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## NON-TECHNICAL SUMMARY

1. The Strategic Environmental Assessment (SEA) Directive 2001/42/EC was given legal status in July 2004. The purpose of SEA is to integrate environmental considerations into the preparation and adoption of certain plans and programmes which are likely to have significant effects on the environment. The Local Transport Strategy (LTS) qualifies as one such plan, and it could include many activities which could affect the environment in some way, perhaps by altering the landscape or lowering the air quality of an area.
2. The main requirements of the SEA Directive are to publish the findings of the assessment in an Environmental Report, which sets out the significant effects of the Midlothian LTS, and to undertake consultation at relevant stages in the process.
3. A review of the relevant plans and programmes showed strong encouragement for measures to reduce congestion, improve sustainable modes of transport, improve air quality, protect the built and natural heritage reduce social exclusion and improve general quality of life.

### **SEA Objectives and baseline**

4. The scoping study looked at noise, local air quality, climate change, biodiversity, landscape & townscape, heritage, material assets, soil, water and health impacts. A summary of the environmental baseline, objectives and indicators is contained in the table below

SEA topic	Objective	Indicator	Baseline
Noise	To ensure existing levels of annoyance from noise caused by traffic do not significantly increase.	Prediction of road traffic noise at key locations on the road network.	Data unavailable at present
Air quality	To keep air quality of a good standard and below National Air Quality Standards in all areas	<b>NO<sub>2</sub></b> : Annual mean <b>PM<sub>10</sub></b> : Annual mean Source: Local Authority Air Quality Monitoring Reports	No air quality management areas No exceedences of air quality objectives for Nitrogen Dioxide and Particulates
Greenhouse gas emissions	To help tackle climate change by reducing the increase in CO <sub>2</sub> emissions from transport during the life of the plan, and helping to meet targets to nationally reduce overall emissions of greenhouse gases by 12.5% by 2008-12 in comparison with a 1990 baseline.	Predicted emissions of CO <sub>2</sub> from transport.	The Scottish Executive estimates that transport accounted for 12% of Scottish CO <sub>2</sub> emissions in 2000. Approximately 144 kilotonnes of Carbon Dioxide was emitted from road transport in Midlothian in 2003.
Biodiversity	To avoid damage to designated wildlife / biodiversity sites and	Number of designated sites affected in LTS strategies.	Ramsar sites: 2 (504ha) SPAs: 2 (504ha)

SEA topic	Objective	Indicator	Baseline
	protected species.		SACs: 1 (53ha) SSSIs: 15 (1,205ha) Nature Reserve: 1 Wildlife sites: 52 Woodland Trust sites: 2
Cultural heritage	To preserve historic buildings, archaeological sites and their settings and other culturally and historically important features.	Number of listed buildings, scheduled monuments, Historic Gardens and Designed Landscapes affected in LTS strategies.	Conservation sites: 20 (3 are nationally important) Listed buildings: 714 Nationally important historic gardens and designed landscapes: 12 Scheduled Ancient Monuments: 79
Water	To limit water pollution from the transport network to levels that do not damage natural systems.	The quality of river, coastal, estuary and ground waters as monitored by SEPA.	58 stretches of freshwater (193km) 21% classified as A1 (Excellent)
Soils	To limit contamination of soils from the transport network and infrastructure development to levels that do not damage natural systems. To safeguard soil quality and quantity	Presence of contaminated land.	317 hectares of vacant or derelict land (108 sites) 55 hectares of land suspected or known to be affected by contamination across Edinburgh and the Lothians.
Landscape	To retain, protect and enhance landscape and townscape character, local distinctiveness and scenic value.	Number of landscape character types Areas protected for their international, national or local landscape importance.	4 Landscape character types 225.1km <sup>2</sup> of Areas of Great Landscape Value (63.4% of Midlothian's total land area)
Health	To create conditions to improve the health of the areas population.	Air quality indicators (respiratory health) The proportion of the population feeling in 'good health'. Road safety (accidents)	69% of the population in 'good health' 19.2% of the population have a long-term limiting illness. Killed or seriously injured: 23 (2004) Slight injuries: 271 (2004) Total: 294 (2004)

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**Alternative strategies**

5. There were several alternative strategies for Midlothian's LTS, which have been outlined in **Section 4**. Some initial assessment of these against the SEA objectives, facilitated the selection of a balanced approach to take forward. Discussion of the 'without the plan' scenario illustrated how traffic growth is likely to rise and that having no transport strategy was not a realistic option for the authority.

**How the transport plan might affect the environment**

6. The chosen LTS strategy is appraised for its possible impacts on the environment in **Section 5** of the full report. The Council has arranged the elements of the plan into modes and other key issues, such as walking, cycling, public transport, traffic and parking. The SEA assessment has therefore continued to group its results into these categories.
7. The results show that the strategy, with the current level of detail it contains, is likely to have little significant adverse effect on the environment. Many of the measures contained within the strategy are designed to reduce congestion and traffic growth, improving noise and air quality. Some measures that involve infrastructure development are contained within the strategy, however, given the level of data available the impact was, in some cases, undetermined or unknown. Strategic road and other infrastructure improvements such as park and rides have the potential to increase local traffic flows. This increase in overall emissions subsequently resulting in a potentially negative impact on noise, air quality, and climate change. However, with no accurate measurements to say how much the traffic flow could increase, it is not possible to say how significant the negative impacts could be. Measures to mitigate for this, and other problems, have been suggested in **Section 6**.
8. Several measures, such as Travel Plans, public transport, cycling and walking initiatives could potentially improve the environment, although there is insufficient detail within the strategy to specify to what extent.

**What difference has the process made?**

9. The SEA process has enabled the incorporation of environmental and sustainability considerations in strategic decision making. This has been possible by commencing the SEA early in the LTS process. The SEA's scoping exercise enabled environmental information to be fed through to the option generation and sifting process to identify the strategy elements of the LTS. The Environmental Report was drawn up, and the assessment of environmental effects, was undertaken by the same team and in parallel to the development of the LTS, thus allowing environmental considerations to be taken into consideration throughout the development of the strategy.
10. Strategic Environmental Assessment considers cumulative and synergistic impacts of multiple projects. It is also able to look at larger-scale environmental impacts such as those on biodiversity and climate change in a more effective way than Environmental Impact Reports (EIR).

11. The formal SEA process has included consultation with the statutory environmental bodies, enabling their valuable input into the LTS process at an early stage. This Environmental Report is distributed to an even wider audience, enabling further consultation and participation in the transport planning process, with better awareness of environmental considerations.
12. The SEA has indicated that the Midlothian LTS does not present any significant adverse environmental effects, in its current form, although there are many areas of uncertainty. Several of the roads and park and ride measures could have some negative impacts, but there is insufficient detail to calculate the extent of any potential damage. The size of such schemes will however necessitate further environmental assessment at the development stage of each individual scheme.
13. The draft LTS also contains many measures in its programme which actively seek environmental improvement across the majority of environmental areas. **Section 6** of this report suggests where mitigation could protect against some of the possible adverse impacts and/or enhance the positive impacts of the strategy.

## 1. INTRODUCTION

### About this report

- 1.1 Midlothian Council is producing its second Local Transport Strategy (LTS) for the period from 2007 to 2010. This sets transport objectives for the local authority area, and contains the necessary strategy, policy & programme required to meet them.
- 1.2 Under the European Directive 2001/42/EC all national, regional and local authorities must carry out a Strategic Environmental Assessment (SEA) of certain types of plans, of which transport is one. In Scotland, the Directive has been implemented via the Environmental Assessment of Plans and Programmes (Scotland) Regulations 2004 (SSI 2004 No.258).
- 1.3 Midlothian Council has commissioned consultants Steer Davies Gleave to write this report, as part of a commission to develop the LTS. Lead officers from Midlothian Council in the transport Policy and general planning departments have also contributed to the process, supplying information and feedback on work in progress.
- 1.4 The SEA aims to ensure that environmental impacts are taken into account at the earliest stages and throughout plan development. Its main objectives are to;
- provide for a high level of protection of the local environment; and
  - contribute to the integration of environmental considerations into the preparation and adoption of plans and programmes with a view to promoting sustainable development.
- 1.5 The Scottish Transport Appraisal Guidance (STAG) provides ‘nationally defined’ objectives and sub-objectives against which LTSs and other transport plans should be assessed. Many of the sub-objectives correspond with assessment topics highlighted in the SEA Directive which covers social topics alongside the built and natural environment.
- 1.6 This document forms the Environmental Report, which is the main written output of the SEA process. It seeks to predict and evaluate the effects of elements of the evolving plan, including alternatives. Where adverse impacts are seen to be likely, it considers possibilities for mitigation. The majority of the SEA process is documented, namely:
- An outline of the contents of the LTS;
  - Main objectives of the LTS;
  - The LTS’s relationship with other plans and programmes;
  - The state of Midlothian’s environment;
  - Existing environmental problems relevant to the LTS;

- Likely significant environmental impacts of the LTS<sup>1</sup>;
- Alternative options for the LTS;
- Mitigation measures to prevent, reduce or offset any adverse effects of the LTS; and
- Description of monitoring measures.

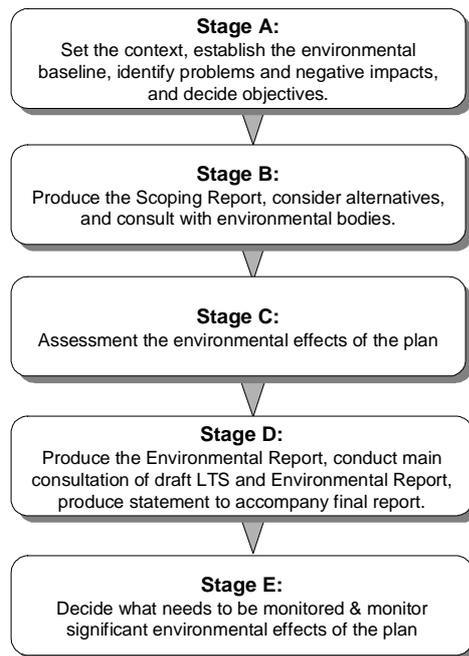
1.7 The SEA is a strategic assessment, and is therefore not required to carry out or replicate Environmental Impact Assessment (EIA) of individual schemes. It need only concentrate on the **significant** environmental impacts of the LTS, not ALL the possible impacts and environmental issues. The SEA directive stresses a **reasonable** approach to assessment, which takes into account issues such as resource and information available within the timescale allowed.

1.8 SEA Regulation 13(1) requires that the Environmental Report is prepared to accompany the draft LTS, and that both the draft LTS and Environmental Report be made available for consultation with the environmental bodies and the public.

**The SEA process and stages completed to date**

1.9 The SEA is an iterative process as the plan is developed. The process can be broken down into five stages, as shown below.

**FIGURE 1.1 THE SEA PROCESS**



1.10 At Stage B, the three statutory consultation bodies (Scottish Natural Heritage, Scottish

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<sup>1</sup> The SEA looks at the likely environmental effects on the following; biodiversity; population; human health; fauna; flora; soil; water; air; climatic factors; material assets; cultural heritage including architectural and archaeological heritage; landscape; and the interrelationship between all these factors.

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Environment Protection Agency and Historic Scotland) were consulted on the scoping stage. Replies were received from all three. Their comments have been noted and taken into account (see **Appendix A**). The environmental appraisal of the draft LTS then took place, and was written up in a provisional Environmental Report in August 2006. Once the consultation process is completed and comments addressed, an SEA statement will be written and published soon after the final LTS has been adopted.

### **Structure of the Environmental Report**

1.11 After this introductory section, the remainder of this Environmental Report is structured as follows:

- **Section 2** gives a brief description of the LTS process, describes how the plan relates to other plans and programmes, and sets out some specific objectives for the SEA of the Midlothian LTS.
- **Section 3** describes the state of the existing environment in the area, based on a review of available existing information sources and sets out some specific objectives and indicators for the SEA of the Midlothian LTS.
- **Section 4** discusses how alternatives to the LTS strategy have been addressed in the context of the SEA.
- **Section 5** identifies the likely environmental effects of the policies and proposals set out in the LTS, and evaluates their significance.
- **Section 6** discusses options for the mitigation of adverse environmental effects from transport in the area.
- **Section 7** sets out the programme for monitoring the environmental effects of the LTS.
- **Section 8** describes the next stages of the SEA of the Midlothian LTS, and how this will be completed.



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## 2. THE LOCAL TRANSPORT STRATEGY

### Outline of the LTS

- 2.1 Following the Scottish Integrated White Paper on transport in 1998 *Travel Choices for Scotland*, the Scottish Executive has asked all local transport authorities to prepare a Local Transport Strategy (LTS) covering the period from 2007 to 2010. Whilst this document is therefore Midlothian's first *statutory* LTS it's not actually our first – the Council prepared a previous Local Transport Strategy document in 2001.
- 2.2 The purpose of this document is twofold. It sets out the principles by which Midlothian Council will maintain and improve all of our transport networks. By doing so, it demonstrates how we have applied national transport policy locally and assists in the co-ordination and implementation of transport policy throughout Scotland and beyond.
- 2.3 The concept of sustainable development lies at the heart of this new LTS, as it did in the first. If we can achieve sustainable development, we can benefit from economic growth whilst protecting and, if possible, enhancing the environment. Better transport provision can play a key role in delivering sustainable development by improving accessibility to jobs and services. In broader terms, an effective LTS is key to the successful delivery of all of the Council's services in the fields of education, social services, housing and economic development.
- 2.4 The vision for Midlothian, outlined in the LTS is:

**To promote the economic growth and prosperity of Midlothian in a way that respects the environment and allows all members of the community to safely access the services they require, both within Midlothian and further afield.**

- 2.5 The LTS has been prepared with full reference to Scottish Executive guidance on developing LTSs and also the Scottish Transport Appraisal Guidance (STAG). In this context, the principles within STAG have assisted in making informed choices between possible alternative strategies by appraising alternatives against five criteria: **environment, safety, economy, integration and accessibility**. This strategy has been developed to address current problems facing Midlothian both today and in the future as well as to achieve the Council's broader objectives and transport vision.
- 2.6 As well as identifying the key problems and opportunities for transport in the area and setting objectives for transport, the LTS provides an implementation programme of specific policy measures and projects to be implemented during the life of the plan. These measures have been developed in response to a detailed consultation programme and to address the specific issues that face Midlothian.
- 2.7 Midlothian falls within the South East Scotland Regional Transport Partnership
-

(SESTRAN) area, which consists of the following local authorities:

- Midlothian
- East Lothian
- West Lothian
- City of Edinburgh
- Falkirk
- Fife
- Clackmannanshire
- Scottish Borders

2.8 The SESTRAN partnership is currently in the process of developing their Transport Strategy for the region and it is intended that this will be published in April 2007. Both the regional and local strategies should be complementary in their aims and objectives and work towards achieving the national aims and objectives as set out at a national level.

**The LTS's relationship with other plans and programmes**

2.9 An important initial step in the SEA is to investigate the other plans and programmes which have a relationship to the Midlothian Local Transport Strategy, to set the context and review their main objectives. This helps inform the setting of objectives specific to the SEA, which will be used later in the assessment and analysis of alternative LTS strategies. The review of the relevant plans and programmes also helped to highlight environmental problems and opportunities within the authority, which led to a comprehensive analysis of the environmental baseline.

2.10 The review for the SEA of Midlothian's LTS was initiated at a national level, looking at the latest Transport White Paper, the national Air Quality Strategy and other documents. It then went on to study plans and programmes at the regional and local level. A list of the titles is given in the table below.

**TABLE 2.1 LIST OF POLICIES AND PROGRAMMES REVIEWED**

<b>International level</b>
EC Directive on the Conservation of Wild Birds
Conservation of Natural Habitats and Wild Fauna
Directive 2000/60/EC establishing a framework for community action in the field of water policy
Directive 1966/62/EC on ambient air quality and management
The Convention on Biological Diversity, Rio de Janeiro, 1992
Kyoto Protocol to the UN framework Convention on Climate Change (1992)
The Directive on Environmental Noise
<b>National level</b>
Scotland's Transport Future: The Transport White Paper
The Air Quality Strategy for England, Scotland, Wales and Northern Ireland

Choosing our future, Scotland's Sustainable Development Strategy
The UK's Shared Framework for Sustainable Development
Meeting the Needs...Priorities, Needs, Actions and Targets for Sustainable Development in Scotland.
Nature Conservation (Scotland) Act
UK Climate Change Programme
A Partnership for a Better Scotland
UK Biodiversity Action Plan
National Waste Strategy
SPP3 Planning for Housing
NPPG5 Archaeology and Planning
NPPG6 Renewable Energy Developments
SPP7 Planning and Flooding
NPPG9 The Provision of Roadside Facilities on Motorways and Trunk Roads in Scotland
NPPG10 Planning and Waste Management
NPPG11 Sport, Physical Recreation and Open Space
NPPG12 Skiing Developments
NPPG 14 Natural Heritage
SPP15 Planning for Rural Development
SPP17 Planning for Transport
SPP18 Planning and the Historic Environment
SPP21 Greenbelts
PAN42 Archaeology, the Planning Process & Scheduled Monuments Procedures
PAN56 Planning and Noise
PAN 58 Environmental Impact Assessment
PAN59 Improving Town Centres
PAN60 Planning for Natural Heritage
PAN 61 Planning Sustainable Urban Drainage
PAN63 Waste Management Planning
PAN65 Planning and Open Space
PAN71 Conservation Area Management
PAN73 Rural Diversification
PAN75 Transport and Planning
SEPA Groundwater protection Policy
SEPA Policy on the Culverting of Watercourses
Passed to the Future
<b>Regional level</b>
Edinburgh and the Lothian's Structure Plan 2015

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**Local level**

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Midlothian Moving Forward: Midlothian Community Plan

Midlothian Draft Sustainability Strategy (due to be adopted summer 2006)

Local Plans for Midlothian and Shawfair

Midlothian Economic Development Strategy

Midlothian Environment Strategy

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2.11 The main policy principles relevant for the LTS and the SEA, drawn from identifying common themes arising in the objectives of these plans and programmes are:

- Safeguard and protect designated natural heritage and conservation sites and, where appropriate, protect and enhance the historic environment.
- Conserve and enhance biological diversity;
- Prevent deterioration in status of water bodies;
- Enhance status of aquatic ecosystems;
- Improve and protect ambient air quality;
- Reduce emissions of greenhouse gases which lead to climate change;
- Promote the sustainable use of resources and integrate the values of sustainability into everything;
- Provide an accessible, sustainable and affordable transport system to maintain and facilitate growth of communities;
- Improve the quality of life for all and reduce social exclusion;
- Maintain and enhance the economic competitiveness of the region;
- Develop prosperous and vibrant local economies;
- Improve access to employment, goods, services and markets;
- Reduce the impact of the transport system on the health of the population
- Safeguard areas of Green Belt.

### 3. BASELINE ENVIRONMENT

#### The study area

- 3.1 Midlothian covers an area of 355 square kilometres and with a 2003 population of 79,710, has an overall population density of 224 persons per square kilometre. This compares to the overall Scottish population density of 65 persons per square kilometre.
- 3.2 The majority of the population of Midlothian lives in settlements of 10,000 people or more (53%), however, only 6.7% of the land area is classed as urban. A large proportion of the land area is peri-urban or rural and 21% of the population live in settlements of less than 3,000 people. Table 4.1 below shows the population of the main settlements in Midlothian in 2001.

**TABLE 3.1 POPULATION OF KEY SETTLEMENTS: 2001 CENSUS**

Urban areas			
Penicuik	16,420	Bonnyrigg / Lasswade	14,776
Dalkeith	11,694	Mayfield	7,966
Gorebridge	6,333	Loanhead	6,205
Newtongrange	4,854	Danderhall	3,045

- 3.3 The main transport corridors in the Midlothian area are:
- A701 (Edinburgh to M74 via Penicuik);
  - A7 (Edinburgh to Scottish Borders via Bonnyrigg and Gorebridge);
  - A68 (Edinburgh to Scottish Borders via Dalkeith); and
  - A702 (Edinburgh to Carlisle via west of Penicuik).
- 3.4 Both the A68 and A702 are Trunk Roads and are therefore the responsibility of the Scottish Executive through the National Transport Agency for Scotland. The A701 and the A7 fall under the responsibility of Midlothian Council along with all other roads in the area. There are plans to de-trunk the existing A68 when the new A68 bypass is constructed. This scheme has been approved and construction is due to commence in the summer of 2006.
- 3.5 The public transport network in the area is focussed on north / south routes linking Midlothian with the City of Edinburgh and the Scottish Borders. There are also east / west public transport routes linking the various settlements within Midlothian, however these are not as comprehensive as the north / south links. The same can be said for cycle routes in the area and there are aspirations to improve east / west links for both modes.
- 3.6 There are currently no rail facilities within Midlothian, although there are plans to re-open the Waverley rail line and link the borders with Edinburgh via Midlothian. In September 2005 the Scottish Parliament voted in favour of the Waverley Bill 'in principle' and it has now passed to the consideration stage. The Bill is due to progress

to Royal Assent, granting powers to construct in September 2006.

### **Environmental baseline**

3.7 A range of baseline data has been collected to enable the current state of the environment in the region to be assessed, and for problems to be identified. This also provides the benchmark against which the forecast and monitored levels of environmental effects will be evaluated. The following aspects of the environment are to be examined in turn:

- Noise;
- Greenhouse gas emissions;
- Local air quality;
- Water;
- Geology and soils;
- Biodiversity;
- Cultural heritage;
- Landscape and visual amenity;
- Material assets; and
- Health.

### **Noise**

3.8 The main source of ambient noise pollution in the UK is from road traffic. Noise is not only a disturbance but also poses a threat to human health. Noise guidance provided by the World Health Organisation<sup>2</sup> states “general daytime outdoor noise levels of less than 55 dB(A)  $L_{eq}$  are desirable to prevent any significant community annoyance”.

3.9 Data from the council Automated Traffic Counters (ATCs) has unfortunately not been collated over the last 18 months due to re-organisation of the transport section within the council. As a result detailed road traffic data for the authority is limited. This problem has now been fixed and the ATCs are beginning to collect comprehensive data, although at present they do not provide details on the proportion of HGVs on the network. It is hoped that it will be possible to provide an initial assessment of noise pollution resulting from traffic flows in the Environmental report. The ATCs will also now ensure that monitoring of traffic flows is possible in the future.

3.10 People’s reactions to changes in railway noise are similar to that for road traffic, so again a substantial change in the number of trains using a particular line will be necessary to have a noticeable impact in terms of increasing or reducing railway noise. To lead to a ‘significant’ impact, the number of trains may need to double, or to be halved. In the case of Midlothian, the re-introduction of rail services in the future (where there are currently none) will lead to a significant increase in noise for residents in the vicinity of the rail line. The opening of the rail line is not however scheduled until 2011.

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<sup>2</sup> World Health Organisation Health Criteria Document 12 “Noise” Geneva, 1980

**Greenhouse gas emissions**

- 3.11 CO<sub>2</sub> is emitted by road vehicles through the consumption of carbon-based fuels. If traffic volumes continue to increase, CO<sub>2</sub> concentrations are also likely to continue to rise. CO<sub>2</sub> is the principal greenhouse gas responsible for climate change.
- 3.12 The UK is currently just about on target to achieve its commitment under the 1997 Kyoto Protocol agreement to reduce its emissions of CO<sub>2</sub> by 12.5% in the period to 2008-12, in comparison with a 1990 baseline<sup>3</sup>. Following a large initial reduction in 1999, CO<sub>2</sub> emissions actually increased in 2003 and 2004.
- 3.13 Although the Kyoto commitment may be met, the Government says it is highly unlikely to meet the more ambitious 2010 domestic target of a 20% reduction compared to a 1990 baseline<sup>4</sup>. Looking further ahead, the 2003 energy White Paper sets a target of a 60% reduction in the UK's carbon dioxide emissions by 2050<sup>5</sup>.
- 3.14 The Scottish Executive annual publication "*Key Environmental Statistics for Scotland*" shows that in 2000, Scotland as a whole contributed 60.7 million tonnes of CO<sub>2</sub> (10.8%) to the UK total. This represents a fall of 1.6 million tonnes from 1990 levels.
- 3.15 Table 3.2 below shows the contribution of the transport sector to CO<sub>2</sub> levels in Scotland as a whole.

**TABLE 3.2 CO<sub>2</sub> EMISSIONS BY SECTOR (MILLION TONNES)**

Sector	1990	1995	1998	1999	2000
Transport	8.6	8.8	8.5	8.3	7.4
Other emissions from fuel	22.1	18.8	18.5	18.5	17.7
Energy industries	18.8	21.9	23.0	21.6	23.0
Land use change & forestry	11.9	11.9	12.4	12.4	12.2
Other	1.0	0.6	0.6	0.5	0.4
<b>Total</b>	<b>62.3</b>	<b>62.0</b>	<b>62.8</b>	<b>61.4</b>	<b>60.7</b>
<b>% of transport contribution</b>	<b>13.8%</b>	<b>14.2%</b>	<b>13.5%</b>	<b>13.5%</b>	<b>12.2%</b>

- 3.16 In 2003, Defra produced a set of experimental statistics of carbon dioxide emissions for local authority areas for the year 2003. The results estimated that in 2003, 144 kilotonnes of carbon dioxide were emitted from road transport in the Midlothian region. In comparison, Edinburgh was estimated to have emitted 573 kilotonnes from

<sup>3</sup> Climate Change, The UK Problem, DEFRA, 2001  
[www.defra.gov.uk/environment/climatechange/cm4913/pdf/section2.pdf](http://www.defra.gov.uk/environment/climatechange/cm4913/pdf/section2.pdf)

<sup>4</sup> <http://www.defra.gov.uk/news/2004/041208b.htm>

<sup>5</sup> Our energy future – creating a low carbon economy, Department of Trade and Industry, February 2003,  
<http://www.dti.gov.uk/energy/whitepaper/index.shtml>

road transport.<sup>6</sup>

- 3.17 The new LTS has the potential to impact on greenhouse gas emissions at a local level through reductions in congestion and the facilitation and promotion of more sustainable forms of transport. This in turn will contribute to national and global efforts to reduce greenhouse gas emissions.

**Local air quality**

- 3.18 Air quality in Midlothian is generally good, however the volume of traffic on significant roads within the local authority area is increasing and is forecast to grow by 37% between 2001 and 2015. This is 3% below the national forecasts for growth. One of the key effects of this increase in traffic volumes is a decrease in air quality and the resulting impacts this has on the environment and on human health.
- 3.19 The purpose of this report is to assess the impact of road traffic on air quality. As such, only the baseline conditions for NO<sub>x</sub> and PM<sub>10</sub> will be discussed.
- 3.20 The National Air Quality Strategy for England, Scotland, Wales and Northern Ireland has the following objectives relating to NO<sub>x</sub> and PM<sub>10</sub>:
- **Nitrogen Dioxide (NO<sub>x</sub>):** 200µg/m<sup>3</sup> (105ppb) not to be exceeded more than 18 times a year. Measured as a 1 hour mean (or 40 µg/m<sup>3</sup> measured as an annual mean), to be achieved by 31 December 2005.
  - **Particulate Matter (PM<sub>10</sub>):** 50µg/m<sup>3</sup> when expressed as a 24hr hourly mean: not to be exceeded more than 7 times a year by 31<sup>st</sup> December 2010.
- 3.21 Under the Environment Act 1995, Local Authorities are required to review and assess air quality within their areas to see if any of the National Air Quality Strategy (NAQS) objectives are unlikely to be met. In this event a further, more detailed assessment will be required for areas of concern. Any areas in which air quality will not or is unlikely to meet the NAQS objectives must be designated as an Air Quality Management Area.
- 3.22 The Midlothian Council Local Air Quality Management Updating and Screening Assessment identified that the annual mean objective for nitrogen dioxide were forecast to be met at all locations, except for adjacent to a small section of the A68 in Dalkeith centre. It was therefore recommended that a detailed assessment was carried out at this location, the results of which are shown in the table below.

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<sup>6</sup> Source: Defra, <http://www.defra.gov.uk/environment/statistics/globalatmos/globalghg.htm>

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**TABLE 3.3 NITROGEN DIOXIDE MONITORING**

Analyser location	Year	Nitrogen Dioxide concentration
		Annual mean
A68 Dalkeith Centre	2005	28.5
<b>Air quality objective</b>	<b>2005</b>	<b>40</b>

Source: Midlothian Council, Local Air Quality Management: Detailed Assessment, April 2005

- 3.23 The results of this more detailed assessment indicated that the annual mean objective for nitrogen dioxide is forecast to be complied with at this location. Measurements of nitrogen dioxide recorded at other locations adjacent to the A68 away from the town centre were also forecast to comply with air quality objectives by 2005.
- 3.24 A detailed assessment of PM10 levels at the A68 in Dalkeith town centre was also undertaken as the results of the Updating and Screening Assessment identified that PM10 levels would exceed the annual mean objective for 2010 and that more detailed assessment was required.
- 3.25 The table below shows PM10 monitoring results of the subsequent detailed assessment at the A68 in Dalkeith town centre. The results indicate that at the A68 the annual mean and 24-hour air quality objectives specified for PM10 will not be exceeded in 2010 as shown in the table below.

**TABLE 3.4 PARTICULATE (PM10) MONITORING<sup>7</sup>**

Receptor	Year	PM10 concentration			
		Annual mean	90.4 <sup>th</sup> Percentile of 24-hour means	Annual mean	90.4 <sup>th</sup> Percentile of 24-hour means
Maximum at any specified receptor	2004	17.2	32.1		
	2010			15.4	30.0
<b>Air quality objective</b>	<b>2004</b>	<b>40</b>	<b>50</b>		
	<b>2010</b>			<b>18</b>	<b>50</b>

- 3.26 It should be noted that there were several problems with the monitoring stations for both nitrogen dioxide and PM10 resulting in much lower data capture rates than desired. This has implications for the prediction of emissions in the future. Midlothian Council has committed to rectifying this problem and the Screening report for 2006 is anticipated to provide more reliable data.
- 3.27 There are currently no Air Quality Management Areas designated in the Midlothian Area.
- 3.28 The LTS could have a significant impact on air quality across Midlothian and

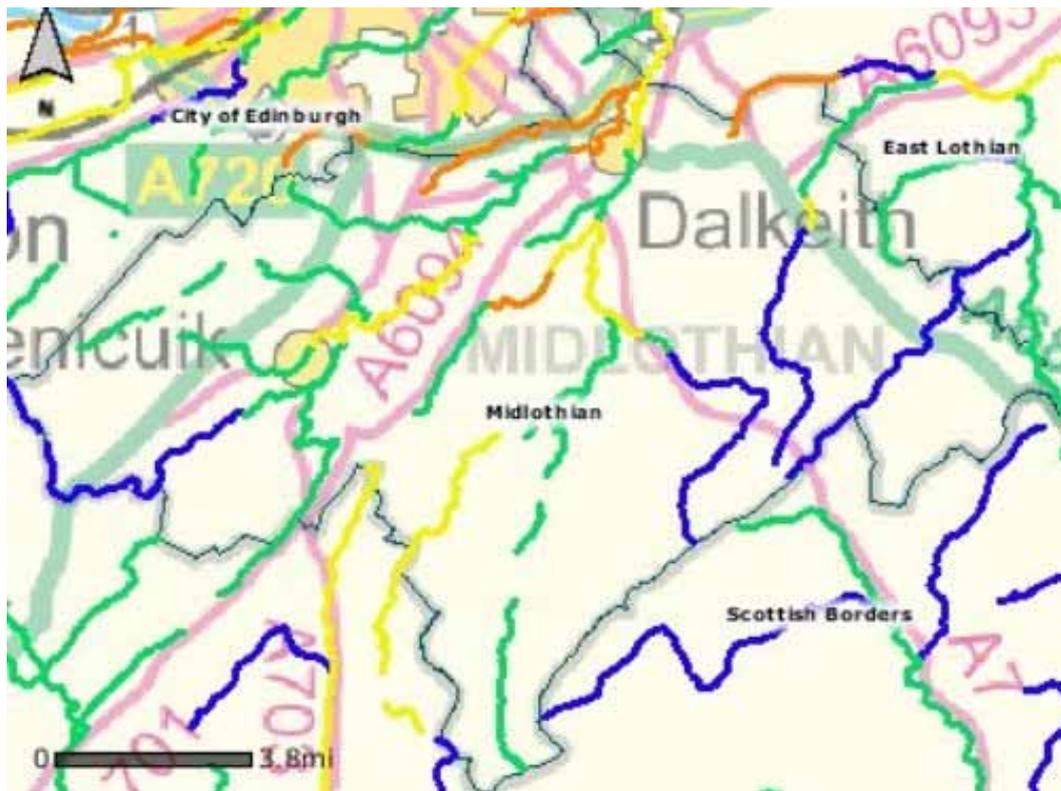
<sup>7</sup> Source: Midlothian Council, Local Air Quality Management: Detailed Assessment, April 2005

particularly in town centres through encouraging modal shift away from the private car to more sustainable forms of transport, including public transport, cycling and walking. In the absence of the LTS, traffic volumes are likely to continue to increase beyond the forecasts, resulting in decreasing air quality which in turn will impact on the environment and on the health of the population.

**Water**

- 3.29 The quality of water in rivers, streams and ditches are directly affected through the use and construction of transport infrastructure. Pollutants usually enter watercourses through surface runoff, which contains organics such as oil, bitumen and rubber originating from road vehicles, de-icing salt and impurities, metals from vehicle corrosion and accidental spillage of toxic materials. The effects of these pollutants can be temporal and cumulative. In some instances, there is a potential for significant ecological damage. The extent of the effects most often does not become evident until years later.
- 3.30 The water environment includes rivers, reservoirs, their valleys and catchments and groundwater resources. There are 58 individual stretches of freshwater with a total length of 193km located wholly or partly within Midlothian. There is currently only one groundwater monitoring site at Crawley Springs. Water quality within rivers and watercourses in the area is generally high with 21% classified with an overall quality of A1 (Excellent).
- 3.31 There is limited data on flood risk in Midlothian.

FIGURE 3.1 RIVER WATER QUALITY (2006)



- Coastal Classification Stretches**
- A - Excellent
  - B - Good
  - C - Unsatisfactory
  - D - Seriously Polluted
  - Unmonitored, assumed class A
- River Classification Stretches**
- A1 - Excellent
  - A2 - Good
  - B - Moderate
  - C - Poor
  - D - Seriously Polluted
  - Unmonitored
- Unitary Authorities
  - OS MiniScale Map

- 3.32 The EC Water Framework Directive seeks to prevent deterioration and achieve the continuous improvement of all water bodies through the implementation in the future of River Basin Management Plans.
- 3.33 There is the potential that through the construction and maintenance of transport infrastructure there is an increased risk of pollution or flooding. The LTS should address these concerns and attempt to minimise this risk. In some cases mitigation measures may be required.

***Geology and soils***

- 3.34 Soil is a key component to a sustainable environment. It not only supports agriculture and forestry but also helps regulate water flow, water quality and flooding, protects buried archaeological remains and supports wildlife. Soil is strongly interdependent with water and air. More often, there is concern about air quality and water pollution while soil issues remain in the background. It is important to realise that soil damage is often irreversible. As such, a precautionary approach must be adopted. Soil, water and air must be managed as one whole ecosystem in order to sustainably manage the environment.
- 3.35 Approximately 25% of the total area of Midlothian is classified as grade 1, 2 or 3.1 in the Macaulay Land Classification system. The 2005 Scottish Vacant and Derelict Land Survey identifies that there are 317 hectares of vacant or derelict land in Midlothian, spread across 108 sites. This survey does not give details of contaminated land at the Midlothian level but identifies that there are 55 hectares of land suspected or known to be effected by potential contaminants across six sites in Edinburgh and Lothian as a whole. The Edinburgh and Lothians Structure Plan also indicates that North Midlothian is one of the priority areas for the rehabilitation of derelict and contaminated land in the area.
- 3.36 There are five Regionally Important Geological and Geomorphological sites (RIGS) in Midlothian. These are located at Bilston Glen, Hewan Bank, 'The Howe', 'The Pinnacle' and Roslin Glen.
- 3.37 There is the potential that pollution, loss or damage of soils may occur through construction of transport infrastructure. The LTS should recognise this risk and avoid disturbance of contaminated land. In addition to pollution, disturbance of contaminated land carried the risk of the spread of 'alien invasive species' (including Japanese Knotweed, Giant Hogweed and Himalayan Balsam) should these species be present. Further mitigation measures may be necessary to negate the effects of new transport infrastructure on soils in the region.

***Biodiversity, flora and fauna***

- 3.38 Midlothian has a wide range of wildlife habitats including moorlands, gorge, woodlands, incised river valleys and wetlands. Many rare and endangered species and other species identified as priorities in the UK and Biodiversity Action Plans occur in the area.
- 3.39 *Ramsar Sites*: sites listed under the international convention on the conservation of

wetlands of international importance. There are two Ramsar sites in Midlothian at Gladhouse Reservoir and Fala Flow. These sites cover a total area of 504ha and are also classified as Special Protection Areas, as described below.

- 3.40 *NATURA*: Habitats and Bird Directives including a major contribution by the European Community to implementing the Biodiversity Convention agreed by more than 150 countries at the Rio Earth Summit. Natura 2000 includes the designation of:
- *Special Protection Areas (SPAs)*: classified by Scottish Ministers under the provisions of the EC Birds Directive.
  - *Special Area of Conservation*: An area designated by Scottish Ministers under the Habitats Directive as areas important for wild flora and fauna. A 53ha area at Peeswit Moss is designated as a SAC.
- 3.41 *Sites of Special Scientific Interest (SSSI)*: Sites designated by Scottish Natural Heritage as nationally important for their flora, fauna, geology or geomorphological interest. There are 15 SSSIs in Midlothian covering a total area of 1,205 ha.
- 3.42 In addition to these nationally and internationally important sites, Midlothian has the following locally designated sites:
- One Nature Reserve;
  - Twenty-one Listed Wildlife Sites;
  - Thirty-one Wildlife Sites; and
  - Two Woodland Trust Reserves.
- 3.43 These local designations are intended to protect sites and features that help to sustain the overall biodiversity and geodiversity of the area and help to link the statutorily protected sites. Many other features in the landscape are of importance for the migration, dispersal and genetic exchange of plant and animal species.
- 3.44 Figure 4.1 shows nationally designated sites in Midlothian while figure 4.2 shows locally designated sites. Figure 4.3 shows protected habitats and species in Midlothian.

FIGURE 3.2 NATIONAL DESIGNATION

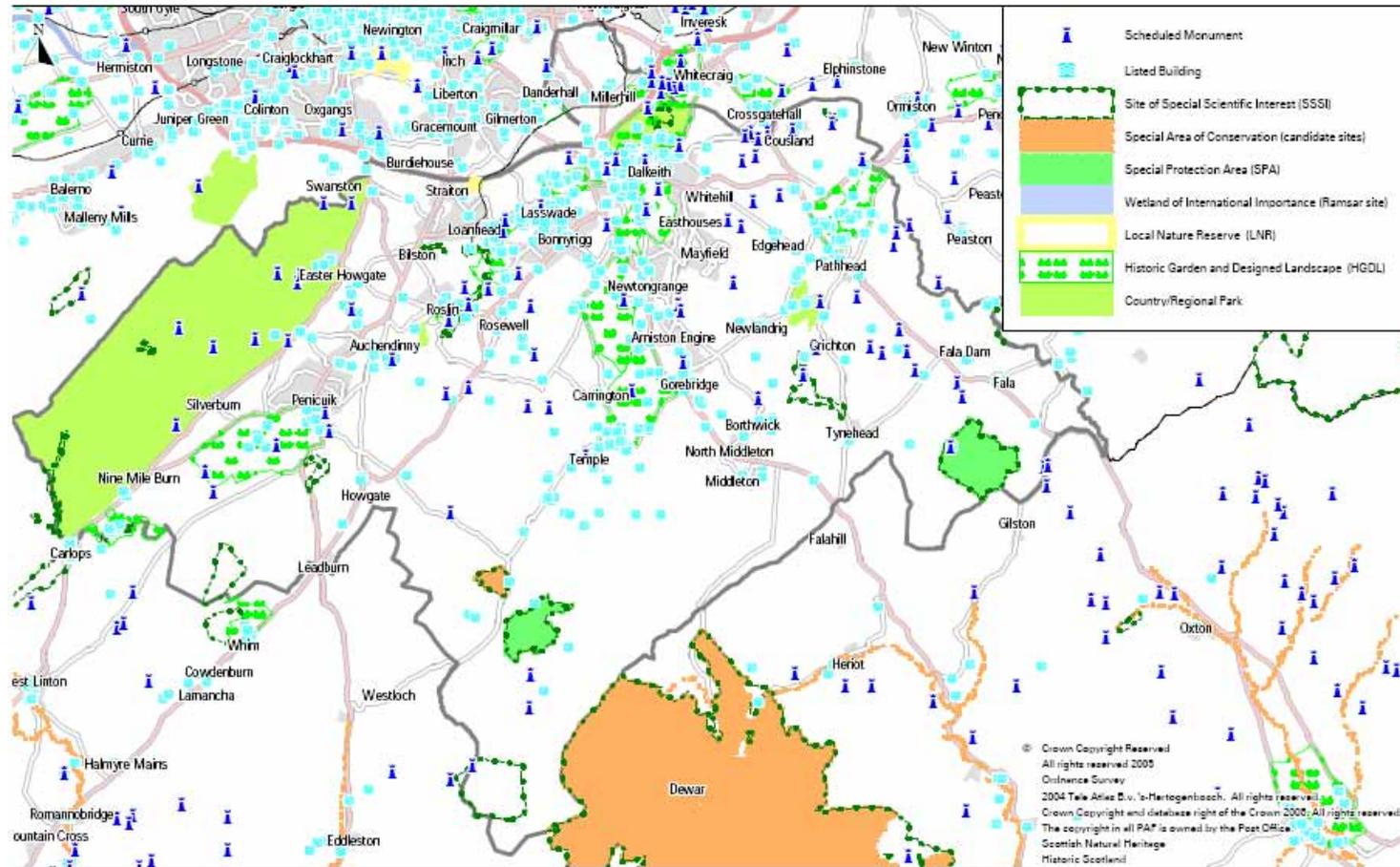


FIGURE 3.3 LOCAL DESIGNATION

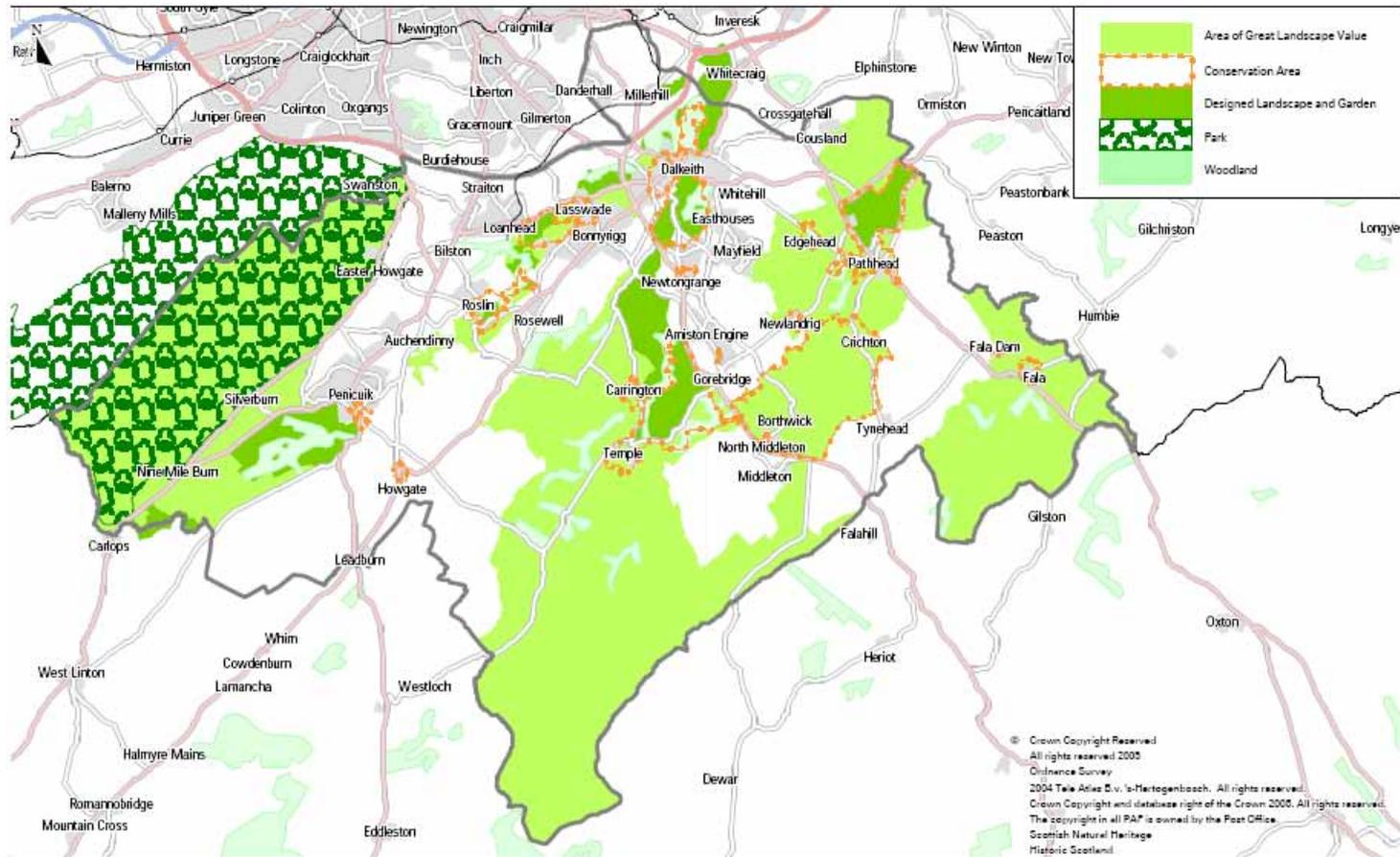
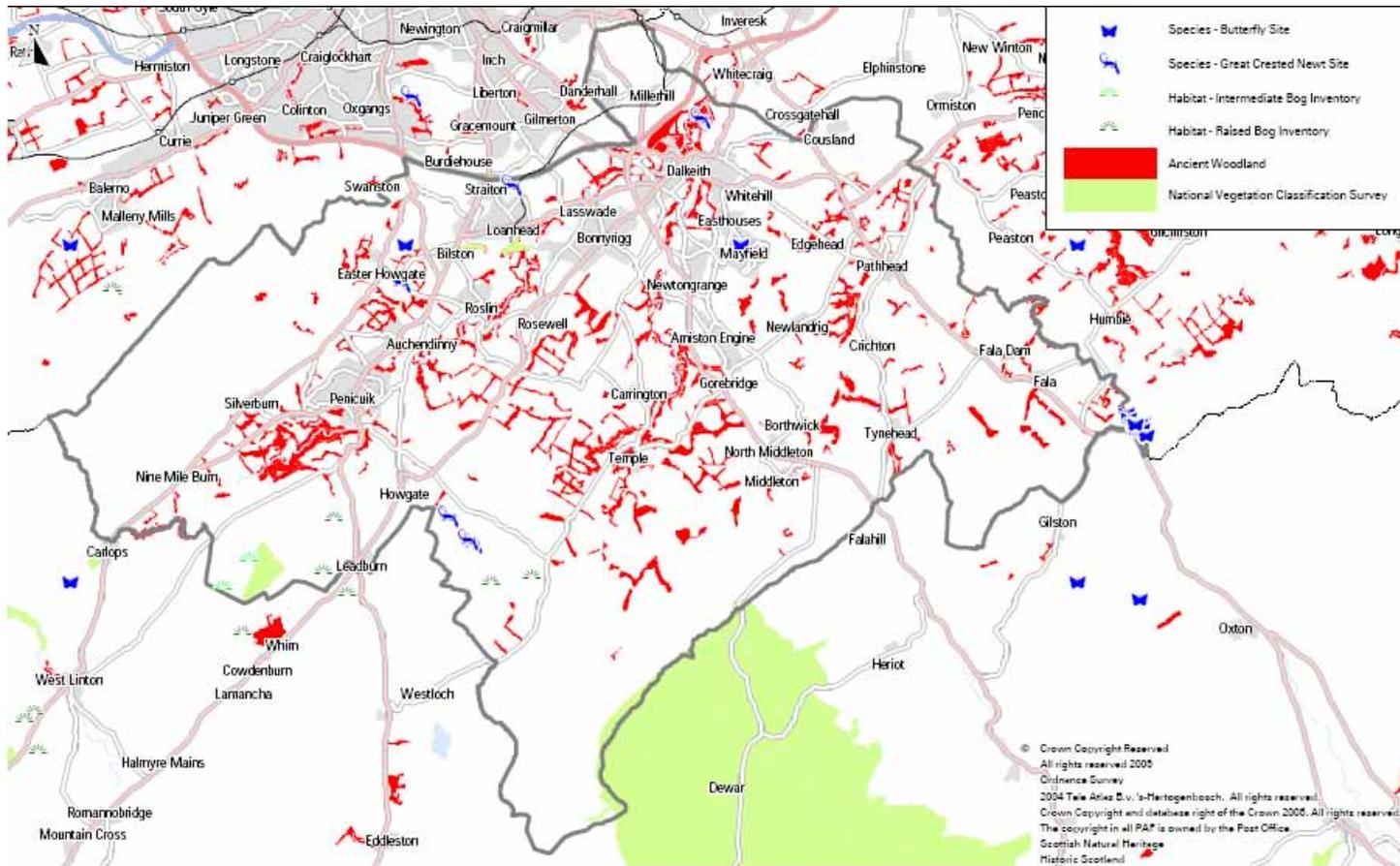


FIGURE 3.4 PROTECTED HABITAT AND SPECIES



3.45 The Midlothian Local Biodiversity Action Plan was published in 2006 and sets out separate Habitat and Species Action Plans aimed at identifying key habitats and species for protection. It also includes actions for the different organisations that have signed up to the action plan. Habitat action plans have been developed for woodland, urban and rural settlements, freshwater and farmland habitats. Individual action plans have also been developed for the following species:

- *Acrolepiopsis betulella* (a micromoth)
- Great crested newt
- Juniper
- *Lampronia fuscatella* (a moth)
- Slender thread-moss
- *Tipula serrulifera* (a crane fly)
- Water vole
- Beaked Beardless Moss

3.46 The LTS can assist with the prevention or reduction of adverse effects on biodiversity and nature conservation by ensuring that transport related activities avoid sensitive areas, where practicable, or through careful planning and design, implement appropriate mitigation measures.

#### **Cultural heritage**

3.47 Scotland as a whole has a rich cultural heritage that highlights the country's history from the earliest times. The nations cultural heritage reaches from prehistoric standing stones to medieval castles and formal great gardens through to Georgian houses, Victorian factories and Second World War defences.

3.48 Midlothian's towns and villages have many areas and individual buildings of special architectural or historic interest that contribute to the distinctive character of the urban and rural environment. In addition to preserving the history of the area, cultural heritage is important to the economy and the tourism industry benefits from the rich cultural heritage.

3.49 Midlothian has 20 designated conservation sites, three of which are classified by Historic Scotland as nationally important. These are:

- Borthwick & Crichton;
- Dalkeith House and Park; and
- Mavisbank.

3.50 There are also 714 listed buildings within Midlothian, of which the majority are concentrated within Conservation areas. Table 3.5 shows how these are classified.

**TABLE 3.5 LISTED BUILDINGS**

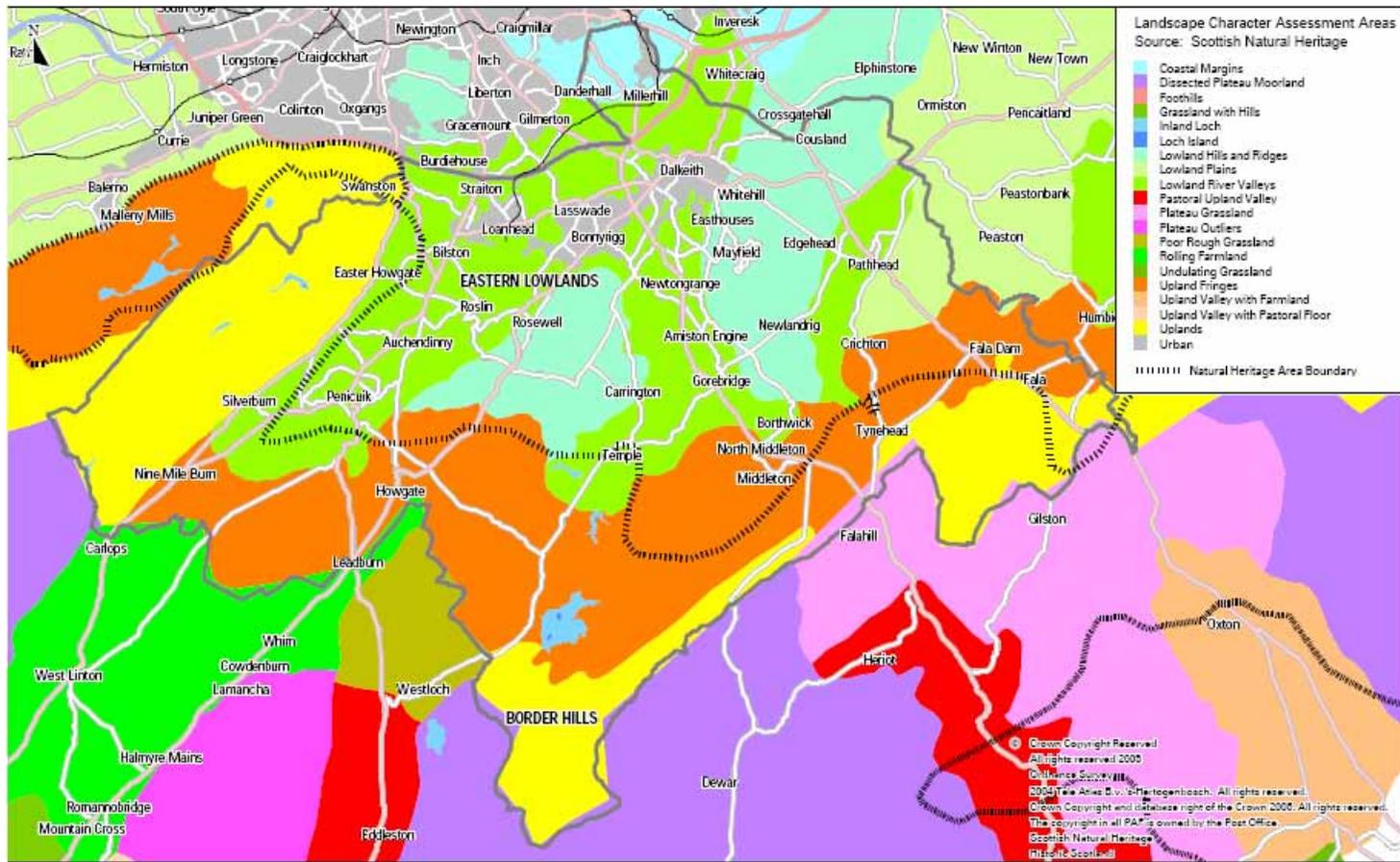
Class A	Class B	Class C
10%	44%	46%

- 3.51 In addition to listed buildings, there are also 12 nationally important historic gardens and designed landscapes.
- 3.52 A variety of archaeological and other historic monuments are found throughout the area, including castles, churches and standing stones, remains of ancient settlements, fortifications and industrial archaeology. In total, there are 79 Scheduled Ancient Monuments that mainly comprise prehistoric, domestic and defensive sites. This relatively high proportion of Scheduled Ancient Monuments reflects the areas of historical importance in the Lothians and Scotland.
- 3.53 Threats to cultural heritage through the implementation of the LTS (including provision and maintenance of infrastructure) include the loss, damage or disturbance of known or unknown features of cultural heritage importance. Without the LTS however, traffic growth is likely to increase even further with knock on effects on air pollution, which can also have an adverse impact on the historic environment.
- 3.54 Potential enhancement measures of the LTS may include improving access to historic sites by sustainable modes of transport and therefore reducing congestion surrounding these sites and in town centres.

### ***Landscape***

- 3.55 The landscape of Midlothian is varied and consists of significant areas of arable farmland, lowland grasslands, improved and unimproved upland pastures, broadleaved woodland, coniferous plantations, peatlands and grass or heather moorland.
- 3.56 Scottish Natural Heritage identifies four landscape character types in the Lothians Landscape Character Assessment. These are shown in Figure 4.4 and are:
- Uplands of the Pentland Hills, Moorfoot Plateau and Fala Moor;
  - Upland fringes on the flanks of the Pentlands and Moorfoot Hills;
  - Lowland hills and ridges; and
  - Lowland river valleys, associated with the Upper Tyne and North and South Esk Rivers.

FIGURE 3.5 LANDSCAPE DESIGNATIONS



3.57 Areas within Midlothian that are designated as Areas of Great Landscape Value (AGLV) include:

- The Pentlands, Moorfoots and Lammermuirs;
- Incised valleys of North and South Esk and Tyne; and
- Gladhouse, Edgelaw, Glencorse, Rosebury, Loganlea and North Esk reservoirs.

3.58 Together the AGLVs make up 63.4% of Midlothian's total land area (225.1km<sup>2</sup>). In addition, there is the Pentland Hills Regional Park, which falls partly within Midlothian, and four country parks.

3.59 The LTS can protect the landscape by, where possible, avoiding inappropriate transport developments in sensitive landscape areas and providing mitigation measures to prevent or reduce the loss of important landscape features.

**Material assets**

3.60 As they relate to the LTS, material assets include the authorities' roads and structures and materials used. Midlothian is responsible for the maintenance of 240 bridges, 637 km of rural and urban carriageways and a similar length of footway. In addition to the road and footway fabric there is the responsibility to maintain over 16,000 street lighting units including traffic signs, illuminated bollards and 47 sets of traffic signals. At present, Midlothian Council does not have a specific target for recycling of materials used in construction and upkeep of infrastructure, however it is estimated that in 2005/06 approximately 3,000 tonnes of materials was recycled and approximately 1,560 tonnes sent to landfill.

3.61 In terms of natural material assets, the Midlothian coalfield is extensive and there were once numerous operational mines in the area. In the 1970s this was concentrated at large collieries in Bilston Glen, the Loanhead-Roslin district and at Monktonhall, east of Danderhall.

**Health impacts**

3.62 The population of Midlothian is relatively healthy, with 69% stating that they are in good health. This is higher than for Scotland as a whole. In addition, a smaller proportion of the population have a limiting long-term illness, compared to Scotland as a whole.

3.63 The table below shows the proportion of the population who stated that they are in good health and those with a long-term limiting illness, compared to the Scottish average.

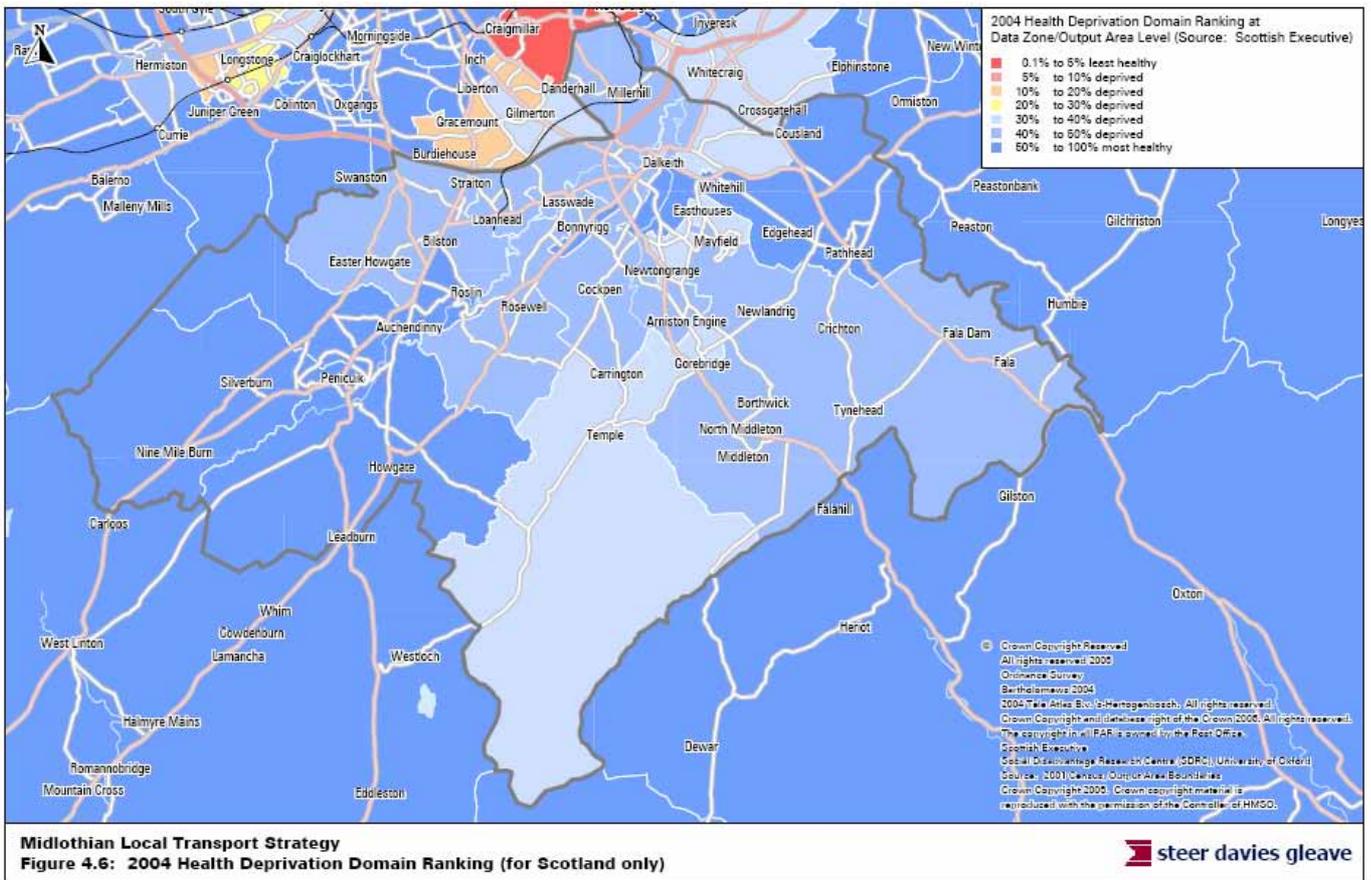
**TABLE 3.6 GENERAL HEALTH OF THE POPULATION**

General health	Midlothian		Scotland
	No. of persons	% of total	%
Good health	55,979	69.2	67.9
Fairly good health	17,674	21.8	21.9

General health	Midlothian		Scotland
	No. of persons	% of total	%
Not good health	7,288	9.0	10.2
With a long-term limiting illness	15,521	19.2	20.3
Without a long-term limiting illness	65,420	80.8	79.7

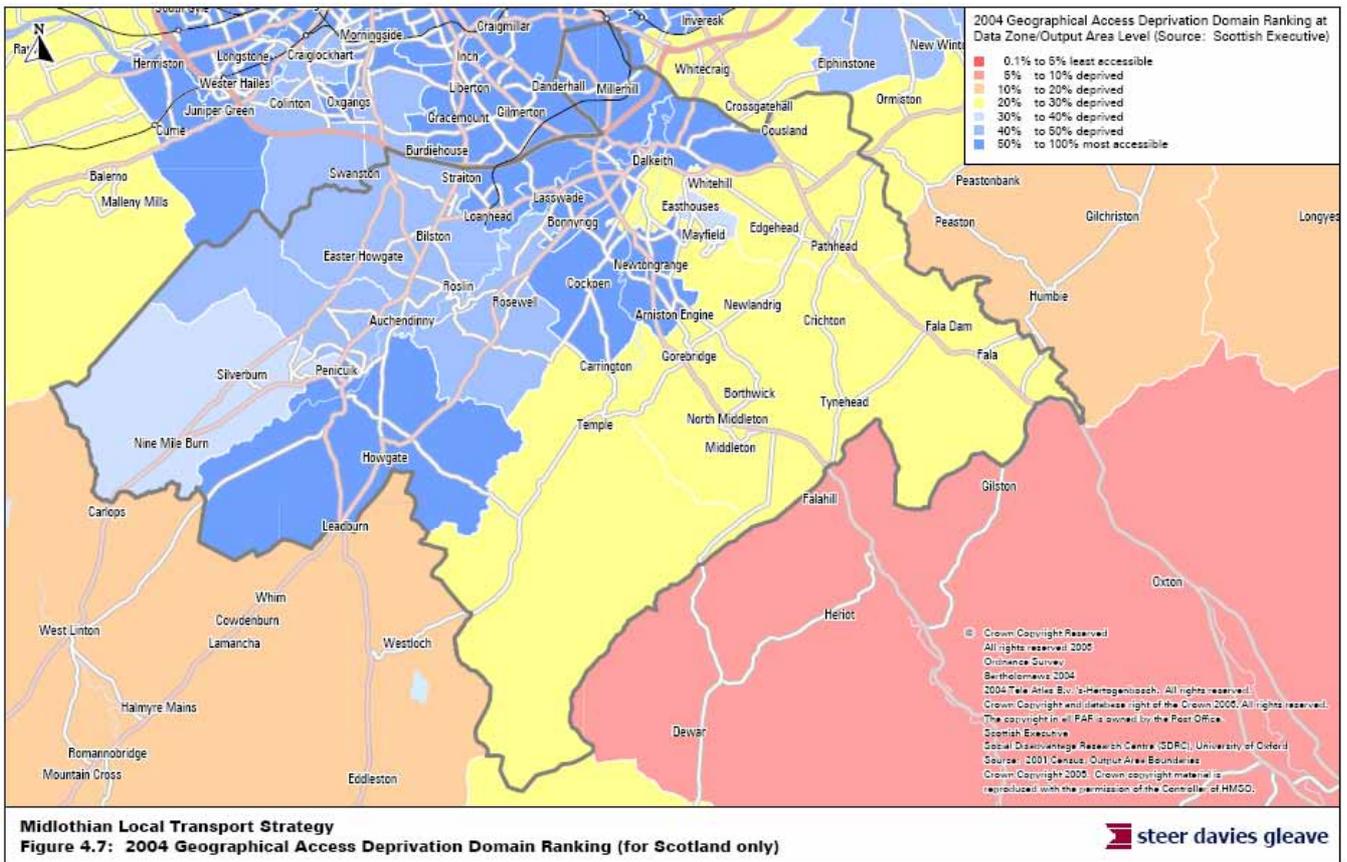
3.64 Figure 4.5 below shows the wards within Midlothian that are among the most deprived when it comes to the health of their population. This indicator forms part of the Scottish Index of Multiple Deprivation and measures health inequalities associated with low income and deprivation. As such it identifies areas with higher than expected levels of ill health or mortality given the age / sex profile of the population.

**FIGURE 3.6 HEALTH DEPRIVATION**



- 3.65 The figure above shows that the most deprived areas of Midlothian in terms of health of the population are surrounding Dalkeith and Cousland, Easthouses and Mayfield and Temple. These areas fall within the top 40% most deprived areas in Scotland in terms of health. The healthiest areas within Midlothian are shown to be surrounding Penicuik and Pathhead.
- 3.66 Physical inactivity constitutes one of the most widespread health detriments in Scotland. Six out of ten men and seven out of ten women undertake less than the minimum recommended levels of physical activity. In children, three in ten boys and four in ten girls fall short of the amount of physical activity required for good health.
- 3.67 The LTS can contribute to improvements in the health of the population by promoting active forms of travel such as cycling and walking. An increase in the use of these modes and in public transport instead of the private car will also contribute to improving local air quality and reducing traffic related noise and vibration. The LTS can also improve road safety and contribute to a reduction in the number of road accidents.

**FIGURE 3.7 GEOGRAPHIC ACCESS DEPRIVATION**



**Midlothian Local Transport Strategy**  
**Figure 4.7: 2004 Geographical Access Deprivation Domain Ranking (for Scotland only)**



3.68 Figure 4.6 shows that in terms of accessibility to key services<sup>8</sup>, the east of the Midlothian area is, in general, more deprived than the west, falling within the 30% most deprived areas of Scotland for this indicator. Areas surrounding Dalkeith, Newtongrange, Bonnyrigg, Lasswade and Howgate are the most accessible areas in terms of access to key services.

3.69 In terms of the Local Transport Strategy, safety is also an important factor relating to human health. In 2004, 23 people were killed or seriously injured and 271 slightly injured in road accidents in Midlothian.

**Environmental / sustainability problems**

3.70 The environmental, health and quality of life problems relevant to the Midlothian LTS have been identified through analysis of the baseline data and the policy review in this Scoping Report. The environment in Midlothian is generally of a high quality. The key environmental problems faced in Midlothian that have relevance to the LTS are:

- Air quality, particularly in the town centres of Dalkeith and Penicuik where it is most likely to impact upon human health. Although air quality objectives are currently being met, continued monitoring will be required to ensure this remains

<sup>8</sup> In terms of this indicator, key services are GPs, petrol stations, post offices, primary schools and supermarkets.

the case even if traffic levels increase;

- Sixty-three per cent of the Midlothian land area is designated as areas of Great Landscape Value and includes areas of the Pentlands, North and South Esk and Tyne valleys and a number of reservoirs. Much of these areas are not protected by international, national or local designations.

### SEA objectives and indicators

- 3.71 The Regulations do not specifically require the use of objectives and indicators in SEA, but it is a useful way to describe, analyse and compare the environmental effects and can form the basis for future monitoring over the period in which the RTS is implemented.
- 3.72 The SEA Regulations state that the objectives must cover the following areas: biodiversity, population, human health, fauna, flora, soil, water, air, climatic factors, material assets, cultural heritage, landscape, and the interrelationships between them.
- 3.73 The SEA objectives were not only identified from the review of the relevant plans and programmes, but also from the issues arising from the baseline data and professional judgement.

**TABLE 3.7 SEA OBJECTIVES AND INDICATORS**

SEA topic	Objective	Indicator	Baseline
Noise	To ensure existing levels of annoyance from noise caused by traffic do not significantly increase.	Prediction of road traffic noise at key locations on the road network.	Data unavailable at present
Air quality	To keep air quality of a good standard and below National Air Quality Standards in all areas	<b>NO<sub>2</sub></b> : Annual mean <b>PM<sub>10</sub></b> : Annual mean Source: Local Authority Air Quality Monitoring Reports	No air quality management areas No exceedences of air quality objectives for Nitrogen Dioxide and Particulates
Greenhouse gas emissions	To help tackle climate change by reducing the increase in CO <sub>2</sub> emissions from transport during the life of the plan, and helping to meet targets to nationally reduce overall emissions of greenhouse gases by 12.5% by 2008-12 in comparison with a 1990 baseline.	Predicted emissions of CO <sub>2</sub> from transport.	The Scottish Executive estimates that transport accounted for 12% of Scottish CO <sub>2</sub> emissions in 2000. Approximately 144 kilotonnes of Carbon Dioxide was emitted from road transport in Midlothian in 2003.
Biodiversity	To avoid damage to designated wildlife / biodiversity sites and protected species.	Number of designated sites affected in LTS strategies.	Ramsar sites: 2 (504ha) SPAs: 2 (504ha) SACs: 1 (53ha) SSSIs: 15 (1,205ha) Nature Reserve: 1 Wildlife sites: 52 Woodland Trust sites: 2

SEA topic	Objective	Indicator	Baseline
Cultural heritage	To preserve historic buildings, archaeological sites and their settings and other culturally and historically important features.	Number of listed buildings, scheduled monuments, Historic Gardens and Designed Landscapes affected in LTS strategies.	Conservation sites: 20 (3 are nationally important) Listed buildings: 714 Nationally important historic gardens and designed landscapes: 12 Scheduled Ancient Monuments: 79
Water	To limit water pollution from the transport network to levels that do not damage natural systems.	The quality of river, coastal, estuary and ground waters as monitored by SEPA.	58 stretches of freshwater (193km) 21% classified as A1 (Excellent)
Soils	To limit contamination of soils from the transport network and infrastructure development to levels that do not damage natural systems. To safeguard soil quality and quantity	Presence of contaminated land.	317 hectares of vacant or derelict land (108 sites) 55 hectares of land suspected or known to be affected by contamination across Edinburgh and the Lothians.
Landscape	To retain, protect and enhance landscape and townscape character, local distinctiveness and scenic value.	Number of landscape character types Areas protected for their international, national or local landscape importance.	4 Landscape character types 225.1km <sup>2</sup> of Areas of Great Landscape Value (63.4% of Midlothian's total land area)
Health	To create conditions to improve the health of the areas population.	Air quality indicators (respiratory health) The proportion of the population feeling in 'good health'. Road safety (accidents)	69% of the population in 'good health' 19.2% of the population have a long-term limiting illness. Killed or seriously injured: 23 (2004) Slight injuries: 271 (2004) Total: 294 (2004)



## 4. ALTERNATIVE OPTIONS

### Need for alternative options

- 4.1 Alternatives are the range of rational choices open to the plan and programme-makers for delivering plan objectives. The SEA Regulations do not create a specific requirement to put forward alternatives, but it is common practice when developing a plan or programme to propose different ways of fulfilling its objectives<sup>9</sup>. Where this is the case, the SEA regulations do require that the environmental effects of such alternatives be considered. As part of the standard SEA process, the alternatives can be tested against the SEA objectives, to identify if they are relatively better or worse for the environment.

### Developing the alternatives

- 4.2 The strategic scenarios (described below) emerged from an appreciation of the Scottish Transport Appraisal Guidance requirement to consider the full range of options, from do minimum through to all possible interventions, and an understanding of the key issues identified for the region. These are:

- Congestion on the road network and Midlothian's interface with Edinburgh;
- Economic growth, regeneration and development;
- Accessibility to jobs, education and services;
- Road safety; and
- Environment.

- 4.3 The key issues have been used to identify the alternatives to the strategy, and are based on a focus on addressing each of the key issues. The strategy alternatives are:

- **Alternative one – Do minimum / Do nothing:** See the section 'The Without Plan Scenario' below.
- **Alternative two - focus on reducing congestion:** whereby the focus would be on reducing congestion on the road network and encouraging a shift from the private car to public transport, cycling and walking by improving the attractiveness of these modes. Such an approach would improve journey times and journey reliability and would also contribute to improving local air quality and the health of the population
- **Alternative three - focus on economic growth, regeneration and development:** whereby the focus would be on the key growth areas and revitalisation of the key town centres. This approach would aim to encourage investment into the region to regenerate the town centres and create employment. This alternative would also necessitate dealing with congestion, particularly on the routes linking to Edinburgh and the rest of Scotland, in order to achieve this.
- **Alternative four - focus on increasing accessibility for all:** focus on access to key services with a concentration on access for the socially excluded (those on low wages, the young, the elderly, those with mobility impairments and those

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<sup>9</sup> ODPM, 2004, A Practical Guide to the SEA Directive

without access to a car). This approach would not deal with increasing traffic levels but would significantly improve the quality of life and health of the population. This strategy option would also contribute to alternative three by increasing access to employment opportunities.

- **Alternative five - focus on improving safety:** whereby the focus would be on reducing the number and seriousness of road accidents and improving perceptions of safety and security when travelling. Such an approach would significantly improve the health and quality of life of the population in Midlothian but would not deal with the problems of increasing traffic and congestion – in fact congested roads tend to be safer roads as traffic is not moving at great speed!
- **Alternative six - focus on improving the environment:** by focussing on measures to reduce greenhouse gases, reduce vehicular mileage, increasing walking and cycling. This strategy option would necessitate dealing with traffic growth by reducing the number of vehicles on the road network. The results would be improvements to local air quality, reductions in noise pollution and improvements to the health and general quality of life of the population.
- **Alternative seven - do all:** addressing the five preceding scenarios. This would combine the positive and negative points of the above scenarios but would provide a comprehensive package of solutions that would address all of the key issues in Midlothian. **Focus on increasing accessibility for all:** focus on access to key services with a concentration on access for the socially excluded (those on low wages, the young, the elderly, those with mobility impairments and those without access to a car);

#### The 'without-plan' scenario

- 4.4 The SEA must take into account possible planning schemes and developments scheduled to take place independently of the LTS and within the plan period.
- 4.5 In contrast with other areas of the Lothians which have experienced considerable growth over the past 20 years, Midlothian's population has remained relatively static. The 2004-based population projections from the Registrar General estimate that the population of Midlothian will decrease by 1,700 people between 2004 and 2024. These projections are however based only on past trends and do not take account of committed or planned development.
- 4.6 A new settlement is being considered as part of the A7 / A68 / Waverley Line Corridor to the west of Gorebridge. This will be dependent on the re-establishment of the Waverley Rail Line. The Shawfair area is also included in this corridor and will comprise a new community of 3,500 houses, two new primary schools with nursery facilities and a town centre. Urban extensions are also planned for North and South Danderhall of around 190 houses and 300 houses respectively.
- 4.7 In addition to the development identified above and in line with the Edinburgh and Lothian's Structure Plan. Midlothian Council has embarked on a period of sustained growth which will significantly influence the population of the area. The Structure Plan identifies two Core Development Areas (CDAs) within Midlothian which are based on the main transportation corridors – the **A7 / A68 / Waverley Line Corridor** and the **A701 Corridor**. The communities that fall within the CDAs are as follows:

TABLE 4.1 MIDLOTHIAN CORE DEVELOPMENT AREAS

Core Development Area	Settlements affected	Allocated development
<b>A7 / A68 / Waverley Line Corridor</b>	Dalkeith, Mayfield, Newtongrange, Gorebridge, Rosewell and Shawfair	1,350 houses <sup>10</sup> Additional economic development land
<b>A701 Corridor</b>	Loanhead / Straiton, Bilston, Roslin, Auchendinny and Penicuik	850 houses Up to 25 hectares of land for biotechnology / knowledge based industries Additional economic development land

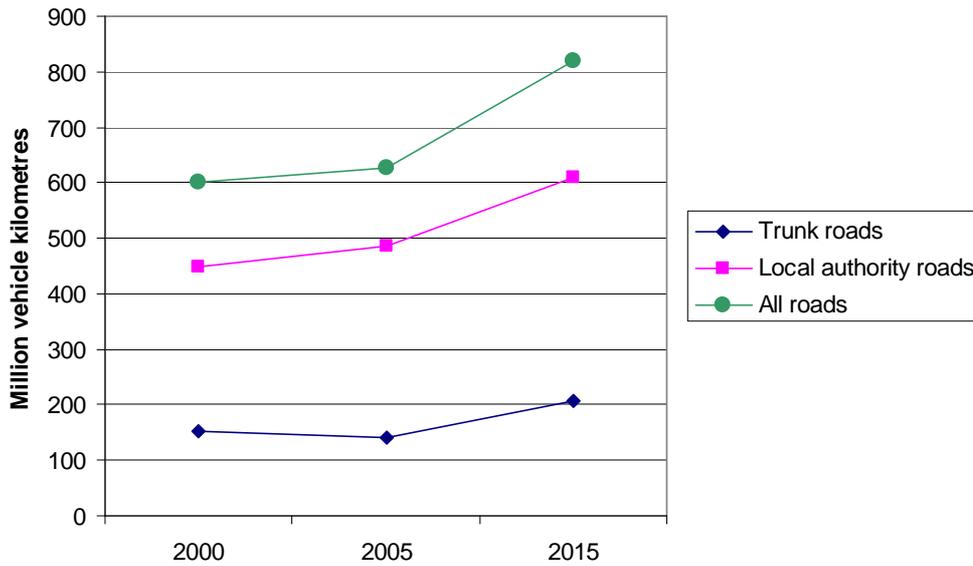
- 4.8 The quantity of new development proposed across the area means that the existing transport network will require to be expanded in order to serve the new and extended communities and to ensure that increases in population do not simply add to existing problems on the road network.
- 4.9 Over the past 10 years, road traffic levels in Midlothian, in common with everywhere else in the UK, have continued to rise. Between 1994 and 2006, traffic increased by 17%. In light of the planned developments contained in the Structure Plan and without measures to curb traffic in some way, this trend would seem set to continue at least at this rate, if not faster. Using growth factors provided by Temprow, it is forecast that traffic will increase by 36% between the year 2000 and 2015. This is illustrated in Figure 4.1 along with data for the year 2005.

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<sup>10</sup> Housing allocations for Shawfair are provided separately below and not included in this figure.

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FIGURE 4.1 PROJECTED TRAFFIC GROWTH IN MIDLOTHIAN (2000 - 2015)



4.10 Clearly, this would exacerbate existing environmental problems relating to traffic, particularly air pollution and noise. Adverse impacts would also result on human health through the likely increase in the number of accidents and reductions in accessibility and mobility. Adverse effects would also be likely on biodiversity, water and soils through diffuse pollution from the transport network.

**Compatibility matrix of alternatives with SEA objectives**

4.11 The LTS alternatives are compared against the LTS Objectives in Table 4.2 below. A scale of ticks and crosses is used to indicate the extent of compatibility (3 ticks is the maximum positive correlation, and three crosses is the maximum of negative correlation). A circle is given for neutral correlation, and a question mark for a unknown compatibility.

TABLE 4.2 SCENARIOS VERSUS STRATEGY OBJECTIVES

	1	2	3	4	5	6	7
	Do nothing / do minimum	Focus on reducing congestion	Focus on economic growth	Focus on improving safety / security	Focus on improving environment	Focus on increasing accessibility for all	Do all
<p>✓✓✓ - Supports</p> <p>xxx - Conflicts</p> <p>○ - Neutral</p> <p><b>Transport objectives</b></p>							
To stabilise traffic growth in line with national targets and secure more reliable journey times by all modes	xxx	✓✓✓	✓✓	○	✓✓✓	○	✓✓✓
To widen travel choices and make sustainable modes of transport more attractive than the car, particularly at peak times	xxx	✓✓✓	✓✓	○	✓✓✓	✓✓	✓✓✓
To enhance connections between areas within	xxx	✓	✓✓✓	○	✓	✓✓	✓✓✓

	1	2	3	4	5	6	7
✓✓✓ - Supports xxx - Conflicts 0 - Neutral	Do nothing / do minimum	Focus on reducing congestion	Focus on economic growth	Focus on improving safety / security	Focus on improving environment	Focus on increasing accessibility for all	Do all
Midlothian and provide improved links to the rest of Scotland							
To reduce social exclusion by improving accessibility to jobs, education and services for all and by all modes of transport	xxx	0	✓✓	0	xx	✓✓✓	✓✓✓
To reduce the number of casualties involving death and serious injury and ensure that the design of the transport system improves personal safety and minimises crime	xxx	xx	✓✓	✓✓✓	0	✓	✓✓✓
To improve the health of the population by reducing the impact of transport on air quality and promoting active forms of travel	xxx	✓✓	✓	✓✓	✓✓✓	✓	✓✓✓
To reduce and, where possible, mitigate the effects of the transport system on the built and natural environment	xxx	✓	xx	0	✓✓✓	x	✓✓✓
To improve integration between all modes of transport	xxx	0	✓✓	✓	✓✓	✓✓✓	✓✓✓
To ensure that the transport networks are managed, maintained and improved so as to provide the quality of infrastructure that will meet the needs of all users.	xxx	0	✓✓	✓	✓✓	0	✓✓✓

4.12 The ‘do all’ scenario clearly best fits the objectives that have been developed for the strategy. From this scenario testing, it is also concluded that doing nothing is not an option and that some action is required. It is however unlikely that the funds will be available to satisfy this ‘do all’ scenario and the strategy therefore consists of a combination of scenarios 2, 3, 4 and 5.

4.13 The Council consulted with communities and key stakeholders between November 2005 and April 2006 (including a stakeholder questionnaire). The questionnaire highlighted that ‘*improving the environment, less congestion and pollution*’ and ‘*reducing road accidents*’ are of priority importance. A balanced approach was considered the best option to progress forward.

**Environmental appraisal of alternatives**

4.14 The table on the following page sets out the appraisal of the likely environmental effects of the alternative strategy options for the LTS as described in Table 4.3 above. These are assessed in relative terms, compared with the ‘without the plan’ scenario as described in Paragraphs 4.4 to 4.10 above.

**TABLE 4.3 ASSESSMENT OF DRAFT ALTERNATIVES AGAINST SEA TOPICS**

Alternative	Noise	Greenhouse gas emissions	Air quality	Water, geology and soils	Biodiversity	Landscape and visual amenity	Cultural heritage	Health	Comments
Do nothing / do minimum	--	--	--	--	--	--	--	--	Degradation of environment and worsening impact on human health. This would be focused on built up areas and areas surrounding the trunk road network.
Focus on reducing congestion	++	++	++	?	?	?	?	++	Would entail encouraging a shift from the private car to public transport, cycling and walking and improving the attractiveness of each of these modes. Such measures would improve the environment in general around the affected areas.
Focus on economic growth, regeneration and development	++	+	++	?	-	-	+	++	A focus on built up areas and areas of planned new development but would also necessitate dealing with congestion on the trunk road network.
Focus on accessibility for all	-	-	-	?	-	-	-	++	Would not deal with the environmental impacts of traffic growth but would significantly improve quality of life and health of the population. Would also contribute to alternative 3 by increasing access to employment.
Focus on improving safety	-	-	?	?	?	?	?	++	Would not deal with environmental impact of traffic growth but would significantly improve health and quality of life factors
Focus in improving the environment	++	++	++	+	+	+	+	+	Would necessitate dealing with congestion.
Do all	++	++	++	++	++	++	++	++	This scenario would combine all of the positive and negative elements of scenarios 2-6 above.

**Key:** ++ Significant positive impact; + No or minimal positive impact; ? Neutral or unknown impact; - No or minimal negative impact; -- Significant negative impact

4.15 From the analysis in the table above, option six (a focus on improving the environment), unsurprisingly shows the greatest benefit to the various aspects of the environment as defined by the SEA topics. Alternative two (a focus on reducing congestion) also performs well when assessed against the SEA topics.

**Preferred strategy**

4.16 The decision to adopt a balanced approach as the preferred strategy for the LTS, which encompasses elements of alternatives 2 to 6 has been based on the following considerations:

- The compatibility of the elements of the alternative strategies and the objectives identified for the LTS (see Table 4.2);
- The appraisal of the likely environmental effects of the alternative strategies against each of the SEA topic areas and for which we have developed SEA objectives);
- The outcomes of the public consultation carried out by Midlothian Council at the beginning of the strategy development process; and
- Likely available funding for implementation of the strategy.



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## 5. ASSESSMENT OF ENVIRONMENTAL EFFECTS

### Methodology

- 5.1 The SEA examines the proposed LTS programme and attempts to ascertain, where possible, the predicted extent and magnitude of environmental impacts. The following factors are taken into consideration for this; the time period over which measures within the strategy will occur, whether they are permanent or temporary, positive or negative, probable or improbable, frequent or rare, and whether there are cumulative and/or synergistic effects.
- 5.2 The ‘significance’ of environmental effects of the strategies considered in the SEA was established by reference to:
- the characteristics of the plan, including the environmental problems identified as relevant, infrastructure projects and other activities it proposes, and their relevance to compliance with environmental legislation (e.g. air quality standards); and
  - the nature of the predicted effects and the area likely to be affected (e.g. extensive magnitude and spatial extent of the effects, or effects on designated areas of environmental protection).
- 5.3 The approach adopted for the appraisal, while often qualitative because of the constraints imposed by availability of information, focuses on the quantification of effects as far as possible, and evaluates the significance of these explicitly. In this way, the implications of the proposals and the alternative (no plan) can be clearly understood by decision-makers, as well as being transparent to the public through the medium of the Environmental Report.
- 5.4 Considering the low level of detail the strategic plan entails, an appropriate appraisal technique was chosen. Expert judgement, and consultation with stakeholders and relevant Council officers was used to assess the effects of the LTS programme.

### Assessment against SEA topic areas

- 5.5 The impacts of each of the LTS measures contained in the implementation plan must be appraised for their possible impact on the environment for this SEA. This has been done in Table 5.1 to Table 5.10, using the ten SEA topic areas. An overall assessment of the LTS elements against SEA objectives is shown in Table 5.11.
- 5.6 In measures involving physical works, we have assumed there may be some temporary impacts from construction, relative to the types of works being carried out. On the whole, we have not commented on this in the assessments unless it is considered to be significant.
- 5.7 The assessments are demonstrated according to the following key, for clarity and consistency:
- ++ significant positive impact;
  - + slight positive impact;
-

- 0 neutral impact;
- ? unknown impact;
- - slight negative impact;
- -- significant negative impact.

TABLE 5.1 ASSESSMENT OF LTS COMPONENTS: WALKING

Action	SEA Topic area										Comments and overall assessment (including information on short, medium, long term; permanent, temporary; secondary, cumulative, synergistic effects) and proposed changes to the strategy
	Noise	Greenhouse gas emissions	Local air quality	Water, geology and soils	Biodiversity	Cultural heritage	Landscape and visual amenity	Material assets	Health		
Resurface 0.5% of footpath network per year	0	0	0	-	0	0	0	+	++	Overall positive as facilitating increased levels of walking. Positive impacts on material assets if recycling policy applied to new construction. However, possible negative impact on water and soil due to runoff from de-icants (rock salt).	
New pedestrian crossing facilities	0	0	+	0	0	0	0	0	++	Overall positive as facilitating increased levels of walking, and predominantly on existing road networks.	
Construction of new footways	0	0	+	?	?	?	0	+	++	Overall positive as facilitating increased levels of walking. Positive impacts on material assets if recycling policy applied to new construction. However, possible negative impact on water and soil due to runoff from de-icants (rock salt). Possible negative impact on cultural heritage depending on locations. Unknown impacts on immediate environment as location as yet unspecified.	
Improvements to road layout where pedestrian visibility problems occur	0	0	+	0	0	0	0	0	++	Overall positive as facilitating increased levels of walking and promoting safety.	
Provide safe routes and crossing points close to local amenities	0	0	+	0	0	0	0	+	++	Overall positive as facilitating increased levels of walking and promoting safety. Positive impacts on material assets if recycling policy applied to new construction.	
Install traffic calming measures in residential areas	0	0	+	0	0	?	0	+	++	Overall positive as facilitating increased levels of walking and promoting safety. Positive impacts on material assets if recycling policy applied to new construction. Potential negative impact on cultural heritage depending on location.	
Introduce 20mph zones in around schools	0	0	+	0	0	0	0	0	++	Overall positive as facilitating increased levels of walking and promoting safety. Positive impact on air quality as slower speeds mean lower emissions.	
Establishment of suitable walking links at all new developments	0	0	+	?	?	0	0	+	++	Overall positive as facilitating increased levels of walking. Positive impacts on material assets if recycling policy applied to new construction. Unknown impacts on immediate environment as location as yet unspecified.	

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Safe crossing points adjacent to local amenities	0	0	+	0	0	0	0	0	++	Overall positive as facilitating increased levels of walking and promoting safety.
Carry out inspections of lighting units every two weeks throughout the year to ensure that faults are detected and repaired	0	0	+	0	0	0	0	++	+	Overall positive as facilitating increased levels of walking and promoting safety.
Carry out an annual inspection and cleaning of lighting units ensuring safety of equipment and optimum light output	0	0	+	0	0	0	0	++	+	Overall positive as facilitating increased levels of walking and promoting safety.
Continue provision of CCTV in town centres	0	0	+	0	0	0	0	0	+	Overall positive as facilitating increased levels of walking and promoting safety.
School Travel Plans	0	+	++	0	0	0	0	?	++	Overall positive as facilitating increased levels of walking and promoting safety. Cumulatively positive impact on greenhouse gas emissions.
Child pedestrian training	0	0	+	0	0	0	0	0	++	Overall positive as facilitating increased levels of walking and promoting safety.
Publicity campaigns	0	0	++	0	0	0	0	0	++	Overall positive as facilitating increased levels of walking and promoting safety.
Develop a Core Paths Plan	0	0	+	?	?	0	0	0	++	Overall positive as facilitating increased levels of walking. Unknown impacts on immediate environment as location and extent of any new paths as yet unspecified.

Key: ++ significant positive impact; + slight positive impact; 0 neutral impact; ? unknown impact; - slight negative impact; -- significant negative impact.

TABLE 5.2 ASSESSMENT OF LTS COMPONENTS: CYCLING

Action	SEA Topic area										Comments and overall assessment (including information on short, medium, long term; permanent, temporary; secondary, cumulative, synergistic effects) and proposed changes to the strategy
	Noise	Greenhouse gas emissions	Local air quality	Water, geology and soils	Biodiversity	Cultural heritage	Landscape and visual amenity	Material assets	Health		
Eskbank to Dalkeith cycleway improvements	0	0	+	0	0	?	0	0	++	Overall positive as facilitating increased levels of cycling, promoting modal shift and physical activity. Potential for negative impact on cultural heritage depending on location and alignment.	
Completion of National Cycle Network Route 1 from Dalkeith to Gorebridge	0	0	+	0	-	?	0	0	++	Overall positive as facilitating increased levels of cycling, promoting modal shift and physical activity. May impact on a Conservation Area in the Dalkeith area. Potential for negative impact on cultural heritage depending on location and alignment.	
Roslin to Loanhead phase 4 cycle route	0	0	+	0	-	?	0	0	++	Overall positive as facilitating increased levels of cycling, promoting modal shift and physical activity. May impact on a Conservation Area surrounding Roslin. Potential for negative impact on cultural heritage depending on location and alignment.	
Elginhaugh to City of Edinburgh Council boundary cycleway	0	0	+	0	0	?	0	0	++	Overall positive as facilitating increased levels of cycling, promoting modal shift and physical activity. Potential for negative impact on cultural heritage depending on location and alignment.	
New cycle connection between Loanhead and Roslin connecting to Shawfair	0	0	+	0	-	?	0	0	++	Overall positive as facilitating increased levels of cycling, promoting modal shift and physical activity. May impact on a Conservation Area surrounding Roslin. Potential for negative impact on cultural heritage depending on location and alignment.	
Feasibility study into the development of a cycle route between Penicuik and Peebles, linking with the existing Penicuik to Dalkeith cycleway	0	0	+	0	0	0	0	0	++	Overall positive as facilitating increased levels of cycling, promoting modal shift and physical activity.	

Establish cycle networks in Penicuik, Dalkeith, Bonnyrigg and Gorebridge	0	0	+	0	0	?	0	0	++	Overall positive as facilitating increased levels of cycling, promoting modal shift and physical activity.
Pilot a scheme to provide cycle parking at key town centre bus stops	0	0	+	0	0	0	0	0	++	Overall positive as facilitating increased levels of cycling, promoting modal shift and physical activity.
Cycle provision as part of a new housing development at Cowden	0	0	+	0	0	0	0	0	++	Overall positive as facilitating increased levels of cycling, promoting modal shift and physical activity.
Cycle provision as part of new development at Hopefield	0	0	+	0	0	0	0	0	++	Overall positive as facilitating increased levels of cycling, promoting modal shift and physical activity.
Cycle provision as part of a new settlement planned at Shawfair	0	0	+	0	0	0	0	0	++	Overall positive as facilitating increased levels of cycling, promoting modal shift and physical activity.
School Travel Plans	0	++	++	0	0	0	0	?	++	Overall positive as facilitating increased levels of cycling, promoting modal shift and physical activity, and improving safety.
Publicity campaign through local press to raise awareness of cycling facilities	0	0	++	0	0	0	0	0	++	Overall positive as facilitating increased levels of cycling, promoting modal shift and physical activity.
Consultation with the Cycle Forum	0	0	+	0	0	0	0	0	++	Overall positive as facilitating increased levels of cycling, promoting modal shift and physical activity.
Introduction of cycle counters on key off-road cycle routes	0	0	+	0	0	0	0	0	++	Overall positive as facilitating increased levels of cycling, promoting modal shift and physical activity.

Key: ++ significant positive impact; + slight positive impact; 0 neutral impact; ? unknown impact; - slight negative impact; -- significant negative impact.

**TABLE 5.3 ASSESSMENT OF LTS COMPONENTS: PUBLIC TRANSPORT**

Action	SEA Topic area										Comments and overall assessment (including information on short, medium, long term; permanent, temporary; secondary, cumulative, synergistic effects) and proposed changes to the strategy
	Noise	Greenhouse gas emissions	Local air quality	Water, geology and soils	Biodiversity	Cultural heritage	Landscape and visual amenity	Material assets	Health		
Selective Vehicle Detection: Eskbank Road / Buccleuch / High Street (Priority 1)	0	0	+	0	0	0	0	0	0	+	Overall positive as promoting modal shift through more reliable public transport.
Selective Vehicle Detection: South Street / High Street / Edinburgh Road (Priority 2)	0	0	+	0	0	0	0	0	0	+	Overall positive as promoting modal shift through more reliable public transport.
Selective Vehicle Detection: High Street / Polton Street / Lothian Street (Priority 3)	0	0	+	0	0	0	0	0	0	+	Overall positive as promoting modal shift through more reliable public transport.
Selective Vehicle Detection: Lasswade Road / Wadingburn Road (Priority 4)	0	0	+	0	0	0	0	0	0	+	Overall positive as promoting modal shift through more reliable public transport.
Selective Vehicle Detection: Edinburgh Road / Queensway / Tesco (Priority 5)	0	0	+	0	0	0	0	0	0	+	Overall positive as promoting modal shift through more reliable public transport.
Bus lane and signals at the Auchendinny junction (B7026 / A701)	0	0	+	0	0	0	0	0	0	+	Overall positive as promoting modal shift through more reliable public transport.
Divert northbound bus routes away from the Gowkley Moss roundabout to use the old section of the A701. Provide 4 links to the A701 / B7003 / C40 Bush Loan and provide bus lanes at this junction	0	0	0	0	0	0	0	0	0	+	
Introduce bus priority measures and signal controls at the A703 / A701 Ploverhall roundabout	0	0	+	0	0	0	0	0	0	+	Overall positive as promoting modal shift through more reliable public transport.
Introduce bus lane provisions and pedestrian crossing facilities at the B7006 / A701 junction	0	0	+	0	0	0	0	0	0	++	Overall positive as promoting modal shift through more reliable public transport. Positive impact on safety.
Inclusion of low floor vehicles as a pre-requisite in all council contracted services	0	0	0	0	0	0	0	0	0	++	Overall positive impact on accessibility.
Provision of DDA compliant raised kerbs at bus	0	0	0	0	0	0	0	0	0	+	Overall positive impact on accessibility.

Action	SEA Topic area										Comments and overall assessment (including information on short, medium, long term; permanent, temporary; secondary, cumulative, synergistic effects) and proposed changes to the strategy
	Noise	Greenhouse gas emissions	Local air quality	Water, geology and soils	Biodiversity	Cultural heritage	Landscape and visual amenity	Material assets	Health		
stops											
Pursue Bus Route Development Opportunities	0	0	0	0	0	0	0	0	0	+	Overall positive as promoting modal shift through more public transport. Both possible positive and negative impacts on noise if new services, so overall neutral on noise.
Provision of a new turning facility at Rosewell	-	0	-	-	-	0	-	+	+	+	Positive impact as promoting modal shift and improved accessibility, although potential negative localised impacts as in rural area. Impacts from new hard surface on soil and water, although mitigated by design.
Provision of a new turning facility at Harveiston Mains to serve a new development.	-	0	-	-	-	0	-	+	+	+	Positive impact as promoting modal shift and improved accessibility, although potential negative localised impacts as new development. Impacts from new hard surface on soil and water, although mitigated by design.
Provision of a new bus route and infrastructure through the old car park at Straiton Retail Park. To include two pairs of bus stops and four shelters. +	0	0	+	0	0	0	0	0	0	+	Overall positive as promoting modal shift through more public transport.
Future development / expansion of the bus based Park and Ride site at Sheriffhall	-	-	-	?	?	?	-	+	+	+	More detailed assessment of impacts required on a project basis. Potential positive impact on reducing congestion at localised level, although outside Midlothian (Edinburgh). Potential negative impacts from generation of net additional vehicle kms. Negative impacts from land take of P&R. Positive impacts from improving accessibility.
Development of a bus based Park and Ride at Lothianburn	-	-	-	?	?	?	-	+	+	+	More detailed assessment of impacts required on a project basis. Potential positive impact on reducing congestion at localised level, although outside Midlothian (Edinburgh). Potential negative impacts

Action	SEA Topic area										Comments and overall assessment (including information on short, medium, long term; permanent, temporary; secondary, cumulative, synergistic effects) and proposed changes to the strategy
	Noise	Greenhouse gas emissions	Local air quality	Water, geology and soils	Biodiversity	Cultural heritage	Landscape and visual amenity	Material assets	Health		
Review programme of existing public transport subsidy	?	?	?	?	?	?	?	?	?	?	Unknown impacts as future programme as yet not completed.
Continue to work towards the re-opening of the Waverley Rail line linking Edinburgh with the Scottish Borders via Midlothian	-	+	+	-	-	-	-	?	+	EIA already carried out on Waverley Rail Line. Some negative impacts from new construction although to be mitigated. Overall positive as promoting modal shift to public transport.	
Ensure all new rail stations are designed to allow easy interchange	0	+	+	-	-	-	-	?	+	EIA already carried out on Waverley Rail Line. Some negative impacts from new construction although to be mitigated. Overall positive as promoting modal shift to public transport.	
CCTV provision at key interchange points	0	0	0	0	0	0	0	0	++	Positive impacts on safety.	
Enhanced lighting at bus stops	0	0	0	0	0	0	0	0	++	Positive impacts on safety.	
Installation of white lighting to replace sodium lighting	0	0	0	0	0	0	0	+	++	Positive impacts on safety and material assets as eco-friendly lighting.	
Provision of new bus shelters	0	0	+	0	0	0	0	?	+	Positive impacts as promoting modal shift through increased bus use. Potential positive impacts on material assets if recyclable materials used.	
Continue to support the national concessionary fares scheme	0	0	0	0	0	0	0	0	+	Positive impacts on promoting accessibility to services particularly for vulnerable groups.	
Ensure appropriate facilities for taxis in town centres	0	0	0	0	0	0	0	0	+	Positive impacts on promoting accessibility to services particularly for vulnerable groups.	
Publicity schemes	0	0	++	0	0	0	0	0	++	Overall positive as promoting modal shift through more public transport.	

**TABLE 5.4 ASSESSMENT OF LTS COMPONENTS: COMMUNITY TRANSPORT**

Action	SEA topic areas									Comments and overall assessment (including information on short, medium, long term; permanent, temporary; secondary, cumulative, synergistic effects) and proposed changes to the strategy	
	Noise	Greenhouse gas emissions	Local air quality	Water, geology and soils	Biodiversity	Cultural heritage	Landscape and visual amenity	Material assets	Health		
Undertake a review the community transport network	0	0	?	0	0	0	0	0	0	++	Overall positive as improving accessibility to key services including health. Unknown impacts on local air quality as outcome is not modal shift – moreover, possible negative impacts as encouraging more travel by those unable to previously.
Continue to administer a Taxicard scheme	0	0	0	0	0	0	0	0	0	+	Positive impacts on promoting accessibility to services particularly for vulnerable groups.

Key: ++ significant positive impact; + slight positive impact; 0 neutral impact; ? unknown impact; - slight negative impact; -- significant negative impact.

**TABLE 5.5 ASSESSMENT OF LTS COMPONENTS: SMARTER CHOICES**

Action	SEA Topic area										Comments and overall assessment (including information on short, medium, long term; permanent, temporary; secondary, cumulative, synergistic effects) and proposed changes to the strategy
	Noise	Greenhouse gas emissions	Local air quality	Water, geology and soils	Biodiversity	Cultural heritage	Landscape and visual amenity	Material assets	Health		
Continue to require Travel Plans as a planning condition in those developments where a Transport Assessment is required	0	+	++	0	0	0	0	?	++	Overall positive as promoting sustainable travel choices, thus achieving modal shift and improved levels of physical activity. Collective impact on emissions when implemented at authority level.	
Encourage monitoring of existing workplace travel plans	0	0	+	0	0	0	0	0	+	Overall positive as promoting sustainable travel choices, thus achieving modal shift and improved levels of physical activity. Collective impact on emissions when implemented at authority level.	
Development and implementation of a Council Travel Plan	0	+	++	0	0	0	0	?	++	Overall positive as promoting sustainable travel choices, thus achieving modal shift and improved levels of physical activity. Collective impact on emissions when implemented at authority level.	
Encourage the development of school travel plans	0	+	++	0	0	0	0	?	++	Overall positive as promoting sustainable travel choices, thus achieving modal shift and improved levels of physical activity. Collective impact on emissions when implemented at authority level.	
Monitor the impacts of existing school travel plans	0	0	+	0	0	0	0	0	+	Overall positive as promoting sustainable travel choices, thus achieving modal shift and improved levels of physical activity.	
Publicity campaigns	0	0	++	0	0	0	0	0	++	Overall positive as promoting sustainable travel choices, thus achieving modal shift and improved levels of physical activity.	
Continuation of vehicle emissions testing on a voluntary basis as an awareness raising exercise	0	+	++	0	0	0	0	0	++	Overall positive as aimed at reducing vehicle emissions, thus having positive impact on local air quality and health.	

Key: ++ significant positive impact; + slight positive impact; 0 neutral impact; ? unknown impact; - slight negative impact; -- significant negative impact.

**TABLE 5.6 ASSESSMENT OF LTS COMPONENTS: INFORMATION**

Action	SEA topic areas								Health	Comments and overall assessment (including information on short, medium, long term; permanent, temporary; secondary, cumulative, synergistic effects) and proposed changes to the strategy
	Noise	Greenhouse gas emissions	Local air quality	Water, geology and soils	Biodiversity	Cultural heritage	Landscape and visual amenity	Material assets		
Develop and implement a bus information strategy for Midlothian	0	+	++	0	0	0	0	0	++	Overall positive as promoting modal shift through increased use of public transport (buses), and improving accessibility. Cumulative impact on emissions at local authority level, through reduced car trips.
Implement Real Time Information facilities at priority bus stops	0	+	++	0	0	0	?	0	++	Overall positive as promoting modal shift through increased use of public transport (buses), and improving accessibility. Cumulative impact on emissions at local authority level, through reduced car trips. May have negative impact on townscape depending on location.
Continue to produce the Midlothian Travel Map and enhance its circulation	0	+	++	0	0	0	0	0	++	Overall positive as promoting modal shift through increased use of public transport, and improving accessibility. Cumulative impact on emissions at local authority level, through reduced car trips.
Develop composite public transport information booklets	0	+	++	0	0	0	0	0	++	Overall positive as promoting modal shift through increased use of public transport, and improving accessibility. Cumulative impact on emissions at local authority level, through reduced car trips.
Publicity of Sheriffhall Park and Ride facility	-	?	?	0	0	0	0	0	?	Potentially positive impacts at regional level through modal shift from private car, although impacts in Midlothian minimal.
Publicity of Straiton Park and Ride	-	?	?	0	0	0	0	0	?	Potentially positive impacts at regional level through modal shift from private car, although impacts in Midlothian minimal.
Publicity of new cycle routes	0	0	++	0	0	0	0	0	++	Overall positive as promoting modal shift through increased use of public transport, improving health through greater accessibility and physical activity levels.
Provision of road signage for new park and ride sites	0	?	?	0	0	0	?	0	?	Potentially positive impacts at regional level through modal shift from private car, although impacts in Midlothian minimal. May have negative impact on townscape depending on location.
Provision of signage on new cycle routes	0	0	++	0	0	0	?	0	++	Overall positive as promoting modal shift through increased use of public transport, improving health through greater accessibility and

Action	SEA topic areas									Health	Comments and overall assessment (including information on short, medium, long term; permanent, temporary; secondary, cumulative, synergistic effects) and proposed changes to the strategy
	Noise	Greenhouse gas emissions	Local air quality	Water, geology and soils	Biodiversity	Cultural heritage	Landscape and visual amenity	Material assets			
											physical activity levels. May have negative impact on townscape depending on location.

Key: ++ significant positive impact; + slight positive impact; 0 neutral impact; ? unknown impact; - slight negative impact; -- significant negative impact.

**TABLE 5.7 ASSESSMENT OF LTS COMPONENTS: PTWS**

Action	SEA topic areas									Comments and overall assessment (including information on short, medium, long term; permanent, temporary; secondary, cumulative, synergistic effects) and proposed changes to the strategy
	Noise	Greenhouse gas emissions	Local air quality	Water, geology and biodiversity	Cultural heritage	Landscape and visual amenity	Material assets	Health		
Provision of motorcycle parking at new developments	0	?	+	0	0	0	0	0	-	Potentially negative impacts overall as whilst emissions lower than cars per vehicle/km, additional risk of death or injury to riders and passengers is likely to outweigh any health benefits to third parties. Also more likely to abstract public transport passengers than car users.
Develop a Motorcycle Road Safety Education Programme	0	?	+	0	0	0	0	0	?	Despite focus on road safety, potentially negative impacts overall as whilst emissions lower than cars per vehicle/km, additional risk of death or injury to riders and passengers is likely to outweigh any health benefits to third parties. Also more likely to abstract public transport passengers than car users.
Road Safety Education	0	?	+	0	0	0	0	0	?	Despite focus on road safety, potentially negative impacts overall as whilst emissions lower than cars per vehicle/km, additional risk of death or injury to riders and passengers is likely to outweigh any health benefits to third parties. Also more likely to abstract public transport passengers than car users.
Speed reduction measures	0	?	+	0	0	0	0	0	?	Despite focus on road safety, potentially negative impacts overall as whilst emissions lower than cars per vehicle/km, additional risk of death or injury to riders and passengers is likely to outweigh any health benefits to third parties. Also more likely to abstract public transport passengers than car users.
Accident investigation and prevention measures	0	?	+	0	0	0	0	0	?	Despite focus on road safety, potentially negative impacts overall as whilst emissions lower than cars per vehicle/km, additional risk of death or injury to riders and passengers is likely to outweigh any health benefits to third parties. Also more likely to abstract public transport passengers than car users.

Key: ++ significant positive impact; + slight positive impact; 0 neutral impact; ? unknown impact; - slight negative impact; -- significant negative impact.

TABLE 5.8 ASSESSMENT OF LTS COMPONENTS: TRAFFIC MANAGEMENT, PARKING AND ROAD SAFETY

Action	SEA topic areas									Comments and overall assessment (including information on short, medium, long term; permanent, temporary; secondary, cumulative, synergistic effects) and proposed changes to the strategy
	Noise	Greenhouse gas emissions	Local air quality	Water, geology and soils	Biodiversity	Cultural heritage	Landscape and visual amenity	Material assets	Health	
Implement the actions identified in the Road Safety Action Plan (see walking Action Plan)	0	0	+	0	0	0	0	+	++	Overall positive as promoting safety and modal shift. Positive impact on material assets of recycling materials policy applied.
Traffic calming	0	0	+	0	0	0	0	+	++	Overall positive as promoting safety and modal shift. Slower speeds result in reduced emissions. Positive impact on material assets of recycling materials policy applied.
Expand 20 mile per hour zones	0	0	+	0	0	0	0	0	++	Overall positive as promoting safety and slower speeds (reduced emissions).
Evaluation of ATC data to monitor traffic growth	+	+	+	+	+	+	+	+	+	Overall positive as measure to produce data to assist with reducing congestion.
Improved bus service provision										Overall positive, as package of measures contained in Road Traffic Reduction Report aimed at reducing congestion.
Park and Ride facilities										
Improved information provision										
Improved cycle and pedestrian provision										
Safer Routes to Schools										
Travel Plans										
Traffic calming measures										
Speed limits										
Greater control over town centre parking										
Development of rail services										
Promoting grade separation of the Sheriffhall roundabout (Scottish Executive)	?	?	?	?	?	?	?	?	?	Overall not enough information known to make assessment as currently no plans or designs.

Action	SEA topic areas									Comments and overall assessment (including information on short, medium, long term; permanent, temporary; secondary, cumulative, synergistic effects) and proposed changes to the strategy
	Noise	Greenhouse gas emissions	Local air quality	Water, geology and soils	Biodiversity	Cultural heritage	Landscape and visual amenity	Material assets	Health	
Develop a Parking Strategy for Midlothian	?	?	?	?	?	?	?	?	?	Overall not enough information known to make assessment.
Monitor the impact of the Sheriffhall and Straiton Park and Rides on town centre parking	0	0	0	0	0	0	0	0	0	No impact as monitoring measure.

Key: ++ significant positive impact; + slight positive impact; 0 neutral impact; ? unknown impact; - slight negative impact; -- significant negative impact.

**TABLE 5.9 ASSESSMENT OF LTS COMPONENTS: MAINTENANCE**

Action	SEA topic areas									Comments and overall assessment (including information on short, medium, long term; permanent, temporary; secondary, cumulative, synergistic effects) and proposed changes to the strategy
	Noise	Greenhouse gas emissions	Local air quality	Water, geology and soils	Biodiversity	Cultural heritage	Landscape and visual amenity	Material assets	Health	
Resurface / re-construct 2.5% of the road network per annum	+	0	0	-	0	0	0	+	+	Overall positive impact as new smoother road surfaces produce less noise and better vehicle control (safety impact). Positive on material assets as maintaining condition. Possible negative impact on water and soil due to runoff from de-icants (rock salt).
Maintain the length of roads which require to be considered for maintenance treatment at the 2006 level of 34.7%	0	0	0	0	0	0	0	+	-	Positive on material assets as maintaining condition.
Resurface 0.5% of the footpath network per year	0	0	+	-	0	0	0	+	+	Overall positive impact as reducing tripping hazards and promoting walking (modal shift and physical fitness outcomes). Positive on material assets as maintaining condition. Possible negative impact on water and soil due to runoff from de-icants (rock salt).
Attend damaged equipment which poses a danger to the public and will attend other faults noted through CLARENCE and other means timeously	0	0	0	0	0	0	0	+	+	Overall positive impact as promoting efficient use and maintenance of authority assets and improving public security.
Develop an Asset Management Plan	0	0	0	0	0	0	0	++	0	Overall positive impact as promoting efficient use and maintenance of authority assets.
Upgrades to Trotters Bridge to remove weight restriction	0	0	0	?	?	0	?	+	?	Positive impact on authority assets as maintaining.
Upgrade to Temple Bridge to remove weight restriction	0	0	0	?	?	0	?	+	?	Positive impact on authority assets as maintaining.
Upgrade to Easter Auchendinny Bridge to remove weight restriction	0	0	0	?	?	0	?	+	?	Positive impact on authority assets as maintaining.
Upgrade to Dalhousie Bridge to remove	0	0	0	?	?	0	?	+	?	Positive impact on authority assets as maintaining.

Action	SEA topic areas									Comments and overall assessment (including information on short, medium, long term; permanent, temporary; secondary, cumulative, synergistic effects) and proposed changes to the strategy
	Noise	Greenhouse gas emissions	Local air quality	Water, geology and soils	Biodiversity	Cultural heritage	Landscape and visual amenity	Material assets	Health	
weight restriction										
Carry out structural inspections of all road structures biennially to produce prioritised list of programmed essential structural repairs.	0	0	0	0	0	0	0	+	0	Positive impact on maintaining existing material assets.
Undertake annual programme of essential repairs on priority selected structures to maintain load capacity and ensure adequate, or improved safety	0	0	0	0	0	0	0	+	+	Positive impact on authority assets as maintaining. Positive impact on public safety.
Carry out inspections of lighting units every two weeks throughout the year to ensure that faults are detected and repaired	0	0	0	0	0	0	0	+	+	Positive impact on authority assets as maintaining. Positive impact on public safety.
Carry out an annual inspection and cleaning of lighting units ensuring safety of equipment and optimum light output	0	0	0	0	0	0	0	+	+	Positive impact on authority assets as maintaining. Positive impact on public safety.
Structural testing of steel columns	0	0	0	0	0	0	0	+	+	Positive impact on authority assets as maintaining. Positive impact on public safety.
Five yearly electrical inspections and testing of lighting units	0	0	0	0	0	0	0	+	+	Positive impact on authority assets as maintaining. Positive impact on public safety.
Painting of steel lighting columns and brackets as required following inspection, to prevent premature failure due to corrosion	0	0	0	0	0	0	0	+	-	Positive impact on authority assets as maintaining. Positive impact on public safety.
Replacement of externally provided lighting cables	0	0	0	0	0	0	0	+	-	Positive impact on authority assets as maintaining. Positive impact on public safety.

Action	SEA topic areas									Comments and overall assessment (including information on short, medium, long term; permanent, temporary; secondary, cumulative, synergistic effects) and proposed changes to the strategy
	Noise	Greenhouse gas emissions	Local air quality	Water, geology and soils	Biodiversity	Cultural heritage	Landscape and visual amenity	Material assets	Health	
Continue to operate a system of priority routes	0	0	0	-	0	0	0	+	+	Overall positive impact on public safety. Possible negative impact on water and soil due to runoff from de-icers (rock salt).
Conduct a review of the winter maintenance programme	0	0	0	-	0	0	0	+	+	Overall positive impact on public safety. Possible negative impact on water and soil due to runoff from de-icers (rock salt).

Key: ++ significant positive impact; + slight positive impact; 0 neutral impact; ? unknown impact; - slight negative impact; -- significant negative impact.

**TABLE 5.10 ASSESSMENT OF LTS COMPONENTS: FREIGHT**

Action	SEA topic areas								Health	Comments and overall assessment (including information on short, medium, long term; permanent, temporary; secondary, cumulative, synergistic effects) and proposed changes to the strategy
	Noise	Greenhouse gas emissions	Local air quality	Water, geology and soils	Biodiversity	Cultural heritage	Landscape and visual amenity	Material assets		
Identify and publicise designated routes for HGVs	0	0	0	0	0	0	0	0	++	Positive impact on road safety as designated routes for HGVs.
Consultation with freight representatives	0	0	0	0	0	0	0	0	0	Positive if consultation to promote uptake of sustainable fuels, designated routing etc.
Traffic calming	0	0	+	0	0	0	0	0	++	Positive impact on road safety as designated routes for HGVs. Positive impact on air quality as slower speeds result in lower emissions.

Key: ++ significant positive impact; + slight positive impact; neutral impact (blank); ? unknown impact; - slight negative impact; -- significant negative impact.

TABLE 5.11 ASSESSMENT OF LTS COMPONENTS: LAND USE PLANNING

Action	SEA topic areas									Comments and overall assessment (including information on short, medium, long term; permanent, temporary; secondary, cumulative, synergistic effects) and proposed changes to the strategy
	Noise	Greenhouse gas emissions	Local air quality	Water, geology and soils	Biodiversity	Cultural heritage	Landscape and visual amenity	Material assets	Health	
Continue to require Travel Plans as a planning condition in those developments where a Transport Assessment is required	0	+	++	0	0	0	0	?	++	Overall positive as promoting sustainable travel choices, thus achieving modal shift and improved levels of physical activity. Collective impact on emissions when implemented at authority level.
A6094 to A68 Bonnyrigg to Dalkeith Distributor - Hopefield Section	?	?	?	?	?	?	?	?	?	Insufficient detail on scheme to make assessment. Environmental assessment will be required as these schemes are developed.
B6482 Bryans Road to Gowkshill Link	?	?	?	?	?	?	?	?	?	Insufficient detail on scheme to make assessment. Environmental assessment will be required as these schemes are developed.
South Mayfield Distributor	?	?	?	?	?	?	?	?	?	Insufficient detail on scheme to make assessment. Environmental assessment will be required as these schemes are developed.

Key: ++ significant positive impact; + slight positive impact; neutral impact (blank); ? unknown impact; - slight negative impact; -- significant negative impact.

### Appraisal matrix

5.8 Environmental objectives were set during the scoping stage and are a useful way to describe, analyse and compare the environmental effects of the strategy and can form the basis for future monitoring over the lifetime of the LTS. The environmental objectives have been used here to make an overall assessment of the LTS strategy components (contained in Section 3). The purpose of this overall assessment is to demonstrate the overall impacts of the strands of the LTS on the environmental conditions scoped for this assessment.

5.9 To recap, the SEA objectives are as follows:

- **Noise:** to ensure existing levels of annoyance from noise caused by traffic do not significantly increase.
- **Air Quality:** to keep air quality of a good standard and below National Air Quality Standards in all areas.
- **Greenhouse gas emissions:** to help tackle climate change by reducing the increase in CO<sub>2</sub> emissions from transport during the life of the plan, and helping to meet targets to nationally reduce overall emissions of greenhouse gases by 12.5% by 2008-12 in comparison with a 1990 baseline.
- **Biodiversity:** to avoid damage to designated wildlife / biodiversity sites and protected species.
- **Cultural heritage:** to preserve historic buildings, archaeological sites and their settings and other culturally and historically important features.
- **Water:** to limit water pollution from the transport network to levels that do not damage natural systems.
- **Soils:** to limit contamination of soils from the transport network and infrastructure development to levels that do not damage natural systems; and to safeguard soil quality and quantity.
- **Landscape:** to retain, protect and enhance landscape and townscape character, local distinctiveness and scenic value.
- **Health:** to create conditions to improve the health of the areas population.

TABLE 5.12 OVERALL ASSESSMENT OF LTS COMPONENTS AGAINST SEA OBJECTIVES

SEA topic / Strategy component	Noise	Air Quality	Greenhouse gas emissions	Biodiversity	Cultural heritage	Water	Soils	Landscape	Health	Comments	Changes to option?
Walking	0	+	+	+	+	+	+	+	++	Positive impact on air quality specifically and environment in general by reducing vehicle kms. Walking infrastructure also has less land take and fewer impacts on the landscape.	None
Cycling	0	+	+	+	+	+	+	+	++	Positive impact on air quality specifically and environment in general by reducing vehicle kms. Cycling infrastructure also has less land take and fewer impacts on the landscape.	None
Public transport	0	+	+	0	0	0	0	0	++	Positive impact on the environment by reducing private vehicle kms, although need to ensure additional roadspace from modal shift is not filled by more private cars, and sustainable fuel options explored for public transport. P&R schemes may have negative impacts, particularly land-take of sites and net generation of vehicle kms.	Work with operators to encourage uptake of cleaner fuels. Assess detailed impacts of P&R proposals.
Community transport	0	?	0	0	0	0	0	0	++	Positive impact on improving health of the population by facilitating better accessibility to health services and improving quality of life for users.	None
Smarter Choices	0	++	+	+	+	+	+	+	++	Positive impact on environment through promotion of walking, cycling and public transport by reducing vehicle kms and resultant emissions, as well as reducing need for further car-based infrastructure.	None
Information	0	+	+	0	0	0	0	0	+	Positive impact on environment through promotion of walking, cycling and public transport by reducing vehicle kms and resultant emissions, as well as reducing need for further car-based infrastructure.	None

SEA topic / Strategy component	Noise	Air Quality	Greenhouse gas emissions	Biodiversity	Cultural heritage	Water	Soils	Landscape	Health	Comments	Changes to option?
										However, questionable impacts from promoting P&R.	
Powered Two Wheelers	0	?	?	0	0	0	0	0	-	Potentially negative impacts overall as whilst emissions lower than cars per vehicle/km, additional risk of death or injury to riders and passengers is likely to outweigh any health benefits to third parties. PTWs also more likely to abstract public transport passengers than car users.	Continue to provide for PTWs in order to promote choice but refrain from active promotion as a sustainable mode.
TM&P	0	+	+	0	0	0	0	0	+	Positive as measures to manage traffic growth and therefore resulting vehicle kms.	None
Maintenance	+	0	0	0	0	0	0	0	+	Positive impact on health of population by improving safety of infrastructure.	None
Freight	0	0	0	0	0	0	0	0	+	Positive impact on health of population by improving road safety through policies to designate HGV routes and traffic calming.	Work with hauliers to promote uptake of cleaner fuels.
Land use planning	?	+	+	?	?	?	?	?	+	Positive impact on mode shift through promotion of travel plans at large trip generating developments. Impacts of new road schemes will require detailed individual assessment.	New road schemes will require detailed individual assessment.

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**Traffic management and parking**

- 5.10 Traffic management measures, concerning flow and speed, consist of traffic calming and new speed signs, changes to the limit, etc. These measures are unlikely to cause any significant change to the environment, as they do not seek to actually remove any traffic. A lowering of average speed could improve safety, so there could be some positive benefit to the 'population and human health' category.
- 5.11 The level of detail available for the local road schemes, road crossings and minor works is too low to be able to make any accurate judgements as to the environmental implications. Most are unlikely to have any impact on the environment as it is not assumed they will significantly increase or reduce overall traffic levels, or contain any plans to implement any large, physical structures. However, road-crossing works are likely to improve safety for pedestrians, and may therefore create a positive impact on 'population and human health'.
- 5.12 A set of initiatives under this category of TM&P are already contained within the authority's Road Traffic Reduction Report, and cumulatively are designed to reduce the growth of road traffic, although individually, they may have variable impacts on the environment, for example Park and Ride sites (P&R is discussed in more detail below under Public Transport).
- 5.13 As there are no imminent larger projects as part of the proposed LTS, it is likely that there will be only a minimal environmental impact as a result of the strategic highways measures. There is no predicted noticeable change to the other SEA elements such as cultural heritage, soil and water.
- 5.14 Any large schemes in the future would be subject to an individual Environmental Impact Assessment (EIA).

**Maintenance**

- 5.15 This category includes measures for carriageways, footways, structures, and other 'environmental' schemes such as streetlight maintenance. Overall, these elements of the LTS are not likely to have any significant effects on the environment. However, there are a few possible exceptions, as discussed here.
- 5.16 Re-surfacing projects could have implications for noise, as the smoothness of road surfaces has a notable impact on traffic noise<sup>11</sup>. The unevenness of road surfaces can also, if severe, cause large tyre and suspension movements which can affect the handling of vehicles, with an adverse effect on road safety.
- 5.17 There can be negative environmental implications on soil and water when salt is used during the winter to prevent the formation of frost and ice on the roads and footpaths. The use of salt can damage plants and trees on the verge, and the runoff can cause

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<sup>11</sup> Design Manual for Roads and Bridges, 1999, Volume 7, Chapter 5, HD3699 [www.archive2.official-documents.co.uk/document/deps/ha/dmrb/vol7/section5/hd3699.pdf](http://www.archive2.official-documents.co.uk/document/deps/ha/dmrb/vol7/section5/hd3699.pdf)

water pollution and change the properties of soil<sup>12</sup>.

- 5.18 The Council has a number of measures to maintain street lighting. There will be an environmental benefit through the policy to replace existing sodium lighting with white lighting. Research indicates that crime (and the perceived risk of crime) can also be reduced<sup>13</sup> with adequate lighting provision, having a positive impact on ‘population and human health’.
- 5.19 The Council currently does not have a specific target for recycling of material assets used in construction and upkeep of infrastructure, however it is estimated that in 2005/06 approximately 3,000 tonnes of materials was recycled, with associated environmental benefits.

***Public transport and information***

- 5.20 More frequent buses could have negative impacts on noise. These large vehicles, which are frequently slowing down and speeding up, emit higher levels of noise than normal traffic, which is more noticeable to human ears, causing higher annoyance. The same applies to improvements to bus stations, stops and other measures which encourage higher bus use. However, at the same time, if these bus improvements cause modal shift away from car use, these measures would hold positive air quality benefits. There is not enough detail available at present to give any more accurate measure of the extent of the positive or negative impacts on noise and air quality. No other likely significant environmental impact is expected from the bus measures, although further investigation of environmentally-friendly fuel options for public transport is advocated.
- 5.21 There is not enough detail available on the route, the frequency, the demand for, or the types of vehicles to be used in the P&R measures in this activity area, so we cannot make an accurate assessment of their impacts on the environment. Overall, there is evidence to suggest that P&R may actually generate additional net vehicle kms. The key benefit from P&R schemes is in reduction of congestion, and potentially local air quality improvements as a consequence, although most of these benefits would be felt outside of the Midlothian area, for trips into Edinburgh. Any such benefits may however be offset by higher emissions of CO<sub>2</sub>, for example. There also would be the direct land take and physical impact of the P&R facility itself, which can be considerable depending on its location, and care should be taken to ensure they do not encroach on environmentally sensitive designated areas or areas of cultural importance.
- 5.22 There is unlikely to be much negative environmental impact directly from investment in information systems which promote sustainable travel choices – moreover, promoting sustainable travel should have an overall positive environmental impact through reducing vehicular kms and resulting emissions.

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<sup>12</sup> Highways Agency, 2003, Building Better Roads: Towards Sustainable Construction (corporate document) [www.highways.gov.uk/aboutus/corpdocs/building\\_better\\_roads/03.htm](http://www.highways.gov.uk/aboutus/corpdocs/building_better_roads/03.htm)

<sup>13</sup> Institution of Lighting Engineers, 1999, Lighting and Crime

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### **Community Transport**

- 5.23 The measures contained within this LTS category are primarily designed to improve the Council's understanding of this sector, and review how it is delivered. Overall the Council supports the development of community transport, a sector which has potentially beneficial impacts on the health of the population by improving accessibility to key services, including health services. Improved accessibility to facilities, particularly for those who have limited travel options and may otherwise suffer from social exclusion and social isolation, may indeed have a beneficial impact on mental health and overall quality of life, thus benefiting society as a whole.

### **Walking, Cycling and Smarter Choices**

- 5.24 Encouraging non-motorised transport and re-allocated road space to non-motorised modes can improve physical fitness and therefore makes a positive contribution to human health. However, care will have to be taken to ensure that any road space freed up by modal shift is not filled by additional vehicular traffic. There have been no estimations, however, as to how many more people will cycle or walk due to these measures, so the assessment will have to make the broad generalisation that more activity will occur. If some travellers switch from motorised transport to walking or cycling, this could have a small positive impact on noise and air quality. It is unlikely to make much difference to climate change, at such a small scale. In terms of the physical impact of building work, we cannot yet say whether there will be any impact on biodiversity, the natural environment or cultural heritage, as the precise locations of many new lanes and routes are not yet specified in detail.
- 5.25 Smarter Choices includes supporting measures to promote sustainable travel choices, including travel plans and promotional activities. These can be grouped into what is often referred to as 'soft measures'. Collectively, soft measures have been reported to reduce peak period urban traffic by about 21% (off peak 13%)<sup>14</sup>. Benefits include increases in bus use, walking and cycling (with associated health gains). Depending on the extent of these initiatives, the soft measures could have positive air quality and social impacts.

### **Freight**

- 5.26 The impacts of freight policies will have a minimal impact on the environment as in the main, they are aiming to ensure HGVs use appropriate routes within the area. This could potentially have road safety benefits for populations currently affected by large volumes of HGV traffic.

### **Powered Two Wheelers (PTWs)**

- 5.27 The LTS components on PTWs primarily focus on promoting road safety to users, which should have a beneficial impact on human safety and health. However, there is the potential for net negative impacts through encouragement of PTWs use, as whilst

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<sup>14</sup> Cairns S, et al (2004) - **Smarter Choices: Changing The Way We Travel** - Department for Transport, London.

emissions tend to be lower than cars per vehicle/km, the additional risk of death or injury to riders and passengers is likely to outweigh any health benefits to third parties. PTWs are also more likely to abstract public transport passengers than car users, thus detracting from policies to promote modal shift and therefore reduce the negative environmental impacts of private car use. The policies contained in the LTS are however aimed at ensuring there is appropriate provision for those who wish to use PTWs rather than actively encouraging their use.

***Land use planning***

- 5.28 The majority of the road improvements listed in this activity area are measures for which land has been safeguarded in the Local Plan and will therefore have been subject to SEA through this process. These schemes are associated with new developments and are intended to ensure that new housing developments have suitable access to the transport network, including public transport.
- 5.29 It will be necessary to ensure that Environmental Impact Assessments are undertaken for each of these road schemes.

**Conclusion**

- 5.30 Given the assessment of LTS actions against the objectives and topic areas set within the SEA, and the outline nature of many of the proposals which negates more detailed impact assessment, we conclude at this stage that the LTS will have no major, identifiable, detrimental impacts on the environment. Some minor negative or uncertain impacts have been identified in this section, and the following section seeks to explore how these could be mitigated.

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## 6. MITIGATION

### Role of mitigation in SEA

- 6.1 One of the key purposes of the SEA process is to ensure environmental protection is an integral part of the plan making process. A principal way of achieving this is by incorporating mitigation measures into the policies and proposals of the plan as it develops.
- 6.2 The SEA Regulations specify the Environmental Report must contain a description of:
- ‘The measures envisaged to prevent, reduce and as fully as possible offset any significant adverse effects on the environment of implementing the plan or programme.’*
- 6.3 However, given the nature of the interactions between transport policies and proposals and the environment, it is unlikely that there will be many significantly adverse impacts. The analysis in **Section 5** generally concurs with this, finding only some uncertain effects. The lack of detail regarding the extent and location of many of the measures meant it was not possible to identify much impact.
- 6.4 Despite this, it may be prudent to consider ways in which the policies and proposals that may be put forward in the LTS could be changed in order to lessen any adverse environmental effects that they might have, or indeed help to secure environmental improvements. This can be done in three main ways:
- **Avoidance or prevention:** This involves modifying the alternative options for the LTS. One or more elements of an alternative can be refined further in order to avoid particular environmental effects.
  - **Reduction:** When all alternative options or approaches to avoiding an effect have been examined, ways of reducing the extent or magnitude of the effect need to be considered. This could focus on timing or phasing of LTS measures to reduce adverse effects. An example would be re-timing of all maintenance works outside of peak periods, to reduce carbon dioxide emissions associated with congestion.
  - **Offsetting or compensation:** If no opportunities are available to either avoid or reduce adverse effects, remedial measures can be taken. This could be financial compensation for the loss of, or damage to, environmental resources, although the scope for this might be limited in the context of an LTS. However, it can also include replacing the resource. This could be by providing a comparable or similar resource somewhere else, although this may not be an appropriate response if resources are unique or irreplaceable.
- 6.5 Promoting policies and proposals that enhance the environment may also become an end in itself. For example, a program of street works might be extended to include the removal of unnecessary street railings and obstacles to enhance the setting of historic buildings or areas.
- 6.6 Specific measures that might be applied to reduce the environmental effects of transport, and that may be appropriate to incorporate into the LTS policies and proposals are considered in the following paragraphs under specific topic headings.
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## **Recommendations for mitigation**

### **Noise**

- 6.7 Reducing noise effects from existing traffic flows is quite difficult. Traffic management can help, but traffic flows have to be reduced by more than 50% to have any real effect on noise levels. Reducing speed limits in residential areas is another, perhaps more effective, option. Noise barriers or mounds can be provided to protect homes and schools, but these can only be provided where there is space to do so. Secondary glazing can be provided for homes and other sensitive buildings, but the Council does not have legal powers to do this to resolve noise problems that already exist.
- 6.8 A practical measure that can be effective is the use of low-noise road surfaces, such as porous asphalt or ‘whisper’ concrete. The use of these can be considered as replacement materials for an on-going maintenance programme. However, there are budget implications for this, as these materials tend to be less durable than those that they replace.
- 6.9 For new highways and railway schemes, noise impacts will be assessed specifically as part of the Environmental Impact Assessment (EIA) process that is part of consent requirements. Noise barriers/mounds and/or secondary glazing have to be provided to mitigate effects if noise levels are predicted to exceed specified levels in nearby residential buildings under the provisions of the Land Compensation (Scotland) Act 1973. Alternatively, alignments can be adjusted to reduce noise to acceptable levels for people living nearby.

### **Local Air Quality**

- 6.10 In order to make a ‘significant’ difference in air quality, traffic flows would need to drop at least 10% (unless the road has particularly high flows, or there are particular sensitivities, such as traffic congestion, change to the speed limit or the presence an Air Quality Management Area). It should be noted that Midlothian currently does not have any Air Quality Management Areas, although this does not suggest the Council will be any less vigilant in ensuring its policies minimise negative impacts on local air quality.
- 6.11 The key ways in which local air pollution may be tackled through transport policy measures are:
- Reducing emissions at source, through use of fuel-efficiency, filtering technologies or use of alternative fuels;
  - Reducing levels of traffic overall, or at specific locations where air quality is an identified problem; or
  - Reducing congestion and high traffic speeds, again focusing on areas where air quality is particularly poor.
- 6.12 In the context of the LTS, there are a myriad of measures that may be considered to achieve one or other of these ends. Some will have already been considered by the Council and rejected on the basis of the transport outcomes they would have, or other

adverse effects on accessibility or economic development, for example. However, the full range of measures which the Scottish Executive recommends should be considered in the context of air quality and transport at a local level are as follows<sup>15</sup>:

- Measures developed under the provisions of the Road Traffic Reduction Act 1997 and other traffic regulation to reduce traffic;
- Promoting the use of cleaner fuels, as advised by the Scottish Executive's 'PowerShift', *autogas* + and 'CleanUp Scotland' programmes<sup>16</sup>;
- Road user charging;
- Declaring 'Low Emission Zones', where only vehicles meeting stringent emission standards are allowed to enter;
- Declaring 'Home Zones', where road space is shared between motor vehicles and other road users with the needs of pedestrians and cyclists made a priority, and "Clear Zones" which tackle town centres;
- Access restrictions to certain areas to discourage car access, provided there are alternative routes available;
- Traffic calming measures to reduce traffic speeds and aggressive driving;
- Reallocation of road space to favour pedestrians and cyclists, with results similar to 'Home Zones' and traffic calming;
- High occupancy vehicle lanes, which only cars carrying 2 or more people are permitted to use, to encourage car sharing;
- Vehicle restricted areas, banning all (or specific classes of) vehicles from entering;
- Parking controls, as a means of general trip-end restraint, or to remove the problem of vehicles 'cruising' slowly when searching for spaces;
- Adjusting automated traffic control systems to avoid congestion, particularly in areas where air quality is poor;
- Speed limits on roads where traffic speeds are very high and air quality is poor as a consequence;
- Promoting the use of public transport generally to effect a modal shift and reduce road traffic levels overall;
- Testing cars at the roadside to ensure compliance with emission standards; and
- Mode-specific measures such as rail Park and Ride; bus priority, information and interchange; Park and Ride; freight quality partnerships to encourage action to reduce emissions; promoting walking and cycling; safe routes to schools; and providing secure parking for motorcycles.

6.13 Measures can also be adopted to avoid stationary vehicles with engines running, e.g.

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<sup>15</sup> Scottish Executive (2003) - **Part IV of the Environment Act 1995 Local Air Quality Management: Revised Policy Guidance**, February 2003, <http://www.scotland.gov.uk/Resource/Doc/1052/0002252.doc>.

<sup>16</sup> The Scottish Executive funds these programmes to promote cleaner fuels. CleanUp Scotland provides grants towards the cost of fitting vehicles with emission reducing equipment, and is managed by the Energy Savings Trust; PowerShift offers a grant of up to 75% of the additional cost of converting a vehicle to run on liquid petroleum gas (LPG) for a vehicle on the PowerShift Register. *autogas+*, which only operates in Scotland, complements the main PowerShift Programme and provides a grant of £800 to convert petrol vehicles not on the PowerShift Register to run on LPG

reducing congestion, or requiring taxis and buses have engines turned off at ranks or stands.

- 6.14 Significant reductions in traffic flows are usually necessary to provide any significant effect on air quality, and on this basis individual measures are not likely to be particularly effective. However, a range of measures developed as part of a coherent and targeted strategy may together achieve the required improvements.

### ***Climate Change***

- 6.15 Measures to reduce the level of greenhouse gas emissions from transport essentially focus on reducing the amount of travel, or improving the fuel efficiency of vehicles. Consequently, most of the measures listed in paragraph 6.12 above, in relation to the improvement of local air quality may also provide benefits in terms of reducing greenhouse gas emissions.

- 6.16 In addition, longer term measures to reduce the need to travel through better integration of transport and land use planning, and a focus on access to facilities rather than mobility as an end in itself, are available to help reduce greenhouse gas emissions overall.

### ***Townscape and Landscape***

- 6.17 In built-up areas, care should be taken to avoid effects on designated areas such as Conservation Areas, or direct effects on buildings/structures listed for their architectural significance, or the setting of these.

- 6.18 Similarly, the best mitigation for effects on the natural landscape features is to ensure, as far as is reasonably practical, that the policies and proposals of the LTS do not directly affect protected areas or resources that have been designated on the basis of the quality of the landscape.

- 6.19 Where such effects are unavoidable, it is important that the design of measures respects and takes account of their setting. For major schemes, this will be addressed through the EIA process.

### ***Heritage***

- 6.20 All efforts should be taken to make sure that the policies and proposals of the LTS should not adversely affect heritage resources, such as Conservation Areas, buildings/structures listed for their historical interest, historic landscapes, or archaeological resources.

- 6.21 If such effects are unavoidable, the advice set out in NPPG5 ‘Planning and Archaeology’<sup>17</sup> and NPPG 18 ‘Planning and the Historic Environment’ should be followed to devise appropriate mitigation. The general preference is for historic and archaeological resources to be recorded and preserved in situ, although excavation and

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<sup>17</sup> NPPG5 Archaeology and Planning, 1998, <http://www.scotland.gov.uk/Publications/1998/10/nppg5>

removal may be an option if there is a risk that the resource may be lost or destroyed otherwise.

### ***Biodiversity, Flora and Fauna***

- 6.22 The key principles for mitigating adverse effects on biodiversity are to control the sources of impacts, or the exposure of ecological receptors to them. This can take a wide range of forms, but due to the limited effectiveness of many ecological restoration measures, every effort should be made to avoid significant adverse impacts on biodiversity before resorting to other measures. Some adverse effects might be avoided through changes to the LTS, such as adding, deleting or refining specific policies or proposals, or by bringing forward new alternatives. Where impacts cannot be avoided, it may be possible to limit damage. In some cases biodiversity may recover spontaneously if affected by policies or proposals of the plan, and no "mitigation" other than time is required. In other cases, mitigation could be put into effect through provisions in later plans, requirements to carry out EIA for specific types of projects, etc...
- 6.23 Landscape works, including habitat creation and restoration are often promoted to mitigate adverse ecological impacts. However, they are often ineffective or take a long time for satisfactory results to be achieved. Therefore, the guiding principal here should be that compensation should only be used as a last resort, if loss of habitats or species is unavoidable. Mitigation banking can also be considered, where equivalent replacement habitat (in terms of both quantity and quality) is created to compensate for the loss or damage to any natural or semi-natural habitat.
- 6.24 In general terms, the most important consideration for developing the LTS will be to ensure, as far as is reasonably practical, that policies and proposals do not directly effect protected areas that have been designated on biodiversity grounds (e.g. Wetland areas or Sites of Special Scientific Interest) or habitats where protected species of flora or fauna have been identified.
- 6.25 If such effects are unavoidable, commitments should be made to developing appropriate assessment and management procedures to minimise the loss or damage to biodiversity resources, and to re-instate or replace these as appropriate. This would be achieved through the EIA process that forms part of consent processes for major schemes, or through management commitments on smaller proposals.
- 6.26 Taking account of biodiversity issues in developing traffic management and maintenance programmes in the LTS is particularly important. Measures to reduce noise and air pollution from traffic, as discussed above, can help reduce effects on biodiversity also. In addition, care must be taken over specifying the use of herbicides and pesticides in maintenance work, as also should be the case in the use of de-icing salts and other chemicals. In all cases, the potential toxic effects on flora and fauna should be considered, and measures taken to ensure that no important or protected species are likely to be damaged as a result of their use.

### ***Soil and Water***

- 6.27 It is anticipated that the physical impacts on water and soil from LTS policies and

proposals will be taken into account during the planning and detailed design stages. Clearly, geotechnical, hydro-geological and hydro-technical studies will be undertaken for any schemes that involve civil engineering works, and will identify any specific potential problems that may arise. More generally, avoiding watercourses and areas designated for the protection of aquifers will be prudent, as will taking account of the potential to affect sites with historic contamination due to previous land uses.

- 6.28 A particular concern is flood risk, and any works that are proposed should not increase the risk of flooding. Planning authorities are required to consult SEPA before granting planning permission where it appears that the development is likely to be affected by flooding or is likely to increase the probability of flooding elsewhere.
- 6.29 Maintenance programmes within the LTS should also take account of the handling and treatment of contaminated run-off from road surfaces. Drainage systems should be sufficient to cope with the volume of run-off, and include features such as traps or balancing ponds to ensure contaminated water does not cause ground or water pollution. Maintenance regimes should also include routine inspection and cleaning of these features to make sure that they remain effective.

***Material Assets***

- 6.30 Midlothian Council does not currently have a policy on the use of recycled materials in its road maintenance, although does recycle much of the material used in the construction and upkeep of its infrastructure (3,000 tonnes of materials were recycled in 2005/06 and approximately 1,560 tonnes sent to landfill). This is an area where Midlothian Council could make positive improvements to the efficiency of its use of resources. It is recommended that a policy to require the use of a minimum percentage of recycled materials in construction and maintenance be produced. This should also cover the recycling of materials no longer required when undertaking maintenance works.

## 7. MONITORING

### Indicators

7.1 At the scoping stage of this SEA, objectives and indicators were selected and presented to the Council and the statutory environmental bodies. It is suggested that Midlothian use all of the indicators suggested in its Local Transport Strategy. It currently has included indicators related to air quality, in conjunction with the Air Quality Action Plan. However, monitoring other environmental problems in the local authority area, especially noise, is highly recommended. The indicators (one for each of the previously established SEA objectives) are listed in Table 7.1 below.

**TABLE 7.1 SEA OBJECTIVES AND INDICATORS**

SEA topic	Objective	Indicator	Baseline
Noise	To ensure existing levels of annoyance from noise caused by traffic do not significantly increase.	Prediction of road traffic noise at key locations on the road network.	Data unavailable at present
Air quality	To keep air quality of a good standard and below National Air Quality Standards in all areas	<b>NO<sub>2</sub></b> : Annual mean <b>PM<sub>10</sub></b> : Annual mean Source: Local Authority Air Quality Monitoring Reports	No air quality management areas No exceedences of air quality objectives for Nitrogen Dioxide and Particulates
Greenhouse gas emissions	To help tackle climate change by reducing the increase in CO <sub>2</sub> emissions from transport during the life of the plan, and helping to meet targets to nationally reduce overall emissions of greenhouse gases by 12.5% by 2008-12 in comparison with a 1990 baseline.	Predicted emissions of CO <sub>2</sub> from transport.	The Scottish Executive estimates that transport accounted for 12% of Scottish CO <sub>2</sub> emissions in 2000. Approximately 144 kilotonnes of Carbon Dioxide was emitted from road transport in Midlothian in 2003.
Biodiversity	To avoid damage to designated wildlife / biodiversity sites and protected species.	Number of designated sites affected in LTS strategies.	Ramsar sites: 2 (504ha) SPAs: 2 (504ha) SACs: 1 (53ha) SSSIs: 15 (1,205ha) Nature Reserve: 1 Wildlife sites: 52 Woodland Trust sites: 2
Cultural heritage	To preserve historic buildings, archaeological sites and their settings and other culturally and historically important features.	Number of listed buildings, scheduled monuments, Historic Gardens and Designed Landscapes affected in LTS strategies.	Conservation sites: 20 (3 are nationally important) Listed buildings: 714 Nationally important historic gardens and designed landscapes: 12 Scheduled Ancient Monuments: 79

SEA topic	Objective	Indicator	Baseline
Water	To limit water pollution from the transport network to levels that do not damage natural systems.	The quality of river, coastal and estuary waters as monitored by SEPA.	58 stretches of freshwater (193km) 21% classified as A1 (Excellent)
Soils	To limit contamination of soils from the transport network and infrastructure development to levels that do not damage natural systems. To safeguard soil quality and quantity	Presence of contaminated land.	317 hectares of vacant or derelict land (108 sites) 55 hectares of contaminated land across Edinburgh and the Lothians
Landscape	To retain, protect and enhance landscape character, local distinctiveness and scenic value.	Number of landscape character types Areas protected for their international, national or local landscape importance.	4 Landscape character types 225.1km <sup>2</sup> of Areas of Great Landscape Value (63.4% of Midlothian's total land area)
Health	To create conditions to improve the health of the areas population.	Air quality indicators (respiratory health) The proportion of the population feeling in 'good health'.	69% of the population in 'good health' 19.2% of the population have a long-term limiting illness.

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## 8. NEXT STEPS

- 8.1 The draft LTS along with this environmental report will be made available to the general public as well as the statutory consultation bodies (SEPA, Scottish Natural Heritage and Historic Scotland), in accordance with the SEA guidance.
- 8.2 The final LTS is due to be published in December 2006. Comments and responses to this Environmental Report will be considered in November 2006, so that revisions can be made before the LTS is finalised.

### Consultation

- 8.3 The purpose of consultation is to allow effective engagement and input into the strategy and the environmental assessment. It also helps ensure that the LTS and its assessment are as comprehensive as possible.
- 8.4 When examining the report, consultees may wish to consider the following:
- Do you agree with the general findings of the SEA that the LTS will have a positive impact on the environment and that significant effects will be effectively managed by the mitigation proposals?
  - Are there any additional mitigation techniques for addressing the environmental impact of the LTS which have been overlooked?
  - Is there any significant environmental data missing or misrepresented?
  - In terms of environmental impact, are there any alternative LTS policies and plans which should have been considered?
- 8.5 Any responses to the SEA Environmental Report will be assessed in terms of environmental significance and likelihood of a negative environmental impact resulting if the response was not dealt with through the SEA process. This assessment will be taken using the expert judgement of the SEA consultant to the Council (Steer Davies Gleave) and Midlothian Council Officers.

### Adoption of full strategy and SEA statement

- 8.6 As previously stated, the full LTS will be published in December 2006. The SEA Environmental Statement will be produced as soon as possible after the adoption of the strategy. The Statement must show how environmental considerations have been integrated into the LTS, how the findings of the Environmental Report have been taken into account, and how the consultation responses have been addressed.
- 8.7 Finally, the Statement must also give the reasons for finally selecting the LTS measures and strategies adopted rather than the alternatives considered, and the accompanying monitoring measures.
- 8.8 This should demonstrate the action taken by Midlothian Council during the development of the SEA and LTS to produce a better outcome. It shows how the environment has been considered at every step, and relevant information has been reviewed and considered to influence the final shape of the strategy.
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**APPENDIX A**  
**CONSULTATION RESPONSES**



## A1. CONSULTATION RESPONSES ON SCOPING REPORT FOR THE SEA OF THE MIDLOTHIAN LOCAL TRANSPORT STRATEGY

### HISTORIC SCOTLAND

COMMENT	RESPONSE
The Scoping Report provides a clear outline of the approach to the environmental assessment of the strategy, and subject to the specific comments set out below, I am happy with the scope and level of detail proposed for the environmental assessment.	Noted.
Table 2.1 sets out the plans, programmes, policy and legislation that are relevant to the LTS and the SEA. I note that you have reviewed NPPGs 5 and 18 and PAN 42. You may also wish to refer to <i>Passed to the Future</i> , which sets out Scottish Ministers' policy for the sustainable management of the historic environment.	This document has been reviewed and added to the list in Table 2.1 and an updated policy review included in Appendix B.
Simply for information, Historic Scotland is developing a new series of policy documents (Scottish Historic Environment Policy (SHEP)) that both sets out Scottish Ministers' vision and strategic policies for the wider Historic Environment, and provides greater policy direction for Historic Scotland. SHEP1 is the overarching policy statement for the historic environment. It provides a framework for more detailed strategic policies and operational policies that inform the day to day work of a range of organisations that have a role and interest in managing the historic environment. SHEP1 was recently available for public consultation; however, I have provided a link to the draft document as you may find it helpful.	Noted.
Paragraph 2.3 sets out the main policy objectives that have been derived from the review of plans, programmes and policies. I note that the requirement to "...protect archaeological sites and listed buildings" is identified. I suggest rewording this to "protect and, where appropriate, enhance the historic environment" to use the term 'historic environment' more consistently and in line with the definition provided in point 1.3 of the covering letter.	Agreed. We have revised this in the Environmental Report.
In the Environmental Report it would be useful to describe how the environmental protection objectives have been taken into account during the preparation of the LTS.	This has been addressed in section 5 of the Environmental report, where the objectives are used to assess the overall LTS.
<b>Scope of environmental effects</b>	
Section 3 describes the potential impacts of transport on each of the environmental parameters, and I found this format helpful in clearly setting out the scope of the assessment. The potential impacts identified in paragraph 3.32, transport – related proposals and activities may also affect the historic environment in the following ways:	
<ul style="list-style-type: none"> <li>o Construction of new infrastructure may affect the wider landscape setting of particular sites (e.g. scheduled ancient monuments) or sensitive historic landscapes</li> </ul>	This has been noted.
<ul style="list-style-type: none"> <li>o Maintenance and management of existing infrastructure may affect historic environment features e.g. historic bridges.</li> </ul>	This has been noted.

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- There may also be opportunities to improve the accessibility of historic environment features including towns, landscapes and individual sites, providing that this is undertaken sympathetically. Access could also be combined with measure to improve the enjoyment and understanding of the historic environment (e.g. interpretation boards), again provided that this is undertaken sensitively.

This comment has been noted and passed to Midlothian Council for future notice.

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Paragraph 3.3 identifies the historic environment features that will be considered in the assessment. This should also include:

- The wider setting of scheduled ancient monuments and archaeological sites;
- The setting of listed buildings;
- Gardens and designed landscapes (unless this is considered within the 'Landscape and Visual Amenity' topic).

This has been noted and these features will be considered in the Environmental Report.

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The scope of the assessment is summarised at Table 3.1, and in summary for the 'cultural heritage' topic notes that assessment of effects will be focussed on 'designated' suggests that locally important historic environment features may not be considered in the assessment however these are included in the preceding section of the report (paragraph 3.3). I would welcome clarification that impacts on locally important historic environment features will be considered in the assessment e.g. archaeological sites on the Sites and Monuments Record.

For clarification, our definition of 'designated' includes all historic features that are listed on the Sites and Monuments Record.

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### Environmental Baseline

I am content that baseline data has been provided for most of relevant features of the historic environment listed in point 1.3 (scheduled ancient monuments, listed buildings, conservation areas and gardens and designed landscapes). Information on locally important archaeological sites should also be included. This can be obtained from the Sites and Monuments Record held by East Lothian Archaeological Service.

The Sites and Monuments Record for Midlothian, held by East Lothian Archaeological Service is in a non-cleansed state and the data is not up to date.

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Simply for information, at some point in the future Historic Scotland is likely to request that historic landscapes are taken into consideration. Historic environment features are an integral component of landscape, and present day landscapes are the result of both natural environmental conditions and the interaction between people and the environment over a long period of time. Historic land-use assessment (HLA) can add information on the historic dimension of landscape character assessment. The HLA is a GIS-based analysis of past and present land-use, developed jointly by Historic Scotland and RCAHMS and can be found on the RCAHMS web-site ([www.rcahms.gov.uk](http://www.rcahms.gov.uk)) at HLAMAP. However, the HLA programme does not yet have Scotland wide coverage.

Noted.

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When you undertake the assessment it might be useful to map the baseline data alongside the elements of the strategy that have spatial information e.g. transport schemes. This will help you to define any environmental constraints and consider alternative options.

We will do this as far as we are able given availability of data at the time of the assessment.

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### Environmental objectives

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Will potential impacts on townscape character be considered within the SEA objective for the historic environment or for landscape?

'Townscapes' have been added to the objective relating to Landscape.

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<p>Gardens and designed landscapes contribute to the area’s historic environment and to the landscape. Potential impacts on gardens and designed landscapes could be considered using the SEA objective for the historic environment or for landscape, and I would welcome clarification in the Environmental Report as to which will be used.</p>	<p>We have classified gardens and designed landscapes under cultural heritage and this is made clear in point 3.49 in the environmental report.</p>
<p>You may also wish to add an SEA objective: ‘to promote the understanding and enjoyment of the historic environment’.</p>	<p>This has not been added as an objective as there are no policies contained within the LTS to evaluate this against.</p>
<p><b>Level of detail proposed for the environmental assessment</b></p>	
<p>I note that alternative options for the strategic direction of the strategy will be assessed and documented in the Environmental Report. The policies and proposals of the preferred strategy will then be assessed. When assessing policies and proposals, you may wish to group policies which are unlikely to exert environmental effects.</p>	<p>Noted.</p>
<p>Where a preferred option for a project is identified in the LTS, a discussion of the project’s alternatives would need to be included in the Environmental Report to demonstrate that the environmental implications of the various options have been taken into account in the final decision that is being taken forward in the LTS.</p>	<p>We will discuss any alternative projects where there is information available as the Environmental Report includes discussion of the overall strategy alternatives.</p>
<p>Section 6 sets out the assessment methods, and I note that impacts of the historic environment will be considered in qualitative terms using an ‘environmental capital’ approach (the information on locally important sites would be used in this context). I am content with this approach, and with the matrix that will be used to document the assessment. I found the information in paragraphs 6.34 to 6.36 helpful in describing how impacts on the historic environments will be assessed.</p>	<p>Noted.</p>
<p><b>Next steps</b></p>	
<p>I note that mitigation measures will be developed to address the environmental effects identified in the strategy. Mitigation measures should be considered using the mitigation hierarchy i.e. avoid, reduce, remedy or compensate (for negative effects) and enhancement where appropriate (for positive effects). Please note that any enhancement of the historic environment should only be undertaken where appropriate and should be discussed with Historic Scotland in the first instance when features of national interest are being considered.</p>	<p>Noted. We will use the mitigation hierarchy when considering mitigation measures.</p>
<p>Please note that there are some references to the Highlands and Islands Council (paragraphs 5.4 and 6.39) and to coastal issues (paragraph 6.32 and in the appendix in the report).</p>	<p>These have been removed in the Environmental Report.</p>

**SCOTTISH NATURAL HERITAGE**

<b>COMMENT</b>	<b>RESPONSE</b>
<b>Scope of the SEA Process</b>	
In general, we are satisfied that most of the key natural heritage issues that need to be considered in the LTS and the accompanying Environmental Report have been identified.	Noted.
<b>Relationship with other plans and programmes</b>	
There is no reference to the SESTRAN Regional Transport Strategy, for which the SEA Scoping Report and 'Objectives for Environmental Appraisal' are currently in preparation. Any Local Transport Strategy should be informed by the relevant Local Transport Strategy rather than pre-empting it.	A summary of the RTS and its relationship to the Midlothian LTS has been provided in the Environmental Report.
Table 2.1 also fails to identify one of the most relevant local plans i.e. the Midlothian Outdoor Access Strategy – the link between walking and cycling for recreational and health purposes and for transport purposes should be made – these issues are all interconnected.	The Midlothian Outdoor Access Strategy has not yet been published by Midlothian Council. It has however been recommended that this be taken into account when it is published.
<b>Scope of Environmental Effects</b>	
<b><i>Water, geology and soils</i></b>	
This should also consider the spread of 'Alien Invasive' species including Japanese Knotweed, Giant Hogweed and Himalayan Balsam through the disturbance of contaminated land.	The spread of these species will be considered and the environmental report will refer any findings of these species to the document "Helping to Prevent the Spread of Invasive Non-Native Species: Horticultural Code of Practice" published by DEFRA.
<b><i>Biodiversity</i></b>	
The spread and control of 'Alien Invasive' species should also be considered under this category.	As above
Potential impacts on 'Priority' habitats and species identified in the UK and Midlothian Biodiversity Action Plans (BAPs) should be taken into consideration when examining the effects of LTS policies.	This will be taken into account if it is possible to identify potential impacts on them.
This section should also be expanded to include the protection and enhancement of all Midlothian's greenspace, not just the obvious transport corridors. An expanded and enhanced network of off-road multi-user paths has the potential to link together a great variety of green space. We consider off-road transport and greenspace management to be integral to one another.	The Environmental Report will only focus on the policies and proposals that are contained in the Midlothian LTS.
<b><i>Landscape and visual amenity</i></b>	
Potential impacts on any Historic Garden and Designed Landscape as listed in the 'Inventory of Gardens and Designed Landscapes – Lothians' should be considered when examining the potential effects of the LTS policies and proposals.	Noted.
<b>Environmental Baseline</b>	
<b><i>Geology and soils</i></b>	
Regionally Important Geological and Geomorphological Sites	These sites have been added to

(RIGS) in Midlothian should also be included in this assessment. These include Bilston Glen, Hewan Bank, 'The Howe', 'The Pinnacle' and Roslin Glen.	the text in section 3
<b>Biodiversity, flora and fauna</b>	
It should be noted that all locally designated conservation sites are currently being reviewed as part of the drafting of the new Midlothian Local Plan. All locally designated wildlife sites will be replaced with a new nationally standardised designation (Local Biodiversity Site' (LBS)	This has been noted and taken into account.
In addition to assisting with the prevention or reduction of adverse effects on biodiversity, the LTS could also serve to enhance local biodiversity through its policies and proposals e.g. developing policies on mowing regimes for roadside verges and scheduling hedge trimming / maintenance work.	We will pass this comment on to the local authority and incorporate it into the mitigation section of the Environmental Report.
<b>Health impacts</b>	
SNH supports the promotion of active forms of travel such as cycling and walking, through the LTS. We would also support any policies and proposals aimed at encouraging the use of sustainable modes of transport, including improvements to public transport services / links and car-sharing initiatives.	Noted.
<b>Level of detail proposed for the Environmental Assessment</b>	
SNH supports the draft transport objectives for the LTS.	Noted

**SCOTTISH ENVIRONMENT PROTECTION AGENCY (SEPA)**

COMMENT	RESPONSE
<b>Covering letter.</b>	
<p>SEPA is broadly content with the scope and level of detail proposed for the SEA as set out in the scoping report. However, SEPA has outlined a number of areas where SEPA considers that further detail could have been provided and where the scope and level of detail to be included in the Environmental Report (ER) should be expanded to improve the process further.</p>	<p>We are pleased SEPA are broadly content, and will address the issues it has put forward below.</p>
<b>Relationship with other plans and programmes</b>	
<p>A comprehensive list of the plans, programmes and strategies that have been taken into account and have influenced the preparation of the LTS has been provided in the scoping report. In addition, consideration should be given to a few key references that may also be relevant: UN Framework Convention on Climate Change &amp; its Kyoto Protocol; Noise Directive 2002/49/EC; SESTRAN Regional Transport Strategy; Lothian &amp; Borders Area Waste Plans; PAN61 Planning &amp; Sustainable Urban Drainage; the developing Midlothian Core Path Plan.</p>	<p>These policies have now been reviewed, with the exception of the Area Waste Plan which is not relevant to the LTS, and are included in Appendix B of this Environmental Report.</p> <p>The Midlothian Core Path Plan is still being developed by Midlothian Council.</p>
<p>The Council may wish to consider whether the following SEPA policies, available on our website, are relevant to the strategy: Groundwater Protection Policy for Scotland (Policy 19) and Policy on the Culverting of Watercourses (Policy 26) which is currently under review to reflect changes introduced by the Water Framework Directive.</p>	<p>Yes, these policies are considered relevant to the strategy and have been reviewed. They are also contained in Appendix B with the other additional reviews</p>
<p>The main policy principles that are relevant to the LTS and the SEA identified in Section 2.3 do not include any principles safeguarding significant aspects of the natural environment. The Water Framework Directive requires that there is no deterioration in status of water bodies, requires the enhancement of the status of aquatic ecosystems, including groundwater; the promotion of sustainable water use; reduction in pollution; and contribution to the mitigation of floods and droughts; the Air Directive provides a framework to improve and protect ambient air quality; there are clear Climate Change objectives that need to be taken into account in developing a transport strategy, etc. Therefore the main principles relevant to the LTS and the SEA should be reviewed to include the relevant environmental principles.</p>	<p>This is noted &amp; accepted. Those which are considered most relevant to the RTS SEA will be added to 2.3, notably:</p> <ul style="list-style-type: none"> <li>-Prevent deterioration in status of water bodies</li> <li>-Enhance status of aquatic ecosystems</li> <li>-Improve and protect ambient air quality</li> <li>- Reduce emissions of greenhouse gases which lead to Climate Change</li> </ul>
<p>It is not clear how the Scottish Executive Marine &amp; Coastal Strategy (2005) is relevant to the Midlothian LTS.</p>	<p>Agreed – this will be removed.</p>
<b>Scope of Environmental Effects</b>	
<p>The categories of environmental effects to be considered are defined and discussed in Section 3. In accordance with the Regulations, the ER should contain information on the likely significant effects on the environment including all the issues in Schedule 2 (6) (a): biodiversity, population, human health, fauna, flora, soil, water, air, climatic factors, material assets, cultural heritage, landscape and inter-relationships between these issues. The categories proposed differ from the SEA issues in Schedule 2 (6) (a). It should be made clear how these categories will include all the issues in the Regulations such as flora and fauna, population or climatic factors. If any issues are to be scoped out</p>	<p>Groups have been amalgamated for the ease of reporting, but we are confident that all areas are covered to the relevant degree, and that we are compliant with the Regulations.</p>

then full justification should be provided.

For clarity, SEPA would wish to see the impact of the plans on the following factors assessed:

- Water -flood risk; water quality (chemical and ecological) and waterbody status; drainage issues and use of SUDS; groundwater quality; effects on aquatic biodiversity;
- Soil -contaminated land (sources, receptors, contamination pathways, remediation, risk etc); impacts on groundwater, groundwater remediation; Sensitive areas such as Nitrate Vulnerable Zones;
- Air -impact on local air quality, particularly in relation to any declared AQMAs or where air quality thresholds are close to being exceeded; impacts from traffic generated by the proposals on other parts of Edinburgh and the Lothians;
- Climate -Risk to proposals from the effects of climate change (e.g. flooding);
- Health -Impacts on health of local communities affected by development either in the short term from construction or in the long term once completed.

These topics have been covered in the baseline study, and have been assessed & reported on, within the Environmental Report.

The relationship between the proposed categories and transport in general is discussed in Section 3.4-3.40. In terms of “air quality”, it should be noted that air quality hotspots may occur at key points of congestion. In relation to “water, geology and soils” SEPA would argue that transport routes are an important source of diffuse pollution. It is important that this is recognised and measures are put in place to mitigate such effects including the use of Sustainable Urban Drainage Systems (SUDS). Construction of transport infrastructure will generally require watercourse crossings which can lead to disturbance of watercourses and the presence of permanent structures such as bridges can increase the risks of flooding. The provision of new infrastructure should also take into account mine working areas. In terms of “biodiversity”, it should be noted that transport routes can cause the severance of habitats and their fragmentation and cause the disruption of hydrogeological patterns and cause an impact on aquatic biodiversity. Material assets are also discussed but not included in the summary Table 3.1.

This is noted.

### Environmental Baseline

The baseline information is set out in Section 4 and covers slightly different environmental categories to the ones described in Section 3 that is in line with the issues in Schedule 2 (6) (a).

The topic of Water, Geology & Soils has simply been split up into the individual elements. The overall content is the same.

It also states that the likely trends in environmental change if the strategy is not implemented are summarised, although this is not presented under a clear heading and therefore it is not clear what the evolution will be for noise; climatic factors; water, geology and soils; biodiversity, flora and fauna; landscape; material assets; health impacts. Further information should be provided in the ER.

This comment is accepted and we will present this in a clearer way in the Environmental Report.

It is understood that specific policies and proposals will also be subject to the environmental assessment. In terms of specific proposals, the environmental characteristics of those areas that are likely to be significantly affected should be described.

Noted.

In relation to climatic factors, further baseline information on weather data, such as rainfall and average annual temperatures,

It is felt that such large scale, long term impacts such as that on

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<p>climate change predictions for Scotland and extreme weather events data could be included. Traffic flow figures for local roads would also provide good baseline data in relation to air quality and climatic factors.</p>	<p>climate change, could not be accurately predicted for the impacts of the transport plan, considering its relatively short time period.</p>
<p>The baseline data on water should include the main watercourses in the area and their overall status and water quality; information on areas of potential flood risk and areas with flood prevention infrastructure; Sustainable urban drainage systems; Drinking Water protected areas, aquifers and other important groundwater resources.</p>	<p>Noted.</p>
<p>In terms of the baseline presented for geology and soils, it is stated that there are 55 hectares of contaminated land across Edinburgh and Lothian areas. There are currently no statutory designations of contaminated land under Part IIA of the Environment Protection Act 1990 in the Edinburgh and Lothian areas. It should be made clear that the term "contaminated land" has been used to refer to land suspected or known to be affected by potential contaminants and that it differs from the statutory Part IIA definition. Any area affected by historical mineral working should be identified and any geological designated sites (e.g. site of special geological scientific interest). The baseline for material assets in the Midlothian area should also cover natural material assets such as coal reserves.</p> <p>The baseline for human health impacts should include road traffic statistics (e.g. casualties) and in terms of accessibility, an important factor in human health is accessibility to the countryside.</p>	<p>This is noted and any additional, relevant data is welcomed for inclusion in the Environmental Report.</p> <p>Road traffic accident data has been added to the baseline in the Environmental Report</p> <p>There are 5 Regionally Important Geological / Geomorphological Sites.</p>
<p>The collection of comprehensive, good and up to date baseline data is essential in the assessment process and will assist in the determination of meaningful indicators and targets. The ER should also identify any data gaps and inadequacies/risks related to the baseline data. SEPA supports the presentation of data largely in map and graphic format.</p>	<p>Noted.</p>
<p>SEPA holds significant amounts of environmental data, such as water quality data, river level data, waste data reports, etc, as described in Table 2.1 of the draft document "Information for Responsible Authorities" available from through SEPA website: <a href="http://www.sepa.org.uk/consultation/closed/2006/sea.htm">http://www.sepa.org.uk/consultation/closed/2006/sea.htm</a> (Annex B).</p>	<p>This is accepted and any relevant, additional information is welcomed.</p> <p>A map showing water quality in Midlothian has been added to the baseline and was sourced from the SEPA website.</p>

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### Problems Identified from the Baseline Data

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<p>The list of key environmental problems for the LTS area refers only very briefly to air quality and landscape issues. SEPA would expect to see significantly more information on the environmental problems in Midlothian outlined in the ER. From the additional baseline data that should be considered, potential problems that may be identified are particular areas of heavy traffic flow, particular waterbodies vulnerable to pollution, particular areas of flood risk, particular areas affected by historical mining activities, areas of potential land contamination. Environmental problems related to each of the environmental issues should be detailed.</p>	<p>It should be noted that the Environmental Baseline section is not an accumulation of all environmental data. However, where it is relevant to the transport plan data will be added.</p> <p>The problems identified from the baseline data, merely provides a summary of some of the key issues. The baseline section provides full information on environmental problems. This summary has however been added to, to make it more</p>
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	comprehensive.
The determination of how existing environmental problems will be affected by the LTS, is a key part of the environmental report. Existing environmental problems will have implications on the LTS development process, on what alternatives are proposed and on what issues will be treated as particularly significant. There will be an opportunity for the LTS to address and improve some of the environmental issues identified.	Noted.
<b>Objectives and Indicators</b>	
A suitable objective should be in place to assess each of the environmental issues outlined in the Regulations. It should be made clear how the chosen objectives relate to the issues listed in Schedule 2 (6) (a), such as population, flora, fauna and material assets. The assessment methodology proposes a matrix approach that will assess LTS options against SEA objectives so it is not clear how potential effects on, for example material, assets will be assessed if an environmental objective has not been established. If any issues are to be scoped out of the assessment then full justification should be provided.	There is no official requirement in the Regulations to use objectives, and no necessity to include one per environmental issue, if it is not relevant. No issues have been scoped out, but the intention was to be focused on those which are most relevant – where there are perceived problems, or potential ones as a result of the LTS.
SEPA supports the use of objectives which largely have a positive or negative aspect to them, e.g. “increase” or “decrease” and this allows then to link these objectives to monitoring indicators and targets. Some objectives include words that may be difficult to measure progress upon such as “limit” (objectives for soil and water). Consideration should be given to rewording the objectives to make them more robust and measurable, e.g. “to prevent water pollution...”; “to prevent contamination of soils...”. In the preparation of the ER, consideration should be given to developing further objectives in relation to: the non deterioration and enhancement of the status of the water environment, including groundwater, to prevent the increase in flood risk and droughts (water); the improvement of air quality (air); the protection and the use of land in a sustainable way, the regeneration of derelict, contaminated and vacant land (soil); the reuse of recycled materials in construction and the reduction of disposal to landfill (material assets).	It is felt that these are as specific as it has been possible to be, at this stage, and with this level of information available.  The objectives need to be as relevant as possible. Those suggested by SEPA are more specific, but considered less relevant to the transport plan.
Realistic and measurable indicators should be provided at the scoping stage. Other key indicators that could be considered in addition to the ones suggested in Table 5.1 are: area of prime agricultural land affected by new development, area of development on vacant and derelict land, Scottish Executive Contaminated Land performance indicators (soil); groundwater quality; area of development in areas of flood risk and requiring flood defences, flooding events, number of water pollution incidents reported to SEPA, percentage of transport infrastructure incorporating SUDS (water/climatic factors); traffic growth statistics, percentage of journeys by sustainable modes (climatic factors); travel/road traffic statistics (air).	Realistic, focused and measurable indicators are given in Table 5.1. It was intended that they should be kept to a minimum, and to include only those which are likely to contribute to our understanding of the situation.  There are likely to be additional ones in the LTS itself, which need not be replicated here. The indicators are updated in the Environmental Report.
There is a reference to “transport investment within the Highlands and Islands” (5.4) in the description of SMART objectives. It is assumed that it should read “transport investment within Midlothian”.	This is noted and agreed.
<b>Assessment methodology</b>	
In relation to the proposed assessment methodology, SEPA welcomes the use of a matrix based approach for the assessment	The policies and proposals in the LTS were not available for

of the strategy/measures included in the plan, and reasonable alternatives, against the stated objectives. It is stated that specific policies and proposals will also be assessed. It would have been helpful to include a summary of policies and proposals in the scoping report to enable the determination of the suitability of the assessment methodology.

inclusion in the Scoping Report. They are included in the Environmental Report.

SEPA notes that a matrix will be used for assessing and mitigating RTS components. SEPA considers such an approach valid, but queries whether this will be a summary of more detailed worksheets. If this is the case SEPA would wish the worksheets to be available as part of the ER as SEPA would want to be able to determine how specific objectives were scored. If not then full use of the comments column will be required to explain each of the assessment in the row.

No, this will not be a summary of more detailed worksheets – the objectives are not scored, per se. The assessment is fully explained and detailed in Section 5 of the Environmental Report.

It is stated that the likely significant effects of policies and proposals in the plan on all the issues listed in Schedule 2 (6) (a) of the Regulations will be assessed. However, it would appear that some of the issues have not been included in the assessment criteria proposed in Section 6.16-6.41, namely population and material assets and as mentioned above it is not clear how the proposed the SEA objectives cover all the issues in Schedule 2 (6) (a) of the Regulations. Consideration should also be given in the assessment as to whether effects will be of local, regional or national significance.

This is because these were not considered to be impacted upon to a significant extent by transport policies and plans within the LTS. The relative extent of the significance (local, regional, etc), is part of the environmental assessment, contained in the Environmental Report.

In relation to the assessment criteria proposed SEPA would like to emphasise that the assessment of impacts of the plan policies and proposals on the environment should take into account the impact on the status of water bodies and aquatic ecosystems, including groundwater and the need to comply with the Water Framework’s principles of no deterioration, promotion of sustainable water use, reduction in pollution and contribution to the mitigation of floods and droughts. There will be opportunities associated with the provision of new transport infrastructure to enhance the water environment through its design, construction and maintenance such as the implementation of measures such as the use of SUDS and the use of bridges as opposed to culverting.

These suggestions have been noted and considered. As a result, groundwater has now been specifically identified in the objective for Water in the table for SEA objectives & Indicators (Table 3.7 of the Environmental Report).

There is a reference to “living and working population of the Highlands and Islands” (6.39). It is assumed that it should read “living and working population of Midlothian”.

Noted.

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**Next Steps**

It is a requirement under Section 17(1)(b), 18(2) and 18(3)(a)(iv) to advise the Consultation Authorities of the proposed consultation period for the ER at the scoping stage. The scoping report should include the proposed length of time the ER shall be placed on consultation so that a suitable period can be agreed with the Consultation Authorities.

Noted, the Consultation Authorities have been informed of and agreed to the consultation timescales.

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**Mitigation measures**

The scoping report makes reference to mitigation measures in Table 6.3 and Section 7.1 of the report. Mitigation is a key element of the SEA process and it would have been appropriate to include in the scoping report a brief and broad description of the mitigation measures that are expected to be adopted. SEPA welcomes the statement in the scoping report that mitigation measures must be considered to prevent, reduce and as fully as

A broad description of proposed mitigation is given in Section 7 of the Scoping Report. Until the appraisal of the environmental impacts of the proposed strategy is done, no further detail on mitigation can be given.

possible offset any significant adverse effects on the environment resulting from the implementation of the plan. Enhancement should be considered, where appropriate, for positive effects.

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**Monitoring**

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Monitoring of significant environmental effects from the plan is also mentioned in the scoping report. It should be noted that SEPA supports the use of indicators linked to targets. These targets should be specific and easy to monitor progress against and where possible they should also relate to objectives of higher level strategies. Wherever possible, the monitoring measures chosen should capitalise on existing monitoring arrangements, if they are sufficient and appropriate. Monitoring is intended to enable mitigating activities to be undertaken. It would be useful for the ER to include a framework of how it would deal with adverse impacts on the environment.

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**APPENDIX B**  
**ADDITIONAL DOCUMENTS REVIEWED**



## B1. ADDITIONAL POLICY DOCUMENTS REVIEWED IN RESPONSE TO SCOPING REPORT COMMENTS

Plan/Programme	Objectives/ requirements of the plan/ programme
<b>International</b>	
The EC Directive on the Conservation of Wild Birds 79/409/EEC 1979	<p>The Directive provides a framework for the conservation and management of, and human interactions with, wild birds in Europe. It sets broad objectives for a wide range of activities, although the precise legal mechanisms for their achievement are at the discretion of each Member State (in the UK delivery is via several different statutes).</p> <p>It imposes a duty to sustain populations of naturally occurring wild birds by sustaining areas of habitats in order to maintain populations at ecologically and scientifically sound levels. This applies to birds, their eggs, nests and habitats.</p>
Conservation of Natural Habitats and Wild Fauna & Flora (Directive 92/43/EC) (The Habitats Directive)	<p>The Directive requires Member States to take legislative and administrative measures to maintain and restore natural habitats and wild species to a good level of conservation within the EU.</p> <p>The overarching goals of the Strategy are described as:</p> <ul style="list-style-type: none"> <li>• "to contribute to reverse present trends in biodiversity losses".</li> <li>• "to place species and ecosystems in a satisfactory conservation status both within and beyond the territory of the European Union".</li> </ul>
Directive 2000/60/EC establishing a framework for the Community action in the field of water policy	<p>The purpose of the Directive is to establish a framework for the protection of inland surface waters (rivers and lakes), transitional waters (estuaries), coastal waters and groundwater.</p> <p>It is a non-prescriptive framework Directive, which requires all Member States to achieve 'good ecological status' of inland water bodies by 2015.</p>
Directive 1966/62/ EC on ambient air quality and management	<p>Establishes mandatory standards for air quality and sets limits and guides values for sulphur and nitrogen dioxide, suspended particulates and lead in air.</p>
The Convention on Biological Diversity, Rio de Janeiro, 1992	<p>The Convention on Biological Diversity is a globally legally binding instrument which was agreed at the Rio Conference (UNCED) in 1992. Some 170 countries around the world are Parties to the CBD.</p> <p>The CBD has three objectives:</p> <ol style="list-style-type: none"> <li>1. Conservation of biological diversity.</li> <li>2. Sustainable use of the biological components.</li> <li>3. Equitable sharing of benefits arising out of the utilisation of genetic resources.</li> </ol>
Kyoto Protocol to the UN framework Convention on Climate Change (1997)	<p>The Convention on Climate Change sets an overall framework for intergovernmental efforts to tackle the challenge posed by climate change. It recognizes that the climate system is a shared resource whose stability can be affected by industrial and other emissions of carbon dioxide and other greenhouse gases.</p> <p>Under the Convention governments:</p> <ul style="list-style-type: none"> <li>• gather and share information on greenhouse gas emissions, national policies and best practices.</li> <li>• launch national strategies for addressing greenhouse emissions and adapting to expected impacts, including the provision of financial and technological support to developing countries.</li> <li>• cooperate in preparing for adaptation to the impacts of climate change.</li> </ul>
The Directive on Environmental Noise	<p>EU Parliament and Council have adopted Directive 2002/49/EC of 25<sup>th</sup> June 2002.</p> <p>Four Main Objectives:</p>

Plan/Programme	Objectives/ requirements of the plan/ programme
	<p>Monitoring the environmental problem-developing 'strategic noise maps' to gauge how many people are annoyed or sleep deprived throughout Europe.</p> <p>Informing and consulting the public-about noise exposure, its effects and measures considered to address it.</p> <p>Addressing local noise issues-requires authorities to have action plans for problem areas and for maintaining 'good' noise areas.</p> <p>Developing a long-term EU strategy-Reduce number of people affected by noise in long-term and produce a framework for developing existing Community policy on noise reduction from the source.</p>
<p>PAN 61 Planning Sustainable Urban Drainage</p>	<p>Provides the background on previous drainage systems and coping strategies for excess surface water. Highlights their flaws and promotes SUDS (Sustainable Urban Drainage Systems) as the way forward.</p> <p>SUDS-'reduces the amount of diffuse pollution and improves environmental quality of development to the benefit of the local community'.</p> <p>Planners are central to the development control process of implementing SUDS on the ground. Planners also have a policy role in setting the framework in structure and local plans, and in masterplanning exercises.</p> <p>SEPA-supports SUDS as the preferred solution for drainage of surface water run-off, including roof water, for all proposed development, greenfield and brownfield.</p>
<p>SEPA Groundwater Protection Policy</p>	<p>This policy aims to:</p> <p>Address groundwater protection in context of sustainable development, taking account of social and economic factors where appropriate.</p> <p>Work to protect, restore and improve understanding of groundwater in Scotland.</p> <p>Use a risk based approach to ensure controls are appropriate to risk.</p> <p>Ensure water use in Scotland is sustainable, and that the quality and quantity of the water is protected.</p> <p>Ensure restoration of groundwater bodies which have poor status due to over abstraction or pollution.</p> <p>The main focus is to prevent pollution or over abstraction through effective protection.</p>
<p>SEAP Policy on the Culverting of Watercourses</p>	<p>In order to minimise the impact of culverting on the environment, SEPA has adopted the following policy:</p> <ul style="list-style-type: none"> <li>▪ inappropriate enclosure of watercourses in culverts devalues its own and others efforts to reduce pollutant inputs to watercourses and to improve chemical, biological and physical quality of Scottish running waters.</li> <li>▪ Developers should be encouraged to protect, restore or enhance the natural heritage value of sites.</li> <li>▪ SEPA will actively seek to discourage proposals for culverting when responding to planning consultation,</li> <li>▪ When there is a need for transport links to cross watercourses, bridging should be considered as the first option, avoiding the need for culverting. In all cases where culverting is required, it should be designed according to best practice which will permit the passage of fish and other aquatic fauna under normal flow conditions.</li> <li>▪ SEPA will take appropriate opportunities to promote the benefits of restoring culverted systems to open watercourses during the development of proposals for brownfield sites and shall encourage and support appropriate river restoration proposals.</li> </ul>

Plan/Programme	Objectives/ requirements of the plan/ programme
Passed to the Future	<ul style="list-style-type: none"> <li>▪ SEPA will continue to highlight the difficulties caused by culverting</li> </ul> <p>Recognising value of using historic features, retaining and, where possible, re-using existing structures and materials. To promote the continued relevance of traditional building materials and local skills.</p> <p>Good Stewardship-all actions should include strategies for management, conservation, use, maintenance and monitoring.</p> <p>Assessing impact - of our actions for the historic environment. Potentially damaging actions should be avoided.</p> <p>Working Together – The historic environment is still today's environment. Sustainable management should involve everyone. Work together to reduce damage, resolve conflict and maximise benefits for all.</p>



## CONTROL SHEET

Project/Proposal Name: STRATEGIC ENVIRONMENTAL ASSESSMENT  
OF THE MIDLOTHIAN LOCAL TRANSPORT  
STRATEGY

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