HighgateTransportation

Canalside Development, Ellesmere

Transport Assessment

(2314/TA/01)

July 2023

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1.0 Introduction and Background

1.1 This Transport Assessment (TA) has been produced by Highgate Transportation (HTp) to support the planning application by Burbury Investments Ltd. for the formation of a link road with footway and cycleway provision between the Ellesmere Business Park roundabout on the A495 in the west, and Canal Way in the east.

1.2 The link road and transport impact of the scheme is for determination, with the development profile being in outline for assessment purposes.

1.3 The link road will be designed to encourage low vehicle speeds and the proposals include for the modification of the three-arm A495 Ellesmere Business Park roundabout, to create a new fourth arm for the site access. The access from Canal Way, in the east, will be a continuation of the current highway layout.

1.4 It is intended that the link road will be completed in full, from the modified Business Park roundabout on the A495 to the connection with Canal Way.

1.5 It is proposed for the purpose of assessment that the mixed-use development scheme will include:

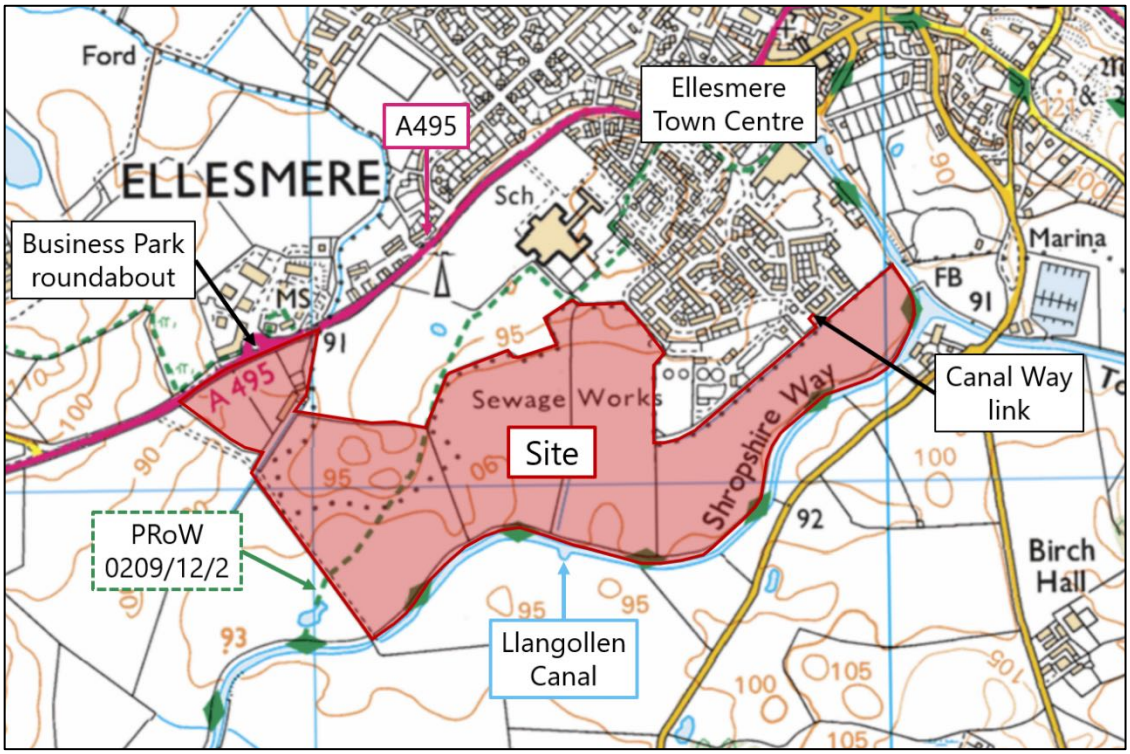
i. Up to 350 residential dwellings
ii. A Foodstore up to 2,000sqm
iii. Up to 10,000sqm of commercial floorspace
iv. A 100-bed care home
v. An 80-bed hotel
vi. 70 holiday cabins
vii. A touring caravan site with 35 berths
viii. A 750sqm pub/restaurant
ix. A 500sqm play centre
x. A 210sqm drive-through coffee shop
xi. A 210 sqm café/bakery
xii. A 0.15 hectare petrol filling station

1.6 The mixed-use development will provide many everyday services and facilities within easy walking and cycling distance of existing and proposed residential areas, allowing people to live and work within the same community and reducing the reliance on the private car.

1.7 Ellesmere is a market town in Shropshire, located around 12km north-east of Oswestry, 17km south of Wrexham and 25km north of Shrewsbury. The application site has been identified as a site to be developed (comprising sites ELL003a and ELL003b) in the Site Allocations and Management of Development (SAMDev) Plan published by Shropshire County Council (SCC).

1.8 The location of the application site within the Ellesmere area is shown in **Figure 1.1**.

Figure 1.1 – Location of the application site within the Ellesmere area



Pre-Application 2022

1.9 A Transport Scoping Note dated June 2022 was prepared by BWB Consulting as part of the pre-application for this site.

1.10 A response to the Transport Scoping Note from SCC (included as **Appendix 1**) sets out that, in this TA, the following should be provided:

i. Details of pedestrian and cycle infrastructure along the link road
ii. Designs for junctions off the link road
iii. A review of existing bus infrastructure
iv. A review of existing rail infrastructure
v. Walking and cycling isochrone maps
vi. Parking strategy
vii. Visibility splays
viii. Swept path analysis
ix. Details of how Non-Motorised User (NMU) movements will be undertaken from the site into the existing network
x. Proposed pedestrian and cycle infrastructure improvements
xi. Details of the impact on Public Rights of Way (PRoW)
xii. Details of a framework for a travel plan, including measures and initiatives to be considered as part of a full travel plan
xiii. A comprehensive review of collision data
xiv. Review of committed development
xv. Mitigation arising

1.11 The response also sets out expectations for updated trip rates, trip discounts and modelling to be carried out. All of which have been taken into account in the preparation of this TA.

1.12 A Construction Traffic Management Plan for the site has been provided as a separate document (reference: HTp/2314/CTMP/01). A Stage 1 and 2 Road Safety Audit has been commissioned by SGi Consulting Engineers.

Previous Planning Application 2014

1.13 An outline planning application (planning reference: 14/04047/OUT) for a development on this site was submitted in September 2014 and approved in December 2016. This previous scheme included a boating marina and leisure centre, as well as a lesser quantum of residential dwellings. No retail was provided for.

1.14 The application was supported by a TA.

Transport Assessment

1.15 This report (reference: HTp/2314/TA/01) will present an overview of the existing and proposed transport conditions, particularly public transport, and assess the likely impact of the proposed new link road and mixed-use development on the local highway network.

1.16 A Framework Travel Plan (FTP) (reference: HTp/2314/FTP/01) for the wider site is also provided in conjunction with this TA.

1.17 The highway and transportation issues to be addressed within this report are:

i. Is the proposed provision of footways, crossings, and other pedestrian infrastructure attractive and appropriate?
ii. Is the proposed provision of cycleways and other cycle infrastructure attractive and appropriate?
iii. What will the design code be for junctions to be constructed off the link road to serve the various phases?
iv. What existing bus infrastructure is present, and of what quality, in the vicinity of the site?
v. Where are the nearest railway stations, and what infrastructure is provided?
vi. What existing walking and cycling infrastructure is in place, and how long does it take to travel to services and facilities by these modes?
vii. What is the strategy for car and cycle parking?
viii. Can appropriate visibility splays be provided?
ix. Does swept path analysis demonstrate that the proposed modifications for the Business Park Roundabout are suitable?
x. How will NMU movements be undertaken, and are these appropriate?
xi. What pedestrian and cycle infrastructure improvements are proposed?
xii. Is acceptable access maintained on the existing Public Right of Way (PRoW) across the site, and is any necessary diversion suitable?
xiii. What travel plan measures are appropriate for including in the FTP?
xiv. Are there any underlying road safety issues that need to be addressed?
xv. What are suitable trip rates for each of the indicative land uses?
xvi. What level of trip discounting can be applied?
xvii. How many vehicle trips are forecast to be associated with the indicative development scheme?
xviii. What committed development needs to be taken into account in the assessment?
xix. How will these trips be distributed on the local highway network?
xx. What traffic growth is suitable for the assessment years of 2023 and 2028?
xxi. What is the forecast traffic impact on the existing and proposed highway network as a result of the likely development profile?
xxii. What, if any, mitigation is required?

1.18 This report is set out as follows:

- **Section 2.0** outlines the existing situation
- **Section 3.0** discusses the proposed development scheme
- **Section 4.0** outlines the FTP
- **Section 5.0** considers the context of national and local planning policy
- **Section 6.0** sets out the trip rates, trip generation and attraction, and distribution associated with the proposed development
- **Section 7.0** sets out how future background traffic levels have been forecast
- **Section 7.0** details the capacity analysis carried out, and any mitigation arising
- **Section 8.0** provides a summary of the findings and sets out the conclusions made

1.19 This report will conclude that the proposed link road and associated development will not have a significant impact on the safety or capacity of the local highway network, and is therefore acceptable in highway terms.

2.0 Existing Situation

2.1 The site comprises around 80 acres of land to the south-west of Ellesmere. It is bounded to the east and south by the Llangollen Canal, to the west by open fields, and to the north by the A495, land committed for residential development, the Lakelands Academy school, a sewage treatment works and existing residential areas of Ellesmere.

Highway Network

2.2 The major roads serving Ellesmere are the A495, passing through the town from the A5 near Oswestry in the west to the A41 near Whitchurch in the east, and the A528 which leads north towards Wrexham and south to Shrewsbury.

2.3 An existing driveway access is provided within around 80 metres east of the Ellesmere Business Park roundabout. Furthermore, it is understood that a gated field access within 200 metres west of the roundabout provides access into the wider site, as can be seen in **Figure 1.1**.

2.4 The Ellesmere Business Park roundabout, to which the proposed link road will connect, is currently a three-armed roundabout at the western edge of Ellesmere, which provides access to the Ellesmere Business Park from the A495.

2.5 Canal Way, which will connect with the eastern end of the proposed link road, is a residential road which provides access to a Tesco superstore in addition to residences. At its northern end, Canal Way joins the A495 at a signalised junction, where it forms the minor arm.

2.6 The A495, as it passes the site frontage, is subject to a 30mph speed limit, has a carriageway approximately 6.5 metres wide and a footway around 1.8 metres wide along its northern side, and it fully lit.

2.7 Canal Way, as it adjoins the site, is subject to a 30mph speed limit, has a carriageway approximately 6.0 metres wide with 2.0 metre wide footways on each side, and is fully lit.

Public Rights of Way

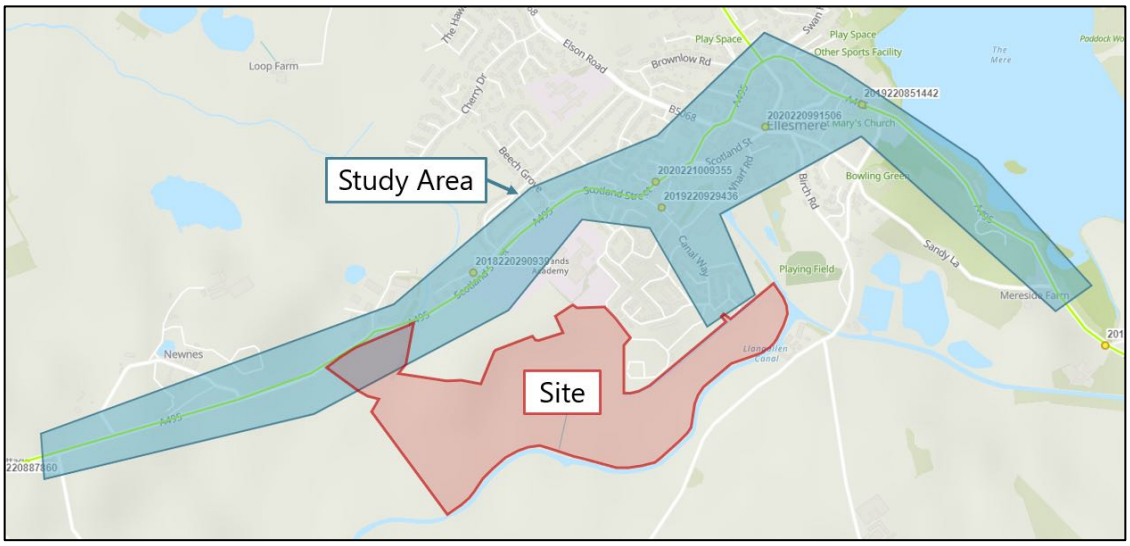
2.8 From **Figure 1.1**, it can be seen that a Public Right of Way (PRoW) in the form of a footpath (designated PRoW 0209/12/2) crosses the site on a north-east – south-west axis.

2.9 The PRoW meets the Llangollen Canal towpath at its south-western extent, before meeting Berwyn View in the north-east.

Personal Injury Accident Data

2.10 Personal Injury Accident (PIA) data for the period January 2017 to December 2021 has been obtained from the Crashmap Pro database for the study area agreed with SCC, as shown by **Figure 2.1**. The study area includes the A495 between the junctions with Ellesmere Road in the west and Sandy Lane in the east, Canal Way, and Ellesmere town centre. The collision data is contained in **Appendix 2**.

Figure 2.1 – Personal Injury Accident plot



2.11 The PIA data confirms that there have been five collisions recorded on the highway network in the vicinity of the site between 2017 and 2021, all of which were recorded as 'slight'. The approximate locations of each collision are marked on **Figure 2.1** as yellow dots.

2.12 A collision occurred in May 2018 on Oswestry Road, around 80 metres south-west of the junction with Beech Drive. The collision was between the back of a reversing car and a pedestrian over the age of 75 who was walking in the carriageway. The collision occurred at 11:40 AM, during daylight hours, with a dry road surface and in fine conditions.

2.13 A collision occurred in June 2019 on the A495 close to the Red Lion Coaching Inn. A shunt-type collision was recorded between two cars, one of which was proceeding normally along the carriageway, and the other slowing down or stopping. The collision occurred at 08:39 AM, during daylight hours, with a dry road surface and in fine conditions.

2.14 A collision occurred in December 2019 at the junction of Canal Way and Laurels Close. The collision was between a pedal cycle and a goods vehicle, and occurred at 11:00 AM, during the hours of daylight, with a wet or damp road surface and in otherwise fine conditions. No other details could be obtained.

2.15 A collision occurred in October 2020 at the junction of Scotland Street and High Street. The collision was between the front of a car operated by a driver between the ages of 16 and 20 which was proceeding south-westbound on Scotland Street, and a pedestrian over the age of 75 who was crossing the carriageway from the drivers nearside. The collision occurred at 08:29 AM, during daylight hours, with a dry road surface and in fine conditions.

2.16 A collision occurred in December 2020 on the A495 between the signalised junction with Canal Way and the roundabout junction with Scotland Street. The collision was between the nearside of a goods vehicle proceeding normally along the carriageway and two pedestrians on the footway. The collision occurred at 10:20 AM, during daylight hours, with a wet or damp road surface and in otherwise fine conditions.

2.17 From a review of the above, and consideration of the access to the site, it is concluded that there is no pattern in collisions, that the number of collisions on such a study area of this size is low, and that there are no underlying road safety issues on the local highway network that would be exacerbated by the proposed development.

Existing Facilities

2.18 The site is located close to both the centre of Ellesmere and the Ellesmere Business Park, providing numerous everyday facilities within easy walking and cycling distance of the site.

2.19 Facilities in Ellesmere town centre include, but are not limited to, cafés, pubs, restaurants and takeaways, a pharmacy, a cycle shop and hire facility, a pet shop, a veterinarian, and a hardware shop.

2.20 Isochrone maps, provided as **Figures 2.2** and **2.4**, demonstrate that the facilities in Ellesmere town centre are within approximately a 10 minute walk, or a 5 minute cycle, from the site.

2.21 A Tesco superstore is also located on Canal Way, approximately 300 metres from the current southern extremity of Canal Way.

2.22 Lakelands Academy, a secondary school, borders the site, and is easily accessible via the A495 or the footpath leading to Berwyn View.

Pedestrian Facilities

2.23 Ellesmere has an existing comprehensive footway network which provides safe pedestrian access to all the facilities in the town.

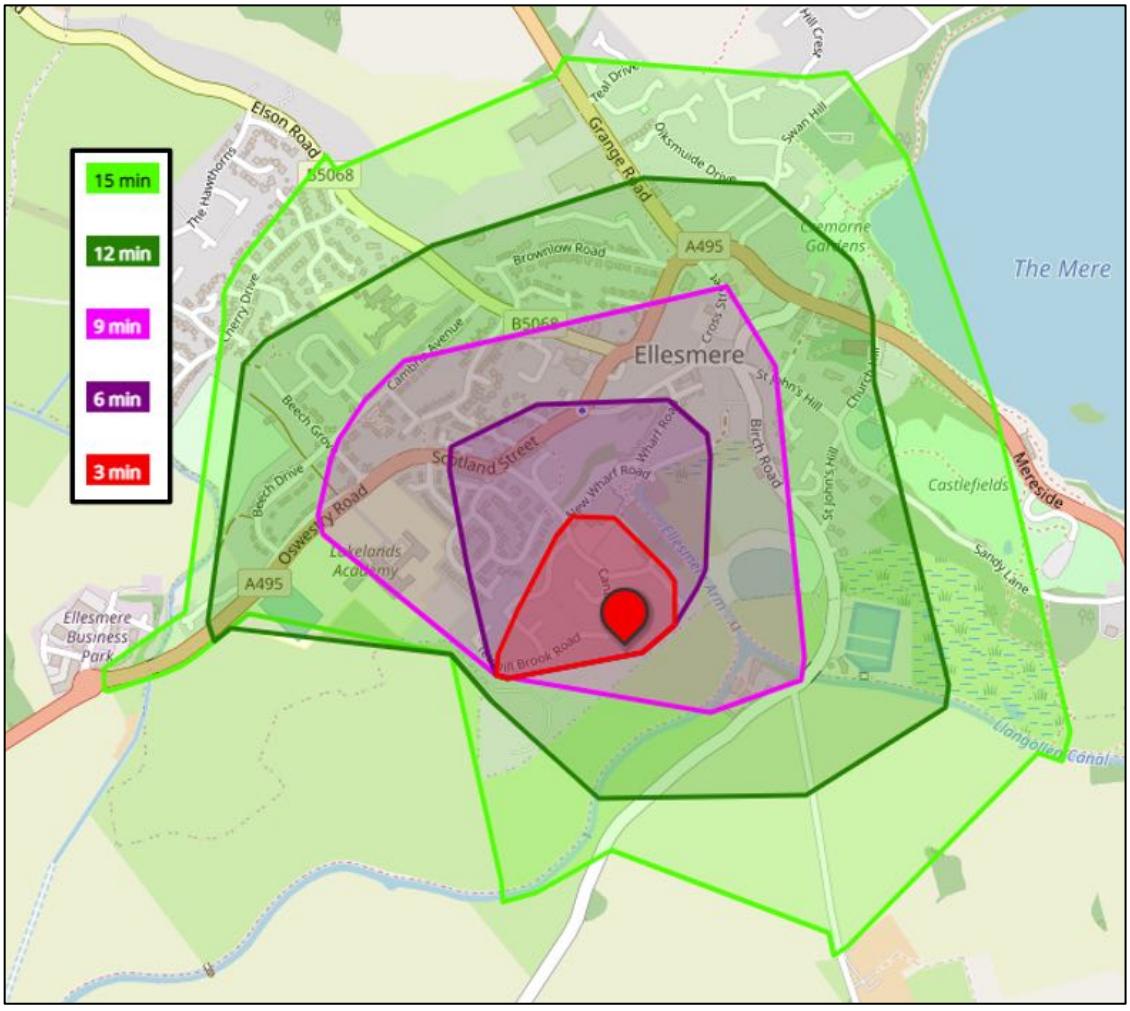
2.24 Canal Road has footways approximately 2.0 metres wide on both sides of the carriageway along its entire length, connecting with the rest of the footway network and tying in to the footway network of the proposed development.

2.25 In the vicinity of the proposed site access at the Ellesmere Business Park roundabout, a footway around 1.8 metres wide is provided on the north side of the A495, which allows pedestrian access to the Ellesmere Business Park. There are no footways to the west of this roundabout.

2.26 The towpath of the Llangollen Canal follows the eastern and southern borders of the site, and provides an attractive traffic-free walking route, particularly for leisure users. In the vicinity of the site, the towpath forms part of the Shropshire Way, a circular waymarked long distance walking route around Shropshire.

2.27 A walking isochrone map, showing the area that can be accessed by a pedestrian in a given time frame, is provided as **Figure 2.2**. The centre of the isochrone map is given as the current southern extremity of Canal Way, and so it must be borne in mind that some locations within the site may be up to ten minutes further from, or closer to, any particular point than is indicated on the isochrone map.

Figure 2.2 – Walking isochrone map



2.28 **Figure 2.2** shows that all of the facilities in Ellesmere will be comfortably within 15 minutes walking distance of the site. It must also be considered that the new link road and associated pedestrian facilities will increase the permeability of the area to pedestrians, and therefore expand the isochrones beyond their current extent.

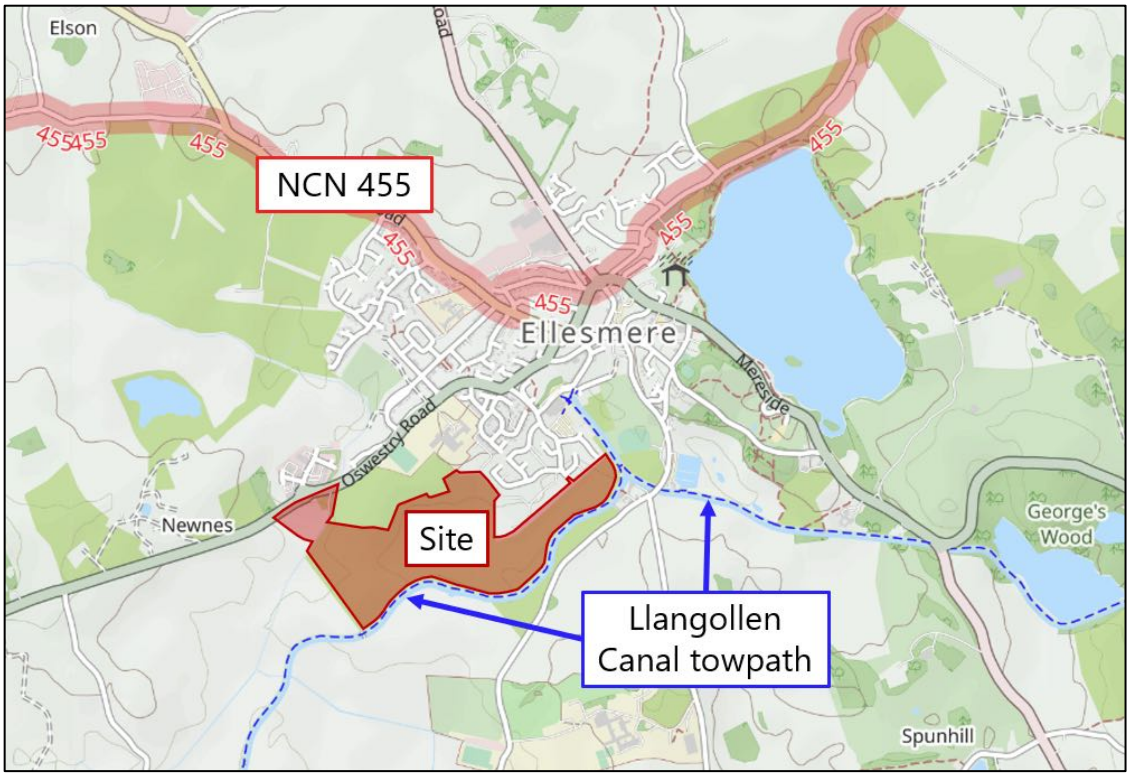
Cycle Facilities

2.29 National Cycle Network (NCN) route 455 passes through Ellesmere; at its closest point, it passes within 620 metres of the current southern extent of Canal Road. NCN 455 links the towns of Oswestry and Gobowen in the west with NCN 45 in the east via Ellesmere. NCN 455 comprises mostly quiet roads suitable for cycle users of most abilities.

2.30 The Llangollen Canal towpath provides a *de facto* cycling route from its junction with the Shropshire Union Canal near Nantwich to Llangollen, forming NCN 84 north-west of Chirk. However, it is unsurfaced and narrow for much of its length.

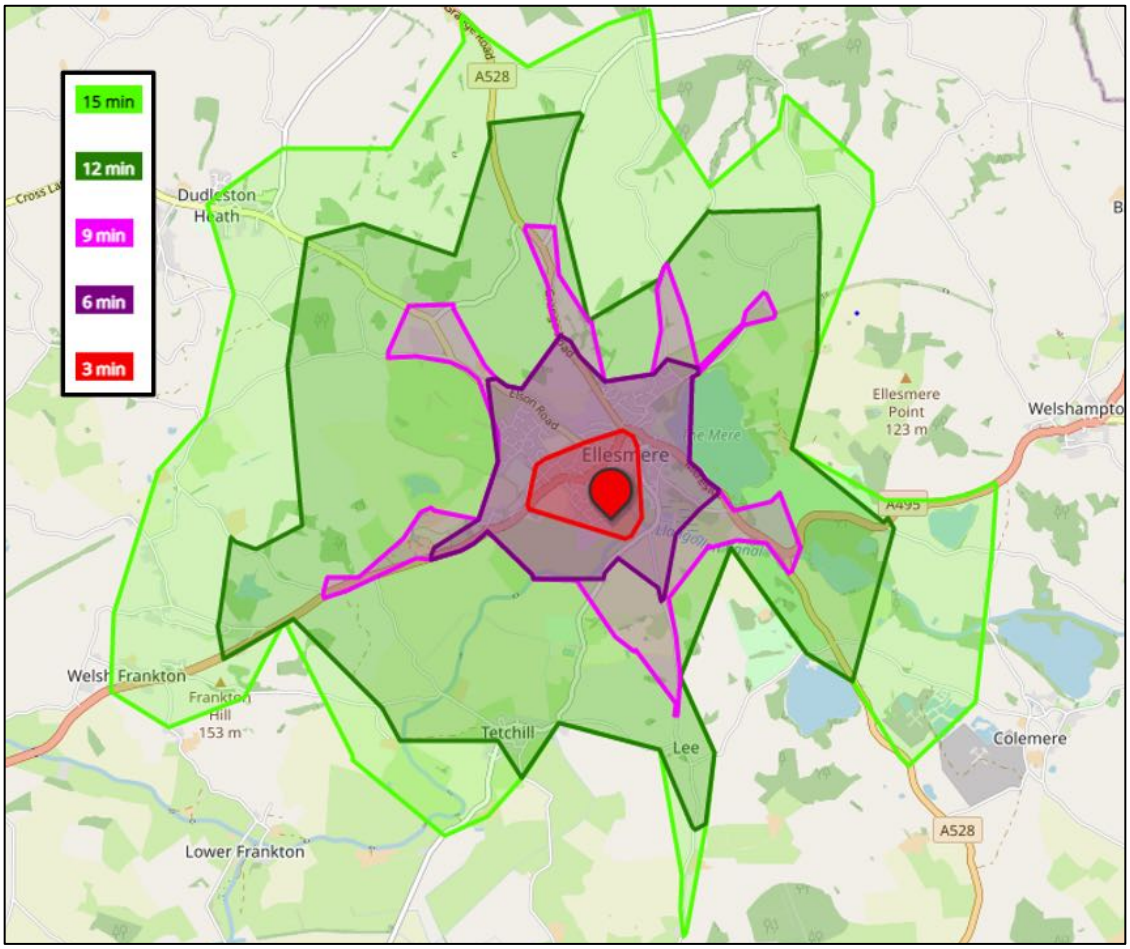
2.31 An extract from OpenCycleMap showing the Ellesmere area is provided as **Figure 2.3**.

Figure 2.3 – Extract from OpenCycleMap showing Ellesmere area



2.32 A cycling isochrone map, showing the area that can be accessed by a cycle user in a given time frame, is provided as **Figure 2.4**. The centre of the isochrone map is given as the current southern extremity of Canal Way, and so it must be borne in mind that some locations within the site may be several minutes further from, or closer to, any particular point than is indicated on the isochrone map.

Figure 2.4 – Cycling isochrone map



2.33 **Figure 2.4** shows that all of the facilities in Ellesmere will be comfortably within ten minutes cycling distance of the site. It must also be considered that the new link road and associated cycling facilities will increase the permeability of the area to cycle users, and therefore expand the isochrones beyond their current extent.

Bus Facilities

2.34 The main bus stop in Ellesmere, known as 'Crossroads', is located on Cross Street, adjacent to the junction of the A495, Cross Street and Grange Road, approximately 850 metres (11 minutes' walk[1]) from the southern extent of Canal Road. The Crossroads bus stop is on carriageway, marked by a yellow bus cage, and comprises a large bus shelter with seating, timetable information, and a litter bin.

2.35 Bus services through Ellesmere are summarised in **Table 2.1**, all of which call at the Crossroads bus stop.

[1] Assuming a typical walking speed of 80 metres per minute, rounded to the nearest whole minute (CIHT guidance document, 'Providing for Journeys on Foot', 2000)

Table 2.1 – Bus services in Ellesmere

Service Number	Route	Frequency	
		Weekdays	Saturday
53	Ellesmere – Gobowen - Oswestry	60 minutes	90 minutes
208	Ellesmere Circular	30 minutes*	-
449	Oswestry – Ellesmere	9 per day**	6 per day
501	Ellesmere - Shrewsbury	5 per day	5 per day

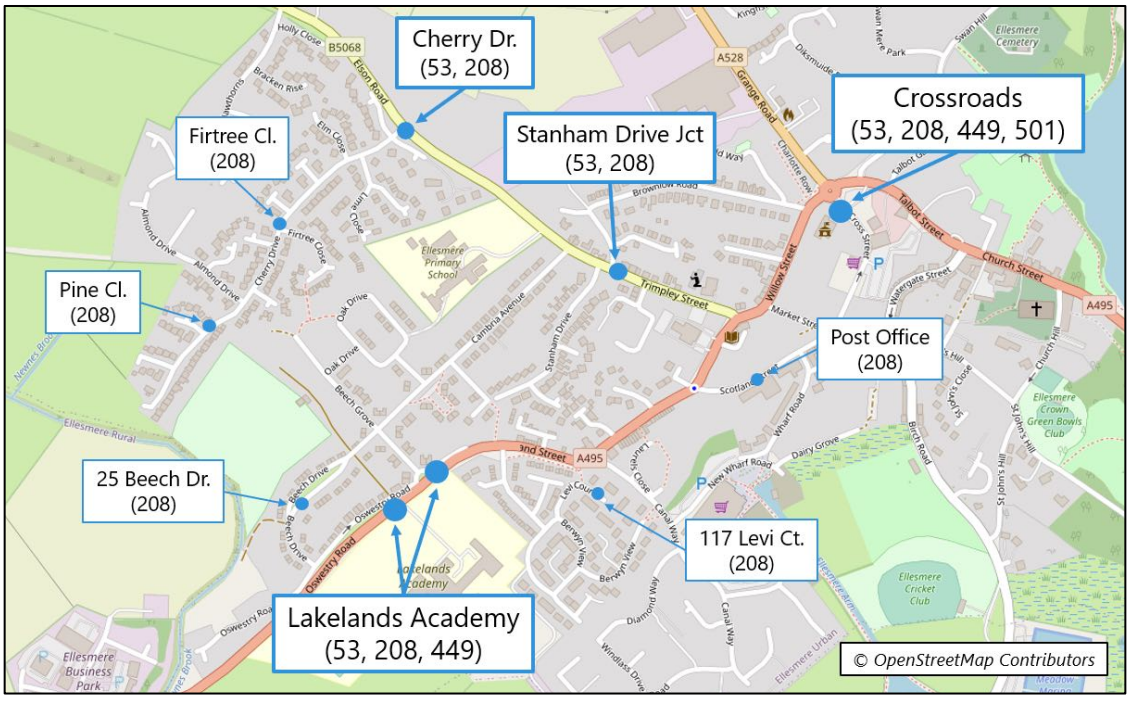
*Tuesdays and Fridays only, last bus finishes its journey at 14:20
**Three buses per day on weekdays extend to Welshampton

2.36 Closer bus stops to the site, served by buses 208 and 449, as well as bus 53 once daily in each direction, are located adjacent to Lakelands Academy, around 600 metres (eight minutes' walk) from the Ellesmere Business Park roundabout. The westbound bus stop is a lay-by marked by a yellow bus cage and comprises a waiting shelter with seating. The eastbound bus stop comprises a flag and timetable information only, both attached to a lamppost.

2.37 The 208 bus serves numerous stops around Ellesmere, which are indicated only by the presence of timetable information (and occasionally a flag) attached to lampposts.

2.38 All bus stops in Ellesmere are shown in **Figure 2.5**.

Figure 2.5 – Bus stops in Ellesmere



2.39 Ellesmere is therefore served by regular bus services to the nearest large town, Oswestry, as well as the nearest railway station at Gobowen, with existing bus stops within ten minutes walking distance of the site.

Rail Facilities

2.40 The closest railway station to the site is Gobowen, approximately 11km west of the site by road. It can be accessed from Ellesmere by bus using the hourly 53 bus service, and by cycle via NCN 455 (taking approximately 40 minutes[2]).

2.41 Gobowen station has two platforms with shelter, covered cycle parking, and a ticket office staffed from 07:30 to 15:00 on weekdays, and from 07:30 to 12:30 on Saturdays.

2.42 Train services at Gobowen are provided by Transport for Wales; frequency of services to key destinations is summarised by **Table 2.2**:

Table 2.2 – Frequency of train service to key destinations from Gobowen

Destination	Average Frequency		
	Weekdays	Saturday	Sunday
Shrewsbury	60 minutes	60 minutes	9 per day
Wrexham General	60 minutes	60 minutes	9 per day
Cardiff Central	120 minutes	120 minutes	2 per day
Birmingham New St	120 minutes	120 minutes	6 per day
Telford Central	120 minutes	120 minutes	6 per day
Chester	60 minutes	60 minutes	8 per day
Holyhead	60 minutes	60 minutes	3 per day

2.43 Wem railway station is around 17.3km east of the site by road. In addition to services to Shrewsbury and Cardiff, Wem also receives services to Crewe and Manchester Piccadilly.

2.44 The locations of all railway stations in the vicinity of the site are shown on **Figure 2.6**.

Figure 2.6 – Railway stations in the vicinity of the site

2.45 Therefore, the site has access to railway stations with a good level of service to a variety of major destinations, providing connections to the wider rail network.

[2] Assuming a typical cycling speed of 10mph (LTN 1/20)

Traffic Survey Data

Automatic Traffic Count

2.46 An Automatic Traffic Count (ATC) survey was carried out on the A495 between 14th March 2023 and 20th March 2023 inclusive. The approximate location of the ATC is shown in **Figure 2.7**.

Figure 2.7 – Location of ATC survey

2.47 The results of this survey are contained in **Appendix 3** and summarised in **Table 2.3**.

Table 2.3 – ATC survey data

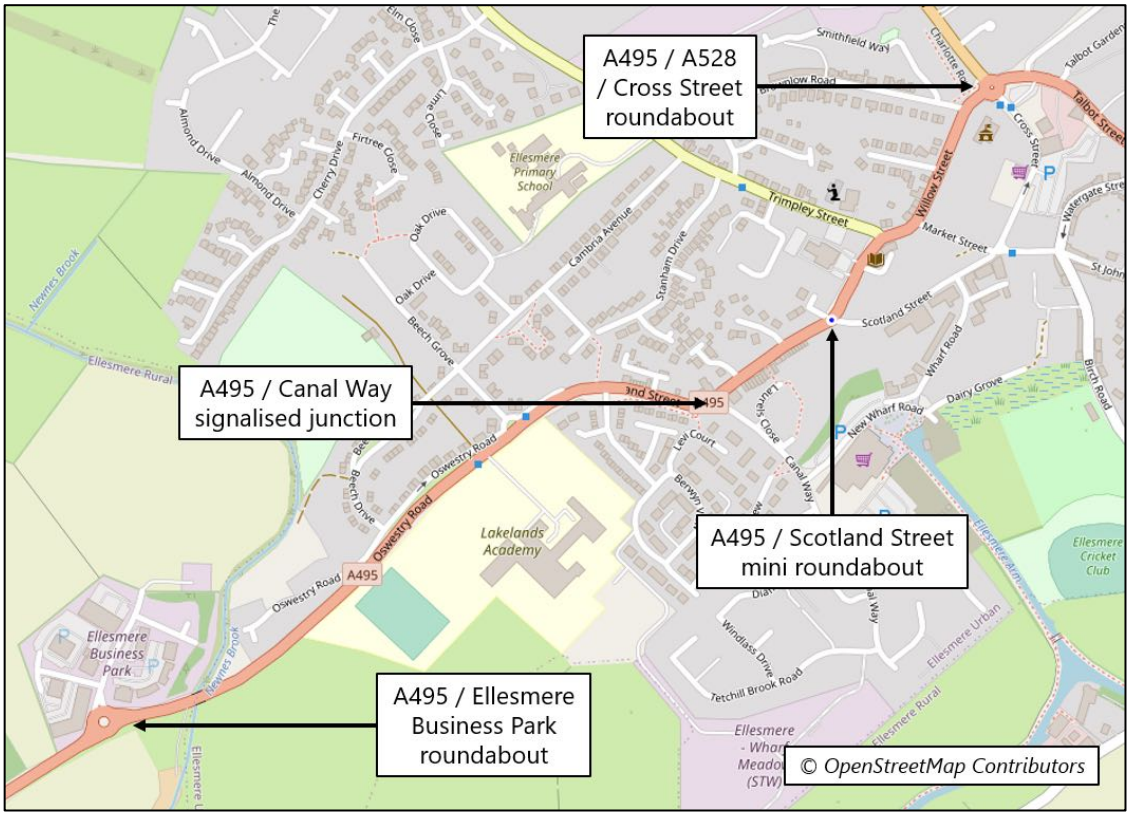
	Weekday 0800-0900 (vehicle flow)	Weekday 1700-1800 (vehicle flow)	Saturday 1600-1700 (vehicle flow)	Weekday 85th %ile Speeds	Saturday 85th %ile Speeds
Eastbound	348	312	186	34.2	34.8
Westbound	361	322	164	37.8	38.5
Two-way Total	709	634	350	-	-

2.48 The ATC data shows that there are two-way weekday flows of up to around 700 vehicles per hour (under 12 per minute), with flows reducing to around 350 per hour on Saturdays (under six per minute). The recorded 85th percentile speeds were under 40 mph.

Manual Classified Counts

2.49 Manual Classified Counts (MCCs) were carried out at four junctions in Ellesmere, as indicated in **Figure 2.8**.

Figure 2.8 – Locations of MCC surveys



2.50 The results of the MCC surveys are contained in **Appendix 4** and have been used as the base flows for the modelling discussed in **Section 6.0** of this report. **Appendix 5** contains the resultant 2023 base flow diagrams.

Summary

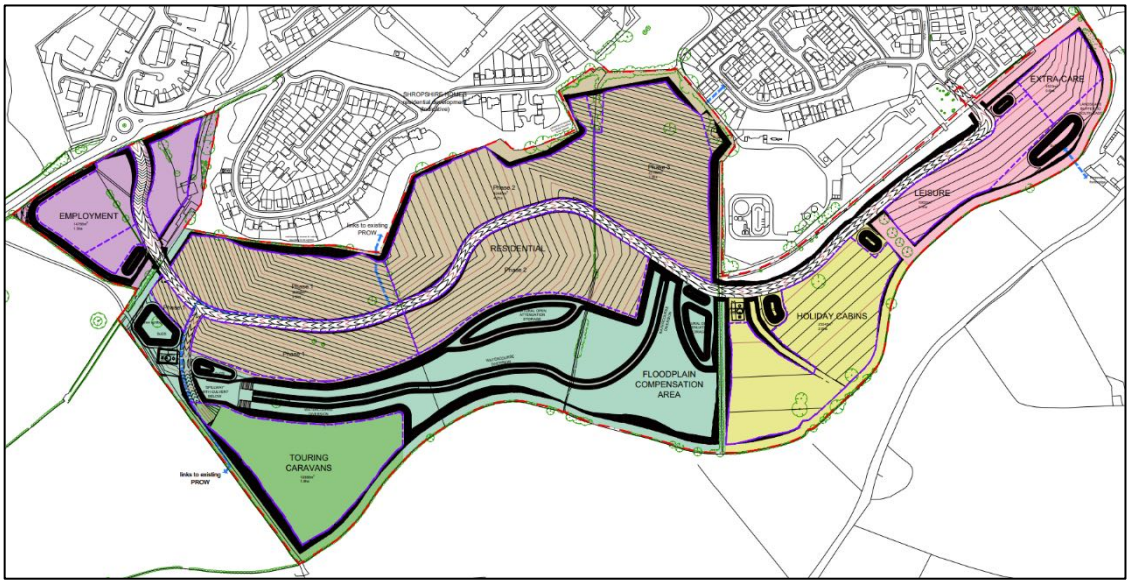
2.51 Considering the above, it is clear that the proposed development is sited in a location with good access to everyday facilities, sustainable transport options, and that there are no underlying road safety issues in the vicinity.

3.0 Development Proposals

3.1 It is proposed to construct a link road, approximately 1.35km in length, between the Ellesmere Business Park roundabout in the west and Canal Way in the east.

3.2 The development proposals are shown on the Architect's indicative masterplan provided at **Appendix 6**, with an extract provided at **Figure 3.1**.

Figure 3.1 – Extract of Architect's indicative masterplan



3.3 From this it can be seen that:

i. The development will comprise mixed land uses as set out in **paragraph 1.5**
ii. The link road connects to the existing highway infrastructure at the A495 Ellesmere Business Park roundabout in the west and at Canal Way in the east
iii. The link road provides access to all of the proposed development along its course
iv. The commercial land uses, foodstore, café/bakery, drive-through coffee shop, petrol filling station and touring caravan site are all located in the west of the development, close to the Business Park roundabout
v. The pub/restaurant, care home, play area, holiday cabins and hotel are located at the eastern end of the development, close to the link with Canal Way
vi. The residential area, along with open space, occupies the central area and some of the western area of the site
vii. Pedestrian and cycle accesses to the wider highway are proposed at several points around the site
viii. The existing footpath (PRoW 0209/12/2) is diverted through the site, partly along the link road

Link Road

3.4 The link road will be the main thoroughfare for motor vehicle movements to, from, and within the site. It will also provide for pedestrian and cycle movements and can be summarised as:

i. A single lane two-way carriageway, with 3.0 metre wide lanes in each direction (with appropriate widening at bends where required)
ii. A 3.0 metre wide shared use footway and cycleway is provided on the northern/eastern side of the carriageway
iii. A 2.0 metre wide footway is provided on the western/southern side of the carriageway

3.5 The character of the link road will be similar to the character of Canal Way, being a significant local street which fulfils moderate movement and place functions.

3.6 The link road will be subject to, at most, a 30mph speed limit, possibly 20mph through the residential areas, where there will be frontages onto the link road, which is considered appropriate for a street of this character.

3.7 The frontages facing onto the link road will assist in encouraging low motor traffic speeds by establishing the place function of the street.

Pedestrians and Cycles

3.8 As set out in **paragraph 3.4**, footways will be provided on both sides of the link road where required, which will extend the entire length of the road and connect with existing footways at both ends.

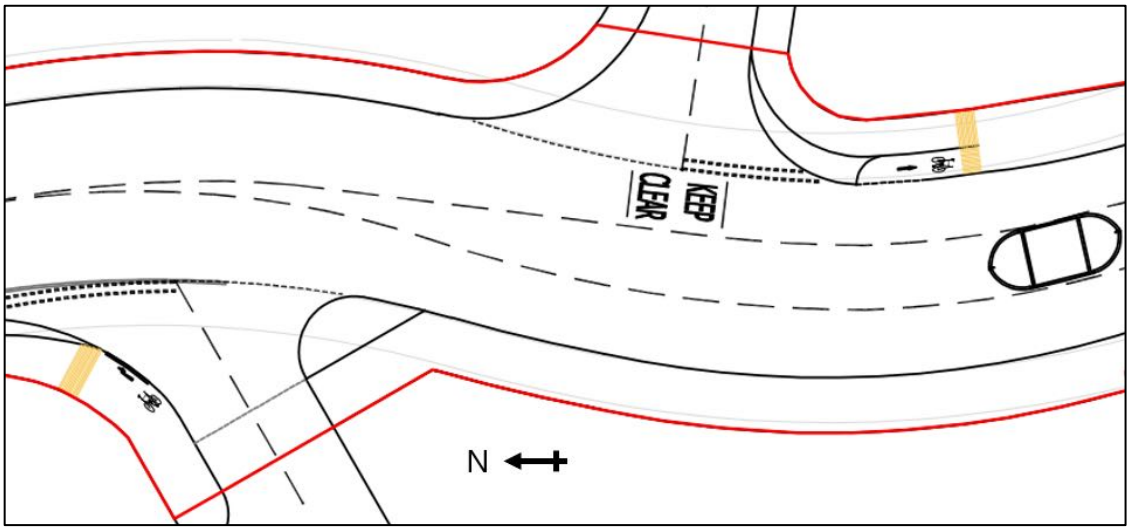
3.9 Where not required, the footway will be replaced with a 2.0 metre wide grass verge.

3.10 The northern/eastern footway will be 3.0 metres wide and shared between pedestrians and cycle users along the majority of its length.

3.11 A short section of cycle lane south of the Business Park roundabout, which ramps up to join the shared use footway/cycleway, will provide a high-quality transition for cycle users from the carriageway.

3.12 Cycle users will be able to join the carriageway northbound by using a formal crossing over the link road, facilitated by a traffic island, then using a section of 3.0 metres shared use path on the western side of the link road, crossing the foodstore access and then using a drop kerb. These transitions are shown in **Figure 3.2**.

Figure 3.2 – Cycle transitions near Business Park roundabout



3.13 Away from the link road, corridors for non-motorised users will be provided by pedestrian and cycle accesses to adjacent developments and modal filters in the internal layout. Details of this provision will be contained in future reports provided to support the relevant phases of the development. It is also considered that the phases of the wider development will be required to contribute to improvements to the canal towpath.

3.14 The 3.0 metre wide shared use footway/cycleway will cater for less confident users who may plausibly be uncomfortable cycling in the carriageway, with cycling in the carriageway of the link road will be viable for users who do not wish to use the shared use footway/cycleway, given the nature of the road and 20mph/30mph speed limit.

Accesses from the Link Road

3.15 Detailed designs of access junctions from the link road are yet to be completed, pending the finalisation of the internal layout for the various phases on the site.

3.16 Accesses from the link road are anticipated to take the form of priority junctions with 6.0 metre radii. Informal pedestrian (and, where appropriate, pedestrian and cycle) crossings will be provided across each access junction. Where residential frontages access the link road, this will be in the form of drop kerb vehicle crossovers.

3.17 Swept path analysis will inform the width of the access roads and their junctions with the link road as per Manual for Streets guidelines. It is anticipated that the main junctions with the link road will be at least 5.5 metres wide to allow for refuse vehicle collection vehicle manoeuvres.

3.18 Designs for the internal streets and junctions away from the link road will follow a hierarchy of movement, which prioritises the movement and safety of pedestrians and deprioritises motor traffic.

3.19 Where possible, small corner radii will be provided through the residential areas to encourage lower speeds of turning vehicles and reduce crossing distances for footway users.

Access

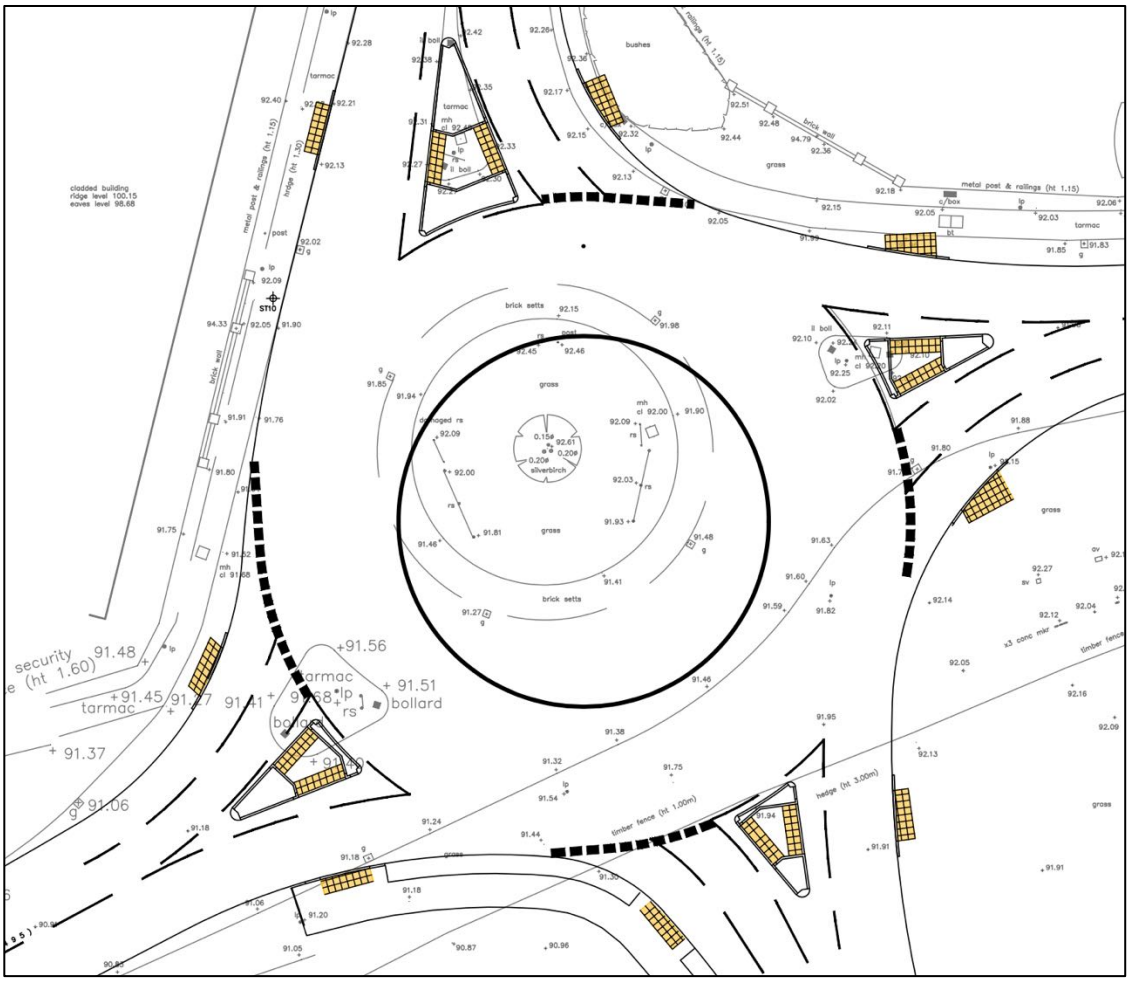
Ellesmere Business Park Roundabout

3.20 Ellesmere Business Park roundabout will form the main point of access for motor vehicles to and from the link road.

3.21 It is proposed that the link road will form a fourth, southern arm at the roundabout.

3.22 A plan showing the proposed modifications to the Ellesmere Business Park roundabout is contained in **Appendix 7**, an extract of which forms **Figure 3.3**.

Figure 3.3 – Proposed modifications to Ellesmere Business Park roundabout



3.23 **Figure 3.3** shows that the roundabout will be modified to include:

i. Enlargement to accommodate the southern arm
ii. Two-lane entry on each arm
iii. Formal pedestrian crossings across all arms

3.24 Plans showing that 16.5 metre articulated HGVs can safely use the modified roundabout are contained in **Appendix 8**.

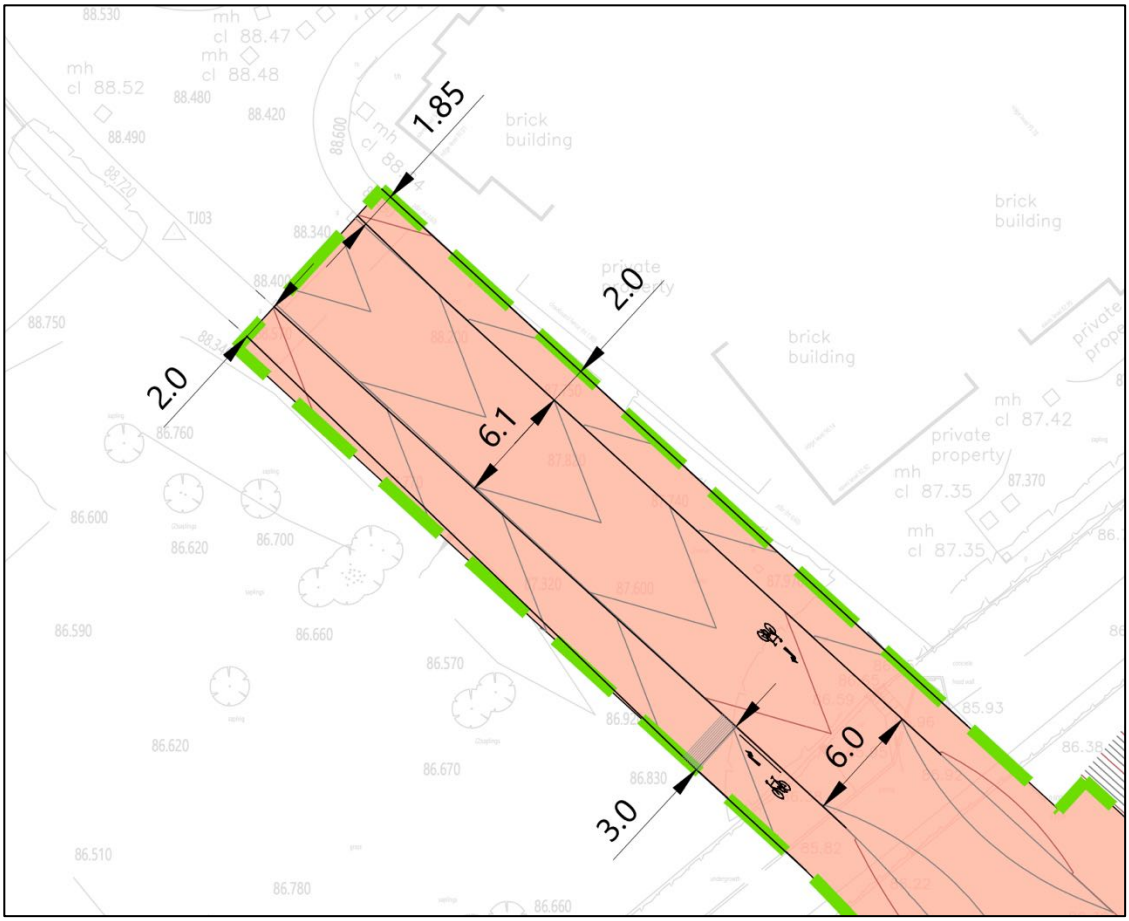
Canal Way

3.25 The connection between the link road and Canal Way will form a secondary access for motor vehicles to and from the proposed development.

3.26 The link road will tie in with an existing 'stub' of Canal Way, just south of the junction between Canal Way and Telford Avenue. No junction is required, as the link road will effectively form an extension of Canal Way.

3.27 A plan showing the interface of Canal Way and the proposed link road is contained in **Appendix 9**, and extract of which forms **Figure 3.4**.

Figure 3.4 – Interface of Canal Way and proposed link road



3.28 From **Figure 3.4**, it can be seen that:

i. The proposed 2.0 metre footway ties in with the extant 2.0 metre footway on the eastern side of Canal Way
ii. The proposed 6.0 metre carriageway ties in with the extant 6.0 metre carriageway as a continuation of Canal Way
iii. A dropped kerb cycle transition is provided from the 3.0 metre shared surface proposed along the link road in advance of where it ties into the existing 2.0 metre footway on the western side of Canal Way

3.29 Given that the connection between the link road and Canal Way is a straight section of road at 6.0 metres wide, swept path analysis is not required to demonstrate that it can be safely accessed.

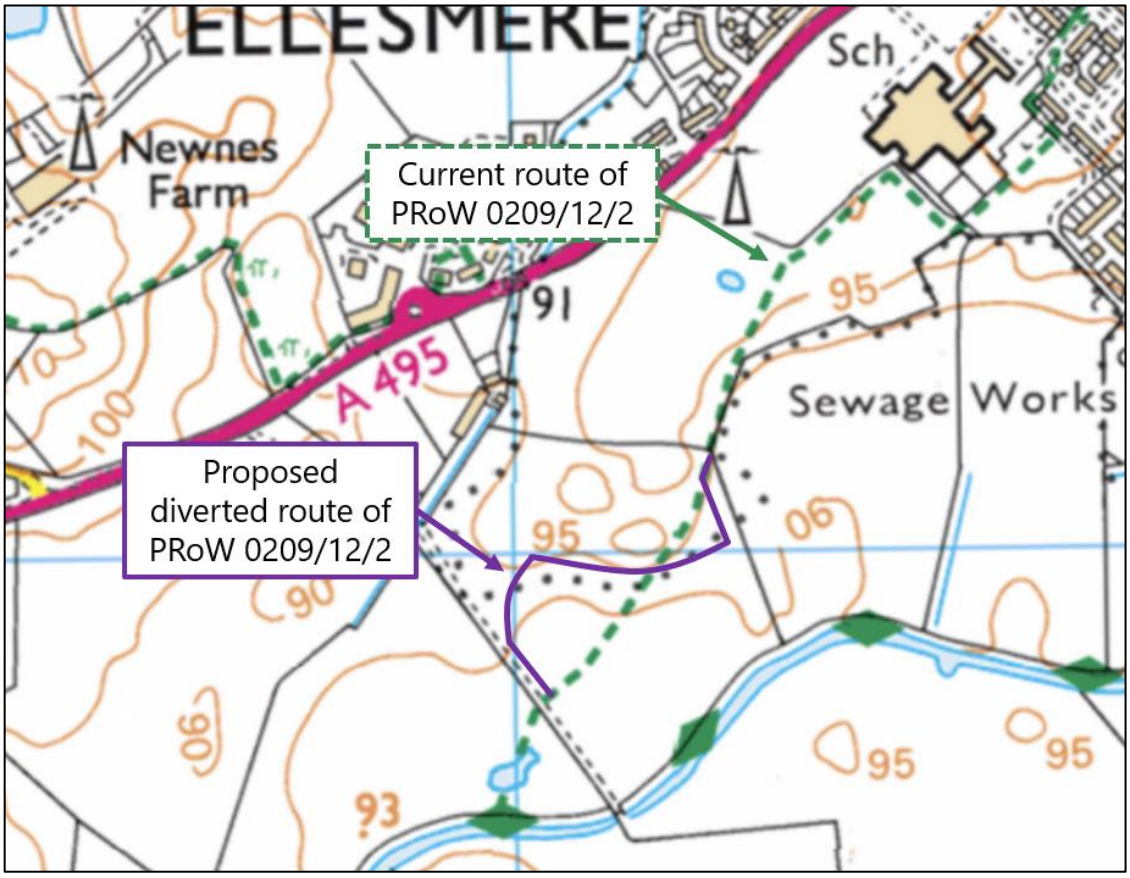
3.30 It is therefore clear that the proposed interface between Canal Way and the link road will provide a seamless transition for all users, being of a similar character and fully integrated with the existing highways infrastructure.

Public Right of Way Diversion

3.31 As set out in **paragraph 2.8**, a footpath currently crosses the site. A diversion of this footpath is proposed along the internal highways of the site. The diverted footpath will facilitate pedestrian access between the site and the Llangollen Canal towpath, and between the site and Berwyn View (and onwards to Ellesmere town centre).

3.32 **Figure 3.5** illustrates the existing PRoW alignment and the approximate alignment of the proposed PRoW diversion (that can be seen on **Figure 3.1**).

Figure 3.5 – Public Right of Way Diversion



3.33 The proposed diversion maintains the entry and exit points at the site boundary, with the route following the new link road for around half of its length, along the 3.0 metre wide shared surface footway/cycleway.

3.34 It is considered that, although the diversion follows a marginally longer route, there will be no significant reduction in utility of the footpath, and the provision of a paved surface will increase the accessibility of the footpath for walkers, wheelchair users and pushchair users.

3.35 It is anticipated that an order by SCC as per Section 257 of the Town and Country Planning Act 1990 will authorise this diversion after planning permission is granted.

Additional Pedestrian and Cycle Accesses

3.36 Indicative pedestrian and cycle links are shown on Figure 3.1. These will be provided by the plot developers to allow NMU movements to adjacent areas and maintain a permeable network for these modes.

3.37 During construction of the link road, passive provision for these accesses will be made where appropriate. The links themselves will be provided by the plot developers as level, bound surfaces suitable for pedestrians and cycles at a minimum width of 3.0 metres and will form part of future applications.

Pedestrian and Cycle Improvements

3.38 As set out in **paragraphs 2.26** and **2.30**, the Llangollen Canal towpath follows much of the southern boundary of the site and constitutes a walking and cycling route, as well as forming part of the Shropshire Way long distance footpath.

3.39 The surface of the towpath is unsealed gravel between Ellesmere wharf and opposite the Canal and River Trust's Ellesmere yard (around 500 metres, of which around 200 metres follows the site boundary), suitable for use by most NMUs. However, further west of this point, the towpath is unsurfaced and comprises only a muddy track (for around 1.1km up to the south-westernmost point of the site) which is not suitable for all users.

3.40 The improvement of footpaths is a priority in the Ellesmere Place Plan which prioritises local infrastructure needs. It is anticipated that the resurfacing of the Llangollen Canal towpath between the end of the existing unsealed gravel surface and the south-westernmost extent of the site would be funded via Community Infrastructure Levy contributions linked to the residential elements of the scheme. These residential elements will be the subject of future planning applications.

3.41 Compacted hoggin is considered to be a suitable surface treatment, which would provide a durable, permeable, unsealed surface suitable for use by all NMUs. The towpath should be widened to 3.0 metres where reasonably practical.

Visibility

3.42 Plans contained in **Appendix 10** demonstrate that appropriate visibility splays can be achieved from all arms of the proposed modified Business Park roundabout.

3.43 As the connection between the link road and Canal Way is straight, it is clear that forward visibility will not be an issue in this location.

3.44 Visibility onto the link road will need to be provided at a 2.4 metre setback with 43 metre splays in either direction where the speed limit is 30mph, in accordance with Manual for Streets. Where the speed limit is 20mph, the visibility splays can be reduced to 25 metres.

3.45 Visibility splays should not be obstructed by third party land or vegetation and kept clear from between 0.6 metres above carriageway level to a height of 2.0 metres.

3.46 Forward visibility will be maintained along the link road for the minimum stopping sight distance relative to the speed limit e.g. 43 metres for 30mph. However, it is noted from Manual for Streets that it can be desirable to reduce forward visibility in order to reduce traffic speeds.

Parking Strategy

3.47 SCC do not currently have parking standards, and it is understood that proposals are assessed on a case-by-case basis.

3.48 Parking provision is therefore proposed to follow the standards set out by neighbouring authority Wrexham as a guideline.

3.49 Wrexham's car parking standards are as follows:

i. 1.5 spaces per one-bedroom dwelling
ii. Two spaces per two-bedroom dwelling
iii. Three spaces per three or four-bedroom dwelling
iv. Four spaces per five-bedroom dwelling or greater
v. One space per hotel bedroom
vi. One space per 4sqm public floor area for pubs, cafés, and takeaways
vii. One space per 15sqm GFA for play centres (assembly and leisure)
viii. One space per 14sqm GFA for foodstores
ix. One space per 30sqm GFA for B2 employment use
x. One space per 100sqm GFA for B8 employment use
xi. One space per two bed spaces for care homes

3.50 Wrexham's cycle parking standards are as follows:

i. Two spaces per dwelling
ii. One space per ten hotel bedrooms and one space per ten hotel employees
iii. One space per 40sqm public floor area for pubs, cafés, and takeaways
iv. One space per 150sqm GFA for play centres (assembly and leisure)
v. One space per 200sqm GFA for foodstores
vi. One space per 500sqm GFA for B2 employment use
vii. One space per 1000sqm GFA for B8 employment use
viii. One space per ten bed spaces for care homes, and
ix. One space per ten care home employees

3.51 These standards will be applied to the finalised accommodation schedule as appropriate. It is considered that hotel standards are appropriate to apply to the touring caravan site and log cabin uses.

3.52 Residential car parking will be provided off-street using private driveways, or in marked off-carriageway bays.

3.53 Parking for commercial uses are anticipated to be in the form of surface car parks.

3.54 It is anticipated that residential cycle parking will take the form of suitable cycle stores or sheds in gardens, or communal areas.

3.55 Visitor cycle parking will be provided throughout the various phases of development to encourage and support increases in cycle use.

3.56 Therefore, it is considered that the parking strategy for the wider development is appropriate.

4.0 Framework Travel Plan

4.1 An FTP (reference: HTp/2314/FTP/01) is provided in conjunction with this TA, and contains:

i. A review of the site's accessibility, including current and proposed travel opportunities
ii. Travel information, such as cycle routes and public transport details
iii. A description of the full range of measures and means proposed to promote sustainable travel
iv. The monitoring strategy

4.2 The FTP is provided to inform the production of Travel Plans for the various phases and land uses coming forward across the site.

4.3 The core aim of the FTP will be to reduce trips to and from the site by single occupancy vehicles through increased use of walking, cycling and public transport.

4.4 The objectives of the FTP are:

i. Minimise single occupancy car travel to and from the development
ii. Identify which measures are needed to maximise the use of non-car travel
iii. Establish and maintain sustainable travel behaviour of individuals
iv. Identify ways of reducing the need to travel to and from the development

4.5 These aims and objectives will be achieved by:

i. Having a development that is in a sustainable and accessible location
ii. Providing high quality, covered and secure cycle parking, for all dwellings, commercial, leisure and employment land uses, that is easily accessible for all users
iii. Ensuring all planned pedestrian and cycle links, and public transport services, are in place before first occupation
iv. Promotion of sustainable transport information on noticeboards in communal areas (e.g. hotel reception)
v. Promotion of car sharing
vi. The provision of a Residential Travel Information Pack (TIP) to all households on first occupation, and Workplace TIPs to staff upon employment

4.6 These Travel Information packs will include details of local sustainable transport facilities, as well as information about car sharing and national events such as cycle to work week.

4.7 The FTP sets out the monitoring strategy, including details of surveys to be conducted.

4.8 The appointment of Travel Plan Co-ordinators for the individual Travel Plans will also be required. These Travel Plan Co-ordinators will be responsible for delivering travel plan measures based on those set out in the FTP.

5.0 Policy

5.1 This section of the report provides a summary of relevant national and local policy and demonstrates how the application proposals achieve compliance.

National Policy

5.2 The primary objective of the National Planning Policy Framework (NPPF), last updated July 2021, is to promote sustainable development and guide local authorities to presume in favour of sustainable development.

5.3 Paragraph 105 of the NPPF states:

'The planning system should actively manage patterns of growth in support of these objectives (promoting sustainable transport). Significant development should be focused on locations which are or can be made sustainable, through limiting the need to travel and offering a genuine choice of transport modes. This can help to reduce congestion and emissions and improve air quality and public health. However, opportunities to maximise sustainable transport solutions will vary between urban and rural areas, and this should be taken into account in both plan-making and decision-making.'

5.4 As discussed in **Section 2** of this report, the development will be adjacent to Ellesmere, which offers an array of everyday facilities, amenities and employment opportunities that will be easily accessible from the development by foot, cycle or bus. Furthermore, the employment, retail, and leisure uses proposed will provide additional opportunities for people to live and work within their local area, without requiring the use of private cars.

5.5 Paragraph 110 of the NPPF states:

'In assessing sites that may be allocated for development in plans, or specific applications for development, it should be ensured that:

a) Appropriate opportunities to promote sustainable transport modes can be – or have been – taken up, given the type of development and its location;
b) Safe and suitable access to the site can be achieved for all users;
c) The design of streets, parking areas, other transport elements and the content of associated standards reflects current national guidance, including the National Design Guide and the National Model Design Code 46; and
d) Any significant impacts from the development on the transport network (in terms of capacity and congestion), or on highway safety, can be cost effectively mitigated to an acceptable degree.'

5.6 The proposed development will provide walking and cycling routes allowing safe access for all users both internally and between the development and Ellesmere town centre, encouraging use of these modes and ensuring suitable access. The design of all highway works relating to the proposals has been prepared using local and national design guidance, and it has been demonstrated that the proposed development will not have any significant impact on capacity and congestion on the local highway network, following the upgrades to the Ellesmere Business Park roundabout included in the proposals.

5.7 Paragraph 111 of the NPPF states:

'Development should only be prevented or refused on highways grounds if there would be an unacceptable impact on highway safety, or the residual cumulative impacts on the road network would be severe.'

5.8 It will be demonstrated (see **Section 8.0** of this report) that the application proposals will not have an unacceptable impact on highway safety, and that the residual cumulative impacts on the road network would not be severe, thereby satisfying the requirements of NPPF Paragraph 111.

Local Policy

5.9 SCC adopted their Core Strategy (2011-2026) in February 2011, which sets out strategic planning policies for Shropshire. Policy CS7 relates to communications and transport, and relevant sections of Policy CS7 are reproduced below:

'A sustainable pattern of development requires the maintenance and improvement of integrated, accessible, attractive, safe and reliable communication and transport infrastructure and services. These need to provide a range of opportunities for communication and transport which meet social, economic and environmental objectives by improving accessibility, managing the need to travel, offering options for different travel needs and reducing the impacts of transport. This will be achieved by:

- *Promoting greater awareness of travel behaviour to encourage more informed choices about communication, the need to travel and alternative travel options;*
- *Protecting and enhancing strategic and local cycling, footpath, bridleway and canal networks as local transport routes and for recreation and leisure use;*
- *Enabling the provision of accessible, affordable and demand responsive passenger transport services including bus, Park & Ride, rail, coach, taxi, community transport services and car sharing initiatives;*
- *Promoting and enabling improvements to the strategic and local highway network including improvements to the A5 Shrewsbury and Oswestry bypasses and promotion of the Shrewsbury North West Relief Road;'*

5.10 The proposed development will meet these policy objectives by:

i. Including a Framework Travel Plan as part of the planning application
ii. The wider development will bring forward funding for Llangollen Canal towpath widening and resurfacing improvements
iii. Including modifications to and pedestrian facilities at the Ellesmere Business Park roundabout

5.11 SCC have also published a provisional Local Transport Plan (LTP) strategy (2011-2026). This emerging document expands upon policy CS7 of the adopted Core Strategy. Although not adopted, policies in the Shropshire LTP have been considered and the proposed development complies with the LTP. Key policies include Policy E11 of the LTP, 'Location and design of new development', relevant sections of which are reproduced below:

> '*We will ensure that new developments are located, designed and served by transport in ways that enhance accessibility and reduce car dependency.*
> *This will be achieved by:*
> • *The identification of new land for development in appropriate and sustainable locations and through the careful planning, design and servicing of new development*
> • *Requirements for transport assessments and the development of travel plans for significant new developments.*
> • *Requiring promoters of new developments to either provide or financially contribute to the provision of necessary transport infrastructure and services, through site specific agreements or payment of a community infrastructure levy.*'

5.12 The proposed development will meet these policy objectives by:

i. Being located on land identified for development in SCC's SAMDev plan
ii. Provision of this Transport Assessment and a Framework Travel Plan as part of the planning application
iii. The wider development will bring forward funding for Llangollen Canal towpath widening and resurfacing improvements

5.13 It is therefore considered that the development will be policy compliant.

6.0 Trip Rates, Generation and Attraction, and Distribution

Trip Rates

6.1 The TRICS database (7.9.4) has been used to provide an indication of the likely number of weekday and weekend peak hour trips generated by the proposed development, for a majority of the land uses.

6.2 Multi-modal trip rates have been forgone in favour of vehicular-only surveys for all searches except residential weekday, due to the limited number of suitable surveys available in the TRICS database.

6.3 The TRICS searches were carried out using the default survey dates (01/01/2014 to 14/10/2022) and, wherever possible, the following criteria:

i. All areas within Great Britain
ii. The use of weekday data and Saturday data as appropriate
iii. Sites located within 'Edge of Town' or 'Suburban' areas
iv. Population within 1 mile ≤ 25,000
v. Population within 5 miles ≤ 250,000
vi. Car ownership within 5 miles ≥ 1.1 per dwelling

6.4 The full TRICS report is contained in **Appendix 11**.

6.5 Pre-application comments from the local authority raised concerns with the population and car ownership parameters used in previous assessments for the site and have requested that the searches are more reflective of Ellesmere. It can be confirmed that the criteria set out in **paragraph 6.3** are more representative of Ellesmere and include the recommendations made by the local authority as a minimum.

6.6 It was not possible to always apply all of the criteria set out in **paragraph 6.3**, due to a lack of appropriate TRICS survey data. **Table 6.1** details the parameters used for each individual TRICS search, and parameters outside those specified in **paragraph 6.3** are entered in orange, italicised text.

Table 6.1 – Parameters used for individual TRICS searches

Land Use	Days	Quanta	Pop. within 1 mile	Pop. within 5 miles	Car ownership within 5 miles
Residential	Weekdays	200-800 dwellings	≤ 25,000	≤ 250,000	≥ 1.1
	Saturday		≤ 25,000	≤ 250,000	≥ 1.1
Hotel	Weekdays	60-120 rooms	≤ 25,000	≤ 250,000	≥ 1.1
	Saturday		≤ 25,000	≤ 250,000	*≥ 0.6*
Holiday Accommodation	Weekdays	All	≤ 25,000	≤ 250,000	≥ 1.1
	Saturday		≤ 25,000	≤ 250,000	*≥ 0.6*
Pub / Restaurant	Weekdays	375-1500 sqm GFA	≤ 25,000	≤ 250,000	≥ 1.1
	Saturday		≤ 25,000	≤ 250,000	≥ 1.1
Play Centre	Weekdays	250-1000 sqm GFA	≤ 25,000	*≤ 500,000*	≥ 1.1
	Saturday		≤ 25,000	≤ 250,000	≥ 1.1
Employment (B2)	Weekdays	2200-22000 sqm GFA	≤ 25,000	≤ 250,000	≥ 1.1
Employment (B8)	Weekdays	2200-22000 sqm GFA	≤ 25,000	≤ 250,000	≥ 1.1
Drive-through Coffee Shop	Weekdays	All	≤ 25,000	≤ 250,000	≥ 1.1
	Saturday		≤ 25,000	≤ 250,000	≥ 1.1
Café/Bakery	Weekdays	All	≤ 25,000	≤ 250,000	≥ 1.1
	Saturday		≤ 25,000	≤ 250,000	≥ 1.1
Petrol Filling Station	Weekdays	All	≤ 25,000	≤ 250,000	≥ 1.1
	Saturday		≤ 25,000	≤ 250,000	≥ 1.1
Care Home	Weekdays	50-200 residents	≤ 25,000	≤ 250,000	≥ 1.1
	Saturday		*≤ 50,000*	*≤ 500,000*	*≥ 0.6*

6.7 No Saturday data for employment (B2 and B8) land uses is available in TRICS, although it is considered reasonable to assume that these land uses will attract negligible numbers of trips outside of weekdays. This is in line with the previous TA and the BWB report.

6.8 Data for pub/restaurant and play centre land uses during the AM peak, and for cafés during the PM peak, is unavailable in TRICS, and it is considered reasonable to assume that these facilities will attract negligible numbers of trips at these times as they are unlikely to be open, as per the previous reports.

6.9 It should be noted that 'holiday accommodation' is considered the most appropriate TRICS category for both the log cabins and caravan berths.

6.10 Although representative weekend data for cafés is available in TRICS, and has been used, no representative sites were available with weekday data. HTp have therefore carried out their own surveys during the AM and PM peak hours at a representative site (a Greggs in an edge of town location), and the data from these surveys has been used to obtain weekday trip rates for the café use. The survey data collected is provided in **Appendix 12**.

6.11 Trip rates for the proposed foodstore have not been calculated using TRICS and have instead been calculated using surveys of an existing foodstore of the same operator located in nearby Shrewsbury. This data has been provided by the foodstore's Transport Consultants, who have confirmed the use of the trip rates shown for this assessment. The use of this data is considered to be a more representative and applicable source of trip rates than use of TRICS, in this instance.

6.12 As the area of the surveyed foodstore has been provided in terms of GEA, foodstore trip rates have been calculated in units of trips per 100sqm GEA.

6.13 No survey data was available for the network AM peak hour (0800-0900) for the existing foodstore. Trip rates were therefore forecast by the foodstore transport consultant using comparisons with surveys from other foodstores of the same operator that they have worked on.

6.14 Trip generation/attraction performed using trip rate data from weekdays and Saturdays confirms that the peak hours are expected to be 0800-0900 and 1700-1800 on weekdays, and 1600-1700 on Saturdays.

6.15 The vehicular trip rates associated with the proposed development are set out at **Table 6.2**.

Table 6.2 – Vehicular trip rates

Land Use / trip rate units	AM Peak Hour (0800-0900)		PM Peak Hour (1700-1800)		Saturday Peak Hour (1600-1700)	
	Arr.	Dep.	Arr.	Dep.	Arr.	Dep.
Residential / dwelling	0.159	0.377	0.350	0.167	0.228	0.166
Hotel / room	0.141	0.230	0.260	0.173	0.263	0.354
Holiday Accommodation / unit	0.097	0.042	0.208	0.306	0.617	0.065
Pub / 100sqm GFA			6.452	3.548	7.500	7.500
Play Centre / 100sqm GFA			0.966	0.828	2.923	2.308
Foodstore / 100sqm GEA	4.715	4.486	7.676	8.239	8.873	10.282
Employment (B2) / 100sqm GFA	0.369	0.056	0.042	0.285		
Employment (B8) / 100sqm GFA	0.182	0.115	0.113	0.261		
Drive-through Coffee Shop / 100sqm GFA	21.513	20.000	9.244	11.092	14.692	14.060
Café / 100sqm GFA	23.333	23.333	3.333	5.238	9.048	10.476
Petrol Filling Station / ha	222.222	211.111	77.778	77.778	313.333	313.333
Care Home / resident	0.050	0.050	0.050	0.067	0.058	0.107

Trip Generation and Attraction

6.16 From the trip rates set out in **Table 6.2**, and the accommodation schedule set out in **paragraph 1.5**, trip generation and attraction figures can be forecast for each land use.

6.17 Trip attraction for the foodstore has been calculated using the expected GEA (1,931sqm) of the proposed foodstore, as the trip rate units are in terms of trips per 100sqm GEA (as set out in **paragraph 6.12**).

6.18 The subsequent vehicular trip generation/attraction associated with the proposed development, not including any discounts, is set out in **Table 6.3**.

Table 6.3 – Trip generation and attraction by land use

Land Use / Quantum	AM Peak Hour (0800-0900)		PM Peak Hour (1700-1800)		Saturday Peak Hour (1600-1700)	
	Arr.	Dep.	Arr.	Dep.	Arr.	Dep.
Residential / 350 dwellings	64	151	140	67	91	66
Hotel / 80 bed	11	18	21	14	21	28
Log Cabins / 70 cabins	7	3	15	21	5	6
Touring Caravans / 35 berths	3	1	7	11	2	3
Pub / Restaurant / 750sqm GFA			48	27	56	56
Play Centre / 500sqm GFA			5	4	15	12
Foodstore / 1931sqm GEA	91	87	148	159	171	199
Employment (B2) / 5000sqm GFA	18	3	2	14		
Employment (B8) / 5000sqm GFA	9	6	6	13		
Drive-through Coffee Shop / 210sqm GFA	45	42	19	23	31	30
Café / Bakery / 210sqm GFA	49	49	7	11	19	22
Petrol Filling Station / 0.15 ha	33	32	12	12	47	47
Care Home / 100 residents	5	5	5	7	6	11
TOTAL	**335**	**397**	**435**	**383**	**464**	**480**

6.19 From **Table 6.3** it can be seen that the land uses associated with the highest numbers of vehicle trips are the residential and foodstore uses. The pub/restaurant, drive-through coffee shop, and petrol filling station uses are also significant contributors.

Trip Discounts

6.20 It can be reasonably assumed that a proportion of the trips for each land use will be linked with other uses on the site. Therefore, discounts to the generated trips have previously been agreed with SCC, initially as part of the 2014 TA and thence carried forward for the 2022 Transport Scoping Note.

6.21 The 2022 Transport Scoping Note additionally proposed a 20% discount for the foodstore, which was outside of the scope of the original scheme. This figure was not objected to by SCC. HTp considers this appropriate as the development of 400 houses represents approximately 20% of the total Ellesmere population (when considering an average of 2 to 2.5 people per house).

6.22 The discounts to the residential trips were agreed prior to the COVID-19 pandemic which began in 2020. One of the impacts of the pandemic has been an increase in home working; data from the 2021 Census estimates that over 30% of usual residents aged 16 years and over in employment in England and Wales worked mainly at or from home in the week before Census Day, 21 March 2021.

6.23 An empirical estimate of the reduction in weekday peak-hour vehicle trips has been using data from TRICS by a comparison of residential survey data from all dates from 2014 onwards with survey data obtained from March 2020 onwards. These surveys were obtained from the TRICS database using the same parameters set out in **paragraph 6.3**.

6.24 Trip rates at peak times from post-COVID-19 surveys are approximately 95% that of the trip rates obtained from all surveys, justifying an additional 5% discount to residential trips.

6.25 Pre-application comments from the local authority took issue with the high discount rates applied to the pub/restaurant and play centre uses, and these figures have been revised accordingly.

6.26 The café/bakery, drive-through coffee shop and petrol filling station are new to the potential accommodation schedule and have all been provided with 30% discounts. This is considered reasonable given the likelihood for linked trips associated with the residential, employment and foodstore land uses, as well as to each other.

6.27 The previously agreed trip discounts, the revised residential, pub/restaurant and play centre trip discounts, and the proposed discounts for the café/bakery, drive-through coffee shop, and petrol filling station uses are set out in **Table 6.4**.

Table 6.4 – Trip discounts

Land Use	AM Peak	PM Peak	Saturday Peak
Log cabins, caravans, hotel	20%	20%	20%
Pub/restaurant, play centre	37.5%	37.5%	37.5%
Residential	7.5%	11%	11%
Foodstore	20%	20%	20%
Café/bakery	30%	30%	30%
Drive-through coffee shop	30%	30%	30%
Petrol filling station	30%	30%	30%

6.28 These discounts are applied to the previously calculated trip generation and attraction figures (contained in **Table 6.3**) to give discounted figures. This is shown in **Table 6.5**.

Table 6.5 – Discounting of forecast vehicle trips

Land Use		AM Peak Hour (0800-0900)		PM Peak Hour (1700-1800)		Saturday Peak Hour (1600-1700)	
		Arr.	Dep.	Arr.	Dep.	Arr.	Dep.
Residential	Forecast Trips	64	151	140	67	91	66
	Discount	2.5%	2.5%	6%	6%	6%	6%
	After Discount	**62**	**147**	**132**	**63**	**86**	**62**
Hotel	Forecast Trips	11	18	21	14	21	28
	Discount	20%	20%	20%	20%	20%	20%
	After Discount	**9**	**15**	**17**	**11**	**17**	**23**
Log Cabins	Forecast Trips	7	3	15	21	5	6
	Discount	20%	20%	20%	20%	20%	20%
	After Discount	**5**	**2**	**12**	**17**	**4**	**5**
Touring Caravans	Forecast Trips	3	1	7	11	2	1
	Discount	20%	20%	20%	20%	20%	20%
	After Discount	**3**	**1**	**6**	**9**	**2**	**1**
Pub	Forecast Trips	0	0	48	27	56	56
	Discount	37.5%	37.5%	37.5%	37.5%	37.5%	37.5%
	After Discount	**0**	**0**	**30**	**17**	**40**	**36**
Play Centre	Forecast Trips	0	0	5	4	15	12
	Discount	37.5%	37.5%	37.5%	37.5%	37.5%	37.5%
	After Discount	**0**	**0**	**3**	**3**	**9**	**7**
Foodstore	Forecast Trips	91	87	148	159	171	199
	Discount	20%	20%	20%	20%	20%	20%
	After Discount	**73**	**69**	**119**	**127**	**137**	**159**
Employment (B2)	Forecast Trips	18	3	2	14	0	0
	Discount	0%	0%	0%	0%	0%	0%
	After Discount	**18**	**3**	**2**	**14**	**0**	**0**
Employment (B8)	Forecast Trips	9	6	6	13	0	0
	Discount	0%	0%	0%	0%	0%	0%
	After Discount	**9**	**6**	**6**	**13**	**0**	**0**
Drive-through Coffee Shop	Forecast Trips	45	42	19	23	31	30
	Discount	30%	30%	30%	30%	30%	30%
	After Discount	**32**	**29**	**14**	**16**	**22**	**21**
Café	Forecast Trips	49	49	7	11	19	22
	Discount	30%	30%	30%	30%	30%	30%
	After Discount	**34**	**34**	**5**	**8**	**13**	**15**
Petrol Filling Station	Forecast Trips	33	32	12	12	47	47
	Discount	30%	30%	30%	30%	30%	30%
	After Discount	**23**	**22**	**8**	**8**	**33**	**33**
Care Home	Forecast Trips	5	5	5	7	6	11
	Discount	0%	0%	0%	0%	0%	0%
	After Discount	**5**	**5**	**5**	**7**	**6**	**11**
Initial Forecasted Trips		335	397	435	383	464	480
Discounted Trips		*-62*	*-62*	*-78*	*-71*	*-101*	*-107*
Total		**273**	**335**	**357**	**312**	**363**	**373**

6.29 From this it can be seen that the busiest hour will be the Saturday peak, with a total of 736 vehicle trips associated with the proposed development between 1600 and 1700.

Trip Distribution

6.30 Development trip distribution has been considered for each land use, taking into account the location of the land uses within the site, the likely origins and destinations of traffic, and the location of accesses.

6.31 Some trip distribution figures set out in the 2022 Transport Scoping Note have been agreed by SCC. This section of the TA considers those figures, revising them where necessary, and introducing trip distribution proportions for land uses not previously considered.

Site Accesses

6.32 Weekday trips generated by the proposed residential land use have been distributed according to 'Location of Usual Residence and Place of Work' data from the 2011 census, which is contained in **Appendix 13** and summarised in **Table 6.6**. The area selected for 'Usual residence' is Shropshire 004, which includes all of Ellesmere.

6.33 It has been assumed that 60% of residents of the proposed development working in the Ellesmere area will walk, cycle, or take public transport to work, and/or work at one of the proposed employment sites. Of those driving off-site, around one quarter (10% of the total) are estimated to work in the western area of the Ellesmere census area or are accessing Ellesmere College via Ellesmere Road.

6.34 In determining the direction of access to/from the site for each workplace location, directions to the largest settlement or major employer in each area from Lakelands Academy (as a proxy for the proposed site) were obtained using Google Maps. It was assumed that vehicles would take the route with the shortest journey times. Journey time estimates were obtained for journeys made on a future Tuesday during both AM and PM peaks. Screenshots showing these estimates are contained in **Appendix 14**.

Table 6.6 - Trip distribution from residential land use

Place of Work Census Area	Largest Settlement/ Centre of Employment	Number of Respondents	Direction of Access to/from Site
Ellesmere	Ellesmere	910	30% East, 10% West
Wrexham	Wrexham	320	East
Oswestry (West)	Oswestry	142	West
Gobowen	Gobowen	140	West
Telford and Wrekin	Telford	79	East
Baschurch	North Shropshire College	77	East
Shrewsbury (Central)	Shrewsbury	72	East
Oswestry (East)	Oswestry	70	West
Shrewsbury (Harlescott)	Battlefield Enterprise Park	63	East
Cheshire West & Chester	Chester	62	East
Whittington	Whittington	52	West
Whitchurch	Whitchurch	52	East
Market Drayton	Market Drayton	51	East
Nesscliffe	Nesscliffe Camp	38	West
Shrewsbury (West)	Royal Shrewsbury Hospital	34	West
Shrewsbury (South-East)	Shrewsbury Colleges	33	50% East, 50% West
Wem	Wem	33	East
Cheshire East	Crewe	28	East
Wolverhampton	Wolverhampton	24	East
Ternhill	Clive Barracks	21	East
Powys	Welshpool	21	West
Shawbury	RAF Shawbury	20	East
Flintshire	Connah's Quay	20	East

Westbound Traffic		Eastbound Traffic	
Count	Proportion	Count	Proportion
605	33.3%	1211	66.7%

6.35 The westbound and eastbound proportions estimated in **Table 6.6** are not equivalent to the proportions of residential traffic using the Business Park Roundabout and Canal Way, respectively. It is likely that much of the eastbound traffic originating from residential areas of the site will use the Business Park roundabout to access the A495 westbound, as journey times are likely to be equivalent to or shorter than via Canal Way. Therefore, it is estimated that 80% of residential traffic will use the Business Park Roundabout, with the remaining 20% using the Canal Way signalised junction.

6.36 Weekday residential trips have then been distributed at the site access junctions to accord with the estimated proportions of traffic to or from the west and east, respectively, with all traffic using the Canal Way signalised junction assumed to be to or from the east. For example, 80% of trips are estimated to use the Business Park Roundabout, and 20% are estimated to use the Canal Way signalised junction. As 66.6% of trips are estimated to be to or from the east, and all the trips using the Canal Way junction are likely to be to or from the east, (66.6% - 20% =) 46.6% of residential development trips will use the eastern arm of the Business Park roundabout.

6.37 Weekend residential trips are assumed to have the same 80/20 split between the two accesses as on weekdays, with all movements at the Canal Way signalised junction being to or from the east. Vehicle movements at the Business Park roundabout are distributed using the proportions observed in the MCC survey. Distribution diagrams for residential trips are contained in **Appendix 15**.

6.38 For the employment trips, a similar approach to distribution has been taken as for the residential trips, using 'Location of Usual Residence and Place of Work' data from the 2011 census data (also contained in **Appendix 13**) and selecting Shropshire 004 as the location of place of work. The same assumptions have been made as for the residential trips. This data is summarised in **Table 6.7**.

Table 6.7 – Trip distribution from employment land use

Usual Residence Census Area	Largest Settlement	Number of Respondents	Direction of Access to/from Site
Ellesmere	Ellesmere	901	40% E
Wrexham	Wrexham	502	E
Gobowen	Gobowen	204	W
Oswestry East	Oswestry	150	W
Oswestry West	Oswestry	146	W
Baschurch	Baschurch	106	E
Telford and Wrekin	Telford	66	E
Whittington	Whittington	92	W
Salford	Salford	52	E
Whitchurch	Whitchurch	44	E
Trefonen	Trefonen	41	W
Market Drayton	Market Drayton	33	E
Powys	Welshpool	33	W
Flintshire	Connah's Quay	30	E
Wem	Wem	26	E
Cheshire West & Chester	Chester	24	E

Westbound Traffic		Eastbound Traffic	
Count	Proportion	Count	Proportion
666	34.8%	1247	65.2%

6.39 As the employment land use is located close to the Business Park Roundabout access, it is expected that all traffic will use the Business Park Roundabout to access the employment uses.

6.40 Subsequently, at the Business Park roundabout, employment trips are distributed according to the estimated proportions in **Table 6.7**.

6.41 The hotel, log cabins, and caravan site are expected to attract trips from longer distances. As there is no single main route into Ellesmere, it is considered likely that trips will be evenly split between the western and eastern accesses (50% from the Business Park Roundabout, 50% from the Canal Way signalised junction). This figure has been previously agreed with the Local Authority.

6.42 A majority of trips associated with the pub/restaurant and play centre uses would be expected to be to or from Ellesmere. A figure of 80% of trips from the Ellesmere direction has previously been agreed with the Local Authority. The same assumption has been made for trips associated with the care home.

6.43 Given the proximity of the foodstore, café/bakery, drive-through coffee shop, and petrol filling station land uses to the Business Park Roundabout, it is considered that a negligible number of trips will access these land uses via Canal Way.

6.44 **Table 6.8** summarises the estimated proportions of traffic using each access to the link road, separated out by land use. Distribution diagrams for each land use are contained in **Appendix 15**.

Table 6.8 – Estimated proportions of traffic using site accesses

Land Use	Ellesmere Business Park Roundabout	Canal Way / A495 Signalised Junction
Residential	80%	20%
Employment	100%	0%
Foodstore, Café/Bakery, Drive-Through Coffee Shop, Petrol Filling Station	100%	0%
Hotel, Log Cabins, Touring Caravans	50%	50%
Pub/Restaurant, Play Centre, Care Home	20%	80%

Wider Network

6.45 Trips have been distributed on the wider network based on the proportions observed in the MCC survey.

6.46 The distribution diagrams contained in **Appendix 15** also set out the distribution of development trips on the wider highway network.

Non-Primary Trips

6.47 A proportion of the trips associated with commercial uses will be non-primary, either pass-by or diverted traffic.

6.48 It is considered that the trips associated with the café/bakery, drive-through coffee shop, and petrol filling station will be non-primary. Given the nature of these uses and their roadside location, it is highly likely that the trips associated with these uses will be pass-by trips which are already on the network.

6.49 In addition, a proportion of trips associated with the foodstore are also likely to be pass-by or diverted traffic. 'TRICS Research Report 95/2 Pass-by and Diverted Traffic, A Resume' suggests that 'the proportion of (retail) trips generally considered to be non-primary is 30%', so this figure has been used.

6.50 **Table 6.9** summarises the number of trips considered to be non-primary by land use (with reference to **Table 6.5**).

Table 6.9 – Non-primary trips by land use

Land Use	AM Peak		PM Peak		Saturday Peak	
	Arr.	Dep.	Arr.	Dep.	Arr.	Dep.
Foodstore	22	21	36	38	41	48
Café / Bakery	34	34	5	8	13	15
Drive-Through Coffee Shop	32	29	14	16	22	21
Petrol Filling Station	23	22	8	8	33	33

6.51 These trips are distributed separately from the primary development trips. Being that 100% of trips associated with these land uses are assumed to use the Business Park roundabout, existing trips using this junction have been redistributed accordingly.

6.52 For example, of the 285 existing trips arriving from the west at the Business Park Roundabout in the AM peak (representing 46% of the total), 52 (46% of the forecast pass-by arrivals) are now considered to be diverted to the southern arm of the access.

6.53 Likewise, forecast pass-by departures are distributed at the roundabout according to the proportions of existing traffic exiting the junction at each arm.

6.54 Distribution diagrams illustrating the non-primary trips are contained in **Appendix 16**.

6.55 Distribution on the wider network is unaffected.

HGVs

6.56 It is considered that the only land use which will generate or attract a significant number of HGV trips during peak times will be the B8 employment land use, with other uses associated with only a negligible number of HGV trips during peak times. For example, the discount foodstore is likely to receive deliveries by HGV, but these are likely to occur outside of peak hours.

6.57 Trip rates and attraction for HGVs is contained in **Table 6.10**. It should be noted that these trips form part of the total number of vehicle trips, rather than being additional to them.

Table 6.10 – HGV trip rates and attraction

	AM 0800-0900		PM 1700-1800	
	Arrivals	**Departures**	**Arrivals**	**Departures**
Trip Rates	0.039	0.070	0.051	0.069
Attraction	2	4	3	3

6.58 HGV trips have been distributed in accordance with the previous Transport Scoping Note prepared by BWB. This report used 2019 data from DfT count sites around Ellesmere to determine the existing HGV distribution.

6.59 This data showed that 11% of HGVs routed north on the A528, 53% east on the A495, and 36% west on the A495. This distribution has been applied to the HGV trips attracted by the proposed development.

6.60 Distribution diagrams showing the HGV trips are also contained in **Appendix 15.**

Traffic Flow Diagrams

6.61 All of the above has been taken into account and the resultant development traffic flows are illustrated in flow diagrams contained in **Appendix 17** for the site accesses and the wider highway network.

6.62 It can be noted that individual land use flow diagrams are contained within **Appendix 15**.

7.0 Calculation of Future Background Traffic

Background Growth

7.1 TEMPro growth factors for rural principal roads in 'Shropshire 004' have been determined as 1.0335 for the AM peak, 1.0333 for the PM peak, and 1.0382 for Saturday. Screenshots showing the process of obtaining these factors are contained in **Appendix 18**.

7.2 These growth factors have been applied to the MCC data collected in 2023 (see **Appendices 4** and **5**) to obtain forecast base flows for 2028 without any development. The resultant base flows for 2028 are contained in **Appendix 19**.

Committed Development

7.3 The committed Shropshire Homes residential development immediately north of the site (planning application reference 21/03602/FUL) for 107 dwellings and associated access has been identified for consideration within this assessment.

7.4 Access to this development will be from the A495 between the Business Park roundabout and the Canal Way signalised junction.

7.5 The documents relating to the highways aspects of this development do not provide an estimate of trip generation for the Saturday peak, only for the AM and PM peaks. The trip generation for this site during the Saturday peak has been forecast by comparison to the proportions observed in the data collected for the Canalside site, as detailed in **Section 5** of this report.

7.6 **Table 7.1** contains the trip generation for the Shropshire Homes development:

Table 7.1 – Trips associated with Shropshire Homes development

AM Peak		PM Peak		Saturday Peak	
Arrivals	Departures	Arrivals	Departures	Arrivals	Departures
12	36	40	24	31	31

7.7 These trips have been distributed by the same method as the residential Canalside development trips, with the exception of Saturday trips which are assigned eastbound or westbound from the access based on proportions observed in the ATC survey.

7.8 Distribution and flow diagrams for the Shropshire Homes development are included in **Appendix 20**. Flow diagrams showing the 2028 base flows plus committed development flows is contained in **Appendix 21**.

7.9 Flow diagrams showing the 2028 base flows plus committed development flows (**Appendix 21**), plus the Canalside development flows (from **Appendix 17**) are included in **Appendix 22**.

8.0 Junction Capacity Analysis

8.1 Junction capacity analysis has been undertaken of the following junctions using ARCADY, which forms part of the Junctions 9 suite of software and is industry standard software for modelling roundabouts:

i. A495 / Ellesmere Business Park roundabout
ii. A495 / Scotland Street roundabout
iii. A528 / A495 / Cross Street roundabout

8.2 Junction capacity analysis has been undertaken of the following junction using LinSig, which is industry standard software for modelling signalised junctions:

i. A495 / Canal Way signalised junction

8.3 The assessment of traffic impact has been completed for the AM, PM, and Saturday peak hours using the following assessment years:

i. 2023 – Base
ii. 2028 – Five years after application, plus committed development (without development traffic)
iii. 2028 – Five years after application, plus committed development (with development traffic)

8.4 Flow diagrams for each of these assessment scenarios are contained in **Appendix 5, Appendix 19** and **Appendix 20** respectively.

8.5 The existing geometries of all junctions have been used in all scenarios, except for the Business Park roundabout in the 2028 (with development traffic) scenario, in which the proposed modified roundabout geometry is used.

8.6 It can be noted that all modelling has been carried out in PCUs.

8.7 The Junctions 9 modelling outputs with junction diagrams are provided in full at **Appendix 23**, and summarised in **Tables 8.1, 8.2** and **8.3**.

Table 8.1 – Capacity analysis results for A495 Ellesmere Business Park roundabout

	AM			PM			Saturday		
Arm	**Queue (veh)**	**Delay (s)**	**RFC**	**Queue (veh)**	**Delay (s)**	**RFC**	**Queue (veh)**	**Delay (s)**	**RFC**
	2023 Base								
Business Pk	0.0	4.85	0.03	0.0	3.44	0.05	0.0	3.91	0.01
A495 (E)	0.4	3.48	0.29	0.3	3.22	0.24	0.1	2.63	0.12
A495 (W)	0.4	3.72	0.28	0.3	3.09	0.21	0.2	2.79	0.14
	2028 Base + Committed Development								
Business Pk	0.0	4.92	0.03	0.1	3.50	0.05	0.0	3.96	0.01
A495 (E)	0.4	3.57	0.31	0.3	3.17	0.26	0.2	2.68	0.14
A495 (W)	0.4	3.75	0.29	0.3	3.16	0.23	0.2	2.82	0.16
	2028 + Committed Development + Canalside Development (Site Access Modified Junction)								
Business Pk	0.0	4.26	0.03	0.0	3.08	0.04	0.0	3.48	0.01
A495 (E)	1.1	7.25	0.53	1.0	6.68	0.51	0.5	4.78	0.32
Link Road	0.3	3.83	0.24	0.3	3.65	0.22	0.3	3.30	0.23
A495 (W)	0.6	5.35	0.39	0.5	4.52	0.34	0.3	3.89	0.24

8.8 **Table 8.1** confirms that the Business Park roundabout will operate well within capacity during all scenarios. The highest mean maximum queue observed is 1.1, with all other mean maximum queue values being one or fewer vehicles (i.e. queues are expected to be no longer than around two vehicles at all times).

Table 8.2 – Capacity analysis results for A495/Scotland Street roundabout

	AM			PM			Saturday		
Arm	Queue (veh)	Delay (s)	RFC	Queue (veh)	Delay (s)	RFC	Queue (veh)	Delay (s)	RFC
	2023 Base								
A495 (E)	1.1	8.50	0.52	1.1	8.12	0.52	0.4	5.53	0.30
Scotland St	0.1	5.91	0.10	0.1	5.48	0.09	0.0	4.54	0.05
A495 (W)	0.9	7.46	0.46	0.6	6.17	0.39	0.5	5.50	0.33
	2028 Base + Committed Development								
A495 (E)	1.2	9.04	0.55	1.3	8.95	0.56	0.5	5.75	0.33
Scotland St	0.1	6.03	0.11	0.1	5.71	0.10	0.1	4.64	0.05
A495 (W)	1.0	8.11	0.51	0.7	6.45	0.42	0.5	5.74	0.35
	2028 + Committed Development + Canalside Development								
A495 (E)	2.1	12.99	0.68	3.7	19.39	0.80	1.1	8.44	0.54
Scotland St	0.2	6.92	0.15	0.2	7.33	0.16	0.1	5.59	0.09
A495 (W)	2.1	12.27	0.68	1.7	10.03	0.63	1.4	8.91	0.58

8.9 **Table 8.2** shows the A495/Scotland Street roundabout operates within capacity in all scenarios tested. The highest RFC value observed is 0.8, on the A495 (E) arm during the PM peak hour in 2028.

Table 8.3 – Capacity analysis results for A528 / A495 / Cross Street roundabout

	AM			PM			Saturday		
Arm	Queue (veh)	Delay (s)	RFC	Queue (veh)	Delay (s)	RFC	Queue (veh)	Delay (s)	RFC
	2023 Base								
A495 (E)	1.1	8.09	0.52	1.1	7.77	0.51	0.3	4.82	0.25
Cross St	0.3	6.34	0.26	0.6	7.75	0.38	0.2	4.39	0.14
A495 (W)	0.9	5.79	0.46	0.6	4.92	0.37	0.3	3.70	0.24
A528 (N)	0.7	9.92	0.42	0.7	9.04	0.42	0.2	5.80	0.19
	2028 Base + Committed Development								
A495 (E)	1.2	8.51	0.54	1.2	8.39	0.55	0.4	4.95	0.27
Cross St	0.4	6.57	0.27	0.7	8.32	0.41	0.2	4.48	0.15
A495 (W)	1.0	6.21	0.50	0.6	5.14	0.39	0.3	3.76	0.25
A528 (N)	0.8	10.70	0.45	0.8	9.65	0.45	0.2	5.89	0.20
	2028 + Committed Development + Canalside Development								
A495 (E)	1.7	10.58	0.63	2.4	13.18	0.71	0.6	6.00	0.39
Cross St	0.4	7.39	0.31	1.0	11.39	0.51	0.2	5.15	0.19
A495 (W)	1.1	6.46	0.52	0.7	5.41	0.42	0.4	3.89	0.27
A528 (N)	1.0	11.83	0.50	1.1	11.70	0.54	0.3	6.43	0.25

8.10 **Table 8.3** confirms that the A528/A495/Cross Street roundabout will operate within capacity during all scenarios. The maximum RFC value observed is 0.71, with a corresponding maximum queue length of up to three vehicles on the A495 (E) in the PM peak hour in 2028.

8.11 The LinSig modelling outputs for the Canal Way signalised junction, with its current layout, are contained in **Appendix 24**, and summarised in **Table 8.4**.

Table 8.4 – Capacity analysis results for Canal Way signalised junction

	AM			PM			Saturday		
Arm	Mean Max Queue (PCU)	Avg. Delay (s/ PCU)	DoS	Mean Max Queue (PCU)	Avg. Delay (s/ PCU)	DoS	Mean Max Queue (PCU)	Avg. Delay (s/ PCU)	DoS
	2023 Base								
A495 (W)	10.6	48.0	81.0%	6.8	36.3	61.3%	4.5	31.7	44.6%
A495 (E)	11.7	36.4	77.3%	13.6	55.7	88.2%	5.3	26.0	45.3%
Canal Way	6.9	111.5	89.4%	6.5	64.5	78.5%	8.4	123.5	93.2%
	2028 Base + Committed Development								
A495 (W)	13.1	58.8	88.3%	8.0	40.7	69.3%	5.3	33.1	50.4%
A495 (E)	19.9	89.3	97.2%	13.5	45.0	84.5%	6.7	34.6	59.2%
Canal Way	4.4	50.6	61.5%	12.2	153.4	99.2%	5.3	52.6	67.8%
	2028 + Committed Development + Canalside Development								
A495 (W)	58.8	347.0	118%	18.4	89.6	96.6%	10.3	46.3	79.3%
A495 (E)	41.3	187.6	107%	127.4	625.2	143%	21.0	100.1	98.5%
Canal Way	8.5	103.6	90.9%	11.8	109.4	95.1%	10.4	95.0	92.2%

8.12 **Table 8.4** shows that the junction operates mostly within capacity in the 2023 base scenarios, with only the Canal Way arm during the Saturday peak experiencing a Degree of Saturation (DoS) value greater than 90%. In the 2028 base plus committed development scenarios, several arms approach or exceed 90% DoS at different times. When including the Canalside Development traffic, most arms at most times are over capacity.

8.13 It is therefore clear that mitigation works will be required to allow the junction to operate within capacity.

8.14 The mitigation works proposed are for a right turn 'holding area' within the centre of the junction for up to two vehicles turning right from the A495 (W) onto Canal Way, and additional lining to guide traffic around waiting vehicles. Similar designs are implemented elsewhere in the UK, such as a junction in Worcester between the A44 London Road and the access road for a Waitrose supermarket. A plan of the proposed mitigation at the Canal Way junction is provided at **Appendix 25**.

8.15 As part of the mitigation, the staging of the signals is to be adjusted to allow traffic from the A495 (W) to run in Stage 1 and change the right turn to a give way. This changes the junction to two stages for traffic, with a third stage for all pedestrian crossings.

8.16 LinSig modelling outputs for the 2028 plus Committed Development and Canalside Development scenarios using the proposed mitigation for the Canal Way signalised junction are contained in **Appendix 26** and summarised in **Table 8.5**.

Table 8.5 – Capacity analysis results for Canal Way signalised junction with mitigation

	AM			PM			Saturday		
	Mean Max Queue (PCU)	Avg. Delay (s/ PCU)	DoS	Mean Max Queue (PCU)	Avg. Delay (s/ PCU)	DoS	Mean Max Queue (PCU)	Avg. Delay (s/ PCU)	DoS
	2028 + Committed Development + Canalside Development								
A495 (W)	11.3	26.9	70.4%	11.1	45.5	87.1%	8.1	31.9	63.1%
A495 (E)	14.1	28.9	78.9%	19.6	41.1	90.0%	11.8	35.4	77.2%
Canal Way	5.8	55.5	71.8%	11.8	109.4	95.1%	6.2	38.3	62.6%

8.17 From **Table 8.5** it is clear that the mitigation for the Canal Way signalised junction will allow for an increase in capacity when compared to the existing layout.

8.18 Only the Canal Way arm in the PM peak hour experiences a DoS greater than 90% (95.1%).

8.19 Generally, the mitigation has shown that the junction operates much better during weekdays for the 2028 plus development scenario with mitigation than the 2028 no development scenario (no mitigation) as set out in **Table 8.4**, and that the operation of the junction during the Saturday peak is well below saturation.

8.20 Therefore, it is considered that the proposed mitigation provides the required capacity enhancements and that the proposed development will not have a severe impact on the local highway network that cannot be mitigated for.

9.0 Summary and Conclusions

9.1 This TA has been produced to support the forthcoming planning application for the formation of a link road with footway and cycleway provision between the Ellesmere Business Park Roundabout on the A495 and Canal Way.

9.2 It is proposed for the purpose of assessment that the mixed-use development scheme will include:

i. Up to 350 residential dwellings
ii. A Foodstore up to 2,000sqm
iii. Up to 10,000sqm of commercial floorspace
iv. A 100-bed care home
v. An 80-bed hotel
vi. 70 holiday cabins
vii. A touring caravan site with 35 berths
viii. A 750sqm pub/restaurant
ix. A 500sqm play centre
x. A 210sqm drive-through coffee shop
xi. A 210 sqm café/bakery
xii. A 0.15 hectare petrol filling station

9.3 The mixed-use development will provide many everyday services and facilities within easy walking and cycling distance of residential areas, allowing people to live and work within the same community and reducing the reliance on the private car.

9.4 In summary:

i. The proposed provision of footways, crossings and other pedestrian infrastructure is attractive and appropriate
ii. The proposed provision of cycleways and other cycle infrastructure is attractive and appropriate
iii. A design code has been set out for junctions to be constructed off the link road
iv. A review of existing bus infrastructure in the vicinity of the site is provided
v. A review of existing rail infrastructure in the vicinity of the site is provided
vi. Existing walking and cycling infrastructure has been reviewed, and isochrone maps for both modes provided
vii. A car and cycle parking strategy have been set out based on Wrexham parking standards
viii. An appropriate strategy for visibility splays has been set out, and visibility splays at the accesses onto the local road network are suitable
ix. The modified Business Park roundabout will be able to safely accommodate delivery, service, and emergency vehicles, as demonstrated by swept path analysis
x. Contributions for widening and resurfacing of the Llangollen Canal towpath adjacent to the site, from the wider development parcels, will improve accessibility for all NMUs
xi. Pedestrian and cycle connections between the link road and the existing highway network are set out, as well as planned future cycle and pedestrian connections
xii. A suitable diversion of the existing PRoW across the site has been demonstrated

xiii. An overview of travel plan measures included in the FTP is provided
xiv. There are not any underlying road safety issues on the existing highway network that need to be addressed, as demonstrated by a review of recent collision data
xv. Suitable trip rates for each land use have been determined, using both the TRICS database and additional surveys where appropriate in accordance with pre-app comments
xvi. Suitable trip discounts, including those previously agreed with SCC, have been proposed
xvii. Up to around 736 vehicle trips are forecast to be associated with the proposed development during the busiest peak hour (Saturday)
xviii. Traffic from the adjacent Shropshire Homes committed development has been accounted for
xix. Trip distribution has been forecast based on census data and existing traffic flows
xx. Traffic growth rates have been obtained from TEMPro for the 2028 base flows
xxi. The forecast traffic impact on the highway network as a result of the development will not be detrimental to safety or capacity (when considering the proposed mitigation)
xxii. Mitigation at the Canal Way/A495 signalised junction is set out and modelling outputs confirm that the modified junction will operate within capacity at all times

9.5 It is finally concluded that the proposed link road and associated development will not have a significant impact on the safety or capacity of the local highway network, and is therefore acceptable in highway terms.