

THE CO-OPERATIVE ESTATES

RE-DEVELOPMENT OF PETROL FILLING STATION

HIGH STREET

COEDPOETH

Transport Statement

April 2018

Contents

1	INTRODUCTION.....	1
2	POTENTIAL DEVELOPMENT SITE	2
2.1	Existing Site	2
2.2	Development Proposals	2
3	NON CAR ACCESSIBILITY OF THE SITE	4
3.1	Introduction	4
3.2	Accessibility on Foot.....	4
3.3	Accessibility by Cycle	6
3.4	Accessibility by Bus	6
3.5	Summary.....	7
4	TRAFFIC IMPACT AND SERVICING	8
4.1	Introduction	8
4.2	Surveyed Flows	8
4.7	Trip Types	11
4.10	Car Parking.....	15
4.11	Servicing.....	17
5	ACCIDENT ANALYSIS.....	19
5.1	Introduction	19
5.2	Accident Analysis	19
6	CONCLUSIONS.....	21

Contents

FIGURES 1 to 12

PLANS

Plan 1 Site Location
Plan 2 Proposed Site Layout
Plan 3 Pedestrian Catchment
Plan 4 Swept Path Analysis

APPENDICES

Appendix 1 Traffic Count Data
Appendix 2 TRICS Output – Convenience Store
Appendix 3 PICADY Output – High Street/Site Access Junction
Appendix 4 PICADY Output – High Street/Site Access Junction
Appendix 5 Co-operative Group Car Park Study
Appendix 6 Accident Data

1 INTRODUCTION

- 1.1.1 Croft have been instructed by Co-operative Estates to advise on the traffic and transportation issues relating to proposals to re-develop the Co-operative Service Station on High Street in Coedpoeth.
- 1.1.2 The report provides information on the traffic and transport planning aspects of the development proposals and will form supplementary information to assist in the determination of a forthcoming planning application.
- 1.1.3 Following this introduction, Section 2 provides a description of the existing site and the development proposals. Section 3 provides an assessment of the existing accessibility of the site by non-car modes, before Section 4 which considers the traffic impact of the proposed development along with the servicing and car parking implications of the proposals. Section 5 provides an analysis of Road Accident Data and Section 6 draws together the conclusions to this report.

2 POTENTIAL DEVELOPMENT SITE

2.1 Existing Site

- 2.1.1 The development site is located on the southern side off High Street in Coedpoeth. The location of the site is shown on **Plan 1**.
- 2.1.2 The predominant land use in the vicinity of the site is residential, the site bound to north, south and west by residential development whilst High Street bounds the site to the east.
- 2.1.3 The site currently comprises of a Petrol Filling Station (PFS) with a total of 4 pumps, thus a provision for a total of 8 vehicles at any one time, an ancillary forecourt shop (302 square metres gross internal floor area).
- 2.1.4 Vehicular access is provided via separate priority controlled ingress and egress junctions off High Street.
- 2.1.5 There are currently 8 marked parking bays on the site, these are located to the north west of the existing forecourt shop.
- 2.1.6 Servicing is currently undertaken from the site's forecourt off High Street with delivery vehicles and petrol tankers waiting on the forecourt whilst unloading, although clearly the frequency of these deliveries is fairly low.

2.2 Development Proposals

- 2.2.1 The proposed redevelopment comprises the demolition of the existing service station and the redevelopment of the site to provide a new PFS which comprises of the reconfiguration layout of the forecourt, retail sales building of approximately 478 square metres gross, associated parking and works.
- 2.2.2 Vehicular access for the proposed development will remain as per the existing arrangements off High Street.
- 2.2.3 Servicing will also continue as per the existing arrangements and this will be discussed in further detail in Section 4 of this report.

- 2.2.4 The proposals will be supported by 13 car parking spaces including one spaces for mobility impaired users, the increase in spaces will be achieved by reconfiguration of the western section of the site.
- 2.2.5 As part of the proposals, a total of 2 Sheffield type cycle parking spaces will be provided to the west of the proposed store, these spaces will provide parking provision for up to 4 cycles.
- 2.2.6 The proposed site layout is shown in **Plan 2**.

3 NON CAR ACCESSIBILITY OF THE SITE

3.1 Introduction

3.1.1 In our experience, in cases such as this where the PFS facility is well situated within the wider strategic highway network, noting the site's location on High street a high proportion of the PFS's turnover continues to be derived from a wide catchment area in line with its primary PFS function, with its secondary role being to serve local residents of the immediate surroundings area.

3.1.2 Notwithstanding the above, in order to accord with the aspirations of the TAN18, any new proposals should extend the choice in transport and secure mobility in a way that supports sustainable development.

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

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

- Accessibility on foot.
- Accessibility by cycle.
- Accessibility by bus.

3.2 Accessibility on Foot

3.2.1 It is important to create a choice of direct, safe and attractive routes between where people live and where they need to travel in their day-to-day life. This philosophy clearly encourages the opportunity to walk whatever the journey purpose and also helps to create more active streets and more vibrant neighbourhoods.

3.2.2 Existing footways of around 2 metres in width are located to the north of the site on High Street. These footways provide pedestrian linkages to the nearby local residential areas of Coedpoeth.

- 3.2.3 Within the Institution of Highways and Transportation (IHT) document, entitled “Guidelines for Providing for Journeys on Foot”, a distance of 800 metres is identified as the preferred maximum distance for town centres.
- 3.2.4 Good practice suggests that walking is the most important mode of travel at the local level and offers the greatest potential to replace short car journeys, particularly those under 2 kilometres. In addition, the DFT National Travel Survey of 2006 confirms that 78% of all trips less than a mile (1.6km) are carried out on foot.
- 3.2.5 In addition, within the ‘The Local Shop Report 2016’ which was produced by the Association of Convenience Stores (ACS) it states that the 54% of customers to local shops travel less than a quarter of a mile and that 57% of customers travel by foot. It also states that 51% of local shop staff walk to work and the average journey time is 13 minutes.
- 3.2.6 **Plan 3** shows the pedestrian catchment for 800 metres and 2 kilometres from the centre of the site and provides an illustrative indication of the areas that can be reached based on a leisurely walk from the site.
- 3.2.7 As can be seen, the 800 metre catchment includes the existing residential areas in the vicinity of the development site whilst the 2 kilometre catchment encompasses the majority of Coedpoeth, showing that the proposed development is within walking distance of a large catchment of residential properties.
- 3.2.8 The majority of trade at the site is likely to be car borne related to the PFS, however, as illustrated, the development site benefits from being located within close proximity to the residential areas of Coedpoeth which will also provide the opportunity for customers and staff to travel to the proposed store by foot, therefore, reducing the reliance on the private car.

3.3 Accessibility by Cycle

3.3.1 A distance of 5 kilometres is generally accepted as a distance where cycling has the potential to replace short car journeys. This distance equates to a journey of around 25 minutes based on a leisurely cycle speed of 12 kilometres per hour and would encompass Brymbo, Summerhill, New Broughton and Rhostyllen.

3.3.2 The site can, therefore, be considered as being accessible by cycle.

3.4 Accessibility by Bus

3.4.1 The nearest bus stops to the site are located on High street, with the closest stop situated around 60 metres south from the centre of the site, consisting of a bus stop pole with passing services shown and a bus service timetable.

3.4.2 Safe pedestrian access to these bus stops is provided for via the existing pedestrian footways on High Street. All bus stops within 400 metres of the site are shown on **Plan 3**.

3.4.3 A summary of the services available from these bus stops are provided in Table 3.1 below.

Service No	Route	Monday – Friday Frequency per hour				Sat	Sun
		AM Peak	Midday	PM Peak	Eve		
9	Wrexham - Minera via New Broughton	0	1	0	0	1	0
10	Post Office - Wrexham	0	1	1	0	1	0
11	Wrexham - Minerva	2	2	2	0	2	0
X51	Wrexham – Lenton Pool	0	1	1	0	1	0

Table 3.1 - Bus Service Provision in the Vicinity of the Site

3.4.4 As can be seen from Table 3.1, the bus stops located within 400 metres of the site provide up to 5 services per hour. These services provide access to Llandegla, Denbigh and Wrexham.

3.4.5 The service operates from around 0700 to 2040 hours, making travel by public transport an alternative to travelling by car for staff and customer visiting the store as part of a commuter journey.

3.4.6 It is therefore concluded that the proposed development site is accessible by bus.

3.5 Summary

3.5.1 The proposals have been considered in terms of accessibility by non-car modes for the proposed Service Station. The following conclusions can be drawn from this section of the Report:

- In our experience, in cases such as this where the PFS facility is well situated within the wider strategic highway network, noting the site's location on the main road, a high proportion of the PFS's turnover continues to be derived from a wide catchment area in line with its primary PFS function, with its secondary role being to serve local residents of the immediate surroundings area.
- The site is accessible by foot. The existing infrastructure will provide excellent pedestrian linkages with the surrounding areas located within Coedpoeth.
- The site is accessible by bus with services operating in the vicinity of the site from existing bus stops located along High Street.

3.5.2 In light of the above, it is considered that the site is highly accessible by non-car modes and will cater for needs of the facility's staff and customers and assist in promoting a choice of travel modes other than the private car.

4 TRAFFIC IMPACT AND SERVICING

4.1 Introduction

4.1.1 Having established that the development site is accessible by modes of transport other than the private car, the following section of this report will discuss the potential traffic generation of the proposed development as well as providing an assessment of the proposed access and general impact on the local highway network.

4.2 Surveyed Flows

4.2.1 In order to assess the impact of the proposed development on the local highway network traffic surveys were undertaken at the following junctions on Tuesday 19th September 2017;

- High Street/ Petrol Filling Station access priority controlled junction (S)
- High Street/ Petrol Filling Station access priority controlled junction (N)

4.2.2 The full traffic survey is contained within **Appendix 1**. The AM and PM peak hours were identified as 0730 to 0830 hours and 1630 to 1730 hours. The AM and PM peak hours are shown within **Figures 1** and **2** in terms of PCU's.

4.3 Traffic Growth

4.3.1 For the purposes of this Report, assessments have been undertaken for a five-year design horizon of 2023, which represents five years post opening of the proposed development.

4.3.2 The future year traffic flow factors have been derived using the National Traffic Model (NTM) factors adjusted by the TEMPRO regional and local growth factors for the Wrexham 006 MSOA.

4.3.3 The resultant growth factors for the AM and PM peak hours as shown below:

- 2017 to 2022 AM Peak – 1.0659
- 2017 to 2022 PM Peak – 1.0647

- 4.3.4 The resultant 2022 Growthed Flows are shown in **Figures 3 and 4** for the 2022 AM and PM peak periods.

4.4 Trip Distribution

- 4.4.1 This distribution has been based on the consideration of existing patterns of traffic flows and is shown in **Figures 5 and 6** for the AM and PM peak hours respectively.

4.5 Existing Traffic Generation

- 4.5.1 The existing site consists of a PFS with a total of 4 pumps and an associated ancillary forecourt shop (302 square metres gross internal area).
- 4.5.2 To establish the traffic generation of the existing site reference has been made to the traffic counts undertaken at the site access junctions. Table 4.1 below summarises the observed arrivals and departures during the Weekday peak periods.

Peak Period	Existing Site Traffic	
	Arr	Dep
Weekday AM Peak	91	89
Weekday PM Peak	92	95

Table 4.1 - Summary of Existing Site Trips

- 4.5.3 As can be seen from the above table, the existing site currently generates 91 arrivals and 89 departures during the Weekday AM peak and 92 arrivals and 95 departures in the Weekday PM peak.
- 4.5.4 It should stressed that due to the nature of a petrol filling station, customers would both arrive and depart within an hour. Therefore, in reality one vehicle would account for both a recorded inbound and outbound movement and therefore the total two-way traffic generation of the site could robustly be assumed to be approximately 91 vehicles during the AM peak hour and 95 vehicles during the PM peak hour.

- 4.5.5 In addition, as the existing site consists of a sui generis Petrol Filling Station, the ancillary forecourt shop generates relatively few traffic movements with custom to the shop largely supplemented by 'top-up' shopping undertaken by people purchasing petrol on existing journeys, particularly on the work to home journey. As such, the TRICS provides a robust assessment as in reality the facility will predominantly provide a 'top-up' shopping service for customers using the PFS.

4.6 Proposed Traffic Generation

- 4.6.1 The development proposals include the reconfiguration of the forecourt to provide a total of 3 pumps whilst providing a larger ancillary forecourt shop with a gross floor area of 478 square metres.
- 4.6.2 To establish the traffic generation of the development proposals, the TRICS database has been utilised in the field of 'Retail – Convenience Store' for all sites up to 500 square metres.
- 4.6.3 The development proposals will result in a net increase in the floor area of the retail element of 176 square metres. The vehicle trips associated with this net increase have been derived from TRICS data and are summarised in Table 4.2 below, with the full TRICS output and calculations presented within **Appendix 2**.

Peak Period	Trip Rates		Trips	
	Arr	Dep	Arr	Dep
Weekday AM Peak	8.002	7.682	14	14
Weekday PM Peak	10.677	10.128	19	18

Table 4.2 - Summary of Proposed Convenience Store Trips

- 4.6.4 Due to the nature of the development proposals, customers would both arrive and depart within an hour. Therefore, in reality one vehicle would account for both a recorded inbound and outbound movement and as such the total two-way traffic generation of the site could robustly be assumed to be approximately 28 vehicles during the AM peak hour and 37 vehicles during the PM peak hour.
- 4.6.5 Of course, given the land use type and the sui generis nature of the proposals, this can be considered an extremely robust assessment as in reality the facility will continue to primarily provide for 'top-up' shopping undertaken by people purchasing petrol on existing journeys. As such, the vast majority of the trips associated with the proposed development will not be new to the highway network.

4.7 Trip Types

- 4.7.1 The use of the ancillary forecourt shop is directly linked to the petrol offer and as a result, a high proportion of the PFS's turnover will continue to be derived from a wide catchment area in line with its primary PFS function, with its secondary role being to serve local residents of the immediate surroundings area.
- 4.7.2 As such, in assigning traffic to the highway network, account needs to be taken of the various trip types as set out below:
- i) Primary New Trips – single purpose trips (home-shop-home) that did not exist on the network prior to the opening of the new development;
 - ii) Primary Transfer Trips – existing single purpose trips previously made to other shopping destinations but transfer to the new development when open;
 - iii) Non-Primary Diverted Trips – existing multi-purpose (linked) trips, that deviate from their normal route to visit the new development on the way to another destination;
 - iv) Non-Primary Pass-By Trips – existing multi-purpose (linked) trips that visit the new development without having to make a significant diversion from their existing route.

- 4.7.3 With regards to food retail, Napier University (then Polytechnic) carried out research into travel patterns relating to foodstores. Data on the proportions of the trip type categories is shown in Table 4.3, below, for the Friday PM peak period.

Location	Primary	Diverted/Pass-by
Christchurch	59.6%	40.4%
Poole	59.8%	40.2%
Swindon	58.5%	41.5%
Thanet	60.7%	39.3%

Table 4.3 - Surveyed Trip Type Proportions at Existing Foodstores

- 4.7.4 The research indicates that the location of the development in relation to the main highway network is an important influencing factor in terms of the proportion of pass-by and diverted trips. This is to be expected with a site next to a heavily trafficked route resulting in a higher proportion of pass-by trips compared to a site on a minor road.
- 4.7.5 Indeed, the proposed development is less of a destination than the type of regular foodstores considered within the Napier University study due to ancillary nature of the forecourt shop and the reduced range of goods provided in store.
- 4.7.6 Therefore, the majority of the trips attracted to the forecourt shop during the weekday AM and PM peak periods will be made up from transferred, linked and pass-by trips not new trips on the network.
- 4.7.7 The development site is located on High Street which is key route providing access to Wrexham and the strategic highway network. As such, the proportion of transferred/linked/pass-by trips is likely to be on the higher end of the range.
- 4.7.8 Based on this assumption, Table 4.4 provides a summary of the proposed development trips by trip type. This does not include the PFS trips which will remain as existing.

Peak Period	AM Peak		PM Peak	
	Arr	Dep	Arr	Dep
New Trips (30%)	4	4	6	5
Pass-by Trips (70%)	10	9	13	13
Total Trips	14	13	19	18

Table 4.4 - Summary of Proposed Ancillary Forecourt Shop Trip Rates and Trips

4.7.9 The proposed development new trips are shown in **Figures 7** and **8** for the AM and PM peak periods, whilst the proposed pass-by trips are shown in **Figures 9** and **10** for the Weekday peak periods. These trips have been assigned by reference to the existing traffic movements.

4.8 With Development Flows

4.8.1 To calculate the 2022 'With Development' Flows, the proposed development flows displayed in Figures 7 to 10 have been added to the 2022 Growthed Flows which contain the existing PFS trips and are displayed in Figures 3 and 4 for the Weekday peak periods.

4.8.2 The resultant 2022 'With Development' Flows are displayed in **Figures 11** and **12** for the Weekday peak periods.

4.9 Capacity Assessments

4.9.1 As previously stated vehicular access will remain as per the existing arrangement via the priority controlled junctions off High Street. Therefore, for the purposes of this traffic impact analysis the operation of both of these junctions have been undertaken using the PICADY computer program.

High Street/PFS Access Junction

4.9.2 To demonstrate the existing High Street/Site Access junction has sufficient capacity to accommodate the proposed development, capacity assessments have been undertaken using the PICADY computer program.

4.9.3 Table 4.5, below, provides a summary of the capacity assessments based on the 2022 base and 'with development' flows, with the output being provided in full at **Appendix 3**.

Arm Name	2022 Base				2022 'With Development'			
	AM		PM		AM		PM	
	RFC	Max Q	RFC	Max Q	RFC	Max Q	RFC	Max Q
Site Access	0.16	0.2	0.16	0.2	0.18	0.2	0.19	0.2
High Street North	0.03	0.0	0.01	0.0	0.03	0.0	0.01	0.0

Table 4.5 – PICADY Output for High Street/Site Access – 2022 Base and 'With Development' Scenarios

4.9.4 As can be seen from the above table, the site access junction is predicted to operate within capacity during all of the 'with development' scenarios even based on the detailed assumptions detailed previously.

High Street/PFS Access Junction

4.9.5 To demonstrate the existing High Street/Site Egress junction has sufficient capacity to accommodate the proposed development, capacity assessments have been undertaken using the PICADY computer program.

4.9.6 Table 4.6, below, provides a summary of the capacity assessments based on the 2022 base and 'with development' flows, with the output being provided in full at **Appendix 4**.

Arm Name	2022 Base				2022 'With Development'			
	AM		PM		AM		PM	
	RFC	Max Q	RFC	Max Q	RFC	Max Q	RFC	Max Q
Site Access	0.10	0.1	0.12	0.1	0.11	0.1	0.15	0.2
High Street North	0.10	0.1	0.07	0.1	0.12	0.1	0.09	0.1

Table 4.6 – PICADY Output for High Street/Site Access – 2022 Base and 'With Development' Scenarios

4.9.7 As can be seen from the above table, the site egress junction is predicted to operate within capacity during all of the 'with development' scenarios even based on the robust assumptions detailed above.

4.9.8 It is therefore concluded that the proposed development will have a minimal impact on the operation of the local highway network.

4.10 Car Parking

4.10.1 Parking for the proposed development has been assessed in accordance with the Parking Standards detailed in Wrexham County Council's (WCC) 'Parking Standards' Supplementary Parking Guidance Note (SPGN16) which was adopted in November 2011.

4.10.2 The SPGN16 document sets maximum standards and states that the maximum parking standards for A1 Retail units with floor areas over 300sqm are as follows;

- A1 Retail Units (above 300sqm) = 1 space per 14sqm.

4.10.3 Applying the above standard to the proposed retail unit with floor area of 478sqm results in a required parking provision of 34 spaces. The proposed development proposes a total of 13 parking spaces. As part of the development proposals it is proposed to remove the existing ancillary uses and therefore no parking provision is required for the Petrol Filling Station above what is being provided for the retail unit.

- 4.10.4 Based on this the proposed car park provision is below the maximum car parking guidelines, however, the guidance document states that applicants should demonstrate that the proposed parking levels below the maximum requirement are sufficient to accommodate the likely demand for parking.
- 4.10.5 As detailed in Section 3 of this report, the site is located within Coedpoeth and therefore offers the opportunity for trips to the convenience store to be undertaken by sustainable modes.
- 4.10.6 The proposed development is less of a destination than the type of regular foodstores due to ancillary nature of the forecourt shop and the reduced range of goods provided in store. Consequently, the proposed facility will provide predominately 'top-up' shopping for customers using the PFS.
- 4.10.7 Typical convenience stores generally serve a local area and have a significant level of non-car borne trips. In addition, the length of stay is much lower than superstore customers with the Association of Convenience Stores (ACS) stating in their Local Shop Report 2016 that the average duration of stay of customers is just 5 minutes. This duration of stay can be considered robust when considering the linked nature development proposals.
- 4.10.8 By the way of demonstration, information on the duration of stay of customers is contained within two appeal decisions for convenience stores which are appended to this note. The data was originally submitted in support of an appeal (Ref. APP/C2741/A/05/119433) for the approval of the erection of a new convenience store of around 268 square metres gross floor area and 11 car parking spaces in York. The appeal decision is contained within **Appendix 5**.
- 4.10.9 This data was again referenced in an appeal decision (Ref. APP/R2330/A/11/2163236) for a convenience store in Rishton with a gross floor area of 430 square metres and 15 car parking spaces. This evidence was not contested by either local authority and both appeals were allowed. The Rishton store is currently operated by the Co-operative Food Group. The appeal decision is contained with **Appendix 5**.

- 4.10.10 The York decision includes reference to a survey of 10 Tesco Express and Sainsbury's local stores, which conclude that the duration of stay at the approved store is around 7 minutes. Over an hour this equates to a single parking space having a capacity of 8.5 vehicles per hour (i.e. 60/7).
- 4.10.11 To establish the existing car parking patterns at their existing stores, the Co-operative Food Group has recently commissioned a Car Parking Study which included surveys of three stores in the north-west of England. This study, which is contained within **Appendix 5**, concluded that the average duration of stay ranges from 5.5 minutes to 8.9 minutes.
- 4.10.12 If a duration of stay of 8.9 minutes is utilised, this equates to a single parking space having a capacity of 6.7 vehicles per hour i.e. 60/8.9. Based on the provision of 13 spaces this would equate to a maximum car parking capacity of 87 vehicles per hour (6.7 vehicles x 13 spaces).
- 4.10.13 The proposed forecourt shop has a GFA of 478 square metres, and using the worst case inbound trip rate of 10.677 per 100 square metres for the Weekday PM peak period (1700-1800) contained with Table 4.2 of this report equates to a total of 51 inbound trips and therefore well within the capacity of the proposed car park.
- 4.10.14 As such, the number of available car parking spaces contained within the site for customers is considered to be sufficient to cater for the likely parking demand generated by the proposals and is accordance within Wrexham County Council's parking guidelines.

4.11 Servicing

- 4.11.1 The proposed site will be serviced by a series of delivery vehicles, most likely a 10.35 metre rigid HGV. It is likely that no more than one HGV delivery per day would visit the site. This would also coincide with periods when the store and the local highway network would not be particularly busy.
- 4.11.2 The PFS will continue to be serviced using an oil tanker, with fuel dispensed into the tanks from the PFS forecourt. These oil tanker deliveries will not be very frequent. As part of

the development proposals the forecourt will be reconfigured to assist access for petrol tankers.

- 4.11.3 To demonstrate the proposed site can be serviced in a safe and efficient manner, a swept path analysis has been undertaken using a 10.35 metre rigid HGV. This analysis is displayed in **Plan 4** and demonstrates that such a vehicle can enter and leave the site in a forward gear.
- 4.11.4 Deliveries to the site will be timed to ensure that the conflict with customer vehicles and pedestrians will be minimal and will be targeted to occur during periods of lower background traffic flows on the surrounding highway network and also avoid busy trading periods.
- 4.11.5 To manage servicing the Co-operative uses software called Paragon which enables deliveries to be programmed to avoid specific times of the day, such as peak periods. As a consequence, the impact of deliveries on the local highway network is kept to a minimum.
- 4.11.6 It should be noted that the existing service arrangements for the Petrol Filling Station will not be altered as part of the development proposals.

5 ACCIDENT ANALYSIS

5.1 Introduction

5.1.1 For the purpose of this report, an analysis of accident data has been carried out in the vicinity of the site which the proposed development will have an impact on. Accident data has been obtained from the Crashmap website (www.crashmap.co.uk) for the period 2012 to 2016.

5.1.2 CrashMap uses data collected by the police in relation to road traffic crashes occurring on British roads where someone is injured. This data is approved by the National Statistics Authority and reported on by the Department for Transport each year. This site uses data obtained directly from official sources but compiled in an easy to use format showing each incident on a map. Incidents are plotted to within 10 metres of their location, and as such, can sometimes appear to be off the carriageway. The study area has been taken from 100 metres either side of the site location.

5.1.3 The Crashmap outputs are contained within **Appendix 6**.

5.2 Accident Analysis

A525/Smelt Road Priority Controlled Junction

5.2.1 One accident was reported within the study period, this occurred in snowy conditions as the driver failed to notice a child crossing, resulting in a slight injury.

A525 High Street

5.2.2 Two accidents occurred within 100 metres of the development site along the A525, one of which resulted in serious injuries and the other resulted in a slight injury.

5.2.3 The accident which was classified as serious took place in 2012 on a dry surface when a motorcyclist failed to notice a vehicle turning right before hitting the car, this incident was due to driver error.

5.3 Summary

- 5.3.1 In view of this information it can be concluded that the local highway network in the vicinity of the sites does not have an unduly poor safety record, and that there is no reason to assume that this situation should be significantly worsened as a consequence of the development proposals.

6 CONCLUSIONS

- 6.1.1 This report has considered the traffic and transportation issues relating to the proposals to re-develop the existing Petrol Filling Station on High Street in Coedpoeth.
- 6.1.2 The PFS facility is well situated within the wider strategic highway network, noting the site's location on key route in Coedpoeth and directly off the A525 High Street, a high proportion of the PFS's turnover continues to be derived from a wide catchment area in line with its primary PFS function, with its secondary role being to serve local residents of the immediate surrounding area.
- 6.1.3 The following conclusions have been drawn with regard to the proposed development:
- The existing pedestrian infrastructure located in the vicinity of the site will enable safe pedestrian movement between the development site and the surrounding areas of Coedpoeth.
 - The site benefits from being located in close proximity to the bus stops on High Street which provides services that are ideally placed to cater for the needs of the store's customers and staff.
 - The development will not result in any material increases in vehicle movements on the local highway network.
 - The proposed development will have a minimal impact on the operation of the local highway network.
 - The proposed development can be adequately serviced in a safe and efficient manner.
 - The car parking provided within the vicinity of the site would adequately be able to accommodate the car parking demand likely to be generated by the proposals.

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

FIGURES

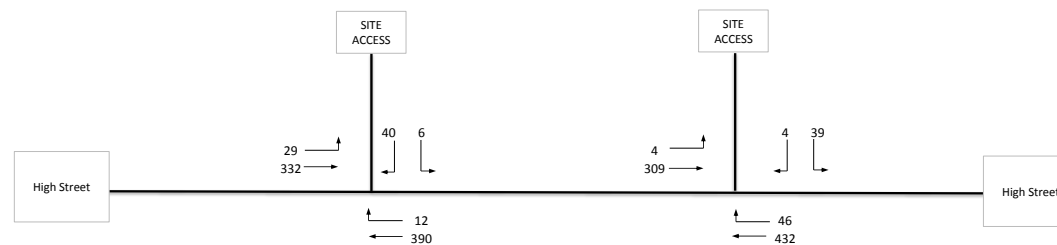


Figure 1 - 2017 Surveyed Flows
Weekday AM Peak Period (0730 - 0830)

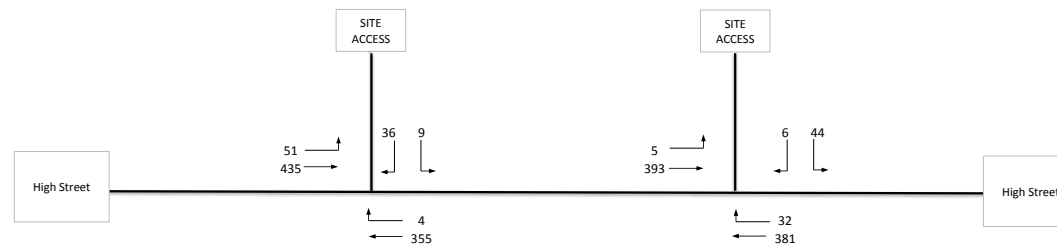
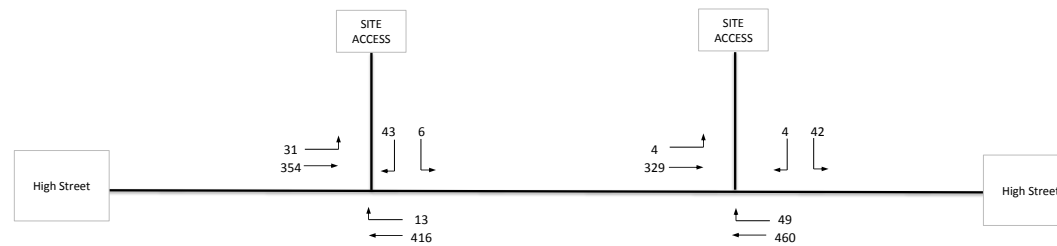
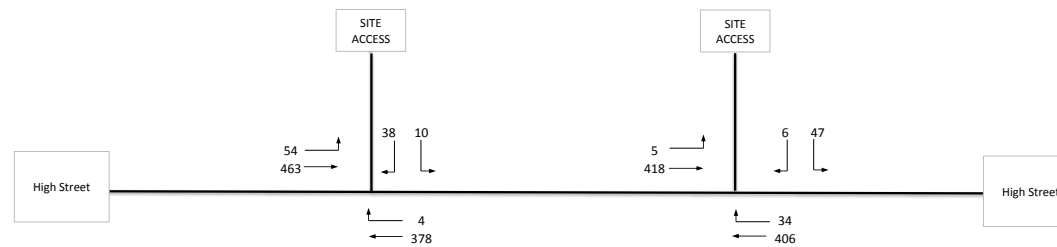


Figure 2 - 2017 Surveyed Flows
Weekday PM Peak Period (1630 - 1730)



Growth Factor 2017 to 2022 = 1.0659
Flows in PCUs

Figure 3 - 2022 Factored Flows - AM Peak (0730 - 0830)



Growth Factor 2017 to 2022 = 1.0647
Flows in PCUs

Figure 4 - 2022 Factored Flows - PM Peak (1630 - 1730)

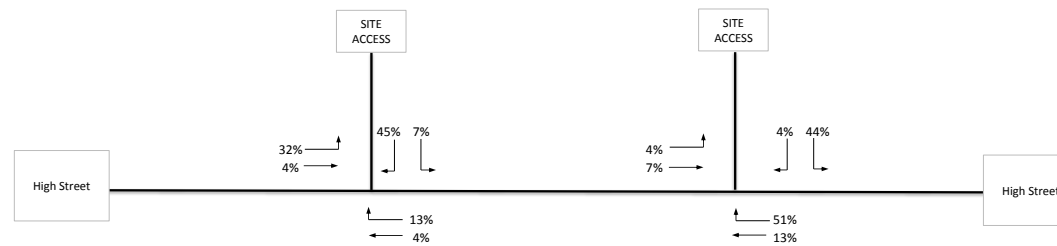


Figure 5 - Trip Distribution - AM Peak (0730 - 0830)

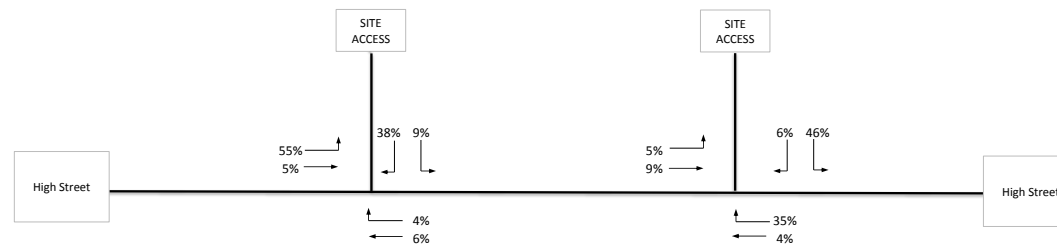
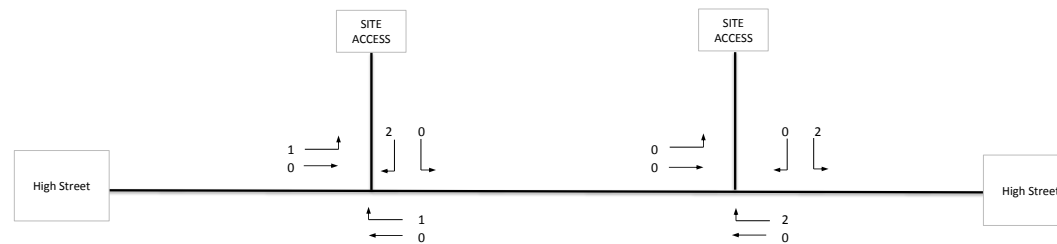
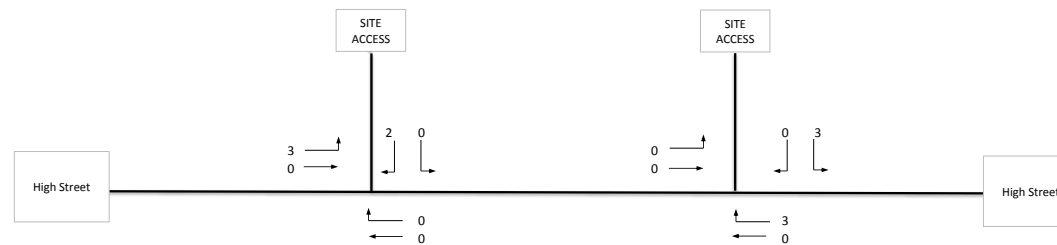


Figure 6 - Trip Distribution - PM Peak (1630 - 1730)



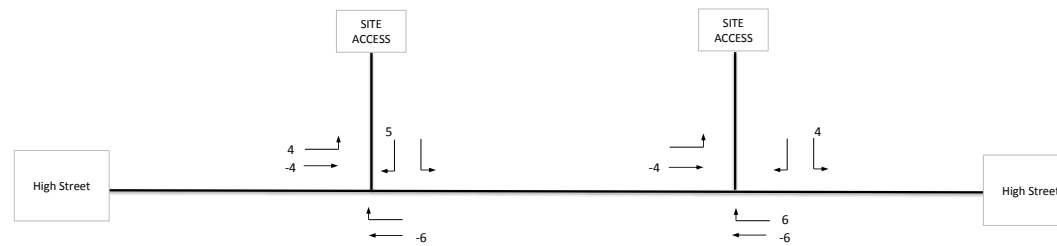
ARR 4
DEP 4

Figure 7 - Proposed Development Trips - Primary New Trips - AM Peak (0730 - 0830)



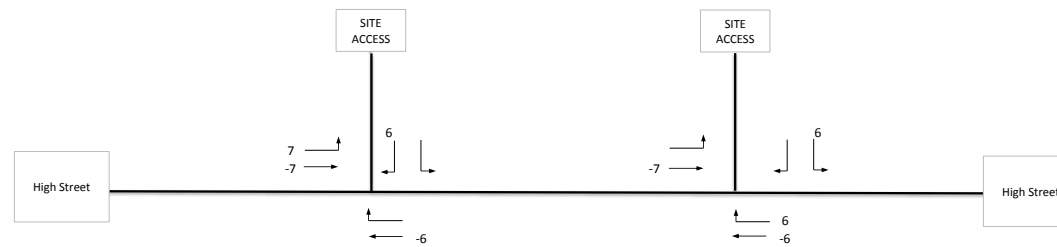
ARR 6
DEP 5

Figure 8 - Proposed Development Trips - Primary New Trips - PM Peak (1630 - 1730)



ARR 10
DEP 9

Figure 9 - Proposed Development Trips - Pass By Trips - AM Peak (0730 - 0830)



ARR 13
DEP 12

Figure 10 - Proposed Development Trips - Pass By Trips - PM Peak (1630 - 1730)

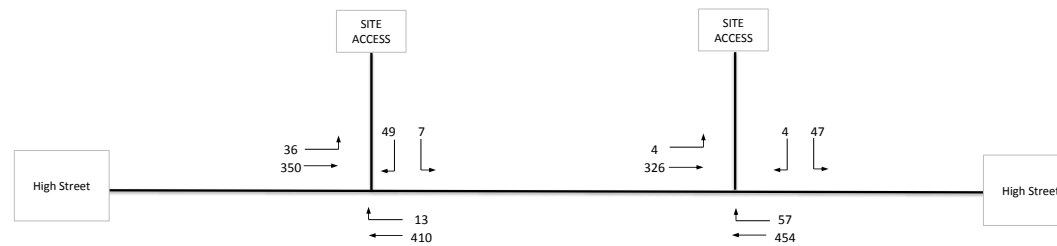


Figure 11 - 2022 Assessment Flows - AM Peak (0730 - 0830)

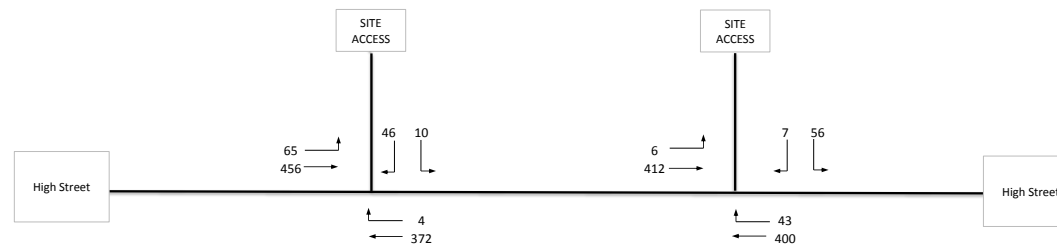


Figure 12 - 2022 Assessment Flows - PM Peak (1630 - 1730)

PLANS



THE COOPERATIVE ESTATES

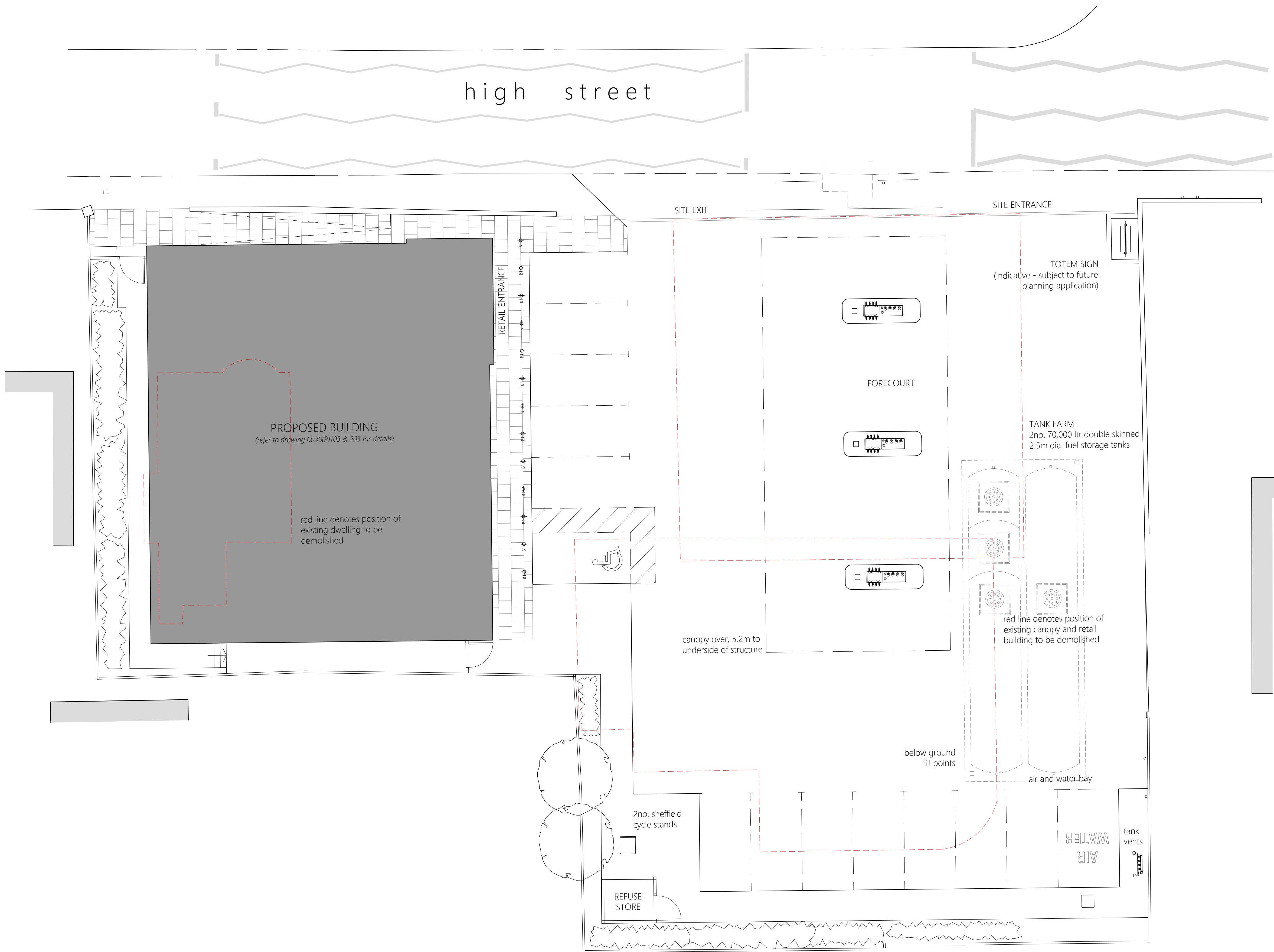
RE-DEVELOPMENT OF A PETROL
FILLING STATION
HIGH STREET, COEDPATH
SITE LOCATION PLAN

croft
Transport Solutions

Email: info@crofts.co.uk
Tel: 0161 667 3746
Web: www.crofts.co.uk

9 Jordan Street,
Manchester
M15 4PY

DRAWN:	DATE:	CHECKED:	DATE:	SCALE:	DRAWING NUMBER:	REVISION:
GM	17.10.17	TSB	17.10.17	N.T.S	1967-01	.



PLAN 2



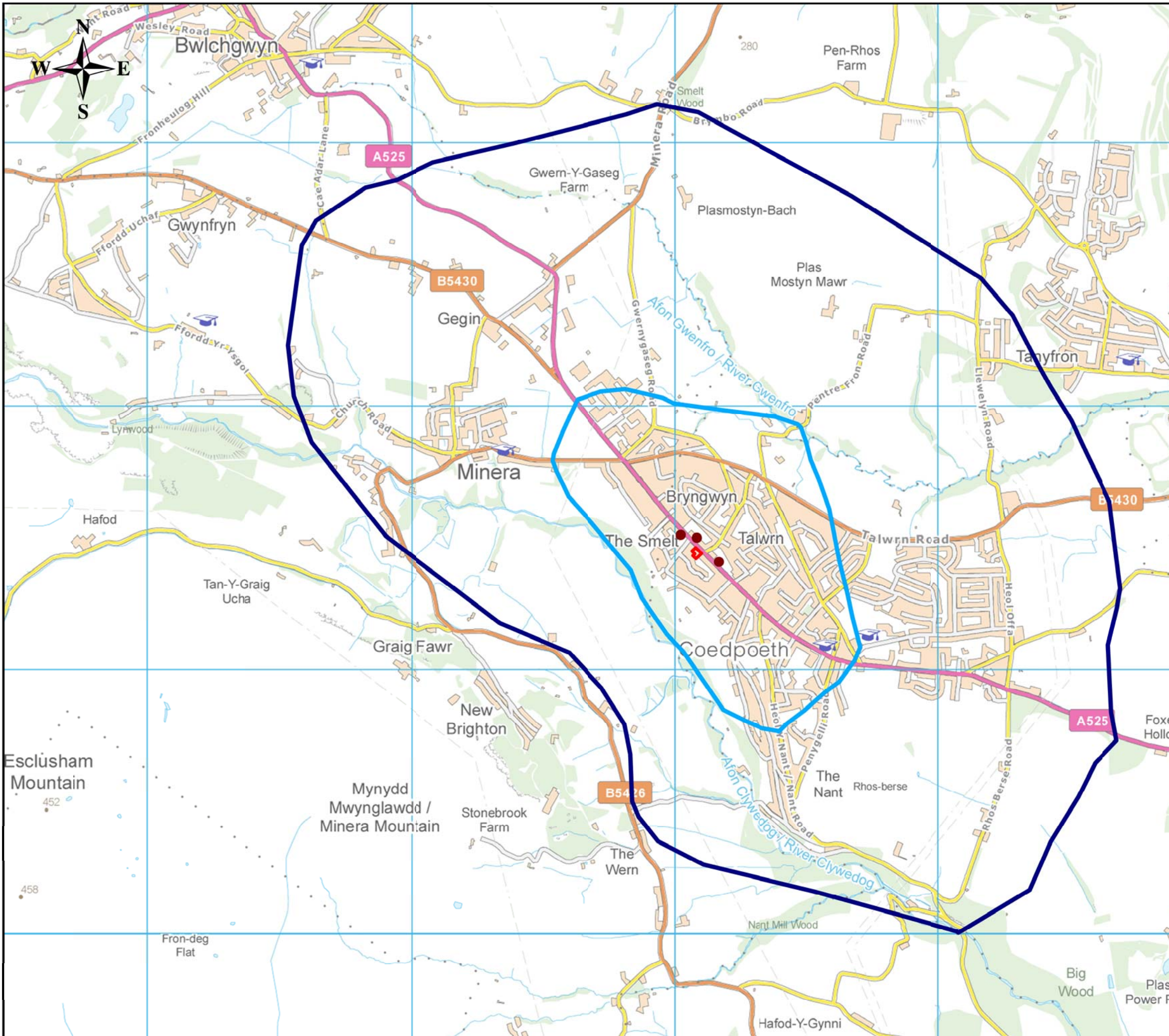
Client
THE CO-OPERATIVE ESTATES

Project
THE CO-OPERATIVE, HIGH STREET
COEDPOETH, LL11 3UF

Scale 1:100@A1	Drawn BP	Checked PJH
Date 25/08/2017	Issuing Discipline architecture	
Drawing number 6036(P)503		Revision B



archers**stevenage** | suiteB4 | first floor | mindenhall court |
high street | stevenage | SG13UN | t: 01438 365 968
archers**manchester** | citibank | 5th floor | 40 princess street |
manchester | M1 6DE | t: 0161 228 6020
e: arc@archerarchitects.co.uk
www.archerarchitects.co.uk
Important note: This drawing is issued on the condition that it is not reproduced,
disclosed or copied to any unauthorised person without written consent. Copyright
archerarchitects. All dimensions to be verified on site.



NOTES

Site Location

800m Pedestrian Catchment

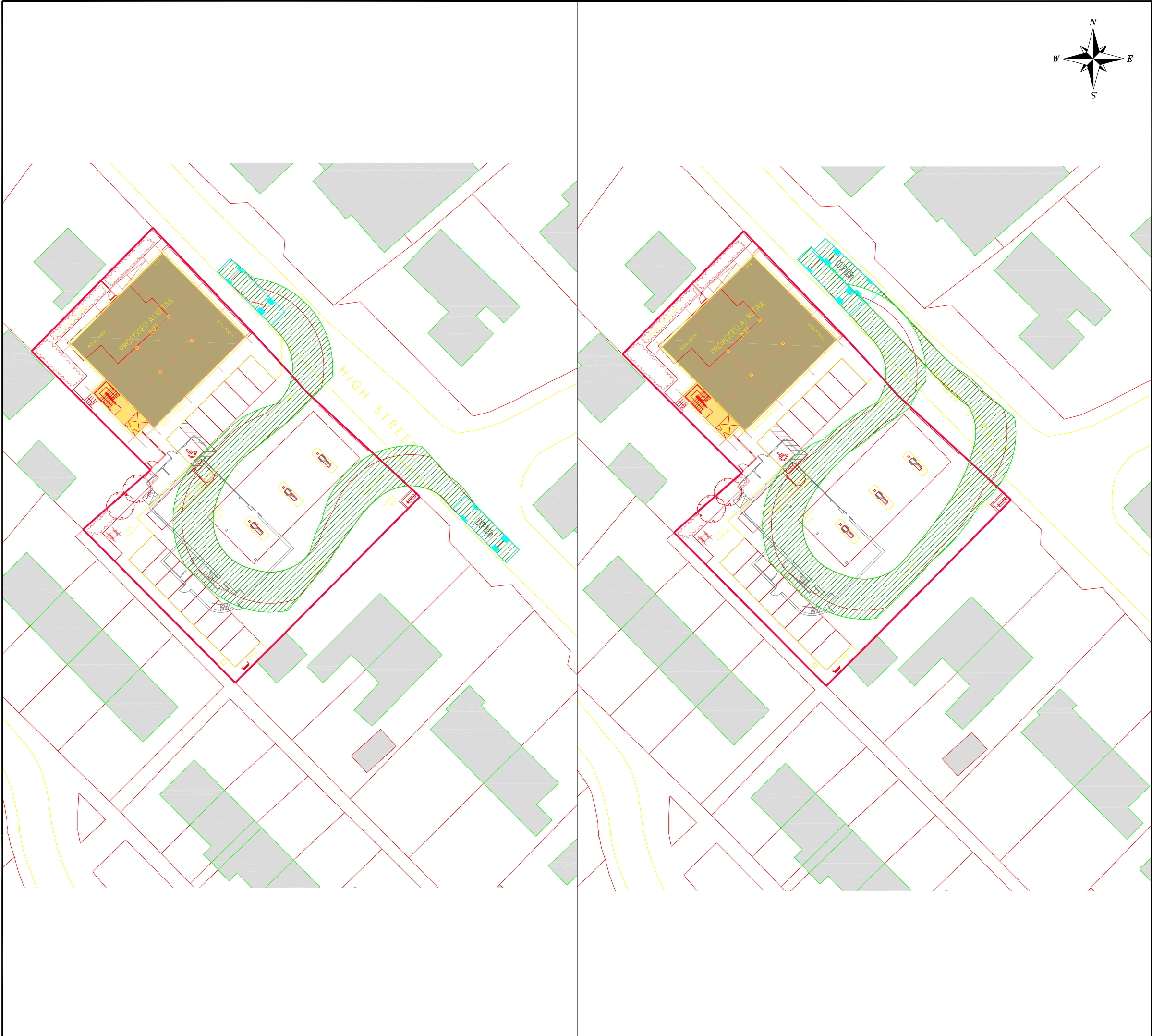
2km Pedestrian Catchment

Bus Stops within 400m

PLAN 3

REV.	DETAILS	DRAWN	CHECKED	DATE
CLIENT: COOPERATIVE ESTATES				
PROJECT: RE-DEVELOPMENT OF PETROL FILLING STATION HIGH STREET, COEDPOETH				
DRAWING TITLE: 800M & 2KM PEDESTRIAN CATCHMENT				
SCALE: 15000 @ A3				
DRAWN: GM		CHECKED: TSB	DATE: 17.10.17	
9 Jordan Street, Manchester, M15 4PY Email: info@crofts.co.uk Tel: 0161 667 3746 Web: www.crofts.co.uk		croft Transport Solutions		
DRAWING NUMBER: 1967-03				REVISION: .

Z:\projects\1967 Co-op High Street, Coedpoeth\CAD\Croft Drawings\1967-SP01.dwg



NOTES

PLAN 4

CO-OP 10.35m

Overall Length	10.350m
Overall Width	2.500m
Overall Body Height	3.645m
Min Body Ground Clearance	0.440m
Track Width	2.470m
Lock to lock time	3.00s
Kerb to kerb Turning Radius	11.000m

REV.	DETAILS	DRAWN	CHECKED	DATE
CLIENT: COOPERATIVE				
PROJECT: HIGH STREET, COEDPOETH				
DRAWING TITLE: SWEPT PATH ANALYSIS				
SCALES: 1:500 @ A3				
DRAWN: GM		CHECKED: TSB		DATE: OCT 17
9 Jordan Street, Manchester, M15 4PY				
Email: info@croftts.co.uk Tel: 0161 667 3746 Web: www.croftts.co.uk				
DRAWING NUMBER: 1967-SP01				REVISION: .

APPENDICES

APPENDIX 1

Traffic Count Data

Coedpoeth - Manual Traffic Survey, Tuesday 19th September 2017

Produced by Road Data Services Ltd

Junction: High Street / Petrol Station

	Left Out			Right Out			Right In			Left In		
TIME	LIGHT	HEAVY	TOTAL	LIGHT	HEAVY	TOTAL	LIGHT	HEAVY	TOTAL	LIGHT	HEAVY	TOTAL
0730 - 0745	12	0	12	1	0	1	10	0	10	1	0	1
0745 - 0800	8	0	8	0	0	0	12	0	12	2	0	2
Hourly Total	20	0	20	1	0	1	22	0	22	3	0	3
0800 - 0815	8	0	8	2	0	2	13	0	13	0	0	0
0815 - 0830	11	0	11	1	0	1	11	0	11	1	0	1
0830 - 0845	9	0	9	3	0	3	16	0	16	2	0	2
0845 - 0900	10	0	10	1	0	1	10	0	10	1	0	1
Hourly Total	38	0	38	7	0	7	50	0	50	4	0	4
0900 - 0915	10	0	10	0	0	0	4	0	4	4	0	4
0915 - 0930	8	0	8	2	0	2	7	0	7	2	0	2
Hourly Total	18	0	18	2	0	2	11	0	11	6	0	6
Session Total	76	0	76	10	0	10	83	0	83	13	0	13

1630 - 1645	12	0	12	1	0	1	7	0	7	2	0	2
1645 - 1700	8	0	8	2	0	2	6	0	6	2	0	2
Hourly Total	20	0	20	3	0	3	13	0	13	4	0	4
1700 - 1715	13	0	13	0	0	0	9	0	9	1	0	1
1715 - 1730	11	0	11	3	0	3	10	0	10	0	0	0
1730 - 1745	9	0	9	5	0	5	12	0	12	4	0	4
1745 - 1800	10	0	10	3	0	3	11	0	11	3	0	3
Hourly Total	43	0	43	11	0	11	42	0	42	8	0	8
1800 - 1815	13	0	13	3	0	3	11	0	11	2	0	2
1815 - 1830	7	0	7	2	0	2	8	0	8	1	0	1
Hourly Total	20	0	20	5	0	5	19	0	19	3	0	3
Session Total	83	0	83	19	0	19	74	0	74	15	0	15

Coedpoeth - Manual Traffic Survey, Tuesday 19th September 2017

Produced by Road Data Services Ltd

Junction: High Street / Petrol Station

TIME	Left Out			Right Out			Right In			Left In		
	LIGHT	HEAVY	TOTAL	LIGHT	HEAVY	TOTAL	LIGHT	HEAVY	TOTAL	LIGHT	HEAVY	TOTAL
0730 - 0745	1	0	1	7	0	7	2	0	2	7	0	7
0745 - 0800	2	0	2	9	0	9	1	0	1	9	0	9
Hourly Total	3	0	3	16	0	16	3	0	3	16	0	16
0800 - 0815	1	0	1	11	0	11	4	0	4	8	0	8
0815 - 0830	2	0	2	13	0	13	5	0	5	5	0	5
0830 - 0845	2	0	2	10	0	10	3	0	3	10	1	11
0845 - 0900	0	1	1	9	0	9	1	0	1	11	0	11
Hourly Total	5	1	6	43	0	43	13	0	13	34	1	35
0900 - 0915	2	0	2	13	0	13	2	0	2	9	0	9
0915 - 0930	0	0	0	11	0	11	0	0	0	13	0	13
Hourly Total	2	0	2	24	0	24	2	0	2	22	0	22
Session Total	10	1	11	83	0	83	18	0	18	72	1	73
1630 - 1645	2	0	2	7	0	7	1	0	1	15	0	15
1645 - 1700	2	0	2	10	0	10	0	0	0	13	0	13
Hourly Total	4	0	4	17	0	17	1	0	1	28	0	28
1700 - 1715	1	0	1	10	0	10	2	0	2	9	0	9
1715 - 1730	4	0	4	9	0	9	1	0	1	14	0	14
1730 - 1745	3	0	3	10	0	10	1	0	1	10	0	10
1745 - 1800	1	0	1	7	0	7	1	0	1	7	0	7
Hourly Total	9	0	9	36	0	36	5	0	5	40	0	40
1800 - 1815	2	0	2	6	0	6	2	0	2	6	0	6
1815 - 1830	0	0	0	9	0	9	2	0	2	6	0	6
Hourly Total	2	0	2	15	0	15	4	0	4	12	0	12
Session Total	15	0	15	68	0	68	10	0	10	80	0	80

Coedpoeth - Manual Traffic Survey, Tuesday 19th September 2017

Produced by Road Data Services Ltd

Junction: High Street / Petrol Station

TIME	Passing Northbound			Passing Southbound		
	LIGHT	HEAVY	TOTAL	LIGHT	HEAVY	TOTAL
0730 - 0745	59	1	60	116	4	120
0745 - 0800	77	2	79	108	1	109
Hourly Total	136	3	139	224	5	229
0800 - 0815	99	3	102	86	7	93
0815 - 0830	83	1	84	94	2	96
0830 - 0845	65	2	67	102	5	107
0845 - 0900	60	1	61	89	2	91
Hourly Total	307	7	314	371	16	387
0900 - 0915	48	2	50	63	3	66
0915 - 0930	44	2	46	66	2	68
Hourly Total	92	4	96	129	5	134

Session Total	535	14	549	724	26	750
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1630 - 1645	119	2	121	88	0	88
1645 - 1700	103	0	103	99	1	100
Hourly Total	222	2	224	187	1	188
1700 - 1715	100	1	101	82	2	84
1715 - 1730	107	0	107	102	2	104
1730 - 1745	98	1	99	107	1	108
1745 - 1800	88	2	90	92	1	93
Hourly Total	393	4	397	383	6	389
1800 - 1815	87	1	88	81	0	81
1815 - 1830	73	2	75	80	1	81
Hourly Total	160	3	163	161	1	162

Session Total	775	9	784	731	8	739
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APPENDIX 2

TRICS Output – Convenience Store

Calculation Reference: AUDIT-851401-170214-0206

TRIP RATE CALCULATION SELECTION PARAMETERS:

Land Use : 01 - RETAIL
 Category : O - CONVENIENCE STORE
 VEHICLES

Selected regions and areas:

02	SOUTH EAST	
	ES EAST SUSSEX	1 days
03	SOUTH WEST	
	DC DORSET	1 days
	DV DEVON	1 days
04	EAST ANGLIA	
	CA CAMBRIDGESHIRE	1 days
	NF NORFOLK	1 days
05	EAST MIDLANDS	
	LE LEICESTERSHIRE	1 days
	NR NORTHAMPTONSHIRE	1 days
07	YORKSHIRE & NORTH LINCOLNSHIRE	
	NY NORTH YORKSHIRE	2 days
	SY SOUTH YORKSHIRE	2 days
	WY WEST YORKSHIRE	1 days
09	NORTH	
	DH DURHAM	1 days
10	WALES	
	CF CARDIFF	1 days
11	SCOTLAND	
	AD ABERDEEN CITY	1 days
	EB CITY OF EDINBURGH	1 days

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

Secondary Filtering selection:

This data displays the chosen trip rate parameter and its selected range. Only sites that fall within the parameter range are included in the trip rate calculation.

Parameter: Gross floor area
 Actual Range: 70 to 469 (units: sqm)
 Range Selected by User: 70 to 500 (units: sqm)

Public Transport Provision:

Selection by: Include all surveys

Date Range: 01/01/08 to 28/05/15

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

Selected survey days:

Monday	3 days
Wednesday	5 days
Thursday	3 days
Friday	5 days

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

Selected survey types:

Manual count	16 days
Directional ATC Count	0 days

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

Selected Locations:

Town Centre	3
Edge of Town Centre	2
Suburban Area (PPS6 Out of Centre)	7
Edge of Town	1
Neighbourhood Centre (PPS6 Local Centre)	3

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

Selected Location Sub Categories:

Commercial Zone	1
Residential Zone	10
Built-Up Zone	3
High Street	2

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

Secondary Filtering selection:

Use Class:

A1	16 days
----	---------

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

Secondary Filtering selection (Cont.):

Population within 1 mile:

1,001 to 5,000	1 days
5,001 to 10,000	2 days
10,001 to 15,000	1 days
15,001 to 20,000	6 days
20,001 to 25,000	2 days
25,001 to 50,000	2 days
50,001 to 100,000	2 days

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

Population within 5 miles:

5,001 to 25,000	1 days
25,001 to 50,000	1 days
50,001 to 75,000	1 days
75,001 to 100,000	2 days
100,001 to 125,000	1 days
125,001 to 250,000	4 days
250,001 to 500,000	5 days
500,001 or More	1 days

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

Car ownership within 5 miles:

0.6 to 1.0	7 days
1.1 to 1.5	9 days

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

Petrol filling station:

Included in the survey count	0 days
Excluded from count or no filling station	16 days

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

Travel Plan:

No	16 days
----	---------

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

PTAL Rating:

No PTAL Present	16 days
-----------------	---------

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

LIST OF SITES relevant to selection parameters

1	AD-01-O-01	TESCO EXPRESS	ABERDEEN CITY
	VICTORIA STREET		
	DYCE		
	ABERDEEN		
	Suburban Area (PPS6 Out of Centre)		
	Built-Up Zone		
	Total Gross floor area:	400 sqm	
	Survey date: FRIDAY	18/05/12	Survey Type: MANUAL
2	CA-01-O-01	CO-OP	CAMBRIDGESHIRE
	MAYORS WALK		
	NETHERTON		
	PETERBOROUGH		
	Neighbourhood Centre (PPS6 Local Centre)		
	Residential Zone		
	Total Gross floor area:	375 sqm	
	Survey date: MONDAY	17/10/11	Survey Type: MANUAL
3	CF-01-O-01	TESCO EXPRESS	CARDIFF
	BUTE STREET		
	CARDIFF BAY		
	CARDIFF		
	Neighbourhood Centre (PPS6 Local Centre)		
	Commercial Zone		
	Total Gross floor area:	450 sqm	
	Survey date: WEDNESDAY	18/07/12	Survey Type: MANUAL
4	DC-01-O-01	LONDIS	DORSET
	MAUD ROAD		
	DORCHESTER		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Gross floor area:	176 sqm	
	Survey date: FRIDAY	04/07/08	Survey Type: MANUAL
5	DH-01-O-01	SAINSBURY'S LOCAL	DURHAM
	132 STATION LANE		
	SEATON CAREW		
	HARTLEPOOL		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Gross floor area:	469 sqm	
	Survey date: MONDAY	26/11/12	Survey Type: MANUAL
6	DV-01-O-01	PREMIER	DEVON
	MELROSE AVENUE		
	PLYMOUTH		
	Suburban Area (PPS6 Out of Centre)		
	Residential Zone		
	Total Gross floor area:	70 sqm	
	Survey date: WEDNESDAY	18/07/12	Survey Type: MANUAL
7	EB-01-O-01	SAINSBURY'S LOCAL	CITY OF EDINBURGH
	EARL GREY STREET		
	EDINBURGH		
	Town Centre		
	Built-Up Zone		
	Total Gross floor area:	350 sqm	
	Survey date: THURSDAY	28/05/15	Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

8	ES-01-O-01	ONE STOP		EAST SUSSEX
	THE SIDINGS			
	ORE VALLEY			
	HASTINGS			
	Suburban Area (PPS6 Out of Centre)			
	Residential Zone			
	Total Gross floor area:	280 sqm		
	Survey date: WEDNESDAY	19/12/12		Survey Type: MANUAL
9	LE-01-O-01	BEST ONE		LEICESTERSHIRE
	THE FAIRWAY			
	AYLESTONE PARK			
	LEICESTER			
	Suburban Area (PPS6 Out of Centre)			
	Residential Zone			
	Total Gross floor area:	220 sqm		
	Survey date: THURSDAY	27/09/12		Survey Type: MANUAL
10	NF-01-O-01	TESCO EXPRESS		NORFOLK
	DEREHAM ROAD			
	NORWICH			
	Suburban Area (PPS6 Out of Centre)			
	Residential Zone			
	Total Gross floor area:	298 sqm		
	Survey date: FRIDAY	26/10/12		Survey Type: MANUAL
11	NR-01-O-01	LONDIS		NORTHAMPTONSHIRE
	ROCKINGHAM ROAD			
	CORBY			
	Edge of Town Centre			
	Residential Zone			
	Total Gross floor area:	120 sqm		
	Survey date: FRIDAY	21/11/08		Survey Type: MANUAL
12	NY-01-O-01	SPAR		NORTH YORKSHIRE
	HIGH STREET			
	BOROUGHBRIDGE			
	Town Centre			
	High Street			
	Total Gross floor area:	96 sqm		
	Survey date: WEDNESDAY	17/09/08		Survey Type: MANUAL
13	NY-01-O-02	SAINSBURY'S LOCAL		NORTH YORKSHIRE
	COLD BATH ROAD			
	HARROGATE			
	Edge of Town Centre			
	Residential Zone			
	Total Gross floor area:	220 sqm		
	Survey date: MONDAY	10/12/12		Survey Type: MANUAL
14	SY-01-O-01	SAINSBURY'S LOCAL		SOUTH YORKSHIRE
	DIVISION STREET			
	SHEFFIELD			
	Town Centre			
	Built-Up Zone			
	Total Gross floor area:	219 sqm		
	Survey date: WEDNESDAY	12/12/12		Survey Type: MANUAL

LIST OF SITES relevant to selection parameters (Cont.)

15	SY-01-O-02	SAINBURY'S LOCAL	SOUTH YORKSHIRE
	ECCLESALL ROAD		
	SHEFFIELD		
	Neighbourhood Centre (PPS6 Local Centre)		
	High Street		
	Total Gross floor area:	306 sqm	
	Survey date: FRIDAY	14/12/12	Survey Type: MANUAL
16	WY-01-O-01	SAINSBURY'S LOCAL	WEST YORKSHIRE
	KEIGHLEY ROAD		
	BRADFORD		
	Edge of Town		
	Residential Zone		
	Total Gross floor area:	400 sqm	
	Survey date: THURSDAY	06/12/12	Survey Type: MANUAL

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

TRIP RATE for Land Use 01 - RETAIL/O - CONVENIENCE STORE
VEHICLES

Calculation factor: 100 sqm

BOLD print indicates peak (busiest) period

Time Range	ARRIVALS			DEPARTURES			TOTALS		
	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate	No. Days	Ave. GFA	Trip Rate
00:00 - 01:00									
01:00 - 02:00									
02:00 - 03:00									
03:00 - 04:00									
04:00 - 05:00									
05:00 - 06:00	1	400	0.500	1	400	0.000	1	400	0.500
06:00 - 07:00	5	285	4.076	5	285	2.741	5	285	6.817
07:00 - 08:00	16	273	7.385	16	273	6.744	16	273	14.129
08:00 - 09:00	16	273	8.002	16	273	7.682	16	273	15.684
09:00 - 10:00	16	273	7.087	16	273	7.156	16	273	14.243
10:00 - 11:00	16	273	6.173	16	273	5.967	16	273	12.140
11:00 - 12:00	16	273	7.179	16	273	6.904	16	273	14.083
12:00 - 13:00	16	273	9.259	16	273	8.893	16	273	18.152
13:00 - 14:00	16	273	7.179	16	273	7.179	16	273	14.358
14:00 - 15:00	16	273	7.705	16	273	7.316	16	273	15.021
15:00 - 16:00	16	273	8.345	16	273	8.688	16	273	17.033
16:00 - 17:00	16	273	9.259	16	273	8.551	16	273	17.810
17:00 - 18:00	16	273	10.677	16	273	10.128	16	273	20.805
18:00 - 19:00	16	273	10.517	16	273	11.157	16	273	21.674
19:00 - 20:00	16	273	8.002	16	273	8.848	16	273	16.850
20:00 - 21:00	15	287	4.182	15	287	5.042	15	287	9.224
21:00 - 22:00	11	336	2.031	11	336	2.519	11	336	4.550
22:00 - 23:00	3	415	0.965	3	415	1.608	3	415	2.573
23:00 - 24:00	1	400	0.000	1	400	0.250	1	400	0.250
Total Rates:			118.523			117.373			235.896

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: $COUNT/TRP*FACT$. Trip rates are then rounded to 3 decimal places.

Parameter summary

Trip rate parameter range selected: 70 - 469 (units: sqm)
 Survey date range: 01/01/08 - 28/05/15
 Number of weekdays (Monday-Friday): 16
 Number of Saturdays: 0
 Number of Sundays: 0
 Surveys automatically removed from selection: 0
 Surveys manually removed from selection: 0

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

APPENDIX 3

PICADY Output – High Street/Site Access Junction

Junctions 9							
PICADY 9 - Priority Intersection Module							
Version: 9.0.0.4211 [] © Copyright TRL Limited, 2017							
For sales and distribution information, program advice and maintenance, contact TRL: Tel: +44 (0)1344 770758 email: software@trl.co.uk Web: http://www.trlsoftware.co.uk							
The users of this computer program for the solution of an engineering problem are in no way relieved of their responsibility for the correctness of the solution							

Filename: Site Access_High Street - Junction 1.j9
Path: Z:\projects\1967 Co-op High Street, Coedpoeth\Picady
Report generation date: 25/10/2017 16:24:48

- »2022 Base Flows, AM
- »2022 Base Flows, PM
- »2022 Assessment Flows, AM
- »2022 Assessment Flows, PM

Summary of junction performance

	AM				PM			
	Queue (PCU)	Delay (s)	RFC	LOS	Queue (PCU)	Delay (s)	RFC	LOS
2022 Base Flows								
Stream B-AC	0.2	12.63	0.16	B	0.2	13.01	0.16	B
Stream C-AB	0.0	6.91	0.03	A	0.0	7.39	0.01	A
Stream C-A								
Stream A-B								
Stream A-C								
2022 Assessment Flows								
Stream B-AC	0.2	12.90	0.18	B	0.2	13.56	0.19	B
Stream C-AB	0.0	6.91	0.03	A	0.0	7.40	0.01	A
Stream C-A								
Stream A-B								
Stream A-C								

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

File summary

File Description

Title	Site Access-High Street
Location	Coedpoeth
Site number	
Date	25/10/2017
Version	
Status	(new file)
Identifier	
Client	
Jobnumber	1967
Enumerator	Croft Transport Solutions
Description	

Units

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

Analysis Options

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

Demand Set Summary

Scenario name	Time Period name	Traffic profile type	Model start time (HH:mm)	Model finish time (HH:mm)	Time segment length (min)
2022 Base Flows	AM	ONE HOUR	07:30	09:00	15
2022 Base Flows	PM	ONE HOUR	16:30	18:00	15
2022 Assessment Flows	AM	ONE HOUR	07:30	09:00	15
2022 Assessment Flows	PM	ONE HOUR	16:30	18:00	15

2022 Base Flows, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	0.82	A

Junction Network Options

Driving side	Lighting
Left	Normal/unknown

Arms

Arms

Arm	Name	Description	Arm type
A	High Street (S)		Major
B	Site Access		Minor
C	High Street (N)		Major

Major Arm Geometry

Arm	Width of carriageway (m)	Has kerbed central reserve	Has right turn bay	Visibility for right turn (m)	Blocks?	Blocking queue (PCU)
C	6.00			90.0	✓	1.00

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

Minor Arm Geometry

Arm	Minor arm type	Lane width (m)	Visibility to left (m)	Visibility to right (m)
B	One lane	2.75	27	14

Slope / Intercept / Capacity

Priority Intersection Slopes and Intercepts

Junction	Stream	Intercept (PCU/hr)	Slope for A-B	Slope for A-C	Slope for C-A	Slope for C-B
1	B-A	480.883	0.088	0.221	0.139	0.316
1	B-C	616.913	0.095	0.239	-	-
1	C-B	626.083	0.243	0.243	-	-

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

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

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

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Model start time (HH:mm)	Model finish time (HH:mm)	Time segment length (min)
D1	2022 Base Flows	AM	ONE HOUR	07:30	09:00	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	385.00	100.000
B		✓	49.00	100.000
C		✓	429.00	100.000

Origin-Destination Data

Demand (PCU/hr)

		To		
From		A	B	C
	A	0.000	31.000	354.000
	B	43.000	0.000	6.000
	C	416.000	13.000	0.000

Vehicle Mix

Heavy Vehicle proportion

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

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
B-A	0.16	12.63	0.2	B
C-A	0.03	6.91	0.0	A
C-B				
A-B				
A-C				

2022 Base Flows, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	0.69	A

Junction Network Options

[same as above]

Arms

Arms

[same as above]

Major Arm Geometry

[same as above]

Minor Arm Geometry

[same as above]

Slope / Intercept / Capacity

[same as above]

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Model start time (HH:mm)	Model finish time (HH:mm)	Time segment length (min)
D2	2022 Base Flows	PM	ONE HOUR	16:30	18:00	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	517.00	100.000
B		✓	48.00	100.000
C		✓	382.00	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
		A	B	C
From	A	0.000	54.000	463.000
	B	38.000	0.000	10.000
	C	378.000	4.000	0.000

Vehicle Mix

Heavy Vehicle proportion

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

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
B-A-C	0.16	13.01	0.2	B
C-AB	0.01	7.39	0.0	A
C-A				
A-B				
A-C				

2022 Assessment Flows, AM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	0.94	A

Junction Network Options

[same as above]

Arms

Arms

[same as above]

Major Arm Geometry

[same as above]

Minor Arm Geometry

[same as above]

Slope / Intercept / Capacity

[same as above]

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Model start time (HH:mm)	Model finish time (HH:mm)	Time segment length (min)
D3	2022 Assessment Flows	AM	ONE HOUR	07:30	09:00	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	386.00	100.000
B		✓	56.00	100.000
C		✓	423.00	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
		A	B	C
From	A	0.000	36.000	350.000
	B	49.000	0.000	7.000
	C	410.000	13.000	0.000

Vehicle Mix

Heavy Vehicle proportion

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

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
B-A-C	0.18	12.90	0.2	B
C-AB	0.03	6.91	0.0	A
C-A				
A-B				
A-C				

2022 Assessment Flows, PM

Data Errors and Warnings

No errors or warnings

Analysis Set Details

ID	Network flow scaling factor (%)
A1	100.000

Junction Network

Junctions

Junction	Name	Junction Type	Major road direction	Junction Delay (s)	Junction LOS
1	untitled	T-Junction	Two-way	0.83	A

Junction Network Options

[same as above]

Arms

Arms

[same as above]

Major Arm Geometry

[same as above]

Minor Arm Geometry

[same as above]

Slope / Intercept / Capacity

[same as above]

Traffic Demand

Demand Set Details

ID	Scenario name	Time Period name	Traffic profile type	Model start time (HH:mm)	Model finish time (HH:mm)	Time segment length (min)
D4	2022 Assessment Flows	PM	ONE HOUR	16:30	18:00	15

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

Demand overview (Traffic)

Arm	Linked arm	Use O-D data	Average Demand (PCU/hr)	Scaling Factor (%)
A		✓	521.00	100.000
B		✓	56.00	100.000
C		✓	376.00	100.000

Origin-Destination Data

Demand (PCU/hr)

	To			
		A	B	C
From	A	0.000	65.000	456.000
	B	46.000	0.000	10.000
	C	372.000	4.000	0.000

Vehicle Mix

Heavy Vehicle proportion

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

Results

Results Summary for whole modelled period

Stream	Max RFC	Max delay (s)	Max Queue (PCU)	Max LOS
B-A-C	0.19	13.56	0.2	B
C-AB	0.01	7.40	0.0	A
C-A				
A-B				
A-C				

APPENDIX 4

PICADY Output – High Street/Site Access Junction