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Spatial Strategy - Technical Note

SESplan
The Strategic Development Planning Authority for Edinburgh and South East Scotland

Contents

1 Background and Context

1.1 This is one of a series of Technical Notes, prepared to provide background evidence in support of the second SESplan Main Issues Report (MIR2). This Technical Note sets out the methodology for identifying the options for the spatial strategy across Edinburgh and South East Scotland over the period to 2037. It is closely linked to the Strategic Environmental Assessment (SEA) and contains the following:

- **The SDP and Climate Change -** Consideration of how climate change adaptation and mitigation can be implemented at the strategic planning level;
- **The SDP and Placemaking** - Consideration of how principles for placemaking can be implemented at the strategic planning level;
- **The Green Belt** - Consideration of Green Belt designations across Edinburgh and South East Scotland.
- **The SESplan Audit** - An Audit of Edinburgh and South East Scotland and its key characteristics, opportunities and constraints; and
- **Considerations for MIR2** - The considerations for MIR2.

2 The SDP and Climate Change

Legislative Context

2.1 The European Union (EU) has committed to *"transforming Europe into a highly energy-efficient, low carbon economy"* endorsing the targets of reducing Europe's greenhouse gas emissions by 80 - 95% compared to 1990 levels by 2050. The EU has committed to cutting its emissions to 20% below 1990 levels by 2020. The European Climate Change Programme (ECCP) has developed a package of policy measures to reduce greenhouse gas emissions. Further to this, each of the EU Member States has put in place their own actions which build on ECCP measures to help tackle climate change. However, the EU Council of Environment Ministers agrees more steps need to be taken at community level to develop appropriate actions and policies.

2.2 The aim of the Scottish Government is to achieve at least an 80% reduction in greenhouse gas emissions by 2050. National Planning Framework 3 (NPF3) states that the challenge of climate change means the action on the environment must *"evolve and strengthen our long term resilience"*. It requires that Scotland's resources are sustainably managed to deliver the climate change commitments which are set out in the Climate Change Scotland Act (2009). This requires a minimum 42% cut in emissions by 2020. Section 44 requires all public bodies to act:

- in the way best calculated to contribute to the delivery of the emissions targets in the Act;
- in the way best calculated to help deliver the Government's climate change adaptation programme; and
- in a way that it considers is most sustainable.

2.3 Scottish Planning Policy (SPP) sets out that there is a need to help mitigate the causes of climate change and the need to adapt to its short and long term impacts should be taken into account in all decisions throughout the planning system. Development plans should promote a pattern of development which reduces the need to travel and encourages active travel and travel by public transport, taking into account the likely availability of public transport in rural areas. SPP's low carbon economy targets are:

- 30% of overall energy demand from renewable sources by 2020;
- 11% of heat demand from renewable sources by 2020; and
- the equivalent of 100% of electricity demand from renewable sources by 2020;

The SDP and Climate Change 2

2.4 The Regional Transport Strategy has four strategic outcomes, one of which is to reduce emissions, to tackle the issue of climate change, air quality and health improvement while protecting the environment. One of its focuses is on improving sustainable connectivity for business and freight; encouraging the transfer of goods from roads to more sustainable modes. Key priorities are to create sustainable connections to strategic business locations.

2.5 The other Key Agencies also have strategies or action plans aligned with the Scottish Government's objectives. Scottish Environmental Protection Agency (SEPA), for example, have a climate change vision *"SEPA will do everything in its power to help Scotland address climate change to ensure Scotland's environment, economy and communities flourish"*. SEPA have four strategic themes to help tackle climate change:

- Acting as a key climate change leader and adviser;
- Helping Scotland to adapt;
- Working with Scottish business; and
- Being an exemplar and educator.

2.6 SEPA plan to use these themes to build action on climate change into annual business plans and provide resources to match needs. Scottish Natural Heritage (SNH) has an Action Plan which suggests the role that nature could play in tackling climate change and how the environment can cope with that change. Transport Scotland have aims set by Scottish Government which require *"almost complete decarbonisation of road transport by 2050 with significant progress by 2030 through wholesale adoption of electric cars and vans, and significant decarbonisation of rail by 2050"*. The Transport Scotland strategy is to focus on increasing carbon-friendly travel options, specifically cycling and walking.

Strategic Development Plan 1

2.7 The aims of Strategic Development Plan 1 (SDP1) include:

- to integrate land use and sustainable modes of transport, reduce the need to travel and cut carbon emissions by steering new development to the most sustainable locations; and
- to contribute to the response to climate change through mitigation and adaptation and promote high quality design / development.

2.8 Policy 10 (Sustainable Energy Technologies) seeks to promote sustainable energy sources by supporting future development and infrastructure and directing Local Development Plans (LDPs) to set a framework that will contribute towards achieving national targets for electricity and heat by encouraging renewable energy proposals. Economic, social, environmental and transport considerations must be taken into account when developing heat networks.

2 The SDP and Climate Change

Single Outcome Agreements and Other Strategies

2.9 The Single Outcomes Agreements (SOAs) for the City of Edinburgh, Fife, Midlothian, West Lothian, East Lothian and Scottish Borders are based on National Outcomes. East Lothian's SOAs state that they aim to be less dependent on finite resources by moving to a more localised, low carbon economy and reducing its ecological and carbon footprints by 80% by 2050. East Lothian has a high quality natural environment that enhances the wellbeing of the local community. Fife's SOA aims to lower CO2 emissions from energy use, better water, air and land quality, more sustainable transport and less waste. One of Midlothian's aims is to improve and conserve it's natural environment. Scottish Borders aim to improve protection, enhancement and access to the natural and built environment to encourage the reduction of waste from households, communities and employers and the increase in the use of renewable energy.

2.10 Edinburgh City Council's 2020 Vision for a sustainable Scotland is that Edinburgh *"will be a low carbon, resource efficient city, delivering a resilient local economy and vibrant flourishing communities in a rich natural setting."* The 2020 Vision states that climate change needs to be addressed in two key areas, reducing carbon emissions and adapting to the impacts of climate change. The City of Edinburgh's target is to reduce carbon emissions by 40% across the city and improve energy consumption across all sectors by at least 12%. Other aims include prioritising low carbon transport and partnership working.

Considerations for MIR2

2.11 Addressing climate change is challenging given the strategic nature of SESplan, however MIR2 should look to provide a policy framework which, based on the principles set out by Scottish Government provides an ambitious yet achievable target for the SESplan area. The spatial strategy for SDP2 should look to promote a pattern of development that encourages active travel and travel by public transport and other sustainable modes. This will help to reduce additional emissions, to tackle the issue of climate change, air quality and health improvement while protecting the environment.

3 The SDP and Placemaking

What is Placemaking?

3.1 Placemaking refers to the creation of places. This can be through the making of new places through development or through the reshaping of an existing area. Good placemaking is about identity, functionality and sustainability which is either brought about through well-designed built and natural environments or enhanced through the preservation or improvement of the existing.

3.2 Placemaking is not something which can be considered in isolation and is made up of many contributing factors including accessibility, services and community. Achievement of successful placemaking requires a planned and strategic approach and it is necessary to consider it at all levels of planning.

3.3 The SESplan region is fortunate to have a wide range of distinctive and attractive places and these can form the basis for creating successful places in the future through the SDP.

Legislative Context

3.4 Placemaking is a principal overarching policy within SPP which states that *"planning's purpose is to create better places"*. SPP puts the delivery of successful high-quality places at the centre of all types of planning work and makes it clear that successful placemaking is considered a key factor contributing to the achievement of sustainable economic growth.

3.5 SPP determines that a design-led approach should be applied at all levels of planning. In particular coordinating housing and business development with infrastructure, using land within or adjacent to existing settlements and locating development where it would benefit local people and the economy. Specifically it is stated that development plans should be based on spatial strategies that take into account the scale and need of development.

3.6 To aid in the development of successful placemaking, SPP adopts six qualities of successful places:

- Distinctive;
- Safe and pleasant;
- Welcoming;
- Adaptable,
- Resource efficient; and
- Easy to move around and beyond.

3 The SDP and Placemaking

3.7 These qualities though specific can be applied at a strategic level, for example, by ensuring that growth is directed in a sustainable manner taking into account existing or planned infrastructure and safeguarding, enhancing and creating key natural features such as the green network.

3.8 A review of SDPs was undertaken for the Scottish Government and published in 2013. This review found that an integrated approach to growth which is centred on building communities and places by aligning elements such as transport and infrastructure was to be encouraged with SDPs to provide a framework for masterplans at local level.

Single Outcome Agreements and Place

3.9 Emphasis is placed in SPP on how planning can contribute to the delivery of SOAs through a shared focus on 'place'. Within the SESplan region there are six SOAs produced by each of the member authorities Community Planning Partnerships. All of the SOAs consider place in some form within their strategies. Collaboration and partnership working are also emphasised as a fundamental element of placemaking.

3.10 The development of MIR2 has been informed by working with a wide range of partners which include member authorities, economic and housing forums and key agencies. The MIR consultation will continue to contribute to this partnership approach and will seek input from a range of sources including Community Planning.

Strategic Development Plan 1

3.11 A significant factor in the spatial strategy of SDP1 was to manage change to Edinburgh as a place as well as the region as a whole. The largest proportion of demand for growth was, and still is, generated in the Edinburgh area. However in forming SDP1 it was considered that if all of Edinburgh's growth was to be accommodated where it originated (i.e. in Edinburgh) this would have led to considerable changes in the size of the city itself with loss of Green Belt as well as impacts on infrastructure. The growth was therefore distributed across thirteen Strategic Development Areas (SDAs) throughout the SESplan region. The SDAs set priorities for development and allowed for planned and coordinated development in sustainable locations with carefully managed smaller scale change to the places involved.

3.12 Development principles were set to emphasise the need for protection, conservation and enhancement of designated areas, landscapes, habitats, sites and buildings as well as the need to mitigate and adapt to climate change and have high quality design. SDP1 also integrated placemaking with subject policies such as the Green Network, recognising the contribution natural environment and setting can play in placemaking. These important factors in maintaining and creating places would therefore feed down to a local development plan level. This approach also reflected the need to consider placemaking at all levels of planning.

Delivery

3.13 When well-planned and considered, the changes associated with development will have positive impacts for the quality of place and the environment. Whilst specific development sites are allocated through LDPs, principles for the identification and the development of sites should be signposted in MIR2 and then set out in the eventual SDP2.

3.14 Requiring the use of development frameworks, masterplans and design briefs is identified as a key way forward to ensure successful placemaking through SDP2. There is further scope to develop a strategic approach to placemaking through SESplan, the member authorities and other partners working together.

Considerations for MIR2

3.15 Consideration of an existing 'place' within a spatial strategy is fundamental. In the SESplan region there are many unique and attractive places, not least Edinburgh itself as the capital city but also the surrounding natural landscapes and historic environment and individual towns, villages and rural areas. A key factor in the success and demand for growth in the region is because of the existing attractiveness of the places within the region. It is therefore essential that change is managed in a manner which preserves or enhances the qualities which make up its uniqueness and attractiveness.

3.16 As with SDP1, the spatial strategy for SDP2 will have significant implications for many of the existing places within the SESplan region. To accommodate the scale of growth, particularly housing, requires choices to be made about how this is distributed. These choices could have substantial impacts on the character of existing places and environment. It will be the responsibility of the SDP and LDPs to manage these impacts.

4 The Green Belt

Background

4.1 The SESplan area contains two designated green belts; the Edinburgh Green Belt and the Dunfermline Green Belt. By far the largest is the green belt surrounding Edinburgh which encompasses land within the City of Edinburgh, Midlothian and East Lothian Councils.

4.2 In addition to this, there are 'Countryside Belts' in West Lothian and 'Countryside Around Town' designations in the Scottish Borders which perform similar functions but without the same formal status.

National Policy

4.3 SPP states that the purpose of green belts is to direct growth to the most appropriate locations as well as protecting and enhancing the character of towns and cities and giving access to open space. It states that green belts should be used to allow growth in sustainable locations and not be used to prevent growth. It gives SDPs the role of establishing the need for a green belt and to set the policy for future development within it.

4.4 In the development of the spatial strategy, it specifically directs planning authorities to identify the most sustainable locations for longer-term development and, where necessary, review the boundaries of any green belt. With regard to the form of a Green belt it states that they may encircle a settlement or take the shape of a buffer, corridor, strip or wedge.

Green Belt Review

4.5 Edinburgh's Green Belt has been designated for a significant period of time in excess of 60 years with reviews taking place in 1983, 1988, 1999 and the most recent being 2008. A review of Green Belt policy in Scotland took place in 2004 by the Scottish Government and SPP has been reviewed a number of times with the latest SPP in 2014 stating the purpose of green belts as set out above.

4.6 The original designation of the Edinburgh Green Belt was as a continuous belt, though there have been changes to the form since its inception, including additions; its continuous form has remained relatively constant.

4.7 The most recent review, 2008, was the Edinburgh Green Belt Study undertaken by Land Use Consultants. The study was a landscape based assessment with the purpose of identifying parts of the green belt which had the landscape potential for residential development. The study acknowledged that there were factors beyond landscape capacity which need to be considered when allocating land.

4.8 The study classified the Edinburgh Green Belt into 70 Landscape Character Areas and assessed if they still fulfilled the function of green belts as defined in national policy (at this time SPP 21, since superseded by SPP 2014). Concluding that the majority fulfilled these functions, though certain Landscape Character Areas had some capacity for residential

development and some areas had capacity for other development such as at Edinburgh Airport. This study was used to inform SDP1 and the general location of some SDAs. It was in turn used to inform emerging Local Plans or LDPs.

Local Policy

4.9 City of Edinburgh, East Lothian, Fife and Midlothian all have green belt policies within their current adopted Local Plans and in proposed LDPs where applicable. Though there are differences, these restate the green belt objectives of SPP and add locally specific requirements, for example, development management policies on the release of sites within the green belt. Similarly, West Lothian and the Scottish Borders have countryside protection policies with similar principles.

Changes within the Edinburgh Green Belt

4.10 In the City of Edinburgh and excluding developments on planned releases from the green belt, it is estimated that less than 100 houses have been built on land previously designated as green belt in the last five years (2009 - 2014). In reality a very small proportion of the houses built overall which is close to 8,000.

4.11 In Edinburgh's Second Proposed LDP there are fourteen new housing sites proposed on green belt land. Within the LDP the biggest single release from the green belt is associated with the designation of Special Economic Areas in particular the grouping of Edinburgh Airport, Royal Highland Centre and the International Business Gateway. The SDAs designated in SDP1 have directed the location of many of these green belt releases.

4.12 Midlothian and East Lothian are at different stages of plan preparation and the number of sites proposed on current green belt land is not known. Previous plans for all three authorities have required land to be allocated for development which sits within the green belt as a result of the lack of brownfield land available to meet the identified need.

4.13 The pressure for development of sites, specifically for residential purposes, within the green belt has been evident in recent appeals against City of Edinburgh and East Lothian Councils. Other factors such as five year land supply, as well as green belt are factors within this.

Dunfermline Green Belt

4.14 The Dunfermline Green Belt has only been identified relatively recently through the Fife Structure Plan 2006 – 2026, now superseded by SDP1. It has been established as part of the long term settlement strategy with its purpose to protect the setting and identity of Dunfermline, and avoid coalescence with Rosyth and Crossford as well as providing opportunities for access to open space and the countryside.

4.15 The Dunfermline Green Belt is recognised by SESplan as continuing to play an important role and fulfil the functions of green belt as defined by SPP. Currently it is not considered that this green belt requires review or significant changes as part of the SDP spatial strategy.

4 The Green Belt

Strategic Development Plan 1

4.16 The spatial strategy of SDP1 directed growth through the designation of SDAs. The aim of the SDAs was to ensure development was located in areas which had optimised connectivity and access to services and jobs and therefore a sustainable pattern of growth.

4.17 In SDP1 specific green belt policy was also included which required LDPs to:

a. Maintain the identity and character of Edinburgh and Dunfermline and their neighbouring towns, and prevent coalescence, unless otherwise justified by the LDP settlement strategy;

b. Direct planned growth to the most appropriate locations and support regeneration;

c. Maintain the landscape setting of these settlements; and

d. Provide opportunities for access to open space and the countryside.

4.18 LDPs were directed to define green belt boundaries based on these criteria ensuring that strategic growth requirements could be accommodated.

Considerations for MIR2

4.19 The importance that both the Edinburgh and Dunfermline green belts have on the environment and attractiveness of the region is unmistakable. It is the role of SDP2 to ensure that their function is maintained but also balances the needs for new housing and a sustainable functioning economy.

4.20 MIR2 has the job of setting out to what extent a new strategy for the city region will impact on the Edinburgh Green Belt. A key question for the MIR is how best to deal with this impact and also to look at how areas of growth can mitigate for loss of green belt for example through enhancement of strategic green networks.

5 The SESplan Audit

5.1 To inform MIR2 and the identification of options for the spatial strategy across Edinburgh and South East Scotland over the next twenty years, an audit of planning factors and material considerations has been undertaken. This audit is aimed at identifying the key opportunities and constraints for strategic development across the SESplan area.

5.2 The Housing Need and Demand Assessment (HNDA) and Housing Market Area Assessment (HMAA) identified that the influence of the City of Edinburgh in terms of house sales extended well beyond its administrative boundaries. The functional Housing Market Area (HMA) was therefore defined as the SESplan area in its entirety. Within this overall functional HMA, fifteen sub HMAs as indicated on Figure 5.1 were identified. More detail is set out in the accompanying Housing Land Technical Note. For this audit, the SESplan area is broken down using the sub HMAs. However, due to reporting methods, some statistics in the audit are presented at Local Authority level.

5 The SESplan Audit

Figure 5.1 Sub-Housing Market Areas

The SESplan Audit 5

5.3 A table is included for each sub HMA with information collated on planning related constraints and opportunities. These constraints and opportunities are informed from SPP requirements and the Interim Strategic Environmental Assessment (SEA) of the MIR. Table 5.1 sets out a description and source of the data that has been used to inform the audit.

5.4 Green Belt and related designations are shown on Figure 5.2. Please note that regional scale maps of the following designations and considerations are available in Appendix B of the Interim Environmental Report:

- European Biodiversity Designations;
- National and Local Biodiversity Designations;
- Ancient & Semi Natural Woodland;
- Built & Cultural Heritage;
- Prime Quality Agricultural Land & Peat Soils;
- National Scenic Areas & Wild Land; and
- Local Landscape Designations.

5 The SESplan Audit

Figure 5.2 Green Belt & Related Desigations

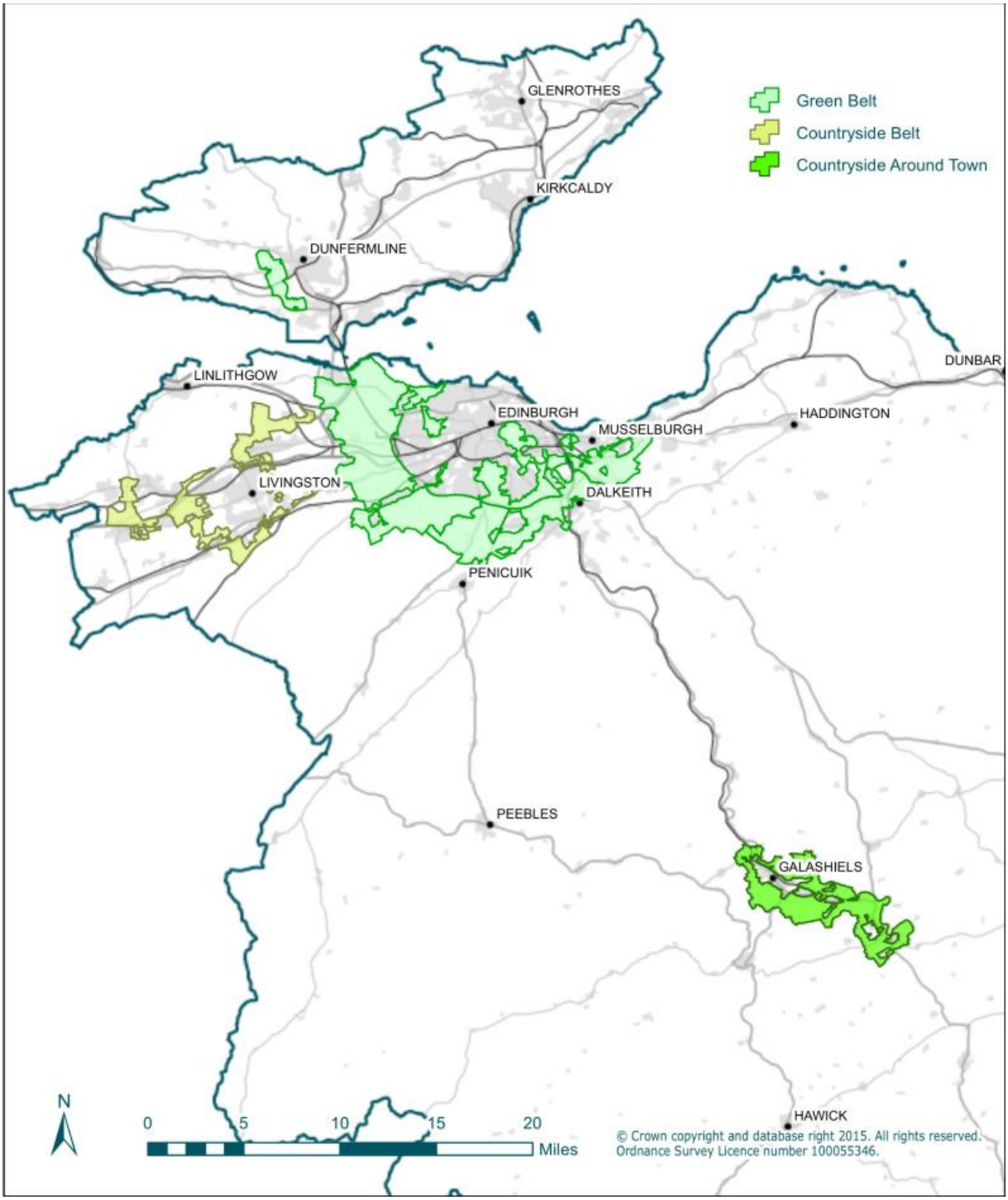


Table 5.1 Sub Housing Market Area Audit - Template

Brief geographic description of the sub HMA.	
SDP1 SPATIAL STRATEGY ASSESSMENT	
Findings from the SDP1 Spatial Strategy Assessment Technical Note. This set out which areas of the SESplan region would be preferred for further development to inform the preparation of SDP1.	
MONITORING SDP1	
Brief description of how the requirements of SDP1 are being developed through emerging LDPs. More detail is available in the Monitoring Statement.	
PLANNING DESIGNATIONS AND FLOOD RISK(1)	
Landscape Designations and Green Belt	Details of any national or regional landscape designations. If the sub HMA includes part of the Edinburgh Green Belt then details from the from the 2008 Edinburgh Green Belt Study - Stage 2 will be summarised. Information on the Edinburgh and Dunfermline green belts is set out in 4 'The Green Belt'. Details on West Lothian Countryside Belts and Scottish Borders Countryside Around Towns is available in the respective LDPs.
Prime Quality Agricultural Land	Details of Prime Quality Agricultural Land coverage(2). SPP states that prime quality agricultural land is an environmental asset. It allows for local sustainable food production. However, it can be developed if deemed essential as a component of a settlement strategy.
Historic Environment Designations	Details of Historic Battlefields and Gardens and Designed Landscapes. Details of listed buildings and scheduled ancient monuments will not be referred to as they are more local in scale. Analysis of these designations is more appropriate for an LDP site selection process.
Flood Risk	Summary of flood risk information from the Strategic Flood Risk Assessment (SFRA) (See Appendix 1 to this Spatial Strategy Technical Note for further details).
PLACE TO DO BUSINESS	

1 Maps of all designations listed here are available in Appendix A of the SEA (Environmental Baseline Data).

2 Prime agricultural land is defined as Classes 1, 2 and 3.1 on the Macaulay Institute "Land Capability for Agriculture Maps"

5 The SESplan Audit

Detail of strategic business clusters identified in the MIR that will provide employment opportunities. Employment land supply data will be set out at the local authority level. More details is available in the accompanying Economy Technical Note.

PLACE FOR COMMUNITIES	
Housing	Information taken from the 2014 Housing Market Area Assessment on the relationship between the sub HMA and the Edinburgh sub HMA. Housing sales data is taking from the period 2006 to 2011 as set out in the Housing Market Area Assessment. Comparison of housing completion rates against the Housing Land Supplementary Guidance (HLSG) Housing land Requirements at a Local Authority Level. Detailed information on housing need and demand estimates and housing supply is set out at the local authority level in the accompanying Housing Land Technical Note.
Regeneration Potential	New development can bring regeneration benefits to existing communities through new investment and positive impacts on health, education and employment. Benefits are not brought about by just replacement of housing and building stock in deprived areas but also through attracting new development to these areas. Data is set out on the areas within the 15% most deprived output zones in Scotland from the Scottish Index of Multiple Deprivation 2012. Information is also set out on levels of vacant and derelict land (VDL).
Centres	Sets out detail of any SESplan regional centres and what the main town centres are. The Scottish Government's response to the Town Centre Action Plan promotes residential use in town centres.
Green Network	Sets out the emerging strategic and local green network priorities. More details on the former are available in the accompanying Green Network Technical Note.
Education	Information on current and future estimated school capacity and the number of schools to be built to accommodate current planned development and the associated cost. This is currently only available for Edinburgh, East Lothian and the Scottish Borders.
BETTER CONNECTED PLACE	

Transport	Data of travel to work patterns from 2011 census. This is only available at a local authority level at time of writing. Contextual information of the sub HMAs strategic road and rail network. Includes information taken from SESplan SDP1 Transport Appraisal , Network Rail Rail Utilisation Strategy for Scotland and from the Regional Transport Strategy. 2014 Accessibility Analysis summary outputs setting out the most accessible settlements in the region to jobs by public transport. The accessibility of settlements or areas of settlements that were assessed. Ranking set out is overall ranking in the SESplan region. More detail is in the full Accessibility Analysis report set out in Appendix 2.
Digital Connectivity	Information on broadband coverage in the sub HMA. Informed by the Step Change 2015 roll out programme. More detail is available at Digital Scotland.
Water & Sewage	Information on water and waste water treatment work capacity data (provided by Scottish Water).
SUMMARY	
Sets out a summary of the information and an indication as to whether the area would be suitable for meeting housing demand arising in Edinburgh (if required). This summary will be refined following an assessment of the responses to the MIR and through work on the Proposed Plan.	

5 The SESplan Audit

Table 5.2 - CEC01 City of Edinburgh

This sub HMA follows the same boundary as the Council area with the urban City area in the east bounded to the south by the A720. The west of the area is largely rural and mostly identified as part of the Edinburgh Green Belt. The area also contains the settlements of South Queensferry and Kirkliston in the North West and Ratho, Currie and Balerno in the South West. The City of Edinburgh Council Area (CEC) had a population of 487,500 in 2013[(3)], a 9.5% increase over 10 years.
SDP1 SPATIAL STRATEGY ASSESSMENT
Edinburgh was split into nine Strategic Assessment Areas (SAA) under the SDP1 analysis. From this it was recommended that West Edinburgh and South East Edinburgh were the preferred locations for further development alongside major existing committed development in Central Edinburgh and Edinburgh Waterfront. These four areas formed separate SDAs. This assessment was revised during the preparation of the Housing Land Supplementary Guidance (HLSG). The accompanying Technical Note identified that South West Edinburgh could also accommodate further development but it was not identified as an SDA.
MONITORING SDP1
The emerging Edinburgh LDP allocates the majority of new housing development in the South East and West Edinburgh SDAs. It also allocates some additional development outside the SDAs in South West Edinburgh and at South Queensferry.
PLANNING DESIGNATIONS AND FLOOD RISK

Landscape Designations and Green Belt	There are 22 candidate Special Landscape Areas (SLAs) in the sub HMA, with six included in the West (Lower Almond, Cammo and Gogar) and South East Edinburgh SDAs (Craigmillar Castle, Edmonstone and the Drum). The Edinburgh Green Belt has been part of the development strategy for the wider Edinburgh area for over 50 years. It protects and enhances the quality, character, landscape setting and identity of the city, its neighbouring towns and the settlements within. Stage 2 of the Green Belt Study found that 17 of the green belt landscape character areas were of lesser significance (6, 8, 9, 11, 14, 17, 21, 26, 27, 30, 31, 43, 44, 45, 72 and 85(pt)). There was some potential for strategic development on green belt land but in most areas it would have a significant impact. Some land is being removed from the Green belt in these areas in West Edinburgh and South East Edinburgh to deliver new housing allocations in the emerging LDP.

3 mid year population estimates

Prime Quality Agricultural Land	The majority of undeveloped and non-Pentlands land in west Edinburgh is PQAL. Undeveloped fields between the the A720 and urban south Edinburgh are mostly identified as PQAL.
Historic Environment Designations	Edinburgh contains the Old & New Town UNESCO World Heritage Site (WHS). The Forth Bridges area is also a candidate WHS. There are 20 Gardens and Design Landscapes but no national historic battlefields.
Flood Risk	There is a risk of coastal flooding around the Firth of Forth, the mouth of the Water of Leith, Granton Harbour and the River Almond. There is risk from river flooding from the Water of Leith; however the risk from flooding in west Edinburgh from the River Almond and Gogar Burn is more likely to be of relevance to the spatial strategy. Large areas around South Gyle, Kirkliston and Edinburgh airport are at risk. There are some areas around the Braid Burn under threat of a 1:200 year flood event. There are a high number of areas at risk from surface water flooding both in rural west Edinburgh and the city's urban area.
PLACE TO DO BUSINESS	
Employment	Edinburgh contains the largest number of significant business clusters, growth sectors and Enterprise Areas in the SESplan region. Two clusters are related to financial and business services in the city centre and the west of Edinburgh in which significant growth is anticipated. To the south east there is a cluster of life sciences based businesses including the Bioquarter Enterprise Area which crosses over into the MC01 and MC02 area. Leith waterfront area / Port of Leith forms part of an energy cluster and Enterprise Area along with Cockenzie in ELC01. Notable other major developments include the St James Quarter in the city centre. In 2013/15 Edinburgh had an employment land supply of 228.5 hectares, which is the highest of all SESplan authorities.
PLACE FOR COMMUNITIES	
Housing	89.7% of dwelling sales are from purchasers already living in CEC, showing a high level of self containment. Most sales within Edinburgh are registered to buyers from outside the city originating from those submarket areas closest to Edinburgh – i.e. ELC01, WLC01, MLC01 and FC01. The HLSG had an annualised housing requirement of 1,967 for the period 2009 to 2024. SDP1 and the HLSG did not direct Edinburgh to meet all the associated housing need due to

5 The SESplan Audit

	infrastructure and environmental constraints and opportunities elsewhere. Edinburgh has delivered over 1,967 annual completions in 9 years out of the last 13. However, completions from 2009 to 2013 were significantly lower. 2011/12 completions - 1,624 2012/13 completions - 1,191 2013/14 completions - 2,079
Regeneration Potential	In SIMD 2012, 54 (9.8%) of Edinburgh City's 549 datazones were found in the 15% most deprived datazones in Scotland, compared to 60 (10.9%) in 2009, 63 (11.5%) in 2006 and 61 (11.1%) in 2004. Areas within the 15% most deprived in Scotland in Edinburgh are around Granton / Pilton / Muirhouse and pockets of Leith and Lochend in the north of the city. Waterfront development and associated regeneration will bring benefits to these areas. Areas in south east Edinburgh (Craigmillar, Niddrie and parts of Gilmerton and Kaimes) are in the bottom 15%. South East Edinburgh is an SDA and is an area of significant new development and redevelopment. The Sighthill and Wester Hailes areas of south / south west Edinburgh is also in the bottom 15% despite being highly accessible, adjacent to affluent areas and near Edinburgh Park. The majority of vacant and derelict land opportunities in the city are already programmed for action or redevelopment.
Centres	Edinburgh City Centre is the top tier centre in the region. The city also contains other town centres for more local catchment shopping.
Green Network	The emerging Edinburgh LDP identifies green network opportunities and projects across the sub HMA. The SESplan MIR identifies regional green network priorities in both the West Edinburgh and South East Edinburgh SDAs. Along the Forth Coast from South Queensferry to Musselburgh and in south Edinburgh at the Pentland Fringe.
Education	The sub HMA has very little additional schools capacity for additional development at present. Up to 87 additional primary school classes may be required to deliver emerging LDP requirements through a combination of new schools and extensions. Additional school capacity is also required because of increased pupil numbers because of recent higher birth rates

	in the city. Births have been rising since 2005 and the number of births for 2012 was the highest for 20 years. Capital costs of these new schools and extensions are estimated at £51 million and exclude land and site specific costs. Delivery of these schools could involve changes to catchment boundaries. Further details are available in the Edinburgh LDP Revised Education Appraisal. A further study into Secondary School capacity is being undertaken in 2015 but additional capacity will need to be created to meet future pupil rolls.
BETTER CONNECTED PLACE	
Transport	Edinburgh is a compact, relatively high density city which makes public transport, walking and cycling more attractive. As a result it has the lowest percentage of the SESplan authorities of residents travelling to work by car (37.8%) and the highest by bus (30.7%), walking (20.2%) and cycling (5%). CEC is the major hub in the strategic road and rail network. Waverley Station is the busiest in the region providing a hub for local and long distance journeys however it is constrained by platform lengths. In addition both Waverley and Haymarket are physically constrained by the number of trains that can be accommodated per hour in and out of the station. Whilst there are some suburban stations in the city and at South Queensferry, Edinburgh does not have a significant suburban rail network like Glasgow which allows for intra urban travel. There are commuter routes into the city from Fife, East Lothian, and the three lines to Glasgow through West Lothian. Borders rail will open in late 2015 connecting the city to towns in Midlothian and the Central Borders. NPF3 identifies a high speed rail link between Edinburgh and Glasgow as a national development. Newcraighall and Brunstane stations act as park and rail sites on the east of the city. There are a number of bus park and ride sites around the perimeter of the city but the site at Hermiston is nearing capacity. The city has an extensive bus network with high levels of patronage. Tram line 1a opened in May 2014 and connects the Airport, Ingliston P&R, the International Gateway and Edinburgh Park with the City Centre. Further tram routes to Leith, Granton, the Bioquarter and Newbridge are safeguarded in the LDP. Edinburgh is the centre of the strategic roads network in the region with the M8, M9, M90 and A1 meeting here. These routes close to the city suffer from traffic congestion in peak

5 The SESplan Audit

	hours as well as lesser radial routes such as the A70 and A71. The city has a physical boundary in the orbital A720 which suffers from severe traffic congestion and delay during peak hours. SDP1 transport modelling forecast increased congestion at key junctions on the A720. During the AM peak east to west is the larger direction of travel on the A720 which is reversed in the pm peak. This reflects employment draw of West Edinburgh and access to the Central Scotland motorway network. Inside the city the road network is constrained in during peak hours and the focus is to encourage modal shift to public transport and active travel. The Edinburgh LDP identifies transport interventions to accommodate proposed development with an emphasis on achieving sustainable modal shift away from car travel. The accessibility analysis assessed peripheral locations which are a more useful proxy for potential development areas than the city averages. Dalmeny, South Edinburgh and Currie were found to be the most accessible locations by public transport to jobs with Balerno less accessible. However, Edinburgh locations were highly accessible to jobs via public transport compared with peripheral settlements in the region. All assessed locations within the CEC area are within 45 minute public transport time of at least one of the city's major employment locations.
Digital Connectivity	The highest broadband speeds in the region are found within the city. Settlements in rural West Edinburgh are due to be be upgraded to high speed networks under the Step Change 2015 programme
Water & Sewage	Capacity will need to be increased at the South Queensferry and Newbridge Waste Water Treatment Works if those areas are to accommodate further development.

SUMMARY

West Edinburgh and South East Edinburgh are already accommodating significant new development in the LDP. This will reduce the capacity for further development. Further development could be directed to accessible areas of the Edinburgh Green Belt that do not significantly contribute to green belt purposes to the west and south east of Edinburgh. This will be subject to avoiding areas of flood risk and functional flood plain and taking other planning related designations into account.

However, based on recent completions, planning and landscape considerations and the capacity to deliver new infrastructure, the CEC sub HMA cannot deliver the annualised level of housing required by 2029 to meet the Steady Economic Growth forecast of approximately 3,300 dwellings per annum To do this would require development on Green

Belt / Prime Quality Agricultural Land significantly greater than the areas of land identified in the 2008 study with subsequent landscape and visual impacts. Extensive flood mitigation works would also be required. Historic completions rates indicate that this level of completions could not be sustained over a 12 year plan period which would result in failure of the plan and strategy.

There may be a need to for the Edinburgh LDP area to accommodate additional development to 2029 and there is potential capacity for this to be achieved (subject to further studies). This could require revision to the identified West and South East Edinburgh SDAs. However, as set out in SDP1, the level of this additional development would be restricted by delivery, environmental, policy and capacity constraints.

5 The SESplan Audit

Table 5.3 ELC01 Musselburgh, Haddington and Tranent

This is an area of largely coastal settlements extending eastwards from Musselburgh, East Lothian's largest town. Inland, towns and villages such as Tranent and Wallyford are framed by Fa'side Hill and set in an agricultural landscape, most of which is contained within the Edinburgh Green Belt. Haddington, the county town of East Lothian is further east inland set within plains of farmland. This is the most urbanised of the three East Lothian sub HMAs. ELC is forecast to be one of the fastest growing authorities in Scotland.	
SDP1 SPATIAL STRATEGY ASSESSMENT	
This sub HMA was covered by two SAAs - East Lothian West (21) and East Lothian Central (22). Both were recommended as preferred locations for development. The former was assessed as being highly accessible.	
MONITORING SDP1	
The East Lothian LDP MIR identifies that the majority of the SDP1 growth requirement will be delivered in the west of this HMA. This will be in and around the settlements of Musselburgh, Wallyford, Tranent, Prestonpans, Cockenzie and Port Seton. A new settlement will also be developed at Blindwells.	
PLANNING DESIGNATIONS AND FLOOD RISK	
Landscape Designations and Green Belt	ELC is reviewing its Areas of Great Landscape Value (ALGV) to inform new SLAs. There are ALGVs along the coast between Port Seaton and Longniddry and north-east of Haddington. The Edinburgh Green Belt covers the western portion of this sub HMA around Musselburgh and Wallyford and towards Prestonpans. It performs an important role preventing coalescence of settlements in this area. Stage 2 of the Green Belt Study found that only two of the 11 green belt landscape character areas were of lesser significance (88(pt) and 95). Strategic development was likely to have a significant impact on the Green Belt. The East Lothian LDP MIR includes preferred sites around Musselburgh and Wallyford that will require the development of green belt land.
Prime Quality Agricultural Land	The majority of non-urban land in this sub HMA is identified as PQAL with the exception of some coastal areas and the Lammermuirs.
Historic Environment Designations	There are 13 Gardens and Design Landscapes and two national historic battlefields (Pinkie and Prestonpans).
Flood Risk	A medium likelihood of coastal flooding effects parts of Musselburgh and Prestonpans coastline, this extends up towards the mouth of the River Esk impacting on Loretto Sports Field and

	Musselburgh racecourse. Surface water flooding should be a consideration in land between Prestonpans and Tranent. River flooding is a risk north of the River Esk and south of Ormiston from the Tyne Water. South Haddington is at risk from the River Tyne.
PLACE TO DO BUSINESS	
Energy	Forms part of two energy clusters which are Leith – Cockenzie and Cockenzie-Torness. Cockenzie is a National Development for CCS/Thermal.
Employment	Between the 2001 and 2011 census, the change in the number of people commuting into East Lothian was greater than the change in people commuting out, indicating a proportional increase in jobs in the area. East Lothian had an effective employment land supply of 4 hectares in 2013/14. This is the lowest of the SESplan authorities but further employment land is expected to be allocated in the emerging LDP.
PLACE FOR COMMUNITIES	
Housing	31% of all dwelling sales in ELC01 are from purchasers moving from CEC. ELC01 has the highest number of house purchasers (1,683) from Edinburgh of all the sub-HMAs (excluding CEC). SDP1 and the HLSG required East Lothian to deliver more than its own level of housing need due to environmental and infrastructure constraints in Edinburgh. The HLSG had a housing requirement of 10,050 (670 per annum) for East Lothian for the period 2009 to 2024. 670 annual completions has only been achieved twice since 2000 in East Lothian. For this sub HMA average annual completions over the last 10 years are 368 dwellings. However, between 2006 and 2008 over 450 dwellings per annum were completed.
Regeneration Potential	In SIMD 2012, 3 (2.5%) of East Lothian's 120 datazones were found in the 15% most deprived datazones in Scotland, compared to 3 (2.5%) in 2009, 1 (0.8%) in 2006 and 0 (0%) in 2004. These 3 zones are located in Tranent and Prestonpans. Development opportunities have already been identified in these areas through existing and emerging plans. Levels of vacant and derelict land in East Lothian are very low. However, Blindwells is a large development site of previously developed land.

5 The SESplan Audit

Centres	There are no strategic centres in East Lothian but a number of town centres perform a local role. Musselburgh and Haddington are the main centres. A new town centre may be developed as part of the Blindwells new settlement.
Green Network	From Musselburgh along the coast to Port Seton and inland to Wallyford and Blindwells has been identified as a green network priority area in the SESplan MIR. This will require joint working with Edinburgh and Midlothian on the coordination of green network development in South East Edinburgh.
Education	Additional primary and secondary capacity (including multiple new schools) would be required to deliver LDP MIR options in Musselburgh. Ways of funding and delivering these requirements are being explored but no solutions have yet to be agreed. It is unclear if and how any further education capacity could be provided in this area to accommodate additional strategic growth associated with SDP2. The LDP MIR preferred option will require additional primary capacity in Tranent and present capacity issues for Ross High. Any existing capacity will be required to accommodate Preferred LDP MIR sites. Feasibility work is underway on Blindwells which will inform education solutions and impact on capacity requirements for the Prestonpans cluster group of schools. In Haddington, delivery of Preferred LDP MIR sites will depend on a new primary school. Additional development above this will require the creation of further capacity (including new schools) which may not be deliverable to 2029.
BETTER CONNECTED PLACE	
Transport	2011 census statistics show the following mode share for East Lothian residents travelling to work: car driver - 63%; bus - 13.2%; train - 5.9%; walking - 9.1%; and cycling - 1.5%. The census also shows that 58% of journeys made to work from East Lothian to Edinburgh are made by car/van drivers. This is a higher proportion than Fife (54.8%), similar to Midlothian (59.3%) and lower than the Scottish Borders (80.5%) and West Lothian (65.6%). The East Coast mainline and North Berwick branch-line run through the sub HMA with stations at Musselburgh, Wallyford and Prestonpans. Musselburgh station is on the edge of the town. Four car trains are planned for this route which will increase capacity but some overcrowding is forecast during the AM peak

	as the trains approach Edinburgh. Additional capacity could be provided if further services from Berwick or Dunbar are introduced. Haddington is only accessible by bus. Major roads include the A1 out of Edinburgh and the A720, which starts at Old Craighall Junction with the A1. The latter is severely congested during AM and PM peaks but overall the A1(T) eastwards from here into East Lothian is operating within capacity. Musselburgh High Street suffers from significant congestion and is covered by an Air Quality Management Area (AQMA). The East Lothian LDP Transport Appraisal forecasts increases in delay and queue lengths at Old Craighall and Musselburgh. The increase in delay would be lessened at Old Craighall if a link between Queen Margaret University and Millerhill is developed. The Transport Appraisal sets out further interventions for this junction. A slight increase in delay is forecast at Tranent although this can be reduced if the Tranent bypass is developed. Musselburgh and Wallyford and then Prestonpans and Tranent are the most accessible settlements in the HMA to jobs by public transport. Musselburgh (7th), Wallyford (9th) and Prestonpans (26th) are also highly accessible to jobs at the regional level. Whilst Haddington is a large town for East Lothian, a lack of a rail service and distance to other settlements results in a lower accessibility rating (71st).
Digital Connectivity	High speed broadband is available to some properties in the urban areas of this sub HMA. By 2018 90% of properties in East Lothian will be served by high speed broadband networks and all remaining properties (likely to be in the countryside) are programmed to have at least 2mb provision in the same period.
Water & Sewage	Capacity will need to be increased at the Ormiston Waste Water Treatment Works if further development is to be accommodated.
SUMMARY	
The area has a strong connection to the Edinburgh sub HMA and settlements here are shown to be highly accessible to jobs by public transport. However, additional development above that identified in the East Lothian MIR would require further loss of green belt and prime quality agricultural land and further education capacity when emerging education requirements are challenging to deliver. Further loss of green belt would lead to coalescence of settlements. Further development in East Lothian would lead to additional pressures on key trunk road network junctions and the A720.	

5 The SESplan Audit

Table 5.4 ELC02 East Lothian Coastal

This area includes the coastal villages of Aberlady, Gullane, Dirleton and North Berwick, well-known tourist destinations. Whitekirk and Tyninghame occupy more inland locations. East Lothian is forecast to be one of the fastest growing authorities in Scotland.	
SDP1 SPATIAL STRATEGY ASSESSMENT	
The sub HMA area closely matches SAA 23 from the SDP1 and Supplementary Guidance Appraisal. In both it was not recommended for strategic development due to poor transport accessibility, loss of prime quality agricultural land, landscape and biodiversity designations and limited development and infrastructure capacity.	
MONITORING SDP1	
The East Lothian LDP MIR is not directing strategic development to this part of the county. It is not within the boundaries of the East Lothian SDA identified in SDP1.	
PLANNING DESIGNATIONS AND FLOOD RISK	
Landscape Designations and Green Belt	ELC is reviewing its ALGV's to inform new SLAs. A large proportion of the coastline is designated as ALGVs. There is no designated Green Belt.
Prime Quality Agricultural Land	The majority of non-urban land is identified as PQAL with the exception of the immediate coastal areas.
Historic Environment Designations	There are six Gardens and Design Landscapes and no national historic battlefields.
Flood Risk	A medium risk of coastal flooding along the Firth of Forth exists along the coastlines of Longniddry and North Berwick although these coastal areas are unlikely to be effected by new development. There are minor areas of surface water flooding with a probability of medium or above but these are small and scattered. There is a risk from river flooding in the east of Longniddry from the Redhouse Burn.
PLACE TO DO BUSINESS	
Employment	This area is does not have a significant business cluster, enterprise area or similar. Other than agriculture and tourism, there are limited employment related industries in this part of East Lothian.
PLACE FOR COMMUNITIES	

Housing	29% of all dwelling sales in ELC02 are from purchasers moving from CEC. This indicates a strong relationship between the two sub-housing market areas. However, the number of sales from CEC purchasers is significantly less than ELC01 at 332 (compared to 1,683). SDP1 and the HLSG required East Lothian to deliver more than its own level of housing need due to environmental and infrastructure constraints in Edinburgh. The HLSG had a housing requirement of 10,050 (670 per annum) for East Lothian for the period 2009 to 2024. 670 annual completions has only been achieved twice since 2000 in East Lothian. For this sub HMA average annual completions over the last 10 years are 45 dwellings. However, in 2004/05, 2005/06 and 2013/14 over 80 dwellings were completed annually.
Regeneration Potential	There are no areas within the 15% most deprived in Scotland in this sub-HMA. Levels of vacant and derelict land in East Lothian are very low.
Centres	There are no strategic centres in East Lothian but a number of town centres performing a local role. North Berwick is the largest and main town centre.
Green Network	The LDP will identify local green network priorities.
Education	Available capacity and expansions of primary and secondary schools in this sub-HMA are required to deliver LDP and Preferred LDP MIR sites. Additional strategic development above this may require the creation of further capacity (including new schools) which may not be deliverable to 2029.
BETTER CONNECTED PLACE	
Transport	2011 census statistics show the following mode share for East Lothian residents travelling to work: car driver - 63%; bus - 13.2%; train - 5.9%; walking - 9.1%; and cycling - 1.5%. The census also shows that 58% of journeys made to work from East Lothian to Edinburgh are made by car/van drivers. This is a higher proportion than Fife (54.8%), similar to Midlothian (59.3%) and lower than the Scottish Borders (80.5%) and West Lothian (65.6%). The East Coast mainline and North Berwick branch-line run through the HMA with stations at Longniddry, Drem and North Berwick. The car parks at these stations are small and are at, or near capacity. Four car trains are planned for this route which will increase capacity but

5 The SESplan Audit

	some overcrowding is forecast during the AM peak as the trains approach Edinburgh. Additional capacity could be provided if further services from Berwick or Dunbar are introduced. There are no trunk roads within the HMA. The East Lothian LDP Transport Appraisal does not forecast any significant changes in delay in this area. Longniddry is the most accessible settlement to jobs by public transport in this HMA, followed by Drem and then North Berwick. However, they have average to low overall accessibility to jobs rankings of 60, 73 and 93 reflecting the level of jobs in this part of East Lothian and the longer distance to Edinburgh. The small coastal settlements of Gullane (105) and Aberlady (97) are poorly serviced by public transport services.
Digital Connectivity	This sub HMA is currently not served by high speed broadband. However, by 2018 90% of properties will be served by high speed broadband networks and all remaining properties (likely to be in the countryside) are programmed to have at least 2mb provision in the same period.
Water & Sewage	Capacity will need to be increased at the North Berwick Waste Water Treatment Works if further development is to be accommodated.
SUMMARY	
East Lothian Coastal is a largely rural and poorly accessible area with significant biodiversity and agricultural assets. Environmental and landscape designations, poor public transport accessibility and sustainable development considerations and constraints indicate that this is not a sustainable location for significant additional development. Strategic levels of development would lead to additional car travel on congested rail and road networks. Housing need from Edinburgh could not be sustainably met in this sub HMA.	

Table 5.5 ELC03 Dunbar

A coastal area extending into the eastern foothills of the Lammermuirs with Dunbar its main settlement, to which Belhaven and West Barns are closely linked. Inland is the small settlement of East Linton. ELC is forecast to be one of the fastest growing authorities in Scotland.	
SDP1 SPATIAL STRATEGY ASSESSMENT	
The sub-HMA contains SAA 24 and parts of 22 and 23 from the SDP1 and Supplementary Guidance Appraisal. Some limited potential was identified for strategic development around Dunbar but impacts on landscape designations, prime quality agriculture land and historic battlefields should be taken into account.	
MONITORING SDP1	
The East Lothian LDP MIR does not direct any significant new development to this HMA although Dunbar has grown in recent years through previous local plan development.	
PLANNING DESIGNATIONS AND FLOOD RISK	
Landscape Designations and Green Belt	The area around Dunbar, West Barns and East Linton is designated as an ALGV. There is no designated green belt.
Prime Quality Agricultural Land	The majority of the land along the A1 corridor is identified as PQAL.
Historic Environment Designations	There are seven Gardens and Design Landscapes and two national historic battlefields (both Battles of Dunbar).
Flood Risk	Coastal flooding along the Firth of Forth might be a potential risk around West Barns. There are large areas at risk from surface water flooding around Dunbar and West Barns. Flood risk from river sources are around North West of Dunbar, West Barns and the area south of East Linton from the River Tyne.
PLACE TO DO BUSINESS	
Energy	Forms part of energy cluster Cockenzie-Torness with potential for investment noted in NPF.
Employment	There are few major employment sites in this HMA other than Torness and the La Farge cement works.
PLACE FOR COMMUNITIES	

5 The SESplan Audit

Housing	22% of all dwelling sales in ELC03 are from purchasers moving from CEC. This indicates a strong relationship between the two sub-HMAs. However, the number of sales from CEC purchasers is significantly less than ELC01 at 202 (compared to 1,683). SDP1 and the HLSG required East Lothian to deliver more than its own level of housing need due to environmental and infrastructure constraints in Edinburgh. The HLSG had a housing requirement of 10,050 (670 per annum) for East Lothian for the period 2009 to 2024. 670 annual completions has only been achieved twice since 2000 in East Lothian. For this sub HMA annual average completions over the last 10 years are 48 dwellings.
Regeneration Potential	There are no areas within the 15% most deprived in Scotland in this sub-HMA. Levels of vacant and derelict land in East Lothian are very low.
Centres	There are no strategic centres in East Lothian but a number of town centres performing a local role. Dunbar is the largest and main town centre.
Green Network	The LDP will identify local green network priorities.
Education	Available capacity and expansions of primary and secondary schools in this sub-HMA are required to deliver LDP and Preferred LDP MIR sites. Additional strategic development above this will require the creation of further capacity (including new schools) which may not be deliverable to 2029.
BETTER CONNECTED PLACE	
Transport	2011 census statistics show the following mode share for East Lothian residents travelling to work: car driver - 63%; bus - 13.2%; train - 5.9%; walking - 9.1%; and cycling - 1.5%. The census also shows that 58% of journeys made to work from East Lothian to Edinburgh are made by car/van drivers. This is a higher proportion than Fife (54.8%), similar to Midlothian (59.3%) and lower than the Scottish Borders (80.5%) and West Lothian (65.6%). The East Coast mainline runs through the HMA with one station at Dunbar. The car parks at the station is small and is near capacity. However, the current level of service is infrequent. Additional capacity could be provided if further services from Berwick or Dunbar are introduced.

	The A1(T) runs through the HMA but does not suffer from congestion in this largely rural area. However, this nationally important strategic connection with Northern England is reduced to single carriageway only beyond Dunbar. This affects haulage and car travel times to England and results in some traffic taking more direct routes through the Scottish Borders (e.g. A68, A697) to England. The East Lothian LDP Transport Appraisal does not forecast any significant changes in delay in this area as a result of MIR development. Dunbar and East Linton are the most accessible locations to jobs by public transport. However, they have average to low regional accessibility to jobs rankings of 82 and 103 reflecting the level of jobs in this part of East Lothian and the longer and irregular services to Edinburgh. The accessibility of Dunbar and East Linton would improve with a station at East Linton and increased stopping services on this line.
Digital Connectivity	Except for some parts of Dunbar, this sub HMA is currently not served by high speed broadband. However, by 2018 90% of properties will be served by high speed broadband networks and all remaining properties (likely to be in the countryside) are programmed to have at least 2mb provision in the same period.
Water & Sewage	Capacity will need to be increased at the East Linton and Dunbar Waste Water Treatment Works if further development is to be accommodated.
SUMMARY	
This sub HMA is not suitable for meeting mobile Edinburgh need as the area is largely rural and Dunbar is only accessible on a sustainable basis via an infrequent rail service. If a local level of need is to be met then this should be primarily in Dunbar and then East Linton. The accessibility and overall sustainability of the sub HMA would be improved if the station at East Linton and additional rail services are delivered.	

5 The SESplan Audit

Table 5.6 FC01 Dunfermline and West Fife

Historic Dunfermline is the main town. The Dunfermline green belt frames the west and south-west of the town. Further west is largely rural until the border with Clackmannanshire at Kincardine. South of Dunfermline, Rosyth is a major dockyard and from North Queensferry eastwards are a series of small settlements through to Aberdour on the coastal rail line.	
SDP1 SPATIAL STRATEGY ASSESSMENT	
This sub-HMA contains SAAs 1 and 2 and the western parts of 3 and 4 from the SDP1 and Supplementary Guidance Appraisal. Fife West (1) and Fife South (4) were not recommended for strategic development due to impacts on agricultural land, landscape designations and limited development capacity.	
MONITORING SDP1	
The Fife LDP identifies Dunfermline as a main focus for a large amount of development over the Plan period. However, this will be progressed in a manner that protects the historic centre of the town and its landscape setting. Little new development is allocated west of Dunfermline.	
PLANNING DESIGNATIONS AND FLOOD RISK	
Landscape Designations and Green Belt	There are no national landscape designations. SLAs are designated at Charlestown & Limekilns, north-east of Saline, west and north of Lochore and along the coast stretching inland from the bridgehead to Kirkcaldy. The Dunfermline Green belt preserves the character of the town, its setting and views to and from its historic core. It will prevent urban coalescence to the west and south-west of Dunfermline and has been defined in such a manner that planned growth can be directed to the most appropriate locations over the next 20 - 40 years.
Prime Quality Agricultural Land	Land south and west of Dunfermline, between Dalgety Bay and Rosyth, around Aberdour and north and west of Valleyfield is identified as PQAL.
Historic Environment Designations	There are ten Gardens and Designed Landscapes and one national historic battlefield (2nd Battle of Inverkeithing).
Flood Risk	FC01 shares a coast with the Firth of Forth but risk from coastal flooding is unlikely to influence development. There are large areas of potential surface water flood risk north of Rosyth and Inverkeithing. There is a risk from river flooding around Crossford and Cairneyhill from the Lyne Burn and North of Inverkeithing from the Inverkeithing Burn and Mille Lade.

PLACE TO DO BUSINESS	
Energy	The area forms part of the Fife Energy Corridor with Longannet in FC01 and Methil in FC02. This is part of the National Renewables Infrastructure Plan and potential for investment noted in NPF.
Employment	There are major employment sites located around Dunfermline and Rosyth with significant jobs potential. In 2012/13 SESplan Fife had the 3rd highest supply of effective employment land (157 hectares) of the SESplan authorities.
PLACE FOR COMMUNITIES	
Housing	13% of all dwelling sales in FC01 are from purchasers moving from CEC. Outside Edinburgh, FC01 has the second highest number of housing sales to Edinburgh purchasers (1,683). SDP1 and the HLSG required Fife to deliver a high level of housing due to the previous HNDA which forecast a higher need for housing. SESplan Fife also sought to meet a small proportion of housing need arising in Edinburgh due to environmental and infrastructure constraints. The HLSG had a housing requirement of 24,570 (1,638 per annum) for the period 2009 to 2024 for the whole of SESplan Fife. 2007/08 was the only year since 2000 that completions in SESplan Fife exceeded 1,600 dwellings. For this sub HMA average completions over the last 10 years are 577 dwellings. However, in 2006/07 and 2007/08 over 700 dwellings were completed per annum.
Regeneration Potential	In SIMD 2012, 58 (12.8%) of Fife's 453 datazones were found in the 15% most deprived datazones in Scotland, compared to 51 (11.3%) in 2009, 47 (10.4%) in 2006 and 34 (7.5%) in 2004. With the exception of one zone in Cupar, all are located in SESplan Fife. In this sub-HMA there are a number of bottom 15% areas within Dunfermline and Lochgelly and individual areas within Inverkeithing, Oakley, Valleyfield, Kelty, Cowdenbeath and Lochore. There are regeneration programmes underway in mid Fife and a strategic development area in Dunfermline. There are high levels of vacant and derelict land in Fife, many associated with former extraction industries. Whilst many present opportunities, many are not suitable for built redevelopment. Brownfield land on the waterfront in South Fife is committed for redevelopment.
Centres	Dunfermline is identified as one of four strategic regional centres in SDP1 below Edinburgh City Centre. It is the main retail and commercial centre in this sub-HMA. Smaller centres are identified in the Fife LDP.

5 The SESplan Audit

Green Network	The emerging Fife LDP identifies green network opportunities. The SESplan MIR identifies Regional Green Network Priorities in the Ore Valley and around the Dunfermline SDAs.
BETTER CONNECTED PLACE	
Transport	2011 census statistics show the following mode share for Fife[4] residents travelling to work: car driver - 69.3%; bus - 8%; train - 3.6%; walking - 9.3%; and cycling - 1.2%. The census also shows that 54.8% of journeys made to work from Fife to Edinburgh are made by car/van drivers. This is a lower proportion than other SESplan Authorities East Lothian (57.9%), Midlothian (59.3%) Scottish Borders (80.5%) and West Lothian (65.6%). Dunfermline and West Fife are served by the Fife Circle line with Stations at North Queensferry, Inverkeithing, Rosyth, Dunfermline Town, Dunfermline Queen Margaret, Cowdenbeath and Lochgelly. This provides excellent connectivity but AM peak trains to Edinburgh from southern and coastal Fife are forecast to be over capacity by 2019. The car parks at Dalgety Bay, Inverkeithing and both Dunfermline stations are near capacity usage. The Clackmannanshire Bridge opened in 2008 providing relief to roads around Kincardine. However, the SDP1 Transport Appraisal forecast significant increase in junction delays in and around Dunfermline, especially north-west of town. The new Queensferry Crossing will not provide significant further car capacity than the existing bridge. The M90 southbound towards the bridgehead and A90 towards Edinburgh experiences significant peak congestion. An increase in delay is also forecast on the A921 approaching Dalgety Bay / Inverkeithing. Bus services to Edinburgh should improve through dedicated use of the existing Forth Road Bridge. P&R sites at Halbeath and Ferrytoll are heavily used. At a regional scale North Queensferry (3rd), Inverkeithing (4th), Rosyth (18th), Dalgety Bay (24th) and Aberdour (29th) are the most accessible settlements to jobs by public transport. Dunfermline (53rd) also scores highly. This reflects their quick rail links into west Edinburgh. Oakley(110th) and Balingry/Lochore/Crosshill (94th) are considered to be poorly accessible by public transport by to jobs.

4 data covers all Fife not just SESplan Fife

Digital Connectivity	Most of the urban properties in this sub-HMA can have high speed broadband access through existing commercial operators, who are making improvements. The Step Change programme is looking to provide high speed broadband in Kincardine and around Oakley which currently don't have high speed access.
Water & Sewage	Capacity will need to be increased at the Crook of Devon, Kincardine, Saline, Valleyfield and Kinross Waste Water Treatment Works if further development is to be accommodated.

SUMMARY

The area has a strong connection to the Edinburgh sub-HMA. Settlements are shown to be highly accessible to jobs by public transport and there is also a significant local supply of employment opportunities in the area. Fife has the lowest private car mode share of journeys to work in Edinburgh of the non Edinburgh SESplan authorities. The rate of past completions shows that there are opportunities to deliver planned development. Current development capacity could continue to meet a significant level of mobile need from Edinburgh in this sub-HMA but environmental considerations and development capacity limited the suitability of coastal Fife for development.

5 The SESplan Audit

Table 5.7 FC02 Kirkcaldy, Glenrothes and Central Fife

Kirkcaldy, Glenrothes and Levenmouth are the major settlements in this HMA with some settlements in the Ore Valley. On the coast are the smaller settlements of Kinghorn and Burntisland.	
SDP1 SPATIAL STRATEGY ASSESSMENT	
This sub-HMA contains SAA 5 and the eastern parts of 3 and 4 from the SDP1 and Supplementary Guidance Appraisal. Glenrothes / Kirkcaldy (3) was recommended as a preferred location for development because of regeneration potential, capacity for development and limited impact on identified designations. Fife South (4) was not recommended for strategic development due to impacts on agricultural land, landscape designations and limited development capacity. Fife East (5) was not recommended for further development due to significant existing allocations and poor accessibility.	
MONITORING SDP1	
Two existing Fife scale SDAs are identified for Kirkcaldy and in Levenmouth. The Ore / Upper Leven Valleys are identified for strategic development to encourage regeneration around the Fife Circle and A92 corridors.	
PLANNING DESIGNATIONS AND FLOOD RISK	
Landscape Designations and Green Belt	There are no national landscape designations. SLAs are designated on the Lomond Hills, around the Wemyss villages and along the coast stretching inland from the bridgehead to Kirkcaldy. There is no designated green belt.
Prime Quality Agricultural Land	Most of the land between Kirkcaldy, Glenrothes and Levenmouth is identified as PQAL. There are other patches in the Ore Valley and between Kinghorn and Kirkcaldy.
Historic Environment Designations	There are seven Gardens and Designed Landscapes and no national historic battlefields.
Flood Risk	The Firth of Forth is unlikely to cause any issues under the spatial strategy; there is a medium risk of flooding on a small area of land around the mouth of the River Leven and Methil Docks. There are large areas of land south of Thornton close to the River Ore that are susceptible to surface water flooding, as well as areas east of Markinch. River flooding is a risk close to the River Leven on land effecting parts of Leven and Methil. There is also a risk from river flooding south of Thornton from the River Ore and close to the Back Burn between Methil and Kennoway.
PLACE TO DO BUSINESS	

Energy	Forms part of the Fife Energy Corridor with Longannet in FC01 and Methil in FC02. Part of National Renewables Infrastructure Plan and potential for investment noted in NPF.
Employment	Glenrothes and Kirkcaldy have the most jobs potential. SESplan Fife had the 3rd highest supply of effective employment land (157 hectares) as at 2012/13.
PLACE FOR COMMUNITIES	
Housing	Only 4% of all dwelling sales in FC02 are from purchasers moving from CEC. Whilst this indicates a weaker relationship between the two sub-housing market areas, there were still 393 sales to purchasers from CEC (7th highest of the 14 non Edinburgh sub-HMAs). SDP1 and the HLSG required Fife to deliver a high level of housing due to the previous HNDA which forecast a higher need for housing. SESplan Fife also sought to meet a small proportion of housing need arising in Edinburgh due to environmental and infrastructure constraints. The HLSG had a housing requirement of 24,570 (1,638 per annum) for the period 2009 to 2024 for the whole of SESplan Fife. 2007/08 was the only year since 2000 that completions in SESplan Fife exceeded 1,600 dwellings. In this sub HMA average completions over the last 10 years are 457 dwellings. However, in 2005/06, 2006/07 and 2007/08 over 650 dwellings were completed per annum.
Regeneration Potential	In SIMD 2012, 58 (12.8%) of Fife's 453 datazones were found in the 15% most deprived datazones in Scotland, compared to 51 (11.3%) in 2009, 47 (10.4%) in 2006 and 34 (7.5%) in 2004. Within the exception of one zone in Cupar, all are located in SESplan Fife. There are are number of zones within the bottom 15% in Kirkcaldy, Methil, Buckhaven and Glenrothes. However, there are significant development plans for both Kirkcaldy and Levenmouth seeking to regenerate these areas. There are high levels of vacant and derelict land in Fife, many associated with former extraction industries. Whilst many present opportunities, many are not suitable for built redevelopment.
Centres	Both Glenrothes and Kirkcaldy are identified as a one of four strategic regional centres in SDP1 below Edinburgh City Centre. They are the main retail and commercial centres in this sub-HMA. However, Kirkcaldy town centre has a high vacancy rate and has been affected by the development at the Fife Central Retail Park on the edge of the town. Smaller centres are identified in the Fife LDP.

5 The SESplan Audit

Green Network	The emerging Fife LDP identifies green network opportunities. The SESplan MIR identifies Regional Green Network Priorities in the Ore Valley, the Kirkcaldy and Levenmouth SDAs.
BETTER CONNECTED PLACE	
Transport	2011 census statistics show the following mode share for Fife[(5)] residents travelling to work: car driver - 69.3%; bus - 8%; train - 3.6%; walking - 9.3%; and cycling - 1.2%. The census also shows that 54.8% of journeys made to work from Fife to Edinburgh are made by car/van drivers. This is a lower proportion than other SESplan Authorities East Lothian (57.9%), Midlothian (59.3%) Scottish Borders (80.5%) and West Lothian (65.6%). Kirkcaldy and coastal settlements are served by the Fife Circle line. There are also stations at Cardenden, Thornton and Markinch. As with FC01 trains are forecast to be over capacity as they approach Edinburgh in the AM peak. Kirkcaldy station has the most services to Edinburgh and north to Perth or Dundee. However, its car park is near capacity. The A92 runs through Fife to connect with the M90 near Dunfermline. However, it can suffer from congestion particularly at the Redhouse Roundabout at Kirkcaldy. This is forecast to increase in the SDP1 transport appraisal. The Fife LDP Action Programme sets out related interventions for the A92. Increased delays are also forecast on the A915. At a regional scale Kinghorn (54th), Markinch (58th), Kirkcaldy (69th) and Burntisland (70th) are the most accessible settlements to jobs by public transport. Kennoway and Windygates are considered to be poorly accessible. Glenrothes (91st) despite having a high level of employment land is considered poorly accessible to jobs by public transport. This is because it doesn't have a station and bus services in the town are poor. This HMA has noticeably poorer public transport accessibility scores than FC01. Public transport frequency and services would improve to Levenmouth (90th) if the Levenmouth Rail Link and associated stations were delivered.
Digital Connectivity	Many urban properties in this sub-HMA can have high speed broadband access through existing commercial operators. Further improvements are being made in these areas. The Step Change programme is looking to provide high speed broadband in Kinghorn, Cardenden, Ballingry and the area north east of Kirkcaldy which currently don't have high speed access.

5 data covers all Fife not just SESplan Fife

Water & Sewage	Capacity may have to be increased at the Burntisland, East Wemyss, and Largoward Waste Water Treatment Works if further development is to be accommodated.

SUMMARY

The area has a weaker relationship to the Edinburgh sub-HMA reflecting travel times and accessibility to the city, with the exception of Kirkcaldy. However, there is also a significant employment land supply to create employment opportunities in the area. The rate of past completions shows that there are opportunities to deliver greater numbers of housing than more recent completions. Whilst there are regeneration opportunities, it may be suitable that only a limited portion of development capacity should be used to meet development need from Edinburgh.

5 The SESplan Audit

Table 5.8 MC01 Dalkeith, Gorebridge and Bonnyrigg

This sub-HMA includes the towns and settlements south of the A720 along the A7, A68 and Borders Rail Corridors. The southern half of the sub-HMA is largely rural. The part of Midlothian within the A720 is included in this sub-HMA. This includes a significant amount of new development and the new settlement of Shawfair.	
SDP1 SPATIAL STRATEGY ASSESSMENT	
This sub-HMA closely matches SAA 18 A7/A68/Borders Rail Corridor. This area was recommended as a preferred location for development due to further development capacity, good accessibility and opportunities presented by the Borders Railway. The assessment identified that additional development may impact on the Edinburgh Green Belt, landscape designations and lead to the loss of prime quality agricultural land.	
MONITORING SDP1	
The emerging Midlothian LDP focuses additional development in two SDAs covering this sub-HMA. These are 450 additional dwellings in South East Edinburgh SDA (around Shawfair) and 1,700 dwellings along the A7/A68/Borders Rail Corridor SDA. A significant amount of development is planned for areas near the stations on the Borders Railway.	
PLANNING DESIGNATIONS AND FLOOD RISK	
Landscape Designations and Green Belt	There are seven SLAs in Midllothian, six of which are in this sub-HMA. They are Fala Moor, Fala Farmland, Gladhouse Reservoir & Moorhouse Scarp, North Esk Valley (part), South Esk Valley & Carrington Farmland, and the Tyne Water Valley. The Edinburgh Green Belt covers the northern portion of this sub-HMA. It performs an important role preventing coalescence of settlements in this area. The Stage 2 of the Green Belt Study found that six of the nine green belt landscape character areas were of lesser significance (44(pt), 45, 83(pt), 85(pt), 86 and 88).
Prime Quality Agricultural Land	The undeveloped land between the northern settlements in this sub-HMA is identified as PQAL.
Historic Environment Designations	There are seven Gardens and Designed Landscapes and one national historic battlefield (Battle of Roslin).
Flood Risk	There are some areas of land in North East Dalkeith at risk from surface water flooding. There are no significant areas of land at risk from river flooding from the Rivers Esk North and South.
PLACE TO DO BUSINESS	

Employment	The sub-HMA contains a cluster of life sciences based businesses and Bioquarter Enterprise Area which crosses over into CEC. There is a large amount of employment land identified at Shawfair. At 202 hectares, Midlothian has the 2nd highest level of effective employment land supply in 2013/14.
PLACE FOR COMMUNITIES	
Housing	33% of all dwelling sales in MC01 are from purchasers moving from the CEC sub-HMA. There is a very strong relationship between these two sub HMAs given their close proximity. This relationship is expected to strengthen as the Midlothian part of South East Edinburgh is developed. SDP1 and the HLSG required Midlothian to deliver more than its own level of housing need due to environmental and infrastructure constraints in Edinburgh and the close relationship between southern Edinburgh and northern Midlothian. The HLSG had a housing requirement of 12,490 (833 per annum) for the period 2009 to 2024 for the whole of Midlothian. This level of housing completions has not been achieved in Midlothian this century. For this sub HMA average completions over the last 10 years are 361 dwellings. Midlothian is the only authority whose average completions are higher in the post 2008/09 period than they were from 2008/09 and earlier.
Regeneration Potential	In SIMD 2012, 3 (2.7%) of Midlothian's 112 datazones were found in the 15% most deprived datazones in Scotland, compared to 4 (3.6%) in 2009, 5 (4.5%) in 2006 and 1 (0.9%) in 2004. These are in Mayfield and Dalkeith. However land near these areas are already committed for development. There are high levels of vacant and derelict land in Midlothian, many associated with former extraction industries. Whilst many present opportunities, many are not suitable for built redevelopment.
Centres	There are no regional centres identified in Midlothian. Town and smaller centres are identified in the LDP. Straiton has developed in recent years as a large out-of-town commercial centre.
Green Network	The emerging Midlothian LDP identifies green network opportunities. The SESplan MIR identifies Regional Green Network Priorities from Holyrood to Dalkeith including the SDA of South East Edinburgh. Coordination with Edinburgh and East Lothian will be required over the development of green network opportunities in this SDA.
BETTER CONNECTED PLACE	

5 The SESplan Audit

Transport	2011 census statistics show the following mode share for Midlothian residents travelling to work: car driver - 63.3%; bus - 20.7%; train - 0.3%; walking - 7.2%; and cycling - 1.1%. The census also shows that 59.3% of journeys made to work from Midlothian to Edinburgh are made by car/van drivers. This is a higher proportion than Fife (54.8%), similar to East Lothian (57.9%) and lower than the Scottish Borders (80.5%) and West Lothian (65.6%). This proportion is expected to lower with the opening of the Borders Railway. The A720 runs through the sub HMA and is the most congested stretch of road in the region. The at grade roundabout at Sheriffhall, where the A7 meets the A720, suffers from significant delays. These are forecast to worsen without any interventions. A720 improvement including Sheriffhall grade separation were included in the Strategic Transport Projects Review and SDP1 but no capital funding has yet been allocated. The opening of the Dalkeith Bypass reduced congestion within the town but the Transport Appraisal of SDP1 forecast significant additional delays on approaches to Edinburgh along the A68, A7, A768 and B704. The opening of the Borders Railway will provide a twice hourly quick link between settlements and to central Edinburgh and the Scottish Borders. Stations are located at the new settlement of Shawfair, Eskbank, Shawfair, Newtongrange and Gorebridge. There are no forecast capacity issues. The northern portion of this sub HMA around the settlements of Bonnyrigg and Dalkeith, is well serviced by bus routes to Edinburgh. Services to more rural southern parts of the sub HMA, such as Pathhead, are less frequent and take longer. There is a park and ride site st Sherrifhall north of the A720 with a potential further park and ride site north of the A68/A720 junction. Settlements in this sub HMA have high public transport accessibility to jobs rankings due to the proximity to Edinburgh significant local employment areas, excellent bus services and the Borders Railway. At a regional scale Dalkeith (35th), Newtongrange (42nd), Bonnyrigg (43rd) and Gorebridge (55th) are the most accessible settlements. Rosewell (81st) and Pathead (85th) are considered to be less accessible to jobs.
Digital Connectivity	Digital Scotland are making improvements to high speed broadband services through 2015 in the main towns. The programme is looking to provide high speed broadband around Temple and Pathhead which currently don't have high speed access.
Water & Sewage	Capacity may have to be increased at the Pathhead, Rosewell and North Middleton Waste Water Treatment Works if further development is to be accommodated.

SUMMARY

The area has a strong connection to the Edinburgh sub HMA, reflecting their proximity. Part of this sub HMA is within the A720. A high level of planned development reflects the trend of this area meeting housing need that cannot be met within the Edinburgh's administrative boundary. Settlements are shown to be highly accessible to employment by public transport and there is also a significant local supply of employment opportunities in the area. The opening of the Borders Railway provides an opportunity for further sustainable travel helping to reduce car mode share on journeys to work in Edinburgh. Opportunities close to the stations have been identified in the emerging LDP. Current development capacity could continue to meet a significant level of mobile need from Edinburgh. However, further development in additional to what is planned could lead to coalescence of settlements and loss of green belt and PQAL with associated landscape impacts.

5 The SESplan Audit

Table 5.9 MC02 Penicuik and Loanhead

The sub HMA covers the western half of Midlothian including an area of the Pentlands. The A701 and A702 transport corridors bisect the sub HMA. Penicuik and Loanhead are the main settlements and there is a significant commercial and industrial centre at Straiton/Loanhead.	
SDP1 SPATIAL STRATEGY ASSESSMENT	
This sub-HMA closely matches SAA 19 A701 Corridor. This area was recommended as a preferred location for development due to good accessibility. The assessment identified that additional development may impact on the Edinburgh Green Belt and landscape designations.	
MONITORING SDP1	
The emerging Midlothian LDP seeks to allocate an additional 1,290 dwellings and 15 hectares of employment land in the A701 corridor SDA.	
PLANNING DESIGNATIONS AND FLOOD RISK	
Landscape Designations and Green Belt	There are seven SLAs in Midlothian, two of which are in this sub-HMA. They are the Pentland Hills and part of the North Esk Valley. The Edinburgh Green Belt covers the northern portion of this sub-HMA. It performs an important role preventing coalescence of settlements in this area. The Stage 2 of the Green Belt Study found that seven of the nine green belt landscape character areas were of lesser significance (43(pt), 44(pt), 80, 81, 83(pt), 77 and 78.
Prime Quality Agricultural Land	The undeveloped land between the northern settlements in this sub HMA is identified as PQAL. The Pentlands and land south of Penicuik is not.
Historic Environment Designations	There are two Gardens and Designed Landscapes and one national historic battlefield (Battle of Rullian Green).
Flood Risk	Surface water flooding is unlikely to affect the spatial strategy, however there are areas at risk in existing urban areas such as Penicuik close to the Cuilken Burn. There are no significant areas of land at risk from river flooding.
PLACE TO DO BUSINESS	

Employment	The sub HMA contains a cluster of life sciences based businesses and Bioquarter Enterprise Area at the Bush Estate. There is a large amount of employment land identified at Shawfair. At 202 hectares, Midlothian has the 2nd highest level of effective employment land supply in 2012/13.
PLACES FOR COMMUNITIES	
Housing	30% of all dwelling sales in MC02 are from purchasers moving from the CEC sub HMA. As expected, this is a very strong relationship between these two sub HMAs given their close proximity. Whilst proportionately similar to MLC01, the number of sales to CEC purchasers is significantly less (424 to 1,327) show a lower level of housing activity. SDP1 and the HLSG required Midlothian to deliver more than its own level of housing need due to environmental and infrastructure constraints in Edinburgh and the close relationship between southern Edinburgh and northern Midlothian. The HLSG had a housing requirement of 12,490 (833 per annum) for the period 2009 to 2024 for the whole of Midlothian. This level of housing completions has not been achieved in Mildothian this century. In this sub HMA average completions over the last 10 years are 51 dwellings. Completions have only once exceeded 100 dwellings in the last 10 years.
Regeneration Potential	There are no areas within the 15% most deprived in Scotland in this sub-HMA. There are high levels of vacant and derelict land in Midlothian, many associated with former extraction industries. Whilst many present opportunities, many of these are not suitable for built redevelopment.
Centres	There are no regional centres identified in Midlothian. Town and smaller centres are identified in the LDP.
Green Network	The emerging Midlothian LDP identifies green network opportunities across this sub HMA. The SESplan MIR identifies the area from Penicuik to Fairmilehead and the Pentland Fringe as a Green Network Priority Area.
BETTER CONNECTED PLACE	
Transport	2011 census statistics show the following mode share for Midlothian residents travelling to work: car driver - 63.3%; bus - 20.7%; train - 0.3%; walking - 7.2%; and cycling - 1.1%. The census also shows that 59.3% of journeys made to work from Midlothian to Edinburgh are made by car/van drivers. This is a higher proportion than Fife (54.8%), similar

5 The SESplan Audit

	to East Lothian (57.9%) and lower than the Scottish Borders (80.5%) and West Lothian (65.6%). This proportion is expected to lower with the opening of the Borders Railway. There is a good frequent service along the A701 corridor to Penicuik. There is a park and ride site at Straiton and another proposed at Lothianburn. The A720 runs through the sub HMA and is the most congested stretch of road in the region. There are delays on the approach to the A720 along the A701 and A702 at Straiton and Lothianburn. There are forecast increases in the SDP1 Transport Appraisal. The Midlothian LDP includes proposals for an A701 link road that would take through traffic away from the Straiton section reducing congestion and improving access to the commercial centre and industrial areas. Settlements in this sub HMA have high public transport accessibility to jobs rankings due to the proximity to Edinburgh, significant local employment areas, and excellent bus services along the A701 Corridor. At a regional scale Bilston (6th), Loanhead (29th), Roslin (44th) and Northern and Eastern Penicuik/Auchendinny (50th) are the most accessible settlements.
Digital Connectivity	Digital Scotland are making improvements to high speed broadband services through 2015 in the main towns.
Water & Sewage	Capacity may have to be increased at the Roslin Middleton Waste Water Treatment Works if further development is to be accommodated.
SUMMARY	
The area has a strong connection to the Edinburgh sub HMA, reflecting their proximity. Additional development could lead to coalescence of settlements and loss of green belt and PQAL with associated landscape impacts. However, settlements are shown to be accessible to employment by public transport and there is also a significant local supply of employment opportunities in the area. MLC02 has a weaker housing relationship to Edinburgh that MLC01 and has less current planned development capacity.	

Table 5.10 SBC01 Central Borders

This sub HMA covers the heart of the Borders and includes the Borders section of the Borders Railway, which terminates at Tweedbank. The Tweed flows through the centres of the area and the main settlements are Galashiels, Hawick, Selkirk, Kelso and Melrose.	
SDP1 SPATIAL STRATEGY ASSESSMENT	
This sub HMA includes SAA 27 - Central Borders and the western portion of SAA 26 - Lauder/Coldstream Area. SAA 26 was not recommended for further strategic development due to topography, infrastructure and development capacity constraints. It was also considered to be relatively poorly accessible. SAA 27 was recommended for further development because it includes the largest settlements in the Borders and the greatest concentration of local services and facilities. There was capacity for further development in this area and it is relatively accessible.	
MONITORING SDP1	
The Scottish Borders LDP identifies a significant amount of existing and new development in the Central Borders SDA. This will build on the opportunities that will be opened up by the Borders Railway.	
PLANNING DESIGNATIONS AND FLOOD RISK	
Landscape Designations and Green Belt	This sub HMA contains the Eildon and Leaderfoot National Scenic Area (only one of two in the whole SESplan area). The areas between Galashiels and Selkirk, Melrose and Kelso and the southern half of the sub HMA area designated as SLAs. There is no designated green belt. However, Countryside around Towns (CAT) policy is established in this area at Galashiels, Tweedbank, Darnick, Gattonside, Melrose, Newstead, St Boswells and Newtown St Boswells. This serves to prevent the potential coalescence of the settlements in the Central Borders in the corridor from Galashiels to St Boswells. It also assists in the protection and enhancement of the Eildon and Leaderfoot National Scenic Area (NSA) which is unique in Scotland in that it includes a built up area.
Prime Quality Agricultural Land	Much of the eastern half of the sub HMA (aorund Kelso and north of Jedburgh is identified as PQAL.
Historic Environment Designations	There are 13 Gardens and Designed Landscapes and two national historic battlefields (Battles of Darnick and Philliphaugh).

5 The SESplan Audit

Flood Risk	There is some risk of surface water flooding close to the River Tweed through Kelso. There are large areas of medium potential river flooding north of Jedburgh, north-west of Kelso and areas of land around the Gala Water south of Galashiels. There is also a medium risk in parts of Hawick close to the Stilrig Water.
PLACE TO DO BUSINESS	
Employment	Borders Railway forms part of a cluster covering a key sector of tourism but nationally significant infrastructure will likely influence new investment. The Scottish Borders had an effective employment land supply of 22.4 hectares in 2013/14.
PLACES FOR COMMUNITIES	
Housing	7% of all dwelling sales in SBC01 (313 out of 4,310) are from purchasers moving from the CEC sub HMA. This is not as strong as other sub HMA relationships but the connection is expected to increase with the opening of the Borders Railway. However, at present only 1.9% of Edinburgh purchasers move to the SBC sub market areas. SDP1 and the HLSG required Scottish Borders to deliver more than its own level of housing need due to environmental and infrastructure constraints in Edinburgh and the development opportunities in the Scottish Borders. The HLSG had a housing requirement of 12,930 (862 per annum) for the period 2009 to 2024 for the whole of the Scottish Borders. Over 700 annual completions has only been achieved twice since 2000 in the Scottish Borders. In this sub HMA average annual completions over the last 10 years are 247 dwellings. Annual completions exceeded 300 dwellings from 2006/07 to 2008/09.
Regeneration Potential	In SIMD 2012, 5 (3.8%) of Scottish Borders's 130 datazones were found in the 15% most deprived datazones in Scotland, compared to 5 (3.8%) in 2009, 3 (2.3%) in 2006 and 2 (1.5%) in 2004. These are found in pockets of Hawick and Galashiels. There are limited levels of vacant and derelict land in the Scottish Borders.
Centres	There are no regional centres identified in Scottish Borders. Galashiels is the main service centre. Town and smaller centres are identified in the LDP.
Green Network	The emerging Scottish Borders LDP identifies a strategic green network running from Peebles to Kelso. The SESplan MIR reflects this as a Green Network Priority Area.

Education	Only 2 schools in the Scottish Borders are currently at capacity. Studies are underway to determine what additional capacity will be required to accommodate planned development.
BETTER CONNECTED PLACE	
Transport	2011 census statistics show the following mode share for Scottish Borders residents travelling to work: car driver - 69.7%; bus - 4.4%; train - 0.1%; walking - 16.7%; and cycling - 1.3%. The census also shows that 80.5% of journeys made to work from the Scottish Borders to Edinburgh are made by car/van drivers. This is a higher proportion than all other SESplan authorities - Fife (54.8%), East Lothian (57.9%), Midlothian (59.3%) and West Lothian (65.6%). However, this is to be expected given the rural nature of much of the Scottish Borders. Although this proportion is expected to lower with the opening of the Borders Railway. The A68 and A7 are the major roads in the region, connecting south to England and north to Edinburgh. The SDP1 Transport Appraisal forecast some increase in delay on the A6091, A699 (Selkirk to Kelso) and routes through Galashiels. The opening of the Borders Railway will provide a twice hourly link between settlements and to central Edinburgh and Midlothian. Stations are located at Stow, Galashiels and Tweedbank. Galashiels station will be a major transport interchange with local bus links. There are no forecast capacity issues on Borders Railway. In order, Tweedbank,Galashiels and Melrose are the most accessible settlements to jobs by public transport. This reflects that these settlements have more employment opportunities and connectivity offered by the Borders Railway. Jedburgh, Yeltholm and Kelso are the least accessible to jobs of those settlements that were assessed. Settlements in the Scottish Borders are less accessible than those in other sub HMAs.
Digital Connectivity	Digital Scotland are making improvements to high speed broadband services through 2015 in the main towns. Jedburgh and more rural areas will begin to receive high speed services from 2015 onwards.
Water & Sewage	There is currently limited capacity at the following waste water treatment works within the Central Borders sub-HMA; Ancrum, Ashkirk, Bonchester Bridge, Chesters, Darnick, Earslton, Eckford, Eildon, Ettrickbridge, Gattonside, Heiton, Lanton, Maxton, Minto, Morebattle, Newstead, Newtown St Boswells, Smailholm, St Boswells, Stichill, Tweebank and Yetholm. There is no Scottish Water provision at Crailing,

5 The SESplan Audit

	Clintmains, Dryburgh or Redpath. The septic tank at Roxburgh is currently at capacity. There is currently limited capacity at the Howden/Manse Street water treatment works in Galashiels.

SUMMARY

The area has a weaker housing market connection to the Edinburgh sub HMA than those closer to Edinburgh. However, this relationship is expected to grow with the opening of the Borders Railway. Settlements are shown to be less accessible to jobs by public transport than in other sub HMAs but are accessible for the Scottish Borders. The rate of past completions shows that there are opportunities to deliver greater numbers than recent completions. This sub HMA could meet a proportion of mobile need from Edinburgh using development capacity. To meet a larger proportion could be unsustainable factoring in the distances to rest of the region.

Table 5.11 SBC02 Berwickshire

This sub HMA covers the eastern portion and the coastal section of the Scottish Borders matching the historical county of Berwickshire. The area covers a large portion of the Lammermuirs, is predominantly rural and the main settlements are the small towns of Eyemouth, Duns and Coldstream.	
SDP1 SPATIAL STRATEGY ASSESSMENT	
This sub HMA includes SAA 25 - Eastern Borders and the eastern portion of SAA 26 - Lauder/Coldstream Area. Area 26 was not recommended for further strategic development due to topography, infrastructure and development capacity constraints. It was also considered to be relatively poorly accessible. Area 25 was recommended for further development because it had development capacity and there would be no impact on landscape designations. It had high local accessibility scores and regional accessibility would be improved with a station at Reston (long term).	
MONITORING SDP1	
This area is covered by the Eastern Borders SDA. The Scottish Borders LDP focuses new development at the largest settlements of Eyemouth and Duns.	
PLANNING DESIGNATIONS AND FLOOD RISK	
Landscape Designations and Green Belt	The area of the Lammermuirs and the areas along the Berwickshire Coast are designated as SLAs. There is no designated green belt.
Prime Quality Agricultural Land	Outside the Lammermuirs, almost all the land is identified as PQAL.
Historic Environment Designations	There are 11 Gardens and Designed Landscapes and no national historic battlefields in the sub-HMA.
Flood Risk	SBC02 shares a coast with the Firth of Forth, there is minimal coastal flood risk and unlikely to impact on the Spatial Strategy. There are some minor areas of surface water flooding around the Eye Water near Reston. Most areas of flood risk are around the Whiteadder and Blackadder Rivers.
PLACE TO DO BUSINESS	
Employment	This area is not noted as having a significant business cluster, enterprise area or similar. The Scottish Borders had an effective employment land supply of 22.4 hectares in 2013/14.

5 The SESplan Audit

PLACES FOR COMMUNITIES	
Housing	10% of all dwelling sales in SBC02 are from purchasers moving from the CEC sub HMA (101 out of 1,012). This is not as strong as other relationships but this may increase if the station and appropriate service at Reston is delivered. However, at present only 1.9% of Edinburgh purchasers move to the SBC sub market areas. SDP1 and the HLSG required Scottish Borders to deliver more than its own level of housing need due to environmental and infrastructure constraints in Edinburgh and the development opportunities in the Scottish Borders. The HLSG had a housing requirement of 12,930 (862 per annum) for the period 2009 to 2024 for the whole of the Scottish Borders. Over 700 annual completions has only been achieved twice since 2000 in the Scottish Borders. In this sub HMA average completions over the last 10 years are 106 dwellings. Completions exceeded 100 dwellings annually from 2005/06 to 2009/10.
Regeneration Potential	There are no areas within the 15% most deprived in Scotland in this sub-HMA. There are limited levels of vacant and derelict Land in the Scottish Borders.
Centres	There are no regional centres identified in Scottish Borders. Town and smaller centres are identified in the LDP.
Green Network	There are no strategic green network priorities identified in this sub HMA.
Education	Only 2 schools in the Scottish Borders are currently at capacity. Studies are underway to determine what additional capacity will be required to accommodate planned development.
BETTER CONNECTED PLACE	
Transport	2011 census statistics show the following mode share for Scottish Borders residents travelling to work: car driver - 69.7%; bus - 4.4%; train - 0.1%; walking - 16.7%; and cycling - 1.3%. The census also shows that 80.5% of journeys made to work from the Scottish Borders to Edinburgh are made by car/van drivers. This is a higher proportion than all other SESplan authorities - Fife (54.8%), East Lothian (57.9%), Midlothian (59.3%) and West Lothian (65.6%). This is to be expected given the rural nature of much of the Scottish Borders. The bus services to Edinburgh and other settlements are infrequent and lengthy. Despite the East Coast mainline running through the sub HMA, currently there are no stations.

	The A1 is the main road through the area but is only single carriage and is heavily used by freight traffic. This can lead to a significant increase in journey times. In order, Reston and Duns and are the most accessible settlements to jobs by public transport. This reflects geography and bus services. The accessibility of Reston to jobs by public transport is significantly improved if a new station and rail service is delivered. Settlements in the Scottish Borders are less accessible than those in other sub HMAs.
Digital Connectivity	Digital Scotland are making improvements to high speed broadband services through 2015 around Eyemouth, Duns, Chrinside and Coldstream. Other areas will be receiving high speed services from 2016 onwards.
Water & Sewage	There is currently limited waste water treatment works capacity within the Berwickshire sub-HMA within the following locations; Allanton, Chirnside, Cockburnspath, Eccles, Foulden, Gordon, Grantshouse, Greenlaw, Hutton, Leitholm, Longformacus, Preston, Paxton, Reston and Swinton.
SUMMARY	
The area has a weaker housing market connection to the Edinburgh sub HMA than those closer to Edinburgh. Settlements are shown to be less accessible to jobs by public transport than in other sub HMAs. Whilst the rate of past completions shows that there are opportunities to deliver greater numbers of dwellings than completed recently, using development capacity to meet mobile need from Edinburgh this would be unsustainable as long journeys would be required to be made by car.	

5 The SESplan Audit

Table 5.12 SBC03 Northern Borders

This sub HMA covers the north west section of the Scottish Borders and connects with Midlothian, West Lothian and East Lothian. Peebles and West Linton are the main settlements with the Tweed flowing eastwards. The area has high quality landscapes and is a popular tourist destination.	
SDP1 SPATIAL STRATEGY ASSESSMENT	
This sub HMA includes SAAs 29 - Peebles/Innerleithen Area and 30 - West Linton Area. Area 29 was recommended for further development as it has good links to the Edinburgh area and acts as a sub-regional area for local services and facilities. Prime quality agricultural land would not be affected. Area 30 was not recommended for further development as it had been subject to significant growth in the past decade and it was poorly accessible by public transport.	
MONITORING SDP1	
This area is partially covered by the Western Borders SDA. The Scottish Borders LDP focuses development at Peebles and Innerleithen.	
PLANNING DESIGNATIONS AND FLOOD RISK	
Landscape Designations and Green Belt	This sub HMA contains the Upper Tweedale National Scenic Area (only one of two in the whole SESplan area). The majority of the sub HMA is also designated as SLAs. There is no designated green belt.
Prime Quality Agricultural Land	There are only two very small areas of PQAL in this sub HMA (west of Peebles and south of Innerleithen).
Historic Environment Designations	There are seven Gardens and Designed Landscapes and no national historic battlefields.
Flood Risk	There is a medium likelihood of surface water flooding south of Peebles. There are large areas of land south of Peebles along the River Tweed at risk from river flooding and East of Lauder close to Leader Water. There is also risk south of Innerleithen close to the River Tweed.
PLACE TO DO BUSINESS	
Employment	This area is not noted as having a significant business cluster, enterprise area or similar, but is in close proximity to Borders Railway development. Tourism related industries is a significant source of jobs in the area.

	The Scottish Borders had an effective employment land supply of 22.4 hectares in 2013/14.
PLACES FOR COMMUNITIES	
Housing	23% of all dwelling sales in SBC03 are from purchasers moving from the CEC sub HMA. This reflects this sub HMA's closer proximity to the city than other Scottish Borders sub HMAs. However, at present only 1.9% of Edinburgh purchasers move to the SBC sub market areas. SDP1 and the HLSG required Scottish Borders to deliver more than its own level of housing need due to environmental and infrastructure constraints in Edinburgh and the development opportunities in the Scottish Borders. The HLSG had a housing requirement of 12,930 (862 per annum) for the period 2009 to 2024 for the whole of the Scottish Borders. Over 700 annual completions has only been achieved twice since 2000 in the Scottish Borders. In this sub HMA average completions over the last 10 years are 112 dwellings. Completions exceeded 100 dwellings per annum from 2001 to 2010 in this sub HMA.
Regeneration Potential	There are no areas within the 15% most deprived in Scotland in this sub-HMA. There are limited levels of vacant and derelict land in the Scottish Borders
Centres	There are no regional centres identified in Scottish Borders. Town and smaller centres are identified in the LDP.
Green Network	The emerging Scottish Borders LDP identifies a strategic green network running from Peebles to Kelso. The SESplan MIR reflects this as a Green Network Priority Area.
Education	Only 2 schools in the Scottish Borders are currently at capacity. Studies are underway to determine what additional capacity will be required to accommodate planned development.
BETTER CONNECTED PLACE	
Transport	2011 census statistics show the following mode share for Scottish Borders residents travelling to work: car driver - 69.7%; bus - 4.4%; train - 0.1%; walking - 16.7%; and cycling - 1.3%. The census also shows that 80.5% of journeys made to work from the Scottish Borders to Edinburgh are made by car/van drivers. This is a higher proportion than all other SESplan authorities - Fife (54.8%), East Lothian (57.9%), Midlothian (59.3%) and West Lothian (65.6%). This is to be expected

5 The SESplan Audit

	given the rural nature of much of the Scottish Borders. There is a good bus service from Peebles to Edinburgh via Pencuik and local services along the A72 to Central Borders. The transport appraisal did not highlight any significant issues. However, Peebles may need a second bridge over the Tweed in the future. In order Stow (78th), West Linton (89th) and Peebles (99th) are the most accessible settlements to jobs by public transport. This reflects geography, the Borders Railway and bus services to Peebles. Innerleithen (111th), Lauder (112th) and Walkerburn (118th) are relatively less accessible to jobs by public transport. Settlements in the Scottish Borders are less accessible than those in other sub HMAs. However, this sub HMA contains the most accessible to jobs by public transport of the four Scottish Borders sub HMAs.
Digital Connectivity	Digital Scotland are making improvements to high speed broadband services through 2015 around Peebles and Innerleithen in 2016. Other areas, including West Linton will start getting high speed services from 2016 onwards.
Water & Sewage	There is limited capacity at the following waste water treatment works within the Northern Borders sub-HMA; Blyth Bridge, Broughton, Caron, Carlops, Eddleston, Fountainhall, Innerleithen, Peebles, Romanno Bridge, Skirling, Traquair, Walkerburn & West Linton. There is limited capacity at the Innerleithen water treatment works and in the existing septic tank at Nether Blainslie.
SUMMARY	
This area has a weaker housing market connection to the Edinburgh sub HMA than those closer to Edinburgh (but proportionally the strongest of the Borders sub HMAs). Settlements are shown to be the most accessible to jobs by public transport for the Scottish Borders. The rate of past completions shows that there are opportunities to deliver greater numbers than recently completed. This sub HMA could meet a small proportion of mobile need from Edinburgh using current development capacity but Central Borders would be more appropriate with the Borders Railway Link. To meet a larger proportion would be unsustainable factoring in the distances to Edinburgh. Other non-Scottish Borders SESplan authorities would be more sustainable.	

Table 5.13 SBC04 Southern Borders

This sub HMA covers the sparsely populated southern section of the Scottish Borders lying between England and Dumfries & Galloway. Newcastleton is the largest settlement.	
SDP1 SPATIAL STRATEGY ASSESSMENT	
This sub HMA includes SAA 28 - Southern Borders. It was not recommended for further strategic development as it is the most rural and remote in the Borders. It did not have capacity for strategic growth.	
MONITORING SDP1	
This sub HMA is not covered by an SDA. The Scottish Borders LDP does not direct any significant development to this more remote and rural area.	
PLANNING DESIGNATIONS AND FLOOD RISK	
Landscape Designations and Green Belt	The northern portion of this sub HMA is covered by an SLA designation. There is no designated green belt.
Prime Quality Agricultural Land	There are no areas of PQAL.
Historic Environment Designations	There are no Gardens and Designed Landscapes and no national historic battlefields.
Flood Risk	There are minimal areas with a medium or high probability of surface water flooding. There is some risk from river flooding from the Liddel water around Newcastleton, the Brothwick Water and the Ettrick Water.
PLACE TO DO BUSINESS	
Employment	This area has no significant business clusters, enterprise areas or similar.
PLACES FOR COMMUNITIES	
Housing	11% of all dwelling sales in SBC04 are from purchasers moving from the CEC sub HMA. However this is from a very low number of transactions (total sub HMA sales of 93 compared to 4,301 in SBC01). SDP1 and the HLSG required Scottish Borders to deliver more than its own level of housing need due to environmental and infrastructure constraints in Edinburgh and the development opportunities in the Scottish Borders. The HLSG had a housing requirement of 12,930 (862 per annum) for the period 2009 to 2024 for the whole of the

5 The SESplan Audit

	Scottish Borders. Over 700 annual completions has only been achieved twice since 2000 in the Scottish Borders. In this sub HMA average annual completions over the last 10 years are 8 dwellings. Completions have only twice exceeded 10 dwellings in the last 10 years in this sub HMA.
Regeneration Potential	There are no areas within the 15% most deprived in Scotland in this sub-HMA. There are limited levels of vacant and derelict land in the Scottish Borders.
Centres	There are no regional centres identified in Scottish Borders. Newcastleton is the largest town although it offers limited services.
Green Network	There are no strategic green network priorities.
Education	Only 2 schools in the Scottish Borders are currently at capacity. Studies are underway to determine what additional capacity will be required to accommodate planned development.
BETTER CONNECTED PLACE	
Transport	2011 census statistics show the following mode share for Scottish Borders residents travelling to work: car driver - 69.7%; bus - 4.4%; train - 0.1%; walking - 16.7%; and cycling - 1.3%. The census also shows that 80.5% of journeys made to work from the Scottish Borders to Edinburgh are made by car/van drivers. This is a higher proportion than all other SESplan authorities - Fife (54.8%), East Lothian (57.9%), Midlothian (59.3%) and West Lothian (65.6%). This is to be expected given the rural nature of much of the Scottish Borders. However, few of those commuters are expected to travel from this sub HMA given the distances to Edinburgh. There are no strategic transport issues in this sub HMA. Public transport access services are severely limited. Newcastleton is the settlement least accessible to jobs in the SESplan area. It was the only SBC04 settlement included in the accessibility analysis.
Digital Connectivity	Digital Scotland are providing high speed broadband infrastructure around Newcastleton from 2016.
Water & Sewage	Capacity may have to be increased at the Newcastleton Waste Water Treatment Works if further development is to be accommodated.

SUMMARY

This area should not meet any housing need arising in Edinburgh due to poor public transport accessibility and its isolated nature.

5 The SESplan Audit

Table 5.14 WLC01 Livingston and Broxburn

This sub HMA borders western Edinburgh and includes the new town of Livingston, the largest town in West Lothian. Shale bings dominate the landscape with the edge of the Pentlands to the south. North of Broxburn is Winchburgh, which is due to significantly expand under existing plans.	
SDP1 SPATIAL STRATEGY ASSESSMENT	
This sub HMA wholly includes SAA 8 - M8 Corridor and the eastern portion of SAA 6 - M9 Corridor. Both areas were recommended for further development because they had excellent accessibility and potential capacity for further strategic development. Loss of prime quality agricultural land and impact on landscape designations as potential concerns were to be taken into account at the LDP stage.	
MONITORING SDP1	
This sub HMA contains the West Lothian Core Development Areas of Calderwood, Winchburgh, and Broxburn. It is the primary area in West Lothian for new development in the emerging West Lothian LDP.	
PLANNING DESIGNATIONS AND FLOOD RISK	
Landscape Designations and Green Belt	The sub HMA contains four ALGVs - Forth Coast, Pentland Hills, Bathgate Hills and the Almond Valley. Whilst there is no green belt in this area, West Lothian Countryside Belts (West Lothian Local Plan policy) seek to prevent coalescence between towns and promote environmental enhancements. There are areas of countryside belts between Winchburgh and Broxburn and surrounding Livingston.
Prime Quality Agricultural Land	The areas of land east of Livingston and around Winchburgh is identified as PQAL.
Historic Environment Designations	There are two Gardens and Designed Landscapes and no national historic battlefields.
Flood Risk	There is a risk of river flooding close to East Calder and West of Livingston from the River Almond and Harwood Water. Only a small area of land is susceptible to surface water flooding
PLACE TO DO BUSINESS	
Employment	This area contains an enterprise area for food and drink / general manufacturing at Broxburn and Eliburn in Livingston. There also life sciences industries in Livingston.

	West Lothian had an effective employment land supply of 120 hectares in 2013/14.
PLACES FOR COMMUNITIES	
Housing	19% of all dwelling sales in WLC01 are from purchasers moving from the CEC sub HMA. This is a strong relationship with a large number of sales to CEC residents (1,191) and the 4th largest number of sales to Edinburgh purchasers of the non-CEC sub HMAs. SDP1 and the HLSG required West Lothian to deliver more than its own level of housing need due to environmental and infrastructure constraints in Edinburgh and the development opportunities in the West Lothian. The HLSG had a housing requirement of 18,010 (1,201 per annum) for the period 2009 to 2024 for the whole of West Lothian. Housing completions have only achieved this level twice this century (2001/02 and 2004/05). For this sub HMA average annual completions over the last 10 years are 222 dwellings. Annual completions are expected to increase as progress begins on the West Lothian Core Development Areas (including Winchburgh).
Regeneration Potential	In SIMD 2012, 13 (6.2%) of West Lothian's 211 datazones were found in the 15% most deprived datazones in Scotland, compared to 19 (9%) in 2009, 14 (6.6%) in 2006 and 9 (4.3%) in 2004. Those in this sub-HMA were in pockets in Livingston. However, there are limited regeneration opportunities in this part of West Lothian.
Centres	Livingston is identified as a regional centre in SDP1 and is a major retail centre for Central Scotland. Town and smaller centres are identified in the West Lothian LDP.
Green Network	The SESplan MIR identifies the East Calder / Livingston / A71 and Broxburn / Winchburgh / A89 Corridor areas as Strategic Green Network Priorities. Local priorities are set out in the emerging West Lothian LDP.
BETTER CONNECTED PLACE	
Transport	2011 census statistics show the following mode share for West Lothian residents travelling to work: car driver - 69.3%; bus - 8.6%; train - 5.3%; walking - 6.9%; and cycling - 0.8%. The census also shows that 65.6% of journeys made to work from West Lothian to Edinburgh are made by car/van drivers. This is a higher proportion than all other SESplan authorities (East Lothian 57.9%, Fife, 54.8% and Midlothian 59.3%) apart from the Scottish Borders (80.5%).

5 The SESplan Audit

This sub HMA contains three transport corridors (M9, M8 and A71) covering two motorways and four railway lines (Edinburgh-Glasgow via Falkirk High, Edinburgh-Glasgow via Bathgate, Edinburgh-Glasgow via Shotts and the West Coast Main Line link via Carstairs). The rail links provide a high level of connectivity both to Edinburgh and west Central Scotland centres and employment opportunities. The Network Rail Rail Utilisation Study shows that the Shotts Line is expected to be over capacity in the AM peak closer to Edinburgh but it will be fully electrified by 2019. The Edinburgh-Glasgow Improvement Programme will provide needed additional capacity and faster services on the Edinburgh-Glasgow via Falkirk High services. There are stations at Uphall, Livingston North, Kirknewton and Livingston South and West Calder. A future station, funded by development, is planned at Winchburgh. Train station car parks are near capacity[6] at Kirknewton, Livingston South and West Calder.

The SDP1 Transport Appraisal shows sections of the road network are forecast to experience increased delays. There are significant issues as the transport corridors approach western Edinburgh. Notable findings are:

- Increased delays on A801 and A7066;
- Selected junctions in Broxburn and Livingston under pressure including A899 / M8 junction;
- A899 (Livingston spine), A71 and A89 all see increased delays;
- A71 junction delays west of Livingston; and
- General deterioration in level of service on M9 / A904.

This sub HMA includes settlements which score highly for accessibility to jobs by public transport. Uphall (25th), Broxburn (30th), North Livingston (32nd) and East Calder (33rd) are the 4 highest ranked in the sub HMA. No settlement is ranked below 50th. This is because of the high level of jobs in West Lothian and three rail lines. With the delivery of a station, Winchburgh would be the 4th most accessible settlement to jobs by public transport in the region. It is 49th without a station.

6 data was not available at the time of writing for Bathgate line car park usage

Digital Connectivity	Some premises around Livingston and Broxburn have access to high speed broadband and further improvements are being made in 2015. Digital Scotland are making high speed broadband services available around Winchburgh from late 2015.
Water & Sewage	Capacity may have to be increased at the Winchburgh Waste Water Treatment Works if further development is to be accommodated.

SUMMARY

There is a significant level of planned development in this area. The area has a strong connection to the Edinburgh sub HMA. This level of planned development indicates West Lothian's ability to continue to meet a level of housing need that cannot be met within the Edinburgh's administrative boundary. Settlements are shown to be highly accessible to jobs by public transport, the area is highly connected to employment growth areas in West Edinburgh and there is also a significant local supply of employment opportunities in the area. Completions are expected to increase as existing land supply is developed and new land supply is allocated in the West Lothian LDP. This area could meet a significant level of mobile need from Edinburgh, subject to the funding and delivery of infrastructure requirements.

5 The SESplan Audit

Table 5.15 WLC02 Bathgate and Armadale

This sub HMA covers western West Lothian which is made up a number of smaller settlements, many related to former extraction industries. Bathgate is the largest settlement.	
SDP1 SPATIAL STRATEGY ASSESSMENT	
This sub HMA is wholly covered by SAA 7 - west West Lothian. It was recommended for further development because it had a good level of accessibility in regional terms and the capacity for further strategic development. Development would bring regeneration benefits for existing communities.	
MONITORING SDP1	
This sub HMA contains the West Lothian Core Development Areas of Armadale and West Livingston. It is the secondary area in West Lothian for new development in the emerging West Lothian LDP.	
PLANNING DESIGNATIONS AND FLOOD RISK	
Landscape Designations and Green Belt	This sub HMA contains two ALGVs - north-west of Armadale and part of the Bathgate Hills. Whilst there is no green belt in this area West Lothian Countryside Belts (West Lothian Local Plan policy) seek to prevent coalescence between towns and promote environmental enhancements. There are areas of countryside belts west, south and east of Bathgate.
Prime Quality Agricultural Land	There are areas of PQAL between Livingston and Bathgate and to west and north of Bathgate.
Historic Environment Designations	There is one Garden and Designed Landscape and no national historic battlefields in the sub HMA.
Flood Risk	There are large areas susceptible to surface water flooding east of Bathgate and along the Couston Water. There is a risk of river flooding from the Couston Water through Bathgate and North of Whitburn from the River Almond.
PLACE TO DO BUSINESS	
Employment	Whilst this area is not noted as having a significant business cluster, enterprise area or similar, there many job opportunities on employment sites near Bathgate and Blackburn. West Lothian had an effective employment land supply of 120 hectares in 2013/14.

PLACES FOR COMMUNITIES	
Housing	10% of all dwelling sales in WLC02 are from purchasers moving from the CEC sub HMA. Whilst this is a lower percentage than WLC03 it is a higher number of sales to CEC purchasers (470 to 156). SDP1 and the HLSG required West Lothian to deliver more than its own level of housing need due to environmental and infrastructure constraints in Edinburgh and the development opportunities in the West Lothian. The HLSG had a housing requirement of 18,010 (1,201 per annum) for the period 2009 to 2024 for the whole of West Lothian. Housing completions have only achieved this level twice this century (2001/02 and 2004/05). In this sub HMA average annual completions over the last 10 years are 451 dwellings. Annual completions exceeded 500 dwellings from 2004/05 to 2007/08.
Regeneration Potential	In SIMD 2012, 13 (6.2%) of West Lothian's 211 datazones were found in the 15% most deprived datazones in Scotland, compared to 19 (9%) in 2009, 14 (6.6%) in 2006 and 9 (4.3%) in 2004. These are mostly located in this sub-HMA in pockets in Bathgate, Armadale, Whitburn, Blackburn and Addiewell/Stoneyburn. Including the high level of vacant and derelict land in West Lothian, this is an area with significant regeneration opportunities.
Centres	There are no regional centres in this sub HMA. The West Lothian LDP identifies town and smaller centres. Bathgate is the largest town centre.
Green Network	The SESplan MIR identifies the Whitburn / Fauldhouse / Briech Valley area as a Strategic Green Network Priority area. Local priorities are set out in the emerging West Lothian LDP.
BETTER CONNECTED PLACE	
Transport	2011 census statistics show the following mode share for West Lothian residents travelling to work: car driver - 69.3%; bus - 8.6%; train - 5.3%; walking - 6.9%; and cycling - 0.8%. The census also shows that 65.6% of journeys made to work from West Lothian to Edinburgh are made by car/van drivers. This is a higher proportion than all other SESplan authorities (East Lothian 57.9%, Fife, 54.8% and Midlothian 59.3%) apart from the Scottish Borders (80.5%). This sub HMA contains two transport corridors (M8 and A71) three railway lines (Edinburgh-Glasgow via Bathgate, Edinburgh-Glasgow via Shotts and the West Coast Main Line link via Carstairs). The rail links provide a high level of connectivity both to Edinburgh and west Central Scotland centres and employment opportunities. The Network

5 The SESplan Audit

	Rail Rail Utilisation Study shows that the Shotts Line is expected to be over capacity in the AM peak closer to Edinburgh but it will be fully electrified by 2019. There are stations at Bathgate, Armadale, Blackridge, Addiewell, Breich and Fauldhouse. Data was not available at the time of writing for Bathgate line car park usage. The SDP1 Transport Appraisal shows sections of the road network in this sub HMA are forecast to experience increased delays. Particular issues are A71 junction delays west of Livingston and increased M8 related delays at junctions in Bathgate, Whitburn and Blackburn. With the exception of Bathgate (34th), settlements in this sub HMA have a poorer regional ranking for accessibility to jobs by public transport compared to WLC01 - Armadale (68th), Blackridge (72nd), Whitburn (87th) and Fauldhouse (98th). This is because they are further along the railway line from the major employment centres.
Digital Connectivity	Some premises around Bathgate have access to high speed broadband and further improvements are being made in 2015. Digital Scotland are making high speed broadband services available around Whitburn, West Calder and Harthill from late 2015.
Water & Sewage	Capacity may have to be increased at the Blackridge, Torphichen and Whitburn Waste Water Treatment Works if further development is to be accommodated.
SUMMARY	
The area has a weaker connection to the Edinburgh sub HMA than WLC01 but stronger than many other sub HMAs. Apart from Bathgate, settlements are not relatively accessible to jobs by public transport but there is also a significant local supply of employment opportunities in the area. Housing completions have been high reflecting the successful delivery of sites and the marketability of new development in the area. Current capacity in this area can meet a a level of housing need from Edinburgh subject to the funding and delivery of infrastructure requirements.	

Table 5.16 WLC03 Linlithgow

This small sub HMA centres on the historic town of Linlithgow. The rest of the areas is rural with a small undeveloped coastal stretch between the bridgehead and Bo'ness.	
SDP1 SPATIAL STRATEGY ASSESSMENT	
This sub HMA includes the western portion of SAA 6 - M9 Corridor. It was recommended for further development because it had excellent accessibility and potential capacity for further strategic development. Loss of prime quality agricultural land and impact on landscape designations are potential concerns to be taken into account at the LDP stage.	
MONITORING SDP1	
Linlithgow had been an area of development restraint in West Lothian Local Plans. This has changed in the West Lothian LDP MIR, which identifies preferred additional housing sites in the town.	
PLANNING DESIGNATIONS AND FLOOD RISK	
Landscape Designations and Green Belt	ALGVs lie immediately to the north and south of Linlithgow. There is no designated green belts or countryside belts.
Prime Quality Agricultural Land	Linlithgow is encircled by PQAL.
Historic Environment Designations	There are no Gardens and Designed Landscapes and one inventory historic battlefields (Battle of Linlithgow Bridge). The battle site straddles the West Lothian / Falkirk boundary.
Flood Risk	There is no risk of coastal flooding. There is some risk from surface water flooding within the existing built up area in Linlithgow. There is a risk of river flooding from the River Avon west of Linlithgow and parts of the Niddry Burn.
PLACE TO DO BUSINESS	
Employment	There are no significant employment clusters in this sub HMA although it is in close proximity to others and employment at Grangemouth, Falkirk and Livingston. West Lothian's employment land supply is predominantly located in the other West Lothian sub HMAs.
PLACES FOR COMMUNITIES	

5 The SESplan Audit

Housing	17% of all dwelling sales in WLC03 are from purchasers moving from the CEC sub HMA. However, this sub HMA has a low overall number of sales from CEC purchasers (156) compared to other sub HMAs. SDP1 and the HLSG required West Lothian to deliver more than its own level of housing need due to environmental and infrastructure constraints in Edinburgh and the development opportunities in the West Lothian. The HLSG had a housing requirement of 18,010 (1,201 per annum) for the period 2009 to 2024 for the whole of West Lothian. Housing completions have only achieved this level twice this century (2001/02 and 2004/05). In this sub HMA average annual completions over the last 10 years are 23 dwellings.
Regeneration Potential	There are no areas within the 15% most deprived in this sub-HMA and no significant regeneration opportunities.
Centres	Linlithgow is the only town centre in this sub HMA.
Green Network	The SESplan MIR identifies the Linlithgow area as a Strategic Green Network Priority area. Local priorities are set out in the emerging West Lothian LDP.
BETTER CONNECTED PLACE	
Transport	2011 census statistics show the following mode share for West Lothian residents travelling to work: car driver - 69.3%; bus - 8.6%; train - 5.3%; walking - 6.9%; and cycling - 0.8%. The census also shows that 65.6% of journeys made to work from West Lothian to Edinburgh are made by car/van drivers. This is a higher proportion than all other SESplan authorities (East Lothian 57.9%, Fife, 54.8% and Midlothian 59.3%) apart from the Scottish Borders (80.5%). Linlithgow railway station provides quick access to both Edinburgh and West Central Scotland. However, the station car park is at or near capacity. The M9 runs through the area and and is forecast to have a general deterioration in service. West facing slips are being considered on the M9 at J3. Delays and congestion are forecast in Linlithgow itself. Linlithgow was the only settlement included in the accessibility analysis from this sub HMA. However, it is highly accessible to jobs by public transport. North Linlithgow (8th) is slightly higher ranked than south Linlithgow (14th).
Digital Connectivity	Digital Scotland are making high speed broadband services available around Linlithgow from 2016.

Water & Sewage	Capacity may have to be increased at the Bridgend, Philpstoun and Whitecross Waste Water Treatment Works if further development is to be accommodated.

SUMMARY

Environmental and landscape designations, accessibility concerns, sustainable development considerations and constraints impact on the suitability of this area for additional development. Linlithgow is a small, historically constrained town and it therefore may be not suitable for meeting mobile Edinburgh demand and additional despite high public transport accessibility to employment.

6 Considerations for MIR2

The spatial strategy in SDP2 will encapsulate the main changes which the plan seeks to achieve, setting a broad locational strategy for development up to year 12 from the plan's approval and an indication of the possible scale and direction of growth up to year 20.

SDP1 sets out locational priorities for development and gives a broad indication of the scale and direction of growth across the SESplan area over the period to 2032. The strategy of SDP1 steers housing growth to sustainable locations where there is infrastructure capacity or which minimise the requirement for additional investment. In particular, due to environmental constraints and other restrictions on land availability within Edinburgh's boundaries, SDP1 directs that a significant proportion of housing need and demand arising in that area is to be met on housing land allocations in the other five LDP areas.

The approach of SDP1 is relatively up to date as the SDP was only approved in June 2013. It is therefore appropriate to identify the continuation of the current spatial strategy as an option within MIR2. However the largest concentrations of economic activity and employment are located within or close to the City of Edinburgh. Options which therefore direct growth closer to the City to a greater or lesser extent have also been identified.

Three options for the spatial strategy for SDP2 have been identified.

- **Option 1 (Concentrated Growth)** - additional growth is focused in the city and areas adjoining Edinburgh's urban area.
- **Option 2 (Distributed Growth)** - a continuation of the approach of SDP1.
- **Option 3 (Growth Corridors)** - focused on the city with additional growth close to Edinburgh's urban area and along corridors with public transport access.

Each option demonstrates an amount of green belt loss as it is not considered possible to accommodate the calculated growth without change. It is recognised that Edinburgh’s Green Belt has in effect encouraged a more dispersed approach to development in the last few decades and that this was not necessarily desirable for both environmental and economic reasons. It will be a key outcome of the MIR to determine what form and extent the Edinburgh Green Belt will take in the future.

An assessment of these options against each of the the three themes of MIR2 is provided in Table 6.2 below. A further key consideration is the emerging conclusions from the SESplan Audit and these are summarised in Table 6.1 below.

Table 6.1 Summary of Emerging Conclusions from the SESplan Audit

Member Authority	Emerging Conclusions
City of Edinburgh	West Edinburgh and South East Edinburgh are already accommodating significant levels of new development in the LDP, reducing the capacity for further development. Further development could be directed to accessible areas of the Edinburgh Green Belt that do not significantly contribute to green belt purposes to the west and south east of Edinburgh. This will be subject to avoiding areas of flood risk and functional flood plain and taking other planning related designations into account. However, based on recent completions, planning and landscape considerations and the capacity to deliver new infrastructure, the City of Edinburgh cannot deliver the annualised level of housing required by 2029 to meet the Steady Economic Growth forecast of approximately 3,300 dwellings per annum. To do this would require development on Green Belt / Prime Quality Agricultural Land with subsequent landscape and visual impacts. Extensive flood mitigation works would also be required. Historic completions rates indicate that this level of completions could not be sustained over a 12 year plan period which would result in failure of the plan and strategy. There may be a need to for the Edinburgh LDP area to accommodate additional development to 2029 and there is potential capacity for this to be achieved (subject to further studies). This could require revision to the identified West and South East Edinburgh SDAs. However, as set out in SDP1, the level of this additional development would be restricted by delivery, environmental, policy and capacity constraints.
East Lothian	The west of East Lothian has a strong connection to the Edinburgh and settlements here are shown to be highly accessible to jobs by public transport. However, additional development above that identified in the East Lothian MIR would require further loss of green belt and prime quality agricultural land and further education capacity when emerging education requirements are challenging. Further loss of green belt would lead to coalescence of settlements. The coastal area of East Lothian Coastal is a largely rural and poorly accessible area with significant biodiversity and agricultural assets. Environmental and landscape designations, poor public transport accessibility and sustainable development considerations and constraints indicate that this is not a sustainable location for significant additional development.

6 Considerations for MIR2

Member Authority	Emerging Conclusions
	To the east, the area around Dunbar is not suitable for meeting mobile Edinburgh need as the area is largely rural and only accessible on a sustainable basis via an infrequent rail service. Accessibility and overall sustainability would be improved if the station at East Linton and additional rail services are delivered. Further development in East Lothian would lead to additional pressures on key trunk road network junctions and the A720.
Fife	The west of Fife has a strong connection to Edinburgh. Settlements are shown to be highly accessible to jobs by public transport and there is also a significant local supply of employment opportunities in the area. There are opportunities to deliver planned development. Current development capacity could continue to meet a significant level of mobile need from Edinburgh but environmental considerations and development capacity limited the suitability of coastal Fife for development. The eastern area of Fife has a weaker relationship to Edinburgh reflecting travel times and accessibility to the city (with the exception of Kirkcaldy). However, there is also a significant employment land supply to create employment opportunities. There are opportunities to deliver greater numbers of housing than more recent completions. Whilst there are regeneration opportunities, it may be suitable that only a limited portion of development capacity should be used to meet development need from Edinburgh.
Midlothian	The area around Dalkeith, Gorebridge and Bonnyrigg have a strong connection to Edinburgh reflecting their proximity. Settlements are shown to be highly accessible to employment by public transport and there is also a significant local supply of employment opportunities in the area. The opening of the Borders Railway provides an opportunity for further sustainable travel helping to reduce car mode share on journeys to work in Edinburgh. Opportunities close to the stations have been identified in the emerging LDP. Current development capacity could continue to meet a significant level of mobile need from Edinburgh. However, further development in additional to what is planned could lead to coalescence of settlements and loss of green belt and prime quality agricultural land with associated landscape impacts. The area of Penicuik and Loanhead has a strong connection to the Edinburgh, reflecting their proximity. Additional development could lead to coalescence of settlements and loss of green belt and prime quality agricultural land with associated landscape impacts. However, settlements are shown to be accessible to employment by public transport and there is also a significant local supply of employment opportunities in the area.

Member Authority	Emerging Conclusions
Scottish Borders	The Central Borders, Northern Borders and Berwickshire areas have a weaker housing market connection to Edinburgh than other parts of the SESplan area. However, the relationship in Central Borders is expected to grow with the opening of the Borders Railway. Settlements are shown to be less accessible to jobs by public transport but are accessible for the Scottish Borders. There are opportunities to deliver more housing than recent completions. The Central and Northern Borders areas could meet a proportion of mobile need from Edinburgh using development capacity, although Central Borders would be more appropriate given the Borders Railway. Using development capacity in Berwickshire to meet mobile need from Edinburgh would be unsustainable as long journeys would be required to be made by car. The Southern Borders area should not meet any housing need arising in Edinburgh due to poor public transport accessibility and its isolated nature.
West Lothian	There is a significant level of planned development for the area of Livingston and Broxburn. The area has a strong connection to Edinburgh. The level of planned development here indicates West Lothian's ability to continue to meet a level of housing need that cannot be met within the Edinburgh's administrative boundary subject to the funding and delivery of infrastructure requirements. Settlements are shown to be highly accessible to jobs by public transport, the area is highly connected to employment growth areas in West Edinburgh and there is also a significant local supply of employment opportunities in the area. The area of Bathgate and Armadale has a weaker connection to Edinburgh than Livingston and Broxburn but the relationship is stronger than many other areas. Apart from Bathgate, settlements are not relatively accessible to jobs by public transport but there is also a significant local supply of employment opportunities in the area. Current capacity in this area can meet a a level of housing need from Edinburgh subject to the funding and delivery of infrastructure requirements. Environmental and landscape designations, accessibility concerns, sustainable development considerations and constraints impact on the suitability of the Linlithgow area for additional development despite high public transport accessibility to employment.

6 Considerations for MIR2

Table 6.2 Assessment of Spatial Strategy Options

	Option 1 Concentrated Growth	Option 2 Distributed Growth	Option 3 Growth Corridors
Comparison to Approved SDP1 Strategy	City focused.	Similar distribution to SDP1.	More focused on the city and its close vicinity than Option 2.
A Place to do Business - Will this Option support employment and the economy, attracting investment to the city region?	Supports needs of business in Edinburgh. City development supports expected large city job growth. Large scale impact on infrastructure despite planned improvements, therefore acting as a barrier to further economic development.	Would not support key sectors which benefit concentrating in clusters around Edinburgh. Does not reflect the draw of economic activity to the Capital. Further distributing housing and employment away from the city may be less likely to attract investment to the city region. May lead to longer commuter trips and less sustainable travel patterns due to significant employment clusters being further from where workers live.	Builds on Edinburgh's regional role as the main focus for economic activity. Recognises significant business clusters and economic activity located throughout Edinburgh and South East Scotland. Would bring challenges around delivery of infrastructure in and around Edinburgh to ensure attractiveness and competitiveness of region is not compromised.
A Place for Communities - Will this Option support the development of quality neighbourhoods that make the	The needs of communities in the wider South East Scotland region could be compromised and longer, less sustainable journeys	Areas close to Edinburgh will not be able to fully accommodate distributed need, therefore it will have to be spread more widely.	By locating strategic development close to major centres of services and employment there is a greater chance of more cohesive communities being formed.

	Option 1 Concentrated Growth	Option 2 Distributed Growth	Option 3 Growth Corridors
best use of available resources?	to access work and services encouraged. Edinburgh's economic success is based to a significant degree on its quality of life and this would possibly be under threat due to the large levels of development and subsequent loss of green areas.	Risk of unsustainable rapid expansion of existing settlements across the city region with large amounts of housing land identified which may lead to the formation of commuter based communities which area unrelated to existing towns.	An essential part of this strategy would be the masterplanning of the growth corridors around the city and into the wider Edinburgh and South East Scotland region to ensure that they were well designed provide green infrastructure and allow for good access to services and employment.
A Better Connected Place - Will this Option improve connectivity? Is the need to travel and length of journeys reduced? Does it build on existing connectivity and capacity?	Locates development in the most accessible locations but these locations also experience severe infrastructure capacity issues. Development would be spread away from existing transport corridors, impacting on the network and difficult to service with public transport without significant new interventions. Concentrating development will shorten journeys and reduce the need to travel.	Development distributed to areas with greater network capacity than the city. Will lead to longer journeys to employment, particularly to jobs in the Edinburgh area. The majority of these journeys are likely to be made by car.	Accessibility to work is highest in and close to the city but networks are congested. Distributing some strategic development along public transport corridors allows access to the city and supports the use of more sustainable travel modes. Need to travel is likely to be less and journey lengths are likely to be shorter than Option 2.

6 Considerations for MIR2

	Option 1 Concentrated Growth	Option 2 Distributed Growth	Option 3 Growth Corridors
SEA - What is the likely environmental impact of this Option?	Positive impacts for air quality and minimising CO_2 emissions due to reduced car travel need and journey length. A concentrated strategy would lead to pressure to develop less suitable sites resulting in negative impacts on biodiversity, cultural heritage, soil and flood risk. Not all of these impacts could be mitigated against. There would be a significant loss of agricultural land.	Positive impacts have only been identified for population and human health. Some positive impacts from the Edinburgh area are more than outweighed by the impacts on other SESplan settlements through the need to identify land to meet their own and dispersed need. Impacts from increased numbers and length of journeys by car. Notable negative impacts identified on air quality, biodiversity, climate change, historic, environment, landscape, soil and agricultural land.	Positive impacts have been identified on CO_2 emissions, population and human health and flood risk and water quality. Development close to the city would require shorter journeys which would support public transport and active travel. Would require greenfield development. There would be negative impacts on soil quality and a loss of agricultural land. Allows for sufficient land for the development of Green Networks. Best performing against SEA objectives.
Strategic Spatial Impact of Option	Significant green belt releases around the city to accommodate development. Could lead to significant change to character of Edinburgh.	Spatial pattern which the current green belt promotes as it restricts development close to the city.	Green belt release focused to the west and south east of the city. Strategic allocations to settlements within surrounding areas close to Edinburgh's

	Option 1 Concentrated Growth	Option 2 Distributed Growth	Option 3 Growth Corridors
	Some small scale allocations required across rest of region although in many places sufficient supply of land will already be available.	Limited green belt release to the west and south east of the city (includes areas in Midlothian). Strategic and local scale allocations to many settlements across the region irrespective of their distance from Edinburgh.	urban area along public transport corridors from strategic employment locations. Some small scale allocations required across rest of region although in many places sufficient supply of land will already be available.
Summary of Assessment	The main impact would be felt in and around Edinburgh (see Figure 2.2 within the MIR). This option is not preferred due to the environmental impact of major green belt loss, which could change the character of the city. It is also unlikely that infrastructure in the Edinburgh area could accommodate such levels of development without significant additional investment.	This option could have a major impact on all parts of the SESplan area (see Figure 2.3 within the MIR). It directs development to areas away from where need and demand is generated, resulting in increased journey times to Edinburgh. It does not realise growth potential of the city to the benefit of the city region. Large scale growth would be in areas which do not have the supporting services, creating significant investment requirements. A continuation of this strategy is unlikely to be achievable as demand around the	This is a balanced option which looks to bring development close to where need arises (see Figure 2.4 within the MIR). The main impact would be in Edinburgh and the areas closest to the city. This option allows for some strategic scale development to be located away from the city but within a proximity that supports sustainable travel patterns. This would be supported in the wider region by additional, small scale development where required.

6 Considerations for MIR2

	Option 1 Concentrated Growth	Option 2 Distributed Growth	Option 3 Growth Corridors
		city would continue to be unmet and development to meet that demand is likely to be pursued outwith a plan led process.	

6.1 Option 3 represents an evolution of the strategy set out in SDP1. It is focused on the city with additional growth located close to Edinburgh's urban area and along corridors with good public transport access.

6.2 To counter potential negative environmental impacts, it is important that any changes to the Edinburgh Green Belt are progressed in a strategic, planned manner and master planned. Such a process would aim to ensure the creation of high quality places and that green network opportunities are realised and the Green Belt continues to contribute to the region's high quality environment. In some areas this may lead to the creation of green wedges. The remaining Edinburgh Green Belt must be protected from further development through long term protection in development plans. In addition, the Green Belt should be managed to ensure that areas such as green wedges contribute to the strategic green network.

Appendices

SESplan
The Strategic Development Planning Authority for Edinburgh and South East Scotland

Strategic Flood Risk Assessment 1

SESplan
The Strategic Development Planning Authority for Edinburgh and South East Scotland

1 Strategic Flood Risk Assessment

Introduction

1.1 The Flood Risk Management (Scotland) Act 2009 makes it clear that all bodies involved in managing flood risk should aim to reduce flood risk by focusing efforts on those areas and communities at greatest risk.

1.2 The Strategic Flood Risk Assessment (SFRA) is being produced in conjunction with the Main Issues Report (MIR). The MIR preparation will be informed and supported by a strategic overview of flood risk management issues. Planning authorities should prepare an SFRA at a more detailed level to inform their Local Development Plans (LDPs). An SFRA is not required to be prepared to inform the SDP but it is considered best practice.

1.3 The level of detail and information is proportionate to the issues in SESplan. It is principally a desk based study making use of existing information which has been developed in cooperation with the Scottish Environmental Protection Agency (SEPA).

What is a Strategic Flood Risk Assessment?

1.4 Flood risk is a matter of national interest and an important consideration for land use planning decisions. An SFRA is a practical tool to manage flood risk through the development plan process. The preparation of an SFRA demonstrates SESplan's consideration of flood risk throughout the preparation of the MIR and will be updated at key stages of the plan process including Proposed Plan and the next approved Strategic Development Plan (SDP2). It has been prepared in liaison with the SEPA reflecting their advice on flood risk in the SESplan area and follows the guidance set out in the SEPA document "Strategic Flood Risk Assessment – SEPA technical guidance to support Development Planning".

1.5 Primarily the aim of the SFRA is to inform the SDP by providing an overview of flood risk in the SESplan area and offer analysis and presentation of the available information on flood risk from all sources. It is used to inform the spatial strategy by the identification of areas most suitable for development and areas that should be safeguarded for sustainable flood management.

1.6 Individual Council area SFRA's have been carried out by four of the six SESplan member authorities to better understand flooding at the local level. East Lothian and City of Edinburgh will prepare their SFRA's at a later date. All members have considered flood risk in the preparation of their own MIRs and accompanying Environmental Reports. The SESplan SFRA differs from the Local Authority SFRAs in that it assesses cross boundary flood risk issues and does not go into the same level of detail. SESplan does not allocate individual sites; it gives broad indications of areas suitable for development.

1.7 SESplan member authorities SFRAs available:

- Fife Council here;
- Midlothian Council here;

1 Strategic Flood Risk Assessment

- Scottish Borders here; and
- West Lothian Council here

Background and Policy Context

1.8 The Flood Risk Management (Scotland) Act 2009 sets in place a statutory framework for delivering a plan-led, catchment based, sustainable and risk-based approach to managing flooding. This includes the preparation of assessments of the likelihood and impacts of flooding, and catchment based plans to address these impacts. By 2016 flood risk management plans will be in place across Scotland through SEPAs 14 Local Plan Districts.

1.9 Scottish Planning Policy (SPP) requires SDPs to address any significant cross boundary flood issues, including identifying areas of the functional flood plain and storage capacity. These areas should be protected from inappropriate development. It should acknowledge relevant drainage capacity issues. SDPs should take the probability of flooding from all sources and all risks involved when preparing plans. New development should be free from significant flood risk from any source and should not increase flood risk elsewhere in accordance with SPP. It is stated that planning authorities should exercise a precautionary approach to flood risk from all sources through:

- Taking account of the predicted effects of climate change from coastal, water course (fluvial), surface water (pluvial), groundwater, reservoirs and drainage systems (sewers and culverts);
- Safeguarding flood storage and conveying capacity, and locating development away from functional flood plains and medium to high risk areas;
- Assessing flood risk and, where appropriate, undertaking natural and structural flood management measures, including flood protection, restoring natural features and characteristics, enhancing flood storage capacity, avoiding the construction of new culverts and opening existing culverts where possible; and
- Avoidance of increased surface water flooding through requirements for Sustainable Urban Drainage Systems (SUDS) and minimising the area of impermeable surface.

1.10 SPP stipulates that plans should use an SFRA to inform choices about the location of development and policies for flood risk management. They should have regard to the flood maps prepared by SEPA and take account of finalised and approved Flood Risk Management Strategies and Plans and River Basin Management Plans.

Aims and Objectives / Scope

1.11 The aim of the SFRA is to provide a sufficiently detailed document that gives robust consideration to flooding and drainage issues in SESplan. The assessment will form part of the evidence base in directing growth in the MIR. The level of detail will be of an appropriate scale for a strategic level of assessment and will not repeat the level of detail assessed at

LDP level. The detail will be sufficient to enable SEPA to support development areas in principle. It is being prepared on a catchment basis making reference to SEPAs river classification scheme for large catchments (greater than 10km^2) and to sub catchment units within the National Flood Risk Assessment (NFRA).

1.12 Key information includes:

- all potential sources of flooding;
- climate change impacts;
- existing flood defences and flood risk management infrastructure;
- Identification of the functional flood plain;
- Identification of relevant drainage issues; and
- Identification of sites or areas constrained by flood risk.

1.13 The primary aim is to avoid locating new development in areas at risk of flooding by giving careful consideration to the implications of coastal / tidal, fluvial or pluvial flooding. The main objectives of the SFRA are:

- Ensure development does not take place in areas of flood risk or contribute to flooding elsewhere;
- Provide the baseline for the Environmental Report;
- Identify flood risk areas; and
- Provide an evidence-based report to inform the spatial strategy.

Area Profile

City of Edinburgh

1.14 There are a number of smaller rivers which flow from South West to North East rising in and around the Pentland Hills and discharging into the Firth of Forth. The Water of Leith which flows through the city is the main water body and has the widest impact on the city due to the density of population around the river. The north of the city faces onto the Firth of Forth coastal area. There are a number of water bodies in West Edinburgh which also drain north into the Firth of Forth such as the River Almond which flows from North Lanarkshire, through West Lothian and then into Edinburgh before reaching the Forth. There are three flood prevention schemes in Edinburgh, two on the Braid Burn and one on the Water of Leith. A further three schemes have been confirmed by the Scottish Government for the Water of Leith but have not yet been fully implemented.

1 Strategic Flood Risk Assessment

1.15 In April 2000 the Water of Leith and the Braid Burn flooded. There is a long history of flooding in this area dating back to the 14th century. As the city has grown the number of properties at risk of flooding has risen. Despite existing flood defences in some areas, flooding can still occur depending on reservoir level before heavy rainfall and the severity of the event. The Gogar Burn and River Almond are a source of flood risk in West Edinburgh. The River Almond flows parallel to Edinburgh airport and the Gogar Burn flows through the airport. Both have a history of flooding and have caused flooding to nearby property and infrastructure.

East Lothian

1.16 East Lothian has 53 water bodies including rivers, lochs, estuaries, coastal waters and ground water bodies. Most rivers flow north and drain into the Firth of Forth where there are a number of designated sites including Natura 2000 and SSSI sites. Other rivers flow south before joining the River Tweed, a Special Area of Conservation. There is one Flood Prevention Scheme in East Lothian; a protective seawall in Prestonpans. In 2009, 34% of East Lothian's water bodies were at a good ecological status, 66% were poor, bad or moderate ecological status. Water bodies are in better condition in the south of the region and condition deteriorates the further north because of agricultural activity leading to diffuse source pollution, water abstraction, flow regulation and morphological changes.

1.17 There is a well-documented history of significant flooding in the SESplan area, much of this in the Scottish Borders, East Lothian, and Edinburgh areas. The River Tyne, River Esk, and Biel Water have a history of flooding in East Lothian impacting on communities including Musselburgh, Haddington, and West Barns. The River Tyne flooded properties in Haddington in 1931, 1948, 1956, 1984 and 1990. Watercourses elsewhere including those in East Linton, Pencaitland and Ormiston are prone to flooding after heavy rainfall. The 1948 flood also caused significant property and infrastructure damage in Haddington from the River Tyne, at West Barns from the Biel Water and at Musselburgh from the River Esk.

Fife

1.18 Fife is covered by a large coastal area that is potentially vulnerable to flooding. Areas susceptible include Torryburn, Crombie Pier, Charlestown, Kinghorn, Kirkcaldy and Wemyss Villages. Work restoring the Kirkcaldy seawall is ongoing. There are several areas susceptible to fluvial flooding in Fife, including the River Leven. There are four flood prevention schemes in Fife including on the Peffermill Burn, Baldridge Burn, Torry Burn and Town and Lyne Burn. The quality of the environment along the coast has been assessed as good by SEPA. Some water bodies further inland are classed as poor because of diffuse pollution associated with agriculture.

Midlothian

1.19 The River Esk and River Tyne have a high visual amenity and are the largest water bodies in Midlothian. There are 56 fresh water stretches either wholly or partly within Midlothian, none have been classed as having a good or excellent ecological status which is a considerable drop from previous Environmental Reports. This is likely to be caused by

a change in assessment rather than a change in the water environment. There are two Flood Prevention Schemes in West Lothian, one on the River Esk and a surface water scheme in Penicuik.

1.20 Several areas in Midlothian have a history of fluvial and surface water flooding. Bonnyrigg, Dalkeith, Gorebridge and Lasswade have had several flood events since 2000. Actions have been taken in some areas where a specific cause has been found to exacerbate flooding events in order to alleviate some risk; some causes include debris in rivers disrupting flows.

Scottish Borders

1.21 The Scottish Borders are pro-active in engaging communities in flooding and raising awareness, they published their SFRA alongside their MIR in 2011. There are several existing and planned flood defence schemes and flood protection works. Some natural flood risk management projects also exist and more are being promoted when considering flood alleviation to existing areas, although natural flood management alone will not enable new development.

1.22 There are many plaques along the lowers reaches of the River Tweed marking the water levels that the 1831 flood reached. The August 1948 Great Borders Flood generally reached higher levels than the one in 1831. Other notable events include that in July 1846 in Hawick when the Slitrig Water was 14-15ft above normal levels and swept away a tree plantation at Stobs. The trees contributed to the bridge blockage in Hawick which further elevated flood levels. In more recent times there was significant flooding in Selkirk in October 1977 from the Ettrick Water. Flooding on the Eye Water caused extensive damage to the East Coast Main Railway Line washing away several bridges and breaching embankments. Trees and other debris were swept down the rivers and blocked bridges and culverts adding to the flooding damage. A survey after the event revealed that 20 bridges in the affected area were washed away and another seven were severely damaged. The East Coast railway line was closed for 11 weeks.

West Lothian

1.23 West Lothian is less likely to be impacted by coastal flooding but is vulnerable to river flooding and surface water flooding. The River Almond flows through Livingston, the Authorities most densely populated town, and into West Edinburgh. Any impact within West Lothian on the River Almond could have a negative impact on the ecological quality further downstream in Edinburgh or increase flooding. There is a flood prevention scheme in Linlithgow and a planned scheme confirmed by the Scottish Government for Broxburn after several flood events, the last being in August 2008.

SDP1 Policy 15 Water and Flooding

1.24 SDP1 contained a policy on water and flooding which is currently informing LDPs when allocating sites. The policy highlights the management of water as a key infrastructure issue and fundamental to the programmed delivery of development. The policy is informed by the Flood Risk Management (Scotland) Act 2009 promoting sustainable flood risk

management and encourages collaboration between Local Planning Authorities (LPAs), SEPA and Scottish Water to reduce overall flood risk. Flood risk is to be considered at a catchment-scale identifying any areas where there is a degree of flood risk and the SDP and LDPs should develop policies that reduce risk by avoiding development in these areas. The policy states that LDPs will:

- Identify areas of flood risk and priority schemes to assist in the reduction of overall flood risk which accord with the principles of sustainable development;
- Avoid any new development in areas at medium to high flood risk and safeguard areas which will contribute to reducing overall flood risk; and
- Make provision to prevent deterioration of the water environment resulting from new development and promote water efficiency in all development proposals. Where appropriate, promote enhancement of the natural water environment.

SPP Flood Risk Framework

1.25 SPP states that LDPs should use the following flood risk framework to guide development. This sets out three categories of coastal and watercourse flood risk together with guidance on surface water flooding, and the appropriate planning approach for each.

Table 1.1 SPP Flood Risk Framework

Annual Probability	Explanation	Appropriate Development
Little or No Risk	annual probability of coastal or watercourse flooding is less than 0.1% (1:1000 years).	• No constraints due to coastal or watercourse flooding.
Low to Medium	annual probability of coastal or watercourse flooding is between 0.1% and 0.5% (1:1000 to 1:200 years).	• A flood risk assessment may be required at the upper end of the probability range (i.e. close to 0.5%), and for essential infrastructure and the most vulnerable uses. Water resistant materials and construction may be required. • Generally not suitable for civil infrastructure. Where civil infrastructure must be located in these areas or is being substantially extended, it should be designed to be capable of remaining operational and accessible during extreme flood events.

Annual Probability	Explanation	Appropriate Development
Medium to High	annual probability of coastal or watercourse flooding is greater than 0.5% (1:200 years).	May be suitable for: • residential, institutional, commercial and industrial development within built-up areas provided flood protection measures to the appropriate standard already exist and are maintained, are under construction, or are a planned measure in a current flood risk management plan; • essential infrastructure within built-up areas, designed and constructed to remain operational during floods and not impede water flow; • some recreational, sport, amenity and nature conservation uses, provided appropriate evacuation procedures are in place; and • job-related accommodation, e.g. for caretakers or operational staff. Generally not suitable for: • civil infrastructure and the most vulnerable uses; • additional development in undeveloped and sparsely developed areas, unless a location is essential for operational reasons, e.g. for navigation and water-based recreation, agriculture, transport or utilities infrastructure (which should be designed and constructed to be operational during floods and not impede water flow), and an alternative, lower risk location is not available; and • new caravan and camping sites. • Where built development is permitted, measures to protect against or manage flood risk will be required and any loss of flood storage capacity mitigated to achieve a neutral or better outcome. • Water-resistant materials and construction should be used where appropriate. Elevated buildings on structures such as stilts are unlikely to be acceptable

1 Strategic Flood Risk Assessment

Approach

1.26 This interim SFRA will accompany the MIR and will be updated to reflect the Proposed Plan when it is published. The interim SFRA will be used to inform the spatial strategy and assist in the determination of options for the location of strategic development areas for SDP2. The assessment of land includes the consideration of potential flood risk at a strategic level. The strategic assessment included in this report consists of information from SEPA and the member authorities Flood Management Teams as available at the time of preparation of the Interim SFRA.

1.27 SEPA as a part of the National Flood Risk Assessment (NFRA) has identified Local Plan Districts based on river catchments and Potentially Vulnerable Areas where there is a risk of flooding. Priority areas have also been identified where there is deemed to be a particular risk from surface water flooding. This Interim SFRA covers the SESplan area, which includes 3 Local Plan Districts as identified by SEPA: Solway Tweed and Forth Estuary. Within these there are a number of Potentially Vulnerable Areas and surface water priority areas also identified. The approach of the member authorities flood risk strategy is included in the table below:

Table 1.2 Local Authority Flood Risk Strategy

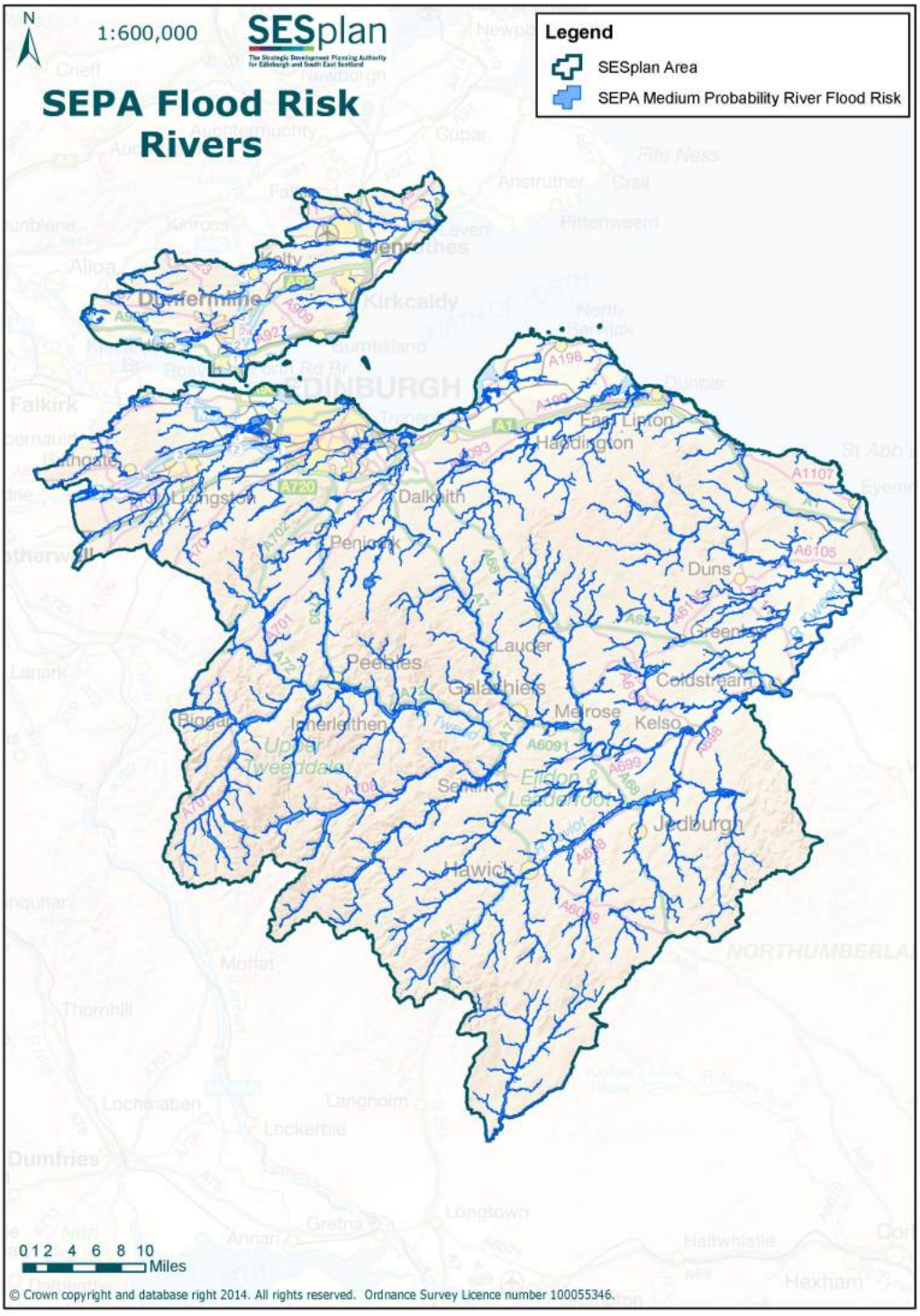
Local Authority	Flood Risk Strategy
City of Edinburgh	The City of Edinburgh Council is the Lead Local Authority for the Forth Estuary Local Plan District. The Council will be completing the Local Flood Risk Management Plan (LFRMP) on behalf of the 11 Council's (City of Edinburgh, Clackmannanshire, East Lothian, Falkirk, Fife, Midlothian, West Lothian, Stirling, Scottish Borders, Perth & Kinross and North Lanarkshire) within the District in late 2015 following completion by SEPA of setting objectives and recommending short term measures. A Surface Water Management Plan for the District will also be produced in tandem and inserted within the LFRMP. Until these Plans are issued it is not possible for council's to identify locations where flood alleviation (for coastal / pluvial or fluvial sources) will be required. The Flood Hazard Maps provide Councils with a good framework indicating areas where flood risk management will be required or further information sought otherwise the land will be deemed not suitable for development.
East Lothian	East Lothian have not yet prepared an SFRA but information on flood risk and its influence on new development is included in their MIR and accompanying Environmental Report.
Fife	An SFRA for Fife has been agreed with SEPA and was published in October 2014 to accompany publication of the FIFEplan Proposed LDP. Fife Council will update this document at key stages of the LDP process, reflecting the latest information available. Existing flood alleviation schemes in the SESplan are listed in Table 4.

Strategic Flood Risk Assessment 1

Local Authority	Flood Risk Strategy
Midlothian	An SFRA for Midlothian was published in May 2013 to accompany publication of the Midlothian LDP MIR. Midlothian Council expects to update this document at important stages of the LDP process, reflecting the latest information available, and progress on the Local Flood Risk Management Plan.
Scottish Borders	Scottish Borders Council has in place ten flood prevention schemes, these schemes were implemented under the Flood Prevention (Scotland) Act 1961 as listed in table 4. Seven flood studies were undertaken in the period 2000 to 2007 for Galashiels, Hawick, Jedburgh, Newcastleton, Peebles, Selkirk and Stow. They are currently developing four flood protection schemes, one under the Flood Prevention (Scotland) Act 1961 and three under the Flood Risk Management (Scotland) Act 2009, proposed schemes are included in table 1.4. An SFRA was undertaken based on the above flood studies, new flood schemes and SEPA's Indicative River and Coastal Flood Map (Scotland). This fed into the development of the MIR and Proposed Plan, providing a strategic overview of flood risk management issues. The role of the SFRA was to help determine whether the potential development sites identified were suitable for allocation as part of the subsequent plan making stage. All sites have been re-evaluated following the publication of SEPA's new flood maps in 2014.
West Lothian	An SFRA which adheres to national policy has been prepared for West Lothian and is used to inform the MIR. Development is discouraged from areas which are or may become subject to flood risk. Development is resisted on flood plains or low lying land adjacent to rivers or if it would create an unmanageable flood risk elsewhere. Medium to High risk flood areas are not considered acceptable for infrastructure such as schools or hospitals or in undeveloped or sparse areas. Development might be acceptable in built up areas subject to appropriate flood risk prevention measures being planned, under construction or part of a long term development strategy. Low to Medium risk flooding areas are mostly suitable for development; flood risk assessments will be required for developments at the upper end of the scale or a heightened risk. An avoidance of flood risk is crucial to achieving sustainable development and should be the preferred strategy.

1 Strategic Flood Risk Assessment

Figure 1.1



Potential Sources of Flooding

1.28 SEPA guidance (SFRA - SEPA technical guidance to support Development Planning) on sustainable flood risk management identifies the following primary sources of flooding:

1.29 Coastal, and river and pluvial flood maps available here.

Table 1.3 Sources of Flooding

Source of Flooding	Information
River (fluvial) and Coastal Flooding	River flooding occurs when the water draining from the surrounding land exceeds the capacity of the watercourse. The map does not include rivers with a draining catchment of less than 3 sq.kms. Coastal flooding is caused by astronomical tides, storm surges and high waves. The SEPA Flood Map shows the probability of flood risk from fluvial and coastal sources as low (1:1000) medium (1:200) and high (1:10) scenarios. The Coastal Flood Boundary method used to derive the still water flood level does not take into account the potential effects of wave action, funnelling, or local bathymetry at a specific location.
Surface Water (pluvial) Flooding	This is caused when rainfall flows over the ground before it enters a natural or manmade drainage system or watercourse, or when it cannot enter the drainage system because the system is already full to capacity. SEPA has developed a national surface water Flood Map which combines information on rainfall and sewer model outputs. It incorporates data from a national surface water study, a regional surface water study with increased resolution in selected areas and a Scottish Water sewer flooding assessment. The impact of pluvial flooding, where known or inferred to be problematic, is considered in the site assessment section of an application. It is difficult therefore to assess pluvial flooding at the development plan as it is normally considered as part of the development management process.
Sewer Flooding	This occurs when combined sewers are overwhelmed by heavy rainfall or suffer blockage or collapse. Sewer flooding is closely linked to surface water flooding, and may contain untreated foul water. The discharge of foul water from Combined Sewer Overflows (CSOs) into watercourses is a separate water quality and environmental issue. Sewage treatment is normally considered as part of the development management process. Scottish Water is a consultee on planning applications, and is a key agency in the development plan process (within the meaning of the Planning etc. Scotland Act 2006).
Groundwater Flooding	This occurs when water levels below ground (i.e. in soils, sands and gravels or rock formations) rise above surface levels. SEPA has undertaken an assessment of the causes and potential extent of groundwater flooding. Regional screening of areas potentially susceptible to groundwater flooding has been undertaken, and further hazard assessment work is to be carried out.

1 Strategic Flood Risk Assessment

Source of Flooding	Information
Reservoir and other infrastructure flooding	Failure of infrastructure such as dams or canals could result in a large volume of water being released quickly. Under the Reservoirs (Scotland) Act 2011, SEPA will be required to assign a risk designation of either 'high', 'medium' or 'low' to all sites covered by the legislation. These designations will be based on the potential adverse consequences of an uncontrolled release of water and the probability of such a release.

Climate Change

1.30 The United Kingdom Climate Change Projections (UKCP09) represents the best available knowledge of climate change factors. It is expected that flooding will become a greater problem in the future due to the impact of climate change. SEPA indicates a moderate predicted increase in rainfall with proportionate increase in flooding. Climate change projections have been prepared based on high, medium and low greenhouse gas emission projections. Expected changes include increases in winter rainfall, frequency of thunderstorm type events in summer months and predicted increase in sea levels in the future. UKCP09 recommends that design levels for the SESplan area should include an additional increase of 20% in stream flows and approximately 300mm in still water sea levels to account for climate change impacts over the lifetime of a new development, more information is available here.

1.31 Climate change will increase the risk of flooding in some parts of the country impacting on people, businesses and infrastructure. Urban creep can increase flood risk to an even greater degree; however planning can play an important part in reducing the susceptibility of existing and future development to flooding. It is increasingly difficult to avoid areas of flood risk due to high levels of demand for housing in Edinburgh and the surrounding areas; however measures like the Niddrie Burn River Restoration Project can release some areas for development while reducing the risk of flooding to other areas.

Flood Defences and Flood Risk Management Infrastructure

1.32 Flood defence infrastructure and assets in the SESplan region are listed in table 1.4 below. There is a variance across the region on the need for flood defences depending on the vulnerability of existing communities. Scottish Borders has significantly more flood defences than the other member authorities with 10 flood defence schemes in the region. Many towns would have been located in floodplain because of the need to access the water for industry.

1.33 SPP states that development should not take place on land that could otherwise contribute to managing flood risk. This policy may have implications for future SDPs and LDPs. When the first Local Flood Risk Management Plan (LFRMP) is prepared (2016), it may include proposals with land use implications; in particular the sustainable approach to handling water across a catchment may lead to the creation of upstream water retention areas on lower value agricultural land, potentially remote from the location where the flooding

occurs. Undeveloped land in the flood plain also represents a flood management resource and should be protected from future development. The effectiveness of flood storage is much greater the closer it can be provided to the target area. For example, to achieve the benefits of a flood storage reservoir immediately upstream of a settlement may require several similar sized storage reservoirs in the upper catchments. For this reason it is extremely important to protect from development and enhance the available storage of those areas of existing floodplain in and around urban areas where the maximum benefit can be achieved.

Table 1.4 Flood Prevention Schemes

CEC	Water of Leith (Roseburn) FPS	Water of Leith	New scheme to construct flood walls to protect the whole of the Water of Leith.
CEC	Braid Burn FPS 2003	Braid Burn	To mitigate the flooding of Braid Burn protecting residential and commercial property, built to a 1:200 year design standard.
CEC	Figgate Burn (Adelphi Place & Rosefield Park) FPS 2005	Braid Burn	Revises Braid Burn FPS, to mitigate flooding at Adelphi Place, Rosefield Park and Portobello.
CEC	Water of Leith FPS 2003	Water of Leith	Confirmed by Scottish Government but not yet fully constructed.
CEC	Water of Leith (Thriepmuir Reservoir) FPS 2006	Water of Leith	Confirmed by Scottish Government but not yet fully constructed.
CEC	Water of Leith (Saughtonhall) FPS 2007	Water of Leith	Confirmed by Scottish Government but not yet fully constructed.
ELC	Prestonpans FPS 1972	Coastal	Protective seawall.
FC	Kincardine of Forth FPS 1991	Peppermill Burn	Flood outflow conversion.
FC	Parkneuk FPS 1987	Baldridge Burn	Culvert, manholes, collecting channel and slit trap between West Baldridge and Braigh Gardens
FC	Cairneyhill FPS 1982	Torry Burn	A weir incorporating overflow structure, sluice gate and a flume.

1 Strategic Flood Risk Assessment

CEC	Water of Leith (Roseburn) FPS	Water of Leith	New scheme to construct flood walls to protect the whole of the Water of Leith.
FC	Dunfermline FPS	Tower Burn & Lyne Burn	Mitigate flooding problems experienced within the urban spread of Dunfermline where the Lyne, Tower and Calais Burns overtop their banks. Still under construction
MC	Rullion Road, Penicuik FPS 1994	Surface Water	Construction of ditches to divert surface run-off from residential property.
MC	C53 Polton Road Bridge Relief Culvert FPS	River North Esk	No Information
SBC	Galashiels – Netherdale FPS 1987	Gala Water	Earth embankments, reinforced concrete floodwalls, gabion protection. To be upgraded, see Galashiels (Plumtree, Wilderhaugh and Nethergate) FPS 2010 below.
SBC	Ettrick Water and Yarrow Water FPS 1979	Yarrow Water	Flood embankment
SBC	Lauder Station Yard FPS 1979	Tributary of Washing Burn	Culvert improvements were made to upgrade the capacity to carry out 25mm rainfall event which is close to a 1:100 year event.
SBC	Galashiels – Plumtree – Wilderhaugh FPS 1987	Gala Water	Earth rock embankments, brick, masonry flood walls, gabion floodwalls. To be upgraded, see Galashiels (Plumtree, Wilderhaugh and Nethergate) FPS 2010 below.
SBC	Peebles – Southpark Area FPS 1987	Edderston Burn & Surface Run off From Fields	Construction of a diversion channel and Weir on the Edderston Burn.
SBC	Innerleithen Hall Street FPS 1998	Chapmans Burn and Field runoff	Construction of pipelands and drains.
SBC	Jed Water FPS 1987	Jed Water	Flood embankments, floodgate.

CEC	Water of Leith (Roseburn) FPS	Water of Leith	New scheme to construct flood walls to protect the whole of the Water of Leith.
SBC	Denholm FPS 1987	Runoff from hillslopes	Culvert inlets, embankment, french drain and ditch.
SBC	Turfford Burn FPS 1967	Turfford Burn	Diversion channel and culvert, flood embankments.
SBC	Jedburgh, Skiprunning Burn, Culvert FPS 1985	Skiprunning Burn	Culvert, gullies.
SBC	Galashiels (Plumtree, Wilderhaugh and Nethergate) FPS 2010	Gala Water	Confirmed by Scottish Government but yet to be constructed.
SBC	Selkirk FPS 2012	Ettrick Water	Confirmed by the Scottish Government but yet to be constructed.
WLC	Linlithgow FPS 2001	Mains Burn	Reservoir, storage, diversion channels, channel improvements.
WLC	Broxburn FPS	Brox Burn	Confirmed by the Scottish Government but yet to be constructed.

The Functional Flood Plain

1.34 The functional flood plain is the area where water is conveyed and stored at times of flood. SPP defines the functional flood plain for planning purposes as being an area with generally a greater than 0.5% (1:200) probability of flooding in any year. Developments on functional flood plains will not only be at risk but also likely to increase the risk of flooding to existing development located on or close to the flood plain. Development should not occur on floodplains where it is likely to be at risk of flooding and impact on the conveyance of floodwater and / or the flood storage capacity.

1.35 The SPP risk framework for flooding establishes a different approach to development in medium to high risk flood areas, depending on whether the area is built-up or sparsely developed. Within built-up areas, medium to high risk flood zones (defined as those with annual probability of watercourse flooding >0.5%) may be suitable for residential, institutional, commercial and industrial development provided flood prevention measures to the appropriate standard already exist, are under construction or are planned as part of a long term strategy, although planned defences are not guaranteed, so development is unlikely to be permitted on this basis. Medium to high risk areas are generally not suitable for additional development, unless it can be demonstrated that such a location is essential for operational purposes (e.g. a water-based recreation development).

1 Strategic Flood Risk Assessment

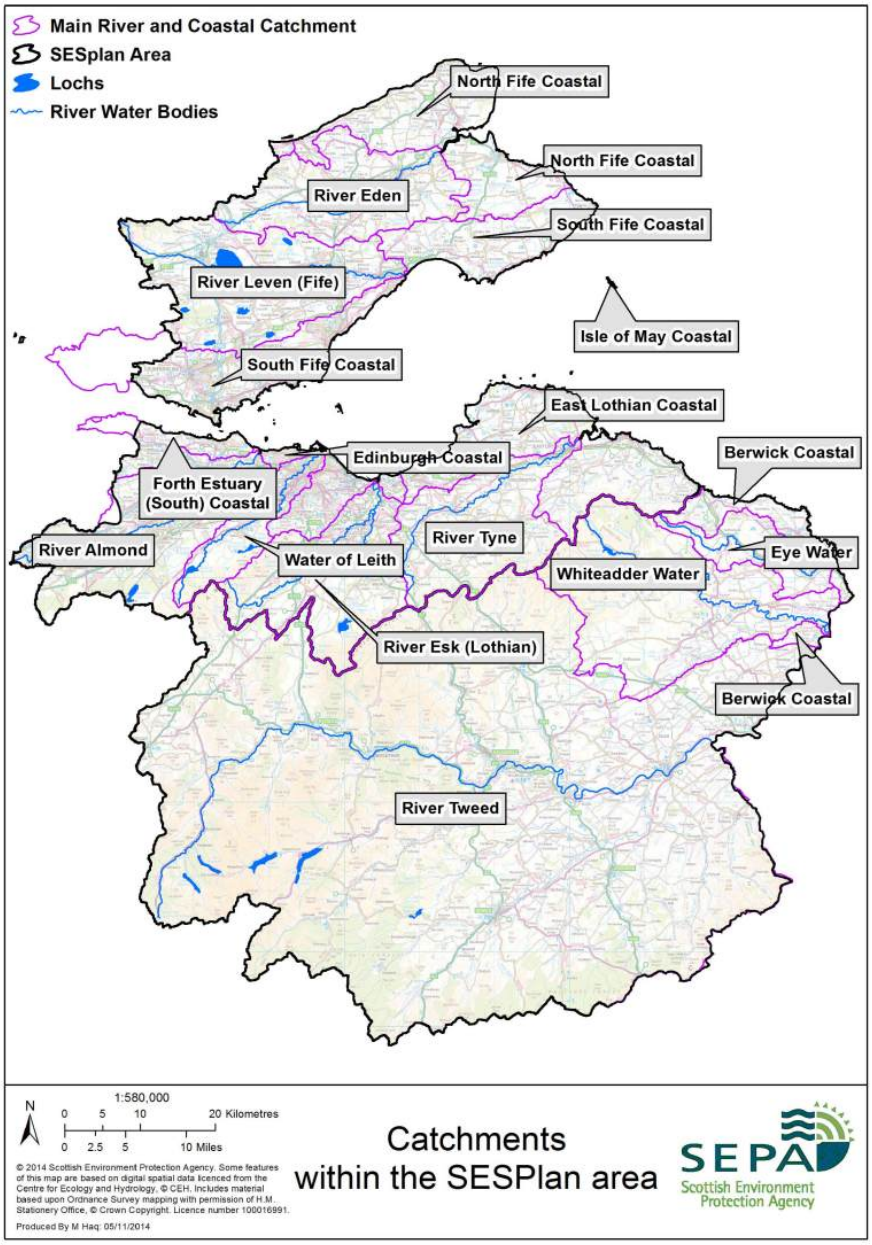
1.36 The flood map shows potential flood plains for medium or high risk areas across the SESplan region for rivers draining catchments greater than 3 sq.kms. The most densely populated area of the flood plain is along the Water of Leith, other large areas are shown in West Edinburgh.

Relevant Drainage Issues

1.37 Midlothian has a history of issues with Combined Sewer Overflow (CSO) running into watercourses, Scottish Borders Council have noted a risk of flooding from rivers, or coastal flooding and a high proportion of their population live within a Potentially Vulnerable Area (PVA) as defined by SEPA. Fife has PVAs and some areas are at risk of pluvial flooding. West Lothian Council has an emerging issue of flooding of abandoned underground mine workings. There are also drainage issues within the Edinburgh urban area where natural flood drainage capacity has been replaced with hard surfaces increasing river run-off.

1.38 New build developments are required to incorporate SUDS features. A design parameter of such systems is that the run-off flow rate should be no higher in the developed state than in the undeveloped state. While this approach may reduce the risk of new development making the situation worse, there is a need to consider existing drainage problems. The involvement of Scottish Water, Council flood staff and SEPA as key agencies also provides an opportunity to consider any strategic interventions that could address existing problems in built up areas.

Figure 1.2



Cross Boundary Assessment

1.39 There are a number of local authority areas in Scotland which encroach into these cross boundary catchment areas in the Scottish Borders including Midlothian, East Lothian, Dumfries and Galloway and also England. Most of the areas are moorland and have no identified flood risk but there are two identified potentially vulnerable areas. Cross boundary flood risk is being managed through the Solway Tweed and Forth Estuary Local Plan District Partnerships established under the Flood Risk Management (Scotland) Act 2009.

1.40 The Fife / City of Edinburgh Boundary is managed through Forth Estuary Local Plan District.

1 Strategic Flood Risk Assessment

1.41 There is a further cross border flood risk involving two river basin districts which straddle the English / Scottish Borders – the Solway Tweed River Basin District and the Northumbria River Basin District. Within the Northumbria District, there is a very small area which is located within Scotland. Within the Solway Tweed Districts there are a number of cross border catchments. On the Scottish Side of the catchments some flood risk areas have been identified at Newcastleton. The impact of flood management measures in the Tweed catchment including most of the flood risk areas identified will be contained in Scotland. The exception to this is the lower reaches, particularly in relation to the main stem where it forms the border between Scotland and England. Cross border flood risk is being managed through the Cross Border Advisory Group established under the Flood Risk Management (Scotland).

SESplan Watercourse Pressures

Many of the river catchments in the region cross local authorities boundaries, emphasising the need to prepare an SFRA which addresses issues and provides a collaborative approach to improving the quality of the water environment across SESplan. Figure 1.2 above shows catchment boundaries for rivers and coastal zones, the largest catchment area is the River Tweed. Each water catchment area has different pressures from a variety of sources:

- Berwick Coastal - Diffuse pollution from agriculture, Sewage inputs.
- East Lothian Coastal - Abstraction for agriculture and public water supply. Multiple morphological pressures and barriers to fish passage, including impoundments associated with aquaculture. Diffuse pollution from agriculture. Point source pollution from sewage.
- Edinburgh Coastal - Point and diffuse pollution from sewage disposal, agriculture, coal mining and quarrying and surface water run-off from roads. Multiple morphological pressures associated with flood protection measures, mining and quarrying of aggregates and water transport.
- Eye Water - Diffuse pollution from agriculture. Note that the Eye Water is a diffuse pollution priority catchment so SEPA is carrying out targeted work to address diffuse pollution.
- Forth Estuary (south) Coastal - Diffuse pollution from agriculture, coal mining and quarrying. Point source pollution from sewage disposal and industry. Multiple morphological pressures in the catchment, including those associated with urban development and agriculture. Abstraction pressures for agriculture and manufacturing.
- River Almond - Point source pollution from sewage and urban development. Diffuse pollution from historic coal and oil shale mining activities, road transport, urban surface water run-off, agriculture. Morphological pressures due to agriculture, road culverts and flood defence measures. Numerous fish barriers throughout the catchment. Abstraction for water supply, manufacturing and agriculture.

- River Esk (Lothian) - Morphological pressures associated with public water supply and numerous barriers to fish passage. Point source pollution from sewage disposal, coal mining and quarrying. Diffuse pollution from agriculture and historic coal mining activities (groundwater).

- River Leven - Morphological changes are widespread and the physical condition of some rivers has been altered so much that many water bodies are regarded as heavily modified. Numerous barriers to fish passage. Flows are regulated downstream of Loch Leven. Diffuse pollution and abstraction are concerns for the majority of the catchment. Point source pollution from sewage and coal mining

- River Tyne - Diffuse pollution from agriculture. Point source pollution related to sewage disposal and whisky production. Numerous barriers to fish passage. Abstraction for public water supply and farming.

- Forth Estuary and Firth of Forth - Abstraction for energy generation (cooling water intake at Longannet). Point source pollution from sewage, refuse disposal, chemical production and food production. Multiple intertidal morphological pressures (including flood defence, land reclamation).

- South Fife Coastal - Diffuse pollution from farming, coal mining / quarrying and sewage disposal. Point source pollution from sewage disposal, landfill site leachate and mine water discharge. Multiple morphological pressures e.g. modified banks and canalisation, and fish barriers are present throughout the catchment. Abstraction for agriculture and manufacturing activities.

- Water of Leith - Numerous morphological pressures, impoundments and barriers to fish passage. Diffuse pollution from urban development and agriculture. Point source sewage pressure.

- River Eden - Point source pollution from sewage and industrial discharges. Diffuse pollution from agriculture and septic tanks. Abstraction for drinking water supply and arable farming. Multiple morphological alterations including bridges, impoundments, bank reinforcement and embankments / flood walls

- North Fife Coastal - Point source pollution from sewage. Diffuse pollution from agriculture and septic tanks. Abstraction for arable farming and mining / quarrying activities. Morphological pressures associated with forestry operations and also alterations including bridges, culverts and set back embankments / flood walls

- River Tweed - Diffuse pollution and morphological impacts associated with rural land use. Abstraction for public water supply and agriculture.

- Whiteadder Water - Diffuse pollution and morphological impacts associated with rural land use. Abstraction for public water supply and agriculture.

1 Strategic Flood Risk Assessment

Strategic Development Area Assessment

1.42 Table 5 below contains a general overview of flood risk in each of the the Strategic Development Areas (SDA) across SESplan. More detail can be found within the Local Authorities Flood Risk Assessment or Environmental Report accompanying the MIR. The table gives an indication into what development will occur in the SDAs and what the anticipated risk from flooding is and what the sources are.

1.43 You can see information for three flooding likelihoods:

- **High likelihood** - A flood event is likely to occur in the defined area on average once in every ten years (1:10) or a 10% chance of happening in any one year.
- **Medium likelihood** - A flood event is likely to occur in the defined area on average once in every two hundred years (1:200) or a 0.5% chance of happening in any one year.
- **Low likelihood** - A flood event is likely to occur in the defined area on average once in every thousand years (1:1000) or a 0.1% chance of happening in any one year.

Table 1.5 SDA Assessment

SDA	Flood Risk	Development (As SDP1 Strategy)	Comment
East Lothian	Fluvial, coastal	Development along the east coast main line, growing existing settlements primarily in Eyemouth, Duns and Reston. 8,400 houses and 76ha employment land.	Risk of flooding around the East Lothian Coast, high risk of fluvial flooding from River Esk, medium flood risk further out into surrounding area. High flood risk around River Tyne south of Haddington. There is some small areas of high pluvial risk of flooding in major towns but should not impact on the SDAs. It is unlikely that either the preferred or alternative options for the spatial strategy set out within the MIR should have an impact on water status or flooding. Although any new development areas in the LDP must be sited away from watercourses within the area. In the case of Blindwells the assessment of flooding is

SDA	Flood Risk	Development (As SDP1 Strategy)	Comment
			ongoing but any future proposals to expand the settlement would have to take into account the findings of this assessment.
Eastern Borders	Fluvial, Eastern Borders	High risk of flooding around East Lothian coast line, fluvial flood risk from Eye Water, minimal surface water risk, small risk around Duns area. Risk of flooding on land around Whiteadder Water. Future development in Duns and Eyemouth would be subject to review of the SEPA flood maps and potentially a site specific flood risk assessment to ensure no sites with a significant risk of flooding would be developed; this would also be the case at Haddington and Musselburgh.	
West Edinburgh	Coastal, pluvial, fluvial	41,000 houses, 247 strategic employment land and 20 ha proposed employment land. Development to emphasise the established role of the regional core.	The Gogar Burn diversion could have a potential negative impact on the Gyle shopping centre surface water flooding. The River Almond should also be considered within the context of flooding discussion. Any development must ensure that it prevents any further damage to existing water status and diverts development away from flooding areas; a strategic flood risk assessment would help to achieve this. The preferred option for the spatial strategy would require enhancements to the existing water supply and waste water capacity to cope with new development. Discussions with Scottish Water

1 Strategic Flood Risk Assessment

SDA	Flood Risk	Development (As SDP1 Strategy)	Comment
			regarding capacities would be required as part of the LDP process.
South East Edinburgh	Pluvial, fluvial	The strategy is unlikely to have a significant impact on water status or flooding as there are limited watercourses within the area and these tend to be of a lower quality. Nonetheless, any development must ensure that it prevents any further damage to existing water status and divert development away from flooding areas; this should be done in conjunction with the Local Authority Flood Prevention Officer.	
Edinburgh City Centre	Pluvial, fluvial	Overall, the strategy should have a neutral impact on water status as it locates development away from areas with high water status and flooding constraints. However, the lack of permeable surfaces in urban areas for surface water runoff can have an impact on drainage systems and creates a requirement for mitigation e.g. SUDS. The strategy has an impact on the water supply and waste water capacity in an area which already have a high population.	
Edinburgh Waterfront	Fluvial, pluvial, reservoir	There is a potential negative impact on the water status within the area as the development would take place adjacent to the Firth of Forth. Any development would require mitigations to ensure	

SDA	Flood Risk	Development (As SDP1 Strategy)	Comment
		that no damage was made to the quality of the water in the Forth or the Water of Leith. The strategy has an impact on the water supply and waste water capacity in an area which already has a high population.	
North Dunfermline	Pluvial	6,700 houses, 411 ha of employment land, a focus on the North Dunfermline and Ore/Upper Leven Valley.	Unlikely to have an impact on water status or flooding, any new development areas in the LDP must be sited away from watercourses within the area and ensure that water / waste water capacity can accommodate it. All flooding types should be identified in assessment of development proposals but any coastal development will also need to ensure it does not damage the Firth of Forth water status and does not exacerbate coastal flooding. Enhancements will be required to the existing water supply and waste water capacity to cope with new development.
Ore/Upper Leven Valley	Pluvial		
A7/A68 Borders Rail Corridor	Pluvial, fluvial	15,500 houses, 124 ha employment land and 25 proposed additional employment land. Development along new transport corridors.	Might have a minor negative impact on water status and flooding as there are a considerable number of water courses in the Scottish Borders of a high status adjacent or within the Core Development Areas, most specifically the River Tweed. Nonetheless, long term areas for development have been identified that will not

SDA	Flood Risk	Development (As SDP1 Strategy)	Comment
			impact on the Tweed SAC. Furthermore, these designations would not be affected by development in the A701 corridor
A701 Corridor	Pluvial, fluvial		
Central Borders	Fluvial, pluvial, reservoir		
Western Borders	Fluvial, pluvial, reservoir		
West Lothian	Coastal, fluvial, pluvial	22,300 houses, 123 ha employment land, expanding existing towns.	It is unlikely to have an impact on water status or flooding. Enhancements will be required to the existing water supply and waste water capacity to cope with new development. There is a risk of flooding to development around the coast of the Forth and a high risk of fluvial flooding to Linlithgow North.

Assessment of the Spatial Strategy of MIR2

1.44 Consideration has been given to the impact on the water environment in developing the spatial strategy included in SESplan's MIR2, as well as preparing this SFRA, water is a consideration in the accompanying Environmental Report. The MIR spatial strategy includes three reasonable alternative options, concentrated growth, growth corridors and distributed growth. The review of flooding under each of these options has identified growth corridors as the preferred option in regards to flooding, this is also the preferred strategy in the MIR. An assessment of each scenario is included below:

Concentrated Growth

1.45 Concentrated growth meets most of Edinburgh's need and demand where it arises requiring a significant expansion of the city's urban area, the rest of the region's growth can be accommodated within existing allocations from SDP1. Most of the additional development will be accommodated in the Edinburgh greenbelt subject to consideration for areas of high landscape value or other designated sites on the green belt which will be protected from development. A large percentage of growth will be required around West Edinburgh where

existing flood risk could be exasperated by the risk of flooding from the Gogar burn and Almond river. Surface water flooding is also a problem across much of Edinburgh and the surrounding area, by building on large areas of greenfield land this will impact on natural flood drainage systems and the high density of development required will leave little room to accommodate sustainable urban drainage systems. The Firth of Forth coastline will also be an area of strategic growth within the city with redevelopment and possible densification increasing the number of people impacted by coastal flooding.

Distributed Growth

1.46 The distributed growth strategy disperses a large proportion of Edinburgh's need and demand to other areas within SESplan. Growth is directed to well-connected towns accessible to the Edinburgh employment market. Although this protects most of Edinburgh's green belt and flood risk in this area, additional pressures are placed to other towns increasing their risk of flooding. Large areas of Fife and West Lothian are currently at risk from surface water flooding; high levels of development will increase this risk by building on the natural drainage systems. East Lothian and the Scottish Borders are at less risk of flooding form surface water in most of the areas but risk does increase in urban settlements where most development would expect to be accommodated. Several towns are exposed to coastal flooding including Edinburgh, Dunbar, Eyemouth, Musselburgh and Kirkcaldy; this existing risk could worsen through climate change increasing sea levels. There are several existing flood defence measures in towns around the region that could see additional growth, flood defences in Dunfermline, Penicuik and Galashiels will require protection and development should not impact on the effectiveness of these defences.

Growth Corridors

1.47 The growth corridors strategy will see a greater proportion of Edinburgh's need and demand met in Edinburgh with a small percentage dispersed to towns close to Edinburgh that are easily accessible. This strategy is a compromise between the two alternative options and is considered the preferred option as it can accommodate SESplan's need without an unacceptable burden on water or other SEA objectives. This strategy will require some areas within the Edinburgh green belt and other green belt land but development is likely to require less pressure on densities and higher levels of natural flood drainage are protected. Under this strategy consideration of surface water flooding and coastal flooding will be required in Edinburgh where the greatest level of change exists from SDP1.

Conclusion

1.48 The region is exposed to flooding from a number of sources, including river, surface and coastal. The risk from these sources is likely to increase as the effects of climate change increase and development pressure impacts on natural drainage systems. Extreme weather events such as tidal surges and heavier rainfall are expected to be side effects from climate change and will increase the frequency and impact of flooding in coastal areas, areas affected by fluvial flooding and areas prone to surface water flooding. Most of the region is covered by coastline resulting in a potentially large area of impact from rising sea levels or high tides which would affect Fife, West Lothian, Edinburgh, East Lothian and the Scottish Borders. New development should consider flooding and the impact of development to flood risk

areas. There will likely be a requirement to include sustainable urban drainage schemes into the design and avoid having a detrimental impact on natural drainage systems. There are significant areas of land considered to be in a Potentially Vulnerable Area, particularly around the coast line. As circumstances and policy changes so too will the suitability of some development sites. Some sites that are considered appropriate now (or in the past) may be at risk in the future because of other changes such as climate or surrounding development having an impact. This highlights the importance of considering impacts and how areas might change in the planning process.

1.49 It is considered that after taking environmental considerations into account the SESplan region will be capable of allocating enough sites to accommodate anticipated need without having a detrimental impact on flood management. Particular consideration will be needed for areas of higher volumes and densities of development such as West Edinburgh.

Recommendations

1.50 It is recommended that the SFRA:

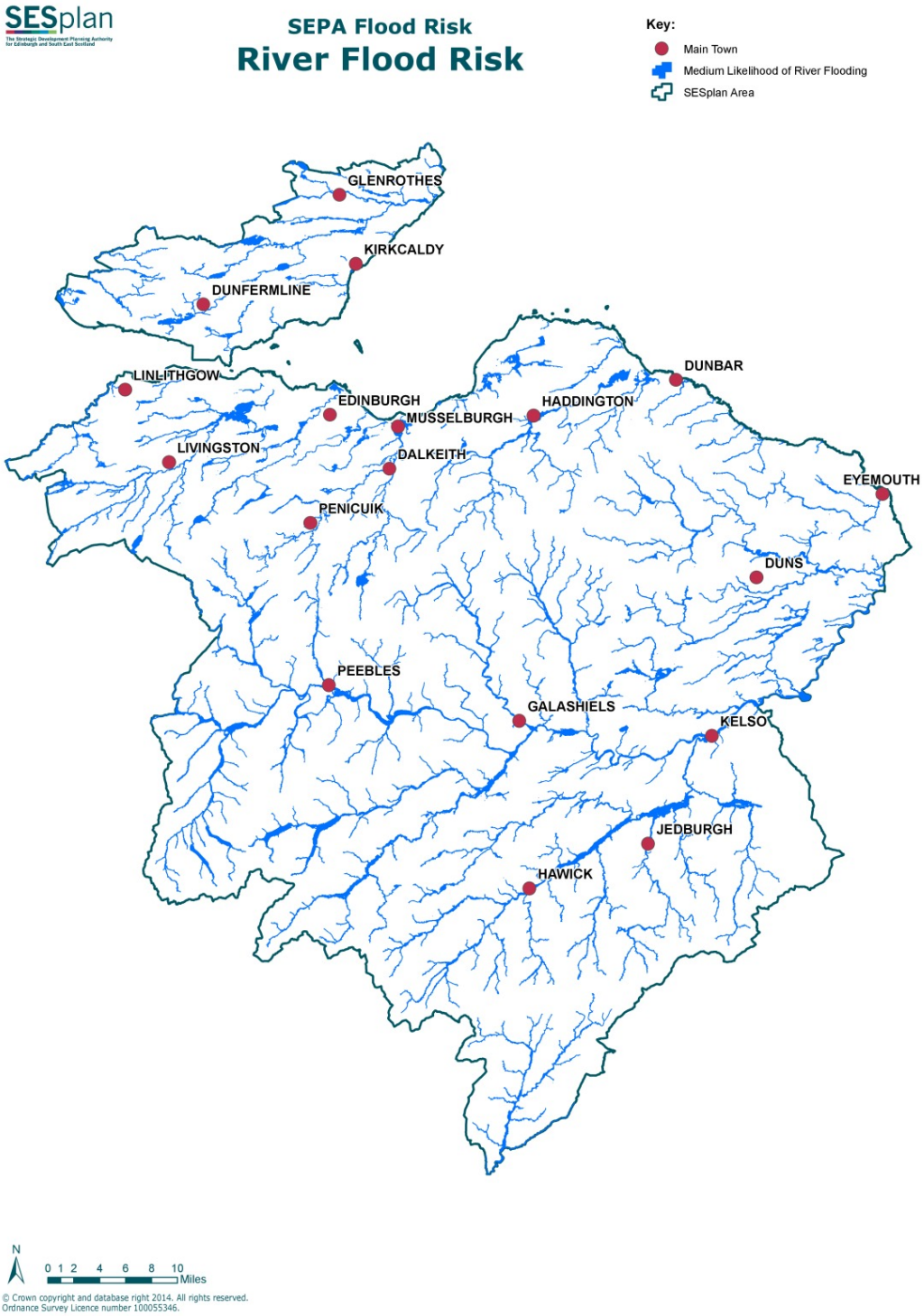
1. Is reviewed and updated throughout key stages of the plan preparation process;

2. The risk of flooding is continued to be a consideration in the Environmental Report, highlighting environmental consequences from development;

3. Takes into consideration the impact development will have on areas elsewhere; and

4. Informs and SDP2 policy similar to policy 15 in SDP1, promoting sustainable use, management and protection of water.

Figure 1.3


SESplan
The Strategic Development Planning Authority for Edinburgh and South East Scotland
SEPA Flood Risk
River Flood Risk
Key:
Main Town
Medium Likelihood of River Flooding
SESplan Area
GLENROTHES
KIRKCALDY
DUNFERMLINE
LINLITHGOW
EDINBURGH
MUSSELBURGH
HADDINGTON
DUNBAR
LIVINGSTON
DALKEITH
EYEMOUTH
PENICUIK
DUNS
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GALASHIELS
KELSO
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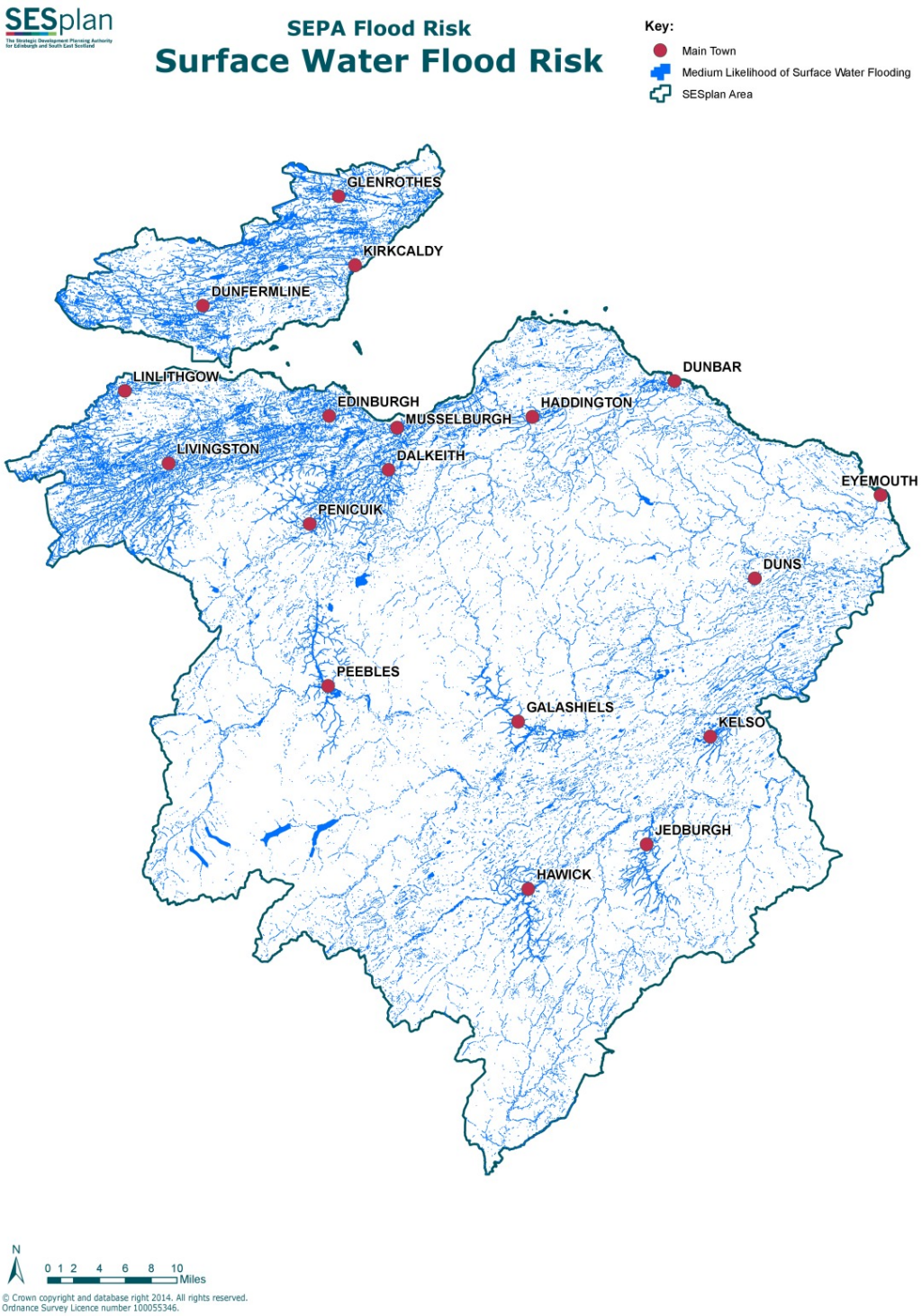
1 Strategic Flood Risk Assessment

Figure 1.4

Figure 1.5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HADDINGTON
DUNBAR
LIVINGSTON
DALKEITH
EYEMOUTH
PENICUIK
DUNS
PEEBLES
GALASHIELS
KELSO
JEDBURGH
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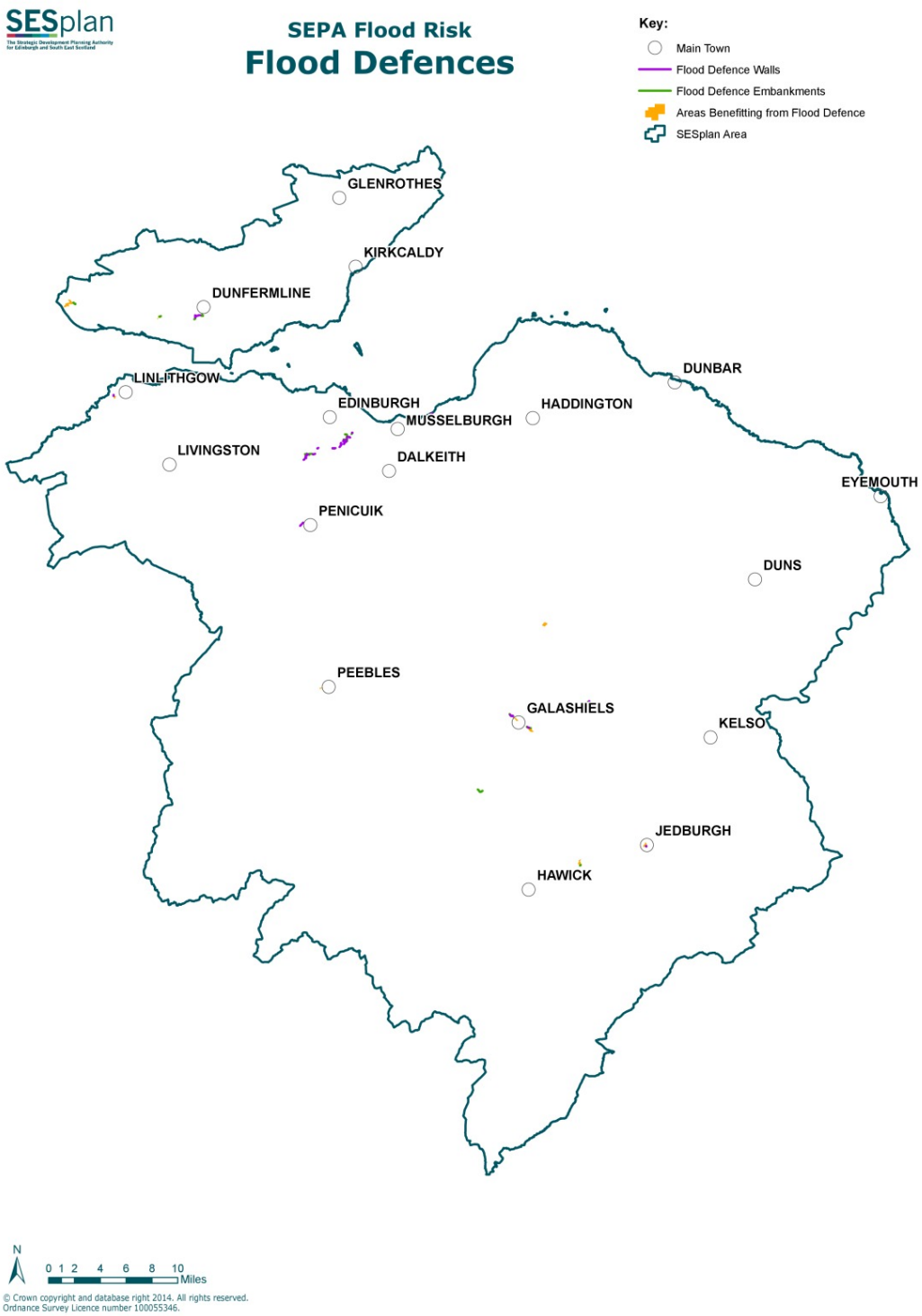
1 Strategic Flood Risk Assessment

Figure 1.6



Accessibility Analysis 2

SESplan
The Strategic Development Planning Authority for Edinburgh and South East Scotland

2 Accessibility Analysis

2.1 SESplan undertook an Accessibility Analysis to support the development of the spatial strategy for SDP1 and form part of the Transport Appraisal Process. This would help to inform the broad locations of development by identifying the relative accessibility of towns and settlements in the SESplan region. This first Accessibility Analysis also informed LDPs locations for development and determining allocations.

2.2 Meeting the SDP1 identified level of housing need and economic growth aspirations had implications for the transport network within the SESplan area. The network is already heavily constrained and particular stretches of road and junctions would be under further pressure without any further housing development. Therefore it is important that new development was directed to the areas most accessible by public transport to support modal shift to sustainable transport and reduce additional pressures on the transport network.

2.3 For the preparation of this MIR, SESplan were advised by SESTRAN that an updated Accessibility Analysis would be a recommend first step in the Transport Appraisal process to inform options for the SDP2 spatial strategy. SYSTRA (formerly MVA) were be appointed to do the analysis as they undertook the Accessibility Analysis and Transport Appraisal for SDP1. This would provide continuity and allow for comparison. The results of this appraisal informed the findings of the SESplan Audit (Chapter 5). They will continue to inform the development of the spatial strategy, housing supply targets and broad locations for development in the Proposed Plan. They will also inform where services need to be improved.

2.4 Following discussion with SESTRAN and SESplan Member authorities, SYSTRA were informed of what changes should be made to the methodology of the analysis. These included:

- Taking account of committed transport schemes e,g. opening of the Borders Railway, and changes to public transport services and timetables;
- Taking account of level of planned development;
- Assess the accessibility of settlements to town and strategic centres;
- Focus on public transport accessibility, factoring in frequency of services and park and ride services;
- Assess the accessibility impact on potential public transport interventions - potential new stations (Winchburgh, East Linton and Reston), tram extensions, Edinburgh orbital bus, park and ride sites and the Levenmouth Rail Link;
- Assess the varying accessibility in larger settlements (e.g. Livingston, Dunfermline, Galashiels, etc) including accessibility heat mapping;
- Assess the accessibility of major employment locations;
- Outputs can be grouped at SESplan region, Local Authority, SESTRAN Transport Corridor and Sub-Housing Market Area levels.

2.5 It was decided not to include existing urban Edinburgh in the analysis. It would rank as clearly the most accessible location and would not be representative of future potential development locations in the Edinburgh LDP area. Further details on the changes from the previous analysis are set out in the accompanying Accessibility Analysis Report.

2.6 The accompanying Accessibility Summary Spreadsheet provides the data outputs from the analysis. The data should only be read in conjunction with the Report. It sets out the accessibility of settlements and areas of settlements by different factors. These are:

- Access to Employment (Ranking);
- Access to Town Centres and Strategic Centres (Journey Times);
- Access to Hospitals and Major Hospitals (Journey Times);
- Access to Retail Parks (Journey Times); and
- Local Accessibility Factors.

2.7 There are four different worksheets for the four different scenarios. These are:

- Committed - Accessibility factoring in committed transport schemes such as Borders Railway, Edinburgh Glasgow Rail Improvement Programme (EGIP) and Queensferry Crossing
- Committed + SDP - Accessibility factoring in committed transport schemes and additional schemes such as stations at Winchburgh, Reston and East Linton, A720 Orbital Bus, Tram Extensions and Levenmouth Rail Link
- Committed New Development - Accessibility factoring in committed transport schemes plus additional housing and employment development from SDP1
- Committed + SDP + New Development - Accessibility factoring in all of the above.

Qualifications

2.8 The diagrams with the accessibility analysis use census output areas. These are small within urban areas but can be large in rural areas. In rural or non-developed areas they may cover a large area, part of which is accessible by public transport and part of which may not be. This explains why in some diagrams (e.g. 30 and 31) some undeveloped areas are shown to be accessible with current services (north east of Kirkliston). The diagram shows the average figure for that census output area. This is detailed in the report (paragraphs 2.13 and 2.14).

2.9 This accessibility analysis cannot wholly differentiate between very frequent and average frequency services but it does factor in level of service in peak hours. The approach is set out in paragraphs 4.2.1 to 4.2.4. Commentary on frequency is picked up in the conclusions.

SESplan

The Strategic Development Planning Authority for Edinburgh and South East Scotland

Strategic Development Plan 2 – Accessibility Analysis
Reference number 102963

22/12/2014



SESPLAN ACCESSIBILITY ANALYSIS

SYSTRA

SESplan
The Strategic Development Planning Authority for Edinburgh and South East Scotland

STRATEGIC DEVELOPMENT PLAN 2 – ACCESSIBILITY ANALYSIS

SESPLAN ACCESSIBILITY ANALYSIS

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5	Author	Claire Mackay	Senior Consultant	22/12/2014	Final Report

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

1. INTRODUCTION

1.1 PURPOSE OF STUDY

1.1.1 This accessibility analysis study is designed to support the development of SESplan's Strategic Development Plan 2 (SDP2). The purpose of this study is to update previous accessibility analysis undertaken by SYSTRA (formerly MVA Consultancy). In particular, this update takes account of potential areas for development within/adjacent to existing settlements and includes the impact of planned development and proposed public transport schemes.

1.2 BACKGROUND

1.2.1 Accessibility analysis was undertaken during the development of the original SDP in 2010 and 2011. This work focussed on the development of a series of 'regional' and 'local' accessibility indicators as follows:

1.2.2 Regional Accessibility:

- Access to Employment;
- Access to Hospitals;
- Access to Regional Retail Parks;

1.2.3 Local Accessibility:

- Access to GP surgeries;
- Access to Secondary schools; and
- Access to Local Retail.

1.2.4 SESplan provided a list of around 75 settlements which formed the basis for the analysis. In order to produce a comparative indicator at the settlement level, based on spatially detailed information, the accessibility analysis was undertaken at the census output area level for all output areas defined as being part of each settlement. A typical census output area contains approximately 125 households. An average value was then taken from all the constituent output areas, weighted by households per output area, to provide an overall settlement average. This value was then used to systematically compare the settlements.

1.2.5 Each accessibility measure was developed separately for car-based and public transport-based travel. The public transport-based measures were established using the bus and rail services which were operating when the original analysis was undertaken (2010/11). It was therefore decided as part of the MIR Project Plan to update this analysis to take account of the changes between these and 'current' (May 2014) public transport services.

1.3 NEXT STAGE

1.3.1 SESplan has a requirement to provide an evidence base in relation to transport with respect to decisions made within the SDP2 process, and, more specifically at present, the development of the Main Issues Report.

1.3.2 This process involves a refresh / update of the previous accessibility-based analysis to incorporate:

- Updated public transport services (May 2014);
- A revised set of potential strategic development locations;
- Refined methodology, building on the experience of Strategic Development Plan 1 (SDP1), and the updated requirements of SESplan and its constituent local authorities; and
- Use of a new accessibility planning software (TRACC™) – this new product is similar to, but enhanced from the previously used Accession™ software and offers improved functionality, particularly in terms of interrogating the outputs.

2. SETTLEMENTS

2.1.1 SESplan local authorities supplied a list of settlements to be modelled explicitly within the analysis and details of housing allocations.

2.1.2 In addition to modelling the average accessibility of individual settlements as undertaken previously, this new analysis allowed SESplan authorities to sub-divide some of the larger settlements into suitable sub-areas, which can be used to assess different patterns of development and accessibility.

2.1.3 The accessibility analysis has been undertaken at the census output area level and the weighted average of the settlement has been calculated to represent the relevant settlement. The centroid of a these output areas was determined and used in TRACC to calculate the accessibility for each output area. A weighted average accessibility was then calculated based on the accessibility and number of households from all the constituent output areas to provide an overall settlement average. This average value can then be used to systematically compare the accessibility of different settlements.

2.1.4 Note that the centroid of the Output Area is used to calculate the accessibility of each Output Area prior to calculating the weighted average of a settlement. This use of the Output Area centroid can result in TRACC classifying some Output Areas which include a large rural hinterland as 'inaccessible', due to the large distance between the Output Area centroid and the road network.

2.1.5 Committed development sites as provided by each Local Authority have also been layered on top of the existing settlements to identify areas where new developments will impact on the weighted average accessibility of an existing settlement. Where a committed development is located within one kilometre of an existing settlement boundary it has been included (developments of less than ten units have been excluded). The inclusion of the development sites can increase or reduce accessibility dependent on the location of the new development. For example, if a committed development is located close to a railway station it is likely to increase the accessibility of the settlement as a whole. In contrast, if development is located on the edge of an existing settlement, away from key infrastructure like railway stations then accessibility would decrease.

2.1.6 City of Edinburgh Council provided details of 11 areas that could be potentially developed in the future. For each new development a comparable output area has been assigned and the relevant journey times and Hansen scores[1] have been calculated for each of these proposed new development locations. Details of the settlements and sub-settlements are presented in Appendix E.

2.1.7 Care has been taken to ensure that the level of future transport provision to any 'greenfield' development sub-areas assumed within the analysis is broadly comparable with the corresponding current 'edge-of-town' sub-areas. This does not include detailed coding of

[1] Hansen Scores are used to combine accessibility to a wide range of destinations (eg employment locations) into a single accessibility measure for each location. See Appendix A for further detail.

additional or extended local bus services to these greenfield sites, but does allow a more-refined consideration of relative accessibility than was possible with the single 'settlement-wide average' approach used in the previous analysis.

3. TRACC

3.1.1 Accession software which was previously used for accessibility analysis has since been superseded by TRACC accessibility modelling software. Some of the key changes in accessibility analysis between Accession and TRACC are as follows:

- Accession does not include any interchange penalty, while TRACC's default setting is to add 5 minutes to the journey time for each interchange between public transport services.
- TRACC will only use stops within the specified maximum connection distance of 800m while Accession can use any stop and has no restriction on walking time.
- Accession uses a PT Sampling factor which affects the initial wait time for the use of public transport services, meaning that boarding and therefore journey time is calculated instantaneously (i.e. no waiting time at bus stops etc.). TRACC assumes there is a waiting time of one minute.
- TRACC does not calculate the Hansen scores (which we use to combine the accessibility to a range of destinations into a single measure for each location), so these need to be calculated 'manually' using the relevant disaggregate outputs from TRACC.

3.1.2 To assess the impact of the move from Accession to TRACC further analysis of the step change has been undertaken and is reported in the accompanying spreadsheet (tab TRACC Accession). The analysis compares the settlement outputs for Accession with TRACC outputs for Retail Park accessibility and Hansen. This is not a direct comparison as there are a number of different parameters:

- The previous Accession analysis used 2011 public transport compared to TRACC using 2014;
- The previous Hansen analysis used 2001 Census TTW data which does not take account of some recent significant employment developments. The TRACC analysis uses 2012 employment location data; and
- The settlement boundaries are not identical between the two studies.

3.1.3 The comparison shows that 82% of Retail journey times are within 10 minutes of the previous Accession analysis (using a sample of 60 settlements).

3.1.4 Due to the change in Hansen methodology the new Hansen scores are not directly comparable with the previous values however analysis suggests that only 17% of settlements have a difference of more than 10 between the old and new Hansen rankings.

4. TRANSPORT SCENARIOS

4.1.1 A full set of accessibility indicators have been developed for two scenarios (Base and Test):

- Base Scenario - Present Day plus Committed transport schemes only: as defined in the LATIS Reference Case:
  - Edinburgh trams (Airport to York Place);
  - Borders Rail;
  - EGIP; and
  - Edinburgh Gateway railway station
- Test Scenario - Committed plus selected SDP1 Strategic Infrastructure (SDPSI) public transport schemes[2].

4.1.2 A number of the SDPSI public transport schemes have not been developed to a detailed stage therefore a number of assumptions were made in consultation with SEStran. The selected SDPSI public transport schemes included in the transport scenario are as follows:

- Levenmouth Rail Link;
- Winchburgh Railway station;
- Tram line extensions – (1B - Leith, 1c – Granton loop);
- Rosyth P&R;
- A720 Orbital bus and associated park and ride sites; and
- New railway stations at East Linton and Reston.

4.1.3 The inclusion of these schemes provides a good indication of the impact of the SDP Strategic Infrastructure on public transport and mixed mode accessibility across the SESplan area. However, the results show marginal changes in accessibility in a number of transport interventions. This does not necessarily reflect on the effectiveness of the proposed transport scheme, especially regarding access to local amenities which are currently well served by the bus network. For example, the Levenmouth rail link is unlikely to improve accessibility to retail parks or hospitals given the location of these destinations in relation to existing train stations. In addition, the benefits associated with a number of transport interventions are related to improved capacity and frequency as opposed to journey time improvements. This accessibility analysis will not highlight these capacity and frequency improvements.

4.1.4 The train and bus service coding comprising both the Base and Test scenarios has been coded into TRACC as additional services (alterations to existing services in the case of Levenmouth and Winchburgh). Details of the public transport coding can be found in Appendix D.

4.2 SERVICE FREQUENCY

4.2.1 TRACC (and Accession previously) assesses accessibility based on shortest journey time and does not distinguish between a frequent or infrequent service.

[2] Based on advice from SEStran

4.2.2 The previous accessibility indicators were developed on the basis of the shortest journey time attainable when completing the journey within an AM time period (0700-1000). This approach therefore takes only a limited account of the impact of service frequency.

4.2.3 For this analysis, we refined this methodology by running the model across three overlapping 2-hour AM peak time periods (0630-0830, 0700-0900 and 0730-0930) and determining an average journey time values across these time periods. Where a destination is determined as inaccessible in a given time-slice (ie TRACC fails to find a journey which meets its criteria in terms of duration or maximum walk-length etc), then the relevant journey time in this time-slice is set to the best available journey in the other time periods plus an additional 60 minutes, to represent the time penalty of having to travel earlier or later than planned.

4.2.4 This method identifies locations where very low frequency services currently operate (< 1 service per two hours) however it doesn't distinguish between more frequent services (eg 1 train per hour versus 4 trains per hour).

5. RESULTS

5.1 Access to employment

5.1.1 Previous versions of this accessibility analysis used 'Hansen' scores which were based on the 2001 Census-based quantification of the main employment locations and job totals (see Appendix A for further detail on Hansen scoring). This form of analysis provides a single measure of access to employment from each location (giving more weight to nearby jobs than more-distant ones). These Hansen scores can therefore be used to determine the relative accessibility of each settlement to employment across central Scotland.

5.1.2 In the update of the analysis being reported here, the employment data based on the 2001 Census[3] has been replaced by data from the Business Register Employment Survey (BRES) provided by the Office of National Statistics, which is provided at datazone level.

5.1.3 The Business Register and Employment Survey (BRES) is the official source of employee and employment estimates by detailed geography and industry. The survey collects employment information from businesses across the whole of the UK economy for each site that they operate. This allows the Office of National Statistics (ONS) to produce employee and employment estimates by detailed geography and industry split by full-time/part-time workers and whether the business is public/private.

5.1.4 The use of this BRES data ensures that the analysis being reported here takes account of any significant changes in local employment patterns which have occurred since 2001, including the various major new developments such as RBS Headquarters at Gogarburn (2005) and the relocation of the Edinburgh Royal Infirmary (ERI) in 2003, are taken into consideration within the 'Access to Employment' analysis.

5.1.5 TRACC does not include the functionality required to calculate Hansen scores directly, so a post-processing calculation has been added to calculate the Hansen score.

5.1.6 However, TRACC and the subsequent post-processing step are unable to handle the 'access to employment' calculation if it is based on all origins (output areas in the SESplan area) and all destinations (datazones with a non-zero number of jobs anywhere in Scotland). To avoid this computational over-load, the set of employment destinations has been restricted to all datazones in the SESplan area containing more than 75 jobs and all datazones in the central belt (outwith SESplan) containing more than 1,000 jobs (see Figure 1). This ensures that all significant local employment areas and the strategically-important central Scotland-wide employment centres (eg Grangemouth, Glasgow and Dundee City centres etc) are captured. Northern England and Dumfries and Galloway job locations have not been included in this analysis however they are expected to have a limited impact on results.

[3] 2011 Census workplace information is not yet available

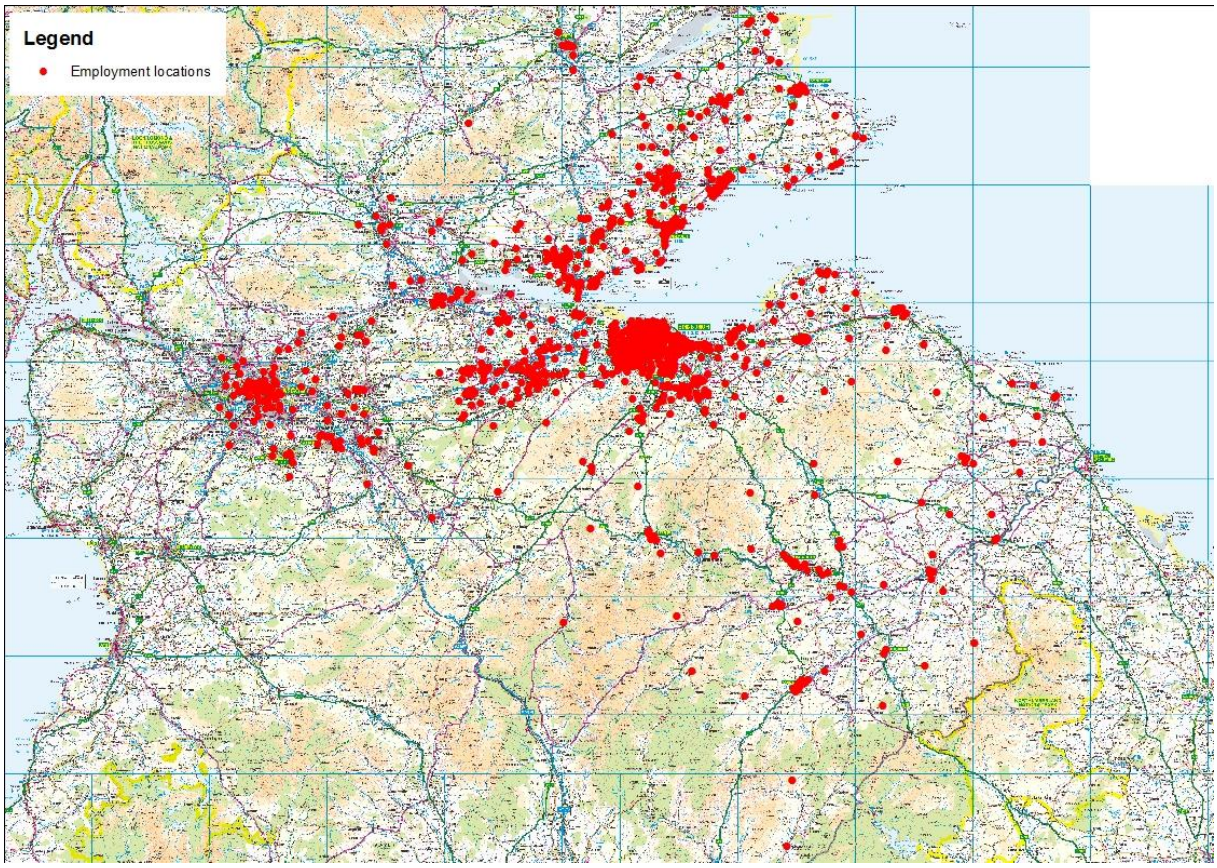


Figure 1. Employment locations used as part of Hansen assessment

5.1.7 The Hansen score is an index which shows the relative access to employment (ie the job market) by public transport or walking for each settlement in the analysis[4]. The value reflects the location of the settlement relative to the distribution of employment at present and the public transport travel times taken to access the jobs market, with a higher score indicating locations with greater access to employment. Note that it is how the Hansen scores vary between locations and their associated ranking that is important, rather than the absolute value at any location.

5.1.8 The Hansen score has been calculated for each output area within a settlement and the average weighted Hansen score has been calculated for each settlement-based on the Census 2011 number of households per output area (or proposed number of housing units in the case of committed developments).

5.1.9 For each indicator there are four scenarios presented:

- Base – existing settlements with present day transport scenario plus committed schemes only;

[4] Lambda value of -0.025

- Test – existing settlements with present day transport scenario plus committed schemes with selected SDP Strategic Infrastructure;
- Base with New Developments – new developments within one km of existing settlements added to existing settlements with present day transport scenario plus committed schemes; and
- Test with New Developments - new developments within one km of existing settlements added to existing settlements with present day transport scenario plus committed schemes with selected SDP Strategic Infrastructure.

5.1.10 Due to the large number of settlements and results to be reported here, the details of the Hansen scores and ranking for individual settlements are presented in the accompanying spreadsheet, rather in 'hard-copy'.

5.1.11 The thematic maps below present the Hansen scores for a number of selected settlements at a graphical level. The results for the Base scenario have been reported in these graphics.

5.1.12 Please note: for the purpose of this study the centroid of each output area was used to calculate the accessibility to and from an output area. The mapping assigns that accessibility to the entire output area however it should be noted that accessibility can vary across an output area, especially where output areas are geographically large.

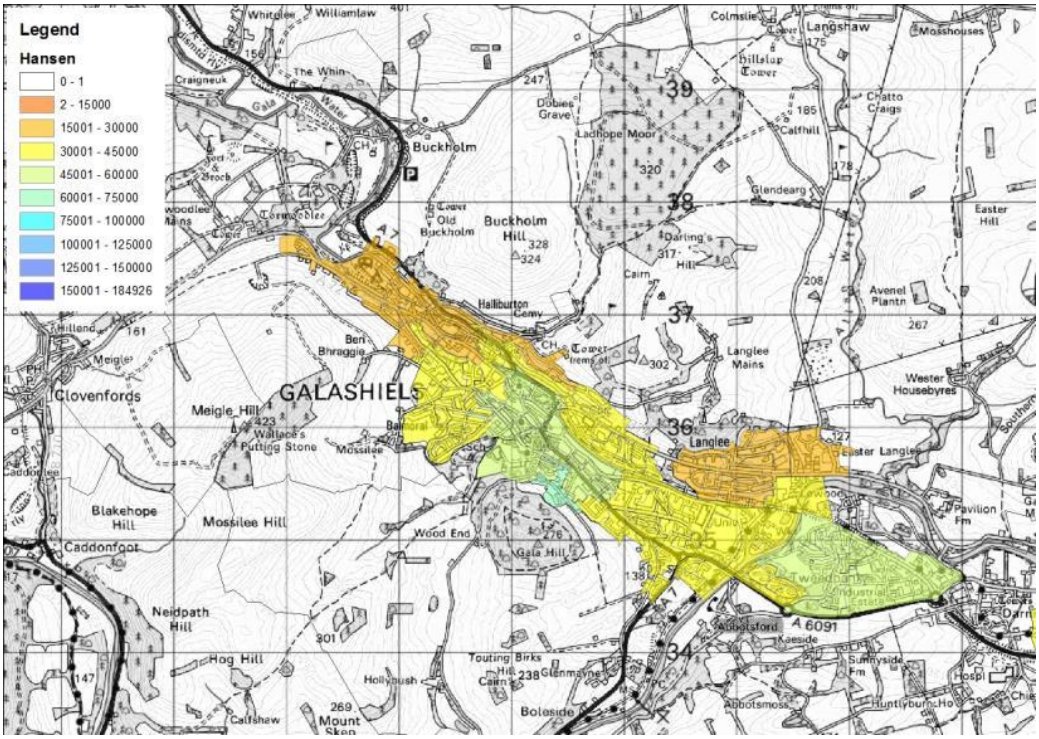


Figure 2. Public Transport Hansen Score – Galashiels

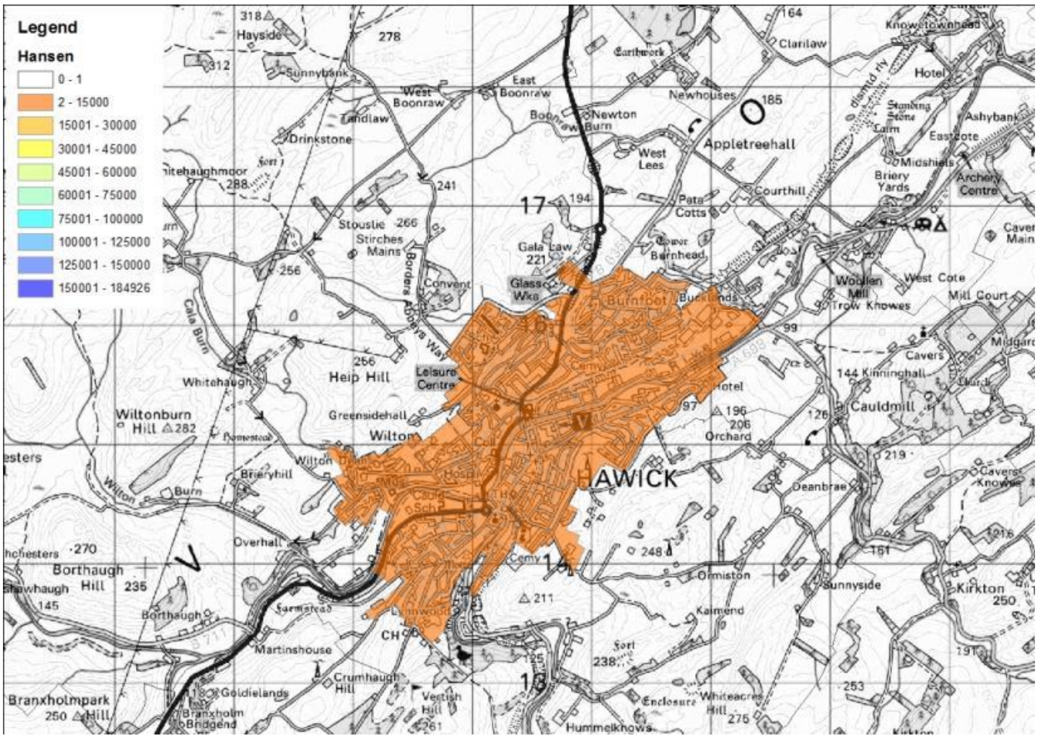


Figure 3. Public Transport Hansen Score – Hawick

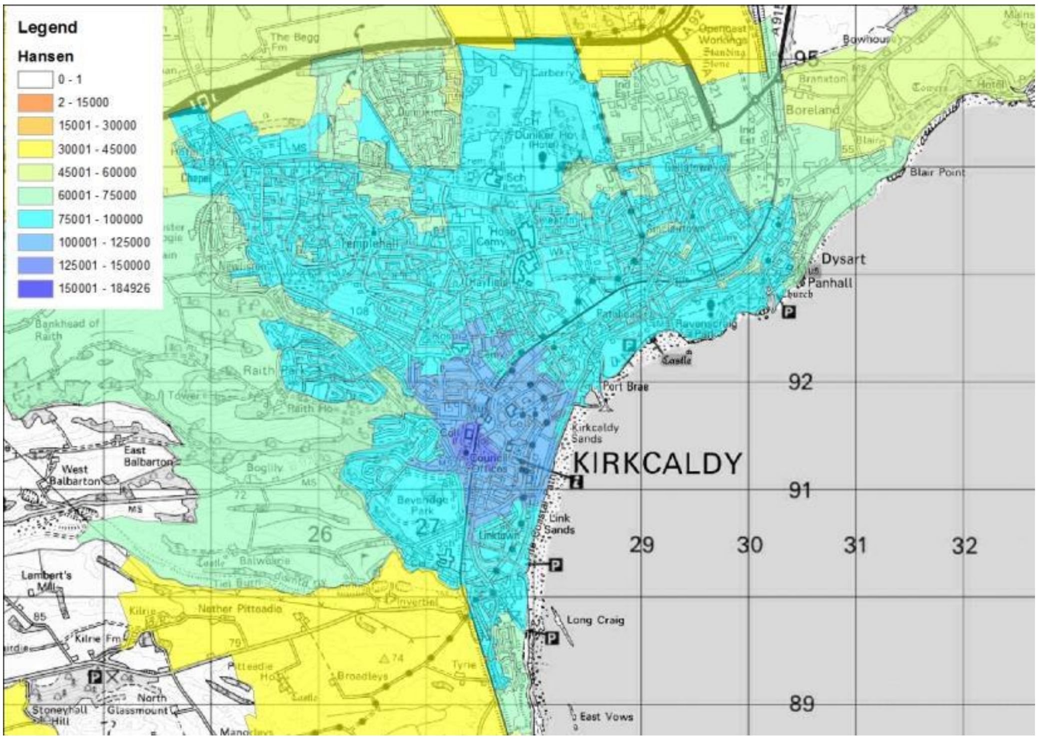


Figure 4. Public Transport Hansen Score – Kirkcaldy

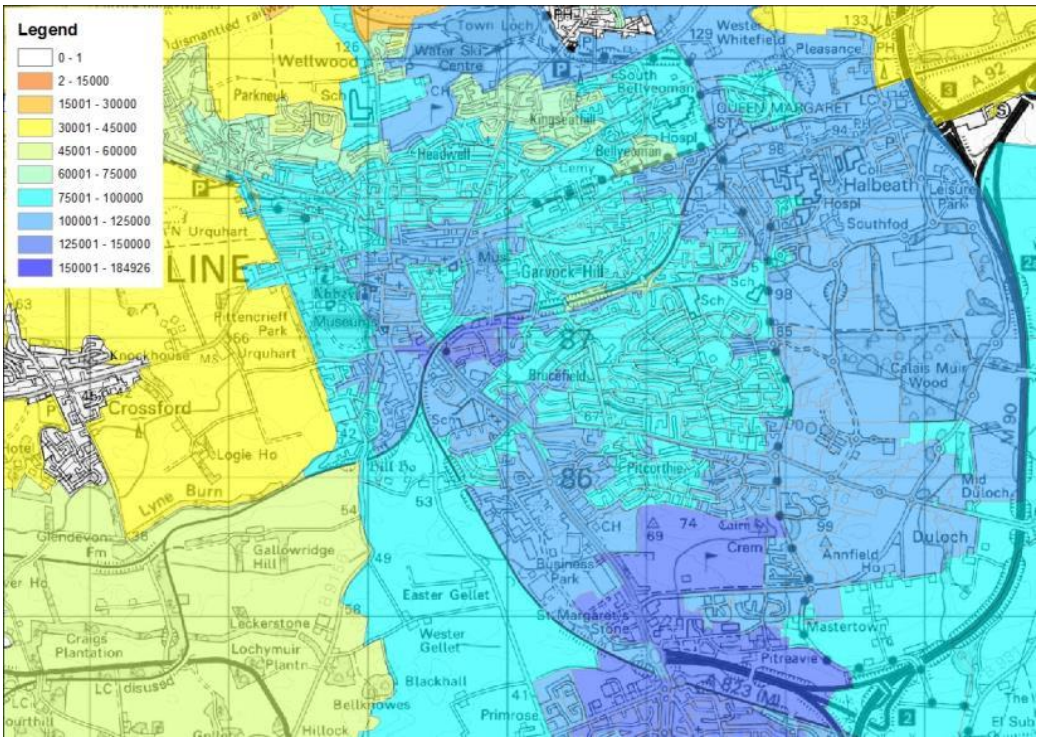


Figure 5. Public Transport Hansen Score – Dunfermline

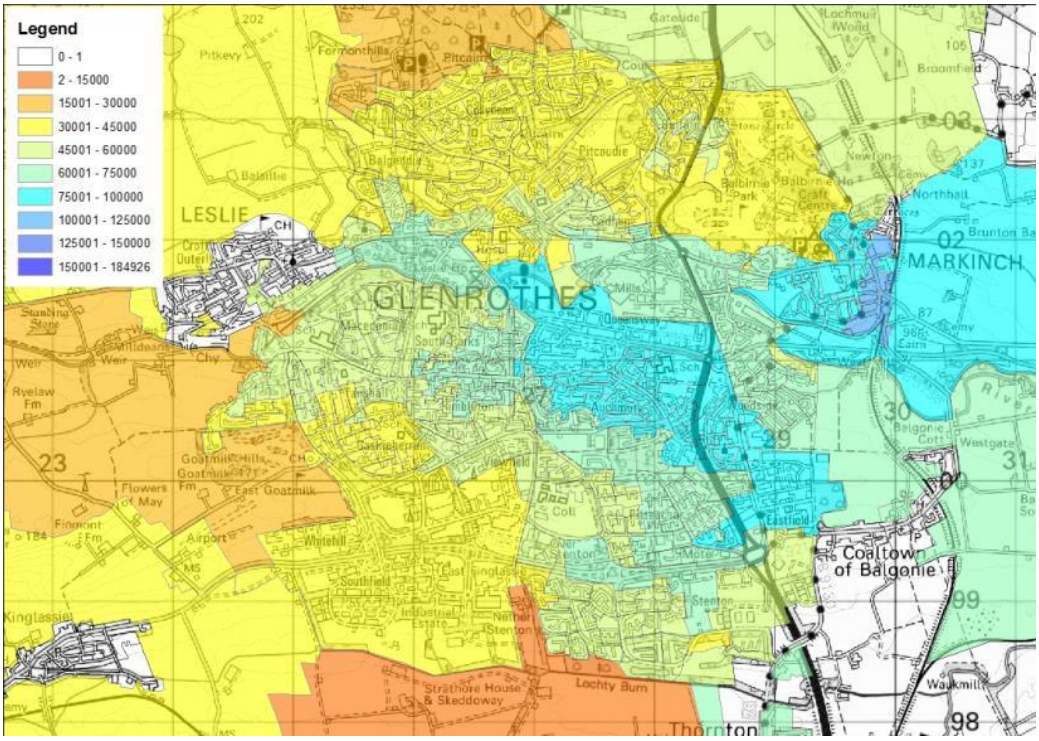


Figure 6. Public Transport Hansen Score – Glenrothes

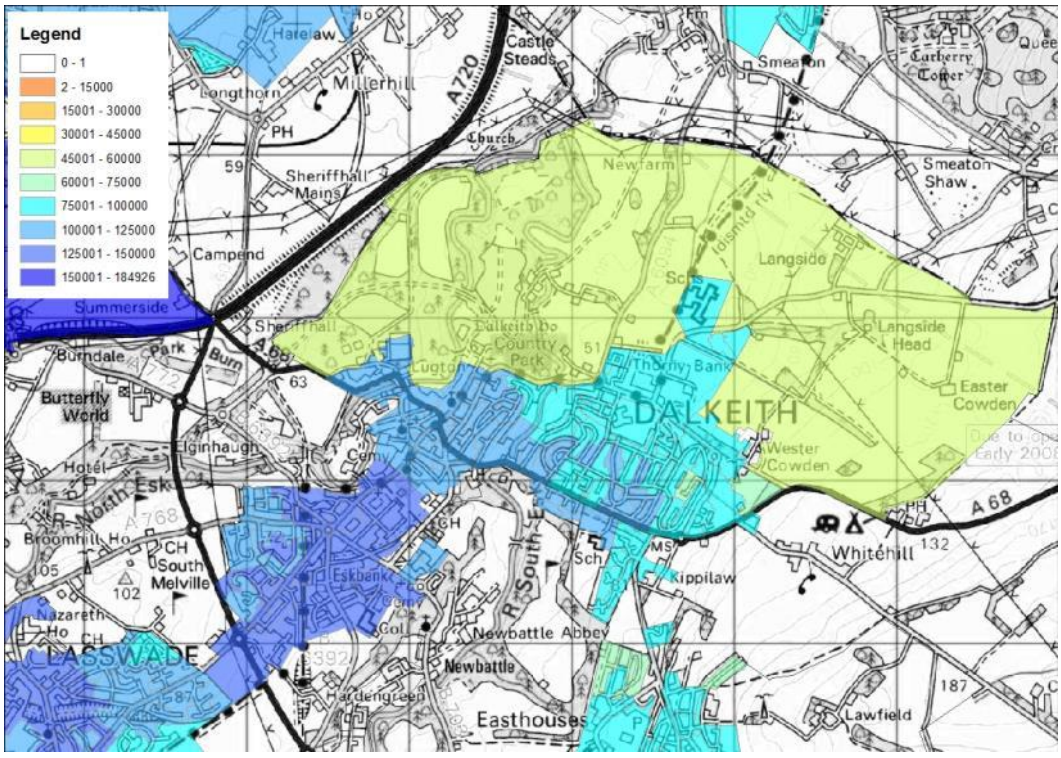


Figure 7. Public Transport Hansen Score – Dalkeith

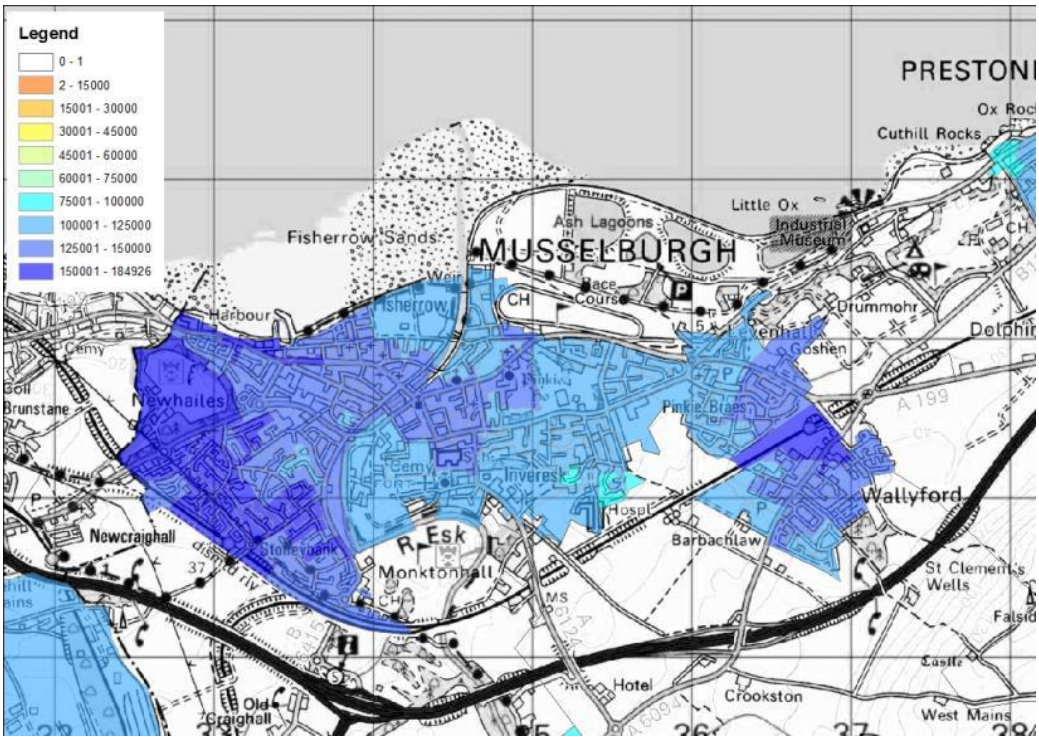


Figure 8. Public Transport Hansen Score – Musselburgh

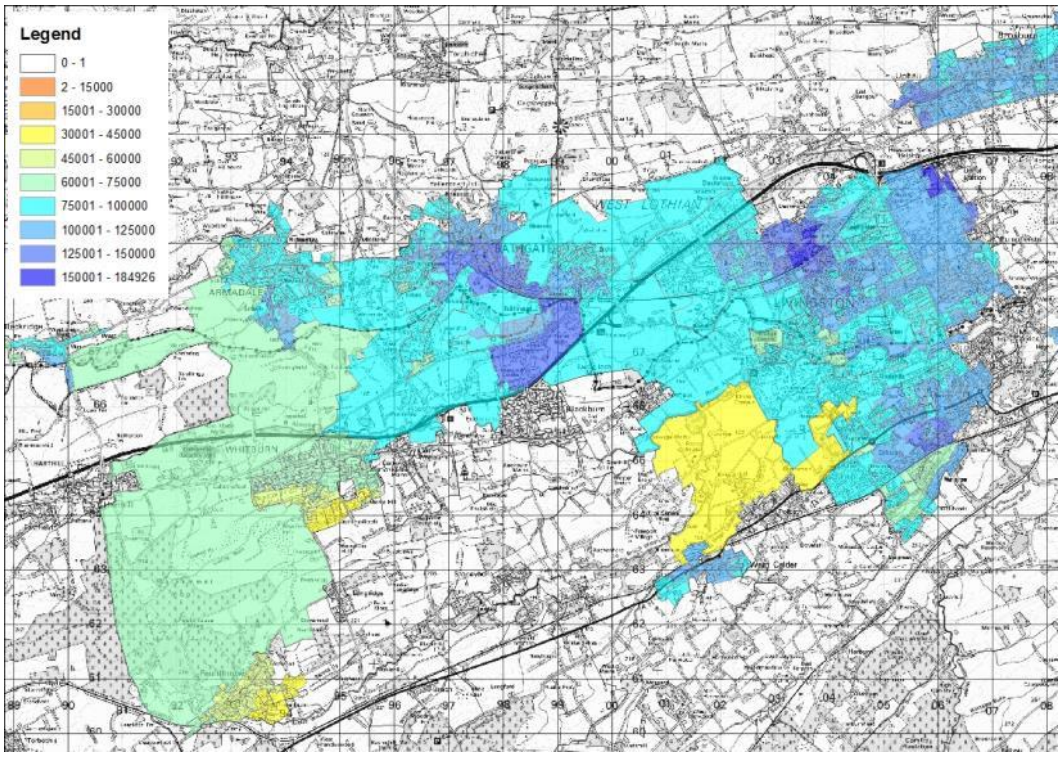


Figure 9. Public Transport Hansen Score – Livingston

5.2 Strategic Employment Clusters

5.2.1 Strategic Employment Clusters have been provided for each of the local authorities. TRACC has been used to identify the total working age population within a 30 and 60 minute public transport/walking journey time. Total working age population has been defined for this purpose as 16-64 from the Census 2011. The travel time to the centroid of the output areas and the associated population with each household area has been used. The full results of this analysis are reported in Appendix B for the Base scenario (present day plus committed transport schemes).

5.2.2 A selection of the most relevant data for each Local Authority area has been displayed below in bar graphs. This is provided for 30 and 60 minute public transport/walking journey time catchments, for both the Base scenario (present day plus committed transport schemes) and the Test scenario (committed plus selected SDP Strategic Infrastructure public transport schemes). The working age population difference between the Base and the Test scenarios is also provided, with the figures highlighted above each bar. Where no figures are shown then no change was observed between the Base and Test scenarios.

5.2.3 Please note: for the purpose of this study the centroid of each output area was used to calculate the accessibility to and from an output area. The mapping assigns that accessibility to the entire output area however it should be noted that accessibility can vary across an output area, especially where output areas are geographically large and this is evident, particularly in rural areas, in the isochrones below.

Scottish Borders

5.2.4 For the Scottish Borders it can be seen that Galashiels Station and Tweedbank Station, as expected, have the highest level of access by the working age population in terms of travel time. For the town centres, it can be seen that Galashiels and Peebles have the highest level of access by the working age population within 30 minutes and 60 minutes.

5.2.5 In terms of the two scenarios, the Test scenario (i.e. the inclusion of the SDP Strategic infrastructure public transport schemes to committed schemes) does not offer any notable improvement for either the 30 and 60 minute or catchment areas. This does not necessarily mean that accessibility has not improved in terms of journey time, however, journey times have not crossed the 30 or 60 minute thresholds.

5.2.6 An improvement to the Eyemouth catchment would be expected due to the Reston station introduction. Further analysis has shown that the distance and current public transport availability between Reston and Eyemouth results in a small journey time difference between the existing bus transport between Dunbar and Eyemouth (although with a low frequency) compared to rail plus bus travel. Although this analysis does not show a marked improvement in journey time it should be noted that service frequency and capacity would be improved following the introduction of the transport intervention.

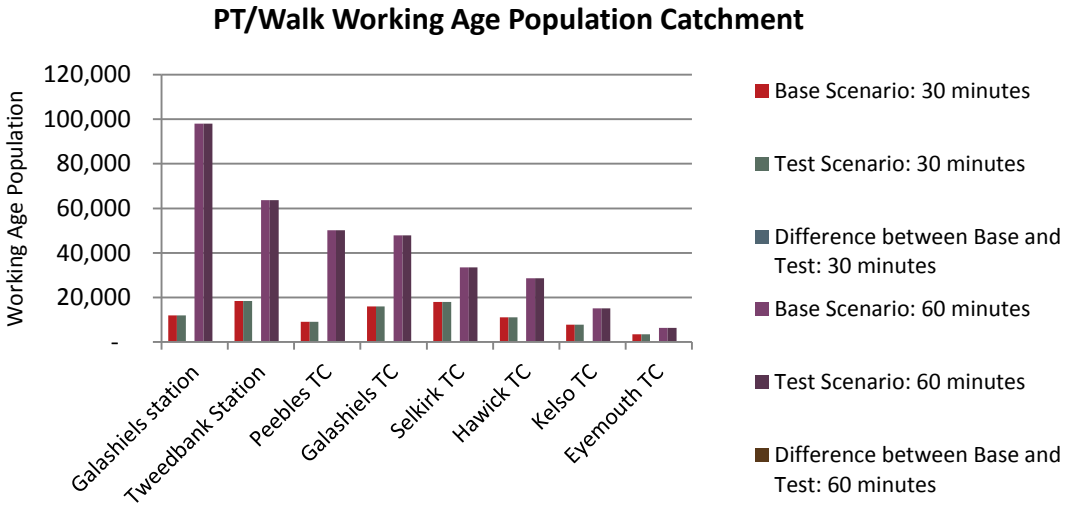


Figure 10. Access to SECs in the Scottish Borders by the Working Age Population

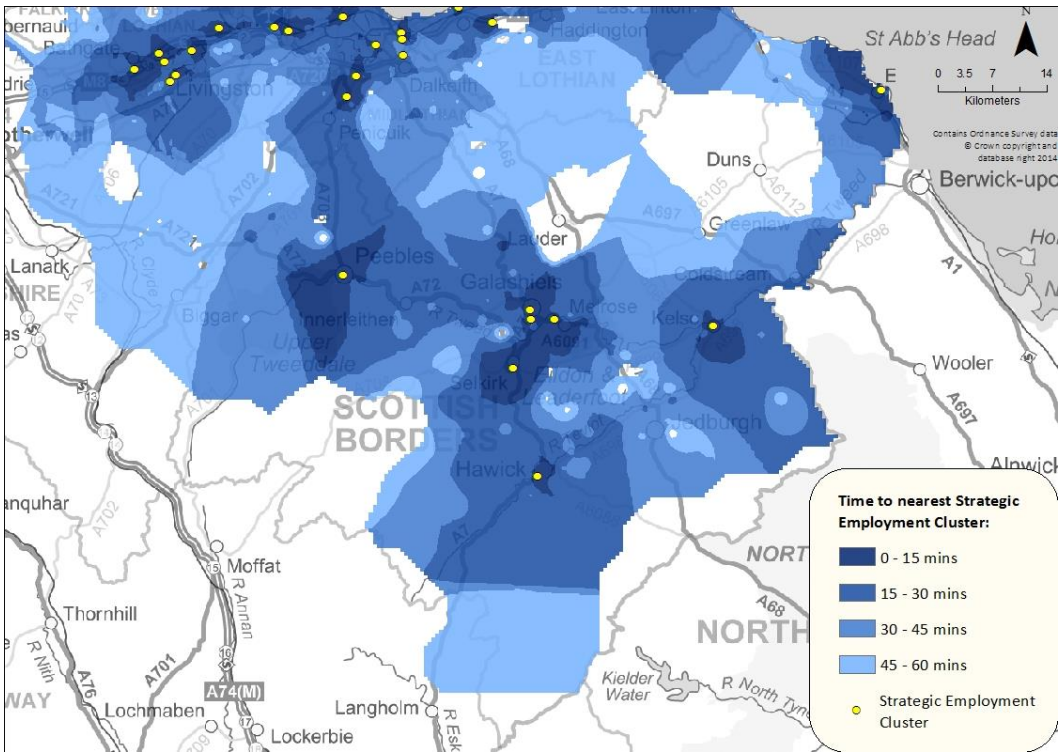


Figure 11. Scottish Borders Strategic Employment Cluster catchment (Base Scenario)

East Lothian

5.2.7 Figure 12 shows that of the sites analysed in East Lothian, Craighall 1 and 2, as well as Cockenzie, show the highest levels of access for the working age population within 30 and 60 minute journey times.

5.2.8 It can be seen that the Test scenario offers significant improvements in Craighall for the 30 minute journey time, with an extra 11,210 people of working age gaining access within this timescale. Within the 60 minute timescale, all analysed sites show an improvement, significant in some cases, with Craighall 1 seeing the largest gain in terms of real numbers (41,386, a 11% increase), and Spott Road seeing the largest gain in terms of percentage improvement (9,789, a 63% increase). These increases are in relation to the proposed new station at East Linton and new Berwick to Edinburgh rail service.

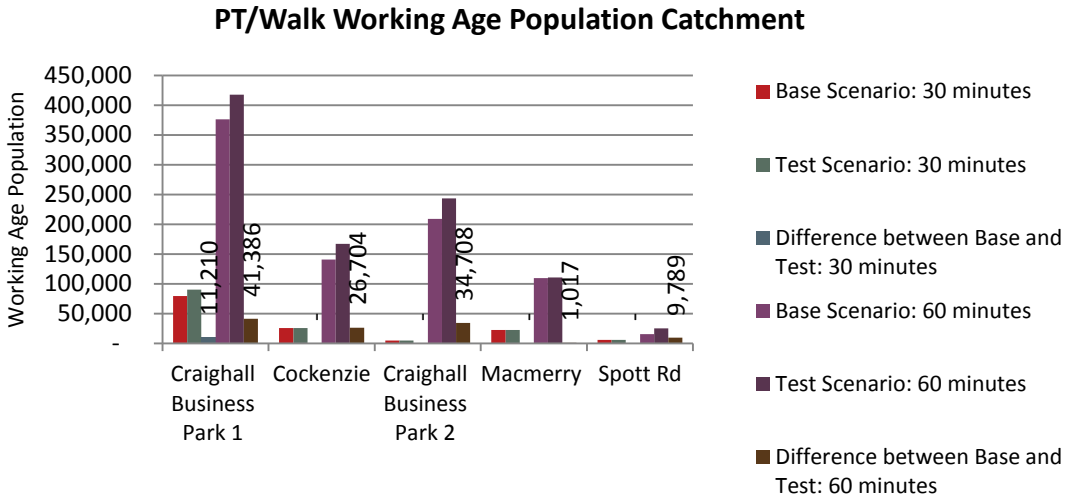


Figure 12. Access to SECs in East Lothian by the Working Age Population

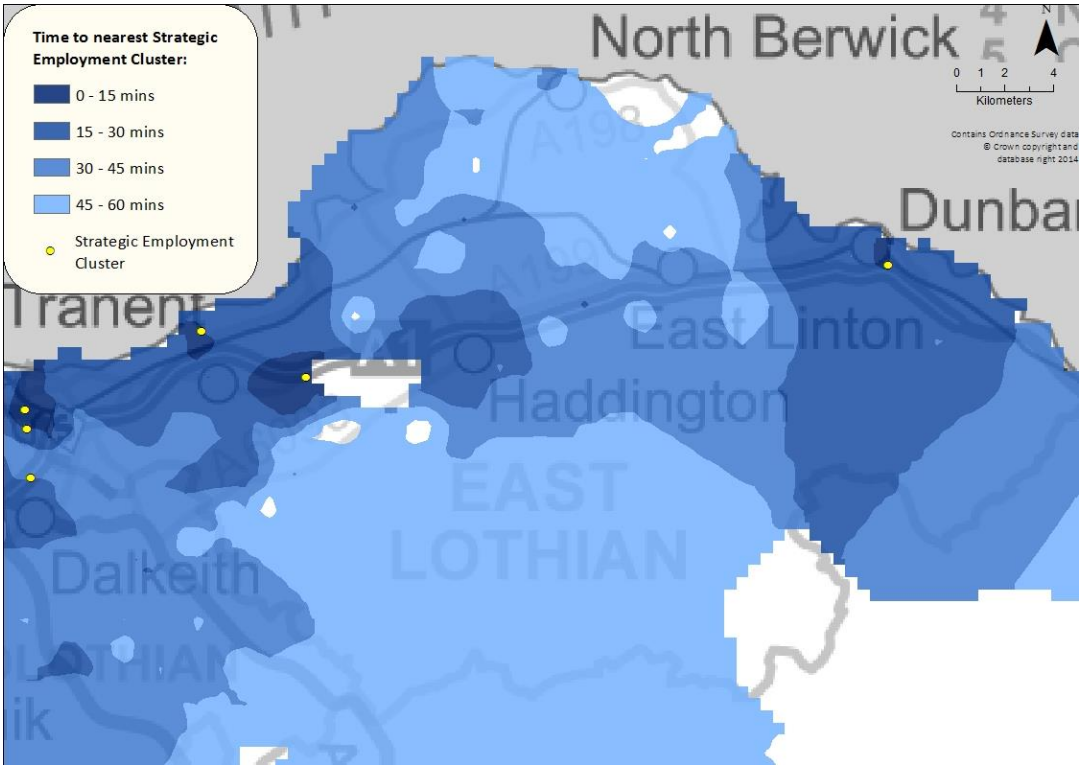


Figure 13. East Lothian Strategic Employment Cluster (Base Scenario)

City of Edinburgh

5.2.9 For SECs in the City of Edinburgh, Edinburgh Park shows the highest levels of access for the working age population within 30 and 60 minute journey times. It also shows the highest level of accessibility increase for the Test case in both real numbers and percentage increase for the 60 minute catchment (10,256, a 2% increase). Central Edinburgh shows by far the best access within 30 minutes for the working age population, but a relatively small improvement in the Test scenario. Edinburgh Park sees a significant increase in catchment related to the Winchburgh station and orbital bus route. Similarly, Edinburgh Airport benefits from the introduction of the Oribital Bus.

5.2.10 TRACC (and Accession previously) does not take account of frequency or user preference, it calculates the shortest travel time using services which exist within the time period selected. It is for this reason that in some cases a transport intervention, the key example for Edinburgh is the tram extension, does not improve journey times significantly as although the frequency and capacity has been improved, the bus services currently in place offer a similar service pattern.

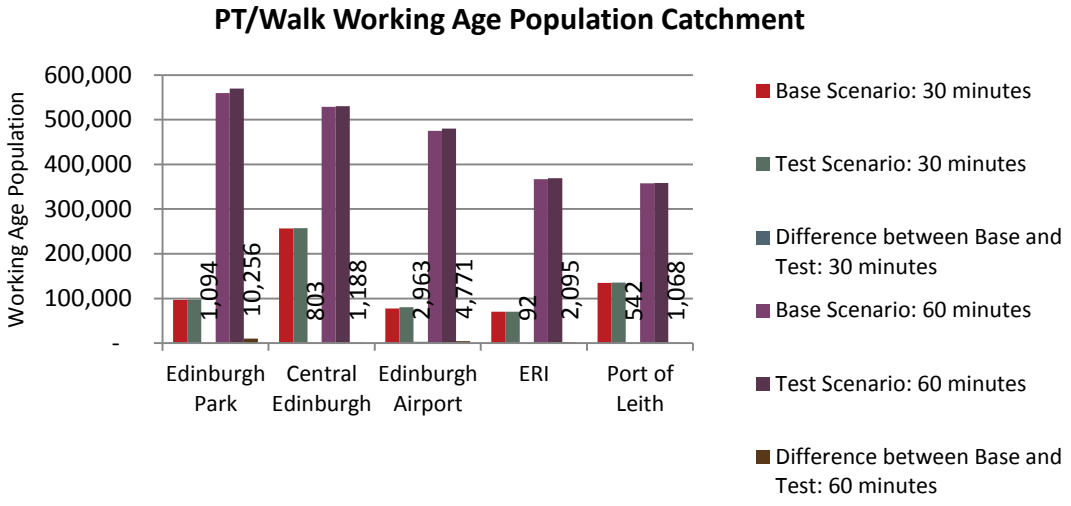


Figure 14. Access to SECs in Edinburgh by the Working Age Population

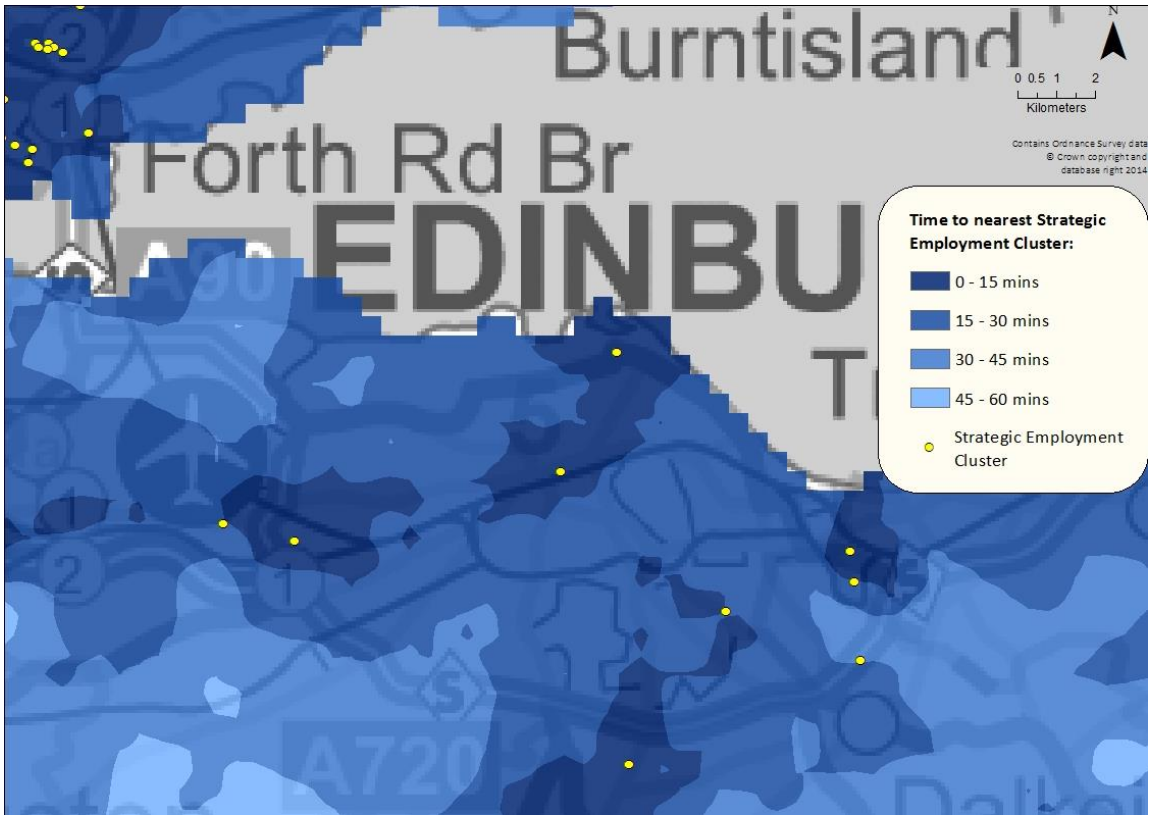


Figure 15. Edinburgh Strategic Employment Cluster (Base Scenario)

Fife

5.2.11 Figure 16 and Figure 17 (note that there is a scale difference between the two figures on the Y-axis) show that Caldwell Mill and the J3 Park and Choose sites show by far the best access by public transport and walking within 60 minutes for the working age population. These are also the only sites in Fife that show any change between the Base and Test scenarios. These changes are within the 60 minute bracket which are related to improved public transport connections in and around Edinburgh (eg. Orbital bus, Winchburgh). J3 Park and Choose shows the best access within the 30 minute catchment.

5.2.12 TRACC does not take account of frequency, capacity or user preference, it calculates the shortest travel time using services which exist within the time period selected. It is for this reason that in some cases a transport intervention, Levenmouth here, does not improve journey times significantly as although the frequency and capacity has been improved, there are currently bus services offering an express service similar to the proposed intervention. Detailed timetabling and reworking of the Fife Circle rail timetable has not been undertaken as part of this assessment and this may result in improved journey times related to the Levenmouth transport intervention.

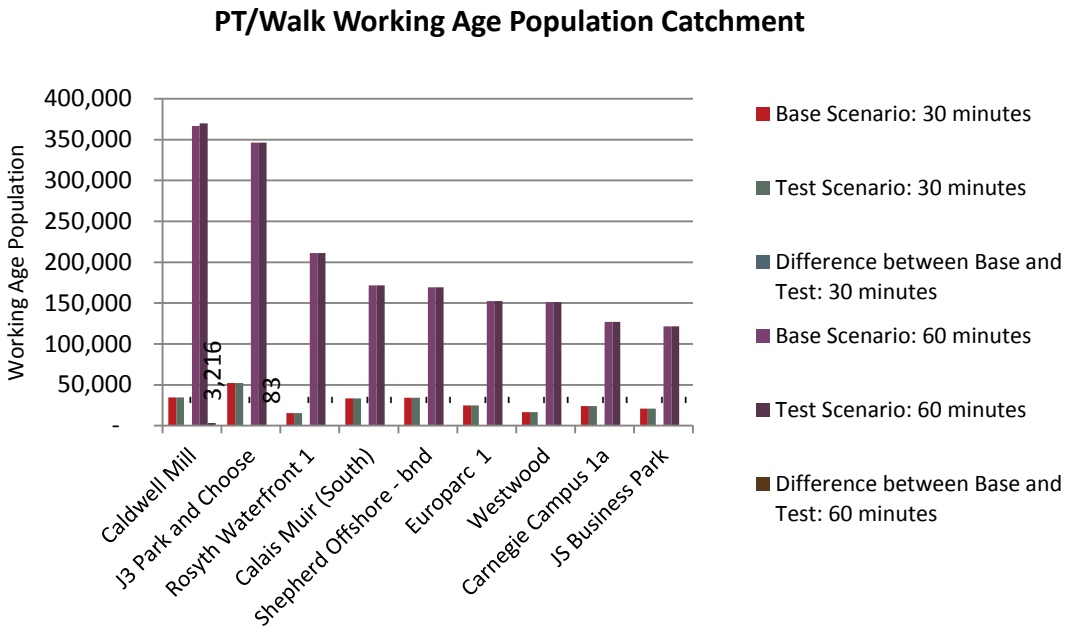


Figure 16. Access to SECs in Fife (1 of 2) by the Working Age Population

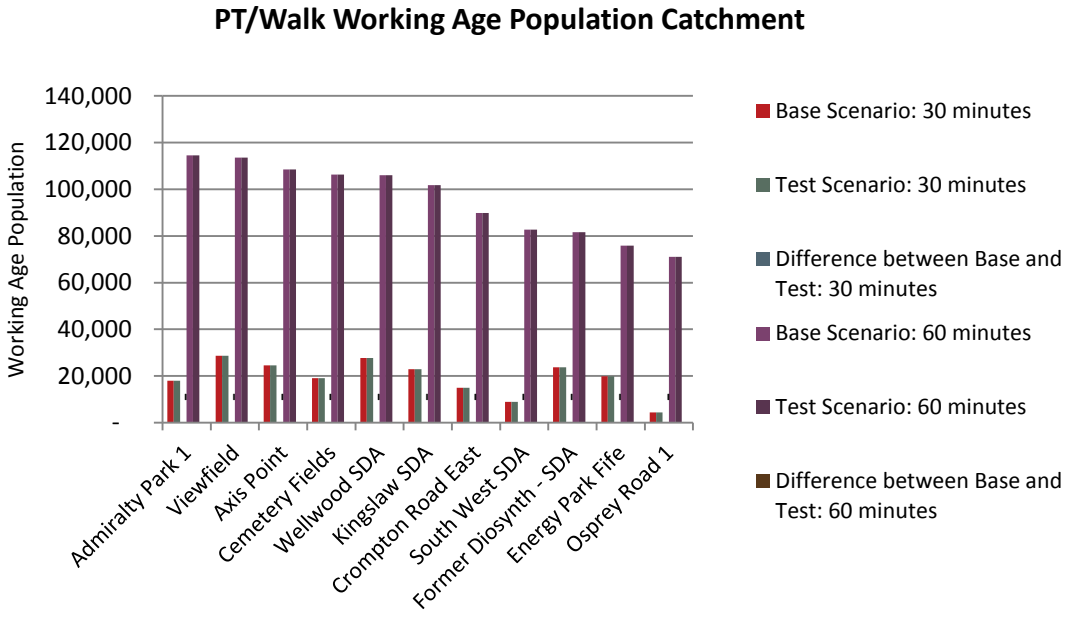


Figure 17. Access to SECs in Fife (2 of 2) by the Working Age Population

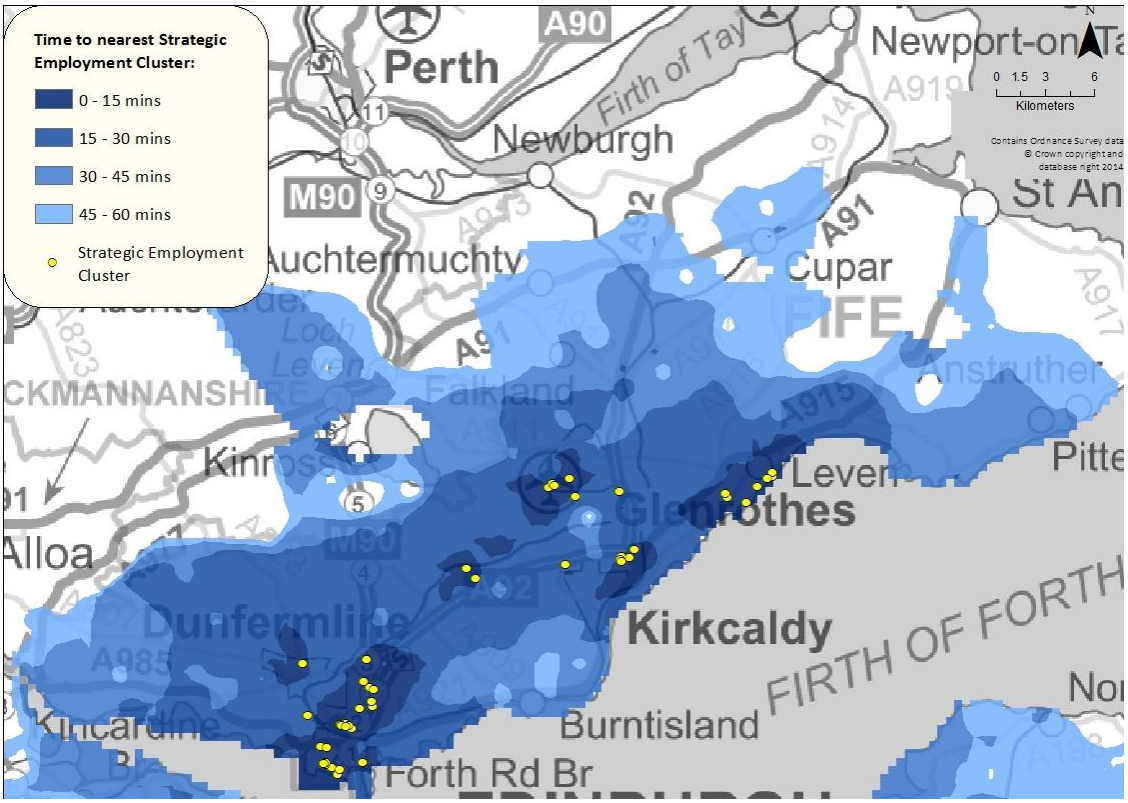


Figure 18. Fife Strategic Employment Cluster (Base Scenario)

Midlothian

5.2.13 For Midlothian, it can be seen in Figure 19 that LD1/Loanhead is most accessible for the working age population by PT/walking for the 60 minute catchment; for the 30 minute catchment the Bush estate is more accessible. The transport schemes in the Test scenario, the Oribital bus in particular, provide the largest benefit to LD1/Loanhead both in real numbers and percentage increase with a significant increase of 12,757 working age population catchment (4%).

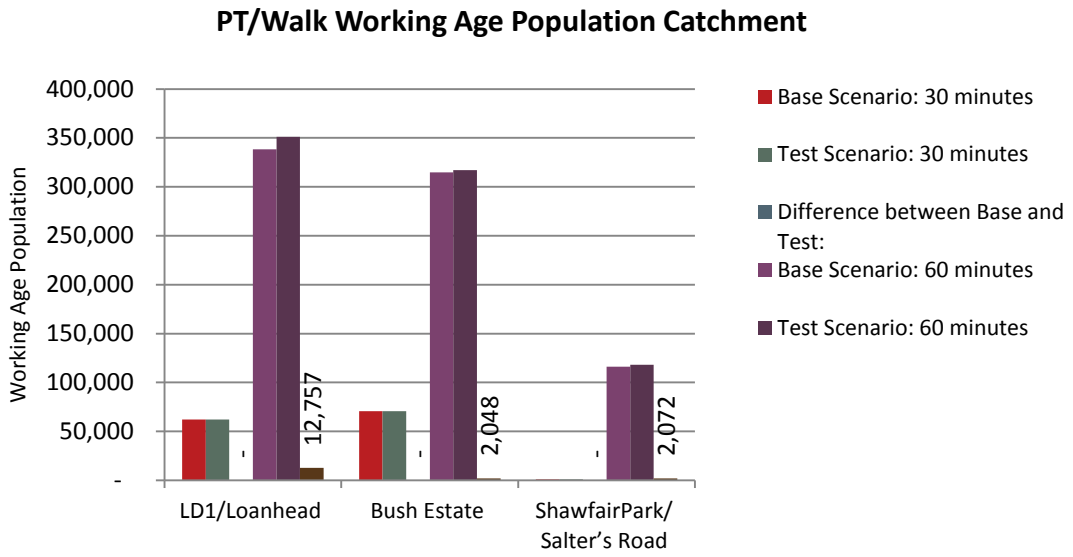


Figure 19. Access to SECs in Midlothian by the Working Age Population

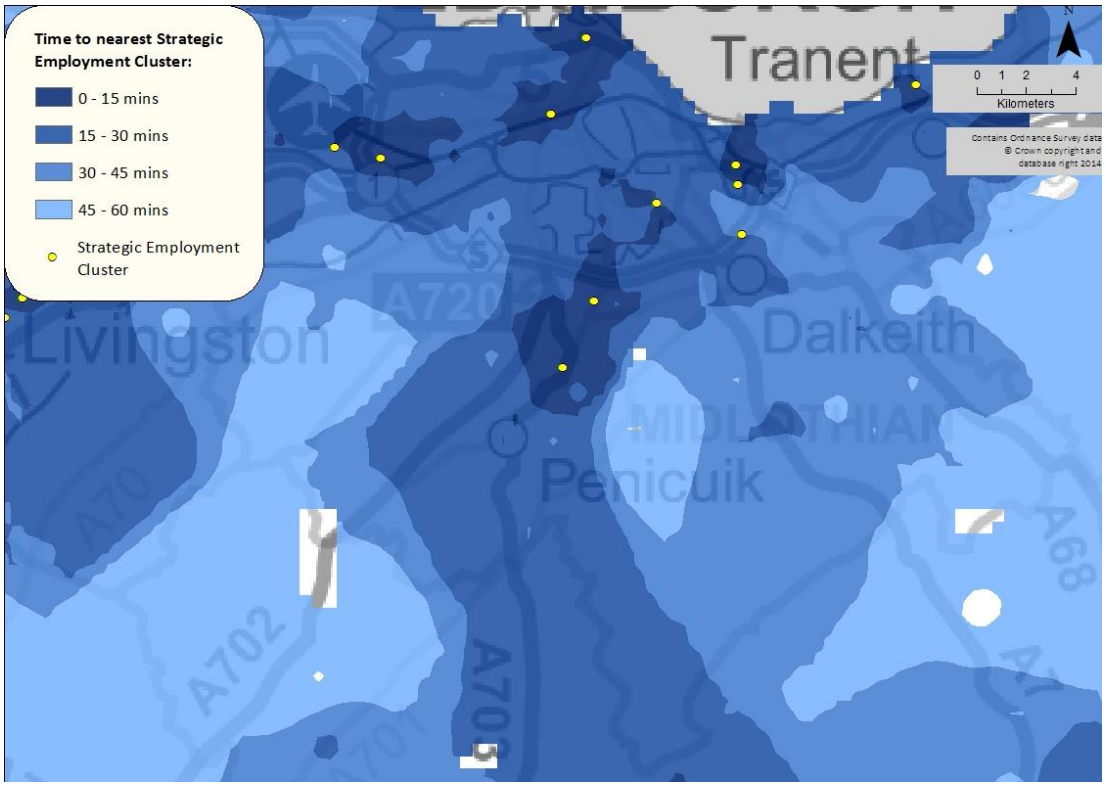


Figure 20. Midlothian Strategic Employment Cluster (Base Scenario)

West Lothian

5.2.14 For West Lothian, it can be seen in Figure 21 that site West Lothian Enterprise Area (Broxburn), is the most accessible for the working age population by PT/walking for the 60 minute catchment; for the 30 minute catchment site M8 Logistics & Distribution is more accessible. The transport schemes in the Test scenario, in particular the Orbital bus and Winchburgh station, provide the largest benefit to West Lothian Enterprise Area (Broxburn) both in real numbers and percentage increase (11,705, an increase of 4%).

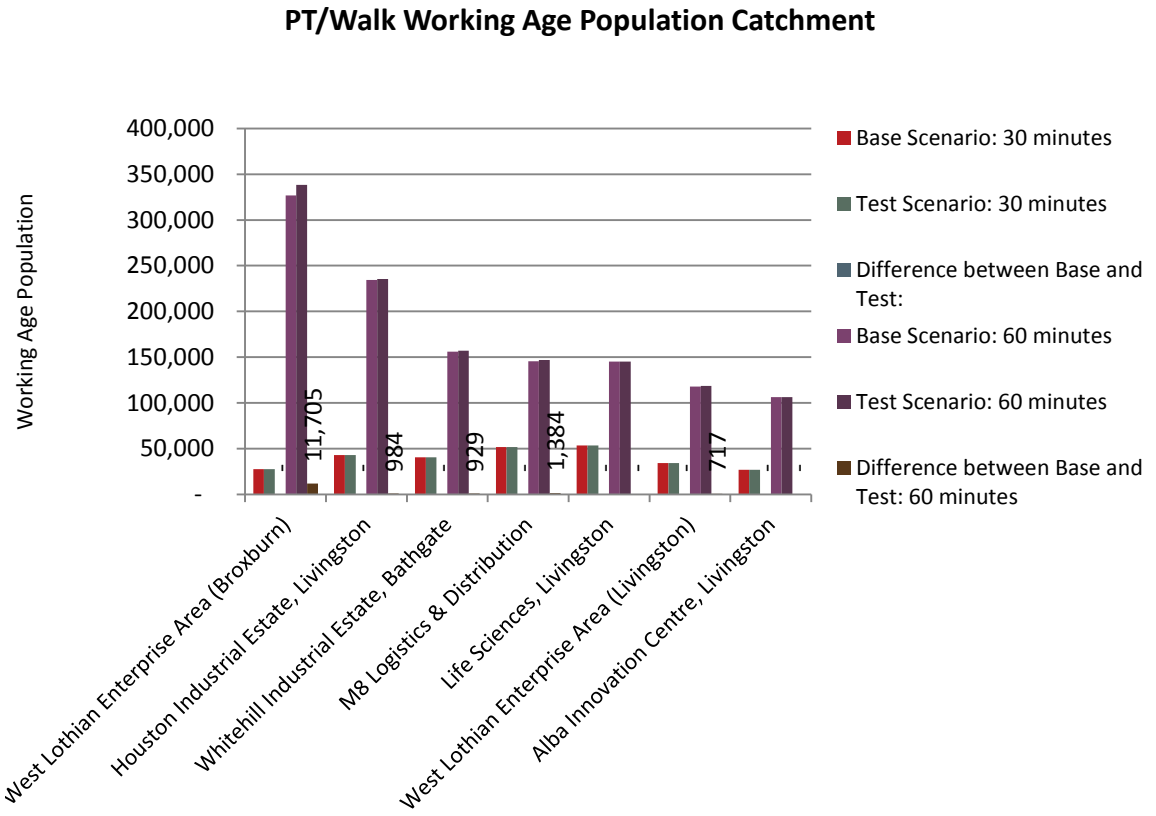


Figure 21. Access to SECs in West Lothian by the Working Age Population

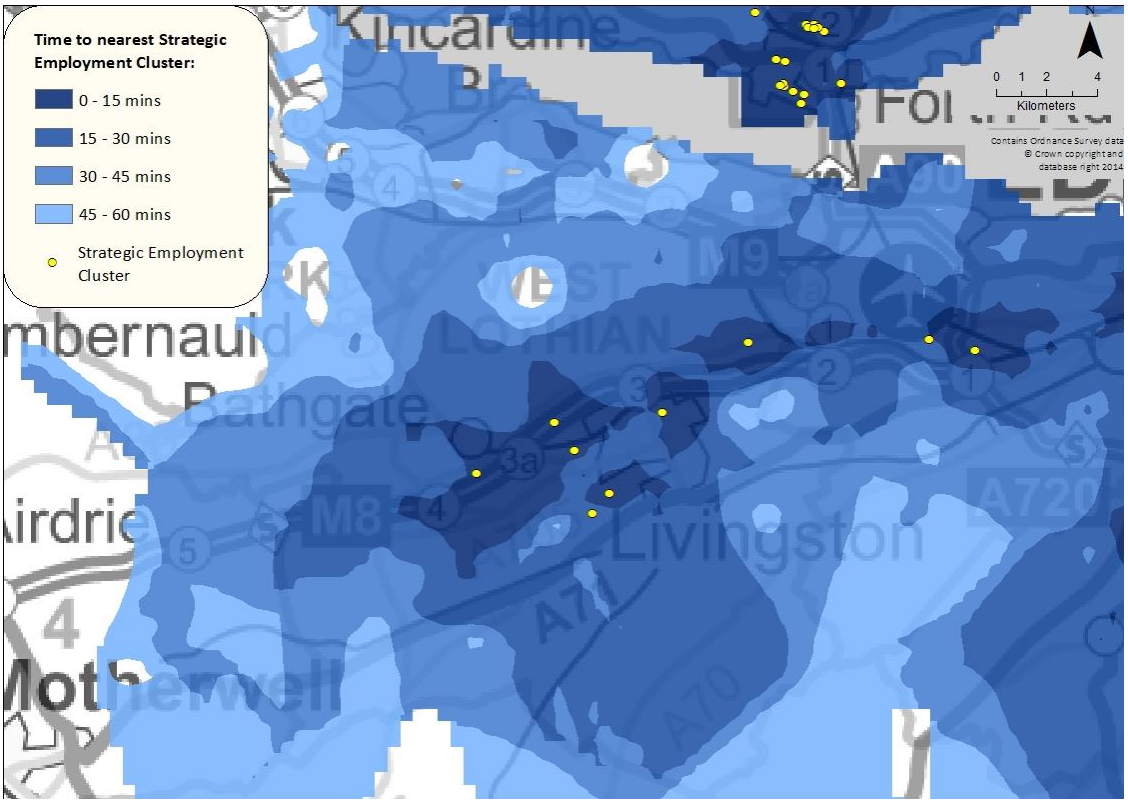


Figure 22. West Lothian Strategic Employment Cluster (Base Scenario)

5.3 Access to Town Centres

5.3.1 Access to town centres can be taken as a proxy for access to a range of retail, leisure, employment and cultural destinations. The weighted average journey time has been reported to the closest town centre in the accompanying spreadsheet with the closest town centre for each settlement identified. The town centre locations used in the TRACC model are detailed in Table 1.

5.3.2 Park and ride journey times have been calculated based on the origin to closest park and ride car-based travel time combined with the public transport-based journey time to the closest town centre from the park and ride. NB This approach creates anomalies where the best Park and Ride journey takes longer than the best pure public transport journey.

5.3.3 Thematic mapping of the key settlements is presented in Figure 23 to Figure 30 below.

5.3.4 Please note: for the purpose of this study the centroid of each output area was used to calculate the accessibility to and from an output area. The mapping assigns that accessibility to the entire output area however it should be noted that accessibility can vary across an output area, especially where output areas are geographically large.

Table 1. Town Centre Destinations

LOCAL AUTHORITY	TOWN CENTRE DESTINATIONS
Fife	Cupar, St Andrews, Kirkcaldy, Leven, Cowdenbeath, Dunfermline, Lochgelly, Glenrothes, Anstruther, Kincardine, Oakley, Crossgates
Scottish Borders	Melrose, Duns, Peebles, Innerleithen, Eyemouth, Jedburgh, Kelso, Selkirk, Galashiels, Hawick
Midlothian	Dalkeith, Bonnyrigg, Penicuik, Loanhead, Newtongrange, Mayfield, Gorebridge, Shawfair
Edinburgh	City Centre, Bruntsfield/Morningside, Corstorphine, Gorgie/Dalry, Leith/Leith Walk, Nicolson Street/Clerk Street, Portobello, Stockbridge, Tollcross
East Lothian	Musselburgh, Tranent, Prestonpans, Haddington, North Berwick, Dunbar
West Lothian	Armadale, Bathgate, Blackridge, Broxburn, East Calder, Fauldhouse, Linlithgow, Livingston, West Calder, Whitburn, Winchburgh

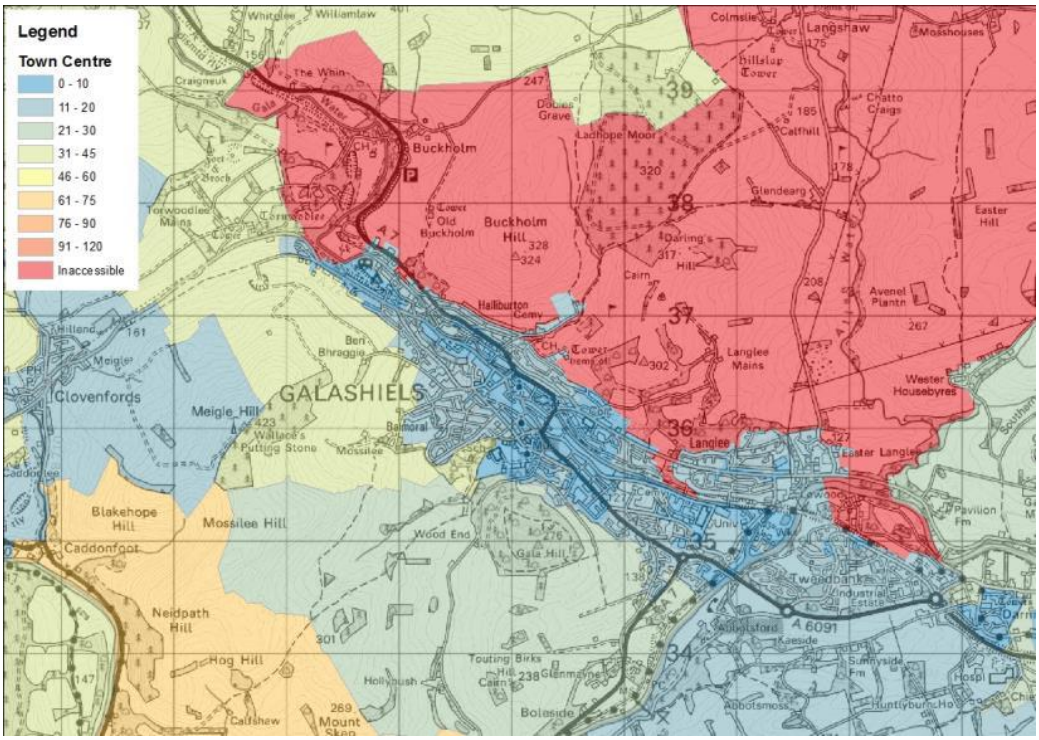


Figure 23. Public Transport Town Centre access (minutes) – Galashiels

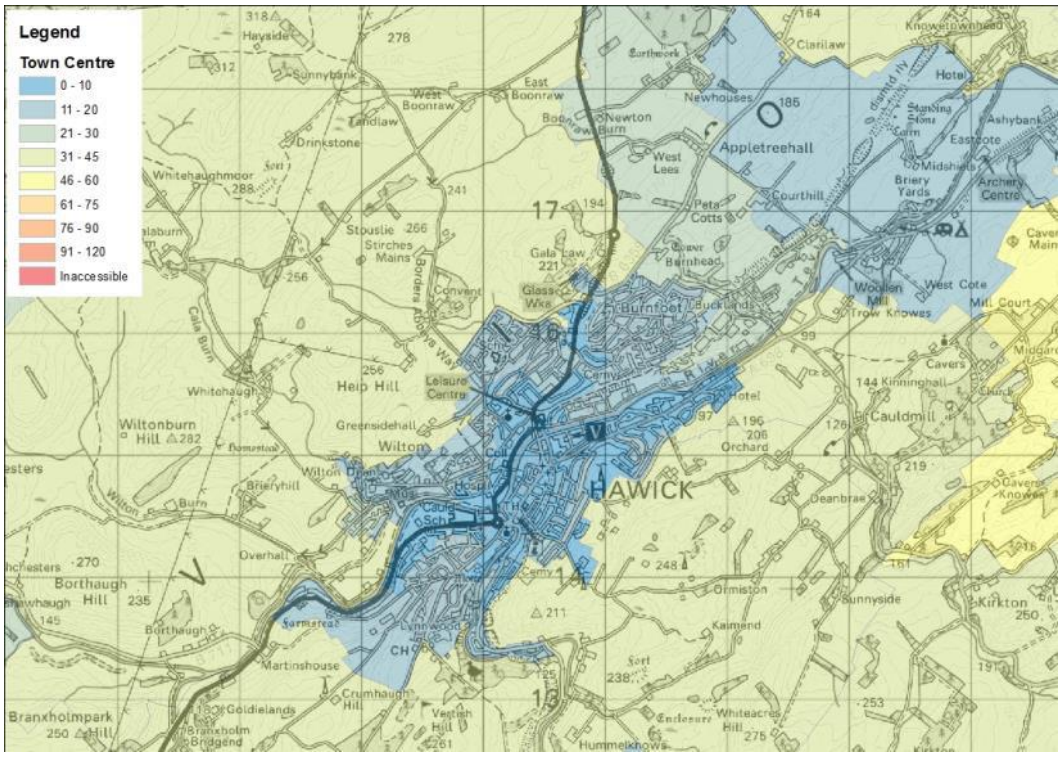


Figure 24. Public Transport Town Centre access (minutes)– Hawick

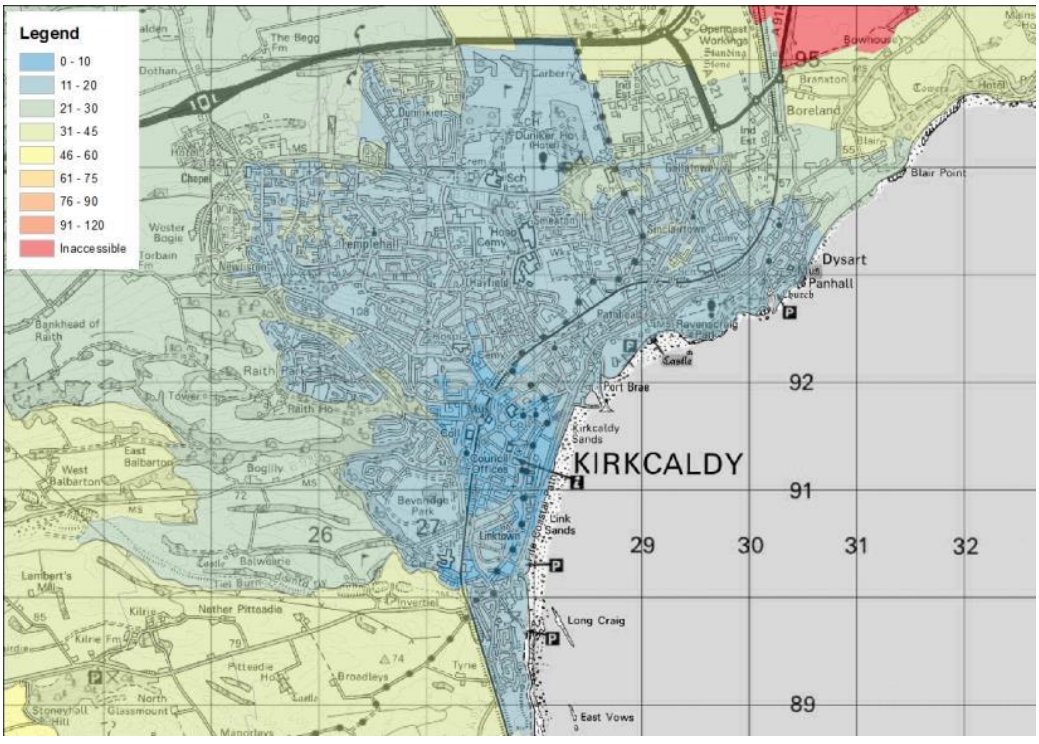


Figure 25. Public Transport Town Centre access (minutes)- Kirkcaldy

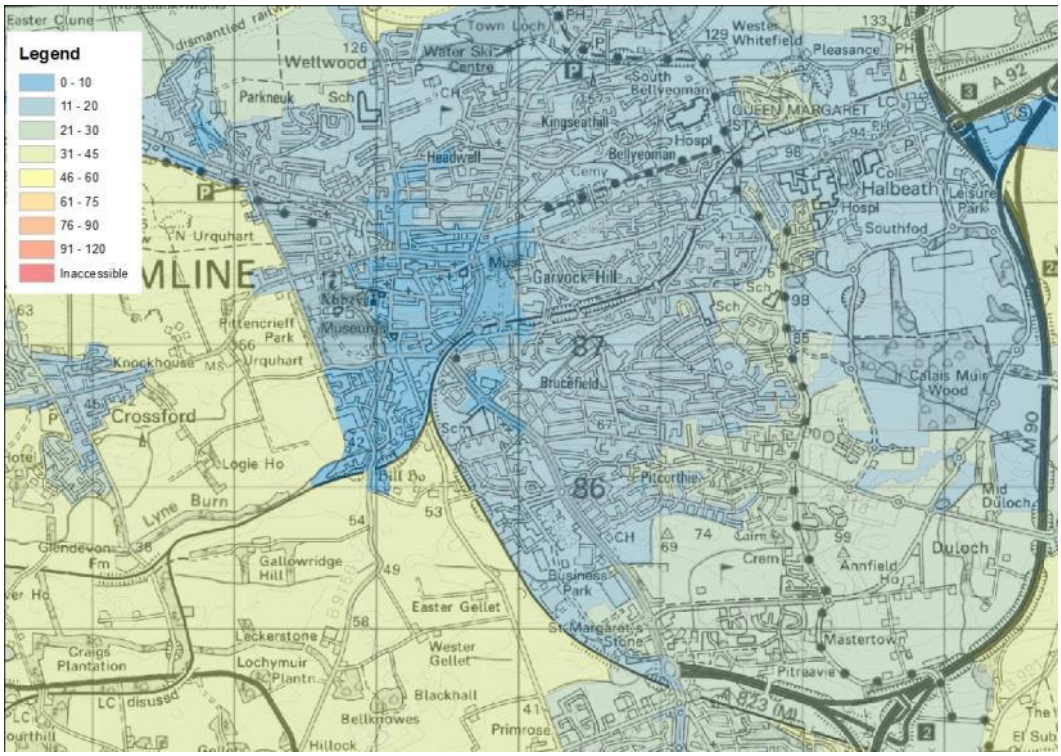


Figure 26. Public Transport Town Centre access (minutes)– Dunfermline

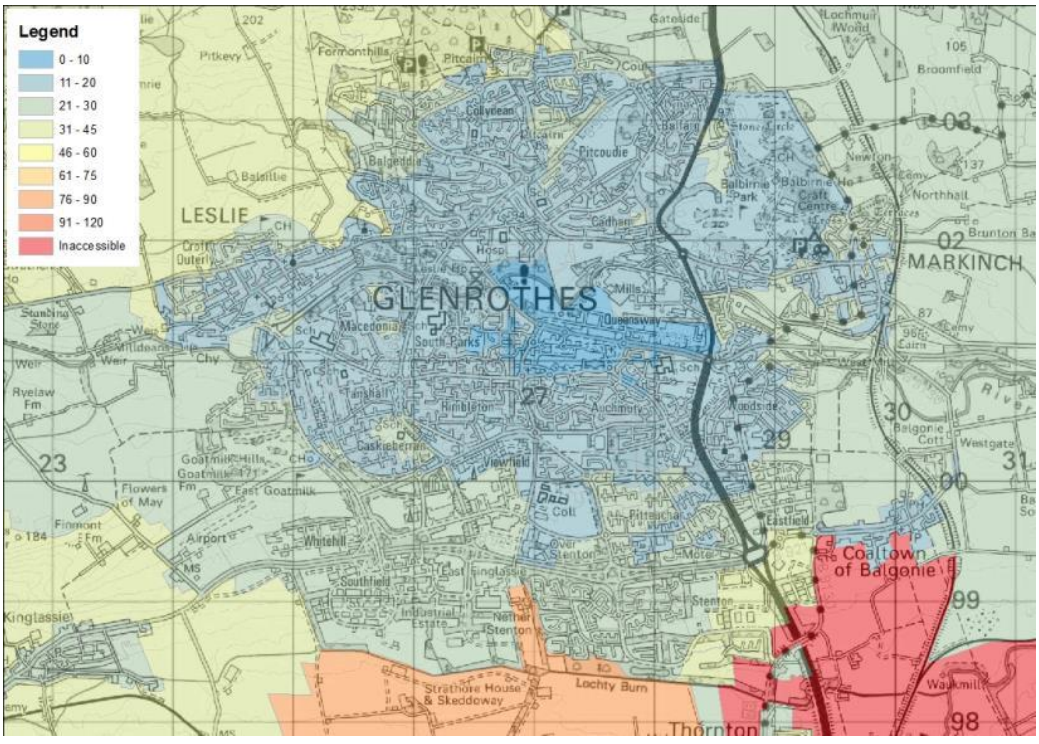


Figure 27. Public Transport Town Centre access (minutes)- Glenrothes

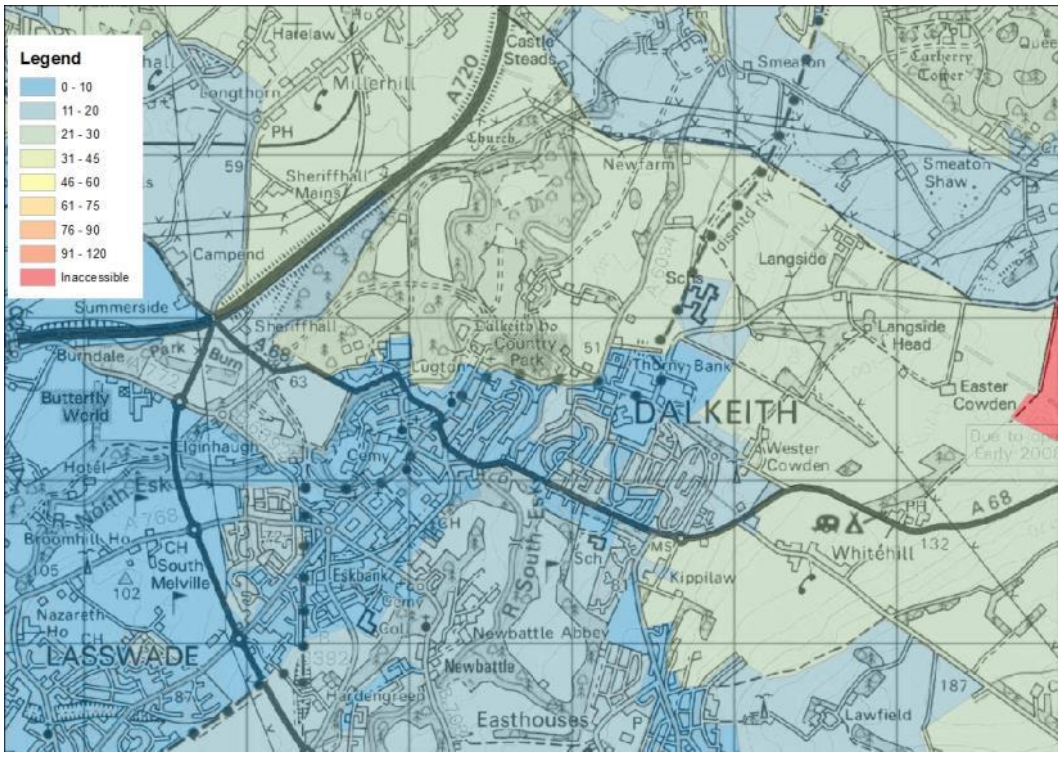


Figure 28. Public Transport Town Centre access (minutes)– Dalkeith

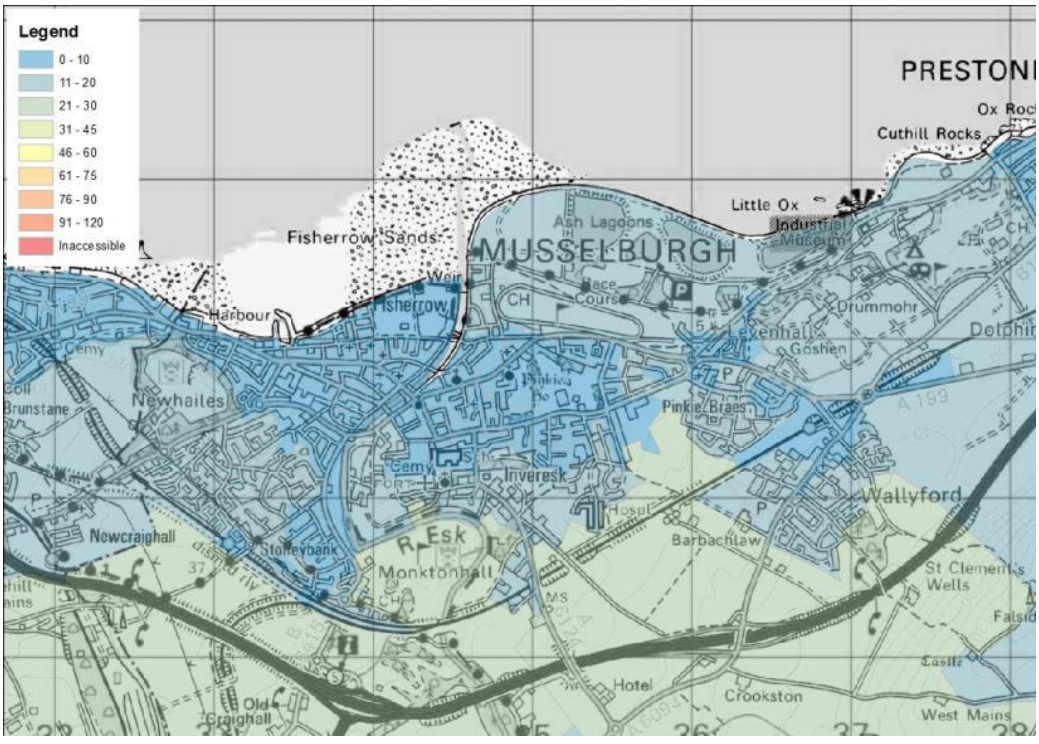


Figure 29. Public Transport Town Centre access (minutes)- Musselburgh

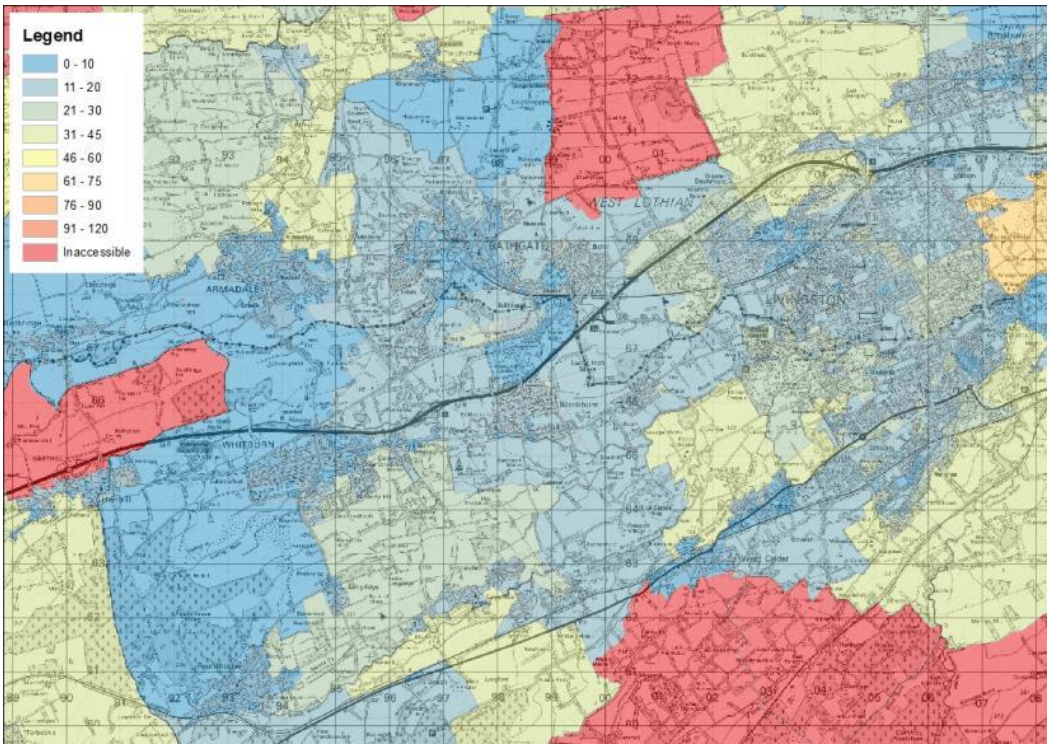


Figure 30. Public Transport Town Centre access (minutes)- Livingston

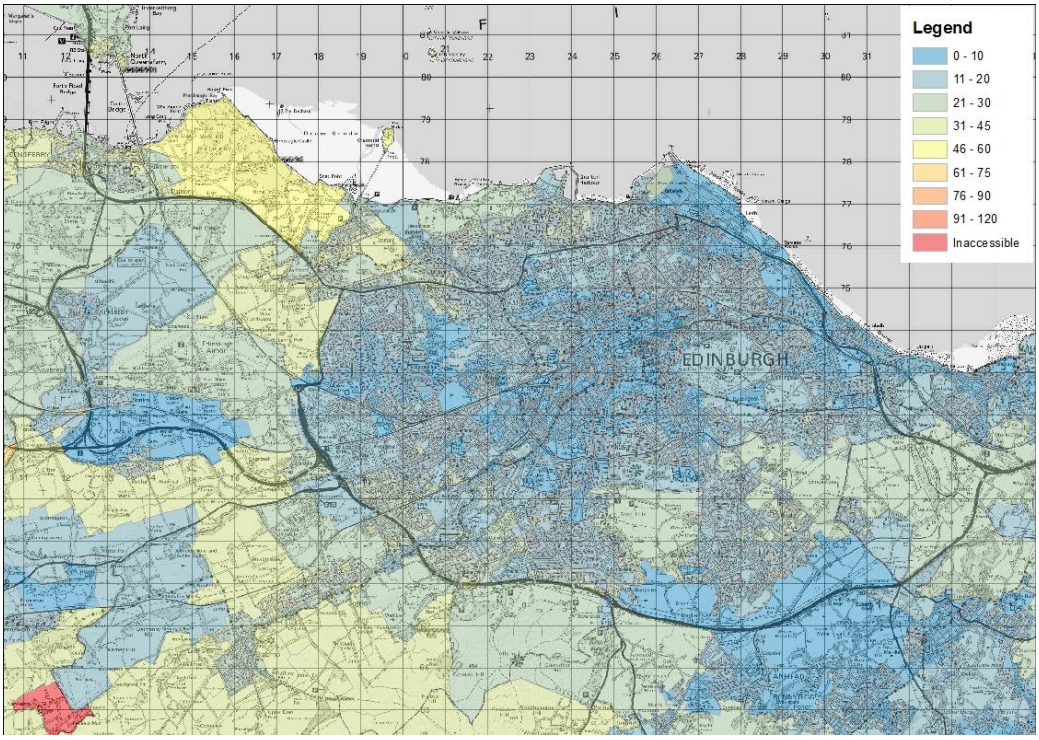


Figure 31. Public Transport Town Centre access (minutes)- Edinburgh

5.3.5 In addition, accessibility analysis has been undertaken to the strategic town centres in the SESplan area as shown in Table 2. Local Authority mapping of access to these Strategic town centres is presented in Figure 32 to Figure 37. The weighted average public transport journey time has been reported to the closest town centre in the accompanying spreadsheet.

5.3.6 Please note: for the purpose of this study the centroid of each output area was used to calculate the accessibility to and from an output area. The mapping assigns that accessibility to the entire output area however it should be noted that accessibility can vary across an output area, especially where output areas are geographically large.

Table 2. Strategic Town Centre Destinations[5]

TOWN CENTRES
Kirkcaldy
Galashiels Central
City Centre - Edinburgh
Dunfermline
Glenrothes
Livingston

[5] Strategic Centres are from the adopted SDP with the addition of Galashiels for the role it plays in the Borders.

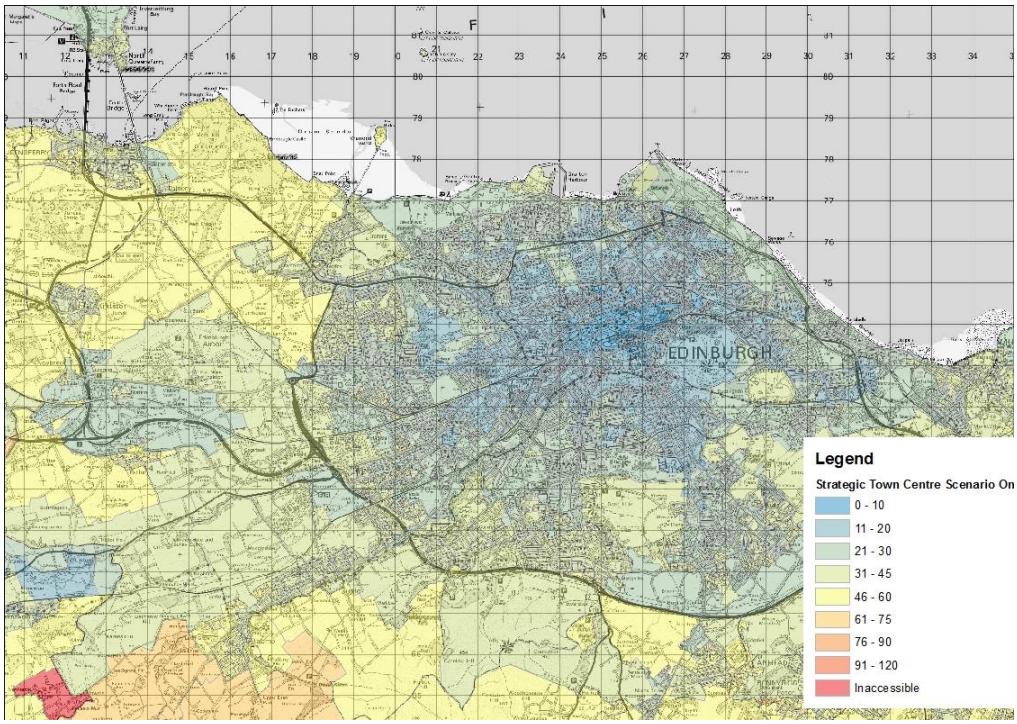


Figure 32. Edinburgh – Access to Strategic Town Centres

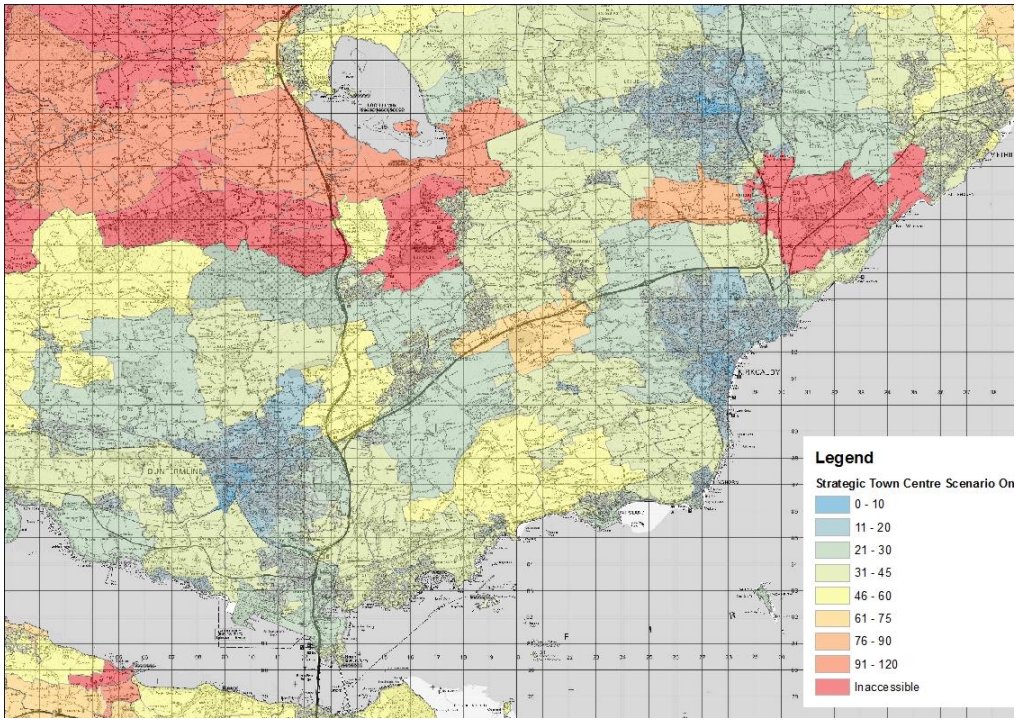


Figure 33. Fife – Access to Strategic Town Centres

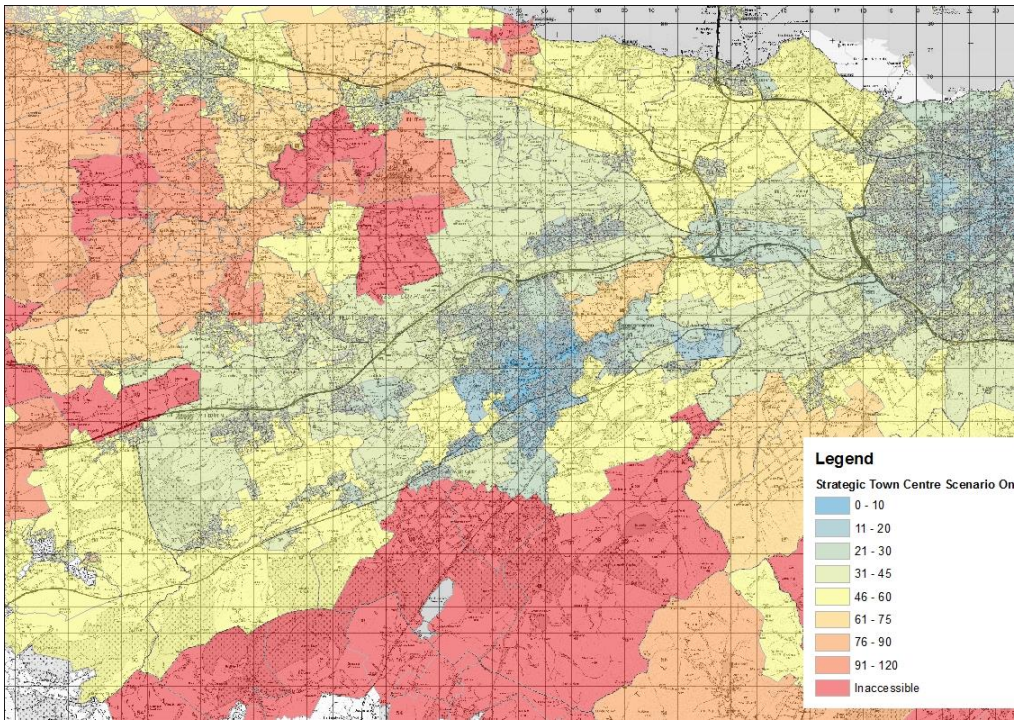


Figure 34. West Lothian – Access to Strategic Town Centres

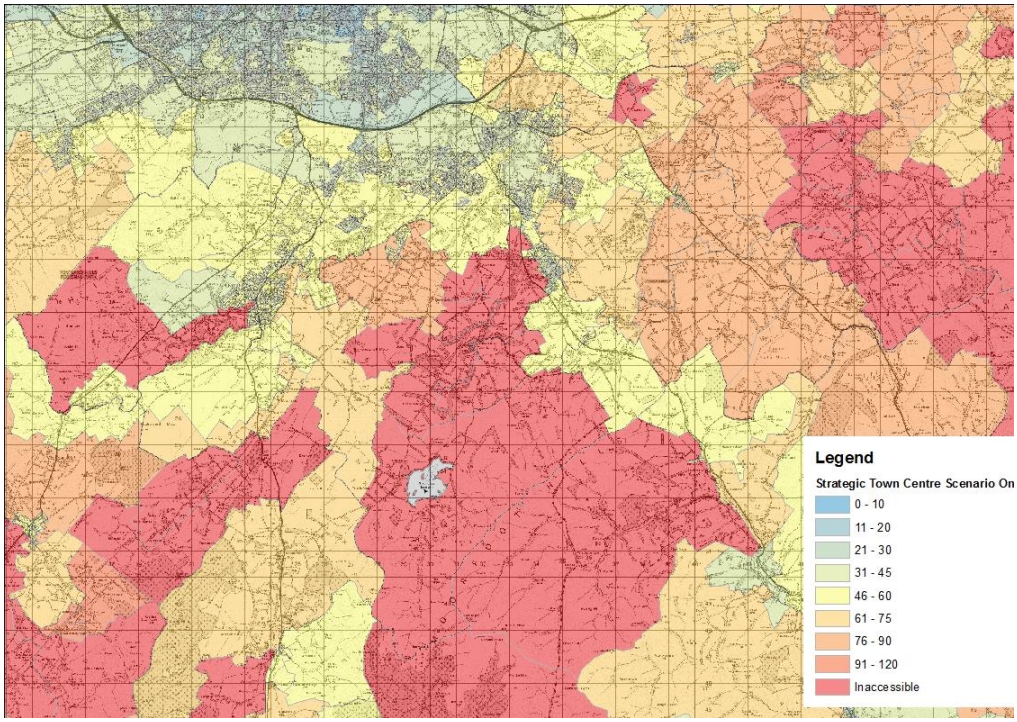


Figure 35. Midlothian – Access to Strategic Town Centres

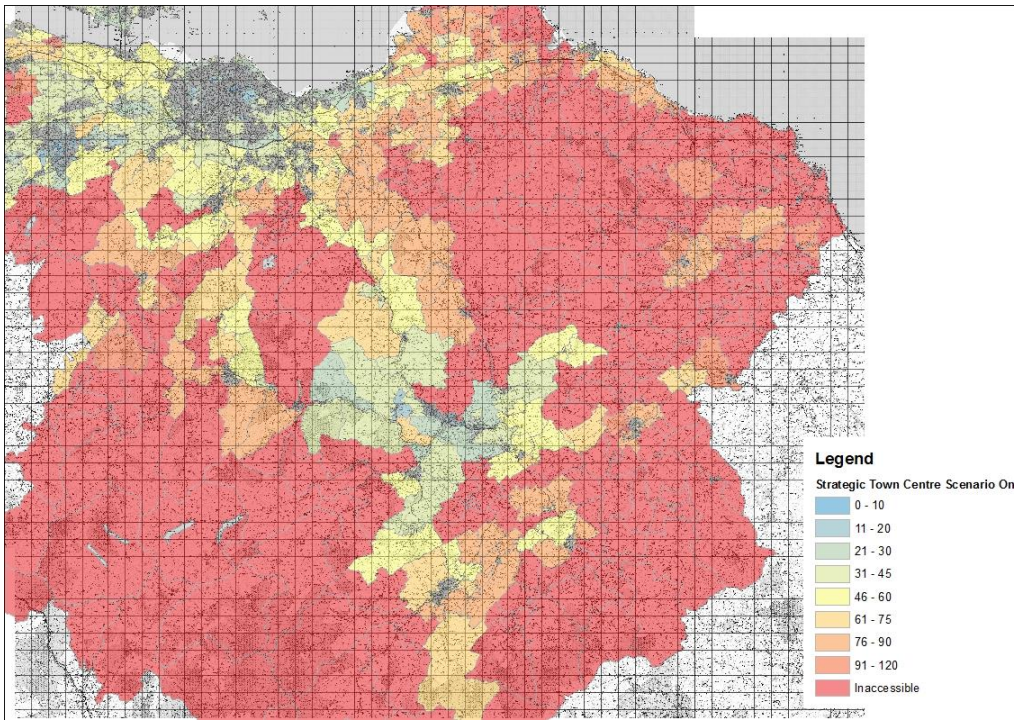


Figure 36. Scottish Borders – Access to Strategic Town Centres

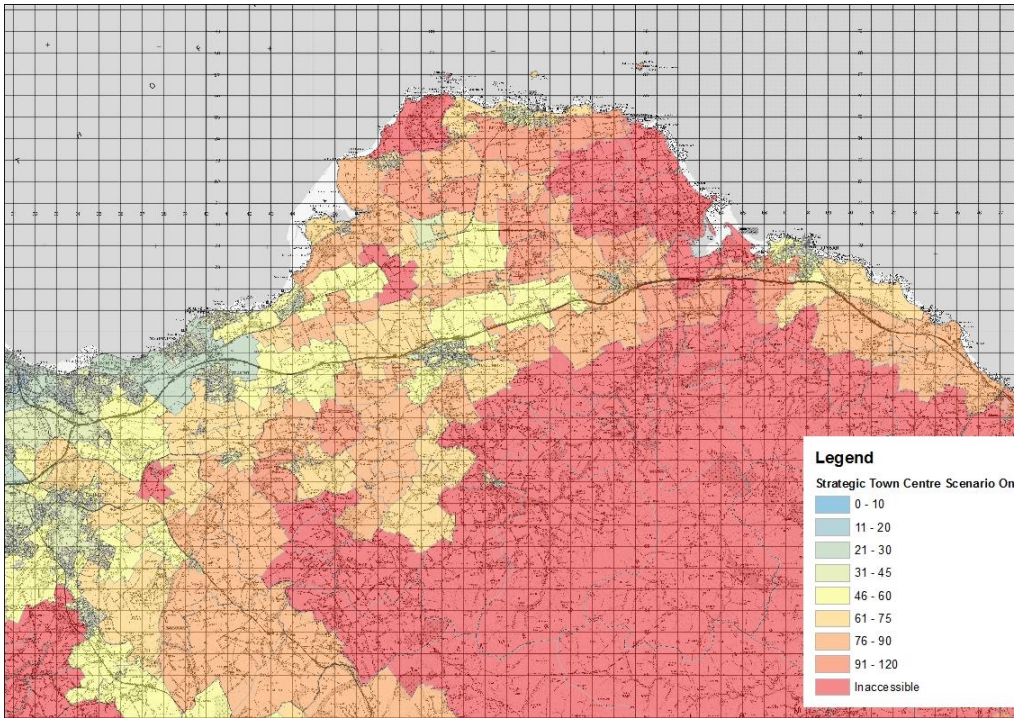


Figure 37. East Lothian – Access to Strategic Town Centres

5.4 Access to Retail Parks

5.4.1 Table 3 presents the retail park locations, based on CACI Retail Park definitions in SESplan and neighbouring local authorities. The 'regional' retail centres are included to represent access to non-day-to-day retail opportunities and employment.

Table 3. Retail park locations

RETAIL PARK LOCATIONS
Bathgate - Bathgate Retail Park
Dunfermline - Carnegie Drive Retail Park
Dunfermline - Halbeath Retail Park
Edinburgh - Cameron Toll
Edinburgh - Craigleith Retail Park
Edinburgh - Fort Kinnaird Retail Park
Edinburgh - Gyle Centre
Edinburgh - Hermiston Gait Retail Park
Edinburgh - Meadowbank Retail Park
Edinburgh - Ocean Terminal
Edinburgh - Seafield Rd Retail Park
Falkirk - Central Retail Park
Galashiels - Comely Bank Mill Retail Park
Galashiels - Hunters Bridge Retail Park
Glenrothes - Saltire Retail Park
Kirkcaldy - Fife Central Retail Park
Livingston - Almondvale South Retail Park
Livingston - Almondvale West Retail Park
Loanhead - Pentland Retail Park
Musselburgh - Olivebank Retail Park
Perth - St Catherines Retail Park
Stirling - Springkerse Retail Park

5.4.2 Public transport journey times to these retail parks have been reported in terms of access time to the nearest regional retail facility, as we assume that the facilities on offer would be broadly similar at each regional location. Similarly to the town centre score the journey time has been calculated for each output area within a settlement and the average weighted journey time has been calculated for each settlement-based on the Census 2011 number of households in each output area (or proposed number of units in the case of new developments).

5.4.3 Park and ride journey times have been calculated based on the origin to closest park and ride car-based travel time combined with the public transport-based journey time to the closest retail park from the park and ride. NB This approach creates anomalies where the best Park and Ride journey takes longer than the best pure public transport journey.

5.4.4 In addition, the closest retail park for each settlement in the Base Scenario has also been reported in the accompanying spreadsheet. Thematic mapping of the key settlements is presented in Figure 38 to Figure 45 below.

5.4.5 Please note: for the purpose of this study the centroid of each output area was used to calculate the accessibility to and from an output area. The mapping assigns that accessibility to the entire output area however it should be noted that accessibility can vary across an output area, especially where output areas are geographically large.

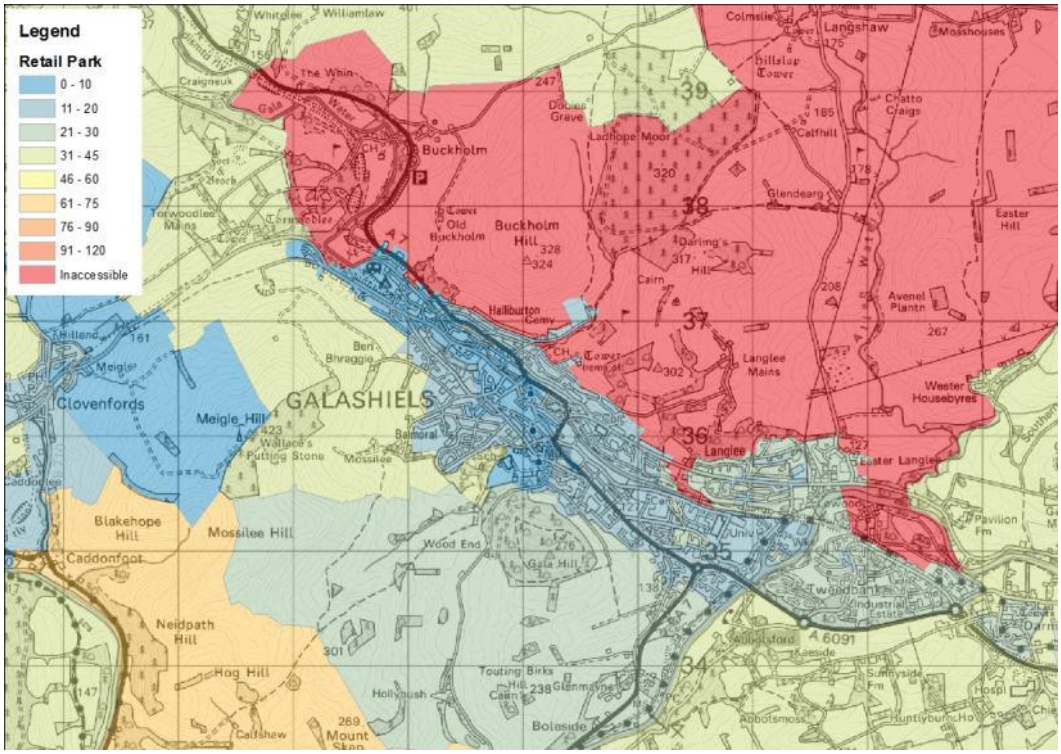


Figure 38. Public Transport Retail Park access (minutes) – Galashiels

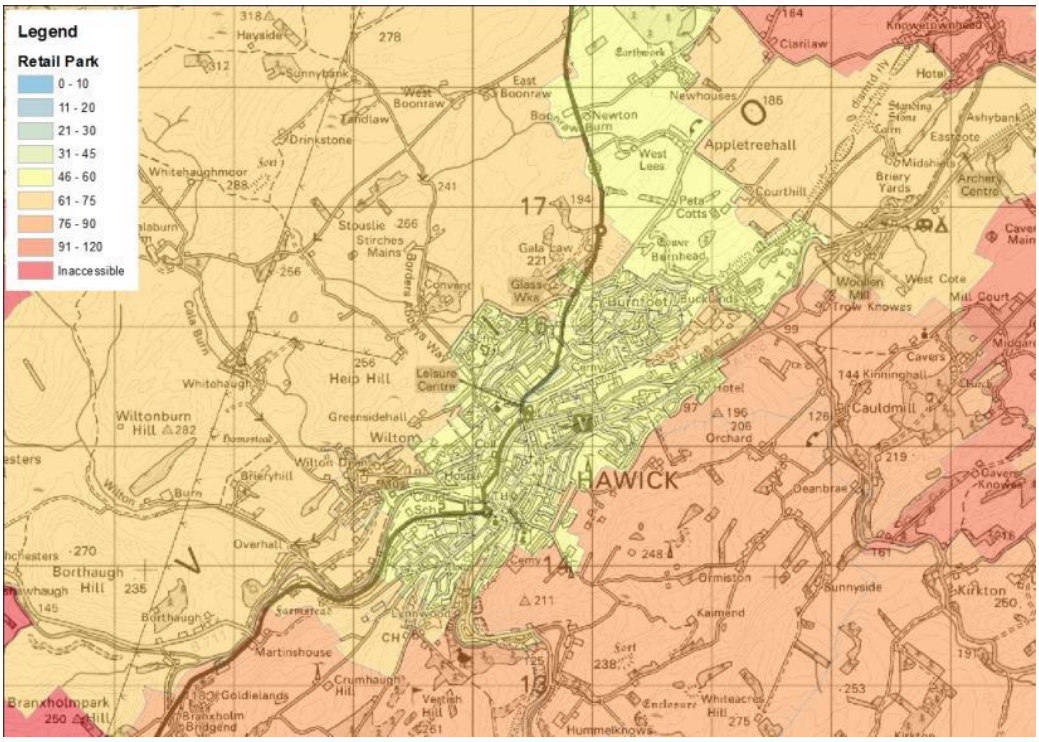


Figure 39. Public Transport Retail Park access (minutes)– Hawick

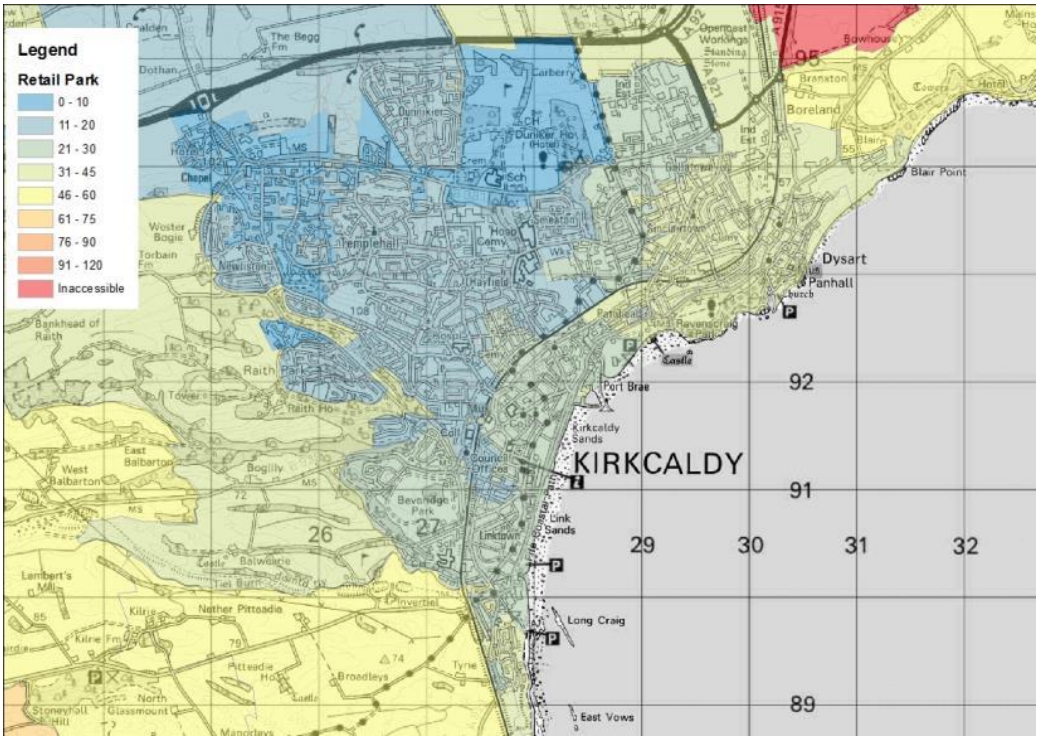


Figure 40. Public Transport Retail Park access (minutes)- Kirkcaldy

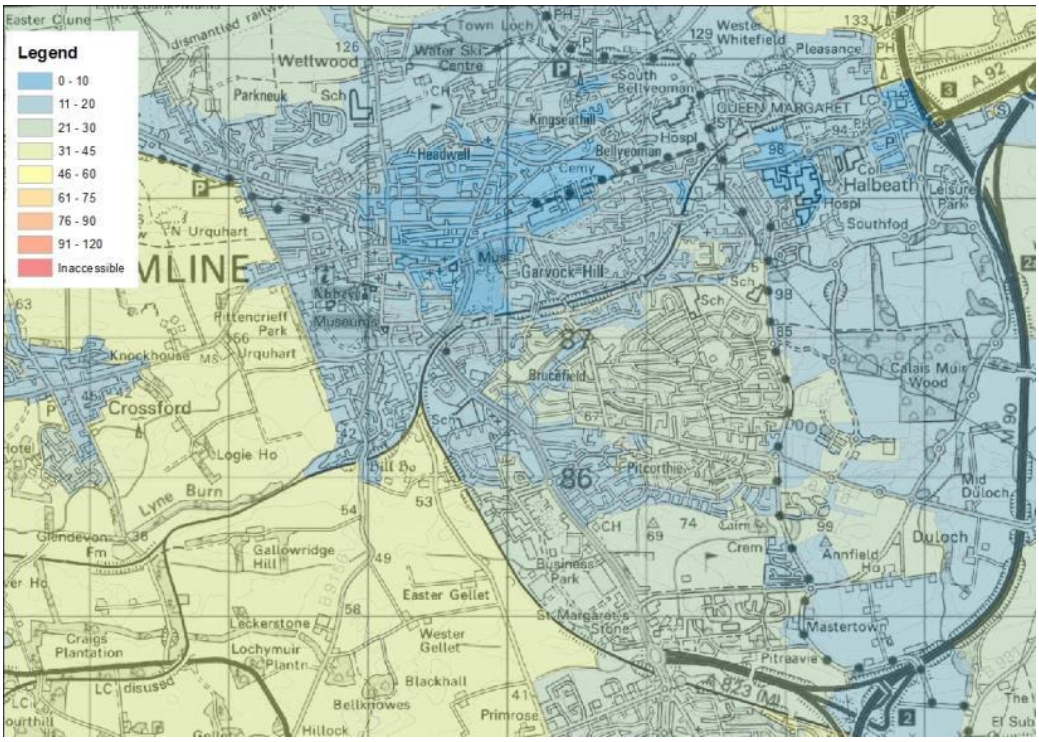


Figure 41. Public Transport Retail Park access (minutes)– Dunfermline

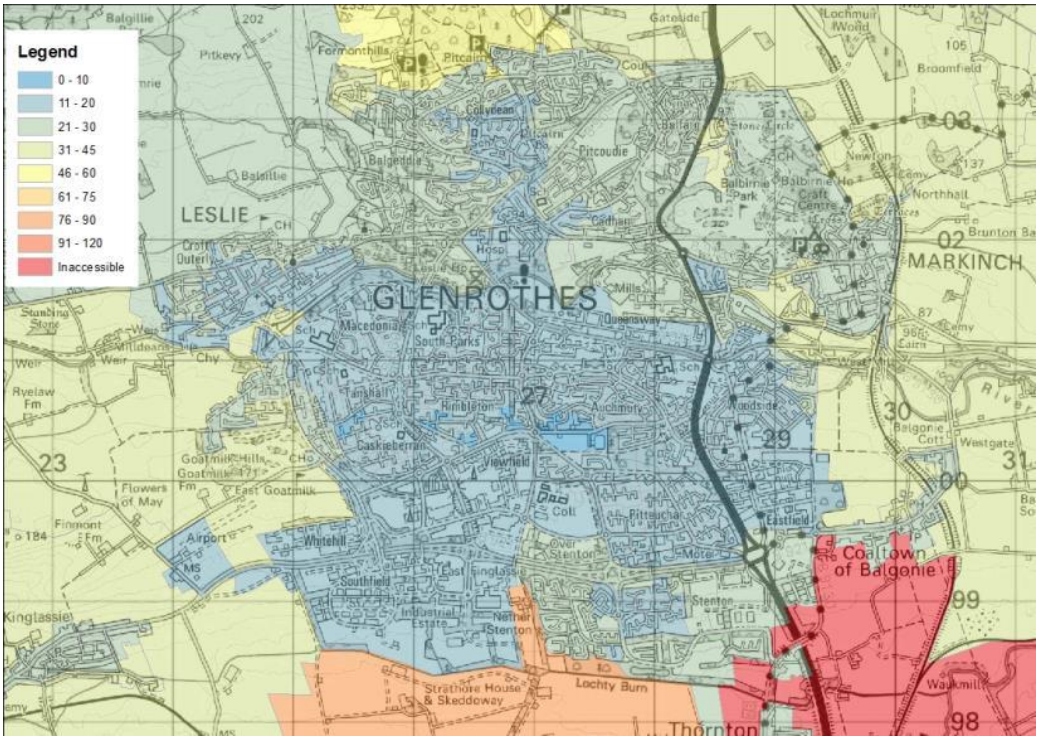


Figure 42. Public Transport Retail Park access (minutes)- Glenrothes

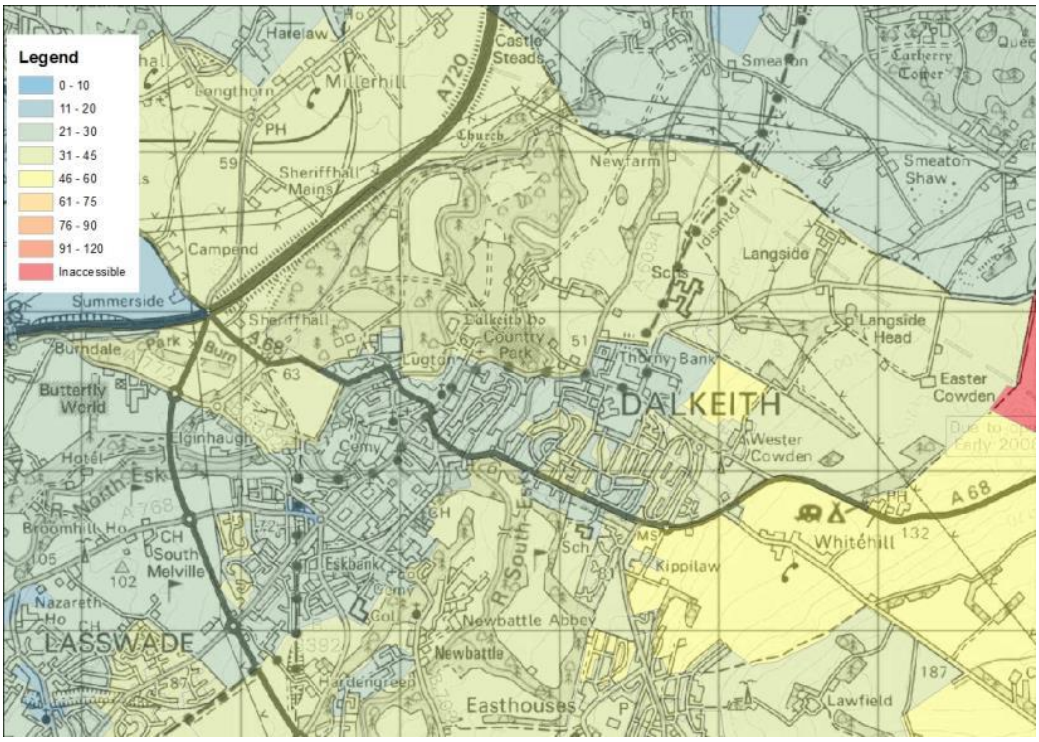


Figure 43. Public Transport Retail Park access (minutes)– Dalkeith

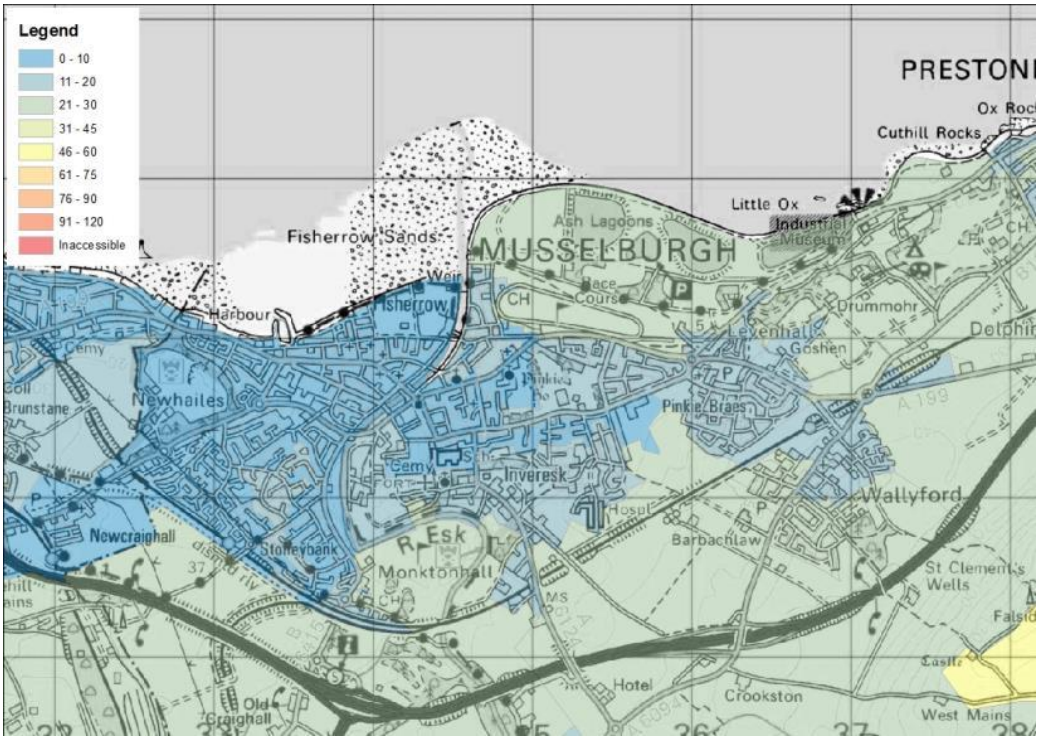


Figure 44. Public Transport Retail Park access (minutes)- Musselburgh

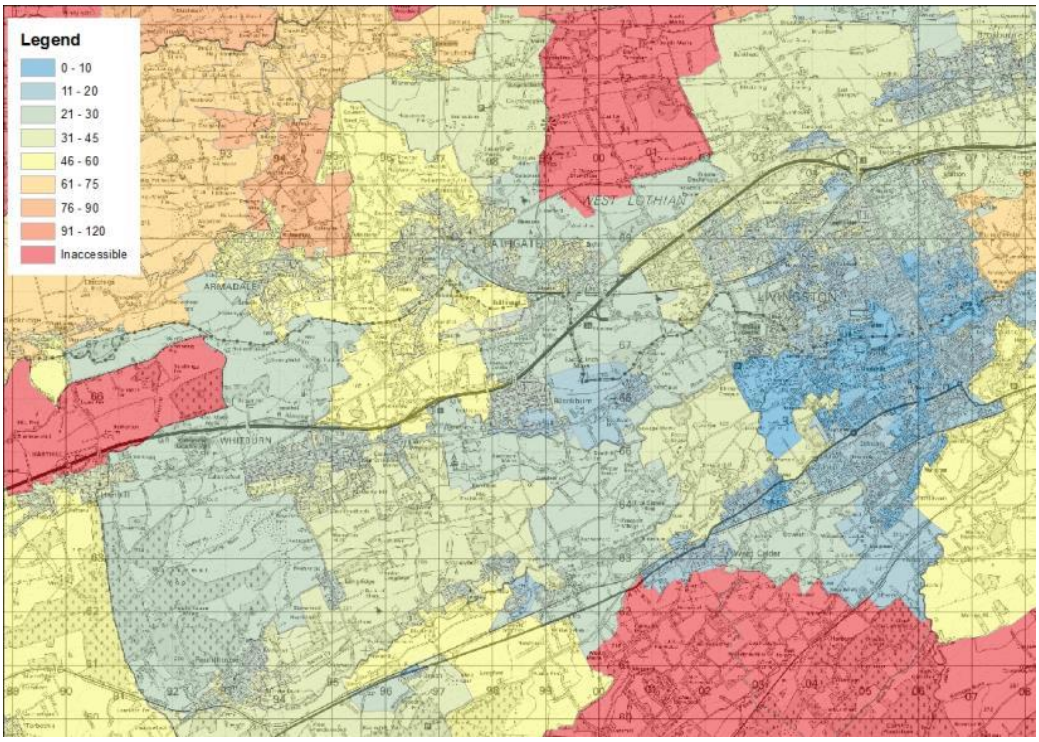


Figure 45. Public Transport Retail Park access (minutes)- Livingston

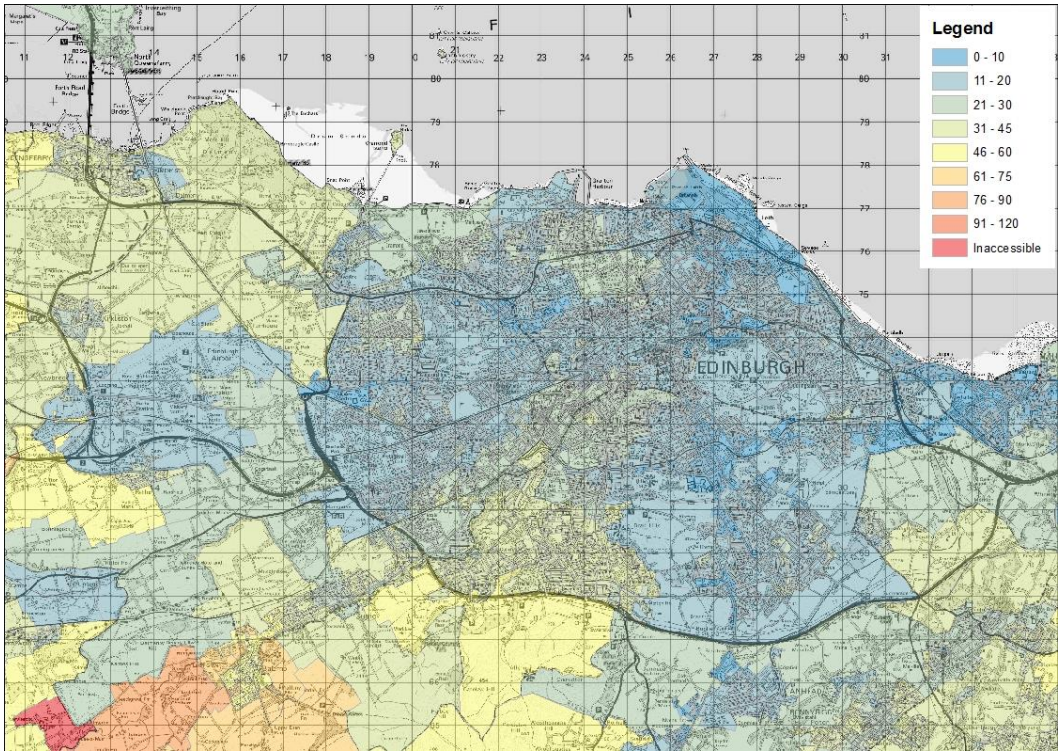


Figure 46. Public Transport Retail Park access (minutes)- Edinburgh

5.5 Access to Health

5.5.1 Access to health is based on the access to regional and community hospitals. The hospitals included in this analysis are summarised in Table 4. The weighted average journey time has been reported to the closest hospital in the accompanying spreadsheet.

5.5.2 Park and ride journey times have been calculated based on the origin to closest park and ride car-based travel time combined with the public transport-based journey time to the closest retail park from the park and ride. NB This approach creates anomalies where the best Park and Ride journey takes longer than the best pure public transport journey.

5.5.3 Thematic mapping of the key settlements is presented in Figure 47 to Figure 54 below.

5.5.4 Please note: for the purpose of this study the centroid of each output area was used to calculate the accessibility to and from an output area. The mapping assigns that accessibility to the entire output area however it should be noted that accessibility can vary across an output area, especially where output areas are geographically large.

Table 4. Regional and Community Hospital Destinations

HOSPITAL	LOCAL AUTHORITY
Roodlands	East Lothian
Musselburgh Primary Care	East Lothian
Belhaven Hospital	East Lothian
Edington Cottage Hospital	East Lothian
ERI, Edinburgh	Edinburgh
Sick Kids, Edinburgh	Edinburgh
Victoria Hospital, Kirkcaldy	Fife
Queen Margaret Hospital, Dunfermline	Fife
Midlothian Community Hospital	Midlothian
Midlothian Community Hospital	Midlothian
Borders General Hospital	Scottish Borders
Eyemouth Day Hospital	Scottish Borders
Hawick Community Hospital	Scottish Borders
Hay Lodge Hospital (Peebles)	Scottish Borders

HOSPITAL	LOCAL AUTHORITY
Kelso Community Hospital	Scottish Borders
Knoll Community Hospital (Duns)	Scottish Borders
St John's, Livingston	West Lothian

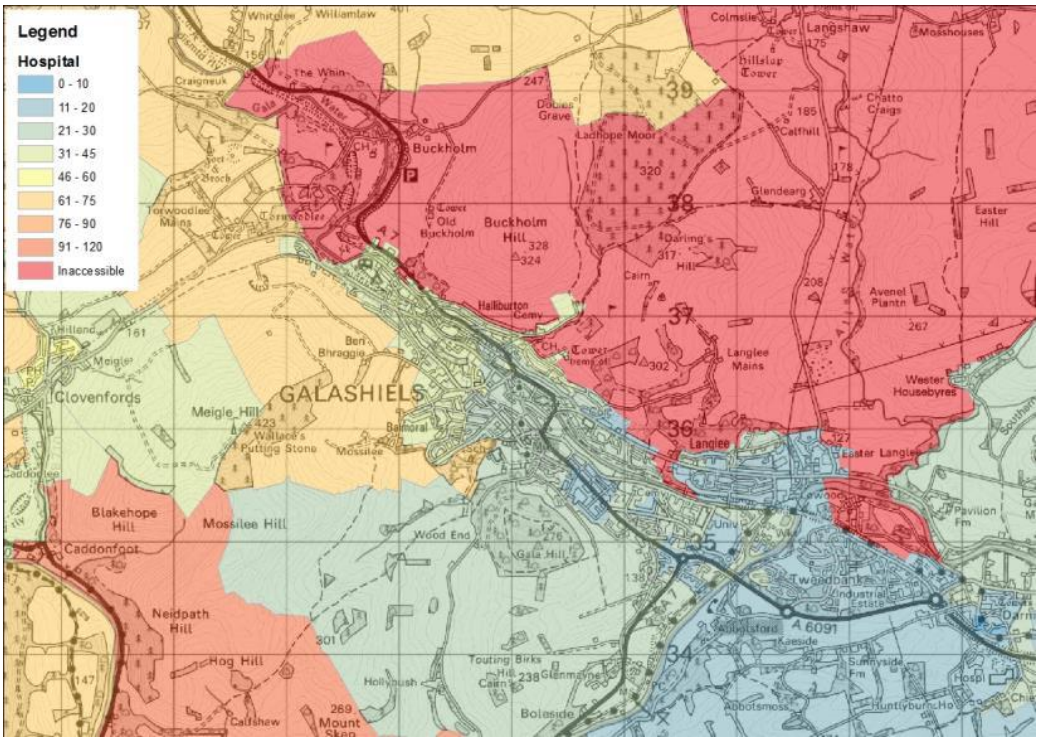


Figure 47. Public Transport Hospital access (minutes) – Galashiels

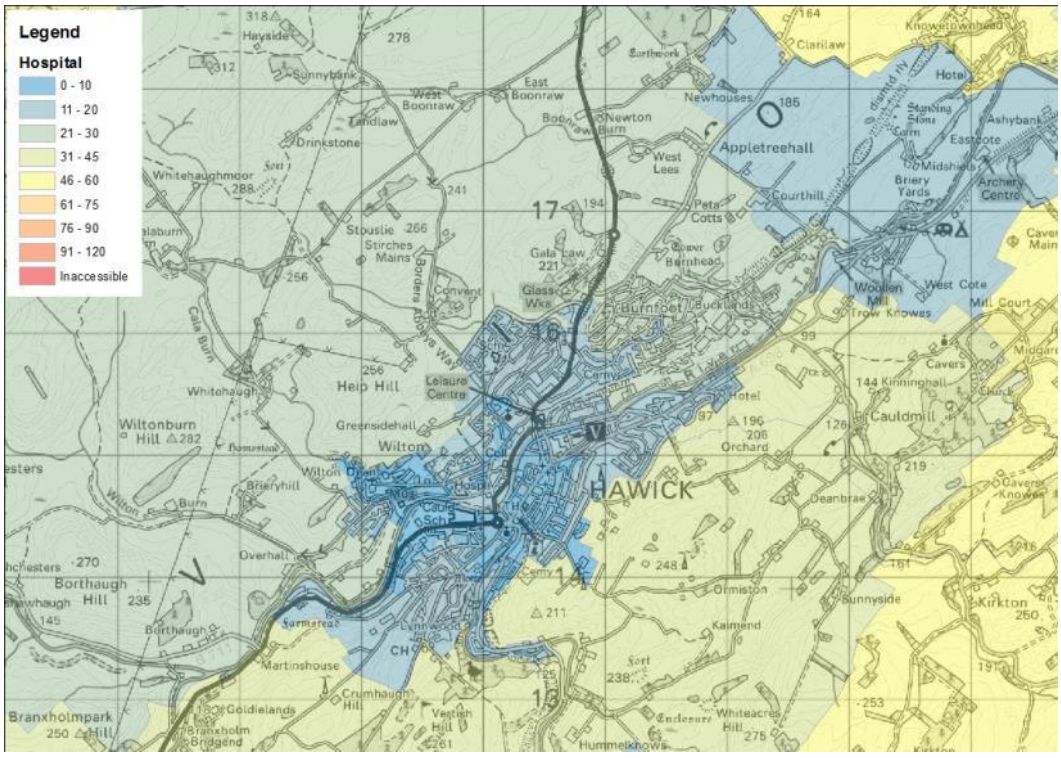


Figure 48. Public Transport Hospital access (minutes)– Hawick

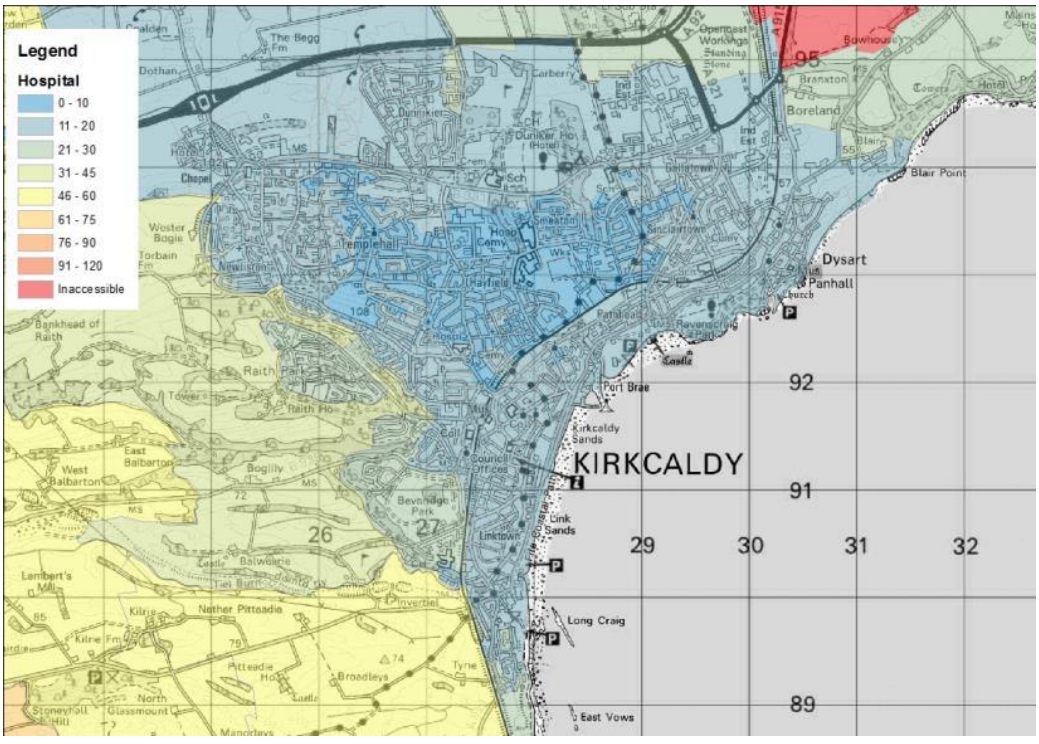


Figure 49. Public Transport Hospital access (minutes)- Kirkcaldy

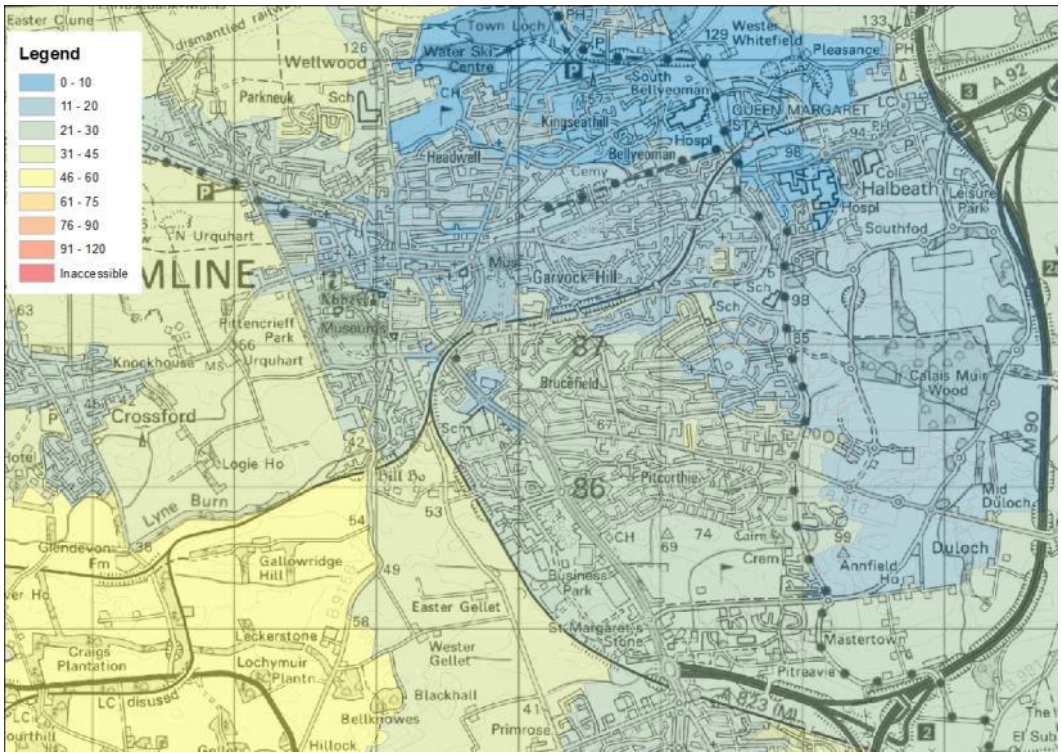


Figure 50. Public Transport Hospital access (minutes)– Dunfermline

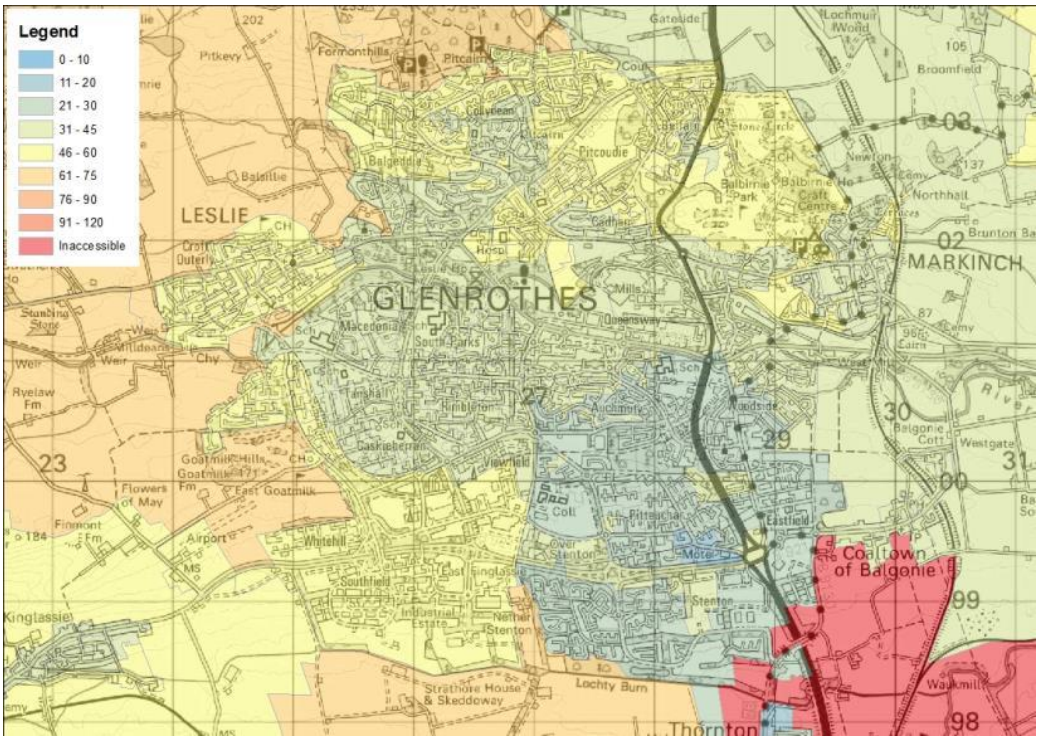


Figure 51. Public Transport Hospital access (minutes)- Glenrothes

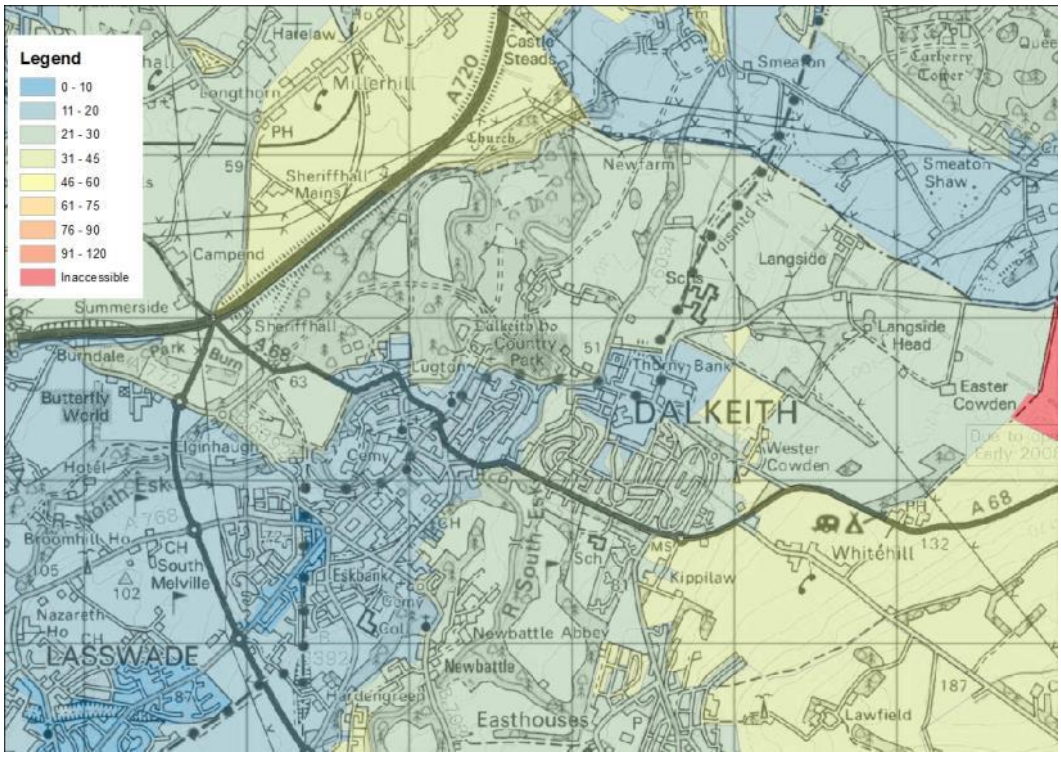


Figure 52. Public Transport Hospital access (minutes)– Dalkeith

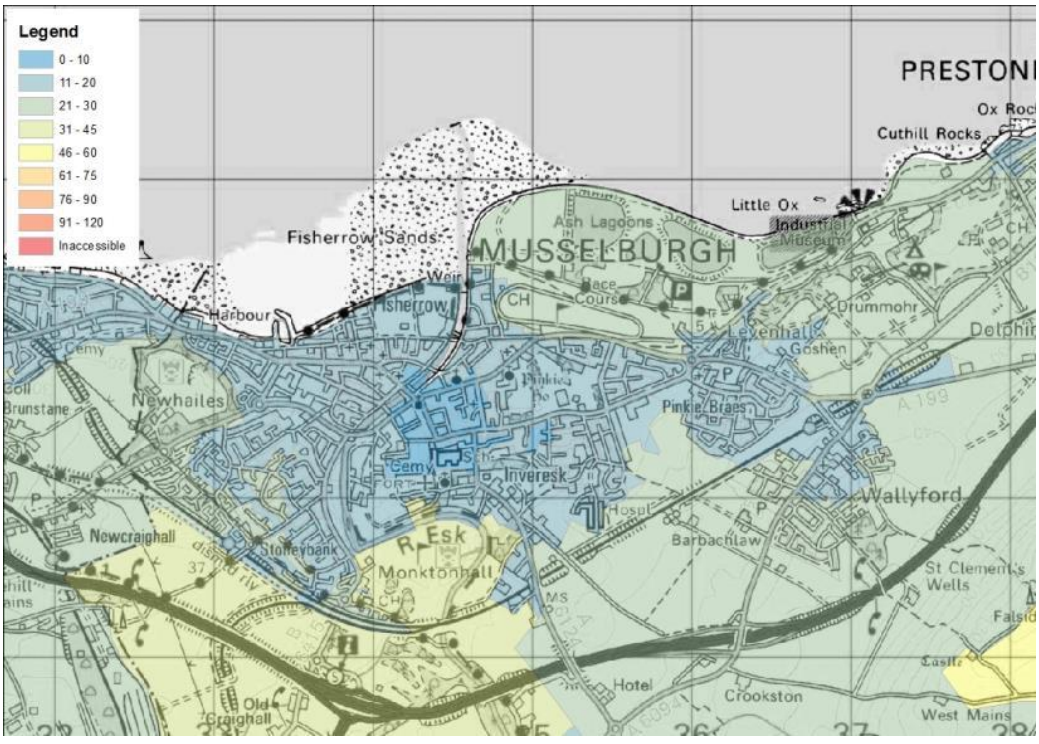


Figure 53. Public Transport Hospital access (minutes)- Musselburgh

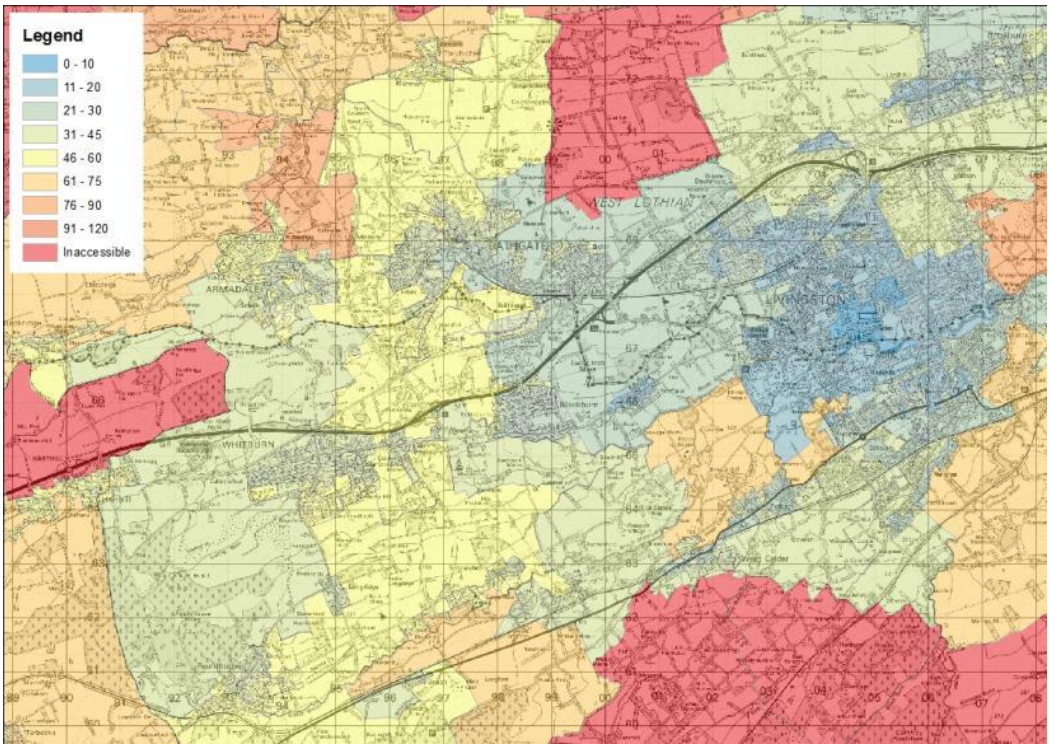


Figure 54. Public Transport Hospital access (minutes)- Livingston

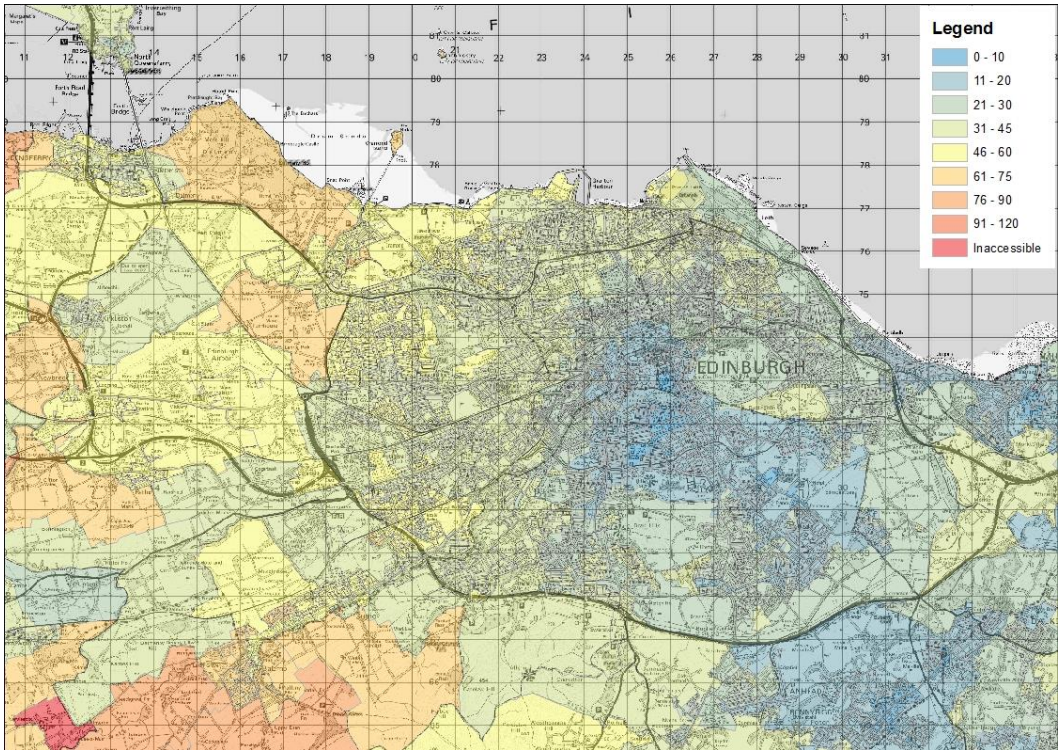


Figure 55. Public Transport Hospital access (minutes)- Edinburgh

5.5.5 In addition accessibility analysis has been undertaken to the large and Accident and Emergency hospitals in the SESplan area as shown in Table 5. Local Authority mapping of access to these Strategic Hospitals is presented in Figure 56 to Figure 61.

5.5.6 Please note: for the purpose of this study the centroid of each output area was used to calculate the accessibility to and from an output area. The mapping assigns that accessibility to the entire output area however it should be noted that accessibility can vary across an output area, especially where output areas are geographically large.

Table 5. Strategic Hospital Destinations

HOSPITAL
Victoria Hospital, Kirkcaldy
Sick Kids, Edinburgh
Edinburgh Royal Infirmary
St John's, Livingston
Western General, Edinburgh
Borders General, Melrose

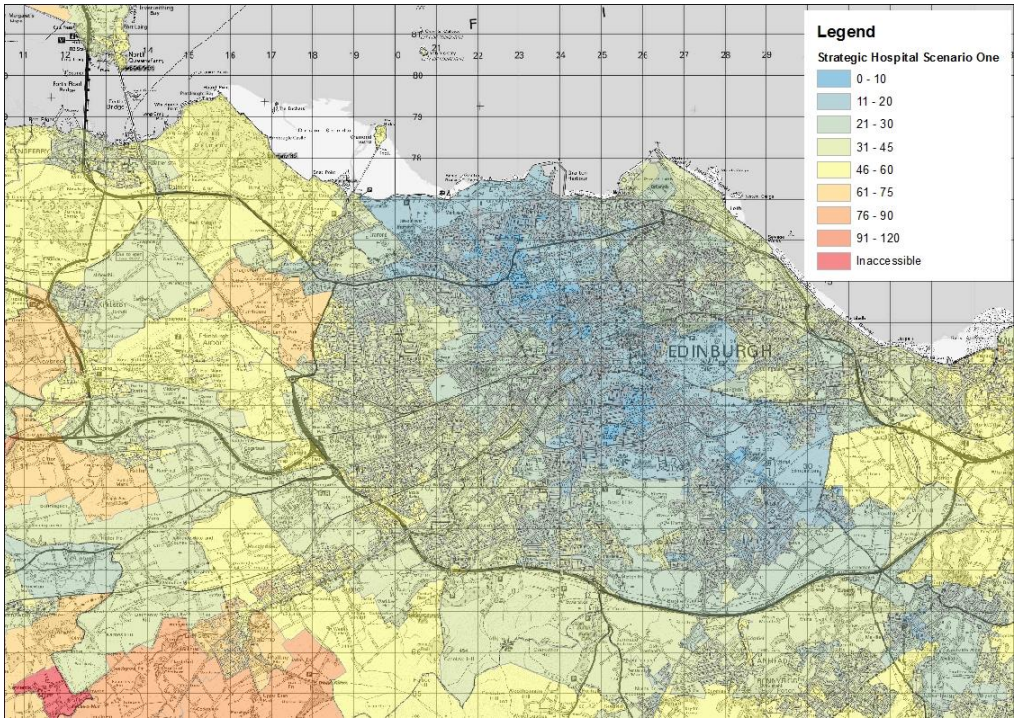


Figure 56. Edinburgh – Access to Strategic Hospital

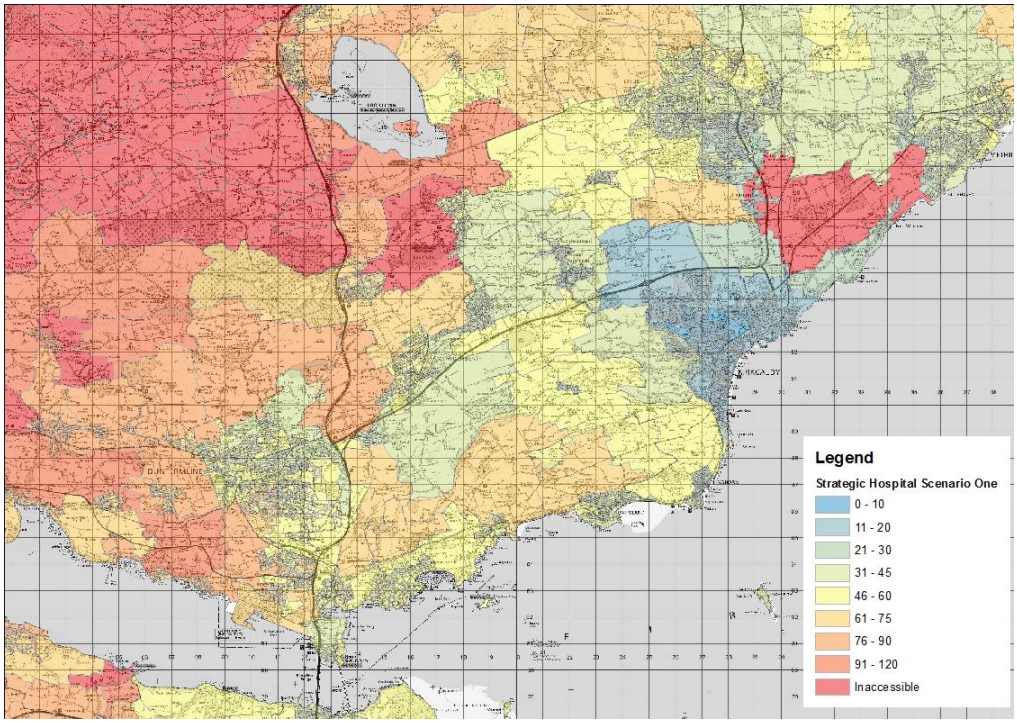


Figure 57. Fife – Access to Strategic Hospital

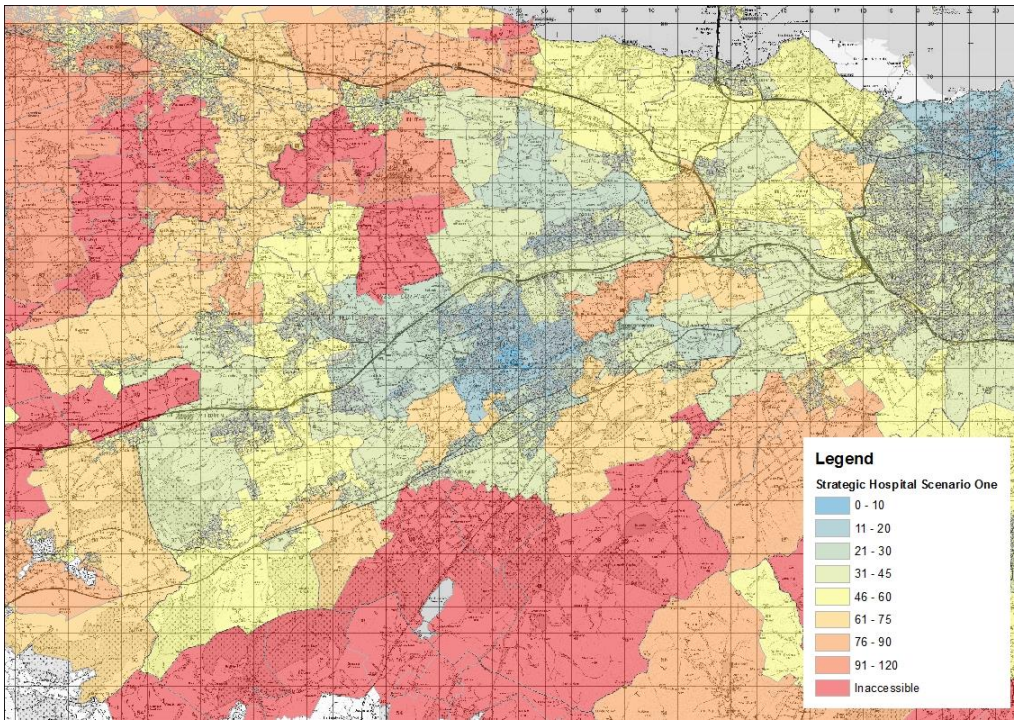


Figure 58. West Lothian – Access to Strategic Hospital

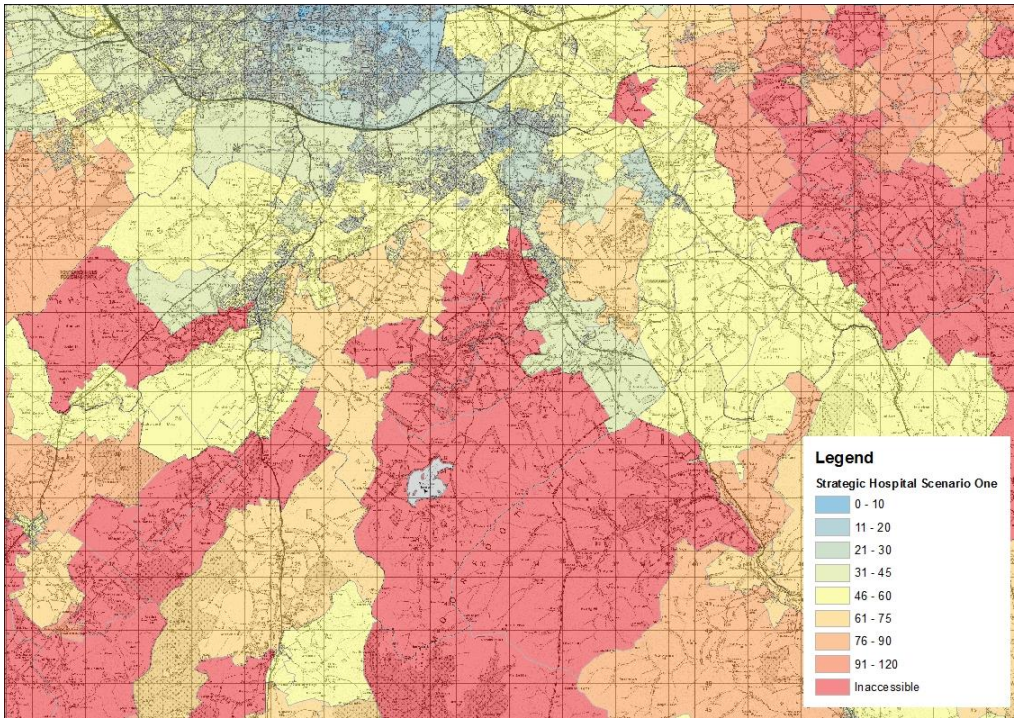


Figure 59. Midlothian – Access to Strategic Hospital

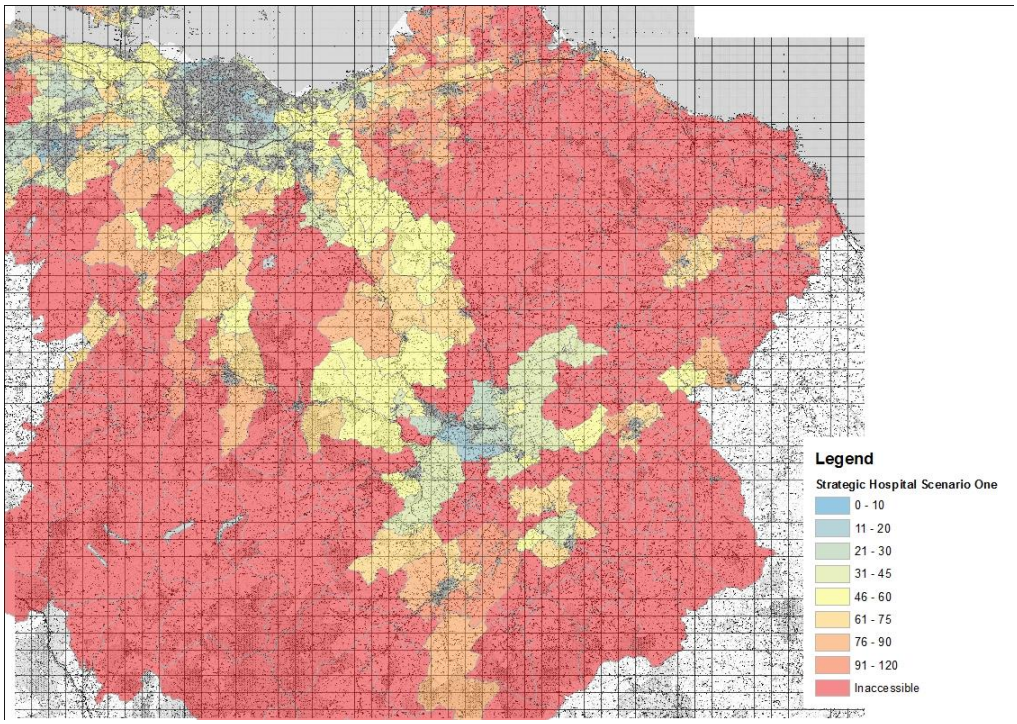


Figure 60. Scottish Borders – Access to Strategic Hospital

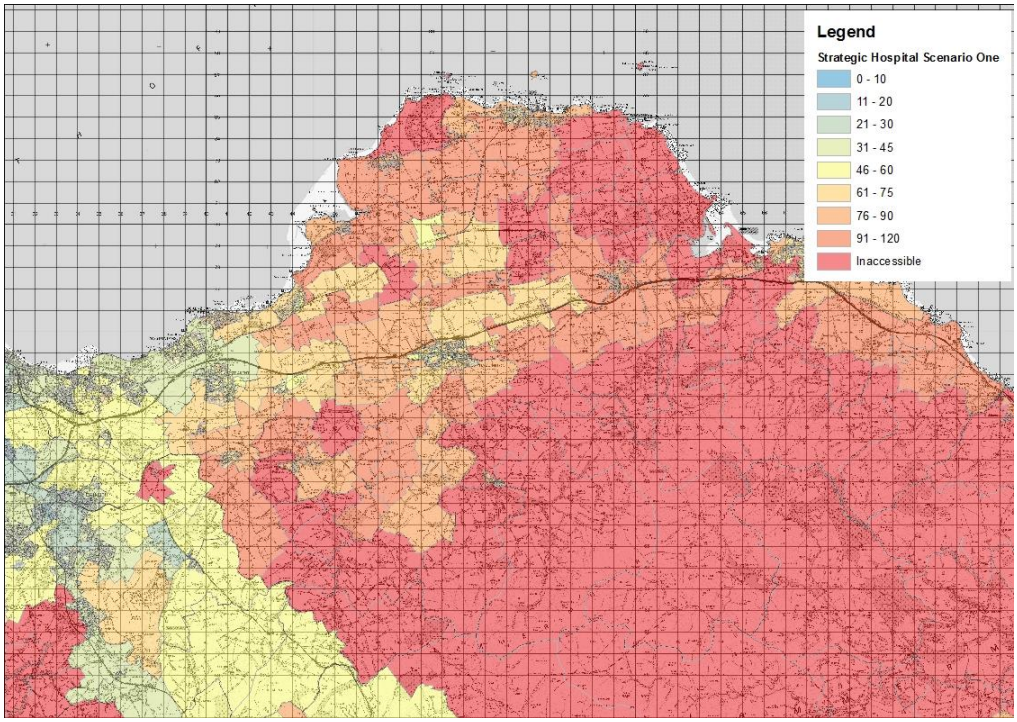


Figure 61. East Lothian – Access to Strategic Hospital

5.6 Local Accessibility

5.6.1 In addition to these regional accessibility measures, analysis has been undertaken to look at local accessibility measures at an output area level. Local accessibility considers local access to secondary schools, GP surgeries and local retail (grocery). This has been reported in a yes/no format, based on a public transport travel time threshold of 20 minutes. As before a weighted average travel time has been derived for each settlement, based on the values calculated for each constituent census output area within the settlement. The outputs have been presented in the spreadsheet which accompanies this Report.

6. CORRIDORS OVERVIEW AND SUMMARY

6.1.1 Much of the analysis undertaken for the SESPlan Accessibility Analysis used a defined set of corridors, as set out in the SESTrans Regional Transport Strategy. Figure 62 below depicts these corridors as presented in the RTS. This chapter gives a brief overview of each of the 14 corridors outside the Edinburgh urban area and a summary of the relative accessibility based on transport corridors.

6.1.2 The overview includes forecast road transport issues between 2007 and 2024 (morning peak); a summary of existing key infrastructure, and possible improvement schemes. Several of these schemes have been included in the SESPlan Strategic Development Plan Action Programme (September 2013).

6.1.3 In addition to the "hard-copy" spreadsheet summarising the accessibility results, a ranking tool has been developed based on the TRACC outputs to identify the accessibility on a transport corridor basis. This tool forms the basis of the following summaries. The tool can rank settlements based on access to strategic town centres, large/A&E hospitals, employment and retail parks and can be configured to identify the ranking for each transport scenario, existing settlements and taking into account the new developments. The analysis in this section is based on employment only and a table also summarises the settlements with the shortest journey times to employment and strategic town centre access.

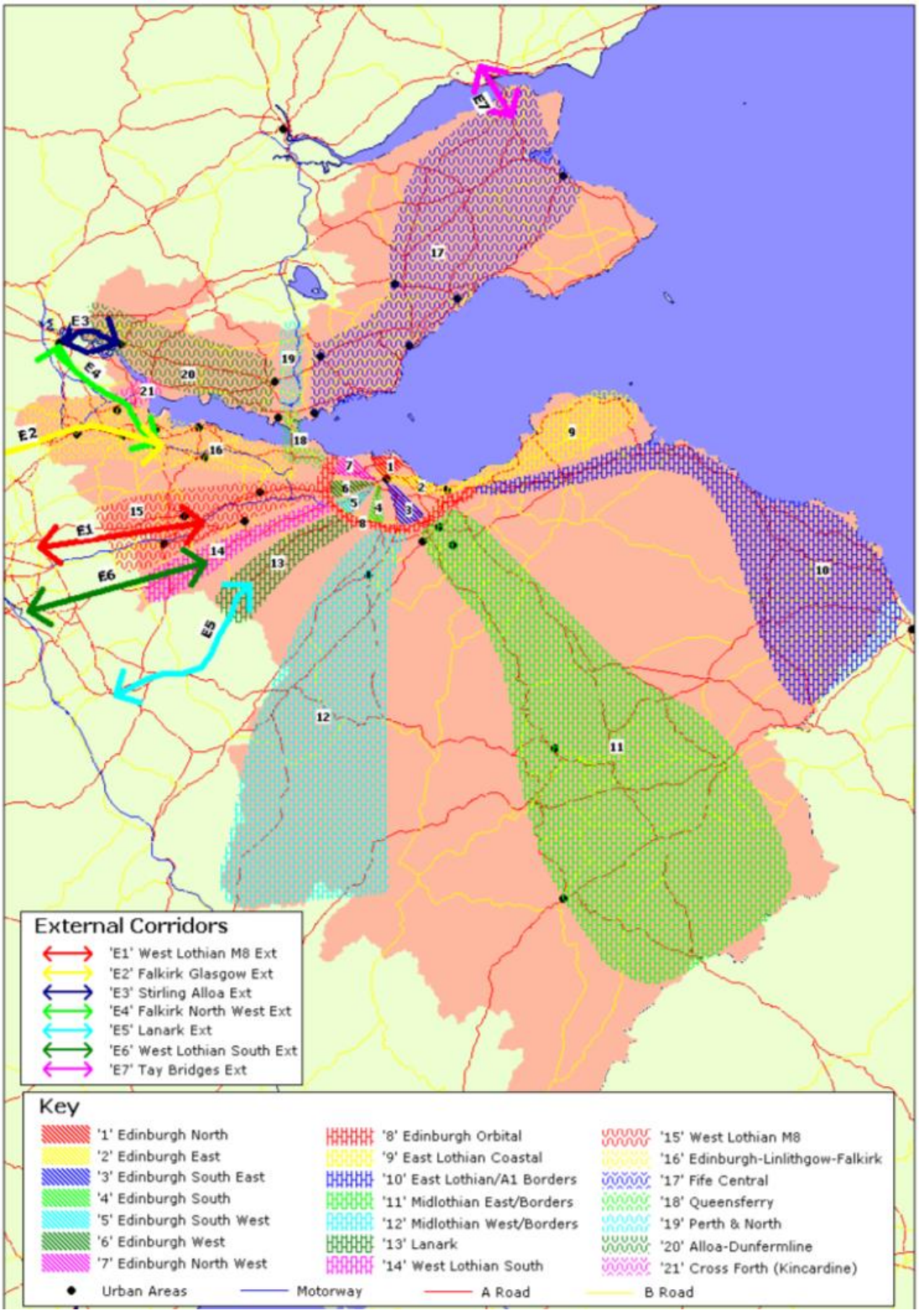


Figure 62. Map of Transport Corridors

6.2 8: Edinburgh Orbital

6.2.1 For road traffic, there is a very poor level of overall service in this outer orbital corridor. The A720 was already operating at or near capacity in base year peak hours, with significant further deterioration forecast. The entire length of road between Old Craighall and the M8 is predicted to see high levels of congestion; with major delays at Old Craighall, Sheriffhall, Gilmerton and Dreghorn, including on approach routes. Very significant increases in delays are forecast on eastern stretches of the A720 and associated junctions, including Sheriffhall and Old Craighall.

6.2.2 In terms of infrastructure, there are four Park and Ride sites outside the bypass – Ingliston (1080 spaces), Hermiston (495 spaces), Straiton (600 spaces), and Newcraighall (600 spaces) – and one situated just inside the bypass, at Sherriffhall (560 spaces).

6.2.3 The Strategic Development Plan (SDP) Action Programme identified a number of improvement schemes for the corridor. These include 'Cross Rail' rail services; an outer orbital bus service and infrastructure; grade separation at the Sherriffhall junction; Old Craighall junction improvements; M8 / A720 Managed Motorway Study measures; and the Gogar (Edinburgh Gateway) rail interchange. Several Park and Ride facilities are also proposed in the corridor to supplement those already in place.

6.2.4 The orbital bus service is included in the Test Scenario (Committed plus Selected SDPI Schemes). The orbital bus service shows significant improvements to access in this corridor especially in relation to access to employment/Hansen (Edinburgh Park) and retail (Straiton retail park).

6.3 9: East Lothian Coastal

6.3.1 For road traffic, there is a reasonable overall level of service forecast for the East Lothian Coastal corridor. Delays at morning peak time are increasing, however, at junctions on the A1 at Old Craighall / Edinburgh. Also, there will be increasing congestion on A199 , into Musselburgh, and at the junction to the east of the River Esk.

6.3.2 This corridor has a reasonable level of public transport service due to the North Berwick rail line, with stations at North Berwick, Drem, Long Niddry, Prestonpans, Wallyford, and Musselburgh. In addition regular bus services provide a direct link between East Lothian Coastal towns and Edinburgh service.

6.3.3 There are Park and Ride sites at North Berwick (99 spaces), Drem Station (78 spaces), and Longniddry Station (76 spaces), though these are at or close to full utilisation. There are also Park and Ride sites at Prestonpans station (176 spaces), Wallyford rail/bus (420 spaces), Musselburgh Station (125 spaces) and Newcraighall (600 spaces) that are not fully utilised.

6.3.4 The SDP Action Programme has identified a railway station at East Linton as a possible improvement. Other specific possible improvements to this corridor include a Quality Bus Corridor, a Park and Ride at Bankton, and improved pedestrian and cycle access at Dunbar.

There is also scope to expand Park and Ride sites more generally, and create additional station parking, particularly at the outer stations.

6.3.5 Based on access to employment only, Musselburgh and Wallyford are ranked as the most accessible settlements within the East Lothian Coastal corridor in each of the scenarios however East Linton station does impact on lower ranked settlements.

6.3.6 The proposed East Linton station is included in the Test Scenario (Committed plus Selected SDPI Schemes) and contributes to improved access to employment, retail and town centre. East Linton's Hansen ranking improves by nine places with the introduction of a new rail service. The weighted accessibility moves East Linton from ranked 10th in the corridor to 8th.

Table 6. East Lothian Coastal

TOP TWO MOST ACCESSIBLE SETTLEMENTS	INDICATORS
Musselburgh and Wallyford	Employment only
Wallyford and Musselburgh	Employment and strategic town centres

6.4 10: East Lothian / A1 Borders

6.4.1 For road traffic, there is a reasonable overall level of service in this corridor, although, as with the Edinburgh Outer Orbital and East Lothian Coastal corridors, delays are forecast to increase at junctions on the A1 Old Craighall / Edinburgh. There are also delays predicted on the A1 from the A199 junction eastbound in the morning peak, and the corridor will approach capacity west of Old Craighall.

6.4.2 The corridor is served by the East Coast Main Line and the North Berwick line, however, the reasonable level of public transport decreases significantly beyond the rail station at Dunbar as the bus journey times increase and frequencies decrease.

6.4.3 The SDP Action Plan has identified A1 dualling and improvement; Old Craighall and Bankton junction improvements; re-opening Reston Station, and an Edinburgh – Berwick-upon-Tweed local rail service as possible improvement schemes. As with the East Lothian Coastal corridor, there is scope for additional station parking, especially at outer stations.

6.4.4 Tranent and Whitecraig are ranked as the most accessible settlements within the East Lothian/A1 Borders corridor for employment only and this remains unchanged in each scenario, however, Reston station does impact on lower ranked settlements.

6.4.5 The proposed Reston station is included in the Test Scenario (Committed plus Selected SDPI Schemes) and contributes to improved access to employment. Reston's Hansen ranking

improves by 19 places with the introduction of a new rail service. The weighted accessibility moves Reston from ranked 7th in the corridor to 5th.

Table 7. East Lothian A1/Borders

TOP TWO MOST ACCESSIBLE SETTLEMENTS	INDICATORS
Tranent and Whitecraig	Employment only
Tranent and Haddington	Employment and strategic town centres

6.5 11: Midlothian East and Borders

6.5.1 The overall level of service for road traffic in this corridor is moderate, although there are significant additional morning peak delays forecast on the A68, A7, A768, B704 approaches to Edinburgh, and associated local junction issues. There is also some increase in delay predicted on the A699 (Selkirk to Kelso); and the A6901 and routes through Galashiels will also see an increase in delay.

6.5.2 In terms of key infrastructure, the Borders rail line will open from 2015, with stations at Tweedbank, Galashiels, Stow, Gorebridge, Newtongrange, Eskbank and Shawfair. There is a Park and Ride at Sherriffall (560 spaces), and also at the Tweedback, Stow, Gorebridge, Newtongrange and Eskbank stations (240, 28, 73, 55, 159 spaces respectively). Currently the level of public transport service is reasonable in Midlothian East due to the regular bus services however they are impacted by the delays on approach to Edinburgh. Similarly Borders East benefits from an express, regular frequency bus service serving Hawick, Galashiels and Selkirk however there remain long journey times for the more distant Borders' towns. The opening of the Borders rail line will improve the level of service in this corridor with regular rail services operating.

6.5.3 The SDP Action Plan identified several possible improvement schemes for this corridor. These included a Park and Ride to the north of the A68/A720 junction; Sherriffhall bus priority; the grade separation of Sherriffhall junction; a potential rail station at Redheigh on the Borders Line; A7/A68 bus priority schemes; the Tram line 3 to Dalkeith; and improvements to key routes (the A7, A68, A697, A698, A699, and the A6105). Improved pedestrian and cycle access to Midlothian stations has also been identified.

6.5.4 Dalkeith and Bonnyrigg are ranked as the most accessible settlements within the Midlothian East and Borders corridor for employment only and this remains unchanged in each scenario. The orbital bus does impact on lower ranked settlements to an extent and the introduction of new developments does impact on lower ranked settlements to a small degree.

Table 8. Midlothian East and Borders

TOP TWO MOST ACCESSIBLE SETTLEMENTS	INDICATORS
Dalkeith Eskbank and Bonnyrigg North	Employment only
Dalkeith Eskbank and Bonnyrigg North	Employment and strategic town centres

6.6 12: Midlothian West and Borders

6.6.1 For road traffic, there is a moderate overall level of service in the Midlothian and Borders West. Forecast road transport issues include increasing junction delays along the A701 and especially at A701 / A720 junctions; and significant additional delay on the A702 from Penicuik junction approaching Lothianburn and around the A702 / A720 junction. Also forecast for the morning peak are delays at Mauricewood Road / A702.

6.6.2 A Park and Ride at Straiton with 600 spaces is the key infrastructure on this corridor. Currently the level of public transport service varies based on distance from Edinburgh. Midlothian East is served by frequent buses in Penicuik, Straiton and Loanhead however public transport service is comparatively poor to the Borders.

6.6.3 Possible improvement schemes identified in the SDP Action Plan include a Park and Ride at Lothianburn; A701 corridor proposals; and improvements to key routes (A72, A701, A702, A703). Another possible scheme could be the construction of Tram line 3 to Penicuik.

6.6.4 Bilston and Loanhead are ranked as the most accessible settlements within the Midlothian West and Borders corridor for employment only and this remains unchanged in each scenario.

Table 9. Midlothian West and Borders

TOP TWO MOST ACCESSIBLE SETTLEMENTS	INDICATORS
Bilston and Loanhead	Employment only
Bilston and Loanhead	Employment and strategic town centres

6.7 13: Lanark

6.7.1 The overall level of service for road traffic in the corridor is considered reasonable. However, there is poor access to the A720 and to the west Edinburgh area; and a major increase in delays along the A70 approaches to Edinburgh and junctions in Currie is forecast.

6.7.2 Lanark corridor settlements have also been included in the West Lothian South corridor to allow for meaningful comparisons for Currie and Balerno.

Table 10. Lanark[6]

TOP TWO MOST ACCESSIBLE SETTLEMENTS	INDICATORS
Currie and Balerno	Employment only
Currie and Balerno	Employment and strategic town centres

6.8 14: West Lothian South

6.8.1 Overall there is a poor level of service for road traffic in this corridor. Junctions are already at capacity at Livingston/ A720, and road traffic forecasting predicts an increase in morning peak delays along the A71 approaches to Edinburgh, and also west of Livingston. A growth in congestion around Hermiston Gait and Calder Road is also predicted.

6.8.2 The public transport level of service Is reasonable along this corridor due to the key infrastructure of the Edinburgh-Glasgow (via Shotts) railway line, with stations at Fauldhouse, Breich, Addiewell, West Calder, Curriehill, Livingston South and Kirknewton offering regular services to Edinburgh. There are also Park and Ride sites at Hermiston (495 spaces), Kirknewton station (30 spaces), Livingston South station (120 spaces), Curriehill (40 spaces) and West Calder station (27 spaces); all four are close to full utilisation. In addition to rail services, Hermiston Park and Ride site is served by a regular bus service providing a good frequency to Edinburgh.

6.8.3 The SDP Action Plan has identified additional parking at West Calder and Kirknewton Stations as possible improvements. Other possibilities include A71 bus priority measures west of the A720; and improved pedestrian access at Addiewell and West Calder stations.

6.8.4 Given the small number of settlements located in the Lanark corridor and the shared geography and transport (including rail links) with West Lothian South, the Lanark corridor settlements of Currie and Balerno have been included in the West Lothian South analysis to allow for a meaningful comparison.

[6] Only Currie and Balerno within Lanark corridor

6.8.5 Currie and East Calder are ranked as the most accessible settlements within West Lothian South and this remains unchanged in all scenarios.

Table 11. West Lothian South

TOP TWO MOST ACCESSIBLE SETTLEMENTS	INDICATORS
Currie and East Calder	Employment only
Currie and East Calder	Employment and strategic town centres

6.9 15: West Lothian M8

6.9.1 The overall level of service for road traffic in the corridor is considered poor. There are high levels of congestion in this area, and these are forecast to further worsen. A significant deterioration of the level of service on the M8 is predicted, as well as increased delays at junctions in Bathgate, Broxburn, Livingston, Whitburn and Blackburn; and at the A899 (Livingston spine), A71 and A89. There will also be increased delays in the morning peak in the A801 and A7096, on the A8, at Gogar, and at the Edinburgh Park area. Widespread and significant additional congestion is forecast across the modelled area of West Edinburgh.

6.9.2 This corridor is served by the Edinburgh – Glasgow via Bathgate line, with stations at Blackridge, Armadale, Bathgate, Livingston North and Uphall. This rail service provides a reasonable level of public transport service to users. There are Park and Ride sites at Ingliston (1080 spaces), Hermiston (495 spaces, generally fully utilised), Armadale station (187 spaces), Bathgate station (560 spaces), Livingston North station (270 spaces), and Uphall station (282 spaces).

6.9.3 Several possible improvement schemes for this corridor have been identified. The SDP Action Plan includes the establishment of new Park and Ride sites (Heartlands, Winchburgh, Deer Park and Linlithgow); the conversion of the M8 hard shoulder into a bus lane; Airport road links improvements; A801 Avon Gorge improvements; and the west Edinburgh Tram extension.

6.9.4 Other possible improvement schemes for this corridor include hub and spoke bus services in Livingston; bus service improvements from Livingston North station to employment locations; Livingston bus priority measures; increased car parking at Uphall and Bathgate stations; bus priority measures on the Newbridge to Gogar section of the A8; and M8/A720 Managed Motorway Study measures.

6.9.5 Ratho and North Hermiston are ranked as the most accessible settlements to employment within West Lothian M8 in each of the scenarios, principally related to the proximity to

Edinburgh Park. The lower ranked settlements remain largely unchanged in each of the subsequent scenarios.

Table 12. West Lothian M8

TOP TWO MOST ACCESSIBLE SETTLEMENTS	INDICATORS
Ratho and North Hermiston	Employment only
Uphall and Livingston	Employment and strategic town centres

6.10 16: Edinburgh-Linlithgow-Falkirk

6.10.1 The overall level of service for road traffic in this corridor in considered poor. Moreover, a substantial increase in congestion is forecast, including significant capacity issues in and approaching the west Edinburgh area. There will be a general deterioration in the level of service on the M9 / A904 junction, delays appearing through Kirkliston, and increased junction delays in Linlithgow and at the B8046 / A904 junction.

6.10.2 The corridor is served by the Edinburgh – Glasgow via Falkirk High railway line, with stations at Falkirk High, Polmont and Linlithgow; and also the Edinburgh – Stirling railway line, with stations at Linlithgow, Edinburgh Park and Falkirk and Stirling Council areas. The regular, fast services to Edinburgh and Glasgow provide a good level of public transport service in this corridor. This corridor will see a significant improvement in capacity, frequency and journey times with the phased improvements to EGIP and the proposed station at Winchburgh.

6.10.3 There are also several Park and Ride sites within these corridor, all well used or approaching full utilisation. These include facilities at Ingliston (1080 spaces) and Linlithgow station (189 spaces).

6.10.4 Several possible improvements have been identified for this corridor. Within the SDP Action Plan are included the M9 bus lane from Linlithgow to Newbridge; a new station at Winchburgh, with parking facilities; improvements to the M9 junction at Winchburgh; and also to the west-facing slip roads at Junction 3 on the M9, at west Linlithgow.

6.10.5 Additional possible interventions include improved bus links to stations from Bo'ness, Grangemouth; additional car parking at Falkirk High; a bus Park and Ride at Winchburgh.

6.10.6 There would also be enhancements to the corridor through the Forth Crossing public transport package.

6.10.7 Winchburgh and Linlithgow are ranked as the most accessible settlements within Edinburgh-Linlithgow-Falkirk. The new rail station at Winchburgh is included as a new transport

scheme in the Test Scenario and contributes towards a significant improvement to the employment ranking.

Table 13. Edinburgh – Linlithgow - Falkirk

TOP TWO MOST ACCESSIBLE SETTLEMENTS	INDICATORS
Linlithgow and Winchburgh	Employment only
Linlithgow and Winchburgh	Employment and strategic town centres

6.11 17: Fife Central

6.11.1 The overall level of service for road traffic in the Fife Central corridor is considered moderate. However, a general deterioration in the level of service is predicted on the A92 west of A910 (Kirkcaldy). Increased morning peak delays are predicted on the A92 though Glenrothes, and on the A921 approaching Dalgety Bay and Inverkeithing. The forecast delays in the Redhouse roundabout area are expected to cause knock on delays on the B981 in Kirkcaldy. Increased morning peak delays are forecast on the A915 between Leven and Kirkcaldy, and also delays east of Leven. Delays are also expected at the A915/A916/ A911 junction. Capacity issues are forecast to emerge on the cross-Forth roads and rail.

6.11.2 Existing key infrastructure in this central Fife corridor includes the Tay Bridge - Edinburgh and Fife Circle rail lines, with stations at Leuchars, Cupar, Springfield, Ladybank, Markinch, Glenrothes with Thornton, Cardenden, Lochgelly, Cowdenbeath, Kirkcaldy, Kinghorn, Burntisland, Aberdour, Dalgety Bay, Dunfermline QM, Dunfermline Town, Rosyth, Inverkeithing, and North Queensferry. The regular rail services from Fife offer a good level of service on this corridor. The rail services are supported by good bus services serving the majority of the Park and Ride sites on the corridor. These bus services will benefit from the public transport only Forth crossing.

6.11.3 There are also 16 Park and Ride sites throughout the corridor, for bus and/or rail. These are at Halbeath (1000 spaces), Ferrytoll (1040 spaces), Cupar station (70 spaces), Markinch spaces (148 spaces), Glenrothes with Thornton station (48 spaces), Lochgelly, Cowdenbeath (138 spaces), Rosyth station (135 spaces), Burntisland, Aberdour station (94 spaces), Dalgety Bay station (198 spaces), Inverkeithing station (425 spaces), Leuchars station (159 spaces), Dumfermline Queen Margaret station (86 spaces), Dunfermline town station (265 spaces), and Kirkcaldy station (633 spaces). The last six of these are at or close to full utilisation.

6.11.4 Several possible interventions have been identified for this corridor. The SDP Action Plan has identified the following possibilities: new stations at Kirkcaldy East, Newburgh and Wormit; re-opening the Levenmouth line with revised Fife circle services which would improve frequency and capacity of public transport at Levenmouth; A92 Redhouse interchange

improvements; A92 junction improvements at Bankhead and Preston; and a relief road and bus rapid transit corridor in north Dunfermline.

6.11.5 Other possible measures include increased car parking at Leuchars station, a west Dunfermline distributor road; Dunfermline junction improvements; a St Andrews Transport link, and a St Andrews outer relief road; a Levenmouth link road; a Halbeath ink road; a northern Cupar relief road; improvements to the A92 between Glenrothes and the Tay Bridge; a Tay Bridgehead Park and Ride. Also possible are A92 express buses, with bus priority in Dunfermline, Kirkcaldy and Glenrothes, and a network of public transport hubs.

6.11.6 Hillend/Dalgety Bay and Aberdour are ranked as the most accessible settlements within Fife Central in each of the scenarios to employment. The Levenmouth rail link does not improve journey times significantly however this transport intervention would bring improved frequency and capacity to the area as discussed previously.

Table 14. Fife Central

TOP TWO MOST ACCESSIBLE SETTLEMENTS	INDICATORS
Hillend/Dalgety Bay and Aberdour	Employment only
Hillend/Dalgety Bay and Aberdour	Employment and strategic town centres

6.12 18: Queensferry

6.12.1 The overall level of service for road traffic in the corridor is considered moderate. Significant delays, however, are forecast on the M9 spur, as well as capacity limitations at the Barnton junction, and delays around the A904/A90 junction.

6.12.2 The corridor is served by the Tay Bridge to Edinburgh and Fife Circle railway lines, with stations at Inverkeithing, and North Queensferry. There are Park and Ride facilities at Halbeath (1000 spaces), Ferrytoll (1040 spaces) and Inverkeithing station (425 spaces). Queensferry has a reasonable level of public transport provision in the form of regular cross-Forth rail services from Inverkeithing and Dunfermline stations. These rail services are supported by frequent cross-Forth bus services.

6.12.3 Five possible schemes have been identified in the most recent SDP Action Plan. These include a cross-Forth ferry; Park and Ride expansions at Inverkeithing, Dalgety Bay and Rosyth; bus priority measures for the Dunfermline to Inverkeithing and Dunfermline to Halbeath routes; the signalisation of Pitreavie roundabout; and the completion of the SEStran Integrated Transport Corridor Study bus priority network. Other potential improvements include A90 northbound bus priority, and a rail link to Rosyth port for Freight. The corridor will also benefit from the Forth crossing public transport package.

6.12.4 Dalmeny and North Queensferry are ranked as the most accessible settlements within Queensferry in each of the scenarios to employment. The intervention of expanding the Rosyth park and ride would improve much-needed capacity.

Table 15. Queensferry

TOP TWO MOST ACCESSIBLE SETTLEMENTS	INDICATORS
Dalmeny and North Queensferry	Employment only
Dalmeny and Inverkeithing	Employment and strategic town centres

6.13 20: Alloa-Dunfermline

6.13.1 The overall level of service for road traffic in this corridor is considered poor. An increase in junction delays is forecast in and around Dunfermline, and north west Dunfermline in particular. Increasing delays on the A985 and the A907 are also predicted.

6.13.2 This corridor is served by the Fife circle line, with stations at Dunfermline Queen Margaret, Dunfermline Town, Rosyth, Inverkeithing, and North Queensferry. Within the corridor there are Park and Ride facilities at Dunfermline Queen Margaret station (86 spaces) and Dunfermline Town station (265 spaces).

6.13.3 Possible improvement schemes identified in the SDP Action Plan are a new station at Dunfermline West, and a Rosyth bypass. Other possible interventions include a Quality Bus Corridor in West Fife, a Charleston rail chord, a Rosyth port rail chord and an extension of the Glasgow – Alloa trains to Dunfermline and Edinburgh.

6.13.4 Rosyth and Dunfermline are ranked as the most accessible settlement within Alloa-Dunfermline and this remains unchanged in subsequent scenarios.

Table 16. Alloa - Dunfermline

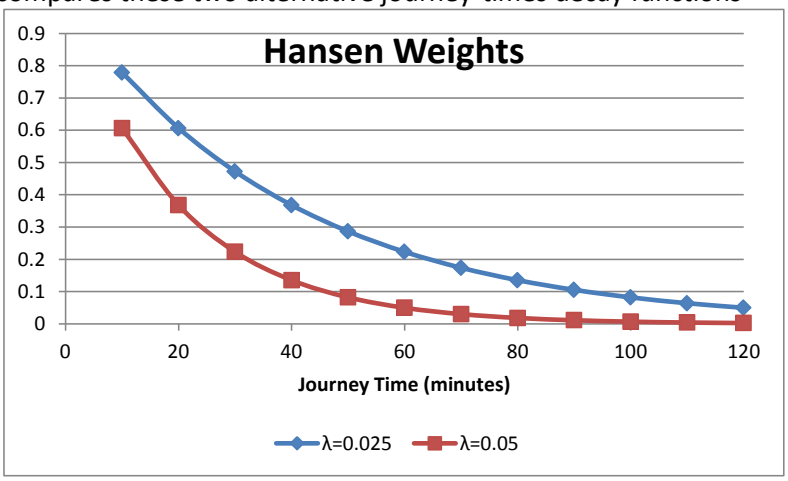
TOP TWO MOST ACCESSIBLE SETTLEMENTS	INDICATORS
Rosyth and Dunfermline	Employment only
Rosyth and Dunfermline	Employment and strategic town centres

Appendix A – The Hansen Score for Measuring Accessibility to Multiple Destinations

For many types of service (GPs, hospitals, grocery stores, town centres etc.) it is usually appropriate to base the accessibility analysis on the travel time to the **nearest** relevant facility.
However, when it comes to analysing accessibility to employment, this approach does not work, since for this we need to consider access to all of the different employment centres within the typical commuting range from a given population centre.
For this type of accessibility analysis it is therefore more-appropriate to calculate a 'Hansen score' for each population centre. This score is a weighted sum of the accessibility to all of the 'nearby' employment locations, where the weights given to a particular employment location is a product of the number of jobs at that employment location and a distance-related value which decreases as the journey time between the population and employment centres increases.
The rate of decay within this distance function is calibrated to reflect the typical travel-to-work journey time distributions, with many more short journeys and fewer longer journeys. The rate of this decay function is usually given by the mathematical formula:

Weight per job = exp (- λ x Journey Time)

where λ is a parameter which controls how quickly the attractiveness of employment locations falls with increasing journey time from the population centre.
The default value of this parameter in Accession software is λ = 0.05[7]. However, in previous accessibility modelling for SEStran/SESplan, a value of λ = 0.025 has been used. This gives more-weight to far-away jobs than the default λ = 0.05 value, effectively extending the reach of employment attractiveness.
The graph below compares these two alternative journey-times decay functions



[7] TRACC software currently does not include the 'Hansen score' functionality

The resulting Hansen score is the sum of the product of the number of jobs and the distance-based weight, summed over all employment locations. This score can then be used to rank and compare the relative accessibility from each population centre to 'all employment', rather than to just the 'nearest' employment centre.

Appendix B – SEC Working Age Population Access - PT

Table 17. SEC working age population catchment

LOCAL AUTHORITY	STRATEGIC EMPLOYMENT CLUSTER	30 MINUTE PT/WALK WORKING AGE POPULATION CATCHMENT	60 MINUTE PT/WALK WORKING AGE POPULATION CATCHMENT
Borders	Eyemouth TC	3,441	6,346
Borders	Galashiels station	12,016	97,937
Borders	Galashiels TC	16,010	47,838
Borders	Hawick TC	11,047	28,598
Borders	Kelso TC	7,826	15,164
Borders	Peebles TC	9,048	50,165
Borders	Selkirk TC	17,986	33,541
Borders	Tweedbank Station	18,376	63,705
East Lothian	NPF 3 Cockenzie	26,133	140,706
East Lothian	Craighall Business Park 1	79,447	376,047
East Lothian	Craighall Business Park 2	4,914	208,945
East Lothian	Macmerry	22,564	109,563
East Lothian	Spott Rd	5,907	15,476
Edinburgh	Central Edinburgh	256,431	529,109
Edinburgh	Edinburgh Airport	77,293	475,263
Edinburgh	Edinburgh Park	96,594	559,802
Edinburgh	ERI	70,187	367,292
Edinburgh	Port of Leith	134,993	357,640
Fife	Admiralty Park 1	18,049	114,489
Fife	Admiralty Park 2	15,223	105,499
Fife	Ajax Way	21,961	77,949

LOCAL AUTHORITY	STRATEGIC EMPLOYMENT CLUSTER	30 MINUTE PT/WALK WORKING AGE POPULATION CATCHMENT	60 MINUTE PT/WALK WORKING AGE POPULATION CATCHMENT
Fife	Axis Point	24,571	108,424
Fife	Barclays Bothers Site	26,481	87,225
Fife	Calais Muir (Central)	27,880	128,848
Fife	Calais Muir (North)	25,539	113,125
Fife	Calais Muir (South)	33,565	171,680
Fife	Caldwell Mill	34,655	366,772
Fife	Carnegie Campus 1a	23,954	126,892
Fife	Carnegie Campus 1b	29,680	127,794
Fife	Carnegie Campus 1c	32,684	146,972
Fife	Carnegie Campus 2	34,460	166,257
Fife	Carnegie Campus 3	39,944	219,887
Fife	Carnegie Campus 4	29,931	129,542
Fife	Cemetery Fields	19,124	106,242
Fife	Crompton Road East	15,007	89,878
Fife	Dover Heights	49,970	229,157
Fife	Energy Park Fife	19,920	75,768
Fife	Europarc 1	24,838	152,550
Fife	Europarc 2	24,325	159,255
Fife	Former Diosynth - SDA	23,740	81,560
Fife	J3 Park and Choose	52,013	346,414
Fife	JS Business Park	20,772	121,348
Fife	Kingslaw SDA	22,985	101,773
Fife	Methil No. 3	24,750	91,663

LOCAL AUTHORITY	STRATEGIC EMPLOYMENT CLUSTER	30 MINUTE PT/WALK WORKING AGE POPULATION CATCHMENT	60 MINUTE PT/WALK WORKING AGE POPULATION CATCHMENT
Fife	Midfield Road 2	34,305	119,513
Fife	Mitchelston North SDA	22,303	101,118
Fife	Mitchelston SDA	28,995	114,891
Fife	Muiredge North - SDA	18,839	77,487
Fife	Osprey Road 1	4,444	71,020
Fife	Osprey Road 2	2,652	61,179
Fife	Osprey Road 3	5,483	68,333
Fife	Rosslyn Street	29,583	117,663
Fife	Rosyth Europarc 3	23,763	152,799
Fife	Rosyth Waterfront 3	13,523	163,133
Fife	Rosyth Waterfront 1	15,471	211,081
Fife	Rosyth Waterfront 2	8,724	195,633
Fife	Shepherd Offshore	34,227	169,363
Fife	South West SDA	8,993	82,682
Fife	The Avenue - SDA	8,171	59,697
Fife	Viewfield	28,727	113,577
Fife	Wellwood SDA	27,765	105,988
Fife	West of Doctor's Surgery	21,823	78,460
Fife	West of Thomson House	21,550	81,589
Fife	Westwood	16,397	151,177
Midlothian	Bush Estate	70,543	314,926
Midlothian	LD1/Loanhead	62,183	338,518
Midlothian	ShawfairPark/ Salter's Road	786	115,985

LOCAL AUTHORITY	STRATEGIC EMPLOYMENT CLUSTER	30 MINUTE PT/WALK WORKING AGE POPULATION CATCHMENT	60 MINUTE PT/WALK WORKING AGE POPULATION CATCHMENT
West Lothian	Whitehill Industrial Estate, Bathgate	40,606	156,176
West Lothian	M8 Logistics & Distribution	51,817	145,647
West Lothian	West Lothian Enterprise Area (Livingston)	34,176	117,799
West Lothian	Alba Innovation Centre, Livingston	26,791	106,177
West Lothian	Life Sciences, Livingston	53,400	145,112
West Lothian	Houston Industrial Estate, Livingston	43,047	234,523
West Lothian	West Lothian Enterprise Area (Broxburn)	27,412	326,701

Appendix C – SEC Working Age Population Access - Car

The working age car catchment population was developed using the same methodology as public transport. Journey times are calculated based on the speed limits associated with the road class. Junction delays, congestion and reduced speed areas (eg 20s plenty within residential areas) do not impact on the journey times.

Table 18. SEC working age population catchment

STRATEGIC EMPLOYMENT CLUSTER	LOCAL AUTHORITY	30 MINUTE CAR WORKING AGE POPULATION CATCHMENT	60 MINUTE CAR WORKING AGE POPULATION CATCHMENT
Eyemouth TC	Borders	16,434	135,395
Galashiels station	Borders	36,406	498,783
Galashiels TC	Borders	55,240	576,238
Hawick TC	Borders	40,142	114,274
Kelso TC	Borders	48,489	409,002
Peebles TC	Borders	174,463	838,485
Selkirk TC	Borders	51,475	500,572
Tweedbank Station	Borders	50,134	514,226
Craighall Business Park 1	East Lothian	525,410	1,063,575
Craighall Business Park 2	East Lothian	462,321	1,040,218
Macmerry	East Lothian	448,090	1,004,956
NPF 3 Cockenzie	East Lothian	436,722	969,438
Spott Rd	East Lothian	32,044	505,112
Central Edinburgh	Edinburgh	680,121	1,075,812
Edinburgh Airport	Edinburgh	798,649	1,096,299
Edinburgh Park	Edinburgh	737,492	1,075,734
ERI	Edinburgh	629,634	1,083,388
Port of Leith	Edinburgh	650,400	1,075,804

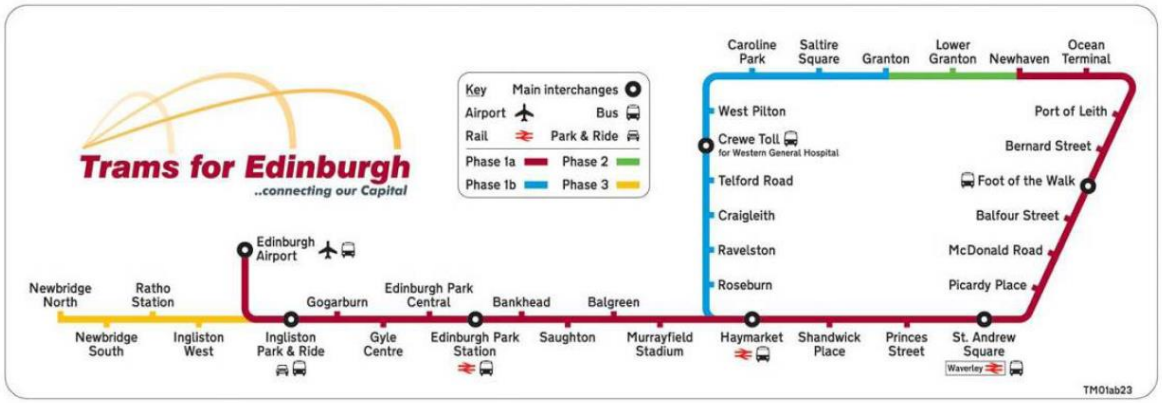
STRATEGIC EMPLOYMENT CLUSTER	LOCAL AUTHORITY	30 MINUTE CAR WORKING AGE POPULATION CATCHMENT	60 MINUTE CAR WORKING AGE POPULATION CATCHMENT
Admiralty Park 1	Fife	803,136	1,081,480
Axis Point	Fife	689,732	1,076,229
Calais Muir (South)	Fife	762,799	1,081,098
Caldwell Mill	Fife	737,479	1,080,237
Carnegie Campus 1a	Fife	774,837	1,081,210
Cemetery Fields	Fife	300,650	1,054,888
Crompton Road East	Fife	210,985	1,021,774
Dover Heights	Fife	798,806	1,082,670
Energy Park Fife	Fife	163,012	964,199
Europarc 1	Fife	755,989	1,081,031
Europarc 2	Fife	758,467	1,081,180
J3 Park and Choose	Fife	748,470	1,079,776
JS Business Park	Fife	231,801	1,044,576
Muiredge North - SDA	Fife	216,994	999,061
Osprey Road 1	Fife	223,712	1,034,277
Rosyth Europarc 3	Fife	768,762	1,081,905
Rosyth Waterfront 1	Fife	752,520	1,081,426
Shepherd Offshore	Fife	512,516	1,065,906
South West SDA	Fife	634,415	1,069,620
Viewfield	Fife	229,691	1,032,456
Wellwood SDA	Fife	730,431	1,072,467
Westwood	Fife	226,022	1,025,433
Bush Estate	Midlothian	607,000	1,064,518

STRATEGIC EMPLOYMENT CLUSTER	LOCAL AUTHORITY	30 MINUTE CAR WORKING AGE POPULATION CATCHMENT	60 MINUTE CAR WORKING AGE POPULATION CATCHMENT
LD1/Loanhead	Midlothian	623,798	1,070,418
ShawfairPark/ Salter's Road	Midlothian	541,267	1,072,312
Whitehill Industrial Estate, Bathgate	West Lothian	745,304	1,048,500
M8 Logistics & Distribution	West Lothian	753,394	1,058,387
West Lothian Enterprise Area (Livingston)	West Lothian	660,604	1,043,609
Alba Innovation Centre, Livingston	West Lothian	610,333	1,031,195
Life Sciences, Livingston	West Lothian	668,530	1,043,823
Houston Industrial Estate, Livingston	West Lothian	744,498	1,063,142
West Lothian Enterprise Area (Broxburn)	West Lothian	804,995	1,088,787

Report Appendix D

PUBLIC TRANSPORT SCHEMES – CODING ASSUMPTIONS

TRANSPORT SCHEME	CODING ASSUMPTIONS
Levenmouth Rail Link	Stations at Leven (4 mins between Leven and Cameron Bridge) and Cameron Bridge (15 mins between Kirkcaldy and Cameron Bridge) - Edinburgh to Kirkcaldy/Glenrothes (and vice versa) services extended to create a half hourly service.
Winchburgh Railway Station	New station at Winchburgh. Edinburgh - Dunblane services stop at Winchburgh with a 3 minute increase in journey time.
Tram line extension	Frequencies as per current Tram
A720 Orbital bus	Newbridge/Edinburgh Airport to Millerhill and vice versa - 12 buses per hour. Stops at Newbridge, Edinburgh Airport, Gogar, Edinburgh Park, Hermiston, Lothianburn, Straiton, Sherrifhall, Millerhill. Alternating stopping/starting at Newbridge and Edinburgh Airport
New rail station at East Linton	One train per hour stopping at East Linton and Reston. New local service coded. The new service serves Berwick, Reston, Dunbar, East Linton, Drem, Longniddry, Prestonpans, Wallyford, Musselburgh and Edinburgh Waverley.
New rail station at Reston	As above
Borders service	Half hourly service stopping at Eskbank, Galashiels, Gorebridge, Newtongrange, Shawfair, Stow and Tweedbank.



Proposed tram extension

Report Appendix E

The List of Settlements Used Within This Report

LOCAL AUTHORITY	TOWNS/ SETTLEMENTS	SUB-AREAS	THEMATIC MAPPING[8]
Borders	Coldstream		
Borders	Duns		
Borders	Eyemouth		
Borders	Galashiels	Glenfield & Langlee, Gala West and Gala Central	✓
Borders	Hawick		✓
Borders	Selkirk		
Borders	Newcastleton		
Borders	Peebles	Peebles North and South	
Borders	Kelso	Kelso - North of River Tweed and South of River Tweed	
Borders	Innerleithen		
Borders	Newtown St Boswells		
Borders	Melrose		
Borders	Jedburgh		
Borders	Lauder		
Borders	Reston		
Borders	Tweedbank		
Borders	Walkerburn		
Borders	West Linton		

[8] Eight large settlements were identified as benefiting from thematic mapping to identify varying degrees of accessibility within the settlement. Thematic maps are presented below.

LOCAL AUTHORITY	TOWNS/ SETTLEMENTS	SUB-AREAS	THEMATIC MAPPING[8]
Borders	Stow		
Borders	Yetholm		
Fife	North Queensferry		
Fife	Thornton		
Fife	Hillend		
Fife	Kincardine		
Fife	Kinghorn		
Fife	Markinch		
Fife	Aberdour		
Fife	Oakley		
Fife	Crossgates		
Fife	Kirkcaldy and Dysart		✓
Fife	Dunfermline		✓
Fife	Burntisland		
Fife	Glenrothes		✓
Fife	Rosyth		
Fife	Buckhaven Methil Methilhill and Leven		
Fife	Kennoway and Windygates		
Fife	Lochgelly and Lumphinnans		
Fife	Dalgety Bay		
Fife	Cowdenbeath		
Fife	Ballingry Lochore and Crosshill		

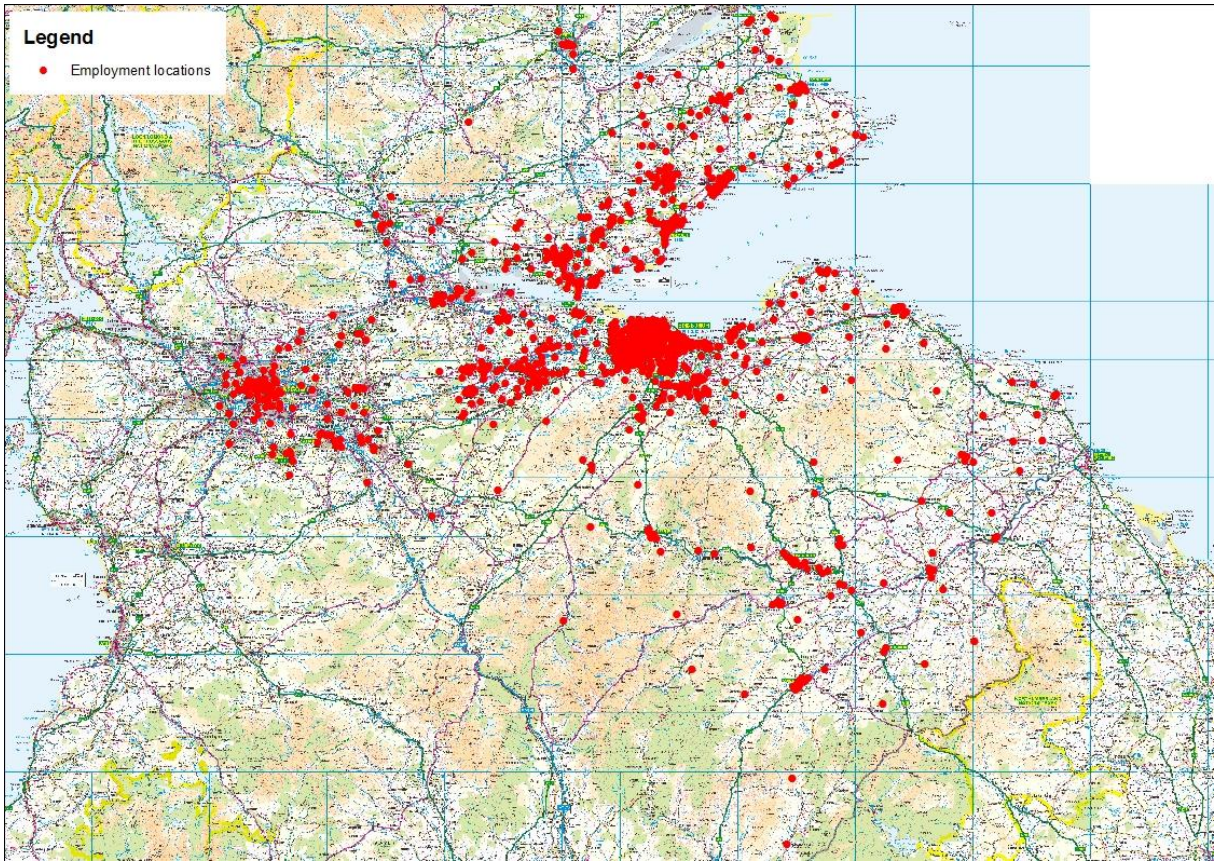
LOCAL AUTHORITY	TOWNS/ SETTLEMENTS	SUB-AREAS	THEMATIC MAPPING[8]
Fife	Inverkeithing		
Fife	Kelty		
Fife	Cardenden and Dundonald		
Midlothian	Loanhead	Loanhead East and West	
Midlothian	Dalkeith	Centre, Eskbank and Woodburn & Wester Cowden	✓
Midlothian	Bonnyrigg	Bonnyrigg North, South, East and West	
Midlothian	Gorebridge		
Midlothian	Mayfield		
Midlothian	Danderhall		
Midlothian	Roslin		
Midlothian	Penicuik and Auchendinny	Penicuik North, East & Auchendinny, South and West	
Midlothian	Pathhead		
Midlothian	Newtongrange		
Midlothian	Bilston		
Midlothian	Shawfair		
Midlothian	Rosewell		
East Lothian	Whitecraig		
East Lothian	Tranent		
East Lothian	Longniddry		
East Lothian	Ormiston		
East Lothian	Pencaitland		
East Lothian	Haddington		

LOCAL AUTHORITY	TOWNS/ SETTLEMENTS	SUB-AREAS	THEMATIC MAPPING[8]
East Lothian	Gifford		
East Lothian	East Linton		
East Lothian	Dunbar		
East Lothian	North Berwick		
East Lothian	Gullane		
East Lothian	Aberlady		
East Lothian	Athelstaneford / East Fortune		
East Lothian	Drem		
East Lothian	Innerwick		
East Lothian	Musselburgh		✓
East Lothian	Wallyford		
East Lothian	Whitekirk		
East Lothian	Cockenzie		
East Lothian	Prestonpans		
East Lothian	Gladsmuir		
East Lothian	Athelstaneford / East Fortune /Whitekirk /Tyninghame		
West Lothian	Armadale		
West Lothian	Bathgate	Bathgate North and South	
West Lothian	Blackridge		
West Lothian	Broxburn & Uphall	Broxburn and Uphall	
West Lothian	East Calder		
West Lothian	Fauldhouse		

LOCAL AUTHORITY	TOWNS/ SETTLEMENTS	SUB-AREAS	THEMATIC MAPPING[8]
West Lothian	Linlithgow	Linlithgow North and South	
West Lothian	Livingston	Livingston North, South and Central	✓
West Lothian	West Calder		
West Lothian	Whitburn		
West Lothian	Winchburgh		
West Lothian	Armadale		
Edinburgh	Dalmeny		
Edinburgh	Kirkliston		
Edinburgh	Ratho	Ratho 1 and 2	
Edinburgh	Calderwood (West Clifton)		
Edinburgh	Currie		
Edinburgh	Balerno	Balerno 1 and 2	
Edinburgh	Burdiehouse		
Edinburgh	South Gilmerton		
Edinburgh	Ferniehill/Danderhall		
Edinburgh	North Hermiston	North Hermiston A, B and C	
Edinburgh	Silverknowes		

Report Appendix F

HANSEN VALUE – EMPLOYMENT LOCATIONS



Report Appendix G

The following images present the journey time thresholds to the Strategic Employment Clusters (Edinburgh-related SECs and All SECs) for car and public transport (Base Scenario and Test Scenario) as described in section 5.2.

Please note that for the purpose of this study the centroid of each output area was used to calculate the accessibility to and from an output area. The mapping assigns that accessibility to the entire output area however it should be noted that accessibility can vary across an output area, especially where output areas are geographically large and this is evident, particularly in rural areas, in the isochrones below.

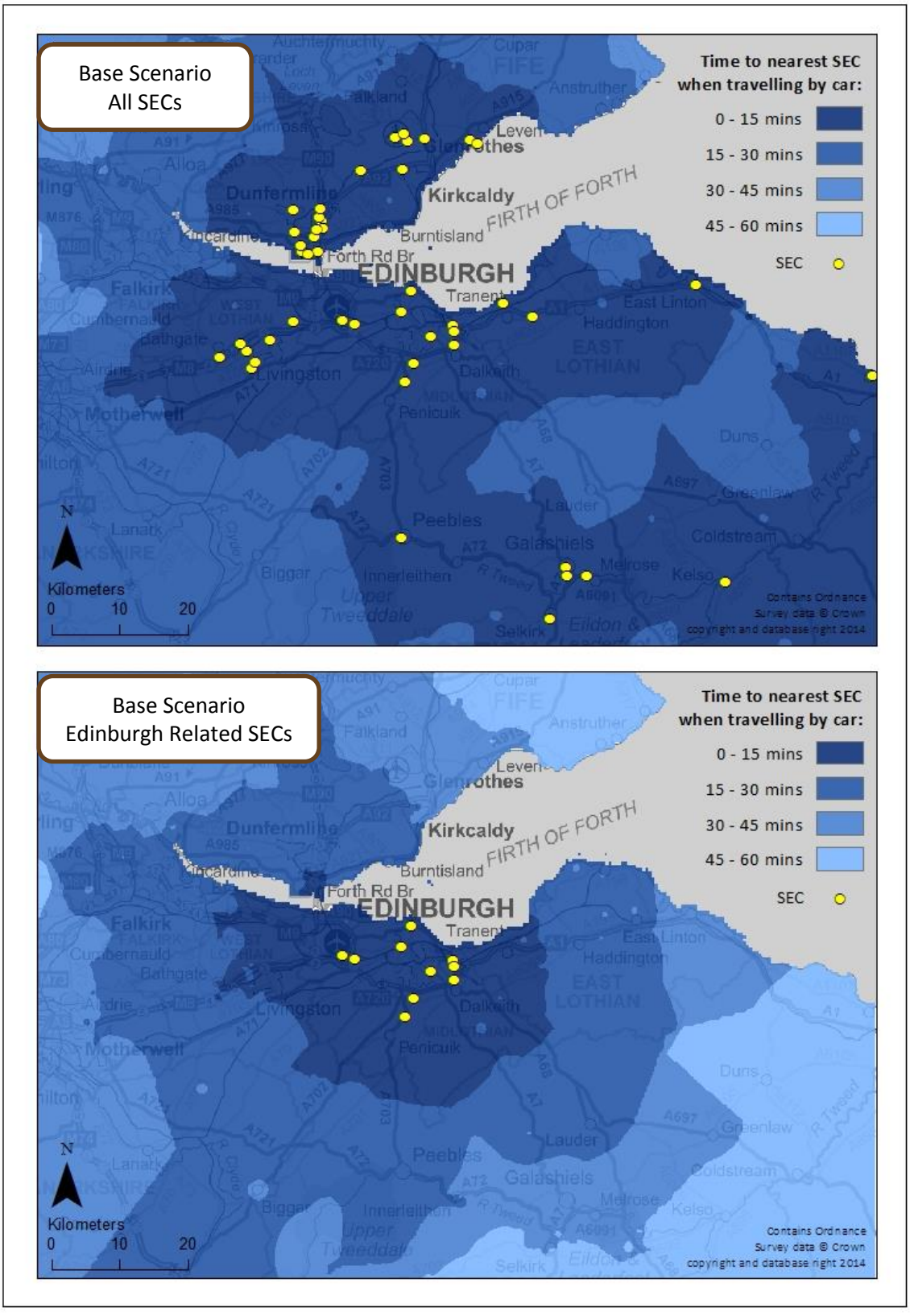


Figure 63. Access to SEC - Car

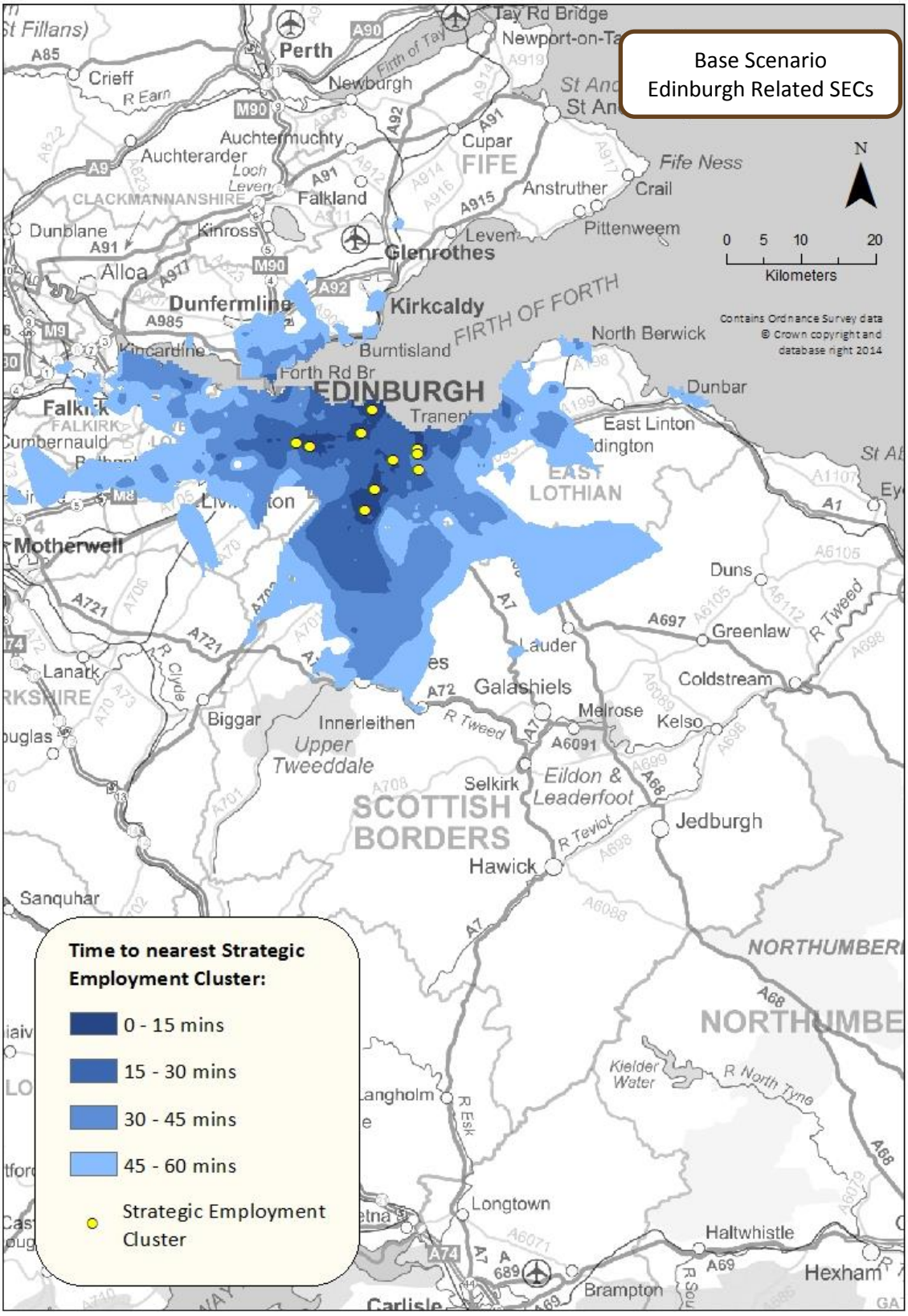


Figure 64. Access to Edinburgh related SECs – Public Transport

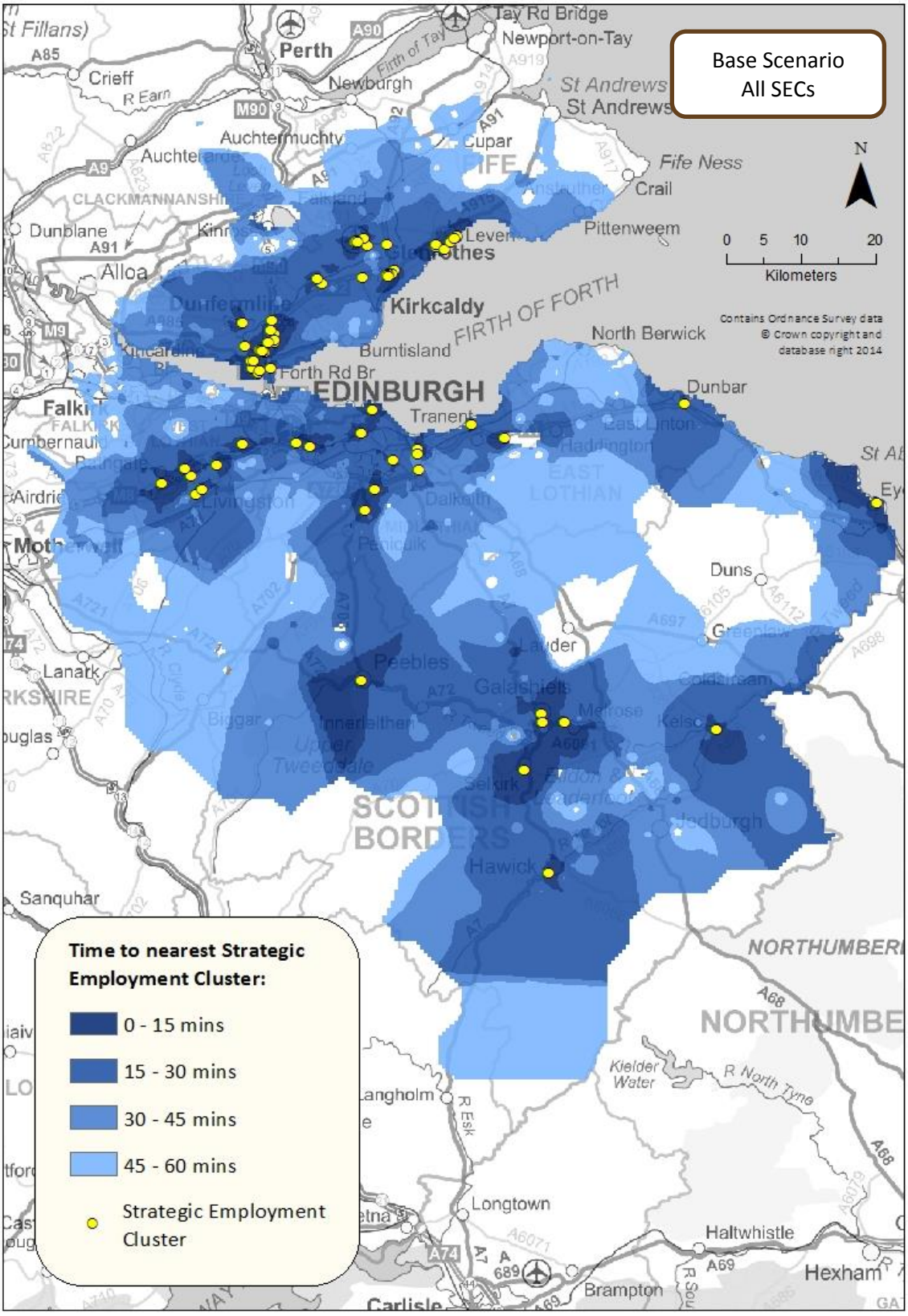


Figure 65. Access to SECs in Base Scenario – Public Transport

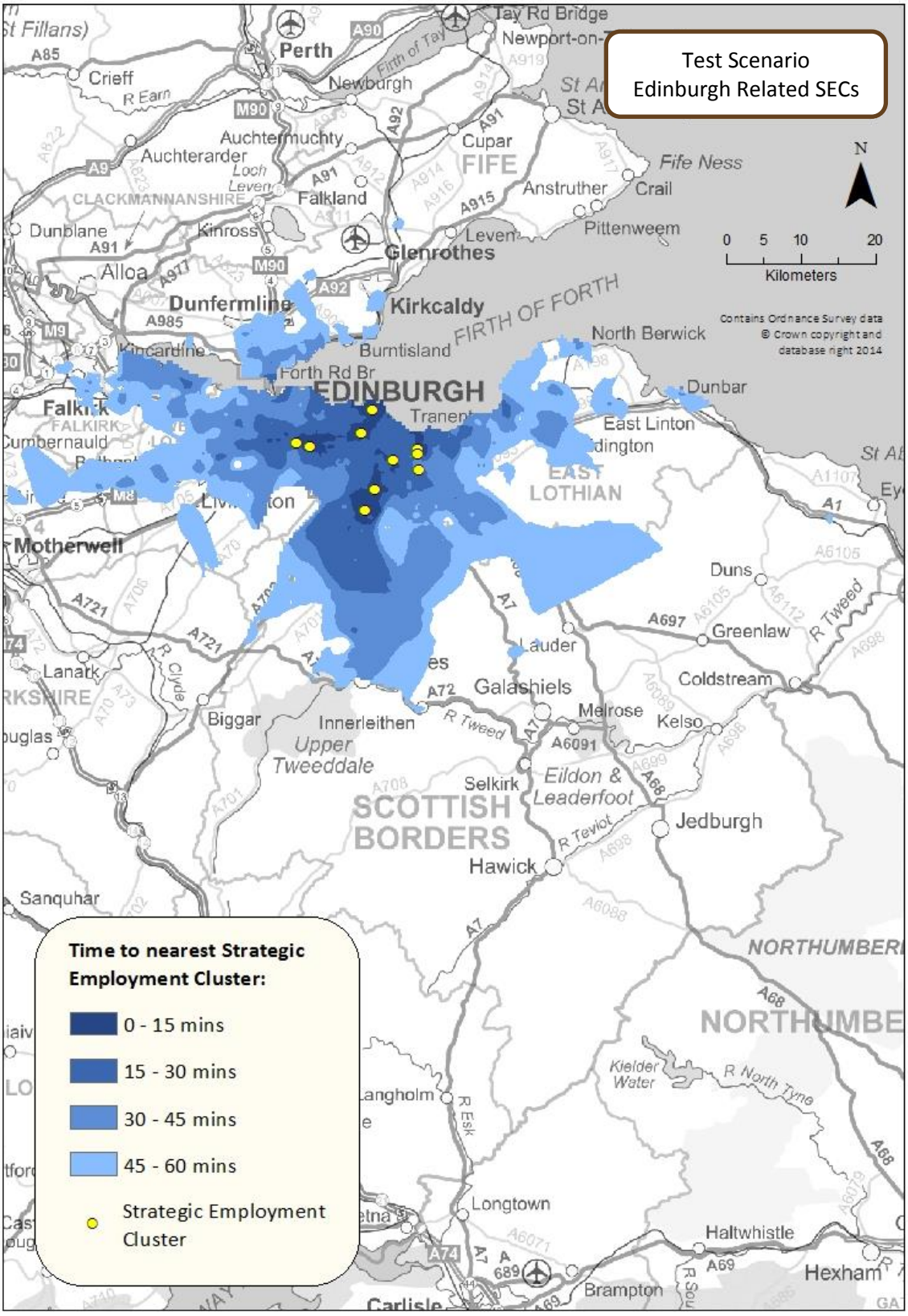


Figure 66. Access to Edinburgh related SECs in Test Scenario – Public Transport

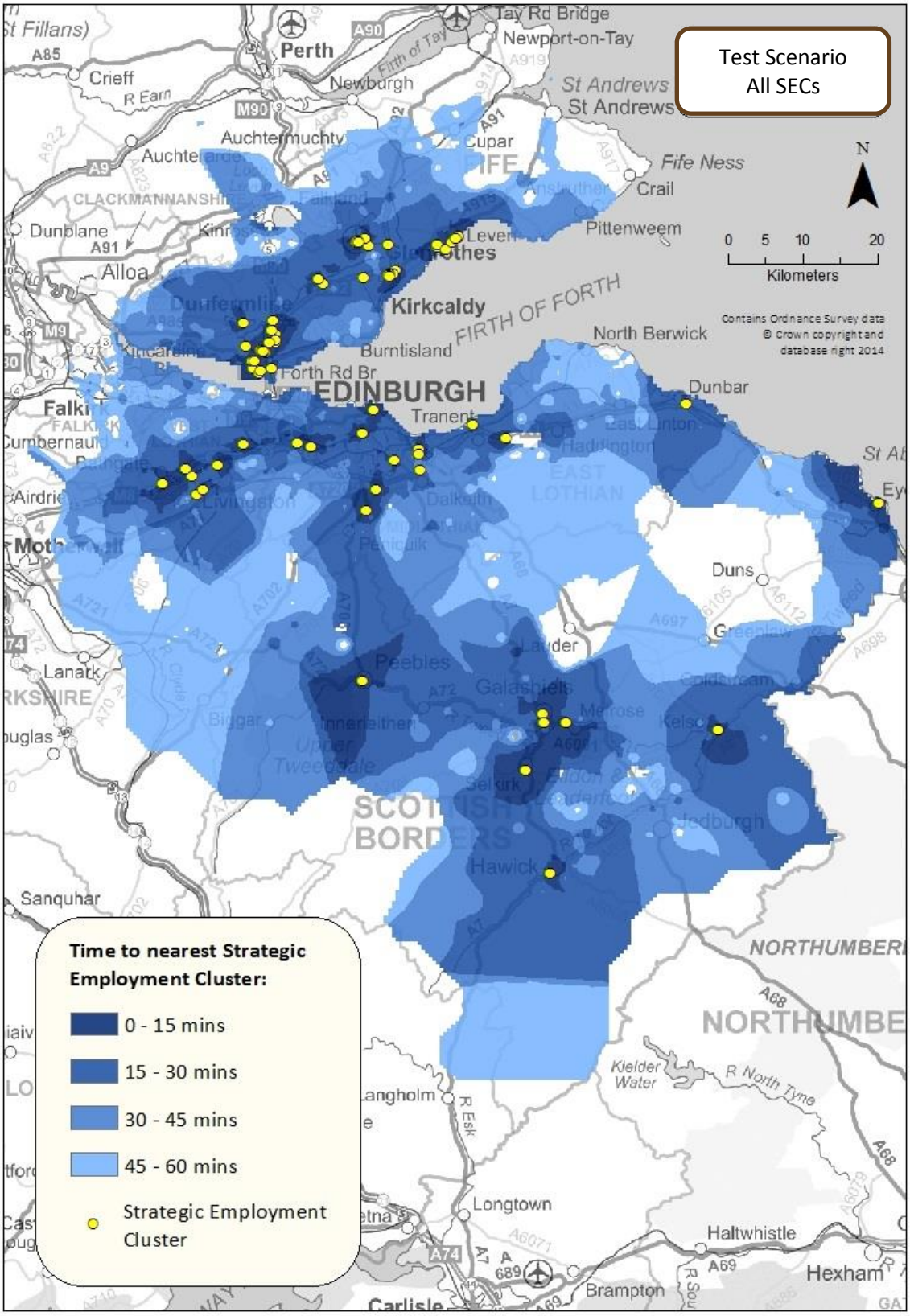


Figure 67. Access to SECs in Test Scenario – Public Transport

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SYSTRA

COMMITTED		Employment		Health Indicators		Strategic Health and Town Centres		Retail and Town Centre Indicators				Local Accessibility (Walk or PT <20mins)					
Strategic Development Area	Settlement Name *(Sub-settlement)*	PT Hansen - Employment	Rank	PT Hospital	P&R Hospital	PT Strategic Hospitals	PT Strategic Town Centres	PT Retail Park	P&R Retail Park	PT Town Centre	P&R Town Centre	GP	Secondary Schools	Local Grocery	GP	Secondary Schools	Local Grocery
Borders	Coldstream	3,447	97	30	17	66	84	82	102	28	52	8	31	7	Yes	No	Yes
	Duns	3,551	96	14	28	67	76	85	86	6	36	13	9	6	Yes	Yes	Yes
	Eyemouth	1,355	100	7	31				85	7	35	8	9	6	Yes	Yes	Yes
	Galashiels	37,181	81	26	54	26	11	13	59	11	51	9	14	7	Yes	Yes	Yes
	Glenfield & Langlee	*26,379*		*19*	*54*	*18*	*13*	*21*	*60*	*13*	*52*	*9*	*21*	*6*	Yes	No	Yes
	Gala West	*37,885*		*31*	*53*	*31*	*10*	*9*	*58*	*10*	*50*	*9*	*12*	*6*	Yes	Yes	Yes
	Gala Central	*44,306*		*22*	*55*	*22*	*10*	*15*	*59*	*10*	*51*	*8*	*14*	*8*	Yes	Yes	Yes
	Hawick	7,382	93	13	70	61	48	53	81	11	72	10	13	6	Yes	Yes	Yes
	Selkirk	15,095	90	32	62	33	26	28	66	7	58	9	9	5	Yes	Yes	Yes
	Newcastleton	1,099	101	51	60				110	51	102	7	51	5	Yes	No	Yes
	Peebles	47,656	74	12	79	71	60	53	40	10	45	12	16	6	Yes	Yes	Yes
	Peebles - North	*51,155*		*9*	*78*	*68*	*56*	*48*	*39*	*8*	*44*	*9*	*18*	*5*	Yes	Yes	Yes
	Peebles - South	*43,136*		*17*	*79*	*76*	*66*	*59*	*41*	*12*	*46*	*17*	*14*	*8*	Yes	Yes	Yes
	Kelso	6,303	95	10	67	51	68	68	73	10	65	8	10	7	Yes	Yes	Yes
	Kelso - North of River Tweed	*6,357*		*9*	*67*	*50*	*67*	*67*	*73*	*11*	*64*	*7*	*9*	*7*	Yes	Yes	Yes
	Kelso - South of River Tweed	*6,042*		*12*	*65*	*60*	*78*	*77*	*74*	*8*	*66*	*14*	*15*	*7*	Yes	Yes	Yes
	Innerleithen	30,358	83	31	86	60	35	31	52	6	50	9	35	7	Yes	No	Yes
	Newtown St Boswells	8,572	92	23	64	23	34	40	65	14	57	7	22	12	Yes	No	Yes
	Melrose	27,974	85	15	66	15	25	34	64	7	56	17	22	6	Yes	No	Yes
	Jedburgh	6,328	94	41	73	54	64	70	78	9	70	9	8	6	Yes	Yes	Yes
	Lauder	29,824	84	59	63	59	80	65	51	45	43	5	24	5	Yes	No	Yes
	Reston	9,888	91	35	48		110	106	81	34	32	34	52	31	No	No	No
	Tweedbank	50,034	71	15	62	15	15	23	62	13	54	12	18	12	Yes	Yes	Yes
	Walkerburn	20,848	89	38	68	50	27	23	59	11	51	15	33	13	Yes	No	Yes
	West Linton	57,326	65	49	77	60	61	66	33	31	37	8	32	6	Yes	No	Yes
	Stow	73,429	54	39	61	40	27	24	48	23	40	7	32	20	Yes	No	Yes
	Yetholm	1,938	98	32	60				84	27	76	35	36	27	No	No	No
Fife	North Queensferry	160,222	5	30	33	46	35	23	20	32	29	15	14	12	Yes	Yes	Yes
	Thornton	72,666	55	20	25	20	29	28	33	29	31	14	15	5	Yes	Yes	Yes
	Hillend	128,861	11	40	28	54	36	38	27	35	26	12	9	12	Yes	Yes	Yes
	Kincardine	59,870	64	41	52	90	36	35	41	5	12	15	28	5	Yes	No	Yes
	Kinghorn	93,109	35	32	37	29	19	39	38	19	19	6	18	6	Yes	Yes	Yes
	Markinch	90,778	38	42	46	41	20	26	28	20	24	6	15	10	Yes	Yes	Yes
	Aberdour	110,705	19	46	43	49	32	44	40	33	30	16	21	10	Yes	No	Yes
	Oakley	34,905	82	39	27	84	28	27	25	5	19	6	25	6	Yes	No	Yes
	Crossgates	102,374	30	18	22	40	27	13	13	5	9	5	16	12	Yes	Yes	Yes
	Kirkcaldy and Dysart	84,571	45	14	22	13	16	21	22	16	13	10	13	6	Yes	Yes	Yes
	Dunfermline	93,241	34	19	24	53	17	16	19	16	14	9	10	8	Yes	Yes	Yes
	Burntisland	82,730	46	44	45	42	28	51	48	27	28	7	29	5	Yes	No	Yes
	Glenrothes	55,606	67	38	44	38	18	19	32	18	28	9	13	7	Yes	Yes	Yes
	Rosyth	118,458	15	33	31	61	25	26	25	25	24	9	14	5	Yes	Yes	Yes
	Buckhaven Methil Methilhill and Lev	55,782	66	40	44	41	37	46	34	12	30	7	11	5	Yes	Yes	Yes
	Kennoway and Windygates	43,841	76	34	46	34	35	43	34	19	29	7	18	6	Yes	Yes	Yes
	Lochgelly and Lumphinnans	65,990	60	26	24	39	40	30	31	6	7	7	8	5	Yes	Yes	Yes
	Dalgety Bay	113,046	17	48	29	52	34	44	31	35	29	17	12	7	Yes	Yes	Yes
	Cowdenbeath	79,709	50	20	18	48	34	21	21	8	5	7	13	6	Yes	Yes	Yes
	Ballingry Lochore and Crosshill	52,545	70	33	25	49	40	41	34	12	9	6	10	5	Yes	Yes	Yes
	Inverkeithing	150,023	6	31	37	52	31	31	30	29	27	8	8	7	Yes	Yes	Yes
	Kelty	72,421	56	18	21	61	33	29	24	14	8	5	21	5	Yes	No	Yes
	Cardenden and Dundonald	53,108	68	28	31	27	36	21	27	15	20	16	15	6	Yes	Yes	Yes
Midlothian	Loanhead	110,541	21	22	39	39	43	14	17	8	22	8	17	6	Yes	Yes	Yes
	Loanhead East	*102,143*		*19*	*39*	*42*	*47*	*15*	*17*	*5*	*22*	*9*	*19*	*5*	Yes	Yes	Yes
	Loanhead West	*112,834*		*23*	*39*	*38*	*42*	*14*	*17*	*8*	*22*	*8*	*17*	*7*	Yes	Yes	Yes
	Dalkeith	105,124	25	19	25	27	47	29	26	9	18	10	18	7	Yes	Yes	Yes
	Dalkeith - Centre	*113,484*		*15*	*25*	*23*	*44*	*26*	*25*	*5*	*17*	*5*	*18*	*5*	Yes	Yes	Yes
	Dalkeith - Eskbank	*128,949*		*13*	*25*	*23*	*36*	*26*	*26*	*10*	*18*	*13*	*23*	*6*	Yes	No	Yes
	D - Woodburn & Wester Cowden	*93,584*		*23*	*25*	*29*	*52*	*32*	*27*	*11*	*19*	*11*	*16*	*8*	Yes	Yes	Yes
	Bonnyrigg	100,798	32	13	25	41	45	31	28	8	19	8	15	7	Yes	Yes	Yes
	Bonnyrigg North	*119,735*		*9*	*25*	*36*	*39*	*28*	*26*	*6*	*18*	*6*	*16*	*5*	Yes	Yes	Yes
	Bonnyrigg East	*98,241*		*12*	*25*	*41*	*46*	*33*	*27*	*9*	*19*	*10*	*20*	*7*	Yes	Yes	Yes
	Bonnyrigg South	*99,137*		*12*	*25*	*41*	*45*	*30*	*28*	*7*	*19*	*8*	*16*	*7*	Yes	Yes	Yes
	Bonnyrigg West	*92,009*		*15*	*25*	*44*	*47*	*33*	*28*	*10*	*20*	*10*	*11*	*9*	Yes	Yes	Yes
	Gorebridge	92,663	36	27	24	43	47	39	30	6	22	6	22	5	Yes	No	Yes
	Mayfield	79,504	51	26	26	39	56	41	29	10	21	11	15	8	Yes	Yes	Yes
	Danderhall	118,641	14	18	24	19	40	22	24	18	17	7	29	6	Yes	No	Yes
	Roslin	100,627	33	28	40	41	45	17	19	15	24	8	14	5	Yes	Yes	Yes
	Penicuik and Auchendinny	90,718	39	43	43	47	50	25	22	10	27	8	10	8	Yes	Yes	Yes
	Penicuik North	*97,203*		*41*	*42*	*44*	*47*	*23*	*21*	*15*	*26*	*13*	*11*	*10*	Yes	Yes	Yes
	Penicuik East & Auchendinny	*97,368*		*40*	*45*	*44*	*47*	*22*	*21*	*14*	*26*	*11*	*11*	*10*	Yes	Yes	Yes
	Penicuik South	*90,235*		*43*	*42*	*47*	*50*	*25*	*22*	*8*	*27*	*6*	*11*	*7*	Yes	Yes	Yes
	Penicuik West	*89,402*		*44*	*43*	*48*	*50*	*26*	*22*	*10*	*27*	*9*	*9*	*8*	Yes	Yes	Yes
	Pathhead	64,321	61	35	30	35	60	39	32	20	24	12	37	6	Yes	No	Yes
	Newtongrange	101,696	31	21	29	32	45	34	28	7	19	11	14	6	Yes	Yes	Yes
	Bilston	137,134	8	27	39	31	34	11	18	12	23	12	13	12	Yes	Yes	Yes
	Shawfair	79,409	52	32	26	32	54	36	26	10	17	16	43	16	Yes	No	Yes
	Rosewell	70,358	57	22	24	52	55	42	30	18	22	21	19	16	No	Yes	Yes
East Lothian	Whitecraig	88,511	42	20	24	51	54	22	23	18	17	18	17	17	Yes	Yes	Yes
	Tranent	91,356	37	29	30	55	46	27	27	8	15	10	10	7	Yes	Yes	Yes
	Longniddry	90,348	40	27	28	60	43	35	33	20	19	16	20	7	Yes	Yes	Yes
	Ormiston	67,962	59	32	30	72	57	30	30	14	18	5	16	6	Yes	Yes	Yes
	Pencaitland	46,608	75	37	30	89	71	42	32	22	20	16	25	6	Yes	No	Yes
	Haddington	82,151	47	12	24	63	49	48	51	7	29	9	14	8	Yes	Yes	Yes
	Gifford	40,192	80	43	23	86	71	79	59	21	36	24	32	6	No	No	Yes
	East Linton	43,563	77	30	24	83	68	68	55	21	33	14	24	7	Yes	No	Yes
	Dunbar	69,903	58	13	16	71	49	66	59	8	9	8	8	6	Yes	Yes	Yes
	North Berwick	53,000	69	9	13	78	61	63	60	8	6	9	10	6	Yes	Yes	Yes
	Gullane	42,494	78	20	23	90	70	48	50	17	28	6	20	7	Yes	No	Yes
	Aberlady	49,747	72	18	27	84	64	41	36	22	22	14	25	6	Yes	No	Yes
	Athelstaneford / East Fortune	27,358	86	20	22	98	80	69	51	22	29	23	26	19	No	No	Yes
	Drem	79,767	49	25	23	64	46	56	45	28	23	27	27	24	No	No	No
	Innerwick	23,260	88	22	17	103	82	77	64	16	15	16	30	9	Yes	No	Yes
	Musselburgh	133,435	9	14	27	48	32	9	15	8	19	8	12	7	Yes	Yes	Yes
	Wallyford	129,354	10	22	24	46	31	21	21	12	15	15	16	13	Yes	Yes	Yes
	Whitekirk	1,471	99	16	13				66	22	12	16	25	10	Yes	No	Yes
	Cockenzie	78,777	53	28	29	73	55	29	27	11	15	7	21	6	Yes	No	Yes
	Prestonpans	110,899	18	23	30	52	37	21	25	8	13	8	10	5	Yes	Yes	Yes
	Gladsmuir	41,924	79	39	28	86	74	62	41	34	27	35	39	33	No	No	No
	Athelstaneford / East Fortune /Whi	27,358	86	20	23	98	80	69	51	22	29	23	26	19	No	No	Yes
West Lothian	Armadale	86,008	43	46	51	46	58	49	31	6	10	8	10	7	Yes	Yes	Yes
	Bathgate	105,637	24	35	30	35	46	35	29	12	8	12	16	8	Yes	Yes	Yes
	Bathgate North	*109,737*		*36*	*30*	*36*	*48*	*36*	*28*	*9*	*7*	*10*	*17*	*6*	Yes	Yes	Yes
	Bathgate South	*99,017*		*33*	*30*	*33*	*44*	*33*	*30*	*16*	*9*	*14*	*13*	*11*	Yes	Yes	Yes
	Blackridge	81,193	48	57	29	56	60	59	34	5	13	5	12	5	Yes	Yes	Yes
	Broxburn & Uphall	110,633	20	28	39	28	27	26	35	11	13	10	15	8	Yes	Yes	Yes
	Broxburn	*110,251*		*30*	*39*	*29*	*28*	*27*	*35*	*9*	*13*	*9*	*13*	*8*	Yes	Yes	Yes
	Uphall	*111,368*		*25*	*39*	*25*	*25*	*24*	*34*	*15*	*12*	*13*	*18*	*9*	Yes	Yes	Yes
	East Calder	107,634	23	31	42	31	24	23	31	9	17	9	21	7	Yes	No	Yes
	Fauldhouse	48,841	73	48	53	48	44	31	35	6	8	7	19	6	Yes	Yes	Yes
	Linlithgow	128,553	12	51	42	51	44	49	35	8	6	9	13	6	Yes	Yes	Yes
	Linlithgow - North	*130,509*		*52*	*42*	*51*	*44*	*48*	*35*	*7*	*6*	*8*	*13*	*4*	Yes	Yes	Yes
	Linlithgow - South	*125,493*		*50*	*42*	*50*	*44*	*49*	*35*	*9*	*6*	*9*	*12*	*9*	Yes	Yes	Yes
	Livingston	103,767	27	18	25	18	20	17	21	18	11	12	12	9	Yes	Yes	Yes
	Livingston North	*109,028*		*17*	*21*	*17*	*26*	*22*	*24*	*15*	*7*	*13*	*12*	*10*	Yes	Yes	Yes
	Livingston South	*99,530*		*24*	*27*	*24*	*13*	*11*	*12*	*18*	*17*	*10*	*12*	*9*	Yes	Yes	Yes
	Livingston Central	*97,369*		*14*	*30*	*14*	*14*	*11*	*25*	*22*	*15*	*11*	*10*	*8*	Yes	Yes	Yes
	West Calder	103,631	28	33	37	33	25	16	17	6	7	7	14	7	Yes	Yes	Yes
	Whitburn	62,273	63	42	48	42	41	30	32	9	20	9	10	7	Yes	Yes	Yes
	Winchburgh	104,775	26	38	37	38	39	34	31	7	26	7	25	7	Yes	No	Yes
	Armadale	86,008	43	46	51	46	58	49	31	6	10	8	10	7	Yes	Yes	Yes
Edinburgh	Dalmeny	178,913	1	32	31	43	30	17	16	31	30	11	5	10	Yes	Yes	Yes
	Kirkliston	103,315	29	48	36	46	47	32	22	17	36	16	27	10	Yes	No	Yes
	Ratho	118,353	16	51	48	65	58	22	22	20	23	8	27	9	Yes	No	Yes
	Ratho - 1	*124,766*		*48*	*57*	*65*	*58*	*13*	*21*	*10*	*19*	*10*	*20*	*5*	Yes	Yes	Yes
	Ratho - 2	*111,939*		*54*	*38*	*54*	*49*	*31*	*23*	*30*	*26*	*6*	*34*	*12*	Yes	No	Yes
	Calderwood	62,639	62	64	43	62	44	48	32	31	18	31	48	31	No	No	No
	Currie	140,988	7	44	36	44	32	31	21	20	24	10	10	4	Yes	Yes	Yes
	Balerno	89,080	41	56	54	54	48	52	41	27	32	16	6	8	Yes	Yes	Yes
	Balerno - 1	*88,288*		*56*	*53*	*54*	*47*	*51*	*39*	*26*	*31*	*17*	*5*	*10*	Yes	Yes	Yes
	Balerno - 2	*89,871*		*57*	*56*	*54*	*48*	*52*	*42*	*28*	*33*	*16*	*7*	*6*	Yes	Yes	Yes
	Burdiehouse	161,449	2	27	39	17	33	8	16	12	21	8	16	10	Yes	Yes	Yes
	South Gilmerton	161,449	2	23	26	24	26	13	26	8	18	5	6	8	Yes	Yes	Yes
	Ferniehill/Danderhall	161,449	2	20	26	20	33	20	26	16	18	8	17	7	Yes	Yes	Yes
	North Hermiston	108,062	22	53	39	52	47	29	24	33	27	27	32	25	No	No	No
	North Hermiston A	*121,837*		*50*	*39*	*50*	*45*	*22*	*23*	*32*	*27*	*18*	*21*	*15*	Yes	No	Yes
	North Hermiston B	*105,140*		*58*	*42*	*58*	*50*	*32*	*26*	*30*	*30*	*32*	*39*	*27*	No	No	No
	North Hermiston C	*97,209*		*49*	*37*	*49*	*47*	*34*	*22*	*36*	*25*	*30*	*35*	*33*	No	No	No
	Silverknowes	120,758	13	56	44	23	36	34	29	30	32	17	19	16	Yes	Yes	Yes

COMMITTED + SDP		Employment		Health Indicators		Strategic Health and Town Centres		Retail and Town Centre Indicators				Local Accessibility (Walk or PT <20mins)					
Strategic Development Area	Settlement Name *(Sub-settlement)*	PT Hansen - Employment	Rank	PT Hospital	P&R Hospital	PT Strategic Hospitals	PT Strategic Town Centres	PT Retail Park	P&R Retail Park	PT Town Centre	P&R Town Centre	GP	Secondary Schools	Local Grocery	GP	Secondary Schools	Local Grocery
Borders	Coldstream	3,447	95	30	60	66	84	82	95	28	52	8	31	7	Yes	No	Yes
	Duns	3,551	94	14	44	67	76	85	80	6	36	13	9	6	Yes	Yes	Yes
	Eyemouth	1,355	98	7	43				79	7	35	8	9	6	Yes	Yes	Yes
	Galashiels	37,205	80	26	58	26	11	13	59	11	51	9	14	7	Yes	Yes	Yes
	Glenfield & Langlee	*26,346*		*18*	*59*	*18*	*13*	*21*	*60*	*13*	*52*	*9*	*21*	*6*	Yes	No	Yes
	Gala West	*37,919*		*31*	*57*	*31*	*10*	*9*	*58*	*10*	*50*	*9*	*12*	*6*	Yes	Yes	Yes
	Gala Central	*44,359*		*22*	*58*	*22*	*10*	*15*	*59*	*10*	*51*	*8*	*14*	*8*	Yes	Yes	Yes
	Hawick	7,384	91	13	80	61	48	53	81	11	72	10	12	6	Yes	Yes	Yes
	Selkirk	15,077	89	32	65	33	26	28	66	7	58	9	9	5	Yes	Yes	Yes
	Newcastleton	1,099	99	51	109				110	51	102	7	51	5	Yes	No	Yes
	Peebles	47,693	75	12	61	71	60	53	40	10	45	12	16	6	Yes	Yes	Yes
	Peebles - North	*51,187*		*9*	*60*	*68*	*56*	*48*	*39*	*8*	*44*	*9*	*19*	*5*	Yes	Yes	Yes
	Peebles - South	*43,179*		*17*	*62*	*76*	*66*	*59*	*41*	*12*	*46*	*17*	*14*	*8*	Yes	Yes	Yes
	Kelso	6,303	93	10	72	51	68	68	73	10	65	8	10	7	Yes	Yes	Yes
	Kelso - North of River Tweed	*6,357*		*9*	*72*	*50*	*67*	*67*	*73*	*11*	*64*	*7*	*9*	*7*	Yes	Yes	Yes
	Kelso - South of River Tweed	*6,042*		*12*	*73*	*60*	*78*	*77*	*74*	*8*	*66*	*14*	*15*	*7*	Yes	Yes	Yes
	Innerleithen	30,352	82	31	61	60	35	31	52	6	50	9	35	7	Yes	No	Yes
	Newtown St Boswells	8,572	90	23	64	23	34	40	65	14	57	7	22	12	Yes	No	Yes
	Melrose	27,965	84	15	63	15	25	34	64	7	56	17	22	6	Yes	No	Yes
	Jedburgh	6,328	92	41	77	54	64	70	78	9	70	9	8	6	Yes	Yes	Yes
	Lauder	30,163	83	58	50	59	80	65	51	45	43	5	24	5	Yes	No	Yes
	Reston	52,662	72	35	39	80	63	63	75	25	32	25	32	25	No	No	No
	Tweedbank	50,098	73	15	61	15	15	23	62	13	54	12	18	12	Yes	Yes	Yes
	Walkerburn	20,848	88	38	58	50	27	23	59	11	51	15	33	13	Yes	No	Yes
	West Linton	60,650	63	49	54	60	61	58	33	31	37	8	32	6	Yes	No	Yes
	Stow	73,626	53	39	47	40	27	24	48	23	40	7	32	20	Yes	No	Yes
	Yetholm	1,938	96	32	83				84	27	76	35	36	27	No	No	No
Fife	North Queensferry	160,572	3	30	30	46	35	22	23	31	32	14	13	12	Yes	Yes	Yes
	Thornton	72,919	54	20	24	20	29	28	33	29	29	14	15	5	Yes	Yes	Yes
	Hillend	128,981	11	39	26	54	36	38	27	35	26	13	10	12	Yes	Yes	Yes
	Kincardine	59,925	64	41	48	90	36	36	42	5	12	14	28	5	Yes	No	Yes
	Kinghorn	93,245	35	29	30	29	19	36	35	19	19	6	18	6	Yes	Yes	Yes
	Markinch	90,987	40	41	41	41	20	26	28	20	23	6	15	10	Yes	Yes	Yes
	Aberdour	110,812	20	45	42	49	32	44	41	32	29	15	22	10	Yes	No	Yes
	Oakley	35,074	81	39	22	84	28	27	25	5	19	6	25	6	Yes	No	Yes
	Crossgates	102,407	29	18	20	40	27	13	13	5	9	5	16	12	Yes	Yes	Yes
	Kirkcaldy and Dysart	84,671	45	13	20	13	16	20	21	16	13	10	13	6	Yes	Yes	Yes
	Dunfermline	93,312	34	19	18	53	17	16	19	16	13	9	10	8	Yes	Yes	Yes
	Burntisland	82,789	46	41	42	42	28	48	42	27	26	7	30	5	Yes	No	Yes
	Glenrothes	55,687	68	38	45	38	18	19	32	18	28	9	13	7	Yes	Yes	Yes
	Rosyth	118,538	15	32	26	61	25	27	26	25	24	9	14	5	Yes	Yes	Yes
	Buckhaven Methil Methilhill and Lev	55,923	67	40	48	41	37	46	34	12	30	6	11	5	Yes	Yes	Yes
	Kennoway and Windygates	43,932	77	34	47	34	35	43	34	19	29	7	18	6	Yes	Yes	Yes
	Lochgelly and Lumphinnans	66,183	59	26	22	39	40	29	32	6	7	7	8	5	Yes	Yes	Yes
	Dalgety Bay	113,040	18	43	31	52	34	42	32	34	29	17	13	7	Yes	Yes	Yes
	Cowdenbeath	79,804	50	21	18	48	34	21	21	8	5	7	13	6	Yes	Yes	Yes
	Ballingry Lochore and Crosshill	52,963	71	33	25	49	40	41	35	12	10	6	10	5	Yes	Yes	Yes
	Inverkeithing	150,362	5	30	34	52	31	31	30	29	27	8	7	7	Yes	Yes	Yes
	Kelty	72,548	55	18	21	61	33	29	24	14	8	6	21	5	Yes	No	Yes
	Cardenden and Dundonald	53,424	69	27	30	27	36	21	27	15	20	16	15	6	Yes	Yes	Yes
Midlothian	Loanhead	117,602	16	21	39	39	43	14	17	8	22	8	17	6	Yes	Yes	Yes
	Loanhead East	*109,405*		*18*	*39*	*42*	*47*	*16*	*17*	*5*	*22*	*8*	*19*	*5*	Yes	Yes	Yes
	Loanhead West	*119,839*		*22*	*39*	*38*	*42*	*14*	*17*	*8*	*22*	*8*	*17*	*7*	Yes	Yes	Yes
	Dalkeith	106,184	24	19	25	27	47	29	26	9	18	10	18	7	Yes	Yes	Yes
	Dalkeith - Centre	*114,491*		*15*	*24*	*23*	*44*	*26*	*25*	*5*	*17*	*5*	*18*	*5*	Yes	Yes	Yes
	Dalkeith - Eskbank	*129,290*		*13*	*25*	*23*	*36*	*26*	*26*	*10*	*18*	*13*	*23*	*6*	Yes	No	Yes
	D - Woodburn & Wester Cowden	*94,905*		*23*	*26*	*29*	*51*	*32*	*27*	*11*	*19*	*11*	*16*	*8*	Yes	Yes	Yes
	Bonnyrigg	101,232	32	12	27	41	45	32	28	8	19	9	15	7	Yes	Yes	Yes
	Bonnyrigg North	*120,164*		*8*	*25*	*36*	*39*	*28*	*26*	*6*	*18*	*6*	*16*	*5*	Yes	Yes	Yes
	Bonnyrigg East	*98,620*		*12*	*26*	*41*	*46*	*34*	*27*	*9*	*19*	*10*	*20*	*7*	Yes	Yes	Yes
	Bonnyrigg South	*99,478*		*12*	*27*	*41*	*45*	*31*	*28*	*8*	*19*	*8*	*17*	*7*	Yes	Yes	Yes
	Bonnyrigg West	*92,577*		*15*	*27*	*44*	*47*	*34*	*28*	*10*	*20*	*10*	*11*	*9*	Yes	Yes	Yes
	Gorebridge	92943	37	27	29	43	47	39	30	6	22	6	22	5	Yes	No	Yes
	Mayfield	79,969	49	26	28	39	56	40	29	10	21	11	15	8	Yes	Yes	Yes
	Danderhall	119,397	13	18	24	19	40	23	24	18	17	7	29	6	Yes	No	Yes
	Roslin	101,877	31	28	41	41	45	18	19	15	24	8	14	5	Yes	Yes	Yes
	Penicuik and Auchendinny	92,911	38	43	44	47	50	25	22	10	27	8	10	8	Yes	Yes	Yes
	Penicuik North	*99,584*		*40*	*43*	*44*	*47*	*22*	*21*	*15*	*26*	*13*	*11*	*10*	Yes	Yes	Yes
	Penicuik East & Auchendinny	*99,579*		*40*	*43*	*44*	*47*	*22*	*21*	*14*	*26*	*11*	*11*	*10*	Yes	Yes	Yes
	Penicuik South	*92,283*		*43*	*44*	*47*	*50*	*25*	*22*	*8*	*27*	*6*	*11*	*7*	Yes	Yes	Yes
	Penicuik West	*91,701*		*43*	*44*	*48*	*50*	*26*	*22*	*10*	*27*	*9*	*9*	*8*	Yes	Yes	Yes
	Pathhead	65,178	60	33	31	35	60	39	32	19	24	12	31	6	Yes	No	Yes
	Newtongrange	101,975	30	21	27	32	45	34	28	7	20	11	14	6	Yes	Yes	Yes
	Bilston	137,917	7	27	39	31	34	11	18	13	23	12	13	12	Yes	Yes	Yes
	Shawfair	105,175	26	27	25	29	47	29	26	10	17	16	35	14	Yes	No	Yes
	Rosewell	70,588	56	21	29	52	55	42	30	18	22	21	19	16	No	Yes	Yes
East Lothian	Whitecraig	89,774	41	20	25	51	54	22	22	18	18	18	17	17	Yes	Yes	Yes
	Tranent	93,112	36	29	30	55	46	27	26	8	15	10	10	7	Yes	Yes	Yes
	Longniddry	98,914	33	27	25	57	42	35	29	20	19	16	19	7	Yes	Yes	Yes
	Ormiston	69,021	57	32	33	72	58	30	29	14	18	5	16	6	Yes	Yes	Yes
	Pencaitland	46,764	76	34	35	89	71	41	31	21	20	16	25	6	Yes	No	Yes
	Haddington	82,149	47	12	28	63	49	44	42	7	27	9	14	8	Yes	Yes	Yes
	Gifford	40,219	79	43	34	86	71	76	50	21	33	24	32	6	No	No	Yes
	East Linton	58,119	65	30	31	77	60	62	46	19	29	14	24	6	Yes	No	Yes
	Dunbar	73,641	52	13	17	67	49	59	53	8	9	8	7	6	Yes	Yes	Yes
	North Berwick	53,301	70	9	11	78	61	60	52	9	8	9	10	6	Yes	Yes	Yes
	Gullane	57,029	66	20	26	87	63	48	41	17	25	6	20	7	Yes	No	Yes
	Aberlady	67,752	58	19	28	81	57	42	32	21	22	14	25	6	Yes	No	Yes
	Athelstaneford / East Fortune	27,888	85	20	27	93	76	68	42	21	26	24	26	19	No	No	Yes
	Drem	92,220	39	25	21	60	45	43	36	25	20	27	27	24	No	No	No
	Innerwick	23,711	87	22	22	103	82	77	58	16	15	16	16	9	Yes	Yes	Yes
	Musselburgh	136,888	8	15	26	48	31	9	15	8	19	8	12	7	Yes	Yes	Yes
	Wallyford	134,643	9	22	23	46	31	21	20	12	16	15	16	13	Yes	Yes	Yes
	Whitekirk	1,471	97	17	17				59	21	14	17	24	10	Yes	No	Yes
	Cockenzie	79,452	51	28	30	73	55	29	26	11	15	7	21	6	Yes	No	Yes
	Prestonpans	114,720	17	23	28	52	37	21	24	8	13	8	10	5	Yes	Yes	Yes
	Gladsmuir	41,900	78	39	33	86	74	61	37	33	27	36	39	33	No	No	No
	Athelstaneford / East Fortune /Whi	27,888	85	20	27	93	76	68	42	21	26	24	26	19	No	No	Yes
West Lothian	Armadale	86,798	43	46	31	46	58	49	31	6	10	8	10	7	Yes	Yes	Yes
	Bathgate	106,396	23	35	29	35	46	35	29	11	8	12	16	8	Yes	Yes	Yes
	Bathgate North	*110,603*		*36*	*29*	*36*	*48*	*36*	*29*	*8*	*7*	*10*	*17*	*6*	Yes	Yes	Yes
	Bathgate South	*99,604*		*33*	*30*	*33*	*44*	*33*	*30*	*16*	*8*	*14*	*13*	*11*	Yes	Yes	Yes
	Blackridge	81,989	48	56	35	56	60	54	34	5	13	5	12	5	Yes	Yes	Yes
	Broxburn & Uphall	111,420	19	28	36	28	27	26	28	11	13	10	15	8	Yes	Yes	Yes
	Broxburn	*111,158*		*29*	*36*	*29*	*28*	*27*	*28*	*9*	*13*	*8*	*13*	*8*	Yes	Yes	Yes
	Uphall	*111,925*		*25*	*35*	*25*	*25*	*24*	*27*	*15*	*12*	*13*	*17*	*9*	Yes	Yes	Yes
	east Calder	107,911	22	31	39	31	24	24	32	9	16	9	20	7	Yes	No	Yes
	Fauldhouse	49,264	74	48	51	48	44	31	35	6	8	7	19	6	Yes	Yes	Yes
	Linlithgow	129,728	10	51	39	51	44	43	27	7	5	8	13	6	Yes	Yes	Yes
	Linlithgow - North	*131,714*		*51*	*39*	*51*	*44*	*43*	*27*	*7*	*4*	*8*	*13*	*4*	Yes	Yes	Yes
	Linlithgow - South	*126,620*		*50*	*39*	*50*	*44*	*44*	*28*	*9*	*5*	*9*	*12*	*9*	Yes	Yes	Yes
	Livingston	104,401	27	18	24	18	20	17	20	17	11	12	12	9	Yes	Yes	Yes
	Livingston North	*109,795*		*17*	*20*	*17*	*26*	*22*	*24*	*15*	*7*	*13*	*12*	*10*	Yes	Yes	Yes
	Livingston South	*99,903*		*24*	*27*	*24*	*13*	*11*	*12*	*18*	*17*	*10*	*13*	*9*	Yes	Yes	Yes
	Livingston Central	*97,999*		*14*	*30*	*14*	*14*	*11*	*22*	*22*	*15*	*11*	*11*	*8*	Yes	Yes	Yes
	West Calder	103,932	28	33	32	33	25	16	15	6	6	8	15	7	Yes	Yes	Yes
	Whitburn	63,005	62	42	49	42	41	31	32	9	20	9	10	7	Yes	Yes	Yes
	Winchburgh	153,623	4	38	40	38	36	29	28	7	26	7	25	7	Yes	No	Yes
	Armadale	86,798	43	46	31	46	58	49	31	6	10	8	10	7	Yes	Yes	Yes
Edinburgh	Dalmeny	179,365	1	31	31	43	30	16	16	30	30	11	5	10	Yes	Yes	Yes
	Kirkliston	105,717	25	47	37	46	47	32	22	17	36	15	27	10	Yes	No	Yes
	Ratho	119,232	14	50	49	65	58	22	22	20	23	8	27	9	Yes	No	Yes
	Ratho - 1	*125,728*		*46*	*58*	*65*	*58*	*13*	*21*	*10*	*19*	*10*	*20*	*5*	Yes	Yes	Yes
	Ratho - 2	*112,736*		*54*	*39*	*54*	*49*	*30*	*23*	*30*	*26*	*5*	*34*	*12*	Yes	No	Yes
	Calderwood	63,441	61	64	40	62	44	48	33	31	18	31	48	31	No	No	No
	Currie	141,569	6	44	37	44	32	31	21	20	24	10	9	4	Yes	Yes	Yes
	Balerno	89,163	42	56	48	54	48	46	41	27	33	16	5	8	Yes	Yes	Yes
	Balerno - 1	*88,368*		*56*	*47*	*54*	*47*	*45*	*39*	*26*	*31*	*17*	*4*	*10*	Yes	Yes	Yes
	Balerno - 2	*89,959*		*57*	*49*	*54*	*48*	*46*	*42*	*28*	*34*	*16*	*7*	*6*	Yes	Yes	Yes
	Burdiehouse	161,961	2	27	37	17	33	8	16	12	21	8	16	10	Yes	Yes	Yes
	South Gilmerton	161,961		20	25	24	26	13	26	8	18	5	6	8	Yes	Yes	Yes
	Ferniehill/Danderhall	161,961		20	25	20	33	20	26	16	18	8	17	7	Yes	Yes	Yes
	North Hermiston	109,326	21	52	40	52	47	29	24	33	27	27	31	25	No	No	No
	North Hermiston A	*124,469*		*50*	*40*	*50*	*45*	*22*	*23*	*32*	*27*	*18*	*22*	*15*	Yes	No	Yes
	North Hermiston B	*106,133*		*58*	*43*	*58*	*50*	*32*	*26*	*30*	*30*	*32*	*38*	*27*	No	No	No
	North Hermiston C	*97,375*		*49*	*38*	*49*	*47*	*33*	*22*	*36*	*25*	*30*	*34*	*33*	No	No	No
	Silverknowes	125,638	12	55	45	23	36	30	29	30	32	17	19	16	Yes	Yes	Yes

COMMITTED + NEW DEV		Employment		Health Indicators		Strategic Health and Town Centres		Retail and Town Centre Indicators				Local Accessibility (Walk or PT <20mins)					
Strategic Development Area	Settlement Name *(Sub-settlement)*	PT Hansen - Employment	Rank	PT Hospital	P&R Hospital	PT Strategic Hospitals	PT Strategic Town Centres	PT Retail Park	P&R Retail Park	PT Town Centre	P&R Town Centre	GP	Secondary Schools	Local Grocery	GP	Secondary Schools	Local Grocery
Borders	Coldstream	3,403	97	31	60	66	84	83	102	29	52	9	32	7	Yes	No	Yes
	Duns	3,556	96	14	44	67	76	85	86	6	36	13	9	6	Yes	Yes	Yes
	Eyemouth	1,353	99	7	43				85	7	35	8	9	6	Yes	Yes	Yes
	Galashiels	36,955	81	26	58	26	11	13	59	11	51	9	14	7	Yes	Yes	Yes
	Glenfield & Langlee	*26,252*		*19*	*60*	*18*	*13*	*22*	*60*	*13*	*52*	*9*	*21*	*6*	Yes	No	Yes
	Gala West	*37,613*		*32*	*58*	*31*	*11*	*9*	*58*	*10*	*50*	*9*	*12*	*7*	Yes	Yes	Yes
	Gala Central	*44,364*		*22*	*59*	*22*	*10*	*15*	*59*	*10*	*51*	*8*	*14*	*9*	Yes	Yes	Yes
	Hawick	7,341	93	13	80	62	49	53	81	12	72	11	13	6	Yes	Yes	Yes
	Selkirk	15,004	90	32	65	33	26	28	66	7	58	9	9	5	Yes	Yes	Yes
	Newcastleton	1,099	101	51	110				110	51	102	7	51	5	Yes	No	Yes
	Peebles	47,488	74	13	63	71	60	53	40	10	45	12	17	6	Yes	Yes	Yes
	Peebles - North	*50,731*		*9*	*62*	*68*	*56*	*48*	*39*	*8*	*44*	*9*	*19*	*5*	Yes	Yes	Yes
	Peebles - South	*43,168*		*17*	*64*	*76*	*66*	*58*	*41*	*12*	*46*	*17*	*14*	*8*	Yes	Yes	Yes
	Kelso	6,306	94	10	72	51	68	68	73	10	65	8	10	7	Yes	Yes	Yes
	Kelso - North of River Tweed	*6,360*		*9*	*72*	*50*	*67*	*67*	*73*	*11*	*64*	*7*	*9*	*7*	Yes	Yes	Yes
	Kelso - South of River Tweed	*6,042*		*12*	*73*	*60*	*78*	*77*	*74*	*8*	*66*	*14*	*15*	*7*	Yes	Yes	Yes
	Innerleithen	30,348	83	31	62	60	35	31	52	6	50	9	35	7	Yes	No	Yes
	Newtown St Boswells	8,611	92	23	65	23	34	39	65	13	57	7	21	11	Yes	No	Yes
	Melrose	27,394	85	15	63	15	26	35	64	8	56	18	23	7	Yes	No	Yes
	Jedburgh	6,281	95	41	77	54	65	70	78	9	70	9	9	6	Yes	Yes	Yes
	Lauder	29,859	84	59	50	59	80	65	51	45	43	5	24	5	Yes	No	Yes
	Reston	8,980	91	36	40		109	105	82	34	32	35	52	32	No	No	No
	Tweedbank	50,034	71	15	61	15	15	23	62	13	54	12	18	12	Yes	Yes	Yes
	Walkerburn	20,848	89	38	58	50	27	23	59	11	51	15	33	13	Yes	No	Yes
	West Linton	57,151	65	49	56	60	61	66	33	31	38	7	32	6	Yes	No	Yes
	Stow	73,709	54	39	48	40	27	24	48	23	40	7	32	20	Yes	No	Yes
	Yetholm	1,938	98	32	83				84	27	76	35	36	27	No	No	No
Fife	North Queensferry	160,222	4	30	28	46	35	23	20	32	29	15	14	12	Yes	Yes	Yes
	Thornton	71,815	56	21	24	21	29	28	33	30	31	14	15	5	Yes	Yes	Yes
	Hillend	128,861	11	40	26	54	36	38	27	35	26	12	9	12	Yes	Yes	Yes
	Kincardine	59,870	63	41	48	90	36	35	41	5	12	15	28	5	Yes	No	Yes
	Kinghorn	93,109	34	32	31	29	19	39	38	19	19	6	18	6	Yes	Yes	Yes
	Markinch	89,716	39	43	41	41	20	27	28	20	24	7	15	11	Yes	Yes	Yes
	Aberdour	109,810	20	46	40	49	32	44	40	33	30	16	21	10	Yes	No	Yes
	Oakley	34,165	82	38	29	83	27	26	25	4	19	6	25	6	Yes	No	Yes
	Crossgates	102,374	26	18	20	40	27	13	13	5	9	5	16	12	Yes	Yes	Yes
	Kirkcaldy and Dysart	83,421	46	14	19	14	17	23	22	17	13	10	13	7	Yes	Yes	Yes
	Dunfermline	92,104	35	20	23	54	18	16	18	16	14	10	10	8	Yes	Yes	Yes
	Burntisland	84,781	44	44	43	42	28	51	48	27	28	7	29	5	Yes	No	Yes
	Glenrothes	55,066	67	37	44	38	19	19	32	19	28	9	13	7	Yes	Yes	Yes
	Rosyth	119,754	13	33	26	60	25	26	26	25	24	8	14	6	Yes	Yes	Yes
	Buckhaven Methil Methilhill and Lev	55,908	66	40	48	40	37	46	34	13	30	7	12	6	Yes	Yes	Yes
	Kennoway and Windygates	44,081	76	34	47	34	36	43	34	20	29	7	18	6	Yes	Yes	Yes
	Lochgelly and Lumphinnans	66,341	60	26	22	40	40	30	30	6	7	8	8	5	Yes	Yes	Yes
	Dalgety Bay	112,917	17	48	30	52	35	44	31	35	29	17	13	7	Yes	Yes	Yes
	Cowdenbeath	79,072	49	21	16	48	34	21	21	8	5	7	12	6	Yes	Yes	Yes
	Ballingry Lochore and Crosshill	52,774	69	33	24	48	40	41	33	11	9	6	9	5	Yes	Yes	Yes
	Inverkeithing	151,810	5	30	33	51	31	31	29	28	27	7	7	7	Yes	Yes	Yes
	Kelty	72,159	55	18	19	61	33	29	24	14	8	5	21	6	Yes	No	Yes
	Cardenden and Dundonald	54,304	68	28	30	27	36	21	26	15	19	16	15	6	Yes	Yes	Yes
Midlothian	Loanhead	109,938	19	23	41	39	43	14	17	8	22	9	18	7	Yes	Yes	Yes
	Loanhead East	*102,143*		*19*	*41*	*42*	*47*	*15*	*17*	*5*	*22*	*9*	*19*	*5*	Yes	Yes	Yes
	Loanhead West	*111,735*		*24*	*41*	*38*	*43*	*14*	*17*	*9*	*22*	*9*	*17*	*7*	Yes	Yes	Yes
	Dalkeith	100,553	28	21	26	28	48	31	27	11	18	11	18	8	Yes	Yes	Yes
	Dalkeith - Centre	*113,484*		*15*	*25*	*23*	*44*	*26*	*25*	*5*	*17*	*5*	*18*	*5*	Yes	Yes	Yes
	Dalkeith - Eskbank	*128,949*		*13*	*25*	*23*	*36*	*26*	*26*	*10*	*18*	*13*	*23*	*6*	Yes	No	Yes
	D - Woodburn & Wester Cowden	*90,601*		*24*	*27*	*31*	*52*	*33*	*27*	*13*	*19*	*13*	*17*	*9*	Yes	Yes	Yes
	Bonnyrigg	93,760	33	15	27	43	47	34	28	10	20	11	17	9	Yes	Yes	Yes
	Bonnyrigg North	*119,735*		*9*	*26*	*36*	*39*	*28*	*26*	*6*	*18*	*6*	*16*	*5*	Yes	Yes	Yes
	Bonnyrigg East	*98,241*		*12*	*26*	*41*	*46*	*33*	*27*	*9*	*19*	*10*	*20*	*7*	Yes	Yes	Yes
	Bonnyrigg South	*86,708*		*17*	*28*	*45*	*50*	*35*	*28*	*12*	*20*	*12*	*20*	*11*	Yes	No	Yes
	Bonnyrigg West	*92,009*		*15*	*28*	*44*	*47*	*33*	*28*	*10*	*20*	*10*	*11*	*9*	Yes	Yes	Yes
	Gorebridge	82485	48	31	30	43	51	42	31	11	23	13	26	10	Yes	No	Yes
	Mayfield	78,783	50	26	29	40	56	41	30	11	21	11	16	9	Yes	Yes	Yes
	Danderhall	118,641	14	18	24	19	40	22	24	18	17	7	29	6	Yes	No	Yes
	Roslin	95,887	31	30	44	42	47	19	20	17	25	9	16	6	Yes	Yes	Yes
	Penicuik and Auchendinny	89,893	38	44	46	47	50	26	22	11	27	9	11	9	Yes	Yes	Yes
	Penicuik North	*88,575*		*45*	*47*	*48*	*51*	*26*	*23*	*16*	*28*	*14*	*13*	*12*	Yes	Yes	Yes
	Penicuik East & Auchendinny	*97,368*		*40*	*45*	*44*	*47*	*22*	*21*	*14*	*26*	*11*	*11*	*10*	Yes	Yes	Yes
	Penicuik South	*90,129*		*43*	*46*	*47*	*50*	*25*	*22*	*8*	*27*	*6*	*11*	*7*	Yes	Yes	Yes
	Penicuik West	*89,402*		*44*	*46*	*48*	*50*	*26*	*22*	*10*	*27*	*9*	*9*	*8*	Yes	Yes	Yes
	Pathhead	64,321	61	35	31	35	60	39	32	20	24	12	37	6	Yes	No	Yes
	Newtongrange	101,696	27	21	27	32	45	34	28	7	19	11	14	6	Yes	Yes	Yes
	Bilston	115,936	15	34	44	39	42	18	20	19	25	17	18	15	Yes	Yes	Yes
	Shawfair	71,249	57	36	26	36	57	40	27	14	18	22	47	21	No	No	No
	Rosewell	57,397	64	23	33	53	56	43	30	19	23	21	20	17	No	No	Yes
East Lothian	Whitecraig	88,511	41	20	25	51	54	22	23	18	17	18	17	17	Yes	Yes	Yes
	Tranent	91,068	36	29	29	56	46	28	27	8	15	9	10	7	Yes	Yes	Yes
	Longniddry	90,348	37	27	25	60	43	35	33	20	19	16	20	7	Yes	Yes	Yes
	Ormiston	67,888	59	32	33	72	57	30	30	14	18	5	16	6	Yes	Yes	Yes
	Pencaitland	46,625	75	37	35	89	71	42	32	22	20	16	25	6	Yes	No	Yes
	Haddington	83,727	45	12	28	63	48	47	50	8	29	9	14	8	Yes	Yes	Yes
	Gifford	40,251	80	43	34	86	70	79	59	21	36	24	32	6	No	No	Yes
	East Linton	43,981	77	30	30	82	67	67	55	21	33	14	24	7	Yes	No	Yes
	Dunbar	68,895	58	13	17	72	49	66	59	8	9	8	8	6	Yes	Yes	Yes
	North Berwick	51,707	70	10	12	79	62	64	60	9	6	10	10	7	Yes	Yes	Yes
	Gullane	42,533	78	20	26	90	70	48	50	17	28	6	20	7	Yes	No	Yes
	Aberlady	49,747	72	18	28	84	64	41	36	22	22	14	25	6	Yes	No	Yes
	Athelstaneford / East Fortune	27,358	86	20	27	98	80	69	51	22	29	23	26	19	No	No	Yes
	Drem	76,818	52	26	21	66	48	57	45	29	23	27	28	25	No	No	No
	Innerwick	23,260	88	22	22	103	82	77	64	16	15	16	30	9	Yes	No	Yes
	Musselburgh	133,435	8	14	26	48	32	9	15	8	19	8	12	7	Yes	Yes	Yes
	Wallyford	129,467	9	22	23	46	31	21	21	12	15	15	16	13	Yes	Yes	Yes
	Whitekirk	1,353	100	21	19				67	26	13	20	29	14	No	No	Yes
	Cockenzie	78,777	51	28	30	73	55	29	27	11	15	7	21	6	Yes	No	Yes
	Prestonpans	110,683	18	23	28	52	37	21	25	8	13	8	10	5	Yes	Yes	Yes
	Gladsmuir	41,924	79	39	33	86	74	62	41	34	27	35	39	33	No	No	No
	Athelstaneford / East Fortune /Whi	27,358	86	20	27	98	80	69	51	22	29	23	26	19	No	No	Yes
West Lothian	Armadale	87,576	42	47	31	47	57	50	31	8	11	10	11	9	Yes	Yes	Yes
	Bathgate	104,087	25	36	28	36	47	36	29	12	8	12	17	9	Yes	Yes	Yes
	Bathgate North	*107,410*		*37*	*28*	*37*	*49*	*37*	*29*	*10*	*8*	*11*	*18*	*7*	Yes	Yes	Yes
	Bathgate South	*98,703*		*35*	*29*	*35*	*45*	*35*	*30*	*17*	*9*	*15*	*15*	*11*	Yes	Yes	Yes
	Blackridge	83,299	47	56	33	56	59	58	34	5	13	5	13	6	Yes	Yes	Yes
	Broxburn & Uphall	106,431	23	30	40	30	29	28	36	11	14	11	16	9	Yes	Yes	Yes
	Broxburn	*104,434*		*32*	*41*	*31*	*30*	*30*	*36*	*10*	*14*	*10*	*16*	*9*	Yes	Yes	Yes
	Uphall	*111,368*		*25*	*39*	*25*	*25*	*24*	*34*	*15*	*12*	*13*	*18*	*9*	Yes	Yes	Yes
	east Calder	96,764	30	42	42	41	29	28	31	12	17	12	27	11	Yes	No	Yes
	Fauldhouse	48,386	73	48	51	48	44	31	35	6	9	7	19	6	Yes	Yes	Yes
	Linlithgow	128,929	10	51	40	51	44	48	35	8	6	9	13	6	Yes	Yes	Yes
	Linlithgow - North	*131,140*		*52*	*40*	*51*	*44*	*48*	*35*	*7*	*5*	*8*	*13*	*4*	Yes	Yes	Yes
	Linlithgow - South	*125,419*		*50*	*40*	*50*	*44*	*49*	*35*	*9*	*6*	*9*	*12*	*9*	Yes	Yes	Yes
	Livingston	104,388	24	18	26	18	20	17	22	18	12	12	12	9	Yes	Yes	Yes
	Livingston North	*110,513*		*18*	*23*	*18*	*26*	*23*	*25*	*16*	*8*	*13*	*13*	*10*	Yes	Yes	Yes
	Livingston South	*98,435*		*24*	*28*	*24*	*14*	*11*	*12*	*18*	*17*	*10*	*12*	*9*	Yes	Yes	Yes
	Livingston Central	*97,480*		*14*	*32*	*14*	*13*	*11*	*25*	*22*	*15*	*11*	*10*	*8*	Yes	Yes	Yes
	West Calder	115,349	16	33	35	32	24	16	17	7	8	8	14	7	Yes	Yes	Yes
	Whitburn	61,238	62	44	49	44	43	33	32	9	20	10	11	7	Yes	Yes	Yes
	Winchburgh	98,603	29	44	44	44	44	36	34	9	25	10	28	9	Yes	No	Yes
	Armadale	87,576	42	47	31	47	57	50	31	8	11	10	11	9	Yes	Yes	Yes
Edinburgh	Dalmeny	179,365	1	32	31	43	30	17	16	31	30	11	5	10	Yes	Yes	Yes
	Kirkliston	105,717	27	48	36	46	47	32	22	17	36	16	27	10	Yes	No	Yes
	Ratho	119,232	16	51	48	65	58	22	22	20	23	8	27	9	Yes	No	Yes
	Ratho - 1	*125,728*		*48*	*57*	*65*	*58*	*13*	*21*	*10*	*19*	*10*	*20*	*5*	Yes	Yes	Yes
	Ratho - 2	*112,736*		*54*	*38*	*54*	*49*	*31*	*23*	*30*	*26*	*6*	*34*	*12*	Yes	No	Yes
	Calderwood	63,441	63	64	43	62	44	48	32	31	18	31	48	31	No	No	No
	Currie	141,569	8	44	36	44	32	31	21	20	24	10	10	4	Yes	Yes	Yes
	Balerno	89,163	44	56	54	54	48	52	41	27	32	16	6	8	Yes	Yes	Yes
	Balerno - 1	*88,368*		*56*	*53*	*54*	*47*	*51*	*39*	*26*	*31*	*17*	*5*	*10*	Yes	Yes	Yes
	Balerno - 2	*89,959*		*57*	*56*	*54*	*48*	*52*	*42*	*28*	*33*	*16*	*7*	*6*	Yes	Yes	Yes
	Burdiehouse	161,961	2	27	39	17	33	8	16	12	21	8	16	10	Yes	Yes	Yes
	South Gilmerton	161,961	2	23	26	24	26	13	26	8	18	5	6	8	Yes	Yes	Yes
	Ferniehill/Danderhall	161,961	2	20	26	20	33	20	26	16	18	8	17	7	Yes	Yes	Yes
	North Hermiston	109,326	23	53	39	52	47	29	24	33	27	27	32	25	No	No	No
	North Hermiston A	*124,469*		*50*	*39*	*50*	*45*	*22*	*23*	*32*	*27*	*18*	*21*	*15*	Yes	No	Yes
	North Hermiston B	*106,133*		*58*	*42*	*58*	*50*	*32*	*26*	*30*	*30*	*32*	*39*	*27*	No	No	No
	North Hermiston C	*97,375*		*49*	*37*	*49*	*47*	*34*	*22*	*36*	*25*	*30*	*35*	*33*	No	No	No
	Silverknowes	125,638	14	56	44	23	36	34	29	30	32	17	19	16	Yes	Yes	Yes

COMMITTED + SDP + NEW DEV		Employment		Health Indicators		Strategic Health and Town Centres		Retail and Town Centre Indicators				Local Accessibility (Walk or PT <20mins)					
Strategic Development Area	Settlement Name *(Sub-settlement)*	PT Hansen - Employment	Rank	PT Hospital	P&R Hospital	PT Strategic Hospitals	PT Strategic Town Centres	PT Retail Park	P&R Retail Park	PT Town Centre	P&R Town Centre	GP	Secondary Schools	Local Grocery	GP	Secondary Schools	Local Grocery
Borders	Coldstream	3,403	97	31	60	66	84	83	96	29	52	9	31	7	Yes	No	Yes
	Duns	3,556	96	13	44	67	76	85	80	6	36	13	9	6	Yes	Yes	Yes
	Eyemouth	1,353	99	7	43				79	7	35	8	9	6	Yes	Yes	Yes
	Galashiels	36,979	81	26	58	26	11	13	59	11	51	9	14	7	Yes	Yes	Yes
	Glenfield & Langlee	*26,219*		*18*	*59*	*18*	*13*	*22*	*60*	*13*	*52*	*9*	*21*	*6*	Yes	No	Yes
	Gala West	*37,646*		*31*	*57*	*31*	*11*	*9*	*58*	*11*	*50*	*9*	*12*	*7*	Yes	Yes	Yes
	Gala Central	*44,417*		*22*	*58*	*22*	*10*	*15*	*59*	*10*	*51*	*8*	*14*	*9*	Yes	Yes	Yes
	Hawick	7,342	93	13	80	62	49	53	81	12	72	11	13	6	Yes	Yes	Yes
	Selkirk	14,986	91	32	65	33	26	28	66	7	58	9	9	5	Yes	Yes	Yes
	Newcastleton	1,099	101	51	109				110	51	102	7	51	5	Yes	No	Yes
	Peebles	47,526	76	13	61	71	60	53	40	10	45	12	17	6	Yes	Yes	Yes
	Peebles - North	*50,763*		*9*	*60*	*68*	*56*	*48*	*39*	*8*	*44*	*9*	*19*	*5*	Yes	Yes	Yes
	Peebles - South	*43,212*		*17*	*62*	*76*	*66*	*59*	*41*	*12*	*46*	*17*	*14*	*8*	Yes	Yes	Yes
	Kelso	6,306	94	10	72	51	68	68	73	10	65	8	10	7	Yes	Yes	Yes
	Kelso - North of River Tweed	*6,360*		*9*	*72*	*50*	*67*	*67*	*73*	*11*	*64*	*7*	*9*	*7*	Yes	Yes	Yes
	Kelso - South of River Tweed	*6,042*		*12*	*73*	*60*	*78*	*77*	*74*	*8*	*66*	*14*	*15*	*7*	Yes	Yes	Yes
	Innerleithen	30,343	83	31	61	60	35	31	52	6	50	9	35	7	Yes	No	Yes
	Newtown St Boswells	8,611	92	23	64	23	34	39	65	13	57	7	21	11	Yes	No	Yes
	Melrose	27,385	88	15	63	15	26	35	64	8	56	19	23	7	Yes	No	Yes
	Jedburgh	6,281	95	41	77	54	65	70	78	9	70	9	9	6	Yes	Yes	Yes
	Lauder	30,198	84	58	50	59	80	65	51	45	43	5	24	5	Yes	No	Yes
	Reston	27,919	85	36	40	82	72	72	75	27	32	28	33	27	No	No	No
	Tweedbank	50,098	74	15	61	15	15	23	62	13	54	12	18	12	Yes	Yes	Yes
	Walkerburn	20,848	90	38	58	50	27	23	59	11	51	15	33	13	Yes	No	Yes
	West Linton	60,471	64	49	54	60	61	59	33	31	38	7	32	6	Yes	No	Yes
	Stow	73,909	55	39	47	40	27	24	48	23	40	7	32	20	Yes	No	Yes
	Yetholm	1,938	98	32	83				84	27	76	35	36	27	No	No	No
Fife	North Queensferry	160,572	4	30	30	46	35	22	23	31	32	14	13	12	Yes	Yes	Yes
	Thornton	72,065	58	21	24	21	29	28	33	29	29	15	15	5	Yes	Yes	Yes
	Hillend	128,981	12	39	26	54	36	38	27	35	26	13	10	12	Yes	Yes	Yes
	Kincardine	59,925	65	41	48	90	36	36	42	5	12	14	28	5	Yes	No	Yes
	Kinghorn	93,245	35	29	30	29	19	36	35	19	19	6	18	6	Yes	Yes	Yes
	Markinch	89,914	40	41	41	41	20	27	28	20	23	7	15	11	Yes	Yes	Yes
	Aberdour	109,903	22	46	42	49	32	44	41	32	29	15	23	10	Yes	No	Yes
	Oakley	35,560	82	38	22	83	27	26	25	4	18	6	24	6	Yes	No	Yes
	Crossgates	102,407	27	18	20	40	27	13	13	5	9	5	16	12	Yes	Yes	Yes
	Kirkcaldy and Dysart	83,516	49	14	20	14	17	22	21	16	13	10	12	7	Yes	Yes	Yes
	Dunfermline	92,210	37	19	18	54	18	16	19	16	13	10	10	8	Yes	Yes	Yes
	Burntisland	84,836	46	41	42	42	28	47	42	27	26	7	30	5	Yes	No	Yes
	Glenrothes	55,245	70	37	44	38	19	19	32	19	28	9	13	7	Yes	Yes	Yes
	Rosyth	119,848	14	31	26	60	25	27	26	25	24	9	14	6	Yes	Yes	Yes
	Buckhaven Methil Methilhill and Lev	56,049	69	39	48	40	37	47	34	13	30	7	11	6	Yes	Yes	Yes
	Kennoway and Windygates	44,171	78	34	47	34	36	43	34	20	29	7	18	6	Yes	Yes	Yes
	Lochgelly and Lumphinnans	66,524	61	26	22	40	40	29	32	6	7	7	9	5	Yes	Yes	Yes
	Dalgety Bay	112,913	20	43	31	52	35	42	32	34	29	17	13	7	Yes	Yes	Yes
	Cowdenbeath	79,171	53	21	18	48	34	21	21	8	5	7	12	6	Yes	Yes	Yes
	Ballingry Lochore and Crosshill	53,187	72	32	25	48	40	41	35	12	10	6	9	5	Yes	Yes	Yes
	Inverkeithing	152,151	5	30	33	51	31	31	29	28	27	7	7	7	Yes	Yes	Yes
	Kelty	72,285	57	18	21	61	33	29	24	14	8	6	21	6	Yes	No	Yes
	Cardenden and Dundonald	54,631	71	27	30	27	36	21	26	15	20	16	15	6	Yes	Yes	Yes
Midlothian	Loanhead	117,369	17	22	39	39	43	14	17	8	22	8	17	7	Yes	Yes	Yes
	Loanhead East	*109,405*		*18*	*39*	*42*	*47*	*16*	*17*	*5*	*22*	*8*	*19*	*5*	Yes	Yes	Yes
	Loanhead West	*119,206*		*23*	*39*	*38*	*43*	*14*	*17*	*9*	*22*	*8*	*17*	*7*	Yes	Yes	Yes
	Dalkeith	101,638	29	20	26	28	48	31	27	11	19	11	18	8	Yes	Yes	Yes
	Dalkeith - Centre	*114,491*		*15*	*24*	*23*	*44*	*26*	*25*	*5*	*17*	*5*	*18*	*5*	Yes	Yes	Yes
	Dalkeith - Eskbank	*129,290*		*13*	*25*	*23*	*36*	*26*	*26*	*10*	*18*	*13*	*23*	*6*	Yes	No	Yes
	D - Woodburn & Wester Cowden	*91,871*		*24*	*26*	*31*	*52*	*33*	*27*	*13*	*19*	*13*	*17*	*9*	Yes	Yes	Yes
	Bonnyrigg	94,179	34	15	27	43	47	34	28	10	20	11	18	9	Yes	Yes	Yes
	Bonnyrigg North	*120,164*		*8*	*25*	*36*	*39*	*28*	*26*	*6*	*18*	*6*	*16*	*5*	Yes	Yes	Yes
	Bonnyrigg East	*98,620*		*12*	*26*	*41*	*46*	*34*	*27*	*9*	*19*	*10*	*20*	*7*	Yes	Yes	Yes
	Bonnyrigg South	*87,067*		*17*	*27*	*45*	*50*	*36*	*28*	*12*	*20*	*13*	*20*	*11*	Yes	No	Yes
	Bonnyrigg West	*92,577*		*15*	*27*	*44*	*47*	*34*	*28*	*10*	*20*	*10*	*11*	*9*	Yes	Yes	Yes
	Gorebridge	82713	50	31	30	43	51	42	31	11	23	13	26	10	Yes	No	Yes
	Mayfield	79,207	52	27	29	40	56	41	30	11	22	11	16	9	Yes	Yes	Yes
	Danderhall	119,397	15	18	24	19	40	23	24	18	17	7	29	6	Yes	No	Yes
	Roslin	97,059	32	30	42	42	47	19	20	17	25	9	16	6	Yes	Yes	Yes
	Penicuik and Auchendinny	92,101	38	43	44	47	50	25	22	11	27	9	11	9	Yes	Yes	Yes
	Penicuik North	*90,884*		*44*	*44*	*48*	*51*	*26*	*23*	*16*	*28*	*14*	*13*	*12*	Yes	Yes	Yes
	Penicuik East & Auchendinny	*99,579*		*40*	*43*	*44*	*47*	*22*	*21*	*14*	*26*	*11*	*11*	*10*	Yes	Yes	Yes
	Penicuik South	*92,177*		*43*	*44*	*47*	*50*	*25*	*22*	*8*	*27*	*6*	*11*	*7*	Yes	Yes	Yes
	Penicuik West	*91,701*		*43*	*44*	*48*	*50*	*26*	*22*	*10*	*27*	*9*	*9*	*8*	Yes	Yes	Yes
	Pathhead	65,178	62	33	31	35	60	39	32	19	24	12	31	6	Yes	No	Yes
	Newtongrange	101,975	28	21	27	32	45	34	28	7	20	11	14	6	Yes	Yes	Yes
	Bilston	118,449	16	33	42	39	42	18	20	19	25	16	18	15	Yes	Yes	Yes
	Shawfair	90,412	39	33	26	34	54	35	27	12	18	21	41	20	No	No	No
	Rosewell	57,637	67	22	32	53	56	43	30	19	23	22	20	17	No	No	Yes
East Lothian	Whitecraig	89,774	41	20	25	51	54	22	22	18	18	18	17	17	Yes	Yes	Yes
	Tranent	93,127	36	29	29	56	46	28	25	8	15	10	10	7	Yes	Yes	Yes
	Longniddry	98,914	30	27	25	57	42	35	29	20	19	16	19	7	Yes	Yes	Yes
	Ormiston	68,941	59	32	33	72	58	30	29	14	18	5	16	6	Yes	Yes	Yes
	Pencaitland	46,781	77	34	35	89	71	41	31	21	20	16	25	6	Yes	No	Yes
	Haddington	83,728	48	12	29	63	48	43	42	7	27	9	14	8	Yes	Yes	Yes
	Gifford	40,278	80	43	34	86	70	76	50	21	33	24	32	6	No	No	Yes
	East Linton	57,932	66	30	31	77	60	62	46	19	30	14	24	7	Yes	No	Yes
	Dunbar	72,527	56	13	17	68	49	60	53	8	9	8	7	6	Yes	Yes	Yes
	North Berwick	51,990	73	10	12	79	62	61	53	9	8	9	11	7	Yes	Yes	Yes
	Gullane	57,088	68	20	26	87	63	48	41	17	25	6	20	7	Yes	No	Yes
	Aberlady	67,752	60	19	28	81	57	42	32	21	22	14	25	6	Yes	No	Yes
	Athelstaneford / East Fortune	27,888	86	20	27	93	76	68	42	21	26	24	26	19	No	No	Yes
	Drem	89,336	42	26	21	62	46	45	36	26	20	27	28	25	No	No	No
	Innerwick	23,711	89	22	22	103	82	77	58	16	15	16	16	9	Yes	Yes	Yes
	Musselburgh	136,888	8	15	26	48	31	9	15	8	19	8	12	7	Yes	Yes	Yes
	Wallyford	134,647	9	22	23	46	31	21	21	12	16	15	16	13	Yes	Yes	Yes
	Whitekirk	1,353	100	22	19				60	26	15	17	28	14	Yes	No	Yes
	Cockenzie	79,452	51	28	30	73	55	29	26	11	15	7	21	6	Yes	No	Yes
	Prestonpans	114,470	19	23	28	52	37	21	24	8	13	8	10	5	Yes	Yes	Yes
	Gladsmuir	41,900	79	39	33	86	74	61	37	33	27	36	39	33	No	No	No
	Athelstaneford / East Fortune /Whi	27,888	86	20	27	93	76	68	42	21	26	24	26	19	No	No	Yes
West Lothian	Armadale	88,393	44	47	32	47	57	49	32	8	10	10	11	9	Yes	Yes	Yes
	Bathgate	104,843	26	36	30	36	47	36	29	12	8	12	17	9	Yes	Yes	Yes
	Bathgate North	*108,275*		*37*	*29*	*37*	*49*	*36*	*29*	*9*	*7*	*11*	*18*	*7*	Yes	Yes	Yes
	Bathgate South	*99,282*		*35*	*30*	*35*	*45*	*34*	*30*	*17*	*9*	*15*	*15*	*11*	Yes	Yes	Yes
	Blackridge	84,098	47	56	35	56	59	53	35	5	13	5	12	6	Yes	Yes	Yes
	Broxburn & Uphall	107,508	24	30	36	30	29	28	29	11	14	11	16	9	Yes	Yes	Yes
	Broxburn	*105,721*		*31*	*37*	*31*	*30*	*29*	*29*	*10*	*14*	*10*	*15*	*9*	Yes	Yes	Yes
	Uphall	*111,925*		*25*	*35*	*25*	*25*	*24*	*27*	*15*	*12*	*13*	*17*	*9*	Yes	Yes	Yes
	east Calder	97,073	31	41	39	41	29	29	32	12	16	12	26	11	Yes	No	Yes
	Fauldhouse	48,811	75	48	51	48	44	32	35	6	9	7	19	6	Yes	Yes	Yes
	Linlithgow	130,106	11	51	39	51	44	43	27	7	4	8	13	6	Yes	Yes	Yes
	Linlithgow - North	*132,349*		*51*	*39*	*51*	*43*	*42*	*27*	*7*	*4*	*8*	*13*	*4*	Yes	Yes	Yes
	Linlithgow - South	*126,546*		*50*	*39*	*50*	*44*	*44*	*28*	*9*	*5*	*9*	*12*	*9*	Yes	Yes	Yes
	Livingston	105,026	25	18	25	18	20	17	21	18	12	12	12	9	Yes	Yes	Yes
	Livingston North	*111,274*		*18*	*22*	*18*	*26*	*23*	*24*	*16*	*8*	*13*	*13*	*10*	Yes	Yes	Yes
	Livingston South	*98,811*		*24*	*27*	*24*	*14*	*11*	*12*	*18*	*17*	*10*	*12*	*9*	Yes	Yes	Yes
	Livingston Central	*98,122*		*14*	*30*	*14*	*13*	*11*	*22*	*22*	*15*	*11*	*10*	*8*	Yes	Yes	Yes
	West Calder	115,806	18	32	33	32	24	16	16	6	7	8	14	7	Yes	Yes	Yes
	Whitburn	61,990	63	44	49	44	43	33	32	9	20	9	11	7	Yes	Yes	Yes
	Winchburgh	132,690	10	44	43	44	41	34	31	9	25	10	28	9	Yes	No	Yes
	Armadale	88,393	44	47	32	47	57	49	32	8	10	10	11	9	Yes	Yes	Yes
Edinburgh	Dalmeny	178,913	1	31	31	43	30	16	16	30	30	11	5	10	Yes	Yes	Yes
	Kirkliston	103,315	29	47	37	46	47	32	22	17	36	15	27	10	Yes	No	Yes
	Ratho	118,353	16	50	49	65	58	22	22	20	23	8	27	9	Yes	No	Yes
	Ratho - 1	*124,766*		*46*	*58*	*65*	*58*	*13*	*21*	*10*	*19*	*10*	*20*	*5*	Yes	Yes	Yes
	Ratho - 2	*111,939*		*54*	*39*	*54*	*49*	*30*	*23*	*30*	*26*	*5*	*34*	*12*	Yes	No	Yes
	Calderwood	62,639	62	64	40	62	44	48	33	31	18	31	48	31	No	No	No
	Currie	140,988	7	44	37	44	32	31	21	20	24	10	9	4	Yes	Yes	Yes
	Balerno	89,080	41	56	48	54	48	46	41	27	33	16	5	8	Yes	Yes	Yes
	Balerno - 1	*88,288*		*56*	*47*	*54*	*47*	*45*	*39*	*26*	*31*	*17*	*4*	*10*	Yes	Yes	Yes
	Balerno - 2	*89,871*		*57*	*49*	*54*	*48*	*46*	*42*	*28*	*34*	*16*	*7*	*6*	Yes	Yes	Yes
	Burdiehouse	161,449	2	27	37	17	33	8	16	12	21	8	16	10	Yes	Yes	Yes
	South Gilmerton	161,449	2	20	25	24	26	13	26	8	18	5	6	8	Yes	Yes	Yes
	Ferniehill/Danderhall	161,449	2	20	25	20	33	20	26	16	18	8	17	7	Yes	Yes	Yes
	North Hermiston	108,062	22	52	40	52	47	29	24	33	27	27	31	25	No	No	No
	North Hermiston A	*121,837*		*50*	*40*	*50*	*45*	*22*	*23*	*32*	*27*	*18*	*22*	*15*	Yes	No	Yes
	North Hermiston B	*105,140*		*58*	*43*	*58*	*50*	*32*	*26*	*30*	*30*	*32*	*38*	*27*	No	No	No
	North Hermiston C	*97,209*		*49*	*38*	*49*	*47*	*33*	*22*	*36*	*25*	*30*	*34*	*33*	No	No	No
	Silverknowes	120,758	13	55	45	23	36	30	29	30	32	17	19	16	Yes	Yes	Yes