Appendix A   Best Practice Review

The Cycling Action Plan for Scotland (2013)

The Cycling Action Plan for Scotland (CAPS) provides the vision for the development and delivery of cycling across Scotland. It sets a vision for the development and delivery of cycling across Scotland and it sets a national objective that by **2020 10% of everyday journeys be undertaken by bike**. The 2013 update is a refresh of the original 2010 document, based on stakeholder consultations in 2013 and progress against the original targets.

The focus of the 2010 Action Plan was on short journeys and it states that '*around half the short journeys made (under 2 miles) are made by car; many of these could be switched to bike. This Action Plan aims to provide a framework to help create an environment which is attractive, accessible and safe for cycling'*. While the SEStran Strategy focuses on cross-boundary journeys, adopting the measures outlined in the Plan will encourage all types of journeys to be made by bike.

The majority of the 2013 Action Plan is structured around the key issues that emerged from the Scottish Government consultations undertaken in 2008 and 2009, the findings of the Transport, Infrastructure and Climate Change (TICC) Committee and the more recent 2013 stakeholder engagement.

Key themes outlined in the revised 2013 Action Plan include:

- Leadership & Partnership

  o Establishment of an annual cycling summit;
  o Strategy for functional cycling within each Local Authority;
  o Promotion of national training programme on cycling best practice;

- Infrastructure, Integration and Road Safety

  o Community Links;
  o National Cycle Network;
  o Public Transport Integration;
  o Establishment of pilot Cycling Hub at Stirling Station;
  o Promote the implementation 20mph zones;
  o Develop and deliver a Mutual Respect Campaign for all users;

- Promotion and Behavioural change

  o Continue the rollout of Bikeability Scotland training;
  o Develop adult cycle training resources;
  o Promote and support community-led cycling initiatives;
  o Promote cycling amongst older children through initiatives such as I-bike;

- o Encourage more leisure cycling amongst young people;
- o Develop approaches to promoting access to bikes;
- o Encourage all employers across all sectors to become Cycling friendly;
- o Develop follow-up work to Smarter Choices, Smarter Places;
- Monitoring and Reporting

  - o Annual monitoring using a suite of national indicators;
  - o Develop a coordinated approach to data collection for monitoring.

The CAPS also makes the following recommendations:

'Develop for each local authority area the strategic approach to supporting functional cycling (and active travel more broadly), mapping the appropriate infrastructure improvements required along with supporting promotional work'

Action 6 is to:

'Develop better integration with public transport through working in partnership with interests such as rail and bus/coach operators and RTPs.'

Relevance to SEStran Strategic Cycle Network

This Strategy and any emerging schemes should seek to:

- contribute to CAPS target that by 2020 10% of everyday journeys be undertaken by bike;

- focus on adopting measures outlined in the Plan to encourage all types of journeys to be made by bike;

- link communities to the NCN;

- integrate the network with other transport (rail station cycling hubs) and social infrastructure;

- expand the local and regional cycling (and walking) networks to link to the NCN (including Core Paths); and

- refer to the Plan for guidance on skills development, the network and delivery.

Scottish Planning Policy (2014)

Scottish Planning Policy (SPP) sets out national planning policies which reflect Scottish Ministers' priorities for operation of the planning system and for the development and use of land. The SPP promotes consistency in the application of policy across Scotland whilst allowing sufficient flexibility to reflect local circumstances.

SPP states that the planning system should support patterns of development which (amongst others):

- provide safe and convenient opportunities for walking and cycling for both active travel; and

- enable the integration of transport modes.

Specifically:

'The spatial strategies set out in plans should support development in locations that allow walkable access to local amenities and are also accessible by cycling and public transport. Plans should identify active travel networks and promote opportunities for travel by more sustainable modes in the following order of priority: walking, cycling, public transport, cars. The aim is to promote development which maximises the extent to which its travel demands are met first through walking, then cycling, then public transport and finally through use of private cars. Plans should facilitate integration between transport modes.'

'Development plans should identify any required new transport infrastructure or public transport services, including cycle and pedestrian routes, trunk road and rail infrastructure. The deliverability of this infrastructure, and by whom it will be delivered, should be key considerations in identifying the preferred and alternative land use strategies.'

It also states that: '*Cycle routes, cycle parking and storage should be safeguarded and enhanced wherever possible*'.

Relevance to SEStran Strategic Cycle Network

This Strategy and any emerging schemes should seek to:

- provide safe and convenient opportunities for walking and cycling for both active travel; and

- enable the integration of transport modes.

- safeguard and enhance cycle routes, cycle parking and storage wherever possible

Designing Streets (2010) and Designing Places (2001)

Together, Designing Streets and Designing Places are the Scottish Government's two key policy statements on design and placemaking. Both documents are national planning policy and are supported by a range of design-based Planning Advice Notes (PANs).

All infrastructure recommended as part of the study must adhere to the policies contained within these documents.

Designing Streets updates and replaces PAN 76 New Residential Streets 2 (which is now withdrawn) and, in doing so, marks a distinct shift, raising the importance of street design issues from the subject of advice to that of policy. In addition, all previous road guidance and standards documents based on DB323 principles are superseded by Designing Streets.

In terms of cycling it notes that:

'Cyclists should generally be accommodated on the carriageway. Only where traffic volumes and speeds are high should the need for a cycle lane be considered. Cyclists are more likely to choose routes that enable them to keep moving. Routes that take cyclists away from their desire lines and require them to concede priority to side-street traffic are less likely to be used. Designs should contain direct, barrier-free routes for cyclists.

The design of junctions affects the way motorists interact with cyclists. It is recommended that junctions are designed to promote slow motor-vehicle speeds.'
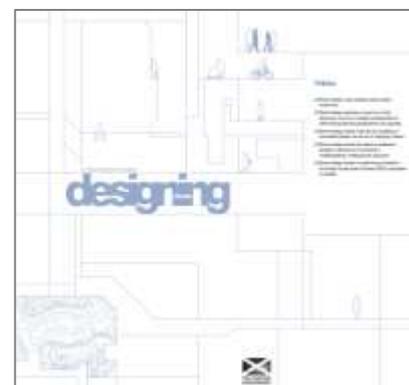
Taking this into consideration, many of recommendations for cycle routes should focus on improvements which can make existing carriageways more cycle friendly.

Designing Places sets out the policy context for important areas of planning policy, design guidance, professional practice, and education and training. It is aimed at everyone who plays a part in shaping the built environment, whether as politicians, developers, planners, designers, opinion-formers or anyone else whose attitudes have a direct or indirect influence on what gets built.

Relevance to SEStran Strategic Cycle Network

This Strategy and any emerging schemes should seek to:

- ensure all recommendations adhere to guidance in Designing Streets and Designing Places; and

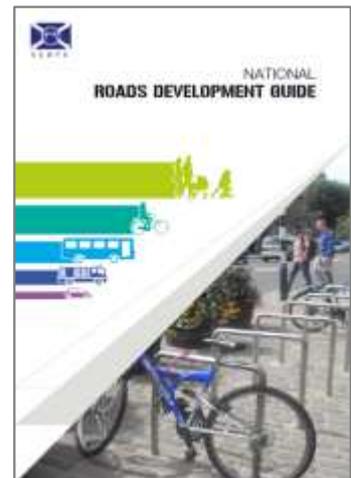- focus on improvements which can make existing carriageways more cycle friendly.

National Roads Development Guide (2014)

This National Roads Development Guide has been produced by the Society for Chief Officers of Transport in Scotland, supported by Transport Scotland and Scottish Government Planning and Architecture Division.

This document supports Designing Streets and expands on its principles to clarify the circumstances in which it can be used.

It reiterates the user hierarchy which should be followed in the design process with cyclists given significant importance as shown below.

It states that:

'A cycle network should be established to serve the needs of cyclists with the main objectives being the following:

- *cyclists should be segregated from large volumes of vehicular traffic, especially where roundabouts are located, or fast moving traffic (>40mph);*

- *vehicle speeds should be reduced where there is a large number of cyclists; and*

- *safe crossing points should be provided for cyclists at roads with major traffic flows.'*

It outlines that the following definitions apply to facilities for cyclists:

*'(i) A **safer signed route** is a route signed along minor roads, cycle tracks and cycle lanes.*

*(ii) A **cycle track** has the same meaning as described in the Roads (Scotland) Act 1984. It is thus a 'road' for cyclists or cyclists and pedestrians segregated from the carriageway.*

*(iii) A **cycle lane** is a lane provided for cyclists within a carriageway.*

Collectively these facilities can be used to form a cycle route.'

It covers geometric standards for cycle routes, including:

- Dimensions;
- Surfaces;
- On-road cycle lanes;
- Crossfalls;
- Minimum radius;
- Gradients;
- Road crossings;
- Grade Separated Crossings;
- Roundabouts; and
- Traffic Calming.

Relevance to SEStran Strategic Cycle Network

This Strategy and any emerging schemes should seek to:

- segregate cyclists from large volumes of vehicular traffic, especially where roundabouts are located, or fast moving traffic (>40mph);
- reduce vehicle speeds where there are a large number of cyclists;
- provide safe crossing points for cyclists at roads with major traffic flows; and
- adhere to the geometric standards for cycle routes outlined in the National Roads Development Guide.

Cycling by Design (2010)

Cycling by Design is published by Transport Scotland for use by practitioners throughout Scotland. The primary focus of the document is the establishment of guidance to ensure consistent and appropriate design.

Transport Scotland requires consultants and contractors working on trunk road projects to follow the guidance within Cycling by Design.

It is commended to local authorities and others developing cycling infrastructure in Scotland.
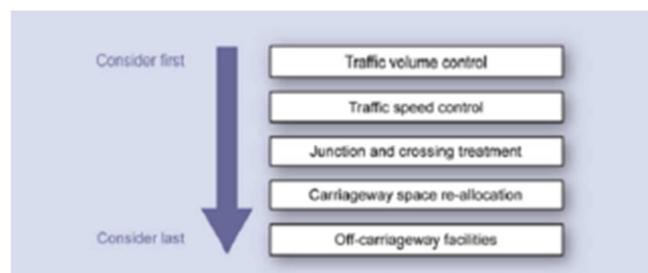
Benefits of Cycling

It states that:

'cycling contributes towards national and local policy objectives to reduce emissions, tackle congestion, increase tourism and improve physical and mental health. Cycling also aids accessibility and social inclusion objectives. Application of the guidance in Cycling by Design will assist towards these policy objectives.'

The core design principles are:

- safety;

- coherence;

- directness;

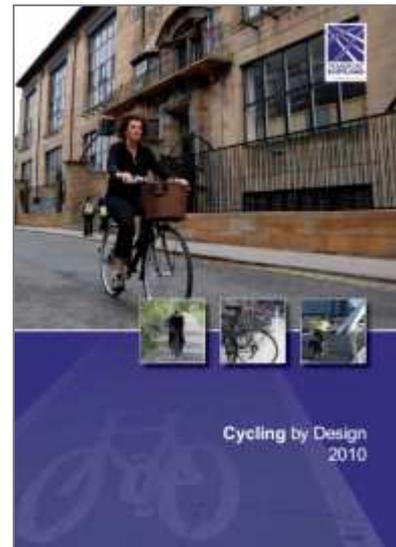- comfort; and

- attractiveness.

It states:

'There is no single correct infrastructure measure that will meet the Core Design Principles. Much is dependent on the effective integration of cycling into all relevant policies. However, it should be recognised that measures are more easily accepted and implemented if they directly benefit the wider community, not simply existing cyclists.'

It contains a hierarchy of measures which looks to make existing carriageways safe for use by cyclists before considering off-carriageway facilities as an option.

It also outlines a Network Planning and Development Process.

Set objectives	Agree and document the principal short, medium and long-term objectives of network development.
Assess demand	Survey existing cycle trips and assess future demand for trips based on local and national cycle policies.
Identify opportunities and constraints	Identify opportunities and constraints that will require short, medium and long-term solutions.
Develop a network plan	Identify a hierarchy of routes, incorporating existing routes, opportunities and constraints.
Appraise individual cycle projects	Develop and apply an appropriate appraisal process to individual projects.
Prioritise network development	Identify the priorities for development and future improvement.
Detailed design and implementation	Implementation will normally require to identify the opportunities to take advantage of complementary schemes and funding.
Monitor and evaluate	Monitor and evaluate projects as the network is developed in order to demonstrate that the appraisal process is robust, that objectives are being met, to learn lessons and justify future investment.

Cycle by Design Network Planning Process

Relevance to SEStran Strategic Cycle Network

This Strategy and any emerging schemes should seek to:

- consider the core design principles, hierarchy of measures and network planning and development process outlined in Cycling by Design.

Construction (Design and Management) regulations 2007

The Construction (Design and Management) Regulations 2007, also known as CDM Regulations or CDM 2007, define legal duties for the safe operation of UK construction sites. The regulations place specific duties on clients, designers and contractors, to plan their approach to health and safety. They apply throughout the life of a construction project, from its inception to its subsequent final demolition and removal.

It was introduced by the Health and Safety Executive's Construction Division to help:

- improve planning and management of projects from the very start of the project;

- assign the right people for the right job at the right time to manage the risks on site;

- target effort where it can do most good in terms of health and safety; and

- discourage unnecessary bureaucracy.[2]

Implementation of any infrastructure recommendations identified here will be required to adhere to the regulations which are divided into 5 parts:

- Part 1 deals with the application of the Regulations and definitions.

- Part 2 covers general duties that apply to all construction projects.

- Part 3 contains additional duties that only apply to notifiable construction projects, i.e. those lasting more than 30 days or involving more than 500 person days of construction work.

- Part 4 contains practical requirements that apply to all construction sites.

- Part 5 contains the transitional arrangements and revocations.[3]

Relevance to SEStran Strategic Cycle Network

This Strategy and any emerging schemes should seek to:

- ensure all infrastructure recommendations identified will be required to adhere to the regulations set out in The Construction (Design and Management) Regulations 2007.

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[2] http://en.wikipedia.org/wiki/Construction_(Design_and_Management)

[3] http://www.hse.gov.uk/construction/cdm/legal.htm

Lowland Path Construction: A Guide to Good Practice (2001)

The Lowland Path Construction: A Guide to Good Practice aims to outline a step by step process for identifying the key issues which are critical to successful path implementation and offers a range of practical solutions.

The Guide concentrates on path solutions suitable for lowland locations and complements other publications available on upland path construction. Any recommendations for path construction to emerge here should adhere to the guidance which states that:

'Well-designed paths can provide for a diverse range of users in a wide variety of landscape settings. They can offer multiple benefits all at the same time – including recreation, transport, health benefits and better land management. This means that no two paths will require the same treatment.'

It notes that paths will differ in their setting and expected users and they will be influenced by the wishes of the land manager and community. The Guide aims to provide answers to a range of questions through a step by step process, identifying the key issues which are critical to successful path implementation and offering a range of practical solutions. The aim is to provide an easy to follow guide to path construction, rather than a prescriptive manual. Areas covered include:

- How do you decide what kind of path is appropriate in any given situation?

- How do you ensure that the path constructed will be fit for its purpose?

- How can you create a good quality, long lasting path network?

The objective is to enable the correct decisions to be made locally in each particular set of circumstances.

The guidance advises that developing good paths requires a combination of community participation, knowledge about path users, landscaping and technical skills. The Guide is intended to help develop paths which:

- Fit the local landscape;

- Are well constructed;

- Meet an agreed specification; and

- Will meet the needs of the expected users.
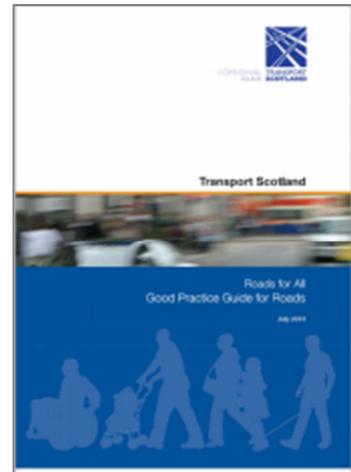
Relevance to SEStran Strategic Cycle Network

This Strategy and any emerging schemes should seek to:

- 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)

The Disability Discrimination Act (1995) (DDA 1995) places a duty on employers, educators and service providers to make reasonable adjustments to avoid discriminating against disabled people. This includes making adjustments to physical features which act as barriers to access for disabled people. Public functions were not covered by this Act.

The Disability Discrimination Act (2005) (DDA 2005) amends the DDA 1995 and extends the principles of Part III of the DDA 1995, which prohibits discrimination in the provision of goods, facilities and services and premises, to the delivery of public authority functions. This amendment also brings in new duties for public authorities, including Transport Scotland, to actively promote disability equality. Public authorities have a 'general duty' and most have 'specific duties'. The Equality Act 2010 introduced a new public sector general equality duty, with further amendments to guidance document text required as a result.

The Good Practice Guide contains Transport Scotland's requirements for inclusive design in the construction, operation and maintenance of road infrastructure. Inclusive design is an approach which aims to create environments which can be used by everyone regardless of age or disability.

The Guide provides practitioners with current international good practice and advice on providing for the needs of people with sensory, cognitive and physical impairments, within the road environment. Where the guidance and design standards presented conflict with the 'Design Manual for Roads and Bridges' (DMRB), this Good Practice Guide takes precedence.

The Good Practice Guide is targeted at everyone who makes design and management decisions which affect the road network. This includes external consultants and contractors as well as Transport Scotland staff.

Relevance to SEStran Strategic Cycle Network

This Strategy and any emerging schemes should seek to:

- ensure all recommendations for new infrastructure meets the requirements of the Equality Act (formerly DDA).

DfT's Local Transport Note 2/08 on Cycle Infrastructure Design (2008)

The DfT's Local Transport Note 2/08 on Cycle Infrastructure Design brings together and updates guidance previously available in a number of draft Local Transport Notes and other documents.

Although its focus is the design of cycle infrastructure, parts of its advice are equally appropriate to improving conditions for pedestrians.

The guidance covers England, Wales and Scotland and has sections specifically covering:

- General design parameters

- Signing issues

- Network management

- Reducing vehicle speeds on cycle routes

- Bus and tram lanes

- Cycle lanes

- Off road cycle routes

- Junction's

- Cycle track crossings

- Cycle parking

- Public transport integration

Relevance to SEStran Strategic Cycle Network

This Strategy and any emerging schemes should seek to:

- Consider the DfT's guidance on cycle infrastructure design outlined in TN 2/08, in particular:

  o Network management;

  o Cycle lanes

  o Off road cycle routes

  o Public transport integration

Draft London Cycle Design Standards

The Draft London Cycling Design Standards (LCDS) (June 2014) sets out the approach needed to deliver step-change improvements in the quality of cycle infrastructure. It updates the previous version from 2005 such that it comprehensively updated to reflect established and emerging best practice, and is a document that aims to inform design options and promote an integrated and ambitious approach to delivering high quality infrastructure for cycling.

The first two chapters of LCDS cover general design requirements and techniques for planning and delivering high quality infrastructure. The procedures set out here should be applied in a way that is consistent and proportionate with the scale of intervention proposed. The tools and techniques are intended to assist in delivering the desired outcomes efficiently and to a high standard, rather than placing unnecessary burdens on designers. The remaining six chapters of LCDS consist of detailed design guidance to support the requirements and principles set out in Chapter 1.

The document covers:

- Design requirements;
- Tools and techniques;
- Cycle lanes and tracks;
- Junctions and crossings;
- Cycle-friendly street design;
- Signs and markings;
- Construction, including surfacing; and
- Cycle parking.

These standards have obviously been developed with consideration to the very densely populated and trafficked environment of London. While we would not necessarily apply these to other parts of Scotland, many of the design principles will be relevant to the more urban areas considered as part of this study, particularly in Edinburgh.

In terms of a network it provides examples of techniques that can be used to help network planning. Step-by-step it covers the full process for planning a network for cycling, taking into account urban form and land use as well as street types and route characteristics.

It states:

'In reality, some of the network is likely to be in place (but may be in need of upgrading) and some of the analysis may already exist, so these steps are not requirements in route planning and scheme development. They are presented here as helpful techniques that may be applied to support the development of a coherent network and that could be used in communicating what a good network for cycling looks and feels like.'

Planning a Cycle Network from the Beginning (London Cycle Design Standards)

Relevance to SEStran Strategic Cycle Network

This Strategy and any emerging schemes should seek to:

■ consider the design recommendations of the Draft London Cycle Design Standards, particularly in heavily trafficked urban areas such as Edinburgh; and

■ consider the network planning process outlines in the Draft London Cycle Design Standards.

Planning for Cycling (CIHT)

In October 2014 the Chartered Institute of Highways and Transportation produced '*Planning for Cycling*' which covers:

■ Cycling Characteristics, Behaviour and Trends in the UK;

■ Benefits of Cycling;

■ Current Conditions and Challenges;

■ Legal and Regulatory Context for Cycling;

■ Cycling Strategies and Plans;

■ Planning Cycle Networks and Routes;

■ Promoting Cycling;

■ Monitoring and Evaluation of Cycling Schemes; and

■ Further Information on Planning for Cycling.

It does not include detailed design of infrastructure or facilities for cycle users.

It states that:

'*The purpose of a national or regional cycling strategy is to provide an overall framework for developing cycling by setting objectives and identifying the means to achieve them. The strategies*

help to coordinate the activities of a wide range of agencies and can significantly influence policies and plans at the lower levels. Their style and content varies considerably, so it is difficult to suggest a single 'template' that serves all. However, some features of good practice can be proposed.'

These are:

- the time period for a strategy is often around ten years, with action plans of three to five years to implement the strategy;

- the setting of clear targets and objectives is important;

- a 'good' strategy should 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; and

- while stand-alone cycling strategies are desirable at the national level (and also regional level, where appropriate), the role of cycling in other high level transport plans and strategies should not be forgotten. Multimodal transport studies at the regional and corridor level often omit cycling (and walking) or at best pay them lip service, as they are seen as 'local' transport and therefore not relevant to the larger-scale study. However, cycling has a strategic role in several ways:

  - (i) as a transport mode on main corridors (and also long-distance cycle routes such as the European Cycle Network),

  - (ii) as a feeder mode for public transport,

  - (iii) as an important contributor to national targets on broader issues such as climate change and health and

  - (iv) in claiming a dedicated share of transport funds and budgets, therefore, 'high-level' transport studies should also include cycling development and the resources needed to support this.

Planning Cycle Networks and Routes

In terms of planning cycle networks and routes, Planning for Cycling states that:

'The development of cycle networks is mainly concerned with appropriately managing existing highway, right-of-way and permissive routes and creating new links within the existing network to close gaps, with the overall aim of creating a coherent and complete network with a consistent and adequate level of service for cycle traffic. Consideration needs to be given to the management of routes in terms of their attractiveness and comfort for cycle users, and this will extend to undertaking measures to manage motor traffic volumes and speeds.'

With or without modelling, the following stages should be undertaken in planning the cycle route network (Godefrooij et al., 2009):

- 1. Define objectives

- 2. Map land use and assess cycling demand

- 3. Map existing routes, facilities, cycle volumes and cycling-related collisions

- 4. Identify priority locations and constraints, which need to be treated

- 5. Identify improvements to the network (option development)

- 6. Predict potential demand

- 7. Prioritise and select schemes

- 8. Implement schemes

- 9. Monitor and assess operation against business case

Relevance to SEStran Strategic Cycle Network

This Strategy and any emerging schemes should seek to:

- 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 view;

- 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; and

- give consideration to the stages which should be undertaken in planning the cycle route network.

The Design Manual for Roads and Bridges

The 'Design Manual for Roads and Bridges' (DMRB) was introduced in 1992 in England and Wales, and subsequently in Scotland and Northern Ireland.

Though now somewhat dated, it sets many of the standards of good practice that have been developed principally for Trunk Roads. It may also be applicable in part to other roads with similar characteristics.

It covers a wide range of topics, such as:

- (a) technical and other procedures and methods to be employed;

- (b) analytical criteria to be used;

- (c) appraisal requirements;

- (d) dimensional requirements;

- (e) numerical and statistical data.

Relevance to SEStran Strategic Cycle Network

This Strategy and any emerging schemes should seek to:

- meet the design standards set out in the DMRB wherever applicable

Collection of Cycle Concepts (Denmark)

The Cycling Embassy of Denmark has produced a document entitled 'Collection of Cycle Concepts' (2012)[4] which is not intended to be a summary of Danish road standards, but to provide inspiration and motivation for creating more and safer bicycle traffic in Denmark as well as the rest of the world.

There are sections on planning and designing cycling infrastructure, the former of which covers:

- The cycling infrastructure

- Daily cycling and leisure cycling

- Traffic safety vs. a sense of security

- Travel speed and comfort

- Segregation vs. integration

- Cyclists vs. pedestrians

- Good planning attracts cyclists

- Planning principles

- Drawing up the plan

- Anchoring

- The ways of the State

- Infrastructure, road sections and intersections

- Road section solutions

- Intersection solutions

- Road safety audit vs. service level

- Materials, construction and aesthetics

- Construction projects

- Estimates and price calculations

It states that:

'In a number of Danish cities the cycling infrastructure is almost entirely cohesive, whereas in other cities and rural areas it is less so. Usually, though, there is already something to build on.

Furthermore, there is a strong Danish cycling tradition. Improving existing cycling facilities, making high quality additions to the cycling infrastructure, and introducing untraditional measures encourage more people to cycle.

The cycling infrastructure can be improved by linking existing circulation areas, upgrading facilities to a contemporary standard, and actual expansion. All such initiatives should be based on a bicycle

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[4] http://www.cycling-embassy.org.uk/sites/cycling-embassy.org.uk/files/documents/Collection%20of%20Cycle%20Concepts%202012.pdf

infrastructure plan, sometimes referred to as a 'cycle track plan', or should be an integral part of a 'cycling action plan', which includes many different aspects of cycling promotion.'

Segregation vs Integration

The document states that:

'Many cyclists on heavily trafficked roads feel insecure. This is often due to heavy motor traffic, high speeds and not enough space, all of which are excellent reasons for establishing cycle tracks.

In cities, motor vehicle traffic can be concentrated along fewer roads within a general road network, along which cycle tracks should be established.'

It provides guidance on what type of segregation or integration is appropriate based on average daily traffic flows.

Danish Segregation vs Integration

For clarity, cycle lanes are lanes for cyclists only, marked on an existing portion of a carriageway whereas a cycle track is an exclusive bike facility that has elements of a separated path and on-road bike lane. A cycle track, while still within the roadway, is physically separated from motor traffic and is distinct from the footway.

Cycle lanes: should be at least 1.5m wide including a 0.3m solid white line. When the lane is narrower than 1.5m, overtaking cyclists often use the carriageway. A more acceptable width for passing is 1.7m. The white line itself should be solid, but may be profiled to increase driver vigilance. Thermoplastic is an excellent road marking material due to good visibility, durability, friction and cost.

Cycle Tracks: the guideline width for one-way cycle tracks segregated from the carriageway by a kerb, verge, or lane delineator is 2.2m in both urban and rural areas with a guideline minimum width of 1.7m. In practice, however, it is not recommended to go under 2m.

Cyclists vs Pedestrians

The Danish planning tradition considers cycling to be an independent transport mode with the same right to its own area as pedestrians. Generally speaking segregating bicycle from pedestrian traffic is an excellent principle.

It states that:

'Only in areas where there are very few cyclists and walkers, such as recreational paths, is it generally accepted that the two road user groups can manage to share an area.'

There is a section which offers suggestions for drawing up a cycling infrastructure plan which notes that:

'Different principles are discussed and an overview is provided of the road section and intersection solutions currently available in Denmark. The chapter also offers ideas for new solutions and initiatives.'

'Finally there is an overview of methods for planning and pricing construction projects.'

Relevance to SEStran Strategic Cycle Network

This Strategy and any emerging schemes should seek to:

- consider the Danish approach to planning a cycle network; and

- consider more ambitious and innovative infrastructure examples from Danish guidance and best practice

CROW Design Manual for Bicycle Traffic (Netherlands)

The CROW Design Manual for Bicycle Traffic offers a 'menu' of bike-friendly measures which can be used singly or in combination. Key features include:

- Cycle tracks;

- Junctions;

- Turning across Traffic;

- Traffic lights; and

- Roundabouts.

Inter-City Routes

High speed intercity routes ('*fietssnelwegen*' or cycle highways) which are designed for long-distant commuters are a key feature of the guidance. The first one was built in 2003, costing 0.5m Euro per km. The entire route is 3.5m wide and all but one junction gives cyclists right of way over crossing traffic. Some 16 more were announced in 2010 at a total cost of 80 million Euros.

Intercity routes – *Fietsroute*+ and *fietssnelwegen* or cycle highways have extra features making them suitable for long distance commuters and inter-city travel by bike and require:

- clear signposting;

- easy and safe crossings of roads;

- min 2.5m one-way tracks on each side of the road;

- improved shelters en route (including cycle parking facilities);

- direct route from A-B;and

- concrete or asphalt surface.

Relevance to SEStran Strategic Cycle Network

This Strategy and any emerging schemes should seek to:

- consider more ambitious and innovative infrastructure examples from Dutch guidance and best practice, in particular inter-city routes.

Sustrans Handbook for Cycle Friendly Design

Sustrans' Handbook for Cycle Friendly Design (2014) is part of a suite of technical design guidance on active travel being developed by Sustrans. There is much useful material already available from a range of organisations, and this guidance from Sustrans aims to provide detailed technical advice on key issues around on and off highway cycle infrastructure, whilst signposting users to this developing library of further resources.

The handbook contains a concise illustrated compendium of technical guidance relating to cycling: it can stand alone as a 'tool box' of ideas but also links to a library of relevant on line resources. It is very visual but contains the essential technical details, and was inspired by earlier guidance produced by the City of Edinburgh Council.

The structure of this guidance broadly follows the following sequence:

- a summary of the key principles and processes for a user-focused design;

- wider considerations of urban design and other measures to improve the general highway design for cyclists and pedestrians;

- on-carriageway provision for cyclists on links and junctions;

- cycle provision off the carriageway, whether cycle tracks alongside the road or traffic free routes away from the road, including crossings;

- routes in rural areas;

- associated design issues including cycle parking, signing, integration with public transport and the design of new developments; and

- the maintenance and management of routes.

Overall it covers:

- Understanding user needs

- Network planning

- Streets and roads

  o Street design

  o Speed reduction: street design

  o Speed reduction: physical traffic calming

  o Reallocation of roadspace

  o Quiet streets and Cycle Streets

  o Innovative cycle facilities: details

  o Carriageway and lane widths

  o Traffic calming and contra-flow cycling

- o Cycle lanes and traffic signals

- o Shared roads, buses and traffic signals

- o Roundabouts

- Cycle tracks alongside carriageway

- Traffic free routes

  - o Design

  - o Path construction

  - o Segregation of cyclists and pedestrians

- Rural areas: Roads and villages

- Crossings 1: General

- Crossings 2: Rural

- Interface with carriageway

- Bridges and other structures

- Destination signage

- Cycle parking

- Cycle/rail integration

- Development planning

- Maintenance and management

Network Planning

Characteristics of an urban network

The handbook states that: '*In urban areas the cycle network will comprise the highway network, modified where necessary, together with traffic free routes which offer more direct journeys, overcome barriers or offer attractive routes. The aim should be to develop a basic cycle network around a 'mesh width' of no more than 250m, so that an alternative route is never more than 250m away. Within this network more strategic main routes would be identified for prioritisation of investment and promotion. The network should be*:

- *safe, convenient, continuous and attractive to encourage new cyclists*

- *useful for all manner of routine journeys for local people and existing cyclists*

- *memorable such that occasional users are persuaded to cycle more'*

Developing a network

Sustrans Example Network

It also states that: '*The degree of sophistication of the process will depend on the size of the urban area under consideration. All or some of the following stages may be required:*

- *identify main trip attractors (residential, employment, retail, education, transport, health, visitor attractions, proposed developments etc);*

- *assess demand (existing and potential cyclists);*

- *identify desire lines;*

- *review existing routes, cycle parking, constraints and options for improvements and other proposed transport schemes;*

- *engage with stakeholders (throughout process);*

- *develop a prioritised costed network development plan;*

- *marketing / public engagement strategy;*

- *monitor and review;*

- *Development of a network should generally begin from the urban centre, working outwards. The network may be organised around a hierarchy of routes:*

  o *main routes*

  o *secondary routes*

  o *access routes'*

Roads and villages

It goes on: '*Rural cycle networks serve local utility and leisure cycling trips and commonly use the existing highway where, although traffic flows may be low, the national speed limit applies. Villages provide a focus of attractions in rural networks and must be served, although they are also where motor traffic movements are concentrated.*'

*Important elements to consider to reduce the impact of traffic and improve the conditions in the **village** for cyclists and pedestrians are to:*

- *identify and strengthen entry points to village*

- *emphasise location of village centre to traffic*

- *create visual features at junctions and key locations*

- *encourage slower speeds: reduce visual width of carriageway, remove centre lines, reduce signing, lower speed limits, emphasise pedestrian desire lines and crossing locations.*

*Fewer options are available to make roads **outside of villages** more friendly for cyclists and pedestrians, where speeds are higher and traffic movement is the main function. In many cases cyclists may need to use parallel routes on quieter roads or traffic free paths. Where changes are made to the road, these must be sensitive to the nature of the rural environment. Measures to consider include:*

- *Quiet Lane designation, or similar*

- *20mph limits*

- *area wide 40mph limits*

- *access restrictions/closures*

- *road narrowings*

- *changed priorities*

- *surface treatments*

- *removal of centre lines and other signs and lines*

- *selective warning signs (including vehicle activated)*'

In terms of **cycle/rail integration**, it notes that: '*Urban and rural railway stations may have a commuter catchment by bike of at least 5 miles radius. Railways present linear barriers to cycle permeability so high quality cycle crossing provision is essential.*'

Relevance to SEStran Strategic Cycle Network

This Strategy and any emerging schemes should seek to:

- 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

This guidance is provided by Sustrans Scotland and Transport Scotland to assist local authorities in writing their own cycling or active travel strategy, as recommended by action 2 in the 2013 Cycling Action Plan for Scotland (CAPS) to be completed by 2015. It was developed in association with CAPS partners who together form an Advisory Panel overseeing progress on action 2.

The main recommendation of this document is that:

'Local authority active travel strategies are in place or well under development by April 2015 in readiness for the commencement of the Scottish Government's 2015-18 spending review.'

The Guidance sets out why investment in walking and cycling is important and suggests a process for developing an effective active travel strategy.   It recommends essential content, with key messages highlighted in boxed text, including the following four essential elements:

- 1. an action plan;

- 2. walking and cycling infrastructure, including a local cycle network plan;

- 3. behaviour change, promotional and training activities;

- 4. and a monitoring plan.

Key elements of this Guidance are reproduced below.

Walking and Cycling Infrastructure

'A lack of connected cycle routes and infrastructure is one of the main differences between Scotland and countries with higher levels of cycling. In contrast, a network of paths and footways to facilitate everyday walking is common place across Scotland. Priorities for active travel infrastructure should be creating local cycle networks and improving existing walking networks. Where these networks overlap, e.g. on shared use paths, the distinct needs of both user groups should be accommodated.

Evidence from Smarter Choices, Smarter Places shows projects producing the largest walking and cycling increases were those which filled gaps in existing networks and then promoted the enhanced routes.'

A local cycle network proposal

The document states:

'A map of existing and proposed cycle routes should be produced that form a strategic cycle network across the local authority area, along with a high-level cost estimate for the network.'

'A cycle network, connecting people and places along pleasant, safe routes provides the foundations for promoting cycling and should be shaped by the needs of the community who use it. It should be designed to connect people with the places they need to go, e.g. between home and work. The network map should show the places that routes will connect: the City of Edinburgh Council's 'Family Network' is an example of the level of detail required. It is not necessary to specify design details. However, having an initial idea of necessary new infrastructure (e.g. length of new path, number of

new signalised cycle crossings, etc.) will be needed in order to produce the high-level construction cost estimate.'

It then covers details to consider when planning a cycle network.

Considerations in planning a cycle network

Destinations

'Local cycle networks should make it easy for individuals to undertake everyday journeys by bicycle. They should connect residential areas with places such as:

- *town / city centres;*

- *employment and retails centres;*

- *schools and other educational establishments;*

- *transport interchanges, e.g. bus/rail stations;*

- *healthcare facilities;*

- *visitor attractions;*

- *key destinations in adjoining; and*

- *local authority areas.*

Cycle network standard

The network needs to be attractive and comfortable for less confident cyclists to use, as well as those who already cycle. It is recommended the network meets or exceeds the National Cycle Network standard: suitable for an unaccompanied 12 year old to cycle. An effective network will consist of lightly trafficked streets, shared use paths, crossings and segregated cycle facilities where traffic volumes and/or speeds are high. Segregated and shared use facilities should be designed to cater for pedestrians and cyclists.

Incorporate existing routes

The cycle network should incorporate existing routes, such as Core Paths, and long distance routes, where appropriate. As highlighted in the essential elements, it is a good idea to prioritise 'early wins' such as filling in gaps in existing routes.

Existing long distance routes to be considered include:

- *National Cycle Network routes (CAPS Action 5 and National Planning Framework 3);*

- *Scotland's Great Trails; and*

- *Central Scotland Green Network's Strategic Routes, within the CSGN area.*

Depending on their alignment, long distance routes may be useful for making everyday journeys, especially where they pass through urban areas. As such, these routes should be reviewed and upgraded as necessary to meet the network standard.

Certain long distance routes lend themselves primarily to be used for leisure trips, with everyday cycling likely to form a smaller proportion of journeys. These routes should still be incorporated into

the proposed local cycle networks. However, they should not be as high a priority for investment as routes which have a greater potential to be used for everyday cycling.'

Cycle journey lengths

'The vast majority of cycle journeys in Scotland, 93%, are less than 10km (5.6 miles) and 79% of cycle journeys are less than 5km (3 miles). Therefore, cycle networks should generally be planned around linking destinations and settlements which are up to 5 miles apart.

It would be useful to analyse existing local journey distances, such as using Census travel to work data. The City of Edinburgh Council highlighted the potential for walking and cycling using maps of travel to work distances by local authority ward. Fife Council used travel diary data showing that in their large towns the majority of journeys start and finish within the town (see below), highlighting potential for modal shift to active travel journeys by focusing interventions within these towns.'

Fife Council Travel Diary Data

Other topics covered include:

- Reducing vehicle speeds

- Direction signing and mapping

- Cycle parking

- Maintenance of walking and cycling infrastructure

- Bicycle hire / loan schemes

- Integration with public transport

- Tourism

- Leisure and sport

Relevance to SEStran Strategic Cycle Network

This Strategy and any emerging schemes should seek to:

- produce a map of existing and proposed cycle routes that forms a strategic cycle network across the region;

- include a high-level cost estimate for the network;

- consider destinations, cycle network standard and incorporate existing routes as outlined in Sustrans Active Travel Strategy Guidance; and

- be based on cycle journey lengths informed by analysis of existing local journey distances, such as using Census travel to work data.

Appendix B   Consultation Topic Guide

SEStran Strategic Regional Cycle Network – Consultation Topic Guide

Background

PBA has been commissioned by SEStran to undertake a review of the SEStran Strategic Regional Cycle Network. As part of this work, we are undertaking consultations with key stakeholders. The purpose of these is to understand the existing work being carried out at a local, regional and national level. We are also seeking to identify where consultees think that new routes and facilities are required, or existing facilities need significant improvement, with the clear focus on **cross-boundary cycling opportunities**.

Discussion topics

Q1. The current nature of the strategic cycling network for commuting within your region

- What are the key commuting routes?
  - Key origin/destination movements
  - Nature of the commuter cycling network (on-road/segregated/off-road sections)
- Is the NCN network well-connected to local routes, and key centres of employment?
- Are there any key transport interchanges (major rail stations that permit commuting) that require better cycling connectivity?

Q2. Cross-boundary cycling

- To what extent is cross-boundary commuting (LA/RTP boundary) a frequent occurrence?
- Where are the current cross-boundary movements and where could infrastructure investment encourage more cross-boundary cycling?
- What are the key barriers to cross-boundary cycling?
  - o Eg Prohibitively long distances/geographical distribution of settlements, lack of safe routes/ poor signage/lighting/ poor access to particular employment sites

Q3. Current and proposed cycling infrastructure investment within your region of interest

- What investment has been made in cycling infrastructure during the last 5 years (where relevant)
- What are the current plans for investment in the strategic cycling network (where applicable)
  - NCN routes
  - Local feeder routes
- Are there any proposals for investment in cross-boundary sections of the network? Are any of these joint ventures with neighbouring authorities (where applicable)?
- In terms of infrastructure investment, which 5 – 10 schemes would you prioritise?
- Can you provide any relevant cycling strategy documentation?

Q4. Marketing/cycling route promotion

- To what extent are cycling routes currently promoted within your region?
    - Examples of existing campaigns
    - Future promotion plans/proposals
    - Are there any routes in particular that are underutilised due to lack of public awareness?

Appendix C   Consultation Findings

Organisation	Key employment centres and transport interchanges	Key cross – boundary movements	Key barriers and gaps	Comments
Clackmannanshire Council	Employment centres • Alloa, Stirling (including Uni) Transport interchanges • Alloa station – well served • Tillicoultry bus stance – could do with cycle racks	Significant • Alloa/Hillfoots villages to Stirling Minor • Clackmannanshire to Dunfermline/Fife	Barriers • Manor Powis roundabout • Lack of path maintenance Missing links • Hillfoots to Alloa and Stirling • Alloa to Fishcross • Alva to Alloa • Dollar to Muckart • NCN 764 at Helensfield • Sauchie to Lornshill	Network is well developed due to significant investment over the last few years. Some missing links and barriers which, if built, would provide a comprehensive and fully-functioning cycling network within the region. With the exception of Manor Powis, cross-boundary routes and connections are well provided for. Cross-boundary routes to Falkirk are undermarketed: potential investment opportunity. Most towns are 20mph. Plans to create more cycle friendly roads, such as the route to Perth & Kinross.
City of Edinburgh Council	Employment centres • City centre • Gyle, Edinburgh Park, other retail parks • Hospitals • University and college campuses Transport interchanges • Waverley station – better links required (Calton road access to Leith walk) • Better links to Haymarket station from Bruntsfield • Better links to Edinburgh Park from south • Better links between Newcraighall and QMU	Significant • Complex movements within city boundary, both to/from and across city centre. • Commuters use radial A roads, Canal, Roseburn Path Innocent Railway path, N75 to Leith and several other routes. • Balerno route important. • Commuting to/from Riccarton Campus significant. Minor • Cross-boundary: East Lothian, Midlothian, West Lothian and Fife commuters – small numbers in comparison to intra-Edinburgh trips	Barriers • Routes across city centre sub-optimal and unsuitable for inexperienced cyclists • Bypass a key barrier for movements to/from Midlothian Missing links (internal) • Innocent to Meadows • Meadows to Canal • Canal to Roseburn • Better links to ERI • NCN1 to Western General • Canal link down to South Gyle • NCN1 down Maybury Road to South Gyle • Leith to Portobello Missing links (cross-boundary) • Portobello Promenade to	Majority of cycling is within city boundaries with a focus on the centre. As such, cross-boundary sections of network are not high up the priority list for investment. Key priority is improving cross city centre connectivity, which is strategically very important for commuting too. All routes probably underutilised – better marketing required. £440k Smarter Choices Smarter Places fund – using to market capital expenditure. Family network being signed. Explore Edinburgh by Bike maps available. TfE keen to develop/promote the brands 'Edinburgh on Foot' and 'Edinburgh on Bike'. 20mph routes make the whole of the city more cycle friendly.

Organisation	Key employment centres and transport interchanges	Key cross – boundary movements	Key barriers and gaps	Comments
			Musselburgh • Loanhead to Gilmerton Road shared use path important • Bush Estate a key destination – poor links to it • A8 corridor a key commuting corridor – upgrade happening. Also requires connection to South Gyle • Tarmacking of canal to Ratho – not a key priority • Shawfair to Midlothian – not a priority • Potential for a new ferry from Kirkcaldy to Granton – will require cycle links	
East Lothian Council	Employment centres • Haddington (Macmerry Business Park in particular), Musselburgh, Tranent and Edinburgh. Transport interchanges • Wallyord Park and Choose could be better used. • Dunbar a popular cycling town – plans to improve	Significant • Old A1 route and coast route; onto NCN into Edinburgh Minor • East Lothian into Midlothian	Barriers • A1 in Dunbar is a key barrier – Thurston/Thorntonloch • Key constraints in Musselburgh – not enough space for off-road segregated route • Link between QMU and Newcraighall poorly lit – this should be fixed soon	CRPs want more information boards at stations and towns Looking to use Smarter Places Smarter Choices funding for cycle access via Musselburgh Haddington to Longniddry could be used more – assumption that public know these routes exist, but many don't Information charrettes to be held to help

Organisation	Key employment centres and transport interchanges	Key cross – boundary movements	Key barriers and gaps	Comments
	station as cycling hub. • North Berwick also a key station.		Missing links • Potential access route using A720 slip road into QMU • A1 between Tranent and Wallyford – full segregation an option due to carriageway width. Cost savings in road surface maintenance could help pay for this • Cockenzie power station – potential development would require JMW to be moved south from coast – opportunity to improve as everything will be re-routed via Prestonpans • Electric bridge in Musselburgh – East Lothian could take ownership of this and turn it into a cycling bridge • Ormiston to Tranent on B671 – can access Pencaitland route from there • Wallyford routes around new developments • North Berwick approach – path degraded and needs upgrading. Going to be extended along to Dirleton • Gullane to Drem route • Gullane to Luffness • Old A1 corridor key • Drem – Gullane and Gullane - Haddington key	market routes/raise awareness CRP has action plan to promote use of train + active travel Impacts of 20mph in Edinburgh – could be rolled out into East Lothian Plans – promote the key high quality routes Work with employers to promote cycling to work Facilities at workplaces need improving

Organisation	Key employment centres and transport interchanges	Key cross – boundary movements	Key barriers and gaps	Comments
			but very hard to build • Proposal Longniddry to Haddington – extend into Haddington via hospital. At Longniddry end, there is land/sidings that could be converted into more parking plus provide a better connection from path to station • JMW at Longniddry bents - needs improved • Better routes to the south of Wallyford needed • Abellio 'fixing the links' looking to address station access from towns • Community Rail Partnerships state that lack of cycle storage/provision at stations is an issue	
Falkirk Council	Employment centres • Falkirk, Larbert, Grangemouth, Bo'ness, Council offices, Forth Valley Hospital, Helix. Transport interchanges • 5 stations in area key: Falkirk High, Falkirk Grahamston, Larbert, Camelon, Polmont • Cycle parking at all stations • Larbert Station: lockers not fit for purpose. Strong demand for bicycle commuting	Significant • None Minor • Falkirk to Fife over Clackmannanshire bridge – a few cyclists • Few commuters to Stirling	Barriers • Hilly into North Lanarkshire: prevents cycling to/from here Missing links • Priorities are within council boundaries – links to local hospitals etc • Longannet to/from Falkirk a potential route • Falkirk to Denny a key missing link. £6m cost and needs bridge over motorway • Grangemouth to Bo'ness key missing link – issues	Smarter choices smarter places – Larbert was one of the most successful Achieved high increase in walking rates 'Take the right route': official brand for active/sustainable travel Funding for cycle training Promote cycling in schools – parking provision and cycle training An organised cycle event in the region would be good – if someone else organised this, then Falkirk might be willing to provide funds Falkirk Cycle Forum – online community

Organisation	Key employment centres and transport interchanges	Key cross – boundary movements	Key barriers and gaps	Comments
			with land ownership. Access via gate 10 at Grangemouth • Network generally in good shape – not a huge amount of investment required • Link Bellsdyke road with NCN + coastal path: links to Fife and Clacks	for anyone interested in cycling Important to consider other stakeholders eg Helix, Canals etc SEStran commuter cycle map a good idea Match funding a real problem – can't afford to do it
Fife Council	Employment centres • Kirkcaldy, Dunfermline, Rosyth, Methil, Cupar, Glenrothes, St Andrews. Transport interchanges • Would like to see Dunfermline Town rail station become key cycle hub • Inverkeithing rail station – only small potential catchment and lots of potential stations to use • Better facilities at Kirkcaldy would also help • A small number of cyclists cycle to Markinch and Thornton from Glenrothes • Discussions with Abellio to focus on largest settlements • Bike lockers at most stations already	Significant • Two major bridge heads Minor • Also across Clackmannanshire and Kincardine bridges • Fife into Clackmannanshire • Fife into West Lothian	Missing links • 80% trips within Fife – cross-boundary cycling far down priority list • Trips beyond 5 miles are not a priority for investment at all • NCN not well connected to employment centres • Local networks are the priority – NCN supplements this • Connect West Fife to East Fife better • Glenrothes to Freuchie a desired link • Missing link to West Lothian • TS unwilling to spend money on cycling routes along trunk roads	4 year project in Kirkcaldy, with maps of town network Currently modernising the approach – moving away from paper maps to online mapping and information Lots of bikeability – schools, colleges, Cycling Scotland – behavioural change projects Moving to interactive mapping – showing integration between cycling and other modes/transport interchanges Halfords tour Edinburgh to St Andrews race Two capitals Dunfermline to Edinburgh

Organisation	Key employment centres and transport interchanges	Key cross – boundary movements	Key barriers and gaps	Comments
Midlothian	Employment centres • Penicuik, Dalkeith, Bonnyrigg, Bush Estate, Edinburgh Transport interchanges • Newtongrange station 30mph roads – plans to install traffic signals at junction, and cycle lanes • Other stations to be well connected	Significant • Penicuik, Bonnyrigg, Dalkeith to Edinburgh Minor • Midlothian to East Lothian • Midlothian to Borders	Barriers • Dalkeith: Eskbank roundabout to city bypass via shared use lanes – some gaps to fill • Bonnyrigg: least provision for cyclists • Bush Estate access – A702 or A703 both 60mph, A701 preferable. Prohibitively difficult to provide better access right now due to roads and topography – no plans at present. • Hillend area not cycle friendly at all Missing links • Newtongrange to NC1 • Spent over £1million in the last 5 years • Roslin to Peebles: Borders let planning permission lapse Priorities: • 1. Gilmerton – Shawfair – Edinburgh • 2. Penicuik – Roslin – Lasswade • 3. Bonnyrigg shared use footpath along A7 • 4. Mayfield to Dalkeith • 5. Gorebridge – Newtongrange • Cow tunnel under bypass – could avoid Sheriffhall and	Signage has been improved Some campaigns informing cycleways Website info improved Bidding to put info screens at new rail stations to show local info about bus routes/walking links/cycle links Proposed new tourist/business map SEStran commuter map a good idea – perhaps with destination focus eg how do I get there App would be welcome too No cycling clubs in Midlothian

Organisation	Key employment centres and transport interchanges	Key cross – boundary movements	Key barriers and gaps	Comments
			provide direct route to Shawfair	
Scottish Borders Council	Employment centres • Central Borders and key towns within that Transport interchanges • New stations to be well catered for in terms of paths and facilities • Reston station very relevant too • Proposal to link new Borders rail stations together using cycling paths/roads	Significant • Leisure cross-boundary cycling is an important feature of the Borders network • Borders to South Lanarkshire, Midlothian, East Lothian and Northumberland • Long distance cross-boundary Minor • Commuting from Peebles to Midlothian/Edinburgh	Barriers • Vast distances Missing links • Missing links between some key towns • Peebles to Midlothian/Edinburgh a commuting route – if made off-road using railway line, it would be more attractive for this purpose • Proposal to link new Borders rail stations together using cycling paths/roads • New stations to be well catered for in terms of paths and facilities • Using old railway lines: several within Borders • Had a joint venture with Midlothian for Peebles route • Joint working with East Lothian for North Sea route cycle route • Joint working with D&G regarding a coast to coast route – Stranraer to Reston/Dunbar stations (runs parallel to Southern Upland way) • Stranraer to Reston/Dunbar stations • Runs parallel to Southern	Cyclescottishborders.com: provides all the route information Website attempts to bring all cycling elements together – mountain bikers not interested in leisure cycling and vice versa 'Local Cycle', 'Tweed cycle Route', '4 Abbeys route' Tour of Britain – finishing stage in Kelso Tour O' The Borders Tweed Love festival

Organisation	Key employment centres and transport interchanges	Key cross – boundary movements	Key barriers and gaps	Comments
			Upland way • Clyde walkway to South Lanarkshire – extension into Borders • Link green network in central belt with Borders and Tweed valley • Kielder forest Northumberland: joint working • Networks within towns need some greater consideration – better opportunities	
West Lothian Council	Employment centres • Edinburgh, Livingston, Armadale, Bathgate, Blackburn, Broxburn, Whitburn, Linlithgow Transport interchanges • Rail cycling – better connectivity required to Livingston North • Better signage to access stations	Significant • West Lothian to Edinburgh Minor • West Lothian to Falkirk	Barriers • A71 path surface poor on Edinburgh side • Bathgate hills a physical barrier to north/south movements • Signage lacking in Livingston – lack of awareness of routes • Airdrie Bathgate route key lack of signage and provision of seats/ stopping areas • Ecclesmachan road direct but busy • Better signage to access stations Missing links • Strong links with North and South Lanarkshire – potential for better cycle routes • Heartlands to North	Airdrie – Bathgate route underutilised/undermarketed Green Impact project with secondary schools and employers – includes active travel Commonwealth games legacy – bikes for loan at schools Clarion cycle club 'West Lothian on the move' Greater integration with green network – greening green routes Most routes under-utilised New infrastructure – not well promoted at all

Organisation	Key employment centres and transport interchanges	Key cross – boundary movements	Key barriers and gaps	Comments
			Lanarkshire – external movement which will increase with developments there • A89 corridor to be extended to North Lanarkshire boundary • A71 super cycle highway • Bo'ness to Linlithgow • Linlithgow to Falkirk • In short term, signs warning drivers that cyclists are on roads such as the A71 would be a quick win to make routes such as this safer • Reduce speeds on roads – provide safer routes where links are missing	
Sustrans	Employment centres • Edinburgh, large towns in each Local Authority Transport interchanges • Inverkeithing, Kirkcaldy, Leuchars, Linlithgow are key commute stations – all well provided for currently • New Borders railway stations have good provision, with the exception of Newtongrange station – links to station via signalled controlled junction would help	Significant • East Lothian, Midlothian and West Lothian into Edinburgh • Fife to Dundee • Fife to Edinburgh Minor • Clackmannanshire to Stirling	Barriers • Manor Powis key barrier – plans to upgrade • Resurfacing of canal to Ratho: width a key constraint but this is not something that can be changed Missing links • Bush Estate is not well connected –there are plans to improve it • Route via Loanhead and under bypass is currently under development • Portobello to Musselburgh is a key missing link:	Spokes map good for Edinburgh – 2010 needs updated Most routes probably undermarketed A simpler, dedicated cross – boundary commuting map would be very helpful Family network in Edinburgh an example of recent marketing campaigns Community links in LAs probably undermarketed Too many maps – one overarching map solutions would be good Apps like Openstreetmap very useful, but data is unreliable SEStran cycling commuter map/app

Organisation	Key employment centres and transport interchanges	Key cross – boundary movements	Key barriers and gaps	Comments
	• Livingston South station could be better connected • Connection to Bathgate station from the south being developed		current route from East Lothian is too circuitous – a more direct link via the Promenade would be useful, possibly a bicycle lane along it? • Sheriffhall Roundabout STAG 2: Separated cycling flyover would allow direct route from Dalkeith to Straiton onwards. • Route from Dalkeith to ERI to city centre needed • There is a section of railway line running northwards from Balerno that could be utilised to avoid the hilly on-road section of route 75 • A8 path that runs past airport could be improved in terms of surface, signage and markings. This is a key route into town via various employment centres. • Bo'ness to Linlithgow needs a route – could possibly be a cycle friendly streets option? • Bo'ness into Grangemouth: missing link here • New links into Forth Valley Hospital required • Newburgh to Perth a missing link – scope to create a direct route	would be good
Edinburgh Airport	Employment centres	• Staff commute from West	• Time of day/shift working is	Airport has a bicycle users group, with

Organisation	Key employment centres and transport interchanges	Key cross – boundary movements	Key barriers and gaps	Comments
	• Edinburgh, large towns in each Local Authority Transport interchanges • Edinburgh Park, Dalmeny and South Gyle stations close enough to provide access – all have adequate cycling connections to the airport	Lothian, South Fife and western Edinburgh • Estimated that there are 25-30 regular cyclists, and up to 100 in summer	the main barrier to more staff cycling frequently • There have been discussions about Eastfield Road but no plans have been made to upgrade it as of yet	social media interaction People fly over with bikes and then cycle on from airport – no signs or routes showing where to go Very few passengers cycle to the airport
SNH	Employment centres • Edinburgh, Livingston and Falkirk Transport interchanges • Many transport interchanges geared around car access – better consideration of cyclists would be desirable	• Edinburgh focused on city centre • Anecdotally: 12 people cycle from Longniddry to Edinburgh every day	• Strategic cycling network not direct enough and not segregated enough: key theme from their consultations • More direct/segregated routes of higher quality required • A1 and A720 key barriers • Transport Scotland should be more proactive at funding links over key barriers • Network Rail – worth considering rail barriers • Some sections of trunk road are wide enough to include a segregated cycleway • 60% of East Lothian cycling super highway could be funded by developers eg Wallyford/Blindwells	
Cycling Scotland		• Commuter journeys generally within 5km	• Significant population growth over next 10 years	

Organisation	Key employment centres and transport interchanges	Key cross – boundary movements	Key barriers and gaps	Comments
		• Commuters generally very competent cyclist, using direct routes on often busy roads • Edinburgh from Lothians • Livingston and Falkirk access to jobs • Cross – RTP boundaries	• New Abellio tender (Cycling Scotland would like to see – make cycling a lot easier, better facilities to commute from SPT into SEStran • Queen Street regeneration – better cycling facilities • Cycling needs to be a mainstream, acceptable offer, not inconvenient minor alternative	
Napier University	Employment centres • Craiglockart, Merchiston, Sighthill campuses – Colinton Road and Canal key Transport interchanges • Edinburgh Park and South Gyle stations are good for connections to Sighthill	• Handful of staff cycle in from West Lothian, Midlothian • Hard to tell if infrastructure investment would help • Trialling electric assist bikes – these may encourage longer distance journeys	• Sighthill Campus: tramline has added extra connectivity via route 8. • Nothing at Craiglockart/Merchiston • George Street example – missing connectivity adds to general accessibility across city • 20mph speed limit: could have a big impact in cycling provision • Craiglockart Campus: opening up new road access	Travel survey: applied for funding to promote active travel Cycling Scotland: additional money Active travel booked Emphasis on electronic communication Would struggle without Sustrans, Cycling Scotland, Council funding – this has helped university to put measures in place
NHS Forth valley	Employment centres • Forth Valley Hospital Transport interchanges • Larbert Station	Significant • Route 76 is key • Commuting from Larbert/Stenhousemuir to east, Denny to west (no good routes), Camelon, Carron + Carronshore Minor • Some commuting from	• Routes too winding/indirect for being commuter friendly • Commuting via the Alloa/Stirling/Falkirk triangle • Cyclists from Stirling want dedicated path from A9 for quicker commuting, more direct route	Dr Bikes clinics come to maintain bikes for staff - local community invited to get bikes fixed Recyke- a-bike Feedback from these events suggest A9 path would be popular Would like to promote cycling via a

Organisation	Key employment centres and transport interchanges	Key cross – boundary movements	Key barriers and gaps	Comments
		Stirling – most cyclists use the A9		race/event eg Falkirk to Stirling NHS would be willing to fund some of this – would like to suggest trying to gauge interest from other authorities to push this forward.
SRUC	<u>Employment centres</u> • Edinburgh + Ecclesmachan <u>Transport interchanges</u> • Uphall Station	• Very few cyclists at Broxburn: not good access, needs better links to Uphall station, lack of provision • Very few students cycle	• Consultee cycles from Rosewell to Edinburgh via Lasswade Road • Very busy high speed route • Surface quality/route • Consultee used to work at Bush Estate – poor access to this site too • Some people cycling from Musselburgh	Trying to improve cycling storage £25k from SEStran for electric bikes Cycle to work week Cycle to work scheme – 8 staff bought bikes
Scottish Borders College	<u>Employment centres</u> • Campus in Galashiels <u>Transport interchanges</u> • Galashiels Transport Interchange	• Borders railway will offer opportunities • College keen for relaunch of cycling routes after Borders railway reopens	• Not aware of any cycling proposals to link station to college	Better promotion of route options within town would help people understand how to access the site
SESplan	<u>Employment centres</u> • Edinburgh • Other major towns throughout region <u>Transport interchanges</u> • Some storage shelters not very good eg Livingston North shelters in poor condition • Waverley – racks are full by 7:30. Haymarket worth checking too	• Intra – Edinburgh • Lothian to Edinburgh • Intra – LA	• As listed in question • Bypass a physical barrier • Lack of off-road capacity: cycling into Edinburgh on bus lanes – too intimidating for many cyclists • Edinburgh 'worst city to cycle in' due to bus lanes • Livingston also has many indirect routes – key radial routes into that	

Organisation	Key employment centres and transport interchanges	Key cross – boundary movements	Key barriers and gaps	Comments
St Andrews University	Employment centres • St Andrews University and town • Guardbridge key origin/destination – this area is going to be developed further Transport interchanges • Leuchars Station	• Very little cycling from Dundee • Putting bikes onto buses with other luggage to/from Leuchars station an issue • Guardbridge to St Andrews – well used • Anstruther and Crail other key origins – no route provision • Key barrier for students – can't bring bikes up to St Andrews on the train as well as luggage	• 4 mile cycle from Leuchars station – 1 mile section on-road (missing link) • £70k cycle storage area • Guardbridge route put in 7 years ago • No decent investment in last 5 years • Issues with bike storage • East Neuk trying to develop route that links Crail – Anstruther – St Andrews, piecemeal approach. Currently unsafe for cycling • Guardbridge to Leuchars station – fast section of road. Improvements here would be welcome	Trial bring a bike/luggage transportation scheme Smarter Choices Smarter Places funding £50k climate challenge fund – used to reduce bike wastage/disposal Bike societies Safety campaigns for incoming visitors – foreign students not familiar with roads etc Possible Cycling Scotland 'Cycle Friendly Campus' funding Bikeability training within schools Need to be better at being aware of key routes/usage/signposting problems – can St Andrews Uni help with that? Reporting mechanism to report problems with the network
TACTRAN	Employment centres • Dundee • Perth • Stirling Transport interchanges • Dundee • Perth • Stirling	• North Fife to Dundee • Alloa/Clacks to Stirling • Stirling/Falkirk movements • Beauly to Denny – hope to build a cycle route along it • Tay Bridge: connections could be improved at Fife end • Commuting to hospital at Larbert • Dundee Uni good at encouraging cycling/active travel • Ninewells too far for cross boundary, but some internal	• Manor Powis: Stirling Council have funding for this • Dundee station will have better cycling facilities in 2017 when it has been redeveloped • Some investments in Dundee • Greener routes from P&K to Clacks via Dollar • Sustrans trying to make sure there is focus on cycling provision as part of	Cycling Scotland cycling space scheme Dundee produces route map that only covers city – could be extended to include north Fife Stirling have a cycle map of city, and cycle hub at station No major campaigns Smarter Choices Smarter Places funds focused on softer measures X7 bus from Aberdeen – Dundee has 5 bike racks – not marketed properly on

Organisation	Key employment centres and transport interchanges	Key cross – boundary movements	Key barriers and gaps	Comments
		movements • NCN good within/around Dundee • Stirling quite well connected – good links to Dunblane and Doune	new waterfront development	website
University of Edinburgh	Employment centres • Central Campus • King's Building • Bush Estate (Vet School, Roslin Institute) Transport interchanges • Waverley Station • New stations in Midlothian	• Travel survey: 89 (4%) staff and students cycle to Bush Estate (some cross-boundary) • 20% cycle to Kings's Buildings, 18% ERI site, 8% George Square • Planning permission included segregated paths to A703 and Bush Loan • Some staff commute from Midlothian to Bush Estate (from Penicuik) - only competent cyclists will use this	Barriers • Innocent railway route is underutilised – lack of lighting on Innocent path puts people off in winter • Brunstane station bridge over railway – key barrier Missing links • Bush Estate to city big gap • Links from Borders Rail to Bush Estate would help • Link with Roslin Glen could be made • Bush Estate: segregated paths to/from site • Hospital site: facilities on Old Dalkeith road could be better • New path at Queens Medical Institute linking to Craigmillar	Cycle Scotland Cycle Friendly campuses - £50k to promote cycling by first year students Road shows: focus on being seen at night
NHS Scotland	Employment centres • South Gyle a key site Transport interchanges • South Gyle and Edinburgh Pak stations	• Out of 1,500 staff, a maximum of 75 cycle - 50% of staff are within 10 miles of the site, so potential to increase this • Majority of these are not cross-boundary.	Barriers • A8 past airport involves going on and off the pavement on several occasions, and the surface isn't great • More bicycle space on	Poynton example – could be relevant to routes in Edinburgh. Consistent route colouring/marking/classification system across the country would help. Signs on roads clearly stating

Organisation	Key employment centres and transport interchanges	Key cross – boundary movements	Key barriers and gaps	Comments
		• Some staff live in Livingston, Broxburn and Uphall, but only very dedicated cyclists would cycle in from there	trains would encourage train/cycle commuting – continuity of travel important • Route along tramline – could have been much better than it is, with more fluid connections/bridges rather than the stop/start traffic crossings which have be settled for <u>Missing links</u> • Dalmeny/North Edinburgh to South Gyle/Edinburgh Park – key missing link • Several staff in Currie/Balerno drive the short distance due to lack of connectivity across the Heriot Watt university site • Direct links from Midlothian • Route parallel to bypass – would be direct and fast • Bridge over Sheriffhall key • Cycle super highways a great concept	times/distances by bicycle might help to raise awareness of how competitive cycle travel times can be. Cycle to work scheme Bicycle mileage of 24p per mile, equivalent to PT costs. Hoping to raise this to car costs soon Bicycle user groups Site access information: promote sustainable travel over car
ACORP			<u>Barriers</u> • Routes too winding/indirect for being commuter friendly <u>Missing links</u> • Cyclists from Stirling want dedicated path from A9 for quicker commuting, more direct route	Community Rail Partnerships looking to provide maps at stations to encourage change behaviour Improving signage, maps

Appendix D Site Audits, Barriers and Missing Links

SEStran Strategic Cross Boundary Cycle Development

Appendix D – Site Audits, Barriers and Missing Links

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KEY BARRIERS, MISSING LINKS AND RECOMMENDATIONS
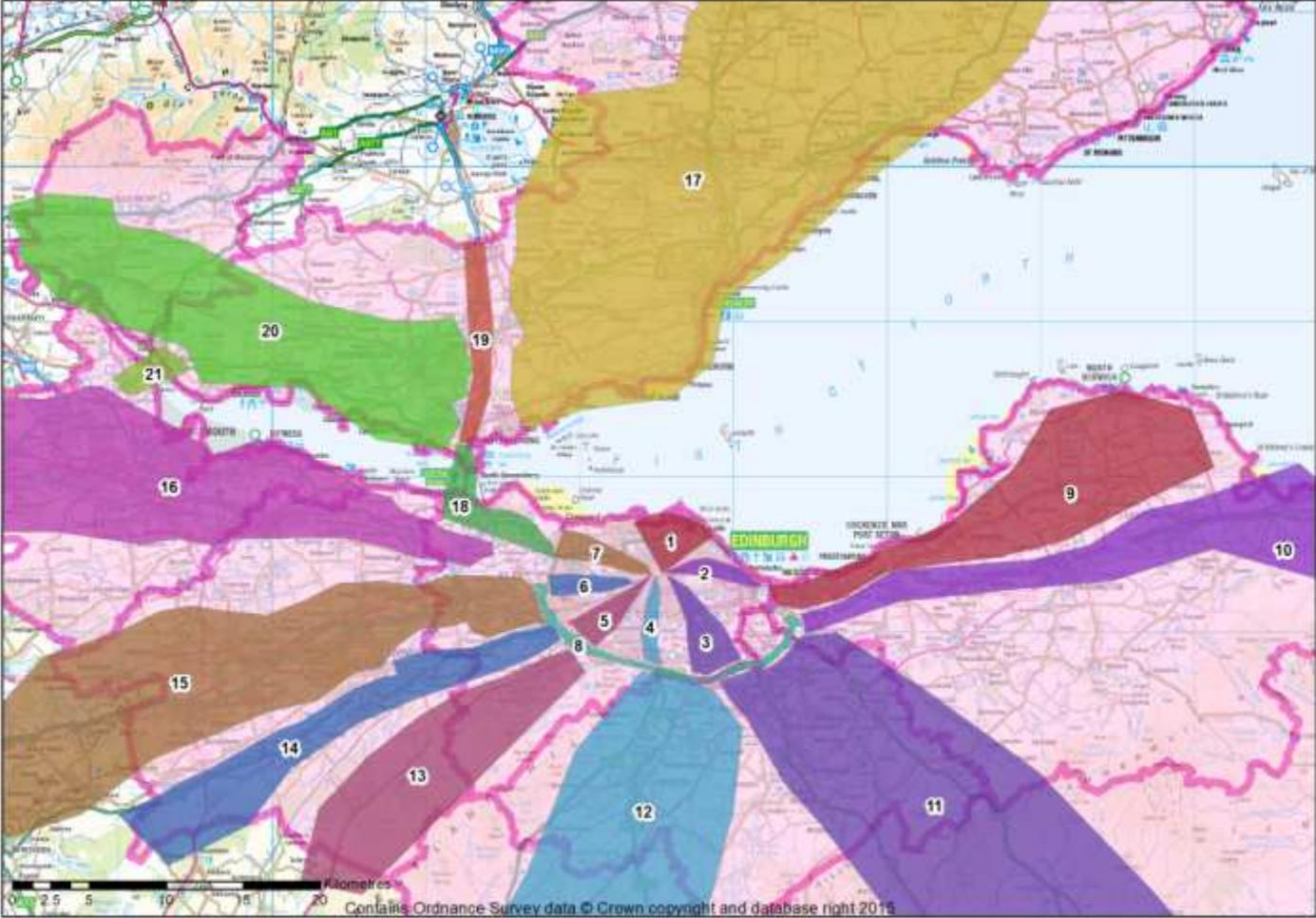
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Approach Taken

- Key barriers and missing links identified during the consultation were listed
  - These were considered within the context of SEStran RTS corridors
  - Census TTW flows and geographical distance/physical barriers were also taken into account

SEStran RTS Corridors

Routes Analysed

- ### Musselburgh to Portobello and Leith
  - Missing link between Portobello and Musselburgh

- ### Dalkeith to Shawfair and ERI
  - Sheriffhall roundabout
  - Old Dalkeith Road – gaps in cycle lane provision

- ### Eskbank and Bonnyrigg to Edinburgh
  - Shared use path ends abruptly – no onward connectivity into Edinburgh
  - Poor connectivity with Bonnyrigg – A7 shared use path

- ### Loanhead to Lasswade Road Corridor
  - Shared use path ends abruptly – no onward connectivity into Edinburgh

- ### A701 corridor and Bush estate
  - Gaps in cycle lane provision along A701 corridor
  - Missing link to Bush Estate

- ### A70 corridor
  - Water of Leith path – surface upgrade
  - Lack of direct connectivity to west and north Edinburgh

Routes Analysed (cont)

- A71
  - Very little provision

- Union Canal
  - Narrow path
  - Poor surface from city bypass westwards

- A8/A89 corridor
  - A8 path has several uncontrolled crossings and a section of poor surface
  - Poor connectivity in Edinburgh Park and South Gyle
  - Extend A89 path westward

- Forth bridgehead south/A90
  - Lack of connection from NCN 1 to Edinburgh Park/Gyle
  - Dalmeny to Newbridge railway path – poor surface limits utility for connecting with A8/A89 corridor

Additional missing links and barriers

- **Forth Bridgehead North/M90**
  - Uncontrolled crossing at Ferrytoll if coming from the west
  - Route from Dunfermline/Rosyth via NCN 1 slightly circuitous
- **A907 corridor**
  - Key barrier at Manor Powis (Stirling) – uncontrolled crossings at roundabout
- **A9 corridor Stirling to Falkirk**
  - Potential to utilise A9 corridor for a cycle route to provide direct link
- **Links between West Lothian and Falkirk**
  - Union canal route links Linlithgow to Polmont and Falkirk – surface upgrade would make this a faster link
  - Bo'ness to Linlithgow – potential for route using existing routes and roads
- **A199 Musselburgh, Wallyford and Tranent**
  - A199 has cycle lane provision along most of the route between Tranent and Musselburgh – filling in gaps would create a key route
  - New Street in Musselburgh is a 20mph route which could be used as a more direct alternative to the John Muir Way
- **Brunstane Bridge**
  - Existing bridge requires carrying bicycle up and down steps – ramps would overcome this
- **Borders Railway**
  - Important to ensure key employment centres are well connected to rail stations
- **Scottish Borders leisure network**
  - Peebles to Penicuik railway path a key cross-boundary leisure proposal
    - it may encourage more enthusiastic commuter cyclists to travel to destinations in Midlothian such as Bush Estate

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Musselburgh to Portobello and Leith

- Context
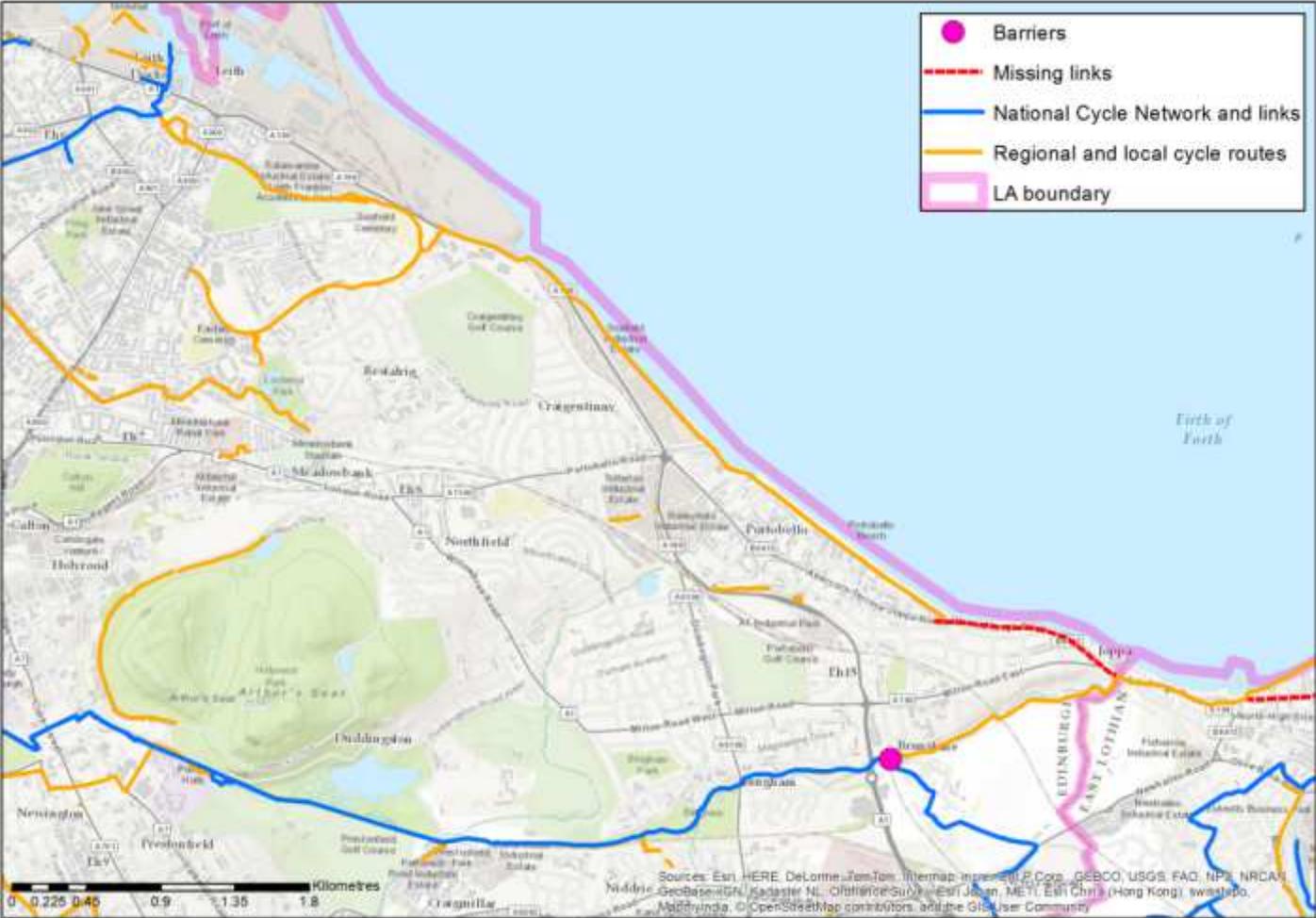 - North Edinburgh is a key employment destination within the region
  - Leith to Portobello CEC Local Route 10 recently upgraded
  - NCN 76 and John Muir Way traverse Musselburgh and run along East Lothian coast
- Key issues
  - Missing link between Portobello Promenade and John Muir Way/Edinburgh Road
  - Portobello Promenade too busy for commuter cycling at times

Musselburgh to Portobello and Leith – route overview

Leith to Portobello – CEC Local Route 10

Bridge over Seafield Place

Seafield Road shared use path

Leith to Portobello – CEC Local Route 10

Portobello Promenade – busy on a cold February day

Portobello Promenade – narrow in places

Portobello to Musselburgh – current extent

- Current extent
  - Route 10 extends to eastern end of Portobello Promenade
  - John Muir Way cycle lanes begin at East Lothian boundary

Portobello to Musselburgh – current extent

Promenade/Musselburgh Road

Edinburgh Road – lane markings begin in East Lothian

Portobello to Musselburgh – missing link along Musselburgh Road

Musselburgh Road

Musselburgh Road

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Portobello to Musselburgh – missing link along Musselburgh Road

Musselburgh Road

Musselburgh Road

Portobello to Musselburgh – missing link along Musselburgh Road

Musselburgh Road   **Junction with Milton Road East**

Musselburgh to Portobello – potential solutions

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

- New crossing at Promenade or cycle lane re-alignment

Option 2

- Shared use path between Promenade and Coillesdene Avenue

- Cycle lanes along both sides of the carriageway between Coillesdene Road and East Lothian boundary

- New pedestrian/cycle crossing 50m west of Coillesdene Avenue or cycle lane to allow safe road crossing westbound

Musselburgh to Portobello – Summary

- Key missing link in the network – high quality routes either side
- Authority – City of Edinburgh Council
- Current plans - **None**
- Relevant SEStran corridors
  - 2. Edinburgh East
  - 3. East Lothian Coastal

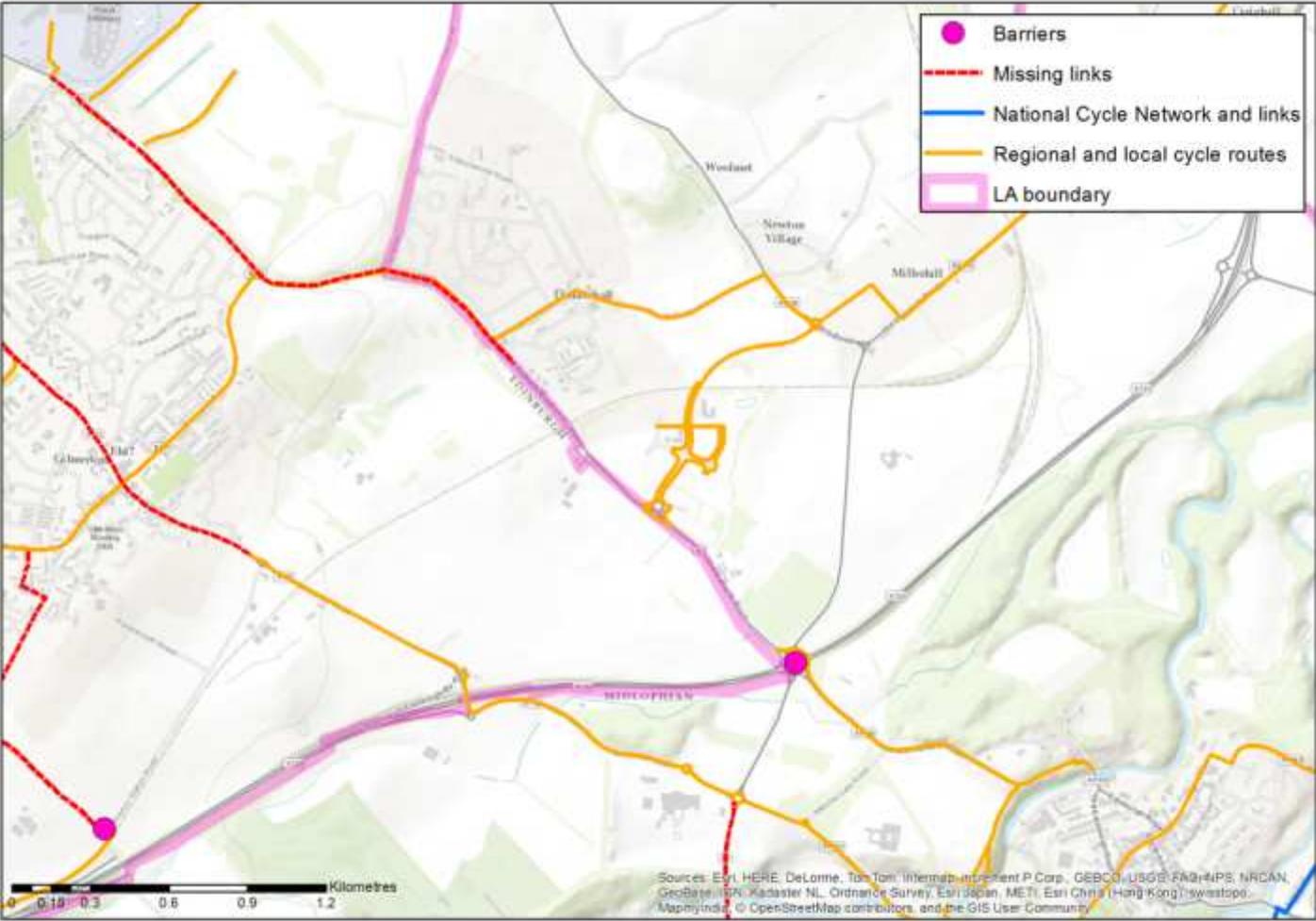# Dalkeith to Shawfair and ERI

- ## Context

  - Dalkeith is a large settlement within easy commuting distance of Shawfair, ERI and central Edinburgh

  - Shared use path between Dalkeith and Sheriffhall roundabout

- ## Key issues

  - Sheriffhall roundabout – dangerous uncontrolled crossing

  - Old Dalkeith Road – gaps in cycle lane provision

Dalkeith to Shawfair and ERI – route overview

Dalkeith to Sheriffhall – Shared use path

Approaching Dalkeith

South of Sheriffhall

Sheriffhall roundabout – key barrier

Westbound carriageway crossing – stop line with no pedestrian

Eastbound carriageway crossing – take your chances…

Sheriffhall to Shawfair – on-road lanes

North of Sheriffhall Rdb – lane provided

South of Sheriffhall P&R

Sheriffhall to Danderhall – on-road lanes

North of Sheriffhall P&R – lane continues

At Newton Church Road – lane with some fading surface

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Danderhall to ERI – on-road lanes

Ferniehill Drive junction – gap in lanes

High quality lanes

Dalkeith to Shawfair and ERI– potential solutions

- **<u>Sheriffhall roundabout</u>**
  - Incorporate solution into redesign of Sheriffhall junction – flyover the most likely
  - Quick win – pedestrian crossing on westbound carriageway, although this may encourage more cyclists to attempt the dangerous eastbound carriageway crossing

- **<u>Old Dalkeith Road</u>**
  - Complete cycle lanes to eliminate gaps where possible
  - Coloured surfacing along cycle lanes is preferable

Sheriffhall Roundabout – potential solutions

- ## Option 1
  - Incorporate solution into redesign of Sheriffhall junction – flyover the most likely
  - Quick win – pedestrian crossing on westbound carriageway

- ## Option 2
  - Alternative route bypassing Sheriffhall via Dalkeith Country Park and 'cow tunnel' bypass underpass, linking into Shawfair – circuitous route

Dalkeith to Shawfair and ERI – Summary

- <u>Sheriffhall a very significant barrier</u>
- Authorities – City of Edinburgh Council, Midlothian Council, Transport Scotland
- Current plans – **Sheriffhall junction redesign at STAG 2: 4 designs being considered**
- <u>Old Dalkeith Road a key commuting corridor – higher quality, complete cycling lanes important</u>
- Authorities – City of Edinburgh Council, Midlothian Council
- Current plans – **None**
- Relevant SEStran corridors
  - 3. Edinburgh South East
  - 11. Midlothian East/Borders
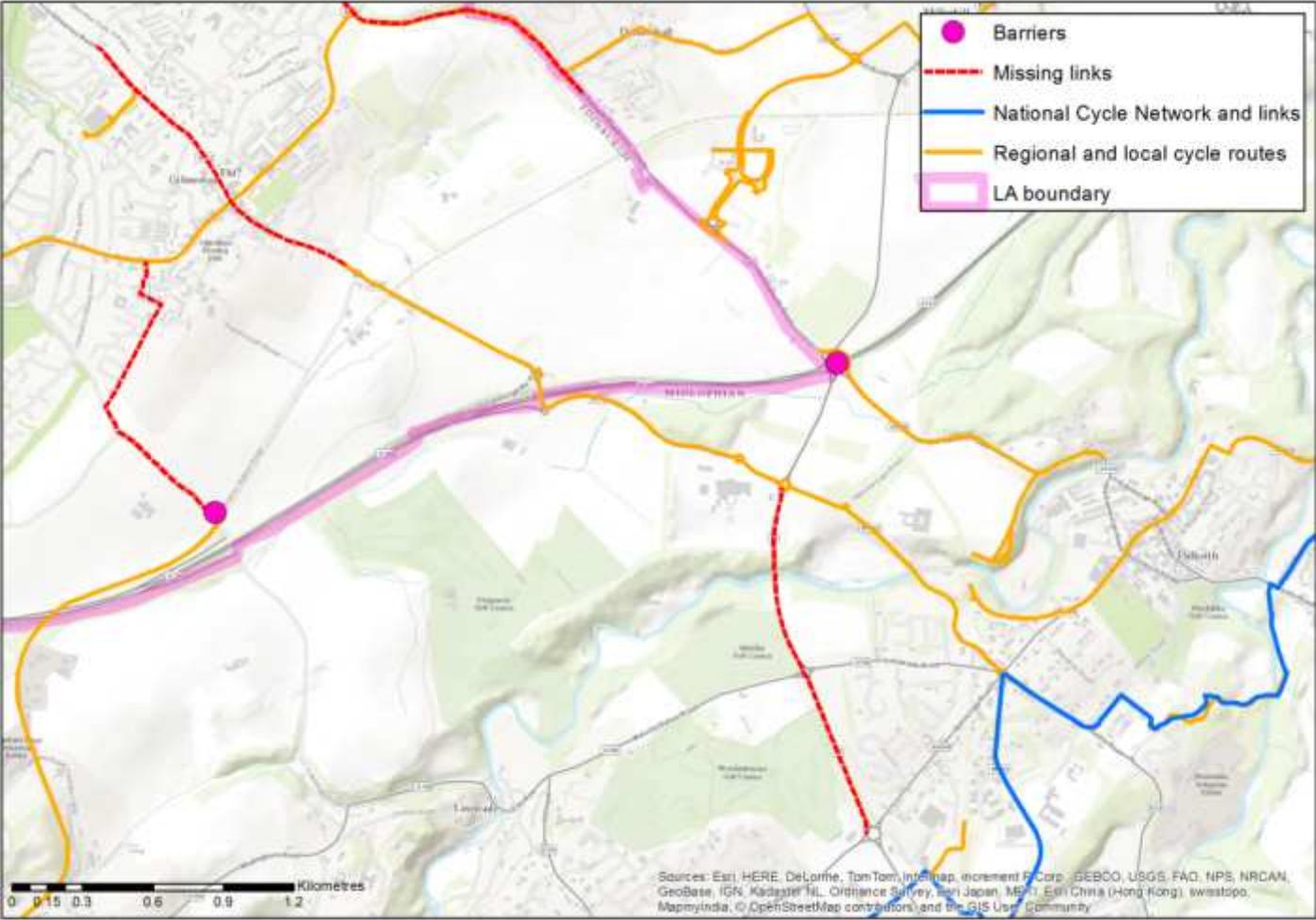
Eskbank and Bonnyrigg to Edinburgh

- ## Context

  - Eskbank and Bonnyrigg are significant population centres within close proximity to Edinburgh

  - Shared use path between Eskbank and Drum Street

- ## Key issues

  - Gilmerton Road shared use path ends abruptly at Drum Street

  - Bonnyrigg poorly connected to routes into Edinburgh

Eskbank and Bonnyrigg to Edinburgh – route overview

Gilmerton Road – Cycle lanes

Leaving Eskbank – marked lane

Crossing the River North Esk – marked lane

Gilmerton Road – Gap in provision

Lane ends on approach to Melville Gate Road roundabout

Shared use path begins approx 50m beyond roundabout

Gilmerton Road – Shared use path

Uncontrolled crossing of A7

Shared use path along Gilmerton Road

Gilmerton Road – Shared use path

Shared use path heading towards Gilmerton junction

Shared use path heading at Gilmerton junction – uncontrolled crossing of a very minor roundabout arm

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Gilmerton Road – Shared use path

Gilmerton Road in Edinburgh – path is narrower here

Shared use path ends abruptly at Gilmerton Station Road – where next?

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Drum Street – missing onwards connectivity

Drum Street – no provision

Drum Street – narrow carriageway prohibits lane provision

Onwards connectivity from Gilmerton shared use path – potential solutions

- **Option 1**
- Improve existing corridor – limited scope to do this
- **Option 2**
- Create route via Gilmerton Station Road and farm track to South Farm and connect with Ravenscroft Place
- **Option 3**
- Cycle path along Gilmerton Station Road to connect with Lasswade Road route – slightly circuitous
- **Option 4**
- Utilise the railway track bed from Gilmerton Road to Lasswade Road/Loanhead shared use path - slightly circuitous

Bonnyrigg connectivity – potential solutions

- ## Option 1

  - Shared use path parallel to A7 from Eskbank Road roundabout to Gilmerton Road roundabout

Eskbank and Bonnyrigg to Edinburgh – Summary

- Key route between Midlothian and Edinburgh has significant missing link at Drum Street
- Authorities – City of Edinburgh Council
- Current plans – **None**
- Gilmerton Road route in Midlothian has gap in provision
- Authorities – Midlothian Council
- Current plans – **None**
- Bonnyrigg connectivity
- Authorities – Midlothian Council
- Current plans – **Midlothian Council investigating this option**
- Relevant SEStran corridors
  - 3. Edinburgh South East
  - 11. Midlothian East/Borders

Loanhead and Lasswade Road Corridor
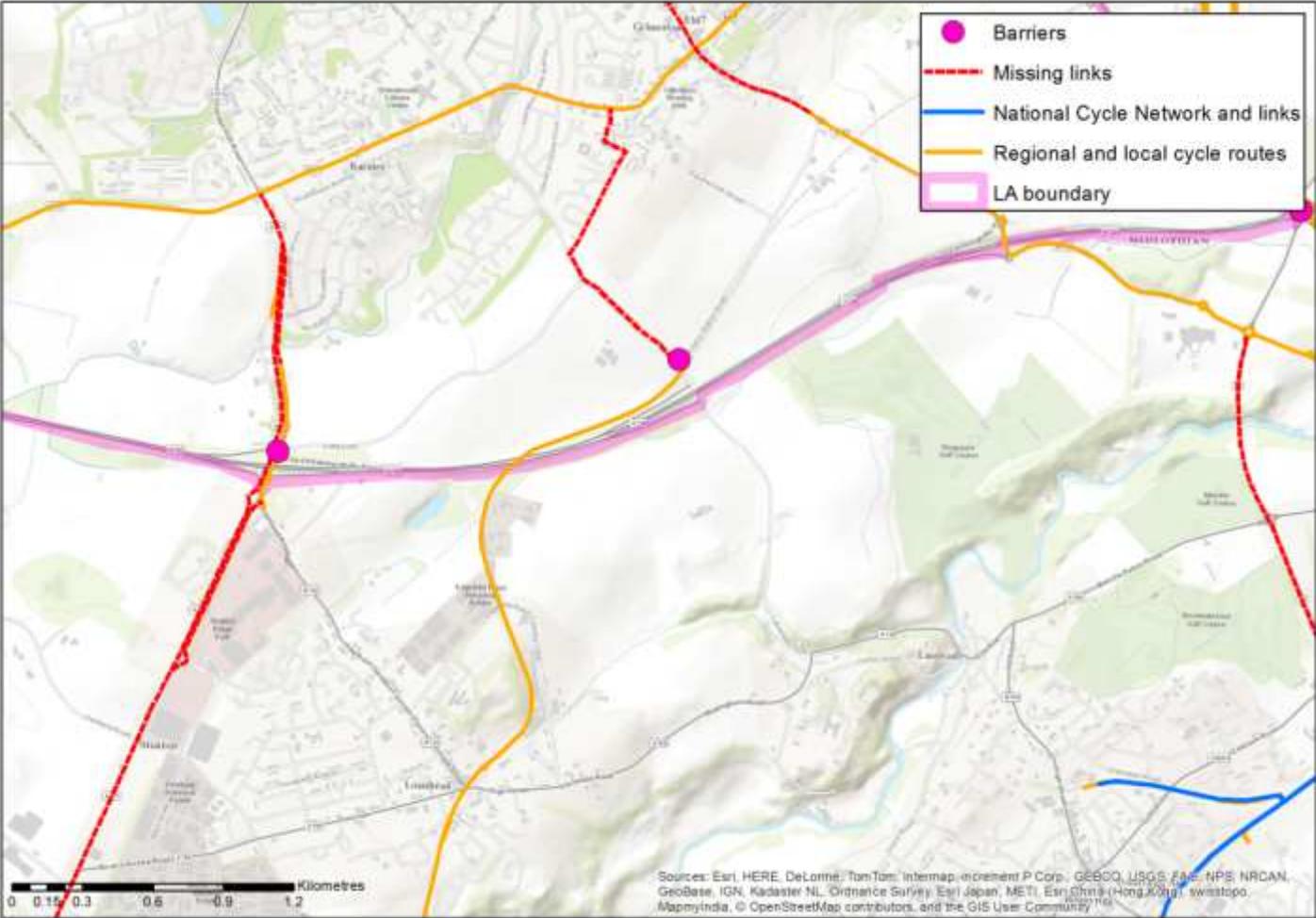
- ## Context
  - Loanhead a significant population centre, Roslin also within commuting distance of Edinburgh
  - Shared use path between Dryden Farm (North of Roslin) and Lasswade Road

- ## Key issues
  - Loanhead shared use path ends abruptly at Lasswade Road – no onward connectivity into Edinburgh
  - Uncontrolled crossing at Gilmerton Station Road

Loanhead and Lasswade Road Corridor– route overview

Loanhead path

Bilston Glen

Loanhead path adjacent to bypass

Loanhead path

Loanhead path junction with Gilmerton Station Road – uncontrolled crossing

Path adjacent to Lasswade Road

Lasswade road path

Lasswade Road

Path adjacent to Lasswade Road

Onwards connectivity from Loanhead shared use path – potential solutions

- **Current plans**
- CEC has plans to widen and resurface path adjacent to Lasswade Road
- Route via Gilmerton Dykes Road and Hyvot View, linking into Gilmerton Dykes Street and Moredun Dykes Road
- Gilmerton Station Road to remain uncontrolled crossing
- **Additional options**
- Provide connectivity with Gilmerton Road path, via Gilmerton Station Road or extension to railway path

Onwards connectivity from Loanhead shared use path – CEC plans

Onwards connectivity from Loanhead shared use path– Summary

- <u>Key route between Midlothian and Edinburgh has significant missing link at Lasswade Road</u>
- Authorities – City of Edinburgh Council
- Current plans – **CEC has plans to create safe route between Loanhead shared use path and Gilmerton Dykes**
- <u>Gilmerton Station Road uncontrolled crossing</u>
- Authorities – City of Edinburgh Council
- Current plans – **None**
- <u>Connectivity to other corridors including Gilmerton Road</u>
- Authorities – City of Edinburgh Council
- Current plans – **None**
- Relevant SEStran corridors
  - 3. Edinburgh South East
  - 12. Midlothian West/Borders

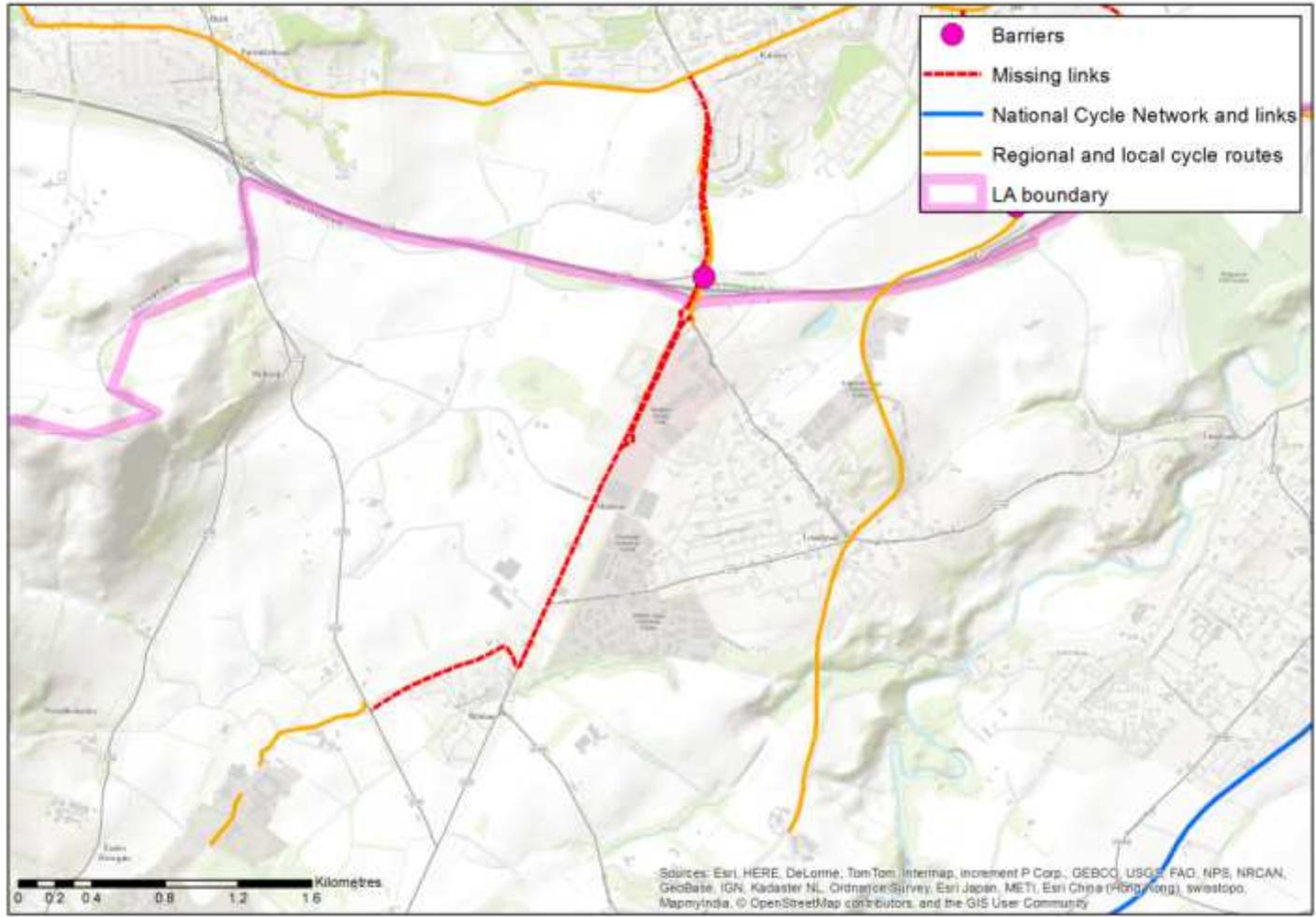# A701 corridor and Bush estate

- ## Context
  - A701 a key corridor, with considerable employment at Straiton and Bush Estate
  - Provides direct link from Penicuik towards Edinburgh
- ## Key issues
  - Provision for cyclists is incomplete along sections of A701
  - Lack of connectivity to Bush Estate
  - Better provision from Penicuik to Bilston

A701 corridor and Bush estate – route overview

A701 corridor

Gowkley Moss Roundabout – southern access to Bush Estate

A701 south of junction with A703

A701 corridor

A701 heading north out of Bilston – lane markings have faded

A701 heading north out of Bilston – lane marking haves faded

A701 corridor

A701 north of A768 junction – lane markings apparent

A701 at Asda Straiton – no markings

A701 corridor

A701 at IKEA – cycling in bus lane

A701 at Straiton P&R – lane with eroded surface

A701 corridor

A701 at Straiton junction south – clear markings on roundabout

A701 at Straiton junction south – mind the debris…

A701 corridor

A701 at Straiton junction north – lane markings end

A701 at north of Straiton junction north – cycling in the bus lane

Bush Estate

A701 at Gowkley Moss roundabout

A702 access – not suitable for cyclists

Bush Estate

Shared use path to university campus from A702

Shared use path to university campus from A702

Bush Estate

A703 junction with Bush Estate – cycle friendly crossings

A703 junction with Bush Estate – cycle friendly crossings

Bush Estate – missing link to A701

Seafield Road – rural section has wide carriageway

Seafield Road – some heavy goods traffic using it

Bush Estate – missing link to A701

Seafield Road – section through Bilston has traffic calming

Seafield Road – section through Bilston has traffic calming

A701 corridor – potential solutions

- **Bilston to Kaimes**
- Continuous and consistent cycle lanes along route
- Maintenance and repainting of existing sections, requirement for gaps to be filled
- **Penicuik to Bilston**
  - **Option 1**
  - Complete cycle lane provision along route
  - **Option 2**
  - Use existing core path network from Penicuik to Gowkley Moss Roundabout – onward connectivity via A701
  - Onward off-road route to Roslin along and Loanhead path
- **Bush Estate**
  - Provision of cycle lanes along rural section of Seafield Road
  - Signage and 20mph limit along urban section, supplementing existing traffic calming

A701 corridor – Summary

- A701 between Bilston and Edinburgh
- Gaps in lane provision
- Authorities – Midlothian Council, City of Edinburgh Council
- Current plans – **Lane repainting may form part of maintenance programme, no known plans for filling gaps in lanes**
- A701 between Penicuik and Bilston
- Gaps in lane provision, potential for off-road route with linkage to Roslin
- Current plans – **Midlothian Council investigating options for developing this**
- Authorities - Midlothian Council
- Access to Bush Estate
- Missing link to Bush Estate
- Authorities - Midlothian Council
- Current plans – **None**
- Relevant SEStran corridors
  - 3. Edinburgh South East
  - 12. Midlothian West/Borders
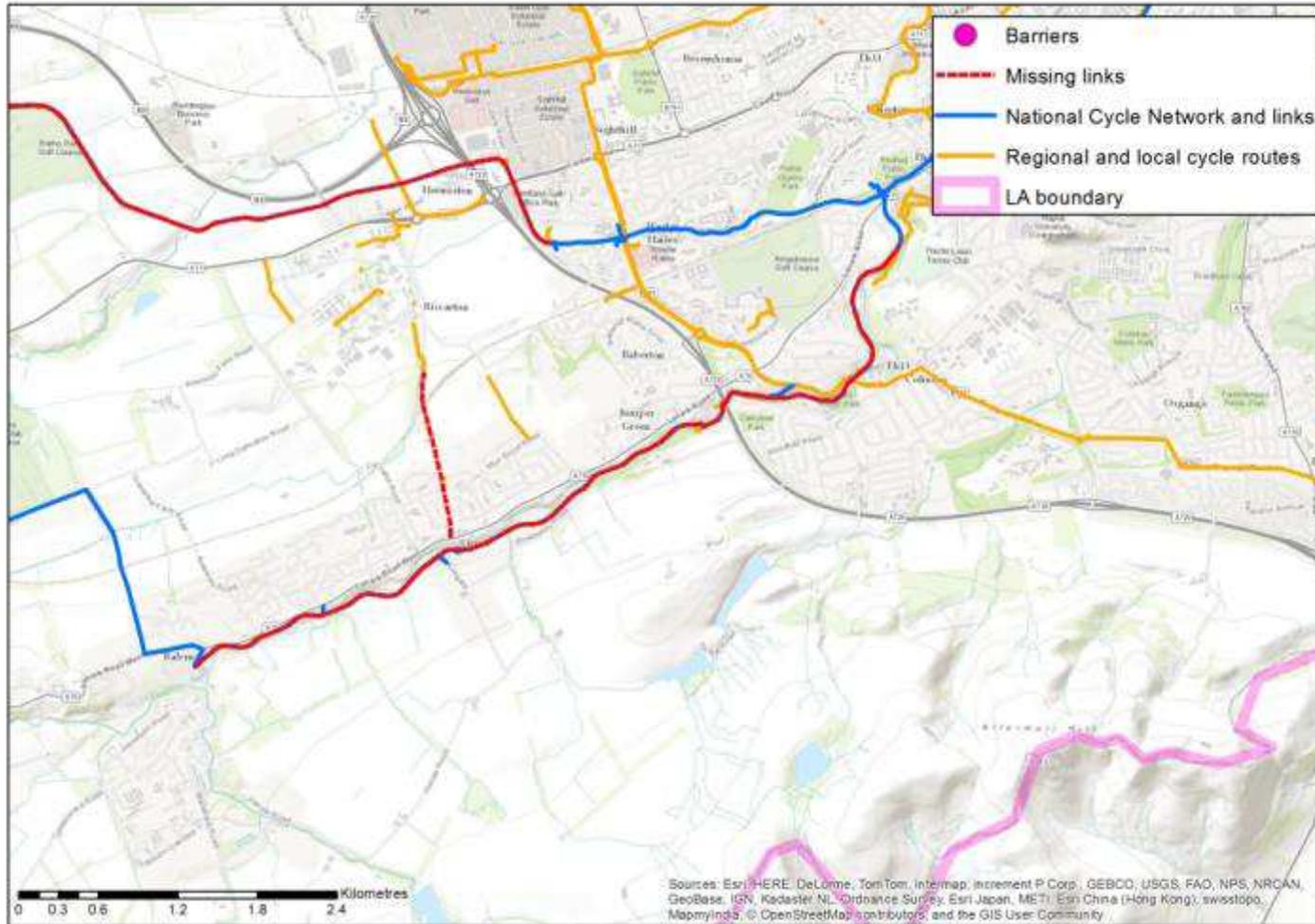
A70 Corridor

- ## Context
  - A70 corridor links Balerno and Currie to Edinburgh city
  - Water of Leith a key route

- ## Key issues
  - Missing direct link between Balerno/Currie and west Edinburgh
  - Water of Leith path a key route – surface could be better

A70 Corridor – route overview

A70 corridor

A70 in Balerno

A70 junction with Bridge Road in Balerno

Water of Leith path

Path has a relatively rough surface in places

Path gets very muddy in places

A70 corridor – potential solutions

- **<u>Currie to Heriot Watt University</u>**
- Provide route along Curriehill Road or Riccarton Mains Road
- Cycle lanes or creation of shared use path possibilities on both routes
- Onward connectivity from Riccarton to Edinburgh Park and canal
- **<u>Water of Leith path</u>**
- Tarmacking of route would provide a smoother, quicker and more attractive route for commuting

A70 corridor – Summary

- <u>Missing direct link between Balerno/Currie and West Edinburgh</u>
- No routes currently provide this direct link
- Authorities – City of Edinburgh Council
- Current plans – **None**
- <u>Water of Leith path – surface quality not ideal</u>
- Key commuting and leisure route
- Authorities –City of Edinburgh Council
- Current plans – **None**
- Relevant SEStran corridors
    - 5. Edinburgh South West
    - 13. Lanark

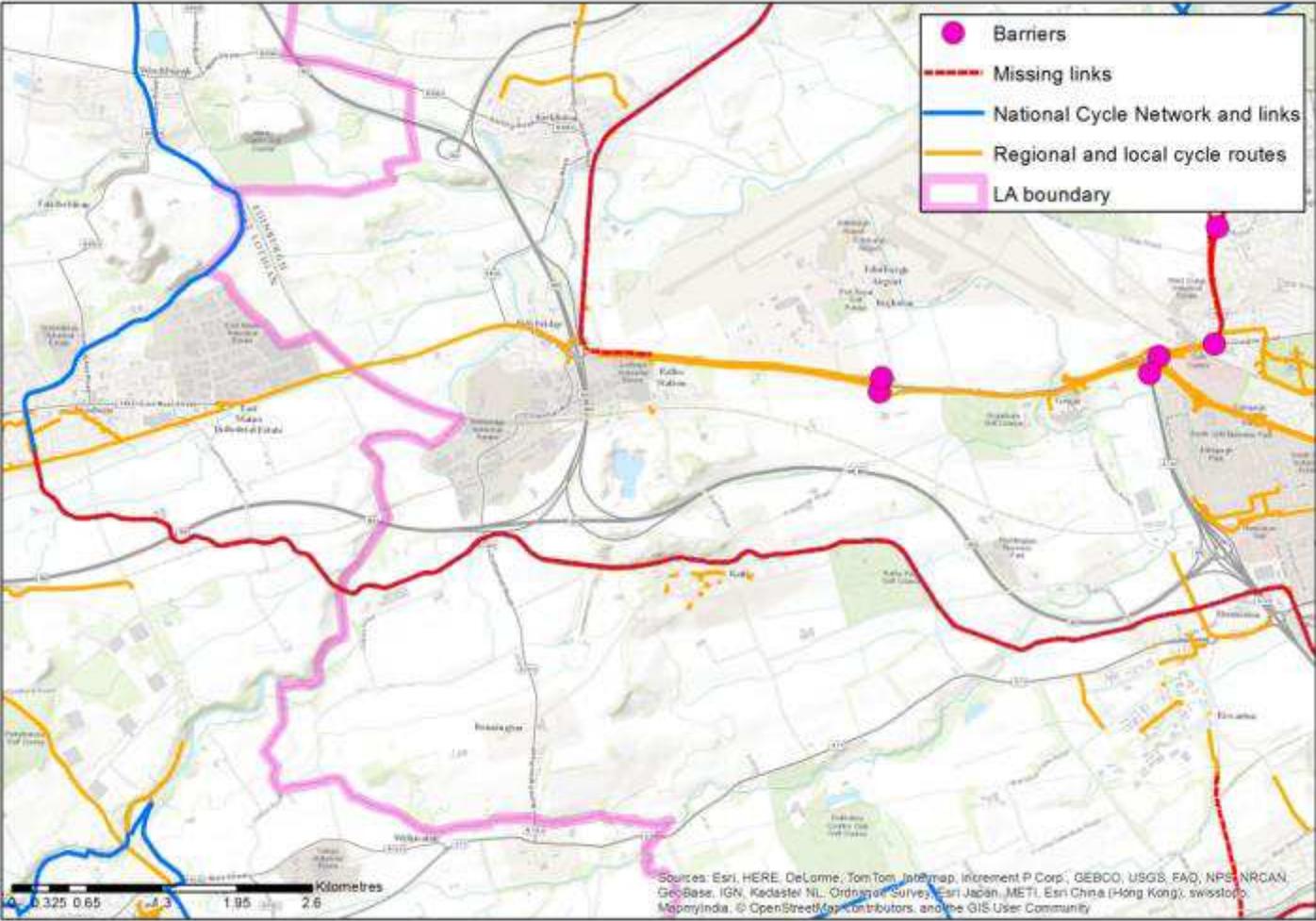# A71/Union Canal Corridor

- ## Context

  - A71 corridor links south West Lothian settlements with Edinburgh and South Lanarkshire

  - Union Canal links Winchburgh, Broxburn and Ratho with Edinburgh

- ## Key issues

  - Very little cycle provision within A71 corridor

  - Canal has poor surface in places

  - Cycle super highway option has been suggested

A71/Union Canal Corridor – route overview

A71 corridor

A71 outside Kirknewton looking westwards – busy high speed road

A71 outside Kirknewton looking eastwards - busy high speed road

Union Canal

Union Canal near Ratho – surface is rough in places

Canal an important submarine corridor…

A71/Union Canal Corridor – potential solutions

- **<u>A71 corridor</u>**
- Cycle super highway has been suggested – no details regarding how this would be implemented
- Existing NCN Route 75 connects with Water of Leith path and onwards to Edinburgh – route too circuitous and hilly to be a realistic commuter route
- **<u>Canal corridor</u>**
- Tarmacking of rough path sections of canal would make this a quicker, more commuter friendly option from Ratho and Broxburn

A71/Union Canal Corridor– Summary

- A71 corridor
- Very little cycle provision within A71 corridor
- Cycle super highway suggested as an idea
- Authorities – West Lothian Council, City of Edinburgh Council
- Current plans – **None**
- Union Canal
- Key commuting and leisure route
- Authorities – City of Edinburgh Council
- Current plans – **None**
- Relevant SEStran corridors
    - 5. Edinburgh South West
    - 14. West Lothian South
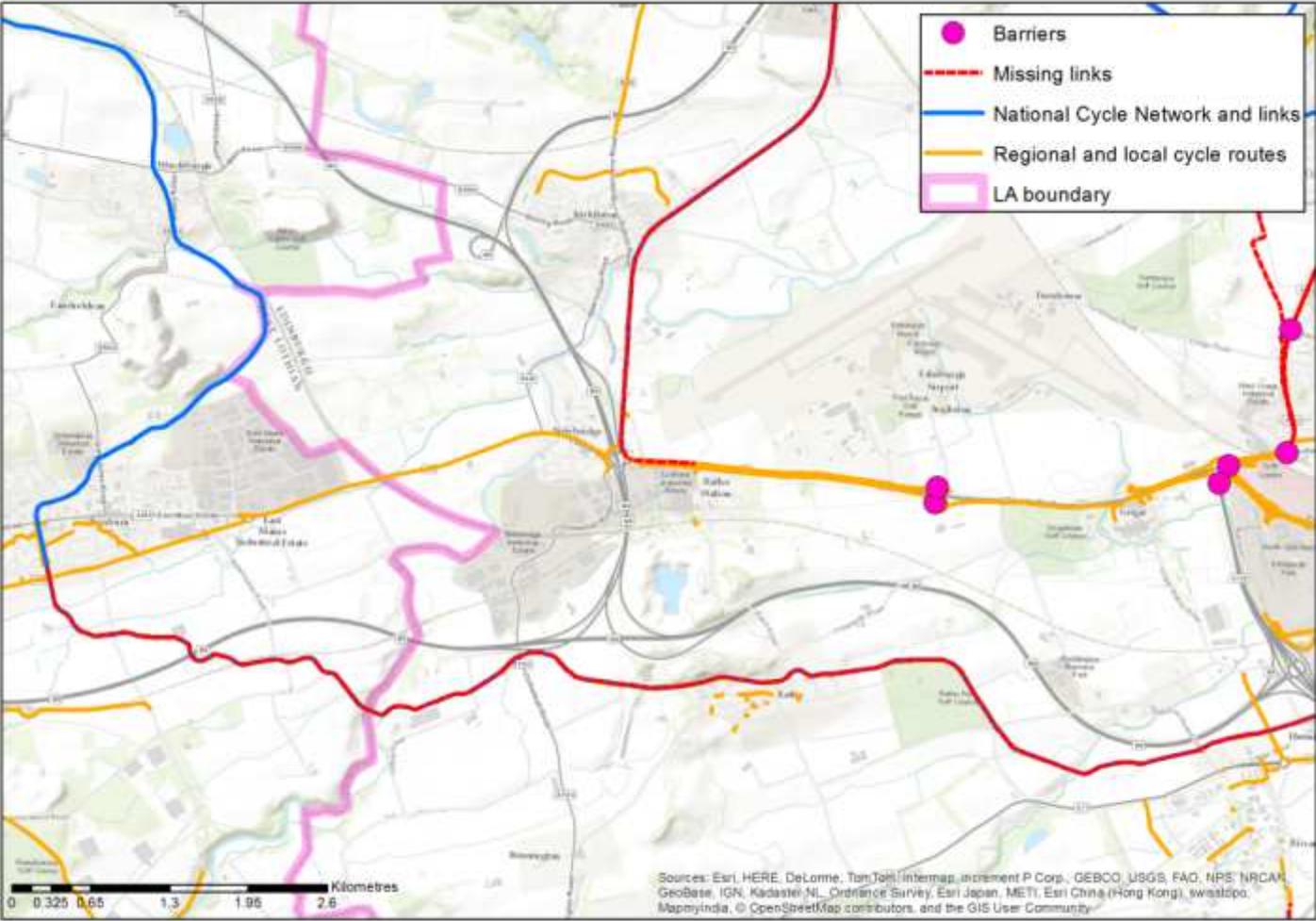
A89/A8 Corridor

- Context
  - A89 corridor is one of the key regional routes within central West Lothian, linking several large settlements and employment centres
  - A8 corridor provides onward connectivity to Edinburgh from the A89 corridor via Newbridge, Airport and Gogar, with Edinburgh Park and South Gyle being key employment centres within reach
  - An off-road path exists from Livingston to Gogar roundabout, with potential for this to become a cycle super highway for the entirety of the route

- Key issues
  - A89/A8 corridor has varying degrees of route quality, with path width and surface substandard in places
  - Completion and upgrade of A89 path westwards would provide seamless route
  - Uncontrolled crossings at airport junction and Gogar roundabout
  - No cycling provision for accessing airport

A89/A8 Corridor – route overview

A89 corridor

A89 shared use path – Broxburn

A89 shared use path – west of Newbridge

A8 corridor

A8 shared use path – Newbridge flyover

A8 shared use path – Newbridge flyover

A8 corridor

A8 shared use path – narrow with obstacles east of Newbridge

A8 shared use path – rough surface west of Ratho Station… it's fine on a mountain bike though

A8 corridor

A8 shared use path – no cycle provision along Eastfield Road to airport

A8 shared use path – no cycle provision along Eastfield Road to airport

A8 corridor

A8 shared use path – uncontrolled crossing at busy airport junction south

A8 shared use path – path around airport junction south

A8 corridor

A8 shared use path – high quality infrastructure at Gogarburn… or is it Copenhagen?

A8 shared use path – bridge at Gogarburn

A8 corridor

A8 shared use path – uncontrolled crossing of A8 at Gogar roundabout to access South Gyle – make a run for it…

A8 shared use path – uncontrolled crossing of A8 at Gogar roundabout to access South Gyle – slightly easier to cross when gridlocked

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A89/A8 Corridor – potential solutions

- **A8**
- CEC has allocated funds to address the majority of issues discussed
  - Uncontrolled crossing at airport south junction will remain a challenge for cyclists
- Gogar roundabout a key barrier
  - pedestrian/cycle crossing could be incorporated into junction redesign
  - Signal timings could be reviewed to incorporate pedestrian crossing time as short term measure
- Cycling provision along Eastfield Road to airport
  - On-road with lanes and signage
  - Shared use path
- **A89 corridor**
- Extension/completion of high quality route westwards from Broxburn and Livingston to link in with NCN 75

A89/A8 Corridor– Summary

- <u>A8 path improvements</u>
- Variety of upgrades required to existing path
- Authorities – City of Edinburgh Council
- Current plans – **CEC has a package of measures to address these**
- <u>Gogar roundabout</u>
- Significant barrier to accessing South Gyle and Edinburgh Park
- Authorities – City of Edinburgh Council
- Current plans – **None**
- <u>Cycling provision along Eastfield Road to airport</u>
- No provision currently
- Authorities – City of Edinburgh Council
- Current plans – **None**
- <u>Extension of A89 path to NCN 75</u>
- Would provide high quality route across West Lothian
- Authorities – West Lothian Council
- Current plans – **None**
- Relevant SEStran corridors
  - 6. Edinburgh West
  - 15. West Lothian M8

Forth bridgehead south/A90

- ## Context
  - Forth Road Bridge provides a key cross-boundary link from Fife to Edinburgh, with onward connectivity provided via NCN 1

- ## Key issues
  - Lack of connection from NCN 1 corridor to west Edinburgh
  - Better connection required between Fife and West Lothian
    - The Dalmeny to Newbridge railway path provides a good link between the Forth Bridge and A89/A8
    - path width and surface are not conducive to commuter cycling

Forth bridgehead south/A90 – route overview

Maybury Road - south

Maybury Road dual carriageway – not particularly cycling friendly

Maybury Drive roundabout – not particularly cycling friendly

Maybury Road - north

Maybury Road single carriageway – busy with pedestrian pavements

Maybury Road single carriageway – busy with pedestrian pavements

Cammo Walk - existing cycle route

Entrance to Cammo Walk – no signage until entrance

Bi-directional cycling with one-way traffic

Peter Brett Associates LLP

Cammo Walk - connecting to A90

Cammo Road suitable for cycling, link onto A90

A90 – a challenge…

A90 to NCN1

A90 looking eastwards from River Almond – scope for cycle path

Connection to NCN1 via River Almond bridge – path narrow

Forth bridgehead south/A90 – potential solutions

- **NCN1 – Maybury Junction**
- Option 1
  - Shared use pavement between Maybury Junction and Cammo Walk
  - Upgraded signage along Cammo Walk, Cammo Road
  - Shared use pavement along northern side of A90 between River Almond Bridge and pedestrian crossing 50m west of Cammo Road – some sections a challenge
- Option 2
  - Shared use path/pavement along entirety of Maybury Road
  - Connection to NCN1 via Whitehouse Road
- **Fife to West Lothian connection**
  - Upgrade existing Dalmeny to Newbridge railway path
  - Requires widening and resurfacing along majority of route

Forth bridgehead south/A90 – Summary

- **<u>NCN1 – Maybury Junction</u>**
- Missing link between NCN1 and Maybury junction
- Authorities – City of Edinburgh Council
- Current plans – **None**
- **<u>Fife to West Lothian connection – railway path upgrade</u>**
- Lack of fast, direct connection between Fife and West Lothian
- Authorities – City of Edinburgh Council
- Current plans – **None**
- Relevant SEStran corridors
  - 6. Edinburgh West
  - 7. Edinburgh North West
  - 15. West Lothian M8
  - 16. Edinburgh – Linlithgow – Falkirk
  - 18. Queensferry

Additional missing links and barriers

- ## Forth bridgehead North/M90
  - Uncontrolled crossing at Ferrytoll if coming from the west
  - Route from Dunfermline/Rosyth via NCN 1 slightly circuitous
  - More direct route via Castlelandhill Road could be an option

- ## A907 corridor
  - Cycle route along A907 corridor links key settlements in Clackmannanshire with employment centres in Stirling, including Stirling University
  - Key barrier at Manor Powis (Stirling) – uncontrolled crossings at roundabout
  - Resolving this will provide a complete, high quality route

Additional missing links and barriers (cont)

- ## A9 corridor Stirling to Falkirk
  - Lack of direct, fast cycle routes between Falkirk and Stirling; NCN 76 is a meandering path
  - Potential to utilise A9 corridor for a cycle route to provide direct link

- ## Links between West Lothian and Falkirk
  - Union canal route links Linlithgow to Polmont and Falkirk – surface upgrade would make this a faster link
  - Bo'ness to Linlithgow
    - Opportunity for cycle and ride from Linlithgow station
    - Route via NCN 76 and Bonnytown Farm exists – better promotion could help, although this is a hilly journey

Additional missing links and barriers (cont)

- ## A199 Musselbugh, Wallyford and Tranent
  - A199 has cycle lane provision along most of the route between Tranent and Musselburgh
  - Filling in the gaps would provide a fast route linking Tranent and Wallyford to Musselburgh, with onward connections to Edinburgh
    - Rail connections from Wallyford station
  - This is a key development corridor
  - New Street in Musselburgh is a 20mph route which could be used as a more direct alternative to the John Muir Way

- ## Brunstane Bridge
  - Existing bridge requires carrying bicycle up and down steps
  - Provision of ramps would make this an easier route

Additional missing links and barriers (cont)

- <u>Borders Railway</u>
  - Completion of route represents step change in cross border connectivity
  - Cycling provision to new stations deemed to be acceptable
  - Important to ensure key employment centres are well connected to rail stations
    - Scottish Borders College
    - Scottish Borders Council
    - Borders General Hospital

- <u>Scottish Borders leisure network</u>
  - Extensive and expanding leisure cycling network has utility for commuting, although limited cross-boundary potential
  - Peebles to Penicuik railway path a key cross-boundary leisure proposal
    - it may encourage more enthusiastic commuter cyclists to travel to destinations in Midlothian such as Bush Estate

Network wide considerations

- <u>Cycle lanes</u>
  - Coloured surface preferable to unsurfaced lanes
    - Higher maintenance costs but more reassuring for cyclists
    - Complete continuity and consistency in cycle lane provision – better cross - boundary coordination

- <u>Lighting</u>
  - A number of high quality cycle routes are unlit, including:
    - Water of Leith
    - Innocent Railway
    - Union Canal
    - Loanhead path
  - Providing lighting would encourage more users during the winter months, although the seasonality of cycling would likely limit the impact of this to an extent

Network wide considerations (cont)

- ## 20mph speed limits
  - Currently being rolled out in Edinburgh
    - In theory, reduced speed limits will make a large number of street more cycling friendly
    - Potential for these to be implemented in a number of towns in future

- ## Bus lanes… traffic welcome too
  - CEC is introducing a trial scheme to allow general traffic into the majority of bus lanes outwith peak hours
    - May impact a small number of commuters