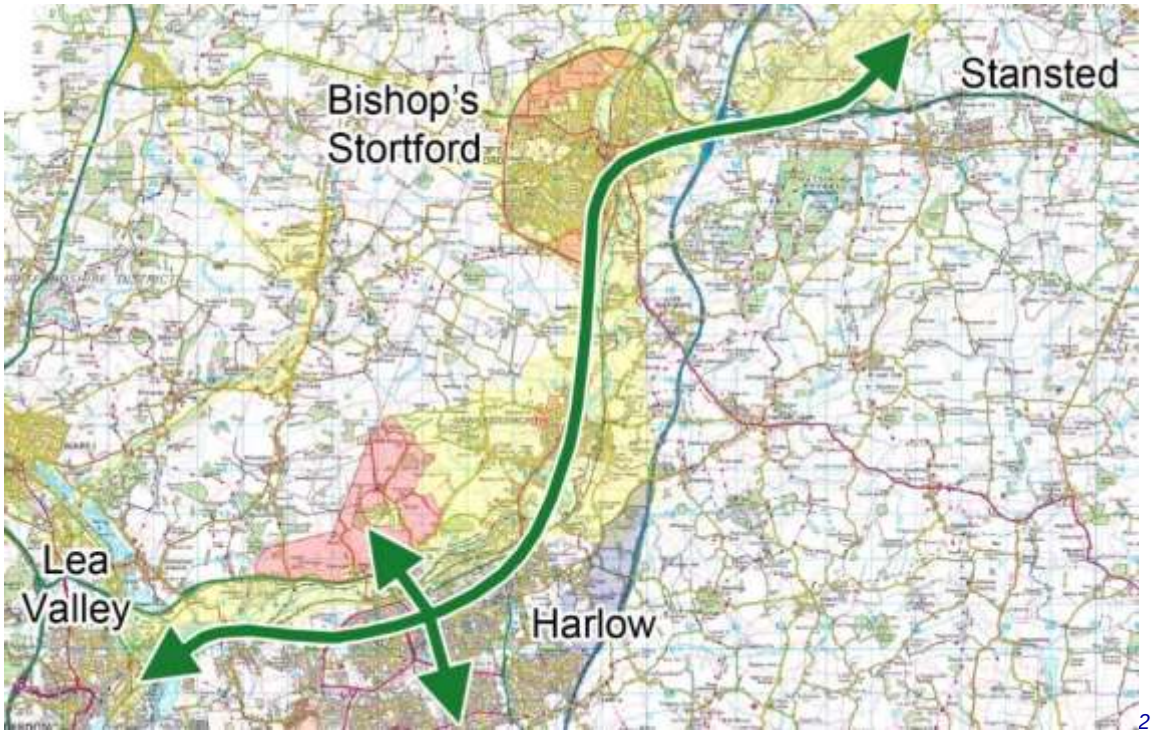
Final report (draft):

For: *Hertfordshire County Council*

Stansted – Harlow – Lea Valley Cycle Corridor Study



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Final report (draft)

Stansted – Harlow – Lea Valley Cycle Corridor Study

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Checking and sign off	
Job: *Stansted – Harlow – Lea Valley Cycle Corridor Study*	***Client:*** *Hertfordshire County Council*
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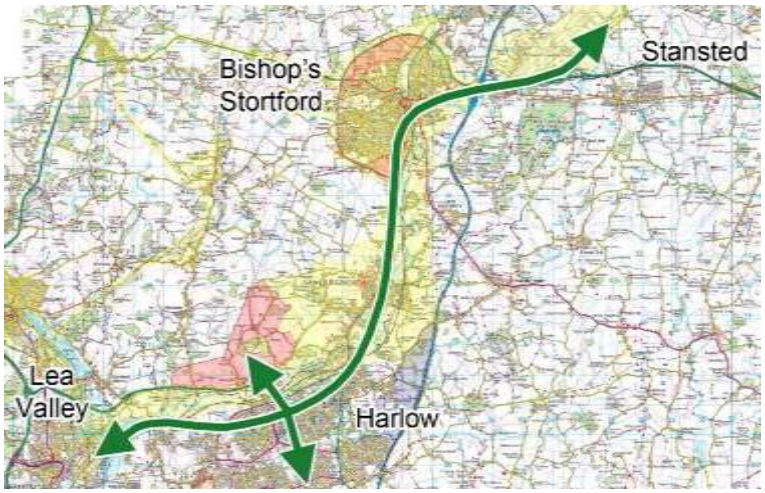
Executive Summary

Aim and brief

In early 2019 Hertfordshire County Council commissioned Transport Initiatives (TI) to carry out a study into the potential for a cycle route between Stansted Airport and the Lea Valley, via Bishop's Stortford and Harlow.

TI carried a range of tasks for the study (covering the area shown in the plan below), including research into Local Plans and transport strategies. We carried out site visits to develop options for a safe, convenient and attractive cycling route (or routes). Finally we produced a detailed assessment of route options (using tools set out in the DfT's Local Cycling & Walking Infrastructure Plan guidance), including proposals for 'green' routes and comments on the suggested approach in the Gilston Garden Town development. The total length of route surveyed was 65km.



Research

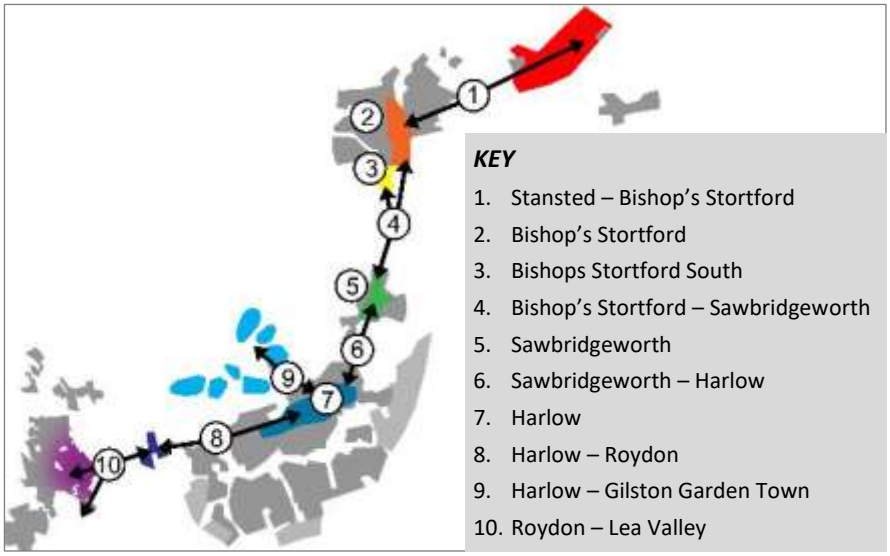
A desk based study of existing cycle provision revealed that there is no convenient and direct provision for cycling along the study area, or even to cycle between the key destinations within it. Even the links that do exist are often on roads which are not suited for cycling by most people.

In general, all the 18 plans and strategies covering the area support the development of cycling albeit with a varying level of detail. However, the majority are short on detail and tend to be limited to commitments at a high level. Similarly, spatial plans agree that new developments should contain active and sustainable travel routes, but at a conceptual level. They do not conform to best practice guidance (e.g. Manual for Streets 2) and omit recommendations for 20mph zones, homezones or high quality cycle infrastructure.

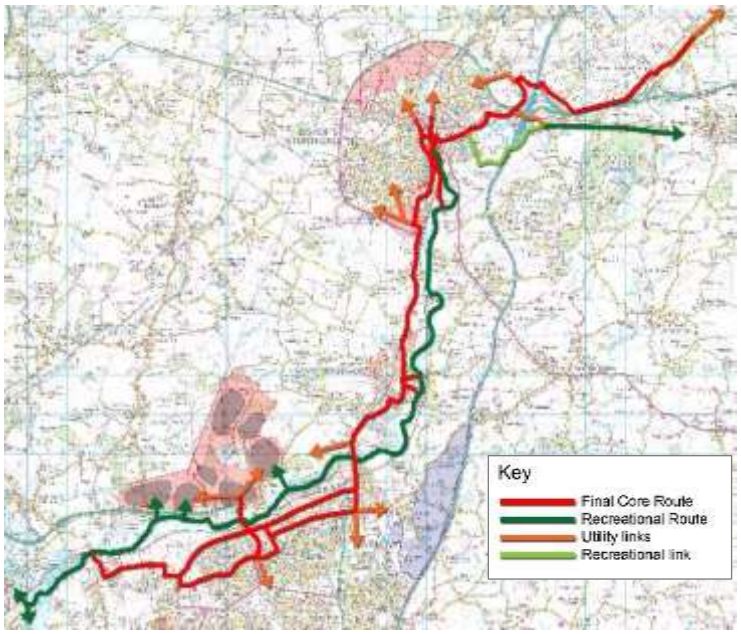
Demand for cycling was assessed using the DfT's Propensity to Cycle Tool (PCT). which provides an evidence base to inform cycling investment. The PCT extrapolates from on 2011 census data to model potential cycling levels. While current cycling levels are low, the PCT shows that with the appropriate investments cycling to work could increase significantly in parts of the corridor, notably between Bishop's Stortford and Stansted and in Harlow.

Analysis

The route was split into ten sections for analysis using a modified version of the DfT's Route Selection Tool (RST) which considers six key criteria: Safety, Gradient, Comfort, Connectivity, Coherence and Distance (deviation from straight line distance). A large number of route options were assessed and compared to develop a set of preferred options.



Based on the assessment of route options, a suggested core route of around 28km was developed, suitable for everyday cycling by most people (see plan below). We have also set out an option for 27km of routes with a more recreational focus, with some overlap with the core route. This could also be suitable for more limited use for utility trips (e.g. during daylight hours only).



The plan also shows suggested links totalling 11km which could connect the core and recreational routes with adjacent areas. These should be researched in more detail, notably the key recreational link between the Flitch Way and Bishop's Stortford which should be the subject of a dedicated study.

All provision on the core route and links should follow current best practice for cycle infrastructure, with dedicated cycle tracks on main roads and on-road cycling only on low flow and low speed streets. Shared use with pedestrians should be limited to more rural locations where the level of walking is lower, and along the recreational route.

An outline cost for the route of £6.2m has been developed using based on the four route types shown in the plan. Implementation of the core route is estimated at £1.52million, with the recreational route (i.e. the River Stort towpath) calculated to cost £2.93million. The utility links are estimated at £1.37million with the recreational connection to Flitch Way costed at £0.4million. It is expected that funding would be sought from a variety of sources.

1. Introduction

1.1 Aim of study

This study was commissioned by Hertfordshire County Council in early 2019.

The overall aim of the study is to provide a detailed assessment of a potential cycle route between Stansted Airport and the Lea Valley, via Bishop's Stortford, Sawbridgeworth and Gilston, with a link or alternative route passing through Harlow.

1.2 Brief

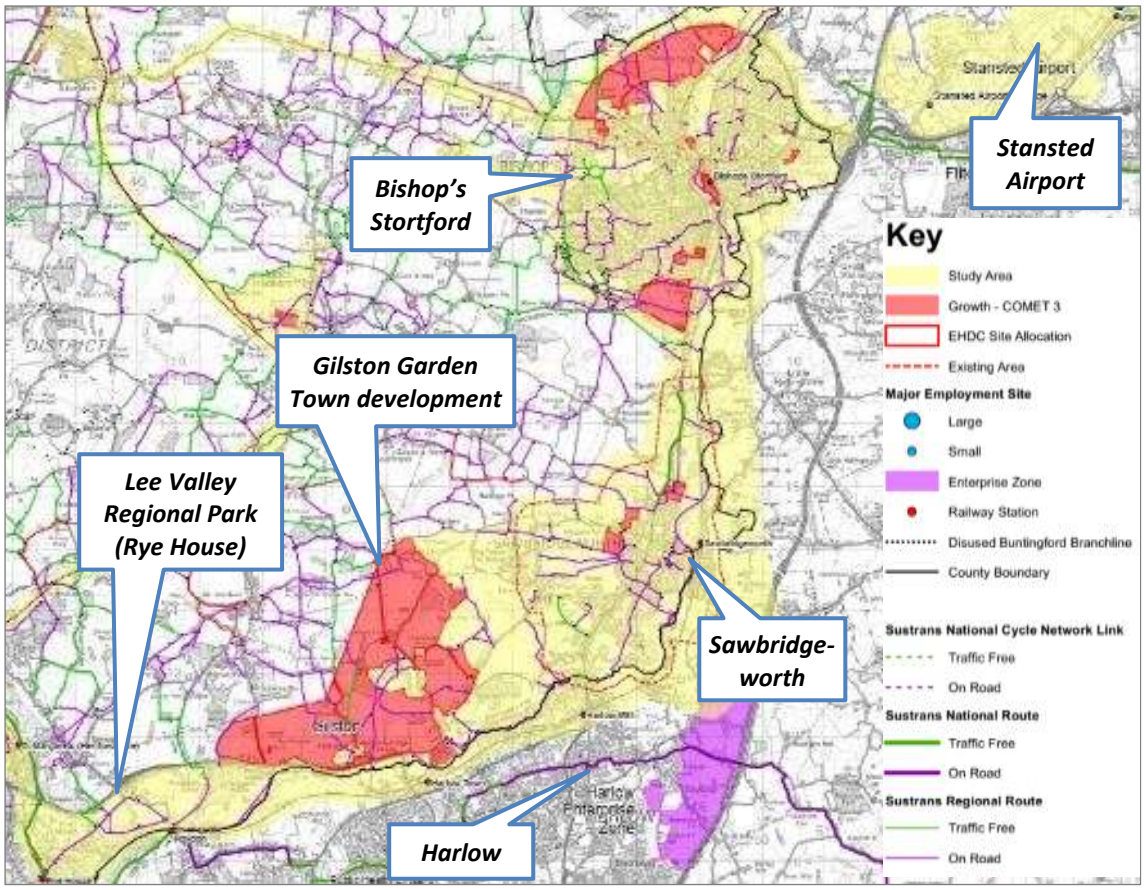
The brief for the study sets out the following elements:

- Desk based research into current cycling provision in the study area
- Desk based research into cycle strategies, Local Plans and development proposals in the study area
- To carry out site visits to develop options for a safe, convenient and attractive route for cycling in area, linking Stansted, Harlow and the Lee Valley (around Rye House)
- Options should include proposals for 'green' routes as well as sustainable transport measures within the proposed Gilston Garden Town

2. Background

2.1 Area information

The overall context for the study is shown in Plan 1 below.

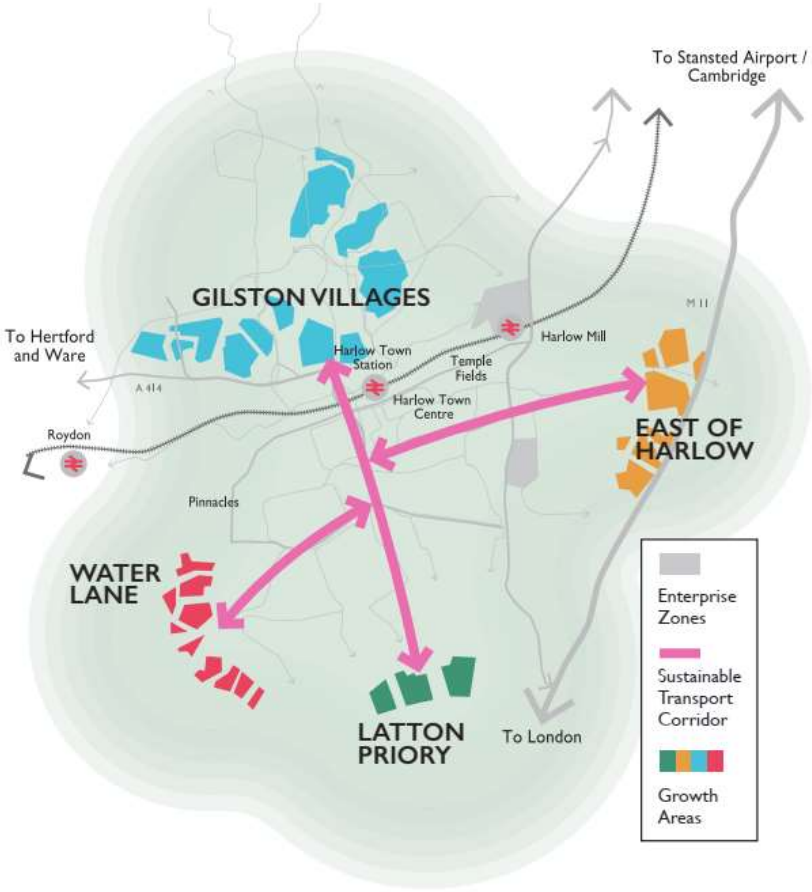


Plan 1. *Context for study area (highlighted in yellow) with major development sites (red)*

As shown on the plan, the following major destinations or settlements lie within or close to the study area.

- Stansted Airport
- Bishop's Stortford
- Sawbridgeworth
- Harlow
- Gilston Garden Town development
- Lee Valley Regional Park
- Hoddesdon / Rye House

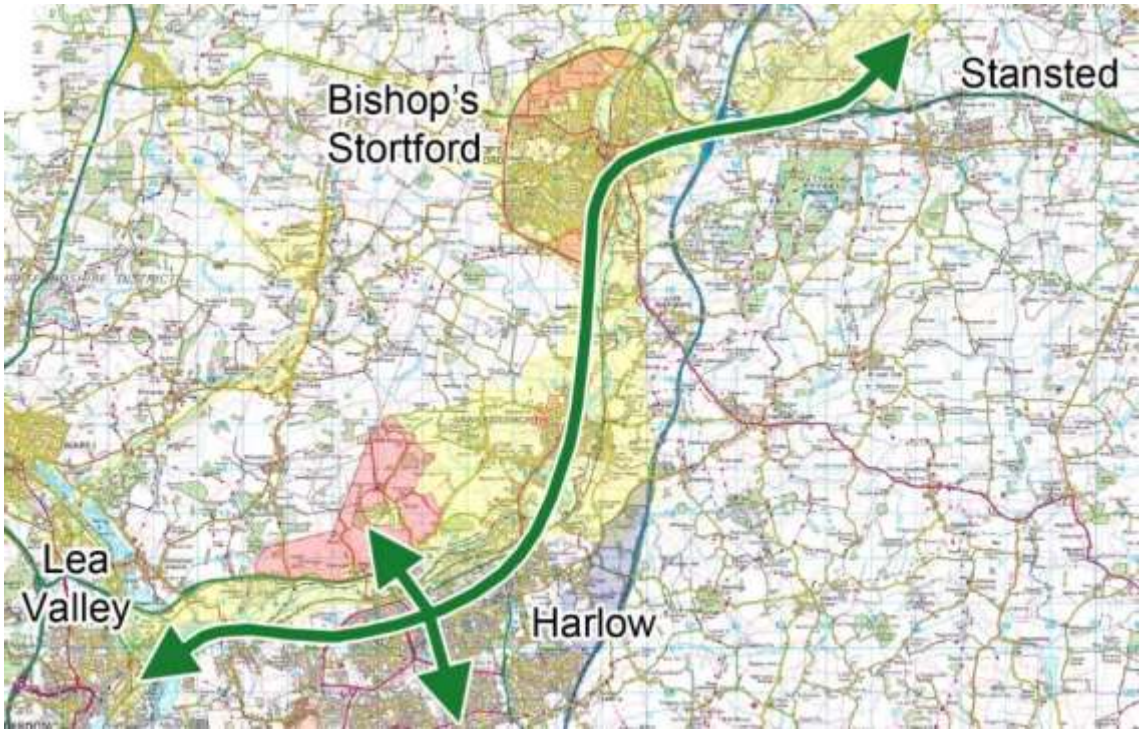
The major development proposed at Gilston Garden Town lies in the centre of the study area. Plan 2 below shows how this relates to the neighbouring areas.



Plan 3. *Gilston Garden Town & other developments in Harlow*

2.2 Study area

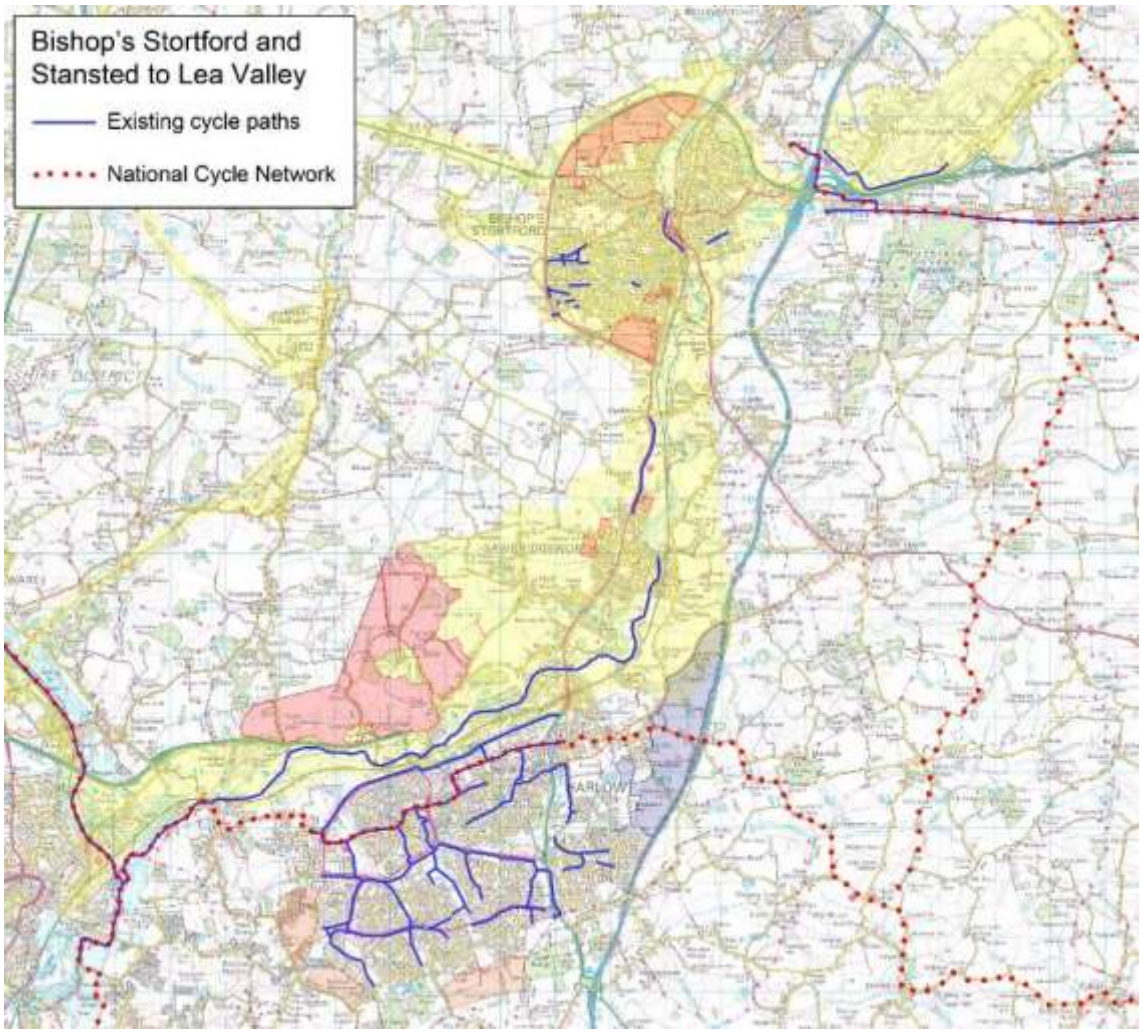
The core corridor forming the study area and proposed route is shown in Plan 3 below.



Plan 3. *Study area corridor*

2.3 Existing cycle provision

National Cycle Network (NCN) route 1 runs along the south and east of the area. There is also a short unconnected section of NCN route 11 north of Sawbridgeworth. These and other existing cycle routes are shown below.



Plan 4. *Existing cycle routes*

It is apparent from this plan that there is no convenient and direct provision for cycling along the study area, or even to cycle between the key destinations within it. Even where links are shown (such as NCN route 1 west of Harlow) these are often on roads which are not suited for cycling by the majority of people.

This assessment demonstrates that the lack of provision for cycling through the study area. The next sections show the policy support for the providing a cycle route, with evidence for demand and potential use.

3. Policy support & demand assessment

3.1 Summary

In order to establish the policy support for the proposed route, the following tasks were been carried out as part of the study:

- Research and summary of Local Plans and related policies (East Herts, Harlow, Uttlesford & Epping Forest districts, Herts & Essex counties, Lee Valley Regional Park)
- Research and summary of existing cycle and transport studies (Stansted, Bishop's Stortford, Sawbridgeworth, Harlow, Gilston, Ware, Lee Valley Regional Park)
- Analysis of existing walking and cycling patterns, plus assessment of potential future demand (including HCC and census data, plus application of PCT),
- Desk-based review of existing and planned cycle routes including those linked to proposed Gilston Garden Town & Harlow developments (plus other relevant transport infrastructure such as rail stations)

3.2 Plans, policies and strategies

The Stansted – Harlow – Lee Valley corridor is covered by some 18 plans and strategies. In the Hertfordshire County Council area these comprise (in date order):

- Bishop's Stortford Transport Study (2006)
- Hertfordshire Cycling Strategy (2007)
- Hertford and Ware Urban Transport Plan (2010)
- Hertfordshire County Council Active Travel Strategy (2013)
- Sawbridgeworth Town Action Plan (2016)
- East Herts District Plan (2018)
- Hertfordshire Local Transport Plan (2018)

Plans and policies in the Essex County Council area (also in date order) are:

- Essex County Council Accessibility Strategy (2006)
- Essex County Council Rights of Way Improvement Plan (2008)
- Essex Local Transport Plan (2011)
- Uttlesford Cycle Strategy (2014)
- London Stansted Airport Sustainable Development Plan (2015)
- Essex Cycling Strategy (2016)
- Essex County Council Sustainable Modes of Travel Strategy (2017)
- Epping Forest District Local Plan (2017)
- Harlow Local Development Plan – Pre-submission (2018)
- Harlow District Cycling Action Plan (2018)
- Epping Forest Cycling Action Plan (2018)
- Uttlesford Cycling Action Plan (2018)

Finally, the Lee Valley Regional Park Cycling Strategy (2017), published by Lee Valley Regional Park Authority, covers the entire Lea Valley which lies within Hertfordshire County Council and the Greater London Authority.

3.3 Plans and strategies – conclusion

Details of the specific support in the plans and strategies covering the area are set out in detail in Appendix A.

In general, all the plans and strategies support the development of cycling, albeit with a varying level of detail. They are all also supportive of sustainable transport.

Many of the plans and strategies include assurances of work to develop cycling but are short on detail. However, they do all agree that new developments should contain active and sustainable travel routes, both through the development and linking the development to other areas. These routes are often described as 'foot paths' and 'cycle paths' and one could imagine them being added into a concept design rather than being integral to the development.

In the main, the sections describing sustainable travel in new developments do not follow the general guidance from Manual for Streets and omit recommendations for 20mph zones, homezones or cycle streets. None of the plans set out to ensure that the majority of roads and streets in developments should be suitable for cycling.

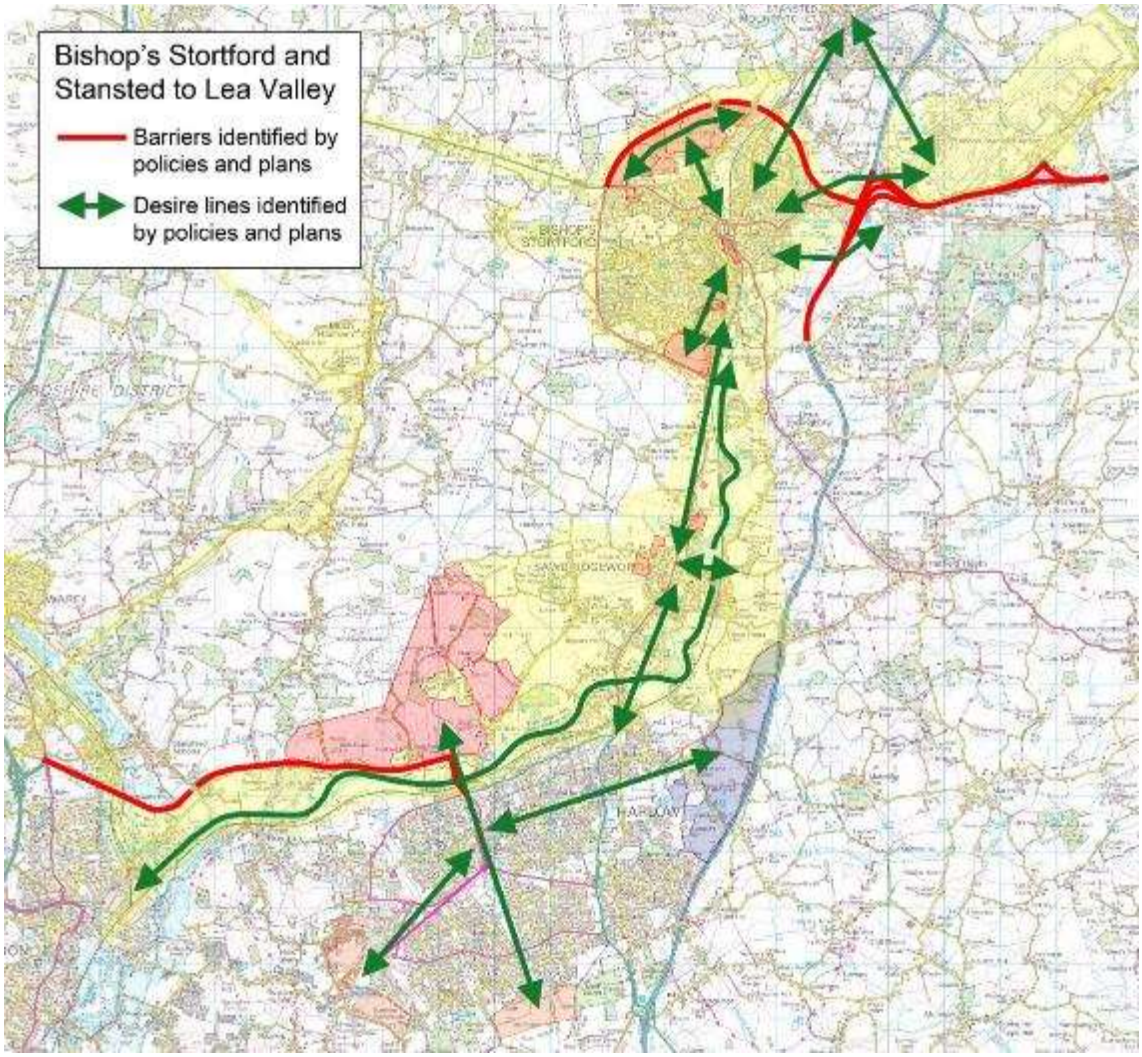
Some of the plans and strategies identify barriers, with the key ones being:

- A120 and M11 between Stansted Monfitchet, Stansted Airport and Bishop's Stortford
- A414 in the south west of the area
- The London - Cambridge mainline railway

As well as a set of barriers to cycling, the various strategies identify a set of desire lines, key priority routes or localised interventions. The main ones (from north to south) are:

- Stansted Airport west and north to Bishop's Stortford, Birchanger, Stansted Montifichet and Elsenham, including improvements to the Flitch Way railway path
- Stansted Monfitchet to Elsenham converted footway (outside our area but connects)
- Stansted Monfitchet to Bishop's Stortford via footpath along Stansted Brook
- Footpath 10 (Fitchway to Great Hallingbury)
- Bishop's Stortford to Flitch Way south of M11 junction 8
- Extension of Sawbridgeworth – Bishop's Stortford link to the north into the centre of the town
- Bishop's Stortford Goods Yard Route, town centre, station and over the River Stort
- Flagship routes from edge of town developments to Bishop's Stortford town centre
- Bishop's Stortford to Stansted Airport
- BISH3 spine (development site in north west Bishop's Stortford)
- BISH5 routes within and through the development site at Bishop's Stortford south
- Sawbridgeworth development site routes to town centre, station and schools
- Exploit benefits of proposed M11 J7a east of Harlow
- Sawbridgeworth to Bishop's Stortford, including along the River Stort
- Path along river from Sawbridgeworth to Harlow Mill
- Gilston Garden Town to Harlow
- Connections to and through other Harlow development sites
- Stort River Park – Harlow to Lea Valley
- Royal Gunpowder Park Hub (Lea Valley)
- Access to Essex railway stations, especially in Harlow

The main barriers and desire lines (excluding small scale ones) are shown on Plan 5 below.



Plan 5. *Key barriers and desire lines*

3.4 Existing cycle facilities

The existing cycle routes in the area (shown in Plan 4 above) vary considerably in quality. The main routes are:

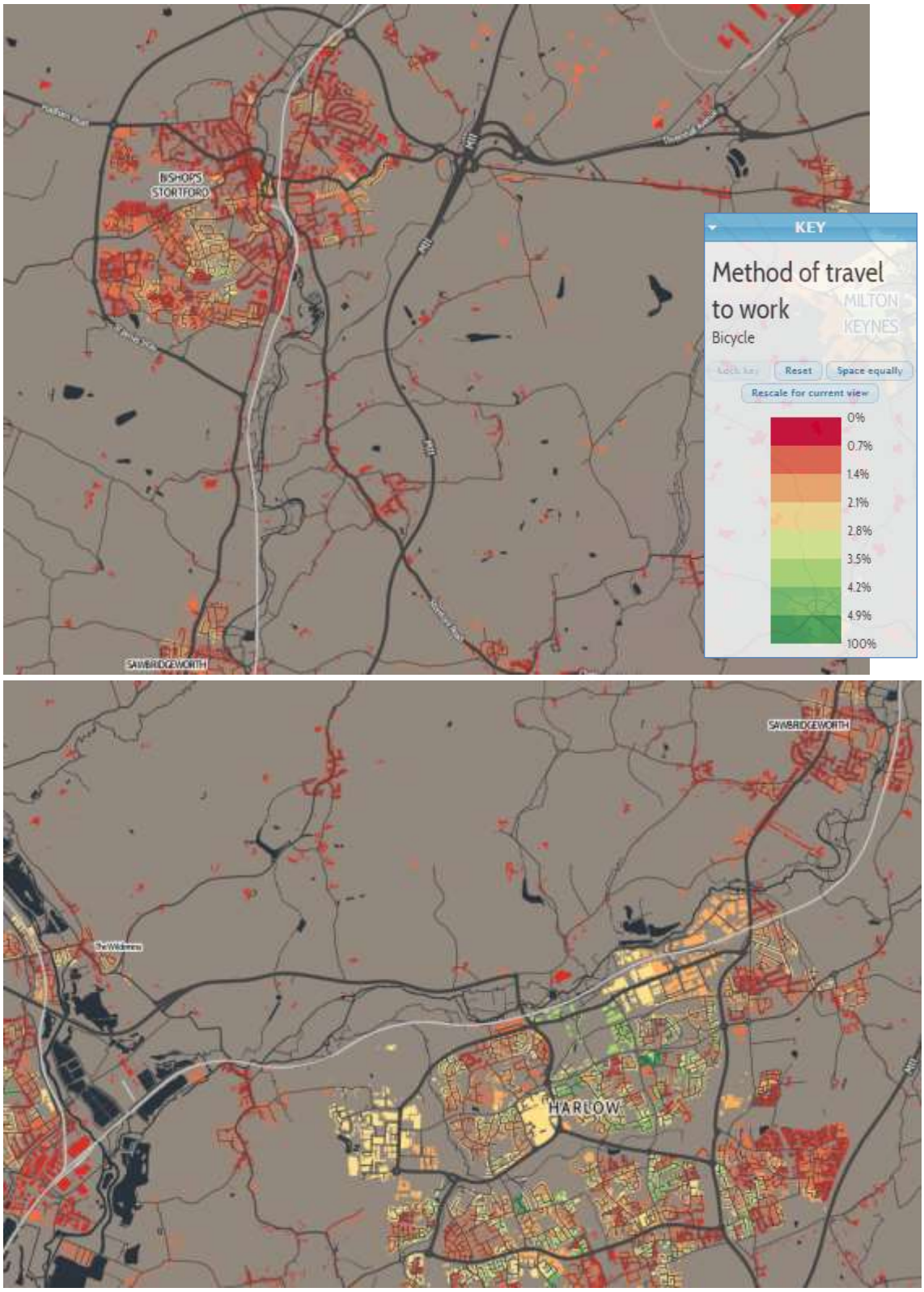
- The cycle network in Harlow, with a range of different quality paths
- The towpath along the River Stort Navigation
- A disconnected set of paths in parks and converted footways in western Bishop's Stortford
- A cycle track (shared footway) along the A1184 north of Sawbridgeworth as far as Spellbrook
- The Flitch Way path on the disused railway alignment, running east to Braintree
- A cycle track around the north side of M11 junction 8
- Shared footway along Long Boundary Road (Stansted Airport)
- The River Lee towpath route

In addition, there are a number of routes forming part of the National Cycle Network running along country lanes and in some cases B roads.

3.5 Existing and potential cycling

Census data (2011)

Across most of the study area the 2011 census shows relatively low levels of travel to work by cycle (see Plan 6), at around 2%. The level of cycling by residents are higher in Harlow (with some areas exceeding 5%) and in parts of Bishop's Stortford.

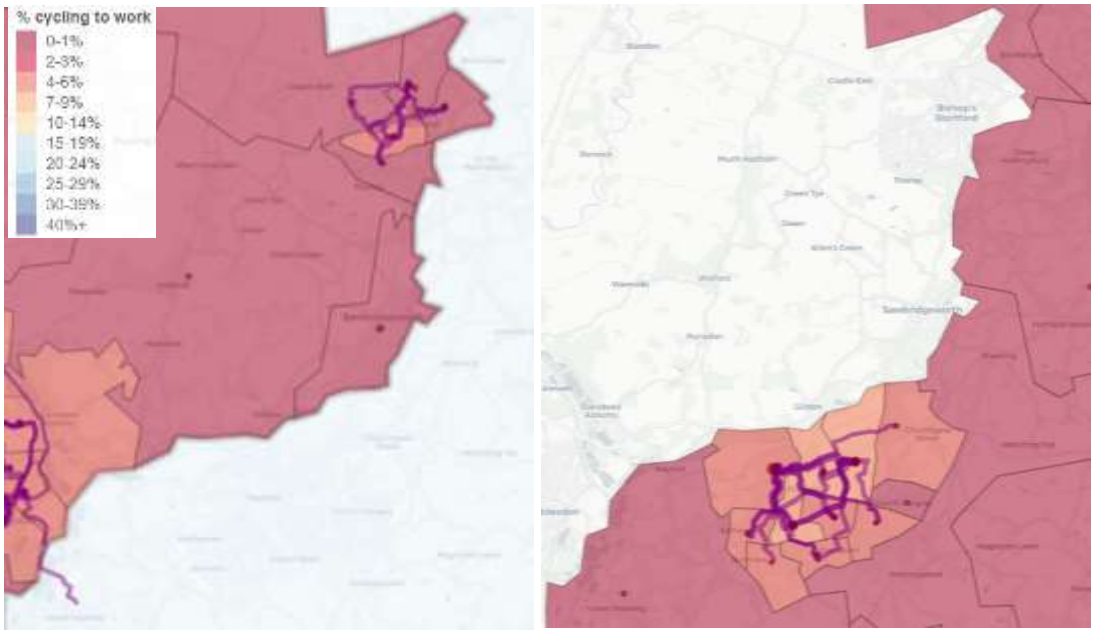


Plan 6. *Existing cycle levels, 2011 census (split into north & south of study area for clarity)*

Propensity to Cycle Tool (PCT)

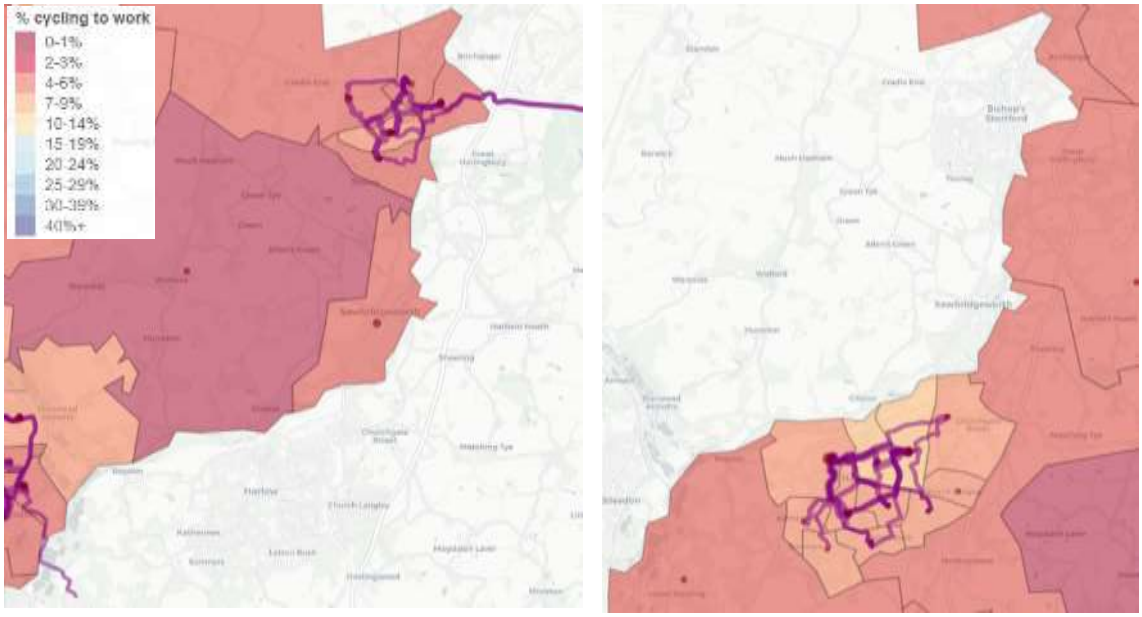
The Department for Transport developed the PCT as part of its Local Cycling & Walking Infrastructure Plan (LCWIP) guidance. It is designed to show how cycling might increase under different scenarios. The basic version of the PCT does not adequately address cycling across county boundaries and hence the plans below shows Hertfordshire and Essex separately.

Plan 7 below shows 2011 census data, including the highest flows between areas (based on MSOA level). As with the level by residents, this confirms that that the main existing cycle flows are in Harlow and Bishop's Stortford, as well as in the Lea Valley



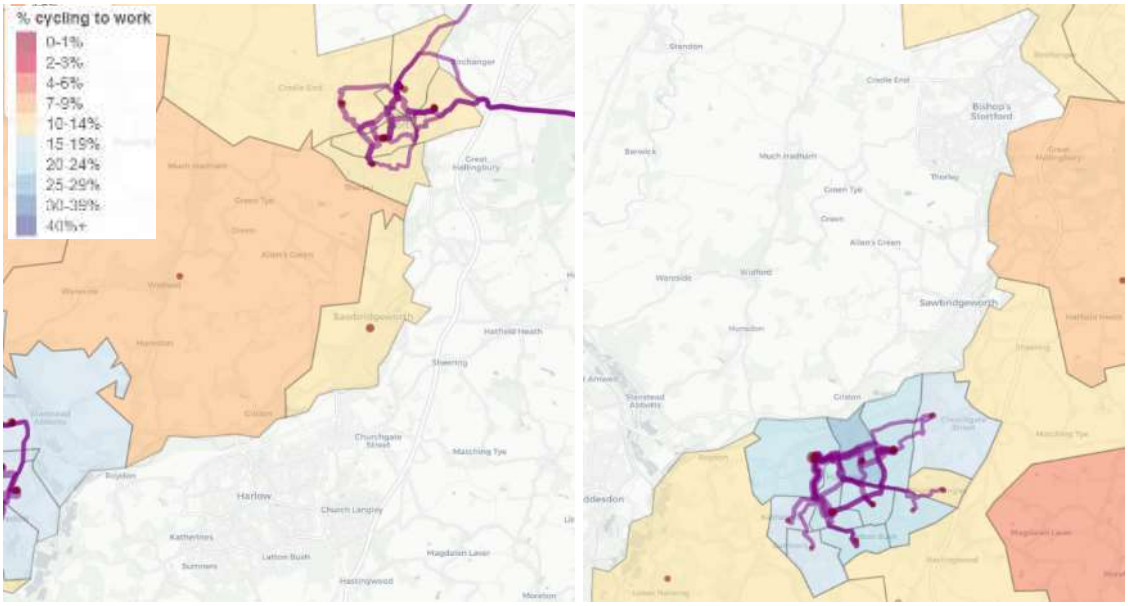
Plan 7. *PCT output for existing cycle levels and flows, 2011 census (split between Herts & Essex)*

The PCT models a range of scenarios for increased cycling. Plan 8 below show changes based on the "Government Target – near market" scenario (an overall doubling of cycling, concentrated in areas where the types of trips and socio-demographic profile both support increased cycling). While the levels of cycling generally increase, there is little change in the main cycling flows apart from between Bishop's Stortford & Stansted



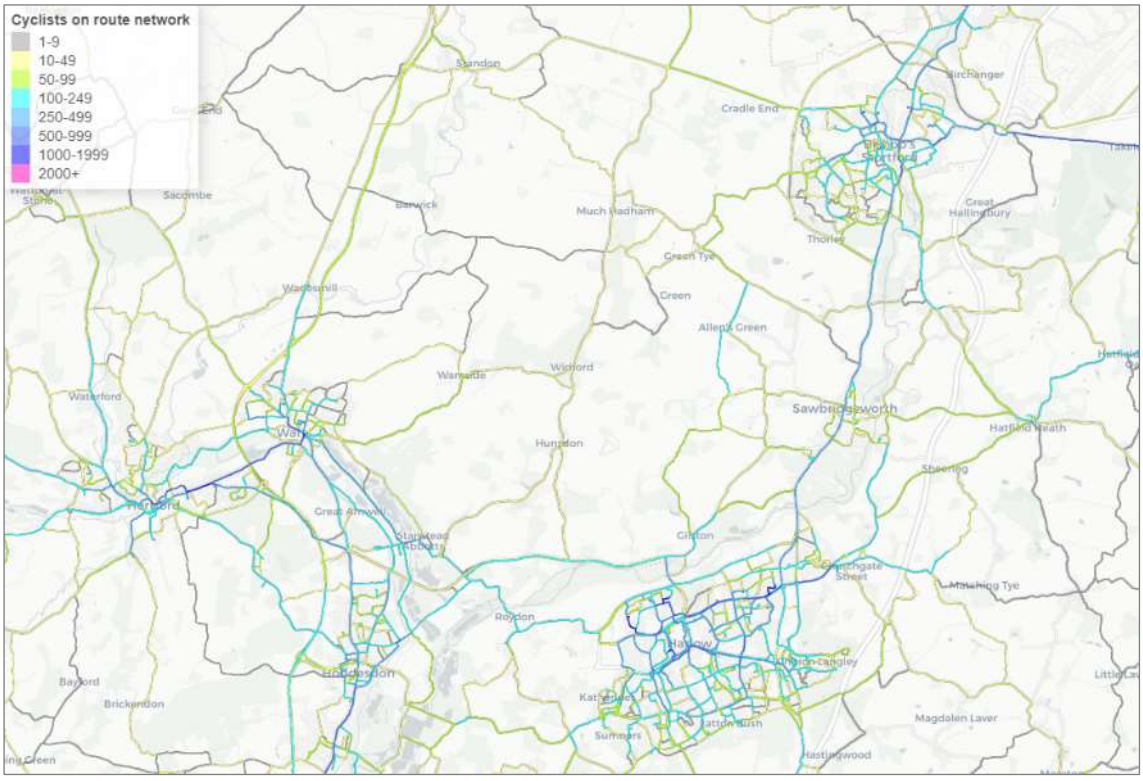
Plan 8. *PCT Government Target (near market) cycle levels and flows (split between Herts & Essex)*

Finally, Plan 9 below show the potential increased use in the "Go Dutch" scenario (trip patterns matching those in the Netherlands). Levels increase significantly, reaching 15%-20% in Harlow and Hoddesdon, and 10% in Bishop's Stortford and Sawbridgeworth.



Plan 9. *PCT "Go Dutch" cycle levels and flows (split between Herts & Essex)*

The highest potential is shown in the e-bike scenario, with Plan 10 showing a different output from the PCT, modelling potential levels of cycling on the existing network. While these high levels are not likely in the short term, this highlights where there is the highest potential for increased cycling and hence where the best locations are to focus on route development.



Plan 10. *PCT E-bike cycle flows*

The corridors with the highest potential for increased cycling are Stansted – Bishop's Stortford and within Harlow, with potentially over 1,000 cyclists/day. The route between Bishop's

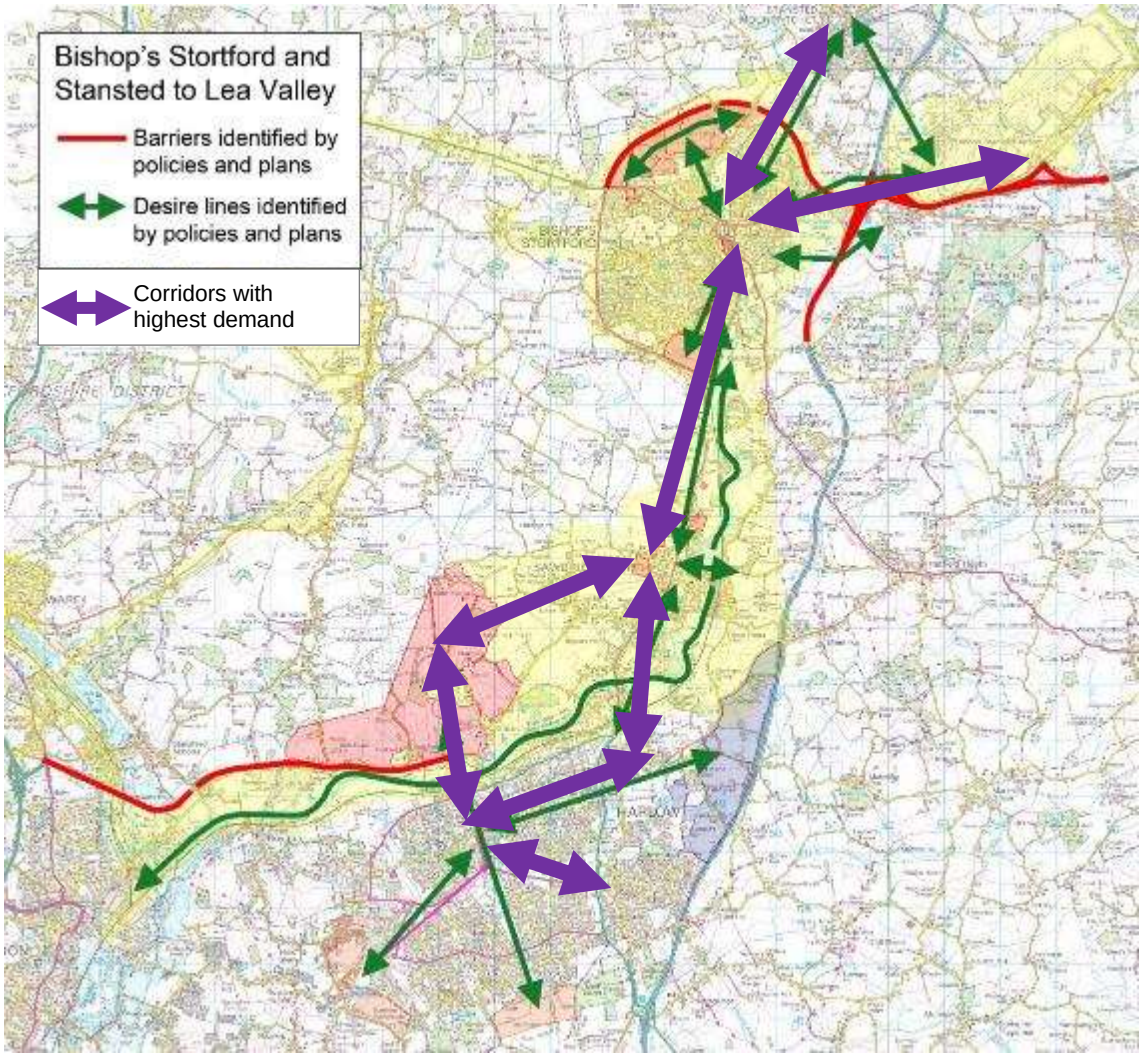
Stortford – Sawbridgeworth – Harlow also has high potential with 500-1000 cyclists. Potential in the towns is distributed among a number of routes, and there is much lower modelled demand between Harlow and the Lea Valley.

Other demand issues

It is important to note that the PCT is based on the 2011 census and hence does not take into account any changes in either residential or workforce population since that date. It also only uses travel to work data (though there is an option for modelling school trips, this also uses 2011 data).

Furthermore, the modelling does not allow for future developments, notably Gilston Garden Town. As these are highly significant in the study area, these need to be addressed in terms of the potential for cycling based on the level of population increase. A realistic target would be for 5% of trips to be made by cycle, matching the highest level in Harlow. This would lead to a level of flows similar to the highest corridors in the Government Target scenario.

Plan 11 below shows a combination of the demand-led corridors shown by the PCT and those driven by Gilston and other developments.



Plan 11. *Highest demand corridors*

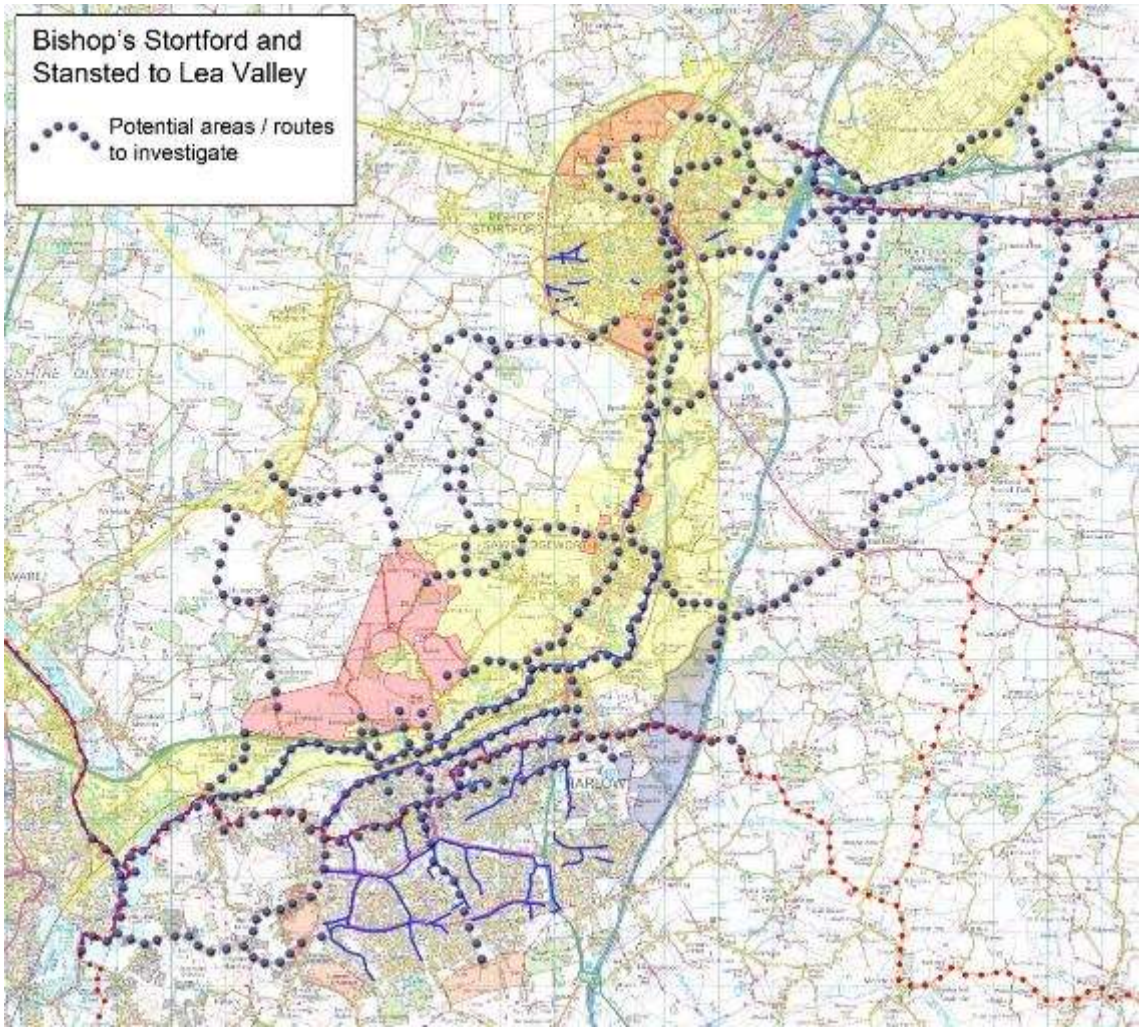
Where there is no evidence of demand, the development of routes along other desire lines identified in policies and plans may still be justified in terms of leisure and recreation. Using this as the basis for a route will lead to a different approach to alignments and type of infrastructure.

4. Route overview

4.1 Summary

In order to assess the possible route options, an initial desk exercise was carried out to identify and investigate the existing and potential alignments that could be cycled. These included both road and off-road sections.

Plan 12 below shows the routes that were initially considered.



Plan 12. *Key areas/routes to be investigated*

As part of this first stage of investigation, some potential routes were found to be impractical and were not assessed further. Reasons for dropping potential routes included:

- Excessive detours
- Distance from settlements
- Steep gradients
- Disconnected routes

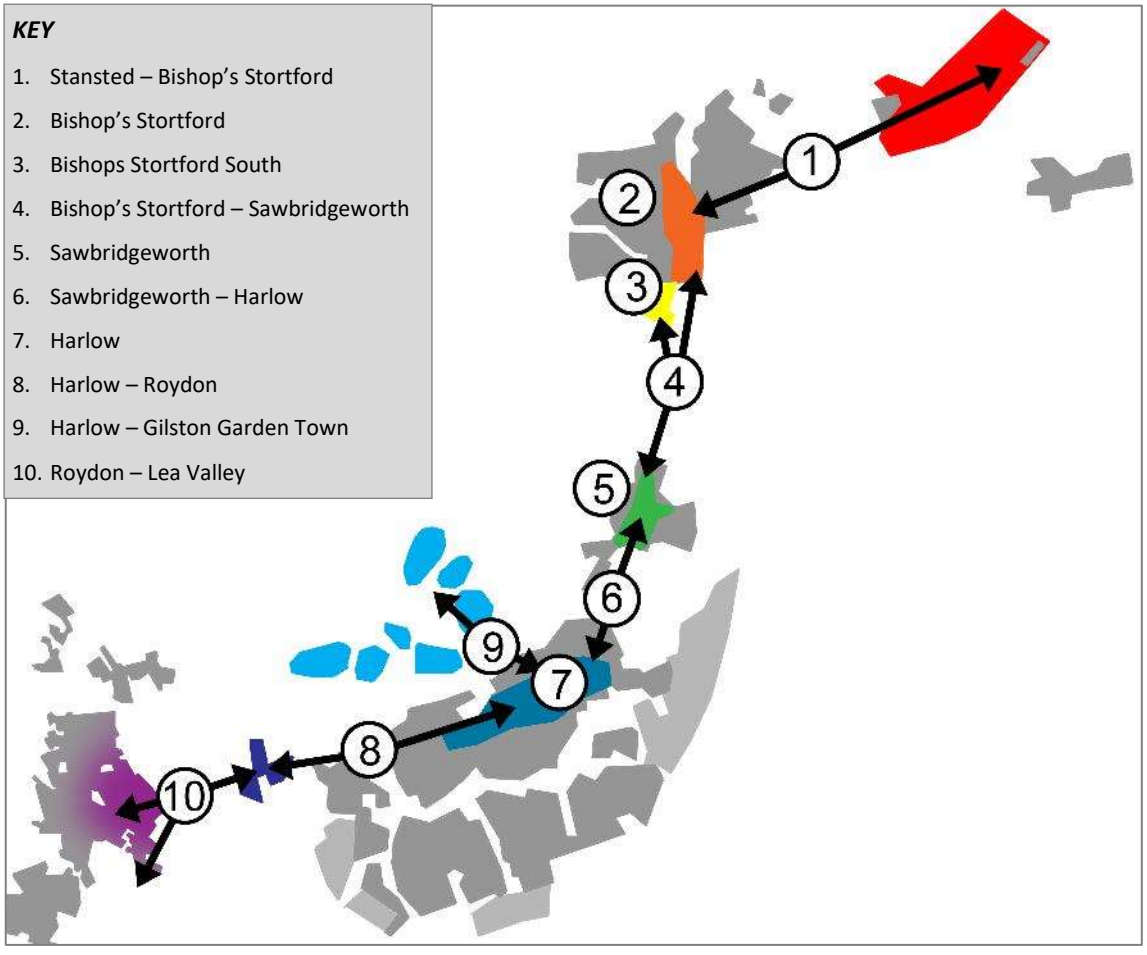
We then moved on to the next stage where routes were reviewed in more detail. The review comprised the following:

- Assessment of existing routes (both roads and paths) to determine if they are fit for purpose, using current standards such as TfL's London Cycle Design Standards and Highways England's IAN195
- Identification of route sections that fill gaps in the existing network or replace sections that are deemed to be sub-standard
- Identification of routes and route sections to match the alignments revealead by the demand assessment and/or satisfy desire lines identified by the various policies, strategies and plans

Where necessary, we widened the area of search to look for routes that will satisfy the potential desire lines radiating from the areas of new development, particularly the north end of Gilston and the enterprise zone alongside the M11 east of Harlow.

4.2 Route sections

As part of the review, the overall route was split into ten sections as shown in Plan 13. The following table summarises the route sections.



Plan 13. *Route sections*

Note that all of Section 7 and some parts of Sections 1, 6, 8, 9 and 10 are within Essex. Hence any delivery of measures along these sections will require close co-operation with Essex County Council, Harlow District Council and Uttlesford District Council.

1. Stansted – Bishop's Stortford	The study reviewed the existing route between Stansted Airport and Birchanger Services via Birchanger village and options for extending this into Bishop's Stortford. It also considers routes to link the Flitch Way to Bishop's Stortford via the M11 junction 8 roundabout and two routes suggested by consultees using crossings of the M11 south of junction 8.
2. Bishop's Stortford	Three north-south route options were considered: • Between The Causeway and Pig Lane • Potter Street / South Street and London Road, The Stort Navigation towpath and Dane Street • A potential route through the Station redevelopment, Southmill Road and Twyfordbury Road
3. Bishop's Stortford South	Two options were considered: • A potential route via the Bishop's Stortford South development • An alternative using the B1383 Thorley Street The preferred option of these was then used as one option for Section 4.
4. Bishop's Stortford – Sawbridgeworth	Two options were considered: • A western alignment along the B3183/A1184, including the preferred option for Section 3 • An eastern alignment along the Stort Navigation towpath
5. Sawbridgeworth	The study examined routes linking the options north and south of Sawbridgeworth to the village centre. It is compatible with the Sawbridgeworth LCWIP but reaches slightly different conclusions as its main focus is on longer routes.
6. Sawbridgeworth – Harlow	Similarly to Section 4, two viable routes were considered: • A western alignment alongside the A1184 • An eastern alignment along the Stort Navigation towpath.
7. Harlow	We noted three east-west options: • Stort Navigation towpath • The cycletrack along Edinburgh Way • NCN route 1 However we did not assess these in detail as this is being done as part of the Harlow LCWIP under development for Essex County Council.
8. Harlow – Roydon	This study noted two options: • Existing NCN route1 (via Fourth Avenue, Roydon Road and Harlow Road) • and an alternative using the Stort Navigation towpath. As with Section 7, we did not assess these in detail as this is being done as part of the Harlow LCWIP under development for Essex County Council. However we did look at the route in Roydon itself.
9. Harlow – Gilston Garden Town	The Gilston Garden Town proposals contain various route options which could provide cycling (and walking) links between the development and the surrounding area. Currently these are subject to the planning process and the report is therefore focussed how routes link to the development.
10. Roydon – Lea Valley	Two options were considered: • Existing NCN route 1 along the River Stort towpath • Via the B181 and Rye Road

Table 1. *Route sections*

5. Detailed route assessments

5.1 Summary

For each section we have described the following elements:

- Overview and plan (full description with photos is provided in Appendix C)
- Potential routes and links (full description with photos is provided in Appendix C)
- Route Selection Tool (RST) analysis, as specified in DfT's LCWIP guidance
- Conclusion & recommendations

The RST is designed for comparing a cycle network options in urban areas. We have amended it slightly by adding an extra category (coherence), to take into account the more linear and rural nature of the routes in this study. As used in this study, the RST compares the following aspects (see Appendix 2 for more details):

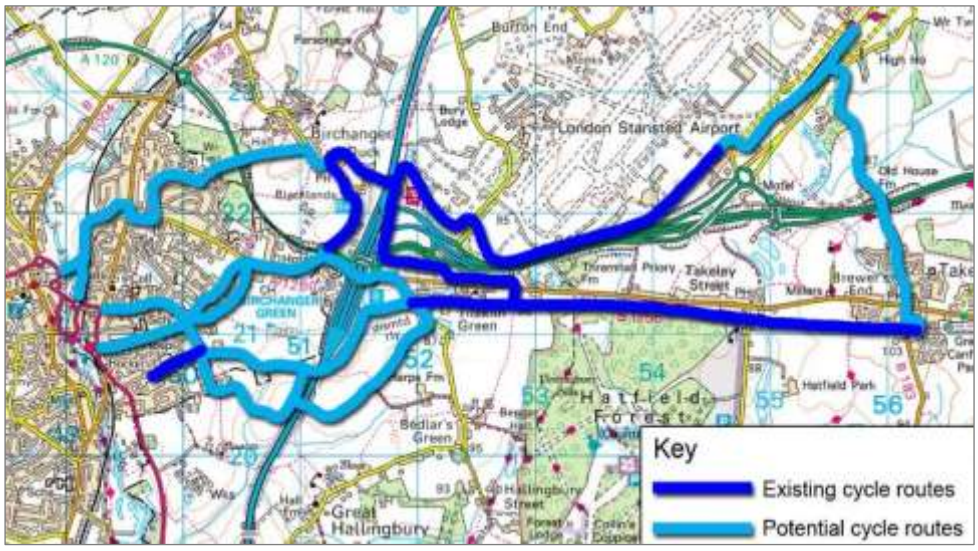
- **Distance** (compared to the shortest possible currently cycleable route)
- **Safety** (both highway safety and personal security)
- **Gradient** (looking at both short steep hills and longer climbs)
- **Comfort** (quality of the riding surface)
- **Connectivity** (level of links to other cycle routes and quiet streets)
- **Coherence** (ease of following route - *not in LCWIP guidance*)

Our basic approach has been to consider possible route options and eliminate alternatives based on the RST output, thus producing a preferred link or set of links. However, there is not always a single best option (e.g. a canal towpath will offer a safe and flat route but a route alongside a parallel main road will offer directness as well as offering higher personal security).

5.2 Section 1: Stansted – Bishop's Stortford

Overview

Stansted Airport and Bishop's Stortford are just over 8km apart, separated by gently rolling and mostly rural terrain. Hatfield Forest is an important recreational destination and NCN16 runs through the area utilising the Flitch Way railway path. The key issue for cycling in this area are the major barriers presented by the M11 and A120. While there are crossings of these roads, they lie well off the desire lines for cyclists travelling between Stansted or the Flitch Way and Bishop's Stortford.



Plan 14. *Route options – Section 1*

There are four existing sections of cycle route:

- An incomplete route from near Stansted to Birchhanger
- The Flitch Way
- A route linking the two
- A short length of cycle path in Hockerill, Bishop's Stortford

Stansted to Birchanger

The most northerly existing route is formed by a combination of cycle lanes, converted footway, off highway cycle paths, existing quiet lanes and a new bridge over the M11 and runs between Long Border Road and the A120/Dunmow Road roundabout. It was part funded by the Highways Agency (predecessor to Highway England).

The route is mostly safe, easy to ride and very pleasant. It is unlit which would put some people off using it at night, it is not well connected to the main airport buildings and has no crossing over the A120 at its western end. These factors can be changed; although lighting it would be expensive. Its main problem is that it is long. It is 7.2km long as opposed to the shortest road route which is 5.9km long.

Flitch Way

The second route in the area is the Flitch Way. This is a path built on a disused railway. It is safe, pleasant and flat but does not connect to the airport. Although the railway used to run to Bishop's Stortford the route has since been cut by the M11, a golf course and development in Bishop's Stortford. It forms part of the incomplete National Cycle Network Route 16.

The Flitch Way ends at a narrow ramp which connects it to Bedlars Green Road.

Flitch Way to Birchanger

To extend the Flitch Way westwards over the M11, a new route has been built connecting the disused railway path and the Stanstead – Birchanger path using part of footpath 10 and bridges and tunnels crossing the various slip roads and links of the M11 (junction 8) / A120 junction. It is a clever attempt to join cycle facilities but is narrow, winding and has a very poor surface. It is unlit and feels more isolated than the Stansted to Birchanger path

The main problem with combining this route and the Flitch Way is its length. The shortest route between the Airport and the Flitch Way uses Takeley Road. The Takeley Road – Flitch Way – Birchanger route is 9.7km long, 2.5km longer than the Stansted – Birchanger route. If the NCN50 route is used from east of the Airport instead of Takeley Road it is even longer

Haymeads Lane to Thorn Grove

The final section of cycle facility in the area is a short section of cycle path linking Haymeads Lane and Thorn Grove in Bishop's Stortford alongside the Herts and Essex Community Hospital.

The path is 3 metres wide, segregated, has a good surface and is lit. The path has been designed very much with safety in mind and the frequent chicane barriers would filter out many legitimate users. It makes a useful link within this area of Bishop's Stortford but would need to be rebuilt if it were to form part of a strategic link.

Routes and Links

We investigated a number of ways of completing these facilities to make a complete route between Stansted and Bishop's Stortford. Some were suggested by local people. They are:

- Northerly route, from Birchanger through the north of Bishop's Stortford reaching the Stort valley north of the town centre
- Dunmow Road from Birchanger Services to the town centre

- From the end of the Flitch Way through the M11 junction to the Dunmow Road route into Bishop's Stortford
- From the end of Flitch Way to the south side of the town centre using the subway under the M11 south of junction 8
- From the end of the Flitch Way to the south side of the town centre using the accommodation bridge over the M11 south of the subway.

Northerly route

This route is the logical western extension of the Stansted to Birchanger route. It is also fitting in that one version of the route threads streets named after various other airports. The route would exploit the bridge over the railway at Jackson's Crossing and paths in Birchanger Woods. Critical problems with the route are that it would need a grade separated crossing of the A120 Bishop's Stortford bypass and that the route through the "airports" area of Bishop's Stortford is convoluted and requires cyclists to share some narrow footpaths and footways.

We considered that the route would be too tortuous for a key route along the corridor but it could form part of a future route from the Airport to north Stortford and it could have a use as part of a network serving Birchwood High School.

Dunmow Road, Birchanger to Town Centre

Dunmow Road is a narrow A road with narrow footways and few verges. It directly links Birchanger Services area to the town centre, in fact some cyclists were seen using the south side footway and the informal path into the back of the services.

Dunmow Road is too narrow for safe and pleasant cycling and so most cyclists use the footway, although this too is narrow. Between the Parsonage Road roundabout and Haymeads Lane there is an alternative route using quiet residential (but private) streets.

Hockerill to Town Centre

All three routes 1a, 1b and 1c need to link to the key potential route from Bishop's Stortford southwards via Potter Street, South Street, London Road and the A1184. There are three routes between Hockerill and this potential route (described in Appendix C):

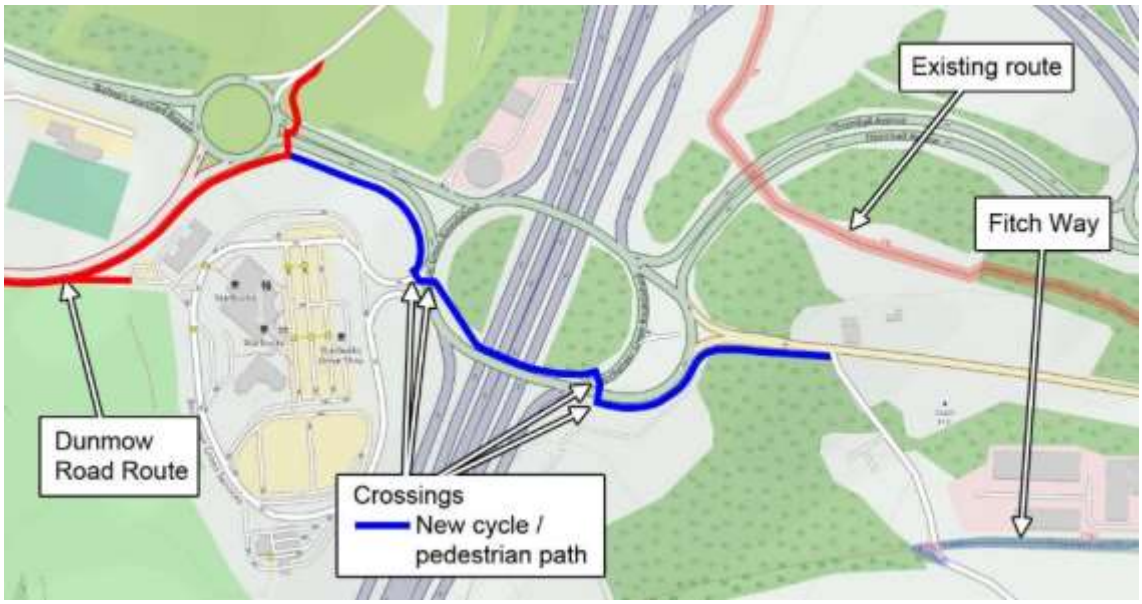
- Dunmow Road and the Causeway
- Warwick Road and Station Road
- Warwick Road, Crescent Road and London Road

The Warwick Road option is the only one which can be made suitable for cycling.

Flitch Way to Birchanger Services

The route described above could be used to extend the Flitch Way into Bishop's Stortford. The two would connect but the existing route around the north side of the M11 junction is much longer than a direct one, supposing it could be provided.

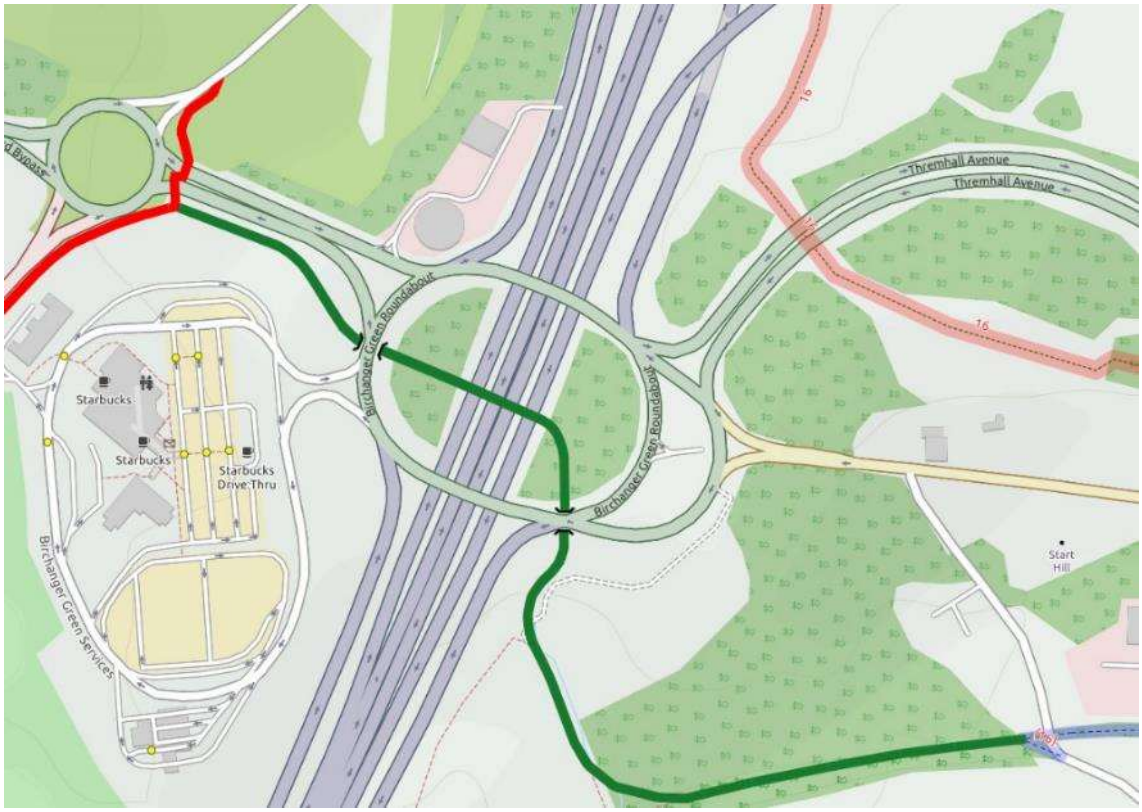
A more direct route (see below) would run south of the junction from the existing end of the Fitch Way at Bedlars Green Road. From this point a cyclist could head north to Dunmow Road, cycle along it and cross the M11 with general traffic. This route is clearly dangerous and unpleasant. The M11 junction is a signalled roundabout and there is a potential route across it using four signal stages which also keeps clear of any sections of motorway. NB If a motorway slip road is designated a motorway pedestrians and cyclists legally cannot cross it.



The main issues with the route are:

- The stop lines will probably need to be set back to get sufficient cycle storage capacity between the pairs of signals. This will have an implication for the capacity of the roundabout particularly the south western section.
- The bridge over the M11 has a heavily protected footway on the relevant side, however it is only 1.2m wide and the parapet is only 1.1m high. The 1.2m can be lived with initially as flows are likely to be low but the parapet will need raising to 1.4m.

Ideally the ultimate connection between the Flitch Way and Dunmow Road would be the scheme shown below. This would require considerable work to provide new underbridges.



Flitch Way to Bishop's Stortford via subway

This route (shown in green below) was suggested by local consultees. The Flitch Way currently continues west of Bedlars Green Road as an informal track until it gets to a point where the embankment has been removed.

Below this point is a track which leads around the field between here and the M11. The track ends at a 3.0m wide subway under the motorway. The suggested route then runs across fields and a golf course to reach Haymeads Lane from where it can use Warwick Road to reach the town centre

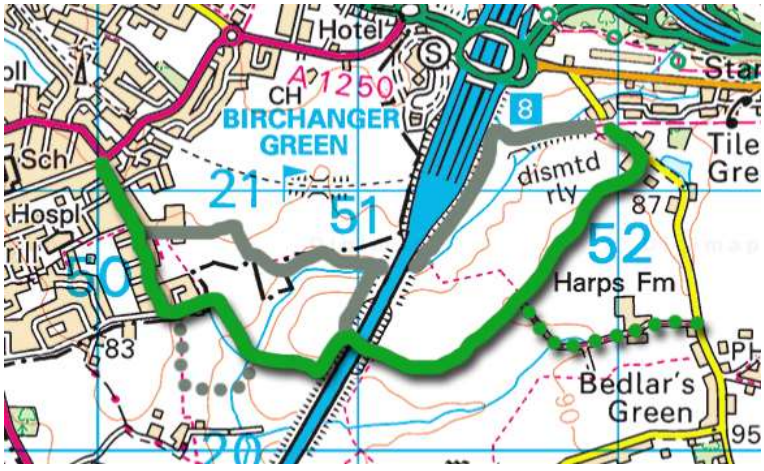
At 2.7km this route is relatively long (Flitch Way to Warwick Road) as opposed to 2km via the shortest route. It links the Flitch Way directly to Warwick Road and thus into Bishop's Stortford. It runs past the end of the path to Thorn Close giving easy access to the Hospital.

Legally the section from the subway to Haymeads Lane is a public footpath There are two key access issues along the footpath as it crosses a ploughed field the golf course.

The section from the Flitch Way to the subway does not appear to have public rights of access even though it is clear people use it and thus it might be possible to claim a right of way. The path would formally need to be converted to a bridleway and surfaced.

Flitch Way to Bishop's Stortford via bridge

Again this route was suggested by local consultees. It is similar to 1d but runs further to the south east via a public footpath which crosses the motorway on a bridge. At 3.3km this route is longer than the previous one and doesn't serve Bishop's Stortford so well. However, there are fewer land access issues, though there is still a small section of path across a ploughed field.



There is also a potential hybrid scheme between the two routes suggested by consultees as there is a track paralleling the motorway between the bridge and subway making the 2.8km route shown below.

The dotted loop is a path which is not a public right of way but walkers use in preference to the legal footpath. It does not get ploughed. Adding this loop would increase the length of this option to 3km but increases the maximum gradient.

The following actions would need to be undertaken for the hybrid option:

- Construct ramp at western end of Flitch Way (subway and combination options)
- Negotiate new public right of way between Flitch Way and the bridge over M11 (part in Herts part in Essex)
- Negotiate conversion of footpath to bridleway between the M11 and Beldams Lane (by all route options) and between the bridge and Bedlar's Green Lane (Bridge option)
- Construct new 2.5m wide surfaced path (various lengths)

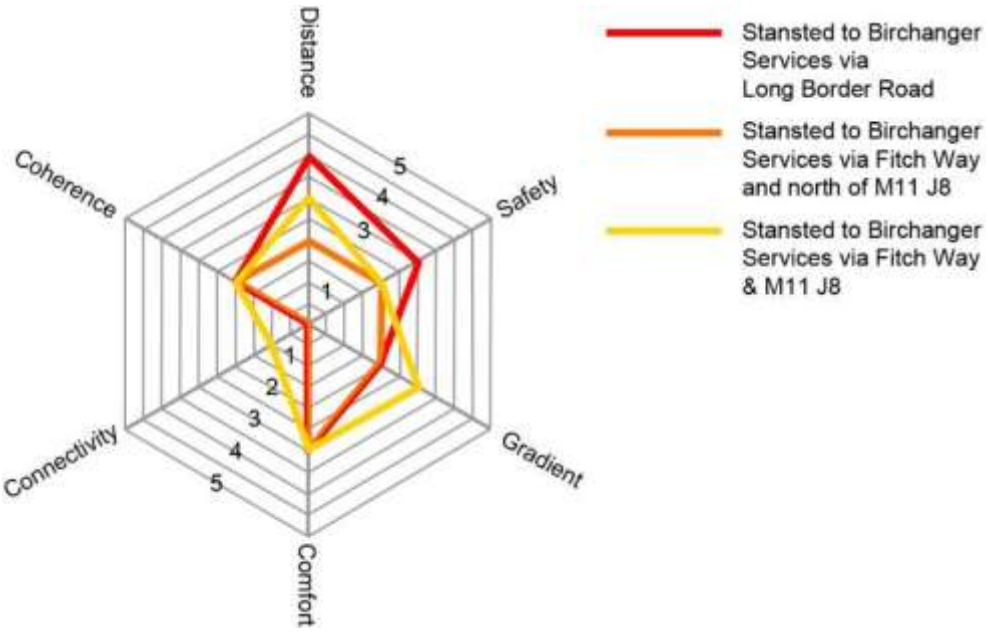
An extension to Bedlars Green would need an additional negotiation for a footpath to be converted to a bridleway.

Analysis

The route options discussed so far are clearly very different. They all have attractive aspects but have different lengths, gradients, costs and risks.

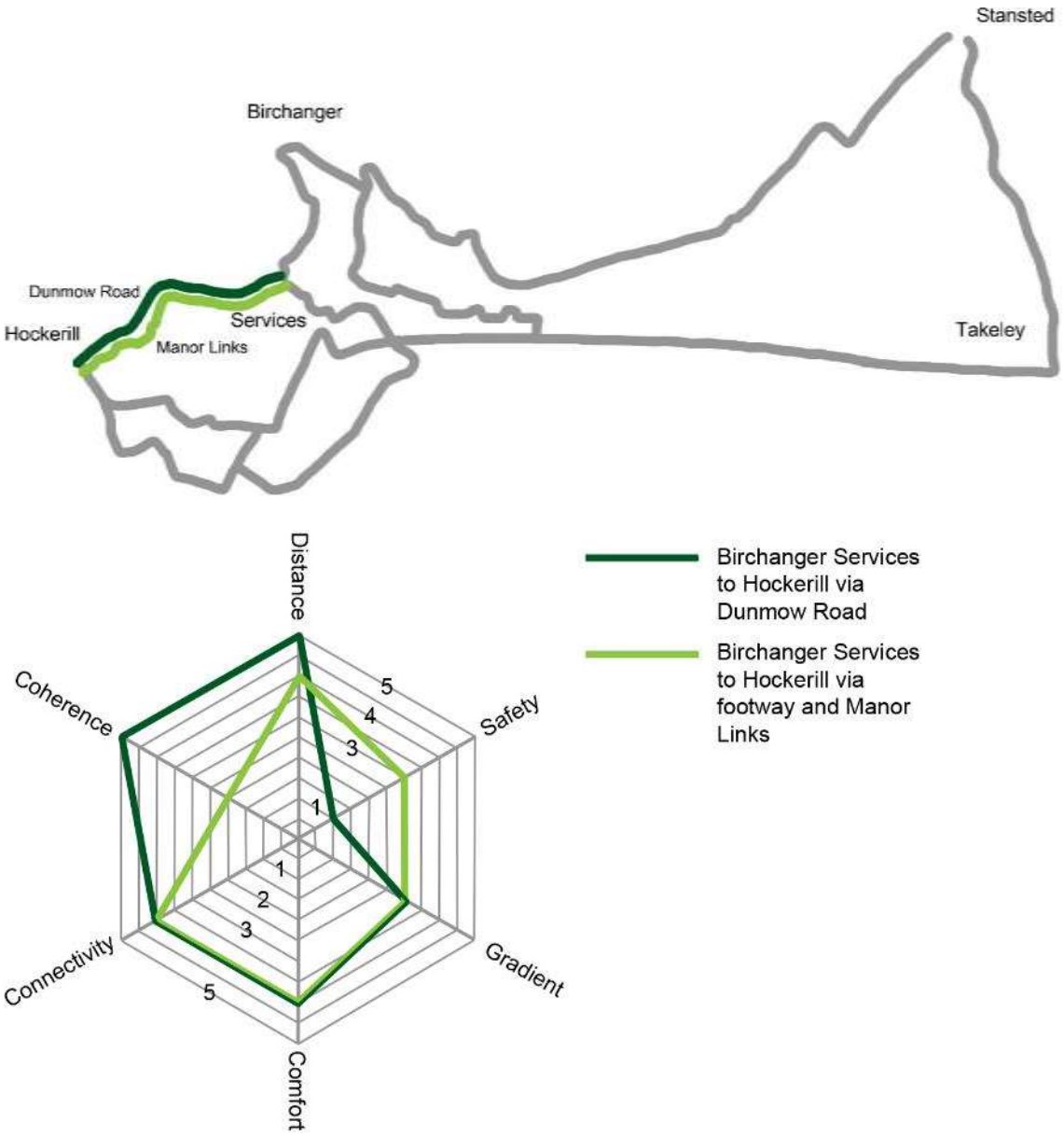
The analysis below uses the RST to compare the various options.

Stansted to Birchanger Services



The route via the Flitch Way has more connectivity and is flatter but the route via Long Border Road is the shortest and safest.

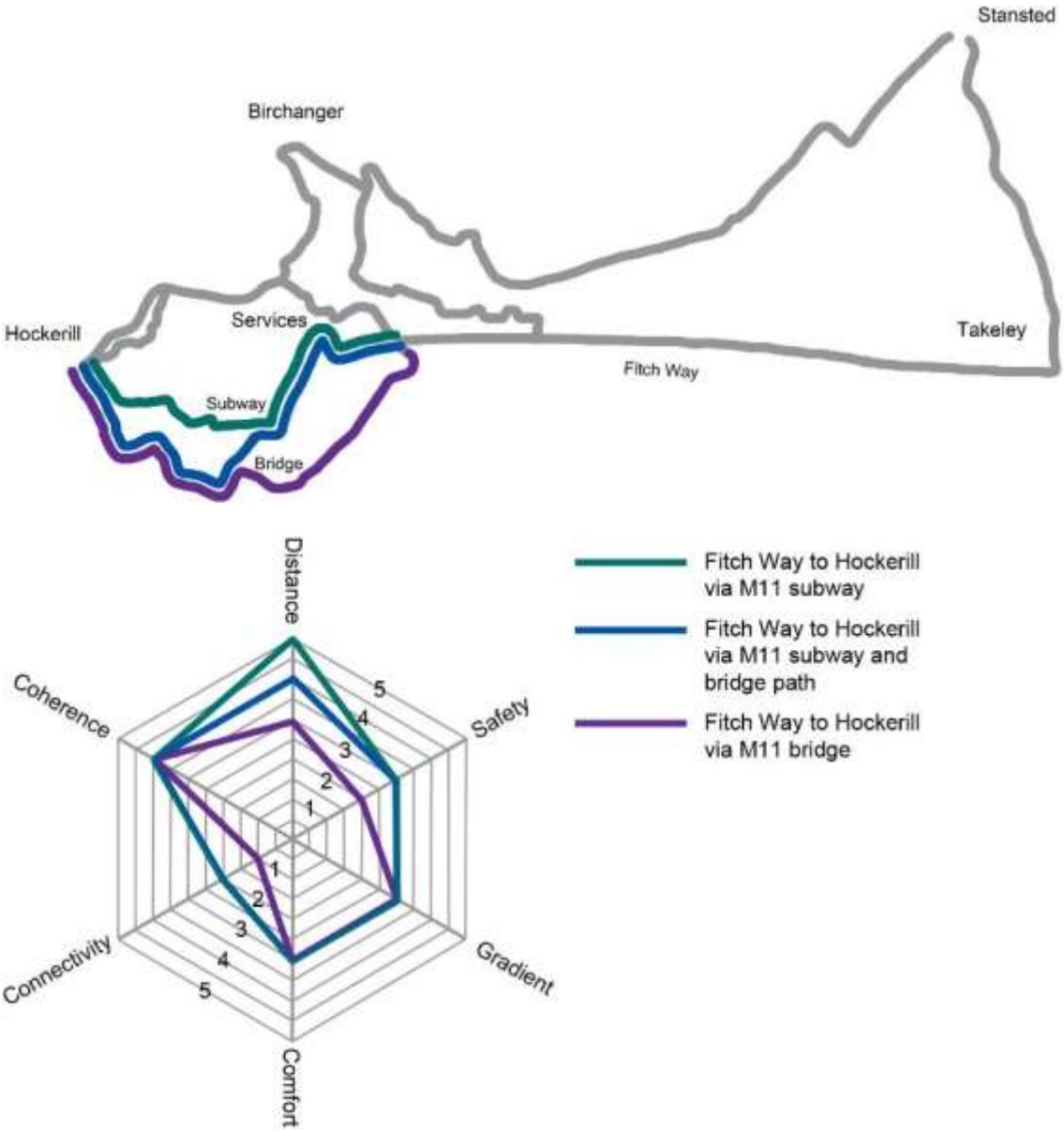
Birch Services to Hockerill



This part of the analysis compares the options between Birch Services and Hockerill. The existing main road scores well on distance and coherence but scores extremely badly on safety. The route via Manor Links only scores badly for coherence because of the number of turns. Good signing can overcome this.

We recommend using Manor Links because of Dunmow Road's poor score on safety. This means that currently the best route option between Stansted and Hockerill is via the existing route to Birchanger and then use Manor Links.

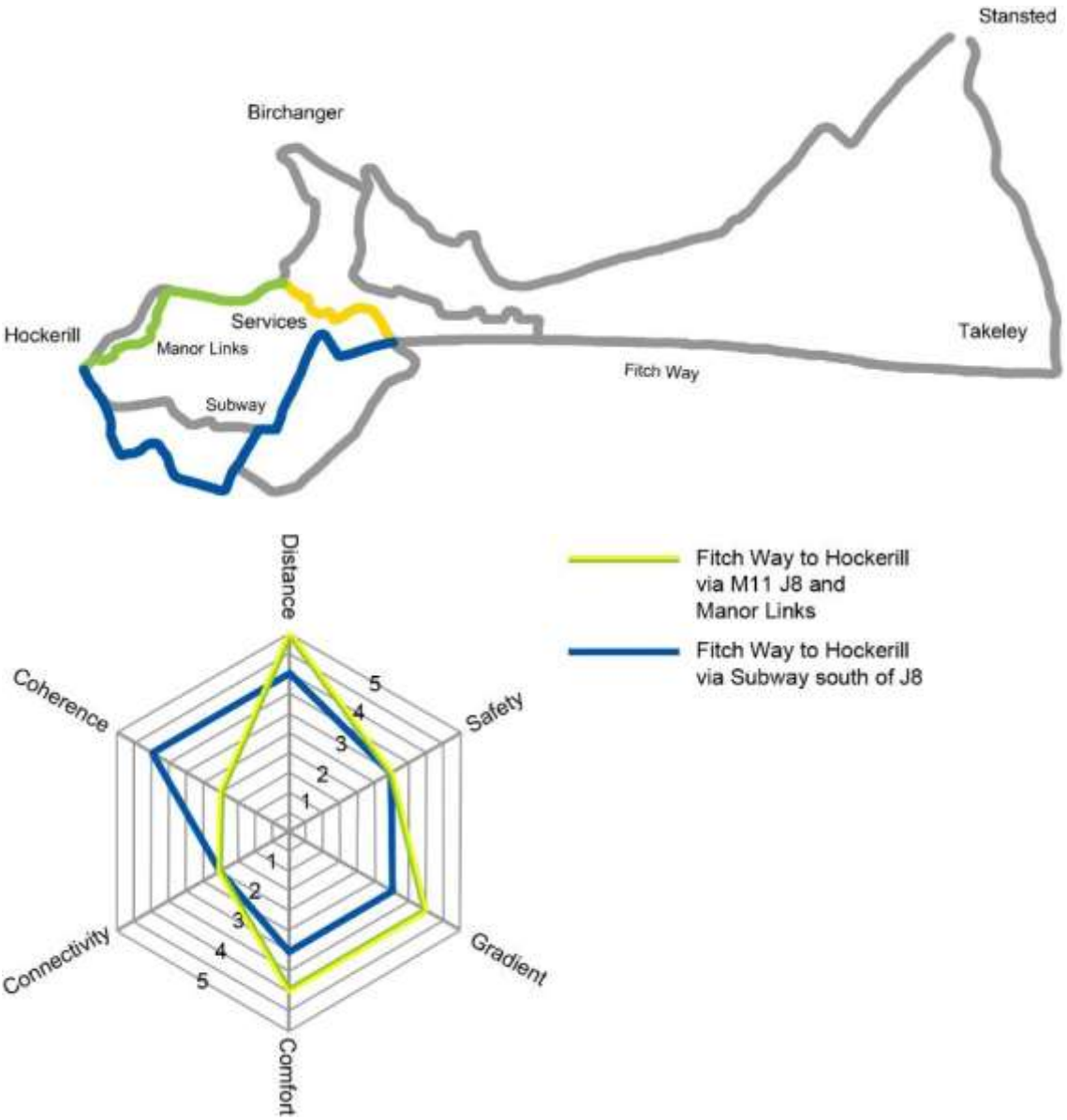
Flitch Way to Hockerill via the M11 crossings south of Junction 8



There are three options here. None can be legally cycled at the moment. The analysis assumes that each route has a well surfaced path.

The route via the subway scores best on all counts but as it runs across the golf course and of ploughed fields the hybrid route is probably the best option here, despite being marginally longer.

Flitch Way to Hockerill



While the main aim of this study is to develop a route between Stansted and Bishop's Stortford, there will also be cyclists on the Flitch Way wanting to head towards Bishop's Stortford.

This analysis shows that a route via the M11 Junction 8 scores better on distance, gradient and comfort. The route via the M11 subway scores better on coherence because we assume a consistent path from one end of the scheme to the edge of Bishop's Stortford and simple navigation from there to Hockerill.

Both options will be complex to deliver and we recommend further detailed investigations.

Conclusion and recommendations

The best potential route from Stansted to Bishop's Stortford uses the existing route along Long Border Road and a new route via Manor Links.

The route crossing the M11 via the subway is more suitable as a recreational route and could be developed in the future.

We recommend that the key route from Stansted to Bishop's Stortford uses the exsiting route via Birchanger, then a new route from the A120 / Dunmow Road junction via Dunmow Road, Manor Links, Warwick Road and Station Road.

Measures required to improve the route from Stansted to Birchanger are:

- A new shared pedestrian/cycleway from the Stansted bus station to Coopers End Road. (essential)
- A shared path from the north east end of Coopers End Road to the Bassingbourne Road / Long Border Road junction (desirable)
- A shared path along Long Border Road to the end of the current cycletrack (desirable)
- Improved direction signing throughout

Measures required to construct a cycle route along the line of Dunmow Road between Birchanger and Bishop's Stortford Town Centre are:

- A signalled crossing over the A120 immediately east of the Bypass/Dunmow Road/Birchanger Lane roundabout
- A surfaced link from the rear of Birchanger Services to the footway of Dunmow Road
- Judicious widening of the southern footway of Dunmow Road between the A120 crossing (above) and Manor Links. Widening the footway will require cutting back vegetation and bank at the rear of the footway, possible removal of hedges and trees, widening the footway into the carriageway were the carriageway is more than 6.0m wide
- Making the southern footway an unsegregated shared use cycle pedestrian path.
- Agree that a cycle route uses Norris Close and Brooke Gardens
- Widen link between Norris Close and Brooke Gardens to 3.0m and remove blind corners by cutting back vegetation and removing some of the fence at Norris Close
- Negotiate land for widening path by the Nags Head
- Widen the footway between Brooke Gardens and Heymeads Lane to at least 3.0m and at least 3.5m at the pedestrian crossing and bus shelter
- Make the Brookes Gardens to Haymeads footway and unsegregated shared use cycle pedestrian path
- Make crossing over Haymeads by raising the carriageway to footway level
- Make cycle link between Warwick Road and London Road crossing.
- Convert the London Road crossing to a toucan
- Convert the footway alongside Lidl to an unsegregated shared use cycle pedestrian path
- Narrow Station Road between Dane Street and Riverside to one general traffic lane and provide a with flow and a contra flow cycle lane.
- Provide direction signs for the whole route

We have not itemised what would need to be done to construct a cycle route across M11 junction 8.

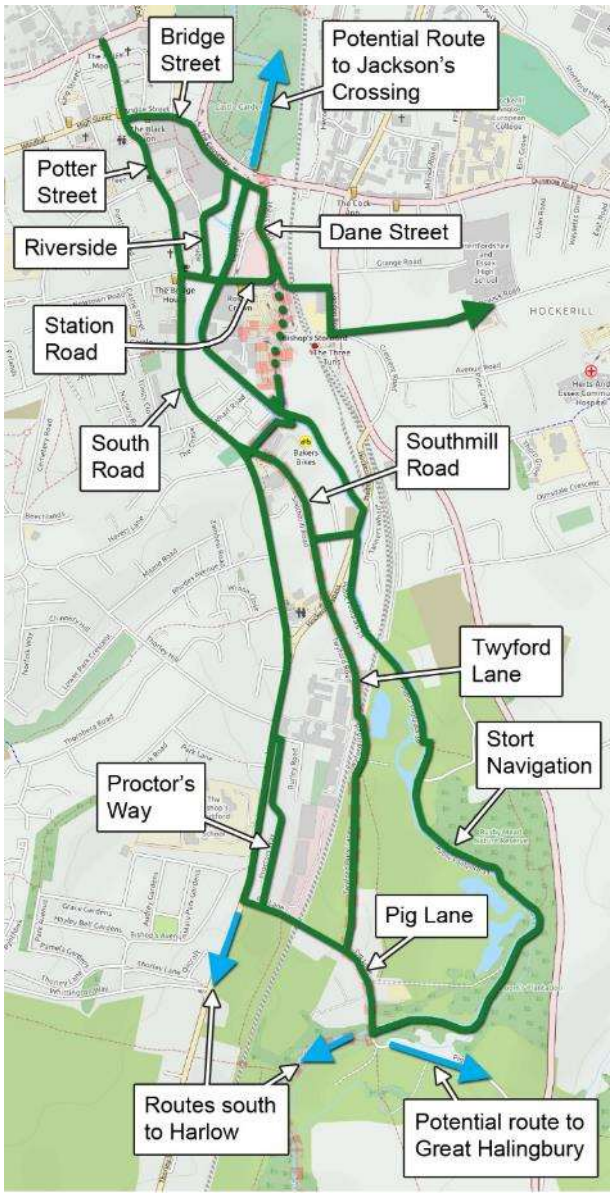
Developing the southern routes as a recreation route to extend the Flitch Way would require:

- Negotiation of new public right of way between Flitch Way and the M11 (part in Herts part in Essex)
- Conversion of footpath to bridleway between the M11 and Haymeads Lane (part in Herts part in Essex). It might be possible as part of the negotiations to re-route the footpath over the golf course to one that avoids crossing a fairway.
- New 2.5m wide surfaced path (approx 2.2km)
- New ramp (no more than 1:20) at western end of Flitch Way

5.3 Section 2: Bishop's Stortford

Overview

The routes investigated in central and south Bishop's Stortford are shown below.



There is only one potential route entering the town centre from the east but there several route options in the north south direction.

The longer routes are basically the old route of Potter Street, South Street and the B1383, and The Stort Navigation towpath. Dane Street and Riverside provide extra north-south links in the centre of the town as does a potential route through the station development to the zig-zag footbridge bridge over the Stort while Southmill Road and Twyfordbury Lane provide an alternative route to Pig Lane and Proctor's Way avoids a narrow section of the B1383 London Road.

In the town centre Potter Street is one way northbound while Riverside, The Causeway, Dane Street and Station Road make a clockwise gyratory. Both the one-way Potter Street and the gyratory represent barriers for cyclists.

To go north from the town centre involves travelling along or crossing The Causeway. The Causeway has three roundabouts with large areas of carriageway for cyclists to negotiate and the pedestrian crossings do not line up with wide areas of convertible footway or potential routes north.

Routes and Links

Station Road to Potter Street

Based on routes in Section 1, the link between Bishop's Stortford and Stansted would cross the railway on Station Road. This continues to Potter Street but the central section is one way and cyclists would need to be able to travel in both directions.

The critical point on Station Road is the bridge over the Stort Navigation which has limited width. With careful design, it should be possible to improve provision for both cyclistrs and pedestrians.

Careful design would also be needed at the Dane Street / Station Road junction to accommodate vehicles turning left at the bottom of the ramp from the railway bridge and protecting cyclists undertaking the reverse manoeuvre. A contra flow cycle lane on Dane Street would lead to a potential route north towards Jackson's Crossing

Potter Street

Potter Street is a traditional high street. It has a narrow, single lane, one way carriageway with loading bays or buildouts for street furniture and trees. Traffic levels are light and speeds are slow. However, the street is sufficiently narrow that motor vehicles cannot easily and safely overtake cyclists.

One option would be for Potter Street to form part of a gyratory for cyclists with the return route being via Bridge Street, The Causeway, Dane Street and Station Road but there are some problems with such a route and in any case cyclists were observed cycling against the flow using both the carriageway and footway. We therefore consider that two-way cycling would be preferable and there are examples of this on streets of similar widths. Note that there is more width at the ends of the road..

We investigated Bridge Street – The Causeway - Adderley Road – Riverside as a southbound alternative to Potter Street. The route would require a contra flow cycle lane on Adderley Road and Riverside. The issues are:

- Bridge Street
- The roundabout at the junction of Bridge Street and The Causeway.
- Making the right turn from The Causeway into Adderley Road
- Capacity implications along Adderley Road
- Design of Riverside/Station Road junction

River Stort Towpath to London Road/Tanners Wharf

Cyclists already use the towpath alongside the River Stort and in consultations people see it as a potential cycle route even though over in the town centre it is mostly less than 1.4m wide. There isn't space to widen the path over the whole length, particularly in the section between the Causeway and the Millennium Bridge and also at its junction with London Road.

The current surface is a bumpy hand laid bitmac but this would get replaced in any improvement works. At the southern end of this section, the path meets London Road within the signalled area of the Tanners Wharf junction. This signals here have a pedestrian stage into which the exit of the path could be added. The southern end of the path would need to be raised as the section where cyclists sit before moving out into London Road needs to be horizontal.

There is an issue of user conflict on paths like this. While we can find examples of narrow paths that work safely, wider paths produce significantly less conflict than narrow ones. While on site we saw minimal conflict although the amount of cycling was extremely low. If the route became a popular cycle route then circumstances would be very different.

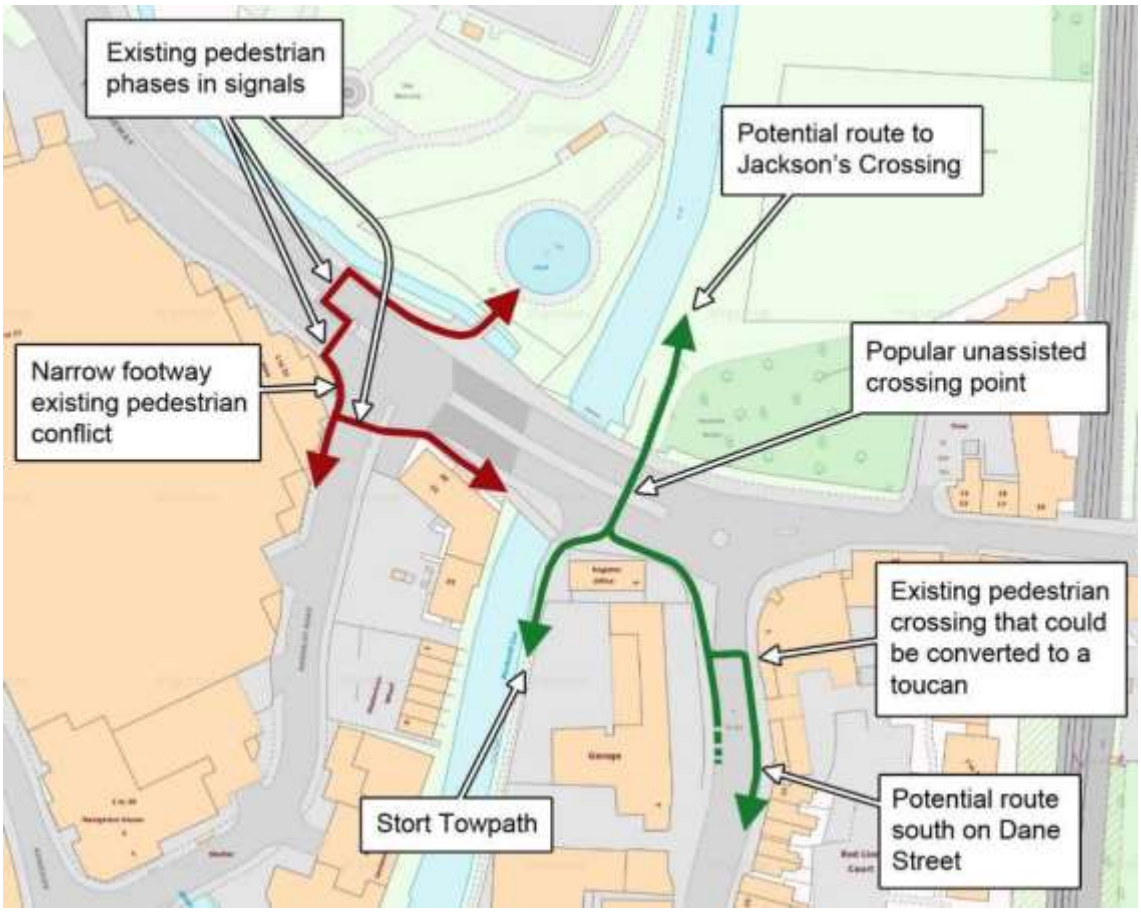
Dane Street

Dane Street is a wide two lane one-way southbound road. There is ample width for a cycle lane in both directions. The road almost directly links to the path in Sworders Field that links to Jackson's Crossing.

The Causeway Crossings

Adderley Road, the Towpath and Dane Street all end at The Causeway. Any route using these routes needs to cross The Causeway, and in the case of the Bridge Street - Adderley Road – Riverside route, travel along it as well. There is one signalled pedestrian crossing over the

Causeway contained within the Adderley Road signals. There is also a popular informal crossing point opposite the Register Office. At certain times of the day more pedestrians and cyclists use this crossing than the signalled one. The crossings and the routes leading to them are shown on the diagram below.



Station to South Street via footbridge

This area is currently being redeveloped. We assume that there will be a route across it. Such a route would make a southern extension of Dane Street and lead to a section of towpath that could be widened. It would also connect to the millennium footbridge over the Stort Navigation and thence to South Street.

South Street and London Road to Pig Lane

South Street, South Road and London Road are a logical extension south from Potter Street. As much traffic on the B1383 uses London Road, traffic levels on South Street and South Road are relatively light compared to further south. South Street is narrow, with little room for cycle facilities and the first call on any space is probably for widening the narrower (east side) footway. Traffic could be slowed a little by removing the centreline markings.

South Road is wider but there is still little that can be done in the way of cycle facilities beyond removing the centreline marking. It ends at a roundabout junction with London Road. Roundabouts are not particularly safe for cyclists particularly if vehicle speeds are high, however there have only been two recorded pedal cycle injury crashes here in the last 20 years (both slight) and this reflects the fact that traffic speeds are relatively low.

There are two routes through this junction where general traffic does not need to slow: the left turn from London Road into South Road northbound and that from London Road into London Road southbound. Speeds could be reduced by:

- Increasing deflection
- Reducing traffic lanes on the London Road northbound approach from two to one

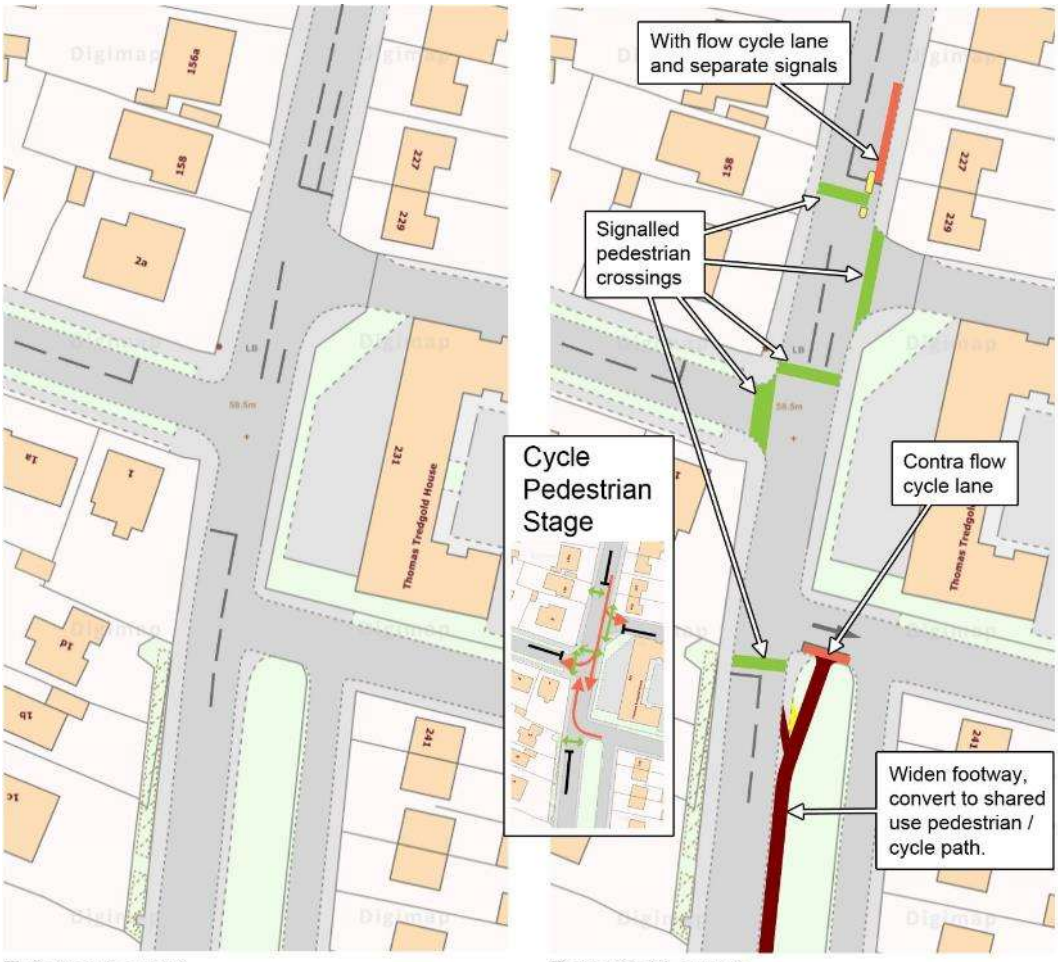
The next section is critical to any cycle route along London Road. The carriageway width between the roundabout and the signalled junction with Thorley Hill is around 9.3m, albeit with narrow footways. This gives ample room for a cycle lane in each direction and two lanes of traffic in between. However, except for two lane approach to the Thorley Hill signals, the additional width is used by a line of parked vehicles along the east side. This would have to be removed to create a cycle lane.

At Thorley Hill the carriageway of London Road narrows and the section between Thorley Hill and Burley Road represents a pinch point.

South of Thorley Hill there are two options for southbound cyclists:

- Along London Road
- Procter Way

Northbound cyclists using the Proctors Way option would rejoin London Road at Burley Road meaning that Burley Road would need to be added to the signals. As there is inadequate room to separate cyclists spatially they would need to be separated in time. An option would be to make Burley Road one way away from the junction with a contra flow lane westbound.



Existing Layout Potential Layout

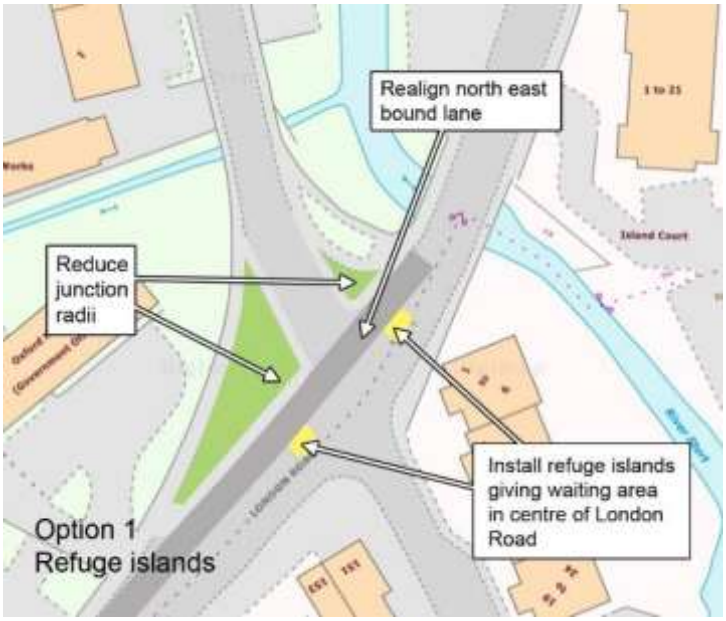
South of Burley Road London Road climbs in a cutting. The east side footway needs to be wider to be converted into a joint use pedestrian cycle path bit it may be possible to widen it.

We understand that the Bishop's Stortford High School is to be moved. When this occurs the signalled pedestrian crossing near Mitre Gardens should be abolished and replaced by a toucan crossing at the end of Bishop's Avenue thus making a connection between the path on London Road and residential roads south west of here.

Proctor Way avoids the cutting on London Road however cyclists would have to use Pig Lane to rejoin London Road and it cannot directly connect to Bishop's Avenue.

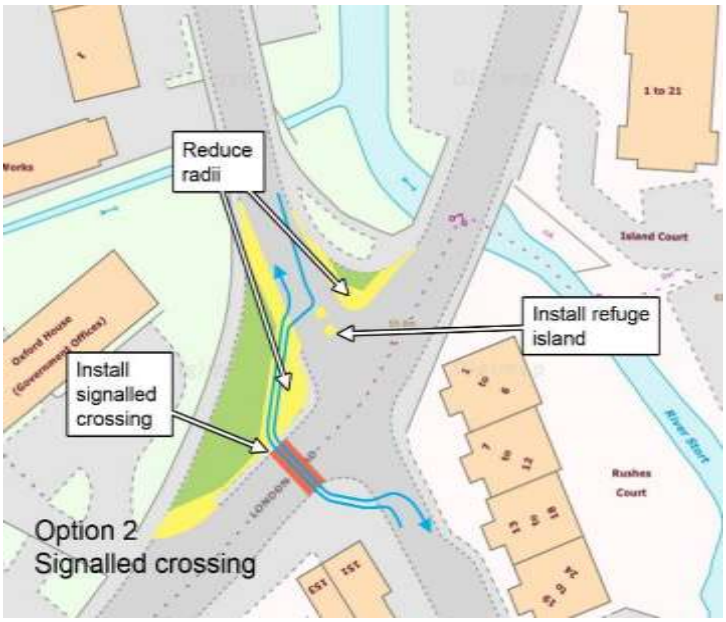
Southmill Street and Twyford Road to Pig Lane

An alternative route avoiding London Road is to use South Road, Southmill Road and Twyfordbury Lane. Southmill Road is a quiet residential street with parking on one side eminently suitable for cycling. And issue comes with the crossing of London Road. In the past 20 years there have been three recorded cycle injury crashes, all slight, but no pedestrian ones. Two options to improve the crossing are shown below.



Option 1

Reduces radii and provides two refuges islands giving a clear space in the middle of London Road allowing cyclists to cross in two stages



Option 2

Reduces radii
Provides toucan crossing

The second issue with the route is the level crossing between Twyford Road and Twyfordbury Lane. This crossing is available for pedestrians and cyclists (dismounted). South of the crossing Twyfordbury Lane is an extremely quiet lane leading to Pig Lane.

Stort Towpath London Road to Pig Lane

A final option between Bishop's Stortford and Pig Lane is the Stort Navigation towpath. The London Road end is offset from the section of towpath between London Road and The Causeway. The signals at Tanners Wharf/London Road can be amended to assist southbound journeys but not northbound ones. The footways linking the two parts of the towpath are also narrow. This is also a path leading to Mill Street and thence Southmill Road.

The towpath is very narrow. The surfaced path varies in width but is around 1m within a 1.5m-2.0m wide space and so could be widened. Although narrow and slow to use, the ride along the towpath is extremely pleasant. The towpath changes sides at South Mill lock using the lock end bridge, with low clearance around the end of the gate arm. There are sections with limited visibility due to encroaching vegetation.

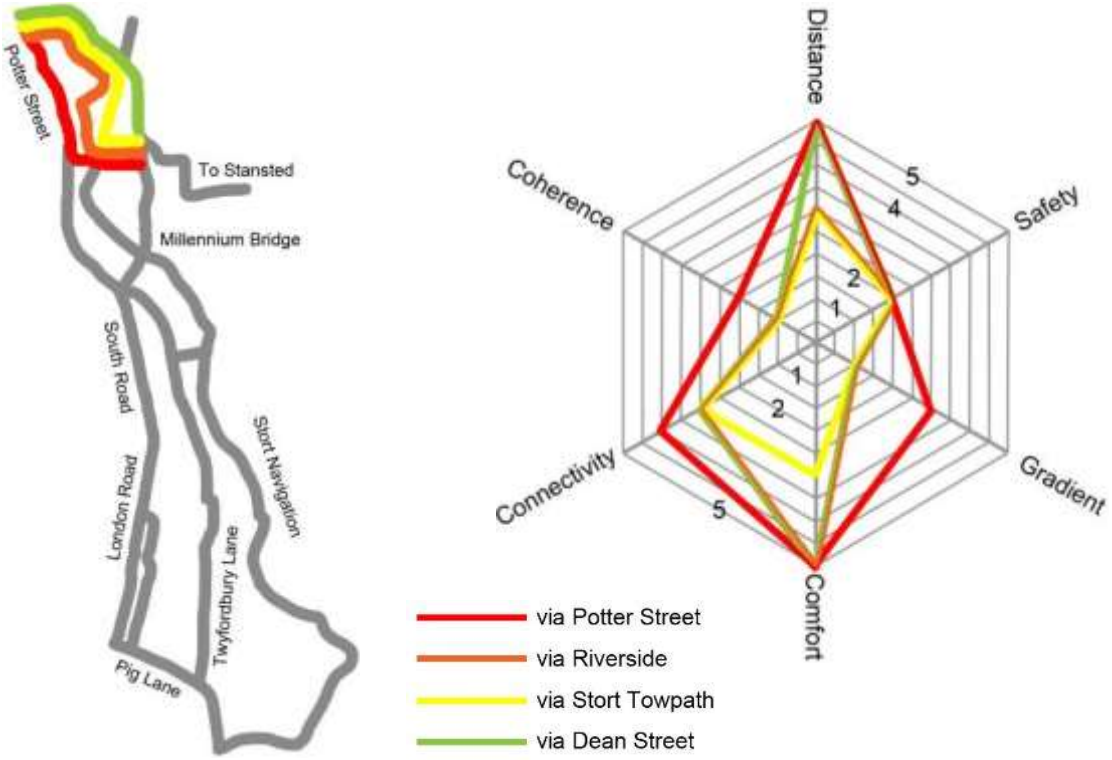
Analysis

As with the routes between here and Stansted Airport, the routes in Bishop's Stortford and south out of it have very different characteristics. London Road is direct but busy while the Stort towpath is winding but there are few other users.

There are also multiple destinations at either end. In the town centre a cyclist might want to shop in Potter Street, they might want to ride northwards along the river valley or they might want to go to Stansted.

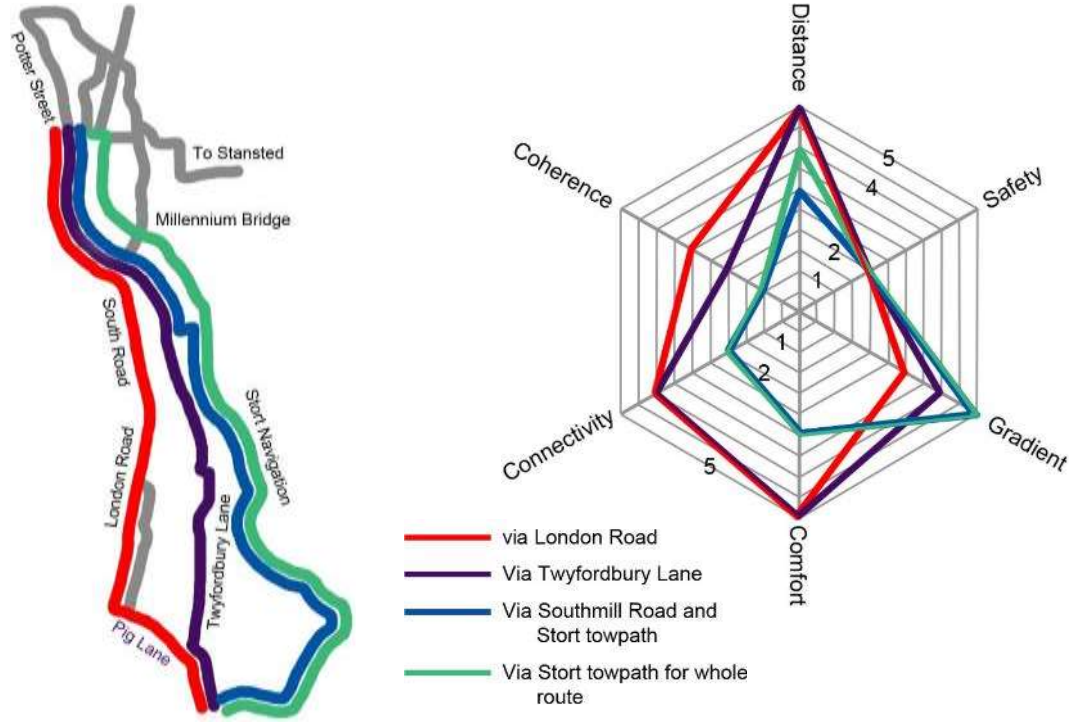
In the south we have stopped the routes at Pig Lane but users might want to continue south along the B1383 or alternatively they might want to use the towpath.

Bishop's Stortford Station to north end of Potter Street



A route via Potter Street and Station Road scores best. It is the shortest, most connected and the gradient is least.

Potter Street to the Stort Navigation towpath at Pig Lane

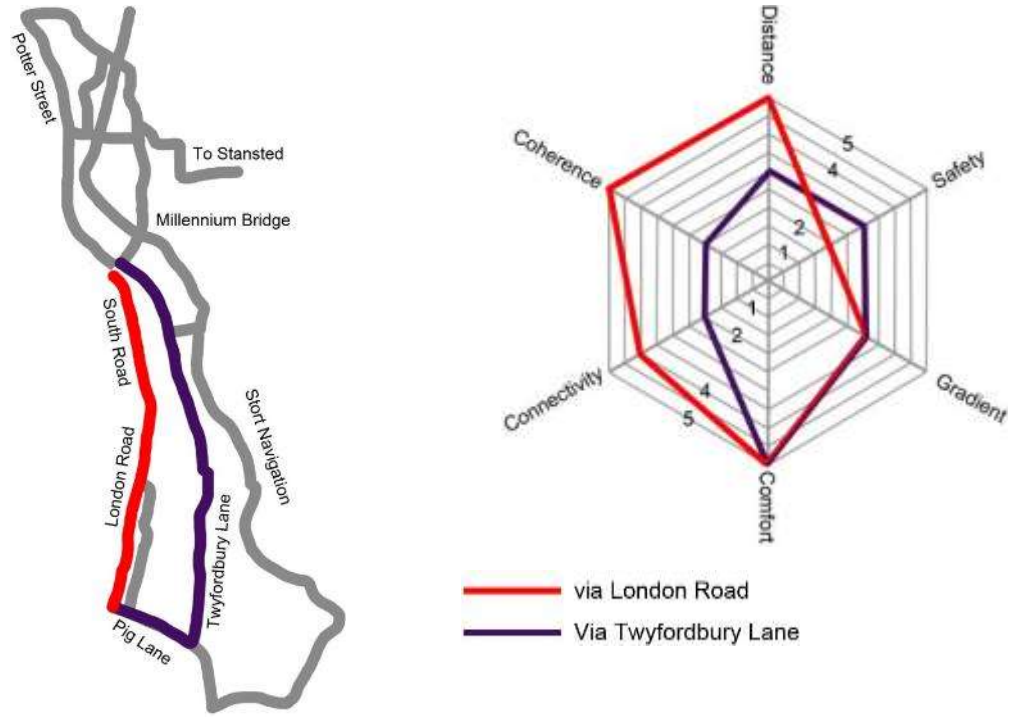


This route runs from Potter Street to the Stort Navigation (continuing to Sawbridgeworth).

London Road and Twyfordbury Lane score best on distance. On the other hand because the London Road / Pig Lane junction is on a rise, London Road scores worst on gradient. The towpath is flat but is less well integrated into the surrounding area.

Safety needs an explanation. One would expect the towpath based options to be safer and over most of their length they are safer in crash terms. However they are unlit and away from passive surveillance. So the score during daylight is very different from that in darkness.

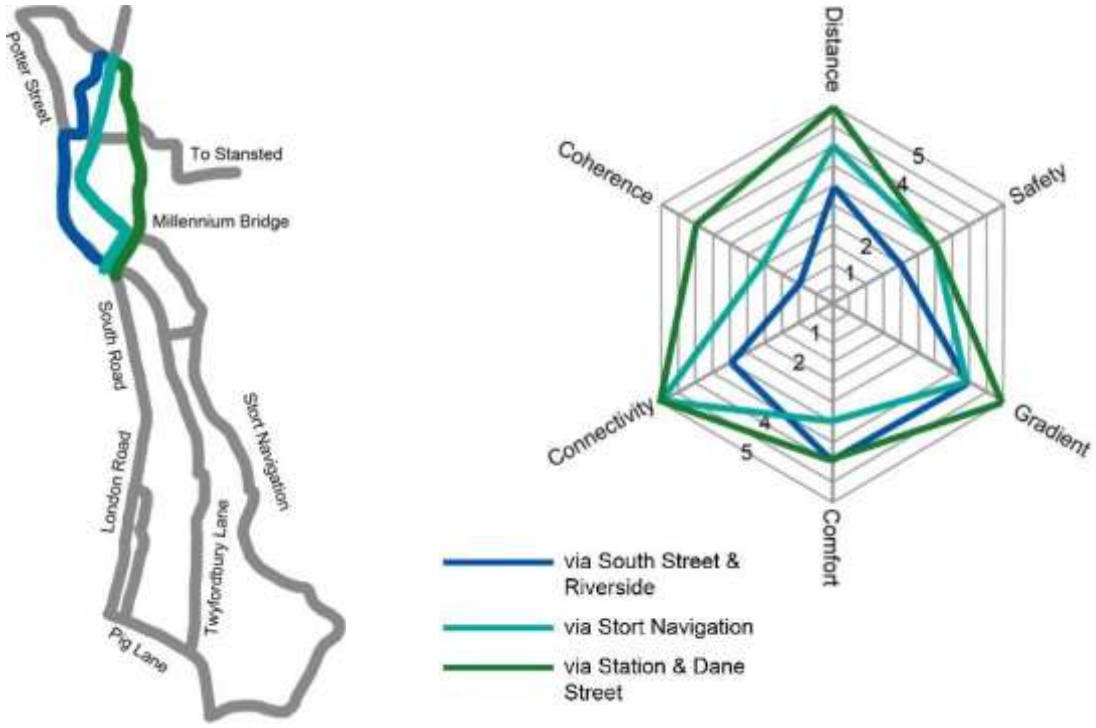
Potter Street to London Road / Pig Lane to continue to Sawbridgeworth



We have only compared the section south of the South Road / Southmill Street junction. North of that, while using the Stort towpath is technically safer in traffic terms it is longer than using South Street and a cyclist willing to cycle London Road would not want to deviate. Over the section under consideration London Road is shorter, easier to follow and connects to surrounding streets better. Twyfordbury Lane is safer because it does not include the roundabout. It is however unlit. London Road is the better option for this route.

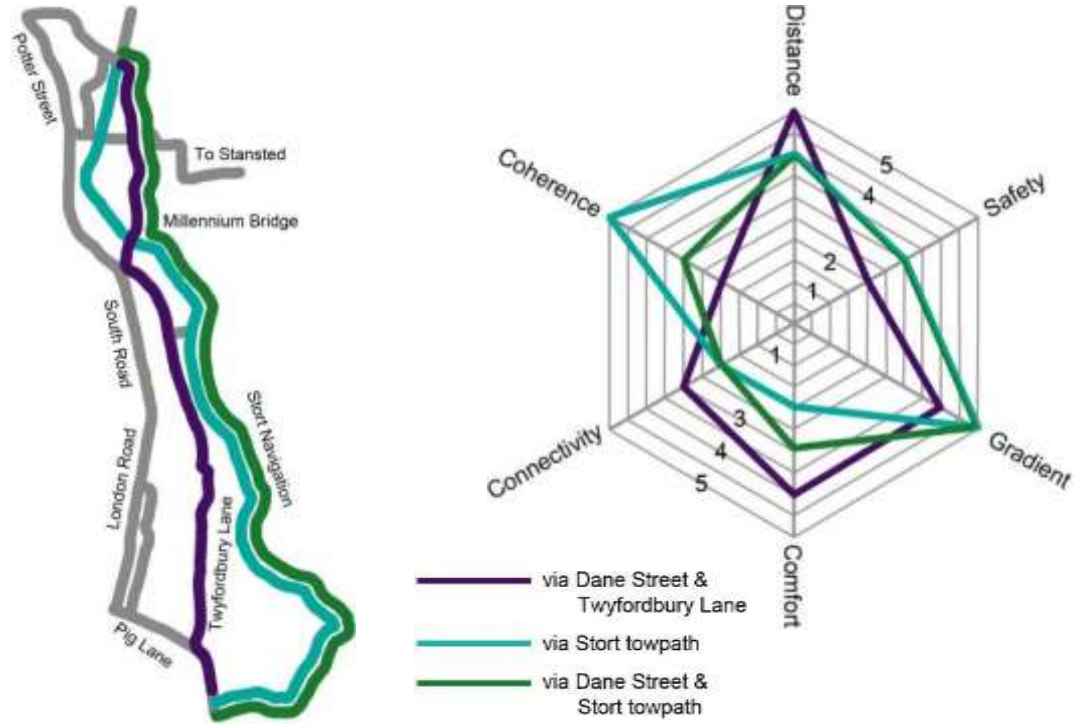
London Road to Castle Gardens / Sworders Field and towards Jackson's Crossing

From the above analysis London Road is the better option between the London Road / Pig Lane junction and the town centre. Hence the next piece of analysis only considers the section north of the South Road / Southmill Road junction.



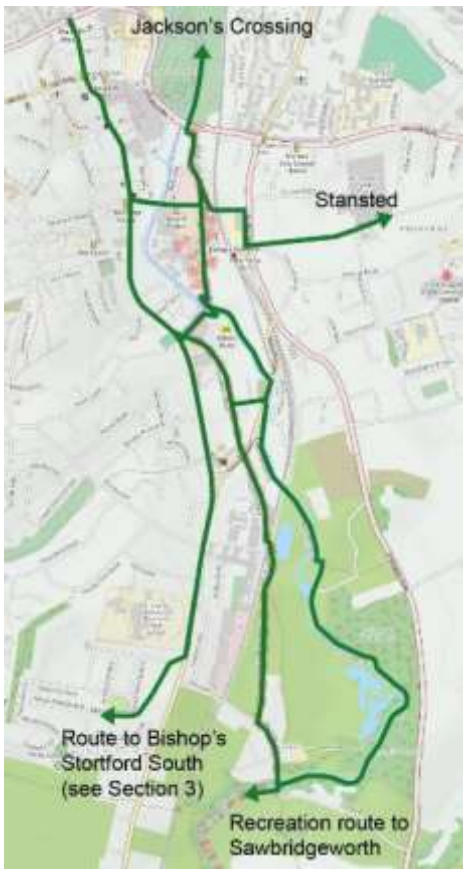
The direct route from the South Road / Southmill Street junction wins on all counts. This means that the best route from London Road / Pig Lane is via London Road, the Millennium Bridge and Dane Road. The proviso is that there is a reasonably direct, safe and coherent route across the Station car park and redevelopment area.

The final section considers the combined routes between Castle Gardens / Sworders Field to the Pig Lane / Stort towpath junction.



The route via Twyfordbury Lane is the shortest, most comfortable and most connected, although the number of turns make it less easy to comprehend than along the Stort towpath.

Conclusion and recommendations



Certain routes score badly. These are:

- Riverside
- Northern part of the Stort towpath

However, other sections score well:

- Potter Street
- Dane Road and routes across the Station car park
- South Road and London Road
- Twyfordbury Road (as opposed to the Stort towpath)

This leads to a core network (shown left):

- Station Road (to Stansted)
- Potter Street -South Street -South Road - London Road
- (Jackson's Crossing) Dane Street - Station Development - Southmill Road - Twyfordbury Lane
- Recreation route Millenium Bridge - Pig Lane via Stort Navigation

Measures required are:

- Reduce the west bound carriageway of The Causeway immediately west of Dane Street to a single lane, widen southern footway and central reservation, provide dropped kerbs and tactile markings to make an advisory crossing. At a later date as flows increase either provide a parallel crossing (zebra plus cycle crossing) or a toucan crossing
- Make the southern footway of The Causeway between the new crossing and the proposed toucan on Dane Street to unsegregated pedestrian and cycle use
- Dane Road. Provide contra flow cycle lane. Convert signalled pedestrian crossing at north end to a toucan
- Station Road - provide contra flow cycle lane
- Station Road / Stort Navigation, reduce carriageway on bridge to 4.5m (3m westbound traffic + 1.5m eastbound cycle lane and widen the southern of the footways to 2.2m
- Potter Street. Permit cycles to travel contra flow. Amend junctions at either end to suit.
- Ensure there is a route through the station site between Dane Street and the Millennium footbridge
- Remove centreline markings on South Street and South Road
- London road / South Road roundabout: reduce the number of lanes on the northbound approach from two to one and increase deflection
- London road: investigated whether the parking along the east side can be removed
- Alter the junction of London Road and Thorley Hill to
  - Add Burley Road
  - Add a full pedestrian stage
  - Add cycle facilities
- London Road – Thorley Hill to Bishop's Avenue. Widen west side footway by
  - Taking 0.75m from the carriageway and
  - Cutting into the bank on the east side of the road
- Provide toucan crossing at the Bishop's Avenue / London Road junction and remove the crossing at Mitre Road when the High School shuts
- Reduce area of carriageway at London Road / Southmill Road and provide improved crossing facilities
- Add the Stort Navigation towpath into the London Road / Tanners Wharf signals
- Resurface and widen Stort Navigation Towpath to at least 1.5m
- Provide full direction signing

5.4 Section 3: Bishops Stortford South

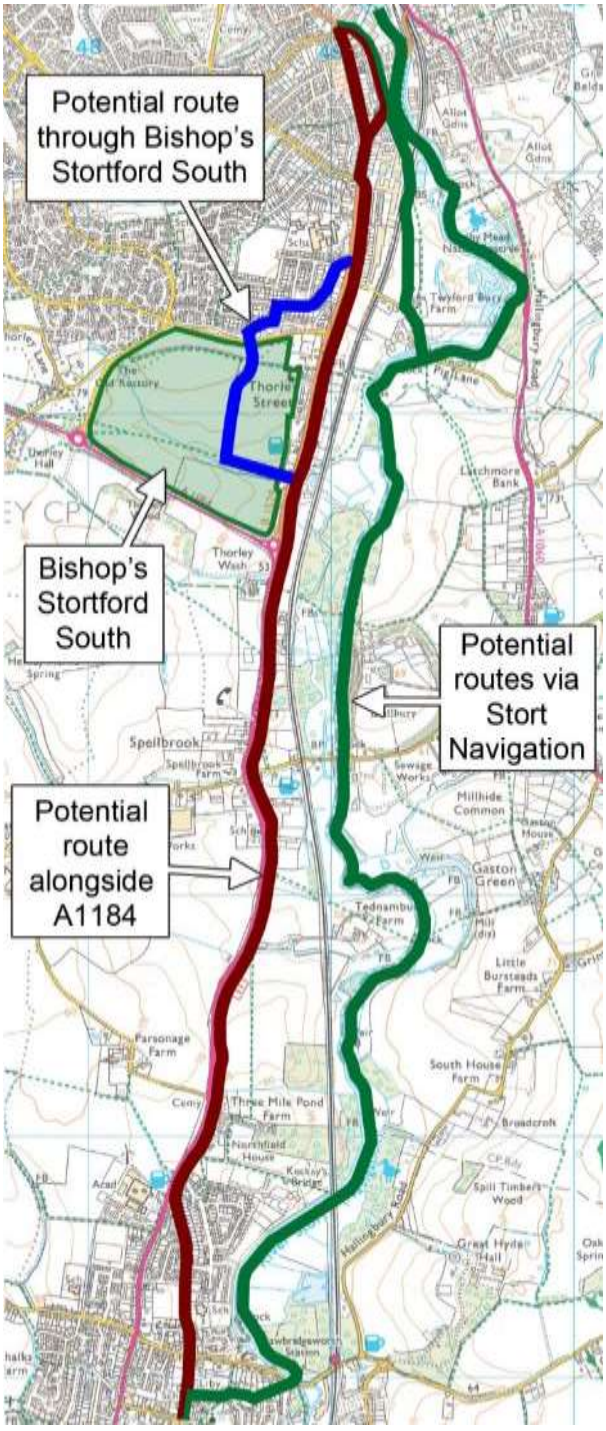
Overview

This section focuses on the section of route between the centre of Bishop's Stortford and the Bishop's Stortford South development, as shown in Plan xx. There are two basic route alignments between the southern end of Bishop's Stortford and the B3183/A1184 junction.

Via Bishop's Stortford South development (blue)

An alternative option using the B1383 Thorley Street (red)

Plan xx also shows (in green) the possible alternative alignment for Section 4. This is discussed in 5.5 below.



Plan xx. Cycle route options – Section 3

Along much of the A1184 there is a continuous footway along the east side of the A1184 which could be widened and converted to joint pedestrian and cycle use. South of Spellbrook there is a cycletrack along the east side which the converted footway could link to. The main issue with the potential converted footway is that there are pinch points where both the carriageway and footway are narrow.

The section north of the B1383/A1184 junction is problematic. Along Thorley Street there are sections of footway where there is just over 1m between the property boundary and the kerb. However, parallel to Thorley Street is a potential new route through the Bishop's Stortford South development, with possible connections to the north and east of the development.

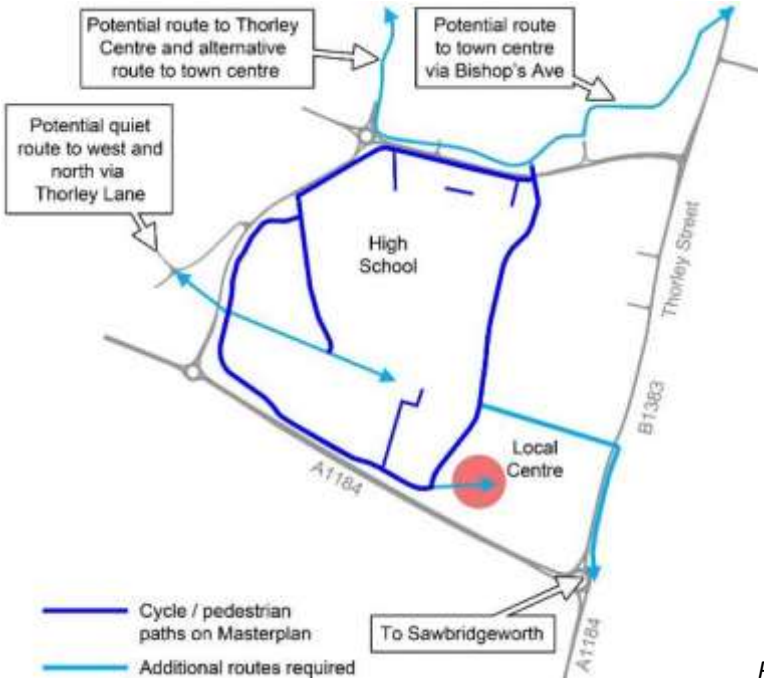
Our assessment compares section 3a via Bishop's Stortford South with 3b along Thorley Street.

Routes and Links

Route via Bishop's Stortford South development

The Bishop's Stortford South development site lies north west of the A1184/Thorley Street junction. As well as housing it will contain three schools and a local centre with both retail and employment.

The current masterplan received outline planning approval earlier in 2019 (with detailed approval for Phase 1 comprising the northern part of the site). It provides a basic circuit of cycle / pedestrian paths with an access to the rest of Bishop's Stortford to the north. Two new Toucan crossings of Whittington Way are included in Phase 1.



Plan xx. Bishop's Stortford South

Our assessment is that the site is poorly connected for cycling to the Sawbridgeworth direction and to the west. While the outline planning application indicates a route to the town centre, few details are provided. Connectivity of the site could be improved by:

- Developing the route to the town centre in more detail
- Creating a link to Sawbridgeworth

This would increase the provision both for residents travelling to work and school by cycle (including those commuting longer distances by train) and people working on the proposed industrial park on the south side of the development. It would also increase access to the surrounding rural areas.

Route to town centre

A possible route between the development and the town centre could run via Bishop's Avenue, including a new toucan crossing over London Road and a cycle path along the east side of London Road.

The potential route leaves the B1383 London Road at Bishop's Avenue. As the potential shared footway along London Road is on the east side there will need to be a toucan crossing here. When the Bishop's Stortford High School is moved to Bishop's Stortford South the existing crossing serving the school can be removed. Bishop's Avenue is a quiet road eminently suitable for cycling. There is a gradient but it is gentle and even.

At Whittington Way a toucan crossing (agreed in the outline planning permission) leads to a shared use path along the west side of the spine road through the development. The shared path will serve the schools and the local centre. Just north of the local centre the proposed route runs east to the B1383 Thorley Street.

Note that an alternative route could run along Thorley Lane (where it parallels Whittingham Way) to the London Road/Whittingham Way junction and along the east side footway to Pig Lane and Burleigh Road. There is a third option contained in the Local Plan of a route via Villiers sur Marne Avenue and Havers Lane

Creating a link to Sawbridgeworth

A toucan crossing of Thorley Street would give access to the development from the south. The cycle path paralleling the A1184 bypass could be extended south east to the Thorley Street / A1184 roundabout and from there along the east side footway towards Sawbridgeworth. This width does not give enough room for light segregated cycle lanes particularly past islands, even if the carriageway is reduced to 6.1m. Hence we proposed that the cycle route should run along the existing footway which can be widened and converted to joint pedestrian and cycle use. This should be designed to the appropriate dimensions for cycling (as set out in IAN 195) rather than as a footway.

A variant on this route would be for the new path to include a link south to the industrial area. This would require the proposed toucan crossing of Thorley Street to sited further south, just north of the roundabout junction with the A1184.

Within the development

The Local Centre will be fed from the A1184 via a roundabout and traffic levels are likely to be high. It would therefore be preferable to provide an alternative route by converting the footpath north of the local centre to a cycle route with an all-weather surface and providing a toucan crossing where it joins Thorley Street.

If buses that currently run along Thorley Street remain on the road after Bishop's Stortford South is constructed, bus stops could be moved closer to this crossing to reduce the distance to public transport.

B1383 London Road & Thorley Street

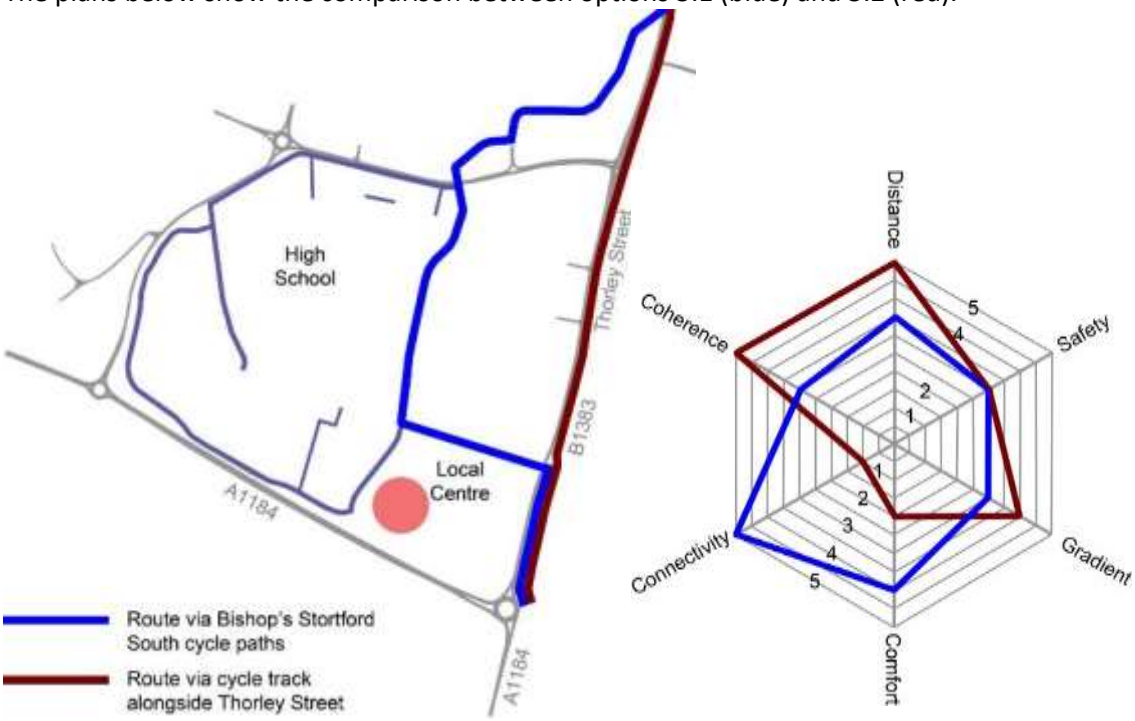
It would be very difficult to provide a more direct route along the B3183 Thorley Street between Bishop's Avenue and the A1184 to a reasonable level of quality. The carriageway varies in width but is around 7.6m wide. There are some sections with hatching and the occasional right turn lane and refuge island. The speed limit is mostly 40mph.

There is an intermittent footway on the west side and a continuous but very narrow one on the east. Although this could be widened by cutting back banks and vegetation to the highway boundary and judicious carriageway narrowings, there are some pinch points where it would be very difficult to achieve a wider path.

South of Rose Cottage the verge widens but there is one pinch point at a culvert, which could be widened.

Analysis

The plans below show the comparison between options 3.1 (blue) and 3.2 (red).



Plan xx. *Route options 3.1 & 3.2 – Bishop's Stortford South*

The option along the B1383 scores well on Distance, Gradient and Coherence while 3a scores better on Comfort and Connectivity. The B1383 route is a straight line, hence it Is more direct and easy to understand, and it is also flatter.

However, the route 3a via Bishop's Stortford South route has more space to be built to higher standards. Most importantly it connects to important destinations for cyclists particularly the proposed High School.

The total of the scores for the Bishop's Stortford South route is 21.5 and the B1383 route 20. **Hence the preferred route option is 3.1 through Bishop's Stortford South.**

In addition, the Bishop's Stortford South site has the potential to be a hub of radiating routes. The connection from the site to the west would also shorten routes between Sawbridgeworth and western and northwestern parts of Bishop's Stortford.

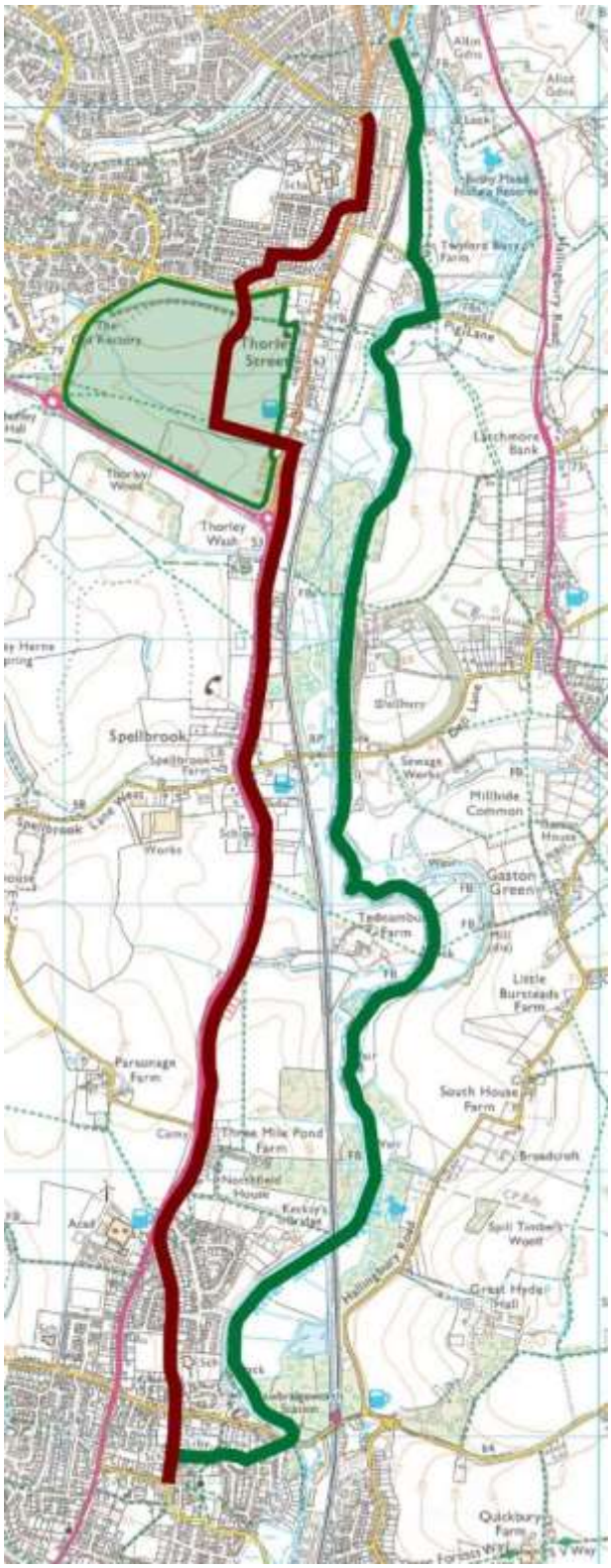
Conclusions and recommendations

- A detail plan for the preferred route 3.1 between the Bishop's Stortford South development and the centre of Bishop' Stortford via Bishops Avenue should be drawn up, including a crossing of the B1383.
- The cycle network set out in the outline planning approval for the Bishop's Stortford South development should be developed in more detail to using current best practice guidance (e.g. LCDS) to ensure that it is of a consistent high quality.
- To provide a link to the development from the south, a new crossing of the B1383 Thorley Street is needed, plus a short section of path between the crossing and the A1184/B1383 junction. This crossing should be sited either to the east of the proposed east-west track in the development, or further south with a new connection to the industrial area in the development.

5.5 Section 4: Bishop's Stortford – Sawbridgeworth

This section considers routes from Bishop's Stortford to Sawbridgeworth. It compares the western route via Bishop's Stortford South and the A1184 to the eastern route using the Stort Navigation towpath.

Overview



Plan xx. *Route options, Bishop's Stortford - Sawbridgeworth*

Routes and links

Western route (A1184)

This route continues south from the route through Bishop's Stortford South described in the previous section. South of the B1383 / A1184 junction to Spellbrook Lane (approximately 1 kilometre) the continuous footway is on the east side of the road. It varies in width between 1.3m and 2.1m.

The carriageway is mostly around 7.6m wide and there are sections with a verge behind the footway. There is not enough room to construct a 2.5m wide cycle/pedestrian path with a 0.5m buffer over most of the length and there are likely to be some pinch points.

South of Spellbrook Lane there is an existing cycle route along a shared use footway on the east wide of the A1184 south towards Sawbridgeworth. The northern section is a converted footway and the southern section is a cycletrack. The converted footway has two breaks in it with "Cyclists Dismount" signs.

The first is immediately south of Spellbrook Lane there is a stream or drain and the bridge over it has a footway with limited width (not measured). This bridge could be widened.

The second break is opposite Spellbrook School where the footway on the opposite, school, side has been improved but not the "cyclepath". There is an informal crossing south of the school indicated by dropped kerbs and tactile paving located just outside the 30mph limit. There is no crossing indicated north of the school. There is a footway from Spellbrook Lane (west) to the school on the west side of the A1184 that could be converted to joint use.

The cycle track south of Spellbrook School is around 2m wide with a verge between it and the carriageway. Where sections of the original A1184 alignment are used as laybys the cycle route runs through these. The path is pleasant to use and the only upgrades required are clearer definitions of route through the laybys, especially northbound (against the prevailing traffic flow).

At Sawbridgeworth the cycle track ends at an alley that leads to Bullfields and Knight Street which provide a route into the centre of the village. The route into Sawbridgeworth is covered in detail in both the main section of the report and the Sawbridgeworth Local Cycling and Walking Investment Plan

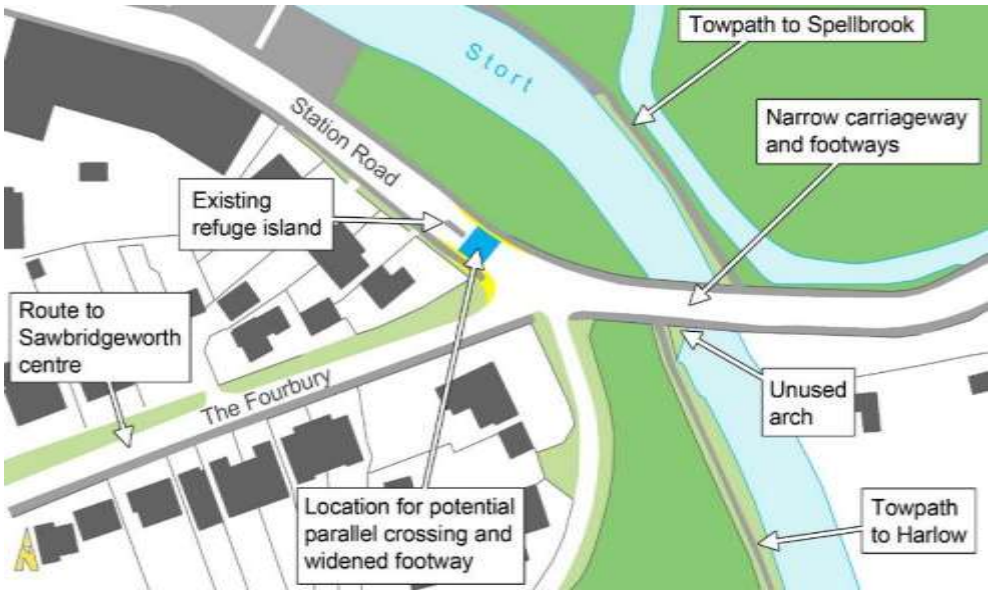
Eastern route (Stort Navigation)

The second option to a route between Bishop's Stortford and Sawbridgeworth is via the Stort Navigation Towpath. The existing path is narrow, around 0.15-0.2m, but there is room to widen it to 1.5-2.0m. There is one footpath link to Thorley Street leading to the north end of the Bishop's Stortford South site which crosses the railway via a footbridge and one footpath to the A1184 which crosses the River Stort on a wider bridge but crosses the railway by an accommodation crossing.

The junction with Dell Lane, Spellbrook, has good visibility but the towpath could be raised so that cyclists set off across the road from a level section of path rather than uphill as at present.

This length of the towpath has some issues. At a number of points there are places where a person cycling might ride into the river as the path makes a kink at a point where users might be concentrating on other things. One example is shown below. There is also a section with residential boats where the available width is 2.0m (also shown below).

There are two key pinch points, at Sawbridgeworth Lock at the footbridge immediately south of the railway.



Plan xx. *Station Road, Sawbridgeworth*

Options for crossing the Stort are:

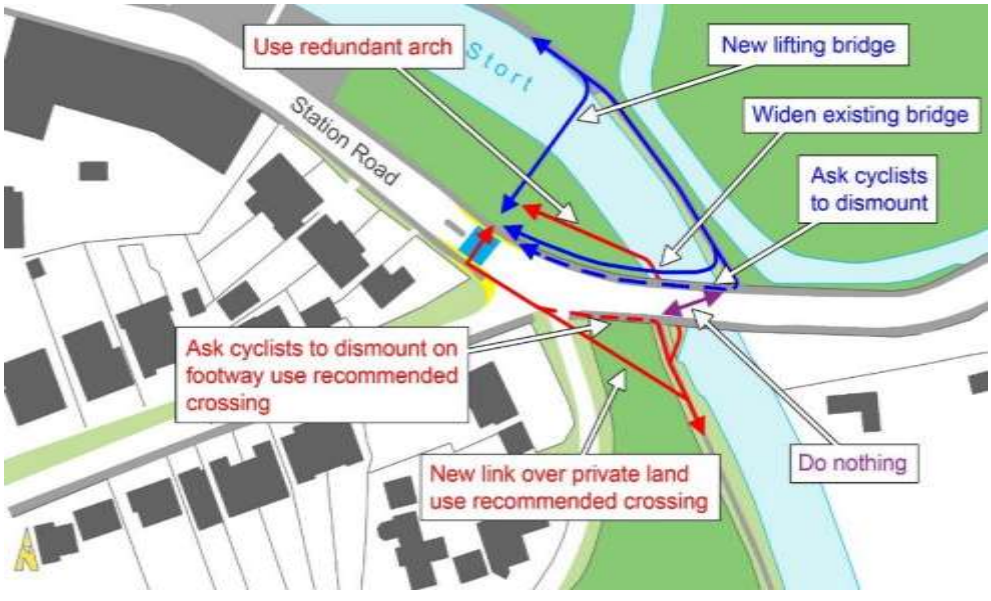
- Use existing north side footway (cyclists to dismount)
- Widen existing north side footway by extending bridge deck
- Provide new traditional canal lifting bridge north of Station Road in line with parallel crossing

Options for crossing Station Road are:

- New parallel cycle pedestrian crossing and south side footway (cyclists to dismount)
- New parallel cycle pedestrian crossing, use short length of private road and link path through woodland (private land)
- New path on west side of Stort utilising redundant arch

Options for linking the Stort towpath (north) to The Fourbury depend on those chosen for the other two crossings.

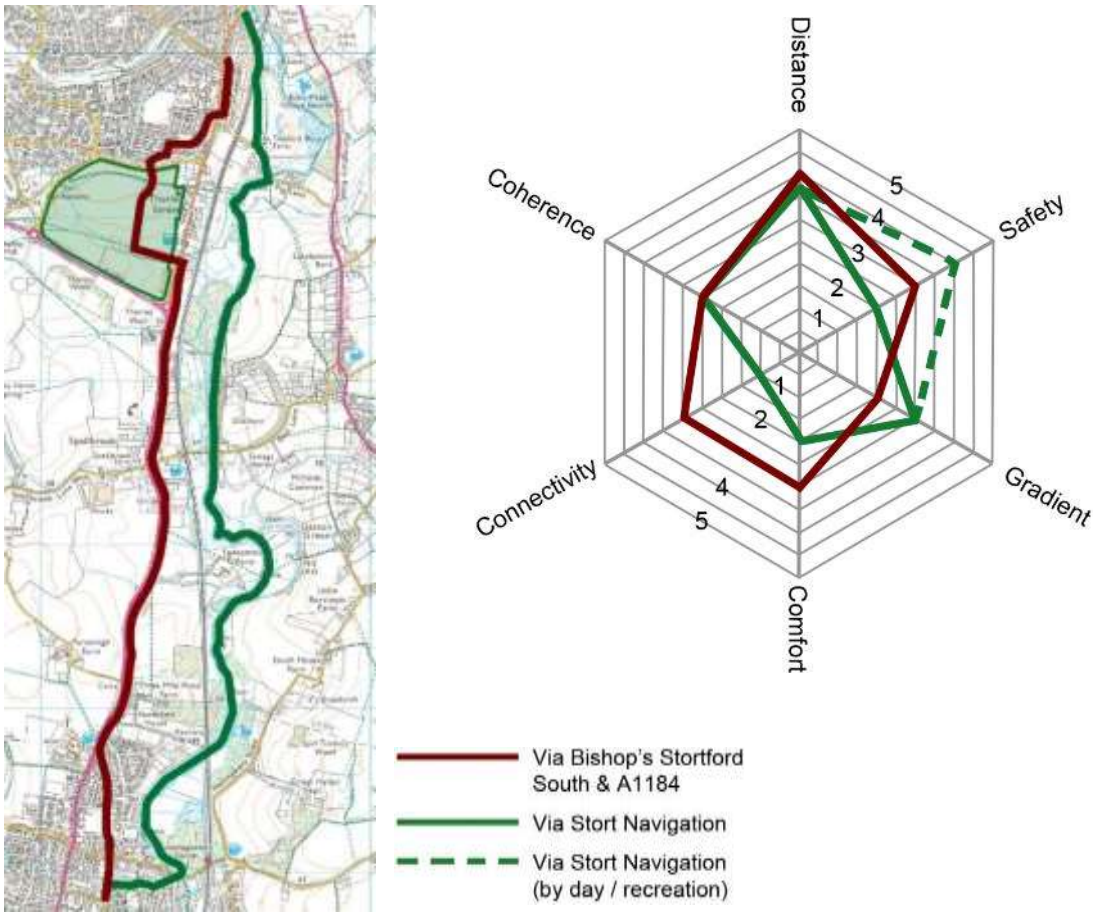
The options are shown on the plan below.



Plan xx. *Route options, Station Road, Sawbridgeworth*

Analysis

Bishop's Stortford South to Sawbridgeworth



A cycle/pedestrian path alongside the A1184 scores better than a route along the Stort towpath. It is slightly shorter and far better connected into the urban areas. While the towpath is easy to follow, the route from the towpath into the centre of Sawbridgeworth is more convoluted and will require investment at Station Road.

However, it is important to note that the towpath is the safest option during the day for recreational use but as it has no lighting and lacks passive surveillance it scores worse overall.

As noted in Section 2, the A1184 through Thorley Street has restricted width. The alternative is a slightly longer route via Bishop's Stortford South. While this involves a hill it would be safer, more comfortable and connectivity is far better. It would also directly serve two schools. Coherence is slightly worse than a simple route along the B1383 / A1184 simply because of the extra turns involved but is no worse than the towpath route.

Conclusions and recommendations

The Stort towpath route is an attractive and pleasant route to ride on particularly during the day. However, for general purpose cycling a route along the A1184 and through Bishop's Stortford South would be more direct, although with some gradients.

However, the biggest benefit of a route along the line of the A1184 is its much better connectivity with greater potential for utility cycle trips. It serves far more areas of housing, schools and shops. It also has more potential for linking to additional routes and the Bishop's Stortford South area could be developed in the future as a hub of routes, south to Sawbridgeworth, west to Bishop's Stortford Southern Parkland County Park, northwest to the Thorley Centre and north to central Bishop's Stortford by at least two routes.

There are two potential routes between Bishop's Stortford and Harlow - the A1184 and the Stort Navigation towpath. These are very different sorts of routes and are not really alternatives from which a best route is chosen. The towpath generally scores better than the A1184 on safety during the day but less well on length and it also on connectivity, as for the most part it is separate from the urban areas where people might want to go.

The towpath would be an easier route to implement and could be implemented in stages. On the other hand as some sections of the path could only be around 1.5m wide there is a limit to the path's capacity. A staged approach could be adopted where the Stort Navigation is used to encourage people to cycle while a route along the A1184 is developed.

The A1184 and Thorley Street / London Road have narrow carriageways and footways. Installing a cycle pedestrian path will involve a careful consideration of available width and in places there will be a compromise on lane widths or the need to widen the carriageway on the west side. The potential route through Bishop's Stortford South avoids a particularly narrow section as well as enabling the route to serve the proposed local centre and schools. It should also be possible to make a link towards the west of Bishops Stortford.

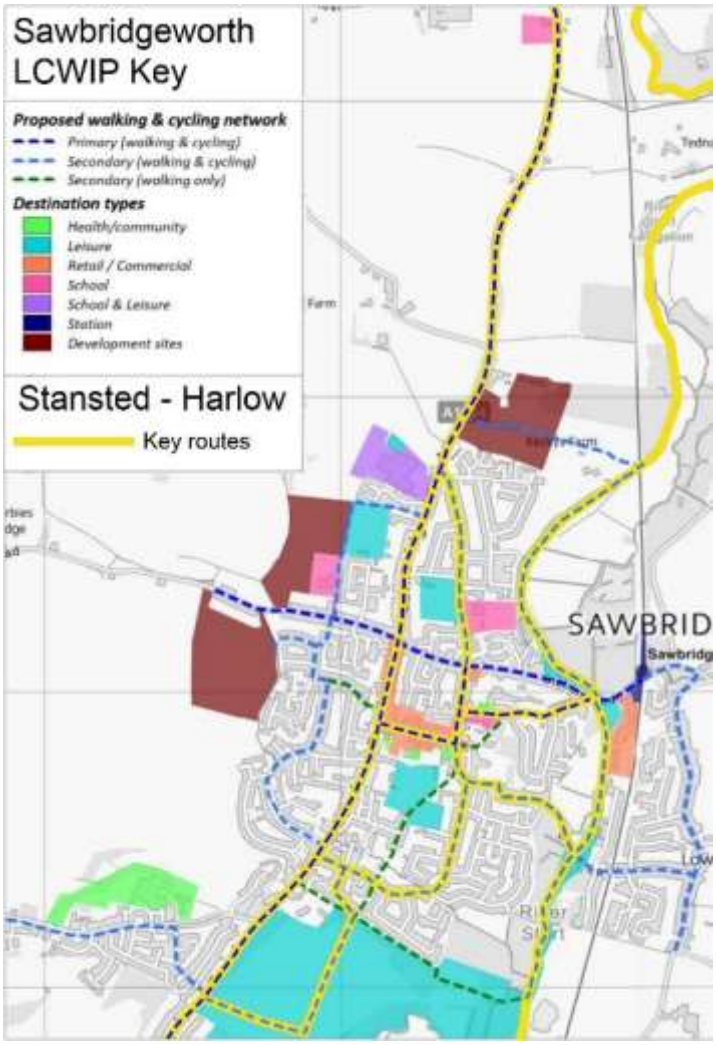
Recommendations:

- A good quality path with adequate width (in combination with low flow roads) should be provided on the A1184 between Bishop's Stortford and Sawbridgeworth.
- Move the informal crossing south of Spellbrook School into the 30mph zone (or extending the zone southwards) and installing a gateway feature including a refuge island (width 2.5m) to improve the crossing
- Providing a crossing with refuge island north of the school. The carriageway will need widening but there is space on the east side
- Converting the west side footway to joint pedestrian and cycle use between Spellbrook Lane and the improved crossing south of the school.

5.6 Section 5: Sawbridgeworth

Overview

This section is based on the LCWIP produced for Sawbridgeworth in 2018. This proposed a hierarchy of cycle routes shown on the diagram below.



Routes and Links

From the wider viewpoint of the Stansted – Harlow corridor the most important routes are a little different. These are those that link potential routes between Bishop's Stortford and Harlow and link those routes to the centre. These are also shown on the plan. There are three north-south routes:

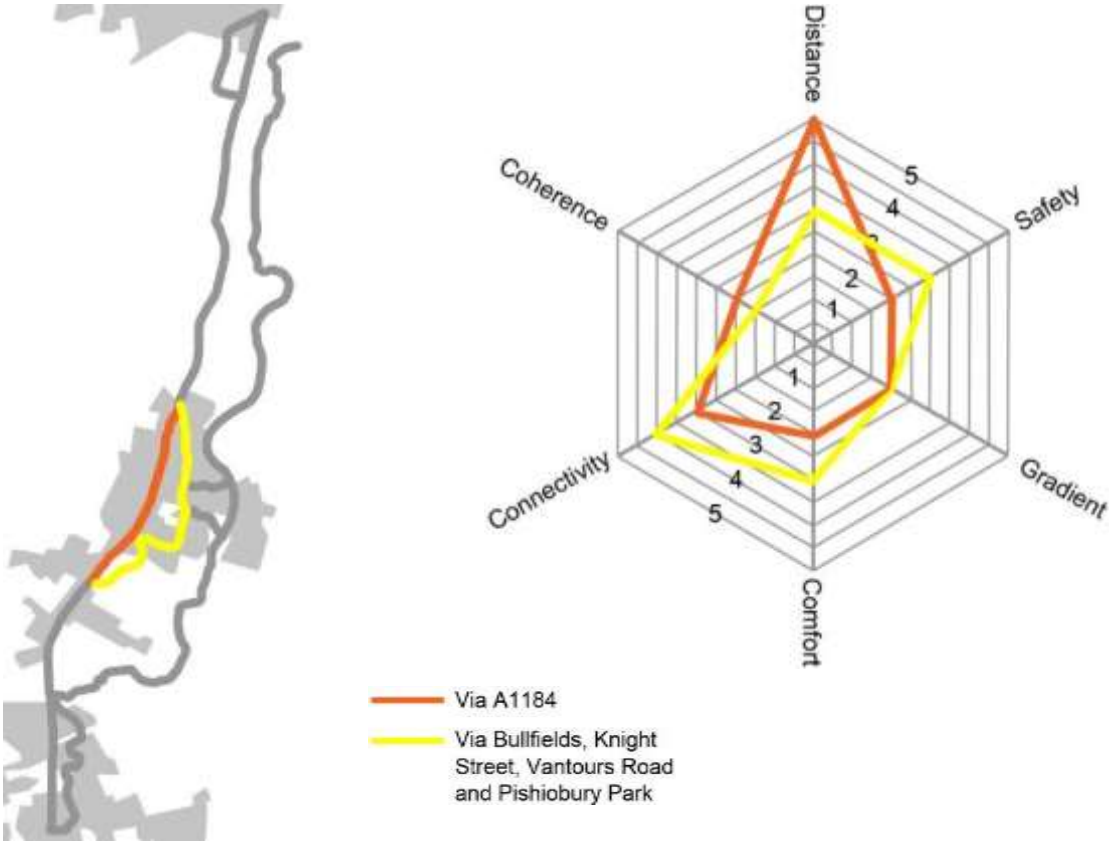
- **The Stort Navigation towpath**
- **The A1184.** The LCWIP recommends a combination of cycle lanes and an east side cycle/pedestrian footway. There are pinch points such as at the White Lion pub at the junction with Bell Street where there is 10m between buildings and on Bonks Hill where there is approximately 7.8m for the carriageway and one footway.
- **Bullfields, Knight Street, Vantorts Road and possibly Pishobury Park**. These are quiet roads, Bullfields would benefit from being made a school street. The Bullfields / Knight Street / Station Road needs to be signalised. At the north end Bullfields connects to the cycletrack northwards along the A1184 and at the south end there is space for a signalled crossing of the A1184 if required (not suggested in the LCWIP)

There are also routes connecting the three north south routes and linking them to the main shopping area. These are:

- **Bell Street.** The LCWIP recommends a contra-flow cycle lane.
- **The Fourburys**. This consists of two culs de sac with a connecting path. The LCWIP recommends making the path available for cyclists.
- **Sheering Mills Lane.** This is a quiet road.

The interface between the LCWIP and the Stansted Harlow study is important. The LCWIP proposes that the cycle facilities on the A1184 leaving the Sawbridgeworth area are on the east side of the road and so that is what routes proposed in this report need to connect to.

Analysis



Apart from being longer, the route via Bullfields, Knight Street and Vantours Road scores better than the A1184. The main reason is that the A1184 is narrow (the width between buildings at the White Lion is around 10m) so any cycle facilities would also be narrow. It would be necessary to share the footways with consequent conflict with pedestrians. Later analysis will assume that the main route through Sawbridgeworth is along Knight Street.

The analysis outputs for the Stort Navigation towpath are considered in Sections 4 and 6.

Conclusion and recommendations

The recommendations for this section can be found in the Sawbridgeworth LCWIP report.

5.7 Section 6: Sawbridgeworth – Harlow

Overview

The route options between Sawbridgeworth and Harlow Mill consist of two potential routes running south of Sawbridgeworth. Just north of Harlow Mill the A1184 crosses over the Stort. From here the Stort towpath continues westwards. There are two routes south from this point to central Harlow, one along the east side of the A1184 and the other using Old Road.

Routes and Links

Stort Navigation between Sawbridgeworth and the A1184

The Stort towpath is no more than 0.25m wide but over most of its length there is room to widen it. There are some narrow sections where there are mature trees on one side and a loose bank on the other. Here the trees would have to be removed or the bank altered to become a retaining vertical wall. In the short term, some of the slightly wider (but still narrow) sections could be tolerated particularly where the path has good forward visibility.

There are two places where steps would to be replaced with short ramps.

A1184 from Sawbridgeworth to the Stort Navigation

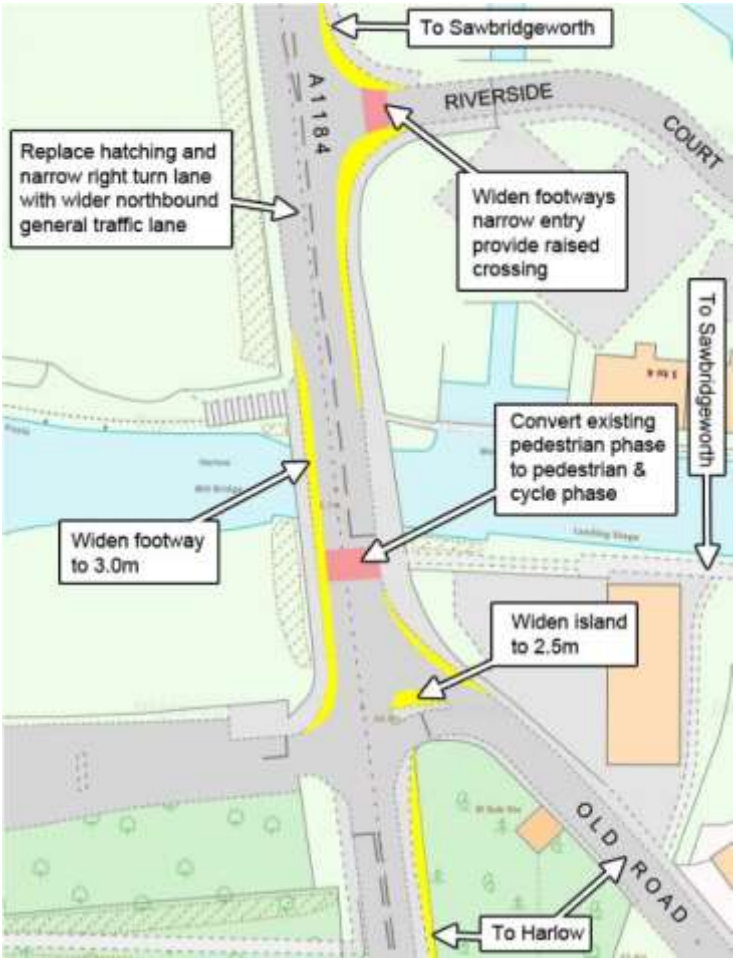
This section of the A1184 is very similar to the section between Bishop's Stortford and Spellbrook. Over much of its length the footway could be widened either by extending it back, or taking space from the carriageway or both. Ideally this would result in path 3.0m wide with a 0.5m buffer between it and the carriageway but this will be difficult to achieve, and it may be necessary to accept 2.5m with a 0.5m buffer.

At the Pishiobury Park car park there is an existing signalled crossing which, if converted to a toucan, would link an A1184 route to Hand Lane, Rowney Gardens and from that Chaseways.

Harlow Mill Bridge (Junction of the Stort Navigation and the A1184)

The A1184 crosses the Stort Navigation just north of its junction with Old Road and the access to the Premier Inn. The junction is signalled with a signalled pedestrian phase in line with the towpath from Sawbridgeworth. At this junction the Stort Navigation towpath changes sides so towpath users heading west use the signalled crossing and then cross the river on the west side footway of Harlow Mill Bridge before re-joining the towpath.

The Harlow Mill bridge and junction is important as all potential routes go through it**.** The main issue here is that the west side footway is much narrower than the minimum 3m for shared use, let along for a separated track. Space could be taken from the central hatching to widen the west side footway by significantly shortening the right turn lane for Riverside Court. A possible scheme is shown below.



Harlow Mill Bridge and junction

Harlow Mill Bridge to Harlow

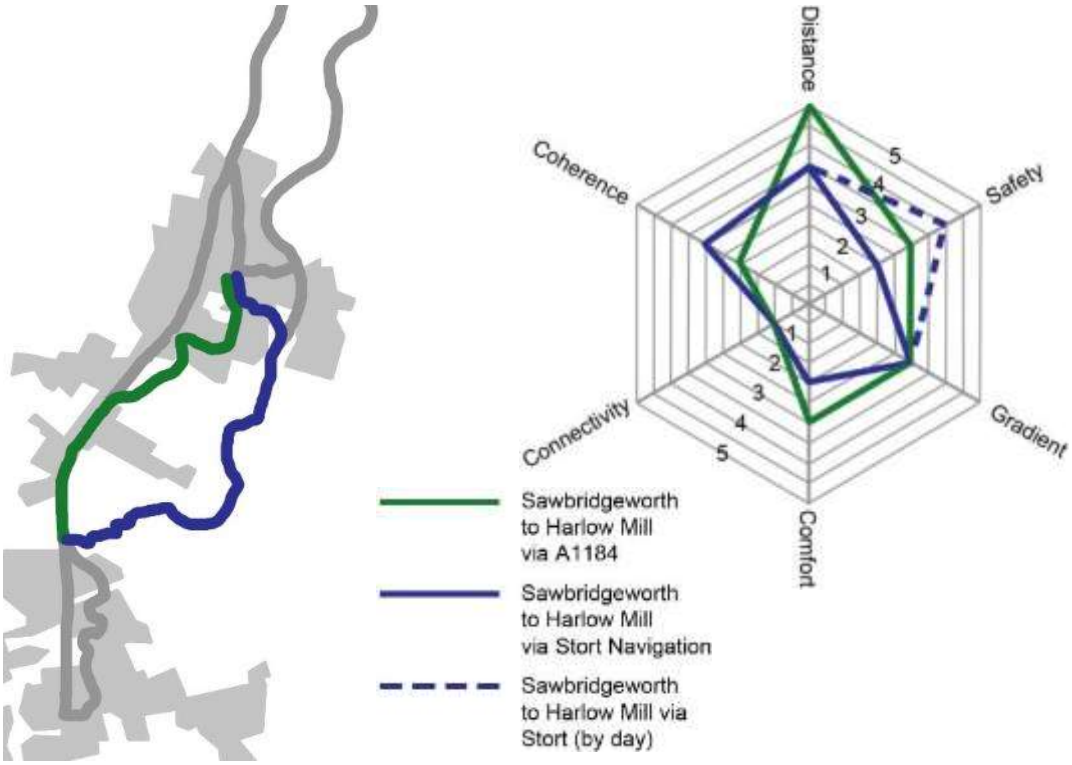
There are two options here. One is to continue along the east side footway of the A1184 and the other is to use Old Road and residential streets.

The A1184 has limited width for about 150m but then becomes a dual carriageway. The footway can be extended into the carriageway as the road widens. The southbound carriageway could be converted to one wide lane and the footway widened to 3.0m plus a 0.5m buffer. There is evidence of cyclists cutting across the grass between the A1184 and Station Road / Priory Avenue and here the converted footway could become a cycletrack link to Station Road. From here south to the roundabout with Edinburgh Way the A1184 can revert to two lanes while the Sawbridgeworth – Harlow Route continues southwards on Station Road.

The route via Old Road is taken by the National Cycle Network route 11 and consists of unmodified residential roads.

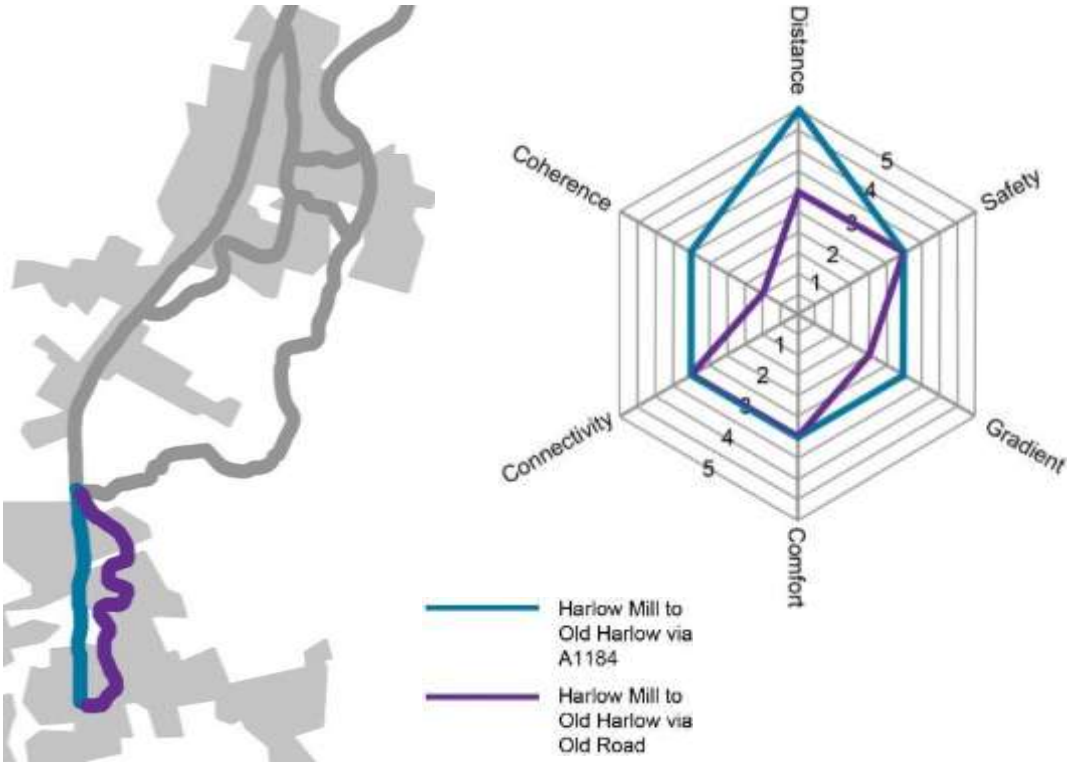
Analysis

Sawbridgeworth to Harlow Mill



Like every other section of the Stort Navigation, this section is longer than the A1184. Its safety varies between day time recreational use and use at other times. The A1184 route has more turns in Sawbridgeworth and would need good signing to ensure users can follow the route.

Harlow Mill into Harlow



A route along the A1184 scores far better on connectivity, coherence and gradient (the height gain is the same but the A1184 is one consistent climb rather than a shorter sharper one). The other factors are all similar so while Old Road would be quicker to implement, basically only needing direction signs, a route along the A1184 would be the better route.

Conclusion and recommendations

The A1184 bridge over the Stort Navigation is a key node and unless a new bridge is built any route must cross the river here.

In general, a route along the A1184 would be a much better utility route, scoring better on coherence and distance and safer at night. The Stort towpath could be made a recreational route simply by allowing cyclists to use it but compared to other sections of towpath it is more constrained and more difficult or intrusive to widen. Nevertheless, in the future as Harlow develops it could be useful as a route between Sawbridgeworth, the new development in the Gilden Park area and the proposed commercial area next to the M11.

General measures needed:

- Direction signing throughout

Measures required for the A1184:

- Widen east side footway between Pishiobury Park and Station Road, Harlow by taking space from preferably any land behind the footway but otherwise from the carriageway such as that currently used for hatching and islands
- Narrow some wide splays at junctions and provide footway level crossings over lesser used ones
- Convert the eastern footway to unsegregated cycle / pedestrian use
- Make alterations to the mouth of Old Road at the Harlow Mill junction widening the splitter island and reducing the distance cyclists (and pedestrians) have to cross.

Measures required for the Stort towpath:

- Widen land available for towpath over parts of the route by removing some vegetation and trees and constructing a retaining wall over short sections. Ecological considerations may prevent constructing a retaining wall.
- Resurface and widen path
- Remove steps at bridge where the towpath changes sides and at the junction with the A1184 at Harlow Mill
- Alter junction at Harlow Mill to widen the west side footway

5.8 Section 7: Harlow

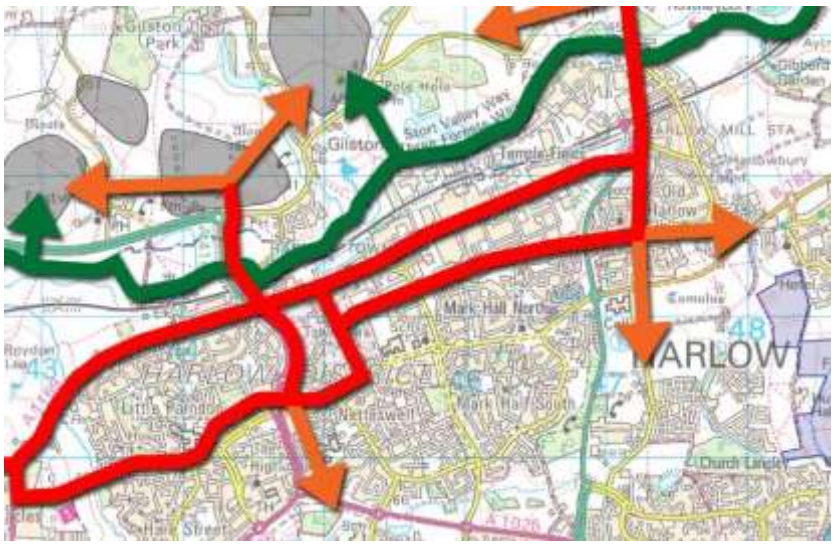
Overview

While a route through Harlow would forms part of the overall route, delivery would be the responsibility of Essex County Council and Harlow District Council. These councils are currently developing a Harlow LCWIP in partnership with Epping Forest District Council and Gilston Garden Town developers. The LCWIP is not yet at the route assessment stage and hence it is too early to include details in this report.

Routes and Links

We noted three east-west options:

- The existing cycletrack along Edinburgh Way (northern red route shown below)
- NCN route 1 (southern red route shown below)
- Stort Navigation towpath (in green below)



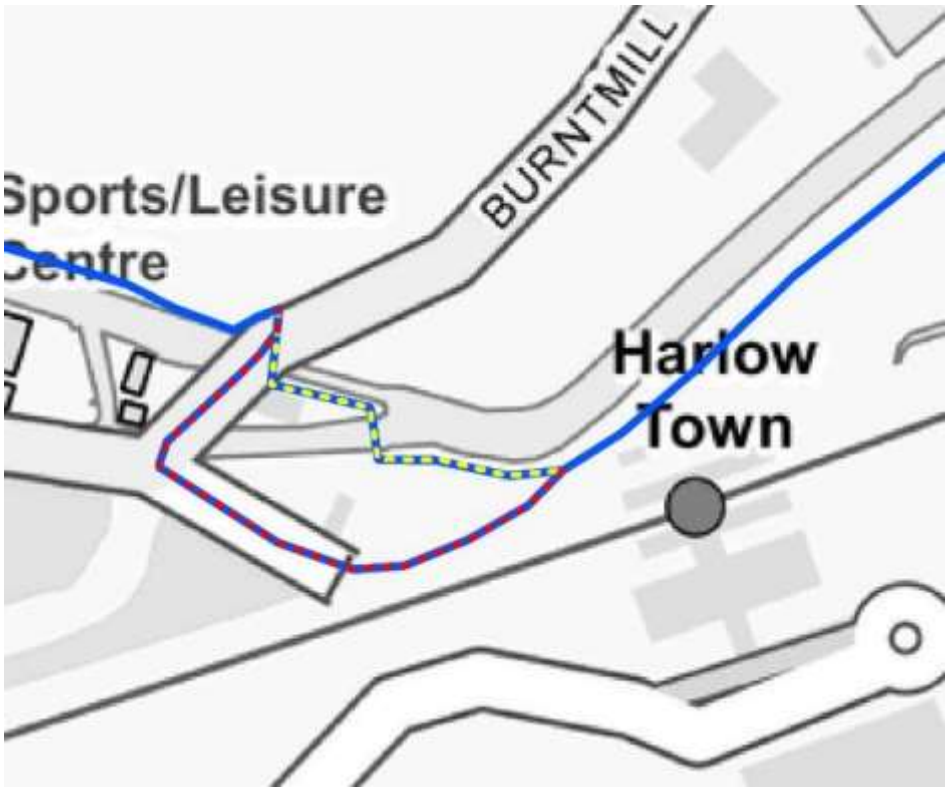
We did not carry out an assessment of the existing routes in Harlow in detail as this will form part of the Harlow LCWIP. Nevertheless, we understand that the east-west link has been shown as having high demand for cycling and hence we expect that a route (or routes) will be developed in LCWIP.

However, we did review theprovision along the towpath between the A1184 and Fifth Avenue.

The surface quality is quite good and the route is coherent until it reaches Harlow Town station where the towpath meets an ornate gate at the station car park. At this point users have the option of continuing on the towpath or going through the car park as shown in the plan below. Both require crossing Burntmill Lane.

While more direct the towpath option has a rough surface and is quite narrow. There is also a narrow bridge across the lock and the path is obstructed first by the lock gate arm and then by stepped access only onto Burntmill Lane. It is then necessary to cross the road to the access to the towpath on the west side.

The route via Burntmill Lane is well surface although there are some isolated sections, with poor visibility at the exit from the car park onto Burntmill Lane.



Towpath option dotted yellow, car park option dotted red

Conclusion and recommendations

The steps are too narrow for a cycle wheeling ramp and there is little scope for a ramp. Hence the route through the car park is a more viable option. The road is quiet and at the time of the survey the weak bridge over the canal was also shut to motor traffic (due to re-open in mid 2020). The car park is small so traffic is likely to remain quiet even if the bridge is re-opened.

Our recommendations for this short section are:

- Ideally make the closure of the bridge to motor traffic permanent
- Provide an improved crossing where the towpath meets Burntmill Lane, making it easier to turn onto and off the western section
- Provide improved signing to facilitate taking the route through the car park via Burntmill Close and then onto Burntmill Lane

5.9 Section 8: Harlow – Roydon

Overview

As with Section 7 we expect this link to be considered as part of the Harlow LCWIP.

Routes and Links

There are two distinct options:

- Via the existing NCN route 1 along Roydon Road and Harlow Road
- Stort Navigation towpath

While the NCN route is the most direct road route between Harlow and Roydon, this is not pleasant to cycle. In addition, the PCT shows little demand for utility cycling between Harlow and Roydon.

The Stort towpath is more direct and while isolated is very attractive and therefore meets the basic requirements of a recreational route. The path is mostly of adequate surface quality and although narrow for much of this section there are no issues with subsidence such as on the section between Sawbridgeworth and Cambridge Road. There is an issue with low headroom at the railway bridge, but this would be very difficult to resolve.

The main issue is at Roydon where the towpath meets the B181 High Street by Roydon station. Here the route has to cross both the road and the River Stort. It then shares the access road to Roydon Marina Village before turning, with the Stort, away from this to become solely towpath again.

Towpath option dotted yellow, crossing and bridge dotted red

The crossing of the B181 is problematic as the route from the east emerges by the level crossing at Roydon Station. The latest traffic count shows that this road has a daily traffic flow of around 5,000 vehicles which makes crossing difficult, especially at the peak. The section between the B181 and Roydon Lock also has a very poor bumpy surface.

Conclusion and recommendations

The route via the towpath would need a small amount to be suitable for recreational use.

- Widen towpath to a minimum of 1.5m and ideally 2m
- Improve 'Low Headroom' signing at railway bridge
- Investigate appropriate treatment at B181 such as single way working with a cycle gap to make it safer for cyclists to cross

5.10 Section 9: Harlow – Gilston Garden Town

Overview

As they are built from scratch, Garden Towns and Villages should incorporate high quality sustainable travel from the beginning. Although the intention is for them to be relatively self-contained they will still need sustainable travel routes leading from them to surrounding towns and villages. Hence Gilston will need walking and cycling links to the Stansted – Harlow corridor. This has been recognised in masterplanning documents.

Routes and Links

The main barrier between Gilston and Harlow is the A414 and the open space to the south of it. The road is too busy to be safely crossed at grade so any cycle / pedestrian route would need either a bridge or subway. This has been proposed as part of the Gilston masterplan but we would stress that the crossing and its associated ramps must be on walking and cycling desire lines.

East of the A414 roundabout at Eastwick Lodge Farm there are C roads towards High Wyke and Sawbridgeworth which due to the speed and volume of traffic are currently unsuitable for general purpose cycling. To the north of Gilston there is a network of lightly trafficked lanes. These were outside the main scope of our study, and hence we have not looked at them in detail. However, it is clear they would be useful routes for new residents.

The *Gilston Vision (Nov 2018)* views the Stort valley as a valuable resource for the new town. It suggests a cycle route along the Stort towpath with links from that into Gilston and Harlow. It also suggests a sustainable transport corridor linking Harlow Town Centre, Harlow Town station and the villages. There is also a proposed new road from the A414 roundabout at Eastwick to the Edinburgh Way roundabout at Temple Fields. This has a spur north to one of the Gilston villages. Although not stated, the new road will probably cut the existing road from Eastwick to High Wych allowing better conditions for pedestrians and cyclists who remain on it. The proposals are not yet fixed but we have commented on the latest version below.

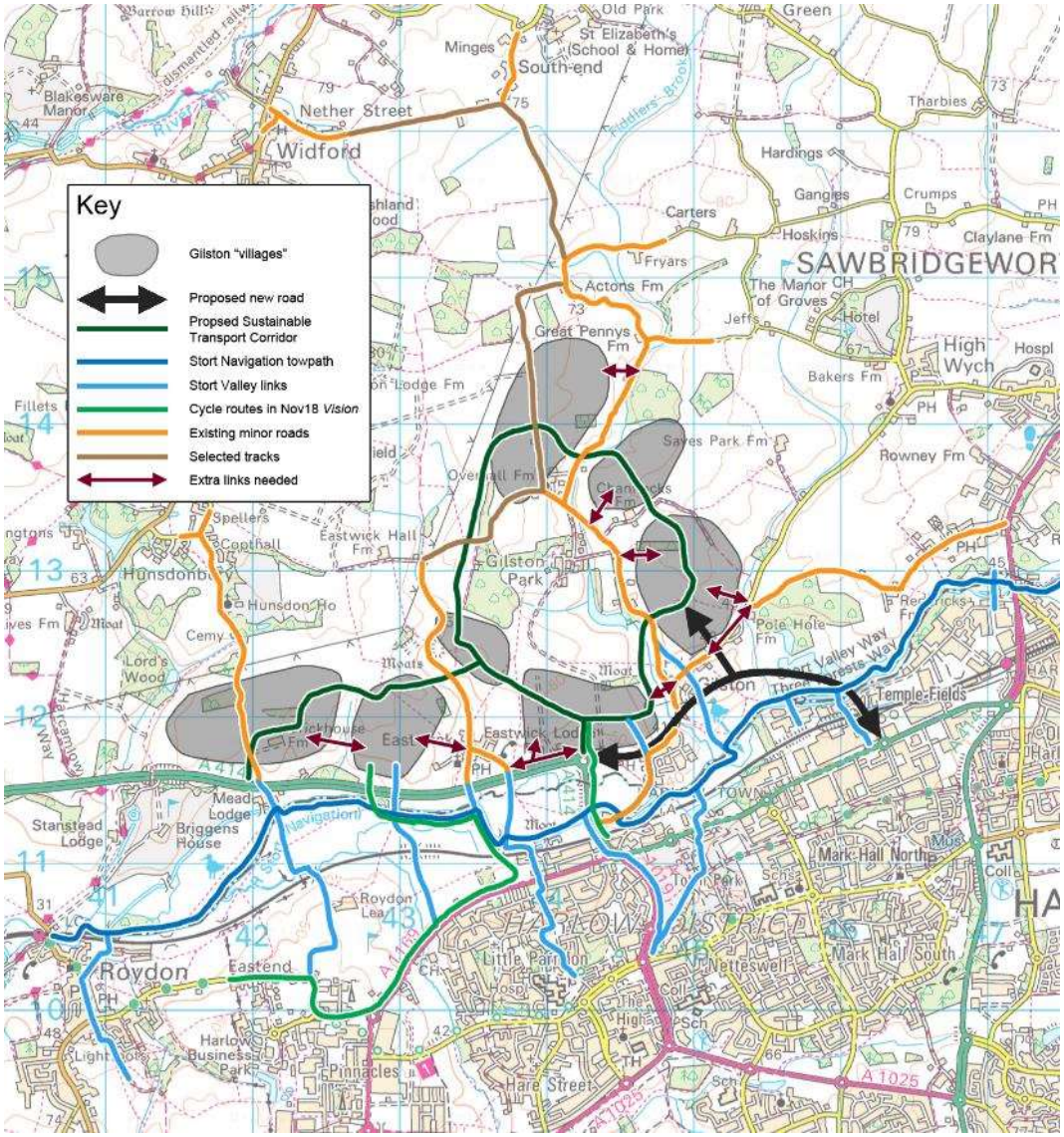
Proposal	**Comments**
Make connections from a core cycle route along the Stort Navigation to each village.	
Make connections from a core cycle route to each of the original lanes that run through the site.	These lanes should be closed to through motor traffic and made through routes for pedestrians and cyclists. The routes can be extended northwards from Gilston.
Construct a sustainable transport corridor linking Gilston to Harlow and connecting each village.	Additional inter-village links will be required.

Conclusion and recommendations

Our comments above have been limited to the issues between Gilston and the surrounding areas. The provision for cycling within Gilston itself is a matter for the development process. We do not know what the final internal layout of Gilston will be and so our comments will need to be seen in the light of final proposals.

We have the following recommendations (see plan below):

- Redricks Lane could be closed to through motor traffic to make a link to Sawbridgeworth or High Wych Road closed to make a link to High Wych
- Use old lanes and improved tracks (bridleways) to create routes to Widford (and the potential disused railway path), Hunsdon and to Thorley or the west side of Bishop's Stortford



5.9 Section 10: Roydon – Lea Valley

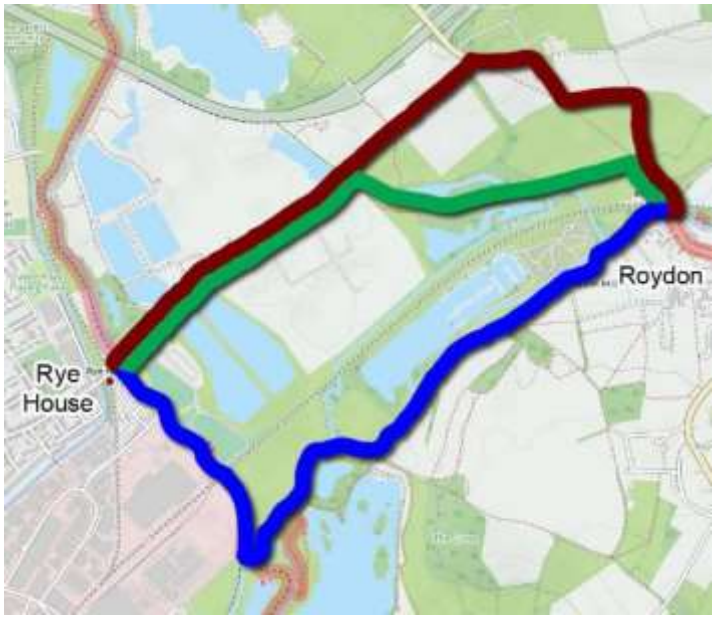
Overview

This is the westernmost section of the route and runs between Roydon and Rye House station. As with Section 8 this section will be mainly used for recreational cycling.

Routes and Links

There are three options:

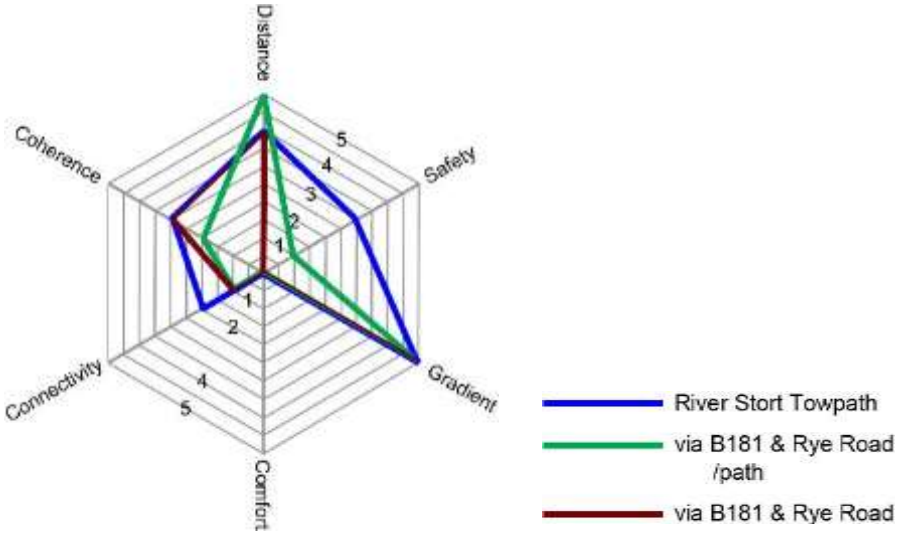
- Via the existing NCN route 1 along the Stort Navigation towpath to meet the River Lea towpath
- Along the B181 and Rye Road
- Along the B181 and Rye Road but using an existing footpath to make the route shorter



The NCN route is the most route between Roydon and the Lea Valley path, but it does hve narrow sections.

The alternative road route via the B181 is quite busy and there are some sharp bends/ The footpath link crosses fields and would require negotiation to upgrade to a bridleway.

Analysis



Comparing the three options, the towpath is scored best for all but directness. While it is isolated and hence has personal security issues, it is not expected that there would be much night-time use. The B181 scores low on safety due to traffic volume and speed and hence does not offer a better alternative.

Conclusion and recommendations

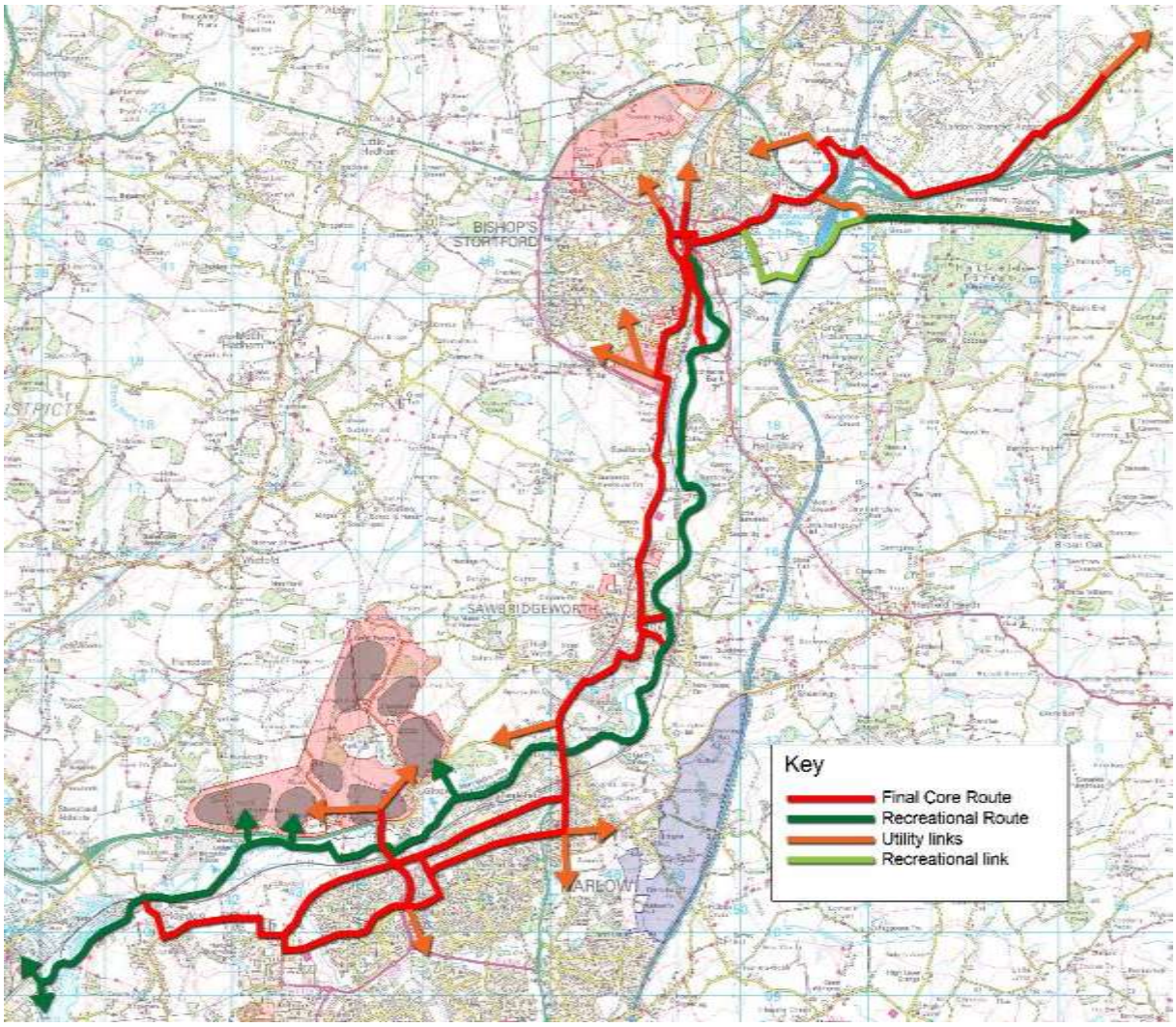
The only realistic route is along the towpath. Hence this should be upgraded to a standard consistent with other sections.

6. Conclusion and recommendations

6.1 Overall conclusion

The suggested core route suitable for everyday cycling by most people is shown on Plan xx below. We have also set out an option for a more recreationally focussed route, which could also be suitable for more limited use for utility trips.

The plan also shows suggested links that should be investigated further to connect the core routes with adjacent areas. Finally, it shows one recreational link between the Flitch Way and Bishop's Stortford that we suggest should be the subject of a more detailed study.



Plan xx. Core and recreational route, with links

6.2 Conclusions for each section

The general conclusions for each section are set out below (some are combined).

1. Stansted – Bishop's Stortford

The route between Stansted to Bishop's Stortford is based on the current one. Options to shorten it would require crossings of the M11 and A120. The route would need to be completed in the Stansted direction and it could be extended to the NCN route to the north east. From Birchanger the preferred route follows the general line of Dunmow Road. Consultees suggested a more northerly route, which, although promising would be convoluted within Bishop's Stortford. It is worth retaining as something worth reviewing in the future as it serves the northern part of the town from Stansted better than does Dunmow Road

While the Flitch Way runs eastwards from the route to Stansted and at one point gets very close to it, it serves a different market and needs a better and shorter link towards Bishop's Stortford than its current one running north of Junction 8 and through Birchanger village.

2. Bishop's Stortford

There is no single optimum route in central Bishop's Stortford hence we have recommended a small network. The development of Bishop's Stortford South provides the opportunity to create a network of radiating routes serving the south west and western parts of the town.

3. Bishop's Stortford South

The A1184 and Thorley Street & London Road into Bishop's Stortford has a narrow carriageway and footways. Installing a cycle pedestrian path will involve a careful consideration of available width and removal of hatching, refuge islands and in places there will be a compromise on lane widths or the need to widen the carriageway on the west side. The potential route through Bishop's Stortford South avoids a particularly narrow section as well as enabling the route to serve the proposed local centre and schools. It should also be possible to make a link towards the west of Bishops Stortford.

4. Bishop's Stortford - Sawbridgeworth, 5. Sawbridgeworth & 6. Sawbridgeworth – Harlow

There are two potential routes between Bishop's Stortford and Harlow: the A1184 and the Stort Navigation towpath. These are very different sorts of routes and are not really alternatives from which a best route is chosen. The towpath generally scores better than the A1184 on safety during the day but less well on length and it also on connectivity, as for the most part it is separate from the urban areas where people might want to go. It has many footpaths to other places but these are usually over fields. The Stort Navigation would be an easier route to implement and could be implemented in stages, for instance firstly sort out steps and safety issues, then sign it, then improve the surface in phases. On the other hand as some sections of the path could only be around 1.5m wide there is a limit to the path's capacity. A staged approach could be adopted where the Stort Navigation is used to encourage people to cycle while a route along the A1184 is developed.

In Sawbridgeworth the best route runs via Bullfields and Vantorts Road rather than continuing along the A1184.

7. Harlow & 8. Harlow – Roydon

In Harlow we have not come to any specific conclusions as to the best route alignment as this will arise from the LCWIP study. However, we advise that as part of the LCWIP process a specific discussion is held regarding the east-west corridor shown on Plan above.

The River Stort towpath also needs work to make it suitable for wider use by people walking as well as cycling. It is not clear if this will be addressed as part of the LCWIP.

Improvements are needed at Burntmill Lane and at the crossing at Roydon station.

9. Harlow – Gilston Garden Town

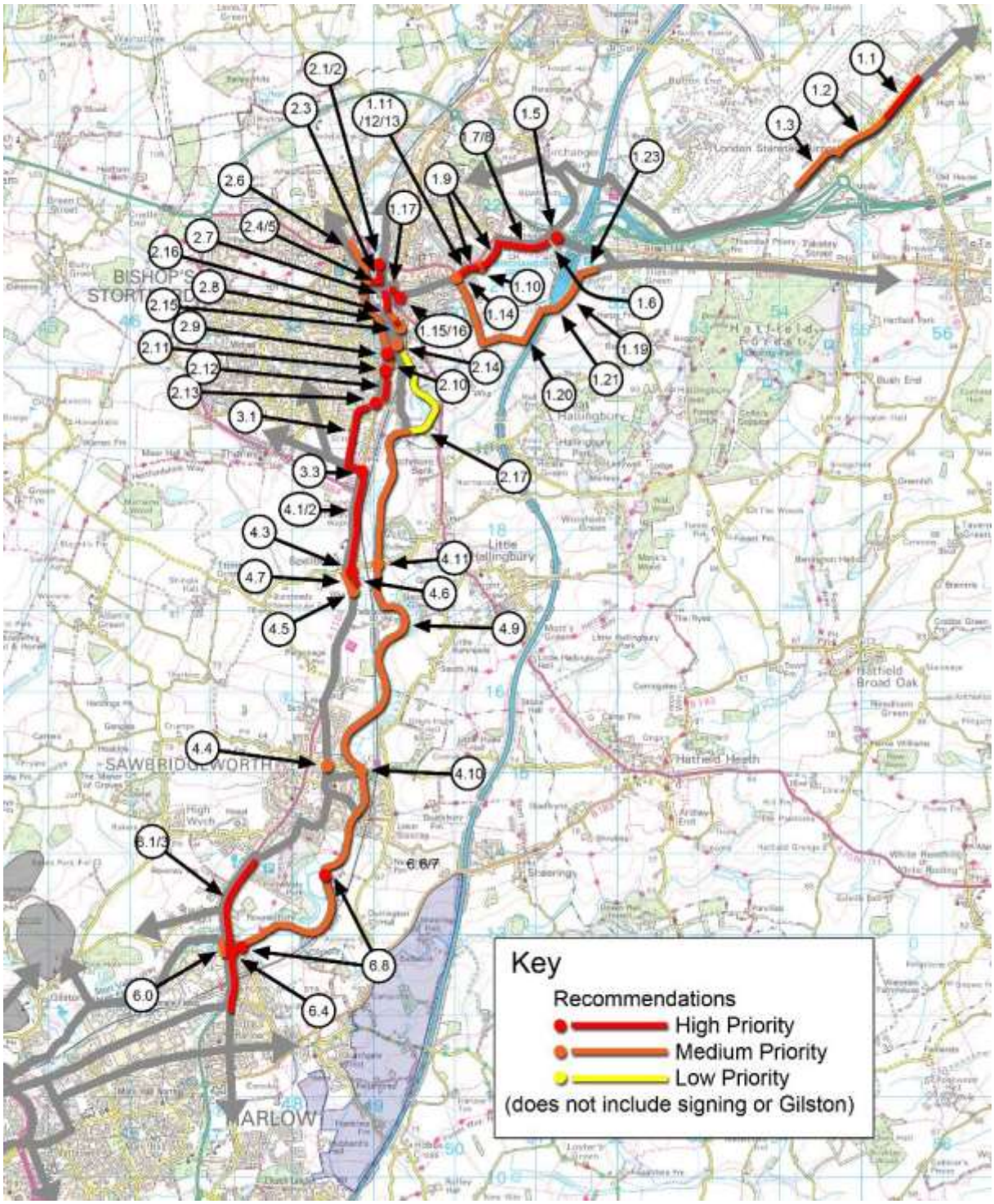
Gilston represents a significant opportunity to develop sustainable travel. It is important that good links are provided to surrounding villages, the Stort valley and Harlow. While the proposals suggest using the Stort towpath as a core route, the towpath would have to be widened to at least 3.0 metres to provide a route capable of continuous and regular use. This will not be possible everywhere and so additional utility links should be sought where possible.

10. Roydon – Rye House

The only suitable route is along the Rover Stort towpath which should be improved to a consistent standard.

6.2 Detailed recommendations

Plan xx below shows the location of recommended interventions along the route (apart from west of Harlow Mill), while the table in Appendix B sets them out in detail.



6.3 Estimated costs

Based on the table of recommendations we have arrived at the outline cost of £6.2million for the route as a whole. This is divided as follows between the different elements of the route.

Route element	**Cost (£,000)**
Core Route	1,518
Recreational Route	2,933
Utility Links	1,368
Recreational Link	364
TOTAL	**6,183**

It is not expected of course that all of this funding would be provided by the County Council. As with all projects of this type, a variety of sources would be needed to deliver the project including external grants, funding from third parties and contributions from developers.

Appendix A

Detailed policy assessment

Hertfordshire plans and strategies

Bishop's Stortford Transport Study (2006)

At the time, Bishop's Stortford was expected to see significant growth in the future. It is in the London-Stansted-Cambridge-Peterborough and the M11/Stansted growth areas and will take a proportion of 8,900 new jobs and 11,000 new houses. The **Bishop's Stortford Transport Study** recognises that the town is compact and that the main issues for accessibility are not distance but relief and poor quality infrastructure for non-car modes. High levels of private car use and extensive parking provision Leed to congestion.

There are opportunities for increasing walking and cycling but these would require significantly improved facilities for walking and cycling. The strategy aims to reduce traffic in the town centre through pedestrianisation and park and ride schemes and then to improve facilities for pedestrians and cyclists.

Improvements identified were:

- improved signage and quality of route for pedestrians from the station to town centre;
- improved route through the Goods Yard development to the town centre;
- widening of Station Rd Bridge to make it safer for pedestrians and cyclists, including measures to manage speed in this location and elsewhere;
- a new landmark pedestrian / cycle bridge across the River Stort, to be provided by a combination of the Goods Yard Development and a Community Infrastructure Bid;
- ensuring that pedestrians and cyclists are properly catered for in the proposals to relocate two of the town's secondary schools to a new site. Schemes should include physical measures to slow traffic in vicinity of the site, the provision of good quality cycle lockers, a set of cycle routes focused on the new location, and 'soft measures' such as school travel plans to maximise the potential usage of walking and cycling to the new location;
- providing flagship pedestrian and cycle routes from edge of town ASR developments to the town centre and consideration of residential travel plans;
- improved priority for pedestrians through town centre pedestrianisation schemes;
- providing cycle parking facilities in a number of key town centre locations and new residential developments;
- providing leisure and commuting routes to Stansted Airport; and
- smaller scale improvements to improve safety and amenity at key locations.

Hertfordshire Cycling Strategy (2007)

The **Hertfordshire Cycling Strategy** is outdated and refers to policies and events that are long gone. However, it remains the main policy document covering cycling in the county.

Policies HCS1&2 look at how cycling should be integrated into the Council's work and how the Council will express its support for cycling. HCS3 says that the Council will develop a cycle network for each main town in the County and describes how it will be done. The networks will follow the hierarchy of provision and the five core principles and the process will work closely with stakeholders.

HCS4 says how cycling will be integrated with road improvements. HCS5 proposes that cycling will be accommodated on carriageway rather than by special facilities but then looks at speeds as a way of positively altering the cycling environment. HCS6 looks at parking and HCS7 at maintenance. Policy HCS12 discusses new developments, supporting short distances, permeability, not severing existing routes, parking standards and disseminating best practise. In the conclusion is a proposal to develop a network of inter-community routes for both recreation and longer utility trips.

Hertfordshire County Council Active Travel Strategy (2013)

To some extent the **Hertfordshire County Council Active Travel Strategy** serves as an update of the Cycling Strategy, but at a lower level of detail. It sets out how the County Council and its partners will identify, deliver and promote interventions to increase the numbers of people walking and cycling in Hertfordshire.

The interventions are numerous but include traffic calming; speed limits; reallocation of road space; implementation of road user hierarchies; use of Intelligent Transport Systems; pedestrian crossings; footway maintenance; designing out crime; improved signage; urban realm improvements; cycle hire/purchase schemes and personalised travel planning and promotion.

The County Council sets itself a goal of targeting short journeys. With over 56% of all trips in Hertfordshire under 5 miles or less, there is a significant amount of journeys in Hertfordshire that currently take place by private car which could be undertaken by cycling or walking. It also aims to target active travel on schools.

Sawbridgeworth Town Action Plan (2016)

The **Sawbridgeworth Town Action Plan 2016-2020** makes three references to cycling:

- Provide a cycle track from Sawbridgeworth to Bishops Stortford
- Encourage walking and cycling to school to cut down on congestion
- Improve cycle path along river to Harlow Mill

East Herts District Plan (2018)

The **East Herts District Plan** sets out the planning framework until 2033. The District is predominantly rural with a dispersed population. Many communities are reliant on private cars as the only transport option. The challenge is to ensure that development is directed to sustainable locations, to reduce the need to travel and, where journeys need to be made, the distance of those trips. **Strategic Objective 6** is to improve access opportunities, minimise the need to travel, and encourage necessary journeys to be made by sustainable means to ease congestion and help reduce East Herts' carbon footprint. The strategy recognises that safe sustainable travel alternatives to car use can make sustainable modes relatively more attractive and that they need to be provided from the outset in new developments as travel habits are difficult to change later.

Key issues to be addressed include:

- Minimising the need to travel;
- Increasing choice and availability of sustainable transport options;
- Prioritising sustainable travel modes in new developments;
- Increasing connectivity and integration of sustainable transport modes;
- Encouraging healthy communities by supporting walking and cycling

The **Sustainable Transport Policy TRA1** says that development proposals should primarily be located in places which enable sustainable journeys to be made to key services and facilities. The proposals should ensure that a range of sustainable transport options are available to occupants or users, which may involve the improvement of pedestrian links and cycle paths. In suitable cases the provision of footways and cycle paths alongside navigable waterways may be sought, along with new moorings, where appropriate. Site layouts should prioritise the provision of modes of transport other than the car, particularly walking and cycling. Major schemes should allow for the early implementation of sustainable travel infrastructure or initiatives that influence behaviour to enable green travel patterns to become established from the outset of occupation.

Existing rights of way, cycling and equestrian routes (including both designated and non-designated routes and, where there is evidence of regular public usage, informal provision) should be protected and if they have to be diverted, provide suitable and appealing replacement routes to equal or enhanced standards.

Bishop's Stortford has several major sites available for development. To the north of the town (BISH3) the plan says that the masterplan should include a sustainable transport spine and that a hierarchy of local roads should include walking and cycling networks. The rural character of Dane O'Coys Road should be preserved and only pedestrians and cyclists should be allowed to use it. Finally there should be a network of routes between here and the town centre. The site at the south of the town (BISH5) should contain sustainable transport measures which encourage walking and cycling through the site and beyond, including: the provision of cycleways and footways that provide links into the existing residential areas. There should be new east-west connections over London Road. In the town centre policies for the Goods Yard Site (BISH7) include measures to assist walking and cycling through the site including a new crossing over the railway line and improved links to the town centre. To the north of the Goods Yard there is the Mill Site (BISH10). This site will include a buffer along its south side enabling station road and bridge to be widened to include a pedestrian cycle access towards the town centre.

In **Sawbridgeworth** the Plan describes a new M11 junction 7a which will remove some traffic pressure from local streets. Proposals for the development sites in the area include routes to the town centre, railway station, Mandeville School and Leventhorpe School.

Development at **Gilston** (see below) provides a unique opportunity to deliver a strategic sized sustainable development that will provide for a significant proportion of the District's housing needs, both within this Plan period and beyond. 10,000 new homes are allocated to Gilston, with approximately 3,000 homes delivered in the Plan period, along with a significant amount of supporting infrastructure including roads and sustainable transport provision, schools, health centres and public open space. The development will be based on Garden City principles with the houses in distinct villages. It should have an integrated and accessible sustainable transport system. This will include a sustainable transport route through the site and a sustainable transport corridor between the site and Harlow.

The A414 River Stort crossing will be widened to enable a dual carriageway plus a new footway/cycleway which will form part of the new sustainable transport corridor through Harlow. There will also be another crossing; either A414 to River Way or A414 to Elizabeth Way.

Hertfordshire Local Transport Plan (2018)

The **Hertfordshire Local Transport Plan** runs from 2018 to 2033. Policy 1 is a Transport User Hierarchy for any new development or scheme.

- Opportunities to reduce travel demand and the need to travel
- Vulnerable road user needs (such as pedestrians and cyclists)
- Passenger transport user needs
- Powered two wheeler (mopeds and motorbikes) user needs
- Other motor vehicle user needs

Policy 2 is that the County Council will *encourage* development into areas where there can be a real alternative to the car, and where key services can be accessed by walking and cycling.

Policy 4 considers demand management although it recognises that this can only currently be done via parking restrictions and charges.

Policy 8 covers **cycling -** The county council aims to deliver a step change in cycling, through:

- Infrastructure improvements, especially within major urban areas to enable and encourage more cycling.
- Implementing measures to increase the priority of cyclists relative to motor vehicles.
- Improved safety for users including delivery of formal and informal cycle training schemes.
- Supporting promotion campaigns to inform, educate, reassure and encourage cycling provision and education, such as Bikeability.
- Facilitating provision of secure cycle parking.

For airports the Council wish to promote modal shift towards sustainable modes of transport; for network management the Council wish to reduce single occupancy vehicular travel and encourage walking, cycling and public transport, they also wish to better manage speeds. Many other policies repeat things we have said before but an additional priority is ensuring transport improvements required to serve growth north of Harlow are sustainable and do not negatively impact the wider highway network.

Essex plans and strategies

Essex County Council Accessibility Strategy (2006) & Rights of Way Improvement Plan (2008)

These are both somewhat dated documents that have been superseded by more recent policies. They are included here for completeness.

The **Essex County Council Accessibility Strategy** (2006) has two relevant key actions

- Improving access to key services by walking and cycling Improving the physical accessibility of the public transport network
- Working with education providers to improve access to schools by walking and cycling

And the **Essex County Council Rights of Way Improvement Plan** (2008) has one key action:

- Providing a better signed and maintained network to make footpath, bridleways and cycle paths more appealing and easier to use Improving and increasing the amounts of bridleways and off-road cycling routes to provide continuous routes

Essex Local Transport Plan (2011)

The **Essex Local Transport Plan** seeks to achieve five broad outcomes. Of interest to us are the desire to reduce CO_2 emissions, the desire to improve safety and the desire to provide sustainable access and travel choices. A mixture of policies supports these desires including:

- consistently supporting and promoting sustainable travel;
- providing infrastructure for sustainable transport;
- working with partners and service providers to promote the use of sustainable forms of travel and to identify new ways to provide services;
- developing effective travel plans with existing work places, schools, and other locations that attract a significant number of people;
- promoting access by sustainable forms of transport to the county's railway stations, ports and airports.

The Council recognise that building their way out of transport problems is not an option, particularly in their main urban areas which includes Harlow. They intend to work with a range of partners to reduce the need to travel and to promote sustainable travel. Adequate sustainable travel provision will be made in all new developments.

Policy 14 is about cycling. The Council will continue to improve the cycling facilities in Basildon, Chelmsford, Colchester and Harlow. It will improve access to local services by integrating public rights of way, walking and cycling networks to form continuous routes.

Relevant priorities for West Essex including Harlow are:

- Providing for and promoting access by sustainable modes of transport to development areas
- Improving the attractiveness and usability of streets and public spaces
- Improving the Harlow cycle network and promoting greater use
- Improving access to Stansted Airport from within West Essex by sustainable forms of travel

Cycling, measures undertaken with partners will include:

- completing missing links in existing cycle networks, providing better signing and improving cyclist facilities (for instance crossings and cycle priority measures) to provide continuous and safe routes, linking urban and surrounding areas;
- improving cycle facilities (for instance secure cycle parking) at key cyclist destinations, including town centres, workplaces, schools, railway/bus stations and hospitals;
- Providing people with information on cycle routes in Essex, together with detail on where they can securely park their bike and how long a journey is likely to take (via the 'Transport Direct' cycle planner service);
- Ensuring cycle access is provided to new developments, with links to the surrounding community and existing cycle networks;
- Promoting cycling, for instance through publicity material, educational programmes and cycling events; and
- Providing cycle training opportunities for school children and adults to provide people with the confidence to travel safely by bike.

Uttlesford Cycling Strategy (2014)

The Uttlesford Cycling Strategy notes that the district has low levels of utility cycling but that recreational cycling is popular. As there is a significant amount of new development planned the strategy focuses on the urban areas where this will take place. For this study the most important one is Stansted Monfitchet and Elsenham. Around one third of residents are employed in either Bishop's Stortford or at Stansted Airport. The general recommendations of the Strategy as much as expected, but specific ones for the Stansted Monfitchet area are:

- Convert the footway between Stansted Monfitchet and Elsenham to joint use
- Provide a route from Stansted Monfitchet to Bishop's Stortford using the footpath along the Stansted Brook
- Investigate a route between Stansted Monfitchet and the airport (not explicitly stated)

The strategy notes that Stansted Airport's priorities are a route to Bishop's Stortford, Birchanger, Stansted Monfitchet and Elsenham, followed by an extension of the Bishop's Stortford to Sawbridgeworth link.

The Strategy considers barriers between Uttlesford and Bishop's Stortford:

- There is no formal crossing of the A120. The only existing crossing is an uncontrolled crossing of five lanes to the east of the A120/Dunmow Road roundabout where cyclists tend to dismount and run across the junction rather than cycle around it.
- Essex CC has recently improved the surface of footpath 10 between the Flitch Way and Great Hallingbury
- Sustrans' preferred route uses the accommodation overbridge just south of M11 J8 with improved footpaths to Great Hallingbury and Hockerill in Bishop's Stortford

The Strategy also contains policies on signing, residential parking, recreational cycling, soft measures, training, led rides and cycle maps.

London Stansted Airport Sustainable Development Plan (2015)

The **London Stansted Airport Sustainable Development Plan** seeks to maximise use of the airport but lessen its costs on the surrounding area. It needs to cap the numbers of employees who drive on their own to work and has a target for the proportion of passengers who arrive by public transport. The strategy aims to improve cycling options for staff living locally – the 2013 proportion of employee trips by bike was 0.1%, the 2019 target is 0.5%.

Previous strategies by both the Airport and Essex and Hertfordshire County Councils have led to improvements in routes from Braintree, cycle crossings over the B1256 and cycle links from west of the M11. They have provided eleven cycle parking shelters. Their cycling strategy continues to seek safe routes to key local settlements. Their priorities are:

- West and north to Bishop's Stortford, Birchanger, Stansted Montifichet and Elsenham
- Extend the Sawbridgeworth – Bishop's Stortford Link
- More secure parking, storage and shower facilities including on the North Side.

Essex Cycling Strategy (2016)

Essex produced a new overarching **Cycling Strategy** in 2016 to Leed the way for each smaller unit to produce their own. The strategy has three key elements

- ENABLE – a focus on Leedership that will drive the strategy forward.
- PROVIDE – a step-change in the extent and quality of cycling infrastructure.
- PROMOTE – a targeted increase in the promotion of cycling.

The aim is to double the number of trips/stages between 2014 and 2025 at monitored sites.

Under PROVIDE the Strategy will ensure that every urban area has a well-planned, safe and well maintained cycle network that:

- Connects key destinations;
- Supports a network of recreational routes and;
- Caters for all users and abilities.

The network will contain a mix of on and off road facilities. There will be well placed and high quality cycle parking at public destinations. All new housing will include accessible and secure cycle storage.

Importantly cycling will be prioritised over motorised transport in all new developments making it easier to carry out short trips by bicycle than by car. Cycle routes within commercial and residential developments will be more direct and convenient than car routes and will connect in to existing cycling infrastructure on Leeving the site.

On funding the important thing is that funding will rise from today's £2.50/person/year to £5 by 2017 and £10 by 2020/21.

As part of the Cycling Strategy, Cycling Action Plans are being developed for individual Boroughs, Districts and Cities of Essex (see below).

Essex Sustainable Modes of Travel Strategy (2017)

More recently **Essex County Council** has produced a **Sustainable Modes of Travel Strategy**.

This states that the issue of sustainable travel is growing in significance at a national, regional and local level. There has been a constant increase in the importance and weight given to projects and schemes designed to reduce dependence on the private car, and to promote alternative modes of travel.

Good accessibility and access to a high quality and efficient transport network is essential to support new development and ensure that it is sustainable, enabling the community to access their needs (e.g. employment, shopping, schools) easily and without always needing a car.

Epping Forest District Local Plan (2017)

The **Epping Forest District Local Plan** wishes to achieve sustainable development and says that climate change should be considered in the policies and proposals of the Plan; the management of congestion, HGVs on local roads and provision of opportunities for walking, cycling and public transport.

The **Lee Valley Regional Park Vision** contained within the Epping Forest Plan outlines a common purpose for the Regional Park and expresses the desirable characteristics of the Regional Park. The vision is:

- to be a cohesive, sustainable and valued regional green lung;
- to be an area of enhanced and protected natural biodiversity for the enjoyment of all;
- to achieve full utilisation of the unique land and water assets of the Regional Park for specialist leisure and recreational facilities developed in accordance with principles of sustainability and design excellence; and
- to be an accessible and permeable, integrated visitor attraction to serve the region which will include local communities

One policy with a specific comment about sustainable travel is one which aims to enhance current visitor facilities at the Royal Gunpowder Park to create a visitor hub and improve pedestrian and cycle links.

The Epping Forest Plan contains policies for the Harlow and Gilston Garden Town sites that fall in its area. The town communities will be self-contained in terms of the residents' day to day needs. For transport each Garden Town Community must contribute to the delivery of the Sustainable Transport Corridors and the establishment of an integrated, accessible and safe transport system which maximises the use of the sustainable transport modes of walking, cycling and the use of public and community transport in order to improve air quality and reduce emissions and promote healthy lifestyles. Garden Town Communities must ensure the provision of high quality, safe and direct walking and cycling routes and linkages to and from Harlow within a permeable site layout with priority over vehicular traffic.

Policy T1 covers Sustainable Transport Choices. Part of this is strategic but part is to promote local transport choice through improvements to public transport services and supporting infrastructure, and providing coherent and direct cycling and walking networks to provide a genuine alternative to the car and facilitate a modal shift. Development should minimise the need to travel, promote opportunities for sustainable transport modes, improve accessibility to services and support the transition to a low carbon future.

Policy DM9, considering design rather than transport emphasises the need to maximise connectivity and permeability within and through developments. Policy DM5 covering Green and Blue Infrastructure contains the clause that development proposals enhance connectivity and integration by providing pedestrian/cycle access to existing and proposed Green Infrastructure networks and established routes, including footpaths, cycleways and bridleways/Public Rights of Way.

Harlow Local Development Plan (2018)

The new **Harlow Local Development Plan** (at pre-submission stage) will guide development in Harlow to 2033. The internal road structure of Harlow reflects the original master plan and is based on a network of primary distributor roads mostly running through green wedges and link the main parts of Harlow with one another, and secondary distributor roads which link centres with each other and with the industrial estates. Both types of road have become congested over time. Cycleways and bridleways are aligned with the footpath system running through Green Wedges and are extensive across the district. The **strategic objectives** contain three relevant to sustainable transport:

Objective 12 - Ensure that development is fully supported by providing the necessary infrastructure including education, healthcare and other community facilities.

Objective 13 - Reduce the need to travel by vehicle by ensuring new development is sustainably located or accessible by sustainable modes of transport.

Objective 14 - Improve transport links, particularly for sustainable modes of transport, to community facilities.

Four strategic Garden Town Communities are planned in the Harlow and Gilston Garden Town development.

- Gilston, 3,000 dwellings in the plan period and a further 7,000 later (in Hertfordshire)
- Latton Priory (south of Harlow) 1,050 dwellings in plan period (in Epping Forest District)
- Water Lane (west of Harlow) 2,100 dwellings (in Epping Forest District)
- East of Harlow, 3,350 dwellings (some in Harlow, some in Epping Forest District)

The design and development of each Garden Town Community must accord with a number of principles two of which are related to sustainable transport:

(i) Create a step change in modal shift by contributing to the delivery of the Sustainable Transport Corridors and establishing an integrated, accessible and safe transport system which maximises the use of the sustainable high quality transport modes of walking, cycling and the use of public and community transport to promote healthy lifestyles and provide linkages to and from Harlow and the new Garden Town Communities;

(j) Create sociable, vibrant, healthy and walkable neighbourhoods with access for all residents to a range of local employment opportunities, community services and facilities.

While Harlow cannot include specific policies for sites outside its boundaries the new communities in Epping Forest will use Harlow's facilities and infrastructure. It is especially important to maintain the connection of Harlow's existing Green Infrastructure, footpaths, cycleways and bridleways to the countryside through the new Communities.

The Local Plan promotes sustainable development. Development must reduce the need to travel by vehicles by ensuring new development is sustainably located or accessible by sustainable modes of transport. So the East of Harlow strategic development must (d) provide footpaths, cycleways and bridleways within the development and link them to the existing Harlow network. The Plan also contains policies on Strategic Green Infrastructure. This includes Green Belt, Green Wedges and Green Fingers (which are identified on the Policies Map) and will be protected and enhanced. New Green Infrastructure must be planned into new development and, where possible, linked to existing Green Infrastructure. The new linear 'Stort Riverpark', connecting the Lee Valley Regional Park to Bishop's Stortford through Harlow, will be delivered by contributions from new development.

The roles of the Green Wedges are to:

- provide physical, visual and audial separation between neighbourhoods and between residential and industrial areas;
- provide Green Infrastructure, including open spaces for sport, recreation and quiet contemplation, wildlife corridors, footpaths, cycleways and bridleways;
- protect and enhance natural habitats, ecological assets and landscape features;
- protect existing uses which have an open character;
- provide settings which preserve the character of historic/cultural sites and areas and
- provide opportunities for Sustainable Drainage Systems (SuDS).
- Green Fingers are generally smaller and thinner than the Green Wedges.
- The roles of the Green Fingers are to:
- provide open links between Green Wedges and/or other areas of green space;
- provide Green Infrastructure, wildlife corridors, footpaths, cycleways and bridleways;
- protect and enhance natural habitats, ecological assets and landscape features; and
- protect existing uses which have an open character.
- New Green Wedges or Green Fingers must fulfil the above roles and:
- where possible should connect with existing Green Wedges, Green Fingers and/or the Green Belt;
- be well-connected to residential areas;
- be defined by a strong urban edge; and
- development should front green spaces to provide a strong interface and natural surveillance

Green infrastructure as a whole must provide appropriate footpaths, cycleways and bridleways.

Specifically looking at transport, the Local Plan's overall approach is to reduce the need to travel, and support the use of sustainable modes of travel including walking, cycling and public transport with less reliance on the use of the private motor vehicle. (11.7) The plan feels that Harlow's unique character created from key master planning principles has resulted in a strong relationship between the urban form and the Green Wedge network, through which transport corridors pass. The Green Wedges provide a series of connectable open spaces which link major facilities and services, offering a pLeesant and attractive footpath, cycleway and bridleway system. (11.8)

The Local Plan says much about **Sustainable Accessibility.** All development should have regard to the modal hierarchy set out in the Strategic policies. New developments including redevelopments, changes of use and Town Centre and transport interchange improvements will be required to link to the existing cycleway, footway, public right of way and bridleway network, and, where appropriate:

- provide direct cycleways, footways and bridleways within the development;
- contribute to improving and developing cycleways, footways, public rights of ways and bridleways serving the development;
- provide cycle storage/spaces in accordance with current parking standards;
- provide other facilities for cyclists such as employee showers, lockers and information and maintenance points.

Harlow District Cycling Action Plan (2018)

The **Harlow Cycling Action Plan** pulls together all the proposals for cycling in the District. It is noted that it is a draft document. It aims to:

- Identify how cycling levels can be increased in the District
- Prioritise funding for new cycling schemes in Harlow
- Create a usable, high-quality cycle network that connects residential areas with key employment locations, rail stations and Town Centres
- Create opportunities to increase recreational cycling in Harlow.

The plan identifies the key barriers to cycling in Harlow, and considers the potential for increased cycling. It recommends that four potential key cycle routes should be improved along the corridor examined in this study:

- Harlow Town station link routes
- River Stort crossing / Fifth Avenue
- River Way
- Temple Fields

It also suggests a new flagship east-west route across the town, incorporating elements of the existing NCN route 1.

Uttlesford District Cycling Action Plan (2018)

The **Uttlesford Cycling Action Plan** pulls together all the proposals for cycling in the District, and supersedes the 2014 strategy. It is noted that it is a draft document.

It describes routes around Stansted Airport:

"*The current provision around Stansted Airport includes a route on Long Border Road from the junction with Taylors End Road to Birchanger. It begins at the junction with Taylors End Road with advisory cycle lanes and continues until an access road to Flightworx Aviation Ltd. At this point it continues off-road as a shared footway/cycleway on the northern side of the road, which continues over the northern arm of the roundabout with Round Coppice Road through an uncontrolled crossing point. The route then continues off-road from the NorthWest of the roundabout towards the M11 along the edge of the long stay parking. It makes use of an equestrian bridge over the M11 motorway meeting with NCR 16, which approaches from south of the A120 along the B1256. It then continues to Birchanger Lane where there is a Highways England scheme to improve signage, linking the route to the A120 from the Three Willows, while also improving the surfacing on the bridleway.*

In Takeley, just east of the Airport there is a signed shared footpath/cycleway along Roding Drive, Fleming Road, Bennet Canfield, Honey Road, Stokes Road, and Burgattes Road. In addition there is a shared use footway conversion along Dunmow road from Roding Drive to just short of the junction with Parsonage Road. The Flitch Way/NCR16 also continues to the south of Takeley.

In Stansted Mountfitchet there is an existing shared use footway/cycleway to the north of the town on the B1383 Cambridge Road, which is around 200 metres in length. In the southern area of the town there is a shared used path around Forest Hall Road, and along Palmer Close and Watson Way."

The Action Plan recommends that four potential key cycle-trip desire lines should be improved in the Stansted area:

- Elsenham to Stansted Airport
- Stansted Mountfitchet to Stansted Airport
- Takeley to Stansted Airport
- Bishops Stortford to Stansted Airport

Epping Forest District Cycling Action Plan (2018)

The **Epping Forest Cycling Action Plan** pulls together all the proposals for cycling in the District. It is noted that it is a draft document. It aims to:

- Identify how cycling levels can be increased in the District;
- Enable any funding for new cycling schemes in Epping Forest to be prioritised;
- Create a usable, high-quality cycle network that connects residential areas with key employment locations, railway stations, underground stations and town centres; and
- Create opportunities to increase recreational cycling in Epping Forest.

The Action Plan does not recommend any measures in the area covered by this study.

Lee Valley plans and policies

Lee Valley Regional Park Cycling Strategy (2017)

The Lee Valley Regional Park Authority produced a cycling strategy in 2017. It aims to

- Develop key gateways
- Remove barriers to access – the overview suggests ramped grade separated crossings of major roads and the railway lines
- Raise the profile of cycling in the park
- Improve signing and wayfinding
- Introduce new routes to develop the existing network
- Improve the quality of paths
- Encourage considerate sharing of paths
- Develop cycle parking and hubs
- Explore options for cycle hire

The Lee Valley Cycling Strategy has to mesh with Strategies produced by the counties and districts.

The **Hertfordshire Strategy** highlights east west links being poor, particularly crossing the railway and that the A414 is a barrier. It also says that towpaths in the Lee Valley are narrow, poorly drained and have poor surfaces limiting their use for all year round and commuting cycling.

The **Essex Strategy** seeks to improve links with the NCN1. They identify the A121/Meridian Way junction as a problem for cyclists they seek to make better use of the River Stort towpath Leeding into the Park from Harlow.

Appendix B

Schedule of recommended interventions

Section 1 Stansted to Bishop's Stortford

Measures required to improve the route from Stansted to Birchanger

Ref	Measure	Priority	Feasibility	Cost	Timescale
1.1	A new shared pedestrian/cycleway from the Stansted bus station to Coopers End Road.	Essential High	There is space and the land is publicly owned.	£££	Short term
1.2	A shared path from the north east end of Coopers End Road to the Bassingbourne Road / Long Border Road junction	Desirable Medium	There is space and the land is publicly owned.	££	Medium
1.3	A shared path along Long Border Road to the end of the current cycletrack	Desirable Medium	There is space and the land is publicly owned.	££	Medium
1.4	Improved direction signing throughout	Essential		£	To follow 1.1

Measures required to construct a cycle route along the line of Dunmow Road between Birchanger and Bishop's Stortford Town Centre

Ref	Measure	Priority	Feasibility	Cost	Timescale
1.5	A signalled crossing over the A120 immediately east of the Bypass/Dunmow Road/Birchanger Lane roundabout	Essential High	There is space and the land is publicly owned. Traffic capacity determined by neighbouring M11 Junction 8	£££	Short term
1.6	A surfaced link from the rear of Birchanger Services to the footway of Dunmow Road	Low	There is space and the land is publicly owned.	£	Medium
1.7	Judicious widening of the southern footway of Dunmow Road between the A120 crossing (above) and Manor Links. Widening the footway will require cutting back vegetation and bank at the rear of the footway, possible removal of hedges and trees, widening the footway into the carriageway where the carriageway is more than 6.0m wide.	Essential High	All land publicly owned.	£££	Short term
1.8	Make the southern footway an unsegregated shared use cycle pedestrian path.	Essential High	Following previous recommendation. May attract objections but pedestrian use of the path is low.	£	Following 1.7
1.9	Agree that a cycle route uses Norris Close and Brooke Gardens	Essential High	School children cycle this route. Private land. May attract objections.	£	Short term
1.10	Widen link between Norris Close and Brooke Gardens to 3.0m and remove blind corners by cutting back vegetation and removing some of the fence at Norris Close	Desirable Medium	Private land. Path not recorded on definitive map but may have sufficient use to be a public right of way on foot.	£	

1.11	Purchase at least 2.0m of land from the Nags Head	Essential High		£££	Short term
1.12	Widen the footway between Brooke Gardens and Haymeads Lane to at least 3.0m widening and at least 3.5m at the pedestrian crossing and bus shelter	Essential High	Requires land purchased from Nags Head	£££	Following 1.11
1.13	Make the Brookes Gardens to Haymeads footway and unsegregated shared use cycle pedestrian path	Essential High	May attract objections. Footway relatively well used.	£	Following 1.12
1.14	Make crossing over Haymeads by raising the carriageway to footway level	Desirable Medium		££	Following 1.13
1.15	Make cycle link between Warwick Road and London Road crossing.	Essential High	Has a value as it links housing east of London Road to the town centre	££	Short term
1.16	Convert the London Road crossing to a toucan	Essential High		£££	Short term
1.17	Convert the footway alongside Lidl to an unsegregated shared use cycle pedestrian path	Essential High	Footway 3.0m wide so feasible. May attract objections	£	With 1.15 & 1.16
1.18	Provide direction signs for the whole route	Essential once complete	Can sign Town Centre to Hockerill once 1.15-1.18 complete	£	Following above

Cycle route across M11 junction 8 – not itemised

Large scale project requiring adoption by Highways England

Developing the southern routes as a recreation route to extend the Flitch Way

Ref	Measure	Priority	Feasibility	Cost	Timescale
1.19	Negotiate new public right of way between Flitch Way and the M11 (Essex)	Medium	Exact route will depend on best position of ramp down from Flitch Way	££	Medium term
1.20	Negotiate conversion of footpath to bridleway between the M11 and Haymeads Lane (part in Herts part in Essex). It might be possible as part of the negotiations to re-route the footpath over the golf course (FP47) to one that avoids crossing a fairway.	Medium	May attract objections. Note that there are two potential routes. FP 47 in Herts or FP 2 in Essex. More walkers appear to use FP 4 and an informal link to FP 2 rationalising these footpaths may be a negotiating tool.	££	Following 1.20
1.21	New 2.0m wide surfaced path (approx 2.2km)	Medium		£££	Following 1.20, 1.21 & 1.23
1.22	Construct ramp at western end of Flitch Way	Medium	Easiest route in is probably down the side of the existing embankment rather than at the end. Has implications for new right of way	£££	Following 1.20 & 1.21

Section 2 Bishop's Stortford

Ref	Measure	Priority	Feasibility	Cost	Timescale
2.1	The Causeway immediately west of Dane Street. Reduce the west bound carriageway to a single lane, widen southern footway & central reservation, provide dropped kerbs & tactile markings to make an advisory crossing. At a later date as flows increase either provide a parallel crossing (zebra plus cycle crossing) or a toucan crossing	High priority as part of a potential route towards Jackson's Crossing. Also high for pedestrians	Traffic capacity on The Causeway westbound determined by the single lane Hockerill Street with its signals with London Road & the signalled junction with Adderley Road	£ (£££ toucan)	Short term
2.2	Convert the southern footway of The Causeway between the new crossing & the proposed toucan on Dane Street to unsegregated pedestrian & cycle use	High	May conflict with events at Register Office & hence may attract objections	£	Follow 2.1 but at same time as 2.3
2.3	Dane Road. Provide contra flow cycle lane. Convert signalled pedestrian crossing at north end to a toucan	High	Road is wide	££	With 2.2
2.4	Station Road - provide contra flow cycle lane	High	May affect traffic capacity. However, traffic observed queuing in a single lane	££	To follow Dane Street ***or*** route to Hockerill & Stansted
2.5	Station Road / Stort Navigation, reduce carriageway on bridge to 4.5m (3m westbound traffic + 1.5m eastbound cycle lane & widen the southern of the footways to 2.2m	Essential for pedestrians High	Benefits pedestrians as well as cyclists	££	Short term
2.6	Potter Street. Permit cycles to travel contra flow. Amend junctions at either end to suit.	Medium	Studies on other narrow contra-flow streets show vehicle conflict unlikely to be a problem. May be issues with pedestrians not expecting cycles	££	To follow Station Road (2.4) or routes south
2.7	Ensure there is a route through the station site between Dane Street & the Millennium footbridge	High (ensuring route) Medium (building it)	Depends on draft design for this area	£	Now
2.8	Remove centreline markings on South Street & South Road	Medium	Established practise	£	Not time critical
2.9	London Road / South Road roundabout: reduce the number of lanes on the northbound approach from two to one & increase deflection	High	Would need a more detailed study but our observations suggest that this roundabout is Medium for traffic capacity	££	Short term
2.10	London Road: investigate whether the parking along the east side can be removed	Medium	Likely to be contentious	£	

2.11	Alter the junction of London Road & Thorley Hill to add • Burley Road • Full pedestrian stage • Cycle facilities	High	The pedestrian stage will have implications for traffic capacity	£££	Short term
2.12	London Road – Thorley Hill to Bishop's Avenue. Widen west side footway by • Taking 0.75m from the carriageway • Cutting into the bank on the east side of the road	High	Depends on stability of cutting side	£££	In conjunction with either 2.11 or routes associated with BS South (S.3)
2.13	Provide toucan crossing at the Bishop's Avenue / London Road junction & remove the crossing at Mitre Road when High School shuts	High	No long term traffic capacity implications	£££	In conjunction with BS South & 2.12
2.14	Reduce area of carriageway at London Road / Southmill Road & provide improved crossing facilities	Medium	Benefits pedestrians no capacity implications	£££	With route along Twy-fordbury Lane to Stort Towpath after 4.9
2.15	Add the Stort Navigation towpath into the London Road / Tanners Wharf signals	Desirable Medium	Would run with pedestrian stage	££	After 2.16
2.16	Resurface & widen Stort Navigation Towpath to at least 1.5m & lessen gradient up to London Road	Desirable High (Equality Act for gradient)		£££	At any time
2.17	Resurface & widen Stort Navigation Towpath to at least 1.5m between London Road & Pig Lane	Low		£££	
2.18	Provide full direction signing	Essential once complete		£	Follows each complete section of route

Section 3 Bishop's Stortford South *(dependant on Bishop's Stortford South development)*

Ref	Measure	Priority	Feasibility	Cost	Timescale
3.1	A good quality cycle route through the site and back to the B1383	Essential High			With rest of road network
3.2	Signed route along Bishop's Avenue through the site and back to the B1383 Thorley Street	Essential High			Following 3.1 and 3.3
3.3	A toucan crossing at the B1383 Thorley Street	Essential High			With BS South road network – preceding start of construction

Section 4. Bishop's Stortford to Sawbridgeworth

Measures required for A1184

Ref	Measure	Priority	Feasibility	Cost	Timescale
4.1	Widen footway by taking some space from the carriageway and some from behind the footway where possible	High	Space to achieve this over most of the road length	££	Short term
4.2	Convert footway to joint pedestrian and cycle use	High	May attract objections but pedestrian use is low	£	Following 4.1
4.3	Widen bridge over stream immediately south of Spellbrook Lane	High		££	Short term
4.4	Consider measures to improve the crossing of Station Road at Bullfields / Knight Street / Station Road in Spellbrook.	Medium		£££	Not time critical
4.5	South of Spellbrook School move advisory crossing north to be within the 30mph limit	Medium		£	Not time critical
4.6	Widen footway on east side opposite school	High	Space is tight	£££	Short term
4.7	Permit cycling on west side footway between Spellbrook Lane West & advisory crossing point south of school	Medium		£	Not time critical
4.8	Direction signing throughout	High once complete		£	

Measures to improve Stort Navigation towpath

Ref	Measure	Priority	Feasibility	Cost	Timescale
4.9	Surface and widen the towpath to 1.5m minimum.	Medium	Space is tight in places	£££	
4.10	Investigate options to cross the Stort Navigation and Station Road, Sawbridgeworth, & make connection to Fourburys (LCWIP proposes a parallel crossing)	Medium	Needs further investigation – particularly option of using redundant arch	£££	
4.11	Raise towpath level each side of Spellbrook Lane/Dell Lane so that cyclists and other users cross the lane on the level	Low		££	
4.12	Provide sections of guardrailing where there is a risk of cyclists falling into the canal. One example is shown in this report	Low		£	
4.13	Direction signing throughout	High once complete		£	

Section 5. Sawbridgeworth

Some measures are described in Section 4, or in the Sawbridgeworth LCWIP

Ref	Measure	Priority	Feasibility	Cost	Timescale
5.1	Provide direction signing along: • A1184 - Bullfields - Knight Street - Vantorts Road - Pishiobury Park - A1184	High once A1184 works complete	Straight-forward	£	To follow measures on A1184

	• Knight Street - Fourburys - Stort towpath • A1184 - Bell Street - Vantorts Road - Sheering Mill Lane - Stort Towpath	Part requires contra-flow on Bell St			

Section 6. Sawbridgeworth to Harlow

Measures required for the A1184

Ref	Measure	Priority	Feasibility	Cost	Timescale
6.1	Widen east side footway between Pishiobury Park & Station Road, Harlow by taking space from preferably any land behind the footway but otherwise from carriageway such as that currently used for hatching & islands	High	There is sufficient space over most of the route's length	£££	Short term
6.2	Narrow some wide splays at junctions & provide footway level crossings over lesser used ones	High/ Medium		££	Medium term
6.3	Convert the footway to unsegregated cycle / pedestrian use	High	May attract objections but pedestrian use is low	£	Following 6.1 & 6.4
6.4	Make alterations to the mouth of Old Road at the Harlow Mill junction widening the splitter island & reducing the distance cyclists (and pedestrians) have to cross.	High (if not done can only sign to Harlow via Old Road)	There is space for this. Should not affect traffic capacity. To be done in con-junction with 6.8	£££	Short term
6.5	Direction signing throughout	High once complete		£	Following 6.3

Measures required for Stort towpath

Ref	Measure	Priority	Feasibility	Cost	Timescale
6.6	Widen land available for towpath over parts of the route by removing some vegetation and trees & constructing a retaining wall over short sections. Ecological considerations may prevent constructing a retaining wall.	Medium	Space tight in places	££	Medium term
6.7	Resurface and widen path	Medium		£££	Medium term
6.8	Remove steps at bridge where the towpath changes sides and at the junction with the A1184 at Harlow Mill	High (to meet Equality Act)		££	Short term
6.9	Alter junction at Harlow Mill to widen the west side footway	Medium	There is space for this. Should not affect traffic capacity. To be done in conjunction with 6.4	£££	Short term (preferably) or Medium term if done separately from 6.4
6.10	Direction signing throughout	High once complete		£	

Section 7 Harlow & Section 8 Harlow to Roydon

Measures required for Stort towpath

Ref	Measure	Priority	Feasibility	Cost	Timescale
7.1	Widen land available for towpath over parts of the route by removing some vegetation and trees and constructing a retaining wall over short sections. Ecological considerations may prevent constructing a retaining wall.	Medium	Space tight in places	££	Medium term
7.2	Resurface and widen path	Medium		£££	Medium term
7.3	Direction signing throughout	High once complete		£	

Measures required to link towpath sections

7.4	Retain closure of Burntmill Lane bridge	High	May attract objections	Nil	Short term
7.5	Improved crossing between towpath sections at Burntmill Lane	High (if 7.4 not done)	Enough space & visibility	£	Medium term
7.6	Direction signing at station car park	High		£	Short term
7.7	'Low Headroom' signing at railway bridge	High		£	Short term
7.8	Treatment at B181 bridge at Roydon station	High	Will require further study	££	Medium term

Section 9 Harlow to Gilston

Ref	Measure	Priority	Feasibility	Cost	Timescale
9.1	Make connections from core cycle route along the Stort Navigation to each village (Gilston Proposal)	As development progresses – before housing constructed		By developers	
9.2	Make connections from core cycle route to each of the original lanes that run through the site (Gilston Proposal) These lanes should be closed to through motor traffic & made through routes for pedestrians & cyclists. The routes can be extended northwards from Gilston.	As development progresses – before housing constructed			
9.3	Construct a sustainable transport corridor linking Gilston to Harlow and connecting each village. (Gilston Proposal) Additional inter-village links will be required.	As development progresses – before housing constructed			
9.4	Close Redricks Lane closed to through motor traffic to make a link to Sawbridgeworth *or* Close High Wych Road to make a link to High Wych	Following realigned A414	May attract objections	£	
9.5	Use old lanes and improved tracks (bridleways) to create routes to Widford (and potential route on disused railway), Hunsdon and to Thorley or the west side of Bishop's Stortford.	As development progresses		varies	

Section 10 Roydon to Lea Valley

Measures required for Stort towpath

Ref	Measure	Priority	Feasibility	Cost	Timescale
10.1	Widen land available for towpath over parts of the route by removing some vegetation and trees and constructing a retaining wall over short sections. Ecological considerations may prevent constructing a retaining wall.	Medium	Space tight in places	££	Medium term
10.2	Resurface and widen path	Medium		£££	Medium term
10.3	Direction signing throughout	High once complete		£	