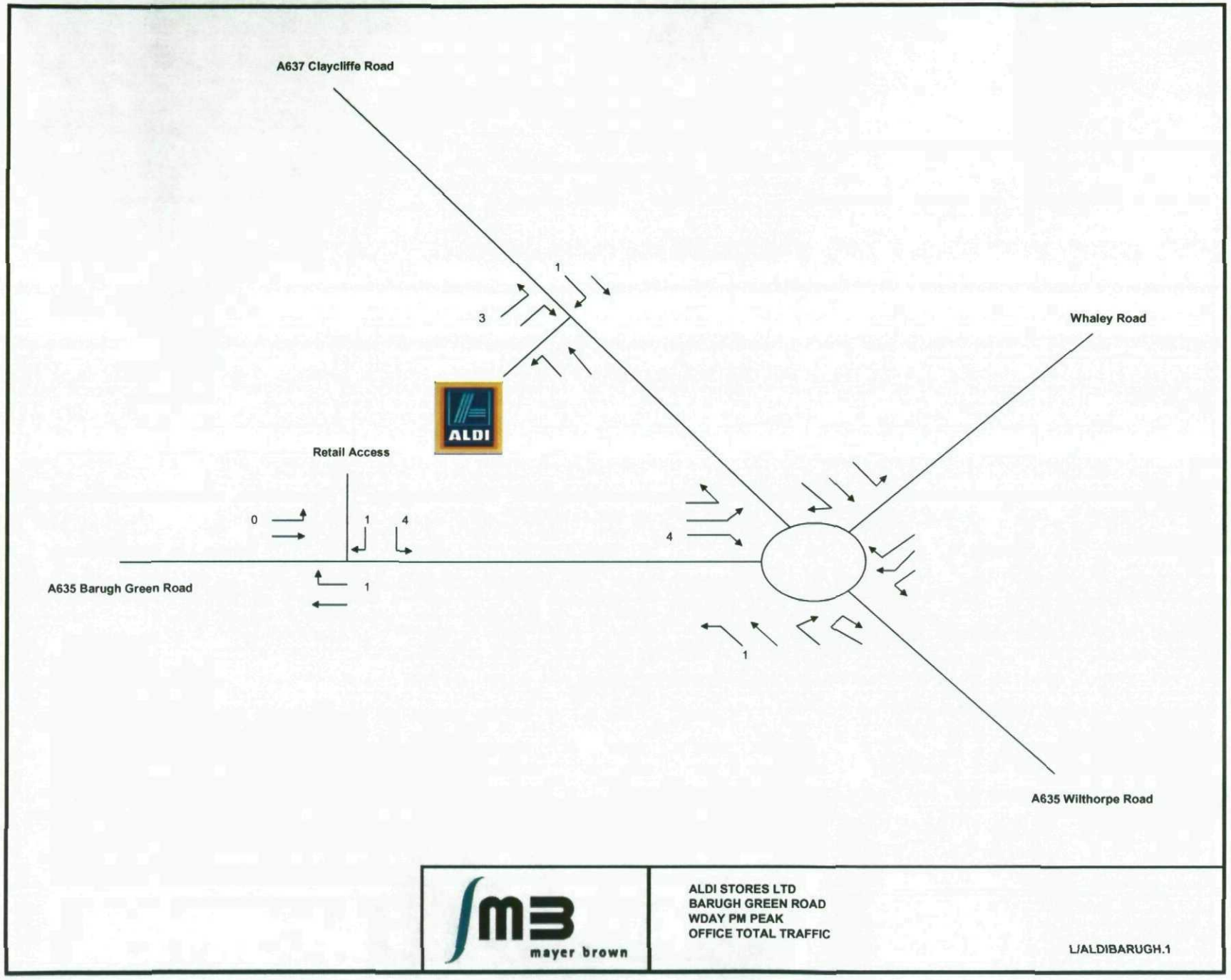
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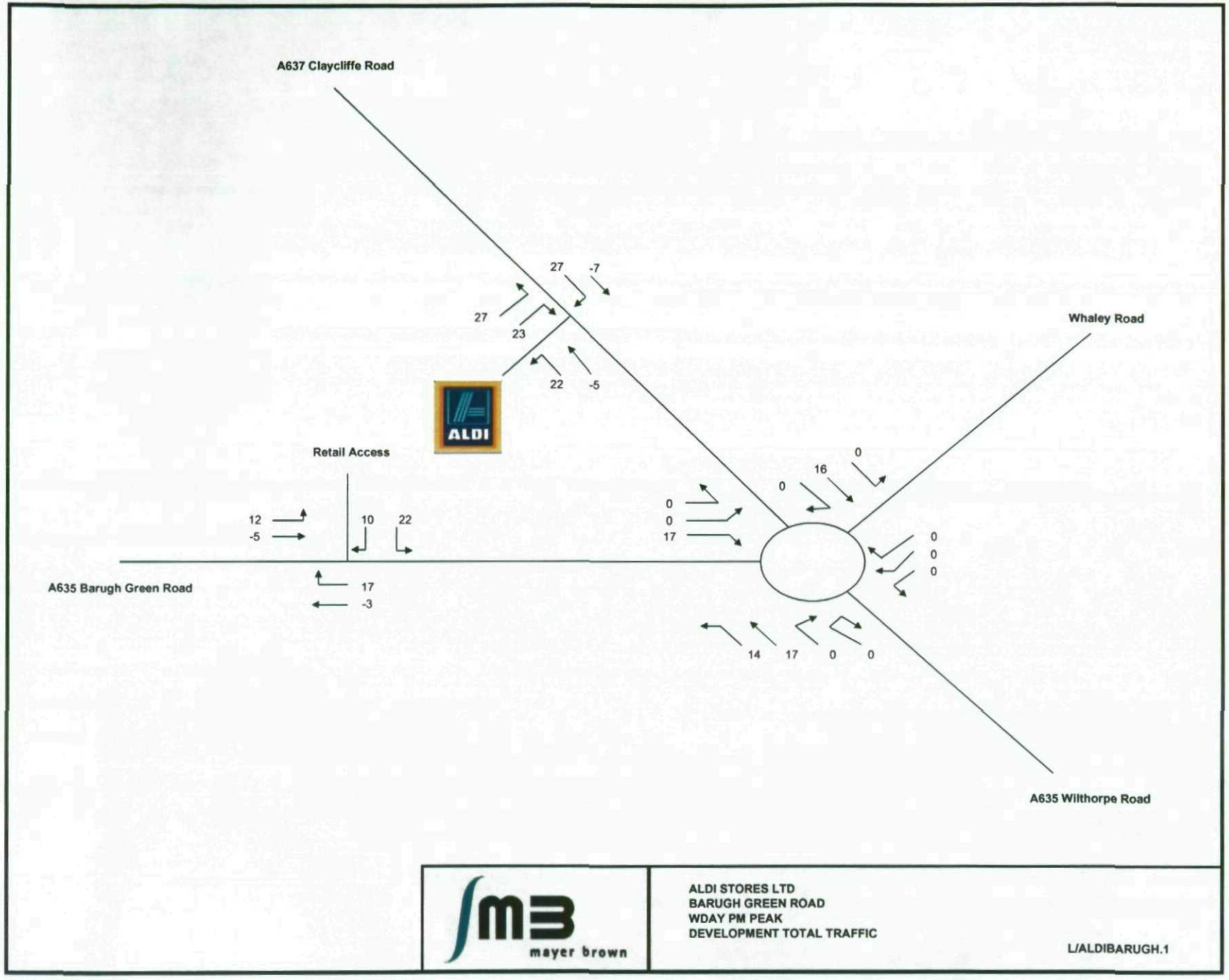


mayer brown

ALDI STORES LTD
BARUGH GREEN ROAD
WDAY PM PEAK
RETAIL TOTAL TRAFFIC

L/ALDIBARUGH.1

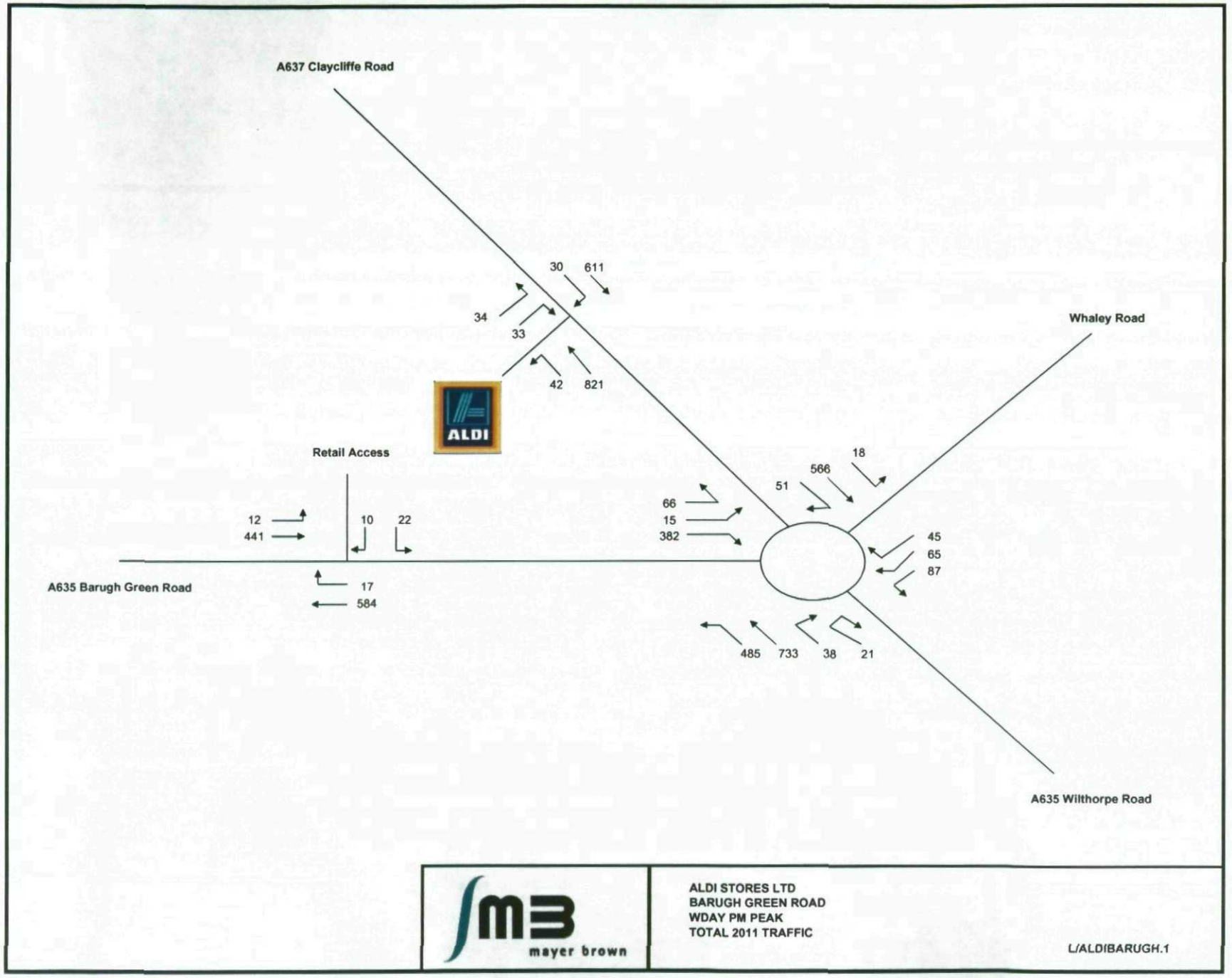

A637 Claycliffe Road
Whaley Road
Retail Access
A635 Barugh Green Road
A635 Wilthorpe Road
ALDI
1
3
0
1
4
1
4
1
mayer brown
ALDI STORES LTD
BARUGH GREEN ROAD
WDAY PM PEAK
OFFICE TOTAL TRAFFIC
L/ALDIBARUGH.1

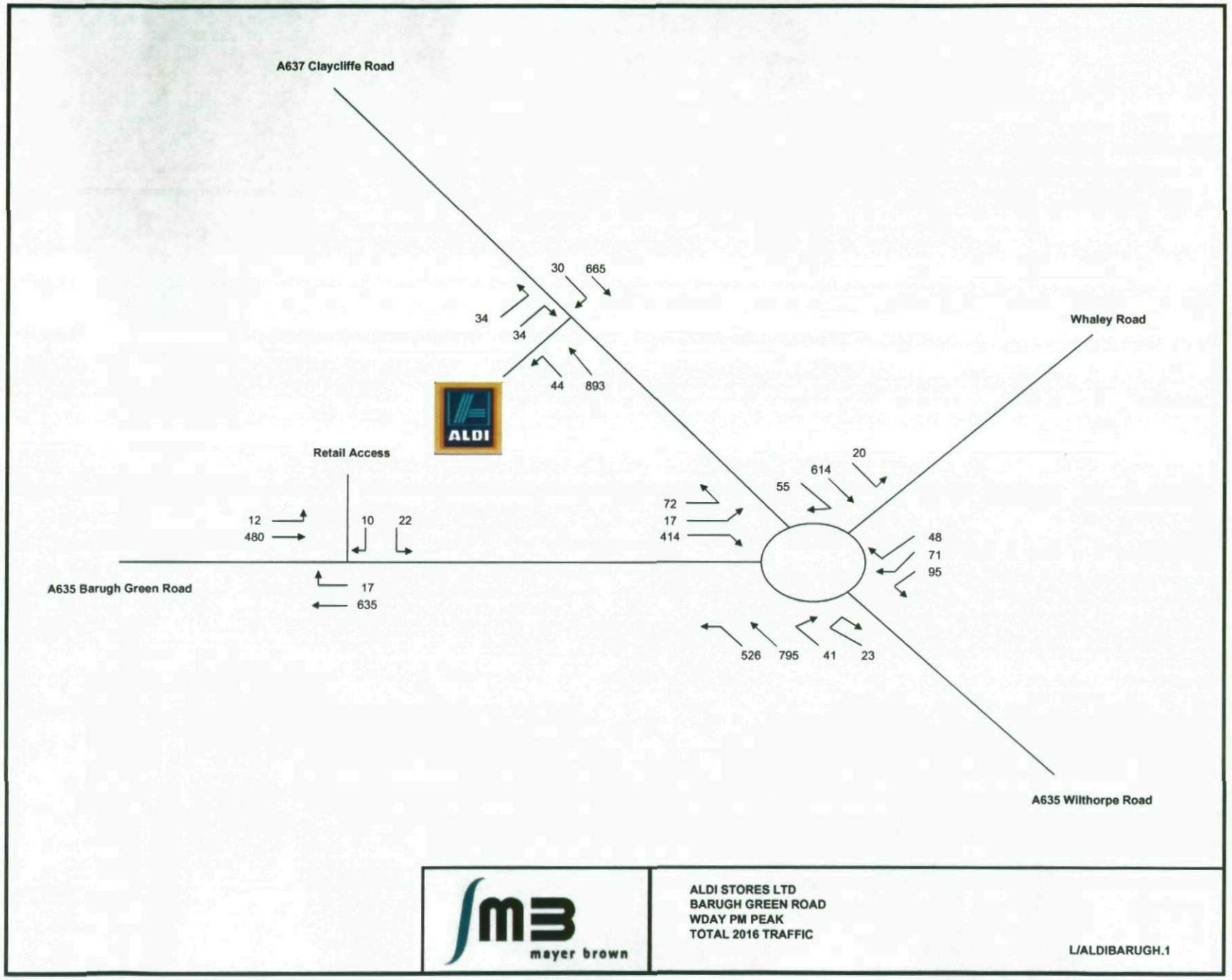


mayer brown

ALDI STORES LTD
BARUGH GREEN ROAD
WDAY PM PEAK
DEVELOPMENT TOTAL TRAFFIC

L/ALDIBARUGH.1

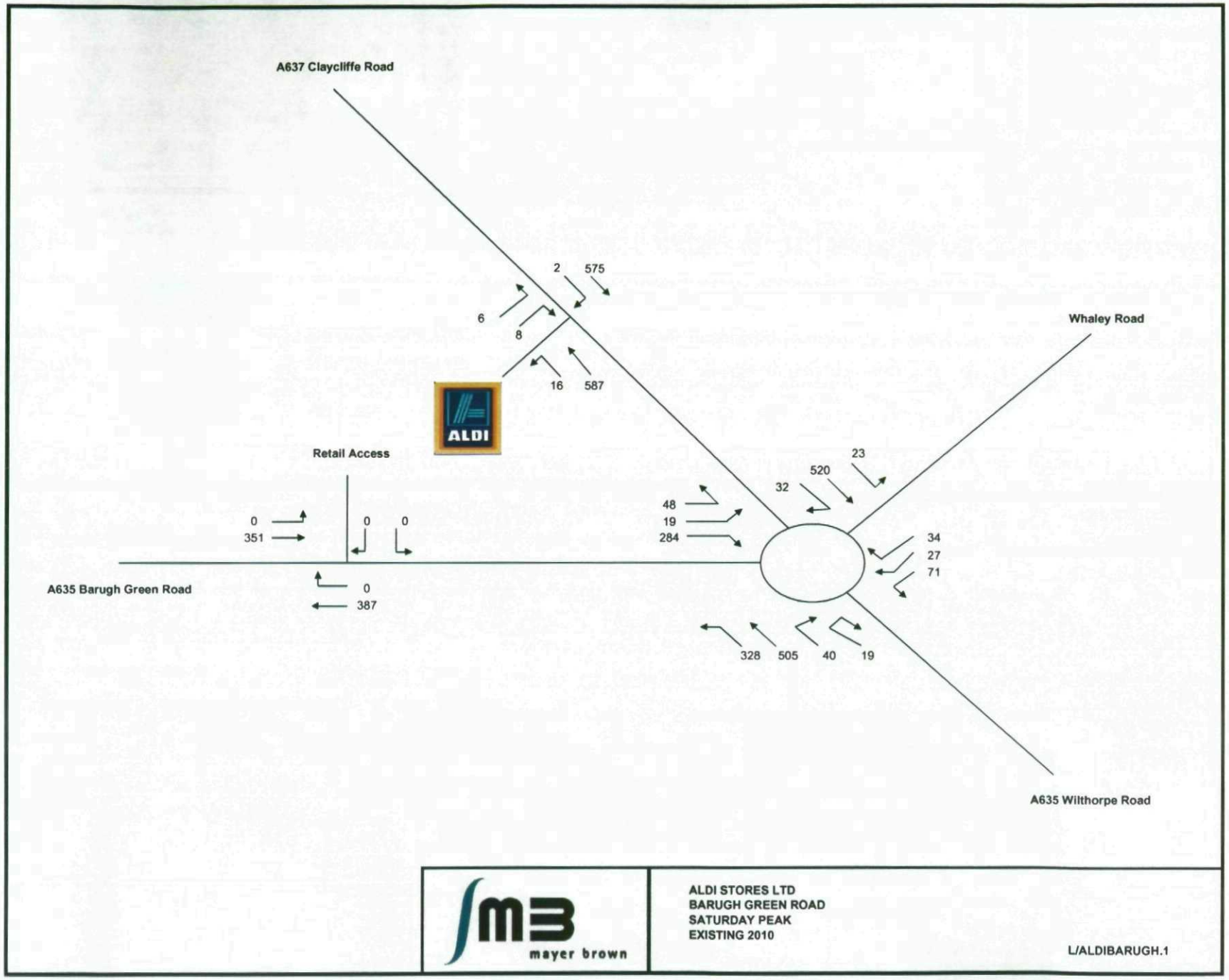

A637 Claycliffe Road
30
611
34
33
42
821
Whaley Road
ALDI
Retail Access
18
566
51
66
15
382
12
441
10
22
45
65
87
A635 Barugh Green Road
17
584
485
733
38
21
A635 Wilthorpe Road
mayer brown
ALDI STORES LTD
BARUGH GREEN ROAD
WDAY PM PEAK
TOTAL 2011 TRAFFIC
L/ALDIBARUGH.1



mayer brown

ALDI STORES LTD
BARUGH GREEN ROAD
WDAY PM PEAK
TOTAL 2016 TRAFFIC

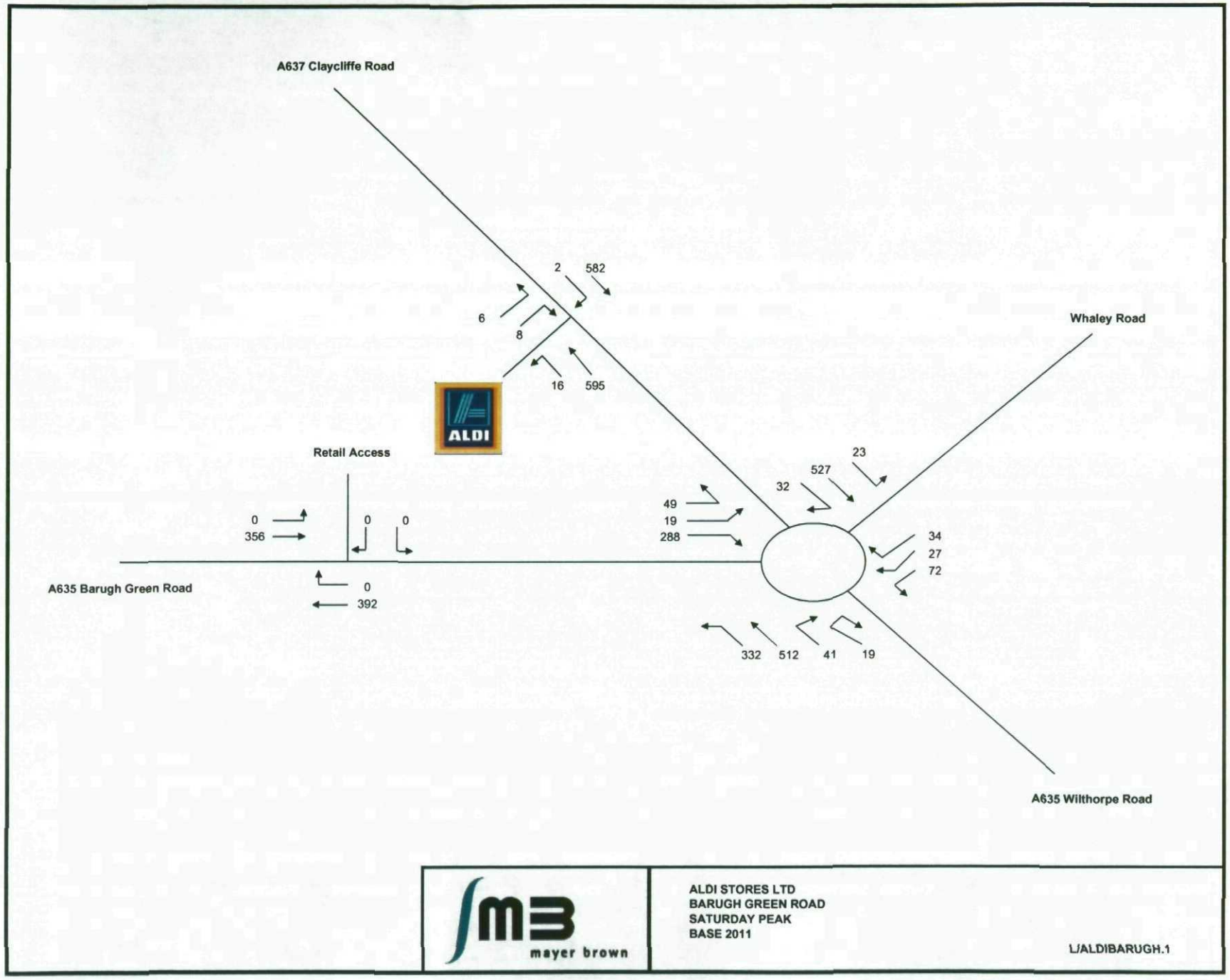
L/ALDIBARUGH.1



mayer brown

ALDI STORES LTD
BARUGH GREEN ROAD
SATURDAY PEAK
EXISTING 2010

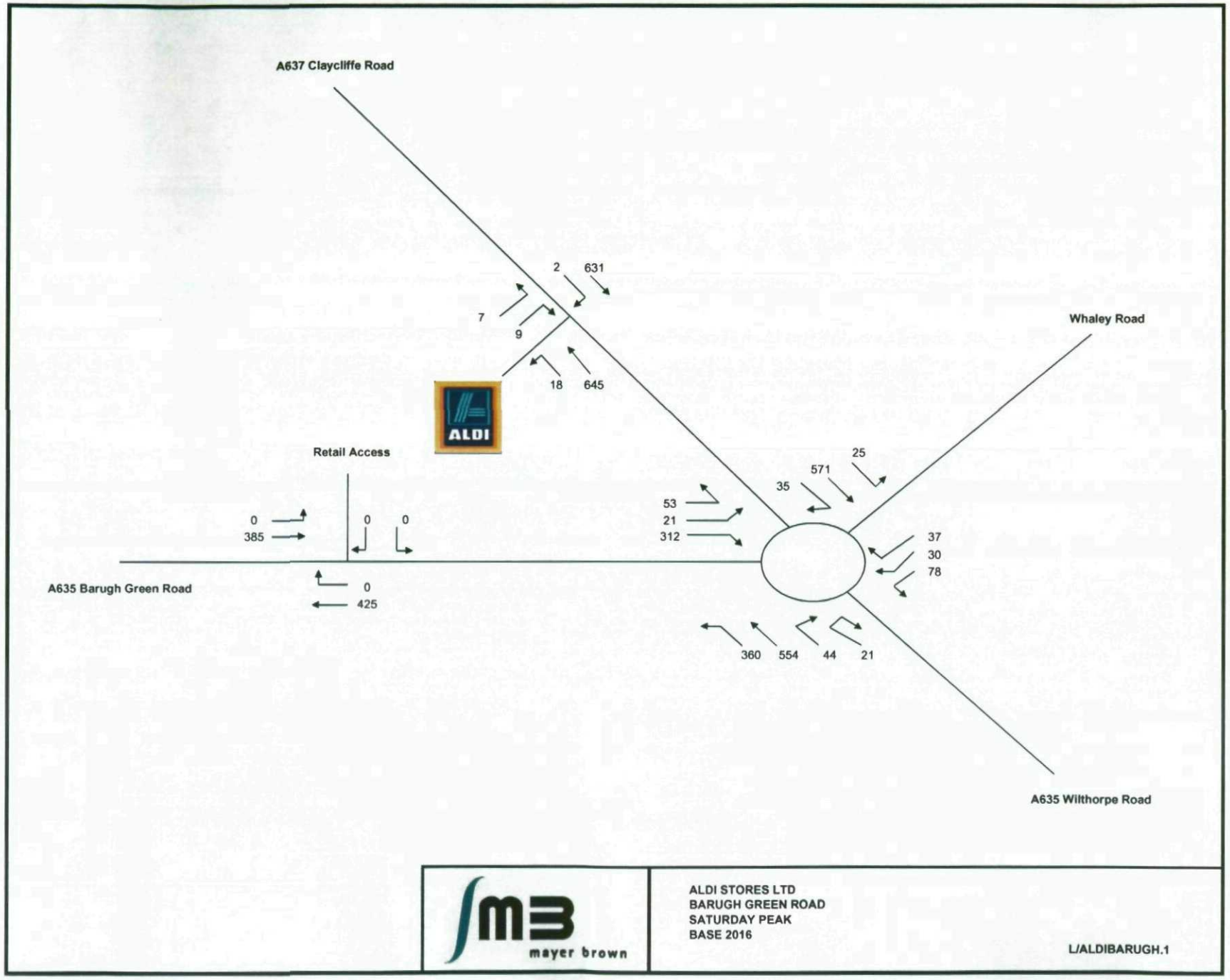
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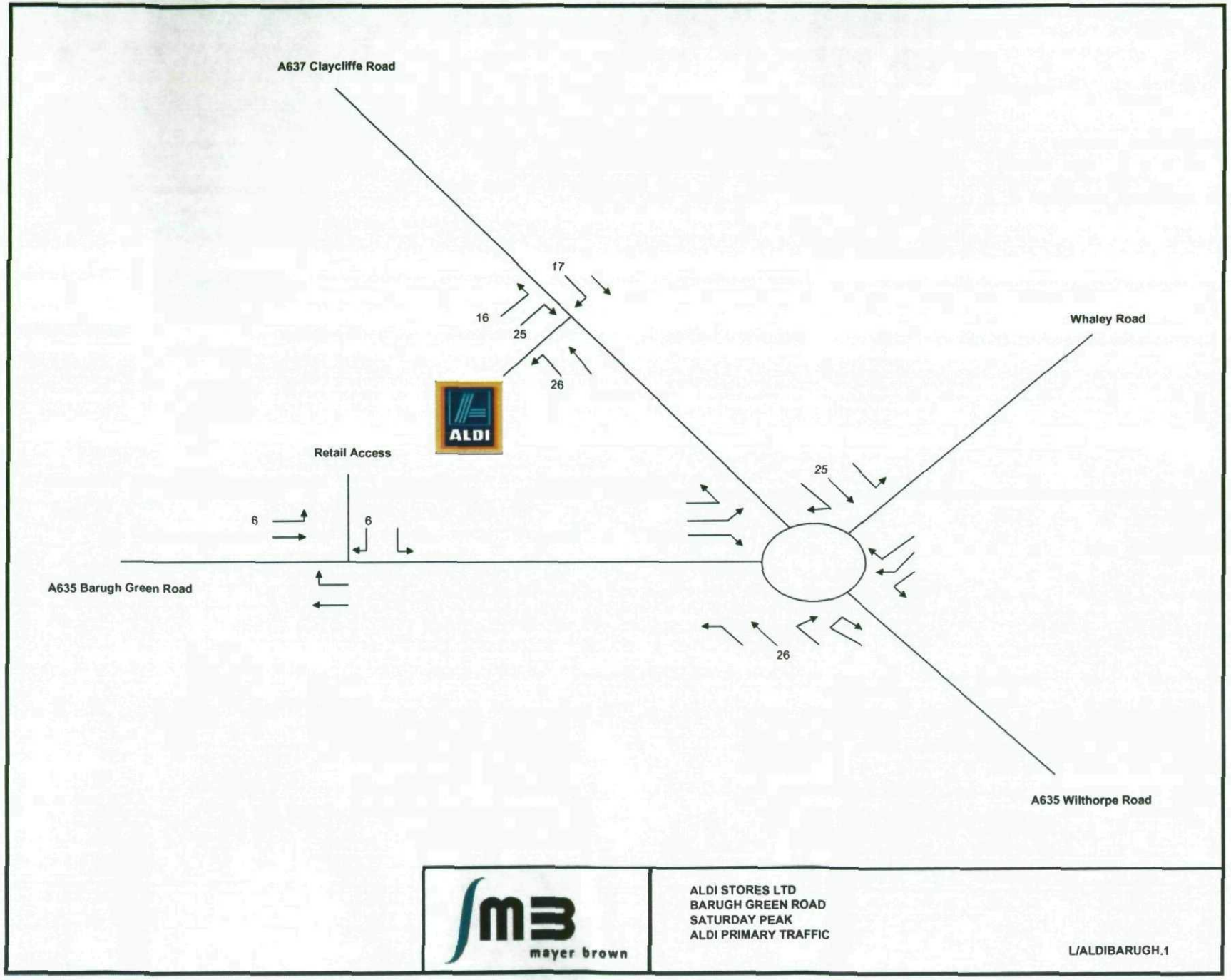


mayer brown

ALDI STORES LTD
BARUGH GREEN ROAD
SATURDAY PEAK
BASE 2011

L/ALDIBARUGH.1

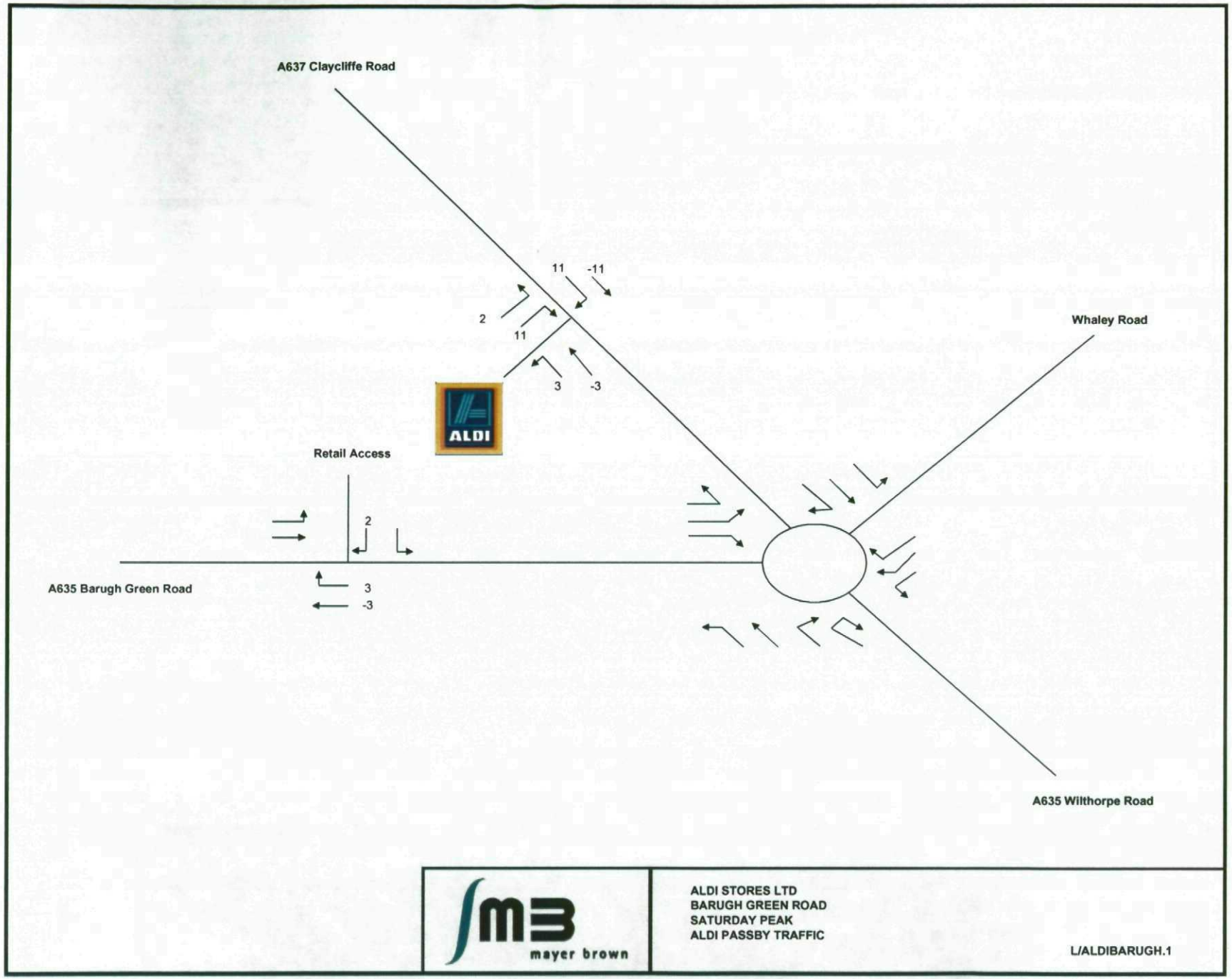

A637 Claycliffe Road
2
631
7
9
18
645
Whaley Road
ALDI
Retail Access
25
571
35
53
21
312
37
30
78
0
385
0
0
0
425
A635 Barugh Green Road
360
554
44
21
A635 Wilthorpe Road
mayer brown
ALDI STORES LTD
BARUGH GREEN ROAD
SATURDAY PEAK
BASE 2016
L/ALDIBARUGH.1



mayer brown

ALDI STORES LTD
BARUGH GREEN ROAD
SATURDAY PEAK
ALDI PRIMARY TRAFFIC

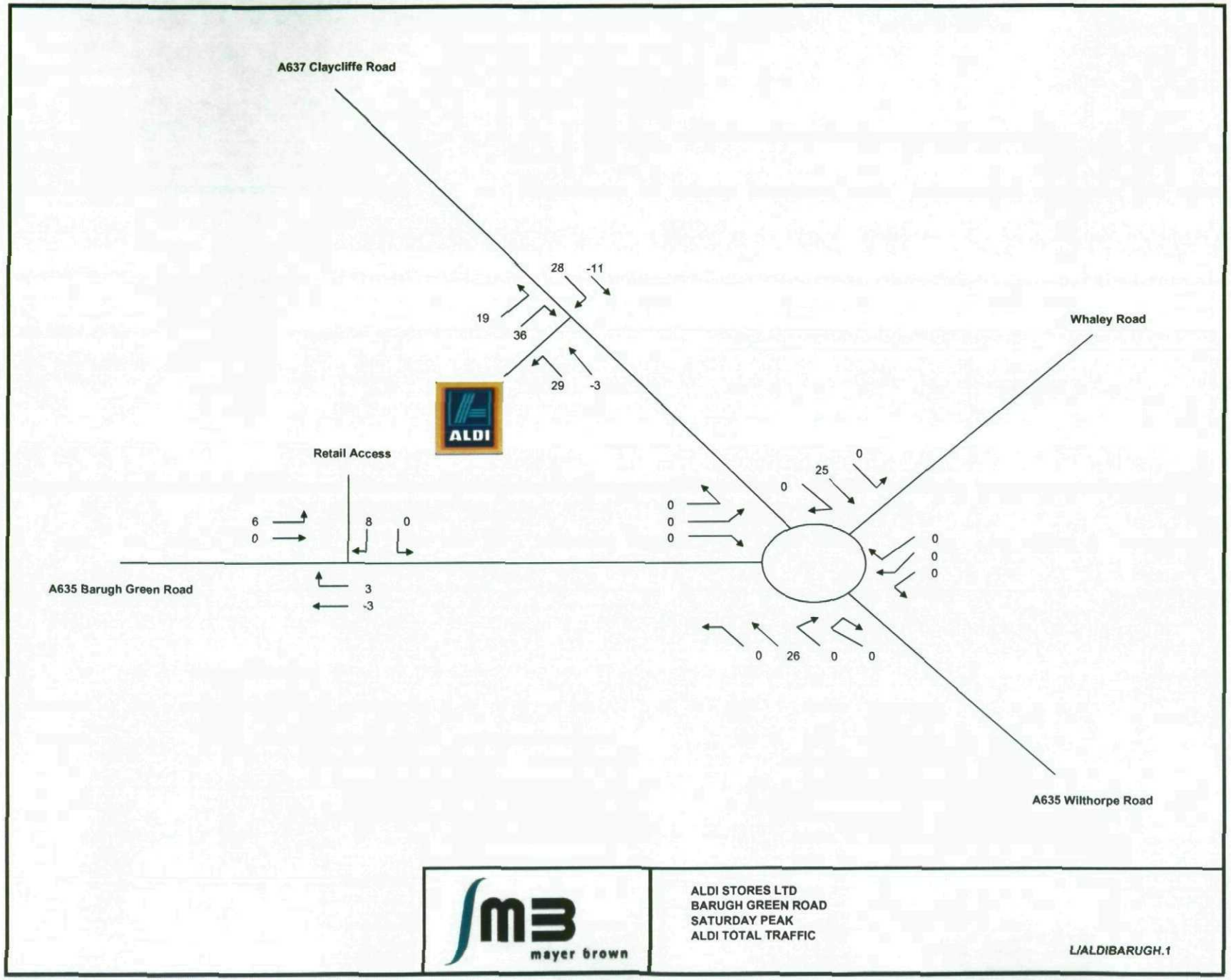
L/ALDIBARUGH.1



mayer brown

ALDI STORES LTD
BARUGH GREEN ROAD
SATURDAY PEAK
ALDI PASSBY TRAFFIC

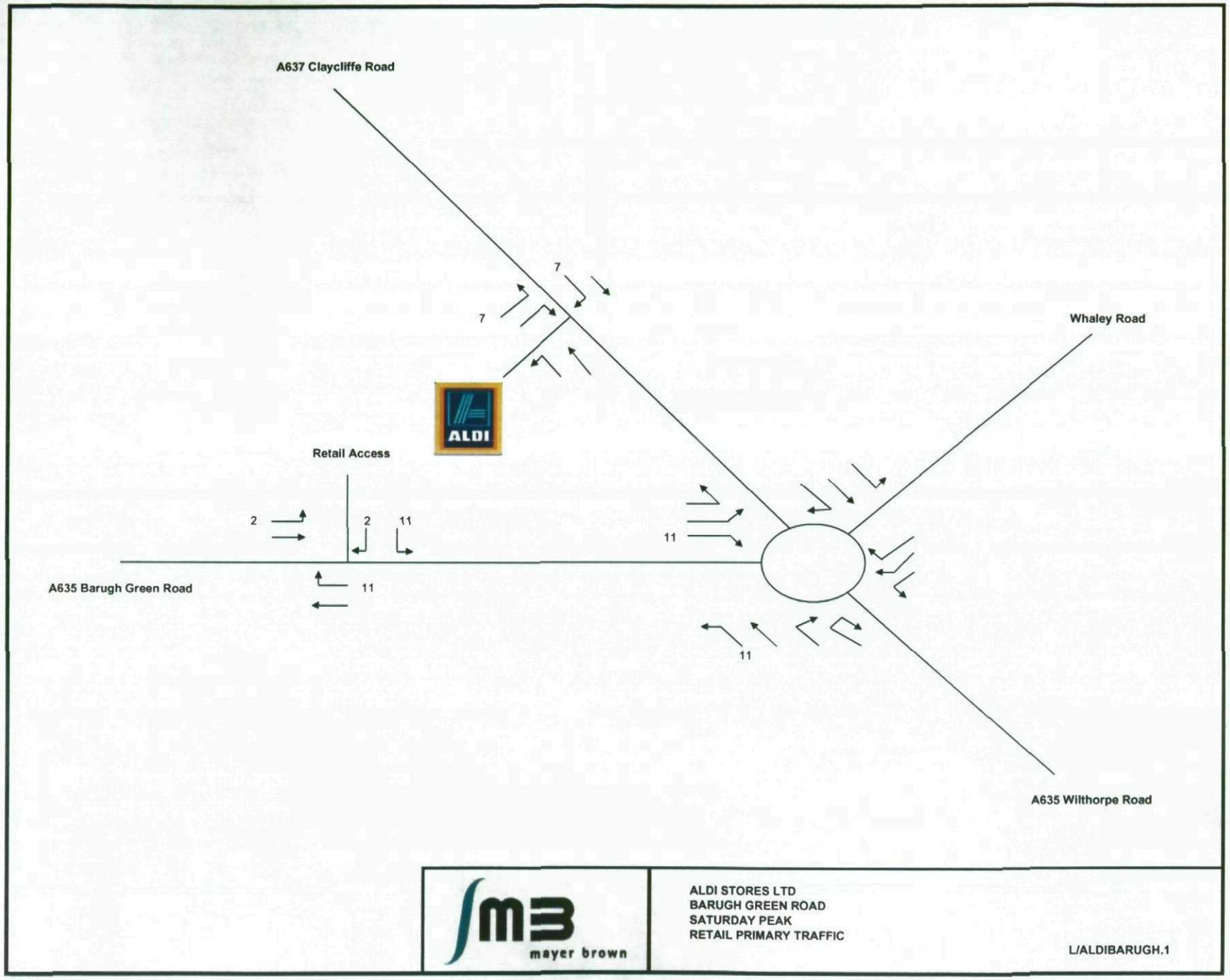
L/ALDIBARUGH.1



mayer brown

ALDI STORES LTD
BARUGH GREEN ROAD
SATURDAY PEAK
ALDI TOTAL TRAFFIC

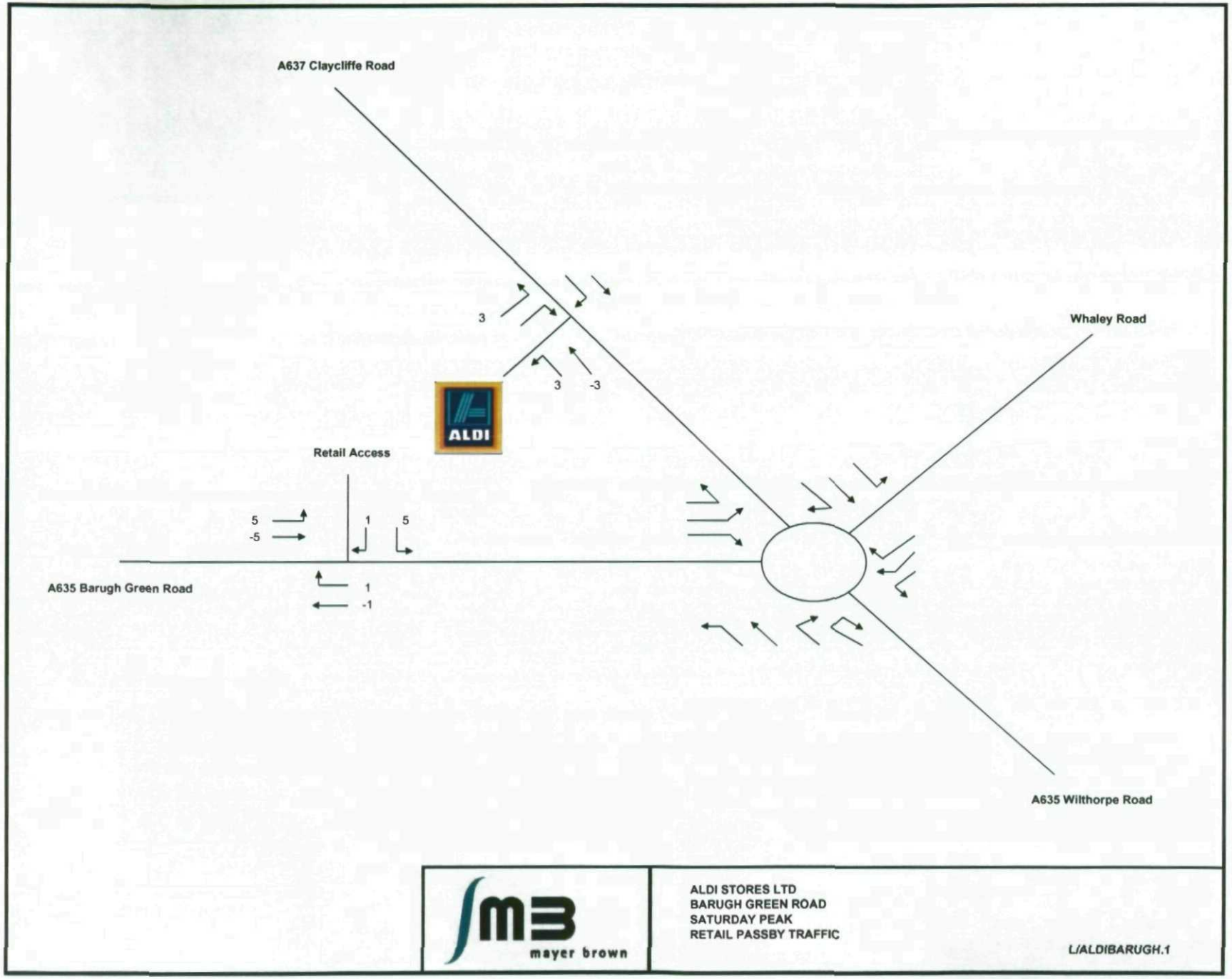
L/ALDIBARUGH.1



mayer brown

ALDI STORES LTD
BARUGH GREEN ROAD
SATURDAY PEAK
RETAIL PRIMARY TRAFFIC

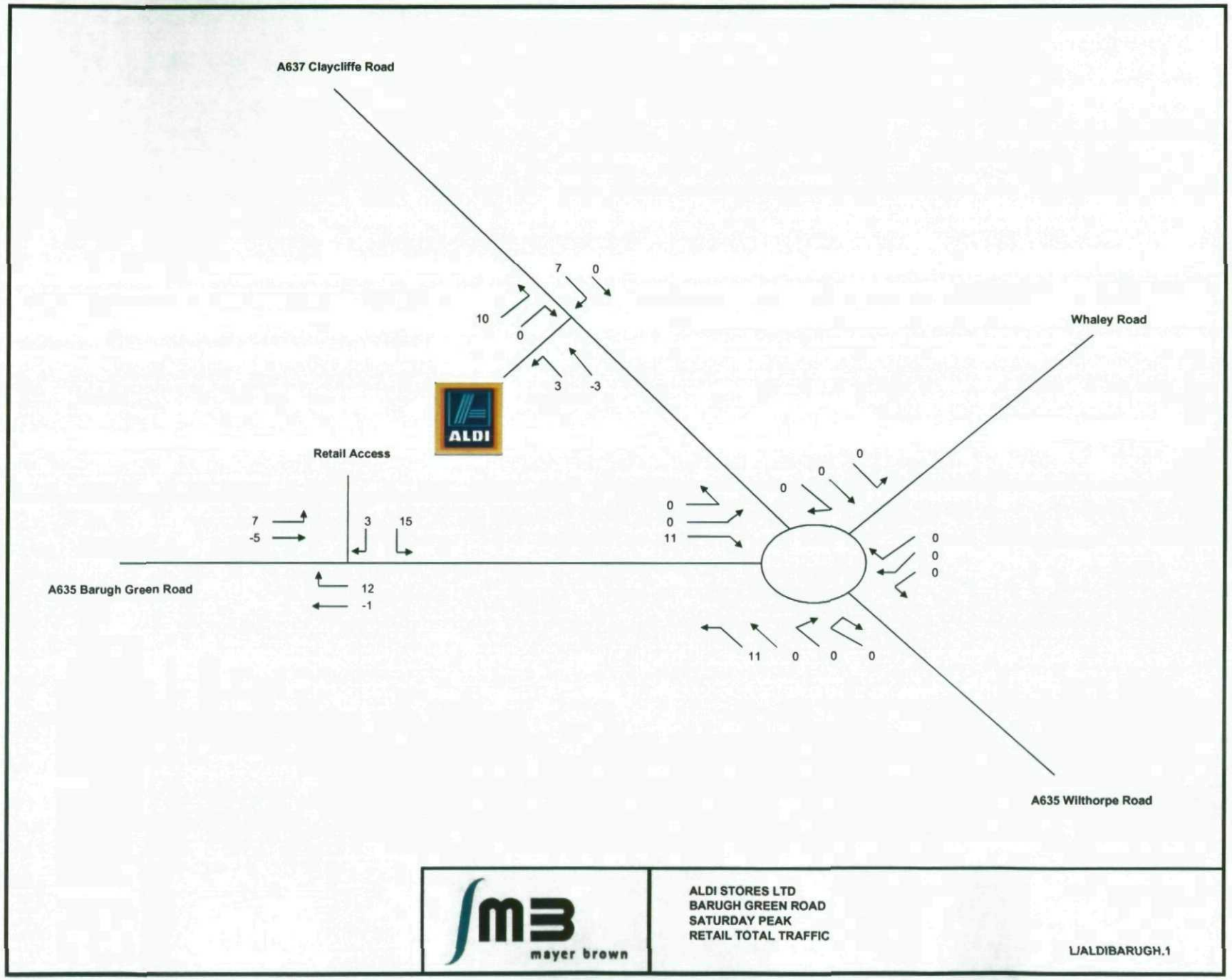
L/ALDIBARUGH.1



mayer brown

ALDI STORES LTD
BARUGH GREEN ROAD
SATURDAY PEAK
RETAIL PASSBY TRAFFIC

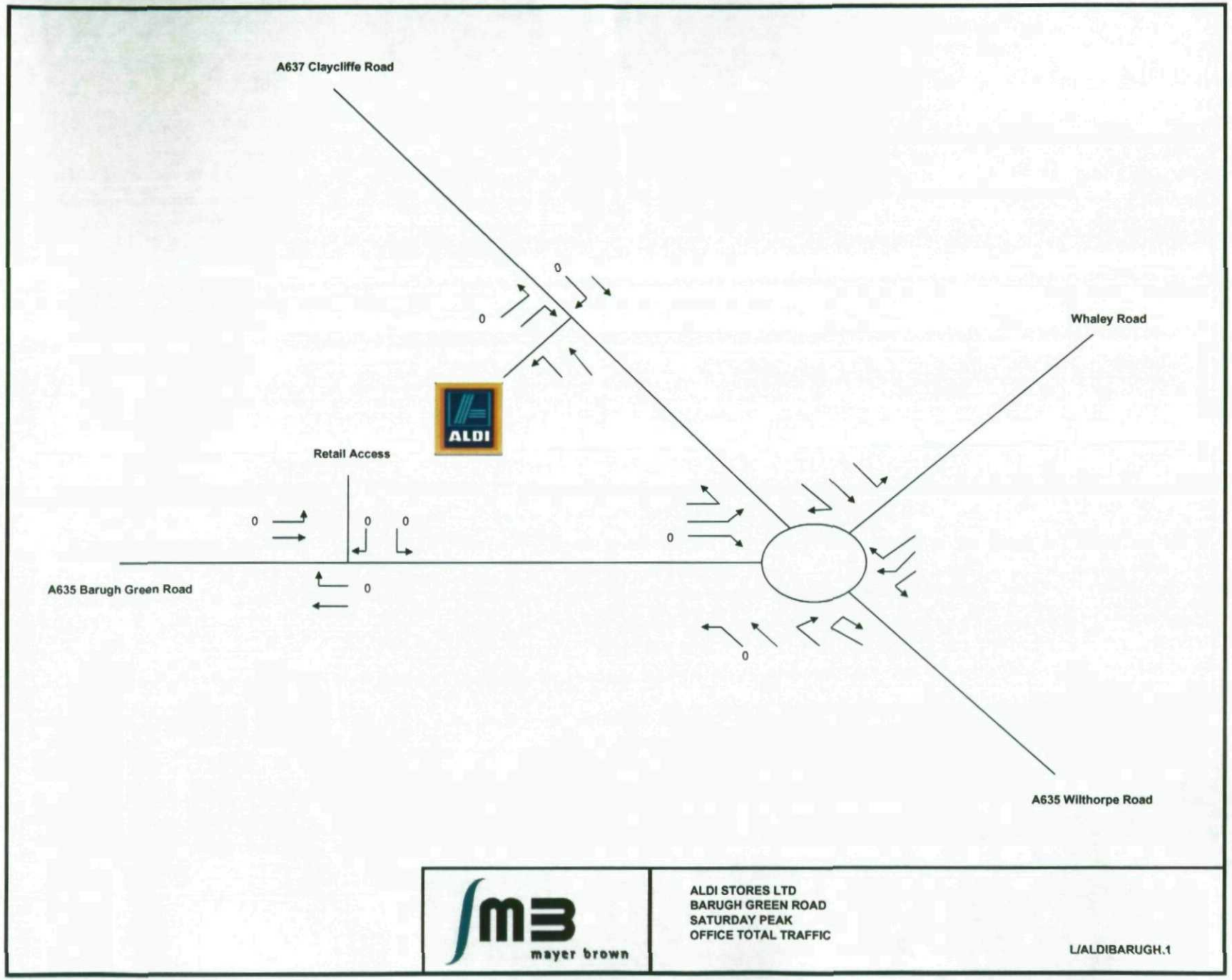
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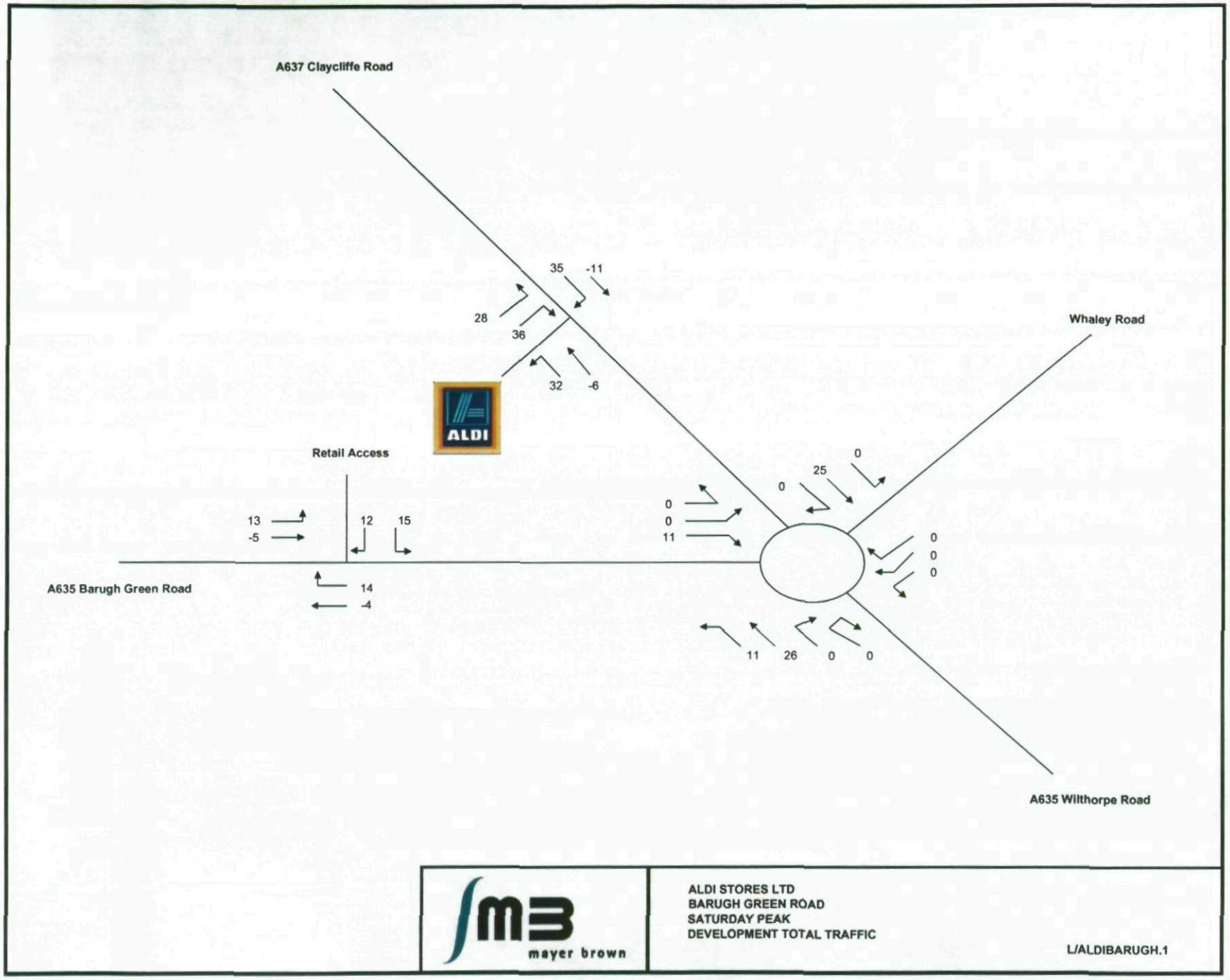


mayer brown

ALDI STORES LTD
BARUGH GREEN ROAD
SATURDAY PEAK
RETAIL TOTAL TRAFFIC

L/ALDIBARUGH.1

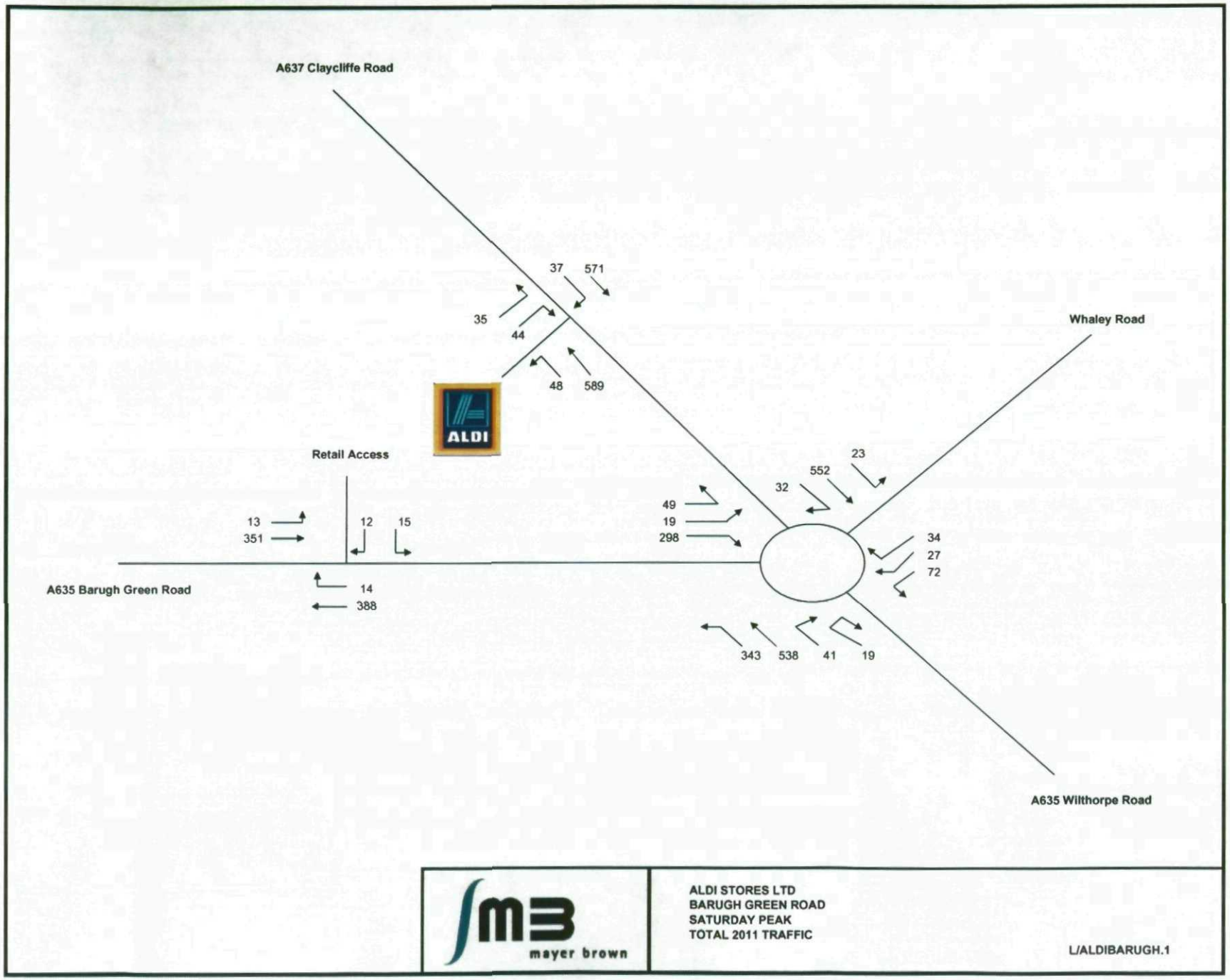

A637 Claycliffe Road
Whaley Road
Retail Access
A635 Barugh Green Road
A635 Wilthorpe Road
ALDI
0
0
0
0
0
0
0
0
mayer brown
ALDI STORES LTD
BARUGH GREEN ROAD
SATURDAY PEAK
OFFICE TOTAL TRAFFIC
L/ALDIBARUGH.1

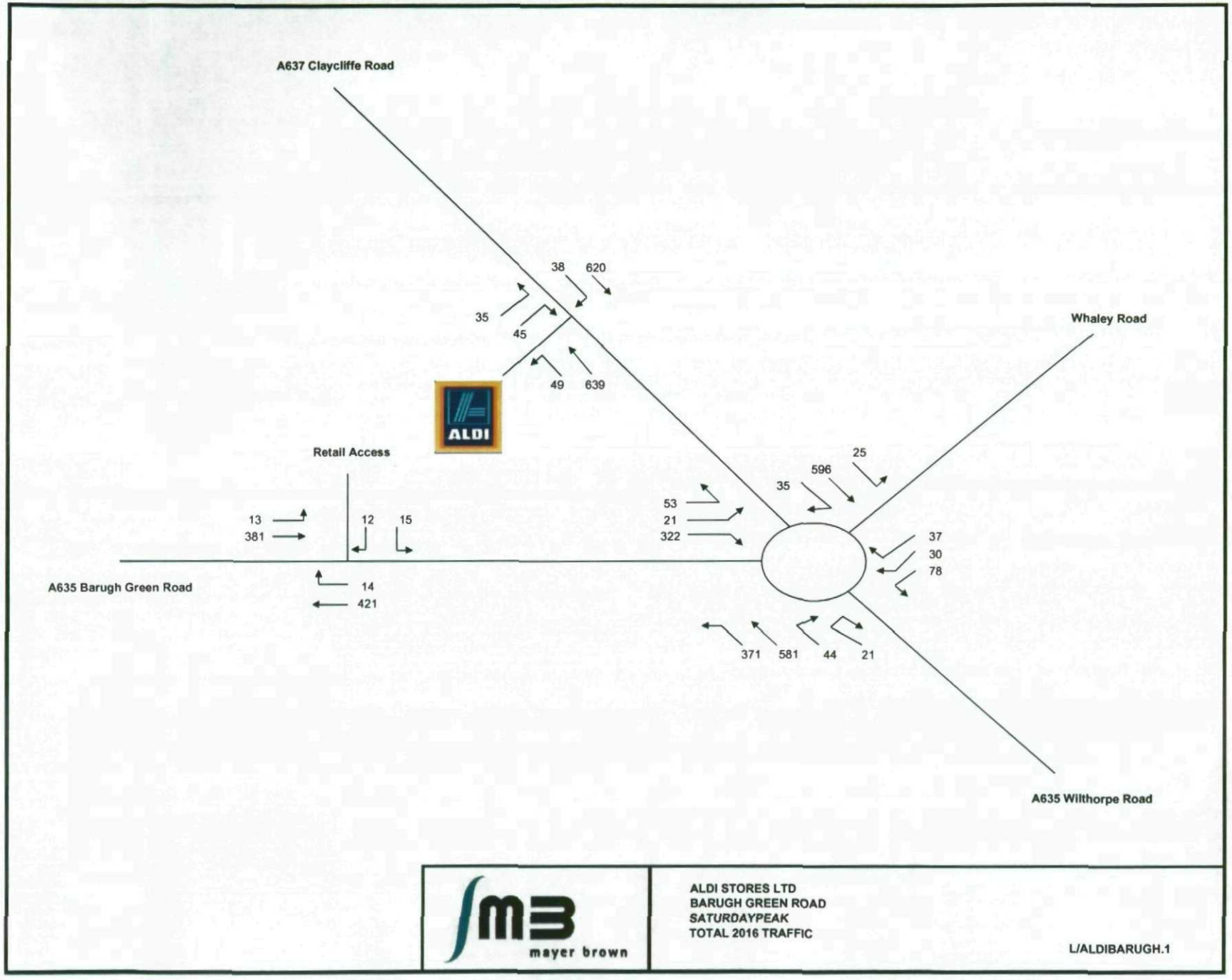


mayer brown

ALDI STORES LTD
BARUGH GREEN ROAD
SATURDAY PEAK
DEVELOPMENT TOTAL TRAFFIC

L/ALDIBARUGH.1


A637 Claycliffe Road
37
571
35
44
48
589
Whaley Road
Retail Access
23
552
32
49
19
298
34
27
72
13
351
12
15
A635 Barugh Green Road
14
388
343
538
41
19
A635 Wilthorpe Road
ALDI STORES LTD
BARUGH GREEN ROAD
SATURDAY PEAK
TOTAL 2011 TRAFFIC
mayer brown
L/ALDIBARUGH.1


A637 Claycliffe Road
38
620
35
45
49
639
ALDI
Retail Access
Whaley Road
25
596
35
53
21
322
37
30
78
13
381
12
15
A635 Barugh Green Road
14
421
371
581
44
21
A635 Wilthorpe Road
mayer brown
ALDI STORES LTD
BARUGH GREEN ROAD
SATURDAYPEAK
TOTAL 2016 TRAFFIC
L/ALDIBARUGH.1

APPENDIX C
Gravity Model

GRAVITY MODEL

power function 1.5

Lower Super Output Area	Popn.	% catchment	catchment pop.	Distance (km)	Gravity	%
Barnsley 004C	1,555	10%	156	1.7	70	0.6%
Barnsley 005E	1,732	40%	693	1.3	467	4.1%
Barnsley 010B	1,431	10%	143	2.7	32	0.3%
Barnsley 010C	1,523	100%	1,523	1.9	582	5.1%
Barnsley 010D	1,503	80%	1,202	2.6	287	2.5%
Barnsley 010E	1,580	5%	79	3.1	14	0.1%
Barnsley 010F	1,487	50%	744	1.8	308	2.7%
Barnsley 012A	1,549	50%	775	1.7	349	3.0%
Barnsley 012B	1,568	100%	1,568	0.5	4,435	38.6%
Barnsley 012C	1,498	95%	1,423	1.1	1,234	10.7%
Barnsley 012D	1,430	100%	1,430	0.7	2,442	21.2%
Barnsley 012E	1,405	40%	562	2.3	161	1.4%
Barnsley 012F	1,514	5%	76	2.4	20	0.2%
Barnsley 012G	1,487	100%	1,487	1.8	616	5.4%
Barnsley 013E	1,365	95%	1,297	2.3	372	3.2%
Barnsley 019A	1,464	25%	366	2.2	112	1.0%
	24,091		13,522		11,501.2	100.0%

ROUTE

A635 Barugh Green Road	A637 Claycliffe Road	Wilthorpe Road	Whaley Road	
0	70	0	0	
0	467	0	0	
0	0	32	0	
0	0	582	0	
0	0	287	0	
0	0	14	0	
0	0	308	0	
175	0	175	0	
0	2,217	2,217	0	
0	0	1,234	0	
1,221	1,221	0	0	
0	0	161	0	
0	0	20	0	
0	0	616	0	
0	0	372	0	
0	0	112	0	
1,396	3,976	6,130	0	
12.1%	34.6%	53.3%	0.0%	100.0%

ASSIGNMENT

	A635 Barugh Green Road	A637 Claycliffe Road	Wilthorpe Road	Whaley Road	
Barnsley 004C		100%			100.0%
Barnsley 005E		100%			100.0%
Barnsley 010B			100%		100.0%
Barnsley 010C			100%		100.0%
Barnsley 010D			100%		100.0%
Barnsley 010E			100%		100.0%
Barnsley 010F			100%		100.0%
Barnsley 012A	50%		50%		100.0%
Barnsley 012B		50%	50%		100.0%
Barnsley 012C			100%		100.0%
Barnsley 012D	50%	50%			100.0%
Barnsley 012E			100%		100.0%
Barnsley 012F			100%		100.0%
Barnsley 012G			100%		100.0%
Barnsley 013E			100%		100.0%
Barnsley 019A	50%		50%		100.0%

APPENDIX D

PICADY Output – A637, Claycliffe Road Site Access

TRL LIMITED

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CAPACITIES, QUEUES, AND DELAYS AT 3 OR 4-ARM MAJOR/MINOR PRIORITY JUNCTIONS

PICADY 5.0 ANALYSIS PROGRAM
RELEASE 3.0 (JUNE 2006)

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PROGRAM ADVICE AND MAINTENANCE CONTACT:
TRL SOFTWARE BUREAU
TEL: CROWTHORNE (01344) 770758, FAX: 770864
EMAIL: SoftwareBureau@trl.co.uk

THE USER OF THIS COMPUTER PROGRAM FOR THE SOLUTION OF AN ENGINEERING PROBLEM IS IN NO WAY RELIEVED OF HIS RESPONSIBILITY FOR THE CORRECTNESS OF THE SOLUTION

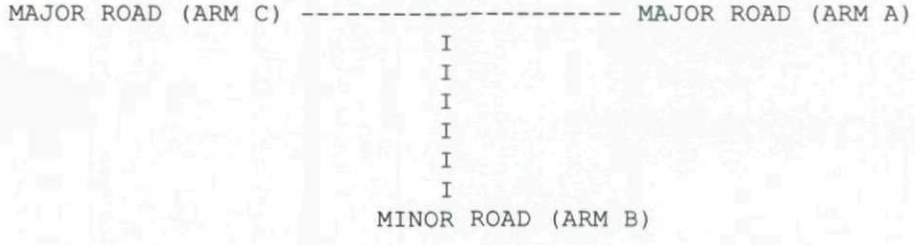
Run with file:-
"H:\Current Jobs\ALDI\CURRENT ACTIVE\SOUTH DARLINGTON REGION\aldibarugh.1\Capacity Calculations\Picady\
Claycliffe Road - Aldi access\wday pm\base models\wday pm - base model.vpi"
(drive-on-the-left) at 10:09:54 on Monday, 10 May 2010

.RUN INFORMATION
****

RUN TITLE: A637 Claycliffe Road / Aldi access
LOCATION:
DATE: 06/05/10
CLIENT:
ENUMERATOR: rsnowball [PWHITLEYT7400]
JOB NUMBER:
STATUS:
DESCRIPTION:

.MAJOR/MINOR JUNCTION CAPACITY AND DELAY
****

INPUT DATA



ARM A IS A637 Claycliffe Road (s)
ARM B IS Aldi access

ARM C IS A637 Claycliffe Road (n)

STREAM LABELLING CONVENTION

STREAM A-B CONTAINS TRAFFIC GOING FROM ARM A TO ARM B

STREAM B-AC CONTAINS TRAFFIC GOING FROM ARM B TO ARM A AND TO ARM C

ETC.

.GEOMETRIC DATA

DATA ITEM		MINOR ROAD B	
TOTAL MAJOR ROAD CARRIAGEWAY WIDTH	(W)	7.00 M.	
CENTRAL RESERVE WIDTH	(WCR)	0.00 M.	
MAJOR ROAD RIGHT TURN - WIDTH	(WC-B)	2.20 M.	
- VISIBILITY	(VC-B)	74.0 M.	
- BLOCKS TRAFFIC		YES	
MINOR ROAD - VISIBILITY TO LEFT	(VB-C)	29.0 M.	
- VISIBILITY TO RIGHT	(VB-A)	28.0 M.	
- LANE 1 WIDTH	(WB-C)	4.25 M.	
- LANE 2 WIDTH	(WB-A)	0.00 M.	

.SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity

will be adjusted)

Intercept For Stream B-C	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
721.85	0.27	0.11

Intercept For Stream B-A	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B

I	563.41	0.25	0.10	0.16
0.35	I			

I Intercept For Stream C-B	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B I
I 616.82	0.23	0.23 I

NB These values do not allow for any site specific corrections

.

.TRAFFIC DEMAND DATA

I ARM I	FLOW SCALE(%) I
I A I	100 I
I B I	100 I
I C I	100 I

Demand set: Weekday PM Peak - Existing 2010

TIME PERIOD BEGINS 16.15 AND ENDS 17.45

LENGTH OF TIME PERIOD - 90 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

I ARM I	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE I	TOP OF PEAK IS REACHED I	FLOW STOPS FALLING I	RATE OF FLOW (VEH/MIN) BEFORE PEAK I	AT TOP OF PEAK I	AFTER PEAK I
I ARM A I	15.00 I	45.00 I	75.00 I	10.44 I	15.66 I	10.44 I
I ARM B I	15.00 I	45.00 I	75.00 I	0.21 I	0.32 I	0.21 I
I ARM C I	15.00 I	45.00 I	75.00 I	7.66 I	11.49 I	7.66 I

.

I TIME	TURNING PROPORTIONS / TURNING COUNTS (VEH/HR) (PERCENTAGE OF H.V.S) I FROM/TO I	ARM A I	ARM B I	ARM C I
I 16.15 - 17.45	I	I	I	I
I	I ARM A	I 0.000	I 0.024	I 0.976 I
I	I	I 0.0	I 20.0	I 815.0 I
I	I	I (0.0)	I (0.0)	I (0.0) I
I	I	I	I	I

```
I                  I  ARM B  I  0.588 I  0.000 I  0.412 I
I                  I         I   10.0 I    0.0 I    7.0 I
I                  I         I (  0.0)I (  0.0)I (  0.0)I
I                  I         I        I        I        I
I                  I  ARM C  I  0.995 I  0.005 I  0.000 I
I                  I         I  610.0 I    3.0 I    0.0 I
I                  I         I (  0.0)I (  0.0)I (  0.0)I
I                  I         I        I        I        I
-------------------------------------------------------
```

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

. QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR COMBINED DEMAND SETS
AND FOR TIME PERIOD 1

I TIME SEGMENT)		DEMAND (VEH/MIN) TIME SEGMENT)	CAPACITY (VEH/MIN) VEHICLE (RFC)	DEMAND/ CAPACITY (MIN)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME	GEOMETRIC DELAY (VEH.MIN/ PER ARRIVING	AVERAGE DELAY I
I 16.15-16.30										I
I	B-AC	0.21	6.71	0.032		0.00	0.03	0.5	0.15	I
I	C-AB	0.04	7.89	0.005		0.00	0.00	0.1	0.13	I
I	A-B	0.25								I
I	A-C	10.23								I
I										I

I TIME SEGMENT)		DEMAND (VEH/MIN) TIME SEGMENT)	CAPACITY (VEH/MIN) VEHICLE (RFC)	DEMAND/ CAPACITY (MIN)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME	GEOMETRIC DELAY (VEH.MIN/ PER ARRIVING	AVERAGE DELAY I
I 16.30-16.45										I
I	B-AC	0.25	5.97	0.043		0.03	0.04	0.6	0.17	I
I	C-AB	0.04	7.42	0.006		0.00	0.01	0.1	0.14	I
I	A-B	0.30								I
I	A-C	12.21								I
I										I

```
.-------------------------------------------------------------------------------
----------------------------------

.-------------------------------------------------------------------------------
----------------------------------
 I  TIME      DEMAND  CAPACITY  DEMAND/   PEDESTRIAN  START   END       DELAY
GEOMETRIC DELAY   AVERAGE DELAY I
 I         (VEH/MIN) (VEH/MIN) CAPACITY      FLOW     QUEUE  QUEUE    (VEH.MIN/
(VEH.MIN/      PER ARRIVING  I
 I                              (RFC)    (PEDS/MIN) (VEHS) (VEHS)  TIME
SEGMENT)  TIME SEGMENT)    VEHICLE (MIN) I
 I 16.45-17.00
I
 I   B-AC      0.31      4.92    0.063                0.04   0.07        1.0
0.22      I
 I   C-AB      0.06      6.78    0.008                0.01   0.01        0.1
0.15      I
 I   A-B       0.37
I
 I   A-C      14.96
I
 I
I
.-------------------------------------------------------------------------------
----------------------------------

.-------------------------------------------------------------------------------
----------------------------------
 I  TIME      DEMAND  CAPACITY  DEMAND/   PEDESTRIAN  START   END       DELAY
GEOMETRIC DELAY   AVERAGE DELAY I
 I         (VEH/MIN) (VEH/MIN) CAPACITY      FLOW     QUEUE  QUEUE    (VEH.MIN/
(VEH.MIN/      PER ARRIVING  I
 I                              (RFC)    (PEDS/MIN) (VEHS) (VEHS)  TIME
SEGMENT)  TIME SEGMENT)    VEHICLE (MIN) I
 I 17.00-17.15
I
 I   B-AC      0.31      4.92    0.063                0.07   0.07        1.0
0.22      I
 I   C-AB      0.06      6.78    0.008                0.01   0.01        0.1
0.15      I
 I   A-B       0.37
I
 I   A-C      14.96
I
 I
I
.-------------------------------------------------------------------------------
----------------------------------

.-------------------------------------------------------------------------------
----------------------------------
 I  TIME      DEMAND  CAPACITY  DEMAND/   PEDESTRIAN  START   END       DELAY
GEOMETRIC DELAY   AVERAGE DELAY I
 I         (VEH/MIN) (VEH/MIN) CAPACITY      FLOW     QUEUE  QUEUE    (VEH.MIN/
(VEH.MIN/      PER ARRIVING  I
 I                              (RFC)    (PEDS/MIN) (VEHS) (VEHS)  TIME
SEGMENT)  TIME SEGMENT)    VEHICLE (MIN) I
 I 17.15-17.30
I
 I   B-AC      0.25      5.97    0.043                0.07   0.05        0.7
0.18      I
```

```
 I   C-AB       0.04      7.42    0.006                0.01   0.01        0.1
0.14      I
 I   A-B        0.30
I
 I   A-C       12.21
I
 I
I
.-------------------------------------------------------------------------------
----------------------------------

.-------------------------------------------------------------------------------
----------------------------------
 I  TIME      DEMAND  CAPACITY  DEMAND/   PEDESTRIAN  START   END        DELAY
GEOMETRIC DELAY   AVERAGE DELAY I
 I         (VEH/MIN) (VEH/MIN) CAPACITY      FLOW     QUEUE  QUEUE    (VEH.MIN/
(VEH.MIN/      PER ARRIVING  I
 I                              (RFC)    (PEDS/MIN) (VEHS) (VEHS)  TIME
SEGMENT)  TIME SEGMENT)    VEHICLE (MIN) I
 I 17.30-17.45
I
 I   B-AC       0.21      6.71    0.032                0.05   0.03        0.5
0.15      I
 I   C-AB       0.04      7.89    0.005                0.01   0.00        0.1
0.13      I
 I   A-B        0.25
I
 I   A-C       10.23
I
 I
I
.-------------------------------------------------------------------------------
----------------------------------
.
 QUEUE FOR STREAM   B-AC
 -------------------------
 TIME SEGMENT    NO. OF
   ENDING       VEHICLES
                IN QUEUE
   16.30            0.0
   16.45            0.0
   17.00            0.1
   17.15            0.1
   17.30            0.0
   17.45            0.0
.
 QUEUE FOR STREAM   C-AB
 -------------------------
 TIME SEGMENT    NO. OF
   ENDING       VEHICLES
                IN QUEUE
   16.30            0.0
   16.45            0.0
   17.00            0.0
   17.15            0.0
   17.30            0.0
   17.45            0.0
.
                 QUEUEING DELAY INFORMATION OVER WHOLE PERIOD
                 -------------------------------------------
```

STREAM	TOTAL DEMAND		* QUEUEING * DELAY *		* INCLUSIVE QUEUEING * DELAY *	
	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)
B-AC	23.4	15.6	4.3	0.18	4.3	0.18
C-AB	4.1	2.8	0.6	0.14	0.6	0.14
A-B	27.5	18.4				
A-C	1121.8	747.9				
ALL	2016.5	1344.3	4.9	0.00	4.9	0.00

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

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CAPACITIES, QUEUES, AND DELAYS AT 3 OR 4-ARM MAJOR/MINOR PRIORITY JUNCTIONS

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RELEASE 3.0 (JUNE 2006)

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Run with file:-
"H:\Current Jobs\ALDI\CURRENT ACTIVE\SOUTH DARLINGTON REGION\aldibarugh.1\Capacity Calculations\Picady\
Claycliffe Road - Aldi access\saturday\base models\saturday - base model.vpi"
(drive-on-the-left) at 10:12:33 on Monday, 10 May 2010

.RUN INFORMATION
****

RUN TITLE: A637 Claycliffe Road / Aldi access
LOCATION:
DATE: 06/05/10
CLIENT:
ENUMERATOR: rsnowball [PWHITLEYT7400]
JOB NUMBER:
STATUS:
DESCRIPTION:

.MAJOR/MINOR JUNCTION CAPACITY AND DELAY
****

INPUT DATA

MAJOR ROAD (ARM C) ---------- MAJOR ROAD (ARM A)
I
I
I
I
I
I
MINOR ROAD (ARM B)

ARM A IS A637 Claycliffe Road (s)
ARM B IS Aldi access

ARM C IS A637 Claycliffe Road (n)

STREAM LABELLING CONVENTION

STREAM A-B CONTAINS TRAFFIC GOING FROM ARM A TO ARM B

STREAM B-AC CONTAINS TRAFFIC GOING FROM ARM B TO ARM A AND TO ARM C

ETC.

.GEOMETRIC DATA

DATA ITEM		MINOR ROAD B	
TOTAL MAJOR ROAD CARRIAGEWAY WIDTH	(W)	7.00 M.	
CENTRAL RESERVE WIDTH	(WCR)	0.00 M.	
MAJOR ROAD RIGHT TURN - WIDTH	(WC-B)	2.20 M.	
- VISIBILITY	(VC-B)	74.0 M.	
- BLOCKS TRAFFIC		YES	
MINOR ROAD - VISIBILITY TO LEFT	(VB-C)	29.0 M.	
- VISIBILITY TO RIGHT	(VB-A)	28.0 M.	
- LANE 1 WIDTH	(WB-C)	4.25 M.	
- LANE 2 WIDTH	(WB-A)	0.00 M.	

.SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity

will be adjusted)

Intercept For Stream B-C	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
721.85	0.27	0.11

Intercept For Stream B-A	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B

I	563.41	0.25	0.10	0.16
0.35	I			

I Intercept For Stream C-B	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B I
I 616.82	0.23	0.23 I

NB These values do not allow for any site specific corrections

.

.TRAFFIC DEMAND DATA

I ARM I	FLOW SCALE(%) I
I A I	100 I
I B I	100 I
I C I	100 I

Demand set: Saturday Peak - Existing 2010

TIME PERIOD BEGINS 11.15 AND ENDS 12.45

LENGTH OF TIME PERIOD - 90 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

I ARM I	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE I	TOP OF PEAK IS REACHED I	FLOW STOPS FALLING I	RATE OF FLOW (VEH/MIN) BEFORE PEAK I	AT TOP OF PEAK I	AFTER PEAK I
I ARM A I	15.00 I	45.00 I	75.00 I	7.54 I	11.31 I	7.54 I
I ARM B I	15.00 I	45.00 I	75.00 I	0.17 I	0.26 I	0.17 I
I ARM C I	15.00 I	45.00 I	75.00 I	7.21 I	10.82 I	7.21 I

.

I TIME	I FROM/TO I	TURNING PROPORTIONS TURNING COUNTS (VEH/HR) (PERCENTAGE OF H.V.S) ARM A I	ARM B I	ARM C I
I 11.15 - 12.45	I	I	I	I
I	I ARM A	I 0.000	I 0.027	I 0.973 I
I	I	I 0.0	I 16.0	I 587.0 I
I	I	I (0.0)	I (0.0)	I (0.0) I
I	I	I	I	I

```
I                    I  ARM B  I  0.571 I  0.000 I  0.429 I
I                    I         I    8.0 I    0.0 I    6.0 I
I                    I         I (  0.0)I (  0.0)I (  0.0)I
I                    I         I        I        I        I
I                    I  ARM C  I  0.997 I  0.003 I  0.000 I
I                    I         I  575.0 I    2.0 I    0.0 I
I                    I         I (  0.0)I (  0.0)I (  0.0)I
I                    I         I        I        I        I
 ------------------------------------------------------------
```

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

. QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR COMBINED DEMAND SETS
AND FOR TIME PERIOD 1

I TIME SEGMENT)		DEMAND (VEH/MIN) I	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME VEHICLE (MIN)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING I
I 11.15-11.30										I
I	B-AC	0.18	7.58	0.023		0.00	0.02	0.3	0.13	I
I	C-AB	0.03	8.55	0.003		0.00	0.00	0.0	0.12	I
I	A-B	0.20								I
I	A-C	7.37								I
I										I

I TIME SEGMENT)		DEMAND (VEH/MIN) I	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME VEHICLE (MIN)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING I
I 11.30-11.45										I
I	B-AC	0.21	7.02	0.030		0.02	0.03	0.4	0.15	I
I	C-AB	0.03	8.22	0.004		0.00	0.00	0.1	0.12	I
I	A-B	0.24								I
I	A-C	8.80								I
I										I

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-----------------------------------
 I  TIME      DEMAND  CAPACITY  DEMAND/   PEDESTRIAN  START   END       DELAY
GEOMETRIC DELAY   AVERAGE DELAY I
 I         (VEH/MIN) (VEH/MIN) CAPACITY      FLOW     QUEUE  QUEUE    (VEH.MIN/
(VEH.MIN/      PER ARRIVING  I
 I                                (RFC)    (PEDS/MIN) (VEHS) (VEHS)  TIME
SEGMENT)  TIME SEGMENT)    VEHICLE (MIN) I
 I 11.45-12.00
I
 I   B-AC      0.26      6.23    0.041                0.03   0.04        0.6
0.17      I
 I   C-AB      0.04      7.75    0.005                0.00   0.00        0.1
0.13      I
 I   A-B       0.29
I
 I   A-C      10.77
I
 I
I
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.-------------------------------------------------------------------------------
-----------------------------------
 I  TIME      DEMAND  CAPACITY  DEMAND/   PEDESTRIAN  START   END       DELAY
GEOMETRIC DELAY   AVERAGE DELAY I
 I         (VEH/MIN) (VEH/MIN) CAPACITY      FLOW     QUEUE  QUEUE    (VEH.MIN/
(VEH.MIN/      PER ARRIVING  I
 I                                (RFC)    (PEDS/MIN) (VEHS) (VEHS)  TIME
SEGMENT)  TIME SEGMENT)    VEHICLE (MIN) I
 I 12.00-12.15
I
 I   B-AC      0.26      6.23    0.041                0.04   0.04        0.6
0.17      I
 I   C-AB      0.04      7.75    0.005                0.00   0.00        0.1
0.13      I
 I   A-B       0.29
I
 I   A-C      10.77
I
 I
I
.-------------------------------------------------------------------------------
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.-------------------------------------------------------------------------------
-----------------------------------
 I  TIME      DEMAND  CAPACITY  DEMAND/   PEDESTRIAN  START   END       DELAY
GEOMETRIC DELAY   AVERAGE DELAY I
 I         (VEH/MIN) (VEH/MIN) CAPACITY      FLOW     QUEUE  QUEUE    (VEH.MIN/
(VEH.MIN/      PER ARRIVING  I
 I                                (RFC)    (PEDS/MIN) (VEHS) (VEHS)  TIME
SEGMENT)  TIME SEGMENT)    VEHICLE (MIN) I
 I 12.15-12.30
I
 I   B-AC      0.21      7.02    0.030                0.04   0.03        0.5
0.15      I
```

```
 I   C-AB       0.03      8.22    0.004                0.00   0.00        0.1
0.12      I
 I   A-B        0.24
I
 I   A-C        8.80
I
 I
I
.-------------------------------------------------------------------------------
-----------------------------------

.-------------------------------------------------------------------------------
-----------------------------------
 I  TIME      DEMAND  CAPACITY  DEMAND/   PEDESTRIAN  START   END        DELAY
GEOMETRIC DELAY   AVERAGE DELAY I
 I         (VEH/MIN) (VEH/MIN) CAPACITY      FLOW     QUEUE  QUEUE    (VEH.MIN/
(VEH.MIN/      PER ARRIVING  I
 I                              (RFC)    (PEDS/MIN) (VEHS) (VEHS)  TIME
SEGMENT)  TIME SEGMENT)    VEHICLE (MIN) I
 I 12.30-12.45
I
 I   B-AC       0.18      7.58    0.023                0.03   0.02        0.4
0.14      I
 I   C-AB       0.03      8.55    0.003                0.00   0.00        0.0
0.12      I
 I   A-B        0.20
I
 I   A-C        7.37
I
 I
I
.-------------------------------------------------------------------------------
-----------------------------------
.
 QUEUE FOR STREAM   B-AC
 -------------------------
 TIME SEGMENT    NO. OF
   ENDING      VEHICLES
               IN QUEUE
   11.30           0.0
   11.45           0.0
   12.00           0.0
   12.15           0.0
   12.30           0.0
   12.45           0.0
.
 QUEUE FOR STREAM   C-AB
 -------------------------
 TIME SEGMENT    NO. OF
   ENDING      VEHICLES
               IN QUEUE
   11.30           0.0
   11.45           0.0
   12.00           0.0
   12.15           0.0
   12.30           0.0
   12.45           0.0
.
                 QUEUEING DELAY INFORMATION OVER WHOLE PERIOD
                 -------------------------------------------
```

STREAM	TOTAL DEMAND (VEH)	TOTAL DEMAND (VEH/H)	* QUEUEING * DELAY * (MIN)	* QUEUEING * DELAY * (MIN/VEH)	* INCLUSIVE QUEUEING * DELAY * (MIN)	* INCLUSIVE QUEUEING * DELAY * (MIN/VEH)
B-AC	19.3	12.8	2.9	0.15	2.9	0.15
C-AB	2.8	1.8	0.3	0.12	0.3	0.12
A-B	22.0	14.7				
A-C	808.0	538.6				
ALL	1643.5	1095.6	3.2	0.00	3.2	0.00

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

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CAPACITIES, QUEUES, AND DELAYS AT 3 OR 4-ARM MAJOR/MINOR PRIORITY JUNCTIONS

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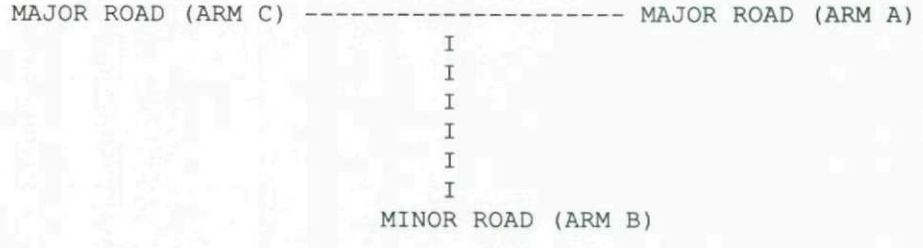
Run with file:-
"H:\Current Jobs\ALDI\CURRENT ACTIVE\SOUTH DARLINGTON REGION\aldibarugh.1\Capacity Calculations\Picady\
Claycliffe Road - Aldi access\wday pm\base models\wday pm - base model.vpi"
(drive-on-the-left) at 10:10:33 on Monday, 10 May 2010

.RUN INFORMATION
****

RUN TITLE: A637 Claycliffe Road / Aldi access
LOCATION:
DATE: 06/05/10
CLIENT:
ENUMERATOR: rsnowball [PWHITLEYT7400]
JOB NUMBER:
STATUS:
DESCRIPTION:

.MAJOR/MINOR JUNCTION CAPACITY AND DELAY
****

INPUT DATA



ARM A IS A637 Claycliffe Road (s)
ARM B IS Aldi access

ARM C IS A637 Claycliffe Road (n)

STREAM LABELLING CONVENTION

STREAM A-B CONTAINS TRAFFIC GOING FROM ARM A TO ARM B

STREAM B-AC CONTAINS TRAFFIC GOING FROM ARM B TO ARM A AND TO ARM C

ETC.

.GEOMETRIC DATA

DATA ITEM		MINOR ROAD B	
TOTAL MAJOR ROAD CARRIAGEWAY WIDTH	(W)	7.00 M.	
CENTRAL RESERVE WIDTH	(WCR)	0.00 M.	
MAJOR ROAD RIGHT TURN - WIDTH	(WC-B)	2.20 M.	
- VISIBILITY	(VC-B)	74.0 M.	
- BLOCKS TRAFFIC		YES	
MINOR ROAD - VISIBILITY TO LEFT	(VB-C)	29.0 M.	
- VISIBILITY TO RIGHT	(VB-A)	28.0 M.	
- LANE 1 WIDTH	(WB-C)	4.25 M.	
- LANE 2 WIDTH	(WB-A)	0.00 M.	

.SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity

will be adjusted)

Intercept For Stream B-C	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
721.85	0.27	0.11

Intercept For Stream B-A	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B

I	563.41	0.25	0.10	0.16
0.35	I			

I Intercept For Stream C-B	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B I
I 616.82	0.23	0.23 I

NB These values do not allow for any site specific corrections

.

.TRAFFIC DEMAND DATA

I ARM I	FLOW SCALE(%) I
I A I	100 I
I B I	100 I
I C I	100 I

Demand set: Weekday PM Peak - Base 2011

TIME PERIOD BEGINS 16.15 AND ENDS 17.45

LENGTH OF TIME PERIOD - 90 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

I ARM I	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE I	TOP OF PEAK IS REACHED I	FLOW STOPS FALLING I	RATE OF FLOW (VEH/MIN) BEFORE PEAK I	AT TOP OF PEAK I	AFTER PEAK I
I ARM A I	15.00 I	45.00 I	75.00 I	10.57 I	15.86 I	10.57 I
I ARM B I	15.00 I	45.00 I	75.00 I	0.21 I	0.32 I	0.21 I
I ARM C I	15.00 I	45.00 I	75.00 I	7.78 I	11.66 I	7.78 I

.

I TIME	I FROM/TO I	TURNING PROPORTIONS / TURNING COUNTS (VEH/HR) (PERCENTAGE OF H.V.S) ARM A I	ARM B I	ARM C I
I 16.15 - 17.45	I	I	I	I
I	I ARM A	I 0.000	I 0.024	I 0.976 I
I	I	I 0.0	I 20.0	I 826.0 I
I	I	I (0.0)	I (0.0)	I (0.0) I
I	I	I	I	I

```
I                  I  ARM B  I  0.588 I  0.000 I  0.412 I
I                  I         I   10.0 I    0.0 I    7.0 I
I                  I         I (  0.0)I (  0.0)I (  0.0)I
I                  I         I        I        I        I
I                  I  ARM C  I  0.995 I  0.005 I  0.000 I
I                  I         I  619.0 I    3.0 I    0.0 I
I                  I         I (  0.0)I (  0.0)I (  0.0)I
I                  I         I        I        I        I
-------------------------------------------------------------
```

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

. QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR COMBINED DEMAND SETS
AND FOR TIME PERIOD 1

I TIME SEGMENT)	DEMAND (VEH/MIN) I	CAPACITY (VEH/MIN) (RFC)	DEMAND/ CAPACITY I	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME VEHICLE (MIN) I	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING I
I 16.15-16.30									I
I B-AC	0.21	6.66	0.032		0.00	0.03	0.5	0.16	I
I C-AB	0.04	7.85	0.005		0.00	0.00	0.1	0.13	I
I A-B	0.25								I
I A-C	10.36								I
I									I

I TIME SEGMENT)	DEMAND (VEH/MIN) I	CAPACITY (VEH/MIN) (RFC)	DEMAND/ CAPACITY I	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME VEHICLE (MIN) I	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING I
I 16.30-16.45									I
I B-AC	0.25	5.91	0.043		0.03	0.04	0.6	0.18	I
I C-AB	0.04	7.38	0.006		0.00	0.01	0.1	0.14	I
I A-B	0.30								I
I A-C	12.38								I
I									I

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-----------------------------------
 I  TIME      DEMAND  CAPACITY  DEMAND/   PEDESTRIAN  START   END       DELAY
GEOMETRIC DELAY   AVERAGE DELAY I
 I         (VEH/MIN) (VEH/MIN) CAPACITY      FLOW     QUEUE  QUEUE    (VEH.MIN/
(VEH.MIN/      PER ARRIVING  I
 I                                (RFC)    (PEDS/MIN) (VEHS) (VEHS)  TIME
SEGMENT)  TIME SEGMENT)    VEHICLE (MIN) I
 I 16.45-17.00
I
 I   B-AC      0.31      4.84    0.064                0.04   0.07        1.0
0.22      I
 I   C-AB      0.06      6.73    0.008                0.01   0.01        0.1
0.15      I
 I   A-B       0.37
I
 I   A-C      15.16
I
 I
I
.-------------------------------------------------------------------------------
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.-------------------------------------------------------------------------------
-----------------------------------
 I  TIME      DEMAND  CAPACITY  DEMAND/   PEDESTRIAN  START   END       DELAY
GEOMETRIC DELAY   AVERAGE DELAY I
 I         (VEH/MIN) (VEH/MIN) CAPACITY      FLOW     QUEUE  QUEUE    (VEH.MIN/
(VEH.MIN/      PER ARRIVING  I
 I                                (RFC)    (PEDS/MIN) (VEHS) (VEHS)  TIME
SEGMENT)  TIME SEGMENT)    VEHICLE (MIN) I
 I 17.00-17.15
I
 I   B-AC      0.31      4.84    0.064                0.07   0.07        1.0
0.22      I
 I   C-AB      0.06      6.73    0.008                0.01   0.01        0.1
0.15      I
 I   A-B       0.37
I
 I   A-C      15.16
I
 I
I
.-------------------------------------------------------------------------------
-----------------------------------

.-------------------------------------------------------------------------------
-----------------------------------
 I  TIME      DEMAND  CAPACITY  DEMAND/   PEDESTRIAN  START   END       DELAY
GEOMETRIC DELAY   AVERAGE DELAY I
 I         (VEH/MIN) (VEH/MIN) CAPACITY      FLOW     QUEUE  QUEUE    (VEH.MIN/
(VEH.MIN/      PER ARRIVING  I
 I                                (RFC)    (PEDS/MIN) (VEHS) (VEHS)  TIME
SEGMENT)  TIME SEGMENT)    VEHICLE (MIN) I
 I 17.15-17.30
I
 I   B-AC      0.25      5.91    0.043                0.07   0.05        0.7
0.18      I
```

```
 I   C-AB       0.04      7.38    0.006                0.01   0.01        0.1
0.14      I
 I   A-B        0.30
I
 I   A-C       12.38
I
 I
I
.-------------------------------------------------------------------------------
-----------------------------------

.-------------------------------------------------------------------------------
-----------------------------------
 I  TIME       DEMAND  CAPACITY  DEMAND/   PEDESTRIAN  START   END        DELAY
GEOMETRIC DELAY   AVERAGE DELAY I
 I          (VEH/MIN) (VEH/MIN) CAPACITY      FLOW     QUEUE  QUEUE    (VEH.MIN/
(VEH.MIN/      PER ARRIVING  I
 I                                (RFC)    (PEDS/MIN) (VEHS) (VEHS)  TIME
SEGMENT)  TIME SEGMENT)    VEHICLE (MIN) I
 I 17.30-17.45
I
 I   B-AC       0.21      6.66    0.032                0.05   0.03        0.5
0.16      I
 I   C-AB       0.04      7.85    0.005                0.01   0.00        0.1
0.13      I
 I   A-B        0.25
I
 I   A-C       10.36
I
 I
I
.-------------------------------------------------------------------------------
-----------------------------------
.
 QUEUE FOR STREAM   B-AC
 -------------------------
 TIME SEGMENT    NO. OF
   ENDING       VEHICLES
                IN QUEUE
    16.30           0.0
    16.45           0.0
    17.00           0.1
    17.15           0.1
    17.30           0.0
    17.45           0.0
.
 QUEUE FOR STREAM   C-AB
 -------------------------
 TIME SEGMENT    NO. OF
   ENDING       VEHICLES
                IN QUEUE
    16.30           0.0
    16.45           0.0
    17.00           0.0
    17.15           0.0
    17.30           0.0
    17.45           0.0
.
                  QUEUEING DELAY INFORMATION OVER WHOLE PERIOD
                  -------------------------------------------
```

STREAM	TOTAL DEMAND		* QUEUEING * DELAY *		* INCLUSIVE QUEUEING * DELAY *	
	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)
B-AC	23.4	15.6	4.3	0.19	4.3	0.19
C-AB	4.1	2.8	0.6	0.14	0.6	0.14
A-B	27.5	18.4				
A-C	1136.9	758.0				
ALL	2044.0	1362.7	4.9	0.00	4.9	0.00

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

TRL LIMITED

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CAPACITIES, QUEUES, AND DELAYS AT 3 OR 4-ARM MAJOR/MINOR PRIORITY JUNCTIONS

PICADY 5.0 ANALYSIS PROGRAM
RELEASE 3.0 (JUNE 2006)

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EMAIL: SoftwareBureau@trl.co.uk

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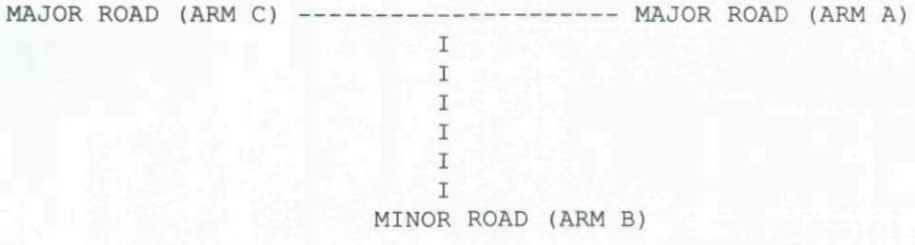
Run with file:-
"H:\Current Jobs\ALDI\CURRENT ACTIVE\SOUTH DARLINGTON REGION\aldibarugh.1\Capacity Calculations\Picady\
Claycliffe Road - Aldi access\wday pm\base models\wday pm - base model.vpi"
(drive-on-the-left) at 10:10:55 on Monday, 10 May 2010

.RUN INFORMATION
****

RUN TITLE: A637 Claycliffe Road / Aldi access
LOCATION:
DATE: 06/05/10
CLIENT:
ENUMERATOR: rsnowball [PWHITLEYT7400]
JOB NUMBER:
STATUS:
DESCRIPTION:

.MAJOR/MINOR JUNCTION CAPACITY AND DELAY
****

INPUT DATA



ARM A IS A637 Claycliffe Road (s)
ARM B IS Aldi access

ARM C IS A637 Claycliffe Road (n)

STREAM LABELLING CONVENTION

STREAM A-B CONTAINS TRAFFIC GOING FROM ARM A TO ARM B

STREAM B-AC CONTAINS TRAFFIC GOING FROM ARM B TO ARM A AND TO ARM C

ETC.

.GEOMETRIC DATA

DATA ITEM		MINOR ROAD B	
TOTAL MAJOR ROAD CARRIAGEWAY WIDTH	(W)	7.00 M.	
CENTRAL RESERVE WIDTH	(WCR)	0.00 M.	
MAJOR ROAD RIGHT TURN - WIDTH	(WC-B)	2.20 M.	
- VISIBILITY	(VC-B)	74.0 M.	
- BLOCKS TRAFFIC		YES	
MINOR ROAD - VISIBILITY TO LEFT	(VB-C)	29.0 M.	
- VISIBILITY TO RIGHT	(VB-A)	28.0 M.	
- LANE 1 WIDTH	(WB-C)	4.25 M.	
- LANE 2 WIDTH	(WB-A)	0.00 M.	

.SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity

will be adjusted)

Intercept For Stream B-C	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
721.85	0.27	0.11

Intercept For Stream B-A	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B

I	563.41	0.25	0.10	0.16
0.35	I			

I Intercept For Slope For Opposing Stream C-B	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B I
I 616.82	0.23	0.23 I

NB These values do not allow for any site specific corrections

.

.TRAFFIC DEMAND DATA

I ARM I	FLOW SCALE(%) I
I A I	100 I
I B I	100 I
I C I	100 I

Demand set: Weekday PM Peak - Base 2016

TIME PERIOD BEGINS 16.15 AND ENDS 17.45

LENGTH OF TIME PERIOD - 90 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

I ARM I	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	TOP OF PEAK IS REACHED	FLOW STOPS FALLING	RATE OF FLOW (VEH/MIN) BEFORE PEAK	AT TOP OF PEAK	AFTER PEAK I
I ARM A I	15.00	45.00	75.00	11.50	17.25	11.50 I
I ARM B I	15.00	45.00	75.00	0.24	0.36	0.24 I
I ARM C I	15.00	45.00	75.00	8.44	12.66	8.44 I

.

I TIME	TURNING PROPORTIONS / TURNING COUNTS (VEH/HR) (PERCENTAGE OF H.V.S) FROM/TO	ARM A	ARM B	ARM C I
I 16.15 - 17.45	I ARM A	I 0.000	I 0.024	I 0.976 I
I	I	I 0.0	I 22.0	I 898.0 I
I	I	I (0.0)	I (0.0)	I (0.0) I

```
I                    I  ARM B  I  0.579 I  0.000 I  0.421 I
I                    I         I   11.0 I    0.0 I    8.0 I
I                    I         I (  0.0)I (  0.0)I (  0.0)I
I                    I         I        I        I        I
I                    I  ARM C  I  0.996 I  0.004 I  0.000 I
I                    I         I  672.0 I    3.0 I    0.0 I
I                    I         I (  0.0)I (  0.0)I (  0.0)I
I                    I         I        I        I        I
 ------------------------------------------------------------
```

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

. QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR COMBINED DEMAND SETS
AND FOR TIME PERIOD 1

```
.-------------------------------------------------------------------------------
-----------------------------------
 I  TIME      DEMAND  CAPACITY  DEMAND/   PEDESTRIAN  START   END       DELAY
GEOMETRIC DELAY   AVERAGE DELAY I
 I         (VEH/MIN) (VEH/MIN) CAPACITY      FLOW     QUEUE  QUEUE    (VEH.MIN/
(VEH.MIN/      PER ARRIVING  I
 I                              (RFC)    (PEDS/MIN) (VEHS) (VEHS)  TIME
SEGMENT)  TIME SEGMENT)    VEHICLE (MIN) I
 I 16.15-16.30
I
 I   B-AC       0.24      6.35    0.038               0.00   0.04        0.6
0.16      I
 I   C-AB       0.04      7.64    0.005               0.00   0.00        0.1
0.13      I
 I   A-B        0.28
I
 I   A-C       11.27
I
 I
I
.-------------------------------------------------------------------------------
-----------------------------------

.-------------------------------------------------------------------------------
-----------------------------------
 I  TIME      DEMAND  CAPACITY  DEMAND/   PEDESTRIAN  START   END       DELAY
GEOMETRIC DELAY   AVERAGE DELAY I
 I         (VEH/MIN) (VEH/MIN) CAPACITY      FLOW     QUEUE  QUEUE    (VEH.MIN/
(VEH.MIN/      PER ARRIVING  I
 I                              (RFC)    (PEDS/MIN) (VEHS) (VEHS)  TIME
SEGMENT)  TIME SEGMENT)    VEHICLE (MIN) I
 I 16.30-16.45
I
 I   B-AC       0.28      5.53    0.051               0.04   0.05        0.8
0.19      I
 I   C-AB       0.04      7.13    0.006               0.00   0.01        0.1
0.14      I
 I   A-B        0.33
I
 I   A-C       13.45
I
 I
I
```

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.-------------------------------------------------------------------------------
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.-------------------------------------------------------------------------------
-----------------------------------
 I  TIME      DEMAND  CAPACITY  DEMAND/   PEDESTRIAN  START   END       DELAY
GEOMETRIC DELAY   AVERAGE DELAY I
 I         (VEH/MIN) (VEH/MIN) CAPACITY      FLOW     QUEUE  QUEUE    (VEH.MIN/
(VEH.MIN/      PER ARRIVING  I
 I                                (RFC)    (PEDS/MIN) (VEHS) (VEHS)  TIME
SEGMENT)  TIME SEGMENT)    VEHICLE (MIN) I
 I 16.45-17.00
I
 I   B-AC      0.35      4.35    0.080                0.05   0.09        1.2
0.25      I
 I   C-AB      0.06      6.42    0.009                0.01   0.01        0.1
0.16      I
 I   A-B       0.40
I
 I   A-C      16.48
I
 I
I
.-------------------------------------------------------------------------------
-----------------------------------

.-------------------------------------------------------------------------------
-----------------------------------
 I  TIME      DEMAND  CAPACITY  DEMAND/   PEDESTRIAN  START   END       DELAY
GEOMETRIC DELAY   AVERAGE DELAY I
 I         (VEH/MIN) (VEH/MIN) CAPACITY      FLOW     QUEUE  QUEUE    (VEH.MIN/
(VEH.MIN/      PER ARRIVING  I
 I                                (RFC)    (PEDS/MIN) (VEHS) (VEHS)  TIME
SEGMENT)  TIME SEGMENT)    VEHICLE (MIN) I
 I 17.00-17.15
I
 I   B-AC      0.35      4.35    0.080                0.09   0.09        1.3
0.25      I
 I   C-AB      0.06      6.42    0.009                0.01   0.01        0.1
0.16      I
 I   A-B       0.40
I
 I   A-C      16.48
I
 I
I
.-------------------------------------------------------------------------------
-----------------------------------

.-------------------------------------------------------------------------------
-----------------------------------
 I  TIME      DEMAND  CAPACITY  DEMAND/   PEDESTRIAN  START   END       DELAY
GEOMETRIC DELAY   AVERAGE DELAY I
 I         (VEH/MIN) (VEH/MIN) CAPACITY      FLOW     QUEUE  QUEUE    (VEH.MIN/
(VEH.MIN/      PER ARRIVING  I
 I                                (RFC)    (PEDS/MIN) (VEHS) (VEHS)  TIME
SEGMENT)  TIME SEGMENT)    VEHICLE (MIN) I
 I 17.15-17.30
I
 I   B-AC      0.28      5.53    0.051                0.09   0.05        0.9
0.19      I
```

```
 I   C-AB       0.04      7.13    0.006                0.01   0.01        0.1
0.14      I
 I   A-B        0.33
I
 I   A-C       13.45
I
 I
I
.-------------------------------------------------------------------------------
-----------------------------------

.-------------------------------------------------------------------------------
-----------------------------------
 I  TIME       DEMAND  CAPACITY  DEMAND/   PEDESTRIAN  START   END        DELAY
GEOMETRIC DELAY   AVERAGE DELAY I
 I          (VEH/MIN) (VEH/MIN) CAPACITY      FLOW     QUEUE  QUEUE     (VEH.MIN/
(VEH.MIN/       PER ARRIVING  I
 I                                (RFC)     (PEDS/MIN) (VEHS) (VEHS)  TIME
SEGMENT)  TIME SEGMENT)    VEHICLE (MIN) I
 I 17.30-17.45
I
 I   B-AC       0.24      6.35    0.038                0.05   0.04        0.6
0.16      I
 I   C-AB       0.04      7.64    0.005                0.01   0.01        0.1
0.13      I
 I   A-B        0.28
I
 I   A-C       11.27
I
 I
I
.-------------------------------------------------------------------------------
-----------------------------------
.
 QUEUE FOR STREAM   B-AC
 -------------------------
 TIME SEGMENT     NO. OF
   ENDING       VEHICLES
                IN QUEUE
   16.30            0.0
   16.45            0.1
   17.00            0.1
   17.15            0.1
   17.30            0.1
   17.45            0.0
.
 QUEUE FOR STREAM   C-AB
 -------------------------
 TIME SEGMENT     NO. OF
   ENDING       VEHICLES
                IN QUEUE
   16.30            0.0
   16.45            0.0
   17.00            0.0
   17.15            0.0
   17.30            0.0
   17.45            0.0
.
                  QUEUEING DELAY INFORMATION OVER WHOLE PERIOD
                  -------------------------------------------
```

STREAM	TOTAL DEMAND		* QUEUEING * DELAY *		* INCLUSIVE QUEUEING * DELAY *	
	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)
B-AC	26.2	17.4	5.3	0.20	5.3	0.20
C-AB	4.1	2.8	0.6	0.15	0.6	0.15
A-B	30.3	20.2				
A-C	1236.0	824.0				
ALL	2221.6	1481.0	5.9	0.00	5.9	0.00

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

PICADY

GUI Version: 5.00 AC
Analysis Program Release: 3.0 INTERIM (MAR 2006)

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Run Analysis

Parameter	Values
File Run	H:\..\total models\wday pm - total model.vpi
Date Run	07 July 2010
Time Run	11:52:46
Driving Side	Drive On The Left

Arm Names and Flow Scaling Factors

Arm	Arm Name	Flow Scaling Factor (%)
Arm A	A637 Claycliffe Road (s)	100
Arm B	Aldi access	100
Arm C	A637 Claycliffe Road (n)	100

Stream Labelling Convention

Stream A-B contains traffic going from A to B etc.

Run Information

Parameter	Values
Run Title	A637 Claycliffe Road / Aldi access
Location	-
Date	07 July 2010
Enumerator	rsnowball
Job Number	-
Status	-
Client	-
Description	-

Errors and Warnings

Parameter	Values
Warning	No Errors Or Warnings

Geometric Data

Geometric Parameters

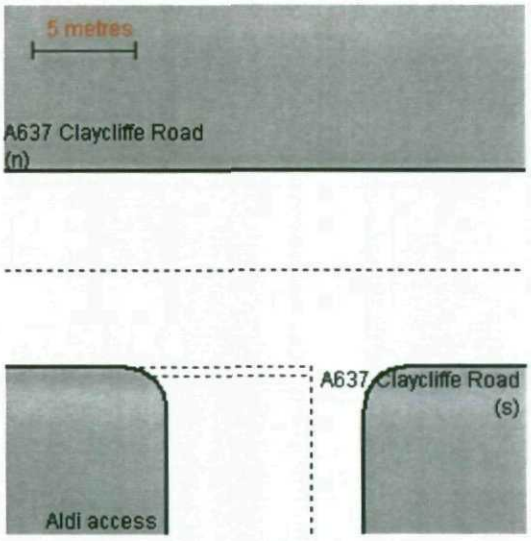
Parameter	Minor Arm B
Major Road Carriageway Width (m)	7.00
Major Road Kerbed Central Reserve Width (m)	0.00
Major Road Right Turning Lane Width (m)	2.20
Minor Road First Lane Width (m)	3.90
Minor Road Second Lane Width (m)	2.90
Minor Road Visibility To Right (m)	28
Minor Road Visibility To Left (m)	29
Major Road Right Turn Visibility (m)	74
Major Road Right Turn Blocks Traffic	No

Slope and Intercept Values

Stream	Intercept for Stream B-A	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
B-A	495.733	0.086	0.218	0.137	0.312
B-C	699.372	0.103	0.259	-	-
C-B	616.817	0.229	0.229	-	-

Note: Streams may be combined in which case capacity will be adjusted
These values do not allow for any site-specific corrections

Junction Diagram



Demand Data

Modelling Periods

Parameter	Period	Duration (min)	Segment Length (min)
First Modelling Period	16:15-17:45	90	15

ODTAB Turning Counts

Demand Set: Weekday PM Peak - Total 2011
Modelling Period: 16:15-17:45

From/To	Arm A	Arm B	Arm C
Arm A	0.0	42.0	821.0
Arm B	33.0	0.0	34.0
Arm C	611.0	30.0	0.0

Demand Set: Weekday PM Peak - Total 2016
Modelling Period: 16:15-17:45

From/To	Arm A	Arm B	Arm C
Arm A	0.0	44.0	893.0
Arm B	34.0	0.0	34.0
Arm C	665.0	30.0	0.0

ODTAB Synthesised Flows

Demand Set: Weekday PM Peak - Total 2011
Modelling Period: 16:15-17:45

Arm	Rising Time	Rising Flow (veh/min)	Peak Time	Peak Flow (veh/min)	Falling Time	Falling Flow (veh/min)
Arm A	16:30	10.788	16:30	16.181	17:00	10.788
Arm B	16:30	0.837	16:30	1.256	17:00	0.837
Arm C	16:30	8.012	16:30	12.019	17:00	8.012

Heavy Vehicles Percentages

Demand Set: Weekday PM Peak - Total 2011
Modelling Period: 16:15-17:45

From/To	Arm A	Arm B	Arm C
Arm A	-	0.0	0.0
Arm B	0.0	-	0.0
Arm C	0.0	0.0	-

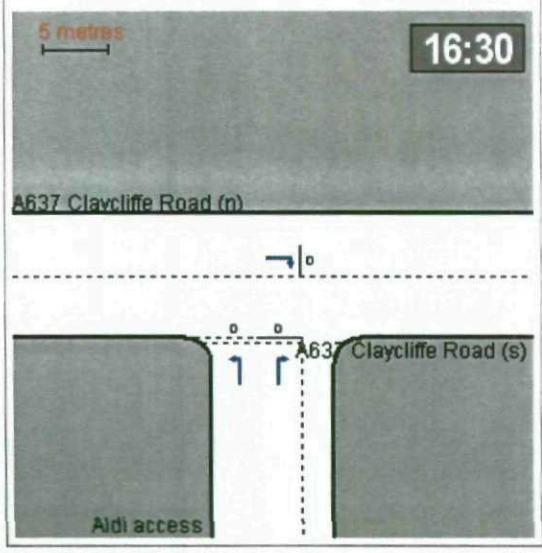
Demand Set: Weekday PM Peak - Total 2016
Modelling Period: 16:15-17:45

From/To	Arm A	Arm B	Arm C
Arm A	-	0.0	0.0
Arm B	0.0	-	0.0
Arm C	0.0	0.0	-

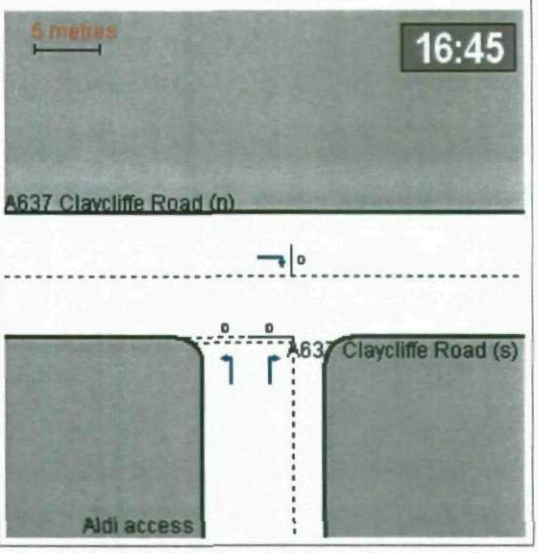
Queue Diagrams

Demand Set: Weekday PM Peak - Total 2011
Modelling Period: 16:15-17:45
View Extent: 40m

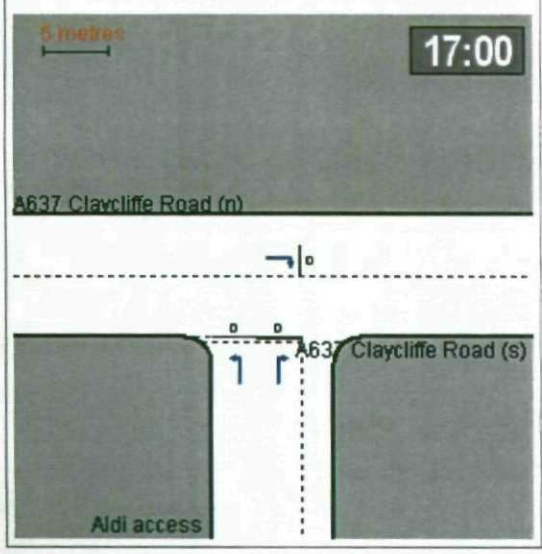
Queue Interval 1: 16:15-16:30



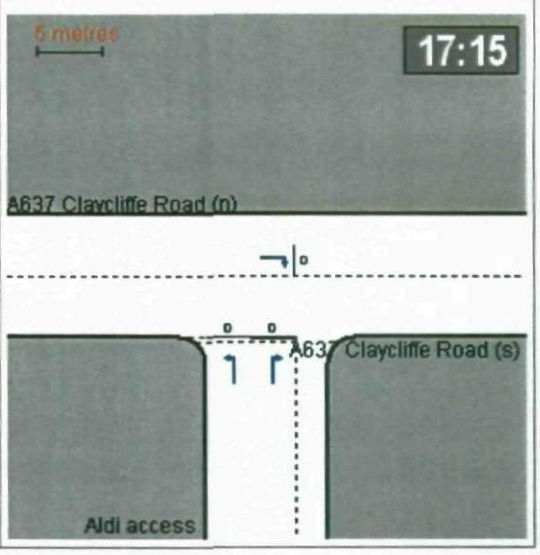
Queue Interval 2: 16:30-16:45



Queue Interval 3: 16:45-17:00

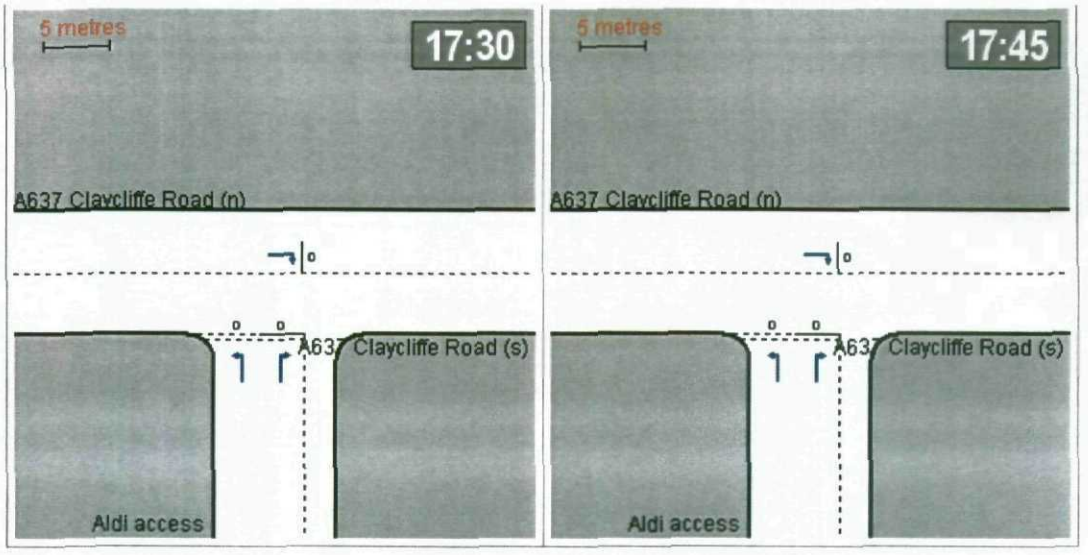


Queue Interval 4: 17:00-17:15



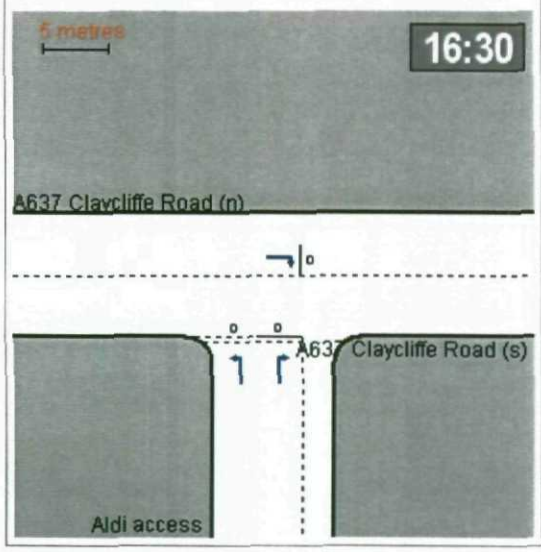
Queue Interval 5: 17:15-17:30

Queue Interval 6: 17:30-17:45

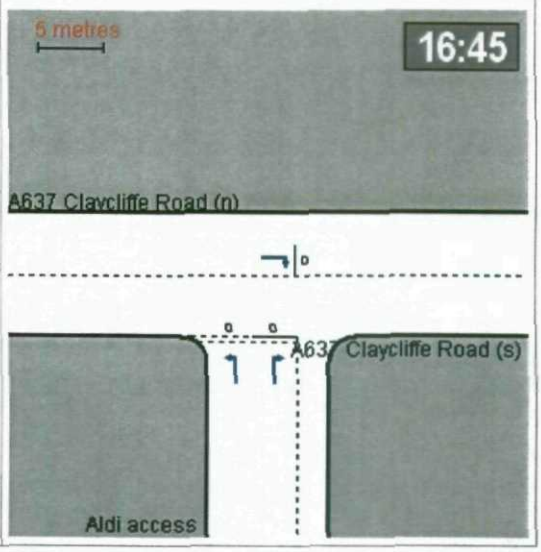

5 metres
17:30
A637 Claycliffe Road (n)
A637 Claycliffe Road (s)
Aldi access
5 metres
17:45
A637 Claycliffe Road (n)
A637 Claycliffe Road (s)
Aldi access

Demand Set: Weekday PM Peak - Total 2016
Modelling Period: 16:15-17:45
View Extent: 40m

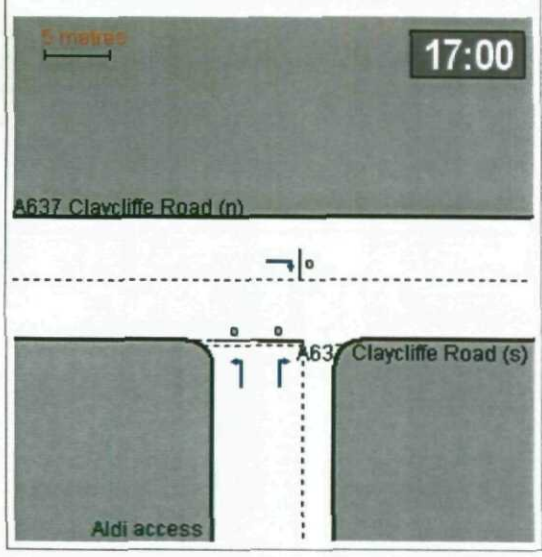
Queue Interval 1: 16:15-16:30



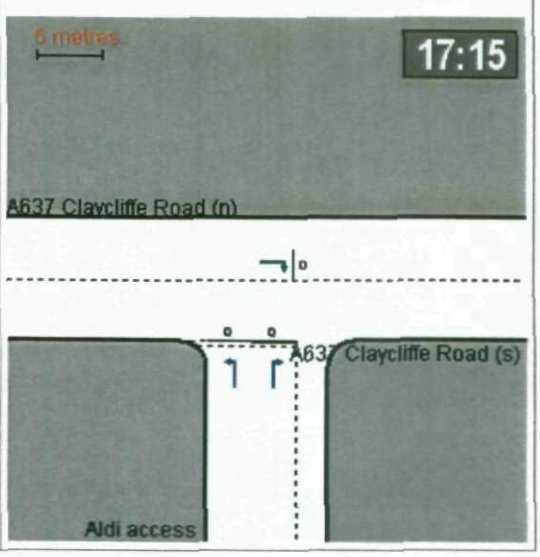
Queue Interval 2: 16:30-16:45



Queue Interval 3: 16:45-17:00

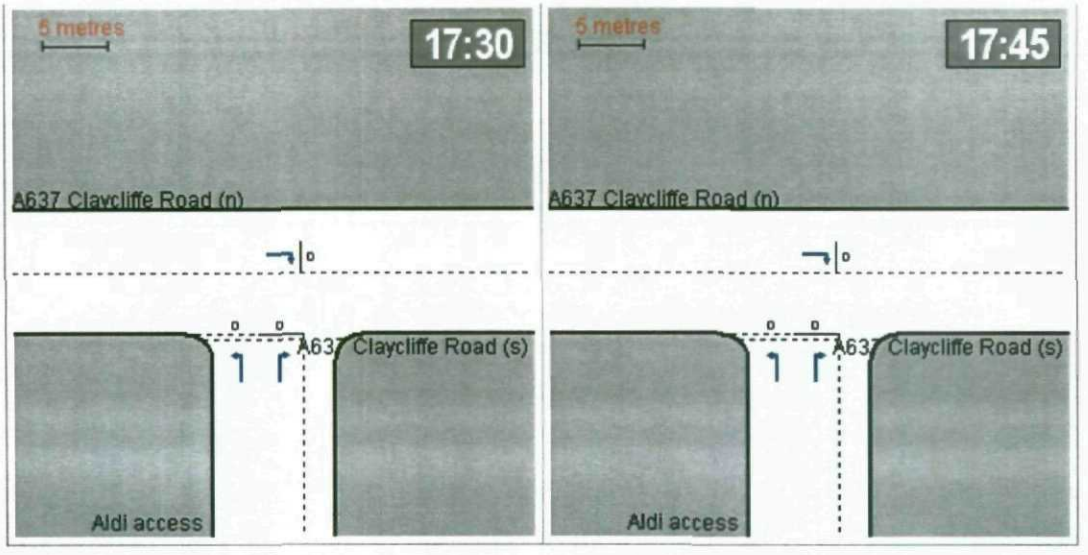


Queue Interval 4: 17:00-17:15



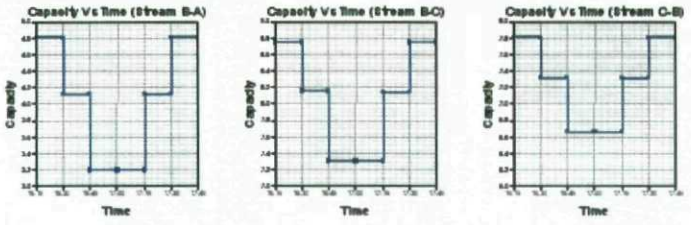
Queue Interval 5: 17:15-17:30

Queue Interval 6: 17:30-17:45

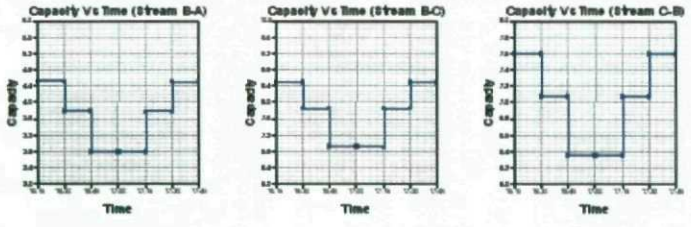

5 metres
17:30
A637 Claycliffe Road (n)
A637 Claycliffe Road (s)
Aldi access
5 metres
17:45
A637 Claycliffe Road (n)
A637 Claycliffe Road (s)
Aldi access

Capacity Graph

Demand Set: Weekday PM Peak - Total 2011
Modelling Period: 16:15-17:45

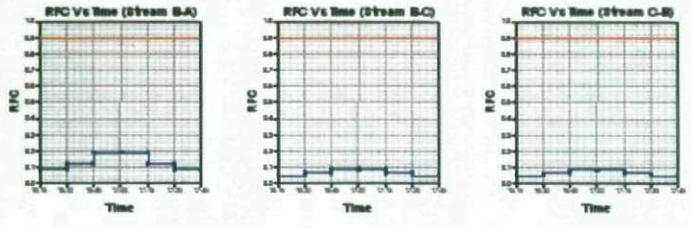


Demand Set: Weekday PM Peak - Total 2016
Modelling Period: 16:15-17:45

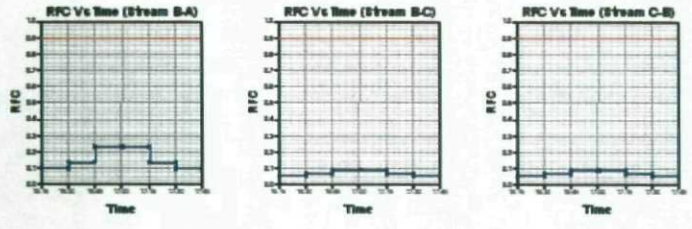


RFC Graph

Demand Set: Weekday PM Peak - Total 2011
Modelling Period: 16:15-17:45

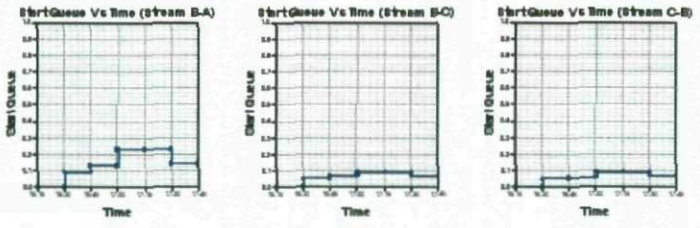


Demand Set: Weekday PM Peak - Total 2016
Modelling Period: 16:15-17:45

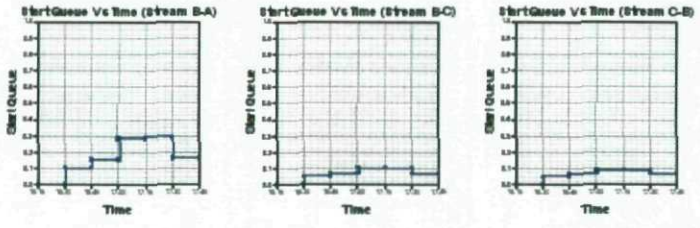


Start Queue Graph

Demand Set: Weekday PM Peak - Total 2011
Modelling Period: 16:15-17:45

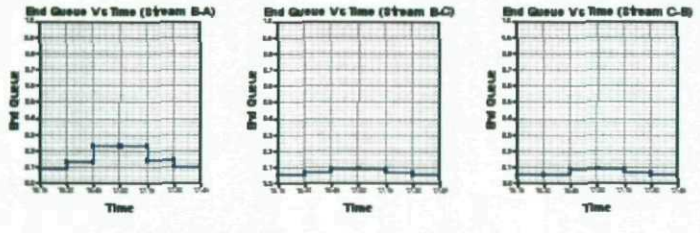


Demand Set: Weekday PM Peak - Total 2016
Modelling Period: 16:15-17:45

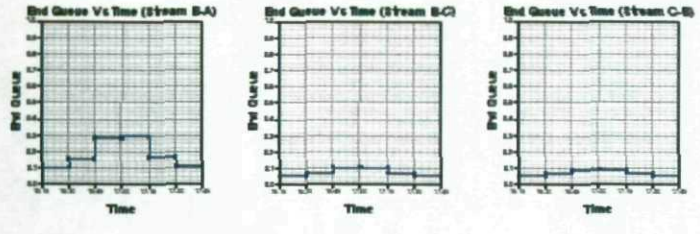


End Queue Graph

Demand Set: Weekday PM Peak - Total 2011
Modelling Period: 16:15-17:45

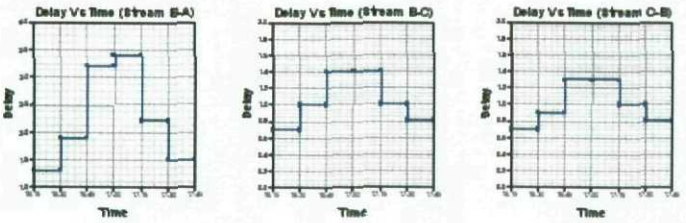


Demand Set: Weekday PM Peak - Total 2016
Modelling Period: 16:15-17:45

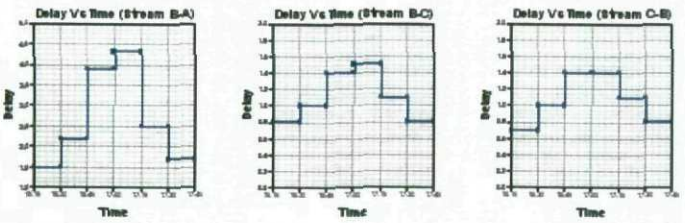


Delay Graph

Demand Set: Weekday PM Peak - Total 2011
Modelling Period: 16:15-17:45



Demand Set: Weekday PM Peak - Total 2016
Modelling Period: 16:15-17:45



Queues & Delays

Demand Set: Weekday PM Peak - Total 2011
Modelling Period: 16:15-17:45

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/ segment)	Delay (veh.min/ segment)	Mean Arriving Vehicle Delay (min)
16:15-16:30	B-A	0.41	4.80	0.086	-	0.00	0.09	-	1.3	0.23
	B-C	0.43	8.74	0.049	-	0.00	0.05	-	0.7	0.12
	C-A	7.67	-	-	-	-	-	-	-	-
	C-B	0.38	7.80	0.048	-	0.00	0.05	-	0.7	0.13
	A-B	0.53	-	-	-	-	-	-	-	-
	A-C	10.30	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/ segment)	Delay (veh.min/ segment)	Mean Arriving Vehicle Delay (min)
16:30-16:45	B-A	0.49	4.12	0.120	-	0.09	0.13	-	1.9	0.28
	B-C	0.51	8.15	0.063	-	0.05	0.07	-	1.0	0.13
	C-A	9.15	-	-	-	-	-	-	-	-
	C-B	0.45	7.32	0.061	-	0.05	0.06	-	0.9	0.15
	A-B	0.63	-	-	-	-	-	-	-	-
	A-C	12.30	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/ segment)	Delay (veh.min/ segment)	Mean Arriving Vehicle Delay (min)
16:45-17:00	B-A	0.61	3.19	0.190	-	0.13	0.23	-	3.2	0.39
	B-C	0.62	7.30	0.085	-	0.07	0.09	-	1.4	0.15
	C-A	11.21	-	-	-	-	-	-	-	-
	C-B	0.55	6.66	0.083	-	0.06	0.09	-	1.3	0.16
	A-B	0.77	-	-	-	-	-	-	-	-
	A-C	15.07	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/ segment)	Delay (veh.min/ segment)	Mean Arriving Vehicle Delay (min)
17:00-17:15	B-A	0.61	3.19	0.190	-	0.23	0.23	-	3.4	0.39
	B-C	0.62	7.30	0.085	-	0.09	0.09	-	1.4	0.15
	C-A	11.21	-	-	-	-	-	-	-	-
	C-B	0.55	6.66	0.083	-	0.09	0.09	-	1.3	0.16
	A-B	0.77	-	-	-	-	-	-	-	-
	A-C	15.07	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/ segment)	Delay (veh.min/ segment)	Mean Arriving Vehicle Delay (min)
17:15-17:30	B-A	0.49	4.12	0.120	-	0.23	0.14	-	2.2	0.28
	B-C	0.51	8.14	0.063	-	0.09	0.07	-	1.0	0.13
	C-A	9.15	-	-	-	-	-	-	-	-
	C-B	0.45	7.32	0.061	-	0.09	0.07	-	1.0	0.15
	A-B	0.63	-	-	-	-	-	-	-	-
	A-C	12.30	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/ segment)	Delay (veh.min/ segment)	Mean Arriving Vehicle Delay (min)
17:30-17:45	B-A	0.41	4.80	0.086	-	0.14	0.10	-	1.5	0.23
	B-C	0.43	8.74	0.049	-	0.07	0.05	-	0.8	0.12
	C-A	7.67	-	-	-	-	-	-	-	-
	C-B	0.38	7.80	0.048	-	0.07	0.05	-	0.8	0.13
	A-B	0.53	-	-	-	-	-	-	-	-
	A-C	10.30	-	-	-	-	-	-	-	-

Demand Set: Weekday PM Peak - Total 2016
Modelling Period: 16:15-17:45

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/ segment)	Delay (veh.min/ segment)	Mean Arriving Vehicle Delay (min)
16:15-16:30	B-A	0.43	4.51	0.095	-	0.00	0.10	-	1.5	0.24
	B-C	0.43	8.49	0.050	-	0.00	0.05	-	0.8	0.12
	C-A	8.34	-	-	-	-	-	-	-	-
	C-B	0.38	7.59	0.050	-	0.00	0.05	-	0.7	0.14
	A-B	0.55	-	-	-	-	-	-	-	-
	A-C	11.20	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/ segment)	Delay (veh.min/ segment)	Mean Arriving Vehicle Delay (min)
16:30-16:45	B-A	0.51	3.78	0.135	-	0.10	0.15	-	2.2	0.31
	B-C	0.51	7.84	0.065	-	0.05	0.07	-	1.0	0.14
	C-A	9.96	-	-	-	-	-	-	-	-
	C-B	0.45	7.07	0.064	-	0.05	0.07	-	1.0	0.15
	A-B	0.66	-	-	-	-	-	-	-	-
	A-C	13.38	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/ segment)	Delay (veh.min/ segment)	Mean Arriving Vehicle Delay (min)
16:45-17:00	B-A	0.62	2.77	0.226	-	0.15	0.28	-	3.9	0.46
	B-C	0.62	6.91	0.090	-	0.07	0.10	-	1.4	0.16
	C-A	12.20	-	-	-	-	-	-	-	-
	C-B	0.55	6.35	0.087	-	0.07	0.09	-	1.4	0.17
	A-B	0.81	-	-	-	-	-	-	-	-
	A-C	16.39	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/ segment)	Delay (veh.min/ segment)	Mean Arriving Vehicle Delay (min)
17:00-17:15	B-A	0.62	2.77	0.226	-	0.28	0.29	-	4.3	0.47
	B-C	0.62	6.90	0.090	-	0.10	0.10	-	1.5	0.16
	C-A	12.20	-	-	-	-	-	-	-	-
	C-B	0.55	6.35	0.087	-	0.09	0.09	-	1.4	0.17
	A-B	0.81	-	-	-	-	-	-	-	-
	A-C	16.39	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/ segment)	Delay (veh.min/ segment)	Mean Arriving Vehicle Delay (min)
17:15-17:30	B-A	0.51	3.77	0.135	-	0.29	0.16	-	2.5	0.31
	B-C	0.51	7.84	0.065	-	0.10	0.07	-	1.1	0.14
	C-A	9.96	-	-	-	-	-	-	-	-
	C-B	0.45	7.07	0.064	-	0.09	0.07	-	1.1	0.15
	A-B	0.66	-	-	-	-	-	-	-	-
	A-C	13.38	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/ segment)	Delay (veh.min/ segment)	Mean Arriving Vehicle Delay (min)
17:30-17:45	B-A	0.43	4.50	0.095	-	0.16	0.11	-	1.7	0.25
	B-C	0.43	8.48	0.050	-	0.07	0.05	-	0.8	0.12
	C-A	8.34	-	-	-	-	-	-	-	-
	C-B	0.38	7.59	0.050	-	0.07	0.05	-	0.8	0.14
	A-B	0.55	-	-	-	-	-	-	-	-
	A-C	11.20	-	-	-	-	-	-	-	-

Entry capacities marked with an '(X)' are dominated by a pedestrian crossing in that time segment.
In time segments marked with a '(B)', traffic leaving the junction may block back from a crossing so impairing normal operation of the junction.
Delays marked with '##' could not be calculated.

Overall Queues & Delays

Queueing Delay Information Over Whole Period

Demand Set: Weekday PM Peak - Total 2011
Modelling Period: 16:15-17:45

Stream	Total Demand (veh)	Total Demand (veh/h)	Queueing Delay (min)	Queueing Delay (min/veh)	Inclusive Delay (min)	Inclusive Delay (min/veh)
B-A	45.4	30.3	13.6	0.3	13.6	0.3
B-C	46.8	31.2	6.3	0.1	6.3	0.1
C-A	841.0	560.7	-	-	-	-
C-B	41.3	27.5	6.1	0.1	6.1	0.1
A-B	57.8	38.5	-	-	-	-
A-C	1130.0	753.4	-	-	-	-
All	**2162.4**	**1441.6**	**26.0**	**0.0**	**26.0**	**0.0**

Demand Set: Weekday PM Peak - Total 2016
Modelling Period: 16:15-17:45

Stream	Total Demand (veh)	Total Demand (veh/h)	Queueing Delay (min)	Queueing Delay (min/veh)	Inclusive Delay (min)	Inclusive Delay (min/veh)
B-A	46.8	31.2	16.0	0.3	16.0	0.3
B-C	46.8	31.2	6.6	0.1	6.6	0.1
C-A	915.3	610.2	-	-	-	-
C-B	41.3	27.5	6.4	0.2	6.4	0.2
A-B	60.6	40.4	-	-	-	-
A-C	1229.1	819.4	-	-	-	-
All	**2339.9**	**1559.9**	**29.0**	**0.0**	**29.0**	**0.0**

Delay is that occurring only within the time period.
Inclusive delay includes delay suffered by vehicles which are still queuing after the end of the time period.
These will only be significantly different if there is a large queue remaining at the end of the time period.

PICADY 5 Run Successful

TRL LIMITED

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CAPACITIES, QUEUES, AND DELAYS AT 3 OR 4-ARM MAJOR/MINOR PRIORITY JUNCTIONS

PICADY 5.0 ANALYSIS PROGRAM
RELEASE 3.0 (JUNE 2006)

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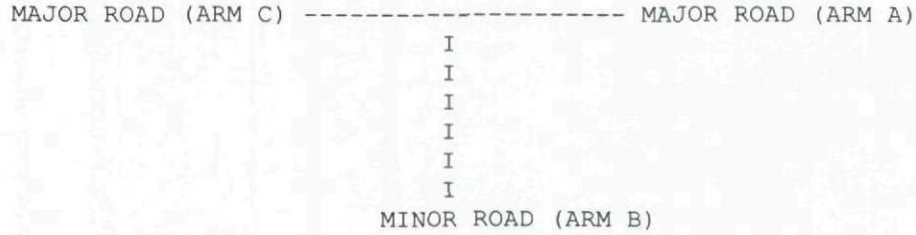
Run with file:-
"H:\Current Jobs\ALDI\CURRENT ACTIVE\SOUTH DARLINGTON REGION\aldibarugh.1\Capacity Calculations\Picady\
Claycliffe Road - Aldi access\saturday\base models\saturday - base model.vpi"
(drive-on-the-left) at 10:12:57 on Monday, 10 May 2010

.RUN INFORMATION
****

RUN TITLE: A637 Claycliffe Road / Aldi access
LOCATION:
DATE: 06/05/10
CLIENT:
ENUMERATOR: rsnowball [PWHITLEYT7400]
JOB NUMBER:
STATUS:
DESCRIPTION:

.MAJOR/MINOR JUNCTION CAPACITY AND DELAY
****

INPUT DATA



ARM A IS A637 Claycliffe Road (s)
ARM B IS Aldi access

ARM C IS A637 Claycliffe Road (n)

STREAM LABELLING CONVENTION

STREAM A-B CONTAINS TRAFFIC GOING FROM ARM A TO ARM B

STREAM B-AC CONTAINS TRAFFIC GOING FROM ARM B TO ARM A AND TO ARM C

ETC.

.GEOMETRIC DATA

DATA ITEM		MINOR ROAD B	
TOTAL MAJOR ROAD CARRIAGEWAY WIDTH	(W)	7.00 M.	
CENTRAL RESERVE WIDTH	(WCR)	0.00 M.	
MAJOR ROAD RIGHT TURN - WIDTH	(WC-B)	2.20 M.	
- VISIBILITY	(VC-B)	74.0 M.	
- BLOCKS TRAFFIC		YES	
MINOR ROAD - VISIBILITY TO LEFT	(VB-C)	29.0 M.	
- VISIBILITY TO RIGHT	(VB-A)	28.0 M.	
- LANE 1 WIDTH	(WB-C)	4.25 M.	
- LANE 2 WIDTH	(WB-A)	0.00 M.	

.SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity

will be adjusted)

Intercept For Stream B-C	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
721.85	0.27	0.11

Intercept For Stream B-A	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B

I	563.41	0.25	0.10	0.16
0.35	I			

I Intercept For Stream C-B	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B I
I 616.82	0.23	0.23 I

NB These values do not allow for any site specific corrections

.

.TRAFFIC DEMAND DATA

I ARM I	FLOW SCALE(%) I
I A I	100 I
I B I	100 I
I C I	100 I

Demand set: Saturday Peak - Base 2011

TIME PERIOD BEGINS 11.15 AND ENDS 12.45

LENGTH OF TIME PERIOD - 90 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

I ARM I	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	TOP OF PEAK IS REACHED	FLOW STOPS FALLING	RATE OF FLOW (VEH/MIN) BEFORE PEAK	AT TOP OF PEAK	AFTER PEAK
I ARM A I	15.00	45.00	75.00	7.64	11.46	7.64 I
I ARM B I	15.00	45.00	75.00	0.17	0.26	0.17 I
I ARM C I	15.00	45.00	75.00	7.30	10.95	7.30 I

.

I TIME	TURNING PROPORTIONS / TURNING COUNTS (VEH/HR) (PERCENTAGE OF H.V.S) FROM/TO	ARM A	ARM B	ARM C
I 11.15 - 12.45	I			
	I ARM A	I 0.000	I 0.026	I 0.974 I
		I 0.0	I 16.0	I 595.0 I
		I (0.0)	I (0.0)	I (0.0) I
		I	I	I

```
I                   I  ARM B  I  0.571 I  0.000 I  0.429 I
I                   I         I    8.0 I    0.0 I    6.0 I
I                   I         I (  0.0)I (  0.0)I (  0.0)I
I                   I         I       I       I       I
I                   I  ARM C  I  0.997 I  0.003 I  0.000 I
I                   I         I  582.0 I    2.0 I    0.0 I
I                   I         I (  0.0)I (  0.0)I (  0.0)I
I                   I         I       I       I       I
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TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

. QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR COMBINED DEMAND SETS
AND FOR TIME PERIOD 1

I TIME SEGMENT		DEMAND (VEH/MIN)	CAPACITY (VEH/MIN) (RFC)	DEMAND/ CAPACITY	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN) I
I 11.15-11.30										I
I	B-AC	0.18	7.55	0.023		0.00	0.02	0.3	0.14	I
I	C-AB	0.03	8.53	0.003		0.00	0.00	0.0	0.12	I
I	A-B	0.20								I
I	A-C	7.47								I
I										I

I TIME SEGMENT		DEMAND (VEH/MIN)	CAPACITY (VEH/MIN) (RFC)	DEMAND/ CAPACITY	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING VEHICLE (MIN) I
I 11.30-11.45										I
I	B-AC	0.21	6.98	0.030		0.02	0.03	0.4	0.15	I
I	C-AB	0.03	8.19	0.004		0.00	0.00	0.1	0.12	I
I	A-B	0.24								I
I	A-C	8.91								I
I										I

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 I  TIME      DEMAND  CAPACITY  DEMAND/   PEDESTRIAN  START   END       DELAY
GEOMETRIC DELAY   AVERAGE DELAY I
 I         (VEH/MIN) (VEH/MIN) CAPACITY      FLOW     QUEUE  QUEUE    (VEH.MIN/
(VEH.MIN/      PER ARRIVING  I
 I                              (RFC)     (PEDS/MIN) (VEHS) (VEHS)  TIME
SEGMENT)  TIME SEGMENT)    VEHICLE (MIN) I
 I 11.45-12.00
I
 I   B-AC      0.26      6.17    0.042                0.03   0.04        0.6
0.17      I
 I   C-AB      0.04      7.72    0.005                0.00   0.00        0.1
0.13      I
 I   A-B       0.29
I
 I   A-C      10.92
I
 I
I
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 I  TIME      DEMAND  CAPACITY  DEMAND/   PEDESTRIAN  START   END       DELAY
GEOMETRIC DELAY   AVERAGE DELAY I
 I         (VEH/MIN) (VEH/MIN) CAPACITY      FLOW     QUEUE  QUEUE    (VEH.MIN/
(VEH.MIN/      PER ARRIVING  I
 I                              (RFC)     (PEDS/MIN) (VEHS) (VEHS)  TIME
SEGMENT)  TIME SEGMENT)    VEHICLE (MIN) I
 I 12.00-12.15
I
 I   B-AC      0.26      6.17    0.042                0.04   0.04        0.6
0.17      I
 I   C-AB      0.04      7.72    0.005                0.00   0.00        0.1
0.13      I
 I   A-B       0.29
I
 I   A-C      10.92
I
 I
I
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----------------------------------
 I  TIME      DEMAND  CAPACITY  DEMAND/   PEDESTRIAN  START   END       DELAY
GEOMETRIC DELAY   AVERAGE DELAY I
 I         (VEH/MIN) (VEH/MIN) CAPACITY      FLOW     QUEUE  QUEUE    (VEH.MIN/
(VEH.MIN/      PER ARRIVING  I
 I                              (RFC)     (PEDS/MIN) (VEHS) (VEHS)  TIME
SEGMENT)  TIME SEGMENT)    VEHICLE (MIN) I
 I 12.15-12.30
I
 I   B-AC      0.21      6.98    0.030                0.04   0.03        0.5
0.15      I
```

```
 I   C-AB       0.03       8.19     0.004                  0.00    0.00         0.1
0.12       I
 I   A-B        0.24
I
 I   A-C        8.91
I
 I
I
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 I  TIME       DEMAND  CAPACITY  DEMAND/   PEDESTRIAN  START   END        DELAY
GEOMETRIC DELAY   AVERAGE DELAY I
 I          (VEH/MIN) (VEH/MIN) CAPACITY      FLOW     QUEUE  QUEUE    (VEH.MIN/
(VEH.MIN/       PER ARRIVING  I
 I                                 (RFC)    (PEDS/MIN) (VEHS) (VEHS)  TIME
SEGMENT)  TIME SEGMENT)    VEHICLE (MIN) I
 I 12.30-12.45
I
 I   B-AC       0.18       7.55     0.023                  0.03    0.02         0.4
0.14       I
 I   C-AB       0.03       8.53     0.003                  0.00    0.00         0.0
0.12       I
 I   A-B        0.20
I
 I   A-C        7.47
I
 I
I
.-------------------------------------------------------------------------------
-----------------------------------
.
 QUEUE FOR STREAM   B-AC
 -------------------------
 TIME SEGMENT     NO. OF
   ENDING       VEHICLES
                IN QUEUE
    11.30           0.0
    11.45           0.0
    12.00           0.0
    12.15           0.0
    12.30           0.0
    12.45           0.0
.
 QUEUE FOR STREAM   C-AB
 -------------------------
 TIME SEGMENT     NO. OF
   ENDING       VEHICLES
                IN QUEUE
    11.30           0.0
    11.45           0.0
    12.00           0.0
    12.15           0.0
    12.30           0.0
    12.45           0.0
.
                  QUEUEING DELAY INFORMATION OVER WHOLE PERIOD
                  -------------------------------------------
```

STREAM	TOTAL DEMAND		* QUEUEING * DELAY *		* INCLUSIVE QUEUEING * DELAY *	
	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)
B-AC	19.3	12.8	2.9	0.15	2.9	0.15
C-AB	2.8	1.8	0.3	0.12	0.3	0.12
A-B	22.0	14.7				
A-C	819.0	546.0				
ALL	1664.1	1109.4	3.3	0.00	3.3	0.00

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

TRL LIMITED

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CAPACITIES, QUEUES, AND DELAYS AT 3 OR 4-ARM MAJOR/MINOR PRIORITY JUNCTIONS

PICADY 5.0 ANALYSIS PROGRAM
RELEASE 3.0 (JUNE 2006)

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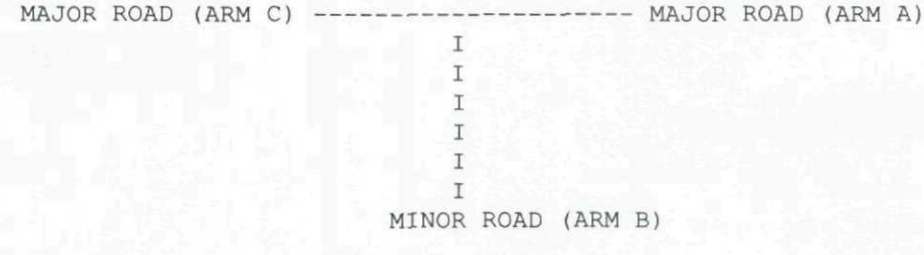
Run with file:-
"H:\Current Jobs\ALDI\CURRENT ACTIVE\SOUTH DARLINGTON REGION\aldibarugh.1\Capacity Calculations\Picady\ Claycliffe Road - Aldi access\saturday\base models\saturday - base model.vpi"
(drive-on-the-left) at 10:13:14 on Monday, 10 May 2010

.RUN INFORMATION
****

RUN TITLE: A637 Claycliffe Road / Aldi access
LOCATION:
DATE: 06/05/10
CLIENT:
ENUMERATOR: rsnowball [PWHITLEYT7400]
JOB NUMBER:
STATUS:
DESCRIPTION:

.MAJOR/MINOR JUNCTION CAPACITY AND DELAY
****

INPUT DATA



ARM A IS A637 Claycliffe Road (s)
ARM B IS Aldi access

ARM C IS A637 Claycliffe Road (n)

STREAM LABELLING CONVENTION

STREAM A-B CONTAINS TRAFFIC GOING FROM ARM A TO ARM B

STREAM B-AC CONTAINS TRAFFIC GOING FROM ARM B TO ARM A AND TO ARM C

ETC.

.GEOMETRIC DATA

DATA ITEM		MINOR ROAD B	
TOTAL MAJOR ROAD CARRIAGEWAY WIDTH	(W)	7.00 M.	
CENTRAL RESERVE WIDTH	(WCR)	0.00 M.	
MAJOR ROAD RIGHT TURN - WIDTH	(WC-B)	2.20 M.	
- VISIBILITY	(VC-B)	74.0 M.	
- BLOCKS TRAFFIC		YES	
MINOR ROAD - VISIBILITY TO LEFT	(VB-C)	29.0 M.	
- VISIBILITY TO RIGHT	(VB-A)	28.0 M.	
- LANE 1 WIDTH	(WB-C)	4.25 M.	
- LANE 2 WIDTH	(WB-A)	0.00 M.	

.SLOPES AND INTERCEPT

(NB:Streams may be combined, in which case capacity

will be adjusted)

Intercept For Stream B-C	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B
721.85	0.27	0.11

Intercept For Stream B-A	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B	Slope For Opposing Stream C-A	Slope For Opposing Stream C-B

I	563.41	0.25	0.10	0.16
0.35	I			

I Intercept For Stream C-B	Slope For Opposing Stream A-C	Slope For Opposing Stream A-B I
I 616.82	0.23	0.23 I

NB These values do not allow for any site specific corrections

.

.TRAFFIC DEMAND DATA

I ARM I	FLOW SCALE(%) I
I A I	100 I
I B I	100 I
I C I	100 I

Demand set: Saturday Peak - Base 2016

TIME PERIOD BEGINS 11.15 AND ENDS 12.45

LENGTH OF TIME PERIOD - 90 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

I ARM I	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE I	TOP OF PEAK IS REACHED I	FLOW STOPS FALLING I	RATE OF FLOW (VEH/MIN) BEFORE PEAK I	AT TOP OF PEAK I	AFTER PEAK I
I ARM A I	15.00 I	45.00 I	75.00 I	8.29 I	12.43 I	8.29 I
I ARM B I	15.00 I	45.00 I	75.00 I	0.20 I	0.30 I	0.20 I
I ARM C I	15.00 I	45.00 I	75.00 I	7.91 I	11.87 I	7.91 I

.

I TIME I	TURNING PROPORTIONS / TURNING COUNTS (VEH/HR) / (PERCENTAGE OF H.V.S) FROM/TO I	ARM A I	ARM B I	ARM C I
I 11.15 - 12.45 I	I	I	I	I
I	I ARM A I	0.000 I	0.027 I	0.973 I
I	I	0.0 I	18.0 I	645.0 I
I	I	I (0.0)I	(0.0)I	(0.0)I
I	I	I	I	I

```
I                   I  ARM B  I  0.563 I  0.000 I  0.438 I
I                   I         I    9.0 I    0.0 I    7.0 I
I                   I         I (  0.0)I (  0.0)I (  0.0)I
I                   I         I        I        I        I
I                   I  ARM C  I  0.997 I  0.003 I  0.000 I
I                   I         I  631.0 I    2.0 I    0.0 I
I                   I         I (  0.0)I (  0.0)I (  0.0)I
I                   I         I        I        I        I
-------------------------------------------------------
```

TURNING PROPORTIONS ARE CALCULATED FROM TURNING COUNT DATA

THE PERCENTAGE OF HEAVY VEHICLES VARIES OVER TURNING MOVEMENTS

. QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

FOR COMBINED DEMAND SETS
AND FOR TIME PERIOD 1

I TIME SEGMENT)	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ VEHICLE (MIN)	AVERAGE DELAY PER ARRIVING I
I 11.15-11.30									I
I B-AC	0.20	7.33	0.027		0.00	0.03	0.4	0.14	I
I C-AB	0.03	8.38	0.003		0.00	0.00	0.0	0.12	I
I A-B	0.23								I
I A-C	8.09								I
I									I

I TIME SEGMENT)	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ VEHICLE (MIN)	AVERAGE DELAY PER ARRIVING I
I 11.30-11.45									I
I B-AC	0.24	6.71	0.036		0.03	0.04	0.5	0.15	I
I C-AB	0.03	8.01	0.004		0.00	0.00	0.1	0.13	I
I A-B	0.27								I
I A-C	9.66								I
I									I

```
.-------------------------------------------------------------------------------
----------------------------------

.-------------------------------------------------------------------------------
----------------------------------
 I  TIME      DEMAND  CAPACITY  DEMAND/   PEDESTRIAN  START   END       DELAY
GEOMETRIC DELAY   AVERAGE DELAY I
 I         (VEH/MIN) (VEH/MIN) CAPACITY      FLOW     QUEUE  QUEUE    (VEH.MIN/
(VEH.MIN/      PER ARRIVING  I
 I                              (RFC)    (PEDS/MIN) (VEHS) (VEHS)  TIME
SEGMENT)  TIME SEGMENT)    VEHICLE (MIN) I
 I 11.45-12.00
I
 I   B-AC      0.29      5.82    0.050                0.04   0.05        0.8
0.18      I
 I   C-AB      0.04      7.50    0.005                0.00   0.00        0.1
0.13      I
 I   A-B       0.33
I
 I   A-C      11.84
I
 I
I
.-------------------------------------------------------------------------------
----------------------------------

.-------------------------------------------------------------------------------
----------------------------------
 I  TIME      DEMAND  CAPACITY  DEMAND/   PEDESTRIAN  START   END       DELAY
GEOMETRIC DELAY   AVERAGE DELAY I
 I         (VEH/MIN) (VEH/MIN) CAPACITY      FLOW     QUEUE  QUEUE    (VEH.MIN/
(VEH.MIN/      PER ARRIVING  I
 I                              (RFC)    (PEDS/MIN) (VEHS) (VEHS)  TIME
SEGMENT)  TIME SEGMENT)    VEHICLE (MIN) I
 I 12.00-12.15
I
 I   B-AC      0.29      5.82    0.050                0.05   0.05        0.8
0.18      I
 I   C-AB      0.04      7.50    0.005                0.00   0.00        0.1
0.13      I
 I   A-B       0.33
I
 I   A-C      11.84
I
 I
I
.-------------------------------------------------------------------------------
----------------------------------

.-------------------------------------------------------------------------------
----------------------------------
 I  TIME      DEMAND  CAPACITY  DEMAND/   PEDESTRIAN  START   END       DELAY
GEOMETRIC DELAY   AVERAGE DELAY I
 I         (VEH/MIN) (VEH/MIN) CAPACITY      FLOW     QUEUE  QUEUE    (VEH.MIN/
(VEH.MIN/      PER ARRIVING  I
 I                              (RFC)    (PEDS/MIN) (VEHS) (VEHS)  TIME
SEGMENT)  TIME SEGMENT)    VEHICLE (MIN) I
 I 12.15-12.30
I
 I   B-AC      0.24      6.71    0.036                0.05   0.04        0.6
0.15      I
```

```
 I   C-AB       0.03      8.01    0.004                0.00   0.00        0.1
0.13      I
 I   A-B        0.27
I
 I   A-C        9.66
I
 I
I
.-------------------------------------------------------------------------------
----------------------------------

.-------------------------------------------------------------------------------
----------------------------------
 I  TIME       DEMAND  CAPACITY  DEMAND/   PEDESTRIAN  START   END        DELAY
GEOMETRIC DELAY   AVERAGE DELAY I
 I          (VEH/MIN) (VEH/MIN) CAPACITY      FLOW     QUEUE  QUEUE     (VEH.MIN/
(VEH.MIN/      PER ARRIVING  I
 I                              (RFC)     (PEDS/MIN) (VEHS) (VEHS)  TIME
SEGMENT)  TIME SEGMENT)    VEHICLE (MIN) I
 I 12.30-12.45
I
 I   B-AC       0.20      7.33    0.027                0.04   0.03        0.4
0.14      I
 I   C-AB       0.03      8.38    0.003                0.00   0.00        0.0
0.12      I
 I   A-B        0.23
I
 I   A-C        8.09
I
 I
I
.-------------------------------------------------------------------------------
----------------------------------
.
 QUEUE FOR STREAM   B-AC
 -------------------------
 TIME SEGMENT    NO. OF
   ENDING       VEHICLES
                IN QUEUE
    11.30           0.0
    11.45           0.0
    12.00           0.1
    12.15           0.1
    12.30           0.0
    12.45           0.0
.
 QUEUE FOR STREAM   C-AB
 -------------------------
 TIME SEGMENT    NO. OF
   ENDING       VEHICLES
                IN QUEUE
    11.30           0.0
    11.45           0.0
    12.00           0.0
    12.15           0.0
    12.30           0.0
    12.45           0.0
.
                QUEUEING DELAY INFORMATION OVER WHOLE PERIOD
                --------------------------------------------
```

STREAM	TOTAL DEMAND		* QUEUEING * DELAY *		* INCLUSIVE QUEUEING * DELAY *	
	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)
B-AC	22.0	14.7	3.5	0.16	3.5	0.16
C-AB	2.8	1.8	0.4	0.13	0.4	0.13
A-B	24.8	16.5				
A-C	887.8	591.9				
ALL	1805.9	1203.9	3.9	0.00	3.9	0.00

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD .
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

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Run Analysis

Parameter	Values
File Run	H:\..\total models\saturday - total model.vpi
Date Run	07 July 2010
Time Run	11:55:58
Driving Side	Drive On The Left

Arm Names and Flow Scaling Factors

Arm	Arm Name	Flow Scaling Factor (%)
Arm A	A637 Claycliffe Road (s)	100
Arm B	Aldi access	100
Arm C	A637 Claycliffe Road (n)	100

Stream Labelling Convention

Stream A-B contains traffic going from A to B etc.

Run Information

Parameter	Values
Run Title	A637 Claycliffe Road / Aldi access
Location	-
Date	07 July 2010
Enumerator	rsnowball
Job Number	-
Status	-
Client	-
Description	-

Errors and Warnings

Parameter	Values
Warning	No Errors Or Warnings

Geometric Data

Geometric Parameters

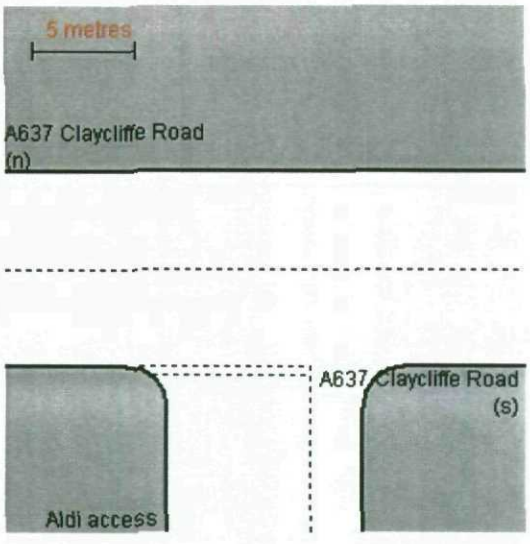
Parameter	Minor Arm B
Major Road Carriageway Width (m)	7.00
Major Road Kerbed Central Reserve Width (m)	0.00
Major Road Right Turning Lane Width (m)	2.20
Minor Road First Lane Width (m)	3.90
Minor Road Second Lane Width (m)	2.90
Minor Road Visibility To Right (m)	28
Minor Road Visibility To Left (m)	29
Major Road Right Turn Visibility (m)	74
Major Road Right Turn Blocks Traffic	No

Slope and Intercept Values

Stream	Intercept for Stream B-A	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
B-A	495.733	0.086	0.218	0.137	0.312
B-C	699.372	0.103	0.259	-	-
C-B	616.817	0.229	0.229	-	-

Note: Streams may be combined in which case capacity will be adjusted
These values do not allow for any site-specific corrections

Junction Diagram



Demand Data

Modelling Periods

Parameter	Period	Duration (min)	Segment Length (min)
First Modelling Period	11:15-12:45	90	15

ODTAB Turning Counts

Demand Set: Saturday Peak - Total 2011
Modelling Period: 11:15-12:45

From/To	Arm A	Arm B	Arm C
Arm A	0.0	48.0	589.0
Arm B	44.0	0.0	35.0
Arm C	571.0	37.0	0.0

Demand Set: Saturday Peak - Total 2016
Modelling Period: 11:15-12:45

From/To	Arm A	Arm B	Arm C
Arm A	0.0	49.0	639.0
Arm B	45.0	0.0	35.0
Arm C	620.0	38.0	0.0

ODTAB Synthesised Flows

Demand Set: Saturday Peak - Total 2011
Modelling Period: 11:15-12:45

Arm	Rising Time	Rising Flow (veh/min)	Peak Time	Peak Flow (veh/min)	Falling Time	Falling Flow (veh/min)
Arm A	11:30	7.963	11:30	11.944	12:00	7.963
Arm B	11:30	0.988	11:30	1.481	12:00	0.988
Arm C	11:30	7.600	11:30	11.400	12:00	7.600

Heavy Vehicles Percentages

Demand Set: Saturday Peak - Total 2011
Modelling Period: 11:15-12:45

From/To	Arm A	Arm B	Arm C
Arm A	-	0.0	0.0
Arm B	0.0	-	0.0
Arm C	0.0	0.0	-

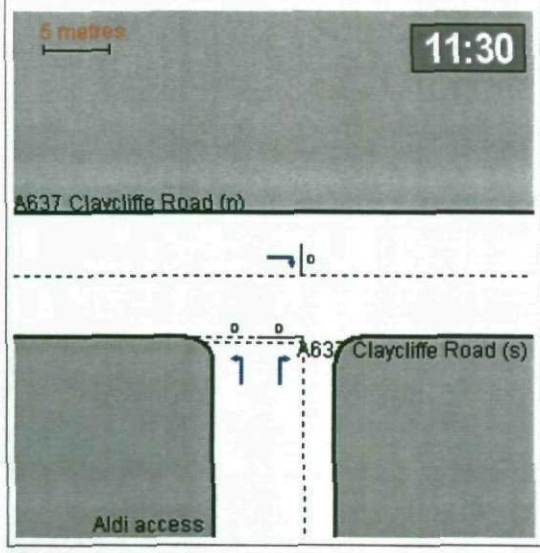
Demand Set: Saturday Peak - Total 2016
Modelling Period: 11:15-12:45

From/To	Arm A	Arm B	Arm C
Arm A	-	0.0	0.0
Arm B	0.0	-	0.0
Arm C	0.0	0.0	-

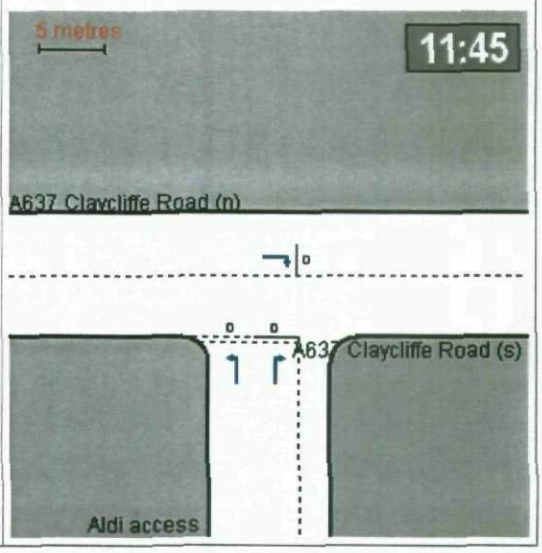
Queue Diagrams

Demand Set: Saturday Peak - Total 2011
Modelling Period: 11:15-12:45
View Extent: 40m

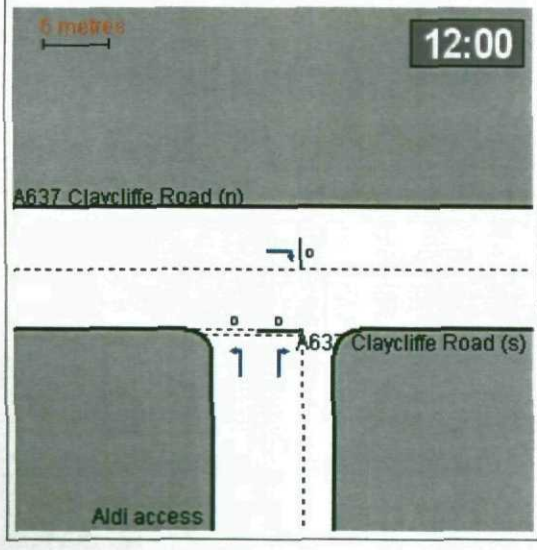
Queue Interval 1: 11:15-11:30



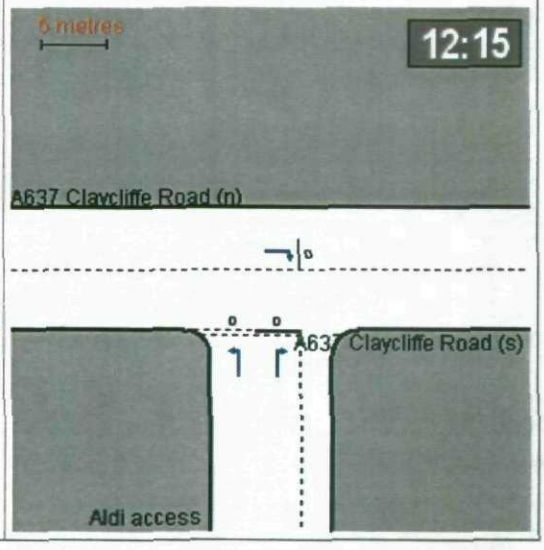
Queue Interval 2: 11:30-11:45



Queue Interval 3: 11:45-12:00

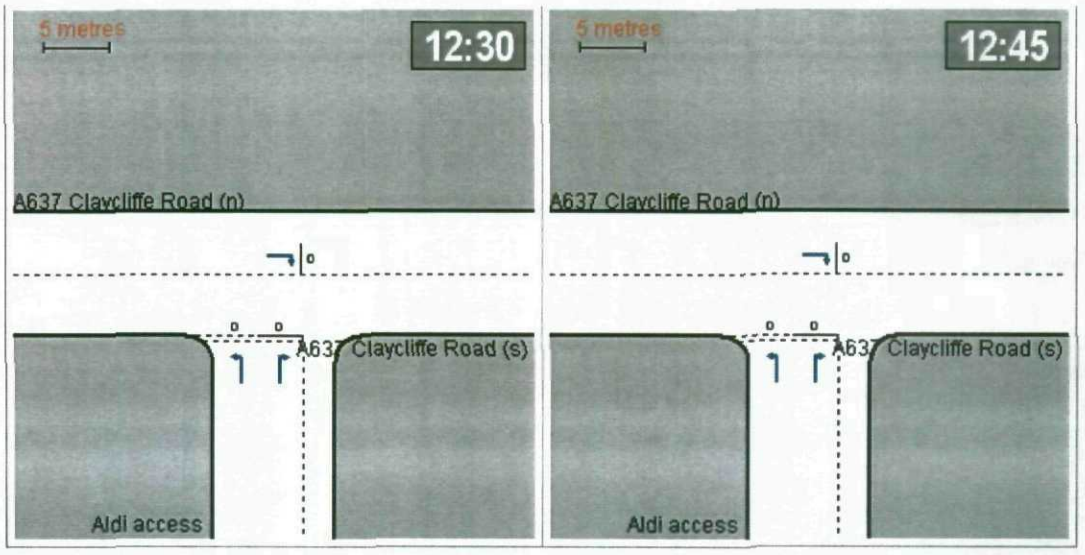


Queue Interval 4: 12:00-12:15



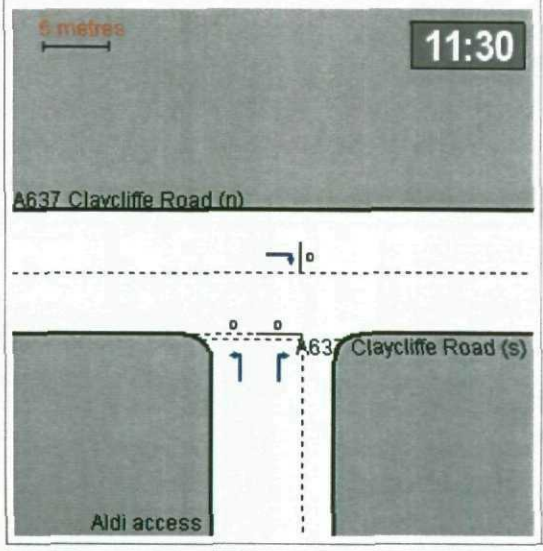
Queue Interval 5: 12:15-12:30

Queue Interval 6: 12:30-12:45

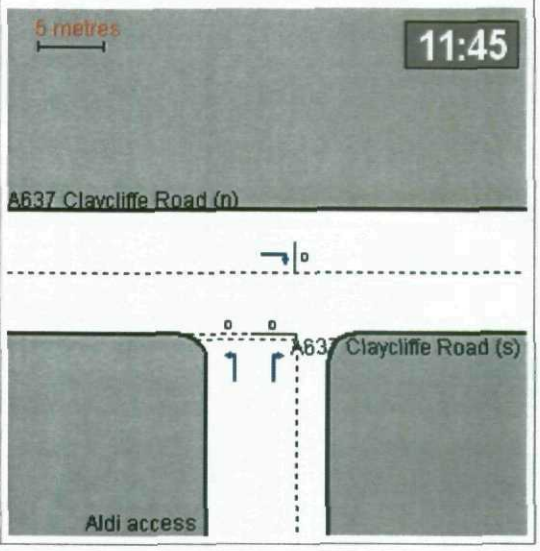

5 metres
12:30
A637 Claycliffe Road (n)
A637 Claycliffe Road (s)
Aldi access
5 metres
12:45
A637 Claycliffe Road (n)
A637 Claycliffe Road (s)
Aldi access

Demand Set: Saturday Peak - Total 2016
Modelling Period: 11:15-12:45
View Extent: 40m

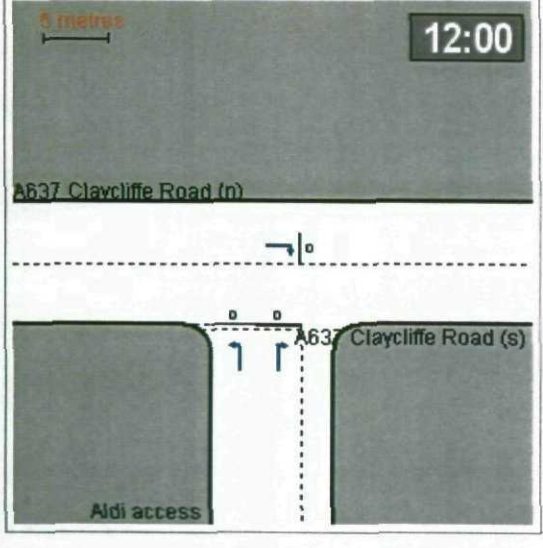
Queue Interval 1: 11:15-11:30



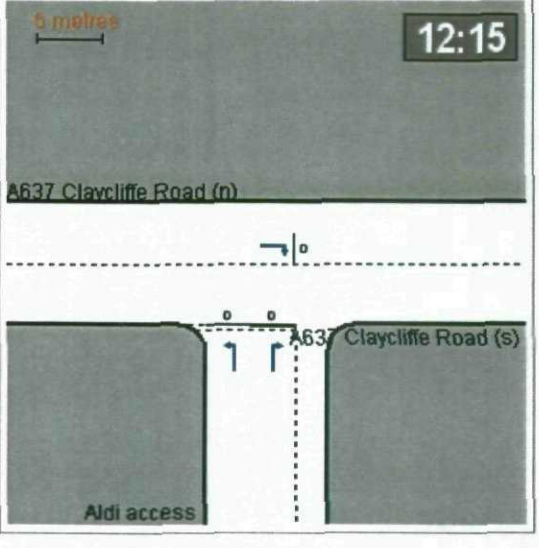
Queue Interval 2: 11:30-11:45



Queue Interval 3: 11:45-12:00

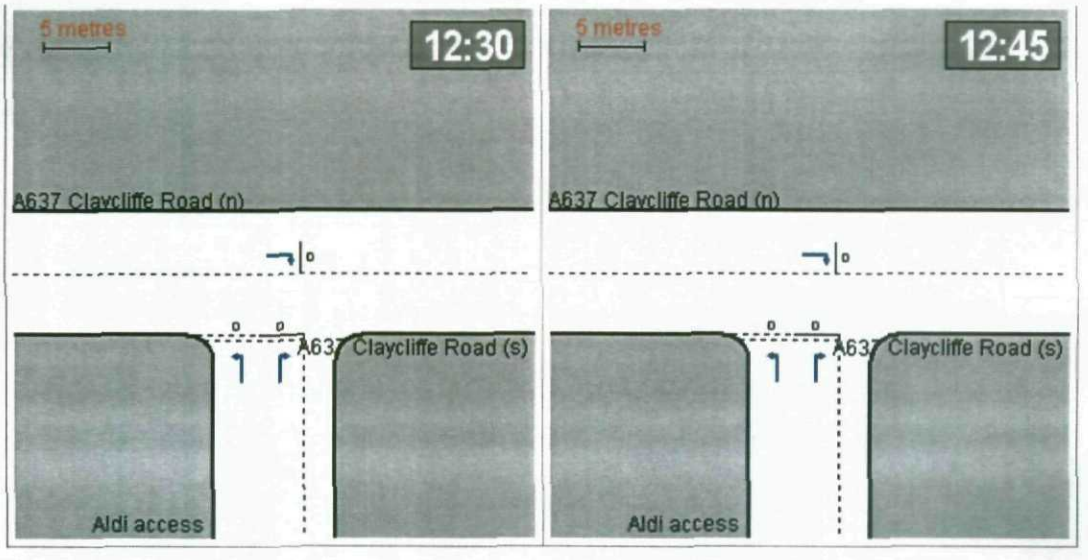


Queue Interval 4: 12:00-12:15



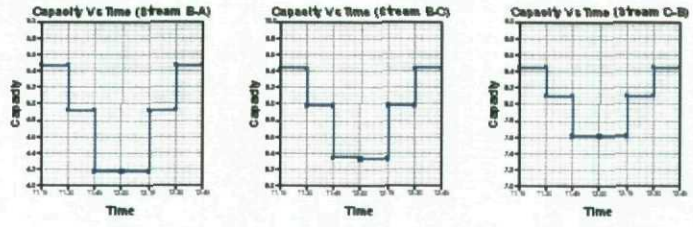
Queue Interval 5: 12:15-12:30

Queue Interval 6: 12:30-12:45

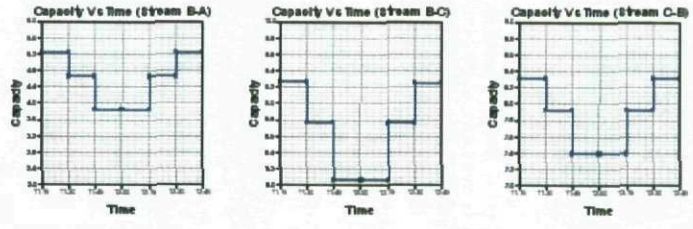

5 metres
12:30
A637 Claycliffe Road (n)
A637 Claycliffe Road (s)
Aldi access
5 metres
12:45
A637 Claycliffe Road (n)
A637 Claycliffe Road (s)
Aldi access

Capacity Graph

Demand Set: Saturday Peak - Total 2011
Modelling Period: 11:15-12:45

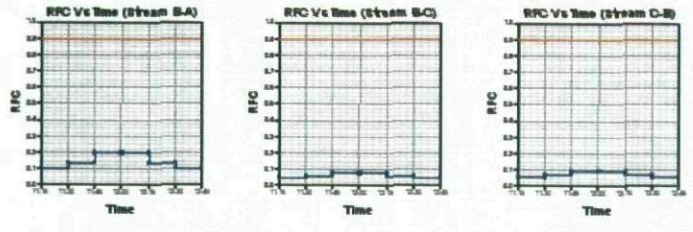


Demand Set: Saturday Peak - Total 2016
Modelling Period: 11:15-12:45

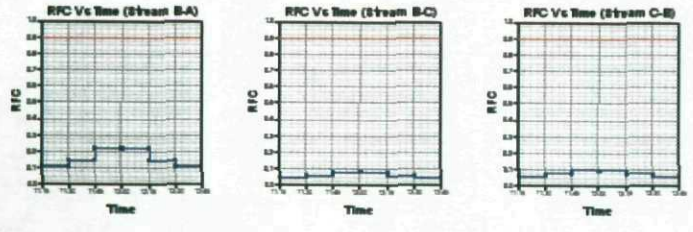


RFC Graph

Demand Set: Saturday Peak - Total 2011
Modelling Period: 11:15-12:45

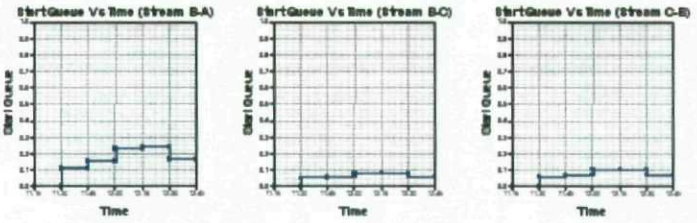


Demand Set: Saturday Peak - Total 2016
Modelling Period: 11:15-12:45

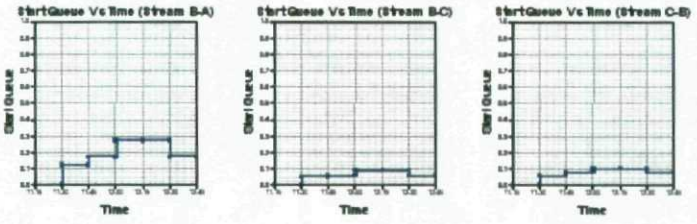


Start Queue Graph

Demand Set: Saturday Peak - Total 2011
Modelling Period: 11:15-12:45

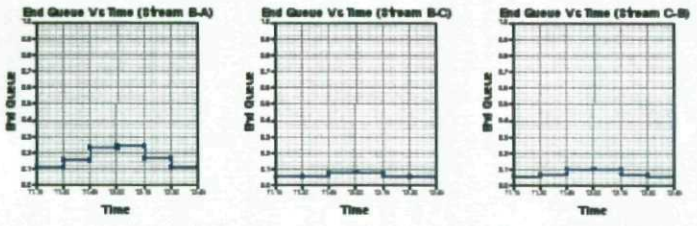


Demand Set: Saturday Peak - Total 2016
Modelling Period: 11:15-12:45

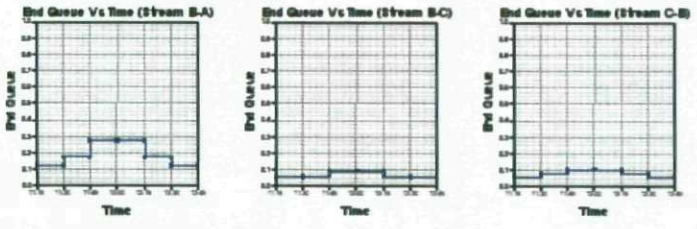


End Queue Graph

Demand Set: Saturday Peak - Total 2011
Modelling Period: 11:15-12:45

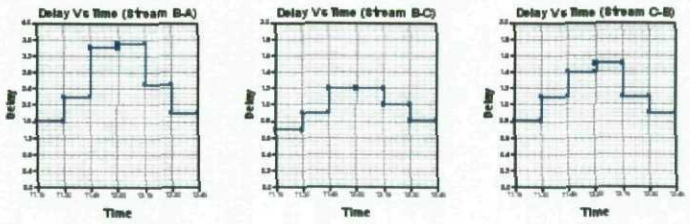


Demand Set: Saturday Peak - Total 2016
Modelling Period: 11:15-12:45

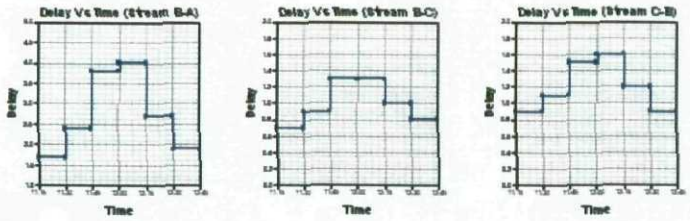


Delay Graph

Demand Set: Saturday Peak - Total 2011
Modelling Period: 11:15-12:45



Demand Set: Saturday Peak - Total 2016
Modelling Period: 11:15-12:45



Queues & Delays

Demand Set: Saturday Peak - Total 2011
Modelling Period: 11:15-12:45

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/ segment)	Delay (veh.min/ segment)	Mean Arriving Vehicle Delay (min)
11:15-11:30	B-A	0.55	5.47	0.101	-	0.00	0.11	-	1.6	0.20
	B-C	0.44	9.43	0.047	-	0.00	0.05	-	0.7	0.11
	C-A	7.16	-	-	-	-	-	-	-	-
	C-B	0.46	8.45	0.055	-	0.00	0.06	-	0.8	0.13
	A-B	0.60	-	-	-	-	-	-	-	-
	A-C	7.39	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/ segment)	Delay (veh.min/ segment)	Mean Arriving Vehicle Delay (min)
11:30-11:45	B-A	0.66	4.92	0.134	-	0.11	0.15	-	2.2	0.23
	B-C	0.52	8.98	0.058	-	0.05	0.06	-	0.9	0.12
	C-A	8.56	-	-	-	-	-	-	-	-
	C-B	0.55	8.10	0.068	-	0.06	0.07	-	1.1	0.13
	A-B	0.72	-	-	-	-	-	-	-	-
	A-C	8.82	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/ segment)	Delay (veh.min/ segment)	Mean Arriving Vehicle Delay (min)
11:45-12:00	B-A	0.81	4.17	0.193	-	0.15	0.23	-	3.4	0.30
	B-C	0.64	8.34	0.077	-	0.06	0.08	-	1.2	0.13
	C-A	10.48	-	-	-	-	-	-	-	-
	C-B	0.68	7.61	0.089	-	0.07	0.10	-	1.4	0.14
	A-B	0.88	-	-	-	-	-	-	-	-
	A-C	10.81	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/ segment)	Delay (veh.min/ segment)	Mean Arriving Vehicle Delay (min)
12:00-12:15	B-A	0.81	4.17	0.193	-	0.23	0.24	-	3.5	0.30
	B-C	0.64	8.33	0.077	-	0.08	0.08	-	1.2	0.13
	C-A	10.48	-	-	-	-	-	-	-	-
	C-B	0.68	7.61	0.089	-	0.10	0.10	-	1.5	0.14
	A-B	0.88	-	-	-	-	-	-	-	-
	A-C	10.81	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/ segment)	Delay (veh.min/ segment)	Mean Arriving Vehicle Delay (min)
12:15-12:30	B-A	0.66	4.92	0.134	-	0.24	0.16	-	2.5	0.24
	B-C	0.52	8.98	0.058	-	0.08	0.06	-	1.0	0.12
	C-A	8.56	-	-	-	-	-	-	-	-
	C-B	0.55	8.10	0.068	-	0.10	0.07	-	1.1	0.13
	A-B	0.72	-	-	-	-	-	-	-	-
	A-C	8.82	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/ segment)	Delay (veh.min/ segment)	Mean Arriving Vehicle Delay (min)
12:30-12:45	B-A	0.55	5.47	0.101	-	0.16	0.11	-	1.8	0.20
	B-C	0.44	9.43	0.047	-	0.06	0.05	-	0.8	0.11
	C-A	7.16	-	-	-	-	-	-	-	-
	C-B	0.46	8.45	0.055	-	0.07	0.06	-	0.9	0.13
	A-B	0.60	-	-	-	-	-	-	-	-
	A-C	7.39	-	-	-	-	-	-	-	-

Demand Set: Saturday Peak - Total 2016
Modelling Period: 11:15-12:45

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/ segment)	Delay (veh.min/ segment)	Mean Arriving Vehicle Delay (min)
11:15-11:30	B-A	0.56	5.24	0.108	-	0.00	0.12	-	1.7	0.21
	B-C	0.44	9.26	0.047	-	0.00	0.05	-	0.7	0.11
	C-A	7.78	-	-	-	-	-	-	-	-
	C-B	0.48	8.31	0.057	-	0.00	0.06	-	0.9	0.13
	A-B	0.61	-	-	-	-	-	-	-	-
	A-C	8.02	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/ segment)	Delay (veh.min/ segment)	Mean Arriving Vehicle Delay (min)
11:30-11:45	B-A	0.67	4.65	0.145	-	0.12	0.17	-	2.4	0.25
	B-C	0.52	8.77	0.060	-	0.05	0.06	-	0.9	0.12
	C-A	9.29	-	-	-	-	-	-	-	-
	C-B	0.57	7.92	0.072	-	0.06	0.08	-	1.1	0.14
	A-B	0.73	-	-	-	-	-	-	-	-
	A-C	9.57	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/ segment)	Delay (veh.min/ segment)	Mean Arriving Vehicle Delay (min)
11:45-12:00	B-A	0.83	3.84	0.215	-	0.17	0.27	-	3.8	0.33
	B-C	0.64	8.06	0.080	-	0.06	0.09	-	1.3	0.13
	C-A	11.38	-	-	-	-	-	-	-	-
	C-B	0.70	7.39	0.094	-	0.08	0.10	-	1.5	0.15
	A-B	0.90	-	-	-	-	-	-	-	-
	A-C	11.73	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/ segment)	Delay (veh.min/ segment)	Mean Arriving Vehicle Delay (min)
12:00-12:15	B-A	0.83	3.84	0.215	-	0.27	0.27	-	4.0	0.33
	B-C	0.64	8.06	0.080	-	0.09	0.09	-	1.3	0.13
	C-A	11.38	-	-	-	-	-	-	-	-
	C-B	0.70	7.39	0.094	-	0.10	0.10	-	1.6	0.15
	A-B	0.90	-	-	-	-	-	-	-	-
	A-C	11.73	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/ segment)	Delay (veh.min/ segment)	Mean Arriving Vehicle Delay (min)
12:15-12:30	B-A	0.67	4.65	0.145	-	0.27	0.17	-	2.7	0.25
	B-C	0.52	8.76	0.060	-	0.09	0.06	-	1.0	0.12
	C-A	9.29	-	-	-	-	-	-	-	-
	C-B	0.57	7.92	0.072	-	0.10	0.08	-	1.2	0.14
	A-B	0.73	-	-	-	-	-	-	-	-
	A-C	9.57	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/ segment)	Delay (veh.min/ segment)	Mean Arriving Vehicle Delay (min)
12:30-12:45	B-A	0.56	5.24	0.108	-	0.17	0.12	-	1.9	0.21
	B-C	0.44	9.25	0.047	-	0.06	0.05	-	0.8	0.11
	C-A	7.78	-	-	-	-	-	-	-	-
	C-B	0.48	8.31	0.057	-	0.08	0.06	-	0.9	0.13
	A-B	0.61	-	-	-	-	-	-	-	-
	A-C	8.02	-	-	-	-	-	-	-	-

Entry capacities marked with an '(X)' are dominated by a pedestrian crossing in that time segment.
In time segments marked with a '(B)', traffic leaving the junction may block back from a crossing so impairing normal operation of the junction.
Delays marked with '##' could not be calculated.

Overall Queues & Delays

Queueing Delay Information Over Whole Period

Demand Set: Saturday Peak - Total 2011
Modelling Period: 11:15-12:45

Stream	Total Demand (veh)	Total Demand (veh/h)	Queueing Delay (min)	Queueing Delay (min/veh)	Inclusive Delay (min)	Inclusive Delay (min/veh)
B-A	60.6	40.4	14.9	0.2	14.9	0.2
B-C	48.2	32.1	5.8	0.1	5.8	0.1
C-A	785.9	524.0	-	-	-	-
C-B	50.9	34.0	6.8	0.1	6.8	0.1
A-B	66.1	44.0	-	-	-	-
A-C	810.7	540.5	-	-	-	-
All	**1822.4**	**1214.9**	**27.5**	**0.0**	**27.5**	**0.0**

Demand Set: Saturday Peak - Total 2016
Modelling Period: 11:15-12:45

Stream	Total Demand (veh)	Total Demand (veh/h)	Queueing Delay (min)	Queueing Delay (min/veh)	Inclusive Delay (min)	Inclusive Delay (min/veh)
B-A	61.9	41.3	16.5	0.3	16.5	0.3
B-C	48.2	32.1	5.9	0.1	5.9	0.1
C-A	853.4	568.9	-	-	-	-
C-B	52.3	34.9	7.2	0.1	7.2	0.1
A-B	67.4	45.0	-	-	-	-
A-C	879.5	586.4	-	-	-	-
All	**1962.8**	**1308.5**	**29.7**	**0.0**	**29.7**	**0.0**

Delay is that occurring only within the time period.
Inclusive delay includes delay suffered by vehicles which are still queuing after the end of the time period.
These will only be significantly different if there is a large queue remaining at the end of the time period.

PICADY 5 Run Successful

APPENDIX E

PICADY Output – A635, Barugh Green Road Site Access

PICADY
GUI Version: 5.00 AC Analysis Program Release: 3.0 INTERIM (MAR 2006) © Copyright TRL Limited, 2006 Adapted from PICADY/3 which is Crown Copyright by permission of the controller of HMSO
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The user of this computer program for the solution of an engineering problem is in no way relieved of their responsibility for the correctness of the solution

Run Analysis

Parameter	Values
File Run	H:\..\wday\wday pm - total model.vpi
Date Run	07 July 2010
Time Run	12:18:14
Driving Side	Drive On The Left

Arm Names and Flow Scaling Factors

Arm	Arm Name	Flow Scaling Factor (%)
Arm A	A635 Barugh Green Road (w)	100
Arm B	Retail access	100
Arm C	A635 Barugh Green Road (e)	100

Stream Labelling Convention

Stream A-B contains traffic going from A to B etc.

Run Information

Parameter	Values
Run Title	A635 Barugh Green Road / Retail access
Location	-
Date	07 July 2010
Enumerator	rsnowball
Job Number	-
Status	-
Client	-
Description	-

Errors and Warnings

Parameter	Values
Warning	No Errors Or Warnings

Geometric Data

Geometric Parameters

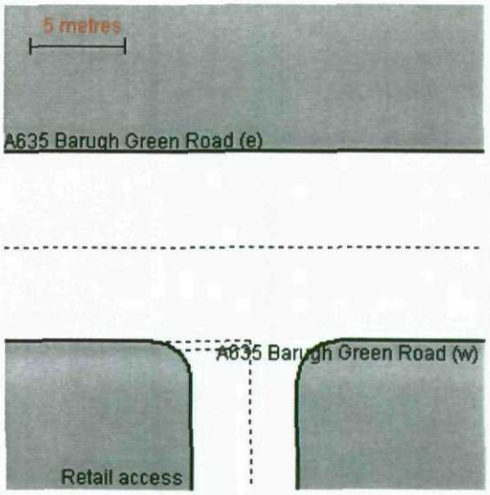
Parameter	Minor Arm B
Major Road Carriageway Width (m)	7.50
Major Road Kerbed Central Reserve Width (m)	0.00
Major Road Right Turning Lane Width (m)	2.20
Minor Road First Lane Width (m)	3.00
Minor Road Visibility To Right (m)	24
Minor Road Visibility To Left (m)	20
Major Road Right Turn Visibility (m)	250
Major Road Right Turn Blocks Traffic	Yes

Slope and Intercept Values

Stream	Intercept for Stream B-A	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
B-A	495.877	0.084	0.213	0.134	0.305
B-C	639.045	0.092	0.231	-	-
C-B	718.741	0.260	0.260	-	-

Note: Streams may be combined in which case capacity will be adjusted
These values do not allow for any site-specific corrections

Junction Diagram



Demand Data

Modelling Periods

Parameter	Period	Duration (min)	Segment Length (min)
First Modelling Period	16:15-17:45	90	15

ODTAB Turning Counts

Demand Set: Weekday PM Peak - Total 2011
Modelling Period: 16:15-17:45

From/To	Arm A	Arm B	Arm C
Arm A	0.0	12.0	441.0
Arm B	10.0	0.0	22.0
Arm C	584.0	17.0	0.0

Demand Set: Weekday PM Peak - Total 2016
Modelling Period: 16:15-17:45

From/To	Arm A	Arm B	Arm C
Arm A	0.0	12.0	480.0
Arm B	10.0	0.0	22.0
Arm C	635.0	17.0	0.0

ODTAB Synthesised Flows

Demand Set: Weekday PM Peak - Total 2011
Modelling Period: 16:15-17:45

Arm	Rising Time	Rising Flow (veh/min)	Peak Time	Peak Flow (veh/min)	Falling Time	Falling Flow (veh/min)
Arm A	16:30	5.662	16:30	8.494	17:00	5.662
Arm B	16:30	0.400	16:30	0.600	17:00	0.400
Arm C	16:30	7.512	16:30	11.269	17:00	7.512

Heavy Vehicles Percentages

Demand Set: Weekday PM Peak - Total 2011
Modelling Period: 16:15-17:45

From/To	Arm A	Arm B	Arm C
Arm A	-	0.0	0.0
Arm B	0.0	-	0.0
Arm C	0.0	0.0	-

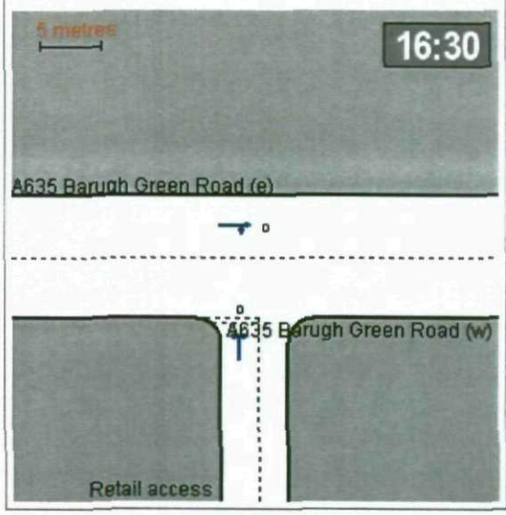
Demand Set: Weekday PM Peak - Total 2016
Modelling Period: 16:15-17:45

From/To	Arm A	Arm B	Arm C
Arm A	-	0.0	0.0
Arm B	0.0	-	0.0
Arm C	0.0	0.0	-

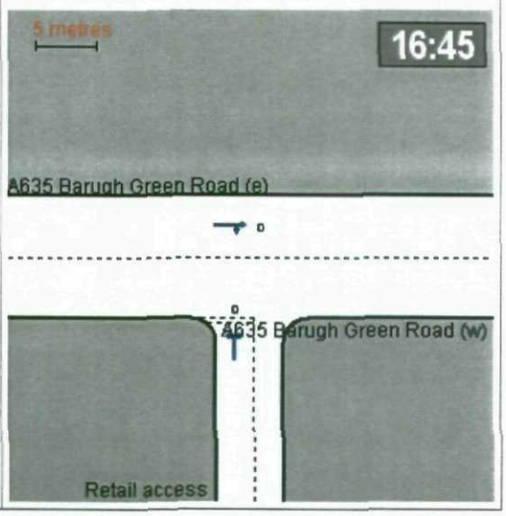
Queue Diagrams

Demand Set: Weekday PM Peak - Total 2011
Modelling Period: 16:15-17:45
View Extent: 40m

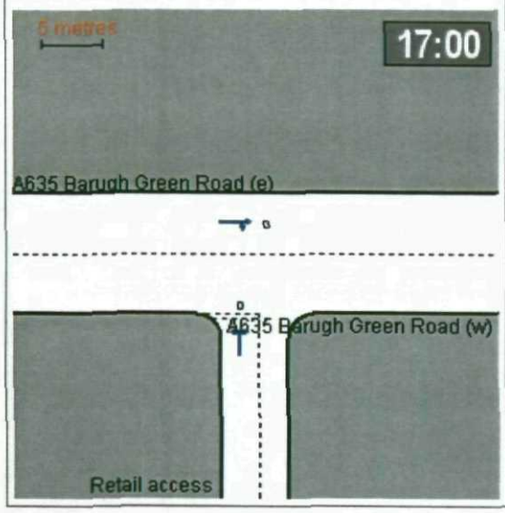
Queue Interval 1: 16:15-16:30



Queue Interval 2: 16:30-16:45



Queue Interval 3: 16:45-17:00

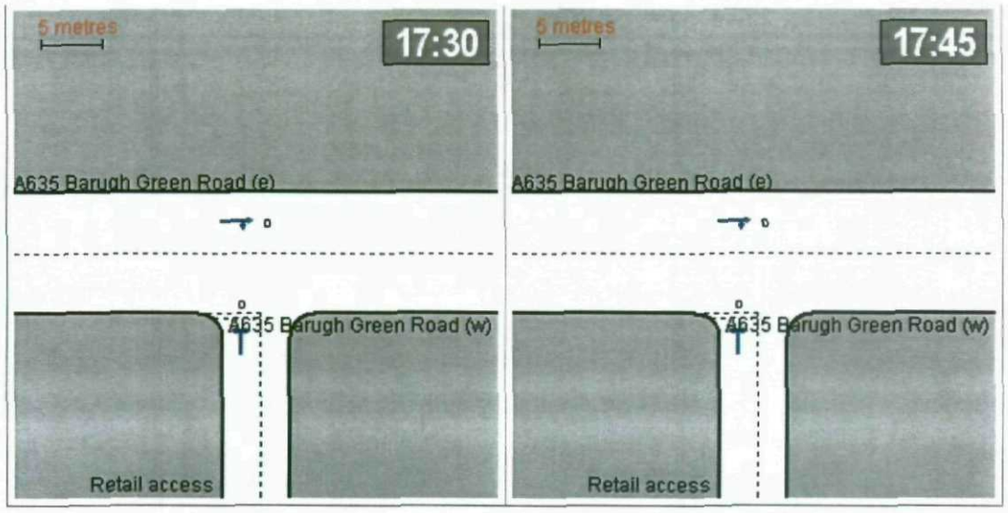


Queue Interval 4: 17:00-17:15



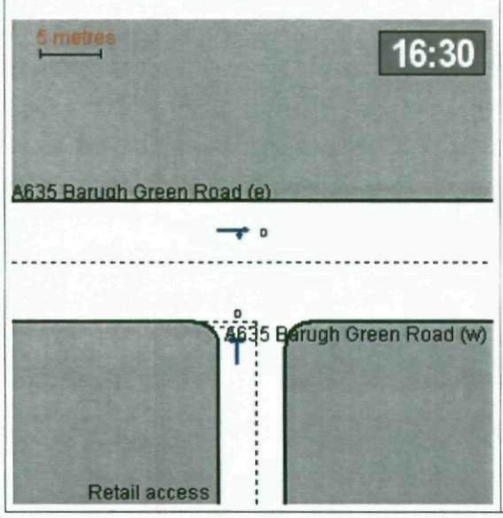
Queue Interval 5: 17:15-17:30

Queue Interval 6: 17:30-17:45

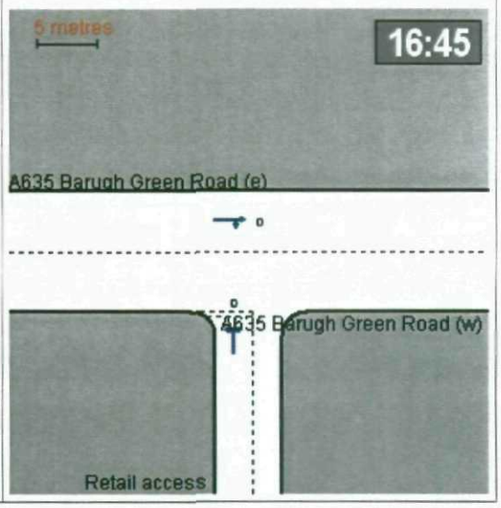

5 metres
17:30
A635 Barugh Green Road (e)
A635 Barugh Green Road (w)
Retail access
5 metres
17:45
A635 Barugh Green Road (e)
A635 Barugh Green Road (w)
Retail access

Demand Set: Weekday PM Peak - Total 2016
Modelling Period: 16:15-17:45
View Extent: 40m

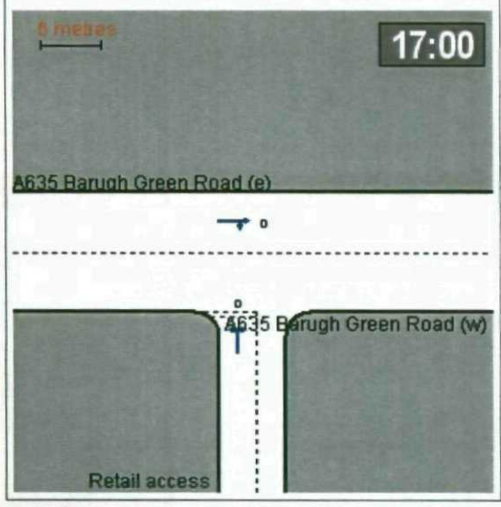
Queue Interval 1: 16:15-16:30



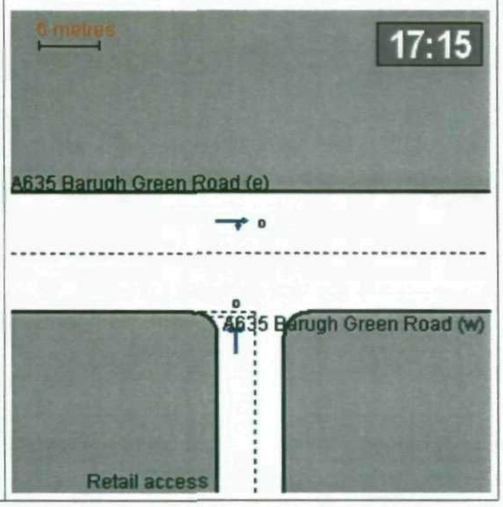
Queue Interval 2: 16:30-16:45



Queue Interval 3: 16:45-17:00

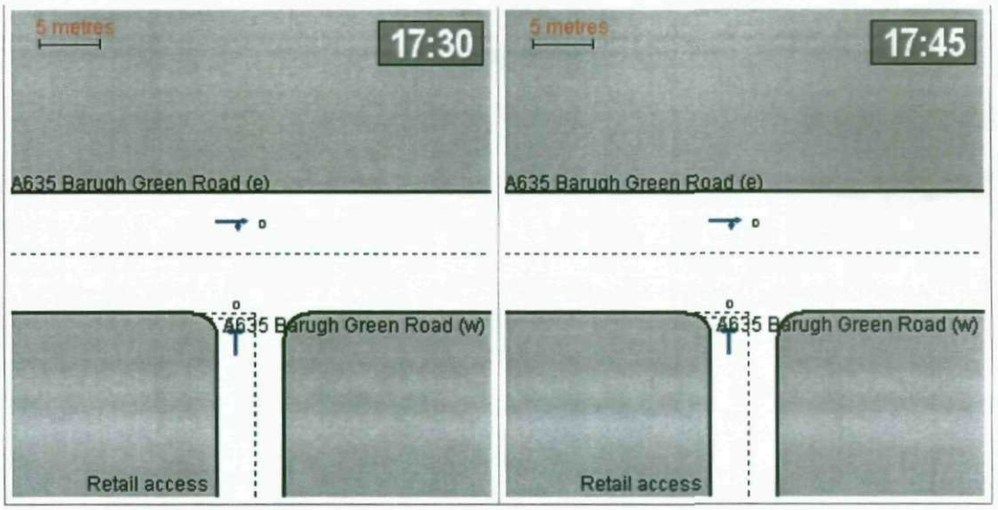


Queue Interval 4: 17:00-17:15



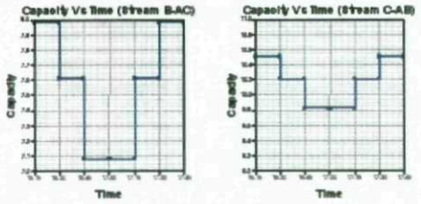
Queue Interval 5: 17:15-17:30

Queue Interval 6: 17:30-17:45

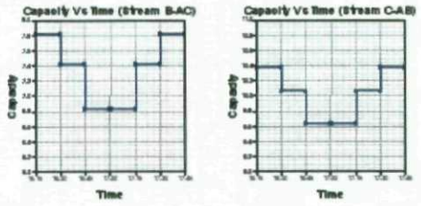

5 metres
17:30
A635 Barugh Green Road (e)
A635 Barugh Green Road (w)
Retail access
5 metres
17:45
A635 Barugh Green Road (e)
A635 Barugh Green Road (w)
Retail access

Capacity Graph

Demand Set: Weekday PM Peak - Total 2011
Modelling Period: 16:15-17:45

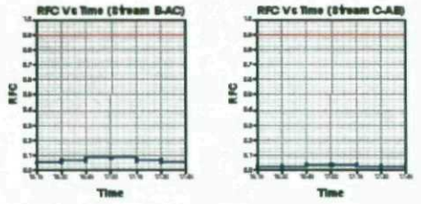


Demand Set: Weekday PM Peak - Total 2016
Modelling Period: 16:15-17:45

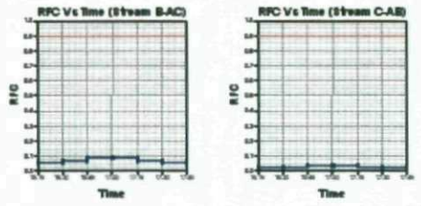


RFC Graph

Demand Set: Weekday PM Peak - Total 2011
Modelling Period: 16:15-17:45

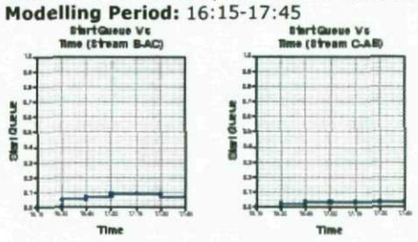


Demand Set: Weekday PM Peak - Total 2016
Modelling Period: 16:15-17:45

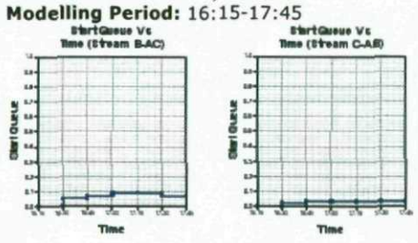


Start Queue Graph

Demand Set: Weekday PM Peak - Total 2011
Modelling Period: 16:15-17:45

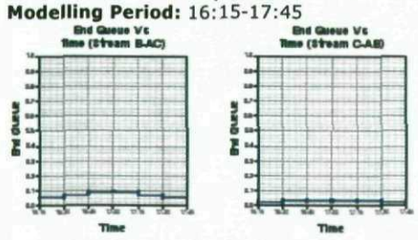


Demand Set: Weekday PM Peak - Total 2016
Modelling Period: 16:15-17:45

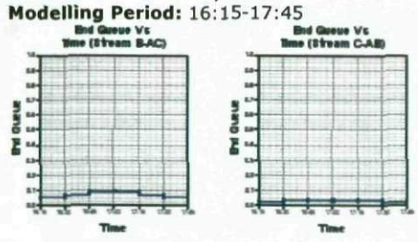


End Queue Graph

Demand Set: Weekday PM Peak - Total 2011
Modelling Period: 16:15-17:45

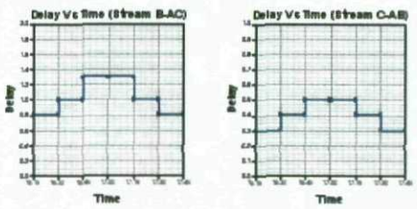


Demand Set: Weekday PM Peak - Total 2016
Modelling Period: 16:15-17:45

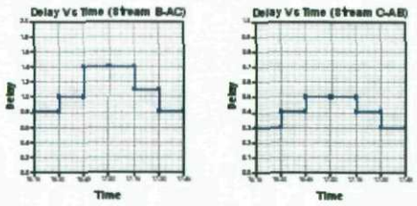


Delay Graph

Demand Set: Weekday PM Peak - Total 2011
Modelling Period: 16:15-17:45



Demand Set: Weekday PM Peak - Total 2016
Modelling Period: 16:15-17:45



Queues & Delays

Demand Set: Weekday PM Peak - Total 2011
Modelling Period: 16:15-17:45

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/ segment)	Delay (veh.min/ segment)	Mean Arriving Vehicle Delay (min)
16:15-16:30	B-AC	0.40	7.98	0.050	-	0.00	0.05	-	0.8	0.13
	C-AB	0.21	10.50	0.020	-	0.00	0.02	-	0.3	0.10
	C-A	-	-	-	-	-	-	-	-	-
	A-B	0.15	-	-	-	-	-	-	-	-
	A-C	5.53	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/ segment)	Delay (veh.min/ segment)	Mean Arriving Vehicle Delay (min)
16:30-16:45	B-AC	0.48	7.61	0.063	-	0.05	0.07	-	1.0	0.14
	C-AB	0.25	10.21	0.025	-	0.02	0.03	-	0.4	0.10
	C-A	-	-	-	-	-	-	-	-	-
	A-B	0.18	-	-	-	-	-	-	-	-
	A-C	6.61	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/ segment)	Delay (veh.min/ segment)	Mean Arriving Vehicle Delay (min)
16:45-17:00	B-AC	0.59	7.08	0.083	-	0.07	0.09	-	1.3	0.15
	C-AB	0.31	9.82	0.032	-	0.03	0.03	-	0.5	0.11
	C-A	-	-	-	-	-	-	-	-	-
	A-B	0.22	-	-	-	-	-	-	-	-
	A-C	8.09	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/ segment)	Delay (veh.min/ segment)	Mean Arriving Vehicle Delay (min)
17:00-17:15	B-AC	0.59	7.08	0.083	-	0.09	0.09	-	1.3	0.15
	C-AB	0.31	9.82	0.032	-	0.03	0.03	-	0.5	0.11
	C-A	-	-	-	-	-	-	-	-	-
	A-B	0.22	-	-	-	-	-	-	-	-
	A-C	8.09	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/ segment)	Delay (veh.min/ segment)	Mean Arriving Vehicle Delay (min)
17:15-17:30	B-AC	0.48	7.61	0.063	-	0.09	0.07	-	1.0	0.14
	C-AB	0.25	10.21	0.025	-	0.03	0.03	-	0.4	0.10
	C-A	-	-	-	-	-	-	-	-	-
	A-B	0.18	-	-	-	-	-	-	-	-
	A-C	6.61	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/ segment)	Delay (veh.min/ segment)	Mean Arriving Vehicle Delay (min)
17:30-17:45	B-AC	0.40	7.98	0.050	-	0.07	0.05	-	0.8	0.13
	C-AB	0.21	10.50	0.020	-	0.03	0.02	-	0.3	0.10
	C-A	-	-	-	-	-	-	-	-	-
	A-B	0.15	-	-	-	-	-	-	-	-
	A-C	5.53	-	-	-	-	-	-	-	-

Demand Set: Weekday PM Peak - Total 2016
Modelling Period: 16:15-17:45

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/ segment)	Delay (veh.min/ segment)	Mean Arriving Vehicle Delay (min)
16:15-16:30	B-AC	0.40	7.81	0.051	-	0.00	0.05	-	0.8	0.13
	C-AB	0.21	10.37	0.021	-	0.00	0.02	-	0.3	0.10
	C-A	-	-	-	-	-	-	-	-	-
	A-B	0.15	-	-	-	-	-	-	-	-
	A-C	6.02	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/ segment)	Delay (veh.min/ segment)	Mean Arriving Vehicle Delay (min)
16:30-16:45	B-AC	0.48	7.41	0.065	-	0.05	0.07	-	1.0	0.14
	C-AB	0.25	10.06	0.025	-	0.02	0.03	-	0.4	0.10
	C-A	-	-	-	-	-	-	-	-	-
	A-B	0.18	-	-	-	-	-	-	-	-

	A-C	7.19	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/ segment)	Delay (veh.min/ segment)	Mean Arriving Vehicle Delay (min)
16:45-17:00	B-AC	0.59	6.83	0.086	-	0.07	0.09	-	1.4	0.16
	C-AB	0.31	9.63	0.032	-	0.03	0.03	-	0.5	0.11
	C-A	-	-	-	-	-	-	-	-	-
	A-B	0.22	-	-	-	-	-	-	-	-
	A-C	8.81	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/ segment)	Delay (veh.min/ segment)	Mean Arriving Vehicle Delay (min)
17:00-17:15	B-AC	0.59	6.83	0.086	-	0.09	0.09	-	1.4	0.16
	C-AB	0.31	9.63	0.032	-	0.03	0.03	-	0.5	0.11
	C-A	-	-	-	-	-	-	-	-	-
	A-B	0.22	-	-	-	-	-	-	-	-
	A-C	8.81	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/ segment)	Delay (veh.min/ segment)	Mean Arriving Vehicle Delay (min)
17:15-17:30	B-AC	0.48	7.41	0.065	-	0.09	0.07	-	1.1	0.14
	C-AB	0.25	10.06	0.025	-	0.03	0.03	-	0.4	0.10
	C-A	-	-	-	-	-	-	-	-	-
	A-B	0.18	-	-	-	-	-	-	-	-
	A-C	7.19	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/ segment)	Delay (veh.min/ segment)	Mean Arriving Vehicle Delay (min)
17:30-17:45	B-AC	0.40	7.81	0.051	-	0.07	0.05	-	0.8	0.13
	C-AB	0.21	10.37	0.021	-	0.03	0.02	-	0.3	0.10
	C-A	-	-	-	-	-	-	-	-	-
	A-B	0.15	-	-	-	-	-	-	-	-
	A-C	6.02	-	-	-	-	-	-	-	-

Entry capacities marked with an '(X)' are dominated by a pedestrian crossing in that time segment.
In time segments marked with a '(B)', traffic leaving the junction may block back from a crossing so impairing normal operation of the junction.
Delays marked with '##' could not be calculated.

Overall Queues & Delays

Queueing Delay Information Over Whole Period

Demand Set: Weekday PM Peak - Total 2011
Modelling Period: 16:15-17:45

Stream	Total Demand (veh)	Total Demand (veh/h)	Queueing Delay (min)	Queueing Delay (min/veh)	Inclusive Delay (min)	Inclusive Delay (min/veh)
B-AC	44.0	29.4	6.3	0.1	6.3	0.1
C-AB	23.4	15.6	2.4	0.1	2.4	0.1
C-A	-	-	-	-	-	-
A-B	16.5	11.0	-	-	-	-
A-C	607.0	404.7	-	-	-	-
All	**1494.8**	**996.5**	**8.7**	**0.0**	**8.7**	**0.0**

Demand Set: Weekday PM Peak - Total 2016
Modelling Period: 16:15-17:45

Stream	Total Demand (veh)	Total Demand (veh/h)	Queueing Delay (min)	Queueing Delay (min/veh)	Inclusive Delay (min)	Inclusive Delay (min/veh)
B-AC	44.0	29.4	6.5	0.1	6.5	0.1
C-AB	23.4	15.6	2.5	0.1	2.5	0.1
C-A	-	-	-	-	-	-
A-B	16.5	11.0	-	-	-	-
A-C	660.7	440.5	-	-	-	-
All	**1618.7**	**1079.1**	**8.9**	**0.0**	**8.9**	**0.0**

Delay is that occurring only within the time period.
Inclusive delay includes delay suffered by vehicles which are still queuing after the end of the time period.
These will only be significantly different if there is a large queue remaining at the end of the time period.

PICADY 5 Run Successful

PICADY
GUI Version: 5.00 AC Analysis Program Release: 3.0 INTERIM (MAR 2006) © Copyright TRL Limited, 2006 Adapted from PICADY/3 which is Crown Copyright by permission of the controller of HMSO
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The user of this computer program for the solution of an engineering problem is in no way relieved of their responsibility for the correctness of the solution

Run Analysis

Parameter	Values
File Run	H:\..\sat\sat - total model.vpi
Date Run	07 July 2010
Time Run	12:20:23
Driving Side	Drive On The Left

Arm Names and Flow Scaling Factors

Arm	Arm Name	Flow Scaling Factor (%)
Arm A	A635 Barugh Green Road (w)	100
Arm B	Retail access	100
Arm C	A635 Barugh Green Road (e)	100

Stream Labelling Convention

Stream A-B contains traffic going from A to B etc.

Run Information

Parameter	Values
Run Title	A635 Barugh Green Road / Retail access
Location	-
Date	07 July 2010
Enumerator	rsnowball
Job Number	-
Status	-
Client	-
Description	-

Errors and Warnings

Parameter	Values
Warning	No Errors Or Warnings

Geometric Data

Geometric Parameters

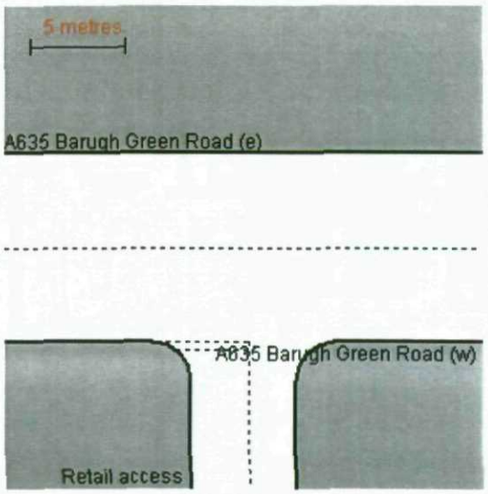
Parameter	Minor Arm B
Major Road Carriageway Width (m)	7.50
Major Road Kerbed Central Reserve Width (m)	0.00
Major Road Right Turning Lane Width (m)	2.20
Minor Road First Lane Width (m)	3.00
Minor Road Visibility To Right (m)	24
Minor Road Visibility To Left (m)	20
Major Road Right Turn Visibility (m)	250
Major Road Right Turn Blocks Traffic	Yes

Slope and Intercept Values

Stream	Intercept for Stream B-A	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
B-A	495.877	0.084	0.213	0.134	0.305
B-C	639.045	0.092	0.231	-	-
C-B	718.741	0.260	0.260	-	-

Note: Streams may be combined in which case capacity will be adjusted
These values do not allow for any site-specific corrections

Junction Diagram



Demand Data

Modelling Periods

Parameter	Period	Duration (min)	Segment Length (min)
First Modelling Period	11:15-12:45	90	15

ODTAB Turning Counts

Demand Set: Saturday Peak - Total 2011
Modelling Period: 11:15-12:45

From/To	Arm A	Arm B	Arm C
Arm A	0.0	13.0	351.0
Arm B	12.0	0.0	15.0
Arm C	388.0	14.0	0.0

Demand Set: Saturday Peak - Total 2016
Modelling Period: 11:15-12:45

From/To	Arm A	Arm B	Arm C
Arm A	0.0	13.0	381.0
Arm B	12.0	0.0	15.0
Arm C	421.0	14.0	0.0

ODTAB Synthesised Flows

Demand Set: Saturday Peak - Total 2011
Modelling Period: 11:15-12:45

Arm	Rising Time	Rising Flow (veh/min)	Peak Time	Peak Flow (veh/min)	Falling Time	Falling Flow (veh/min)
Arm A	11:30	4.550	11:30	6.825	12:00	4.550
Arm B	11:30	0.338	11:30	0.506	12:00	0.338
Arm C	11:30	5.025	11:30	7.538	12:00	5.025

Heavy Vehicles Percentages

Demand Set: Saturday Peak - Total 2011
Modelling Period: 11:15-12:45

From/To	Arm A	Arm B	Arm C
Arm A	-	0.0	0.0
Arm B	0.0	-	0.0
Arm C	0.0	0.0	-

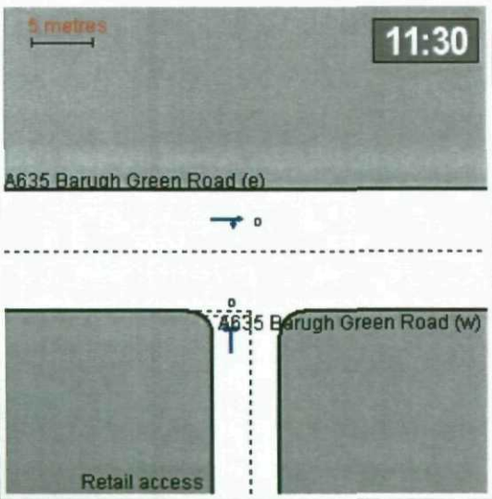
Demand Set: Saturday Peak - Total 2016
Modelling Period: 11:15-12:45

From/To	Arm A	Arm B	Arm C
Arm A	-	0.0	0.0
Arm B	0.0	-	0.0
Arm C	0.0	0.0	-

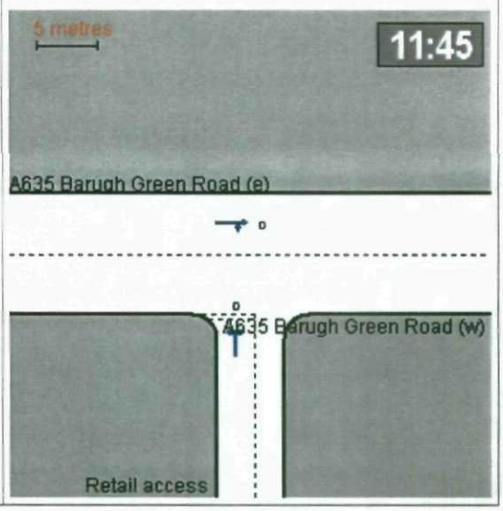
Queue Diagrams

Demand Set: Saturday Peak - Total 2011
Modelling Period: 11:15-12:45
View Extent: 40m

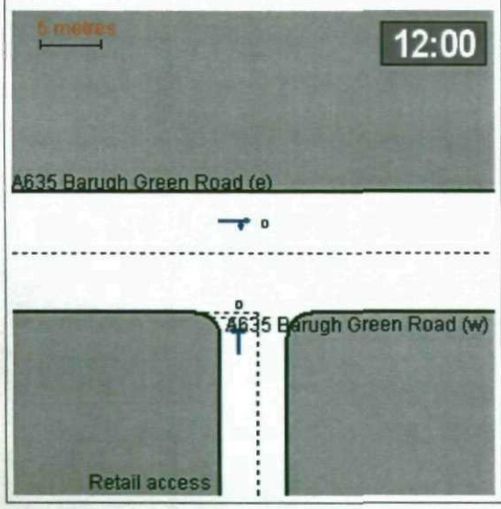
Queue Interval 1: 11:15-11:30



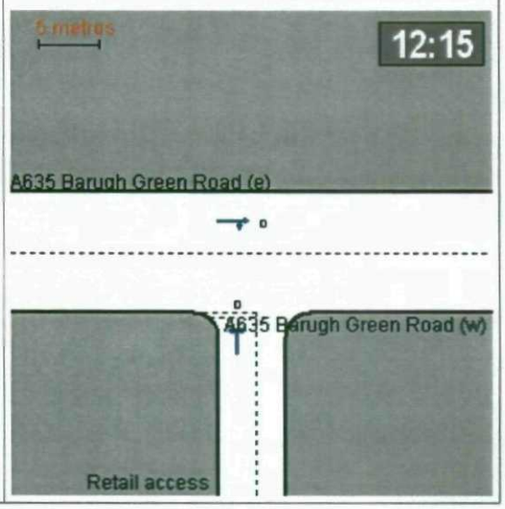
Queue Interval 2: 11:30-11:45



Queue Interval 3: 11:45-12:00

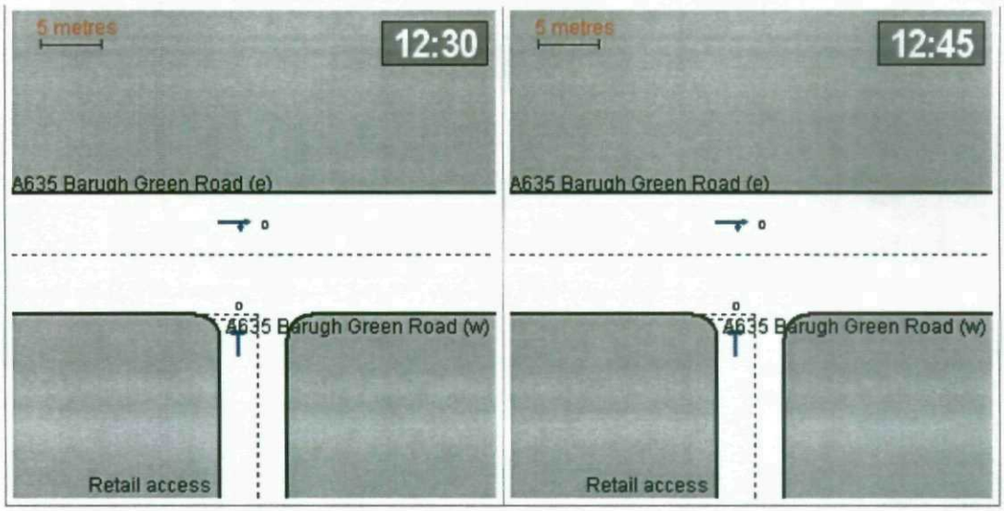


Queue Interval 4: 12:00-12:15



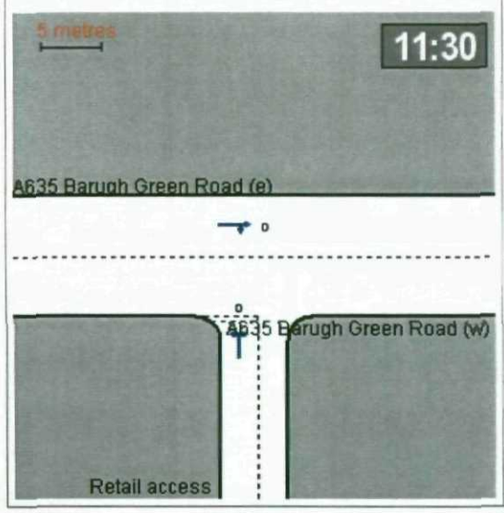
Queue Interval 5: 12:15-12:30

Queue Interval 6: 12:30-12:45

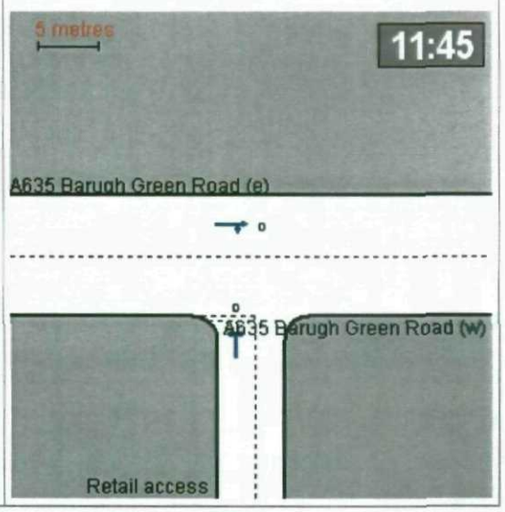

5 metres
12:30
A635 Barugh Green Road (e)
A635 Barugh Green Road (w)
Retail access
5 metres
12:45
A635 Barugh Green Road (e)
A635 Barugh Green Road (w)
Retail access

Demand Set: Saturday Peak - Total 2016
Modelling Period: 11:15-12:45
View Extent: 40m

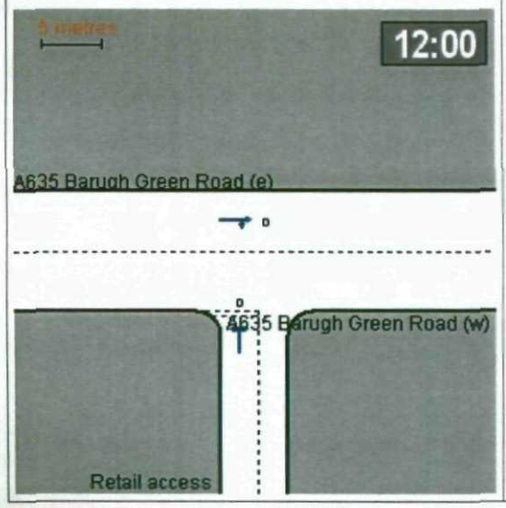
Queue Interval 1: 11:15-11:30



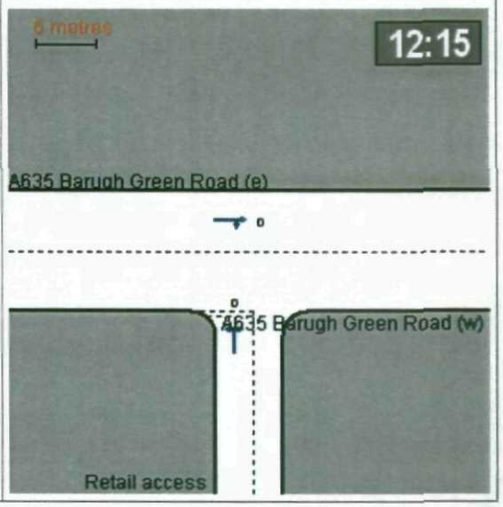
Queue Interval 2: 11:30-11:45



Queue Interval 3: 11:45-12:00

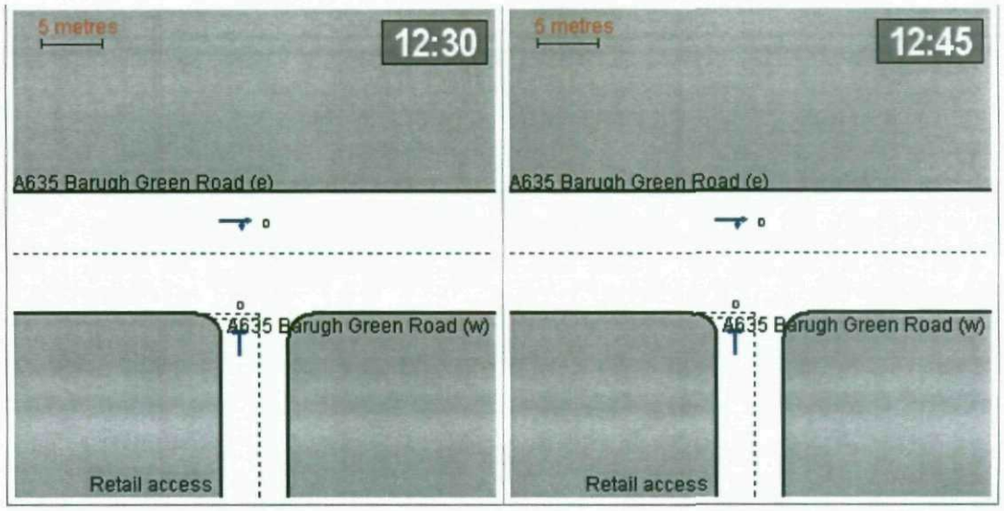


Queue Interval 4: 12:00-12:15



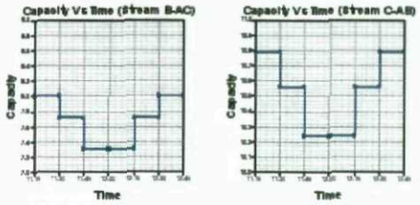
Queue Interval 5: 12:15-12:30

Queue Interval 6: 12:30-12:45

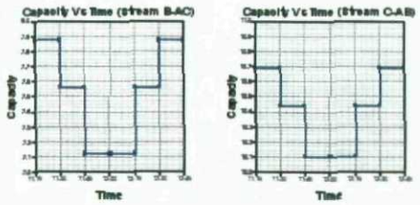

5 metres
12:30
A635 Barugh Green Road (e)
A635 Barugh Green Road (w)
Retail access
5 metres
12:45
A635 Barugh Green Road (e)
A635 Barugh Green Road (w)
Retail access

Capacity Graph

Demand Set: Saturday Peak - Total 2011
Modelling Period: 11:15-12:45

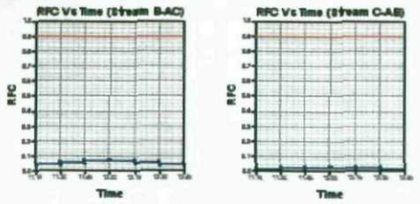


Demand Set: Saturday Peak - Total 2016
Modelling Period: 11:15-12:45

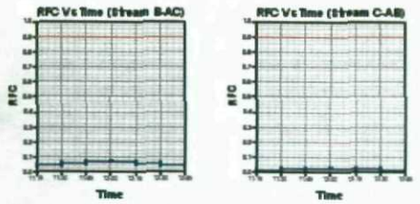


RFC Graph

Demand Set: Saturday Peak - Total 2011
Modelling Period: 11:15-12:45

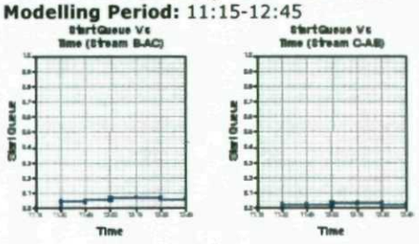


Demand Set: Saturday Peak - Total 2016
Modelling Period: 11:15-12:45

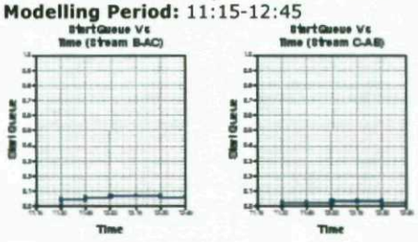


Start Queue Graph

Demand Set: Saturday Peak - Total 2011
Modelling Period: 11:15-12:45

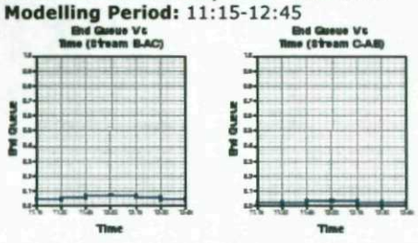


Demand Set: Saturday Peak - Total 2016
Modelling Period: 11:15-12:45

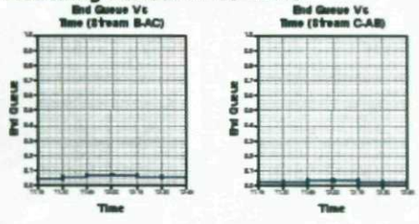


End Queue Graph

Demand Set: Saturday Peak - Total 2011
Modelling Period: 11:15-12:45



Demand Set: Saturday Peak - Total 2016
Modelling Period: 11:15-12:45



Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/ segment)	Delay (veh.min/ segment)	Mean Arriving Vehicle Delay (min)
11:45-12:00	B-AC	0.50	7.30	0.068	-	0.05	0.07	-	1.1	0.15
	C-AB	0.26	10.24	0.025	-	0.02	0.03	-	0.4	0.10
	C-A	-	-	-	-	-	-	-	-	-
	A-B	0.24	-	-	-	-	-	-	-	-
	A-C	6.44	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/ segment)	Delay (veh.min/ segment)	Mean Arriving Vehicle Delay (min)
12:00-12:15	B-AC	0.50	7.30	0.068	-	0.07	0.07	-	1.1	0.15
	C-AB	0.26	10.24	0.025	-	0.03	0.03	-	0.4	0.10
	C-A	-	-	-	-	-	-	-	-	-
	A-B	0.24	-	-	-	-	-	-	-	-
	A-C	6.44	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/ segment)	Delay (veh.min/ segment)	Mean Arriving Vehicle Delay (min)
12:15-12:30	B-AC	0.40	7.71	0.052	-	0.07	0.06	-	0.9	0.14
	C-AB	0.21	10.56	0.020	-	0.03	0.02	-	0.3	0.10
	C-A	-	-	-	-	-	-	-	-	-
	A-B	0.19	-	-	-	-	-	-	-	-
	A-C	5.26	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/ segment)	Delay (veh.min/ segment)	Mean Arriving Vehicle Delay (min)
12:30-12:45	B-AC	0.34	8.00	0.042	-	0.06	0.04	-	0.7	0.13
	C-AB	0.18	10.79	0.016	-	0.02	0.02	-	0.3	0.09
	C-A	-	-	-	-	-	-	-	-	-
	A-B	0.16	-	-	-	-	-	-	-	-
	A-C	4.40	-	-	-	-	-	-	-	-

Demand Set: Saturday Peak - Total 2016
Modelling Period: 11:15-12:45

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/ segment)	Delay (veh.min/ segment)	Mean Arriving Vehicle Delay (min)
11:15-11:30	B-AC	0.34	7.87	0.043	-	0.00	0.04	-	0.6	0.13
	C-AB	0.18	10.69	0.016	-	0.00	0.02	-	0.2	0.10
	C-A	-	-	-	-	-	-	-	-	-
	A-B	0.16	-	-	-	-	-	-	-	-
	A-C	4.78	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/ segment)	Delay (veh.min/ segment)	Mean Arriving Vehicle Delay (min)
11:30-11:45	B-AC	0.40	7.56	0.054	-	0.04	0.06	-	0.8	0.14
	C-AB	0.21	10.44	0.020	-	0.02	0.02	-	0.3	0.10
	C-A	-	-	-	-	-	-	-	-	-
	A-B	0.19	-	-	-	-	-	-	-	-

	A-C	5.71	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/ segment)	Delay (veh.min/ segment)	Mean Arriving Vehicle Delay (min)
11:45-12:00	B-AC	0.50	7.12	0.070	-	0.06	0.07	-	1.1	0.15
	C-AB	0.26	10.10	0.025	-	0.02	0.03	-	0.4	0.10
	C-A	-	-	-	-	-	-	-	-	-
	A-B	0.24	-	-	-	-	-	-	-	-
	A-C	6.99	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/ segment)	Delay (veh.min/ segment)	Mean Arriving Vehicle Delay (min)
12:00-12:15	B-AC	0.50	7.12	0.070	-	0.07	0.07	-	1.1	0.15
	C-AB	0.26	10.10	0.025	-	0.03	0.03	-	0.4	0.10
	C-A	-	-	-	-	-	-	-	-	-
	A-B	0.24	-	-	-	-	-	-	-	-
	A-C	6.99	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/ segment)	Delay (veh.min/ segment)	Mean Arriving Vehicle Delay (min)
12:15-12:30	B-AC	0.40	7.56	0.054	-	0.07	0.06	-	0.9	0.14
	C-AB	0.21	10.44	0.020	-	0.03	0.02	-	0.3	0.10
	C-A	-	-	-	-	-	-	-	-	-
	A-B	0.19	-	-	-	-	-	-	-	-
	A-C	5.71	-	-	-	-	-	-	-	-

Segment	Stream	Demand (veh/min)	Capacity (veh/min)	RFC	Ped. Flow (ped/min)	Start Queue (veh)	End Queue (veh)	Geometric Delay (veh.min/ segment)	Delay (veh.min/ segment)	Mean Arriving Vehicle Delay (min)
12:30-12:45	B-AC	0.34	7.87	0.043	-	0.06	0.05	-	0.7	0.13
	C-AB	0.18	10.69	0.016	-	0.02	0.02	-	0.3	0.10
	C-A	-	-	-	-	-	-	-	-	-
	A-B	0.16	-	-	-	-	-	-	-	-
	A-C	4.78	-	-	-	-	-	-	-	-

Entry capacities marked with an '(X)' are dominated by a pedestrian crossing in that time segment.
In time segments marked with a '(B)', traffic leaving the junction may block back from a crossing so impairing normal operation of the junction.
Delays marked with '##' could not be calculated.

Overall Queues & Delays

Queueing Delay Information Over Whole Period

Demand Set: Saturday Peak - Total 2011
Modelling Period: 11:15-12:45

Stream	Total Demand (veh)	Total Demand (veh/h)	Queueing Delay (min)	Queueing Delay (min/veh)	Inclusive Delay (min)	Inclusive Delay (min/veh)
B-AC	37.2	24.8	5.1	0.1	5.1	0.1
C-AB	19.3	12.8	1.9	0.1	1.9	0.1
C-A	-	-	-	-	-	-
A-B	17.9	11.9	-	-	-	-
A-C	483.1	322.1	-	-	-	-
All	**1091.5**	**727.7**	**7.0**	**0.0**	**7.0**	**0.0**

Demand Set: Saturday Peak - Total 2016
Modelling Period: 11:15-12:45

Stream	Total Demand (veh)	Total Demand (veh/h)	Queueing Delay (min)	Queueing Delay (min/veh)	Inclusive Delay (min)	Inclusive Delay (min/veh)
B-AC	37.2	24.8	5.2	0.1	5.2	0.1
C-AB	19.3	12.8	1.9	0.1	1.9	0.1
C-A	-	-	-	-	-	-
A-B	17.9	11.9	-	-	-	-
A-C	524.4	349.6	-	-	-	-
All	**1178.2**	**785.5**	**7.2**	**0.0**	**7.2**	**0.0**

Delay is that occurring only within the time period.
Inclusive delay includes delay suffered by vehicles which are still queuing after the end of the time period.
These will only be significantly different if there is a large queue remaining at the end of the time period.

PICADY 5 Run Successful

APPENDIX F

ARCADY Output – Claycliffe Road/Barugh Green Road/Wilthorpe Road/Whaley Road Roundabout

A R C A D Y 6

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 4.0 (FEBRUARY 2006)

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--

Run with file:-
"h:\Current Jobs\ALDI\CURRENT ACTIVE\SOUTH DARLINGTON REGION\aldibarugh.1\Capacity Calculations\Arcady\
Claycliffe Road, Barugh Green Road\Weekday PM\Weekday PM Peak.vai"
(drive-on-the-left) at 10:41:11 on Monday, 10 May 2010

.FILE PROPERTIES
****

RUN TITLE: Claycliffe Road, Whaley Road, Wilthorpe Road, Barugh Green Road - Wday PM Peak
LOCATION: Barugh Green, Barnsley
DATE: 04/05/10
CLIENT: Aldi Stores
ENUMERATOR: pthompson [PTHOMPSON]
JOB NUMBER: N/aldibarugh.1
STATUS:
DESCRIPTION:

.INPUT DATA
****
ARM A - A637, Claycliffe Road
ARM B - Whaley Road
ARM C - A635, Wilthorpe Road
ARM D - A635, Barugh Green Road

.GEOMETRIC DATA

I ARM	I	V (M)	I	E (M)	I	L (M)	I	R (M)	I	D (M)	I	PHI (DEG)	I	SLOPE	I	INTERCEPT (PCU/MIN)	I
I ARM A	I	4.10	I	6.20	I	19.00	I	12.00	I	35.00	I	39.0	I	0.612	I	26.718	I
I ARM B	I	4.45	I	5.50	I	11.00	I	16.00	I	34.00	I	14.0	I	0.658	I	27.683	I
I ARM C	I	4.60	I	6.10	I	17.00	I	22.00	I	35.00	I	30.0	I	0.664	I	29.267	I
I ARM D	I	3.80	I	5.50	I	25.00	I	12.00	I	34.00	I	55.0	I	0.553	I	23.109	I

V = approach half-width L = effective flare length D = inscribed circle diameter
E = entry width R = entry radius PHI = entry angle

.TRAFFIC DEMAND DATA

(Only sets included in the current run are shown)

I ARM	I	FLOW SCALE(%)	I
I A	I	100	I
I B	I	100	I
I C	I	100	I
I D	I	100	I

.TIME PERIOD BEGINS 16.15 AND ENDS 17.45
.LENGTH OF TIME PERIOD - 90 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

.DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

DEMAND SET TITLE: Weekday PM Peak - Existing 2010

I ARM	I	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	I	TOP OF PEAK IS REACHED	I	FLOW STOPS FALLING	I	RATE OF FLOW (VEH/MIN) BEFORE PEAK	I	AT TOP OF PEAK	I	AFTER PEAK	I
I ARM A	I	15.00	I	45.00	I	75.00	I	7.63	I	11.44	I	7.63	I
I ARM B	I	15.00	I	45.00	I	75.00	I	2.42	I	3.64	I	2.42	I
I ARM C	I	15.00	I	45.00	I	75.00	I	15.36	I	23.04	I	15.36	I
I ARM D	I	15.00	I	45.00	I	75.00	I	5.50	I	8.25	I	5.50	I

DEMAND SET TITLE: Weekday PM Peak - Existing 2010

TIME	FROM/TO	TURNING PROPORTIONS / TURNING COUNTS (VEH/HR) (PERCENTAGE OF H.V.S) ARM A	ARM B	ARM C	ARM D
16.15 - 17.45	ARM A	0.000	0.030	0.889	0.082
		0.0	18.0	542.0	50.0
		(0.0)	(0.0)	(0.0)	(0.0)
	ARM B	0.227	0.000	0.443	0.330
		44.0	0.0	86.0	64.0
		(0.0)	(0.0)	(0.0)	(0.0)
	ARM C	0.574	0.030	0.017	0.378
		706.0	37.0	21.0	465.0
		(0.0)	(0.0)	(0.0)	(0.0)
	ARM D	0.148	0.034	0.818	0.000
		65.0	15.0	360.0	0.0
		(0.0)	(0.0)	(0.0)	(0.0)

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

TIME SEGMENT	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ VEHICLE (MIN)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING
16.15-16.30									
ARM A	7.63	23.42	0.326		0.0	0.5	7.0	0.06	
ARM B	2.42	19.71	0.123		0.0	0.1	2.1	0.06	
ARM C	15.36	27.96	0.549		0.0	1.2	17.4	0.08	
ARM D	5.50	17.56	0.313		0.0	0.5	6.6	0.08	

TIME SEGMENT	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY	PEDESTRIAN FLOW	START QUEUE	END QUEUE	DELAY (VEH.MIN/	GEOMETRIC DELAY (VEH.MIN/	AVERAGE DELAY PER ARRIVING

```
 I                                (RFC)     (PEDS/MIN) (VEHS) (VEHS)  TIME
SEGMENT)  TIME SEGMENT)     VEHICLE (MIN) I
 I 16.30-16.45
I
 I ARM A       9.10     22.77   0.400                  0.5    0.7        9.7
0.07      I
 I ARM B       2.90     18.14   0.160                  0.1    0.2        2.8
0.07      I
 I ARM C      18.34     27.70   0.662                  1.2    1.9       27.6
0.11      I
 I ARM D       6.57     16.46   0.399                  0.5    0.7        9.6
0.10      I
 I
I
 ---------------------------------------------------------------------------
----------------------------------
.---------------------------------------------------------------------------
----------------------------------
 I  TIME      DEMAND  CAPACITY  DEMAND/   PEDESTRIAN  START   END        DELAY
GEOMETRIC DELAY   AVERAGE DELAY I
 I         (VEH/MIN) (VEH/MIN) CAPACITY      FLOW     QUEUE  QUEUE    (VEH.MIN/
(VEH.MIN/      PER ARRIVING  I
 I                                (RFC)     (PEDS/MIN) (VEHS) (VEHS)  TIME
SEGMENT)  TIME SEGMENT)     VEHICLE (MIN) I
 I 16.45-17.00
I
 I ARM A      11.15     21.89   0.509                  0.7    1.0       14.9
0.09      I
 I ARM B       3.55     16.01   0.222                  0.2    0.3        4.2
0.08      I
 I ARM C      22.47     27.35   0.821                  1.9    4.3       58.2
0.19      I
 I ARM D       8.04     15.00   0.536                  0.7    1.1       16.3
0.14      I
 I
I
 ---------------------------------------------------------------------------
----------------------------------
.---------------------------------------------------------------------------
----------------------------------
 I  TIME      DEMAND  CAPACITY  DEMAND/   PEDESTRIAN  START   END        DELAY
GEOMETRIC DELAY   AVERAGE DELAY I
 I         (VEH/MIN) (VEH/MIN) CAPACITY      FLOW     QUEUE  QUEUE    (VEH.MIN/
(VEH.MIN/      PER ARRIVING  I
 I                                (RFC)     (PEDS/MIN) (VEHS) (VEHS)  TIME
SEGMENT)  TIME SEGMENT)     VEHICLE (MIN) I
 I 17.00-17.15
I
 I ARM A      11.15     21.87   0.510                  1.0    1.0       15.5
0.09      I
 I ARM B       3.55     15.97   0.222                  0.3    0.3        4.3
0.08      I
 I ARM C      22.47     27.35   0.822                  4.3    4.4       65.7
0.20      I
 I ARM D       8.04     14.95   0.538                  1.1    1.2       17.2
0.14      I
 I
I
 ---------------------------------------------------------------------------
----------------------------------
```

```
.-------------------------------------------------------------------------------
---------------------------------
 I  TIME      DEMAND  CAPACITY  DEMAND/   PEDESTRIAN  START   END       DELAY
GEOMETRIC DELAY   AVERAGE DELAY I
 I         (VEH/MIN) (VEH/MIN) CAPACITY      FLOW     QUEUE  QUEUE    (VEH.MIN/
(VEH.MIN/      PER ARRIVING  I
 I                              (RFC)    (PEDS/MIN) (VEHS) (VEHS)  TIME
SEGMENT)  TIME SEGMENT)    VEHICLE (MIN) I
 I 17.15-17.30
I
 I ARM A       9.10     22.74   0.400                 1.0    0.7       10.4
0.07      I
 I ARM B       2.90     18.09   0.160                 0.3    0.2        2.9
0.07      I
 I ARM C      18.34     27.70   0.662                 4.4    2.0       31.9
0.11      I
 I ARM D       6.57     16.39   0.401                 1.2    0.7       10.5
0.10      I
 I
I
 -------------------------------------------------------------------------------
---------------------------------
.-------------------------------------------------------------------------------
---------------------------------
 I  TIME      DEMAND  CAPACITY  DEMAND/   PEDESTRIAN  START   END       DELAY
GEOMETRIC DELAY   AVERAGE DELAY I
 I         (VEH/MIN) (VEH/MIN) CAPACITY      FLOW     QUEUE  QUEUE    (VEH.MIN/
(VEH.MIN/      PER ARRIVING  I
 I                              (RFC)    (PEDS/MIN) (VEHS) (VEHS)  TIME
SEGMENT)  TIME SEGMENT)    VEHICLE (MIN) I
 I 17.30-17.45
I
 I ARM A       7.63     23.39   0.326                 0.7    0.5        7.4
0.06      I
 I ARM B       2.42     19.66   0.123                 0.2    0.1        2.2
0.06      I
 I ARM C      15.36     27.95   0.550                 2.0    1.2       19.1
0.08      I
 I ARM D       5.50     17.51   0.314                 0.7    0.5        7.1
0.08      I
 I
I
 -------------------------------------------------------------------------------
---------------------------------

.QUEUE AT ARM A
 --------------

  TIME SEGMENT   NO. OF
   ENDING      VEHICLES
               IN QUEUE

    16.30          0.5
    16.45          0.7  *
    17.00          1.0  *
    17.15          1.0  *
    17.30          0.7  *
    17.45          0.5

.QUEUE AT ARM B
```

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
16.30	0.1	
16.45	0.2	
17.00	0.3	
17.15	0.3	
17.30	0.2	
17.45	0.1	

.QUEUE AT ARM C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
16.30	1.2	*
16.45	1.9	**
17.00	4.3	****
17.15	4.4	****
17.30	2.0	**
17.45	1.2	*

.QUEUE AT ARM D

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
16.30	0.5	
16.45	0.7	*
17.00	1.1	*
17.15	1.2	*
17.30	0.7	*
17.45	0.5	

. QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

ARM	TOTAL DEMAND		* QUEUEING * DELAY *		* INCLUSIVE QUEUEING * DELAY *	
	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)
A	836.4	557.6	64.9	0.08	64.9	0.08
B	266.0	177.3	18.3	0.07	18.3	0.07
C	1685.2	1123.5	220.0	0.13	220.0	0.13
D	603.3	402.2	67.2	0.11	67.2	0.11
ALL	3391.0	2260.7	370.4	0.11	370.4	0.11

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD.
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

A R C A D Y 6

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 4.0 (FEBRUARY 2006)

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IN NO WAY RELIEVED OF THEIR RESPONSIBILITY FOR THE CORRECTNESS OF THE SOLUTION

Run with file:-
"h:\Current Jobs\ALDI\CURRENT ACTIVE\SOUTH DARLINGTON REGION\aldibarugh.1\Capacity Calculations\Arcady\
Claycliffe Road, Barugh Green Road\Sat\Saturday Peak.vai"
(drive-on-the-left) at 10:43:45 on Monday, 10 May 2010

.FILE PROPERTIES
****

RUN TITLE: Claycliffe Road, Whaley Road, Wilthorpe Road, Barugh Green Road - Wday PM Peak
LOCATION: Barugh Green, Barnsley
DATE: 04/05/10
CLIENT: Aldi Stores
ENUMERATOR: pthompson [PTHOMPSON]
JOB NUMBER: N/aldibarugh.1
STATUS:
DESCRIPTION:

.INPUT DATA
****
ARM A - A637, Claycliffe Road
ARM B - Whaley Road
ARM C - A635, Wilthorpe Road
ARM D - A635, Barugh Green Road

.GEOMETRIC DATA

I ARM	I	V (M)	I	E (M)	I	L (M)	I	R (M)	I	D (M)	I	PHI (DEG)	I	SLOPE	I	INTERCEPT (PCU/MIN)	I
I ARM A	I	4.10	I	6.20	I	19.00	I	12.00	I	35.00	I	39.0	I	0.612	I	26.718	I
I ARM B	I	4.45	I	5.50	I	11.00	I	16.00	I	34.00	I	14.0	I	0.658	I	27.683	I
I ARM C	I	4.60	I	6.10	I	17.00	I	22.00	I	35.00	I	30.0	I	0.664	I	29.267	I
I ARM D	I	3.80	I	5.50	I	25.00	I	12.00	I	34.00	I	55.0	I	0.553	I	23.109	I

V = approach half-width L = effective flare length D = inscribed circle diameter
E = entry width R = entry radius PHI = entry angle

.TRAFFIC DEMAND DATA

(Only sets included in the current run are shown)

I ARM	I FLOW SCALE(%) I
I A	I 100 I
I B	I 100 I
I C	I 100 I
I D	I 100 I

.TIME PERIOD BEGINS 11.15 AND ENDS 12.45
.LENGTH OF TIME PERIOD - 90 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

.DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

DEMAND SET TITLE: Saturday Peak - Existing 2010

I ARM	I FLOW STARTS TO RISE	I TOP OF PEAK IS REACHED	I FLOW STOPS IFALLING	I RATE OF FLOW (VEH/MIN) BEFORE PEAK	AT TOP OF PEAK	AFTER PEAK
I ARM A	15.00	45.00	75.00	7.19	10.78	7.19
I ARM B	15.00	45.00	75.00	1.65	2.47	1.65
I ARM C	15.00	45.00	75.00	11.15	16.72	11.15
I ARM D	15.00	45.00	75.00	4.39	6.58	4.39

DEMAND SET TITLE: Saturday Peak - Existing 2010

TIME	FROM/TO	ARM A	ARM B	ARM C	ARM D
		TURNING PROPORTIONS			
		TURNING COUNTS (VEH/HR)			
		(PERCENTAGE OF H.V.S)			
11.15 - 12.45	ARM A	0.000	0.040	0.904	0.056
		0.0	23.0	520.0	32.0
		(0.0)	(0.0)	(0.0)	(0.0)
	ARM B	0.258	0.000	0.538	0.205
		34.0	0.0	71.0	27.0
		(0.0)	(0.0)	(0.0)	(0.0)
	ARM C	0.566	0.045	0.021	0.368
		505.0	40.0	19.0	328.0
		(0.0)	(0.0)	(0.0)	(0.0)
	ARM D	0.137	0.054	0.809	0.000
		48.0	19.0	284.0	0.0
		(0.0)	(0.0)	(0.0)	(0.0)

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

TIME SEGMENT		DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ VEHICLE (MIN)	AVERAGE DELAY PER ARRIVING
11.15-11.30										
	ARM A	7.19	23.96	0.300		0.0	0.4	6.2	0.06	
	ARM B	1.65	20.68	0.080		0.0	0.1	1.3	0.05	
	ARM C	11.15	28.50	0.391		0.0	0.6	9.3	0.06	
	ARM D	4.39	18.99	0.231		0.0	0.3	4.4	0.07	

TIME SEGMENT		DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ VEHICLE (MIN)	AVERAGE DELAY PER ARRIVING

```
 I                                (RFC)     (PEDS/MIN) (VEHS) (VEHS)   TIME
SEGMENT)  TIME SEGMENT)     VEHICLE (MIN) I
 I 11.30-11.45
I
 I ARM A       8.58     23.41   0.367                  0.4    0.6         8.5
0.07      I
 I ARM B       1.97     19.29   0.102                  0.1    0.1         1.7
0.06      I
 I ARM C      13.31     28.35   0.470                  0.6    0.9        12.9
0.07      I
 I ARM D       5.24     18.18   0.288                  0.3    0.4         5.9
0.08      I
 I
I
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 I  TIME      DEMAND  CAPACITY  DEMAND/   PEDESTRIAN  START   END        DELAY
GEOMETRIC DELAY   AVERAGE DELAY I
 I         (VEH/MIN) (VEH/MIN) CAPACITY      FLOW     QUEUE  QUEUE     (VEH.MIN/
(VEH.MIN/      PER ARRIVING  I
 I                                (RFC)     (PEDS/MIN) (VEHS) (VEHS)   TIME
SEGMENT)  TIME SEGMENT)     VEHICLE (MIN) I
 I 11.45-12.00
I
 I ARM A      10.51     22.67   0.464                  0.6    0.9        12.5
0.08      I
 I ARM B       2.41     17.41   0.139                  0.1    0.2         2.4
0.07      I
 I ARM C      16.31     28.14   0.579                  0.9    1.4        19.8
0.08      I
 I ARM D       6.42     17.08   0.376                  0.4    0.6         8.7
0.09      I
 I
I
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 I  TIME      DEMAND  CAPACITY  DEMAND/   PEDESTRIAN  START   END        DELAY
GEOMETRIC DELAY   AVERAGE DELAY I
 I         (VEH/MIN) (VEH/MIN) CAPACITY      FLOW     QUEUE  QUEUE     (VEH.MIN/
(VEH.MIN/      PER ARRIVING  I
 I                                (RFC)     (PEDS/MIN) (VEHS) (VEHS)   TIME
SEGMENT)  TIME SEGMENT)     VEHICLE (MIN) I
 I 12.00-12.15
I
 I ARM A      10.51     22.67   0.464                  0.9    0.9        12.9
0.08      I
 I ARM B       2.41     17.39   0.139                  0.2    0.2         2.4
0.07      I
 I ARM C      16.31     28.14   0.580                  1.4    1.4        20.5
0.08      I
 I ARM D       6.42     17.07   0.376                  0.6    0.6         9.0
0.09      I
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 I  TIME      DEMAND  CAPACITY  DEMAND/   PEDESTRIAN  START   END       DELAY
GEOMETRIC DELAY   AVERAGE DELAY I
 I         (VEH/MIN) (VEH/MIN) CAPACITY      FLOW     QUEUE  QUEUE    (VEH.MIN/
(VEH.MIN/      PER ARRIVING  I
 I                              (RFC)    (PEDS/MIN) (VEHS) (VEHS)  TIME
SEGMENT)  TIME SEGMENT)    VEHICLE (MIN) I
 I 12.15-12.30
I
 I ARM A       8.58     23.40   0.367                 0.9    0.6        8.9
0.07      I
 I ARM B       1.97     19.26   0.102                 0.2    0.1        1.7
0.06      I
 I ARM C      13.31     28.34   0.470                 1.4    0.9       13.7
0.07      I
 I ARM D       5.24     18.16   0.288                 0.6    0.4        6.3
0.08      I
 I
I
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 I  TIME      DEMAND  CAPACITY  DEMAND/   PEDESTRIAN  START   END       DELAY
GEOMETRIC DELAY   AVERAGE DELAY I
 I         (VEH/MIN) (VEH/MIN) CAPACITY      FLOW     QUEUE  QUEUE    (VEH.MIN/
(VEH.MIN/      PER ARRIVING  I
 I                              (RFC)    (PEDS/MIN) (VEHS) (VEHS)  TIME
SEGMENT)  TIME SEGMENT)    VEHICLE (MIN) I
 I 12.30-12.45
I
 I ARM A       7.19     23.94   0.300                 0.6    0.4        6.6
0.06      I
 I ARM B       1.65     20.64   0.080                 0.1    0.1        1.3
0.05      I
 I ARM C      11.15     28.49   0.391                 0.9    0.6        9.9
0.06      I
 I ARM D       4.39     18.97   0.231                 0.4    0.3        4.6
0.07      I
 I
I
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.QUEUE AT ARM A
 --------------

  TIME SEGMENT   NO. OF
   ENDING      VEHICLES
               IN QUEUE

    11.30          0.4
    11.45          0.6  *
    12.00          0.9  *
    12.15          0.9  *
    12.30          0.6  *
    12.45          0.4


.QUEUE AT ARM B
```

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
11.30	0.1	
11.45	0.1	
12.00	0.2	
12.15	0.2	
12.30	0.1	
12.45	0.1	

.QUEUE AT ARM C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
11.30	0.6	*
11.45	0.9	*
12.00	1.4	*
12.15	1.4	*
12.30	0.9	*
12.45	0.6	*

.QUEUE AT ARM D

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
11.30	0.3	
11.45	0.4	
12.00	0.6	*
12.15	0.6	*
12.30	0.4	
12.45	0.3	

. QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

ARM	TOTAL DEMAND		* QUEUEING * DELAY *		* INCLUSIVE QUEUEING * DELAY *	
	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)
A	788.4	525.6	55.6	0.07	55.6	0.07
B	181.0	120.7	10.8	0.06	10.8	0.06
C	1223.1	815.4	86.1	0.07	86.1	0.07
D	481.3	320.9	38.9	0.08	38.9	0.08
ALL	2673.9	1782.6	191.4	0.07	191.4	0.07

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD.
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

A R C A D Y 6

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 4.0 (FEBRUARY 2006)

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Run with file:-
"h:\Current Jobs\ALDI\CURRENT ACTIVE\SOUTH DARLINGTON REGION\aldibarugh.1\Capacity Calculations\Arcady\
Claycliffe Road, Barugh Green Road\Weekday PM\Weekday PM Peak.vai"
(drive-on-the-left) at 10:41:32 on Monday, 10 May 2010

.FILE PROPERTIES
****

RUN TITLE: Claycliffe Road, Whaley Road, Wilthorpe Road, Barugh Green Road - Wday PM Peak
LOCATION: Barugh Green, Barnsley
DATE: 04/05/10
CLIENT: Aldi Stores
ENUMERATOR: pthompson [PTHOMPSON]
JOB NUMBER: N/aldibarugh.1
STATUS:
DESCRIPTION:

.INPUT DATA
****
ARM A - A637, Claycliffe Road
ARM B - Whaley Road
ARM C - A635, Wilthorpe Road
ARM D - A635, Barugh Green Road

.GEOMETRIC DATA

I ARM	I V (M)	I E (M)	I L (M)	I R (M)	I D (M)	I PHI (DEG)	I SLOPE	I INTERCEPT (PCU/MIN) I
I ARM A I	4.10	I 6.20	I 19.00	I 12.00	I 35.00	I 39.0	I 0.612	I 26.718 I
I ARM B I	4.45	I 5.50	I 11.00	I 16.00	I 34.00	I 14.0	I 0.658	I 27.683 I
I ARM C I	4.60	I 6.10	I 17.00	I 22.00	I 35.00	I 30.0	I 0.664	I 29.267 I
I ARM D I	3.80	I 5.50	I 25.00	I 12.00	I 34.00	I 55.0	I 0.553	I 23.109 I

V = approach half-width L = effective flare length D = inscribed circle diameter
E = entry width R = entry radius PHI = entry angle

.TRAFFIC DEMAND DATA

(Only sets included in the current run are shown)

I ARM	I FLOW SCALE(%) I
I A	I 100 I
I B	I 100 I
I C	I 100 I
I D	I 100 I

.TIME PERIOD BEGINS 16.15 AND ENDS 17.45
.LENGTH OF TIME PERIOD - 90 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

.DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

DEMAND SET TITLE: Weekday PM Peak - Base 2011

I ARM	I NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	I TOP OF PEAK IS REACHED	I FLOW STOPS FALLING	I RATE OF FLOW (VEH/MIN) BEFORE PEAK	I AT TOP OF PEAK	I AFTER PEAK I
I ARM A I	15.00	I 45.00	I 75.00	I 7.74	I 11.61	I 7.74 I
I ARM B I	15.00	I 45.00	I 75.00	I 2.46	I 3.69	I 2.46 I
I ARM C I	15.00	I 45.00	I 75.00	I 15.59	I 23.38	I 15.59 I
I ARM D I	15.00	I 45.00	I 75.00	I 5.57	I 8.36	I 5.57 I

DEMAND SET TITLE: Weekday PM Peak - Base 2011

TIME	FROM/TO	ARM A	ARM B	ARM C	ARM D
		TURNING PROPORTIONS			
		TURNING COUNTS (VEH/HR)			
		(PERCENTAGE OF H.V.S)			
16.15 - 17.45	ARM A	0.000	0.029	0.889	0.082
		0.0	18.0	550.0	51.0
		(0.0)	(0.0)	(0.0)	(0.0)
	ARM B	0.228	0.000	0.442	0.330
		45.0	0.0	87.0	65.0
		(0.0)	(0.0)	(0.0)	(0.0)
	ARM C	0.574	0.030	0.017	0.379
		716.0	38.0	21.0	472.0
		(0.0)	(0.0)	(0.0)	(0.0)
	ARM D	0.148	0.034	0.818	0.000
		66.0	15.0	365.0	0.0
		(0.0)	(0.0)	(0.0)	(0.0)

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

TIME SEGMENT	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ VEHICLE (MIN)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING
16.15-16.30									
ARM A	7.74	23.38	0.331		0.0	0.5	7.2	0.06	
ARM B	2.46	19.60	0.126		0.0	0.1	2.1	0.06	
ARM C	15.59	27.94	0.558		0.0	1.2	18.0	0.08	
ARM D	5.57	17.47	0.319		0.0	0.5	6.8	0.08	

TIME SEGMENT	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ VEHICLE (MIN)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING

```
 I                                (RFC)    (PEDS/MIN) (VEHS) (VEHS)  TIME
SEGMENT)  TIME SEGMENT)    VEHICLE (MIN) I
 I 16.30-16.45
I
 I ARM A       9.24     22.71   0.407                  0.5    0.7       10.0
0.07      I
 I ARM B       2.94     18.00   0.163                  0.1    0.2        2.9
0.07      I
 I ARM C      18.61     27.67   0.673                  1.2    2.0       28.8
0.11      I
 I ARM D       6.66     16.36   0.407                  0.5    0.7        9.9
0.10      I
 I
I
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-----------------------------------
 I  TIME      DEMAND  CAPACITY  DEMAND/   PEDESTRIAN  START   END       DELAY
GEOMETRIC DELAY   AVERAGE DELAY I
 I         (VEH/MIN) (VEH/MIN) CAPACITY      FLOW     QUEUE  QUEUE    (VEH.MIN/
(VEH.MIN/      PER ARRIVING  I
 I                                (RFC)    (PEDS/MIN) (VEHS) (VEHS)  TIME
SEGMENT)  TIME SEGMENT)    VEHICLE (MIN) I
 I 16.45-17.00
I
 I ARM A      11.32     21.83   0.518                  0.7    1.1       15.4
0.09      I
 I ARM B       3.60     15.84   0.227                  0.2    0.3        4.3
0.08      I
 I ARM C      22.80     27.32   0.835                  2.0    4.7       62.6
0.21      I
 I ARM D       8.15     14.89   0.548                  0.7    1.2       17.0
0.15      I
 I
I
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-----------------------------------
 I  TIME      DEMAND  CAPACITY  DEMAND/   PEDESTRIAN  START   END       DELAY
GEOMETRIC DELAY   AVERAGE DELAY I
 I         (VEH/MIN) (VEH/MIN) CAPACITY      FLOW     QUEUE  QUEUE    (VEH.MIN/
(VEH.MIN/      PER ARRIVING  I
 I                                (RFC)    (PEDS/MIN) (VEHS) (VEHS)  TIME
SEGMENT)  TIME SEGMENT)    VEHICLE (MIN) I
 I 17.00-17.15
I
 I ARM A      11.32     21.81   0.519                  1.1    1.1       16.0
0.10      I
 I ARM B       3.60     15.80   0.228                  0.3    0.3        4.4
0.08      I
 I ARM C      22.80     27.31   0.835                  4.7    4.8       71.6
0.22      I
 I ARM D       8.15     14.83   0.550                  1.2    1.2       18.0
0.15      I
 I
I
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 I  TIME      DEMAND  CAPACITY  DEMAND/   PEDESTRIAN  START   END       DELAY
GEOMETRIC DELAY   AVERAGE DELAY I
 I         (VEH/MIN) (VEH/MIN) CAPACITY      FLOW     QUEUE  QUEUE    (VEH.MIN/
(VEH.MIN/      PER ARRIVING  I
 I                              (RFC)    (PEDS/MIN) (VEHS) (VEHS)  TIME
SEGMENT)  TIME SEGMENT)    VEHICLE (MIN) I
 I 17.15-17.30
I
 I ARM A       9.24     22.68   0.407                 1.1    0.7       10.7
0.07      I
 I ARM B       2.94     17.95   0.164                 0.3    0.2        3.0
0.07      I
 I ARM C      18.61     27.67   0.673                 4.8    2.1       33.7
0.11      I
 I ARM D       6.66     16.28   0.409                 1.2    0.7       10.9
0.10      I
 I
I
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----------------------------------
 I  TIME      DEMAND  CAPACITY  DEMAND/   PEDESTRIAN  START   END       DELAY
GEOMETRIC DELAY   AVERAGE DELAY I
 I         (VEH/MIN) (VEH/MIN) CAPACITY      FLOW     QUEUE  QUEUE    (VEH.MIN/
(VEH.MIN/      PER ARRIVING  I
 I                              (RFC)    (PEDS/MIN) (VEHS) (VEHS)  TIME
SEGMENT)  TIME SEGMENT)    VEHICLE (MIN) I
 I 17.30-17.45
I
 I ARM A       7.74     23.35   0.331                 0.7    0.5        7.6
0.06      I
 I ARM B       2.46     19.54   0.126                 0.2    0.1        2.2
0.06      I
 I ARM C      15.59     27.93   0.558                 2.1    1.3       19.8
0.08      I
 I ARM D       5.57     17.42   0.320                 0.7    0.5        7.3
0.08      I
 I
I
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.QUEUE AT ARM A
 --------------

  TIME SEGMENT   NO. OF
   ENDING      VEHICLES
               IN QUEUE

   16.30           0.5
   16.45           0.7  *
   17.00           1.1  *
   17.15           1.1  *
   17.30           0.7  *
   17.45           0.5

.QUEUE AT ARM B
```

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
16.30	0.1	
16.45	0.2	
17.00	0.3	
17.15	0.3	
17.30	0.2	
17.45	0.1	

.QUEUE AT ARM C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
16.30	1.2	*
16.45	2.0	**
17.00	4.7	*****
17.15	4.8	*****
17.30	2.1	**
17.45	1.3	*

.QUEUE AT ARM D

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
16.30	0.5	
16.45	0.7	*
17.00	1.2	*
17.15	1.2	*
17.30	0.7	*
17.45	0.5	

. QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

ARM	TOTAL DEMAND		* QUEUEING * DELAY *		* INCLUSIVE QUEUEING * DELAY *	
	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)
A	848.8	565.9	66.9	0.08	66.9	0.08
B	270.1	180.1	18.9	0.07	18.9	0.07
C	1709.9	1139.9	234.5	0.14	234.6	0.14
D	611.6	407.7	69.8	0.11	69.8	0.11
ALL	3440.4	2293.6	390.1	0.11	390.1	0.11

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD.
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

A R C A D Y 6

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 4.0 (FEBRUARY 2006)

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IN NO WAY RELIEVED OF THEIR RESPONSIBILITY FOR THE CORRECTNESS OF THE SOLUTION

Run with file:-
"h:\Current Jobs\ALDI\CURRENT ACTIVE\SOUTH DARLINGTON REGION\aldibarugh.1\Capacity Calculations\Arcady\
Claycliffe Road, Barugh Green Road\Weekday PM\Weekday PM Peak.vai"
(drive-on-the-left) at 10:38:09 on Wednesday, 7 July 2010

.FILE PROPERTIES
****

RUN TITLE: Claycliffe Road, Whaley Road, Wilthorpe Road, Barugh Green Road - Wday PM Peak
LOCATION: Barugh Green, Barnsley
DATE: 04/05/10
CLIENT: Aldi Stores
ENUMERATOR: pthompson [PTHOMPSON]
JOB NUMBER: N/aldibarugh.1
STATUS:
DESCRIPTION:

.INPUT DATA
****
ARM A - A637, Claycliffe Road
ARM B - Whaley Road
ARM C - A635, Wilthorpe Road
ARM D - A635, Barugh Green Road

.GEOMETRIC DATA

ARM	V (M)	E (M)	L (M)	R (M)	D (M)	PHI (DEG)	SLOPE	INTERCEPT (PCU/MIN)
ARM A	4.10	6.20	19.00	12.00	35.00	39.0	0.612	26.718
ARM B	4.45	5.50	11.00	16.00	34.00	14.0	0.658	27.683
ARM C	4.60	6.10	17.00	22.00	35.00	30.0	0.664	29.267
ARM D	3.80	5.50	25.00	12.00	34.00	55.0	0.553	23.109

V = approach half-width L = effective flare length D = inscribed circle diameter
E = entry width R = entry radius PHI = entry angle

.TRAFFIC DEMAND DATA

(Only sets included in the current run are shown)

ARM	FLOW SCALE(%)
A	100
B	100
C	100
D	100

.TIME PERIOD BEGINS 16.15 AND ENDS 17.45
.LENGTH OF TIME PERIOD - 90 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

.DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

DEMAND SET TITLE: Weekday PM Peak - Total 2011

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	NUMBER OF MINUTES FROM START WHEN TOP OF PEAK IS REACHED	NUMBER OF MINUTES FROM START WHEN FLOW STOPS FALLING	RATE OF FLOW (VEH/MIN) BEFORE PEAK	RATE OF FLOW (VEH/MIN) AT TOP OF PEAK	RATE OF FLOW (VEH/MIN) AFTER PEAK
ARM A	15.00	45.00	75.00	7.94	11.91	7.94
ARM B	15.00	45.00	75.00	2.46	3.69	2.46
ARM C	15.00	45.00	75.00	15.96	23.94	15.96
ARM D	15.00	45.00	75.00	5.79	8.68	5.79

DEMAND SET TITLE: Weekday PM Peak - Total 2011

TIME	FROM/TO	ARM A	ARM B	ARM C	ARM D
		TURNING PROPORTIONS			
		TURNING COUNTS (VEH/HR)			
		(PERCENTAGE OF H.V.S)			
16.15 - 17.45	ARM A	0.000	0.028	0.891	0.080
		0.0	18.0	566.0	51.0
		(0.0)	(0.0)	(0.0)	(0.0)
	ARM B	0.228	0.000	0.442	0.330
		45.0	0.0	87.0	65.0
		(0.0)	(0.0)	(0.0)	(0.0)
	ARM C	0.574	0.030	0.016	0.380
		733.0	38.0	21.0	485.0
		(0.0)	(0.0)	(0.0)	(0.0)
	ARM D	0.143	0.032	0.825	0.000
		66.0	15.0	382.0	0.0
		(0.0)	(0.0)	(0.0)	(0.0)

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

TIME SEGMENT		DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ VEHICLE (MIN)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING TIME SEGMENT)
16.15-16.30										
	ARM A	7.94	23.25	0.341		0.0	0.5	7.5	0.06	
	ARM B	2.46	19.33	0.127		0.0	0.1	2.1	0.06	
	ARM C	15.96	27.94	0.571		0.0	1.3	18.9	0.08	
	ARM D	5.79	17.36	0.333		0.0	0.5	7.2	0.09	

TIME SEGMENT		DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ VEHICLE (MIN)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING TIME SEGMENT)

```
 I                                (RFC)     (PEDS/MIN) (VEHS)  (VEHS)  TIME
SEGMENT)  TIME SEGMENT)     VEHICLE (MIN) I
 I 16.30-16.45
I
 I ARM A       9.48     22.56   0.420                  0.5     0.7       10.5
0.08      I
 I ARM B       2.94     17.68   0.166                  0.1     0.2        2.9
0.07      I
 I ARM C      19.06     27.67   0.689                  1.3     2.2       30.9
0.11      I
 I ARM D       6.91     16.22   0.426                  0.5     0.7       10.7
0.11      I
 I
I
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 I  TIME      DEMAND  CAPACITY  DEMAND/   PEDESTRIAN  START   END       DELAY
GEOMETRIC DELAY   AVERAGE DELAY I
 I         (VEH/MIN) (VEH/MIN) CAPACITY      FLOW     QUEUE  QUEUE    (VEH.MIN/
(VEH.MIN/      PER ARRIVING  I
 I                                (RFC)     (PEDS/MIN) (VEHS)  (VEHS)  TIME
SEGMENT)  TIME SEGMENT)     VEHICLE (MIN) I
 I 16.45-17.00
I
 I ARM A      11.61     21.64   0.536                  0.7     1.1       16.5
0.10      I
 I ARM B       3.60     15.45   0.233                  0.2     0.3        4.4
0.08      I
 I ARM C      23.34     27.32   0.855                  2.2     5.3       70.4
0.23      I
 I ARM D       8.46     14.73   0.575                  0.7     1.3       18.8
0.16      I
 I
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 I  TIME      DEMAND  CAPACITY  DEMAND/   PEDESTRIAN  START   END       DELAY
GEOMETRIC DELAY   AVERAGE DELAY I
 I         (VEH/MIN) (VEH/MIN) CAPACITY      FLOW     QUEUE  QUEUE    (VEH.MIN/
(VEH.MIN/      PER ARRIVING  I
 I                                (RFC)     (PEDS/MIN) (VEHS)  (VEHS)  TIME
SEGMENT)  TIME SEGMENT)     VEHICLE (MIN) I
 I 17.00-17.15
I
 I ARM A      11.61     21.62   0.537                  1.1     1.2       17.2
0.10      I
 I ARM B       3.60     15.41   0.234                  0.3     0.3        4.5
0.08      I
 I ARM C      23.34     27.31   0.855                  5.3     5.6       82.2
0.25      I
 I ARM D       8.46     14.66   0.577                  1.3     1.3       20.1
0.16      I
 I
I
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 I  TIME      DEMAND  CAPACITY  DEMAND/   PEDESTRIAN  START   END       DELAY
GEOMETRIC DELAY   AVERAGE DELAY I
 I         (VEH/MIN) (VEH/MIN) CAPACITY      FLOW     QUEUE  QUEUE    (VEH.MIN/
(VEH.MIN/      PER ARRIVING  I
 I                              (RFC)    (PEDS/MIN) (VEHS) (VEHS)  TIME
SEGMENT)  TIME SEGMENT)    VEHICLE (MIN) I
 I 17.15-17.30
I
 I ARM A       9.48     22.52   0.421                 1.2    0.7       11.3
0.08      I
 I ARM B       2.94     17.62   0.167                 0.3    0.2        3.1
0.07      I
 I ARM C      19.06     27.67   0.689                 5.6    2.3       36.7
0.12      I
 I ARM D       6.91     16.13   0.428                 1.3    0.8       11.8
0.11      I
 I
I
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 I  TIME      DEMAND  CAPACITY  DEMAND/   PEDESTRIAN  START   END       DELAY
GEOMETRIC DELAY   AVERAGE DELAY I
 I         (VEH/MIN) (VEH/MIN) CAPACITY      FLOW     QUEUE  QUEUE    (VEH.MIN/
(VEH.MIN/      PER ARRIVING  I
 I                              (RFC)    (PEDS/MIN) (VEHS) (VEHS)  TIME
SEGMENT)  TIME SEGMENT)    VEHICLE (MIN) I
 I 17.30-17.45
I
 I ARM A       7.94     23.22   0.342                 0.7    0.5        8.0
0.07      I
 I ARM B       2.46     19.27   0.128                 0.2    0.1        2.2
0.06      I
 I ARM C      15.96     27.93   0.572                 2.3    1.4       21.0
0.08      I
 I ARM D       5.79     17.31   0.334                 0.8    0.5        7.8
0.09      I
 I
I
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.QUEUE AT ARM A
 --------------

  TIME SEGMENT   NO. OF
   ENDING      VEHICLES
               IN QUEUE

    16.30          0.5  *
    16.45          0.7  *
    17.00          1.1  *
    17.15          1.2  *
    17.30          0.7  *
    17.45          0.5  *


.QUEUE AT ARM B
```

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
16.30	0.1	
16.45	0.2	
17.00	0.3	
17.15	0.3	
17.30	0.2	
17.45	0.1	

.QUEUE AT ARM C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
16.30	1.3	*
16.45	2.2	**
17.00	5.3	*****
17.15	5.6	******
17.30	2.3	**
17.45	1.4	*

.QUEUE AT ARM D

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
16.30	0.5	
16.45	0.7	*
17.00	1.3	*
17.15	1.3	*
17.30	0.8	*
17.45	0.5	*

. QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

ARM	TOTAL DEMAND		* QUEUEING * DELAY *		* INCLUSIVE QUEUEING * DELAY *	
	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)
A	870.7	580.5	71.1	0.08	71.1	0.08
B	270.1	180.1	19.4	0.07	19.4	0.07
C	1751.0	1167.4	260.2	0.15	260.2	0.15
D	634.9	423.2	76.4	0.12	76.4	0.12
ALL	3526.8	2351.2	427.0	0.12	427.1	0.12

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD.
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

ARCADY 6

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 4.0 (FEBRUARY 2006)

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Run with file:-
"h:\Current Jobs\ALDI\CURRENT ACTIVE\SOUTH DARLINGTON REGION\aldibarugh.1\Capacity Calculations\Arcady\
Claycliffe Road, Barugh Green Road\Sat\Saturday Peak.vai"
(drive-on-the-left) at 10:44:13 on Monday, 10 May 2010

.FILE PROPERTIES
****

RUN TITLE: Claycliffe Road, Whaley Road, Wilthorpe Road, Barugh Green Road - Wday PM Peak
LOCATION: Barugh Green, Barnsley
DATE: 04/05/10
CLIENT: Aldi Stores
ENUMERATOR: pthompson [PTHOMPSON]
JOB NUMBER: N/aldibarugh.1
STATUS:
DESCRIPTION:

.INPUT DATA
****
ARM A - A637, Claycliffe Road
ARM B - Whaley Road
ARM C - A635, Wilthorpe Road
ARM D - A635, Barugh Green Road

.GEOMETRIC DATA

ARM	V (M)	E (M)	L (M)	R (M)	D (M)	PHI (DEG)	SLOPE	INTERCEPT (PCU/MIN)
ARM A	4.10	6.20	19.00	12.00	35.00	39.0	0.612	26.718
ARM B	4.45	5.50	11.00	16.00	34.00	14.0	0.658	27.683
ARM C	4.60	6.10	17.00	22.00	35.00	30.0	0.664	29.267
ARM D	3.80	5.50	25.00	12.00	34.00	55.0	0.553	23.109

V = approach half-width L = effective flare length D = inscribed circle diameter
E = entry width R = entry radius PHI = entry angle

.TRAFFIC DEMAND DATA

(Only sets included in the current run are shown)

ARM	FLOW SCALE(%)
A	100
B	100
C	100
D	100

.TIME PERIOD BEGINS 11.15 AND ENDS 12.45
.LENGTH OF TIME PERIOD - 90 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

.DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

DEMAND SET TITLE: Saturday Peak - Base 2011

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	NUMBER OF MINUTES FROM START WHEN TOP OF PEAK IS REACHED	NUMBER OF MINUTES FROM START WHEN FLOW STOPS FALLING	RATE OF FLOW (VEH/MIN) BEFORE PEAK	RATE OF FLOW (VEH/MIN) AT TOP OF PEAK	RATE OF FLOW (VEH/MIN) AFTER PEAK
ARM A	15.00	45.00	75.00	7.28	10.91	7.28
ARM B	15.00	45.00	75.00	1.66	2.49	1.66
ARM C	15.00	45.00	75.00	11.30	16.95	11.30
ARM D	15.00	45.00	75.00	4.45	6.67	4.45

DEMAND SET TITLE: Saturday Peak - Base 2011

TIME	FROM/TO	TURNING PROPORTIONS / TURNING COUNTS (VEH/HR) / (PERCENTAGE OF H.V.S) ARM A	ARM B	ARM C	ARM D
11.15 - 12.45	ARM A	0.000	0.040	0.905	0.055
		0.0	23.0	527.0	32.0
		(0.0)	(0.0)	(0.0)	(0.0)
	ARM B	0.256	0.000	0.541	0.203
		34.0	0.0	72.0	27.0
		(0.0)	(0.0)	(0.0)	(0.0)
	ARM C	0.566	0.045	0.021	0.367
		512.0	41.0	19.0	332.0
		(0.0)	(0.0)	(0.0)	(0.0)
	ARM D	0.138	0.053	0.809	0.000
		49.0	19.0	288.0	0.0
		(0.0)	(0.0)	(0.0)	(0.0)

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

TIME SEGMENT	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ VEHICLE (MIN)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING TIME SEGMENT)
11.15-11.30									
ARM A	7.28	23.92	0.304		0.0	0.4	6.4	0.06	
ARM B	1.66	20.59	0.081		0.0	0.1	1.3	0.05	
ARM C	11.30	28.50	0.397		0.0	0.7	9.5	0.06	
ARM D	4.45	18.94	0.235		0.0	0.3	4.5	0.07	

TIME SEGMENT	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ VEHICLE (MIN)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING TIME SEGMENT)

```
 I                                (RFC)     (PEDS/MIN) (VEHS) (VEHS)  TIME
SEGMENT)  TIME SEGMENT)     VEHICLE (MIN) I
 I 11.30-11.45
I
 I ARM A       8.69     23.37   0.372                  0.4    0.6        8.6
0.07      I
 I ARM B       1.99     19.18   0.103                  0.1    0.1        1.7
0.06      I
 I ARM C      13.49     28.35   0.476                  0.7    0.9       13.2
0.07      I
 I ARM D       5.31     18.12   0.293                  0.3    0.4        6.1
0.08      I
 I
I
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----------------------------------
 I  TIME      DEMAND  CAPACITY  DEMAND/   PEDESTRIAN  START   END       DELAY
GEOMETRIC DELAY   AVERAGE DELAY I
 I         (VEH/MIN) (VEH/MIN) CAPACITY      FLOW     QUEUE  QUEUE    (VEH.MIN/
(VEH.MIN/      PER ARRIVING  I
 I                                (RFC)     (PEDS/MIN) (VEHS) (VEHS)  TIME
SEGMENT)  TIME SEGMENT)     VEHICLE (MIN) I
 I 11.45-12.00
I
 I ARM A      10.64     22.62   0.470                  0.6    0.9       12.8
0.08      I
 I ARM B       2.43     17.28   0.141                  0.1    0.2        2.4
0.07      I
 I ARM C      16.53     28.14   0.587                  0.9    1.4       20.4
0.09      I
 I ARM D       6.51     17.00   0.383                  0.4    0.6        9.0
0.10      I
 I
I
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----------------------------------
 I  TIME      DEMAND  CAPACITY  DEMAND/   PEDESTRIAN  START   END       DELAY
GEOMETRIC DELAY   AVERAGE DELAY I
 I         (VEH/MIN) (VEH/MIN) CAPACITY      FLOW     QUEUE  QUEUE    (VEH.MIN/
(VEH.MIN/      PER ARRIVING  I
 I                                (RFC)     (PEDS/MIN) (VEHS) (VEHS)  TIME
SEGMENT)  TIME SEGMENT)     VEHICLE (MIN) I
 I 12.00-12.15
I
 I ARM A      10.64     22.61   0.471                  0.9    0.9       13.2
0.08      I
 I ARM B       2.43     17.26   0.141                  0.2    0.2        2.4
0.07      I
 I ARM C      16.53     28.14   0.587                  1.4    1.4       21.1
0.09      I
 I ARM D       6.51     16.99   0.383                  0.6    0.6        9.2
0.10      I
 I
I
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 I  TIME      DEMAND  CAPACITY  DEMAND/   PEDESTRIAN  START   END       DELAY
GEOMETRIC DELAY   AVERAGE DELAY I
 I         (VEH/MIN) (VEH/MIN) CAPACITY      FLOW     QUEUE  QUEUE    (VEH.MIN/
(VEH.MIN/      PER ARRIVING  I
 I                              (RFC)    (PEDS/MIN) (VEHS) (VEHS)  TIME
SEGMENT)  TIME SEGMENT)    VEHICLE (MIN) I
 I 12.15-12.30
I
 I ARM A       8.69     23.35   0.372                  0.9    0.6       9.2
0.07      I
 I ARM B       1.99     19.15   0.104                  0.2    0.1       1.8
0.06      I
 I ARM C      13.49     28.34   0.476                  1.4    0.9      14.1
0.07      I
 I ARM D       5.31     18.10   0.294                  0.6    0.4       6.4
0.08      I
 I
I
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-----------------------------------
 I  TIME      DEMAND  CAPACITY  DEMAND/   PEDESTRIAN  START   END       DELAY
GEOMETRIC DELAY   AVERAGE DELAY I
 I         (VEH/MIN) (VEH/MIN) CAPACITY      FLOW     QUEUE  QUEUE    (VEH.MIN/
(VEH.MIN/      PER ARRIVING  I
 I                              (RFC)    (PEDS/MIN) (VEHS) (VEHS)  TIME
SEGMENT)  TIME SEGMENT)    VEHICLE (MIN) I
 I 12.30-12.45
I
 I ARM A       7.28     23.90   0.304                  0.6    0.4       6.7
0.06      I
 I ARM B       1.66     20.54   0.081                  0.1    0.1       1.3
0.05      I
 I ARM C      11.30     28.49   0.397                  0.9    0.7      10.1
0.06      I
 I ARM D       4.45     18.92   0.235                  0.4    0.3       4.7
0.07      I
 I
I
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-----------------------------------

.QUEUE AT ARM A
 --------------

  TIME SEGMENT   NO. OF
   ENDING      VEHICLES
               IN QUEUE

    11.30          0.4
    11.45          0.6  *
    12.00          0.9  *
    12.15          0.9  *
    12.30          0.6  *
    12.45          0.4


.QUEUE AT ARM B
```

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
11.30	0.1	
11.45	0.1	
12.00	0.2	
12.15	0.2	
12.30	0.1	
12.45	0.1	

.QUEUE AT ARM C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
11.30	0.7	*
11.45	0.9	*
12.00	1.4	*
12.15	1.4	*
12.30	0.9	*
12.45	0.7	*

.QUEUE AT ARM D

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
11.30	0.3	
11.45	0.4	
12.00	0.6	*
12.15	0.6	*
12.30	0.4	
12.45	0.3	

. QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

ARM	TOTAL DEMAND		* QUEUEING * DELAY *		* INCLUSIVE QUEUEING * DELAY *	
	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)
A	798.0	532.0	57.0	0.07	57.0	0.07
B	182.4	121.6	11.0	0.06	11.0	0.06
C	1239.6	826.4	88.5	0.07	88.5	0.07
D	488.2	325.4	39.9	0.08	39.9	0.08
ALL	2708.1	1805.4	196.3	0.07	196.3	0.07

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD.
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

A R C A D Y 6

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 4.0 (FEBRUARY 2006)

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IN NO WAY RELIEVED OF THEIR RESPONSIBILITY FOR THE CORRECTNESS OF THE SOLUTION

Run with file:-
"h:\Current Jobs\ALDI\CURRENT ACTIVE\SOUTH DARLINGTON REGION\aldibarugh.1\Capacity Calculations\Arcady\
Claycliffe Road, Barugh Green Road\Sat\Saturday Peak.vai"
(drive-on-the-left) at 10:40:22 on Wednesday, 7 July 2010

.FILE PROPERTIES
****

RUN TITLE: Claycliffe Road, Whaley Road, Wilthorpe Road, Barugh Green Road - Wday PM Peak
LOCATION: Barugh Green, Barnsley
DATE: 04/05/10
CLIENT: Aldi Stores
ENUMERATOR: pthompson [PTHOMPSON]
JOB NUMBER: N/aldibarugh.1
STATUS:
DESCRIPTION:

.INPUT DATA
****
ARM A - A637, Claycliffe Road
ARM B - Whaley Road
ARM C - A635, Wilthorpe Road
ARM D - A635, Barugh Green Road

.GEOMETRIC DATA

I ARM	I V (M)	I E (M)	I L (M)	I R (M)	I D (M)	I PHI (DEG)	I SLOPE	I INTERCEPT (PCU/MIN) I
I ARM A I	4.10	I 6.20	I 19.00	I 12.00	I 35.00	I 39.0	I 0.612	I 26.718 I
I ARM B I	4.45	I 5.50	I 11.00	I 16.00	I 34.00	I 14.0	I 0.658	I 27.683 I
I ARM C I	4.60	I 6.10	I 17.00	I 22.00	I 35.00	I 30.0	I 0.664	I 29.267 I
I ARM D I	3.80	I 5.50	I 25.00	I 12.00	I 34.00	I 55.0	I 0.553	I 23.109 I

V = approach half-width L = effective flare length D = inscribed circle diameter
E = entry width R = entry radius PHI = entry angle

.TRAFFIC DEMAND DATA

(Only sets included in the current run are shown)

I ARM I	FLOW SCALE(%) I
I A I	100 I
I B I	100 I
I C I	100 I
I D I	100 I

.TIME PERIOD BEGINS 11.15 AND ENDS 12.45
.LENGTH OF TIME PERIOD - 90 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

.DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

DEMAND SET TITLE: Saturday Peak - Total 2011

I ARM	I NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	I TOP OF PEAK IS REACHED	I FLOW STOPS FALLING	I RATE OF FLOW (VEH/MIN) BEFORE PEAK	I AT TOP OF PEAK	I AFTER PEAK I
I ARM A I	15.00	I 45.00	I 75.00	I 7.59	I 11.38	I 7.59 I
I ARM B I	15.00	I 45.00	I 75.00	I 1.66	I 2.49	I 1.66 I
I ARM C I	15.00	I 45.00	I 75.00	I 11.76	I 17.64	I 11.76 I
I ARM D I	15.00	I 45.00	I 75.00	I 4.57	I 6.86	I 4.57 I

DEMAND SET TITLE: Saturday Peak - Total 2011

TIME	FROM/TO	ARM A	ARM B	ARM C	ARM D
		TURNING PROPORTIONS			
		TURNING COUNTS (VEH/HR)			
		(PERCENTAGE OF H.V.S)			
11.15 - 12.45	ARM A	0.000	0.038	0.909	0.053
		0.0	23.0	552.0	32.0
		(0.0)	(0.0)	(0.0)	(0.0)
	ARM B	0.256	0.000	0.541	0.203
		34.0	0.0	72.0	27.0
		(0.0)	(0.0)	(0.0)	(0.0)
	ARM C	0.572	0.044	0.020	0.365
		538.0	41.0	19.0	343.0
		(0.0)	(0.0)	(0.0)	(0.0)
	ARM D	0.134	0.052	0.814	0.000
		49.0	19.0	298.0	0.0
		(0.0)	(0.0)	(0.0)	(0.0)

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

TIME SEGMENT		DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ VEHICLE (MIN)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING TIME SEGMENT)
11.15-11.30										
	ARM A	7.59	23.85	0.318		0.0	0.5	6.8	0.06	
	ARM B	1.66	20.30	0.082		0.0	0.1	1.3	0.05	
	ARM C	11.76	28.50	0.413		0.0	0.7	10.2	0.06	
	ARM D	4.57	18.76	0.244		0.0	0.3	4.7	0.07	

TIME SEGMENT		DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ VEHICLE (MIN)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING TIME SEGMENT)

```
 I                                (RFC)     (PEDS/MIN) (VEHS) (VEHS)  TIME
SEGMENT)  TIME SEGMENT)     VEHICLE (MIN) I
 I 11.30-11.45
I
 I ARM A       9.06     23.28   0.389                  0.5    0.6        9.3
0.07      I
 I ARM B       1.99     18.84   0.105                  0.1    0.1        1.7
0.06      I
 I ARM C      14.05     28.35   0.496                  0.7    1.0       14.3
0.07      I
 I ARM D       5.46     17.90   0.305                  0.3    0.4        6.4
0.08      I
 I
I
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 I  TIME      DEMAND  CAPACITY  DEMAND/   PEDESTRIAN  START   END       DELAY
GEOMETRIC DELAY   AVERAGE DELAY I
 I         (VEH/MIN) (VEH/MIN) CAPACITY      FLOW     QUEUE  QUEUE    (VEH.MIN/
(VEH.MIN/      PER ARRIVING  I
 I                                (RFC)     (PEDS/MIN) (VEHS) (VEHS)  TIME
SEGMENT)  TIME SEGMENT)     VEHICLE (MIN) I
 I 11.45-12.00
I
 I ARM A      11.10     22.51   0.493                  0.6    1.0       14.0
0.09      I
 I ARM B       2.43     16.86   0.144                  0.1    0.2        2.5
0.07      I
 I ARM C      17.20     28.14   0.611                  1.0    1.5       22.4
0.09      I
 I ARM D       6.69     16.74   0.400                  0.4    0.7        9.6
0.10      I
 I
I
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 I  TIME      DEMAND  CAPACITY  DEMAND/   PEDESTRIAN  START   END       DELAY
GEOMETRIC DELAY   AVERAGE DELAY I
 I         (VEH/MIN) (VEH/MIN) CAPACITY      FLOW     QUEUE  QUEUE    (VEH.MIN/
(VEH.MIN/      PER ARRIVING  I
 I                                (RFC)     (PEDS/MIN) (VEHS) (VEHS)  TIME
SEGMENT)  TIME SEGMENT)     VEHICLE (MIN) I
 I 12.00-12.15
I
 I ARM A      11.10     22.50   0.493                  1.0    1.0       14.5
0.09      I
 I ARM B       2.43     16.84   0.144                  0.2    0.2        2.5
0.07      I
 I ARM C      17.20     28.14   0.611                  1.5    1.6       23.3
0.09      I
 I ARM D       6.69     16.72   0.400                  0.7    0.7        9.9
0.10      I
 I
I
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I TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ VEHICLE (MIN)	GEOMETRIC DELAY (VEH.MIN/ SEGMENT)	AVERAGE DELAY PER ARRIVING TIME SEGMENT)	I
I 12.15-12.30										I
I ARM A	9.06	23.26	0.389		1.0	0.6	9.9	0.07		I
I ARM B	1.99	18.81	0.106		0.2	0.1	1.8	0.06		I
I ARM C	14.05	28.34	0.496		1.6	1.0	15.3	0.07		I
I ARM D	5.46	17.88	0.306		0.7	0.4	6.8	0.08		I
I										I

I TIME	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ VEHICLE (MIN)	GEOMETRIC DELAY (VEH.MIN/ SEGMENT)	AVERAGE DELAY PER ARRIVING TIME SEGMENT)	I
I 12.30-12.45										I
I ARM A	7.59	23.83	0.318		0.6	0.5	7.2	0.06		I
I ARM B	1.66	20.26	0.082		0.1	0.1	1.4	0.05		I
I ARM C	11.76	28.49	0.413		1.0	0.7	10.8	0.06		I
I ARM D	4.57	18.74	0.244		0.4	0.3	5.0	0.07		I
I										I

.QUEUE AT ARM A

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
11.30	0.5	
11.45	0.6	*
12.00	1.0	*
12.15	1.0	*
12.30	0.6	*
12.45	0.5	

.QUEUE AT ARM B

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD.
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

A R C A D Y 6

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 4.0 (FEBRUARY 2006)

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Run with file:-
"h:\Current Jobs\ALDI\CURRENT ACTIVE\SOUTH DARLINGTON REGION\aldibarugh.1\Capacity Calculations\Arcady\
Claycliffe Road, Barugh Green Road\Weekday PM\Weekday PM Peak.vai"
(drive-on-the-left) at 10:42:04 on Monday, 10 May 2010

.FILE PROPERTIES
****

RUN TITLE: Claycliffe Road, Whaley Road, Wilthorpe Road, Barugh Green Road - Wday PM Peak
LOCATION: Barugh Green, Barnsley
DATE: 04/05/10
CLIENT: Aldi Stores
ENUMERATOR: pthompson [PTHOMPSON]
JOB NUMBER: N/aldibarugh.1
STATUS:
DESCRIPTION:

.INPUT DATA
****
ARM A - A637, Claycliffe Road
ARM B - Whaley Road
ARM C - A635, Wilthorpe Road
ARM D - A635, Barugh Green Road

.GEOMETRIC DATA

I ARM	I	V (M)	I	E (M)	I	L (M)	I	R (M)	I	D (M)	I	PHI (DEG)	I	SLOPE	I	INTERCEPT (PCU/MIN)	I
I ARM A	I	4.10	I	6.20	I	19.00	I	12.00	I	35.00	I	39.0	I	0.612	I	26.718	I
I ARM B	I	4.45	I	5.50	I	11.00	I	16.00	I	34.00	I	14.0	I	0.658	I	27.683	I
I ARM C	I	4.60	I	6.10	I	17.00	I	22.00	I	35.00	I	30.0	I	0.664	I	29.267	I
I ARM D	I	3.80	I	5.50	I	25.00	I	12.00	I	34.00	I	55.0	I	0.553	I	23.109	I

V = approach half-width L = effective flare length D = inscribed circle diameter
E = entry width R = entry radius PHI = entry angle

.TRAFFIC DEMAND DATA

(Only sets included in the current run are shown)

I ARM	I FLOW SCALE(%) I
I A	I 100 I
I B	I 100 I
I C	I 100 I
I D	I 100 I

.TIME PERIOD BEGINS 16.15 AND ENDS 17.45
.LENGTH OF TIME PERIOD - 90 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

.DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

DEMAND SET TITLE: Weekday PM Peak - Base 2016

I ARM	I NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	I TOP OF PEAK IS REACHED	I FLOW STOPS FALLING	I RATE OF FLOW (VEH/MIN) BEFORE PEAK	I AT TOP OF PEAK	I AFTER PEAK I
I ARM A	I 15.00	I 45.00	I 75.00	I 8.40	I 12.60	I 8.40 I
I ARM B	I 15.00	I 45.00	I 75.00	I 2.67	I 4.01	I 2.67 I
I ARM C	I 15.00	I 45.00	I 75.00	I 16.92	I 25.39	I 16.92 I
I ARM D	I 15.00	I 45.00	I 75.00	I 6.07	I 9.11	I 6.07 I

DEMAND SET TITLE: Weekday PM Peak - Base 2016

TIME	FROM/TO	ARM A	ARM B	ARM C	ARM D
		TURNING PROPORTIONS			
		TURNING COUNTS (VEH/HR)			
		(PERCENTAGE OF H.V.S)			
16.15 - 17.45	ARM A	0.000	0.030	0.888	0.082
		0.0	20.0	597.0	55.0
		(0.0)	(0.0)	(0.0)	(0.0)
	ARM B	0.224	0.000	0.444	0.332
		48.0	0.0	95.0	71.0
		(0.0)	(0.0)	(0.0)	(0.0)
	ARM C	0.575	0.030	0.017	0.378
		778.0	41.0	23.0	512.0
		(0.0)	(0.0)	(0.0)	(0.0)
	ARM D	0.148	0.035	0.817	0.000
		72.0	17.0	397.0	0.0
		(0.0)	(0.0)	(0.0)	(0.0)

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

TIME SEGMENT		DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ VEHICLE (MIN)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING TIME SEGMENT)
16.15-16.30										
	ARM A	8.40	23.08	0.364		0.0	0.6	8.3	0.07	
	ARM B	2.67	18.90	0.141		0.0	0.2	2.4	0.06	
	ARM C	16.92	27.83	0.608		0.0	1.5	21.9	0.09	
	ARM D	6.07	17.00	0.357		0.0	0.6	8.0	0.09	

TIME SEGMENT		DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ VEHICLE (MIN)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING TIME SEGMENT)

```
 I                                (RFC)     (PEDS/MIN) (VEHS) (VEHS)  TIME
SEGMENT)  TIME SEGMENT)     VEHICLE (MIN) I
 I 16.30-16.45
I
 I ARM A      10.03     22.36   0.449                  0.6    0.8       11.8
0.08      I
 I ARM B       3.19     17.17   0.186                  0.2    0.2        3.4
0.07      I
 I ARM C      20.21     27.54   0.734                  1.5    2.7       37.7
0.13      I
 I ARM D       7.25     15.79   0.459                  0.6    0.8       12.2
0.12      I
 I
I
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 I  TIME      DEMAND  CAPACITY  DEMAND/   PEDESTRIAN  START   END       DELAY
GEOMETRIC DELAY   AVERAGE DELAY I
 I         (VEH/MIN) (VEH/MIN) CAPACITY      FLOW     QUEUE  QUEUE    (VEH.MIN/
(VEH.MIN/      PER ARRIVING  I
 I                                (RFC)     (PEDS/MIN) (VEHS) (VEHS)  TIME
SEGMENT)  TIME SEGMENT)     VEHICLE (MIN) I
 I 16.45-17.00
I
 I ARM A      12.28     21.41   0.574                  0.8    1.3       19.1
0.11      I
 I ARM B       3.91     14.84   0.264                  0.2    0.4        5.2
0.09      I
 I ARM C      24.75     27.16   0.911                  2.7    8.2      101.9
0.32      I
 I ARM D       8.88     14.25   0.624                  0.8    1.6       22.6
0.18      I
 I
I
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-----------------------------------
 I  TIME      DEMAND  CAPACITY  DEMAND/   PEDESTRIAN  START   END       DELAY
GEOMETRIC DELAY   AVERAGE DELAY I
 I         (VEH/MIN) (VEH/MIN) CAPACITY      FLOW     QUEUE  QUEUE    (VEH.MIN/
(VEH.MIN/      PER ARRIVING  I
 I                                (RFC)     (PEDS/MIN) (VEHS) (VEHS)  TIME
SEGMENT)  TIME SEGMENT)     VEHICLE (MIN) I
 I 17.00-17.15
I
 I ARM A      12.28     21.37   0.575                  1.3    1.3       20.0
0.11      I
 I ARM B       3.91     14.78   0.265                  0.4    0.4        5.4
0.09      I
 I ARM C      24.75     27.15   0.912                  8.2    9.1      130.8
0.39      I
 I ARM D       8.88     14.14   0.628                  1.6    1.7       24.6
0.19      I
 I
I
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 I  TIME      DEMAND  CAPACITY  DEMAND/   PEDESTRIAN  START   END       DELAY
GEOMETRIC DELAY   AVERAGE DELAY I
 I         (VEH/MIN) (VEH/MIN) CAPACITY      FLOW     QUEUE  QUEUE    (VEH.MIN/
(VEH.MIN/      PER ARRIVING  I
 I                             (RFC)    (PEDS/MIN) (VEHS) (VEHS)  TIME
SEGMENT)  TIME SEGMENT)    VEHICLE (MIN) I
 I 17.15-17.30
I
 I ARM A      10.03     22.31   0.450                  1.3    0.8       12.7
0.08      I
 I ARM B       3.19     17.09   0.187                  0.4    0.2        3.5
0.07      I
 I ARM C      20.21     27.54   0.734                  9.1    2.9       49.1
0.15      I
 I ARM D       7.25     15.62   0.464                  1.7    0.9       13.8
0.12      I
 I
I
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.-------------------------------------------------------------------------------
-----------------------------------
 I  TIME      DEMAND  CAPACITY  DEMAND/   PEDESTRIAN  START   END       DELAY
GEOMETRIC DELAY   AVERAGE DELAY I
 I         (VEH/MIN) (VEH/MIN) CAPACITY      FLOW     QUEUE  QUEUE    (VEH.MIN/
(VEH.MIN/      PER ARRIVING  I
 I                             (RFC)    (PEDS/MIN) (VEHS) (VEHS)  TIME
SEGMENT)  TIME SEGMENT)    VEHICLE (MIN) I
 I 17.30-17.45
I
 I ARM A       8.40     23.05   0.364                  0.8    0.6        8.9
0.07      I
 I ARM B       2.67     18.84   0.142                  0.2    0.2        2.5
0.06      I
 I ARM C      16.92     27.82   0.608                  2.9    1.6       24.7
0.09      I
 I ARM D       6.07     16.93   0.359                  0.9    0.6        8.7
0.09      I
 I
I
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.QUEUE AT ARM A
 --------------

  TIME SEGMENT   NO. OF
   ENDING      VEHICLES
               IN QUEUE

    16.30          0.6  *
    16.45          0.8  *
    17.00          1.3  *
    17.15          1.3  *
    17.30          0.8  *
    17.45          0.6  *


.QUEUE AT ARM B
```

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
16.30	0.2	
16.45	0.2	
17.00	0.4	
17.15	0.4	
17.30	0.2	
17.45	0.2	

.QUEUE AT ARM C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
16.30	1.5	**
16.45	2.7	***
17.00	8.2	********
17.15	9.1	*********
17.30	2.9	***
17.45	1.6	**

.QUEUE AT ARM D

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
16.30	0.6	*
16.45	0.8	*
17.00	1.6	**
17.15	1.7	**
17.30	0.9	*
17.45	0.6	*

. QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

ARM	TOTAL DEMAND		* QUEUEING * DELAY *		* INCLUSIVE QUEUEING * DELAY *	
	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)
A	921.5	614.3	80.8	0.09	80.8	0.09
B	293.4	195.6	22.4	0.08	22.4	0.08
C	1856.6	1237.7	366.1	0.20	366.2	0.20
D	666.4	444.3	89.8	0.13	89.9	0.13
ALL	3737.9	2491.9	559.2	0.15	559.2	0.15

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD.
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

A R C A D Y 6

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 4.0 (FEBRUARY 2006)

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Run with file:-
"h:\Current Jobs\ALDI\CURRENT ACTIVE\SOUTH DARLINGTON REGION\aldibarugh.1\Capacity Calculations\Arcady\
Claycliffe Road, Barugh Green Road\Weekday PM\Weekday PM Peak.vai"
(drive-on-the-left) at 10:38:37 on Wednesday, 7 July 2010

.FILE PROPERTIES
****

RUN TITLE: Claycliffe Road, Whaley Road, Wilthorpe Road, Barugh Green Road - Wday PM Peak
LOCATION: Barugh Green, Barnsley
DATE: 04/05/10
CLIENT: Aldi Stores
ENUMERATOR: pthompson [PTHOMPSON]
JOB NUMBER: N/aldibarugh.1
STATUS:
DESCRIPTION:

.INPUT DATA
****
ARM A - A637, Claycliffe Road
ARM B - Whaley Road
ARM C - A635, Wilthorpe Road
ARM D - A635, Barugh Green Road

.GEOMETRIC DATA

I ARM	I V (M)	I E (M)	I L (M)	I R (M)	I D (M)	I PHI (DEG)	I SLOPE	I INTERCEPT (PCU/MIN) I
I ARM A I	4.10	I 6.20	I 19.00	I 12.00	I 35.00	I 39.0	I 0.612	I 26.718 I
I ARM B I	4.45	I 5.50	I 11.00	I 16.00	I 34.00	I 14.0	I 0.658	I 27.683 I
I ARM C I	4.60	I 6.10	I 17.00	I 22.00	I 35.00	I 30.0	I 0.664	I 29.267 I
I ARM D I	3.80	I 5.50	I 25.00	I 12.00	I 34.00	I 55.0	I 0.553	I 23.109 I

V = approach half-width L = effective flare length D = inscribed circle diameter
E = entry width R = entry radius PHI = entry angle

.TRAFFIC DEMAND DATA

(Only sets included in the current run are shown)

I ARM I	FLOW SCALE(%) I
I A I	100 I
I B I	100 I
I C I	100 I
I D I	100 I

.TIME PERIOD BEGINS 16.15 AND ENDS 17.45
.LENGTH OF TIME PERIOD - 90 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

.DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

DEMAND SET TITLE: Weekday PM Peak - Total 2016

I ARM I	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	TOP OF PEAK IS REACHED	FLOW STOPS FALLING	RATE OF FLOW (VEH/MIN) BEFORE PEAK	AT TOP OF PEAK	AFTER PEAK
I ARM A I	15.00	45.00	75.00	8.61	12.92	8.61
I ARM B I	15.00	45.00	75.00	2.67	4.01	2.67
I ARM C I	15.00	45.00	75.00	17.31	25.97	17.31
I ARM D I	15.00	45.00	75.00	6.29	9.43	6.29

DEMAND SET TITLE: Weekday PM Peak - Total 2016

TIME	FROM/TO	ARM A	ARM B	ARM C	ARM D
		TURNING PROPORTIONS			
		TURNING COUNTS (VEH/HR)			
		(PERCENTAGE OF H.V.S)			
16.15 - 17.45	ARM A	0.000	0.029	0.891	0.080
		0.0	20.0	614.0	55.0
		(0.0)	(0.0)	(0.0)	(0.0)
	ARM B	0.224	0.000	0.444	0.332
		48.0	0.0	95.0	71.0
		(0.0)	(0.0)	(0.0)	(0.0)
	ARM C	0.574	0.030	0.017	0.380
		795.0	41.0	23.0	526.0
		(0.0)	(0.0)	(0.0)	(0.0)
	ARM D	0.143	0.034	0.823	0.000
		72.0	17.0	414.0	0.0
		(0.0)	(0.0)	(0.0)	(0.0)

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

TIME SEGMENT	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ VEHICLE (MIN)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING TIME SEGMENT)
16.15-16.30									
ARM A	8.61	22.95	0.375		0.0	0.6	8.7	0.07	
ARM B	2.67	18.63	0.144		0.0	0.2	2.5	0.06	
ARM C	17.31	27.83	0.622		0.0	1.6	23.1	0.09	
ARM D	6.29	16.88	0.372		0.0	0.6	8.5	0.09	

TIME SEGMENT	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY	PEDESTRIAN FLOW	START QUEUE	END QUEUE	DELAY (VEH.MIN/	GEOMETRIC DELAY (VEH.MIN/	AVERAGE DELAY PER ARRIVING

```
 I                                (RFC)     (PEDS/MIN) (VEHS) (VEHS)  TIME
SEGMENT)  TIME SEGMENT)     VEHICLE (MIN) I
 I 16.30-16.45
I
 I ARM A       10.28      22.21   0.463                  0.6    0.9       12.5
0.08       I
 I ARM B        3.19      16.84   0.190                  0.2    0.2        3.4
0.07       I
 I ARM C       20.67      27.54   0.751                  1.6    2.9       40.8
0.14       I
 I ARM D        7.51      15.66   0.480                  0.6    0.9       13.1
0.12       I
 I
I
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---------------------------------
 I  TIME       DEMAND  CAPACITY  DEMAND/   PEDESTRIAN  START   END        DELAY
GEOMETRIC DELAY   AVERAGE DELAY I
 I          (VEH/MIN) (VEH/MIN) CAPACITY      FLOW     QUEUE  QUEUE     (VEH.MIN/
(VEH.MIN/       PER ARRIVING  I
 I                                (RFC)     (PEDS/MIN) (VEHS) (VEHS)  TIME
SEGMENT)  TIME SEGMENT)     VEHICLE (MIN) I
 I 16.45-17.00
I
 I ARM A       12.60      21.22   0.593                  0.9    1.4       20.6
0.11       I
 I ARM B        3.91      14.44   0.271                  0.2    0.4        5.4
0.09       I
 I ARM C       25.32      27.16   0.932                  2.9   10.0      118.8
0.37       I
 I ARM D        9.20      14.11   0.652                  0.9    1.8       25.2
0.20       I
 I
I
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---------------------------------
 I  TIME       DEMAND  CAPACITY  DEMAND/   PEDESTRIAN  START   END        DELAY
GEOMETRIC DELAY   AVERAGE DELAY I
 I          (VEH/MIN) (VEH/MIN) CAPACITY      FLOW     QUEUE  QUEUE     (VEH.MIN/
(VEH.MIN/       PER ARRIVING  I
 I                                (RFC)     (PEDS/MIN) (VEHS) (VEHS)  TIME
SEGMENT)  TIME SEGMENT)     VEHICLE (MIN) I
 I 17.00-17.15
I
 I ARM A       12.60      21.19   0.595                  1.4    1.5       21.7
0.12       I
 I ARM B        3.91      14.38   0.272                  0.4    0.4        5.6
0.10       I
 I ARM C       25.32      27.15   0.932                 10.0   11.3      161.0
0.48       I
 I ARM D        9.20      13.98   0.658                  1.8    1.9       27.8
0.21       I
 I
I
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 I  TIME      DEMAND  CAPACITY  DEMAND/   PEDESTRIAN  START   END       DELAY
GEOMETRIC DELAY   AVERAGE DELAY I
 I         (VEH/MIN) (VEH/MIN) CAPACITY      FLOW     QUEUE  QUEUE    (VEH.MIN/
(VEH.MIN/      PER ARRIVING  I
 I                              (RFC)    (PEDS/MIN) (VEHS) (VEHS)  TIME
SEGMENT)  TIME SEGMENT)    VEHICLE (MIN) I
 I 17.15-17.30
I
 I ARM A      10.28     22.15   0.464                 1.5    0.9       13.6
0.08      I
 I ARM B       3.19     16.75   0.191                 0.4    0.2        3.6
0.07      I
 I ARM C      20.67     27.54   0.751                11.3    3.1       56.7
0.17      I
 I ARM D       7.51     15.44   0.486                 1.9    1.0       15.1
0.13      I
 I
I
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---------------------------------
 I  TIME      DEMAND  CAPACITY  DEMAND/   PEDESTRIAN  START   END       DELAY
GEOMETRIC DELAY   AVERAGE DELAY I
 I         (VEH/MIN) (VEH/MIN) CAPACITY      FLOW     QUEUE  QUEUE    (VEH.MIN/
(VEH.MIN/      PER ARRIVING  I
 I                              (RFC)    (PEDS/MIN) (VEHS) (VEHS)  TIME
SEGMENT)  TIME SEGMENT)    VEHICLE (MIN) I
 I 17.30-17.45
I
 I ARM A       8.61     22.91   0.376                 0.9    0.6        9.3
0.07      I
 I ARM B       2.67     18.55   0.144                 0.2    0.2        2.6
0.06      I
 I ARM C      17.31     27.82   0.622                 3.1    1.7       26.3
0.10      I
 I ARM D       6.29     16.81   0.374                 1.0    0.6        9.3
0.10      I
 I
I
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.QUEUE AT ARM A
 --------------

  TIME SEGMENT   NO. OF
   ENDING      VEHICLES
               IN QUEUE

    16.30          0.6  *
    16.45          0.9  *
    17.00          1.4  *
    17.15          1.5  *
    17.30          0.9  *
    17.45          0.6  *


.QUEUE AT ARM B
```

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
16.30	0.2	
16.45	0.2	
17.00	0.4	
17.15	0.4	
17.30	0.2	
17.45	0.2	

.QUEUE AT ARM C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
16.30	1.6	**
16.45	2.9	***
17.00	10.0	**********
17.15	11.3	**********
17.30	3.1	***
17.45	1.7	**

.QUEUE AT ARM D

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
16.30	0.6	*
16.45	0.9	*
17.00	1.8	**
17.15	1.9	**
17.30	1.0	*
17.45	0.6	*

. QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

ARM	TOTAL DEMAND		* QUEUEING * DELAY *		* INCLUSIVE QUEUEING * DELAY *	
	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)
A	944.8	629.8	86.3	0.09	86.3	0.09
B	293.4	195.6	23.0	0.08	23.0	0.08
C	1899.1	1266.1	426.6	0.22	426.7	0.22
D	689.7	459.8	99.1	0.14	99.1	0.14
ALL	3827.1	2551.4	635.1	0.17	635.1	0.17

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD.
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

A R C A D Y 6

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 4.0 (FEBRUARY 2006)

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Run with file:-
"h:\Current Jobs\ALDI\CURRENT ACTIVE\SOUTH DARLINGTON REGION\aldibarugh.1\Capacity Calculations\Arcady\
Claycliffe Road, Barugh Green Road\Sat\Saturday Peak.vai"
(drive-on-the-left) at 10:44:30 on Monday, 10 May 2010

.FILE PROPERTIES
****

RUN TITLE: Claycliffe Road, Whaley Road, Wilthorpe Road, Barugh Green Road - Wday PM Peak
LOCATION: Barugh Green, Barnsley
DATE: 04/05/10
CLIENT: Aldi Stores
ENUMERATOR: pthompson [PTHOMPSON]
JOB NUMBER: N/aldibarugh.1
STATUS:
DESCRIPTION:

.INPUT DATA
****
ARM A - A637, Claycliffe Road
ARM B - Whaley Road
ARM C - A635, Wilthorpe Road
ARM D - A635, Barugh Green Road

.GEOMETRIC DATA

I ARM	I V (M)	I E (M)	I L (M)	I R (M)	I D (M)	I PHI (DEG)	I SLOPE	I INTERCEPT (PCU/MIN) I
I ARM A	I 4.10	I 6.20	I 19.00	I 12.00	I 35.00	I 39.0	I 0.612	I 26.718 I
I ARM B	I 4.45	I 5.50	I 11.00	I 16.00	I 34.00	I 14.0	I 0.658	I 27.683 I
I ARM C	I 4.60	I 6.10	I 17.00	I 22.00	I 35.00	I 30.0	I 0.664	I 29.267 I
I ARM D	I 3.80	I 5.50	I 25.00	I 12.00	I 34.00	I 55.0	I 0.553	I 23.109 I

V = approach half-width L = effective flare length D = inscribed circle diameter
E = entry width R = entry radius PHI = entry angle

.TRAFFIC DEMAND DATA

(Only sets included in the current run are shown)

I ARM	I FLOW SCALE(%) I
I A	I 100 I
I B	I 100 I
I C	I 100 I
I D	I 100 I

.TIME PERIOD BEGINS 11.15 AND ENDS 12.45
.LENGTH OF TIME PERIOD - 90 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

.DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

DEMAND SET TITLE: Saturday Peak - Base 2016

I ARM	I NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	I TOP OF PEAK IS REACHED	I FLOW STOPS IFALLING	I RATE OF FLOW (VEH/MIN) BEFORE PEAK	I AT TOP OF PEAK	I AFTER PEAK I
I ARM A	I 15.00	I 45.00	I 75.00	I 7.89	I 11.83	I 7.89 I
I ARM B	I 15.00	I 45.00	I 75.00	I 1.81	I 2.72	I 1.81 I
I ARM C	I 15.00	I 45.00	I 75.00	I 12.24	I 18.36	I 12.24 I
I ARM D	I 15.00	I 45.00	I 75.00	I 4.82	I 7.24	I 4.82 I

DEMAND SET TITLE: Saturday Peak - Base 2016

TIME	FROM/TO	TURNING PROPORTIONS / TURNING COUNTS (VEH/HR) / (PERCENTAGE OF H.V.S)			
		ARM A	ARM B	ARM C	ARM D
11.15 - 12.45	ARM A	0.000	0.040	0.905	0.055
		0.0	25.0	571.0	35.0
		(0.0)	(0.0)	(0.0)	(0.0)
	ARM B	0.255	0.000	0.538	0.207
		37.0	0.0	78.0	30.0
		(0.0)	(0.0)	(0.0)	(0.0)
	ARM C	0.566	0.045	0.021	0.368
		554.0	44.0	21.0	360.0
		(0.0)	(0.0)	(0.0)	(0.0)
	ARM D	0.137	0.054	0.808	0.000
		53.0	21.0	312.0	0.0
		(0.0)	(0.0)	(0.0)	(0.0)

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

TIME SEGMENT		DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ VEHICLE (MIN)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING TIME SEGMENT)
11.15-11.30										
	ARM A	7.89	23.69	0.333		0.0	0.5	7.3	0.06	
	ARM B	1.81	19.99	0.091		0.0	0.1	1.5	0.05	
	ARM C	12.24	28.42	0.431		0.0	0.8	11.0	0.06	
	ARM D	4.82	18.60	0.259		0.0	0.3	5.1	0.07	

TIME SEGMENT		DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ VEHICLE (MIN)	GEOMETRIC DELAY (VEH.MIN/ TIME SEGMENT)	AVERAGE DELAY PER ARRIVING TIME SEGMENT)

```
 I                                (RFC)     (PEDS/MIN) (VEHS) (VEHS)   TIME
SEGMENT)  TIME SEGMENT)     VEHICLE (MIN) I
 I 11.30-11.45
I
 I ARM A       9.42     23.09   0.408                    0.5    0.7        10.0
0.07      I
 I ARM B       2.16     18.47   0.117                    0.1    0.1         2.0
0.06      I
 I ARM C      14.61     28.26   0.517                    0.8    1.1        15.5
0.07      I
 I ARM D       5.76     17.71   0.325                    0.3    0.5         7.0
0.08      I
 I
I
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-----------------------------------
 I  TIME      DEMAND  CAPACITY  DEMAND/   PEDESTRIAN  START   END        DELAY
GEOMETRIC DELAY   AVERAGE DELAY I
 I         (VEH/MIN) (VEH/MIN) CAPACITY      FLOW     QUEUE  QUEUE    (VEH.MIN/
(VEH.MIN/      PER ARRIVING  I
 I                                (RFC)     (PEDS/MIN) (VEHS) (VEHS)   TIME
SEGMENT)  TIME SEGMENT)     VEHICLE (MIN) I
 I 11.45-12.00
I
 I ARM A      11.54     22.27   0.518                    0.7    1.1        15.4
0.09      I
 I ARM B       2.65     16.41   0.162                    0.1    0.2         2.8
0.07      I
 I ARM C      17.90     28.03   0.638                    1.1    1.7        25.0
0.10      I
 I ARM D       7.06     16.50   0.428                    0.5    0.7        10.7
0.11      I
 I
I
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-----------------------------------
 I  TIME      DEMAND  CAPACITY  DEMAND/   PEDESTRIAN  START   END        DELAY
GEOMETRIC DELAY   AVERAGE DELAY I
 I         (VEH/MIN) (VEH/MIN) CAPACITY      FLOW     QUEUE  QUEUE    (VEH.MIN/
(VEH.MIN/      PER ARRIVING  I
 I                                (RFC)     (PEDS/MIN) (VEHS) (VEHS)   TIME
SEGMENT)  TIME SEGMENT)     VEHICLE (MIN) I
 I 12.00-12.15
I
 I ARM A      11.54     22.26   0.518                    1.1    1.1        16.0
0.09      I
 I ARM B       2.65     16.38   0.162                    0.2    0.2         2.9
0.07      I
 I ARM C      17.90     28.03   0.639                    1.7    1.8        26.2
0.10      I
 I ARM D       7.06     16.48   0.428                    0.7    0.7        11.1
0.11      I
 I
I
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 I  TIME      DEMAND  CAPACITY  DEMAND/   PEDESTRIAN  START   END       DELAY
GEOMETRIC DELAY   AVERAGE DELAY I
 I         (VEH/MIN) (VEH/MIN) CAPACITY      FLOW     QUEUE  QUEUE    (VEH.MIN/
(VEH.MIN/      PER ARRIVING  I
 I                              (RFC)    (PEDS/MIN) (VEHS) (VEHS)  TIME
SEGMENT)  TIME SEGMENT)    VEHICLE (MIN) I
 I 12.15-12.30
I
 I ARM A       9.42     23.07   0.408                  1.1    0.7       10.7
0.07      I
 I ARM B       2.16     18.43   0.117                  0.2    0.1        2.0
0.06      I
 I ARM C      14.61     28.25   0.517                  1.8    1.1       16.7
0.07      I
 I ARM D       5.76     17.68   0.326                  0.7    0.5        7.5
0.08      I
 I
I
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---------------------------------
 I  TIME      DEMAND  CAPACITY  DEMAND/   PEDESTRIAN  START   END       DELAY
GEOMETRIC DELAY   AVERAGE DELAY I
 I         (VEH/MIN) (VEH/MIN) CAPACITY      FLOW     QUEUE  QUEUE    (VEH.MIN/
(VEH.MIN/      PER ARRIVING  I
 I                              (RFC)    (PEDS/MIN) (VEHS) (VEHS)  TIME
SEGMENT)  TIME SEGMENT)    VEHICLE (MIN) I
 I 12.30-12.45
I
 I ARM A       7.89     23.67   0.333                  0.7    0.5        7.7
0.06      I
 I ARM B       1.81     19.94   0.091                  0.1    0.1        1.5
0.06      I
 I ARM C      12.24     28.42   0.431                  1.1    0.8       11.7
0.06      I
 I ARM D       4.82     18.57   0.260                  0.5    0.4        5.4
0.07      I
 I
I
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---------------------------------

.QUEUE AT ARM A
 --------------

  TIME SEGMENT   NO. OF
   ENDING      VEHICLES
               IN QUEUE

    11.30          0.5
    11.45          0.7  *
    12.00          1.1  *
    12.15          1.1  *
    12.30          0.7  *
    12.45          0.5  *


.QUEUE AT ARM B
```

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
11.30	0.1	
11.45	0.1	
12.00	0.2	
12.15	0.2	
12.30	0.1	
12.45	0.1	

.QUEUE AT ARM C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
11.30	0.8	*
11.45	1.1	*
12.00	1.7	**
12.15	1.8	**
12.30	1.1	*
12.45	0.8	*

.QUEUE AT ARM D

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
11.30	0.3	
11.45	0.5	
12.00	0.7	*
12.15	0.7	*
12.30	0.5	
12.45	0.4	

. QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

ARM	TOTAL DEMAND		* QUEUEING * DELAY *		* INCLUSIVE QUEUEING * DELAY *	
	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)
A	865.2	576.8	67.1	0.08	67.1	0.08
B	198.8	132.6	12.7	0.06	12.7	0.06
C	1342.4	894.9	106.0	0.08	106.1	0.08
D	529.3	352.9	46.9	0.09	46.9	0.09
ALL	2935.8	1957.2	232.7	0.08	232.7	0.08

* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD.
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

A R C A D Y 6

ASSESSMENT OF ROUNDABOUT CAPACITY AND DELAY

Analysis Program: Release 4.0 (FEBRUARY 2006)

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THE USER OF THIS COMPUTER PROGRAM FOR THE SOLUTION OF AN ENGINEERING PROBLEM IS
IN NO WAY RELIEVED OF THEIR RESPONSIBILITY FOR THE CORRECTNESS OF THE SOLUTION

Run with file:-
"h:\Current Jobs\ALDI\CURRENT ACTIVE\SOUTH DARLINGTON REGION\aldibarugh.1\Capacity Calculations\Arcady\
Claycliffe Road, Barugh Green Road\Sat\Saturday Peak.vai"
(drive-on-the-left) at 10:40:56 on Wednesday, 7 July 2010

.FILE PROPERTIES
****

RUN TITLE: Claycliffe Road, Whaley Road, Wilthorpe Road, Barugh Green Road - Wday PM Peak
LOCATION: Barugh Green, Barnsley
DATE: 04/05/10
CLIENT: Aldi Stores
ENUMERATOR: pthompson [PTHOMPSON]
JOB NUMBER: N/aldibarugh.1
STATUS:
DESCRIPTION:

.INPUT DATA
****
ARM A - A637, Claycliffe Road
ARM B - Whaley Road
ARM C - A635, Wilthorpe Road
ARM D - A635, Barugh Green Road

.GEOMETRIC DATA

ARM	V (M)	E (M)	L (M)	R (M)	D (M)	PHI (DEG)	SLOPE	INTERCEPT (PCU/MIN)
ARM A	4.10	6.20	19.00	12.00	35.00	39.0	0.612	26.718
ARM B	4.45	5.50	11.00	16.00	34.00	14.0	0.658	27.683
ARM C	4.60	6.10	17.00	22.00	35.00	30.0	0.664	29.267
ARM D	3.80	5.50	25.00	12.00	34.00	55.0	0.553	23.109

V = approach half-width L = effective flare length D = inscribed circle diameter
E = entry width R = entry radius PHI = entry angle

.TRAFFIC DEMAND DATA

(Only sets included in the current run are shown)

ARM	FLOW SCALE(%)
A	100
B	100
C	100
D	100

.TIME PERIOD BEGINS 11.15 AND ENDS 12.45
.LENGTH OF TIME PERIOD - 90 MINUTES.
LENGTH OF TIME SEGMENT - 15 MINUTES.

.DEMAND FLOW PROFILES ARE SYNTHESISED FROM TURNING COUNT DATA

DEMAND SET TITLE: Saturday Peak - Total 2016

ARM	NUMBER OF MINUTES FROM START WHEN FLOW STARTS TO RISE	NUMBER OF MINUTES FROM START WHEN TOP OF PEAK IS REACHED	NUMBER OF MINUTES FROM START WHEN FLOW STOPS FALLING	RATE OF FLOW (VEH/MIN) BEFORE PEAK	RATE OF FLOW (VEH/MIN) AT TOP OF PEAK	RATE OF FLOW (VEH/MIN) AFTER PEAK
ARM A	15.00	45.00	75.00	8.20	12.30	8.20
ARM B	15.00	45.00	75.00	1.81	2.72	1.81
ARM C	15.00	45.00	75.00	12.71	19.07	12.71
ARM D	15.00	45.00	75.00	4.95	7.42	4.95

DEMAND SET TITLE: Saturday Peak - Total 2016

TIME	FROM/TO	ARM A	ARM B	ARM C	ARM D
		TURNING PROPORTIONS			
		TURNING COUNTS (VEH/HR)			
		(PERCENTAGE OF H.V.S)			
11.15 - 12.45	ARM A	0.000	0.038	0.909	0.053
		0.0	25.0	596.0	35.0
		(0.0)	(0.0)	(0.0)	(0.0)
	ARM B	0.255	0.000	0.538	0.207
		37.0	0.0	78.0	30.0
		(0.0)	(0.0)	(0.0)	(0.0)
	ARM C	0.571	0.043	0.021	0.365
		581.0	44.0	21.0	371.0
		(0.0)	(0.0)	(0.0)	(0.0)
	ARM D	0.134	0.053	0.813	0.000
		53.0	21.0	322.0	0.0
		(0.0)	(0.0)	(0.0)	(0.0)

QUEUE AND DELAY INFORMATION FOR EACH 15 MIN TIME SEGMENT

TIME SEGMENT	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY (RFC)	PEDESTRIAN FLOW (PEDS/MIN)	START QUEUE (VEHS)	END QUEUE (VEHS)	DELAY (VEH.MIN/ TIME SEGMENT)	GEOMETRIC DELAY (VEH.MIN/ VEHICLE (MIN)	AVERAGE DELAY PER ARRIVING
11.15-11.30									
ARM A	8.20	23.61	0.347		0.0	0.5	7.7	0.06	
ARM B	1.81	19.70	0.092		0.0	0.1	1.5	0.06	
ARM C	12.71	28.42	0.447		0.0	0.8	11.7	0.06	
ARM D	4.95	18.41	0.269		0.0	0.4	5.3	0.07	

TIME SEGMENT	DEMAND (VEH/MIN)	CAPACITY (VEH/MIN)	DEMAND/ CAPACITY	PEDESTRIAN FLOW	START QUEUE	END QUEUE	DELAY (VEH.MIN/	GEOMETRIC DELAY (VEH.MIN/	AVERAGE DELAY PER ARRIVING

```
 I                                (RFC)     (PEDS/MIN) (VEHS)  (VEHS)   TIME
SEGMENT)  TIME SEGMENT)     VEHICLE (MIN) I
 I 11.30-11.45
I
 I ARM A       9.79     22.99   0.426                  0.5     0.7       10.8
0.08      I
 I ARM B       2.16     18.12   0.119                  0.1     0.1        2.0
0.06      I
 I ARM C      15.18     28.26   0.537                  0.8     1.1       16.8
0.08      I
 I ARM D       5.91     17.48   0.338                  0.4     0.5        7.4
0.09      I
 I
I
 ---------------------------------------------------------------------------
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.---------------------------------------------------------------------------
-----------------------------------
 I  TIME      DEMAND  CAPACITY  DEMAND/   PEDESTRIAN  START   END       DELAY
GEOMETRIC DELAY   AVERAGE DELAY I
 I         (VEH/MIN) (VEH/MIN) CAPACITY      FLOW     QUEUE  QUEUE    (VEH.MIN/
(VEH.MIN/      PER ARRIVING  I
 I                                (RFC)     (PEDS/MIN) (VEHS)  (VEHS)   TIME
SEGMENT)  TIME SEGMENT)     VEHICLE (MIN) I
 I 11.45-12.00
I
 I ARM A      11.99     22.16   0.541                  0.7     1.2       16.9
0.10      I
 I ARM B       2.65     15.99   0.166                  0.1     0.2        2.9
0.07      I
 I ARM C      18.59     28.03   0.663                  1.1     1.9       27.7
0.10      I
 I ARM D       7.24     16.23   0.446                  0.5     0.8       11.5
0.11      I
 I
I
 ---------------------------------------------------------------------------
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.---------------------------------------------------------------------------
-----------------------------------
 I  TIME      DEMAND  CAPACITY  DEMAND/   PEDESTRIAN  START   END       DELAY
GEOMETRIC DELAY   AVERAGE DELAY I
 I         (VEH/MIN) (VEH/MIN) CAPACITY      FLOW     QUEUE  QUEUE    (VEH.MIN/
(VEH.MIN/      PER ARRIVING  I
 I                                (RFC)     (PEDS/MIN) (VEHS)  (VEHS)   TIME
SEGMENT)  TIME SEGMENT)     VEHICLE (MIN) I
 I 12.00-12.15
I
 I ARM A      11.99     22.15   0.541                  1.2     1.2       17.5
0.10      I
 I ARM B       2.65     15.96   0.166                  0.2     0.2        3.0
0.08      I
 I ARM C      18.59     28.03   0.663                  1.9     1.9       29.1
0.11      I
 I ARM D       7.24     16.21   0.447                  0.8     0.8       12.0
0.11      I
 I
I
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---------------------------------
 I  TIME      DEMAND  CAPACITY  DEMAND/   PEDESTRIAN  START   END       DELAY
GEOMETRIC DELAY   AVERAGE DELAY I
 I         (VEH/MIN) (VEH/MIN) CAPACITY      FLOW     QUEUE  QUEUE    (VEH.MIN/
(VEH.MIN/      PER ARRIVING  I
 I                             (RFC)    (PEDS/MIN) (VEHS) (VEHS)  TIME
SEGMENT)  TIME SEGMENT)    VEHICLE (MIN) I
 I 12.15-12.30
I
 I ARM A       9.79     22.98   0.426                 1.2    0.7       11.5
0.08      I
 I ARM B       2.16     18.08   0.120                 0.2    0.1        2.1
0.06      I
 I ARM C      15.18     28.25   0.537                 1.9    1.2       18.2
0.08      I
 I ARM D       5.91     17.46   0.339                 0.8    0.5        8.0
0.09      I
 I
I
 -------------------------------------------------------------------------------
---------------------------------
.-------------------------------------------------------------------------------
---------------------------------
 I  TIME      DEMAND  CAPACITY  DEMAND/   PEDESTRIAN  START   END       DELAY
GEOMETRIC DELAY   AVERAGE DELAY I
 I         (VEH/MIN) (VEH/MIN) CAPACITY      FLOW     QUEUE  QUEUE    (VEH.MIN/
(VEH.MIN/      PER ARRIVING  I
 I                             (RFC)    (PEDS/MIN) (VEHS) (VEHS)  TIME
SEGMENT)  TIME SEGMENT)    VEHICLE (MIN) I
 I 12.30-12.45
I
 I ARM A       8.20     23.59   0.348                 0.7    0.5        8.2
0.07      I
 I ARM B       1.81     19.65   0.092                 0.1    0.1        1.6
0.06      I
 I ARM C      12.71     28.42   0.447                 1.2    0.8       12.5
0.06      I
 I ARM D       4.95     18.38   0.269                 0.5    0.4        5.7
0.07      I
 I
I
 -------------------------------------------------------------------------------
---------------------------------

.QUEUE AT ARM A
 --------------

  TIME SEGMENT   NO. OF
   ENDING      VEHICLES
               IN QUEUE

    11.30           0.5  *
    11.45           0.7  *
    12.00           1.2  *
    12.15           1.2  *
    12.30           0.7  *
    12.45           0.5  *


.QUEUE AT ARM B
```

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
11.30	0.1	
11.45	0.1	
12.00	0.2	
12.15	0.2	
12.30	0.1	
12.45	0.1	

.QUEUE AT ARM C

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
11.30	0.8	*
11.45	1.1	*
12.00	1.9	**
12.15	1.9	**
12.30	1.2	*
12.45	0.8	*

.QUEUE AT ARM D

TIME SEGMENT ENDING	NO. OF VEHICLES IN QUEUE	
11.30	0.4	
11.45	0.5	*
12.00	0.8	*
12.15	0.8	*
12.30	0.5	*
12.45	0.4	

. QUEUEING DELAY INFORMATION OVER WHOLE PERIOD

ARM	TOTAL DEMAND		* QUEUEING * DELAY *		* INCLUSIVE QUEUEING * DELAY *	
	(VEH)	(VEH/H)	(MIN)	(MIN/VEH)	(MIN)	(MIN/VEH)
A	899.5	599.7	72.6	0.08	72.7	0.08
B	198.8	132.6	13.0	0.07	13.0	0.07
C	1394.5	929.7	116.0	0.08	116.0	0.08
D	543.0	362.0	49.9	0.09	49.9	0.09
ALL	3035.9	2023.9	251.6	0.08	251.6	0.08

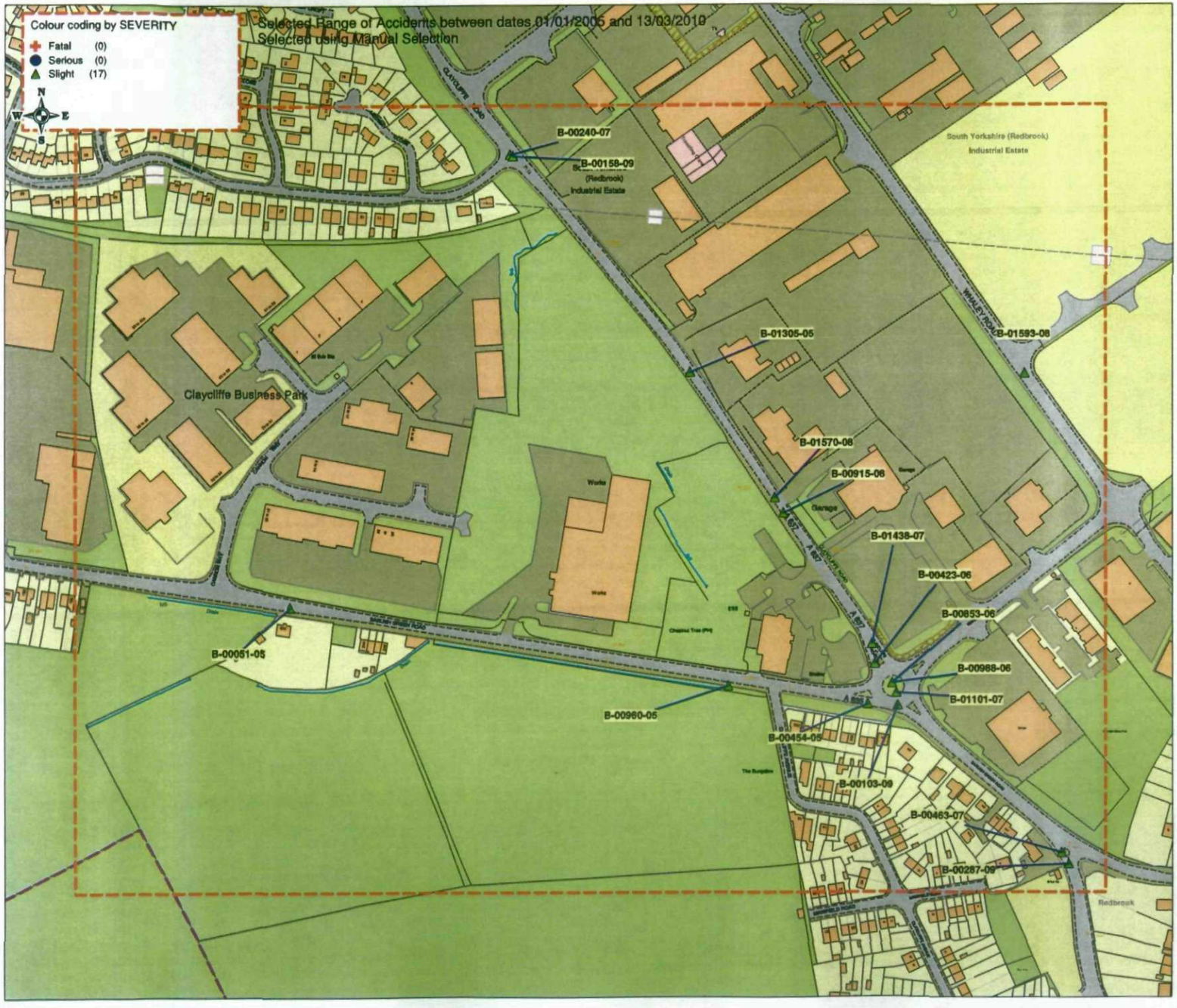
* DELAY IS THAT OCCURRING ONLY WITHIN THE TIME PERIOD.
* INCLUSIVE DELAY INCLUDES DELAY SUFFERED BY VEHICLES WHICH ARE STILL QUEUEING AFTER THE END OF THE TIME PERIOD.
* THESE WILL ONLY BE SIGNIFICANTLY DIFFERENT IF THERE IS A LARGE QUEUE REMAINING AT THE END OF THE TIME PERIOD.

END OF JOB

APPENDIX G

Personal Injury Accident Data

PC



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MAKING SOUTH YORKSHIRE ROADS SAFER

DRAWING TITLE	Barugh Green Road
SCALE	1 : 2530
DATE	28/04/2010
DRAWING No.	
DRAWN BY	

Accidents between dates 01/01/2005 and 13/03/2010 (62) months
Selection: **Notes:**
Selected using Pre-defined Query : District - (Barnsley) collision

B-00051-05 13/01/2005 Thursday Time:1800 Vehicles 2 Casualties 1 Slight
Easting: 431,593 Northing: 407,954
Fine without high winds Road Surface:Dry Darkness: street lights present and lit
Road Type: Single carriageway Speed Limit: 30

Location: BARUGH GREEN RD BARUGH GREEN
Description:V1 COLL WITH V2 WHICH WAS PARKED O/S 220 BARUGH GREEN RD

Vehicle Reference1 Car Overtaking stationary vehicle on its offside
First point of impact:Nearside
Vehicle direction: S to N Journey: Journey as part of work
Age of Driver : 28 Breath test:Not requested

Contributory Factors :

Casualty Reference 1 Age:28 Male Driver/rider Severity:Slight
Ped Dir: Ped Movement : Not pedestrian
Ped Location:

Vehicle Reference2 Goods between 3.5 and 7.5 to Parked
First point of impact:Offside
Vehicle direction: Parked to Parked Journey: Other/Not known
Age of Driver : 36 Breath test:Not requested

Contributory Factors :

Accidents between dates 01/01/2005 and 13/03/2010 (62) months
Selection: **Notes:**
Selected using Pre-defined Query : District - (Barnsley) collision

B-00454-05 08/04/2005 Friday Time:1555 Vehicles 1 Casualties 1 Slight
Easting: 432,000 Northing: 407,885
Fine without high winds Road Surface:Dry Daylight:street lights present
Road Type: Roundabout Speed Limit: 40

Location: BARUGH GREEN RD BARUGH GREEN 12 MTSFROM BARUGH GREEN R/ABOUT
Description:V1 TV FROM BARUGH GREEN R/ABOUT TV TW BARUGH GREEN WHEN PED TRIPPED OVER HIS SHOE LACE & HIT SIDE OF V1

Vehicle Reference:1 Bus or coach Going ahead
First point of impact:Nearside
Vehicle direction: SE to W Journey: Journey as part of work
Age of Driver : 53 Breath test:Driver not contacted

Contributory Factors : 999

Casualty Reference 1 Age:13 Male Pedestrian Severity:Slight
Ped Dir:9 Ped Movement : Movement U/K
Ped Location:In carr not crossing

Accidents between dates 01/01/2005 and 13/03/2010 (62) months
Selection: Notes:
Selected using Pre-defined Query : District - (Barnsley) collision

B-00960-05 09/07/2005 Saturday Time:2340 Vehicles 1 Casualties 1 Slight
Easting: 431,902 Northing: 407,898
Fine without high winds Road Surface:Dry Darkness: street lights present and lit
Road Type: Single carriageway Speed Limit: 30

Location: BARUGH GREEN RD BARNSLEY 30 MTS FROM J/W CLAYCLIFFE AVE
Description:C1 WALKING ALONG PAVEMENT ON BARUGH GREEN RD WHEN V1 COLL WITH HIM PUSHING HIM INTO BUSHES

Vehicle Reference1 Car Going ahead
First point of impact:Front
Vehicle direction: E to W Journey: Other/Not known
Age of Driver : Breath test:Driver not contacted

Contributory Factors : 409

Casualty Reference 1 Age:29 Male Pedestrian Severity:Slight
Ped Dir:Pedestrian Di Ped Movement : Movement U/K
Ped Location:On footpath / verge

Accidents between dates 01/01/2005 and 13/03/2010 (62) months
Selection: **Notes:**
Selected using Pre-defined Query : District - (Barnsley) collision

B-01305-05 21/09/2005 Wednesday Time:1000 Vehicles 2 Casualties 1 Slight
Easting: 431,875 Northing: 408,121
Fine without high winds Road Surface:Dry Daylight:street lights present
Road Type: Single carriageway Speed Limit: 40

Location: CLAYCLIFFE RD BARUGH GREEN
Description:V1 ABOUT T TURN RIGHT,WHEN V2 COLLIDES INTO REAR OF V1.

Vehicle Reference1 Car Waiting to turn right
First point of impact:Back
Vehicle direction: S to N Journey: Other/Not known
Age of Driver : 49 Breath test:Not requested

Contributory Factors : 308 603

Casualty Reference 1 Age:49 Female Driver/rider Severity:Slight
Ped Dir: Ped Movement : Not pedestrian
Ped Location:

Vehicle Reference2 Goods <= 3.5 tonnes mgw Going ahead
First point of impact:Back
Vehicle direction: S to N Journey: Commuting to/from work
Age of Driver : 28 Breath test:Not requested

Contributory Factors : 308 603

Accidents between dates 01/01/2005 and 13/03/2010 (62) months
Selection: Notes:
Selected using Pre-defined Query : District - (Barnsley) collision

B-00423-06 25/03/2006 Saturday Time:1930 Vehicles 2 Casualties 3 Slight
Easting: 432,005 Northing: 407,914
Unknown Road Surface:Dry Daylight: street lighting unknown
Road Type: Roundabout Speed Limit: 30

Location: CLAYCLIFFE RD BARUGH GREEN J/W ROUNDABOUT
Description:V1 NEG R/ABOUT V2 ENTERED R/ABOUT & COLL OCCURRED.

Vehicle Reference1 Car Waiting to go ahead but held up
First point of impact:Nearside
Vehicle direction: NW to E Journey: Other/Not known
Age of Driver : 51 Breath test:Driver not contacted

Contributory Factors : 405 405

Casualty Reference 1 Age:51 Male Driver/rider Severity:Slight
Ped Dir: Ped Movement : Not pedestrian
Ped Location:

Casualty Reference 2 Age:18 Female Passenger Severity:Slight
Ped Dir: Ped Movement : Not pedestrian
Ped Location:

Casualty Reference 3 Age: Male Passenger Severity:Slight
Ped Dir: Ped Movement : Not pedestrian
Ped Location:

Vehicle Reference2 Car Waiting to go ahead but held up
First point of impact:Offside
Vehicle direction: NW to E Journey: Commuting to/from work
Age of Driver : 62 Breath test:Driver not contacted

Contributory Factors : 405 405

Accidents between dates 01/01/2005 and 13/03/2010 (62) months
Selection: Notes:
Selected using Pre-defined Query : District - (Barnsley) collision

B-00853-06 01/07/2006 Saturday Time:2325 Vehicles 1 Casualties 1 Slight
Easting: 432,017 Northing: 407,900
Fine without high winds Road Surface:Dry Darkness: street lights present and lit
Road Type: Roundabout Speed Limit: 30

Location: CLAYCLIFFE RD BARUGH
Description:V1 COLL WITH STREET FURNITURE ON R/ABOUT. DRIVER FLED SCENE.

Vehicle Reference:1 Car Going ahead
First point of impact:Front
Vehicle direction: N to SE Journey: Other/Not known
Age of Driver : 35 Breath test:Not requested

Contributory Factors : 501

Casualty Reference 1 Age:35 Female Driver/rider Severity:Slight
Ped Dir: Ped Movement : Not pedestrian
Ped Location:

Accidents between dates 01/01/2005 and 13/03/2010 (62) months
Selection: Notes:
Selected using Pre-defined Query : District - (Barnsley) collision

B-00988-06 01/08/2006 Tuesday Time:2331 Vehicles 2 Casualties 7 Slight
Easting: 432,017 Northing: 407,900
Fine without high winds Road Surface:Dry Darkness: street lights present and lit
Road Type: Roundabout Speed Limit: 30

Location: BARUGH GREEN RD BARUGH GREEN AT J/W CLAYCLIFFE RD
Description:V2 ON RDBT WHEN V1 ENTERED INTO PATH OF V2 AND COLL OCC.

Vehicle Reference:1 Car Going ahead
First point of impact:Offside
Vehicle direction: S to N Journey: Other/Not known
Age of Driver : 21 Breath test:Negative

Contributory Factors : 405 403 602

Casualty Reference 2 Age:18 Female Passenger Severity:Slight
Ped Dir: Ped Movement : Not pedestrian
Ped Location:

Casualty Reference 3 Age:21 Female Passenger Severity:Slight
Ped Dir: Ped Movement : Not pedestrian
Ped Location:

Casualty Reference 4 Age:20 Male Passenger Severity:Slight
Ped Dir: Ped Movement : Not pedestrian
Ped Location:

Accidents between dates 01/01/2005 and 13/03/2010 (62) months
Selection: Notes:
Selected using Pre-defined Query : District - (Barnsley) collision

Vehicle Reference2 Taxi Going ahead
First point of impact:Front
Vehicle direction: E to N Journey: Journey as part of work
Age of Driver : 30 Breath test:Negative

Contributory Factors : 405 403 602

Casualty Reference 1 Age:30 Male Driver/rider Severity:Slight
Ped Dir: Ped Movement : Not pedestrian
Ped Location:

Casualty Reference 5 Age:48 Male Passenger Severity:Slight
Ped Dir: Ped Movement : Not pedestrian
Ped Location:

Casualty Reference 6 Age:38 Male Passenger Severity:Slight
Ped Dir: Ped Movement : Not pedestrian
Ped Location:

Casualty Reference 7 Age:23 Male Passenger Severity:Slight
Ped Dir: Ped Movement : Not pedestrian
Ped Location:

Accidents between dates 01/01/2005 and 13/03/2010 (62) months
Selection: Notes:
Selected using Pre-defined Query : District - (Barnsley) collision

B-00240-07 15/02/2007 Thursday Time:1720 Vehicles 2 Casualties 1 Slight
Easting: 431,748 Northing: 408,276
Fine without high winds Road Surface:Dry Darkness: street lights present and lit
Road Type: Single carriageway Speed Limit: 30

Location: CLAYCLIFFE RD BARUGH J/W MEDINA WAY
Description:V1 TV A637 WHEN V2 PULLED OUT OF JCT & TURNED R ACROSS PATH OF V1.
V1 UNABLE TO AVOID COLL.

Vehicle Reference1 Car Going ahead
First point of impact:Front
Vehicle direction: SE to NW Journey: Journey as part of work
Age of Driver : 50 Breath test:Not requested

Contributory Factors : 405

Vehicle Reference2 Car Turning right
First point of impact:Offside
Vehicle direction: W to SE Journey: Other/Not known
Age of Driver : 68 Breath test:Not requested

Contributory Factors : 405

Casualty Reference 1 Age:68 Female Driver/rider Severity:Slight
Ped Dir: Ped Movement :
Ped Location:

Accidents between dates 01/01/2005 and 13/03/2010 (62) months
Selection: Notes:
Selected using Pre-defined Query : District - (Barnsley) collision

B-00463-07 05/04/2007 Thursday Time:2030 Vehicles 2 Casualties 1 Slight
Easting: 432,136 Northing: 407,779
Fine without high winds Road Surface:Dry Darkness: street lights present and lit
Road Type: Single carriageway Speed Limit: 30

Location: REDBROOK RD REDBROOK
Description:V1 WAITING AT JCT WHEN V2 COLL WITH REAR THEN LEFT THE SCENE.

Vehicle Reference1 Car Waiting to turn left
First point of impact:Back
Vehicle direction: S to NW Journey: Other/Not known
Age of Driver : 55 Breath test:Not requested

Contributory Factors : 406

Casualty Reference 1 Age:55 Male Driver/rider Severity:Slight
Ped Dir: Ped Movement :
Ped Location:

Vehicle Reference2 Car Slowing or Stopping
First point of impact:Front
Vehicle direction: S to NW Journey: Other/Not known
Age of Driver : Breath test:Not requested

Contributory Factors : 406

Accidents between dates 01/01/2005 and 13/03/2010 (62) months
Selection: Notes:
Selected using Pre-defined Query : District - (Barnsley) collision

B-01101-07 06/08/2007 Monday Time:1500 Vehicles 2 Casualties 1 Slight
Easting: 432,020 Northing: 407,893
Fine without high winds Road Surface:Dry Daylight: street lighting unknown
Road Type: Roundabout Speed Limit: 30

Location: HUDDERSFIELD ROAD BARNSLEY AT JCT BARUGH GREEN ROAD
Description:VEH 1 TV ON HUDDERSFIELD RD COLL PCYCLE

Vehicle Reference1 Car Turning left
First point of impact:Front
Vehicle direction: S to N Journey: Other/Not known
Age of Driver : 42 Breath test:Not requested

Contributory Factors : 802

Vehicle Reference2 Pedal cycle Turning left
First point of impact:Front
Vehicle direction: S to N Journey: Other/Not known
Age of Driver : Breath test:Not requested

Contributory Factors : 802

Casualty Reference 1 Age: Male Driver/rider Severity:Slight
Ped Dir: Ped Movement :
Ped Location:

Accidents between dates 01/01/2005 and 13/03/2010 (62) months
Selection: Notes:
Selected using Pre-defined Query : District - (Barnsley) collision

B-01438-07 23/10/2007 Tuesday Time:1513 Vehicles 2 Casualties 3 Slight
Easting: 432,003 Northing: 407,928
Fine without high winds Road Surface:Dry Daylight:street lights present
Road Type: Roundabout Speed Limit: 30

Location: CLAYCLIFFE RD BARUGH GREEN 20M BARUGH GREEN RD
Description:V1 NEGOTIATED RDBT & JOINED A637. VI DAZZLED BY SUN LIGHT, DRIFTED TO MIDDLE OF RD COLLIDING WITH V2.

Vehicle Reference1 Car Going ahead
First point of impact:Front
Vehicle direction: Parked to Parked Journey: Journey as part of work
Age of Driver : 32 Breath test:Negative

Contributory Factors : 706

Casualty Reference 1 Age:32 Male Driver/rider Severity:Slight
Ped Dir: Ped Movement :
Ped Location:

Casualty Reference 3 Age:51 Female Passenger Severity:Slight
Ped Dir: Ped Movement :
Ped Location:

Vehicle Reference2 Car Slowing or Stopping
First point of impact:Front
Vehicle direction: Parked to Parked Journey: Other/Not known
Age of Driver : 48 Breath test:Not requested

Contributory Factors : 706

Casualty Reference 2 Age:48 Male Driver/rider Severity:Slight
Ped Dir: Ped Movement :
Ped Location:

Accidents between dates 01/01/2005 and 13/03/2010 (62) months
Selection: Notes:
Selected using Pre-defined Query : District - (Barnsley) collision

B-00915-08 25/07/2008 Friday Time:1750 Vehicles 2 Casualties 1 Slight
Easting: 431,941 Northing: 408,021
Fine without high winds Road Surface:Dry Daylight:street lights present
Road Type: Single carriageway Speed Limit: 40

Location: CLAYCLIFFE ROAD BARUGH GREEN
Description:V1 TRAVELLING UP CLAYCLIFFE ROAD AT BARUGH GREEN FAILS TO NOTICE TRAFFIC HAD STOPPED AS HE CAME OVER THE BROW OF A HILL AND COLLIDES WITH REAR OF V2

Vehicle Reference1 Motorcycle over 50cc and up to Slowing or Stopping
First point of impact:Front
Vehicle direction: S to N Journey: Commuting to/from work
Age of Driver : 19 Breath test:Not requested

Contributory Factors : 405 408

Casualty Reference 1 Age:19 Male Driver/rider Severity:Slight
Ped Dir: Ped Movement :
Ped Location:

Vehicle Reference2 Goods <= 3.5 tonnes mgw Slowing or Stopping
First point of impact:Back
Vehicle direction: S to N Journey: Commuting to/from work
Age of Driver : 20 Breath test:Not requested

Contributory Factors : 405 408

Accidents between dates 01/01/2005 and 13/03/2010 (62) months
Selection: Notes:
Selected using Pre-defined Query : District - (Barnsley) collision

B-01570-08 17/12/2008 Wednesday Time:1645 Vehicles 3 Casualties 2 Slight
Easting: 431,935 Northing: 408,032
Fine without high winds Road Surface:Dry Darkness: street lights present and lit
Road Type: Single carriageway Speed Limit: 30

Location: CLAYCLIFFE ROAD, BARNSLEY
Description:V1STATIONARY IN TRAFFIC IS SHUNTED IN THE REAR BY V2 CAUSING IT TO COLIDE WITH V3. SLIGHT INJURIES.

Vehicle Reference1 Car Waiting to go ahead but held up
First point of impact:Back
Vehicle direction: Parked to Parked Journey: Other/Not known
Age of Driver : 40 Breath test:Driver not contacted

Contributory Factors :

Casualty Reference 1 Age:40 Male Driver/rider Severity:Slight
Ped Dir: Ped Movement :
Ped Location:

Casualty Reference 2 Age:29 Female Passenger Severity:Slight
Ped Dir: Ped Movement :
Ped Location:

Vehicle Reference2 Car Going ahead
First point of impact:Did not impact
Vehicle direction: Parked to Parked Journey: Other/Not known
Age of Driver : 0 Breath test:Not requested

Contributory Factors :

Vehicle Reference3 Car Waiting to go ahead but held up
First point of impact:Did not impact
Vehicle direction: Parked to Parked Journey: Other/Not known
Age of Driver : 0 Breath test:Not requested

Contributory Factors :

Accidents between dates 01/01/2005 and 13/03/2010 (62) months
Selection: Notes:
Selected using Pre-defined Query : District - (Barnsley) collision

B-01593-08 21/12/2008 Sunday Time:1920 Vehicles 1 Casualties 1 Slight
Easting: 432,110 Northing: 408,120
Raining without high winds Road Surface:Wet/Damp Darkness: street lights present and lit
Road Type: Single carriageway Speed Limit: 30

Location: WHALEY RD BARNSLEY
Description:DRIVER LOST CONTROL COLL WITH METAL FENCE AND KERB CAUSING VEHICLE TO OVERTURN

Vehicle Reference1 Car Going ahead
First point of impact:Front
Vehicle direction: NW to SE Journey: Other/Not known
Age of Driver : 17 Breath test:Negative

Contributory Factors : 408 410 605

Casualty Reference 1 Age:17 Male Driver/rider Severity:Slight
Ped Dir: Ped Movement :
Ped Location:

Accidents between dates 01/01/2005 and 13/03/2010 (62) months
Selection: Notes:
Selected using Pre-defined Query : District - (Barnsley) collision

B-00103-09 24/01/2009 Saturday Time:1814 Vehicles 2 Casualties 2 Slight
Easting: 432,021 Northing: 407,884
Fine without high winds Road Surface:Dry Darkness: street lights present and lit
Road Type: Single carriageway Speed Limit: 40

Location: BARUGH GREEN RD BARUGH GREEN
Description:V1 HAS EXITED R/ABOUT TOO FAST & LOST CONTROL, COLL WITH V2.

Vehicle Reference1 Car Going ahead
First point of impact:Offside
Vehicle direction: E to W Journey: Other/Not known
Age of Driver : 45 Breath test:Negative

Contributory Factors : 307 410

Casualty Reference 1 Age:45 Male Driver/rider Severity:Slight
Ped Dir:Pedestrian Di Ped Movement : Not pedestrian
Ped Location:

Vehicle Reference2 Car Going ahead
First point of impact:Front
Vehicle direction: W to E Journey: Other/Not known
Age of Driver : 45 Breath test:Negative

Contributory Factors : 307 410

Casualty Reference 2 Age:45 Female Driver/rider Severity:Slight
Ped Dir:Pedestrian Di Ped Movement : Not pedestrian
Ped Location:

Accidents between dates 01/01/2005 and 13/03/2010 (62) months
Selection: Notes:
Selected using Pre-defined Query : District - (Barnsley) collision

B-00158-09 04/02/2009 Wednesday Time:1140 Vehicles 2 Casualties 2 Slight
Easting: 431,750 Northing: 408,275
Other Road Surface:Frost/Ice Daylight:street lights present
Road Type: Single carriageway Speed Limit: 30

Location: CLAYCLIFFE RD BARUGH J/W MEDINA WAY
Description:V1 HAS PULLED OUT OF NEDINA WAY TO TURN R ONTO CLAYCLIFFE RD STRAIGHT IN FRONT OF ONCOMING V2.

Vehicle Reference1 Car Turning right
First point of impact:Offside
Vehicle direction: Parked to Parked Journey: Other/Not known
Age of Driver : 80 Breath test:Not requested

Contributory Factors : 405

Casualty Reference 2 Age:82 Female Passenger Severity:Slight
Ped Dir:Pedestrian Di Ped Movement : Not pedestrian
Ped Location:

Vehicle Reference2 Car Going ahead
First point of impact:Front
Vehicle direction: Parked to Parked Journey: Other/Not known
Age of Driver : 55 Breath test:Not requested

Contributory Factors : 405

Casualty Reference 1 Age:55 Female Driver/rider Severity:Slight
Ped Dir:Pedestrian Di Ped Movement : Not pedestrian
Ped Location:

Accidents between dates 01/01/2005 and 13/03/2010 (62) months
Selection: Notes:
Selected using Pre-defined Query : District - (Barnsley) collision

B-00287-09 06/03/2009 Friday Time:0823 Vehicles 2 Casualties 1 Slight
Easting: 432,141 Northing: 407,771
Fine without high winds Road Surface:Dry Daylight:street lights present
Road Type: Single carriageway Speed Limit: 30

Location: REDBROOK RD WILTHORPE AT J/W WILTHORPE RD
Description: VEH'S TR IN OPP DIRECTIONS, V2 TURNED RGT ACC PATH OF V1 AND COLL OCC, V1 (PED CYC) WENT OVER BONNET OF V2.

Vehicle Reference1 Pedal cycle Going ahead right hand bend
First point of impact:Front
Vehicle direction: S to N Journey: Journey as part of work
Age of Driver : 35 Breath test:Negative

Contributory Factors : 405

Casualty Reference 1 Age:35 Male Driver/rider Severity:Slight
Ped Dir:Pedestrian Di Ped Movement : Not pedestrian
Ped Location:

Vehicle Reference2 Car Turning right
First point of impact:Front
Vehicle direction: N to S Journey: Taking pupil to/from school
Age of Driver : 43 Breath test:Negative

Contributory Factors : 405

Accidents between dates 01/01/2005 and 13/03/2010 (62) months
Selection: **Notes:**
Selected using Pre-defined Query : District - (Barnsley) collision

Accidents involving:

	Fatal	Serious	Slight	Total
Motor vehicles only excluding 2-wheels	0	0	14	14
2-wheeled motor vehicles	0	0	1	1
Pedal cycles	0	0	2	2
Horses & other	0	0	0	0
Total	0	0	17	17

Casualties:

	Fatal	Serious	Slight	Total
Vehicle driver	0	0	14	14
Passenger	0	0	11	11
Motorcycle ride	0	0	1	1
Cyclist	0	0	2	2
Pedestrian	0	0	2	2
Other	0	0	0	0
Total	0	0	30	30

Accidents between dates **01/01/2005 and 13/03/2010** (62) months

Selection:

Selected using Pre-defined Query : District - (Barnsley) collisions

Notes:

Police Ref.	Date	Cas.	Sev.	Cycs	Peds	Ch	OAPs	Vis.	Manv.	Road Cond.	Time	Location
B-00051-05	13/01/2005	1	Slight	0	0	0	0	Dark	No turn	Dry	1800	BARUGH GREEN RD BARUGH GREEN
B-00454-05	08/04/2005	1	Slight	0	1	1	0	Light	No turn	Dry	1555	BARUGH GREEN RD BARUGH GREEN 12 MTSFROM BARUGH GREEN J
B-00960-05	09/07/2005	1	Slight	0	1	0	0	Dark	No turn	Dry	2340	BARUGH GREEN RD BARNSLEY 30 MTS FROM J/W CLAYCLIFFE AVE
B-01305-05	21/09/2005	1	Slight	0	0	0	0	Light	Right	Dry	1000	CLAYCLIFFE RD BARUGH GREEN
B-00423-06	25/03/2006	3	Slight	0	0	0	0	Light	No turn	Dry	1930	CLAYCLIFFE RD BARUGH GREEN J/W ROUNDABOUT
B-00853-06	01/07/2006	1	Slight	0	0	0	0	Dark	No turn	Dry	2325	CLAYCLIFFE RD BARUGH
B-00988-06	01/08/2006	7	Slight	0	0	0	0	Dark	No turn	Dry	2331	BARUGH GREEN RD BARUGH GREEN AT J/W CLAYCLIFFE RD
B-00240-07	15/02/2007	1	Slight	0	0	0	1	Dark	Right	Dry	1720	CLAYCLIFFE RD BARUGH J/W MEDINA WAY
B-00463-07	05/04/2007	1	Slight	0	0	0	0	Dark	Left	Dry	2030	REDBROOK RD REDBROOK
B-01101-07	06/08/2007	1	Slight	1	0	0	0	Light	Left	Dry	1500	HUDDERSFIELD ROAD BARNSLEY AT JCT BARUGH GREEN ROAD
B-01438-07	23/10/2007	3	Slight	0	0	0	0	Light	No turn	Dry	1513	CLAYCLIFFE RD BARUGH GREEN 20M BARUGH GREEN RD
B-00915-08	25/07/2008	1	Slight	0	0	0	0	Light	No turn	Dry	1750	CLAYCLIFFE ROAD BARUGH GREEN
B-01570-08	17/12/2008	2	Slight	0	0	0	0	Dark	No turn	Dry	1645	CLAYCLIFFE ROAD, BARNSLEY
B-01593-08	21/12/2008	1	Slight	0	0	0	0	Dark	No turn	Wet/Damp	1920	WHALEY RD BARNSLEY
B-00103-09	24/01/2009	2	Slight	0	0	0	0	Dark	No turn	Dry	1814	BARUGH GREEN RD BARUGH GREEN
B-00158-09	04/02/2009	2	Slight	0	0	0	1	Light	Right	Frost/Ice	1140	CLAYCLIFFE RD BARUGH J/W MEDINA WAY
B-00287-09	06/03/2009	1	Slight	1	0	0	0	Light	Right	Dry	0823	REDBROOK RD WILTHORPE AT J/W WILTHORPE RD
Column Totals		30		2	2	1	2					
No. of Accidents				2	2	1	2					

Total number of accidents listed: 17

Accidents between dates **01/01/2005 and 13/03/2010** (62) months

Selection: **Notes:**

Selected using Pre-defined Query : District - (Barnsley) collisions

Police Ref.	Acc Class	Date	Time	Grid References	Casualties Ftl	Ser	Slt	Causation Factors/ Prob	Ped L M D	Light	Weather	Road Surface	Vehicle Types
B-00051-05	Slight	13/01/2005	1800	431593 407954	0	0	1	0 0 0 0 0 0	0 0 0	Dark	Fine without high winds	Dry	9 20
B-00454-05	Slight	08/04/2005	1555	432000 407885	0	0	1	999C001A 0 0 0 0 0	9 9 9	Light	Fine without high winds	Dry	11
B-00960-05	Slight	09/07/2005	2340	431902 407898	0	0	1	409V001B 0 0 0 0 0	6 9 0	Dark	Fine without high winds	Dry	9
B-01305-05	Slight	21/09/2005	1000	431875 408121	0	0	1	308V002A 603V001B 0 0 0 0	0 0 0	Light	Fine without high winds	Dry	9 19
B-00423-06	Slight	25/03/2006	1930	432005 407914	0	0	3	405V001A 405V002A 0 0 0 0	0 0 0	Light	Unknown	Dry	9 9
B-00853-06	Slight	01/07/2006	2325	432017 407900	0	0	1	501V001A 0 0 0 0 0	0 0 0	Dark	Fine without high winds	Dry	9
B-00988-06	Slight	01/08/2006	2331	432017 407900	0	0	7	405V001A 403V001A 602V002B 0 0 0	0 0 0	Dark	Fine without high winds	Dry	9 8
B-00240-07	Slight	15/02/2007	1720	431748 408276	0	0	1	405V2A	0 0 0	Dark	Fine without high winds	Dry	9 9
B-00463-07	Slight	05/04/2007	2030	432136 407779	0	0	1	406V2B	0 0 0	Dark	Fine without high winds	Dry	9 9
B-01101-07	Slight	06/08/2007	1500	432020 407893	0	0	1	802C1B	0 0 0	Light	Fine without high winds	Dry	1 9
B-01438-07	Slight	23/10/2007	1513	432003 407928	0	0	3	706V1A	0 0 0	Light	Fine without high winds	Dry	9 9
B-00915-08	Slight	25/07/2008	1750	431941 408021	0	0	1	405V1A 408V1A	0 0 0	Light	Fine without high winds	Dry	19 3
B-01570-08	Slight	17/12/2008	1645	431935 408032	0	0	2		0 0 0	Dark	Fine without high winds	Dry	9 9 9
B-01593-08	Slight	21/12/2008	1920	432110 408120	0	0	1	408V1A 410V1A 605V1A	0 0 0	Dark	Raining without high winds	Wet/Damp	9
B-00103-09	Slight	24/01/2009	1814	432021 407884	0	0	2	307V1A 410V1A	0 0 0	Dark	Fine without high winds	Dry	9 9
B-00158-09	Slight	04/02/2009	1140	431750 408275	0	0	2	405V1B	0 0 0	Light	Other	Frost/Ice	9 9
B-00287-09	Slight	06/03/2009	0823	432141 407771	0	0	1	405V2A	0 0 0	Light	Fine without high winds	Dry	9 1

Column Totals

No. of Accidents

Total number of accidents listed: 17

Details of Personal Injury Accidents for Period - **01/01/2005** **to** **13/03/2010** (62) months

Selection:

Selected using Pre-defined Query : District - (Barnsley)
collisions

Notes:

Police Ref. / Road No. / Grid Ref.	Day / Date / Time / D/L / R.S.C / Weather / Speed / Account of Accident	Location Description	Vehicles: Veh No / Type / Manv / Dir / Class			Casualties: Sex / Age / Sev
B-00051-05	Thursday 13/01/2005 1800hrs Darkness: street lights present a Dry Fine without high winds 30 mph	BARUGH GREEN RD BARUGH GREEN	Veh 1 Car O/take s/veh o/side S to N Veh 2 Goods 3.5 - 7.5t Parked 0 to 0		Dri M 28 Slight	
A 635						
E 431,593						
N 407,954						
	V1 COLL WITH V2 WHICH WAS PARKED O/S 220 BARUGH GREEN RD					
B-00454-05	Friday 08/04/2005 1555hrs Daylight:street lights present Dry Fine without high winds 40 mph	BARUGH GREEN RD BARUGH GREEN 12 MTSFROM BARUGH GREEN R/ABOUT	Veh 1 Bus/coach	Going ahead	SE to W	Ped M 13 Slight
A 635						
E 432,000						
N 407,885						
	V1 TV FROM BARUGH GREEN R/ABOUT TV TW BARUGH GREEN WHEN PED TRIPPED OVER HIS SHOE LACE & HIT SIDE OF V1					
B-00960-05	Saturday 09/07/2005 2340hrs Darkness: street lights present a Dry Fine without high winds 30 mph	BARUGH GREEN RD BARNSLEY 30 MTS FROM J/W CLAYCLIFFE AVE	Veh 1 Car	Going ahead	E to W	Ped M 29 Slight
A 635						
E 431,902						
N 407,898						
	C1 WALKING ALONG PAVEMENT ON BARUGH GREEN RD WHEN V1 COLL WITH HIM PUSHING HIM INTO BUSHES					
B-01305-05	Wednesday 21/09/2005 1000hrs Daylight:street lights present Dry Fine without high winds 40 mph	CLAYCLIFFE RD BARUGH GREEN	Veh 1 Car Veh 2 Goods < 3.5t	Wait to turn right Going ahead	S to N S to N	Dri F 49 Slight
A 637						
E 431,875						
N 408,121						
	V1 ABOUT T TURN RIGHT,WHEN V2 COLLIDES INTO REAR OF V1.					
B-00423-06	Saturday 25/03/2006 1930hrs Daylight: street lighting unknov Dry Unknown 30 mph	CLAYCLIFFE RD BARUGH GREEN J/W ROUNDABOUT	Veh 1 Car Veh 1 Car Veh 1 Car Veh 2 Car	Wait go ahead held up Wait go ahead held up Wait go ahead held up Wait go ahead held up	NW to E NW to E NW to E NW to E	Dri M 51 Slight RSP F 18 Slight RSP M Slight
A 637						
E 432,005						
N 407,914						
	V1 NEG R/ABOUT V2 ENTERED R/ABOUT & COLL OCCURRED.					

Details of Personal Injury Accidents for Period - **01/01/2005** **to** **13/03/2010** (62) months

Selection:

Selected using Pre-defined Query : District - (Barnsley)
collisions

Notes:

Police Ref. / Road No. / Grid Ref.	Day / Date / Time / D/L / R.S.C / Weather / Speed / Account of Accident	Location Description	Vehicles: Veh No / Type / Manv / Dir / Class			Casualties: Sex / Age / Sev
B-00853-06	Saturday 01/07/200(	CLAYCLIFFE RD BARUGH	Veh 1	Car	Going ahead N to SE Dri	F 35 Slight
A 637	2325hrs					
	Darkness: street lights present a					
E 432,017	Dry					
N 407,900	Fine without high winds					
	30 mph					
	V1 COLL WITH STREET FURNITURE ON R/ABOUT. DRIVER FLED SCENE.					
B-00988-06	Tuesday 01/08/200(	BARUGH GREEN RD BARUGH GREEN AT J/W CLAYCLIFFE RD	Veh 1	Car	Going ahead S to N FSP	F 18 Slight
			Veh 1	Car	Going ahead S to N RSP	F 21 Slight
A 635	2331hrs		Veh 1	Car	Going ahead S to N RSP	M 20 Slight
	Darkness: street lights present a		Veh 2	Taxi	Going ahead E to N Dri	M 30 Slight
E 432,017	Dry		Veh 2	Taxi	Going ahead E to N RSP	M 48 Slight
N 407,900	Fine without high winds		Veh 2	Taxi	Going ahead E to N FSP	M 38 Slight
	30 mph		Veh 2	Taxi	Going ahead E to N RSP	M 23 Slight
	V2 ON RDBT WHEN V1 ENTERED INTO PATH OF V2 AND COLL OCC.					
B-00240-07	Thursday 15/02/2007	CLAYCLIFFE RD BARUGH J/W MEDINA WAY	Veh 2	Car	Turning right W to SE Dri	F 68 Slight
			Veh 1	Car	Going ahead SE to NW	
A 637	1720hrs					
	Darkness: street lights present a					
E 431,748	Dry					
N 408,276	Fine without high winds					
	30 mph					
	V1 TV A637 WHEN V2 PULLED OUT OF JCT & TURNED R ACROSS PATH OF V1. V1 UNABLE TO AVOID COLL.					
B-00463-07	Thursday 05/04/2007	REDBROOK RD REDBROOK	Veh 2	Car	Stopping S to NW	
			Veh 1	Car	Wait to turn left S to NW Dri	M 55 Slight
U	2030hrs					
	Darkness: street lights present a					
E 432,136	Dry					
N 407,779	Fine without high winds					
	30 mph					
	V1 WAITING AT JCT WHEN V2 COLL WITH REAR THEN LEFT THE SCENE.					
B-01101-07	Monday 06/08/2007	HUDDERSFIELD ROAD BARNSLEY AT JCT BARUGH GREEN ROAD	Veh 2	Pedal cycle	Turning left S to N Dri	M Slight
			Veh 1	Car	Turning left S to N	
A 635	1500hrs					
	Daylight: street lighting unknov					
E 432,020	Dry					
N 407,893	Fine without high winds					
	30 mph					
	VEH 1 TV ON HUDDERSFIELD RD COLL PCYCLE					

Details of Personal Injury Accidents for Period - **01/01/2005** **to** **13/03/2010** (62) months

Selection:

Selected using Pre-defined Query : District - (Barnsley)
collisions

Notes:

Police Ref. / Road No. / Grid Ref.	Day / Date / Time / D/L / R.S.C / Weather / Speed / Account of Accident	Location Description	Vehicles: Veh No / Type / Manv / Dir / Class				Casualties: Sex / Age / Sev
B-01438-07	Tuesday 23/10/2007	CLAYCLIFFE RD BARUGH GREEN 20M BARUGH GREEN RD	Veh 2 Car	Stopping	0 to 0 Dri		M 48 Slight
			Veh 1 Car	Going ahead	0 to 0 FSP		F 51 Slight
A 637	1513hrs		Veh 1 Car	Going ahead	0 to 0 Dri		M 32 Slight
	Daylight:street lights present						
E 432,003	Dry						
N 407,928	Fine without high winds						
	30 mph						

V1 NEGOTIATED RDBT & JOINED A637. VI DAZZLED BY SUN LIGHT, DRIFTED TO MIDDLE OF RD COLLIDING WITH V2.

B-00915-08	Friday 25/07/2008	CLAYCLIFFE ROAD BARUGH GREEN	Veh 2 Goods < 3.5t	Stopping	S to N		
			Veh 1 M/C < 125 cc	Stopping	S to N Dri	M 19	Slight
A 635	1750hrs						
	Daylight:street lights present						
E 431,941	Dry						
N 408,021	Fine without high winds						
	40 mph						

V1 TRAVELLING UP CLAYCLIFFE ROAD AT BARUGH GREEN FAILS TO NOTICE TRAFFIC HAD STOPPED AS HE CAME OVER THE BROW OF A HILL AND COLLIDES WITH REAR OF V2

B-01570-08	Wednesday 17/12/2008	CLAYCLIFFE ROAD, BARNSLEY	Veh 2 Car	Going ahead	0 to 0		
			Veh 3 Car	Wait go ahead held up	0 to 0		
U	1645hrs		Veh 1 Car	Wait go ahead held up	0 to 0 FSP	F 29	Slight
	Darkness: street lights present a		Veh 1 Car	Wait go ahead held up	0 to 0 Dri	M 40	Slight
E 431,935	Dry						
N 408,032	Fine without high winds						
	30 mph						

V1STATIONARY IN TRAFFIC IS SHUNTED IN THE REAR BY V2 CAUSING IT TO COLIDE WITH V3. SLIGHT INJURIES.

B-01593-08	Sunday 21/12/2008	WHALEY RD BARNSLEY	Veh 1 Car	Going ahead	NW to SE Dri	M 17	Slight
U	1920hrs						
	Darkness: street lights present a						
E 432,110	Wet/Damp						
N 408,120	Raining without high winds						
	30 mph						

DRIVER LOST CONTROL COLL WITH METAL FENCE AND KERB CAUSING VEHICLE TO OVERTURN

B-00103-09	Saturday 24/01/2009	BARUGH GREEN RD BARUGH GREEN	Veh 2 Car	Going ahead	W to E Dri	F 45	Slight
			Veh 1 Car	Going ahead	E to W Dri	M 45	Slight
A 635	1814hrs						
	Darkness: street lights present a						
E 432,021	Dry						
N 407,884	Fine without high winds						
	40 mph						

V1 HAS EXITED R/ABOUT TOO FAST & LOST CONTROL, COLL WITH V2.

Details of Personal Injury Accidents for Period - **01/01/2005** **to** **13/03/2010** (62) months

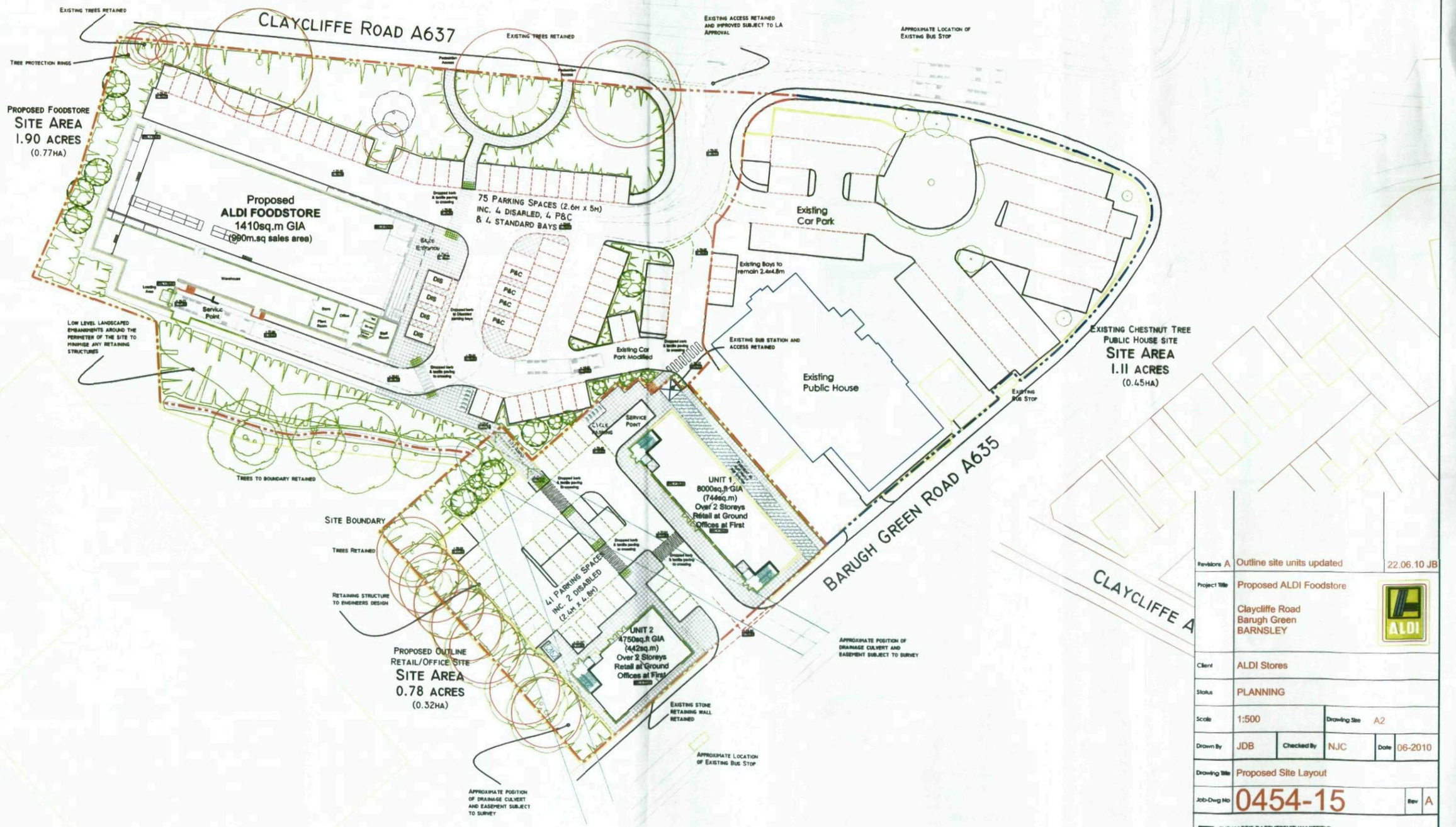
Selection:

Selected using Pre-defined Query : District - (Barnsley)
~~collisions~~

Notes:

Police Ref. / Road No. / Grid Ref.	Day / Date / Time / D/L / R.S.C / Weather / Speed / Account of Accident	Location Description	Vehicles: Veh No / Type / Manv / Dir / Class			Casualties: Sex / Age / Sev			
B-00158-09	Wednesday 04/02/2005	CLAYCLIFFE RD BARUGH J/W MEDINA WAY	Veh 1 Car	Turning right	0 to 0 FSP	F	82	Slight
			Veh 2 Car	Going ahead	0 to 0 Dri	F	55	Slight
U	1140hrs							
	Daylight:street lights present							
E **431,750**	Frost/Ice							
N **408,275**	Other							
	30 mph							
	V1 HAS PULLED OUT OF NEDINA WAY TO TURN R ONTO CLAYCLIFFE RD STRAIGHT IN FRONT OF ONCOMING V2.							
B-00287-09	Friday 06/03/2005	REDBROOK RD WILTHORPE AT J/W WILTHORPE RD	Veh 2 Car	Turning right	N to S			
			Veh 1 Pedal cycle	Going ahead RH bend	S to N Dri	M	35	Slight
C 786	0823hrs							
	Daylight:street lights present							
E **432,141**	Dry							
N **407,771**	Fine without high winds							
	30 mph							
	VEH'S TR IN OPP DIRECTIONS, V2 TURNED RGT ACC PATH OF V1 AND COLL OCC, V1 (PED CYC) WENT OVER BONNET OF V2.							

DRAWINGS



Revisions	A	Outline site units updated	22.06.10 JB
Project Title	Proposed ALDI Foodstore Claycliffe Road Barugh Green BARNSLEY		
Client	ALDI Stores		
Status	PLANNING		
Scale	1:500	Drawing Size A2	
Drawn By	JDB	Checked By NJC	Date 06-2010
Drawing Title	Proposed Site Layout		
Job-Dwg No	0454-15	Rev A	

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CAD file reference J:\Aldi\yorkshire region\0454

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Proposed
ALDI FOODSTORE
1410sq.m GIA
(990m.sq sales area)

18000
6000
55000
Warehouse
Loading Area
FFL + 79.00
Service Point
+76.71
+77.80
+77.85
+76.90
Store
Plant Room
Office
WC
Dis WC
Staff Room
Store Entrance
+79.14
+79.14
Dropped kerb & tactile paving to crossing
+78.96
+78.85
+78.88
+78.90
75 PARKING SPACES (2.6M X 5M)
INC. 4 DISABLED, 4 P&C
& 4 STANDARD BAYS
+79.04
+79.00
DIS
P&C
Dropped kerb to Disabled parking bays
+78.61
+78.60
Dropped kerb & tactile paving to crossing
+78.61
+76.70
+78.47
+78.70
1:15 Ramp
CYCL
PARK
+78.49
+78.00

W LEVEL LANDSCAPED
BANKMENTS AROUND THE
RIMETER OF THE SITE TO
NIMISE ANY RETAINING
RUCTURES

rev.	amendment	date	chkd

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client
ALDI STORES LTD

project
PROPOSED NEW STORE
BARUGH GREEN

title
AUTOTRACKING OF SERVICE ARRANGEMENT

scale @ A3	1:250	drawn by	PR	checked by	CS
date	AUG 2010	cad file	aldibarugh.1_02.dwg		

drawing number
ALDIBARUGH.1/02

rev.