

Thetford Loops Stage 2



For: Breckland Council



December 2010

Thetford Loops Stage 2

Final Report

Main contact for this project:

Rob Marshall
 39 Foster Road
 Campaign Avenue
 Peterborough
 PE2 9RS
 01733 566829
 Mob: 07725 466843
 Email: rob.marshall@transport-initiatives.com

Transport Initiatives LLP
 Office 4, 145 Islington Road
 Brighton BN2 9SH
 0845 345 7623
 office@transport-initiatives.com
 www.transport-initiatives.com

JMP Consultants Limited
 3 Harbour Exchange Square
 London E14 9GE
 020 7536 8040 /
 020 7005 0462
 docklands@jmp.co.uk
 www.jmp.co.uk

| | |
|--|----------------------------------|
| TI Checking and sign off | |
| Job: Thetford Loops Stage 2 | Client: Breckland Council |
| Job number: CSER33 | Version number: 3.4 |
| Issued by: | |
| Mark Strong for and on behalf of Transport Initiatives LLP | |
| Signed  | Date 19/12/10 |
| Checked by: | |
| Steve Essex  | Date 19/12/10 |

© Transport Initiatives LLP 2010

All photos © Transport Initiatives except where stated

All mapping based upon Ordnance Survey material with the permission of Ordnance Survey on behalf of the Controller of Her Majesty's Stationery Office © Crown copyright. Unauthorised reproduction infringes Crown copyright and may lead to prosecution or civil proceedings. Breckland Council Licence No. 100019535 2010

Thetford Loops Stage 2

Final Report

Contents

| | |
|---|----|
| Executive Summary | 3 |
| 1. Introduction | 6 |
| 2. Deliverables and study area | 12 |
| 3. Task 1 - Identification of ownership | 13 |
| 4. Task 2 – Technical Assessment | 14 |
| 5. Task 3 – Cost Estimates | 27 |
| 6. Task 4 – Guidelines for Loops | 28 |
| 7. Task 5 - Maintenance | 30 |
| 8. Conclusions and recommendations | 32 |

Appendices (separate document)

- A Thetford Loops: Land ownership
- B Thetford Loops: Data sheets
- C Thetford Loops: Priorities list
- D B1107 crossing option assessment
- E Crossings (preliminary designs)
- F Section lengths
- G Cost estimates
- H Thetford Loops: Design guidance

Executive Summary

Background

Thetford is one of a small number of areas in England region to have been granted Growth Point Status by Central Government. This will include major growth of the town over the next 15 years, including a significant increase of population.

The goal of extending the walking and cycling networks in and around Thetford is long-established, dating back to the Thetford Walking and Cycling Network proposals developed and implemented by both Breckland Council and Norfolk County Council since the 1990s. It is widely acknowledged and features in adopted planning and development proposals.

The extension of the walking and cycling networks was reaffirmed as a desirable project in the 2009 *Thetford Urban Design Framework Study* (Roger Evans Associates). Its recommendations provided policy influences and detailed proposals for inclusion in the Thetford Area Action Plan. A key element of this is the proposed Thetford Urban Extension in the north of the town.

The principles behind improved provision for walking and cycling are widely acknowledged and generally accepted. For Thetford, the benefits are wide-ranging, including:

- Sustainable transport, notably improvements to the traffic-free network and increased accessibility (i.e. to local services as well as for people with disabilities)
- Health and Quality of Life
- Green tourism and leisure
- Environmental protection and improvement
- Working with committed, supportive organisations and partnerships

Study

A scoping study of the Thetford Loops Stage 1 was carried out by Capita Symonds and published in early 2010. This current study, by consultants Transport Initiatives (TI) and JMP, includes a detailed and extensive review of the Thetford Loops proposals identified in the Stage 1 study. It sets out the feasibility, deliverability and costs of developing the Loops.

The study highlights a priority Thetford Loops Network based on a detailed review of walking and cycling opportunities using shared-use paths. A plan showing these routes is shown overleaf. The detailed proposals for sections of the Loops have been grouped under the following headings, based on the original Loop groupings in the Stage 1 study.

- Forest Loops (FL)
- BTO Loops (BTO)
- Croxton Loops (CL)
- Southern Loops (SL)
- Northern Loops (NL)

The Loop proposals make use of existing paths and tracks, many of which are currently little used, but which will require investment in surface improvements to make them accessible for people on bicycles and ideally, those using wheelchairs and other aids to movement. The study includes a guidance document on the consistent development of the Loops.

The Thetford Loops Network proposals must be considered in the light of the considerable landscape and habitat importance and uniqueness of the surrounding Brecks area. Locally, there are many designated nature conservation sites, in particular national Sites of Special Scientific Interest, European Special Protection Area and Special Area of Conservation protected under the Habitats Regulations. Natural England is supportive in principle of enhanced access and will of course need to be involved as proposals are developed further.

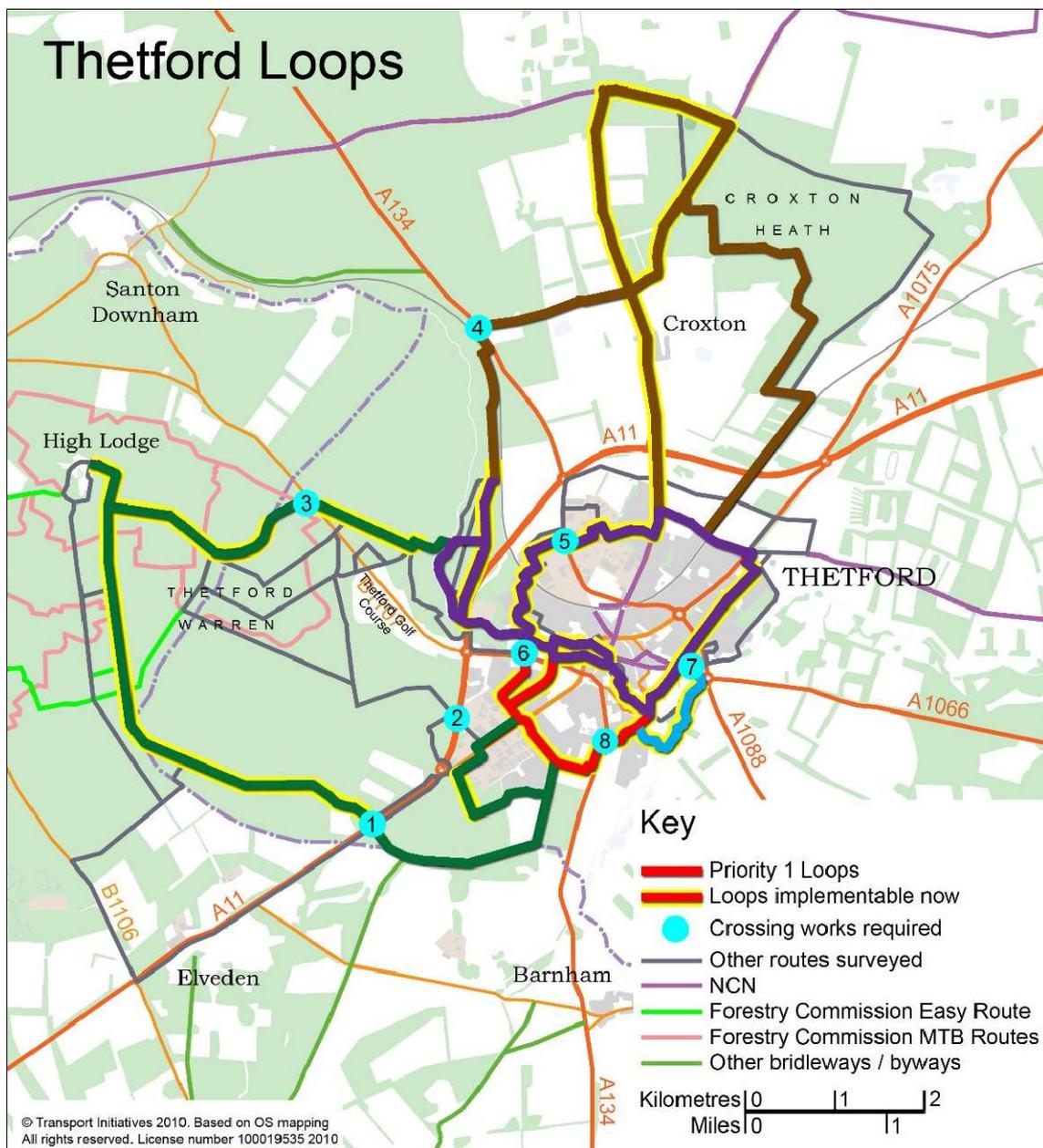


Figure 1 – Proposals for Thetford Loops

Crossings

The attractiveness, safety and convenience of any walking and cycling routes in Thetford depend on users being able to cross the main traffic routes that radiate out from the town, all of which are busy and carry high speed traffic. A number of crossing requirements have been identified, varying in priority from essential to desirable for the implementation of the Loops. These are shown on the map above and are listed below.

1. A11 Bypass – at Olley’s Farm (underpass)
2. A11 Bypass - at London Road Industrial Estate (‘green bridge’)
3. B1107 Brandon Road – north west of Golf Course (refuge)
4. A134 Mundford Road - north of Rugby Club (refuge)
5. A1066 Mundford Road - Brunel Way to Fison Way (refuge or Toucan)
6. A134 Brandon Road – Canterbury Way to Redcastle Furze (Toucan)
7. Castle Street – Arlington Way to Melford Bridge (refuge)
8. A134 Bury Road – Kingsway to Nun’s Bridges Road (refuge or Toucan)

The A11 to the west of the town poses a major barrier to pedestrians and cyclists. The only existing safe crossing point is alongside the Little Ouse River at the A11 bridge over the river. The identified priority riverside route proposal makes use of this crucial crossing opportunity.

In the longer term, it is of crucial importance that the Highways Agency's A11 Improvement south-west of Thetford includes measures to enable pedestrians and cyclists to cross safely at Olley's Farm via a good quality and well-designed underpass.

Highest priority recommendations

The Priority Loops recommendations include the vital riverside route. People like to travel alongside water and the Little Ouse River through the centre of Thetford provides the opportunity. There is considerable high quality access already available, based on the Haling Path and other riverside paths within the urban area of the town. Maximum use should be made of this route, extending it westwards beyond Canterbury Way, to provide a link to the forest and the excellent visitor centre facilities at High Lodge.

Existing forest tracks are in place, mostly of an adequate standard. These can provide the basis of a fun, traffic-free experience, for both adults and children. The status of some Public Rights of Way, i.e. footpaths, may need to be altered to allow legal shared use, as well as surface improvements – crucial if cyclists and the less able are going to benefit from the routes. The development of this route to High Lodge requires the refuge crossing of the B1107 Brandon Road, and this should be considered as a priority.

The Riverside route and the vital link out to High Lodge should be the first priority, followed by making the most of any opportunities to enhance and improve the more urban network. Including this route, the Priority 1 recommendations are:

- Riverside route – Nuns' Bridges to High Lodge (several links)
- BTO route – Nunnery Place via Arlington Way to Green Lane
- Croxton on-road route – Croxton village via Devil's Punch Bowl
- Southern inner orbital route - Nun's Bridges, Kimms Belt to Redcastle Furze

Finances

A preliminary cost estimate for all the recommended Thetford Loop routes and associated improvements is of the order of £1.5 million. This compares well to recent similar schemes e.g. Bedford Borough Council's 'Green Wheel' network which was costed at £4.5 million. The Thetford Loops Priority 1 recommendations, listed above, are estimated to cost £780,000. This includes several road crossings of the order of £50,000 (for a traffic signal controlled facility) and link improvements (mainly accessible surfacing).

Funding for delivering the proposals will need to be sought from a wide range of sources and make the most of any new opportunities and initiatives. Opportunities are of course severely limited due to the funding pressures experienced by Local Authorities and other government agencies. Nevertheless, capital budgets are still the first option for core funding of such projects, particularly in urban areas. Local Transport Plan funding is also likely to be a key source. Planning commitments from developers are an important source of funding, and the development proposals for the Thetford Urban Extension should provide key contributions.

There are likely to be future funding opportunities through government initiatives such as the DfT's new 'Local Sustainable Transport Fund'. The Local Authority should be alert to these and make appropriate bids. Routine highway maintenance must not be overlooked so that relatively simple and low-cost measures can be included if the chance arises.

Finally, as noted above the A11 Trunk Road proposal should include crossing measures which ideally would be funded by the Highways Agency as part of the final scheme

1. Introduction

1.1. Background

Thetford is one of only four areas in the East of England region to have been granted Growth Point Status by Central Government. The Growth Points initiative provides support to local communities wishing to promote sustainable growth, including new housing, through a partnership with Government. The town has also been identified in the East of England Regional Spatial Strategy as a Key Centre for Development and Change and a Regional Transport Node.

The growth of Thetford is expected to be considerable, with an expected increase in population by 2026 of around 5,000 households (around 12,000 people, over 50% of the existing level) and 5,000 jobs. Transport needs are a key part of the development of Thetford, and within these improvements to the walking and cycling network are expected to play a crucial role.

The Thetford Loops Stage 2 (Technical Audit) Study examines and develops the preliminary work of the Stage 1 Feasibility Study. Consultants Transport Initiatives (TI) and JMP have carried out this study which seeks to answer the following questions:

- Are the Thetford Loops technically feasible?
- Can the Loops be delivered?
- What is the approximate cost?

Based on our experience of work on transport studies we have no illusions over the main risk to successful project delivery. We are fully aware of the competition for space and priority within the highway and path network and how difficult it can be to accommodate the needs and aspirations of all interested parties.

To establish effective solutions, a clear understanding of problems as they relate to all modes is essential. It is inevitable that compromise will be required to produce results that are satisfactory to all – and more importantly, that can be delivered on the ground. Deliverability, cost-effectiveness and practicality are crucial aspects when recommending design solutions for walking and cycling networks.

The combined TI and JMP team's experience of route implementation for Local Authorities ensures that the Thetford Loops recommendations should be deliverable. This does not reduce the vital importance of appropriate Local Authority political and officer support and vision and the co-operation and enthusiasm of other organisations.

Once in place the Thetford Loops will offer a significant sustainable travel asset to the residents and visitors to the town and to the local area.

1.2. Objectives of the study

The main objectives of the study are to:

- Review and assess the identified Loops based on an appreciation of the core design principles
- Develop and prioritise deliverable Loop options with cost estimates
- Provide practical guidance for Loop delivery with examples and details where appropriate
- Provide the Client with a completed Thetford Loops review study that best enables future Loop development and implementation

1.3. Thetford and the surrounding area

Thetford is a market town and civil parish in the Breckland district of Norfolk. The civil parish, covering an area of around 30km², has a population of around 22,000 and is the fourth largest settlement in Norfolk. The nearest major urban centres are the cities of Norwich (32 miles) and Cambridge (35 miles) and the towns of Bury St Edmunds (12 miles) and Newmarket (20 miles).

The A11 trunk road between Norwich and London runs around the town, and it lies on the rail line between London and Norwich. Thetford benefits from a railway station with regular services between Norwich and Ely/Cambridge, as well as a service to the Midlands and North West of England. Train operators serving Thetford are currently National Express East Anglia and East Midlands Trains.

As a major employment centre Thetford currently provides an estimated 17,000 jobs, many of which are in manufacturing. In addition, a programme has been set up to establish Thetford as a centre for motor sports and advanced engineering along the A11 corridor Rural Enterprise Valley.

Thetford lies just south of Thetford Forest, in the centre of Breckland or 'The Brecks'. The town is sited at the confluence of the Little Ouse River and the River Thet, after which the town is named. The Brecks covers 940 km² of countryside in Norfolk and Suffolk and forms one of the great natural areas of Britain. It is characterised by areas of heathland and forest which provide attractive and distinct environments around the main urban settlement of Thetford. There are historic trackways (Peddars Way, St Edmund Way, Hereward Way and Harling Drove) and evidence of man's settlements and activities back to Neolithic times (Grimes Graves).

Over the last 100 years the ancient character of the Brecks has been changed. The large-scale pine plantations of Thetford Forest and the use of modern farming technology have transformed much of it into more productive land. The remaining stretches and the more open forest are now vital areas for wildlife conservation.

The combination of natural and built heritage assets combine to make the town and immediate area a potentially desirable destination for tourism and recreation. The Brecks is an ideal area for quiet recreation and the local forests now welcome over 1.5 million visitors a year. There is a popular visitor centre at High Lodge, a few miles across the Suffolk border to the west of Thetford. This offers a range of attractions and activities, including bicycle hire. The Centre Parcs operation at Elveden, to the southwest of the town, also exploits the potential of the local area.



Photo 1 – Cycling at High Lodge

It follows that the Thetford Loops aspirations are profoundly sustainable. They also seek to encourage low impact ‘quiet recreation’ and promote active travel and recreation. This will promote healthier lifestyles and improve the quality of life for the local population.

Thetford has been selected as one of nine Healthy Towns across England, receiving nearly £1 million funding. There is an ambitious programme of developing the health of the local population by a variety of projects, including encouraging cycling and walking.

1.4. Cycling and walking in Thetford

The town of Thetford already has an extensive core walking and cycling network, developed over the past 20 years by Norfolk County Council and Breckland Council. It has many attractive traffic-free sections (such as Green Lane) and innovative high quality priority crossings. National (Route 13) and regional cycle routes (Route 30) have also been developed, signed and mapped, and provide an additional cycling asset for Thetford and the surrounding area.

The Loops proposals offer considerable potential to enhance the network by providing convenient and attractive paths for pedestrians and cyclists which improve access to the surrounding countryside. They will also augment the existing urban path network (branded as the ‘Thetford Connect’ network), helping to further facilitate and encourage local utility journeys on foot or by bike – to school, to work and to the shops. Achieving high levels of utility walking and cycling trips is seen as a vital element in local travel.



Photo 2 – ‘Thetford Connect’ route branding, incorporated into local direction signs

1.5. Policy context

Planning policies and strategies for Breckland District are set out in the Breckland Core Strategy and Development Control Policies document. Due to the anticipated growth of Thetford, an Area Action Plan is also being developed that will set out specific, more detailed policies and proposals for the growth and regeneration of the town, including the allocation of sites for development and a vision for its sustainable growth and regeneration over the next twenty years.

A wide range of studies have already been commissioned by BDC and the local delivery vehicle, Moving Thetford Forward, in order to provide the evidence base for the Core Strategy and the Area Action Plan.

Completed key studies include:

- Thetford Green Infrastructure Study (Land Use Consultants, 2007)
- Thetford Growth Framework and Infrastructure Study (EDAW, 2007)
- Vision and Development Strategy (Urban Practitioners, 2005)
- Thetford Water Cycle Study (Scott Wilson, 2010)
- Bird studies (various organisations)
- Breckland A11 Energy Study (IT Power, 2010)
- Thetford Transport Assessment (Mott MacDonald)
- Thetford Historic Built Environment Audit (Breckland Council)
- Thetford Historic Environment Study (Norfolk County Council)
- Thetford Urban Design Framework (Roger Evans Associates, 2008)

The **Thetford Urban Design Framework** document includes a section on ‘Footpaths and circular routes’ which states:

“The growth of Thetford presents the significant opportunity of extending and connecting footpaths and other non-vehicular routes through and around the town.

The most engaging prospect offered is to connect the existing routes along the Little Ouse with Joe Blunt’s Lane to create a greater Thetford circular route. This would tie together the central river corridor, with its natural and cultural assets such as the Priory and Castle Hill, with Snarehill and Kilverstone to the east, the Gallow’s Hill Scheduled Monument site to the north and Thetford Forest to the west.

There are also a number of alternative loops to the route on the east, along Green Lane within town and out to St Andrews Church and the War Memorial at Kilverstone. The circular route would itself be connected to the Icknield Way by the Thetford Link / St Edmund Way.”

The **Thetford Growth Framework & Infrastructure Study** includes a spatial vision for Thetford based on the elements of the Town, the Forest, the River and the Heath:

“The growth of Thetford should maintain and extend its positive role and character.

- *Respect the forest and its protection areas*
- *Retain the river corridors as the common spine of the settlement*
- *Maintain their value as floodplain, habitat and accessible natural green open space*
- *Stay within the topographic limits of the river valleys*
- *Extend the connection between the river corridor and built heritage*
- *Extend the network of footpaths to tie the town into the landscape*
- *Stitch existing landscape features into the green infrastructure*
- *Make direct connections between main routes and centres*
- *Create new local centres to form a basis for neighbourhood identity*
- *Bind together access, green infrastructure and heritage.”*

The opportunity for the Thetford Loop proposals to facilitate and support many of the above spatial aspirations is clear. In particular, the improvement of the existing link westwards along the Little Ouse River is considered a priority beyond the improvements within the urban area, as it would provide a key connection to the forest and the High Lodge visitor centre.

1.6. Special Protection Areas

Thetford Forest and much of the surrounding farmland make up the Breckland Special Protection Area (SPA). SPAs are designated to protect internationally rare breeding birds and are strictly protected sites classified in accordance with Article 4 of the EC Birds Directive, which came into force in April 1979. Along with Special Areas of Conservation, SPAs form a European network of 'Natura 2000' sites, designed to protect Europe's most threatened wildlife.

The Breckland SPA was designated in 2006, for its significant populations of Woodlark (*Lullula arborea*) and Nightjar (*Caprimulgus europaeus*). These are both ground nesting birds, dependent on clear-felling and replanting methods of timber production in forests. About 200ha of new habitat are created each year through clear-felling in Thetford Forest. About 270 pairs of Woodlark and 350 pairs of Nightjar are to be found in Thetford Forest. These represent about 20% and 10% respectively of the total UK populations of these birds.

The Stone-curlew (*Burhinus oedicanus*) is also another important bird species resident in the area. Stone-curlew are largely reliant on arable land for nesting and are thus vulnerable to disturbance and nest destruction from agricultural operations.

Nightjar, Woodlark and Stone-curlew are all vulnerable to predation from corvids (jackdaws, crows, etc.) and foxes, as well as to disturbance caused by human activity, including dog-walking. In 2005, new public access was introduced on heaths by legislation. Safeguards to protect stone-curlew were included but the situation will require monitoring to determine their success in preventing additional disturbance.

Breckland heathlands and acid grasslands supporting the three species described are fragile in terms of the high background levels of air pollution in the area, particularly high nitrogen loads causing undesirable habitat changes. Research on this topic is ongoing. Measures to export the nutrients off heaths to counter the effects of pollution (e.g. night time sheep folding or topsoil stripping) are potential management options.

There are development pressures on the area, particularly for infrastructure, which requires discussion and mitigation in some cases. This is achieved through Natural England commenting on planning applications and providing input to structural and local plans. The Thetford Growth Framework and Infrastructure Study determined that the SPAs effectively preclude any future growth to the south and west of Thetford. The SPAs require a buffer zone, which would also constrain growth to the north and east. A buffer of 400m was assumed for the purposes of the Study. This allowed a significant area of development to the south-east of the town as well as to the north.

Development of the area to the southeast, which is closest to the existing town centre, received widespread support at the key stakeholder workshop. More recent, detailed work on the SPA completed by consultants and endorsed by Natural England has shown that a larger buffer of 1,500m is required. As a result of the revision, the SPA buffer extends over the area to the south-east and hence precludes development in that direction. The only remaining directions for growth are to the north and north-east. It is anticipated that certain activities, to be set out in the Appropriate Assessment, will be possible within the buffer areas to the south-east, but any significant built development will be precluded.

1.7. Natural England

Natural England states that it “welcomes and supports the Thetford Loops initiative, which has at its core the creation, promotion, and enhancement of a sustainable transport cycle network across Thetford. The project also encourages access into the natural environment, which is an aspiration very much shared by Natural England.”

Notwithstanding these positive messages, Natural England's principal concern relates to the interaction between the Loops and designated nature conservation sites, in particular national Sites of Special Scientific Interest (SSSI), SPAs, and Special Areas of Conservation (SAC), protected under the Habitats Regulations.

Accounting for their international designation, its principal concern relates to impacts on the Breckland SPA and SAC. Much of Thetford Forest is SPA, and both the Thetford Golf Course, and Barnham Cross Common have SAC designation. In promoting public access to these sites, the Loops project has the potential to contribute to the adverse effects of recreational disturbance / damage to sensitive features of nature conservation interest. Within the Forest, there is concern over the effect on the woodlark and nightjar populations, whilst within the golf course and Barnham Cross Common, sensitive heathland and grassland habitats (amongst others) are to be found.

However, all these sites offer significant (managed) public access at the present time, and Barnham Cross Common has Local Nature Reserve status which necessitates the public enjoyment of the natural environment. Natural England is of the view therefore that the Loops project is not incompatible with these sites. However, it does advise that the project must be well integrated with any existing (and potentially new) visitor management arrangements. It has some uncertainties regarding the route (Loop ref: FL6) through the Elm Road Field SSSI. Its advice is that wherever the routes involve land take (however small) from designated sites, that these are subject to proper ecological scrutiny, to identify, assess and mitigate the likely effects.

Natural England also appreciates that the Loops project is one element of several as part of the projected growth of Thetford, and that significant additional elements (not least the increase in housing numbers) all contribute to this increase in visitor pressure on such sites. Its view is that the potential for any negative effects of the project upon sites of European importance should be assessed by way of a Habitats Regulations Assessment as part of the higher level Thetford Area Action Plan. Once the final route(s) have been identified, it is prepared to offer more site specific advice at the 'project level', but it does not anticipate that there are significant nature conservation issues which cannot be overcome.

Finally, Natural England advises that the Loops be designed to connect in due course with the Thetford Sustainable Urban Expansion, to the north-east of the town. The Northern Loop does appear to do this well, however we suggest an integrated approach to the provision of such infrastructure, and an early dialogue with the Thetford SUE project team might be advantageous.

2. Deliverables and study area

The brief for the Thetford Loops Stage 2 (Technical Audit) study set out the following deliverables:

- Task 1: Identification of ownership in the vicinity of the proposed Loops
- Task 2: Technical Assessment
- Task 3: Cost Estimate
- Task 4: Guidelines for the Loops
- Task 5: Maintenance

The outputs from each of these tasks have been included in interim reports followed by a draft overall report. This final report brings together all aspects of the study.

Figure 2 below shows the plan from the Stage 1 study with initial route proposals.

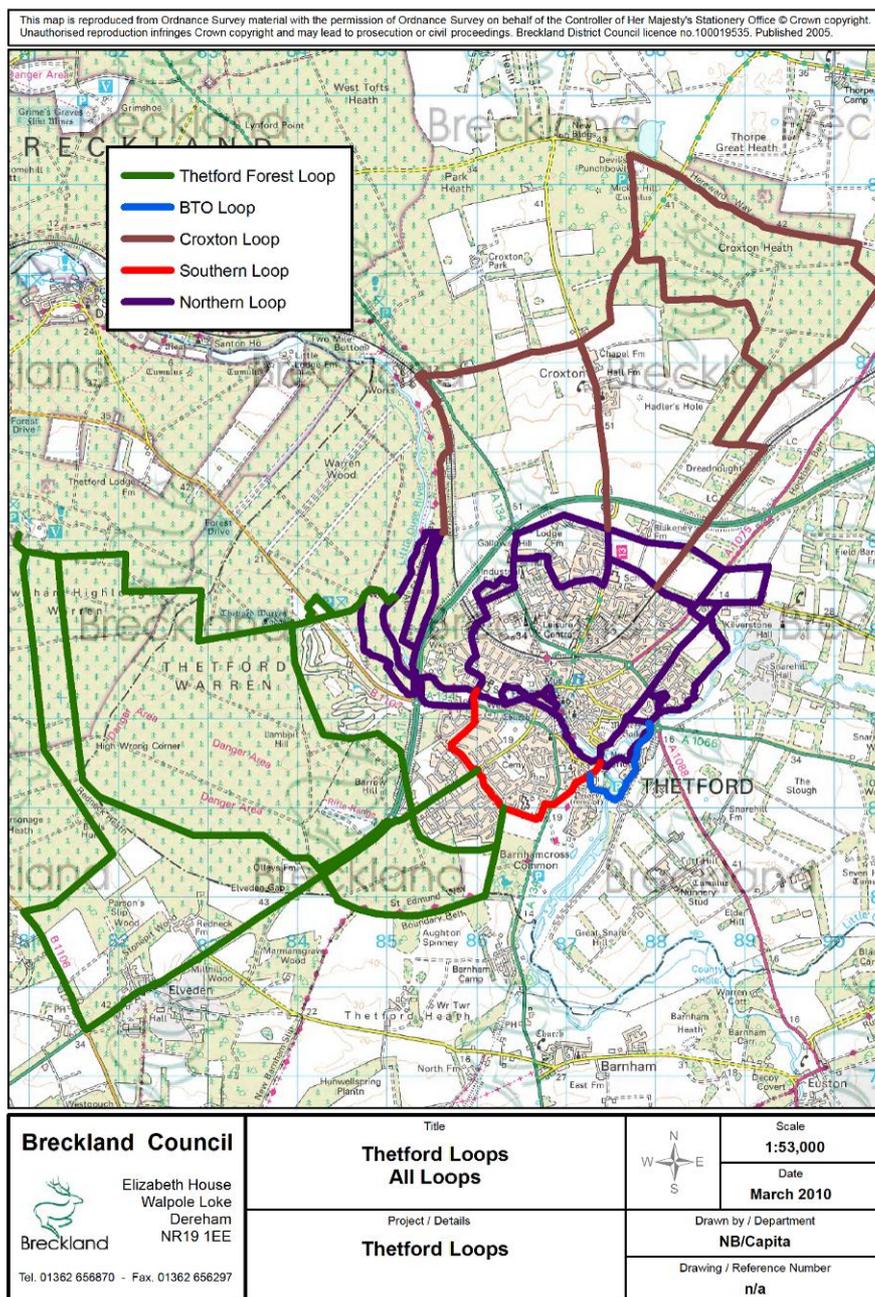


Figure 2 – Thetford Loop routes identified in Stage 1 Feasibility Study

3. Task 1 - Identification of ownership

Appendix A shows a detailed land ownership plan (also supplied on disk due to the detail and amount of data included). Land ownership in the Loops area includes:

- Crown Estate
- Crown Estate Promotion land
- Crown Estate land – managed by the Forestry Commission
- Forestry Commission – Management Area
- Forestry Commission – Freehold land
- Kilverstone Estate
- Kilverstone Estate Promotion land
- Breckland District Council – owned and maintained land
- Breckland District Council – maintained but not owned
- Thetford Golf Course

In addition to landowners, the development of the Thetford Loop routes will also need to consider the following organisations which have interests.

Norfolk County Council

The County Council is the Highway Authority, with responsibility for the adopted road network. Route proposals along quiet roads (e.g. in Croxton) and locations for crossings (e.g. on the B1107 near Thetford Warren) require the County Council's approval and support.

Highways Agency

The Highways Agency is responsible for Trunk Roads in England. For the aspirations of the Thetford Loops project, the A11 Trunk Road is a major barrier to development of the Loops network. There is a proposed Major Scheme for improvement of the single carriageway section of the A11 Trunk Road west of Thetford to dual carriageway specification. This will have considerable implications for the development of the Loops.

A strong case can be made for a crossing at Olley's Farm (ideally an underpass) which would give a safe, convenient and direct route into the High Lodge area of Thetford Forest. Representations should be made to the Highways Agency with the aspiration of adding this crossing as a 'Variation Order' to the already approved A11 Improvement design. This is discussed further in the Forest Loops section below.

Environment Agency

The Environment Agency's Land Drainage and Sea Defence corridor (9m measured horizontally from the foot of any bank of the landward side of a waterway) has been shown on the Thetford Land Ownership Plan. The Environment Agency's main interest is in its obligations for the maintenance of flood defences. Access to rivers and drainage systems and the construction and operation of any proposed paths should not compromise this.

4. Task 2 - Technical Assessment

4.1 Overview

The study area (see Figure 2 above) includes about 83km of identified Loop routes which provide possible opportunities for developing the Thetford Loops network. Site visits were made to approximately 100km of routes which have been audited in order to investigate and consider alternatives that were evident during the visits.

The main Loop headings have been retained, as set out in the preliminary report:

- Forest Loops (FL)
- BTO Loop (BTO)
- Croxton Loop (CL)
- Southern Loops (SL)
- Northern Loop (NL)

The routes have been broken down into discrete links or sections (denoted “FL1” etc.) which were either established in the Stage 1 report or have been identified during the Stage 2 study. Detailed data sheets for all the sections are included at **Appendix B**. These include an individual location plan, photographs and other information about the route, plus detailed recommendation(s).

Individual sections have been designated as **Priority 1** (high) or **Priority 2** (low). A schedule is included at **Appendix C**. This will enable planning and transport officers to have a clearer understanding about which individual projects should be progressed first when opportunities arise. **Priority 1** routes include those routes which make complete loops, or where only a single option is possible.

A number of sections of Priority 1 routes have been highlighted on the plans as “**Loops implementable now**”. These are sections where cycling is already legal and where only minor works (such as signing) are needed for use by walkers and cyclists.

The lengths of the various route sections are provided in **Appendix F**. The total length of the network of Priority 1 routes is approximately 49.35km. Most of this is currently usable – 5km is along existing routes requiring improvement while 10.9km will require the construction of a new route.

Some priority Loop proposals make use of existing Public Footpaths which cannot be legally ridden by cyclists. ‘Conversion Orders’ will be required for these to permit shared-use by cyclists. These Orders would be promoted by the Highway Authority (i.e. Norfolk County Council) using its powers available under the Cycle Tracks Act 1984. This can go to a Local Public Inquiry if there is sustained opposition. Conversion of footways (these are usually urban paths, often alongside roads, and are different to footpaths) to shared-use is carried out using powers in S.66 of the Highways Act 1980. A committee resolution usually suffices.

4.2 Loop proposals

The proposals are summarised below, including a plan highlighting the Priority 1 sections and their reference numbers. At the end of the description of each Loop is a recommendation for which sections which should be progressed first.

The comments on the Forest and Croxton Loops include a statement on the views of the Forestry Commission, as their support for these sections is important.

Forest Loops

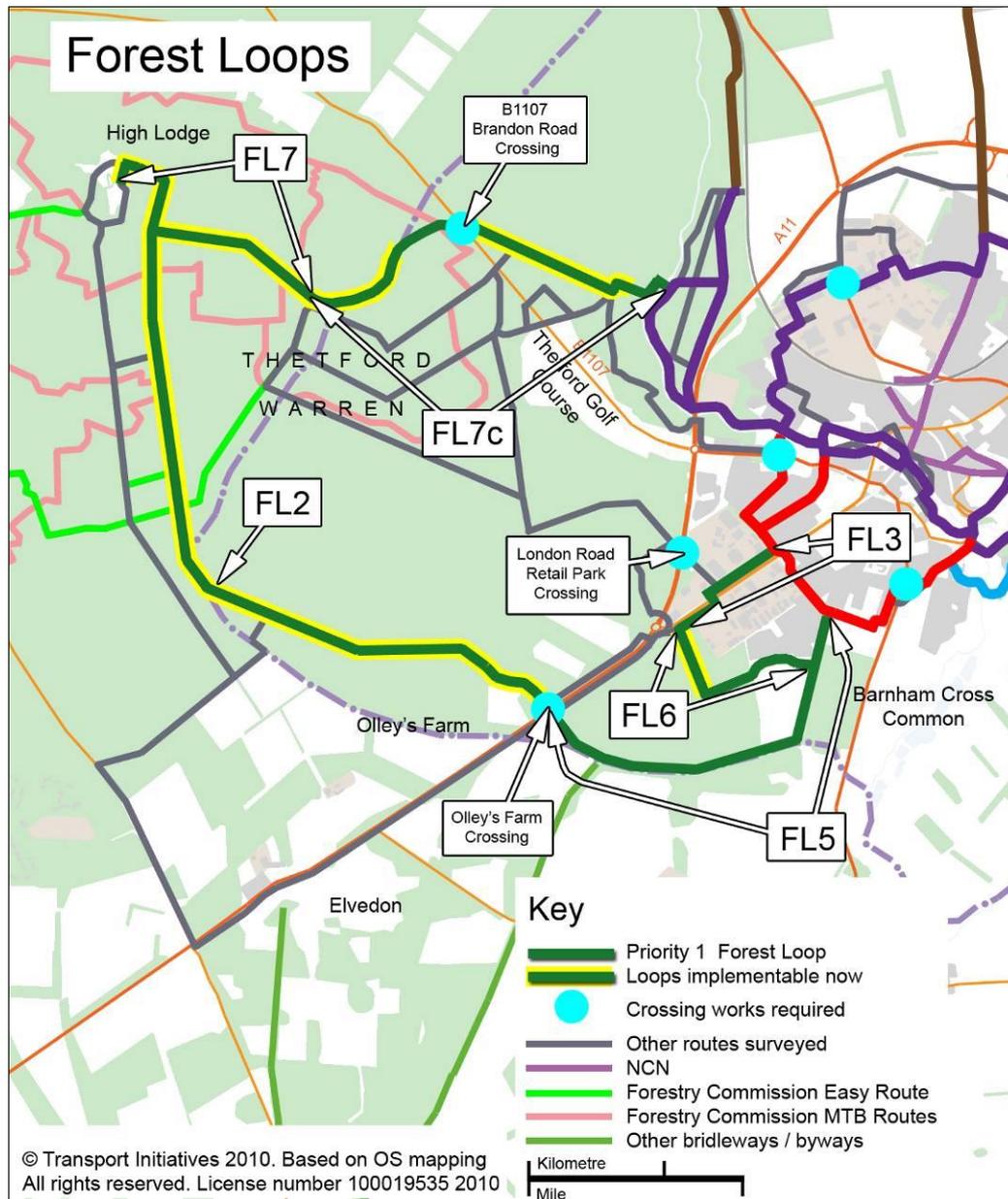


Figure 3 – Forest Loops showing Priority 1 routes



Photo 3 High Lodge

The Forest Loops include all the forest routes in Thetford Warren, and the area to the west and southwest of the town. Many potential routes have been identified in the preliminary study. The Forestry Commission actively promotes public access throughout most of this area and there is an extensive network of paths of varying quality and 'rideability'.

High Lodge provides visitors with excellent facilities and serves as a focus for making better use of the forest amenities. The priority route recommendations are based on the use of the highest quality existing forest tracks as designated by the Forestry Commission as 'easy, family routes'. These already have an adequate walking and cycling surface.

Three road crossings have been identified as listed below. The first two of these are crucial for the loop to function as a circular route.

- B1107 Brandon Road, west of the Thetford Golf Club – refuge
- A11 at Olley's Farm – underpass
- A11 near London Road Retail Park – overbridge (possibly a 'green bridge')

The Brandon Road crossing is the most deliverable and feasible measure. It is based on a relatively simple, standard design refuge with associated link paths. A detailed assessment of the crossing and link options for the B1107 is included at **Appendix D**. There should be little difficulty installing this crossing if funding is available and the highway authority, Norfolk County Council, is supportive. Crossings of this nature are already in place in Norfolk (see photo example in Appendix D).

The A11 crossing at Olley's Farm is, of course, dependent upon the Highways Agency's A11 Fiveways to Thetford Improvement scheme, due to start in 2015. This Major Scheme project should include all necessary crossing arrangements for vulnerable road users. However, the approved scheme does not include any crossing measures that will be useful for the proposed Loop. This is an extremely serious and unfortunate omission, since any construction of an underpass independent of the A11 scheme will be significantly more costly and have a very long timescale.

It is presumed that when the A11 Improvement was designed the Thetford Loops project was not promoted or sufficiently well-developed, nor was it included at its subsequent confirmation at Public Inquiry. It is evident from contacts with officers that there is support from both Norfolk and Suffolk County Councils, Breckland District Council, Thetford Town Council and many other local organisations for an underpass crossing. Representations should therefore be made to the Highways Agency to seek an urgent review of the need for a crossing with the aim of including this as a 'Variation Order' to the A11 Improvement.

An alternative to the Olley's Farm crossing would be possible by providing a pedestrian/cycle overbridge making use of the convenient topology of the A11's route between the junction with Brandon Road and London Road. Here, the A11 is in a cutting which would make the installation of a bridge less costly, as well as more convenient to use as ramps would not be required. However, the cost is likely to exceed £500,000 – well beyond the normal means of local authority and other local agency budgets (although costs could be reduced by using a 'recycled' bridge).

Once again, the Highways Agency is the key player in this. The case should be made that if no amendments are possible to the agreed A11 Improvement scheme, funding should be found to ameliorate the missed opportunity for a safe crossing. Representations should be made to the Highways Agency so that they are aware of this aspiration and their comments sought on it.

It has been suggested that a 'green bridge' over the A11 is provided here (and at Lodge Farm), an idea from the Forestry Commission and included in the Thetford Urban Design Framework Document. The cost of such a bridge would of could be considerably higher than a standard bridge.



Photos 4 & 5 – ‘Green Bridges’: B33, Radolfzell, Germany (l) & A11 Mile End Rd., London (r)

The Forest Loop routes are completed to the south of Thetford by the Barnham Cross Common Loop that follows the town’s urban fringe around the Common to make a connection with Nun’s Bridges road link across the Bury Road.

Barnham Cross Common is a SSSI within the SPA located on the southern edge of Thetford, between the Little Ouse and Thetford Forest. There have been concerns that the Common is ‘over-used’, putting pressure on its sensitive ecology. A key objective of the strategic framework is therefore to provide additional natural green space as an alternative to the Common to relieve this pressure.

In light of the confirmed SPA buffer, the area south-east of the town, which is excluded from significant built development but close to the town centre, becomes an excellent location for additional natural green space. The Thetford Loop proposals make use of existing peripheral paths and encouraging their use as part of an orbital route, and are therefore, unlikely to intensify use of the Common.

In relation to the Thetford Loops, the Forestry Commission’s key priority is the Forest Loops linking the town to High Lodge, since these loops will link into existing trails and recreational facilities and will be of most interest to the public.

This requires that the only available short/medium-term link, via the Little Ouse River path, should be considered as Priority 1, as a crossing of the A11 at Olley’s Farm has not been agreed and in any case would take a considerable time to implement.

| Forest Loop Priorities |
|---|
| Priority 1: FL7 and FL7C High Lodge to Little Ouse River, includes B1107 crossing |
| Priority 2: FL2, FL3, FL6, FL5 |



Photo 6 – Forest Loops link FL7C between Abbey Heath and B1107 Brandon Road



Photo 7 – Forest Loops link FL7 west of B1107 (area scheduled for clear felling in late 2010)

BTO Loop

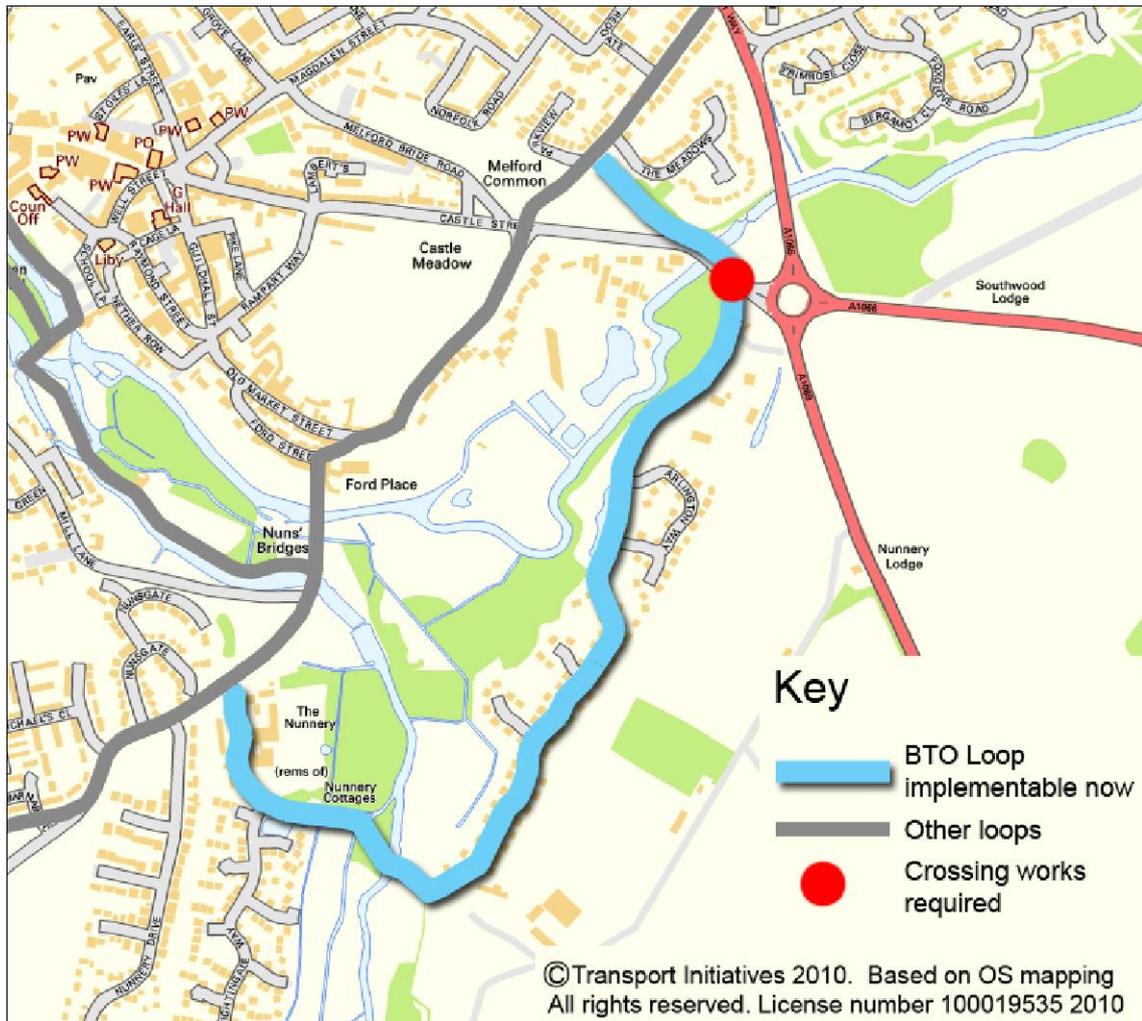


Figure 4 – BTO Loop showing Priority 1 route

This is a useful Loop in the southeast of Thetford. It comprises a mostly traffic-free link between Nun’s Bridges Road to Arlington Way via Nunnery Place, passing the British Trust for Ornithology’s (BTO) Headquarters. A short section of Nunnery Place, from Nun’s Bridges Road is shared with traffic, but speeds and traffic flows are very low associated with light residential traffic. A purpose-built shared-use, metalled, traffic-free link to Arlington Way completes the link. The route along Arlington Way is along a relatively quiet, well-surfaced, lit residential road. Traffic flows and speeds are correspondingly low and unthreatening. There are footways throughout for pedestrians

Existing surfaces are rideable and there is some lighting provided. Ideally, surfacing improvements would be made but this would not be a priority since the route is currently quite adequate. However minor surface improvement works (rolling in of a small amount of aggregate) and more regular vegetation management would create a high quality path.

Two ‘concrete pad’ bridges provide crossing opportunities over the Little Ouse River and an associated large drain. The transition edges and less than desirable height differences on and off these pads could be improved with some kind of filler, but again, this is not seen as a high priority.

For continuity the route requires improved crossing arrangements of Castle Street near the old Melford Bridge and A1088/A1066 roundabout junction. Presently there is only a dropped kerb on both sides of the 10m wide carriageway forming the Castle Street arm off the roundabout.

A new link path is required from the Castle Street crossing and over Melford Bridge to The Meadows, a quiet residential road which gives access to Green Lane and an existing high quality walking and cycling route. Creating this link and the associated crossing will require funding. An interim route is available by signing the loop to Green Lane via Castle Street from the end of Arlington Way.

A link to the nearby Nature Reserve is available alongside the Little Ouse River, mainly on narrow, muddy paths. These are useable by able pedestrians only (i.e. not conforming to DDA requirements) due to exposed tree roots and adjacent vegetation and trees. Access is further compromised by very restrictive ‘kissing gates’ at each end.

Any path improvements are likely to be both relatively expensive and very contentious being in a Nature Reserve. This link should only be signed for pedestrians and any associated works be kept to a minimum.

| |
|----------------------------|
| BTO Loop Priorities |
| Priority 1: BTO1 |



Photo 8 – BTO Loop – leafy idyll



Photo 9 – Crossing point on Castle Street viewed from old bridge over River Thet which would be used by the route

Croxton Loops

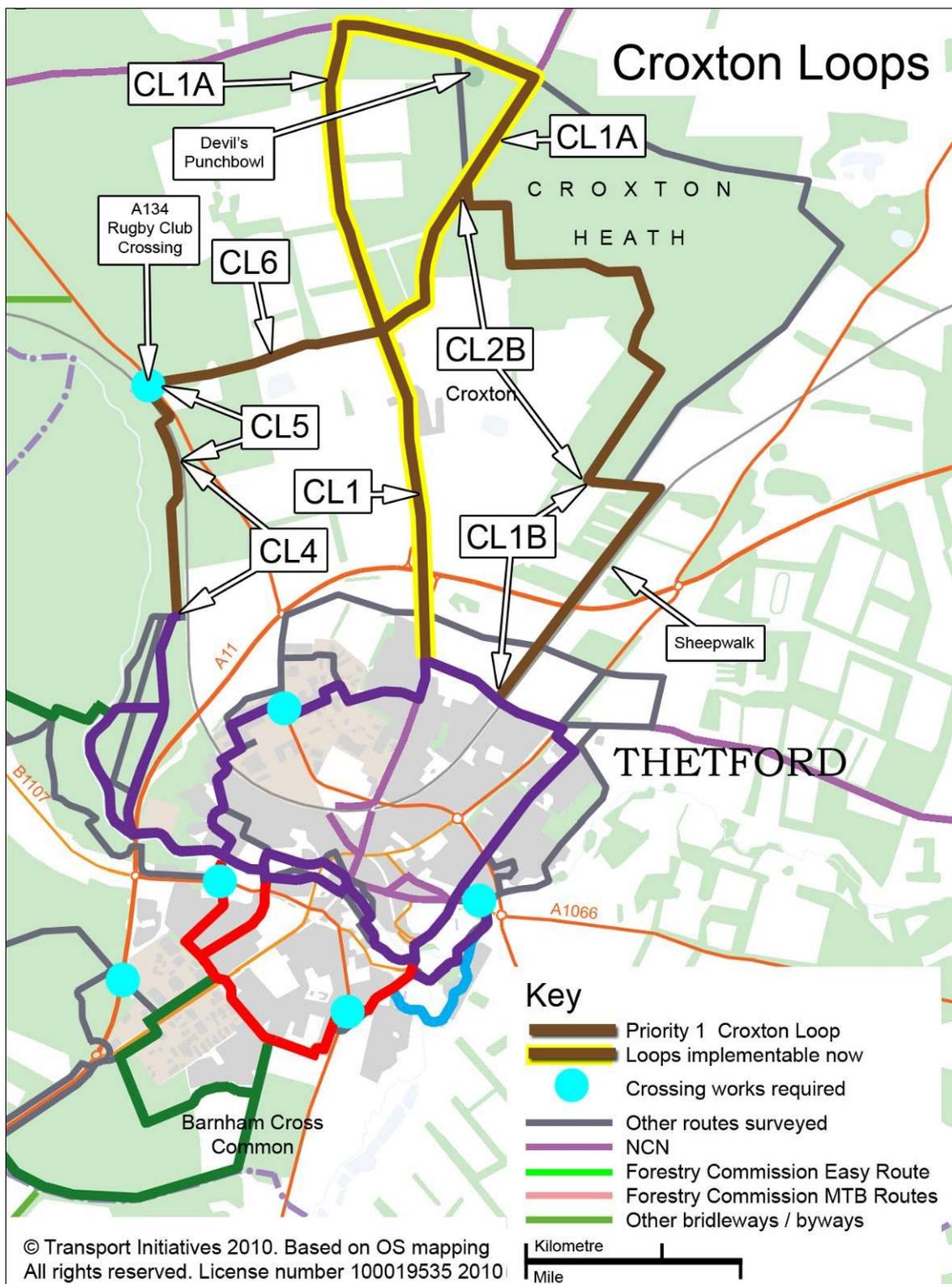


Figure 5 – Croxton Loops showing Priority 1 route

The Croxton Loop proposals are located to the north of the town and give access to Croxton Village, Croxton Heath and the Devil's Punch Bowl (an interesting geological feature). The Loops also pick up the signed National Cycle Route 13 and the Two Rivers Regional Cycle Route 30, both of which make use of the quiet roads in the area. The Hereward Way (a National Trail) is also adjacent to the Loop proposals and available for walkers.

The most deliverable of the Croxton Loops is the on-road route (CL1A) from Thetford through Croxton village taking in the Devil’s Punchbowl. CL1A Loop users can take advantage of the Post Office and shop in Croxton. Much of this Loop is available now since it makes use of existing lightly trafficked roads. An on-road route is available for those who want to investigate the Devil’s Punch Bowl. This is included in the Priority 1 route proposals.

An off-road forest link to the Devil’s Punch Bowl is possible, following a Public Footpath which is more attractive and of course, totally traffic-free. The option has been investigated but it requires substantial new path construction and cannot be considered as a priority given the availability of the adequate, very quiet road routes. Pedestrians, of course, may use it should they choose.

To create a return loop requires construction of a path (CL2B) through Croxton Heath, based on existing informal paths, including The Sheepwalk track (CL1B) to the west of the railway line. These links are likely to be best delivered and funded in connection with the development proposals for the Thetford Urban Extension.

Links westwards (CL6) to a proposed crossing of the A134, southwards (CL5 and CL4) along the railway line and a connection with a route to Thetford Warren and High Lodge are also included in the priority route choices.

The Croxton Loop aspirations generally are of lower priority from the Forestry Commission’s perspective as the route is entering part of the Forest Estate (Crown Estate leasehold) which currently has no facilities for the public. By introducing new trails, disturbance would be higher from a nature conservation viewpoint and also would occur higher maintenance costs due lack of existing infrastructure.

This does not mean that the on-road proposal, which is available now, is not useful or worthwhile. The availability of the shop and post office at Croxton village means that some services are available to people using it. It also of course provides valuable customers for the village business. It is recommended as a Priority 1 Loop proposal.

| |
|--|
| <i>Croxton Loops Priorities</i> |
| Priority 1: CL1A |
| Priority 2: CL4, CL5, CL6, CL2B, CL1B |



Photo 10 – Croxton Loops, The Street



Photo 11 – Croxton Loops, far northern point

Southern Loop

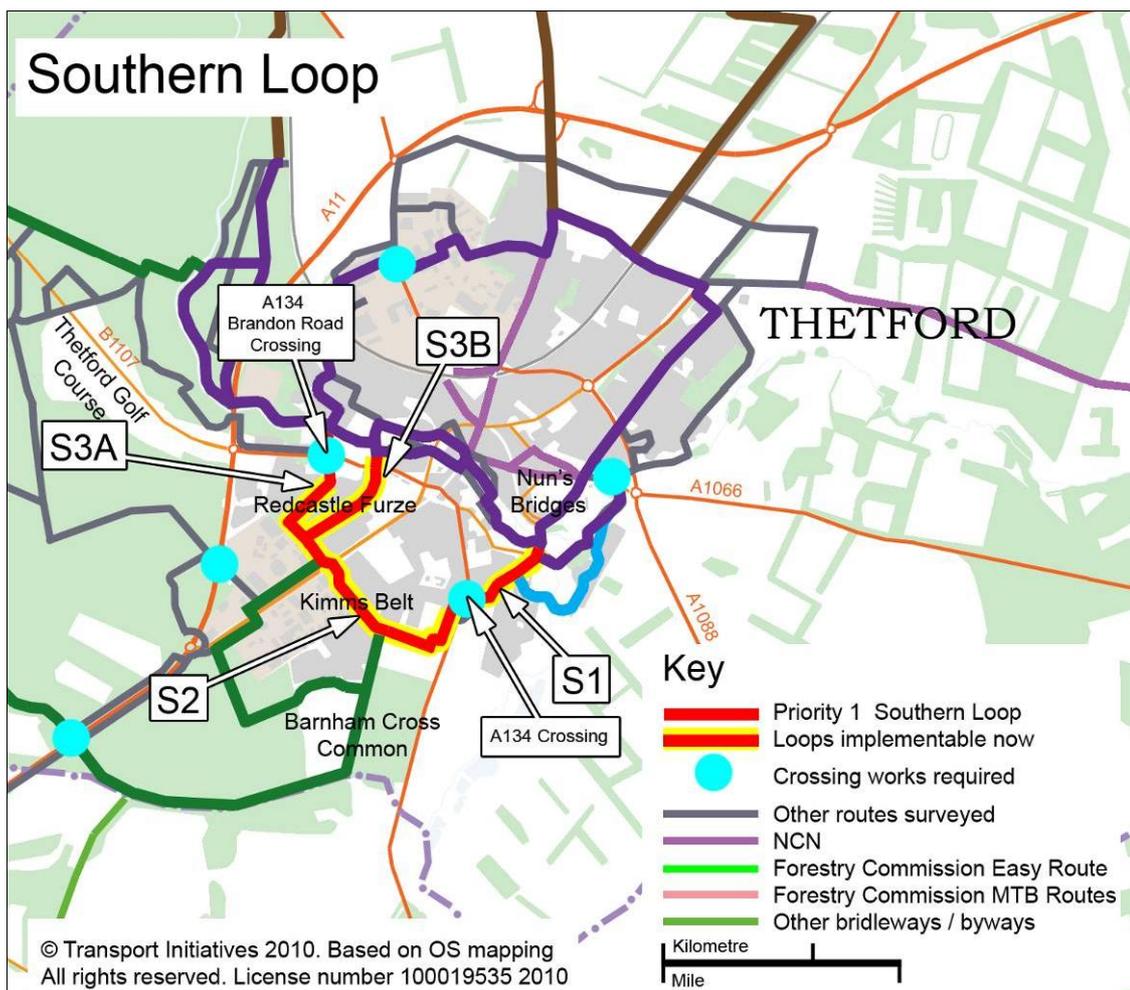


Figure 6 – Southern Loop showing Priority 1 routes

The Southern Loop comprises a proposal for a route between Nun’s Bridges Road, via Barnham Cross Common, Redcastle Furze though to Brandon Road. Much of this route is available and in place, providing a useful Loop to a good standard, although the crossing of Brandon Road is of a lesser standard.

The link S1A makes use of Nun’s Bridges Road from Spring Walk to St Barnabas Close. From St Barnabas Close, it is recommended that the existing footway be used (rather than continue on Nun’s Bridges Road to Bury Road) with a new crossing provided of the A134 Bury Road just south of Queensway. The route will then require a short section of contra-flow for cyclists on Kingsway. Bracken Road is then used to access the existing path around the northern edge of Barnham Cross Common (link S2). From here, the Loop makes use of the excellent Kimms Belt traffic-free path, and the innovative priority crossing of Fir Road.

At London Road and an existing refuge crossing, the route uses St Martin’s Way and St John’s Way (link S3A), lightly trafficked residential streets. Again, there are footways throughout for pedestrians, with cyclists able to use the roads in adequate safety.

An informal, unsurfaced and worn route is then evident from St John’s Way down to Brandon Road through Redcastle Plantation (S3A). This is a clear and long-established desire-line linking Abbey Estate (and the employment areas beyond).

An important requirement associated with links S3A will be a formal crossing facility of Brandon Road east of Canterbury Way. Path users currently are exposed to traffic since the sightlines are substandard, even though there is a 30mph speed limit on Brandon Road. It is recommended that a Toucan crossing is provided as this will provide the safest crossing option for pedestrians and cyclists.

The route is considered as a priority since it is popular and provides for utility journeys, particularly to school and to work. In addition to the sites north of Abbey Estate, there is a large employment area off London Road that is accessed by this route. Schools are located at Abbey Estate and at Redcastle Furze.

An ‘interim’ route (S3B), past the local shops at the end of St John’s Way and via the existing Brandon Road underpass, is available and is recommended as a priority route until the Redcastle Plantation route can be constructed and the crossing provided. A data sheet for this interim route is also included in Appendix B.

| |
|----------------------------------|
| Southern Loops Priorities |
| <i>Priority 1: S1A, S2, S3A</i> |
| <i>Priority 2: S3B</i> |



Photo 12 – Proposed crossing point of A134 Bury Road



Photo 13 – Existing crossing of Kimms Belt: a good example with flush kerbs and good sightlines



Photo 14 – Proposed crossing of A134 Brandon Road

Northern Loops

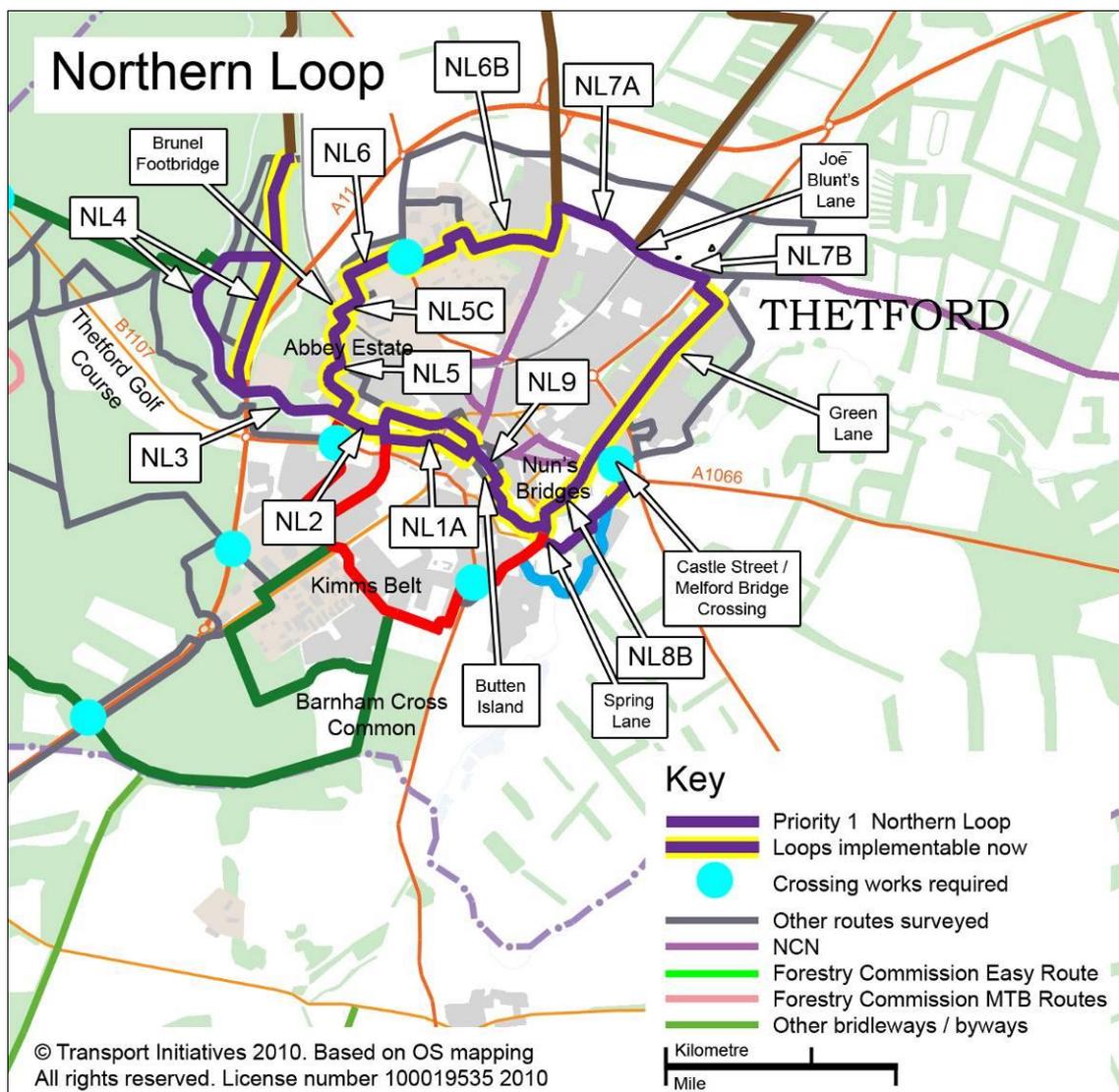


Figure 7 – Northern Loops showing Priority 1 routes

The Northern Loops include the Little Ouse River corridor, links through the town centre and routes in and around the northern areas of Thetford. These are considered of the greatest importance and priority since they provide connections to and across all of the other Thetford Loop proposals, and in particular the vital link to/from High Lodge via the river corridor.

The river corridor is generally well-provided for with existing routes already in over long sections both north and south of the river. The existing Haling Path runs along the south side of the river and provides an attractive direct route. Maintenance issues are becoming more urgent (retaining works and surfacing) though the use of the path is like to be unaffected unless a major failure takes place. The Blaydon Bridge and the Brandon Road underpass provide useful links off the route to other areas north and south of the town centre.

North of the river there are existing attractive traffic-free routes in place included as part of the Northern Loops proposals. In the town centre, from Minstergate westwards, the route generally provides a good level of service and convenience. At Minstergate, the road closure at the junction provides an excellent cycle- and pedestrian-only route into

the town and is an effective, low-cost permeability measure. The London Road underpass provides a shared-use safe, traffic-free crossing of this former A11 road. Measures to reduce conflict through the underpass are in place and these appear to be working well. The surface quality and width of the path out to Abbey Estate varies and there are 'motorcycle' access barriers in place that appear to be less than effective. Minor improvements will enhance the route's usefulness.

The route out further west, along the Little Ouse River, makes use of a Public Footpath, which is a formal right of way. This classification will need to be changed to allow cyclists to use it lawfully. This will require the County Council to promote a Conversion Order. The riverside path needs to extend northwards in order to provide a link with one of the Croxton Loop path proposals, thus creating a useful loop.

To the east of the town centre an existing path via Butten Island is well-used by pedestrians but also by cyclists, albeit unlawfully against the signed cycling prohibition. The cycle ban through the King Street pedestrianised area means that cyclists have no safe, convenient, continuous, alternative routes. This explains in part why there is unlawful cycling along these routes.

A growing number of towns and cities are reviewing cycling restrictions, taking note of the considerable number of studies and examples from elsewhere and appreciating that cycling should be permitted and provided for. A review of the river routes suggests that an alternative route for cyclists could be developed via School Lane and Spring Walk, thus avoiding Butten Island and the unsuitable three-arm bridge over the river in the town centre.

Creating a northern orbital route is more problematical. Existing traffic-free paths such as Joe Blunt's Lane (a Public Footpath) and the path between Saint Helens Way and Croxton Road provide a good head-start. The traffic-calmed, 20mph zone throughout Abbey Estate also provides instant, walking- and cycling-friendly conditions. The Brunel Footbridge could also become more cycle-friendly, after minor modifications such as a wheeling channel.

However, connecting these opportunities through the Brunel Way and Fison Way Industrial estates is proving difficult and likely to be relatively expensive – i.e. a dedicated cycletrack making use of footways. This is not always an ideal solution due to the problem of crossing side roads and minor accesses. It is however, the only feasible solution to get cyclists through. Pedestrians would appear to have a better environment, though the unregulated parking that takes place in these areas means that many footways are blocked by parked vehicles.

A crossing of the Mundford Road, a 40mph busy traffic route, will also be required. A simple refuge is possible, though a light controlled crossing (i.e. Toucan) would be preferable.

Alternative routes to the north of the industrial areas have been examined but these require new route agreements with land owners and the usefulness of the routes is questioned.

There will of course be opportunities through the Thetford Urban Extension. An 'outer orbital route' for walking and cycling should be secured which provides links to the proposed Croxton radial Loop routes. It is too early to assign alignments at this stage but once negotiations with developers start Loop route aspirations should be laid down that complements the overall network aspirations. New links should also be considered that provide access to the Gallow's Hill Scheduled Monument site near Lodge Farm.

This site has been identified as a future ‘open space’ in the Thetford Urban Design Framework proposals document.

A ‘green bridge’ over the A11 has also been mooted (see Forest Loops section above, p.16) and this may also be considered as part of the final planning agreement requirements.

| |
|--|
| Northern Loops Priorities |
| Priority 1: NL1A, NL2, NL3, NL4, NL9 |
| Priority 2: NL8B, NL7A, NL7B, NL5, NL5C, NL6, NL6B |



Photo 15 – NL2 riverbank path and boat launches



Photo 16 – NL4 riverbank path, Abbey Heath



Photo 17 – NL4 track near A11, Abbey Heath



Photo 18 – NL9 Spring Bank Walk and Nun’s Bridges

5. Task 3 - Cost Estimates

As part of the technical assessment for each of the identified loop links as set out in the data sheets (see Appendix B), detailed and itemised cost estimates has been produced. These are set out in the cost estimate summary list in **Appendix G**.

The cost estimates are not minutely detailed but include adequate information to provide a useful preliminary estimate, say for future funding bids or inclusion in work programmes. These are relatively high level costs based on the technical assessment of the work required to implement the scheme, together with consideration and application of the general Loop Construction Guidelines.

Prices are based on Local Authority schedule of rates where available, and also based on comparable schemes and projects elsewhere. Costs are estimated to mid-2010 prices.

The costs for each loop sector are grouped together.

| | |
|---|-------------------|
| Forest Loops | £642,500 |
| BTO Loop | £19,100 |
| Croxton Loops | £569,900 |
| Southern Loops | £413,010 |
| Northern Loop | £778,280 |
| OVERALL TOTAL FOR ALL ROUTES & OPTIONS | £2,422,790 |

The figure above does not take into account the recommendations in the datasheets, notably the division into Priority 1 and 2 routes. A summary of the cost estimates for the Priority Loop recommendations are included in a separate listing at Appendix C.

The overall sum for the Priority Loop recommendations is:

| | |
|---|-------------------|
| Forest Loops | £455,800 |
| BTO Loop | £5,000 |
| Croxton Loops | £294,000 |
| Southern Loops | £242,200 |
| Northern Loop | £478,800 |
| OVERALL TOTAL FOR ALL ROUTES & OPTIONS | £1,477,800 |

Each Loop has a number of sections which are considered to be capable of implementation with very little work. Such work that would be required is of relatively low cost e.g. signing, road markings etc. The total cost for these sections is of the order of £50,000.

One section (FL3 London Road) is all on highway land and would only require traffic orders, refuges and widening of footways. It could therefore be programmed relatively straightforwardly. The estimate for this section is £54,000.

There are also a number of sections which are mostly implementable now but include significant gaps such as key sections requiring improvements. The cost of these sections, which might for a first phase of implementation, is around £700,000.

We have not costed for any improvements to cycle parking.

6. Task 4 - Guidelines for Loops

6.1 Principles

Detailed guidance setting out guidelines for design of the Thetford Loops is included as **Appendix H**. The guidelines are clear and extensive, covering the important elements of shared-use path design. In particular they are based on the acknowledged Core Design Principles, established in documents such as Manual for Streets (DfT, 2007)

- Safety
- Coherence
- Directness
- Attractiveness
- Comfort

The guidelines also cover other design elements, including: widths, surfaces, gradients, signing, seating, shelter, lighting, access controls, main road and side-road crossings, and the ‘travelling landscape’.

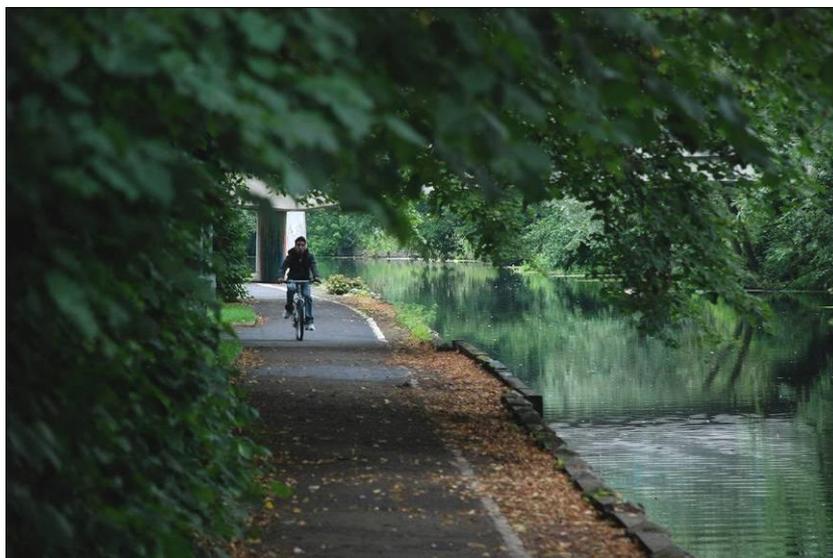


Photo 19 – Existing shared use path along Little Ouse

6.2 Use of guidelines

The design guidelines in Appendix G distil current thinking and best practice for the planning and design of shared-use paths. They should allow future planners, designers and technicians a sound starting point for what should be aspired to when providing for pedestrians and cyclists.

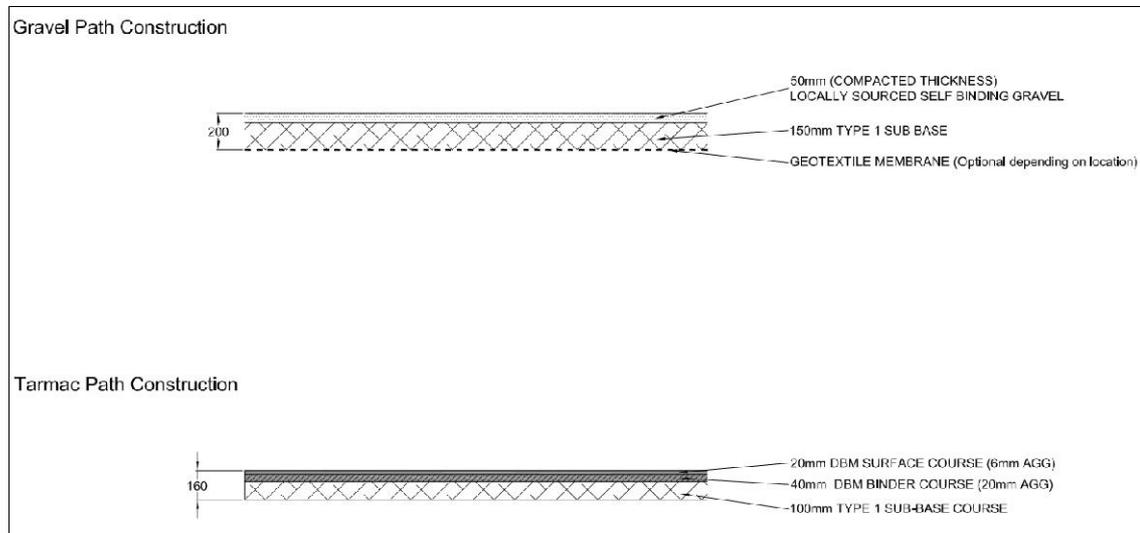


Figure 8 – Example of detail from guidelines (path surface)

Where feasible, the Loops should be designed and implemented so that they are:

- Traffic-free
- Useable and available all year round
- Of an adequate standard that encourages walking and cycling by those of all abilities
- Provided with accessible, safe crossings of roads, railways and waterways
- Barrier-free
- Connected, with useful local links to places of interest and to where people live and work
- Signed and 'legible' making them easy to follow
- Provided with resting and sheltering provision where possible
- Supported by route maps, information boards and other promotional events and activities
- Designed from the outset with low maintenance requirements, and thereafter adequately maintained
- Conceived, designed and implemented with the 'travelling landscape' in mind

It is likely that compromises may have to be made and that 'interim standard' links will be a necessary practical element in developing the Thetford Loops network. For example, a section of on-road route may be established while an off-road link is being planned, funded and implemented.

7. Task 5 - Maintenance

The cost of the maintenance required for key items proposed along the Loops has been calculated over a 30 year period. Maintenance costs for the following items are included:

- Gravel Footpath
- Bitmac/asphalt Footpath
- Metal Sign
- Wooden Sign
- Road markings
- Bollards

A full summary of the maintenance costs are shown in the A3 table below.

The maintenance costs are based on 2010 costs for items and a value of 2.5% for inflation has been applied on a yearly basis. In addition a discount factor of 2.5%, 3.0% and 3.5% has been provided to demonstrate the reduction in costs for each item per year, based on interest gained on the value of money assuming it was invested. The total cost has then been discounted back to 2010 values.

In addition, assumptions have been made for the length of life of each item, repairing costs and clearing vegetation.

Maintenance Costs

- Assumptions
 1 - All costs are based on 2010 construction costs
 2 - Maintenance life over 30 yrs considered
 3 - For paths, costs based on 100m lengths
 4 - Costs uplifted by 2.5% per year

| Material | Maintenance Issue | Maintenance period | 2010 Costs | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 |
|---|---|--------------------|------------|------|------|--------|------|--------|--------|------|------|--------|--------|------|--------|------|------|------|---------|
| 3m wide Self binding gravel paths (50mm self bound gravel, 150mm type 1 and Terram) | Clear vegetation | Yearly | £50 | £51 | £53 | £54 | £55 | £57 | £58 | £59 | £61 | £62 | £64 | £66 | £67 | £69 | £71 | £72 | £74 |
| | Cutback overgrown trees/ bushes/ shrubs | Yearly | £50 | £51 | £53 | £54 | £55 | £57 | £58 | £59 | £61 | £62 | £64 | £66 | £67 | £69 | £71 | £72 | £74 |
| | Re-instate patches | Every 3yrs | £1,180 | | | £1,271 | | | £1,368 | | | £1,474 | | | £1,587 | | | | £1,709 |
| | Top up gravel across whole section | Every 15yrs | £11,800 | | | | | | | | | | | | | | | | £17,090 |
| Asphalt paths (20mm wearing course, 40mm binding course, 150mm type 1 and Terram) | Clear vegetation | Every 5 yrs | £50 | | | | | £57 | | | | | £64 | | | | | | £72 |
| | Cutback overgrown trees/ bushes/ shrubs | Yearly | £50 | £51 | £53 | £54 | £55 | £57 | £58 | £59 | £61 | £62 | £64 | £66 | £67 | £69 | £71 | £72 | £74 |
| | Re-instate patches | Every 5 yrs | £1,300 | | | | | £1,471 | | | | | £1,664 | | | | | | £1,883 |
| | Re-surface wearing course | Every 15 yrs | £12,700 | | | | | | | | | | | | | | | | £18,393 |
| Metal sign / per sign | Replace sign | 5% each yr | £5 | £5 | £5 | £5 | £6 | £6 | £6 | £6 | £6 | £6 | £6 | £7 | £7 | £7 | £7 | £7 | £7 |
| | Reposition post / sign if vandalised | 5% each yr | £5 | £5 | £5 | £5 | £6 | £6 | £6 | £6 | £6 | £6 | £6 | £7 | £7 | £7 | £7 | £7 | £7 |
| | Replace sign & post | 5% every 5 yrs | £13 | | | | | £14 | | | | | £16 | | | | | | £18 |
| Wooden signs / per sign | Replace | 8% each yr | £8 | £8 | £8 | £9 | £9 | £9 | £9 | £10 | £10 | £10 | £10 | £10 | £11 | £11 | £11 | £11 | £12 |
| | Reposition post / sign if vandalised | 5% each yr | £5 | £5 | £5 | £5 | £6 | £6 | £6 | £6 | £6 | £6 | £6 | £7 | £7 | £7 | £7 | £7 | £7 |
| | Replace sign & post | 8% every 5 yrs | £20 | | | | | £23 | | | | | £26 | | | | | | £29 |
| Cycle Symbols on carriageway / per logo | Re-mark | Every 5 yrs | £35 | | | | | £40 | | | | | £45 | | | | | | £51 |
| Bollards / per bollard | Replace damaged | 3% each yr | £9 | £9 | £9 | £10 | £10 | £10 | £10 | £11 | £11 | £11 | £12 | £12 | £12 | £12 | £13 | £13 | £13 |
| | Replace all bollards | Every 15 yrs | £300 | | | | | | | | | | | | | | | | £434 |

8. Conclusions and recommendations

8.1 Conclusions

The goal of extending the Thetford walking and cycling network is long-established. It is widely acknowledged and features in adopted planning and development proposals for the Thetford area.

The Thetford Loops initiative is a strategic network proposal that improves on elements of the urban network but, importantly, extends walking and cycling opportunities out into the rural fringes of the town. Convenient and attractive access opportunities are possible out to Thetford Forest where the landowner and the Forestry Commission already support and promote managed access and use of existing paths and tracks.

Although much of the area where the access proposals are located is covered by Special Protection Area (SPA) status, Natural England “welcomes and supports the Thetford Loops initiative, which has at its core the creation, promotion, and enhancement of a sustainable transport cycle network across Thetford. The project also encourages access into the natural environment, which is an aspiration very much shared by Natural England.” Clearly, advice and comment from Natural England will be required as route proposals are being planned and developed in more detail, with regard to avoiding or mitigating any adverse effects on the SPA or other designations.

The priority Loop proposals make use of existing Public Rights of Way and/or forest tracks already in use - either formally or informally. ‘Conversion Orders’ will be required where Public Footpaths are proposed for legal shared-use by cyclists. Alternatively, permissive use is possible by agreement with the landowner.

No new paths are proposed that require land purchase for the creation of new routes, though past informal use may require the investigation of a ‘permissive’ access arrangement or agreement once the routes are planned for adoption as a Loop path with formalised use and it is to be signed or included on maps and guides.

8.2 General recommendations

| | |
|----|--|
| 1. | Endorse the Thetford Loop priority route recommendations. |
| 2. | Incorporate the Thetford Loops proposals in local planning guidance (Core Strategy and Thetford Area Action Plan) and submit to the County Council as strategic walking and cycling network proposals for consideration as a specific project in the Local Transport Plan. |
| 3. | Retain and build on the existing ‘working group’ and partnerships to support, develop and promote the Thetford Loops project. |
| 4. | Apply the Thetford Loops design guidelines to ensure that good practice is considered from the outset. |
| 5. | Consider a programme of marketing and promotional initiatives, press releases, etc., to ensure that the Thetford Loops proposals and aspirations are kept in the minds of local people and other organisations. |
| 6. | Consider early opening and signing of some deliverable, low-cost sections to build momentum and support (e.g. CL1, BTO1, and Riverside Route) |
| 7. | An awareness and provision for future maintenance should be included in Loop development. Guidance on this is included in this report. |

8.3 Priority route recommendations

Priority routes together with any associated crossings have been identified. The following summarises the recommendations based on the five Loops.

Riverside Route

The Riverside Route, from Nuns Bridges through to High Lodge, uses elements of both the Forest Loops and Northern loop

It is seen as the most useful and attractive route of all the network proposals.

Although much of it is in place in the urban area, the conversion and improvement of the footpath along the Little Ouse River, is a first step, which also opens up a circular route to Croxton. Providing links to the B1107 Brandon Road and beyond to High Lodge, plus a crossing refuge on Brandon Road, is the key second stage and gets path users safely to the excellent forest facilities west of the B1107 and A11.

Clarification of the riverside route from Bridge Street through to Spring Walk will provide the all-important route continuity and ensure that in-town utility trips are much more convenient and encouraged.

Forest Loops

South of the town, longer term proposals include an orbital route from Barnham Cross Common to Olley's Farm at the A11. This is dependent upon the construction of an underpass as part of the A11 Trunk Road Improvement. It will provide a vital access opportunity to the forest west of the A11 and open up a traffic-free circular route.

BTO Loop

A link from the end of Arlington Way to Green Lane, via Melford Bridge and The Meadows, has been identified as creating a useful, largely traffic-free extension to the BTO route from Nun's Bridges. A cycle contra-flow between Ford Street and Castle Lane will give increase permeability for cyclists and regularise the existing situation where the one-way is often ignored. It will provide a very useful urban link.

Croxton Loop

North of the town, the Croxton Loop proposals can be easily signed straight away with the on-road loop proposal. Links westward to the Little Ouse River and south into the area of the future proposed Thetford Urban Extension are traffic-free route proposals that require surface improvements of existing forest tracks and a refuge crossing of the A134 Mundford Road near the Rugby Club. These are medium term aspirations that should be funded through the future development proposals.

The Thetford Urban Extension offers considerable funded opportunities to provide traffic-free orbital routes and links to the Croxton Loop proposals.

Southern Loops

Proposals include improving and completion of the link from Bury Road, via Kimms Belt, Redcastle Furze and Redcastle Plantation to a much-needed crossing of Brandon Road near Canterbury Way.

Northern loops

An 'inner urban orbital route' is possible via Abbey Estate. Key elements required are conversion and surfacing improvements to Joe Blunt's Lane and a crossing of Mundford Road. Making the Brunel Way footbridge more cycle-friendly (e.g. a wheeling channel) will further assist cyclists.