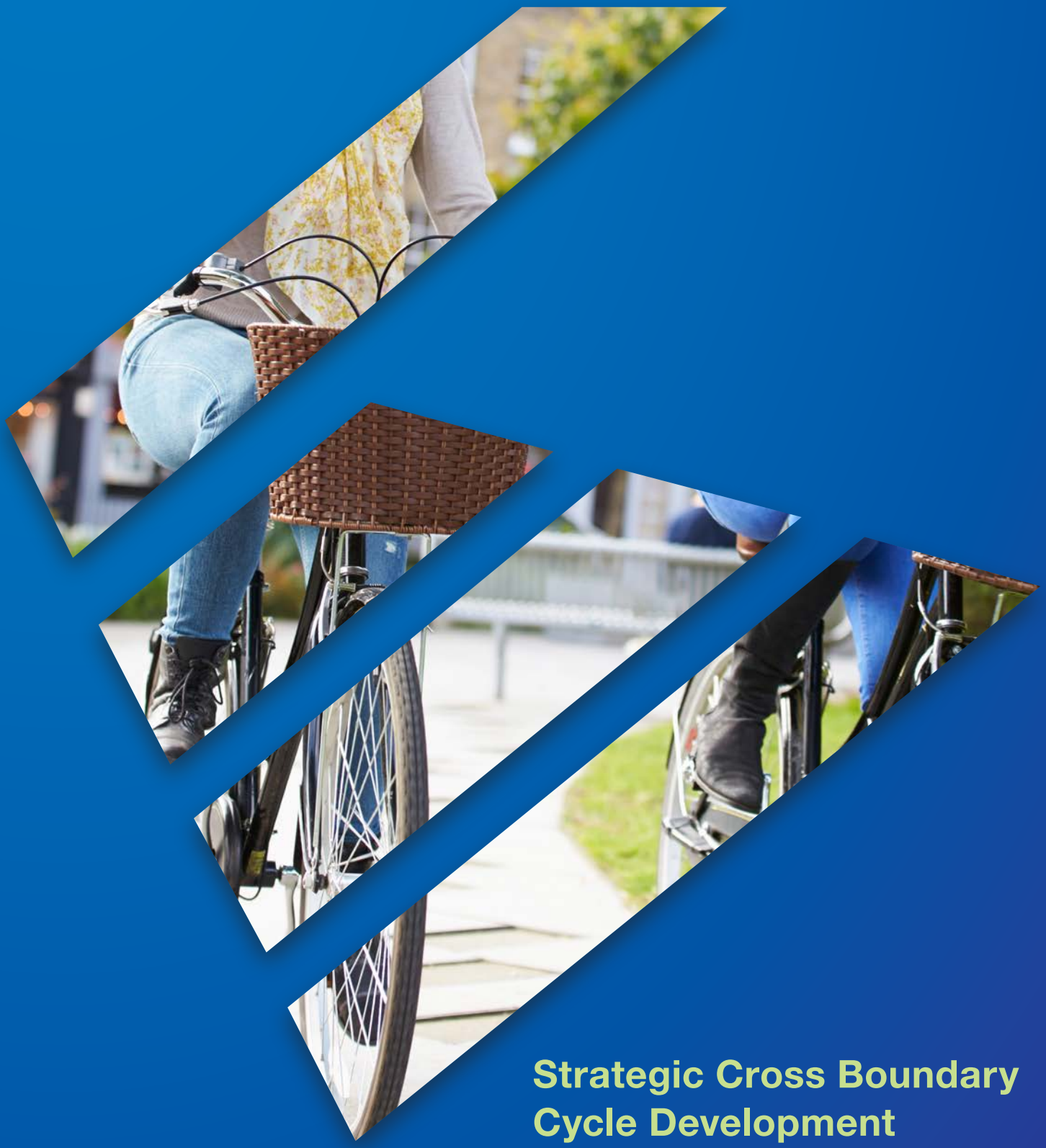
SEStran
South East of Scotland
Transport Partnership



Strategic Cross Boundary Cycle Development

SEStran is a Regional Transport Partnership, comprised of eight local authorities:

Clackmannanshire Council

EDINBVRGH THE CITY OF EDINBURGH COUNCIL

East Lothian Council

Falkirk Council

Fife Council

Midlothian

Scottish Borders Council

West Lothian Council

Figures

Tables

Peter Brett Associates LLP was commissioned by SEStran to develop a strategy for guiding investment in cross local authority boundary sections of the cycling network, with particular focus on routes suitable for commuters.

Approach

The approach adopted involved the following key stages: Best Practice Review, Desktop Study and Initial Consultation, Site Audits, Developing of Recommendations and Stakeholder Workshop.

Initially, a review of relevant cycling guidance in the UK and internationally was undertaken. Drawing on this, a desktop study was undertaken to gain a detailed understanding of the existing cycle network and environment for cyclists within SEStran. This included a brief summary of the key findings from the previous cycling strategy documentation that was produced, and an update to this in terms of which recommendations had been implemented since. SHS travel diary data provided a context for average cycling trips lengths in Scotland. 2011 Census Travel to Work data at local authority level was used to understand where the key cross-boundary cycle commuting flows are within the region, and was presented graphically using desire lines. STATS19 accident data was also analysed to highlight any cross-boundary locations where fatalities and serious injuries have occurred in the past.

The final element to this was an extensive consultation exercise, which including face to face meetings or telephone interviews with over 20 key stakeholders in the SEStran area. The purpose of this was to understand the existing work being carried out at a local, regional and national level. It also aimed to gauge where consultees thought that new routes and facilities were required, or existing facilities needed significant improvement, and how this could be progressed in partnership with other stakeholders.

Site Audits

The findings of the desktop study and consultations highlighted the location of the key barriers and missing links within the existing cycling network. A list of locations requiring more detailed investigation was produced, and then a series of site audits were undertaken by bicycle to experience the routes first hand. The purpose of these was to gain a better understanding of the issues identified, and to provide context for developing a set of recommendations.

Development of Recommendations

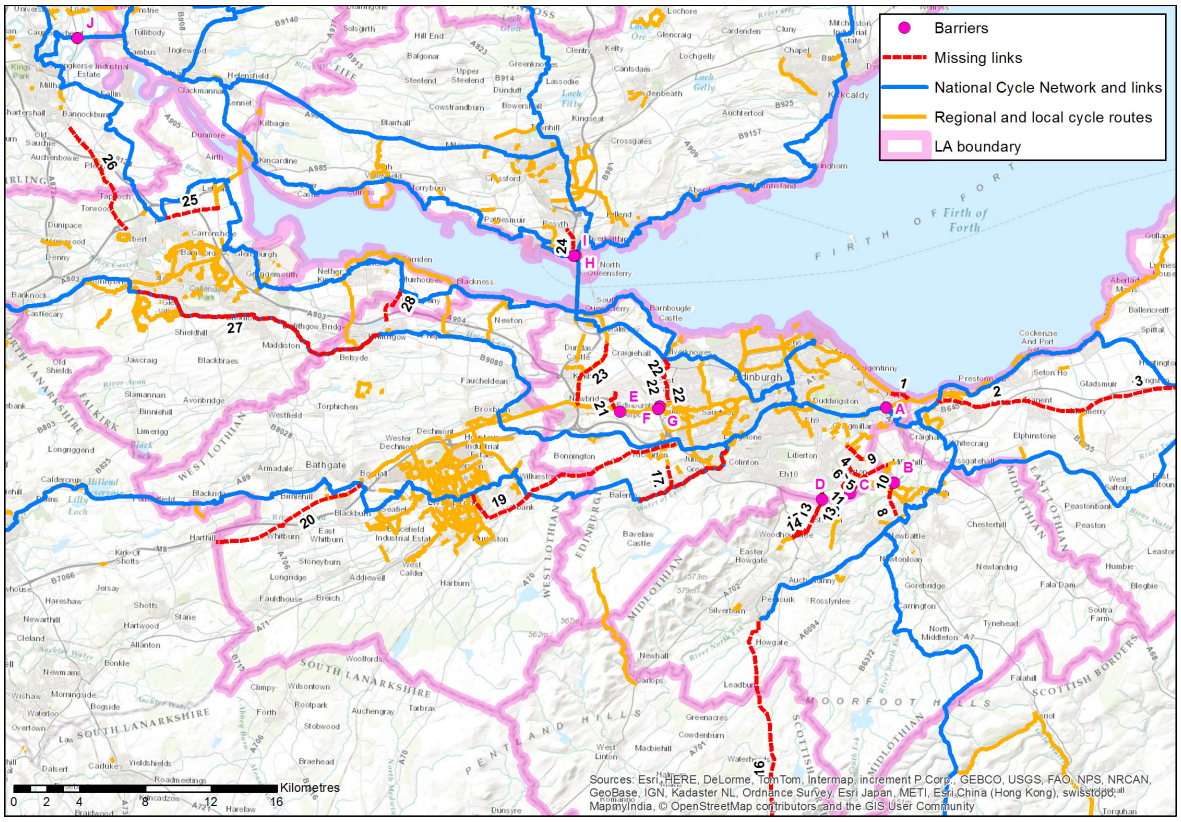
Following the detailed site audits, a package of interventions which could mitigate the key issues identified was developed. Where relevant, several possible solutions were presented, offering alternative options requiring different levels of investment. Reference to cycling best practice guidance was made when developing these solutions.

Stakeholder Workshop

The findings of the study, including the emerging list of recommendations, were presented at a workshop event to which all stakeholders were invited. This was an interactive session centred around a detailed presentation of the results, with the opportunity for delegates to offer their views on the themes being discussed, and to provide feedback and further suggestions on how the final strategy should look.

Key findings

The study produced a comprehensive list of recommendations for investment in cross- boundary cycling infrastructure in the SEStran area, based on the key issues identified. The location of barriers and missing links identified are shown below.



1.1.1 The key recommendations were presented by SEStran RTS commuting corridor and were considered within two timeframes; short term (1-3 years) and longer term (3+ years). In many cases, there is the possibility that those in the latter could be delivered within a shorter time frame if funding and planning permission was in place. Shorter term measures are those deemed to be realistic to deliver within a short time frame, addressing key barriers and missing links if funding was available. These are summarised in the table below.

RTS Corridors(s)	Short Term Gaps & Barriers	Short Term Solutions (Cost)	Longer Term Opportunities
2 – Edinburgh East 9 – East Lothian Coastal	Missing link between Portobello Promenade and John Muir Way Brunstane Bridge steps a barrier	Option 1. Cycle lanes along both sides of the carriageway (M) Option 2. Part shared use path, part cycle lanes with crossing provided (M) Provision of ramps on Brunstane Bridge (L)	A199 cycle super highway: Spinal route would serve a number of settlements, providing an artery linking East Lothian with Edinburgh. (H)

RTS Corridors(s)	Short Term Gaps & Barriers	Short Term Solutions (Cost)	Longer Term Opportunities
3 – Edinburgh South East 11 – Midlothian East/Borders	Sheriffhall roundabout – dangerous and intimidating uncontrolled crossing Old Dalkeith Road – gaps in cycle lane provision	Provide continuous and consistent cycle lanes along entirety of route. Coloured surfaces are highly recommended (M)	Overpass/fully segregated bridge at Sheriffhall junction – the redesign of the junction should incorporate the highest quality solution for cyclists. (H) Fully segregated route, provided from Dalkeith to link into the central Edinburgh network. (H)
3 – Edinburgh South East 11 – Midlothian East/Borders	Gilmerton Road shared use path ends abruptly at Drum Street Gilmerton Road within CEC has gaps in cycle lane provision Bonnyrigg poorly connected to routes into Edinburgh	Option 1. Route from existing terminus of Gilmerton Road shared use path via Gilmerton Station Road and farm track to South Farm and connect with Ravenscroft Place (M) Option 2. Utilise Loanhead railway track bed to connect Gilmerton Road shared use path with the Loanhead shared use path (H) Provide complete, consistent, high- quality lanes on Gilmerton Road (L) Bonnyrigg connectivity – provision of a shared use path parallel to A7, connecting to Gilmerton Road shared use path (H)	Connection via A7 to new Sheriffhall junction – incorporate into redesign; extension of proposed A7 shared use path (H) Utilise the full extent of the Loanhead railway track bed to provide connectivity eastwards from Gilmerton road to Shawfair. This could form part of an Edinburgh orbital route (H)
3 – Edinburgh South East 11 – Midlothian East/Borders	Loanhead shared use path ends abruptly at Lasswade Road Uncontrolled crossing at Gilmerton Station Road	CEC has plans to widen and resurface path adjacent to Lasswade Road (M) No plans to upgrade uncontrolled crossing – recommend that this is monitored and reviewed (M)	Extension of path westwards along north side of Edinburgh bypass – forming part of the Edinburgh orbital route

RTS Corridors(s)	Short Term Gaps & Barriers	Short Term Solutions (Cost)	Longer Term Opportunities
3 – Edinburgh South East 12 – Midlothian West/Borders	Provision for cyclists is incomplete along sections of A701 Lack of connectivity to Bush Estate Lack of connection between Scottish Borders and Midlothian	Bilston to Kaimes – Continuous, consistent, high quality surfaced lanes along entirety of route (M) Penicuik to Roslin – Onward off-road route to Roslin along B7006 and Loanhead path (M) Bush Estate – Provision of cycle lanes along rural section of Seafield Road, or signage and 20mph limit (L) Alternatively, signage and 20mph limit along urban section, supplementing existing traffic calming (L) Utilise old railway track bed from Peebles to Penicuik to create fully segregated, high quality route. This should form a continuous route by linking in with the enhanced A701 corridor, links to Loanhead Path and NCN 196 (H)	Bush Estate Opportunity to incorporate cycle route into Cameron Gardens development and/ or Bilston bypass; provide off-road to Bush Estate and utilise the existing A701 for more cycling carriageway space, as traffic flows are significantly reduced (M)
5 – Edinburgh South West 13 – Lanark	Missing direct link between Balerno/ Currie and west Edinburgh Water of Leith path a key route – surface could be better	Cycle lanes or shared use path along Riccarton Mains Road (M) Improve path surface to provide a smoother, faster route suitable for commuter bikes. Toptrek or full tarmacking with cycle lane both possibilities (M)	Link Balerno/Currie to west Edinburgh route with the proposed A71 cycle super highway (M)
5 – Edinburgh South West 14 – West Lothian South	Very little cycle provision within A71 corridor – a key development corridor Canal path surface poor – not a realistic commuting option	Limited scope to utilise canal for commuting – path width constraints, circuitous route and surface are not conducive to offering a fast, direct route Improved surface would be of utility to all users (M)	A71 cycle super highway linking south Livingston with the south west wedge of Edinburgh. This is a key development corridor and the creation of a high quality, segregated route would represent a key strategic cycling route within the region (H)

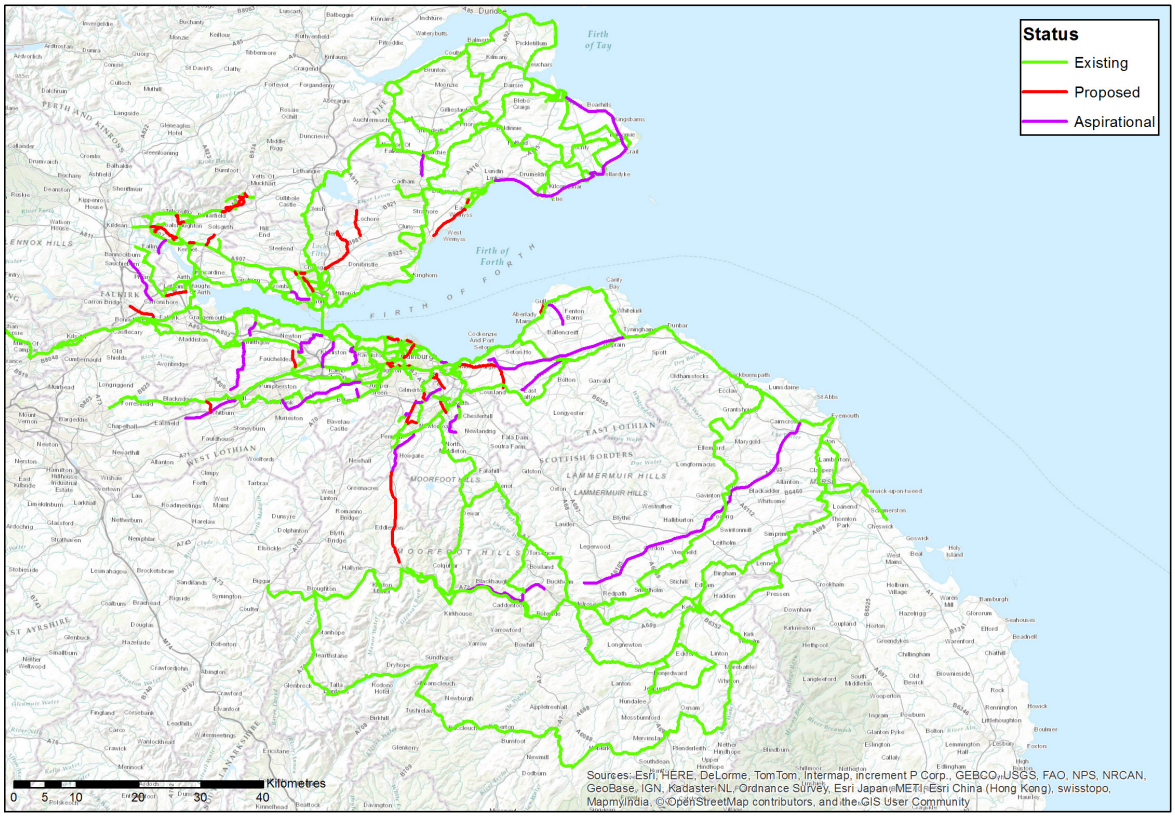
RTS Corridors(s)	Short Term Gaps & Barriers	Short Term Solutions (Cost)	Longer Term Opportunities
6 – Edinburgh West 15 – West Lothian M8	A89/A8 corridor has varying degrees of route quality, with path width and surface substandard in places Gaps in A89 connectivity westwards Uncontrolled crossings at airport roundabout and Gogar roundabout No cycling provision for accessing airport	CEC has allocated funds to address majority of issues on A8 – airport roundabout will remain uncontrolled. Recommend this is reviewed and controlled crossing provided in future (M) Extend A89 path westwards to offer complete, high-quality route connecting into NCN 75 (H) Provide a safe route for accessing the airport terminal from the A8 (M) Gogar roundabout – signal timings could be reviewed to incorporate controlled pedestrian/cycle crossing (M)	A bridge across the carriageway (similar to Newbridge) at Gogar roundabout should be incorporated into any future junction redesign or upgrade. (H)
6 – Edinburgh West 18 – Queensferry	Missing link between NCN1 and Maybury junction Lack of fast, direct connection between Fife and West Lothian	NCN1 – Maybury Junction 1. Shared use path along Maybury road, with onward connection to NCN1 via Whitehouse Road (M) 2. Create route along Cammo Walk, Cammo Road and pavements on A90 to connect with NCN1 at Cramond Brig. Shared use path/pavement between Maybury junction and Cammo Walk (M) Fife to West Lothian connection Upgrade existing Dalmeny – Newbridge railway path. High quality surface and path widening would create a fast route suitable for commuting (M)	Development of land adjacent to Maybury Road for housing is an opportunity to provide a high quality, segregated cycling connection from NCN1 to the A8 corridor. An off-road route considerably to the west of Maybury Road is also an option
18 – Queensferry 19 – Perth & North	Uncontrolled crossing at Ferrytoll if coming from the west Uncontrolled crossing at Castlandhill Road Lack of direct, fast route from Dunfermline and Rosyth to bridgehead	New Ferrytoll junction includes signalised crossings Provision of high quality segregated route along Castlandhill Road to connect with new junction is key. Potential for developer contributions to help fund this (M)	Important to ensure cycling infrastructure in the Dunfermline/Rosyth area is enhanced in line with significant development which is planned there. Potential for developer contributions (M)

RTS Corridors(s)	Short Term Gaps & Barriers	Short Term Solutions (Cost)	Longer Term Opportunities
20 – Alloa to Dunfermline 21 – Cross Forth (Kincardine) E3 – Stirling Alloa external	Missing link along Bellsdyke Road – would link Forth Valley Hospital with 3 local authorities NCN 76: Uncontrolled crossing at Manor Powis roundabout, Alloa Road busy (Stirling Council)	Fill in missing link between A905 and NCN 76/unclassified road turnoff, and upgrade the entire route to Forth Valley Hospital to a high standard. Segregated path should be provided wherever possible, to encourage greatest cyclist uptake (M) New section of NCN 76 to be built in order to bypass Manor Powis and on- road section (Stirling) (M)	
E4 – Falkirk North West external	No direct link between Stirling and Falkirk – NCN 76 too circuitous for commuter cycling		Create a high quality segregated route along the A9 corridor, linking Stirling and Bannockburn with Forth Valley Hospital and upgraded Bellsdyke Road route (H)
16 – Edinburgh, Linlithgow, Falkirk	No direct, fast links between West Lothian and Falkirk Opportunity for cycle and ride from Bo'ness using Linlithgow station	Surface upgrade of Union Canal between Linlithgow, Polmont and Falkirk would make this a viable commuting option (M) Route from Bo'ness to Linlithgow via NCN 76 and Bonnytown Farm exists – better promotion could help, although this is a hilly journey (L)	

The importance of adhering to cycling design standards was also underlined. As such, it was emphasised that fully segregated routes are the optimal solution wherever possible. Furthermore, the provision of safe crossing points on roads with major traffic flows is an essential design principle; and in general (from a wider bike network perspective) controlled crossing points are key to completing routes that are suitable for an unaccompanied 12 year old to negotiate.

For reference, a list of potential sources of funding was also identified, including Sustrans Community Links, European Structural and Investment (ESI) funds and any upcoming City Deal proposals. It was recommended that SEStran should maintain a comprehensive list of potential funding sources for active travel schemes, including key dates for the submission of proposals to the available funds, and the scope of these funds.

In addition, a region wide network map of all strategic cycling routes within SEStran was produced, in order to collate what is often a disparate picture across the area. Further consultation with local authorities was undertaken to confirm routes for inclusion. The SEStran Cycling Network is shown in the map below.



1.1 Aims of the study

1.1.1 SEStran identified the need to develop a strategy for investment covering cross-boundary sections of the cycling network, with particular focus on routes suitable for commuters. Although individual local authorities have responsibility for delivering and maintaining cycling infrastructure within their jurisdiction, greater coordination between councils was thought to be required in order ensure better connectivity along routes that link population and employment centres together across local authority boundaries.

1.1.2 This study highlights the key barriers and missing links within the cycling network in proximity to Local Authority boundaries, and provides a strategic context for the development of interventions to improve cross-boundary linkages.

1.2 Structure of report

1.2.1 The report begins with a review of cycling best practice guidance, including literature from both the UK and Europe. The relevance of the guidance to this study is also highlighted.

1.2.2 Following this, the findings of the desktop study and the initial stakeholder consultations are presented. A chapter briefly summarising the site audits undertaken is also included, in addition to an overview of the consultation workshop which was undertaken. Further details are provided in the Appendices.

1.2.3 The key findings of the study and the strategy for investment are then presented. This includes the key barriers, missing links and interventions identified as being strategically important to delivering a high quality cross-boundary commuter network within the SEStran area. Following the Action Plan, there is also a chapter which presents the wider strategic cycling network across SEStran; this map provides useful context to this study, and highlights the existing, proposed and aspirational links across the region. This includes the whole network, widening the study away from cross-boundary commuting networks.

2.1 Summary

2.1.1 A comprehensive review of relevant cycling guidance in the UK and internationally was undertaken, and is presented in Appendix A.

2.1.2 This review of cycling best practice guidance has provided a policy context for this study. To summarise, the key points of relevance to the SEStran Strategic Cycling Network include:

Table 2.1 Summary of best practice

Guidance	Source
CAPS	Contribute to CAPS target that by 2020 10% of everyday journeys be undertaken by bike;
CAPS	Focus on adopting measures outlined in the Plan to encourage all types of journeys to be made by bike
CAPS	Link communities to the NCN
CAPS	Integrate the network with other transport (rail stations) and social infrastructure
CAPS	Expand the local and regional cycling (and walking) networks to link to the NCN (including Core Paths)
CAPS	Refer to the Plan for guidance on skills development, the network and delivery
Scottish Planning Policy (2014)	provide safe and convenient opportunities for walking and cycling for both active travel; and
Scottish Planning Policy (2014)	enable the integration of transport modes.
Scottish Planning Policy (2014)	safeguard and enhance cycle routes, cycle parking and storage wherever possible
Designing Streets (2010) and Designing Places (2001)	Ensure all recommendations adhere to guidance in Designing Streets and Designing Places
Designing Streets (2010) and Designing Places (2001)	Focus on improvements which can make existing carriageways more cycle friendly
National Roads Development Guide (2014)	Segregate cyclists from large volumes of vehicular traffic, especially where roundabouts are located, or fast moving traffic (>40mph).
National Roads Development Guide (2014)	Reduce vehicle speeds where there are a large number of cyclists.
National Roads Development Guide (2014)	Provide safe crossing points for cyclists at roads with major traffic flows

Guidance	Source
National Roads Development Guide (2014)	Adhere to the geometric standards for cycle routes outlined in the National Roads Development Guide
Cycling by Design (2010)	Consider the core design principles, hierarchy of measures and network planning and development process outlined in Cycling by Design
Construction (Design and	Ensure all infrastructure recommendations identified will be required to adhere to the regulations set out in The Construction (Design and Management) Regulations 2007
Management) regulations 2007	
Lowland Path Construction: A Guide to Good Practice (2001)	Ensure all recommendations for new cycle paths will be required to adhere to the Lowland Path Construction: A Guide to Good Practice
Equality Act: Good Practice Guide for Roads (Transport Scotland 2013)	Ensure all recommendations for new infrastructure meets the requirements of the DDA
DfT's Local Transport Note 2/08 on Cycle Infrastructure Design (2008)	Consider the DfT's guidance on cycle infrastructure design outlined in TN 2/08, in particular: Network management; Cycle lanes Off road cycle routes Public transport integration
Draft London Cycle Design Standards	Consider the design recommendations of the Draft London Cycle Design Standards, particularly in heavily trafficked urban areas such as Edinburgh
Draft London Cycle Design Standards	Consider the network planning process outlines in the Draft London Cycle Design Standards
Planning for Cycling (CIHT)	Include the features identified in the CIHT document Planning for Cycling, namely; set a time period for implementation, set objectives, have appropriate content and take a strategic stance.
Planning for Cycling (CIHT)	In terms of content it should be concise, rather than lengthy, and focus on the actions and responsibilities of different organisations to implement the plan and the resources needed to deliver it, particularly institutional arrangements and funding.
Planning for Cycling (CIHT)	Give consideration the stages which should be undertaken in planning the cycle route network.

Guidance	Source
The Design Manual for Roads and Bridges	Meet the design standards set out in the DMRB wherever applicable
Collection of Cycle Concepts (Denmark 2012)	Consider the Danish approach to planning a cycle network
Collection of Cycle Concepts (Denmark 2012)	Consider more ambitious and innovative infrastructure examples from Danish guidance and best practice
CROW Design Manual for Bicycle Traffic (Netherlands)	Consider more ambitious and innovative infrastructure examples from Dutch guidance and best practice, in particular inter-city routes.
Sustrans Handbook for Cycle Friendly Design	Follow the network planning and guidance offered by Sustrans, including cycle/rail integration, taking consideration of different approaches to urban and rural links.
Sustrans Active Travel Strategy Guidance	Produce a map of existing and proposed cycle routes that forms a strategic cycle network across the region
Sustrans Active Travel Strategy Guidance	Include a high-level cost estimate for the network
Sustrans Active Travel Strategy Guidance	Consider destinations, cycle network standard and incorporate existing routes as outlined in Sustrans Active Travel Strategy Guidance

3.1 Overview

3.1.1 A desktop study was undertaken to provide an understanding of cross-boundary commuter cycling within SEStran based on available data. This includes a brief review of a previous study, analysis of Census 2011 data and other cycling data sources including accidents.

3.1.2 The latter section of the chapter covers the initial stakeholder consultations which were undertaken.

3.2 Strategy Context

3.2.1 SEStran commissioned a study in 2008 entitled the 'Development of a Strategic Urban Cycle Network', with the aim of developing a strategy for the development of urban commuter cycling facilities across the region. It was aimed primarily at supporting the Regional Transport Strategy (RTS), which placed a high priority on promoting commuter cycling in the urbanised areas of the region.

3.2.2 The study focused on cycle routes and facilities that were in parallel with the regional transport commuter corridors as defined in the RTS. Within those corridors, the study considered urban areas with a population greater than 10,000.

3.2.3 The key output from the study was a strategy for cycling infrastructure investment across the region. This identified a list of interventions within each commuting corridor, and specified them in terms of being short, medium or long term priorities. The majority of these were aimed at urban centres, and as such there are only small selections of interventions listed that are directly relevant to cross-boundary cycling. These are listed in Table 3.1 below.

Table 3.1 Cross-boundary schemes identified in the Development of a Strategic Urban Cycle Network study (2010)

Corridor	Route	Proposed Measures	Cost
Edinburgh East A1 Links to Musselburgh & Newcraighall	A1 Links to Musselburgh & Newcraighall	Ongoing consultations, Promotion of traffic orders, Provision of signing	£5,000
Edinburgh East A1 Links to Musselburgh & Newcraighall	Daiches Braes	Upgrade of path from eastern end of Daiches Braes to link at Brunstane Mill Road	£35,000
Edinburgh Orbital	A720	Review existing signing with view to adding	£3,000
Edinburgh Orbital	Arterial routes crossing A720	Review existing junctions in more detail. However measures could include improved signing and provision of cycle lanes.	£10,000
Edinburgh Orbital	Frogston Road	Review width with view to providing cycle lanes.	£5,000

Corridor	Route	Proposed Measures	Cost
A985 & Stirling to Alloa Railway Line Stirling to Alloa	Route between Manor Powis and Stirling still incomplete due to land negotiations	Combination off-road and on-road route.	Unknown
A1	Musselburgh – Limited information on how cyclists are to access some of the existing cycle routes.	Signing strategy for key routes, including Pinkie Road, Inveresk Road and High Street.	£3,000
A1	Musselburgh – Good off road facilities provided to west of town but still some links required to tie into existing networks	Continue to pursue links from Musselburgh Station to the Newcraighall area and the path network at Gilbertstoun Loan	Unknown
A701, A702	Penicuik	Sign key routes within the town along with links to long distance facilities and A701 promote as a cycle network. Improve conditions for cyclists at junctions on A701 by improving sightlines and removing on-street parking.	£10,000

3.3 Commuting by bicycle within SEStran

Census Travel to work

3.3.1 At the time of writing, the 2011 Census travel to work data was only available at local authority level, as the more detailed spatial breakdown was still to be released. Nonetheless, this dataset offers a valuable insight into the volumes of commuting by bicycle within the SEStran area. A summary of commuting volumes is presented in Table 3.2 below, which includes all internal and cross-boundary cycling trips.

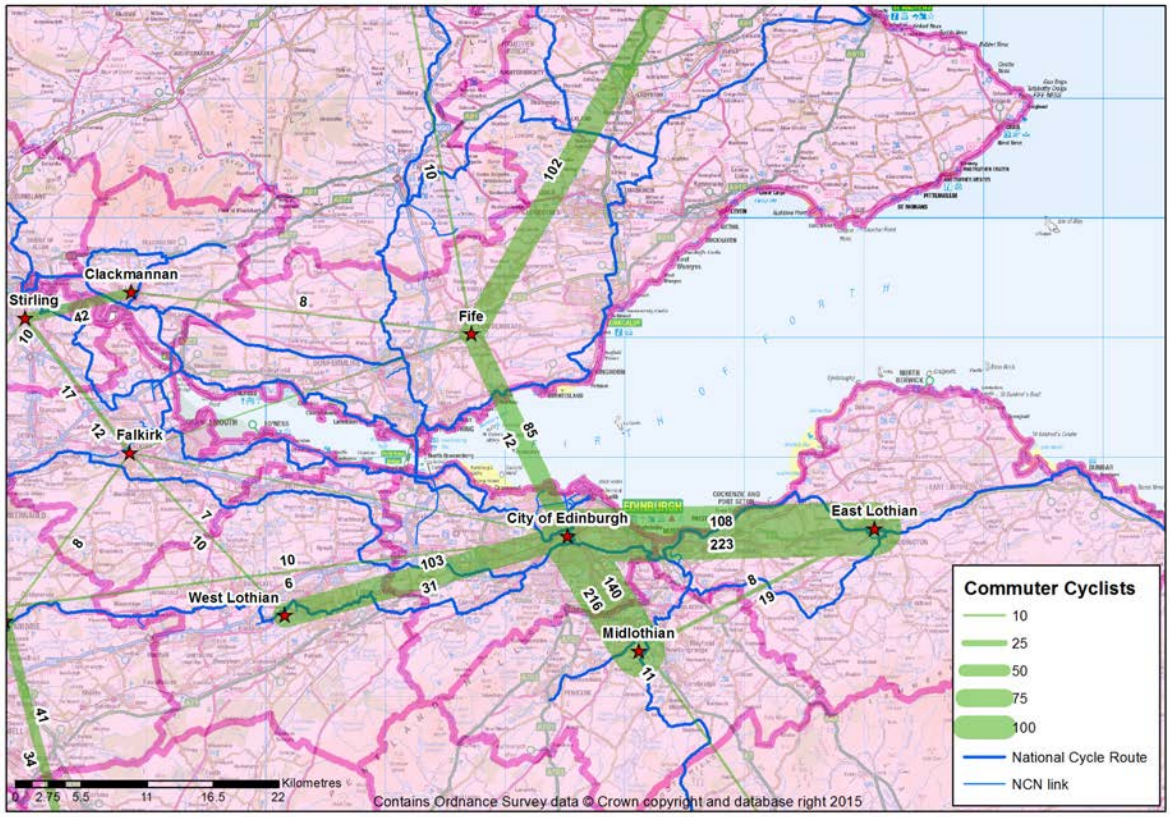
Table 3.2 Census TTW 2011 – cycling commuting within SEStran

LA	Internal	Commuting to	Commuting from	% Cycling modeshare internal	% Cycling modeshare cross-boundary
City of Edinburgh	9,282	678	311	6%	0.8%
Clackmannanshire	150	17	56	2%	0.5%
East Lothian	331	123	247	2%	1.3%
Falkirk	666	38	48	2%	0.2%
Fife	1,529	41	216	1%	0.6%
Midlothian	145	163	225	1%	1.3%
Scottish Borders	510	9	22	2%	0.4%
West Lothian	470	53	120	1%	0.4%
Total SEStran	**13,083**	**1,122**	**1,245**	**3%**	**0.7%**

3.3.2 As expected, the highest proportion of cycle commuting is in City of Edinburgh Council, with the high urban density and path network providing relatively short cycling distances. East Lothian and Midlothian, both with large settlements within close proximity to Edinburgh, exhibit the highest proportions of cross-boundary cycle commuting. Across the SEStran region as a whole, 3% of intra local authority commuting trips are by bicycle, while 0.7% of cross-boundary movements are cycling trips.

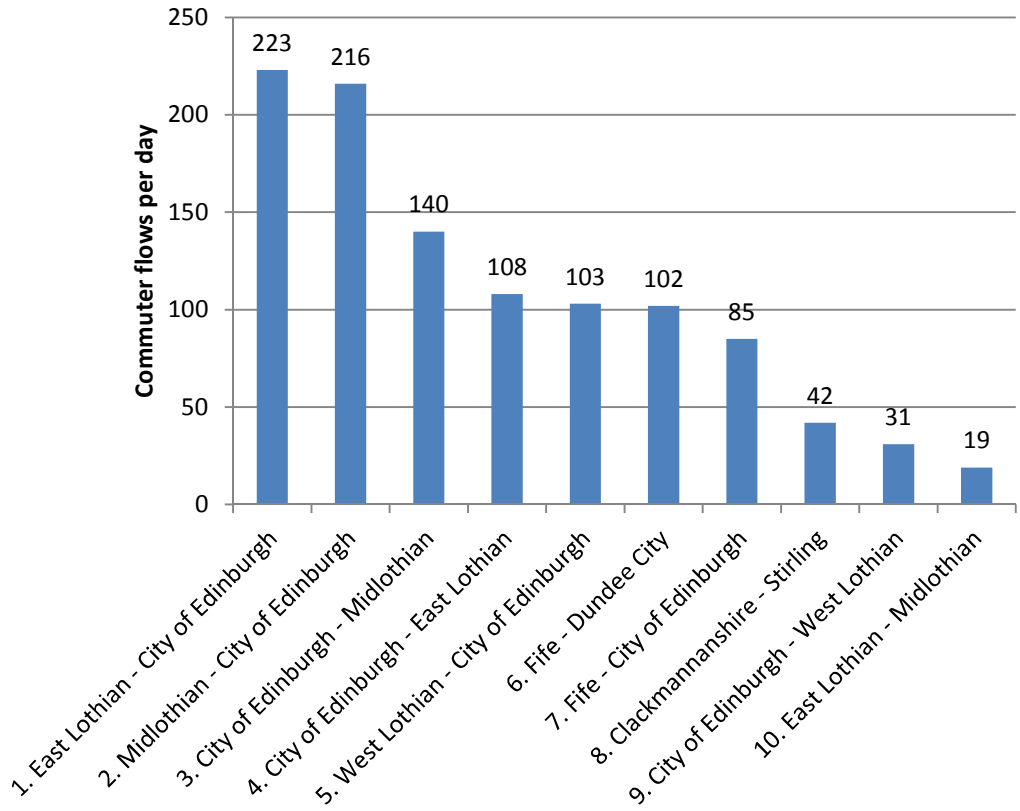
3.3.3 The major cross-boundary commuting flows are shown in Figure 3.1 below; note that these lines are indicative LA to LA flows only, and do not imply the routing of cyclist movements.

Figure 3.1 Census 2011 TTW cross-boundary cycle commuting desire lines



3.3.4 The largest flows are those from the Lothians into Edinburgh as might be expected. The top ten cross-boundary commuter movements are shown in Figure 3.2. East Lothian (223) and Midlothian (216) to Edinburgh are the largest flows, with movements in the opposite directions representing the 3rd and 4th highest. Other notable flows include West Lothian – Edinburgh (103), Fife to Dundee (102), Fife to Edinburgh (85) and Clackmannanshire – Stirling (42).

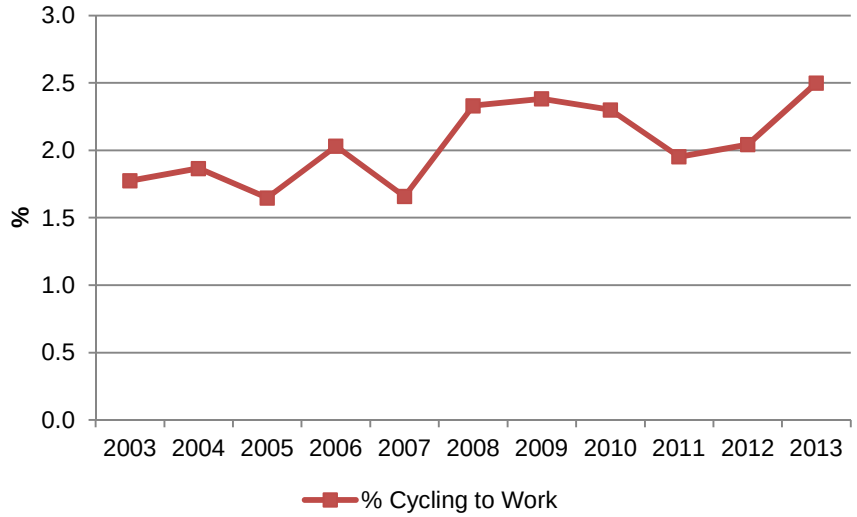
Figure 3.2 Top 10 cross – boundary cycling commuting flows in SEStran. Source: Census 2011 TTW



SHS Travel Diary

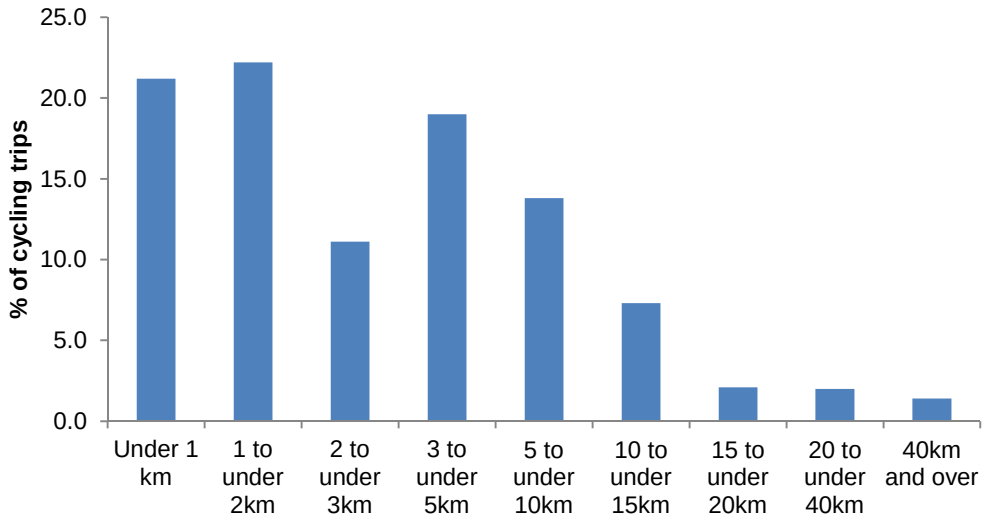
3.3.5 At the Scotland level, the proportion of commuting journeys undertaken by bike as recorded in the Scottish Household Survey has increased in recent years as shown in the figure below.

Figure 3.3 Cycle commuting levels across Scotland, 2-003-13. Source: Scottish Household Travel Diary Data



3.3.6 Analysis of Scottish Household Travel diary data for 2012 suggests that almost 74% of bicycle trips made in Scotland are under 5km in length, as shown in Figure 3.4 below.

Figure 3.4 % Breakdown of cycling journeys by distance band. Source: Scottish Household Travel Diary Data 2012



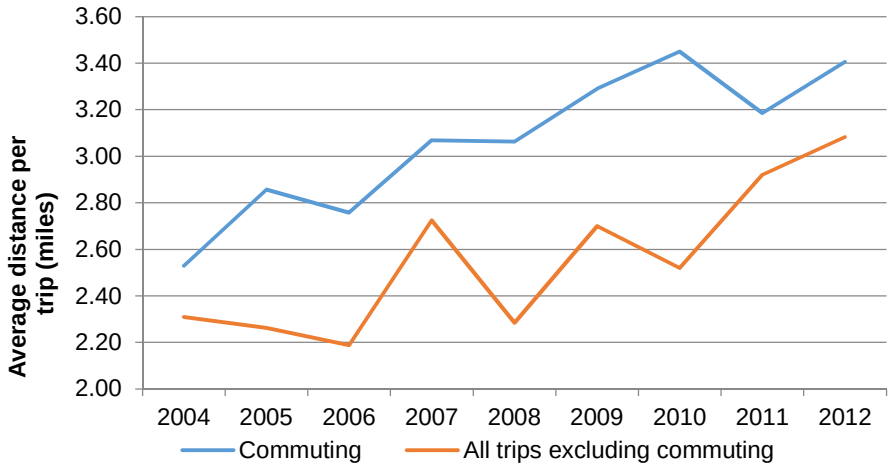
3.3.7 These statistics support the Census 2011 data in terms of the relatively low volumes of cross-boundary cyclists; the majority of commuter cycling journeys undertaken are too short to involve crossing a local authority boundary, and as such most trips have a start and end point within one local authority.

National Travel Survey

3.3.8 The National Travel Survey data covers Great Britain up until 2012, before reverting to an England only statistic in 2013. As such, the 2012 figures are reported here. The data forms a useful indicator of both purpose split of cycling trips, and trends in cycling patterns over time. In 2012, 34% of cycling trips per person per year were by commuters, and 36% of cycling miles travelled were by commuters. This equates to an average commuter trip length of 3.4 miles or 5.5km.

3.3.9 In terms of trends over time, the average number of commuting trips per person per year by bike (2004 – 2012) in Great Britain has remained relatively static at between 5 and 6. This mirrors the trend for all cycling trips. However, when the average trip length is considered, there is a trend towards longer journeys, both commuter and other trip purposes, as shown in Figure 3.5 below.

Figure 3.5 Average distance per cycling trip. Source: NTS



3.3.10 The trends suggest that commuter cyclists are prepared to travel increasingly longer distances. This is particularly relevant to this study, as if the trend were to continue, the propensity for cross-boundary commuting will increase.

Cycling Accidents

3.3.11 In order to build up a picture of key accident blackspots, Stats 19 data covering the period 2008 – 2013 was collated and plotted in GIS, with only cycling casualties of a working age included in the analysis; this was to reflect the focus of the study on commuting. Accidents are categorised as 'Fatal', 'Serious' and 'Slight', with the following totals for SEStran covering this period:

- Fatal – 17
- Serious – 309
- Slight – 1438

The location of fatal and serious cycling accidents across the SEStran Region between 2008 and 2013 is shown in Figure 3.6 and Figure 3.7 below. It can be seen that the majority of accidents happen outwith designated routes, and as such the provision of safer, direct route options would undoubtedly improve the accident rates across the region.

Figure 3.6 Fatal and serious cycling accidents 2008 – 2013. Source Stats 19 data.

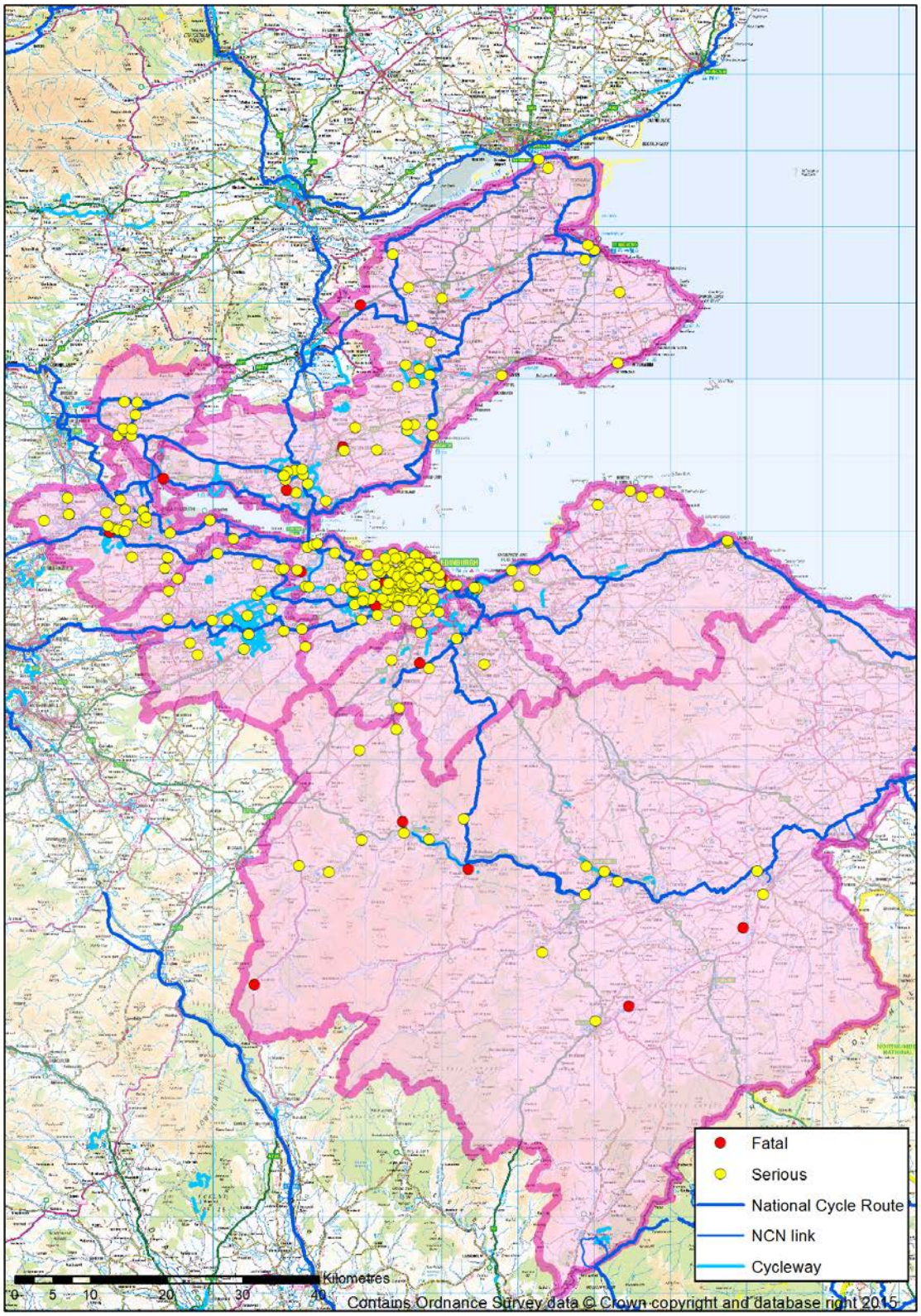
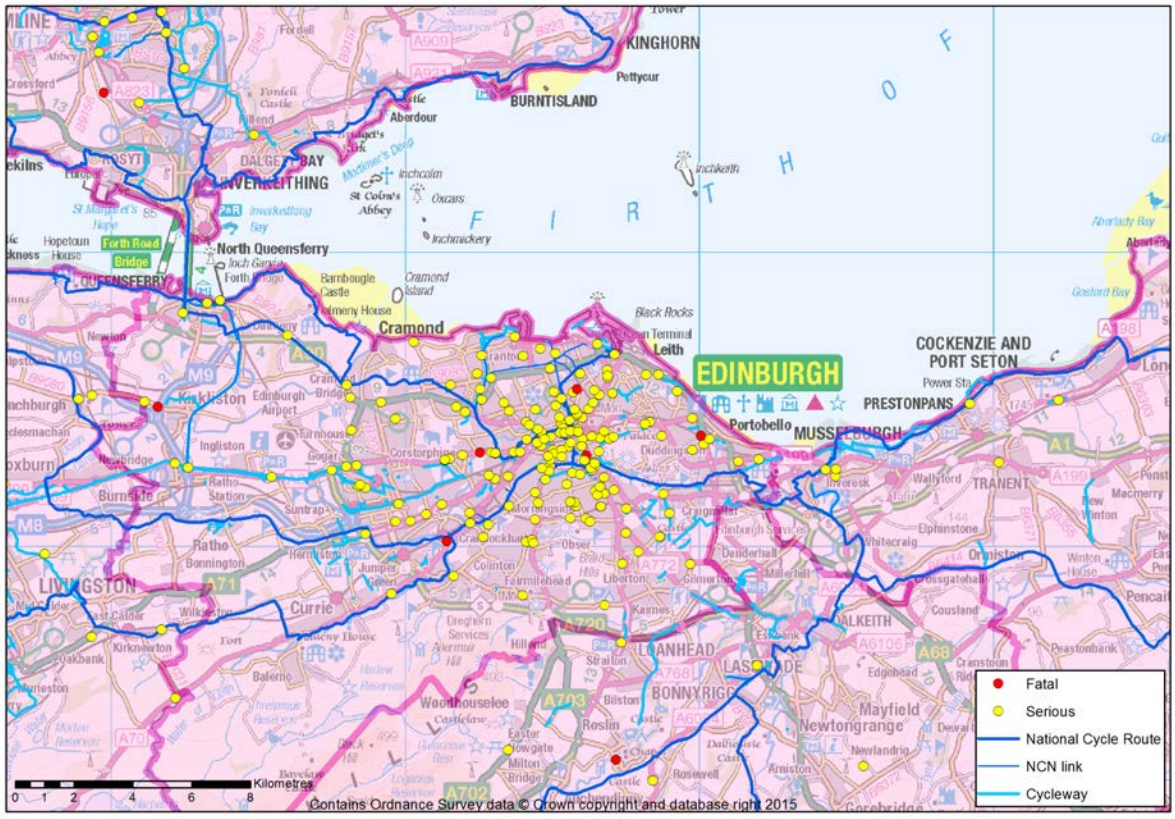


Figure 3.7 Fatal and serious cycling accidents 2008 – 2013, Edinburgh area. Source Stats 19 data.



3.4 Initial consultations

3.4.1 A key element of this study was consultation with the key stakeholders in the SEStran area. The purpose of these sessions was to understand the cycling route development work currently being undertaken at a local, regional and national level. Furthermore, the consultations were aimed at gaining insight into the issues currently facing commuter cycling within the region, with particular emphasis on barriers to cross-boundary movements. The findings of the consultation exercise formed the basis for site audits and the recommendations developed later in the study.

3.4.2 SEStran provided a list of key stakeholders for this consultation and this consisted of the eight Local Authorities within SEStran and a number of other relevant cycling charities, education establishments and health boards. Consultations were undertaken via a mix of face to face meetings and telephone interviews, with a topic guide being developed and circulated to stakeholders in advance of these sessions. The list of consultees is provided in Table 3.3 below.

Table 3.3 List of stakeholders consulted

Organisation	Date	Meeting/phonecall
City of Edinburgh Council	07/01/2014	Meeting
East Lothian Council	12/01/2014	Meeting
Scottish Borders Council	15/01/2015	Meeting
Midlothian Council	08/01/2015	Meeting
West Lothian Council	13/01/2015	Meeting
Falkirk Council	15/01/2015	Meeting
Clackmannanshire Counci	06/01/2015	Meeting
Fife Council	14/01/2015	Meeting
Sustrans	07/01/2015	Meeting
Tactran	13/01/2015	Meeting
SESplan	26/01/2014	Phone call
SNH	13/01/2015	Phone call
Cycling Scotland	09/01/2015	Phone call
Paths for All	07/01/2015	Phone call
University of Edinburgh	19/01/2015	Phone call
Edinburgh Napier University	23/01/2015	Phone call
St Andrew's University	16/01/2015	Phone call
SRUC	16/01/2015	Phone call
Edinburgh College	06/01/2015	Phone call
Scottish Borders College	09/01/2015	Phone call
Forth Valley College	14/01/2015	Phone call
NHS Forth Valley	07/01/2015	Phone call
NHS Scotland	30/01/2015	Meeting
ACORP	08/01/2015	Phone call
Edinburgh Airport Ltd	05/01/2015	Phone call

Consultation format

3.4.3 The consultations were structured around a topic guide which included four questions (a copy of this can be found in Appendix B):

- Question one covered local commuting by bicycle, access to key centres of employment and major transport interchanges.
- Question two focused on cross-boundary cycling routes, in terms of the key movements being made and the key barriers which prevent more people from making journeys of this nature.
- Question three was aimed at understanding the investment that had been made in cycling infrastructure facilities and softer measures during the last five years. Secondly, it sought to understand where consultees believed there were missing links and barriers to cross-boundary commuter cycling, and to gain insight into the types of solutions that could be implemented to overcome these.
- Question four sought to understand the extent to which cycling was promoted within the region through existing and proposed marketing campaigns, cycling events and other soft measures.

Key findings of the consultation

3.4.4 The consultations provided a wealth of information which is very useful to this study. The key findings and most relevant points to this study are presented in Appendix C, which covers the consultations with Local Authorities and all other stakeholders.

3.5 Summary

3.5.1 The initial phase of the study, covering the best practice review, desktop study and consultations, provided a set of baseline conditions which form the basis for identifying the key barriers, constraints and missing links in the SEStran Strategic Cycling Network.

3.5.2 This formed the basis for the recommendations presented in the following chapters.

4.1 Site Audits

4.1.1 After considering the key barriers and missing links identified above, a number of site audits (i.e. site visits – undertaken by bicycle) were undertaken to gain a more detailed understanding of the issues on the ground now. The methodology for undertaking these included:

- identifying the existing network context in terms of cycling provision;
- examining the key barriers and/or missing links in detail to understand the issues;
- the consideration of possible solution(s) to the problem(s); and
- producing a summary of the findings.

4.1.2 Photographs and mapping were collected on site and used to provide visual documentation of the site audits. The detailed findings of these site audits are presented in Appendix D.

4.1.3 Site audits were undertaken along the following network sections:

- Leith – Portobello – Musselburgh
- Tranent – Musselburgh
- Musselburgh – Brunstane – Innocent Railway
- Dalkeith to Shawfair and ERI via Sheriffhall
- Eskbank and Bonnyrigg to Edinbugh
- Loanhead and Lasswade Road corridor
- A701 corridor and Bush Estate
- A70 corridor
- A71 corridor
- Union canal
- A8/A89 corridor
- Forth bridgehead south/A90

4.2 Consultation Workshop

4.2.1 After undertaking the site audits, a workshop session was held on 4th March 2015 to provide an opportunity for stakeholders to give feedback on the key findings of the study, and the recommendations being developed.

4.2.2 The session was attended by representatives of the stakeholders listed below.

Table 4.1 List of stakeholders that attended the consultation workshop

Local Authorities	Other organisations
Clackmannanshire Council	SEStran
East Lothian Council	SESplan
City of Edinburgh Council	TACTRAN
Falkirk Council	Sustrans
Midlothian Council	Scottish Natural Heritage
Scottish Borders Council	Scottish Borders College
West Lothian Council	ACORP

4.2.3 The session was centred on a presentation, which included an overview of the desktop study, detailed analysis of the barriers and missing links examined during the site audits and the emerging recommendations for addressing these, in addition to discussion of other network- wide issues.

4.2.4 There was considerable discussion and debate surrounding the key findings. Some key actions and amendments were requested by several parties, and this feedback was taken on board and used when developing the final report.

5.1 Overview

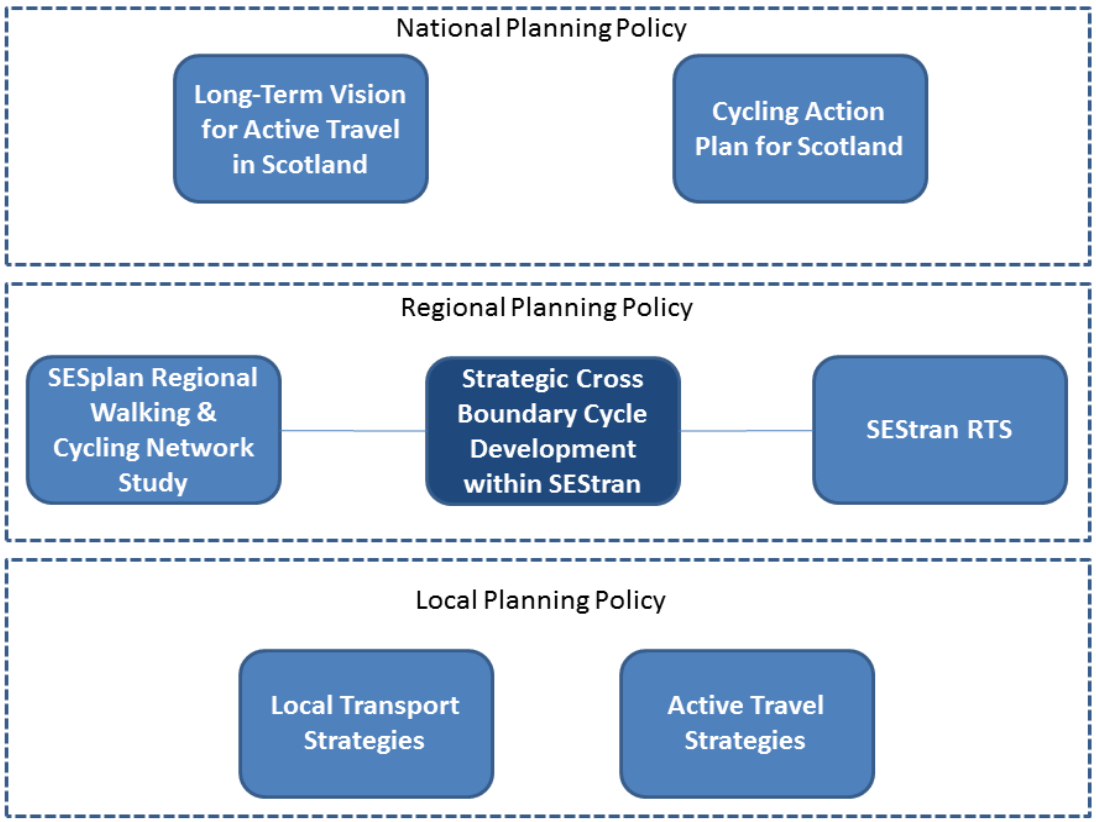
5.1.1 The findings of the consultations and site audits were then used to develop an action plan for the SEStran strategic cross-boundary cycling network.

5.1.2 Central to this strategy is a contribution to exceeding the CAPS target that 10% of everyday journeys will be undertaken by bicycle in 2020. The revised SEStran RTS Objective 4.2 states a target of increasing cycling and walking mode share by 5 percentage points. In order to achieve this, there is a need to aim for the highest possible standard of network across the region, which serves the needs of all users and encourages significantly greater cycling uptake.

5.2 Policy context

5.2.1 This study is an important piece of work that considers the key cross-boundary sections of network requiring investment within SEStran from a commuting perspective. It sits alongside, and supports other policy documents which together form a framework for cycle network investment across the region. Linkages with other documentation are shown in Figure 5.1 below.

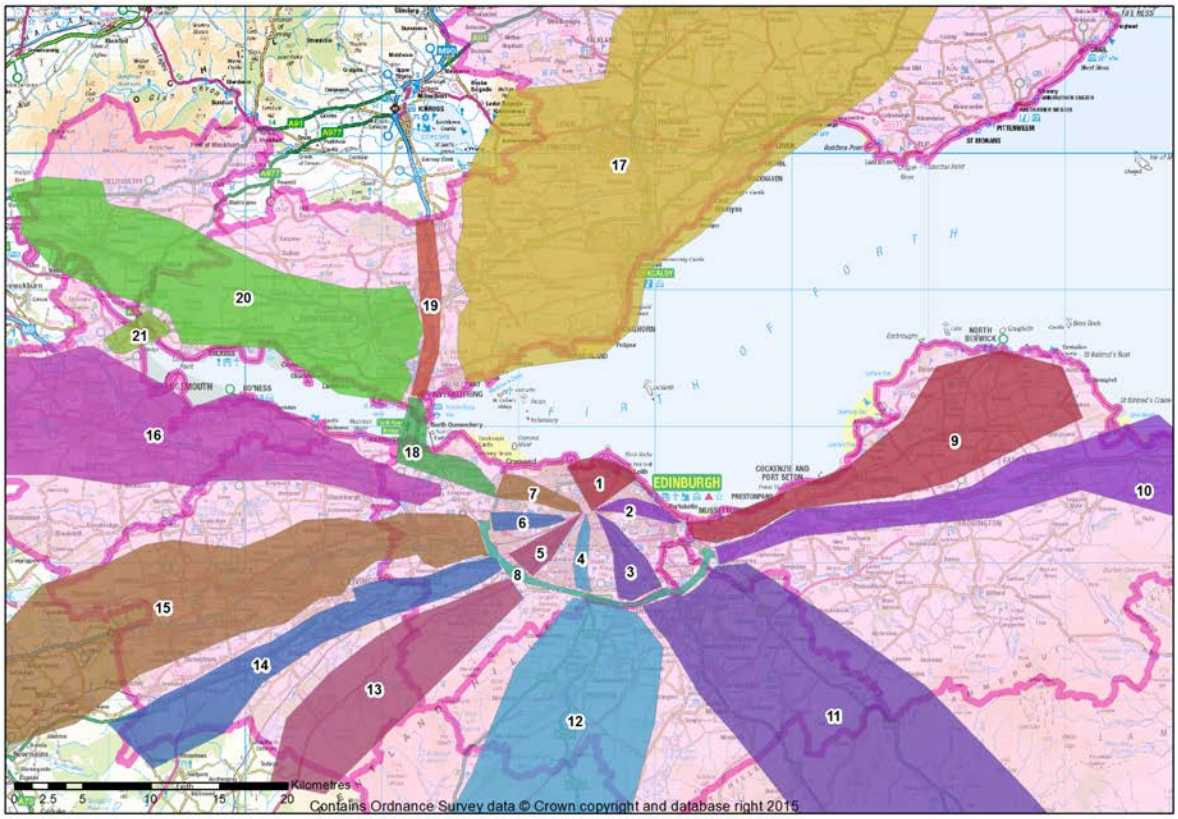
Figure 5.1 Policy context of the study



5.3 Recommended actions

5.3.1 Following consideration of the feedback provided at the consultation workshop session, a finalised list of barriers, missing links and solutions was developed in relation to the SEStran cross-boundary commuter cycling network. This is presented in Table 5.1 below, and the locations of these are also shown in Figure 5.3 and Figure 5.4; the key for these is in Table 5.2. For consistency with the RTS the recommended actions are presented by SEStran RTS Corridor; the location of these is presented in Figure 5.2 below.

Figure 5.2 SEStran RTS Corridors



5.4 Balancing short term wins with longer term aims

5.4.1 These solutions are considered within two timeframes; short term (1-3 years) and longer term (3+ years). In many cases, there is the possibility that those in the latter could be delivered within a shorter time frame if funding and planning permission was in place. Shorter term measures are those deemed to be realistic to deliver within a short time frame, addressing key barriers and missing links if funding was available.

5.5 Cost estimates

5.5.1 Due to the high level nature of the study, detailed cost estimates for the interventions listed below have not been developed. However, the level of investment required has been designated as low, medium or high based on the following broad criteria:

- Low – signage or cycle lane lining, small scale construction or resurfacing (L)
- Medium – longer distance resurfacing/upgrading, simple junction/crossing redesign (M)
- High – new infrastructure such as bridges, fully segregated routes of significant length, complex junction redesign (H)

5.5.2 The recommendations below have been allocated to one of these cost categories as appropriate, in order to provide guidance on the relative cost implications of each investment.

Table 5.1 Strategic Cross Boundary Cycle Development within SEStran – Key Actions

RTS Commuting Corridor(s	Key Strategic Routes and Current Provision	Short Term Gaps & Barriers	Short Term Solutions (Cost)	Longer Term Opportunities
2 – Edinburgh East 9 – East Lothian Coastal	CEC Local Route 10 – High quality route from Leith to Portobello John Muir Way leads from East Lothian boundary into Musselburgh NCN 76 Innocent Railway Path, Brunstane, Musselburgh	Missing link between Portobello Promenade and John Muir Way Brunstane Bridge a barrier – has steps that require bicycle to be carried up and down ramp	Option 1. Cycle lanes along both sides of the carriageway between Promenade and East Lothian boundary – car parking bays could be narrowed to accommodate this (M) Option 2. Shared use path between Promenade and Coillesdene Avenue. Cycle lanes along both sides of the carriageway between Coillesdene Avenue and East Lothian boundary. New pedestrian/cycle crossing 50m west of Coillesdene Avenue or cycle lane to allow safe road crossing westbound (M) Provision of ramps on Brunstane Bridge would make this easier to negotiate (L)	A199 cycle super highway: Spinal route would serve a number of settlements: Dunbar, East Linton, Haddington, Macmerry, Tranent, Wallyford, Musselburgh and onwards to City of Edinburgh, with link routes off to other East Lothian settlements along the way. This would form a high quality artery linking East Lothian with Edinburgh (H)
3 – Edinburgh South East 11 – Midlothian East/ Borders	Dalkeith to Shawfair and ERI	Sheriffhall roundabout – dangerous and intimidating uncontrolled crossing Old Dalkeith Road – gaps in cycle lane provision	Provide continuous and consistent cycle lanes along entirety of route. Coloured surfaces are highly recommended (M) No short term solutions are possible or practical for Sheriffhall roundabout, given that the junction is in the process of design upgrading.	Overpass/fully segregated bridge at Sheriffhall junction – the redesign of the junction should incorporate the highest quality solution for cyclists, as this is a key barrier to commuter cycling (H) Fully segregated route, provided from Dalkeith to link into the central Edinburgh network. This would provide a far safer route than existing cycle lanes and would help encourage more substantial cycle commuting uptake (H)

RTS Commuting Corridor(s	Key Strategic Routes and Current Provision	Short Term Gaps & Barriers	Short Term Solutions (Cost)	Longer Term Opportunities
3 – Edinburgh South East 11 – Midlothian East/ Borders	Eskbank to Edinburgh boundary	Gilmerton Road shared use path ends abruptly at Drum Street Gilmerton Road within CEC has gaps in cycle lane provision Bonnyrigg poorly connected to routes into Edinburgh	Option 1. Create route from existing terminus of Gilmerton Road shared use path via Gilmerton Station Road and farm track to South Farm and connect with Ravenscroft Place (M) Option 2. Utilise Loanhead railway track bed to connect Gilmerton Road shared use path with the Loanhead shared use path. This provides onward connectivity to Edinburgh via a planned shared use path along Lasswade Road (H) Provide complete, consistent, high-quality lanes on Gilmerton Road (L) Bonnyrigg connectivity – provision of a shared use path parallel to A7, connecting to Gilmerton Road shared use path (H)	Connection via A7 to new Sheriffhall junction – incorporate into redesign; extension of proposed A7 shared use path (H) Utilise the full extent of the Loanhead railway track bed to provide connectivity eastwards from Gilmerton road to Shawfair. This could form part of an Edinburgh orbital route (H)
3 – Edinburgh South East 11 – Midlothian East/ Borders	Loanhead and Lasswade Road Corridors	Loanhead shared use path ends abruptly at Lasswade Road – no onward connectivity into Edinburgh Uncontrolled crossing at Gilmerton Station Road	CEC has plans to widen and resurface path adjacent to Lasswade Road (M) No plans to upgrade uncontrolled crossing – recommend that this is monitored and reviewed (M)	Extension of path westwards along north side of Edinburgh bypass – forming part of the Edinburgh orbital route

RTS Commuting Corridor(s	Key Strategic Routes and Current Provision	Short Term Gaps & Barriers	Short Term Solutions (Cost)	Longer Term Opportunities
3 – Edinburgh South East 12 – Midlothian West/ Borders	A701 corridor	Provision for cyclists is incomplete along sections of A701 Lack of connectivity to Bush Estate Lack of connection between Scottish Borders and Midlothian	**Bilston to Kaimes** Continuous, consistent, high quality surfaced lanes along entirety of route (M) **Penicuik to Roslin** Onward off-road route to Roslin along B7006 and Loanhead path (M) **Bush Estate** Provision of cycle lanes along rural section of Seafield Road, or signage and 20mph limit (L) Signage and 20mph limit along urban section, supplementing existing traffic calming (L) Controlled crossing where Seafield Road joins A701, to allow safe crossing for southbound cyclists. **Peebles to Penicuik** Utilise old railway track bed from Peebles to Penicuik to create fully segregated, high quality route. This should form a continuous route by linking in with the enhanced A701 corridor, links to Loanhead Path and NCN 196 (H)	**Bush Estate** Opportunity to incorporate cycle route into Cameron Gardens development and/or Bilston bypass; provide off-road to Bush Estate and utilise the existing A701 for more cycling carriageway space, as traffic flows are significantly reduced (M)

RTS Commuting Corridor(s	Key Strategic Routes and Current Provision	Short Term Gaps & Barriers	Short Term Solutions (Cost)	Longer Term Opportunities
5 – Edinburgh South West 13 – Lanark	A70 corridor – Water of Leith path	Missing direct link between Balerno/Currie and west Edinburgh employment such as Edinburgh Park and South Gyle Water of Leith path a key route – surface could be better	**Currie to Heriot Watt University** Cycle lanes or shared use path along Riccarton Mains Road (M) **Water of Leith** Improve path surface to provide a smoother, faster route suitable for commuter bikes. Toptrek or full tarmacking with cycle lane both possibilities (M)	Link Balerno/Currie to west Edinburgh route with the proposed A71 cycle super highway (M)
5 – Edinburgh South West 14 – West Lothian South	A71 and Union Canal corridor	Very little cycle provision within A71 corridor – a key development corridor Canal path surface poor – not a realistic commuting option	Limited scope to utilise canal for commuting – path width constraints, circuitous route and surface are not conducive to offering a fast, direct route Improved surface would be of utility to all users (M)	A71 cycle super highway linking south Livingston with the south west wedge of Edinburgh. This is a key development corridor and the creation of a high quality, segregated route would represent a key strategic cycling route within the region (H)

RTS Commuting Corridor(s	Key Strategic Routes and Current Provision	Short Term Gaps & Barriers	Short Term Solutions (Cost)	Longer Term Opportunities
6 – Edinburgh West 15 – West Lothian M8	A8/A89 corridor	A89/A8 corridor has varying degrees of route quality, with path width and surface substandard in places Gaps in A89 connectivity westwards Uncontrolled crossings at airport roundabout and Gogar roundabout No cycling provision for accessing airport	CEC has allocated funds to address majority of issues on A8 – airport roundabout will remain uncontrolled. Recommend this is reviewed and controlled crossing provided in future (M) Extend A89 path westwards to offer complete, high-quality route connecting into NCN 75 (H) Provide a safe route for accessing the airport terminal from the A8 (M) Gogar roundabout – signal timings could be reviewed to incorporate controlled pedestrian/ cycle crossing (M)	A bridge across the carriageway (similar to Newbridge) at Gogar roundabout should be incorporated into any future junction redesign or upgrade. (H)

RTS Commuting Corridor(s	Key Strategic Routes and Current Provision	Short Term Gaps & Barriers	Short Term Solutions (Cost)	Longer Term Opportunities
6 – Edinburgh West 18 – Queensferry	NCN 1 linking Fife with Edinburgh	Missing link between NCN1 and Maybury junction Lack of fast, direct connection between Fife and West Lothian	**NCN1 – Maybury Junction** 1. Shared use path along Maybury road, with onward connection to NCN1 via Whitehouse Road (M) 2. Create route along Cammo Walk, Cammo Road and pavements on A90 to connect with NCN1 at Cramond Brig. Shared use path/pavement between Maybury junction and Cammo Walk (M) **Fife to West Lothian connection** Upgrade existing Dalmeny – Newbridge railway path. High quality surface and path widening would create a fast route suitable for commuting (M)	Development of land adjacent to Maybury Road for housing is an opportunity to provide a high quality, segregated cycling connection from NCN1 to the A8 corridor. An off-road route considerably to the west of Maybury Road is also an option
18 – Queensferry 19 – Perth & North	NCN linking Inverkeithing and Dunfermline with Forth Road Bridge	Uncontrolled crossing at Ferrytoll if coming from the west Uncontrolled crossing at Castlandhill Road Lack of direct, fast route from Dunfermline and Rosyth to bridgehead	New Ferrytoll junction includes signalised crossings Provision of high quality segregated route along Castlandhill Road to connect with new junction is key. Potential for developer contributions to help fund this (M)	Important to ensure cycling infrastructure in the Dunfermline/Rosyth area is enhanced in line with significant development which is planned there. Potential for developer contributions (M)

RTS Commuting Corridor(s	Key Strategic Routes and Current Provision	Short Term Gaps & Barriers	Short Term Solutions (Cost)	Longer Term Opportunities
20 – Alloa to Dunfermline 21 – Cross Forth (Kincardine) E3 – Stirling Alloa external	NCN 76 – key commuter route between Clackmannanshire and Stirling NCN 764 Cross-Forth route via Kincardine and Clackmannanshire bridges	Missing link along Bellsdyke Road – would link Forth Valley Hospital with 3 local authorities NCN 76: Uncontrolled crossing at Manor Powis roundabout, Alloa Road busy (Stirling Council)	Fill in missing link between A905 and NCN 76/unclassified road turnoff, and upgrade the entire route to Forth Valley Hospital to a high standard. Segregated path should be provided wherever possible, to encourage greatest cyclist uptake (M) New section of NCN 76 to be built in order to bypass Manor Powis and on-road section (Stirling) (M)	
E4 – Falkirk North West external	NCN 76	No direct link between Stirling and Falkirk – NCN 76 too circuitous for commuter cycling		Create a high quality segregated route along the A9 corridor, linking Stirling and Bannockburn with Forth Valley Hospital and upgraded Bellsdyke Road route (H)
16 – Edinburgh, Linlithgow, Falkirk	NCN 76 NCN 754	No direct, fast links between West Lothian and Falkirk Opportunity for cycle and ride from Bo'ness using Linlithgow station	Surface upgrade of Union Canal between Linlithgow, Polmont and Falkirk would make this a viable commuting option (M) Route from Bo'ness to Linlithgow via NCN 76 and Bonnytown Farm exists – better promotion could help, although this is a hilly journey (L)	

Figure 5.3 Location of key barriers and missing links in cross-boundary network

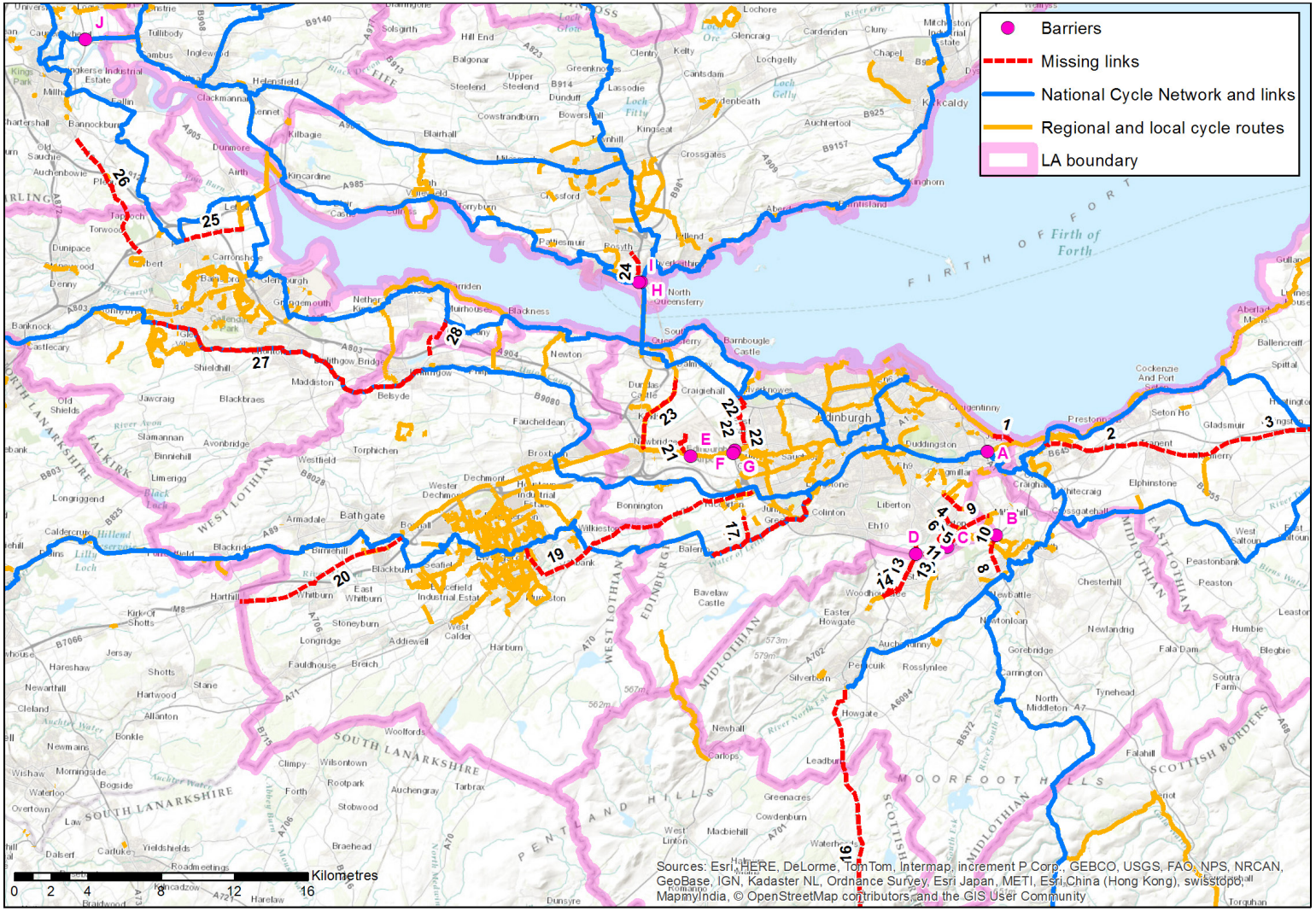


Figure 5.4 Location of key barriers and missing links in cross-boundary network – Edinburgh area

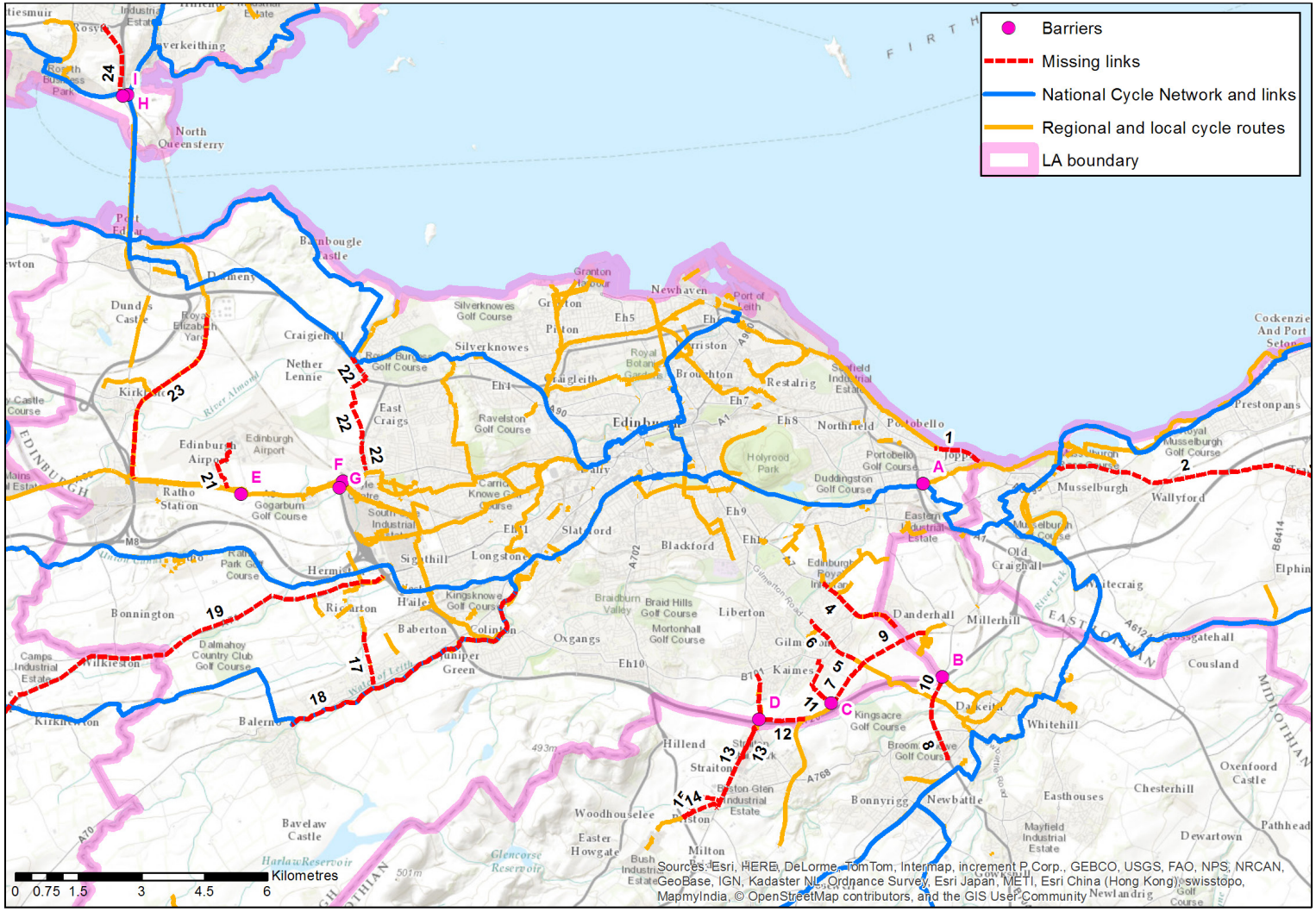


Table 5.2 Key for barriers and missing links with the strategic commuter cycling network

Missing link ID	Description
1	Seafield Terrace/Eastfield – no cycling provision between Portobello Promenade to Coillesdene Avenue
2	A199 Wallyford to Tranent – gaps in cycling provision
3	A199 – cycle super highway
4	Old Dalkeith Road – gaps in cycle lane provision
5	Drum Street – no cycling provision and limited scope to do so
6	Gilmerton Road in CEC – gaps in cycle lane provision
7	Loanhead railway track bed – connect Gilmerton shared use path to Lasswade Road shared use path
8	A7 Bonnyrigg – shared use path to Gilmerton Road
9	Loanhead railway track bed – connect Gilmerton shared use path with Shawfair
10	A7 to Sheriffhall – connect with new junction
11	Lasswade Road shared use path
12	Loanhead railway path – extension westwards to Straiton and beyond
13	A701 – gaps in cycle lane provision
14	Seafield Road – cycle lane provision to link with A701
15	Cycle route through new Bilston development
16	Peebles – Penicuik railway path
17	Riccarton Mains Road – Currie to Heriot Watt
18	Water of Leith path – surface upgrade
19	A71 cycle super highway
20	A89 cycle super highway – westwards extension
21	A8 to Edinburgh Airport – safe route required
22	Maybury Road and Cammo Walk – A8 to NCN1 link
23	Dalmeny to Newbridge railway path – widening and surface upgrade required
24	Castlandhill Road – direct route linking Rosyth/Dunfermline with Forth Road Bridge
25	Bellsdyke Road – gap in cycling provision – links 3 LAs together
26	A9 Stirling to Larbert – missing direct cycle route between these settlements
27	Union canal Linlithgow, Polmont, Falkirk – surface upgrade would make this viable commuter route
28	Bo'ness to Linlithgow – better signage and route promotion would encourage cycle and ride
A	Brunstane Bridge – steps
B	Sheriffhall Roundabout – uncontrolled crossings

Missing link ID	Description
C	Gilmerton Station Road – uncontrolled crossing
D	Straiton Roundabout north – no cycling provision
E	Airport Roundabout south – uncontrolled crossing
F	Gogar Roundabout – uncontrolled crossing A8
G	Gogar Roundabout – uncontrolled crossing A720
H	Ferrytoll Roundabout – uncontrolled crossing
I	Castlandhill Road – uncontrolled crossing
J	Manor Powis Roundabout – uncontrolled crossing

5.6 Cycling to stations

5.6.1 Another key aspect of cross-boundary commuting by bicycle is the ability to cycle and ride from rail stations. SEStran is served by a large number of railway stations, at which the level of provision varies considerably.

5.6.2 During the consultation exercise, a number of stations were mentioned as being underprovided for in terms of storage facilities, and/or cycling access to the site. These are listed in Table 5.3 below.

Table 5.3 Stations requiring better cycling provision

Station	Issues	Solution
Edinburgh Waverley	Location of cycle storage space is too hidden away – perception of it not being a mainstream option for accessing station Access into station also a problem, due to cycling being prohibited via the Waverley Bridge entrance	Relocation of cycle storage area would improve the visibility of cycle storage, and help to improve the perception of cycling as a means to access stations
Haymarket	Insufficient cycle rack space	Provide greater cycle storage capacity
Larbert	High demand for cycle commuting – lockers not fit for purpose	Provide better storage facilities, with additional capacity to meet extra demand
Dunfermline Town	Aspiration for this to become a significant cycling hub	Provision of more cycle storage required to realise the potential for a cycling hub

5.6.3 Proposed new stations are also an important consideration in terms of future cross-boundary opportunities. The reopening of the Borders Railway represents a step change in public transport connectivity in Midlothian and the Scottish Borders. Ensuring that all stations achieve their full potential in terms of cycle and ride opportunities is essential.

5.6.4 In addition to Borders Rail, proposed new stations at locations such as East Linton, Reston, Winchburgh and Levenmouth would also offer new cycle and ride commuting opportunities. It is important that local authorities work closely with rail operators and other key stakeholders to ensure that the potential new transport interchanges include a high standard of cycling provision.

5.7 Design standards

5.7.1 When conceptualising a cycle network, it is important to put emphasis on the standard of network provision. The best practice literature outlined in Chapter 2 provides varied viewpoints on selecting and specifying cycle route standards. Whilst Designing Streets (2010) and Designing Places (2001) states that the focus should be put on improvements which can make existing carriageways more cycle friendly, it is also important to segregate cyclists from large volumes of vehicular traffic, especially where roundabouts are located, or fast moving traffic (>40mph) (National Roads Development Guide (2014)). As such, it must be emphasised that fully segregated routes are the optimal solution wherever possible. Furthermore, the provision of safe crossing points on roads with major traffic flows is an essential design principle; and in general (from a wider bike network perspective) controlled crossing points are key to completing routes that are suitable for an unaccompanied 12 year old to negotiate. Whilst it is acknowledged that achieving this level of provision is extremely challenging, particularly in high density urban areas, in most environments, it is a standard that is attainable.

5.8 Funding sources

5.8.1 In addition to the Scottish Governments ring-fenced Cycling, Walking & Safer Streets Local Authority funding, CAPS notes the Scottish Government's Future Transport Fund. In general CAPS also notes that the funding picture is currently complex and fluid.

5.8.2 In terms of funding the cycling infrastructure identified above, there are a variety of options. For example, Sustrans Community Links funding and SEStran grant schemes are available on a 50% matched basis with local authority capital budgets.

5.8.3 European Structural and Investment (ESI) funds are a significant potential financing option. The Scottish Government manages the allocation of funds, with one of the key aims being to make it attractive, safe and easy to take up active modes of transport, and extend the distances and groups of the population for which it is seen as a feasible option investment. Furthermore, for projects to be supported, they are expected to have a sense of regional scale and strategy in terms of urban low-carbon mobility, and an awareness of what already exists, precisely to avoid new, but disjointed infrastructure which would have only a very localised impact[1].

5.8.4 Developer contributions are another source of funding along new or existing routes that will serve the sites. This is of particular relevance to proposed new cycle super highways which will serve as key connections to new developments along these active travel corridors. These would be developed through the Strategic and Local Development Plan process.

1 ERDF Scotland. Operational Programme Under the 'Investment for Growth and Jobs' Goal, Source: http://www.gov.scot/Resource/0046/00467309.pdf

5.8.5 Other potential funding sources could include:

- Sustrans Community Links fund;
- Central Scotland Green Network (CSGN);
- Climate Challenge Fund;
- Cycling Scotland – Community Cycling Innovation Fund/Cycle Friendly and Sustainable Communities Fund;
- Smarter Choices, Smarter Places – administered by Paths for All (although not eligible for infrastructure);
- Any upcoming City Deal proposals; and
- Emerging funding from consideration of cross boundary impacts of the SESplan Strategic Development Plan (study under way at the time of writing).

5.8.6 As a Strategy Action, SEStran should maintain a comprehensive list of potential funding sources for active travel schemes, including key dates for the submission of proposals to the available funds.

5.9 Using technology to monitor cycling usage

5.9.1 In parallel with the delivery of the strategic cycling infrastructure, which has been the focus of this report, non-engineered measures should be considered to monitor and encourage the use of the infrastructure and there are good examples of these in the background publications such as the CIHT "Planning for cycling", 2014 mentioned earlier in this report.

5.9.2 As an example, a key area of interest at the European research level is the use of technology to encourage cycling such as using mobile data and mobile apps to better understand the use and the benefits of cycling infrastructure whilst also encouraging cycling through, say a cycling challenge programme, to attract new cyclists. As these measures are relatively low cost compared to the larger infrastructure projects an early implementation could also help create the business cases for funding and prioritise infrastructure investment. There is also the potential here to look at securing research and innovation funding, say through the EU Horizon 2020 programme, to support this type of activity.

5.10 The wider SEStran Strategic Cycling Network

5.10.1 This study has focused on the key cross boundary sections of network from a commuting perspective. An important outcome of the consultation workshop was the importance of considering this work within the context of the wider cycling network across SEStran.

5.10.2 In addition to the cross-boundary missing links, there are a number of other planned and proposed sections of network which would facilitate the development of a high quality, multifunctional cycling network across the region. The SESplan Walking & Cycling Network Study presents a vision for an active travel network across this sub-area of SEStran. This has formed the starting point for the SEStran strategic cycling network, which covers all current, planned and proposed cycling infrastructure across the region.

5.10.3 The SEStran Strategic Cycling Network is presented in the images below; the first covers the whole SEStran-wide network, while the second shows the Edinburgh in more detail. The network is categorised in terms of status, with links being classified as Existing, Currently Proposed by local authorities or Aspirational – ie these plans are at an early stage of development or are conceptual in nature.

Figure 5.5. Overview of the wider SEStran Strategic Cycling Network

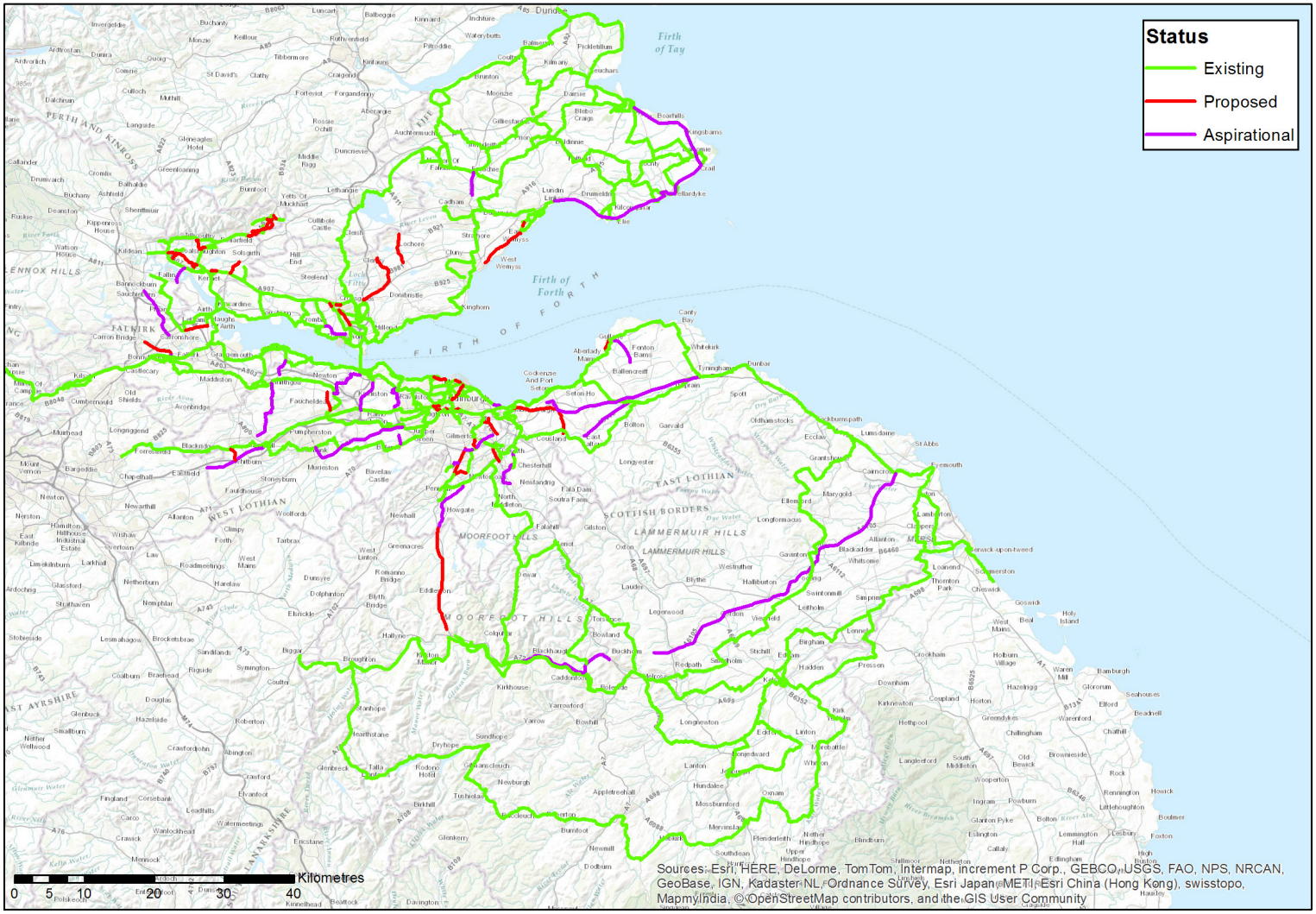
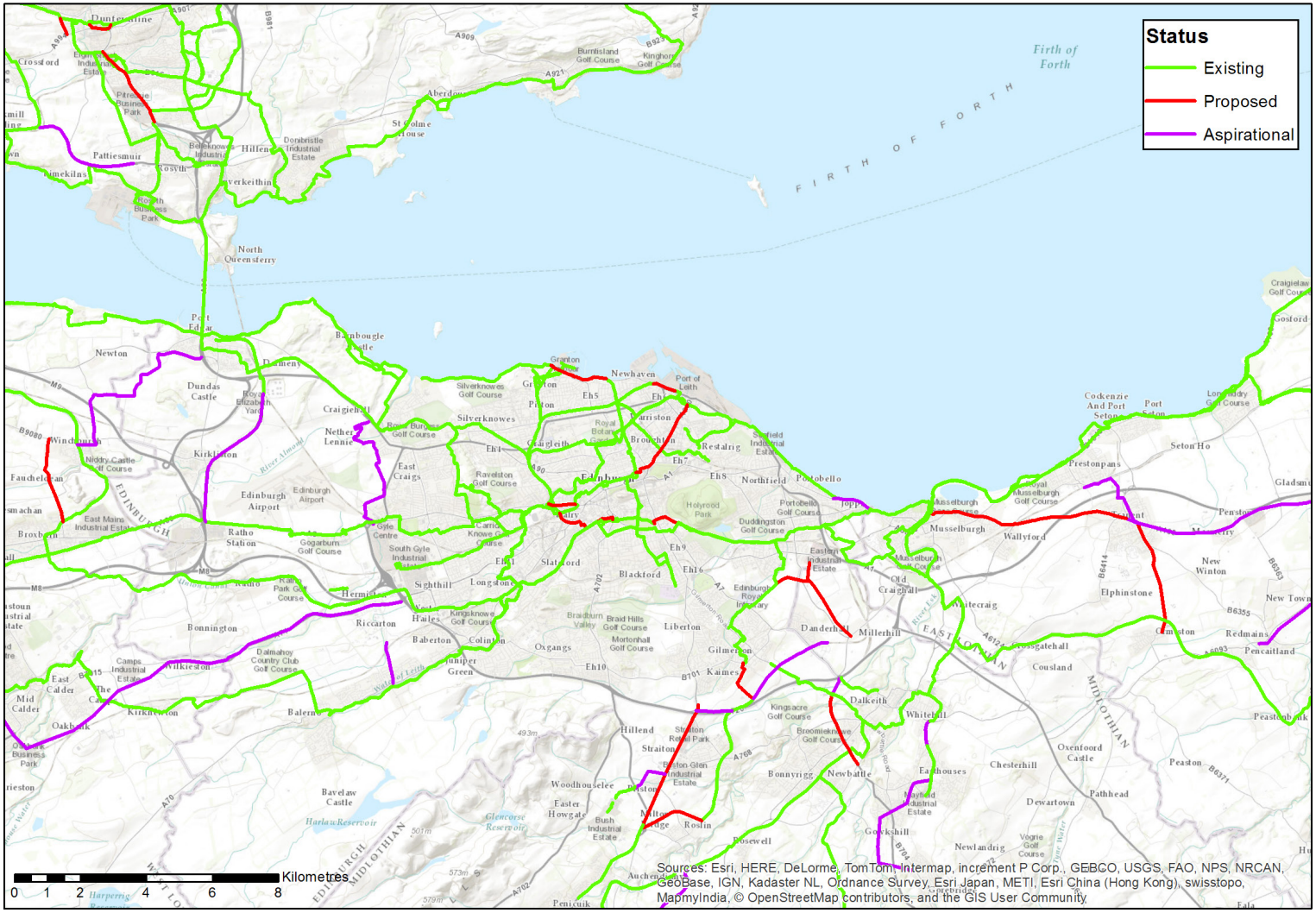


Figure 5.6 SEStran Strategic Cycling Network: Edinburgh area



SEStran
Claremont House
130 East Claremont Street
Edinburgh
EH7 4LB

Tel: 0131 524 5150
Fax: 0131 524 5151

www.sestran.gov.uk

All SEStran publications are available in a variety of formats, including large print, braille and a range of minority languages. For further information, please contact us on 0131 524 5150.