

Feasibility study

Littleport to Ely walking and cycling routes

16 May 2022



Cover photo credit: Lee Wynd/Sustrans

About Sustrans

Sustrans is the charity making it easier for people to walk and cycle. We connect people and places, create liveable neighbourhoods, transform the school run and deliver a happier, healthier commute. Join us on our journey. www.sustrans.org.uk.

Registered Charity No. 326550 (England and Wales) SC039263 (Scotland).

Our vision

A society where the way we travel creates healthier places and happier lives for everyone.

Our mission

We make it easier for people to walk and cycle.

How we work

- **We make the case for walking and cycling** by using robust evidence and showing what can be done.
- **We provide solutions.** We capture imaginations with bold ideas that we can help make happen.
- **We're grounded in communities**, involving local people in the design, delivery and maintenance of solutions.

What we do



Contact us

To find out more, please contact (Andrew.allison@sustrans.org.uk)

All photos: Lee Wynd/Sustrans unless otherwise stated.

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Executive summary

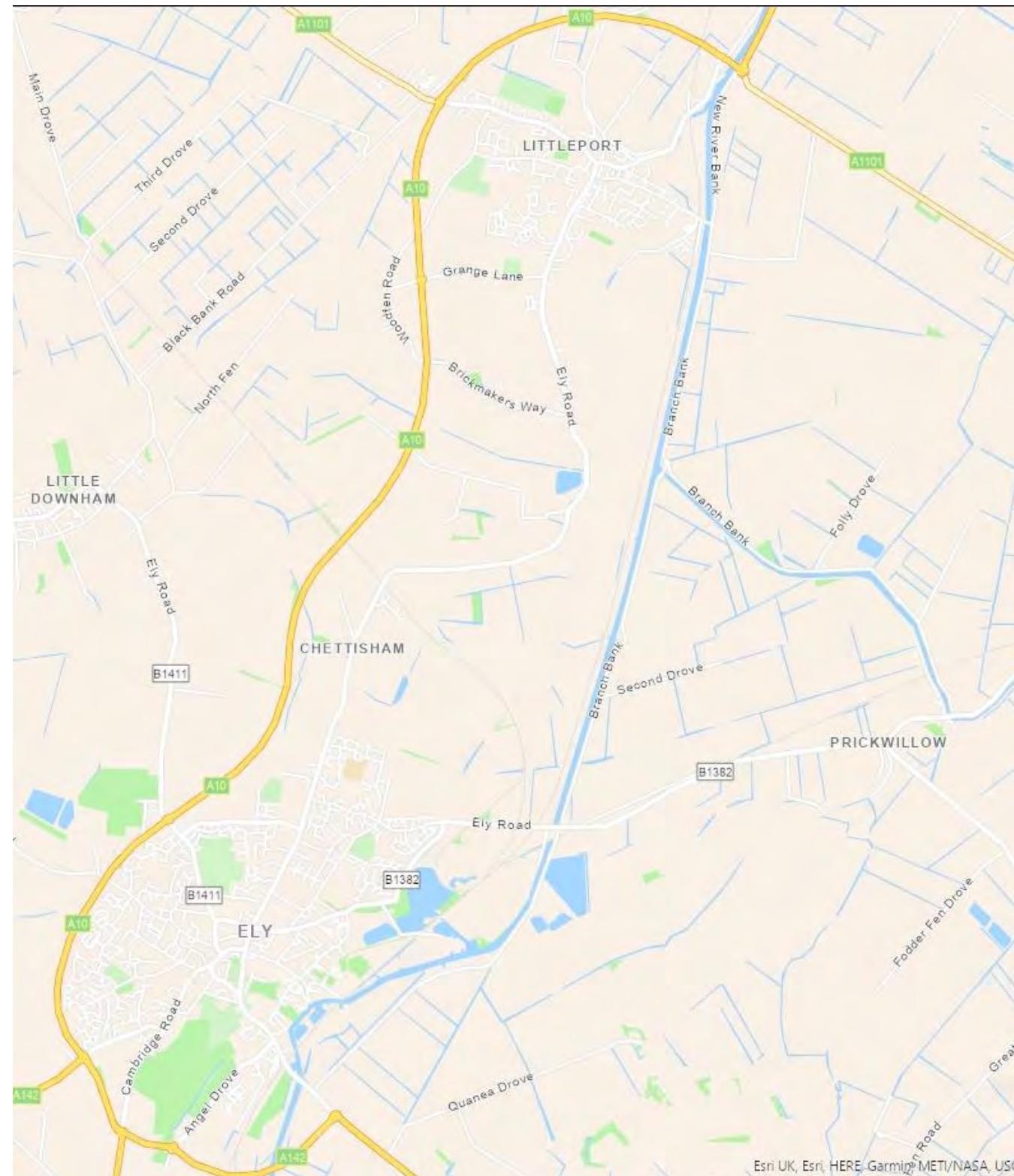
This report looks at potential new walking and cycling routes between Littleport and Ely. Existing links between the communities are dominated by the A10, and Lynn Road which is the former route of the A10 before the Ely Bypass was constructed, which are major roads carrying motorised traffic at volumes and speeds that are likely to be uncomfortable for many people considering walking or cycling.

East Cambridgeshire District Council (ECDC) are keen to provide better facilities for local residents and visitors and Sustrans is keen to provide a link to National Cycle Network Route 11, which currently ends in Ely and Little Downham.

The report considers two alignments, broadly speaking the A10 corridor and the river Great Ouse flood banks. Both of the options involve the use of private land and detailed discussions will be needed with numerous landowners before any alignment can be finalised. Ecology and heritage are also major factors that need to be addressed.

The report also investigates the existing provision within Littleport and Ely. Without good provision from people's doorsteps (or all the way to key destinations) some journeys will remain challenging, regardless of the rest of the route.

None of the options are easy and there is a good case for more than one route.



1. Introduction

Sustrans has been asked to look at options for new walking and cycling routes Littleport and Ely, in East Cambridgeshire. This request has come ECDC who are looking to improve local facilities and want to progress plans for routes, so that when funding becomes available they can bid for funding. The objective of the report is to identify the advantages and disadvantages of the various options, so that further consultation can be had with the local community, local employers and landowners to consider the best way forward.

1.1 Background to the project

There is a well-established cycling culture Cambridgeshire in general, given the topography especially and the presence of the university city of Cambridge. Links between Littleport and Ely were amongst the top three most requested walking and cycling routes in ECDC's Cycling and Walking Routes Strategy and at approximately 8.5km between the two population centres, this is a distance eminently suitable for cycling and walking for both commuting and leisure.

In addition, national policies have been giving high priority to walking and cycling as well as offering the potential for major funding in future.

Sustrans has also been reviewing the National Cycle Network and this review noted that the National Cycle Network is a local asset with incredible reach, connecting people and places across the UK and providing traffic-free spaces for everyone to enjoy.

The review identified that the Network is used by a broad range of people – walkers (for over half of journeys) and people on cycles, as well as joggers,

wheelchair users and horse riders – but there is a lot more we can do to make it safe and accessible for everyone. The Network's routes have great potential for improvement. The character and quality varies hugely, and whilst 54% of the Network is Good or Very Good, 46% is Poor or Very Poor.

The review included a vision for a UK-wide network of traffic-free paths for everyone, connecting cities, towns and countryside, loved by the communities they serve.

1.2 Purpose of the project

- To describe the current problems, obstacles and propensity to walk and cycle in the area.
- To identify at least one high quality route that can be delivered between Littleport and Ely.
- To consider ways to improve links within both communities.
- To rank the route options in terms of benefits and costs and to consider ways to deliver improvements, including timetables and costings.

2. NCN principles

2.1 Why we have the NCN principles:

The National Cycle Network design principles set out key elements that make the Network distinctive and need to be considered during design of new and improved routes forming part of the Network.

Where the Network is not traffic-free it should either be on a quiet-way section of road or be fully separated from the carriageway.

For a National Cycle Network route on a quiet-way section of road traffic speed and flows should be sufficiently low with good visibility to comply with design guidance for comfortable sharing of the carriageway.

Signs and markings should highlight the Network.

Principle 1:

Traffic-free or quiet-way

Where the Network is not “traffic-free” it should either be on a quiet-way section of road or be fully separated from the adjacent carriageway.

For a National Cycle Network route on a quiet-way section of road the traffic speed and flows should be sufficiently low enough to encourage cycling for all ages and abilities.

It should have good visibility to comply with design guidance to allow for comfortable sharing of the carriageway.

Signs and road markings should highlight the Network.



Figure 1: Safe crossing for all, helping continuity on traffic free routes (Photo: Sustrans)

Principle 2:

Wide enough to accommodate all users

Width of a route should be based on the level of anticipated usage, allowing for growth. A minimum width of 3m shall be delivered.

Where it is not possible to deliver this, all other avenues should be fully explored before path widths are reduced.

Physical separation between users should be considered where there is sufficient width and a higher potential for conflict between different users.

Structures should be designed to maximise movement space. A minimum path width between parapets of 4m shall be maintained.



Figure 2: At grade crossing of side road with separation for traffic, cyclists and pedestrians (Photo: Sustrans)

Principle 3:

Designed to minimise maintenance

A maintenance plan should be put in place during the development process.

Construction quality should be maximised to minimise future maintenance needs.

New planting should be kept well clear of the path.

Sufficient tree work should be undertaken as part of construction to minimise future issues.

Routes should be managed in a way that enhances biodiversity.



Figure 3: Easily maintained (Photo: Sustrans)

Map 0X (Description)

Principle 4: **Signed clearly and consistently**

Signage should be a mix of signs, surface markings and wayfinding measures.
Every junction or decision point should be signed.
Signage should be part of a network-wide signing strategy directing users to and from the route.
Signage should direct users of the Network to trip generators such as places of interest, hospitals, universities, colleges.
Signage should be used to increase route legibility and branding of routes.
Signage should help to reinforce responsible behaviour by all users.



Figure 4: Clear signing (Photo: Sustrans)

Principle 5: **Smooth surface that is well drained.**

Path surfaces should be suitable for all users, irrespective of age, ability or mobility needs.
Path surfaces should be maintained in a condition that is free of undulations, rutting and potholes.
Path surfaces should be free draining and verges finished to avoid water ponding at the edges of the path.
In, or close to, built-up areas a Network route should have a sealed surface to maximise the number of path users.



Figure 5: Smooth, tarmac surface, accessible for all non-motorised users (Photo: Sustrans)

Principle 6: **Fully accessible to all legitimate users.**

All routes should accommodate a cycle design vehicle 2.8 metres long x 1.2metres wide.
Any barriers should have a clear width of 1.5 metres.
Gradients should be minimised and as gentle as possible.
The surface should be maintained in a condition that makes it passable by all users.



Figure 6a: Accessible for all (Photo: Sustrans)



Figure 6b: Corridors that provide continuity, that create short-cuts and are away from traffic, in attractive environments (Photo: Sustrans)

Principle 7: **Feel like a safe place to be**

Route alignments should avoid creating places that are enclosed or not overlooked.
Consideration should be given as to whether lighting should be provided.



Figure 7: Safe for all (Photo: Sustrans)

Principle 8:

Enable all users to cross roads safely.

Road crossings should be in accordance with current best practice guidance.

Approaches to road crossings should be designed to facilitate a slow approach speed to a crossing, have enough space for several users to wait safely.

Signalised road crossings should be designed to minimise the wait time for NCN users.

Where possible advanced notification systems should be used.

All grade separated crossings should provide step-free access.



Figure 8: Safe crossing for all (Photo: Fig 10.4 from LTN 1/20)

Principle 9:

Be attractive and interesting

Network routes should be attractive places to be in and pass along.

Landscaping, planting, artwork and interpretation boards should be used to create interest.

Seating should be provided at regular intervals along a route.

Opportunities should be taken to enhance ecological features.



*Figure 9: Attractive and interesting areas
(Photo: Sustrans)*

3. Guidelines and Standards

The most relevant guidance is listed on the Sustrans website at <https://www.sustrans.org.uk/for-professionals/infrastructure>. Local Authority

Guidance and policies are also relevant. Examples of relevant guidance are given in this chapter.

General guidance for England

- [Department for Transport LTN 1/20 Cycle Infrastructure Design](#)
- [Highways England CD 195 Designing for cycle traffic](#)
- [Department for Transport Local Transport Notes](#)
- [LCWIP Technical Guidance for Local Authorities \(DfT\)](#).



Low Traffic Neighbourhoods

- [Sustrans introductory guide to low-traffic neighbourhood design](#)
- [Manual for Streets](#)
- [Slow Streets Sourcebook \(Urban Design London\)](#)
- [Streetscape Guidance \(Transport for London\)](#)
- [Achieving lower speeds: the toolkit \(TfL\)](#).



"New, high-quality infrastructure for pedestrians, cyclists and horse riders – such as high-quality cycleways in Ely and a segregated route to Soham – will also help to make active travel a safer and more attractive option for local journeys within and between our towns and villages. More journeys on foot and by bike will also help to alleviate traffic congestion and improve air quality, whilst allowing those without access to a car – such as teenage children – more independence and opportunity to travel."

The East Cambridgeshire Local Plan sets out future plans for the District and includes the following within section 2.4.1 Spatial Vision:

"Better cycling and pedestrian facilities and links will be provided, including segregated cycle routes along key routes linking towns and villages....."

"There will be better access to the countryside and green spaces for local communities which helps to improve people's quality of life..."

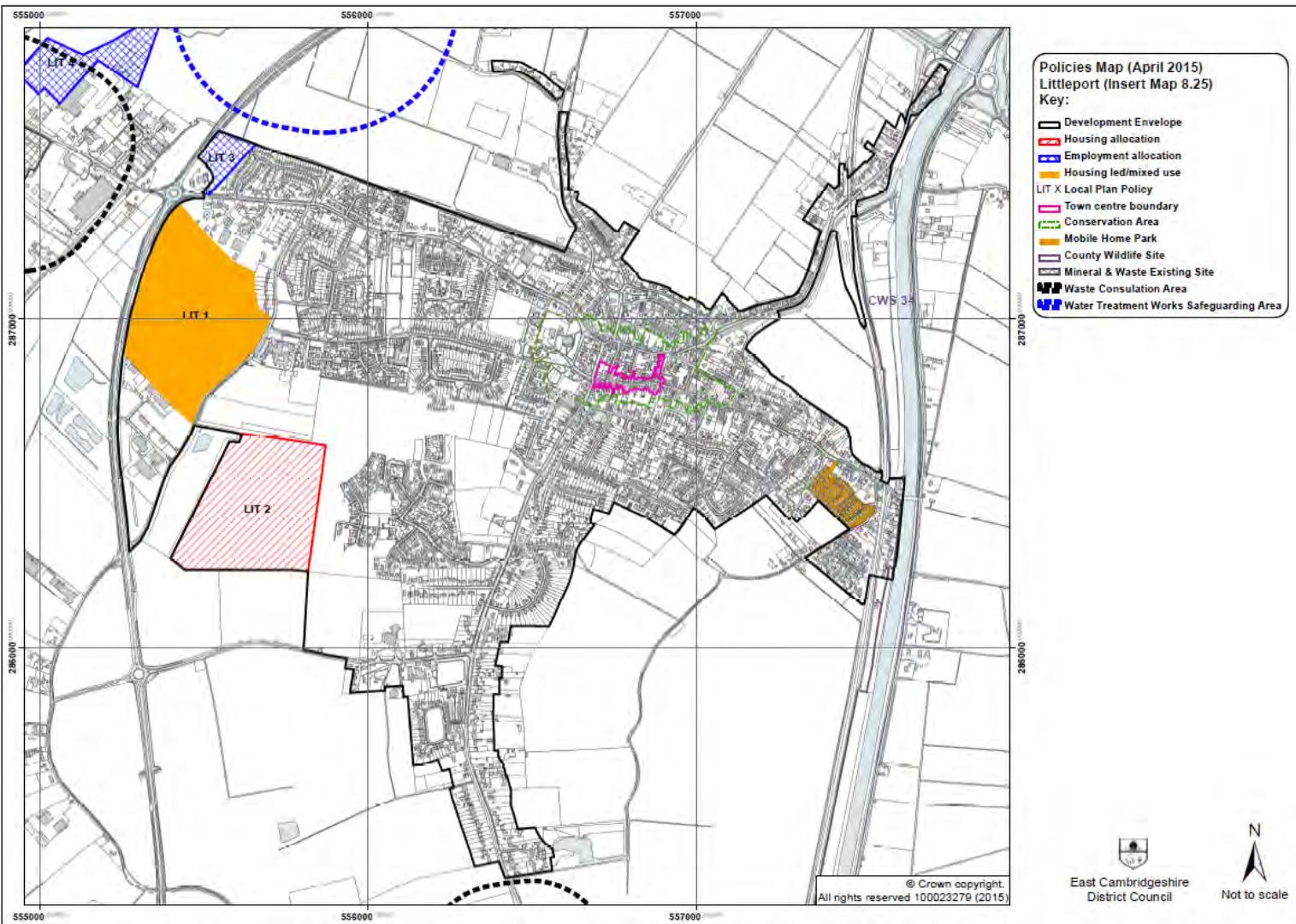


Within Littleport, the Local Plan identifies approximately 796 dwellings on 'infill' sites within the existing built-up area between 2013 and 2031. Further to this there are several areas identified for further development:

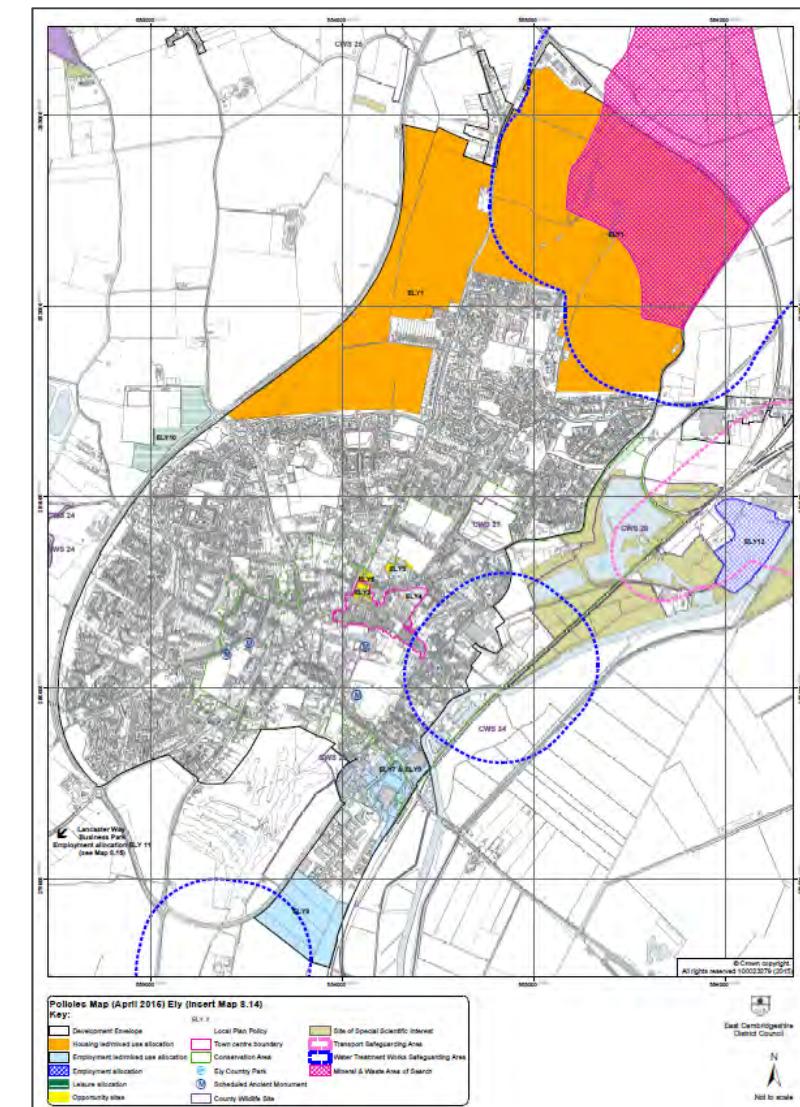
- Land west of Woodfen Road – up to 250 dwellings and up to 7ha of employment.
- Land west of Highfields – up to 300 dwellings adjacent to the existing Highfields housing estate, plus a potential future site between this and Grange Lane to the south.
- 1.6ha of B1 and B2 on land north of Wisbech Road.
- 4.77ha of B1/B2/B8 on land north of Wisbech Road.

With these proposed additions to Littleport there will only ever be increasing demand for better links to Ely, to access employment, leisure and commercial facilities, and for its more numerous rail links to destinations such as Norwich, Peterborough, Ipswich and Stansted Airport, plus other destinations further afield.

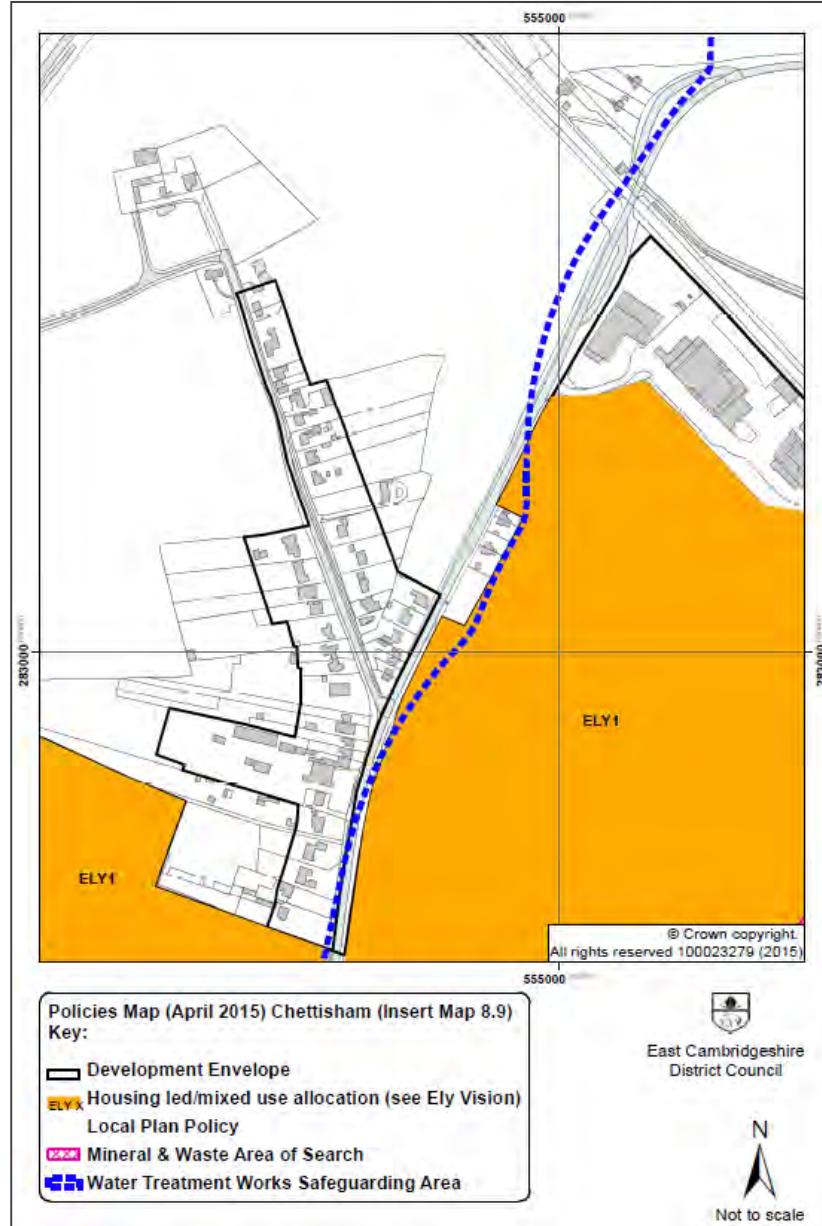
The Local Plan allocation areas for Littleport, Ely, Chettisham and Queen Adelaide are shown below. As can be seen, there is a lot of proposed expansion and activity in this area between Littleport and Ely.



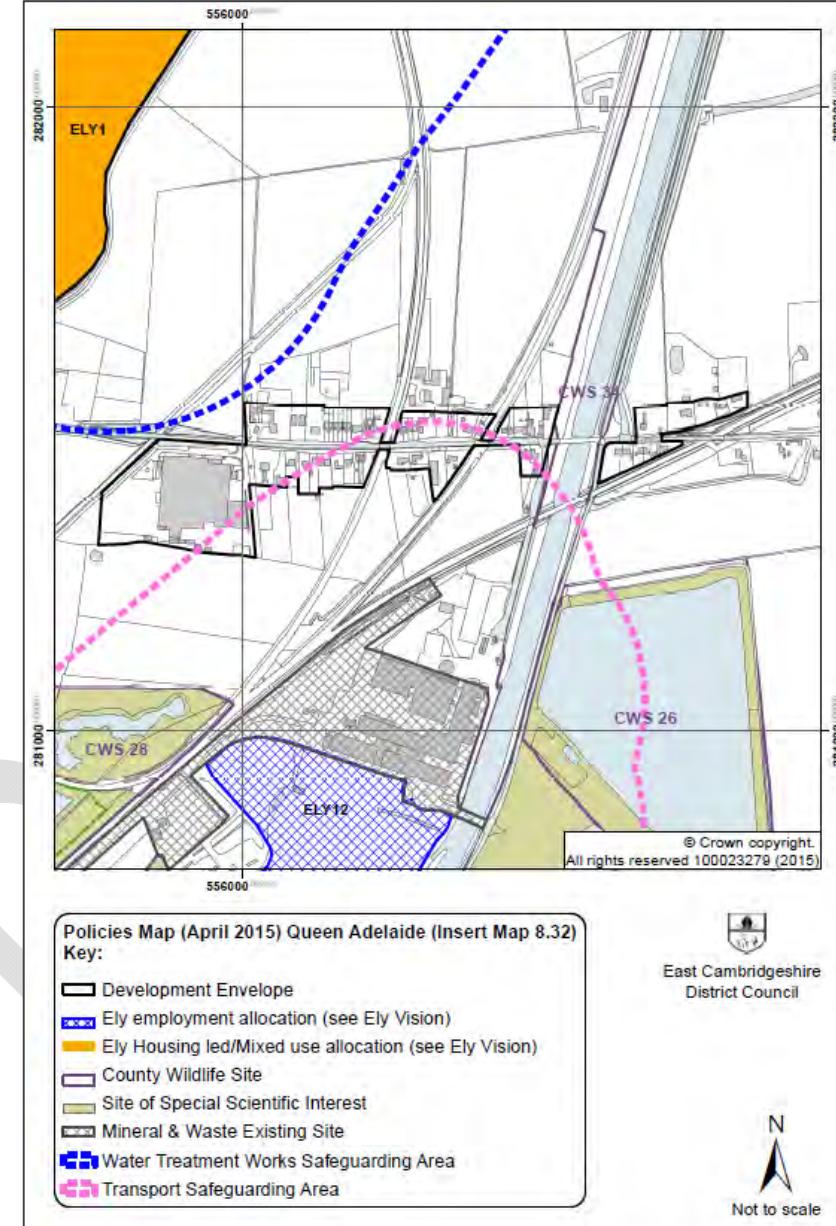
ECDC Local Plan – Littleport Allocation Areas



ECDC Local Plan – Ely Allocation Areas

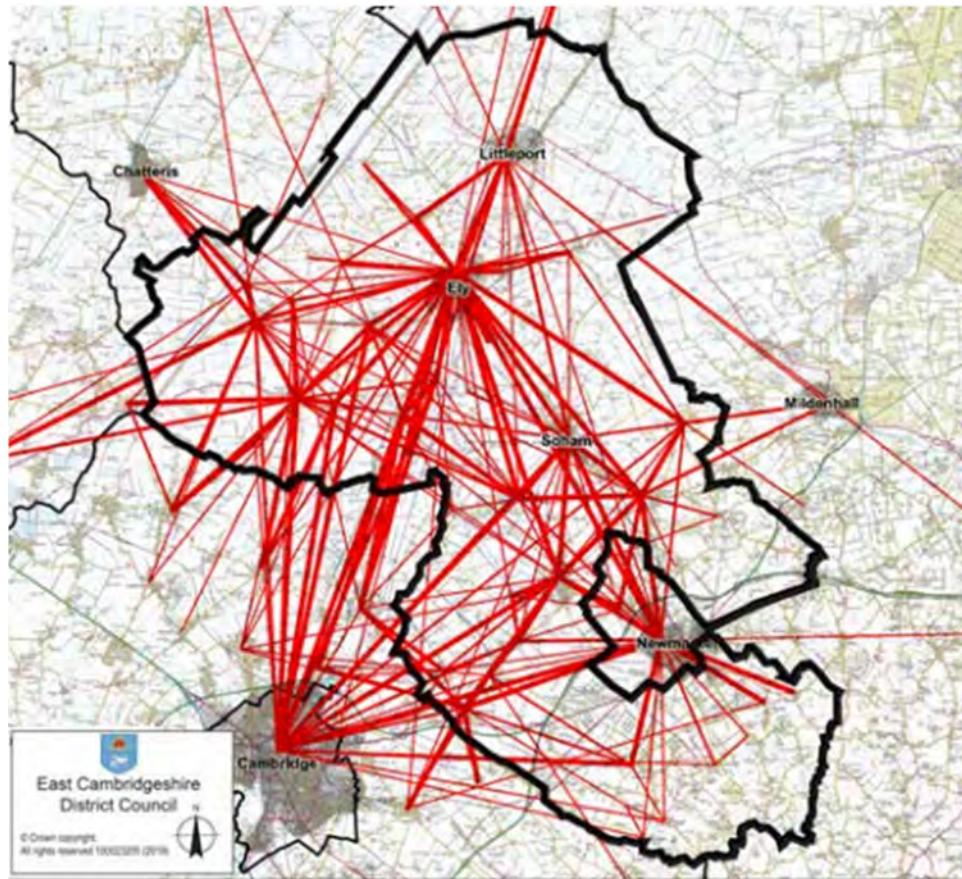


ECDC Local Plan – Chettisham Allocation Areas



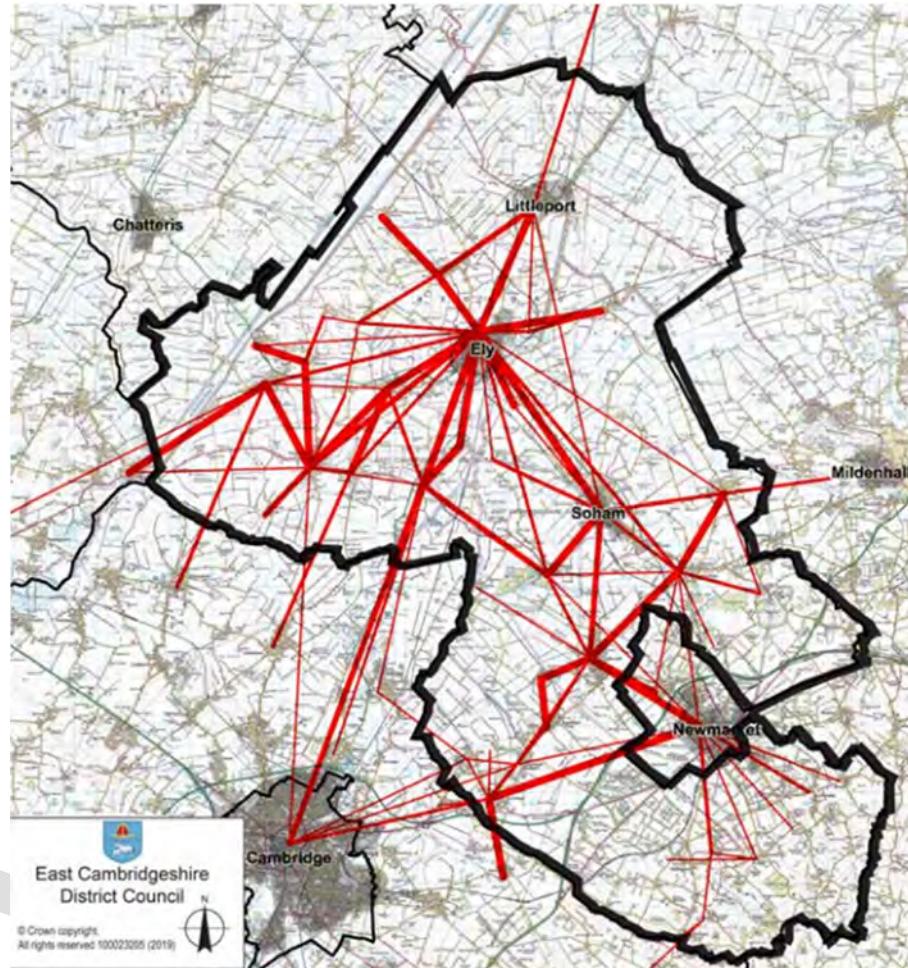
ECDC Local Plan – Queen Adelaide Allocation Areas

East Cambridgeshire has produced a Cycling and Walking routes strategy which was informed by public consultation in 2020. It includes information on the responses and an analysis of all the options put forward, such as the many proposed cycling and walking routes as shown below.



Cycling Route Options from East Cambridgeshire Cycling and Walking Routes Strategy

The report shows clear interest and demand for both cycling and walking route options between Littleport and Ely.



Walking Route Options from East Cambridgeshire Cycling and Walking Routes Strategy

LTN 1/20 Cycle Infrastructure Design and its implications for design options.

The Government set out its ambitions to see a “step change in cycling and walking in coming years” in Gear Change – A bold vision for cycling and walking (Department for Transport, July 2020). The document sets out key design principles, which are the basis for the updated national guidance for highway authorities and designers, given in LTN1/20.



Although LTN 1/20 is issued as guidance its adoption will also be a condition for Government

funding of all local highways investment, as well as new cycle infrastructure.

“It will be a condition of any future Government funding for new cycle infrastructure that it is designed in a way that is consistent with this national guidance.”

The Department for Transport will also reserve the right to ask for appropriate funding to be returned for any schemes built in a way which is not consistent with the guidance. In short, schemes which do not follow this guidance will not be funded.” (Extract from Foreword LTN1/20)

LTN 1/20 has therefore been taken as the starting point when considering design options for this scheme. Some of the major implications in relation to the space needed for cycling, to ensure that the guidelines are met are:

- Properly protected bike lanes, cycle-safe junctions and interventions for low-traffic streets are needed for the whole scheme, with little scope for exceptions.
- Cycle infrastructure should be accessible to everyone from 8 to 80 and beyond.
- On urban streets, cyclists must be physically separated from pedestrians and should not share space with pedestrians.
- Cyclists must be physically separated and protected from high volume motor traffic, both at junctions and on the stretches of road between them.
- Cycle infrastructure should be designed for significant numbers of cyclists, and for non-standard cycles.

LTN 1/20 notes that physical separation of cyclists from motor traffic can be an option in all situations but may not be necessary at lower speeds and lower volumes of traffic. This is an important factor in scheme design, because measures that reduce

traffic volumes and/ or speeds can change the requirements for provision for cyclists.

LTN 1/20 has many other implications for cycle infrastructure design and maintenance and needs to be read as a whole, to fully understand the required design standards (including the Cycling Level of Service Tool and Junction Assessment Tool). In order to justify expenditure on this scheme the whole scheme has to be to a good standard and there should be no Critical Fails using the Cycling Level of Service Tool, with junctions to a good standard for all movements.

Figure 4.1 of LTN 1/20 (below) shows the appropriate protection from motor traffic on highways, with the aim being that traffic flow, speed and type of separation should fit within the green area.

		Provision suitable for most people			Provision not suitable for all people and will exclude some potential users and/or have safety concerns			Provision suitable for few people and will exclude most potential users and/or have safety concerns		
		Flow (pcu/24 hour) ²	Fully Kerbed Cycle Track	Stepped Cycle Track	Light Segregation	(mandatory/advisory)				
20 mph ³	0									
	2000									
	4000									
	6000+									
30 mph	0									
	2000									
	4000									
	6000+									
40 mph	Any									
50+ mph	Any									

The space needed for cycling needs to allow for pedestrians and needs to be separated from motorised traffic by the desired or absolute minimum separation as outlined above, with absolute minimum a last resort.

LTN 1/20 generally recommends that cyclists are segregated from pedestrians but suggests that

“Shared use may be appropriate in some situations, if well-designed and implemented.”

The guidance on widths for rural routes is given in Table 6-3, which states that for routes carrying less than 300 pedestrians per hour and less than 300 cyclists per hour the recommended minimum width is 3m. This is the width that has been used throughout for this study. In the villages cyclists need to be segregated from pedestrians and a width of 3m has also been used for a bi-directional cycleway reduced to 2.5m at pinchpoints.

- Notes:
1. If the 85th percentile speed is more than 10% above the speed limit the next highest speed limit should be applied
 2. The recommended provision assumes that the peak hour motor traffic flow is no more than 10% of the 24 hour flow
 3. In rural areas achieving speeds of 20mph may be difficult, and so shared routes with speeds of up to 30mph will be generally acceptable with motor vehicle flows of up to 1,000 pcu per day

There is limited published data on traffic flows in this area, but there are DfT publish counts on the A10 Ely Bypass, both in the vicinity of Ely and Littleport, on Ely Road just east of Queen Adelaide and on Prickwillow Road in the north east of Ely. Count information is shown below:

A10 – between Cambridge Road and Witchford Road (Estimated based upon 2018 count)

Motor Vehicles	HGV %	Pedal Cycles
20,160	10%	6

A10 – between Witchford Road and West Fen Road (Estimated based upon 2018 count)

Motor Vehicles	HGV %	Pedal Cycles
18,817	7%	0

A10 – between Wisbech Road and Camel Road (Estimated based upon 2018 count)

Motor Vehicles	HGV %	Pedal Cycles
7,805	11%	0

Ely Road (2009 count)

Motor Vehicles	HGV %	Pedal Cycles
2,907	4%	21

Prickwillow Road (2019 count)

Motor Vehicles	HGV %	Pedal Cycles
3,804	2%	46

Counts are shown from 2019 and earlier, as the pandemic impacts on traffic levels on 2020 are likely to show a ‘false’ decline due to the unique circumstances and impact that the various lockdowns had on these counts.

On this scheme there are roads with 60mph and 30mph limits and this is very significant in terms of the spacing needed between cycleways and the carriageway as is shown in Table 6-1:

exclude some potential users and/or have safety concerns.“

Uncontrolled crossings of 30 mph roads are considered an option within LTN 1/20 Table 10-2 and so speed limits are a significant factor for the roads around Burwell.

been delivered. To properly assess a street, traffic flow data is needed and the professionals involved should have been trained in the process.

For this study it is premature to conduct Healthy Streets Audits, but as options are developed Healthy Streets audits of the village streets should be completed, with a clear aim to improve the healthy streets score on the streets concerned.

Table 6-1: Minimum recommended horizontal separation between carriageway and cycle tracks*

Speed limit (mph)	Desirable minimum horizontal separation (m)	Absolute minimum horizontal separation (m)
30	0.5	0
40	1.0	0.5
50	2.0	1.5
60	2.5	2.0
70	3.5	3.0

For rural roads the speed limit is generally 60mph or 50mph, which means that any path must be at least 1.5m from the edge of the carriageway. Paths also must be kept well clear of hedges, which could be another 2m, so with a 3m wide path that means that at least 6.5m of highway verge space could be needed to construct a new path.

There are also significant issues with establishing safe crossings of rural roads. Table 10-2 states that for a 60mph road the only suitable crossing suitable for most people is a grade separated crossing, so any crossings of such roads have not been considered.

For a 40mph or 50mph road an arrangement whereby one lane is crossed at a time, with a central refuge, is not completely ruled out, but it is considered to not be suitable for all people and “will

Healthy Streets

Healthy Streets is a measure of how healthy our environment is. It is a recognition that “ Every decision we make about our built environment, however small, is an opportunity to deliver better places for people to live in and thereby improve their health.”

(<https://www.healthystreets.com/what-is-healthy-streets>)

There are 10 evidence based Healthy Streets indicators as shown below and streets can be assessed and given a score, which can be audited.

The expectation is that Local Authorities and designers should aim to improve the Healthy Streets score on their streets and for any new infrastructure an assessment should be made before design work starts and after a scheme has



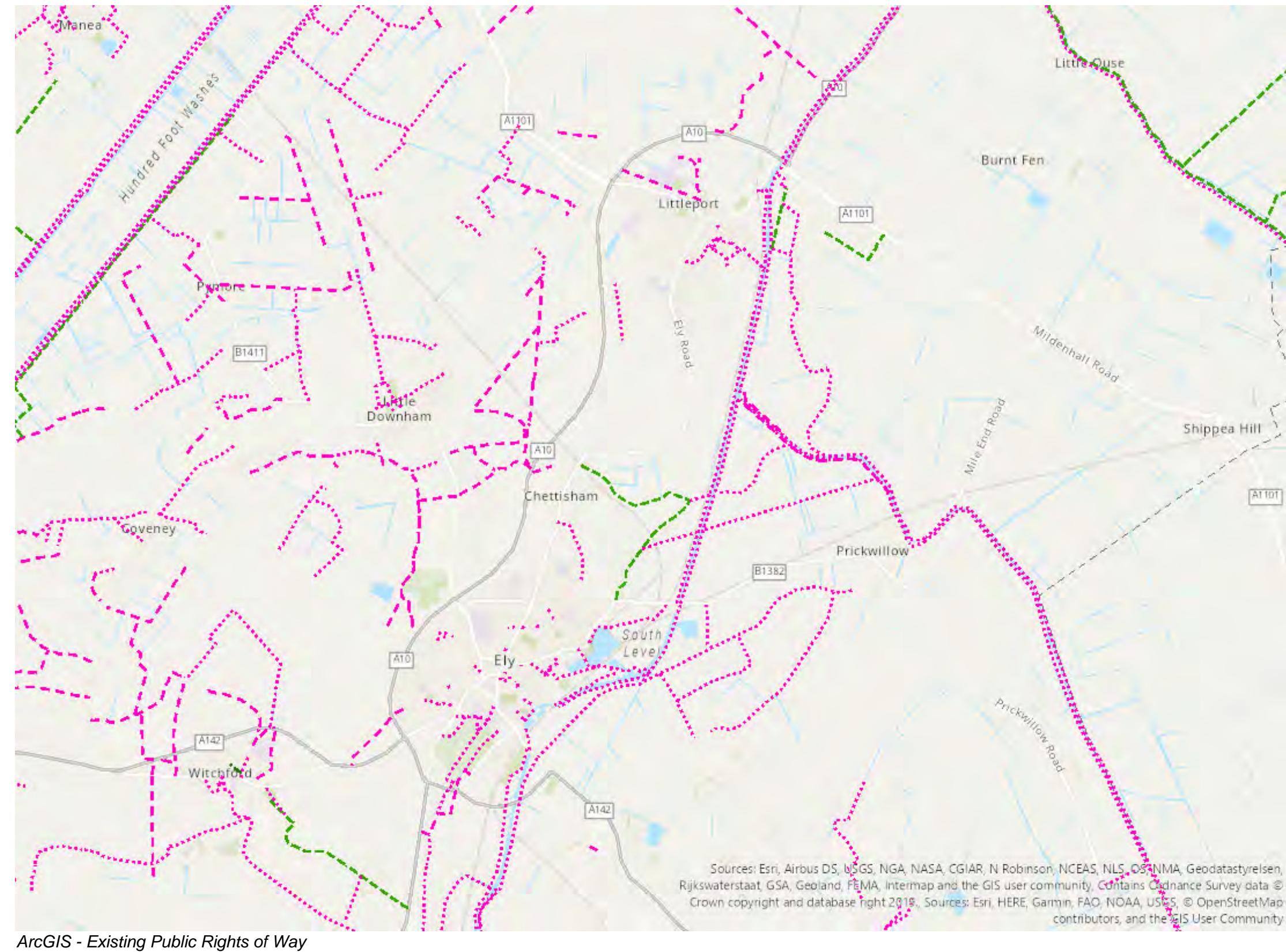
4. Issues with the existing Routes.

There is currently no existing connection on the National Cycle Network between Littleport and Ely – there is an on-road, unsegregated section north along Lynn Road from the centre of Ely but this finishes at the roundabout with Cam Drive. Sustrans produced an LCWIP proposal for Cambridgeshire County Council for a link from the Railway Station at Angel Drove north along Back Hill, past the Cathedral and then along Lynn Road, to join with a future shared-use cycling and walking route provided from Section 278 funding, but these are currently the only reasonably developed proposals in the area. Littleport currently has no NCN infrastructure, nor any other cycling-specific features.

The three existing methods of travel between Littleport and Ely are the A10 Ely Bypass, Lynn Road (the former A10 before the bypass was opened) and Queen Adelaide Way / Branch Bank, to the east of the river Great Ouse from both settlements. There are existing public footpaths and bridleways throughout the area but only one of which connects directly, following the Queen Adelaide Way / Branch Bank route on the top of the existing flood bank.

Other factors to consider with the existing routes include:

Topography. This can be significant for cycling and whilst the Ely specifically is on higher ground topography is not a major factor in this part of Cambridgeshire.



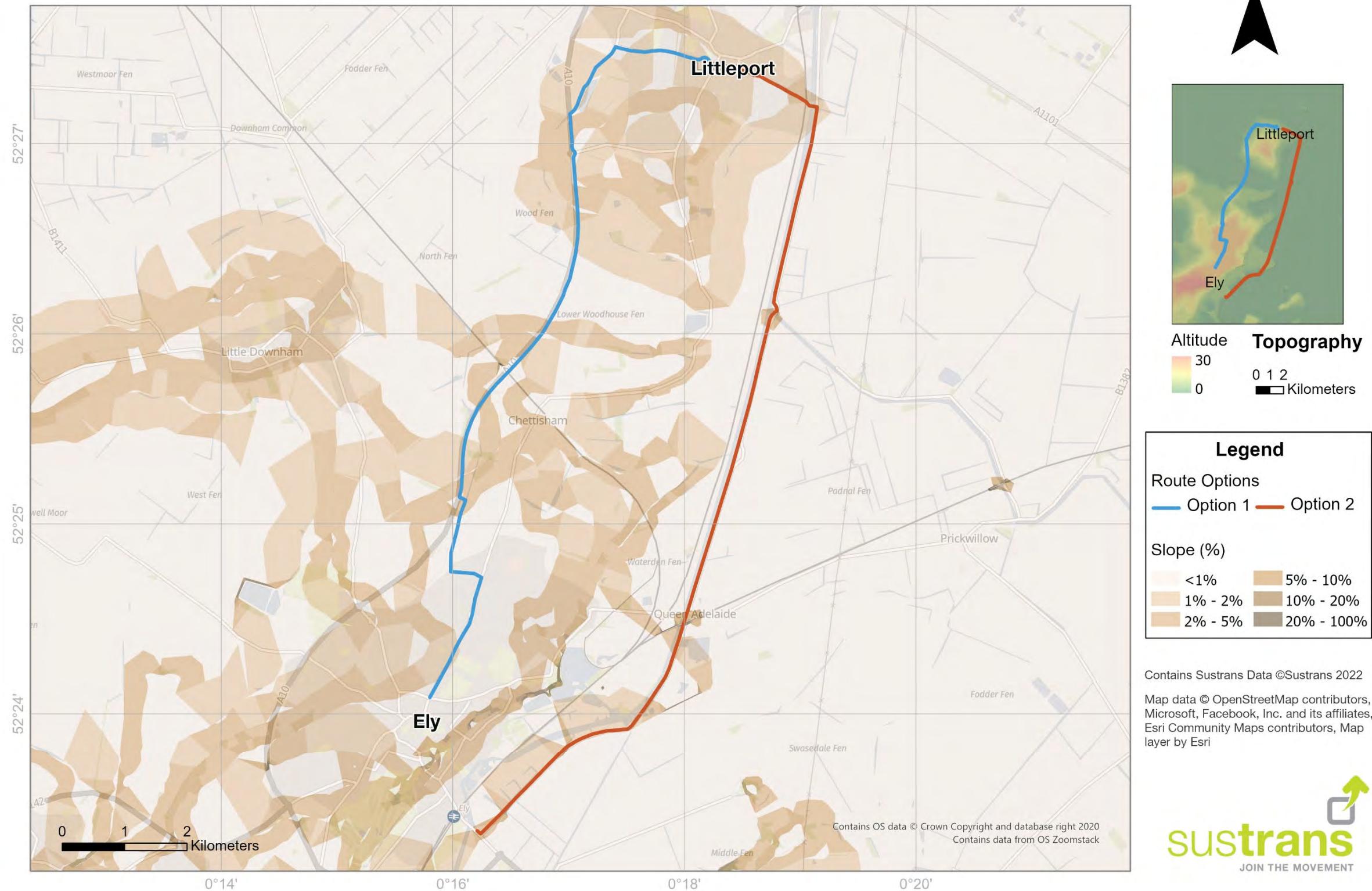
Other factors to consider with the existing routes include:

- Topography. This can be significant for cycling and whilst the Ely specifically is on higher ground topography is not a major factor in this part of Cambridgeshire.
- Traffic safety. The A10 is not a suitable location for walking or cycling and there are high vehicle numbers, as well as high numbers of HGVs, on the major routes including Lynn Road.
- Points of interest. These are clearly focused on Ely – a significant destination for local trips for work, education, utility and leisure trips. This is increased by the additional flexibility of travel from Ely station, versus the more limited destinations and times from Littleport.
- Travel time. Within the study area car travel is currently quicker than by cycling, due to the lack of cycling infrastructure and indirectness of the safest routes.

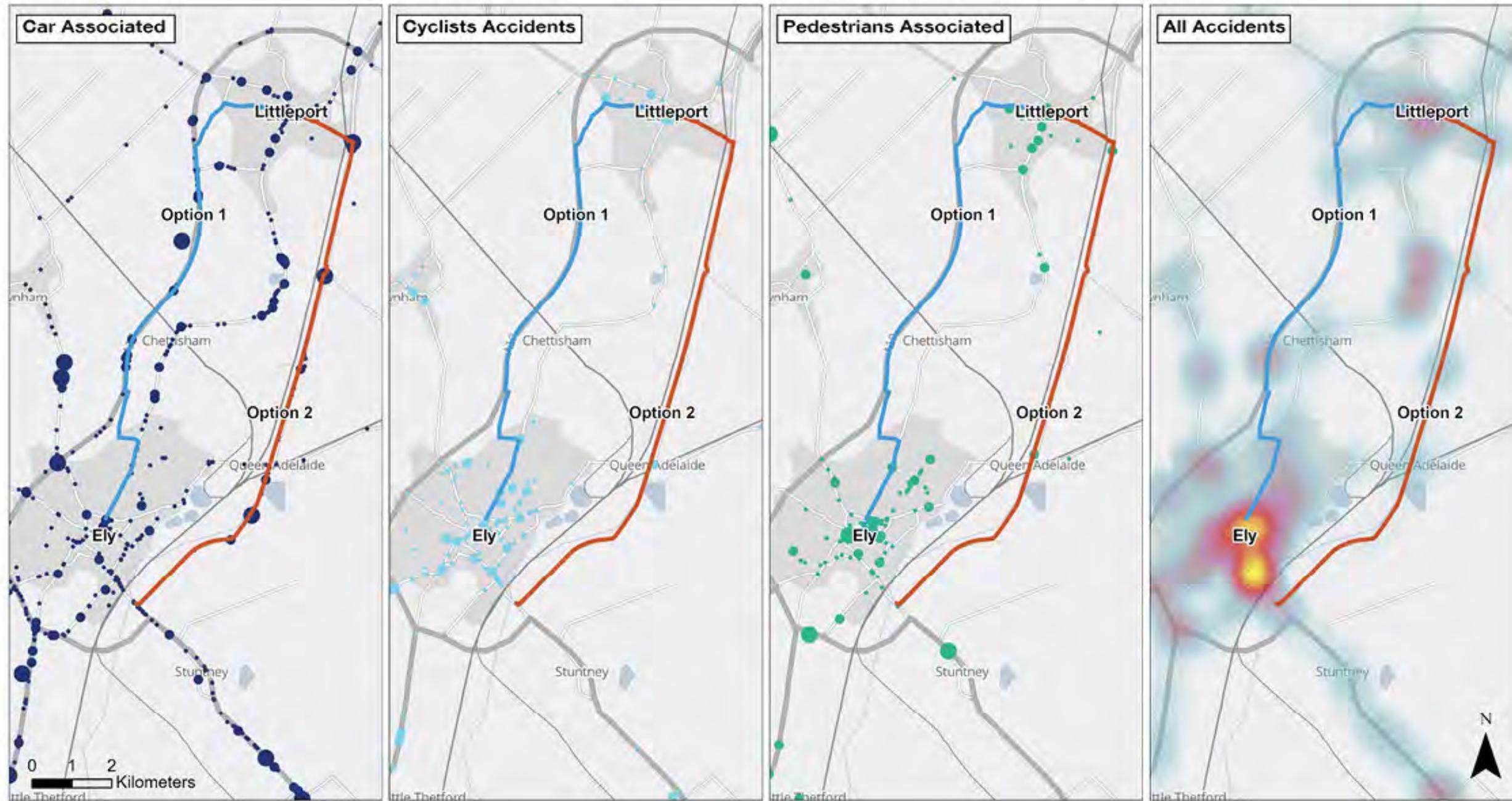
These factors are illustrated on the following pages.

DRAFT

Topography Study - Gradient Suitability



Traffic Safety - Accidents Distribution



Severity

- fatal
- serious
- slight

Severity

- fatal
- serious
- slight

Severity

- fatal
- serious
- slight

Accident Density

- Sparse
- Dense

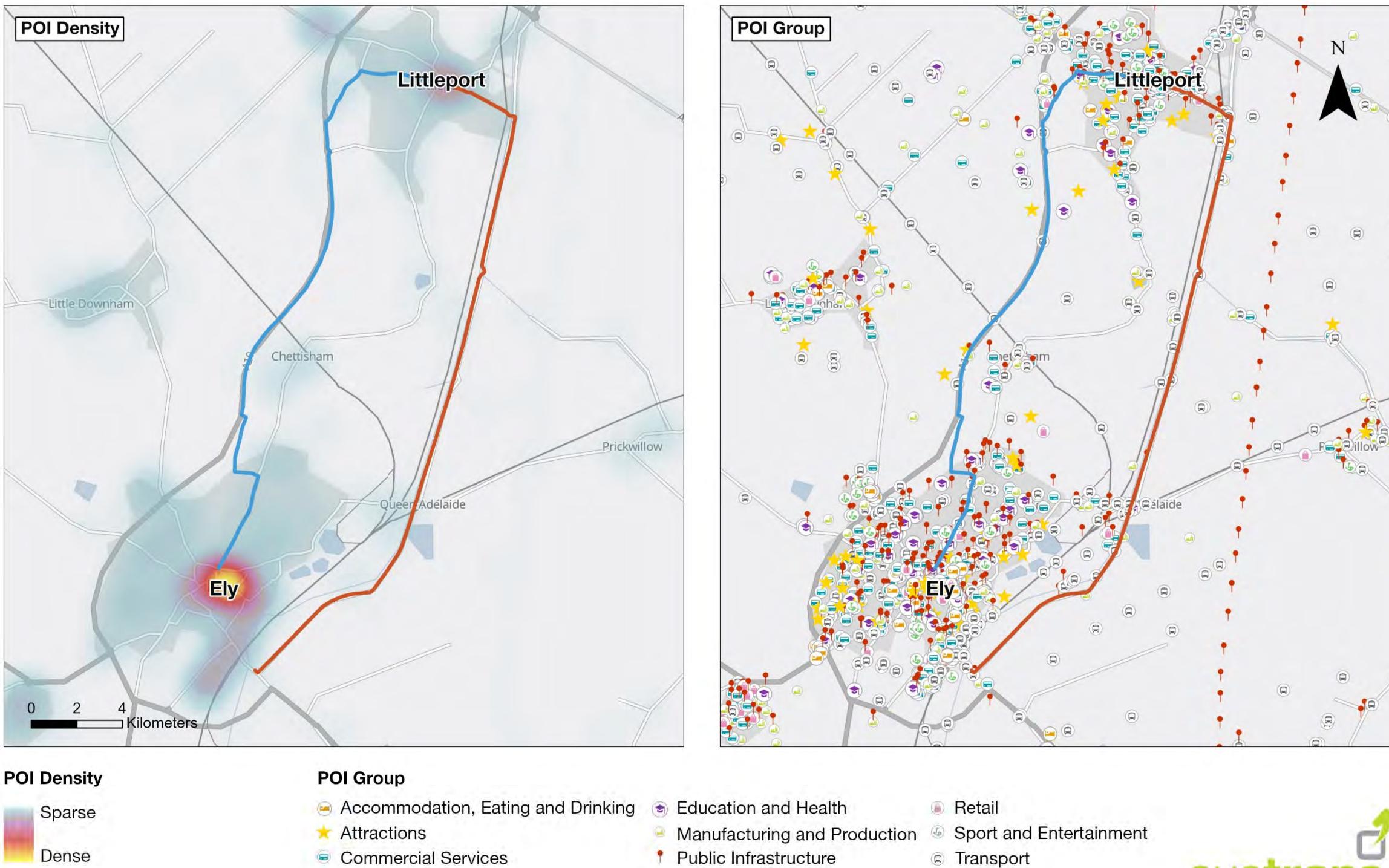
Contains Data from CycleStreets: <https://bikedata.cyclestreets.net>

Contains Sustrans Data ©Sustrans 2022

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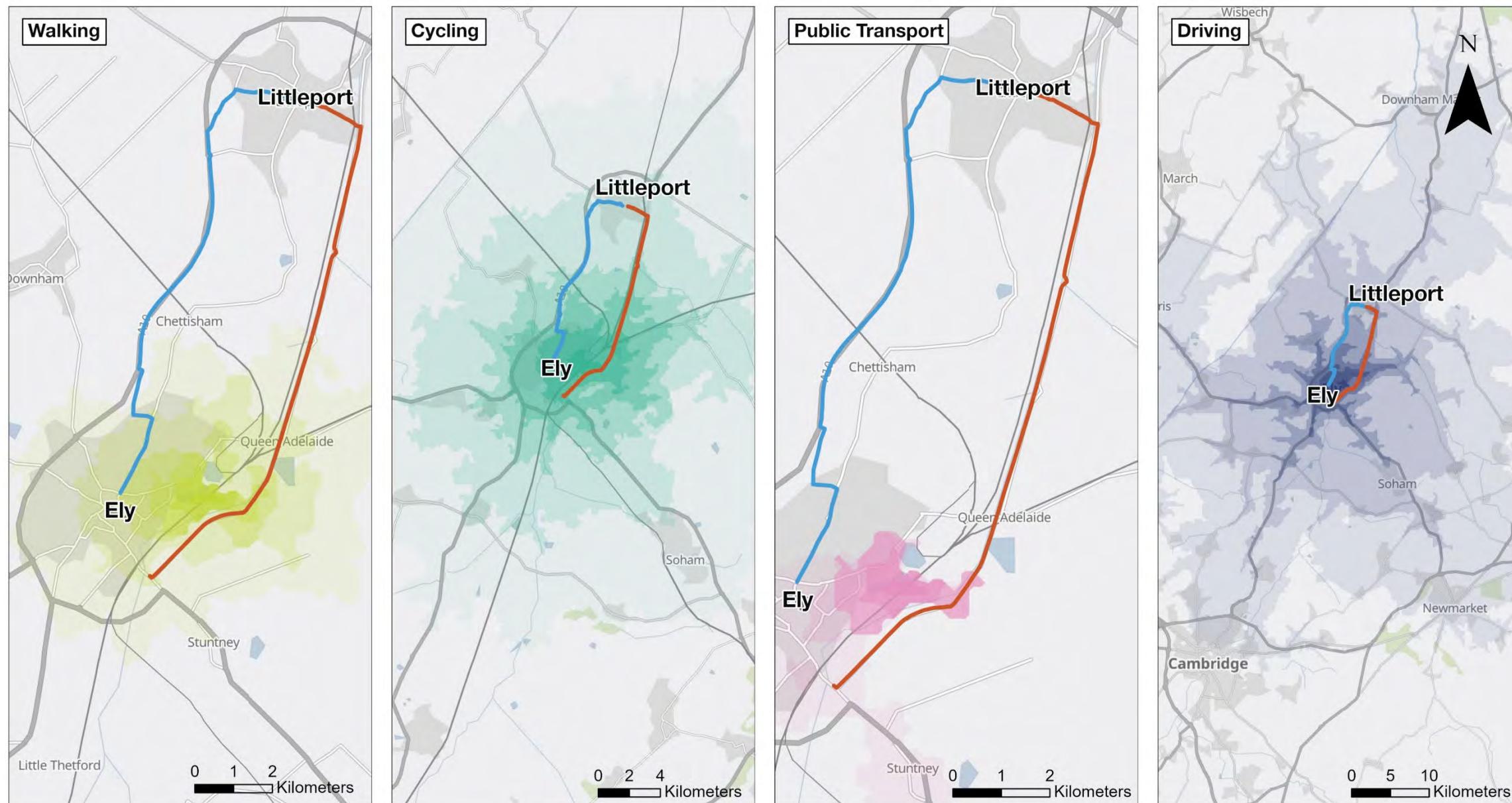
Smart Linkage - Points of Interest



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Travel Time Analysis - Ely Centered



Travel Time by Walking

5min	20min
10min	30min
15min	45min

Travel Time by Walking

5min	20min
10min	30min
15min	45min

Travel Time by Walking

5min	20min
10min	30min
15min	45min

Travel Time by Walking

5min	20min
10min	30min
15min	45min

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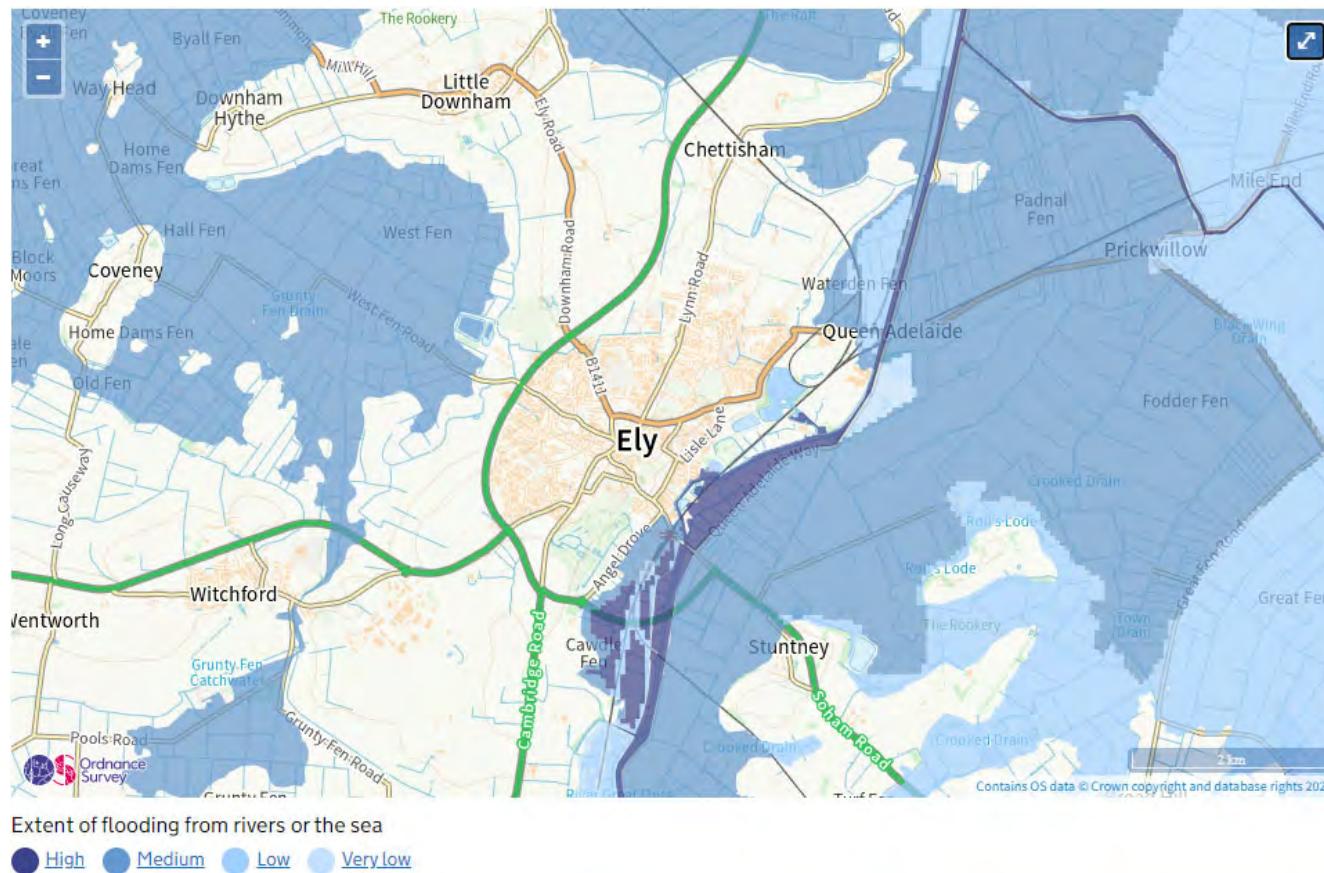
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5. Design constraints

5.1 Environment Agency

The settlements are broadly away from significant flood risk, but the Queen Adelaide Way / Branch Bank route is in an area of medium flood risk.



5.2 Ground and Ecology

The land is generally low lying with the settlements generally sited on higher ground. The whole area is situated on various types of Ampthill Clay makeup. In clay areas drainage will be a challenge and the

soft ground of the Fens is notorious for contracting and expanding depending on the moisture content, making path construction challenging. This will have to be allowed for in route selection and design.

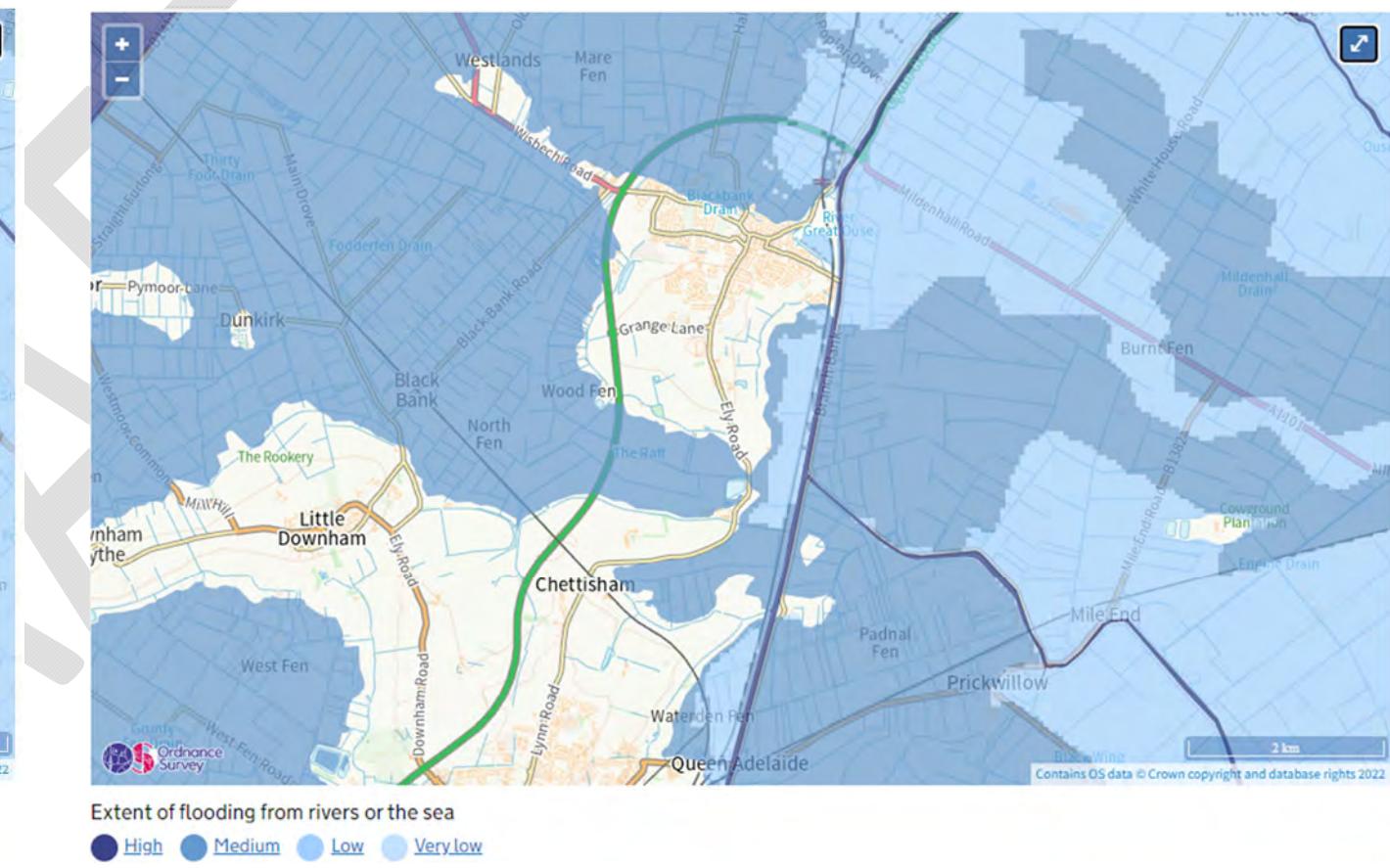
Ecology is a major constraint with important habitats, and this is considered in detail in Chapter 9.

5.3. Common Land

Work on Common Land requires additional consents and consultation. There is no recorded Common Land within this area. (Source <https://magic.defra.gov.uk/MagicMap.aspx>)

5.4 Utilities

Utilities searches will need to be carried out as part of any detailed design, but some preliminary searches have been carried out to check whether there is anything major that would influence route choices. Whilst it can be expected that most roads in the centre of the settlements will have utilities within them, there are also overhead power lines crossing the A10 north west of Chettisham, in a



investigation will need to be undertaken prior to any schemes being taken forward and any utilities that are uncovered may have cost implications on the schemes.

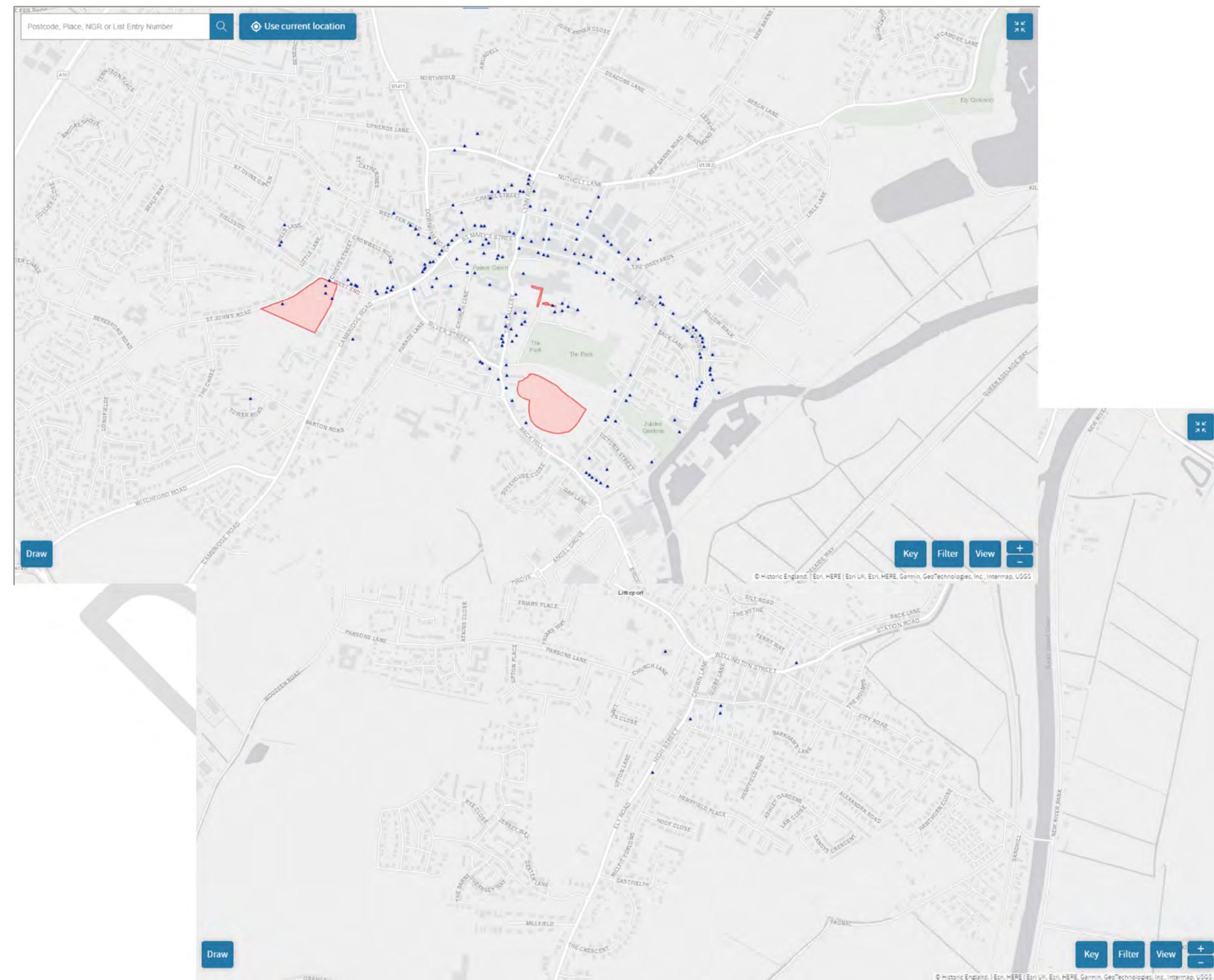
5.5 Heritage and Historic Environment

Important heritage and ecological sites are a significant constraint on route choices, with the need to avoid any negative impact on these. The information from the adjacent plans is from the Historic England records at

<https://historicengland.org.uk/listing/the-list/>

Any works impacting on scheduled monuments will need consent from Historic England and early discussion will be needed with them.

As can be seen on the plans it is very unlikely that any schemes are going to affect the scheduled monuments or listed buildings in either the Ely or Littleport areas as no realistic proposal would be going through or altering them in any way.



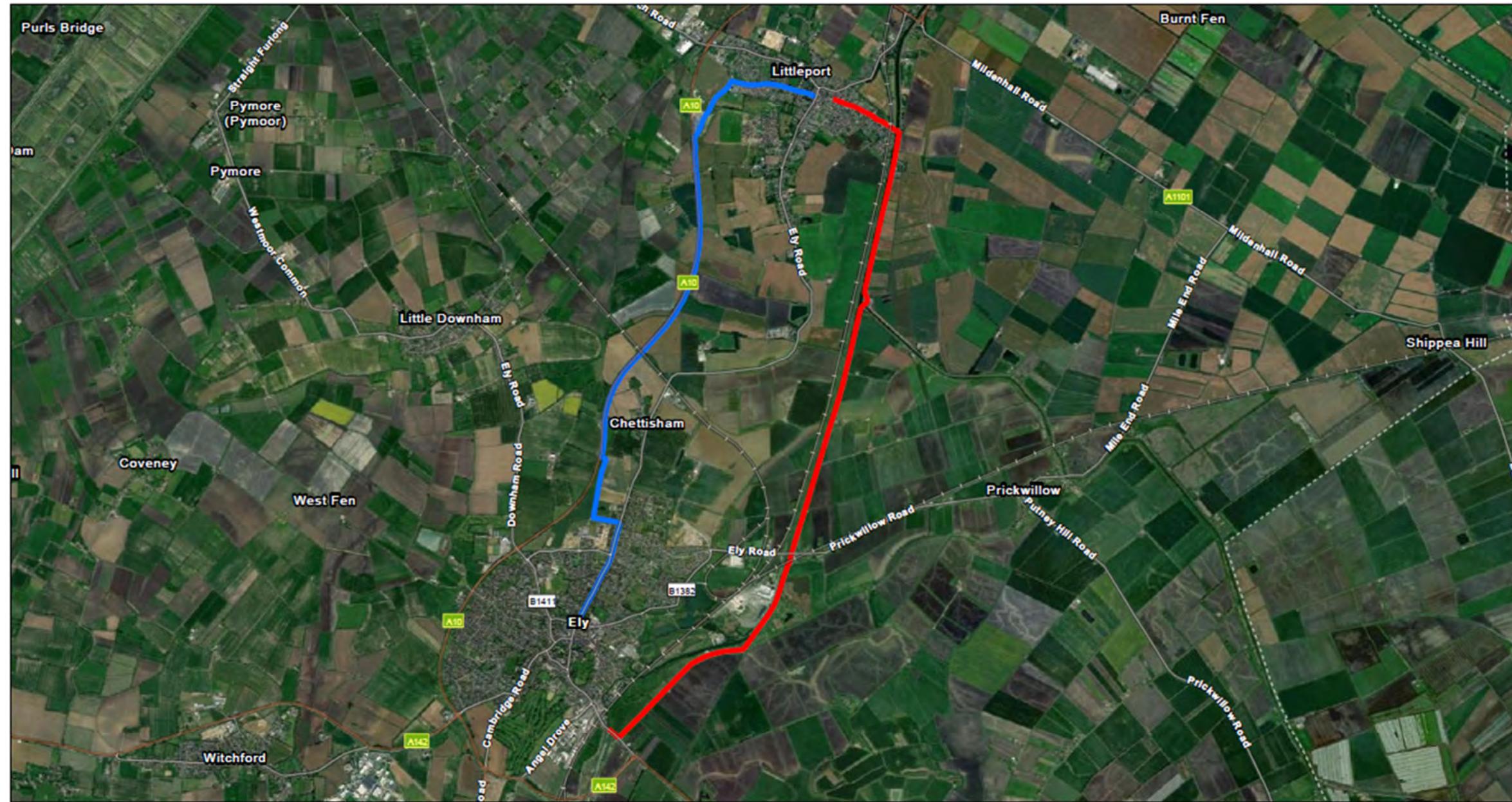
6. Route Option Appraisal

Any route between Littleport and Ely needs to consider all of the residents of both settlements and this is a big factor in prioritising the works needed, in choosing the best route alignment and in identifying what links are needed. Routes need to conform as much as possible to the principles set out in Chapter 2.

For routes to work well there also needs to be a good cycling and walking network within the settlements and routes need to work well for as many people as possible.

LTN 1/20 4.2.7 states that “To make cycling an attractive alternative to driving short distances, cycle routes should be at least as direct – and preferably more direct – than those available for private motor vehicles”. For this reason, a route following Lynn Road is less suitable than others due to the major east-west section between Ely and Littleport, which does little to progress a direct journey between the two. When coupled with the lack of space for cycling and walking within this corridor, its potential as a route is even less and it has therefore been discarded as a potential option.

The two options being progressed therefore are a route which runs along the urban section of Lynn Road before progressing through the future development site north of Cam Drive, and then along the boundary of the A10 north; this is shown in blue on the plan to the left. The other route is one which would sit on top of the flood bank that parallels Queen Adelaide Way and Branch Bank, shown in red on the plan to the left. These are discussed in more detail below.



Option 1 – Lynn Road and A10

The first option to be considered would head north along Lynn Road where there has previously been designs undertaken that show a 3.0m wide shared use facility can be accommodated, albeit this would need to be more ambitious in light of the requirements set out in LTN 1/20. Where the route reaches the development site north of Cam Drive it would utilise the cycle infrastructure within the site to travel north and slightly west, to meet up with the

A10 corridor at the northern edge of the development site – a plan of which is shown on the next page, where the purple dotted routes indicate proposed pedestrian and cycling routes.

From this point the route would parallel the A10 on its eastern side, within the field margins alongside it. It would then join Woodfen Road at the Saxon Business Park, and head into Littleport via Woodfen Road and then Parsons Lane.



Route Constraints

This route resolves the directness issue that Lynn Road alone has but does have several constraints which would need to be resolved to proceed with a design; these are discussed below.

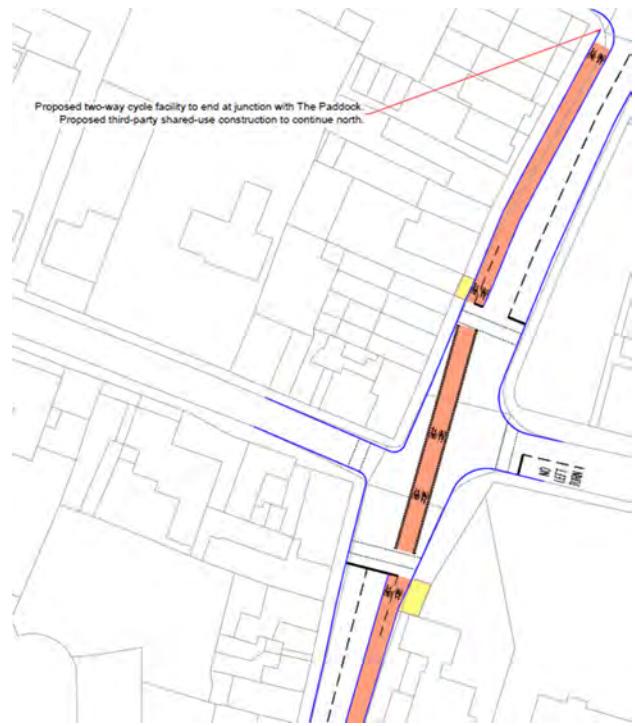
Lynn Road – this is a busy route into and out of Ely, with on-street parking in places, a bus route and several side roads to contend with. North of Cam Drive up to the Princess of Wales Hospital there is an approximately 3.0m wide shared use facility on the eastern side of the carriageway, but quite aside from this not being of a sufficient standard under LTN requirements there are 'cyclists dismount' signs at every side road crossing.



'Cyclist Dismount' signs on Lynn Road

The LCWIP scheme undertaken on behalf of Cambridgeshire County Council demonstrated that with reallocation of road space, a two-way cycle track could be provided north from the junction with Nutholt Lane. This, coupled with the previous proposal for a 3.0m wide shared use facility demonstrates that there is space that can be reallocated for cycling along this section.

It will be necessary to work with the future developers of the site north of Cam Drive to ensure that there is a clear and relatively direct route through this area, ideally from the roundabout with Lynn Road and Cam Drive north around the



Lynn Road LCWIP Proposals

western end of the existing properties at King Edgar Close, though clearly this will be subject to block plans and development proposals going forwards.



Ditch crossing required

Any route will also have to be designed in accordance with LTN 1/20; a shared use facility will not be considered of an acceptable standard through an urban area like this.

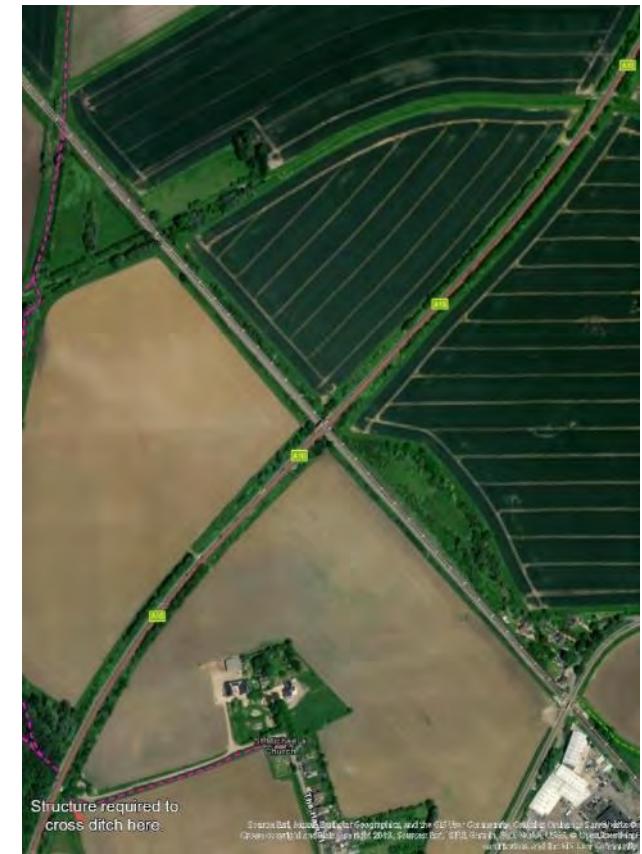
The route continues north from this point, past the Applegreen Service Station on the A10. A structure will be required to cross the ditch at the field edge here.

There is a public footpath running along an unpaved track from St. Michael & All Angels Church, situated on The Hamlet on Chettisham. The western end of this footpath would link with the proposed route so as an addition to this scheme or as a separate one afterwards, upgrading the surface of the track would facilitate a significant improvement to cycling and walking to and from Chettisham which is otherwise isolated currently. The proposed route would require a structure to cross the ditch along the field boundary south of the track.



Public footpath from Chettisham

A more significant structure would be required to cross the Ely to Peterborough railway line adjacent to the existing A10 bridge, as it is not of sufficient width or, likely, structural depth, to allow for the roadway to be moved closer to one parapet to facilitate foot and cycle access adjacent to the other.



A10 railway bridge

There is a watercourse south of Blue Boar Drove which will require a structure crossing it.



Ditch south of Blue Boar Drove

Blue Boar Drove itself is a private access, and therefore no specific crossing facilities will be required.

Structures will be required to cross the existing watercourse north of Blue Boar Drove.

Brickmakers Way, like Blue Boar Drove, is a private access and therefore no specific crossing facilities will be required.

Grange Lane forms a roundabout junction with the A10, and is currently a National Speed Limit road for its first 450m, until it changes to a 30mph limit just west of the junction with Yeomans Way. There is also a relatively significant level difference with steep slopes down to Grange Lane at its western end from the fields.

Because of the level difference it is proposed that the route travels east along Brickmakers Way



Grange Lane, looking east

before turning north along the existing footpath between the field boundaries to Grange Lane, where there is no level difference to negotiate.

A National Speed Limit road is inappropriate for almost all forms of crossing, so it would be proposed to extend the existing 30mph speed limit westwards to the roundabout junction. This is not a significant distance (450m takes approximately 30 seconds at a speed of 30mph) and as the road is very quickly into an urban area, it is quite appropriate. This would enable a parallel Zebra crossing to be installed, with at least 100m clear visibility in either direction, significantly above the 40m required for speeds of 30mph (Manual for Streets) or 70m (DMRB – CD 109 Highway Link Design).

From here the route would take users east, on the northern side of Grange Lane, before heading north through the next field access and skirting this field to its north and north eastern sides. This is shown



Grange Lane crossing point location

on the below plan in dotted red. There is an existing structure crossing the watercourse between the field and Woodfen Road, and this can be utilised to continue the route.



Route between Grange Lane and Woodfen Road

From this point to the Littleport Community Primary and Pre Schools, Woodfen Road is essentially traffic free as Saxon Business Park can only be accessed by motor vehicle from the A10.

At the school the road increases in standard and width. At this point, and continuing along Parson's Lane, the scope for providing a fully segregated

facility is lower, with residential properties lining the road on both sides. Given the limited number of properties which are situated along and off Parson's Lane however, if the speed limit was reduced to 20mph (which would be advantageous to children and parents walking, cycling and scooting to school as well) it would more than likely be very suited to being considered a quiet mixed traffic street.

In accordance with LTN 1/20 this would require vehicle speeds not higher than 20mph and a maximum of 2,500 vehicles per day, so will require a survey to establish the existing situation. If flows are higher than this, a closure of Parson's Lane, just east of its junction with Friar's Way, could be considered – this would have the effect of severing the link from High Street and Main Street, forcing any outbound traffic to the west to use Wisbech Road which is of a higher standard. Also, as mentioned above, making Parson's Road a safe place to walk, cycle and scoot would encourage more children and their parents to make the journey to the schools, lowering the number of vehicles even further.

of the previously mentioned LCWIP scheme with proposals as far as the railway station.

The railway bridge has a shuttle-working system for through traffic in place, with one of the previous traffic lanes reallocated to walking and cycling.

The bridge over the Great Ouse currently has a shared use facility width of approximately 2.5m, but this could be widened by reducing the running lanes down to 3.0m and removing the central hatching, which would gain approximately 2.0m for reallocation to the shared use facility and carried on down to the junction with Queen Adelaide Way.



Bridge over Great Ouse

Regardless of exactly which route was utilised from the city centre, the improvements between the northern side of the river bridge and Queen Adelaide Way would be required.

From that point, the route is that of the existing public footpath which runs along the top of the Great Ouse flood bank, on its eastern edge. The route is approximately 3.0m in width as a minimum for most of its length.



Existing public footpath along the flood bank

An existing crossing point has been provided across the access for the Cambridge Boat House, and it is unlikely that this needs to be improved given the limited number of vehicles using this access.

Approximately 400m east of the Boat House is a bend where Queen Adelaide Way crosses a watercourse, and there is limited scope to widen the existing bridge. A small footbridge has been erected next to the main one and this could be replaced by a bridge suitable for pedestrians and cyclists.



Pedestrian bridge over water course

Along the next stretch the Butterfly Bridge provides a link to the Roswell Pits nature reserve, and beyond that the eastern edge of the city.

The access to the quarry and industrial estate over the river has a very wide bell mouth to facilitate access by HGVs, but it is likely that this could be curtailed – swept path analysis could establish this. Once the junction is tightened up somewhat, priority for pedestrians and cyclists could be continued over it, treating it as a conventional side road.



Quarry side road

The bridge under the railway line at Queen Adelaide would also require a shuttle-working set of signals to allow the northbound running lane to be reallocated to pedestrians and cyclists.



Queen Adelaide railway bridge

This would also require the existing 30mph speed limit change at the top of Queen Adelaide way to be extended south beyond the bridge, so as to reduce traffic speeds where pedestrians and cyclists are closer to moving traffic – currently this section is National Speed Limit.

The staggered junction between Queen Adelaide Way, Prickwillow Road and Branch Bank has a number of limiting factors – narrow carriageways, no footways on the northern side of Prickwillow Road and poor vertical visibility coming from the west, due to the bridge shape. Due to these constraints the best solution would be a signal crossing, from the western side of Queen Adelaide Way to the northern side of Prickwillow Road adjacent to the existing flag-type direction signs. This would require three stop lines – one on each side of Prickwillow Road as in a conventional crossing but also one on Queen Adelaide Way to stop vehicles further back than the existing give way line. Alternatively the entire junction could be signalised as a formal staggered junction, and the above crossing point as well as across Queen Adelaide Way the pedestrian/cycle phase. These

signals could also potentially be linked to the shuttle-working ones to the south, to reduce delays through the junction and under the railway.

From the staggered junction the public footpath continues north along the top of the flood bank. Where Branch Bank crosses the river Lark a new structure would be required to carry pedestrians and cyclists, as the existing structure does not have sufficient width for this purpose.



Given the proximity of the property in the left of the picture to the existing bridge, the new one may need to cross directly north, across the mouth of the river, to be able to land successfully on both sides.

The approach to the junction with Victoria Street has very limited width and to create the necessary width for pedestrians and cyclists the flood bank will need to be widened, as well as some space being reallocated from the existing carriageway. Even then, this will still be a pinch point and it would be sensible to extend the 30mph speed limit from Victoria Street at least 215m in either direction along Branch Bank – this is the minimum recommended stopping sight distance at 60mph speeds in DMRB CD109 – Highway Link Design.



Branch Bank from Victoria Street

Victoria Street is very restricted in width and the same principles as suggested for Parson's Lane in Option 1 may be suitable here – 20mph speed limit

and making the road suitable for mixed traffic. It is likely here though that existing traffic flows exceed 2,500 vehicles per day, as the A10 roundabout to the north links to this location rather than the junction to Littleport railway station, which is the higher standard of road. For this reason, it may be necessary to close the bridge to through motor vehicles, at least in one direction if not both. This would also provide more space for pedestrians and cyclists at the previously identified pinch point.

The below table is a short summary of some of the features and issues with the above options.

	Option 1	Option 2	Notes
Comparative Length (= 8.2km by road)	9.07km	10.80km	
Likely estimated cost in Ely and Littleport	High	High	Existing infrastructure is essentially nonexistent, and a lot of significant engineering works would be required.
Likely estimated cost between Ely and Littleport	High, due to the number of bridge structures and crossing the railway line.	High, due to the number of bridge structures and shuttle-working signals under the railway.	
Engineering difficulties	Would need to accommodate farm traffic. Maintenance could become a significant issue.	Maintenance could become a significant issue.	Further work is needed to assess fully the engineering difficulties.
Ecological issues	Opening up new access along watercourses may cause disturbance.	Existing public footpath so likely to be minimal impact.	
Land ownership issues	Agreement essential and this will be the major influence on exact route alignment, engineering difficulties, ecological issues and costs.	Mostly existing public footpath, so minimal agreements would need to be sought.	It is assumed that landowners would be compensated for their loss of land and all works would be designed to ensure that they fitted with the operational needs of the landowners. The Local Authority does have powers to acquire land if needed or to create rights of way, but it is hoped that this will not need to be used.

As can be seen, neither option is without obstacles to be negotiated, particularly in the shape of bridge structures, traffic signals and land ownership. Both however have the potential to be progressed further though it should be reiterated again that they would need to go hand-in-hand with improvements to the cycling and walking infrastructure across both Ely and Littleport, as without that the routes in and of themselves won't necessarily provide the necessary uptick in cycling and walking that they could do.

Both routes are longer than the most direct route of Lynn Road but not significantly so overall. Furthermore they would make for safer and more

attractive routes than via Lynn Road, which also would need to have significant work done on

is used, potentially with the introduction of weight limits or more likely a modal filter on Lynn Road, preventing through traffic between Littleport and Ely.

The second issue is the level crossing on Lynn Road for the Ely – Peterborough railway line. Network Rail are not in favour of increasing utilisation of level crossings due to the inherent danger that they represent, and the level crossing would need to be widened to accommodate pedestrians and cyclists safely – currently there is a 1m wide strip either side of the running lanes for this purpose. This would be complicated by the proximity of the business park boundary to the south east and the residential property to the north west; this in effect makes the area the level crossing is situated within a 'pinch point' that could only really be resolved by rotating Lynn Road clockwise so that it is closer to perpendicular across the railway, giving more space for the necessary improvements and widening. Certainly, there is very little scope to provide a bridge over the railway line, which would be Network Rail's preferred solution to this.

improving the existing level crossing north of Chettisham.

A third route, via Ely Road and Lynn Road through Chettisham, was discussed at early stages but discounted for two main reasons. The first is that it has a high percentage of HGVs using it, due to farm and field accesses and Chettisham Business Park, and it still being used as a route through from outlying districts to the east, rather than utilising the A10 and the bypass. To resolve this issue and reduce the amount of HGV traffic on the route would require a significantly wider-ranging scheme to address how the local highway network in this area

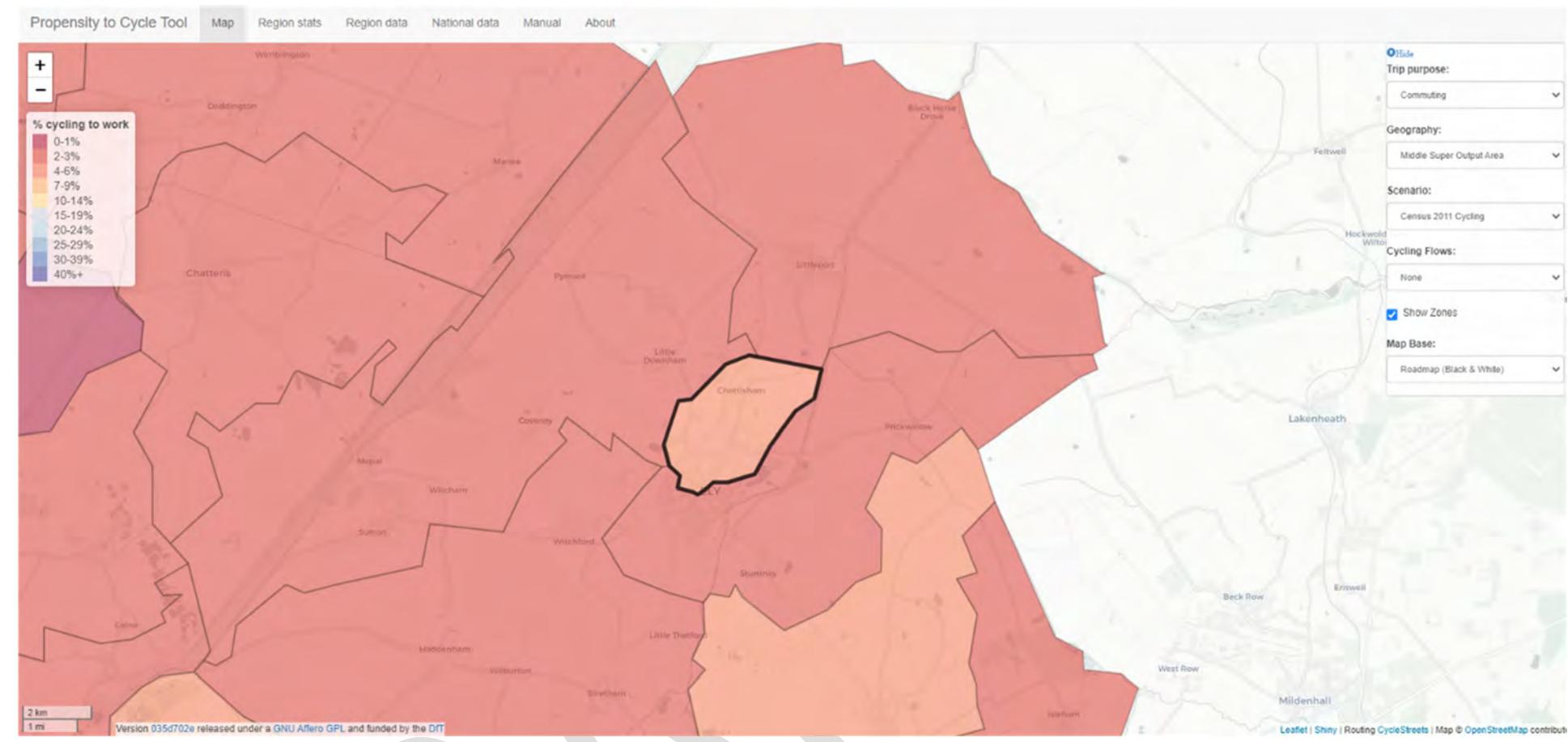
7. Potential Usage

Whilst the number of responses to ECDC's Cycling Questionnaire gave a clear indication that a route between Littleport and Ely is desirable (120 responses) there is little data on actual cycle usage between these communities, but some indication can be got from various modelling tools. The [Propensity to Cycle Tool](#) has been used to get an idea of potential usage. The tool was designed to assist transport planners and policy makers to prioritise investments and interventions to promote cycling. It answers the question: "where is cycling currently common and where does cycling have the greatest potential to grow?", but it has to be used with care.

The tool uses census data to get information on local populations and local modal shares of journeys to work and school by bike and uses mapping data to get information about trip distances and geography. The tool is focused on journeys to work and school, because this is the data that is collected, so it does not allow for leisure and other activities.

The numbers shown in these maps are numbers of people rather than trips.

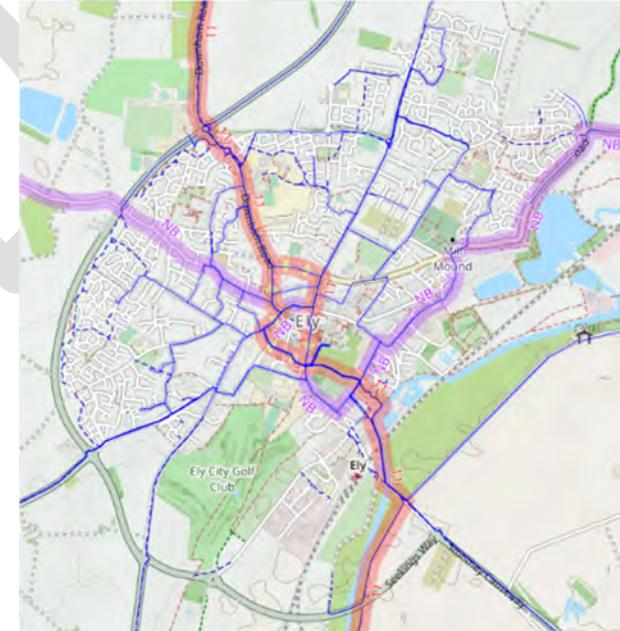
The tool uses various scenarios such as "Go Dutch" whereby it assumes that the infrastructure and modal share are similar to a Dutch case, adding in factors for hilliness, which will deter usage. For East Cambridgeshire's case there is no reason to see why Dutch levels of cycling could not be achieved. The tool also uses an "Ebike" scenario, which assumes that the use of Ebikes and Dutch style infrastructure will significantly increase the range and number of cycle trips, so for instance cycling between Littleport and Ely would be much more likely than at present.



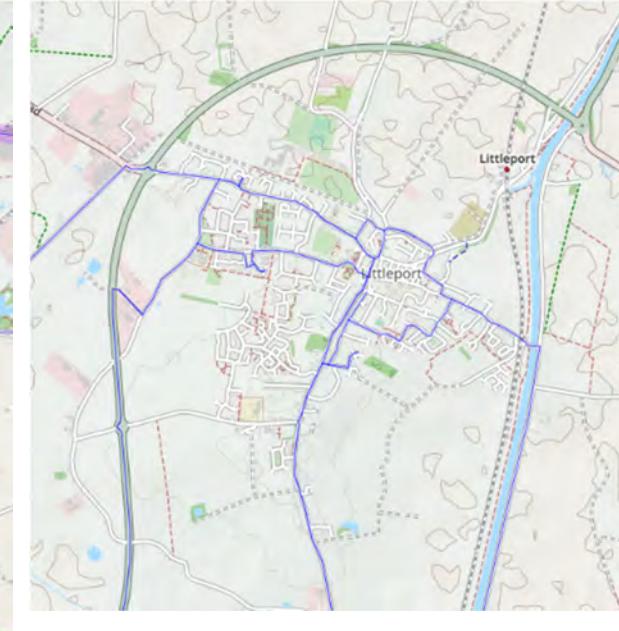
Propensity to Cycle - to work – 2011 Census

Under the "Go Dutch" scenario as indicated right the tool highlights a number of interesting issues:

1. The tool assumes that some cyclists (but all of school trips) will use the A10 to cycle between Littleport and Ely, since this is the most direct route and the tool assumes people will choose the most direct route. The tool assumes that the route will be brought up to "Dutch" standards throughout, but this study has shown that this would be extremely difficult to do.



Routes highlighted by the "Go Dutch" option in Ely



...and in Littleport

importance of improving the links within the two settlements, as well as providing an upgraded route between the two.

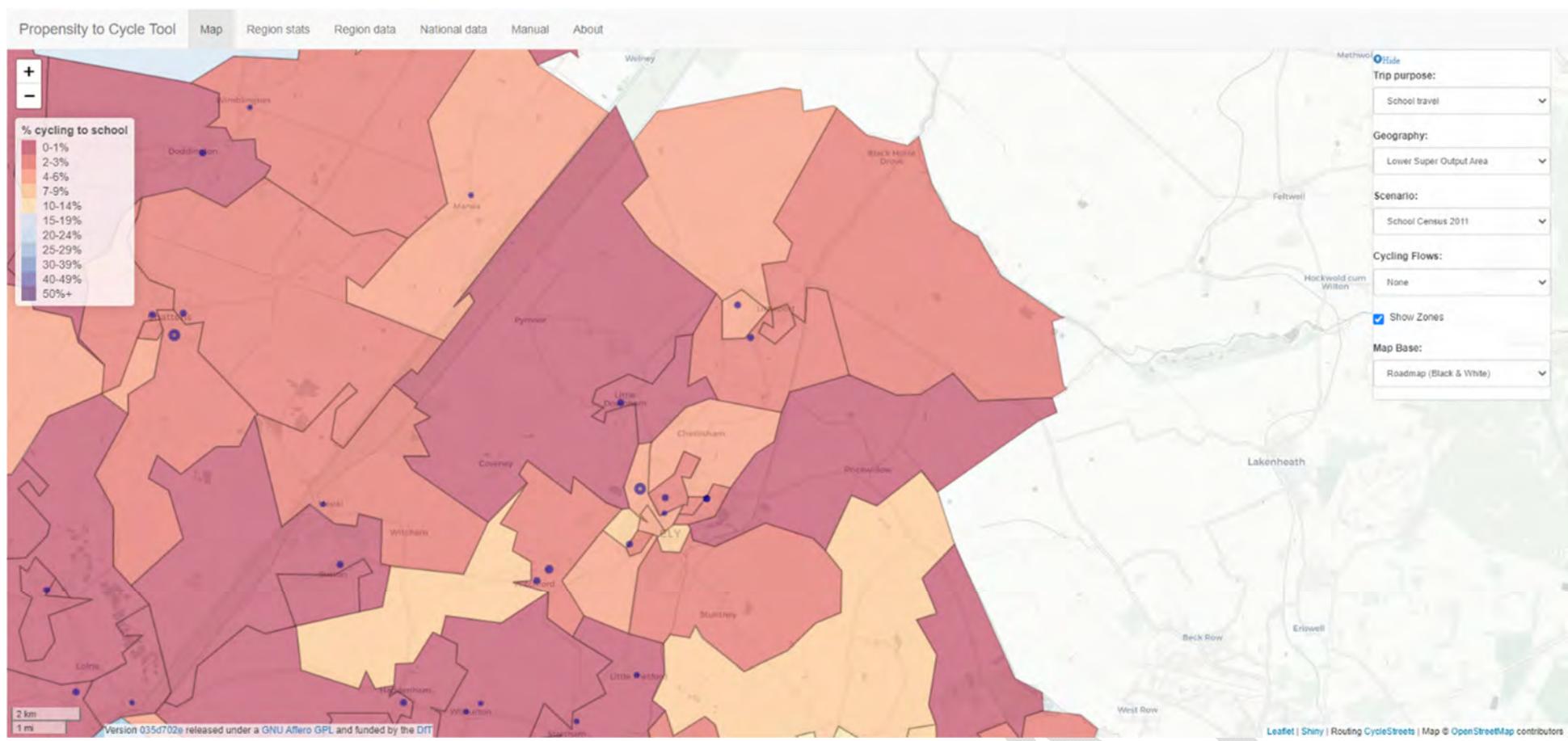
It should be noted that commuting trips are a low proportion of all trips and commuting patterns have changed since the start of the Covid-19 pandemic.

Nevertheless the tool shows the

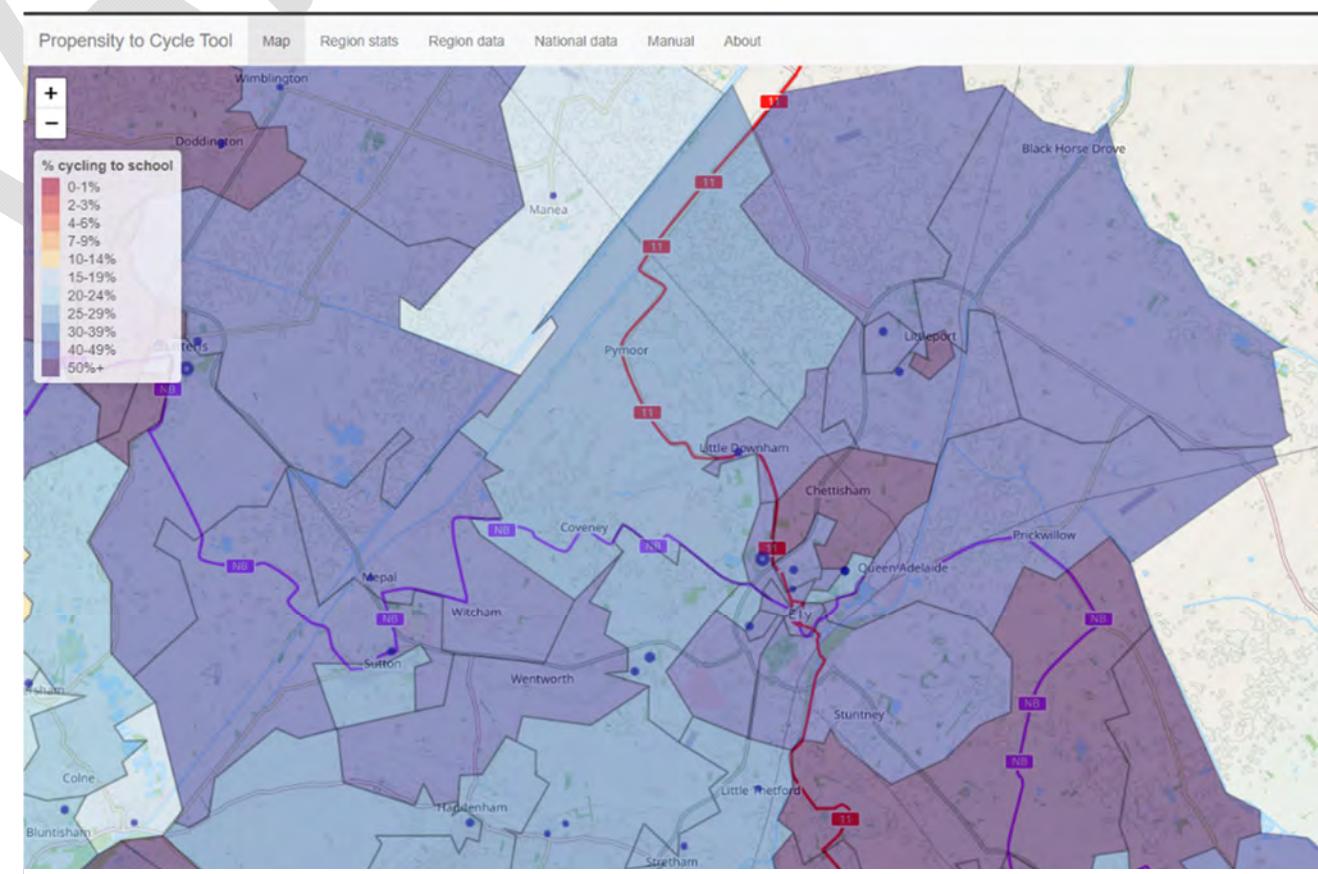
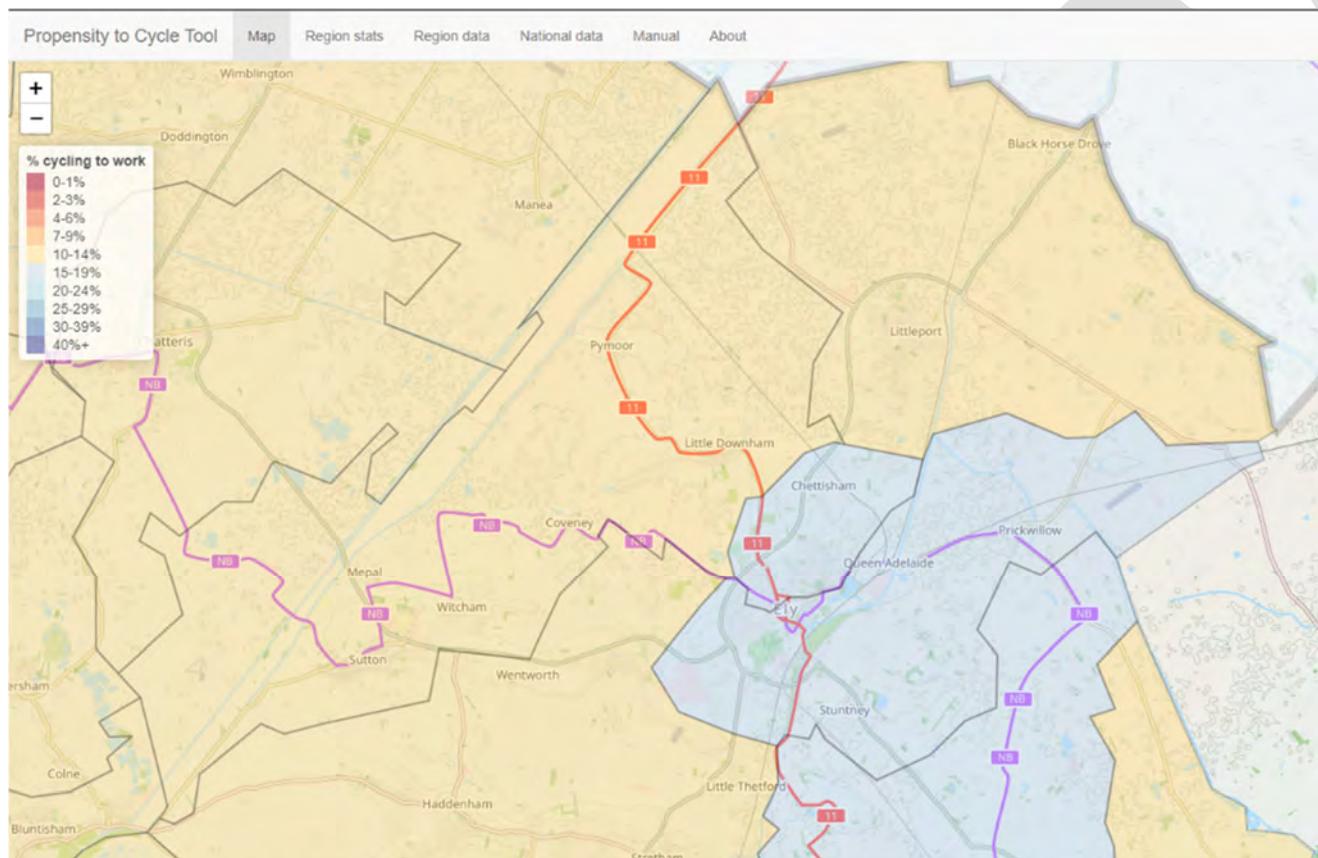
potential for increased usage including a big potential increase in school trips, presumably based upon access to the greater number of schools in

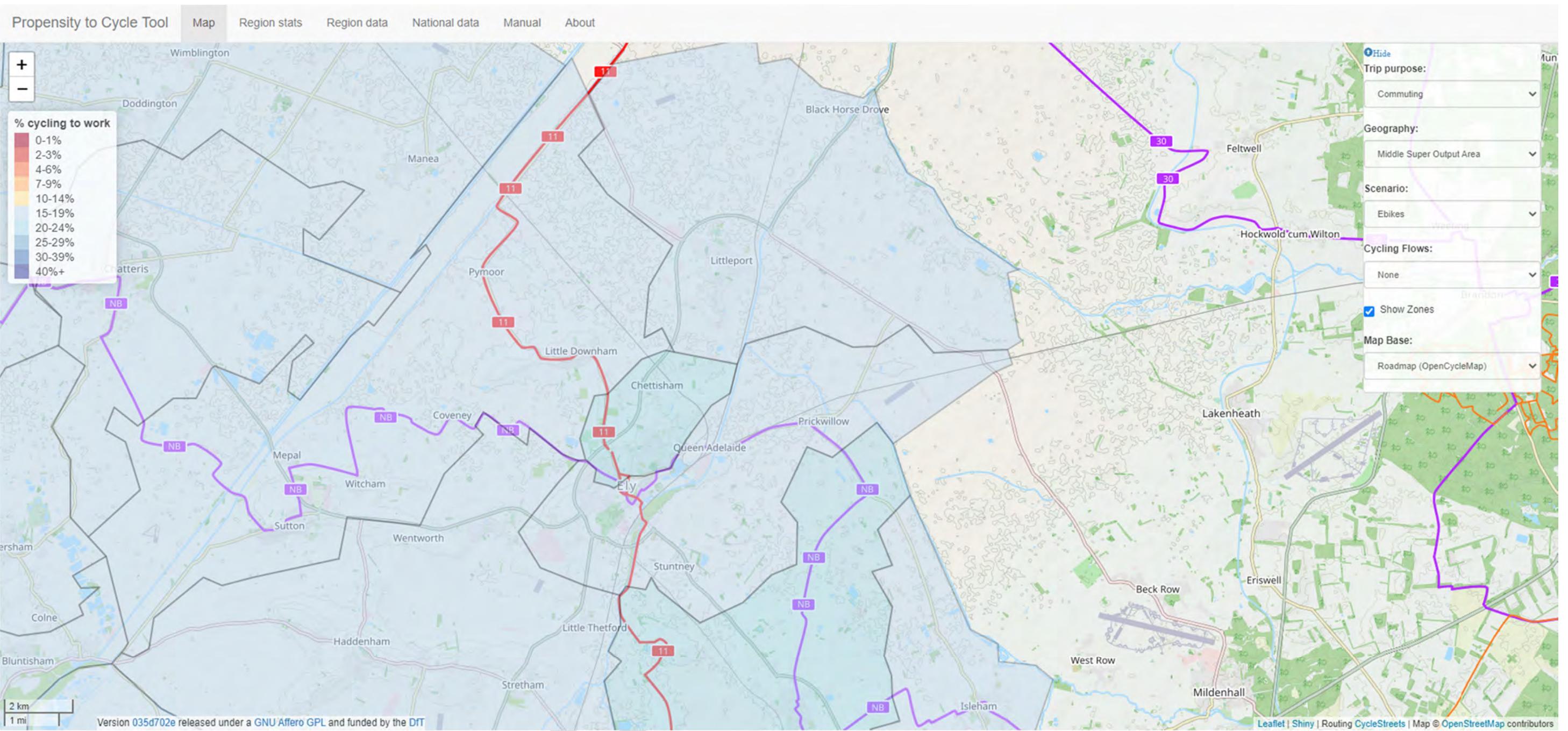
Ely. It also shows significant potential increases in commuting trips, particularly with the Ebike scenario.

Whilst the tool does not allow for attractiveness it is likely that if a very attractive and direct "Dutch" style route is developed it will attract significant leisure users and walkers in addition to the figures above.



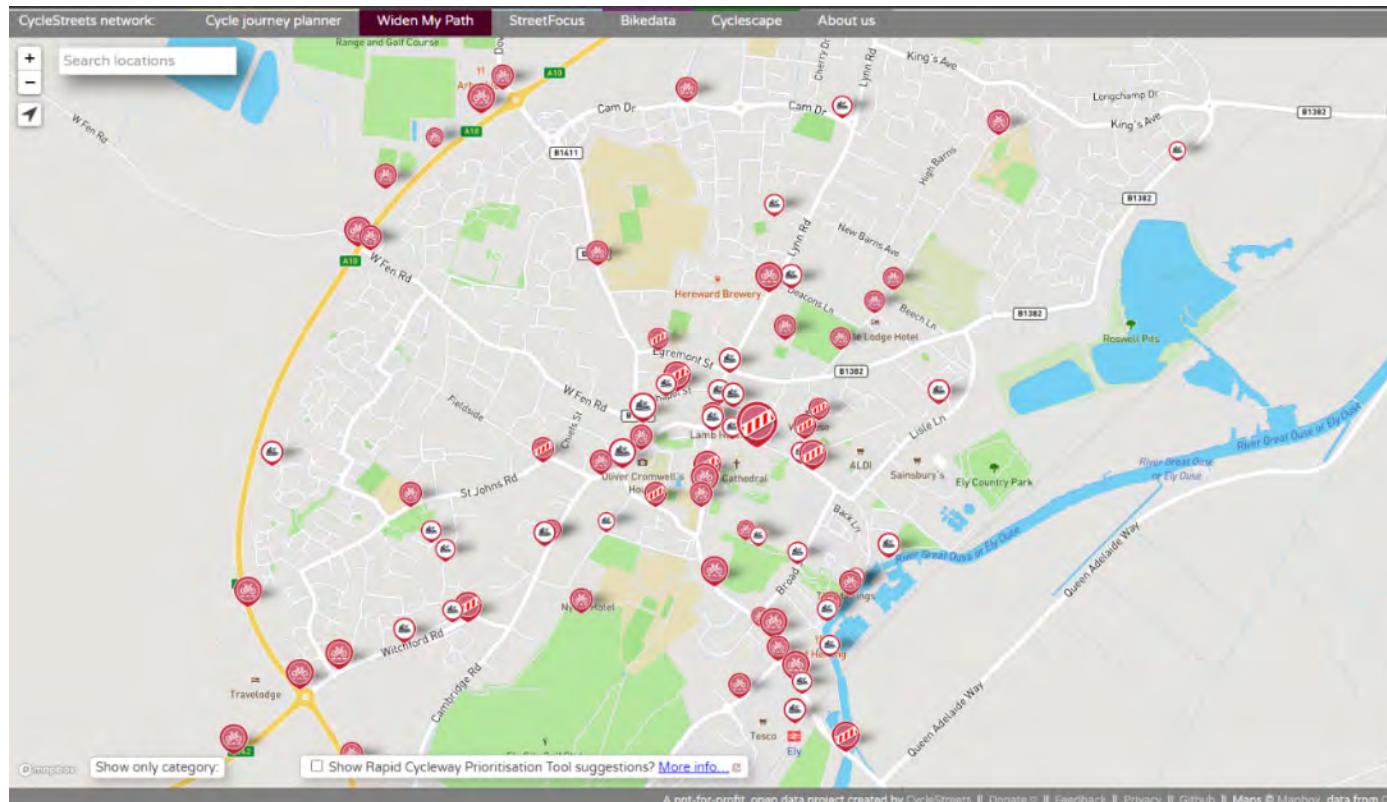
Propensity to Cycle – school travel – 2011 Census





Other ways of assessing potential demand include on-line tools such as Widen My Path.

An extract from Widen My Path is shown below with comments added in for ease of viewing. As can be seen, there are many calls for cycleways, traffic filters and pavement improvements.



Another on-line tool that has recently been developed may in future contain more data on the area, but it is limited at present. See <https://www.cyipt.bike/rapid/cambridgeshire-and-peterborough/m.html>

As mentioned earlier East Cambridgeshire has conducted surveys as part of the Cycling and Walking Routes Strategy. The full report is at https://www.eastcambs.gov.uk/sites/default/files/age_ndas/Cycling%20and%20Walking%20Routes%20Strategy%20webAC.pdf

In total 309 cycle routes were proposed, with the most numerous responses for a route between Littleport and Ely. Many responses showed a strong demand for leisure routes. These are not picked up by the Propensity to Cycle analysis of journeys to work or school.



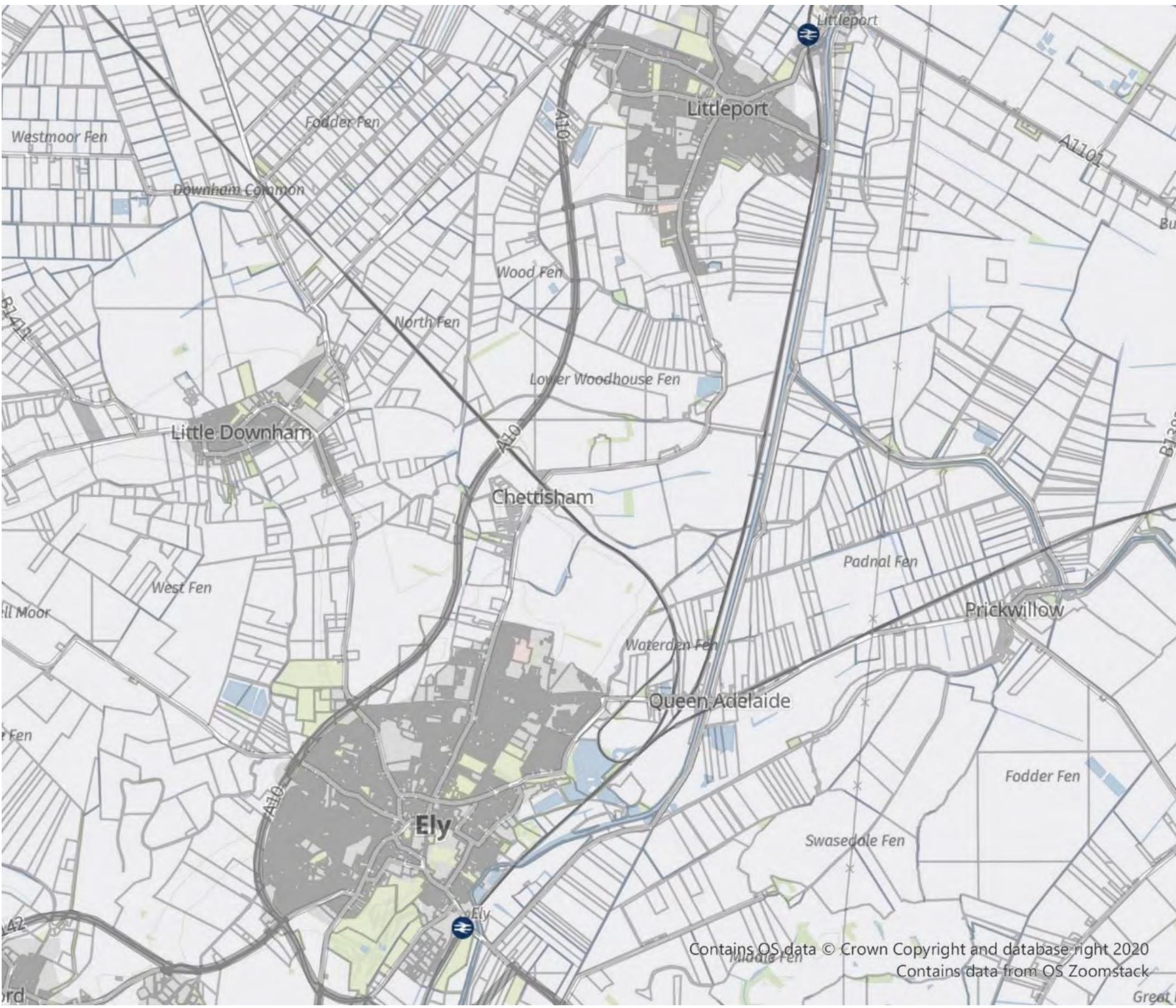
8. Land Registry Information

The most complicated part of the development of any new route is likely to be the need to get landowners' agreement. Time and funding needs to be allocated for this and if necessary the Local Authority needs to be willing and able to use Statutory Powers to deliver the proposed routes.

This should however be a last resort and the aim should be to build good relationships with all landowners.

On the following page is a plan showing the existing land boundaries, though no detailed information on the owners is available; the following table will need to be completed when a decision to progress a route is made.

Land on map	Title number	Registered owner	Registered owner address	Contact name, email, phone numbers	Date contacted and method	Comments and current disposition (green = supports, amber unsure, red opposes)
A	WYK...	Name	Address	Name and details	Date – phone/email etc	Comments...
B	WYK...	Name	Address	Name and details	Date – phone/email etc	Comments...
C	WYK...	Name	Address	Name and details	Date – phone/email etc	Comments...
D	WYK...	Name	Address	Name and details	Date – phone/email etc	Comments...
E	WYK...	Name	Address	Name and details	Date – phone/email etc	Comments...
F	WYK...	Name	Address	Name and details	Date – phone/email etc	Comments...
G	WYK...	Name	Address	Name and details	Date – phone/email etc	Comments...
H	WYK...	Name	Address	Name and details	Date – phone/email etc	Comments...
I	WYK...	Name	Address	Name and details	Date – phone/email etc	Comments...
J	WYK...	Name	Address	Name and details	Date – phone/email etc	Comments...
K	WYK...	Name	Address	Name and details	Date – phone/email etc	Comments...
L	WYK...	Name	Address	Name and details	Date – phone/email etc	Comments...
M	WYK...	Name	Address	Name and details	Date – phone/email etc	Comments...
N	WYK...	Name	Address	Name and details	Date – phone/email etc	Comments...
O	WYK...	Name	Address	Name and details	Date – phone/email etc	Comments...
P	WYK...	Name	Address	Name and details	Date – phone/email etc	Comments...



9. Ecological assessment

This feasibility study has been informed by a two-stage ecological assessment.

Stage 1 – Ecological Desk Study

The first stage comprised of an abbreviated ecological desk study to identify potential ecological features of national importance (e.g. Sites of Species Scientific Interest). The data search comprised of review of records held by Natural England presented on the MAGIC website (<https://magic.defra.gov.uk/>) and included a review of the following information:

- Designated sites of international importance within a 5km radius of the route options
- Statutory sites within a 2km radius of the route options
- Priority habitats present along the proposed route options and surrounding environs.

Stage 2 – Preliminary Ecological Appraisal

The second stage of the ecological assessment has included the preparation of a Preliminary Ecological Appraisal (PEA) report has been produced (Green Environmental Consultants Ltd, December 2021) to inform this feasibility study.

This included a desk study and data search for protected and notable species, habitats, designated sites and an Extended Phase 1 Habitat survey of the preferred route option. This was undertaken in February 2022 by a suitably experienced ecologist. The PEA identifies potential ecological opportunities and constraints to the development of the preferred route and is intended to inform the design process. Recommendation for further ecological survey,

potential mitigation requirements and opportunities for biodiversity enhancement are provided in the PEA.

Scope

- The measures outlined in this feasibility study describe proposals which will include measures such as path widening to 3.0m, construction of new sections of sealed surfaced path between 3.0m and 5.0m, traffic calming measures and ramp construction. There will also be bridge structures implemented.

Site Description

- Route 1 is principally located along and adjacent to existing highway. A significant portion of the route, from Cam Drive to Chettisham, is designated as a development site and work has already started on it. The rest of the route is within agricultural field margins and adjacent to hedgerows.
- Route 2 is located along and adjacent to existing highway at the beginning and end of the route, with the remainder situated within the grassland environment of the top of the existing Great Ouse flood bank.

Baseline Data

Statutory Protection Sites

Ely Pits and Meadows Site of Special Scientific Interest (SSSI), Chettisham Meadows SSSI and Little Downham LNR. Route 1 is situated 0.7km or more from these three sites. Route 2 is situated

0.02km from Ely Pits and Meadows SSSI and over 2km from the other two sites.

Non-Statutory Protection Sites

Route 2 crosses the River Lark and Associated Habitats County Wildlife Site (CWS) via an existing road bridge and is situated within 10m of the River Great Ouse CWS for much of its length. Route 1 is situated 0.2km from both these sites.

Habitats

Route 1 is predominantly situated through 'other neutral grassland' of poor condition. Small areas of tall ruderal, bramble scrub and common reed are also situated along the anticipated alignment.

Route 2 is situated along the River Great Ouse for the majority of its length, it is predominantly situated through grassland with some cropland, sparsely vegetated land and a small area of scrub.

Species

The survey identified the presence or potential for a number of different protected species. Suitable habitat was identified along both routes for great crested newt, nesting birds, commuting and foraging bats (but no habitats suitable for roosting were present) and badger. Route 2 also had suitable habitat for reptiles and water vole. Suitable habitat has been identified for hedgehog along both routes.

The survey did not identify any invasive flora species along either route option.

Evaluation and Recommendations

Statutory and Non-Statutory Protection Sites:

Neither option will have any significant direct adverse effects upon the Statutory and Non-Statutory Protection Sites. Improvements associated with Option 2 could increase existing recreational pressure on Ely Pits and Meadows, due to it linking with the Butterfly Bridge over the Great Ouse.

No barriers to route creation have been identified for any route options. Protected species may be present along both route options and will have associated costs for survey and mitigation, but these are not considered likely to be prohibitively high.

Route 2 will require a greater level of phase 2 surveys than Route 1 as surveys, and if necessary, mitigation, for great crested newts, water vole and breeding birds will be required for Route 2 only.

Route 1 has a significantly higher loss of biodiversity units than Route 2. Whilst the biodiversity unit calculation is provisional and will change once the full works area and any habitat reinstatement is considered, current worst-case scenario calculations show that a biodiversity net gain scheme for Route 1 may cost £300,000 to £800,000 more than a scheme for Route 2. The Samsara report notes that the impact of Route 1 could be significantly less if certain habitats that could be readily avoided were retained. The biodiversity net gain scheme for Route 2 could cost up to £560,000, but it is anticipated this could reduce at the detailed design phase.

10. Community engagement

Community engagement will be essential for delivery of the project. East Cambridgeshire District Council have already seen that there is a demand for the route as part of their Cycling and Walking Route Strategy, but engagement will need to be taken to another level now that the details of any work are becoming clearer.

Sustrans has not undertaken as part of this study, but this is clearly a high priority to progress the proposals.

10.1 Evidence of Support

As discussed previously regarding the ECDC Cycling and Walking Strategy and Widen My Path, there is clear demand for cycling and walking improvements in Ely and for a route between Ely and Littleport. It is likely that this pressure is represented at a district and parish level in the area also.

10.2 Audit of Engagement Risk

At present we envisage that the major risks are likely to be:

- Landowners who do not want the route because of security or other concerns.
- Members of the community who may not want changes to the street environment.
- Businesses who may have concerns about access to their properties.

- Wildlife Organisations and members who are concerned about habitat loss.
- Footpath, byway and bridleway users who may object to surfacing works and/ or changes in the number and types of users.



10.3 Audit of Engagement Opportunity

The works stand to bring benefits for the whole community and there needs to be extensive engagement across the communities including with schools, clubs and residents groups as well as the Parish Councillors, District and County Councillors.

10.4 Community Engagement Plan

At this stage there has not been Community Engagement, although Sustrans regards this as vital for the success of the proposals.

The early stages of community engagement will need to start with the Parish Councils and the District and County Councils and be directed by the wishes of the elected members, but this will need to be handled delicately, so that relations with landowners are not damaged. Landowners should know at a very early stage what is being proposed and need to understand that nothing is finalised yet and their wishes will of course be taken into account.

A community engagement plan might include:

- In-depth discussion with landowners.
- On-line consultation and poster, leaflet campaign.
- Consultation meetings and public events in Ely and Littleport.
- Walk through of proposals.
- Meetings with businesses and staff and staff surveys.
- Presenting at Council meetings etc.
- The completion of Healthy Streets Audits for Ely and Littleport. This can help engagement in the wider issues.
- Consultation meetings or events outside the immediate area, such as Chettisham, Queen Adelaide, Prickwillow, Witchford and Little Downham.

11. Key stakeholder engagement

All key stakeholders should be engaged at this stage. This can be informal discussions that can give an indication of likely acceptance of the scheme and likely issues that will need to be examined more carefully at Detailed Design.

Key Stakeholders might include:

- City of Ely Council
- Coveney Parish Council
- Little Downham Parish Council
- Littleport Parish Council
- Witchford Parish Council
- Local Public Rights of Way Team
- Greater Cambridge Partnership
- Cambridgeshire County Council
- Combined Authority
- British Horse Society
- CamCycle
- Historic England
- Natural England
- National Trust
- Disability Groups

12. Legal Agreements, Planning Application and other Approvals

Both options will need planning approval for the off-highway construction works and will need highways approval and the appropriate orders for highway works.

Where new routes are not following appropriate rights of way or public highway legal agreements are likely to be needed with the landowner. These will need to grant rights for users and allow for construction and maintenance of new paths. The signatory for the legal agreements will need to be agreed at an early stage in discussions between East Cambridgeshire District Council and Cambridgeshire County Council and budgets will need to be provided. There will also need to be consideration as to when and how statutory powers might be used if there is no progress in negotiations with landowners, but the aim should be to avoid this if possible.

It is not possible to say at this stage exactly how much land will be needed or where exactly paths should be positioned. They will need to be positioned to suit landowners' requirements such as farm operations. For instance, where a path follows a ditch or drain, space may need to be left to allow access for clearing the drain, without damaging the path. It is to be expected that many landowners will require new fences or hedges to demarcate boundaries and maintenance of these will need to be agreed. Where there are hedges or fences there should be a space of at least 1.0m between the edge of the hedge or fence and the path edge, so the minimum width required for any new route is likely to be 5.0m to 6.0m. Where there are new

ramps, they will require significantly more space and may also need land, where material can be dug to form earthwork ramps. Ecology requirements may also increase the width required and, if horses are to be allowed for, an even greater width will be needed. In addition, it is important to consider how a path and other features will be constructed and maintained. Space will need to be allowed for a site compound for construction and access routes and rights will need to be agreed for construction and maintenance vehicles and plant. All of these are matters that a skilled negotiator will need to consider, whilst developing a good understanding with landowners of the issues that are priorities for them.

Until discussions with landowners have progressed it is too early to be discussing planning details with the planning authority, but at the appropriate time pre-app discussions should be undertaken with the relevant local Authority to understand the issues that might come with an application and to inform the work likely to be needed at the Detailed Design stage.

Cambridgeshire County Council will need to be closely involved in discussions about highways matters including rights of way, road crossings, re-allocation of road space and changes to traffic flows.

An important part of the planning process is the consideration of options that this study forms part of and it will be important that there is further community engagement to help the planning process.

Problems likely to arise

The planning process can be slow, but the lengthiest process may be in obtaining the necessary heritage and ecology consents that will be a requirement of any planning application, so these processes should start as soon as possible in the design stage and should not be left until the end.

For the planning process there may be objections to new paths, but with good design and community engagement this should not be a barrier to planning approval.

13. Construction and Maintenance

Any works on the highway will need traffic management and will need suitable facilities for construction or maintenance staff and a site compound for equipment and materials storage.

Roads are likely to have to be closed as through routes or made one-way alternate working. Possible locations for site compounds and facilities could be the development site north of Cam Drive, the field adjacent to Grange Lane and Woodfen Road (Option 1); or at the quarry site on Queen Adelaide Way (Option 2).

Within Ely and Littleport themselves there will be significant challenges in their centres due to the disruption works would cause and the need to maintain access to the likes of Kings Ely and Littleport Community School, as well as keeping the bus network operating.

Outside of the main urban areas, Option 1 is mostly adjacent to the existing highway network so would not cause significant disruption beyond additional traffic on the network. Option 2 will at points necessitate loading and working from the adjacent highway (Queen Adelaide Way, Branch Bank) and this could cause delays. However this route is relatively lightly trafficked compared to Lynn Road and the A10 bypass, so this is likely to be a less severe issue.

Once either of the routes is constructed ongoing maintenance is likely to be simple for much of the route, as they are away from motor vehicles except for where Route 1 may interact with some farm traffic. The sections within Ely and Littleport are likely to require the most maintenance but will also therefore likely be prioritised as part of any future maintenance programmes. The methods and

materials used for construction will not be anything that cannot be maintained by any generalist highway contractor.

Structures over watercourses and the railway line will require specific maintenance and inspection intervals.

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14. Cost estimates

At this stage costs are very approximate, based on estimated costs/ m or estimated unit costs. The highway works have the highest range of costs, because little is known about the construction of the existing carriageway or the services within the highway. Traffic management can also be a highly variable cost.

For a field edge path construction the major issues are the users of the path, with the need for much more substantial construction for farm vehicles than for people on foot or cycles and also the engineering complexities, which are unclear at present.

The cost for building bridge structures is the greatest variable and largest cost for Option 1. The section along Lynn Road and Cam Drive also has significant costs attached but will be valuable not just for this scheme but for future cycling and walking schemes within Ely.

Item description	Unit	Low cost per unit	High cost per unit	Quantity	Low total cost	High total cost	Notes
1.4km reallocation to 2-way track along Lynn Road and Cam Drive	Linear m	£500	£750	1,400	£700,000	£1,050,000	Requires fundamental alteration of how these sections of highway currently work.
1.6km through Cam Drive development site	Linear m	-	-	-	-	-	The developer(s) of this site will be constructing the paths through this section.
4.3km byway to Woodfen Road	Linear m	£170	£230	4,300	£731,000	£989,000	
Bridges over watercourses	Item	£150,000	£250,000	4	£600,000	£1,000,000	Costs for structures will vary greatly depending upon the outcomes of future surveys.
Bridge over railway	Item	£1,000,000	£5,000,000	1	£1,000,000	£5,000,000	Costs for structures will vary greatly depending upon the outcomes of future surveys, and negotiations with Network Rail.
Grange Lane Parallel Crossing	Item	£15,000	£25,000	1	£15,000	£25,000	
Grange Lane speed limit change	Item	£10,000	£12,500	1	£10,000	£12,500	30mph limit.
Woodfen Road and Parson's Lane speed limit change	Item	£15,000	£20,000	1	£15,000	£20,000	20mph limit.
Parson's Lane point closure	Item	£7,500	£15,000	1	£7,500	£15,000	
Option 1 Total					£3,078,500	£8,111,500	

The cost for building bridge structures is the greatest variable and largest cost for Option 2. The section along Back Hill and Station Road also has significant costs attached but will be valuable not just for this scheme but for future cycling and walking schemes within Ely.

Item description	Unit	Low cost per unit	High cost per unit	Quantity	Low total cost	High total cost	Notes
1.2km reallocation to 2-way track along Back Hill and Station Road	Linear m	£500	£750	1,200	£600,000	£900,000	Requires fundamental alteration of how these sections of highway currently work.
Utilise existing NCN 11 route to Station Road	Linear m	-	-	-	-	-	This is the existing route, and an alternative to the above option.
0.2km reallocation to 2-way track along Station Road to Queen Adelaide Way	Linear m	£500	£750	200	£100,000	£150,000	
8.3km byway on Great Ouse flood embankment	Linear m	£170	£230	8,300	£1,411,000	£1,909,000	
Bridge over watercourse	Item	£200,000	£325,000	1	£200,000	£325,000	Costs for structures will vary greatly depending upon the outcomes of future surveys.
Bridge over River Lark	Item	£1,000,000	£5,000,000	1	£1,000,000	£5,000,000	Costs for structures will vary greatly depending upon the outcomes of future surveys.
Shuttle-working under railway bridge	Item	£150,000	£250,000	1	£150,000	£250,000	
Signalised crossing over Prickwillow Road	Item	£150,000	£250,000	1	£150,000	£250,000	
Signalised junction at Prickwillow Road, Queen Adelaide Way, Branch Bank junction	Item	£500,000	£800,000	1	£500,000	£800,000	
Structural bank works at Victoria Street junction	Item	£400,000	£650,000	1	£400,000	£650,000	Costs for structures will vary greatly depending upon the outcomes of future surveys.
Victoria Street speed limit change	Item	£10,000	£12,500	1	£10,000	£12,500	20mph limit.
Victoria Street point closure	Item	£10,000	£20,000	1	£10,000	£20,000	
Option 2 Total					£4,531,000	£10,266,500	

15. Business case and policy match

An AMAT (Active Mode Appraisal Toolkit November 2021 version) analysis has been done using various scenarios and data from the Propensity to Cycle Tool as referenced in Chapter 7. This assumes Go Dutch scenario, so high quality infrastructure everywhere. The greatest benefits related to costs (BCR) will come from the work in Ely and Littleport, where the numbers of trips changed can be expected to be the highest.

Whilst these BCR figures are low that is to be expected for a route which crosses a large area between two settlements like this.

Item	Item description	Capital	Usage change	Notes on usage	AMAT BCR
Option 1	Low Cost	£3,078,500	518 before	Based on Propensity to cycle 2011 census figures with assumption of journeys to work approx. 50% of trips.	0.52
			1,917 after	Based on Propensity to Cycle Go Dutch figures with assumption that journeys to work approx. 20% of trips. Cross checking with potential school trips from tool.	
Option 2	High Cost	£8,111,500	As above	As above	0.11
	Low Cost	£4,531,000	518 before	Based on Propensity to cycle 2011 census figures with assumption of journeys to work approx. 20% of trips.	0.14
			1,917 after	Based on Propensity to Cycle Go Dutch figures with assumption that journeys to work approx. 20% of trips. Cross checking with potential school trips from tool.	
	High Cost	£10,266,500	As above	As above	0.08

16. CDM and Design Risk

Design Risk Register

At this early stage of the project construction is likely to be some way off but the Client and Designer have responsibilities to minimise risk even at this early stage.

The Construction Design and Management Regulations (2015) assign duties to the Client and to the Designer and at this stage East Cambridgeshire District Council is the Client and Sustrans is the designer.

As the project progresses the Client will need to appoint a team to deliver the project in accordance with the Regulations and that will mean allowing sufficient time for the project and giving top priority to health and safety.

In considering the options Sustrans has sought to minimise risk, at this stage, but this will need to be an ongoing process taken on by the future project team and led by the Client.

Designer	Sustrans	
Client	East Cambridgeshire D.C.	
Author	LAW (Sustrans)	
Date	16/05/2022	
Risk ID number	Description	Response
1	All construction works carry risk. Is work necessary?	Clear need for new facilities, because existing do not comply with standards such as LTN 1/20 and on road route is a significant diversion.
2.	Works adjacent to and over water.	Safety systems and barriers would be required, and certified personnel would need to supervise and manage the works. River traffic may be affected which would require coordination with the EA, LLFA, CRT, local fishing and boating groups, etc.
4.	Works over and under railway lines.	Agreements with Network Rail would be required, and certified personnel would need to supervise and manage the works. Green Zones may be required, necessitating overnight works.
5	Works near roads carry risks.	Road closures and traffic management will be needed in the settlements, but between them the recommendation is to avoid the major roads.
6	Installing major bridges has risks.	Major bridges over the railway and River Lark carry significant risk, which will need to be minimised through careful design and where possible innovative construction methods.
7.	Works in rural areas carry risks, including waterways and farm activities.	Sufficient land needs to be agreed for safe working and maintenance and contractor to be alerted to all potential risks, by designer as project progresses. Time of year will be important for rural works and this needs to be considered early so that there is a suitable timetable.
8.	Gas mains and electricity supplies are in the area.	Detailed utility searches will be required, there are overhead cables crossing part of Option 1. Easements may need to be negotiated and safe working with live utilities will be required.
9	Inadequate provision made for site compounds and facilities.	Early consideration has been given to this and it needs to be a key task as part of land negotiations.
10.	CDM needs to be considered in choosing preferred options.	Both options require a major bridge; the number of structures required in each option should be given careful consideration, along with the amount of the route that is completely off road.
11.	Community Engagement Risks	Risk Assessments will need to be completed and acted upon for events and activities.
12.	Design and surveying risks	Risk Assessments will need to be completed and acted upon for site visits, surveys and design work.

17. RAG Report

Project title	Ely to Littleport Feasibility Study	Date RAG report initiated	16/05/2022	Project Manager	GM
Client	East Cambridgeshire D.C.	Date of current edition	16/05/2022	RAG Author	LAW
Risk ID number	Description	Assigned to:	Date assigned:	Current situation (RAG)	Potential mitigation
1	Route uses private land and agreement cannot be reached with all landowners in time to deliver project.	ECDC	16/05/2022		Skilful negotiations with landowner or use of statutory powers.
2	Reallocation of road space on Lynn Road, Back Hill or Station Road not agreed so route not LTN 1/20 compliant.	ECDC / CCC	16/05/2022		High level of community engagement and engagement with all users needed to come up with solutions.
3	Traffic calming measures with speed limit changes not agreed on Grange Lane, Parson's Lane, Branch Bank or Victoria Street so route not LTN 1/20 compliant.	ECDC / CCC	16/05/2022		High level of community engagement and engagement with all users needed to come up with solutions.
4.	Modal filters / closures not agreed on Parson's Lane or Victoria Street so route not LTN 1/20 compliant.	ECDC / CCC	16/05/2022		High level of community engagement and engagement with all users needed to come up with solutions.
5.	Signal crossing or signal junction not agreed on Prickwillow Road so route not LTN 1/20 compliant.	ECDC / CCC	16/05/2022		High level of community engagement and engagement with all users needed to come up with solutions.
6.	Shuttle-working signals under the railway bridges not agreed so route not LTN 1/20 compliant.	ECDC / CCC	16/05/2022		High level of community engagement and engagement with all users needed to come up with solutions. Early engagement with Network Rail will be required.
7.	Route may use byways, footpaths or bridleways and County Council agreement not obtained for works.	ECDC / CCC	16/05/2022		High level of community engagement and engagement with all users needed to come up with solutions.
8.	Maintenance plan cannot be agreed.	ECDC/CCC	16/05/2022		Needs to be agreed and required standards set at an early stage.
9.	Funding not obtained.	ECDC	16/05/2022		Ensure scheme is to LTN 1/20 standards, has good BCR and has all necessary consents, to improve chances of funding.
10.	Planning consents not obtained.	ECDC	15/12/21		Undertake pre-app discussions and ensure all issues addressed.
11.	Failure to get Natural England and planning consent for work near Ely Pits and Meadows SSSI.	ECDC	16/05/2022		Works are unlikely to directly impact this location but early engagement with Natural England and local trusts will be required.