

Regional Transport Strategy 2008 - 2023 *SEA Environmental Report*



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NON-TECHNICAL SUMMARY

1 INTRODUCTION

1.1 STATUTORY CONTEXT FOR THE SEA

The South East Scotland Regional Transport Partnership (SEStran) is preparing a replacement Regional Transport Strategy (RTS) to cover the eight council areas in the South East of Scotland.

The Environmental Assessment (Scotland) Act 2005 requires some plans and programmes including transport plans developed by public bodies to be subject to strategic environmental assessment (SEA) including the SEStran RTS. The findings of the SEA of the Strategy are presented in an Environmental Report. This document is a non-technical summary of that report.

1.2 PURPOSE OF THE ENVIRONMENTAL REPORT

The purpose of this Environmental Report is to set out the findings of an environmental assessment of the draft SEStran RTS. In accordance with Part 2 of the Environmental Assessment (Scotland) Act 2005, the Environmental Report identifies, describes and evaluates the likely significant effects on the environment of implementing the RTS and the reasonable alternatives to the RTS which have been assessed.

2 THE REGIONAL TRANSPORT STRATEGY AND ITS CONTEXT

The RTS provides a framework which will guide the future management of, and investment in, transport for the SEStran area. The RTS covers a period of between 10 and 15 years from 2007. The draft RTS document sets out the context for the South East Scotland region, describing the important transport and accessibility trends and issues across all modes of travel, which draws on the extensive public and stakeholder consultation undertaken during the Strategy development process. The document then sets out, in a series of chapters, the core components of the RTS which can briefly be described as:

- RTS Objectives
- RTS Policies
- RTS Strategy Framework

The latter sections of the document address alternative strategies, funding and monitoring.

An understanding of the relevance of other legislation, policy and plans to the SEA of the RTS is an essential step in understanding the context for the RTS, the relationship with other strategies and in deriving the necessary environmental baseline and objectives for the assessment.

A large number of other plans, programmes and environmental strategies have been reviewed as part of the process of developing the RTS and undertaking the SEA.

The RTS is available on the SEStran website at: www.sestran.gov.uk/regional_transport_strategy.html.

3 THE SEA PROCESS

3.1 INTRODUCTION

SEA is a structured approach to predicting and assessing the environmental effects which are likely to arise from the Strategy.

The SEA process has been undertaken in three stages:

- **Stage 1:** deciding on the scope of the assessment (which has included defining objectives, developing the assessment framework, establishing the baseline position and consulting with appropriate statutory agencies).

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- **Stage 2:** assessing the environmental effects of the policies and interventions within the draft RTS (which has involved assessing the effects of interventions, considering alternatives, identifying residual and cumulative effects, identifying appropriate mitigation and suggesting proposals for monitoring).
 - **Stage 3:** preparing the Environmental Report (which has involved bringing together the findings of the scoping exercise, feedback from consultations, the assessment of environmental effects and developing conclusions and recommendations for mitigation and monitoring the effects of the Strategy).

3.2 SEA VISION AND OBJECTIVES

An overall vision for the SEA and a set of objectives have been defined based on:

- A review of relevant plans and programmes;
- Consultations, including an SEA workshop;
- Analysis of the environmental baseline of the region;
- Review of relevant environmental problems and issues; and
- A review of SEA guidance relevant to objectives.

The objectives have been developed to provide a consistent and clear basis for the appraisal of the RTS including its' policies and interventions.

4 ENVIRONMENTAL ASSESSMENT OF THE RTS

4.1 ALTERNATIVES

Alternative options have been considered throughout the iterative stages of Strategy development as an integrated part of the process.

Specifically, options have been considered in relation to:

- RTS Objectives and Policies;
- RTS Measures; and
- The RTS Strategy Framework.

Much of the consideration of options was undertaken as part of the staged process of strategy development. However, where alternatives have been explicitly considered in the SEA process, these have been identified in the Environmental Report.

4.2 OBJECTIVES AND POLICIES

At an early stage in the development of the RTS a series of objectives was developed through consultation and drawing on relevant other regional strategies and plans and the previous experience of the team. The objectives of the RTS are similar in intention to those in the SEA in that they set the overall framework for the remainder of the strategy. Environmental objectives are included in the RTS objectives list and it was important to ensure that these were complementary with the much longer set of SEA environmental objectives. A matrix approach was adopted to assess the consistency of the two sets of objectives. The appraisal indicated that there was generally clear compatibility between the six RTS 'environmental' objectives and many of the SEA objectives. There is also good synergy between a number of the RTS accessibility and safety objectives with the environmental objectives.

Each policy was assessed in turn, in respect of each SEA sub-objective. The RTS policies for the economy have been developed in a manner which generally maximises where possible a positive contribution to environmental objectives. All but two of the thirteen policies were found to be broadly supportive of, or clearly contribute to, SEA objectives. There was a strong synergy between the RTS policies proposed for accessibility in the SEStran region and the environmental objectives developed for the SEA. In general the accessibility policies particularly support the objectives relating to climate change, some elements of quality of life, and material assets and use of resources. This reflects the clear policy thrust of many of the policies towards developing public transport services and encouraging greater use of walking and cycling. Since the environmental policies for the RTS were developed specifically to protect and enhance the natural and cultural environment and to improve environmental quality, it is unsurprising that they all contribute positively to several SEA objectives and generally support most of the others. The draft environmental policies therefore clearly accord with and reinforce the SEA objectives.

4.3 RTS THEMES

The appraisal of the environmental effects of the detailed part of the RTS concentrated on the three themes which comprise the Strategy Framework. These are:

- Network based initiatives – covering physical infrastructure schemes and public transport supply interventions and services on high demand transport corridors;
- Region wide measures – those affecting the whole SEStran area; and
- Initiatives for specific areas and groups – aimed primarily at accessibility and providing minimum levels of transport service provision to specific locations.

The approach taken to environmental appraisal has been based on a matrix which has allowed the effects of each individual intervention within each theme to be broadly appraised against each of the SEA objectives. These assessments were necessarily high level due to the limited amount of detail or location-specific information presented in the draft RTS.

The next stage of the environmental assessment involved consideration of the environmental effects of the complete groups of these interventions within each of the three themes. The findings of the appraisal of each theme are summarised in turn below.

Network Based Initiatives

The assessment indicates that the interventions in the network based initiatives theme are, overall, broadly supportive of the environmental objectives in the SEA for climate change, quality of life and material assets and resources. This finding depends upon effective (and full) implementation of the measures in the RTS and achievement of the Strategy's most challenging mode share targets. A number of interventions in the theme have the potential for significant adverse effects on the natural and cultural heritage, and effective mitigation will be required following through environmental impact assessment to ensure that these effects are avoided, reduced or offset as far as possible.

Region Wide Measures

The assessment indicates that the interventions in the region wide based initiatives theme are, overall, broadly supportive of the environmental objectives in the SEA for climate change and quality of life. This finding depends upon effective (and full) implementation of the measures in the RTS and achievement of the Strategy's mode share targets. The interventions proposed in this theme are broadly neutral in their environmental effect on natural environment, cultural heritage and material assets and resources. Whilst these measures would potentially assist in supporting these objectives, they can only do so in the context of the whole RTS.

Initiatives for Specific Areas and Groups

The assessment indicates that the interventions in the specific areas and groups based initiatives theme are, overall, broadly supportive of the environmental objectives in the SEA for climate change and quality of life. This finding depends upon effective (and full) implementation of the measures in the RTS and achievement of the Strategy's most challenging mode share targets. The interventions proposed in this theme are predicted to be neutral in their environmental effect on natural environment, cultural heritage and material assets and resources. Whilst these measures would potentially assist in supporting these objectives, they can only do so in the context of the whole RTS, and the predicted effects of these combined themes are considered below.

4.4 THE DRAFT RTS

Following completion of the assessments for each of the three themes within the Strategy Framework of the RTS, an appraisal was undertaken for the 'combined' elements of the Strategy, that is, the combination of all of the groups of measures presented in the three themes.

The environmental effects of the combined Strategy are similar to those presented in the assessment of the network based initiatives. This is because the network initiatives represent the most significant set of physical actions and plans in the RTS, and the addition of the regional wide and area specific measures, whilst supporting these measures, does not significantly alter the overall predictions of environmental impact.

The completed RTS was subject to quantitative analysis using a transport model that has allowed the predicted effectiveness of the combined interventions in the Strategy Framework to be tested against the objectives of the South East Scotland RTS Environmental Report

Strategy. The modelling exercise focussed on the effects of the RTS on traffic indicators that were in turn used to predict aggregated effects on carbon dioxide emissions from road traffic.

The appraisal was undertaken with reference to a set of three proposed mode share targets for commuter traffic in the SEStran area. The first target aims to stabilise traffic growth and the next two targets apply a progressively more demanding figure for reduction in traffic growth over the period to 2015. Modelling of the effects of these targets indicates that levels of traffic and carbon dioxide emissions, would be reduced between 2001 and 2015 compared with what would otherwise have been a period of significant traffic growth.

In relation to carbon dioxide emissions, the figures for traffic indicate that if traffic growth can be stabilised over the Strategy period (ie the Stage 1 target is met) then emissions would still increase by around 15% over the period. Clearly the increase in CO₂ emissions without any strategy target would be significantly more given the predictions for increasing population, car ownership and use in the SEStran region in the next 15 years. Whilst the more ambitious Stage 2 and 3 targets do have a predicted effect in reducing traffic and carbon dioxide emissions compared with Stage 1, in absolute terms they still represent an increase in CO₂ emissions over the Strategy period, against a policy backdrop which sets targets for reductions in carbon emissions across all Scottish sectors (for example in order to meet UK Kyoto and domestic carbon reduction commitments).

It is important to note that the assessment is optimistic (best case) since it assumes that the measures would achieve the modal shift which is expected and also that all proposed measures would be implemented which may not be possible because of resourcing constraints. If some of the measures (or realistic alternatives) are not implemented then the predicted environmental benefits of the assessment, including the predicted carbon dioxide reductions, may not be realised in full.

An appraisal of the effects of the evolution of the environmental baseline in the SEStran area without the RTS does indicate the overall benefits which can be achieved by implementation of the Strategy not just in terms of climate change through reduction in emissions but also in terms of local air quality, accessibility, human health and safety, cultural heritage and infrastructure.

5 MITIGATION AND MONITORING

5.1 MITIGATION

Mitigation measures, that is measures to reduce any adverse effects on the environment from measures in the RTS, have been developed throughout the environmental appraisal process for all proposed measures in the RTS. The appraisal of the effects of the RTS assumes implementation of these measures. The mitigation measures which have been identified are necessarily at a strategic level. This reflects the nature of the interventions in the draft RTS on which the SEA has been undertaken. It will be very important, in the implementation of the RTS, that measures and initiatives which have the potential for significant environmental effects are checked for the need for environmental impact assessment and that Environmental Statements which report the assessments are subsequently produced with robust mitigation measures aimed at avoiding, reducing and where appropriate offsetting significant environmental effects from individual schemes.

In addition, all interventions with the potential to affect sites designated for their European nature conservation importance (Special Protection Areas and Special Areas of Conservation) will be reviewed in more detail and the potential requirement for Appropriate Assessment (that is detailed appraisal of the impacts of proposals on the European sites to check that there would not be significant effects) will be considered by SEStran in consultation with Scottish Natural Heritage (SNH).

5.2 MONITORING

Monitoring indicators have been identified for all of the SEA topics (and relevant SEA objectives) where the assessment of environmental effects has identified that there may be significant, potentially significant or uncertain effects from implementation of the RTS. The purpose of monitoring of the RTS implementation is to ensure the following:

- that the RTS is contributing to the achievement of the SEA objectives;
- that mitigation measures are performing as well as can be expected or require modifying;

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- whether any further remedial measures are necessary during the lifetime of the Strategy to mitigate any adverse significant effects which had not been identified previously, or to respond to changes to the RTS in the light of periodic reviews and updates during its lifetime.

It is proposed that the effectiveness and sensitivity of the monitoring indicators is reviewed periodically during the RTS implementation to ensure that the effects and benefits of the Strategy are being appropriately monitored and that monitoring information is proving useful to SEStran in its role as the responsible authority for the Strategy.

6 NEXT STEPS

The next stages in the development of the RTS and its environmental assessment will be as follows:

The Environmental Report, which reports the findings of the SEA of the RTS will be published for consultation around the same time as the draft RTS. This is programmed for late November 2006, and the public consultation period is scheduled to last for some six weeks.

Following consultation on the draft RTS and the Environmental Report, the RTS will be revised and updated taking account of stakeholder and public comments. If it is necessary, further environmental assessment will be undertaken on revised components of the RTS and the Environmental Report would be amended accordingly.

Following revision of the RTS, an SEA Statement will be prepared and made available to the Consultation Authorities (and made public) setting out how the findings of the public and stakeholder consultation exercise and the environmental assessment have been incorporated into the development of the Regional Transport Strategy.

It is intended to submit the final RTS and associated documents to the Scottish Ministers by 31st March 2007 for approval.

7 COMMENTS

Any comments on the SEA of the SEStran RTS should be addressed to:

- Dr Annie Say, Natural Capital Ltd
- Annie.Say@naturalcapital.co.uk (0131 220 6121)

1 Introduction

1.1 STATUTORY CONTEXT FOR THE SEA

The South East Scotland Regional Transport Partnership (SEStran) is preparing a replacement Regional Transport Strategy (RTS) to cover eight council areas in the South East of Scotland, as required by the Transport (Scotland) Act 2005. The SEStran area is shown in Figure 1. SEStran appointed MVA in partnership with WSP as lead consultants to develop the RTS. Natural Capital Limited (NC) and WSP Environmental Limited (WSPE) provided environmental support to the team and have jointly undertaken the environmental assessment of the draft Strategy.

The Environmental Assessment (Scotland) Act 2005 requires some plans and programmes including transport plans developed by public bodies to be subject to strategic environmental assessment (SEA). The RTS therefore requires SEA.

Current guidance (specifically the Scottish Executive's March 2006 Guidance on Regional Transport Strategies) also confirms that SEA will be required for an RTS. The RTS for the SEStran region will be a significant plan guiding transport in the area for the following ten to fifteen years and hence there is a clear requirement for SEA of the Strategy.

1.2 PURPOSE OF THE ENVIRONMENTAL REPORT

The purpose of this Environmental Report (ER) is to set out the findings of an environmental assessment of the draft SEStran Regional Transport Strategy. In accordance with Part 2 of the Environmental Assessment (Scotland) Act 2005, the ER identifies, describes and evaluates the likely significant effects on the environment of implementing the RTS and the reasonable alternatives to the RTS which have been assessed.

The report is intended to provide this information for the Consultation Authorities and the general public during public consultation on the draft Strategy. Further information on consultation for the RTS and SEA is presented in Section 1.4 of this report.

1.3 KEY FACTS ABOUT THE REGIONAL TRANSPORT STRATEGY

The key facts relating to the Regional Transport Strategy are set out below.

Name of Responsible Authority	The South East Scotland Transport Partnership (SEStran)
Title of Plan	SEStran Regional Transport Strategy
Requirement for the Plan	Section 6 of the Transport (Scotland) Act 2005 requires Regional Transport Partnerships to draw up RTS in consultation with constituent councils, all health boards wholly or partly within the region, and other interested parties
Plan Subject	The RTS provides a framework which will guide the future management of, and investment in, transport for the SEStran area
Period Covered by the Plan	The RTS covers a period of between 10 and 15 years from 2007
Frequency of Updates	The existing SEStran RTS was published in 2004

<p>Plan Area</p>	<p>The RTS covers the administrative areas of the SEStran Partnership which include City of Edinburgh, Clackmannanshire, East Lothian, Falkirk, Fife, Midlothian, Scottish Borders and West Lothian local authorities</p>
<p>Plan Purpose and Objectives</p>	<p>The purpose of the RTS is to outline SEStran’s transport plans for the region for the future taking account of the national, regional and local context. The RTS addresses a wide range of transport and travel issues and aims to ensure that the future transport needs in the area are addressed by an objective led approach which seeks to contribute to the vision for transport in the SEStran area. The vision is:</p> <p><i>“South East Scotland is a dynamic and growing area which aspires to become one of northern Europe’s leading economic regions. Essential to this is the development of a transport system which enables businesses to function effectively, allows all groups in society to share in the region’s success through high quality access to services and opportunities, respects the environment, and contributes to better health.”</i></p> <p>A set of RTS objectives have been defined through stakeholder consultation, analysis of existing transport and planning strategy and with input from the SEStran project team and the local authorities.</p> <p>The RTS objectives are as follows:</p> <ul style="list-style-type: none"> • Economy: To ensure transport facilitates economic growth, regional prosperity and vitality in a sustainable manner. • Accessibility: To improve accessibility for those with limited transport choice or no access to a car, particularly those who live in rural areas. • Environment: To ensure that development is achieved in an environmentally sustainable manner. • Safety and Health: To promote a healthier and more active SEStran area population. <p>The detailed text of the objectives and a discussion of the content of the RTS in relation to objectives, policies and plans is presented in Chapter 3 of this ER.</p>
<p>Contact Points</p>	<p>Queries on the RTS should be addressed to:</p> <p>Scott Leitham, MVA sleitham@mva.co.uk (0131 240 8931)</p> <p>Queries on the SEA of the RTS should be addressed to:</p> <p>Dr Annie Say, Natural Capital Ltd Annie.Say@naturalcapital.co.uk (0131 220 6121)</p>



South-East Scotland Regional Transport Strategy:
Strategic Environmental Assessment (SEA)

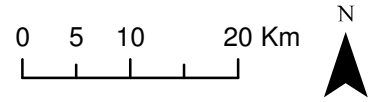


Figure 1: Plan of SESTRAN Area

1.4 SEA ACTIVITIES AND CONSULTATION

1.4.1 SEA Activities

The following activities have been undertaken to date on the SEA:

- Stakeholder consultation (see Section 1.4.2) and drafting of proposed objectives for the SEA;
- Preparation of a Scoping Report setting out the proposed approach to the environmental assessment of the RTS and the proposed period for public consultation;
- Submission of the Scoping Report to the Consultation Authorities;
- Review of Consultation Authorities' responses on the Scoping Report and taking these into account in the subsequent assessment;
- Appraising the consistency of the RTS objectives with the SEA objectives;
- Undertaking the detailed environmental assessment of the policies and interventions in the draft RTS, including alternatives and cumulative effects; and
- Reporting of the environmental assessment in this ER together with proposals for mitigation measures and monitoring of the implementation of the Strategy.

The next steps for the SEA, including those for public consultation and finalisation and adoption of the Regional Transport Strategy are set out in Section 9 of this report.

1.4.2 SEA and RTS Consultation

An extensive process of public and stakeholder consultation on the developing RTS was undertaken to help evolve the RTS with stakeholder inputs. Stakeholder consultation has been integrated wherever possible for the SEA with the RTS to help ensure consistency of feedback and to reflect the importance of addressing environmental issues as a core part of the development of the Strategy. Consultation has been undertaken by various means including:

- Letters to statutory bodies inviting input on sources of information and key issues;
- Feedback from the RTS consultations relevant to the SEA. For example, a series of telephone interviews and stakeholder meetings was held with consultees throughout the region, with environmental issues fed back to the SEA team;
- An SEA workshop was held in May 2006 as part of a larger RTS stakeholder workshop. A range of statutory and non-statutory consultees attended this workshop at which key environmental issues and environmental objectives for the RTS were discussed and developed;
- A web based questionnaire was developed and launched on the SEStran website to seek the views of the public and businesses on travel and transport issues in South East Scotland. The analysis of the responses to this questionnaire were used in refining proposed objectives for the RTS and in adding to the long list of possible transport interventions which were considered at an early stage in the development of the Strategy. The questionnaire also included questions relating to environmental issues and feedback from this has been used in the environmental assessment;
- Statutory consultation with the SEA Consultation Authorities was undertaken in May and June 2006 (via the SEA Gateway) through submission of the SEA Scoping Report. Comments received from the Authorities were reviewed by the SEA team and incorporated where possible into the SEA process. These included some minor amendments to the proposed SEA objectives, baseline information, and issues taken into account in the assessment. Further information on the scoping stage of the SEA is presented in Section 4.5 of this report and on the feedback from the Consultation Authorities in Section 1.5.

Information about the SEA workshop is included in the SEA Scoping Report including the list of attendees, the format of the workshop and a short report of the key outputs obtained from the event. A note of the workshop is presented in Appendix A of this report. A summary of comments received from the Consultation Authorities on the SEA Scoping Report, and the way in which these have been reflected in this ER is presented in Section 1.5.

It is SEStran's intention to synchronise the consultation periods for the draft RTS and the ER in November 2006. Both draft documents will be published on the SEStran website with the public invited to submit comments. SEStran proposals for consultation on the draft RTS and SEA ER are discussed further in Section 9 of this ER.

1.5 RESPONSE TO STATUTORY CONSULTATION

1.5.1 Introduction

The responses of the three statutory consultees (the Consultation Authorities) – Historic Scotland, the Scottish Environment Protection Agency and Scottish Natural Heritage to the consultation process on the scoping report are summarised below.

1.5.2 Historic Scotland

Some comments were provided with regard to the context of the historic environment together with recommendations for the inclusion of one or two more relevant plans and policies for review. These have now been included. A number of useful points of information were made including reference to some emerging Historic Scotland policy documents (e.g. Scottish Historic Environment Policy – SHEP). There was a reminder that the SEA should focus on environmental issues and not stray into dealing with social or economic issues which are part of the sustainability process. This point is taken on board in the ER.

There were also comments with regard to:

- providing additional baseline information on World Heritage Sites;
- considering information of locally important sites;
- the consideration of transport infrastructure which may include listed structures or scheduled ancient monuments;
- likely future requests from Historic Scotland that historic landscapes are taken into consideration.

These points have been noted and taken into account in the SEA appraisal as well as other points including:

- consideration of direct and indirect effects on the historic environment;
- how the historic environment might be affected by:
 - construction of new infrastructure;
 - maintenance and management;
 - traffic calming measures;
- the consideration of accessibility improvement measures.

A note was made of the need to assess alternative options where this is appropriate and document this in the ER.

General satisfaction was expressed with the proposed assessment method with some useful comments on the SEA objectives and questions including references to gardens and designed landscapes, locally important sites and a suggested new objective – “to promote the understanding and enjoyment of the historic environment.” These points have been taken up and reflected in the ER.

1.5.3 Scottish Environment Protection Agency

Comments with regard to some additional plans, programmes and strategies which should be mentioned in the assessment were provided and these have been included.

There was broad agreement with the environmental baseline and the level of detail to be included. There was also satisfaction with the approach to the environmental assessment, including the matrix approach. There was a suggestion that objectives that related to water, flooding, soil and air would be better placed under a different overarching heading than Natural Heritage since issues such as landscape and biodiversity would be expected to “nest” under this heading. The overarching heading was changed to Natural Environment as a way of incorporating this comment. There was support for the use of the indicators linked to targets.

1.5.4 Scottish Natural Heritage

A concern was expressed that the SEA should not become confused with sustainability appraisal and this point has been noted and the appraisal focussed on environmental issues. Similarly the need to make sure that the environmental assessment is thorough and includes cumulative impacts was also stressed (see Chapter 7 and supporting appendices). Some suggestions for additional plans and programmes that should be considered including the Regional Transport Strategies of adjacent regions and some additional sources of baseline information with regard to soils and geology were provided and these have been included. Comments with regard to flooding as a natural process have now been considered as have those relating to landscape and townscape.

A number of points were raised with regard to biodiversity:

- Some information about designated sites in the area;
- the need to refer to European Protected Species;
- references to LBAPs and priority habitats and species;
- the importance of the spread of invasive species;
- issues relating to mitigation and possible compensation for losses.

These points have been picked up and addressed in the ER where appropriate although because the RTS focuses on modal shift rather than significant proposals for new infrastructure (see Chapter 2) the need for detailed appraisal of biodiversity effects has been less for many of the proposals.

There was a recommendation to include “enhancing public access to and understanding of natural heritage” and the need to make the climate change target stronger both of which have been addressed in the ER.

1.6 LAYOUT OF THIS REPORT

This ER has been structured as follows:

- Chapter 2 describes the draft RTS, setting out its statutory context and outlining the core components of the Strategy which have been assessed in the SEA;
- Chapter 3 summarises the extensive review of other relevant strategies, plans and programmes which has been undertaken for the SEA of the RTS;
- Chapter 4 sets out the method which has been adopted for the environmental assessment;
- Chapter 5 presents a summary of the environmental baseline for the South East Scotland region which has been used to provide the environmental context for the SEA;
- Chapter 6 presents the objectives which have been developed for the SEA and form the basis for the appraisal framework used in the assessment;
- Chapter 7 reports the findings of the environmental assessment, and proposals for mitigation of environmental effects, for each core component of the RTS and for the cumulative effects of the Strategy;
- Chapter 8 sets out SEStrans’ proposals for monitoring of the environmental effects of the RTS; and
- Chapter 9 identifies the remaining key stages in the SEA process.

The report has the following appendices:

Appendix A	SEA Workshop Note
Appendix B	Analysis of Other Strategies, Plans and Programme
Appendix C	Environmental Baseline
Appendix D	Matrix of Compatibility of SEA Objectives and RTS Objectives
Appendix E	Appraisal Matrix for RTS Policies

Appendix F Appraisal Tables for RTS Initiatives

Appendix G Appraisal Matrices for RTS Themes, Complete RTS and Cumulative Effects

A Non Technical Summary of the ER is provided at the front of this document, and is freely available from SEStran as a stand alone document.

2 The Regional Transport Strategy and its Context

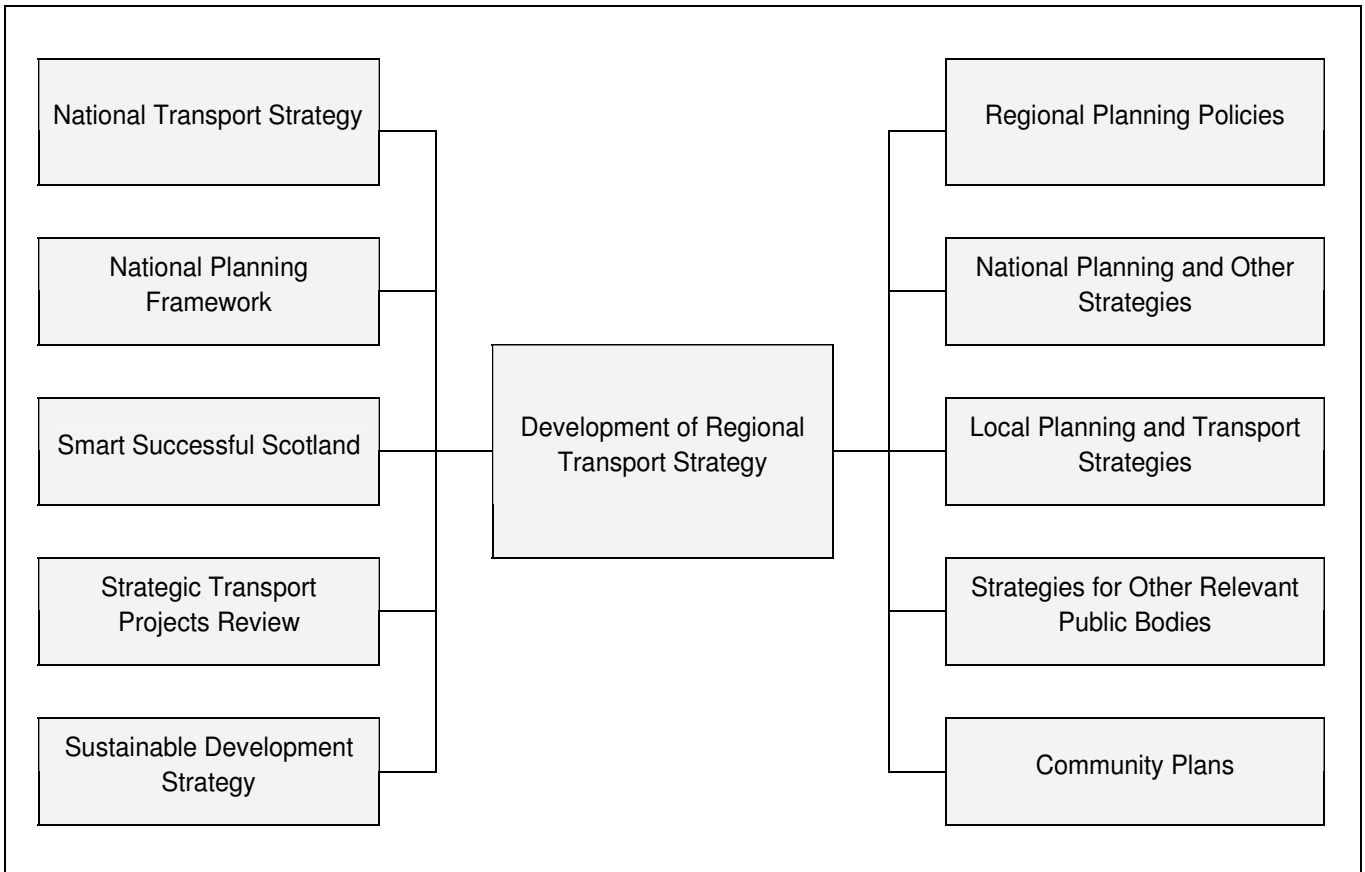
2.1 INTRODUCTION

This section provides the context for the SEA of the RTS. It introduces the statutory background for the RTS (Section 2.2), and presents an outline of the content of the draft RTS (Section 2.3). The context for the SEA has been identified through a review of relevant strategies, plans and programmes to identify relevant issues, baseline information and objectives which in some way are linked with the RTS and/or with the environmental appraisal of the RTS. The findings of this review are presented and discussed in Section 3.1.

2.2 STATUTORY CONTEXT FOR THE RTS

The RTS provides a key input to regional planning policy, local transport strategies and planning, and will also impact on other public bodies such as Health Boards. Feeding into the RTS is the national policy context covering in particular the areas of transport, planning, and economic development. Figure 2.1 illustrates the relationship between core national and regional transport and planning strategy and the RTS.

Figure 2.1 Statutory National and Regional Transport and Planning Context



At the national level the RTS also links closely with planning, regeneration and economic development strategy. For example, the Scottish Executive's *Regeneration Policy Statement* and *Closing the Opportunity Gap* documents emphasise the role of transport in regeneration programmes.

The RTS for South East Scotland, along with those being produced by the other six Regional Transport Partnerships forms a key part of the transport strategy and planning process in Scotland. Critically, the RTSs are intended to support the aims and objectives of the National Transport Strategy (NTS) which will be published by Transport Scotland around the same time as the draft RTS. The vision, objectives and policies of the RTS in particular have

been developed to be compatible with those of the draft NTS to ensure that consistency of strategy is tiered down from the national to regional level.

The RTS will also integrate closely with strategies and plans dealing with land use, particularly given the messages in the RTS regarding the importance of the relationship between transport and land use planning. The degree to which implementation of the Strategy will be successful in tackling problems of accessibility and reducing car based trips (particularly for commuting) depends upon complementary activity in land use planning. The linkages between the RTS and Structure and Local Plans is clear and has influenced the objectives and policies of the RTS and the SEA. In the future, integration of the RTS with the development of the Strategic Development Plan for the Edinburgh City Region Plan will be particularly important.

A range of authorities and stakeholders will be involved in the delivery of the objectives which are set out in the RTS, once it is finalised. Although the RTS presents a series of possible transport initiatives and measures (as three 'themes' addressing network based initiatives, region wide measures and initiatives for specific areas and groups), the delivery of transport proposals and projects will be partly taken forward by the constituent local authorities in SEStran in partnership with public transport operators. In this respect the RTS links closely with, and provides a steer for, the Local Transport Strategies (LTS) which are developed by each local authority. Other projects, which require involvement and/or financing at the national level, will be delivered in partnership with the Scottish Executive and Transport Scotland following an appraisal of all national projects via the Strategic Transport Projects Review (STPR). The degree to which SEStran, as the Regional Transport Partnership, will become directly involved in implementation of projects and proposals in the RTS will depend upon its future statutory status (and the partnership 'model' it wishes to adopt), which is discussed in Section 8 of the draft RTS, and the level of funding available for the Strategy, which is discussed in Section 13 of the RTS.

The SEA which is reported in this ER document has also drawn closely from, and links with, a wide range of relevant national and regional strategy and policy. As part of the process of establishing the context for the SEA, relevant transport, planning and environmental plans and programmes have been reviewed and relevant objectives and other information incorporated into the SEA. This process is described further in Chapter 3 of this ER.

2.3 OUTLINE OF THE RTS

2.3.1 Outline of the RTS

The RTS has been developed through a process of consultation, stakeholder working, transport and environmental analysis and strategy drafting through 2006. The draft RTS document sets out the context for the South East Scotland region, describing the important transport and accessibility trends and issues across all modes of travel, which draws on the extensive public and stakeholder consultation undertaken during the Strategy development process. The document then sets out, in a series of chapters, the core components of RTS which can briefly be described as:

- RTS Objectives
- RTS Policies
- RTS Strategy Framework, which comprises of three key 'themes':
 - Network based initiatives;
 - Region wide measures; and
 - Initiatives for specific areas and groups.

The latter sections of the document address alternative strategies, funding and monitoring.

The core elements of the Strategy, which are of most relevance to the environmental assessment of the RTS, are described in more detail in the remainder of this section. The full draft RTS can be accessed and downloaded from the SEStran website at the following address:

www.sestran.gov.uk/regional_transport_strategy.html

2.3.2 Objectives of the RTS

The RTS has four key objectives:

Objective 1 – Economy

To ensure transport facilitates economic growth, regional prosperity and vitality in a sustainable manner:

- 1.1 To maintain and improve labour market accessibility to key business/employment locations
- 1.2 To maintain and improve connectivity to the rest of Scotland, the UK and beyond
- 1.3 To support other strategies, particularly land use planning and economic development
- 1.4 To reduce the negative impacts of congestion, in particular to improve journey time reliability for passengers and freight

Objective 2 – Accessibility

To improve accessibility for those with limited transport choice or no access to a car, particularly those who live in rural areas:

- 2.1 To improve access to employment
- 2.2 To improve access to health facilities
- 2.3 To improve access to other services, such as retailing, leisure and education
- 2.4 To make public transport more affordable and socially inclusive

Objective 3 – Environment

To ensure that development is achieved in an environmentally sustainable manner:

- 3.1 To contribute to the achievement of the UK's national targets and obligations on greenhouse gas emissions
- 3.2 To minimise the negative impacts of transport on natural and cultural resources
- 3.3 To promote more sustainable travel
- 3.4 To reduce the need to travel
- 3.5 To reduce the dependency on the private car

Objective 4 – Safety and Health

To promote a healthier and more active SEStran area population:

- 4.1 To improve safety (accidents) and personal security
- 4.2 To increase the proportion of trips by walk/cycle
- 4.3 To meet or better all statutory air quality requirements
- 4.4 To reduce the impacts of transport noise

Section 6 of the draft RTS sets out a series of proposed targets which would be used to monitor the implementation of the Strategy with respect to each objective. Monitoring of the SEA, which will clearly overlap with indicators used to monitor the RTS, is presented in Section 8 of this ER.

2.3.3 RTS Policies

An important component of the RTS is the development of policies which set out the means by which SEStran expects to deliver the objectives of the Strategy. Policies have been developed in the draft RTS for the following broad groups:

- Economy;
- Accessibility;
- Environment;
- Safety and health; and
- General policies.

The SEA team was closely involved in the drafting of RTS policies, to ensure that:

- the policies which were developed took full account of environmental issues,
- were complementary to the environmental objectives of the RTS (and the SEA),
- and supported wider sustainable development in the region.

So for example the drafting of environmental policies of the RTS was specifically undertaken by the SEA team. The finalised policies in the draft RTS are listed in Table 2.1 below. The table presents the full text of each policy and a shortened description which has been used for the summary of the environmental appraisal of each policy presented in Section 7.3.

Table 2.1 List of RTS Policies

Group	Policy Number	Full Policy	Short Description
E economy	E1	The RTS will seek to reduce road traffic levels, especially single occupant cars in the most congested places at the most congested times	Reduce road traffic levels
	E2	The RTS will give high priority to the maintenance of any future SEStran assets	Maintenance of assets
	E3	There will be a presumption in favour of addressing problems of congestion through measures to reduce demand for car travel and promote modal shift	Reduce demand for car travel
	E4	Any additional capacity on commuter corridors that are congested, or forecast to become congested within the lifetime of the strategy, will normally be used to benefit space-efficient modes such as bus, train and high-occupancy vehicle and cycles. Such additional capacity on strategic freight corridors may also be used to benefit HGVs	Space-efficient modes
	E5	New road capacity to improve journey times and reliability, may be provided where it can be demonstrated that these benefits will not be eroded by induced traffic in the medium to long term, and that other alternatives have been evaluated and found to be less effective	New road capacity
	E6	The RTS will seek to move freight from road to rail and water	Freight by rail and water
	E7	There will be a general presumption in favour of schemes that improve the efficiency and effectiveness of public transport, and make it a more attractive option for existing car users	Efficiency of public transport
	E8	High priority will be given to the improvement of all aspects of bus services (services, vehicle quality, fares, infrastructure and integration) as a means of reducing congestion and enhancing accessibility	Improvement of bus services
	E9	Investment in new infrastructure and services will generally be complemented by “soft” measures such as information, marketing, personalised travel assistance, awareness campaigns (including the promotion of the links between transport, safety, health and environment) travel plans and, where relevant, traffic management measures to ensure that benefits will not be eroded by induced traffic	Soft measures
	E10	The RTS will give high priority to the promotion of “soft” measures such as information, marketing, personalised travel assistance and travel plans	Promotion of soft measures
	E11	Encouragement will be given by SEStran to Transport Scotland for cost-effective investment and service support that builds an integrated rail-based regional transport network, fully integrated with existing and planned development	Integrated rail network
	E12	There will be a presumption in favour of supporting the targeting of rail investment to enhance the public transport capacity (including, where appropriate, station capacity) of existing heavily-used and congested rail corridors for passengers and/or freight	Rail investment
	E13	A consistent framework for maximum parking standards for new development will be applied across the region to ensure that comparable developments of a similar size in similar locations have similar parking standards	Parking
Accessibility	A1	SEStran will seek to ensure that communities with poor access to employment by PT and low car ownership / high deprivation will be the subject of targeted measures to address this, and that such measures will be accorded a high priority	Communities with poor access
	A2	In selecting interventions as part of the RTS, SEStran will seek to pay particular regard to the need to reduce problems caused by peripherality in rural and other areas of the region that are less well served by PT	Rural and other areas poorly served by public transport
	A3	All interventions will be subject to an equal opportunities audit to ensure that they promote equal opportunities in accordance with the law	Equal opportunities audits

	A4	SEStran will use its influence to support development plan strategies by seeking to ensure that major trip generating sites – including housing – are located in areas that are capable of being well served by walking, cycling and public transport	Location of major trip generators	
	A5	SEStran will support planning authorities in using their land-use planning powers to reduce the need to travel, to promote the provision of non-car access to and within new developments and to promote travel plans	Reducing the need to travel	
	A6	Schemes that improve the accessibility by public transport, walking and cycling of key development areas will be afforded higher priority for implementation	Non car modes	
	A7	SEStran will seek to intervene where affordability is recognised by the Partnership as a barrier to the use of public transport. Where improvements in accessibility are found to be required, the RTS will seek, in the first instance, to deliver these by enhancing conditions for pedestrians, cyclists and public transport users	Affordability for public transport	
	A8	Where improvements in accessibility are found to be required, the RTS will seek, in the first instance, to deliver these by enhancing conditions for pedestrians, cyclists and public transport users	Enhancing conditions for non car modes	
	A9	SEStran will seek to ensure that people unable to use conventional public transport due to disability will be the subject of targeted measures to address this, and that such measures will be accorded a high priority.	Measures for those with disabilities	
	A10	Town and city centre parking provision (including areas on the edge of centres) will favour shoppers, essential business users and residents, whilst commuter parking for that town or city centre will be discouraged	Urban parking provision	
	A11	Parking provision at major employment and essential service centres outwith town and city centres (e.g. hospitals, areas around business parks) will favour shoppers, visitors, business/service users and residents, whilst commuter parking will be discouraged	Parking provision at major employment centres	
	A12	SEStran and its constituent authorities will work in partnership with Health Boards to improve access to health services and to reduce congestion caused by travel to these services. This would not include subsidy for services needed for new health buildings or services, which would be subject to the normal transport assessments and access policies	Access to health services	
	Environment	ENV1	The RTS will prioritise interventions that promote the use of more sustainable modes of transport, in particular non-motorised modes	Sustainable modes
		ENV2	Transport interventions will be designed and operated to minimise their impact on the environment	Reducing environmental impact
		ENV3	Interventions in the RTS should contribute to the achievement of national and international targets related to climate change, particularly reducing emissions of CO ₂ and other greenhouse gases	Climate change targets
ENV4		New transport infrastructure proposals which could have significant adverse effects on areas designated for their natural or cultural heritage and environmental quality will not normally be supported	Protection of designated areas	
ENV5		The RTS will promote interventions that will reduce the consumption of non-renewable resources	Non renewable resources	
ENV6		The RTS will promote interventions that will improve energy and resource efficiency	Energy and resource efficiency	
ENV7		There will be a presumption in favour of schemes that safeguard greenspaces especially where these are strategically important for promoting walking and cycling and access to work and essential services	Greenspaces, walking and cycling	
Safety and Health	S1	Interventions that are cost-effective in reducing accidents, such as Camera Partnerships, AIP scheme and 20 mph zones, will be accorded high priority	Accident reduction interventions	
	S2	There will be a presumption in favour of schemes that lead to greater physical activity, and that facilitate independent travel especially by children	Physical activity and independent travel	
	S3	There will be a presumption in favour of schemes that enhance personal security, especially for pedestrians, cyclists and public transport users	Personal security for non car modes	
	S4	There will be a presumption in favour of schemes that assist the achievement of local air quality targets	Local air quality	
	S5	In the development of new infrastructure, appropriate measures will be taken to minimise the adverse impacts of transport noise	Minimising transport noise	
General	G1	Schemes supported in national strategy and policy documents will be afforded a higher priority for implementation	National strategic schemes	
	G2	SEStran will set aside funding to support cost-effective local projects and services consistent with region-wide initiatives in the RTS	Local projects and services	

Environmental appraisal of these policies was undertaken as a core part of the SEA process which fed directly into the RTS. Section 7.3 discusses the appraisal findings.

2.3.4 RTS Strategy Framework

The Strategy Framework is the core physical part of the RTS and essentially comprises a series of transport measures, interventions and initiatives. These have been set out in three themes:

- Network based initiatives – covering physical infrastructure schemes and public transport supply on high demand corridors;
- Region wide measures – those affecting the whole SEStran area; and
- Initiatives for specific areas and groups – aimed primarily at accessibility and providing minimum levels of service to specific locations.

The **network based initiatives** have been defined to address problems of higher than average car mode share for commuting journeys in key transport corridors and in movements between the sectors of highest demand in the SEStran region. They also are intended to address other corridors with the highest volumes of road traffic. For both groups of corridors, the RTS sets out mode share targets to be achieved over the lifetime of the Strategy and a series of potential measures are detailed according to each corridor. The proposed mode share targets are:

- Stage 1 – to halt the increase in car mode share over time and hold the total car mode share at 2001 levels (62%);
- Stage 2 – to reduce overall car mode share to 59.1%;
- Stage 3 – to reduce overall car mode share to 55.4%.

The proposed interventions to help meet these targets are summarised in Table 2.2. The table also sets out the interventions which are proposed in the RTS for “crowded corridors” and the wider economic network. Crowded corridors are defined in the RTS as those which are predicted to be over crowded in 2015 based on the different mode share assumptions. It should be noted that they are not presented as committed interventions but rather as measures which may assist in achieving the desired targets.

Table 2.2 Summary of Network Based Initiatives

	Corridor	Summary of Potential Measures
RTS Corridor Measures		
Mode Share Targets Stage 2	Edinburgh north – Edinburgh west	<ul style="list-style-type: none"> • Trams between Roseburn and Granton with interchange at Haymarket; improved inner orbital bus services; outer orbital buses to link Edinburgh Waterfront with west Edinburgh
	Edinburgh north – Edinburgh south	<ul style="list-style-type: none"> • Improved bus links in the west of the corridor; south east tram service; inner and outer orbital buses; Haymarket to Granton trams
	Fife Bridgehead/Central – Edinburgh west	<ul style="list-style-type: none"> • EARL with airport interchange; bus interchange at Barnton; outbound bus priority on the A90; Ferrytoll access measures from A90; bus lanes on any new Forth crossing; cross Forth ferry; review fares on Edinburgh-Fife trains; support re-structuring of Fife line and Aberdeen rail services; demand management for traffic accessing Forth Bridge at peak times; consider high occupancy vehicle (HOV) lanes
	Edinburgh east – Edinburgh west	<ul style="list-style-type: none"> • Tram from Ocean Terminal to airport; tram to Newcraighall and Queen Margaret College; improved Crossrail frequency; enhanced bus services to Gyle/Edinburgh Park; south east tram service; South Suburban railway; outer orbital buses
	Edinburgh south – Edinburgh east	<ul style="list-style-type: none"> • Inner and outer orbital buses; South Suburban railway
	Stirling – Clackmannan	<ul style="list-style-type: none"> • Opening of Stirling to Alloa railway; review case for additional bus services
	Fife East - Dundee	<ul style="list-style-type: none"> • Review bus services between Cupar/St Andrews and Dundee; park and choose site south of Tay Bridge

	West Lothian south – Edinburgh city centre	<ul style="list-style-type: none"> Bus priority measures and service enhancements on A71 corridor; improve Edinburgh Shotts railway as a commuter service; tram extension to Livingston
	Falkirk – West Lothian south	<ul style="list-style-type: none"> Improve peak hour direct bus services
	Edinburgh Orbital Buses	<ul style="list-style-type: none"> High quality outer orbital bus routes linking key employment locations, residential developments and public transport interchanges around the edge of Edinburgh
Mode Share Targets Stage 3	Fife Central – Fife Bridgehead	<ul style="list-style-type: none"> More and better linked A92 express buses; bus priority on A92 signalised junctions; public transport hubs at Kirkcaldy, Markinch and Dunfermline; re-open Levenmouth line; Markinch as a key bus and rail interchange
	Edinburgh south – Edinburgh city centre	<ul style="list-style-type: none"> Bus priority at key junctions; improved bus services and priority on A702; south suburban railway; south east tram; traffic management in central Edinburgh (Bridges) to facilitate bus/tram
	West Lothian mid – west Lothian south	<ul style="list-style-type: none"> Improved bus links to major employment areas; bus links from Livingston North station to employment locations; targeted employer travel plans; car sharing initiatives
	Edinburgh north – Edinburgh city centre	<ul style="list-style-type: none"> Tram from city centre to Ocean Terminal and from Haymarket to Granton; bus priority on key routes
	Edinburgh south – Edinburgh west	<ul style="list-style-type: none"> Orbital bus proposals; south suburban railway with interchange at Haymarket
	Edinburgh west – Edinburgh city centre	<ul style="list-style-type: none"> Tram to airport; address bus priority 'bottlenecks'
	East Lothian – Edinburgh city centre	<ul style="list-style-type: none"> Wallyford expanded park and ride; public transport direct links for proposed development at Blindwells; examine case for a stopping rail service to Dunbar; tram line to Musselburgh
	Midlothian east – Edinburgh city centre	<ul style="list-style-type: none"> Improve southern approaches to Sheriffhall roundabout for buses; feeder buses to new Waverley line stations; assess bus priority on A68 and A7; south east tram line with feeder buses/park and ride
	Edinburgh east – Edinburgh city centre	<ul style="list-style-type: none"> Bus priority on Niddrie Mains Road; increased train service to Newcraighall; south east tram line to Newcraighall
Crowded Corridors		
Stage 1 – Assuming 2001 Mode Share in 2015	<ul style="list-style-type: none"> Improved bus and rail services on the following corridors: Midlothian west; West Lothian M8; West Lothian South; Queensferry Road 	
Stage 2 – Assuming high car driver mode share movements are reduced	<ul style="list-style-type: none"> Improved bus services on the following corridors: M90; Alloa to Dunfermline; South Bridge Edinburgh 	
Stage 3 – Assuming high car driver mode share on high volume corridors	<ul style="list-style-type: none"> Improved range of services on the cross Forth Kincardine 	
Wider Economic Network (Other corridors of strategic importance for the economy)	<ul style="list-style-type: none"> Maintenance and development of other strategic corridors: A91 Stirling to St Andrews; A801 Grangemouth to M8 (West Lothian); Borders East to west, A72/A6091/A698 and External links to other corridors (A92, A1, A86, A697, A7, A701, A72, A71, M8, M9, M80) 	

An extensive range of **region wide measures** has been developed to complement the more corridor specific measures in the network based initiatives (and to a degree those for specific areas and groups). It was recognised that there are traffic and transport problems in South East Scotland which are not primarily related to peak hour and commuter flows and that action across the region is necessary. The key topics and actions for these measures are summarised in Table 2.3. Full details of the supporting actions are presented in the draft RTS document.

Table 2.3 Summary of Region Wide Measures

Group	Key Topics for Action
Travel Behaviour – ‘Smarter Choices’	<ul style="list-style-type: none"> • Travel Plans: facilitation of voluntary plans and use of planning process • Encourage sustainable travel through development control standards and company travel plans • Regional car sharing schemes, residential travel plans and personalised travel assistance pilots • OPTIMUM⁽¹⁾ marketing of sustainable transport at large employment areas • Promotion and facilitation of tele-working as a substitute for travel • Use of awareness campaigns to increase use of sustainable transport modes and reduce overall travel
Ticketing Arrangements	<ul style="list-style-type: none"> • Promoting through ticketing and One Ticket in SEStran area and beyond • Regional rail concession scheme
Freight	<ul style="list-style-type: none"> • Regional freight partnerships, supporting region wide approach to freight management • HGV parks, route bans, signing strategy
Parking	<ul style="list-style-type: none"> • Consistently developed maximum parking standards for new developments • Regional parking management policy, including decriminalising parking
Demand Management	<ul style="list-style-type: none"> • Congestion charging and tolls (not priority at this stage)
Safety	<ul style="list-style-type: none"> • Regional road safety plans to complement local AIP programmes and speed enforcement • Safer routes to stations, public transport interchanges, and schools
Cycling	<ul style="list-style-type: none"> • Support the development of urban cycle networks • Support the development of rural cycle networks • Collate best practice on cycling infrastructure as a resource
Public Transport Vehicles	<ul style="list-style-type: none"> • Alternative fuels (review similar schemes elsewhere) • Seek to achieve minimum standards for public transport vehicles
Public Transport – Fares	<ul style="list-style-type: none"> • Review costs of public transport fares across the region; seek to intervene where discrepancies identified; seek to bring about a real terms reduction in public transport fares
Public Transport – Integration	<ul style="list-style-type: none"> • Improve pedestrian and cycle access to major public transport stops, stations and interchanges
Public Transport – Information	<ul style="list-style-type: none"> • Identify current systems of real time information and potential pilot of new routes or corridors in urban and rural areas (eg stations, interchanges, bus stops) • Publish an area wide public transport map
Mobility Impaired	<ul style="list-style-type: none"> • Consider scope for delivery of a regional taxi card • Review level of mobility impaired transport information services and scope to add value to the delivery of these services
Urban Design	<ul style="list-style-type: none"> • Best practice approach, and piloting, of shared surfaces for walking, cycling and other modes • Best practice and guidance on standards for sustainable design
Enforcement	<ul style="list-style-type: none"> • Bus lane enforcement cameras
Other Measures	<ul style="list-style-type: none"> • Consider establishment of a tourism signing strategy • Research into regional co-ordination of community and accessible transport services • Compile inventory of ITS measures (eg parking guidance, RTPI)

	<ul style="list-style-type: none"> • Review evidence of effectiveness of city car clubs
(1) OPTIMUM is a project which searches for attractive alternatives to the car. It stands for 'Optimal Planning Through Implementation of Mobility Management'.	

Finally, **initiatives for specific areas and groups** were developed to respond primarily to problems of poor accessibility among certain groups and locations in the region, and in particular access to health care and employment. There is also a requirement to improve access for certain groups in rural areas and to cater equally for disabled and elderly travellers. The proposed measures are summarised in Table 2.4.

It is important to recognise that not all of the initiatives in the three themes are likely to be implemented over the 15 year life of the RTS since funding limits are likely to constrain the process in some places. This issue is discussed further in relation to the environmental assessment of the themes and the complete RTS in Section 7.

Table 2.4 Summary of Initiatives for Specific Areas and Groups

Group	Key Topics for Action
Access to Healthcare	<ul style="list-style-type: none"> • Work with bus operators to adjust bus routes • Consider the potential for new bus routes linking settlements with hospitals • Consider the potential for hospital to hospital services • Review the provision of demand responsive transport, particularly in rural areas • Liaise with community transport groups on best practice
Access to Employment Opportunities	<ul style="list-style-type: none"> • Examine areas identified as (i) deprived and (ii) suffering from relatively poor access to employment. Promote modifications to bus services accordingly where practicable • Engage with local employment agencies and stakeholders to identify other geographical areas where poor public transport may be affecting labour market participation
Demand Responsive Transport	<ul style="list-style-type: none"> • SEStran will review rural transport and demand responsive transport provision across the region and consider the case for the development of a framework of provision building on the review of existing services presented in the RTS • This will also consider the proportion of travellers affected by a mobility difficulty, and the success of the schemes targeted at these travellers will also be monitored

2.3.5 Summary

The preceding paragraphs and tables have presented a summary of the content, structure and measures within the draft RTS. This is important to the SEA since the approach which has been adopted to the environmental appraisal (see Chapter 4 of this report) and the reporting of the findings of the assessment (see Chapter 7) have followed the grouping of measures and themes set out in the draft Strategy.

3 Relationship with Other Plans, Programmes and Environmental Objectives

3.1 REVIEW OF PLANS, PROGRAMMES AND ENVIRONMENTAL OBJECTIVES

An understanding of the relevance of other legislation, policy and plans to the SEA of the RTS is an essential step in understanding the context for the RTS, the relationship with other strategies and in deriving the necessary environmental baseline and objectives for the assessment.

A large number of other plans, programmes and environmental strategies have been reviewed as part of the SEA process. In order to ensure a consistent and rigorous approach to the review process, a proforma table was developed so that the necessary environmental information, objectives and issues could be identified from each strategy and plan reviewed by the SEA team. This table was derived from various sources of current SEA guidance (including tables presented in the SEA Toolkit¹) in order to make it relevant to the SEA of the RTS and the plans reviewed were augmented following a number of suggestions by the Consultation Authorities at the scoping stage of the appraisal.

Completed proformas for each strategy and plan reviewed are included in Appendix B. A summary of the key information identified from this process, including the relationship between the RTS and the most relevant plans which have been reviewed is presented in Table 3.1.

In Table 3.1 a column is included which indicates how the relevant plans and programmes have influenced the development of the SEA objectives. The SEA objectives are presented in Section 6.2 of this report.

¹ Scottish Executive (2006) Strategic Environmental Assessment Toolkit.

Table 3.1 Relationships with other Plans, Programmes and Environmental Objectives

Key information in this table includes regional and local level plans and programmes (since it is assumed that international and national plans have already been incorporated) identified from the review process. Their relationship with the RTS and implications for the SEA are discussed. Further plans are included in Appendix B.

Name of Plan	Main Requirements of Plan	How it affects or is affected by RTS	Implications for the SEA	Relevant SEA Objective
South East Scotland Regional Transport Strategy, 2003	Reflects the Scottish Executive's 2002 Transport Delivery Plan	Climate Change, Human Health & Air Quality: reduce the need to travel and therefore reduce congestion and improve air quality thus contributing to reducing impact on global climate, decreasing impact on human health and improving air quality	<ul style="list-style-type: none"> • Will expect RTS to promote interventions that will reduce need to travel • Will expect to see encouragement in modal shifts away from the car • Will expect RTS to promote interventions that minimise congestion and create corresponding benefits for local air quality and human health 	<ul style="list-style-type: none"> • Climate change • Quality of life
Neighbouring Regional Transport Strategies (in progress)	RTSs are required under the Transport (Scotland) Act 2005	RTSs are being prepared in parallel with that for South East Scotland in the neighbouring areas of Tay and Central, South West and Strathclyde. Inter-regional transport initiatives will need to be co-ordinated by the RTPs	<ul style="list-style-type: none"> • Co-ordination of transport strategies offers potential benefits in terms of modal shift and more efficient transport for inter-regional journeys 	<ul style="list-style-type: none"> • Climate change • Quality of life • Material assets and resources
Policing Your Roads, A Strategy for Safer Roads for Beyond 2000	Working towards creating safer roads by adopting the 4 'Es' – Education, Engineering, Enforcement and Encouragement to comply	<p>Landscape & Townscape: designing roads to increase safety</p> <p>Human Health and Safety: designing roads and increasing efficiency of public transport, thus reducing (growth in and) number of private vehicles on the road, and improving safety</p>	<ul style="list-style-type: none"> • Will expect RTS to promote interventions that address safety issues in the urban environment • Will expect a focus on interventions encouraging a modal shift away from the car and on to public transport, cycling and walking to help improve road safety 	<ul style="list-style-type: none"> • Natural heritage • Cultural heritage • Quality of life
Surrounding Scottish Local Authority Structure Plans (Summary)	Set out a vision for the future sustainable development of the Local Authority areas	<p>Population: improving transport links & therefore accessibility & the promotion of economic growth creating employment opportunities</p> <p>Human Health & Safety: promotion of sustainable and healthy modes of transport</p> <p>Air Quality, Climate Change: aims to</p>	<ul style="list-style-type: none"> • Will expect RTS to promote interventions that improve access to employment, essential services and community facilities • Will expect a focus on interventions encouraging a modal shift away from the car and on to public transport, cycling and walking to help improve road safety and promoting healthier lifestyles • Will expect RTS to promote a policy framework that encourages modal shift to cycles and 	<ul style="list-style-type: none"> • Quality of life • Climate change

Name of Plan	Main Requirements of Plan	How it affects or is affected by RTS	Implications for the SEA	Relevant SEA Objective
		encourage more sustainable pattern of development	walking and other more sustainable forms of transport reducing reliance on the car and helping to cut CO ₂ emissions	
Surrounding Scottish Local Authority Local Plans (Summary)	Set out the local development planning framework for various local authority areas	<p>Climate Change, Human Health, Air Quality: a move towards all development as sustainable in turn having a positive impact on the above areas</p> <p>Human Health & Population: encouraging sustainable modes of transport and increased public transport leading to accessibility and healthier lifestyles</p> <p>Landscape & Townscape & Cultural Heritage: aims to preserve these and ensure that transport networks promote and enhance rather than hinder them</p>	<ul style="list-style-type: none"> • Will expect a focus on interventions encouraging a modal shift away from the car and on to public transport, cycling and walking to help improve road safety, cut emissions and improve air quality and promote healthier lifestyles • Will expect RTS to promote a policy framework that encourages modal shift to cycles and walking and other more sustainable forms of transport reducing reliance on the car and helping to cut CO₂ emissions • Will expect RTS to address minimising transport effects on landscape, townscape and cultural heritage 	<ul style="list-style-type: none"> • Climate change • Quality of life • Natural heritage • Cultural heritage
Neighbouring English Development Plans (Summary)	Strategic land use planning framework with direct reference to the Town & Country Planning Act 1990	<p>Climate Change, Human Health, Air Quality: aim for all transport development and plans to reduce pollution, enhance human health and improve air quality such as reduction in private travel and fuel consumption</p> <p>Population: improved public transport and sustainable modes of transport lead to increased accessibility</p> <p>Human Health & Safety: encouragement of sustainable modes of travel (cycling, walking) and reduced numbers of private vehicles on road leading to improved health and safety</p>	<ul style="list-style-type: none"> • Will expect a focus on interventions encouraging a modal shift away from the car and on to public transport, cycling and walking to help improve road safety, cut emissions and improve air quality and promote healthier lifestyles • Will expect RTS to promote a policy framework that encourages modal shift to cycles and walking and other more sustainable forms of transport reducing reliance on the car, helping to cut CO₂ emissions, improving air quality and promoting healthier lifestyles 	<ul style="list-style-type: none"> • Climate change • Quality of life
SE Scotland Local Authority Local Plans	Sets out local planning framework for various local authority areas	Material Assets: identifies new requirements for transportation infrastructure	<ul style="list-style-type: none"> • Will expect RTS to promote interventions that make use of more sustainable design and construction methods in the development of road infrastructure 	<ul style="list-style-type: none"> • Material assets and resources • Natural heritage • Cultural heritage

Name of Plan	Main Requirements of Plan	How it affects or is affected by RTS	Implications for the SEA	Relevant SEA Objective
<i>(Summary)</i>	within SE Scotland region	<p>Landscape & Townscape: aims to ensure that transportation infrastructure/networks do not negatively impact on landscape and townscape</p> <p>Population: aims to enhance economic growth, accessibility to amenities and quality of life through transport links</p> <p>Human Health & Safety: encouragement of sustainable modes of travel (cycling, walking)</p> <p>Climate Change & Air Quality: a move towards all transportation development as sustainable</p>	<ul style="list-style-type: none"> • Will expect RTS to address minimising transport effects on landscape, townscape and cultural heritage • Will expect RTS to promote interventions that improve access to employment, essential services and community facilities • Will expect RTS to promote a policy framework that encourages modal shift to cycles and walking and other more sustainable forms of transport reducing reliance on the car, helping to cut CO₂ emissions, improving air quality and promoting healthier lifestyles 	<ul style="list-style-type: none"> • Quality of life • Climate change
SE Scotland Local Transport Strategies <i>(Summary)</i>	Sets out each Local Authority's plans, policies, projects and vision for transport	<p>Human Health & Safety: encouragement of sustainable modes of travel (cycling, walking) and reduced numbers of private vehicles on road leading to improved health and safety</p> <p>Air Quality & Noise: aim to reduce congestion, noise and increase public and sustainable transport use which improves air quality</p> <p>Population: improving access to amenities and employment</p> <p>Climate Change: aim to reduce negative impact of transportation and transport infrastructure on the environment and therefore climate change</p>	<ul style="list-style-type: none"> • Will expect RTS to promote a policy framework that encourages modal shift to cycles and walking and other more sustainable forms of transport reducing reliance on the car, helping to cut CO₂ emissions, improving air quality and promoting healthier lifestyles • Will expect RTS to promote interventions that minimise congestion and create corresponding benefits for local air quality and human health • Will expect RTS to promote interventions that improve access to employment, essential services and community facilities 	<ul style="list-style-type: none"> • Quality of life • Climate change
SE Scotland Local Authority Structure Plans	Strategic land use planning framework with direct reference to the Town and Country	Material Assets: identifies requirements for new transport infrastructure as part of overall land use planning	<ul style="list-style-type: none"> • Will expect RTS to promote interventions that make use of more sustainable design and construction methods in the development of road infrastructure 	<ul style="list-style-type: none"> • Material assets and resources • Quality of life • Climate change

Name of Plan	Main Requirements of Plan	How it affects or is affected by RTS	Implications for the SEA	Relevant SEA Objective
<i>(Summary)</i>	Planning (Scotland) Act 1997 and Town and Country Planning (Structure and Local Plans) (Scotland) Regulations 1983	<p>Population: improving transport links and therefore accessibility</p> <p>Human Health & Safety: encouragement of sustainable modes of travel (cycling, walking) and reduced numbers of private vehicles on road leading to improved health and safety</p> <p>Climate Change: encouragement of sustainable modes of travel, increased accessibility and improved transport networks lead to less private car use, congestion and therefore impacts less on climate change</p>	<ul style="list-style-type: none"> • Will expect RTS to promote interventions that improve access to employment, essential services and community facilities • Will expect RTS to promote a policy framework that encourages modal shift to cycles and walking and other more sustainable forms of transport reducing reliance on the car, helping to cut CO₂ emissions, improving air quality and promoting healthier lifestyles 	
Local Authority Local Biodiversity Action Plans <i>(Summary)</i>	Local Biodiversity Action Plan	Biodiversity: sets out objectives for habitat conservation which need to be taken into consideration in the RTS development	<ul style="list-style-type: none"> • Will expect RTS to promote interventions that help to conserve and enhance biodiversity • Where possible the RTS should encourage interventions that do not impact negatively on priority habitats and species (at UK, Scottish and local levels) and where possible help to conserve and enhance such habitats and species 	<ul style="list-style-type: none"> • Natural heritage
Local Authority Outdoor Access Strategies <i>(Summary)</i>	Outdoor Access Strategy with reference to the Land Reform (Scotland) Act 2003	<p>Air Quality, Climate Change & Human Health: seeks to reduce vehicle use by providing a healthy, green sustainable routes and modes</p> <p>Population: creating more access and greater quality of life</p>	<ul style="list-style-type: none"> • Will expect RTS to promote interventions that will reduce the need to travel by car and which support increased use of cycles and walking • The RTS should also be compatible with supporting access links between green spaces and the wider countryside and facilitating the use of such links by local communities 	<ul style="list-style-type: none"> • Climate change • Quality of life
Local Authority Community Plans <i>(Summary)</i>	Sets out priorities for each Local Authority which have been agreed by both communities and agencies	<p>Human Health & Safety: to promote health through development of paths and alternative routes and modes of transport and improvement of transport infrastructure</p> <p>Population: improved quality of life and greater access through extension of alternative routes, improvement of transport infrastructure and move towards</p>	<ul style="list-style-type: none"> • Will expect RTS to promote a policy framework that encourages modal shift to cycles and walking and other more sustainable forms of transport reducing reliance on the car, helping to cut CO₂ emissions, improving air quality and promoting healthier lifestyles • The RTS should also be compatible with supporting access links between green spaces and the wider countryside and facilitating the use 	<ul style="list-style-type: none"> • Quality of life

Name of Plan	Main Requirements of Plan	How it affects or is affected by RTS	Implications for the SEA	Relevant SEA Objective
		greener, safer communities	of such links by local communities	
Local Authority Sustainable Development Strategies (Local Agenda 21) (Summary)	To develop a vision for a more sustainable Local Authority	<p>Human Health & Safety: aim to promote sustainable methods of transport and less private vehicle usage</p> <p>Population: sustainable development for future generations</p> <p>Climate Change: a move towards all development as sustainable contributes to reducing climate change</p> <p>Aquatic Environment: sustainable management of water and water conservation</p>	<ul style="list-style-type: none"> • Will expect RTS to promote a policy framework that encourages modal shift to cycles and walking and other more sustainable forms of transport reducing reliance on the car, helping to cut CO₂ emissions, improving air quality and promoting healthier lifestyles • The RTS should also be compatible with supporting access links between green spaces and the wider countryside and facilitating the use of such links by local communities • RTS expected to support interventions that help to minimise environmental impacts on surface and ground waters. Road infrastructure expected to tie in with sustainable urban drainage schemes (SUDS) 	<ul style="list-style-type: none"> • Quality of life • Climate change • Natural heritage
Strategic Operating Plan 2005 – 2008, Scottish Enterprise Edinburgh and Lothians	Sets out strategic aims, objectives and vision for strengthening Edinburgh and the Lothians economy	<p>Population: improving transport links and therefore accessibility</p> <p>Climate Change: expansion of Edinburgh airport detrimental to the environment</p>	<ul style="list-style-type: none"> • Will expect RTS to promote interventions that improve transport links and overall accessibility for all – a more integrated transport system • Implications of increased air traffic to emissions of CO₂. Overall implications of airport expansion on contributions to climate change 	<ul style="list-style-type: none"> • Climate change • Quality of life

The review of plans and programmes (together with the review of issues and baseline information in the SEStran area, see Chapter 5) helped to inform the identification of draft SEA objectives which were further developed at the SEA workshop (see Section 1.4.2). The draft objectives were grouped under the environmental topics which have to be considered under the SEA legislation (see Section 5.2 for SEA topics and Chapter 6 for development of objectives).

Table 3.1 summarises the key plans and programmes relevant to the RTS and how their content has been linked into the SEA objectives. The objectives, further refined and developed, have been used to underpin the appraisal of the SEA (see Section 6.2).

The summary in Table 3.1 indicates that other plans and programmes give a clear steer towards the need for the RTS to encourage sustainable modes of transport and contribute to promoting healthier lifestyles and to ensure that new transport measures are designed to reduce their impact on the natural and cultural heritage.

4 Method of Assessment

4.1 INTRODUCTION

This chapter presents the approach which has been adopted for the SEA of the draft RTS. The overall approach and stages in the SEA process are outlined in Section 4.2 and guidance which has been referred to during the process is presented in Section 4.3. Section 4.4 summarises the process used to collate baseline information and the identification of objectives, which are discussed in more detail in other chapters of this report (see Chapters 5 and 6). Sections 4.5 and 4.6 set out the method of appraisal which has been followed for the SEA of the RTS and commentary is provided in Section 4.7 on how the approach to appraisal of alternatives has been carried out.

4.2 OVERALL APPROACH TO SEA

The approach to the SEA has followed a series of defined stages:

- Identification of relevant baseline information for the SEStran area (see Section 5 and Appendix C);
- Consultation with a wide range of stakeholders to make best use of available relevant environmental information (see Section 1.4);
- Review of relevant plans and programmes to underpin the RTS and the SEA of the RTS (see Chapter 3 and Table 3.1);
- Identification of existing and potential future environmental issues and problems which may influence or be influenced by the RTS (see Section 5.5);
- Identification of SEA objectives to guide the RTS appraisal taking account of the objectives in other plans and programmes, the identified issues and the current baseline (see Section 6);
- A check for compliance between the RTS objectives and the SEA objectives (see Section 7.3 and Appendix D);
- Scoping of environmental issues to be appraised in the SEA (see Section 4.5);
- Environmental assessment of the policies and interventions within the draft RTS (the findings of the assessment are reported in Chapter 7 and in Appendices E to G); and
- Proposals for monitoring of the implementation of the final RTS are presented in Section 8.

4.3 GUIDANCE

This ER has been prepared with reference to the following SEA legislation and guidance:

- Environmental Assessment (Scotland) Act 2005;
- Department for Transport (2004) Strategic Environmental Assessment for Transport Plans and Programmes, Transport Analysis Guidance, TAG Unit 2.11;
- European Commission (2001) Assessment of Plans and Projects Significantly Affecting Natura 2000 Sites (Oxford Brookes University);
- European Commission DG Environment (2004) Implementation of Directive 2001/42 on the Assessment of the Effects of Certain Plans and Programmes on the Environment;
- Office of the Deputy Prime Minister (2005) A Practical Guide to the Strategic Environmental Assessment Directive;
- Scottish Executive (2003) Environmental Assessment of Development Plans, Interim Planning Advice;
- Scottish Executive (2003) Scottish Transport Appraisal Guidance (STAG);
- Scottish Executive (2006) Strategic Environmental Assessment Toolkit.

Guidance on the SEA Directive produced by the Office of the Deputy Prime Minister identifies a series of requirements for the SEA, these are summarised in Table 4.1 below along with a comment as to their status on the SEA of the draft RTS.

Table 4.1 SEA Directive Guidance

Requirements	Response within SEA of SEStran RTS
a) Outline of the contents, main objectives of the plan and relationship with other relevant plans	Addressed within the SEA Scoping Report
b) Relevant aspects of the current state of the environment and the likely evolution thereof without implementation of the plan	
c) Environmental characteristics of areas likely to be significantly affected	
d) Existing environmental problems which are relevant to the plan	
e) Environmental protection objectives established at international, Community or national level, which are relevant to the plan and the way those objectives and any environmental considerations have been taken into account during its preparation	
f) Likely significant effects on the environment	Addressed within this ER
g) Measures envisaged to prevent, reduce and as fully as possible offset significant adverse effects on the environment of implementing the plan	
h) Outline of the reasons for selecting the alternatives dealt with, and a description of how the assessment was undertaken including any difficulties	
i) Description of measures envisaged concerning monitoring in accordance with Article 10	
j) Non-technical summary of the information provided under the above headings	

4.4 BASELINE AND OBJECTIVES

Development of baseline environmental information to an appropriate level of detail for the assessment, and for each SEA topic was undertaken at an early stage in the assessment process. This was prepared to provide a basis against which the potential environmental effects of the measures within the RTS could be assessed during the detailed appraisal stage. The development of the environmental baseline is discussed in more detail in Chapter 5 of this report.

SEA objectives were also drafted at an early stage in the process and reported in the SEA Scoping Report (see Section 1.4). The objectives provide the 'framework' for the environmental appraisal and they have been drawn from an extensive review of other plans and programmes as well as consultation and analysis of environmental information. Objective drafting and appraisal are discussed further in Chapter 6.

4.5 SCOPING THE ASSESSMENT

In accordance with the Environmental Assessment (Scotland) Act 2005, the study team considered at an early stage in the SEA process whether the environmental effects (positive and negative) of the RTS were likely to be significant. An initial scoping assessment was undertaken based on preliminary information about the scope of policies, guidance, measures and interventions in the RTS, the known environmental baseline of the region and the likely environmental issues.

Since there was limited detail available on the nature and proposals for the RTS at the scoping stage, it was not possible to scope out any environmental issues with certainty. All of the environmental topics identified in the scoping report were therefore taken forward for more detailed assessment, the findings of which are presented in Chapter 7.

Although the scoping process did not rule out any environmental issues for analysis, it was based upon significant consultation undertaken early in the RTS development process, including a parallel workshop on the RTS and the

SEA (see Section 1.4.2). Based on this information, the analysis of environmental baseline information and an extensive review of other plans and programmes, a series of objectives and sub-objectives were prepared and set out in the Scoping Report. These objectives are discussed in more detail in Sections 4.6.1 and 6.3 of this report and have been used to assess the various elements of the draft RTS.

4.6 APPRAISAL METHODOLOGY

4.6.1 Assessment of Environmental Effects

A framework based approach has been used to evaluate the environmental effects of the RTS. The SEA framework was evolved from the work completed for the scoping stage of the SEA. The SEA objectives and sub-objectives were defined as described above. A series of appraisal criteria for each objective and sub-objective were identified drawing on feedback from the SEA workshop, the review of baseline information and environmental issues and from the study team's own experience of other SEAs and transport appraisals and from feedback from the Consultation Authorities. These criteria have been used to focus the appraisal of the RTS against the SEA objectives (see Section 6.3).

The framework has been used at different levels of detail according to the nature of the elements of the Strategy which have been assessed. The following broad approach has been adopted:

- The appraisal of the **RTS objectives** was undertaken using a simple matrix to indicate the predicted extent of compatibility of each objective with each of the SEA objectives and sub-objectives. The completed matrix is shown in Appendix D.
- **RTS Policies** were then assessed using a similar matrix to identify the extent to which each policy supports or detracts from the environmental objectives and sub-objectives. The appraisal was undertaken by considering how the implementation of the policy could generally support, specifically contribute to, or detract from each SEA objective through a workshop process held by the SEA team. A simple appraisal scoring system was adopted to indicate the degree to which the policy accords with the SEA high level and sub-objectives. This was based on a series of symbols using a five point scale of appraisal, and allowed for uncertain effects to be recorded. The completed matrices are presented in Appendix E.
- The core of the RTS is the series of themes presented as **network based initiatives, region wide measures and initiatives for specific areas and groups** (see Section 2.3 for a description of these themes). Each of the individual measures in these three themes has been assessed using the matrix to determine their compatibility in relation to the SEA objectives and sub-objectives. The completed matrices for the interventions are presented in Appendix F.

These assessments were necessarily high level due to the limited amount of detail or location-specific information presented in the draft RTS. The matrices reporting these assessments are presented as a series of tables in Appendix F. It may be helpful for the reader to review these matrices in combination with the information available in the draft RTS Chapters 9, 10 and 11 which discusses each intervention within the three themes.

- A more detailed appraisal worksheet was then used to record the assessment of the environmental effects of the combined measures and initiatives in each of the three themes. This worksheet was developed to allow the appraisal team to consider appropriate mitigation and to record the predicted residual effects following mitigation of each transport theme in the draft RTS. Each theme was taken in turn, and by reviewing the collective findings of the appraisal presented in Appendix F the SEA team prepared a composite appraisal for the interventions in each theme using a more detail matrix (or worksheet). The completed worksheets for the three combined themes are presented in Appendix G.

A simple scoring system has been used in the worksheets and matrices to assess the draft RTS against the SEA framework. This is set out in Table 4.2.

Table 4.2 SEA Framework Scoring System

Clear contribution to the objective (or a strong compatibility/positive effect)	✓✓
Broadly supportive of the objective (or a compatible/positive effect)	✓
Neutral/no effect	0
Negative effect/incompatibility with policy	✗
Strongly negative effect/incompatibility with the objective	✗✗
Uncertain effect (positive/negative)	? (✓/✗)

The matrix based approach was adopted for the assessment of the individual initiatives in the draft RTS since the level of detail of the interventions was not extensive. The evaluation of each specific environmental topic involved review of the intervention and a broadly generic assessment of its environmental effects. This high level approach to the assessment was necessary due to the lack of specificity in many of the interventions in the three themes of the RTS. As a result, effects are generally reported as permanent and/or operational effects from the transport measure, rather than those which might occur during construction (with the exception of very clear potential construction effects eg where a designated site is affected – see Section 4.6.3). All environmental effects reported in the matrices and worksheets are presented as residual effects – that is the environmental effect which is predicted following the adoption of the assumed mitigation (see Appendices E to G and Section 7.6).

In undertaking the assessment of specific environmental effects, the appraisal team drew on a number of sources. These included the team’s knowledge of the study area/environmental baseline, best practice guidance for environmental appraisal, and the typical impacts of transport measures on the environment, drawing from previous experience undertaking corridor studies. The final analysis of the combined effects of the three themes of the RTS also drew on quantitative traffic and environmental model data which included predictions of the changes in carbon dioxide emissions associated with traffic reductions for the three key modal share targets presented in the draft RTS.

4.6.2 Approach to Assessment of Cumulative Effects

In undertaking the final appraisals of residual effects it has been important to take account of the scale and nature of the effects. It has been particularly important to consider the potential for indirect and cumulative effects of the measures in the RTS taking account of the likely evolution of the environment without the plan.

The cumulative assessment addresses the following key aspects:

- the cumulative effects arising from the measures in the RTS affecting a range of environmental media and receptors (eg cumulative effects of transport infrastructure on air quality and tranquillity for groups of receptors); and
- the cumulative effects on one or more environmental resource from implementation of the RTS and any other relevant plan or programme.

The approach to assessing cumulative effects has followed a similar matrix based system to that described above for the appraisal of the RTS Strategy Framework ‘themes’.

The matrix used for the analysis of the individual themes (discussed above in Section 4.6.1) was developed to undertake an assessment of the cumulative effects of the three themes of interventions in the draft RTS. This provides an outline assessment of the potential for the combined measures in the draft RTS to deliver transport and environmental changes which build upon those assessed for the themes when taken on a single basis.

Finally, the potential environmental effects of the draft RTS in cumulation with those from other strategies and plans has been considered. This assessment is necessarily broad brush since the SEA for the RTS does not have the resources to undertake a detailed or quantitative analysis of the effects of other strategies. Since the scope of the RTS is regional, the potential effects of the Strategy have been considered in combination with other regional plans and programmes, in particular the land use development plans (Structure Plans) and other relevant regional transport plans such as Core Path Plans (see Chapter 3).

The completed worksheets for the cumulative assessment are presented in Appendix G.

4.6.3 Appropriate Assessment

All plans and projects need to be screened in relation to their potential effects on designated sites of European nature conservation importance, in accordance with The Conservation (Natural Habitats & c.) Regulations 1994 (the Habitats Regulations). Where there is potential for plans to have significant effects on Special Protection Areas (SPAs) and Special Areas of Conservation (SACs) then Appropriate Assessment by the competent authority is required.

The potential for significant effects of the draft RTS on European sites has been considered, based on the physical interventions presented in the Strategy. The assessment of the interventions presented in the three themes for the RTS indicates that very few measures would have physical environmental effects on designated areas (or indeed on non-designated resources).

At this stage, an initial sift of the potential measures and initiatives which *may* have an impact on Natura 2000 sites has been undertaken. The measures which have been identified to have the potential to significantly affect relevant sites (SPAs and SACs) are shown in Table 4.3.

Table 4.3 RTS Interventions Potentially Requiring Appropriate Assessment

Group	Intervention	Potentially Affected Site
RTS Corridor Measures	Tram between Roseburn and Granton Square (and Ocean Terminal to Granton Square) ¹	Firth of Forth SPA (and RAMSAR site)
RTS Corridor Measures	Cross-Forth Ferry	Firth of Forth SPA (and RAMSAR site)
RTS Corridor Measures	Tram line 3 extended to Musselburgh	Firth of Forth SPA (and RAMSAR site) (if route follows coastline)
¹ Work on appropriate assessment has been progressed following EIA for the tram at Starbank adjacent to the Firth of Forth SPA.		

The likelihood of significant effects on the qualifying interests of the relevant site will depend to a great degree on the nature and exact location of the proposed transport measures. These aspects, and other details, are not available at present and it is therefore proposed that as part of the mitigation for this SEA, all interventions with the potential to affect SPAs and SACs will be reviewed in more detail and the potential requirement for Appropriate Assessment will be considered further in consultation with Scottish Natural Heritage (SNH) at the appropriate time.

4.6.4 Assessment of Health Effects

It is generally recognised by SEA practitioners that how health effects are appraised as part of the SEA process is a developing skill². For this appraisal the focus has been on environmental health effects including the benefits or disbenefits the RTS provides in terms of promoting a healthy lifestyle through encouraging sustainable modes of transport such as cycling and walking and discouraging dependency on the car; reducing the adverse effects of noise and poor air quality and promoting beneficial effects from improving opportunities for access to the countryside or important cultural sites. Detailed health effects have not been investigated such as specific effects on asthma or lung disease.

4.7 ALTERNATIVES CONSIDERED

4.7.1 Approach to Alternatives

Alternatives have been considered as an implicit part of the development of the RTS. This section summarises the principal options which have been assessed at each key stage of the RTS and the extent to which environmental issues and analysis were a part of the process of option selection.

² This comment was echoed at the recent Scottish Executive conference at the launch of the SEA Toolkit (September, 2006)

Specifically, options have been considered in relation to:

- RTS Objectives and Policies;
- RTS Measures; and
- the RTS Strategy Framework.

These are discussed in the following subsections.

4.7.2 Objectives and Policies

The objectives and policies of the RTS are an important part of the document because they set the context and aspirations against which the measures and themes in the Strategy are intended to deliver. In a similar way to that used for the development of objectives for the SEA (which is described in Section 6 of this report), objectives for the RTS were developed in an iterative manner including reviews of relevant strategy and policy and in consultation with member authorities of SEStran and a wider group of stakeholders.

Objectives were drafted under the four main categories of Economy, Accessibility, Environment and Safety & Health (see Section 2.3.2). In common with the process adopted for SEA objectives, initial long lists of objectives in each category were refined through discussion and consultation to reflect the key priorities for the SEStran region. The RTS objectives under the Environment theme were developed in conjunction with the SEA team to ensure that they were consistent with those being proposed for the environmental assessment process.

Policies for the RTS were then developed as a statement of the general way in which the RTS will go about meeting its objectives. A draft set of policies were proposed by the RTS team and these were refined with the project steering group with input from the SEA team on the environmental policies. RTS policies were developed for the key issues identified for transport in South East Scotland and to be consistent with wider relevant strategies and plans. All policies were also related back to the specific relevant RTS objectives.

RTS policies were then subject to a high level environmental appraisal process, by assessing their implications against the SEA objectives. This process, the results of which are described in Section 7.3 of this ER, allowed the identification of potential incompatibility of RTS policies with environmental issues and provided an opportunity to refine the policies taken forward for the draft RTS. In particular, amendments were made to the draft environmental policies for the RTS to ensure they took full account of the objectives in the SEA.

4.7.3 Measures and Interventions

Early work on the RTS involved the generation of a 'long list' of transport options which was collated from a review of measures in existing transport plans and programmes, measures suggested by the study team and those put forward by member local authorities and stakeholders during consultation (see Section 7 of the draft RTS). This long list was then categorised into manageable and similar groups of measures and interventions.

A process of option sifting was then undertaken which involved qualitative appraisal of each option using a spreadsheet tool to assess the potential of each measure in relation to each of the RTS objectives. This appraisal included analysis of the environmental implications of each measure which was fed back into the overall scoring process. From this ranking, a number of measures were sifted out from further consideration, and the remaining list of measures was taken forward to provide inputs to the Strategy Framework section of the RTS (see Section 4.7.4 below).

A similar environmental appraisal of options was undertaken for a second grouping of measures which was collated to address region wide transport and accessibility initiatives. This list of measures was also assessed in relation to the environmental objectives developed for the RTS and the results were used to sift out initiatives which could be used in the corresponding theme of 'region wide measures' in the Strategy Framework of the RTS.

4.7.4 Strategy Framework

The RTS has been developed in a progressive manner which has considered and refined options for objectives and policies as described above. This process effectively refined and narrowed the scope of the RTS in a structured manner so that the alternatives available for the detailed measures and initiatives in the Strategy Framework component of the RTS were fewer than might otherwise have been the case. This process did, however, allow for consideration and appraisal of a broad range of alternatives of all scales (from small interventions to major mode share targets) from the start of the RTS development, with an ongoing process of refinement following appraisal against the environmental (and other) RTS and SEA objectives.

A review of options in the long lists of interventions discussed in the sections above was undertaken with reference to the RTS objectives and policies, and with respect to the key transport corridors which had been analysed by the study team. This included an assessment against environmental objectives.

The three 'themes' for the Strategy Framework described in Section 2.3 effectively set the boundaries for the preferred transport Strategy. There were then alternatives to be considered in relation to which initiatives should be included in each of the themes, drawing in part on the long lists of measures previously assessed. The potential for the measures to contribute to meeting the three proposed modal share targets was considered in the context of the 15 year period of Strategy implementation. The transport measures presented in the RTS have therefore been grouped into mainly public transport based initiatives which, collectively, are intended to meet three mode share targets in the RTS (see 2.3.4 above).

The 'preferred draft Strategy' which resulted from this process therefore reflects the balance, priorities, consultation and issues which have been assessed and agreed as the RTS has progressed. Introduction of 'alternative' strategies at this later stage of the process was not considered necessary because of the way the preferred draft Strategy had been evolved and would therefore not represent reasonable alternatives.

5 Environmental Baseline

5.1 INTRODUCTION

This chapter describes the approach to collating environmental baseline for the SEStran area and provides a summary of the key information which was collated to inform the SEA process. An understanding of the baseline was first needed to inform the review of environmental issues in the area and this also fed into the development of SEA objectives (and RTS environmental objectives). The collated information was then used in the appraisal of all parts of the Strategy (see Chapter 7). The level of information which has been collated is necessarily quite strategic and much is qualitative. The RTS itself is strategic and some of the proposed interventions are not yet fully defined. The environmental baseline information which has been collated is considered sufficient for the appraisal of the draft RTS. Information sources and a detailed review of the environmental baseline, including mapping, has been set out in Appendix C.

Section 5.2 introduces the environmental topics required to be considered by SEA legislation. Section 5.3 summarises the baseline of the area; Section 5.5 lists environmental issues and problems and describes implications and opportunities for the SEA and RTS and Section 5.6 describes the likely future evolution of the environmental baseline without the plan.

5.2 SEA TOPICS

The first step in developing the baseline for the SEA has been the identification of environmental topics which provide a structure for the baseline and which provide an overall structure for the appraisal framework which is discussed further in Section 2.8.

The scope and content of this report has been guided by the relevant criteria for Environmental Reports set out in Schedule 3 of the SEA Act. This report has been structured with ten environmental topics so that the key information relating to elements of the SEStran area environment is grouped into clear headings.

The following environmental 'topics' were identified through an internal SEA team workshop process. The topics were selected to provide a sufficiently wide scope for the SEA (and thus the necessary environmental baseline information to be collected) and to reflect the nature, scope and potential effects of the RTS.

The following environmental topics have been defined for the SEA:

- Air Quality and Noise
- Soils and Geology
- Aquatic Environment
- Climate Change
- Landscape and Townscape
- Biodiversity
- Cultural Heritage
- Human Health and Safety
- Population
- Material Assets

For the latter two categories of population and material assets, the team also defined the scope of these topics in relation to the SEA of the RTS since these topics are potentially very wide ranging, and it was considered necessary to limit the range of environmental data which needs to be collated for these topics in particular. The scope of these topics was therefore determined with reference to the potential implications of the RTS for various environmental and social assets within each topic, as follows:

- Population: scope to include demographic factors and accessibility;

- Material assets: scope to include aggregates, fuels, transport infrastructure and construction waste.

The relationship between the environmental topics and the criteria required by the SEA Act is shown in Table 5.1, together with an indication of the key environmental features identified for each topic.

Table 5.1 Relationship between Proposed SEA Topics and Schedule 3 Criteria

Environmental Topics	SEA Act Criteria	Key Environmental Issues
Air Quality and Noise	Air, Climatic Factors, Human Health	<ul style="list-style-type: none"> • Air Quality (concentrations of nitrogen dioxide (NO₂) and particulate matter (PM₁₀)) • Noise climate
Soils and Geology	Soil, Material Assets	<ul style="list-style-type: none"> • Designated Sites • Soil Resources
Aquatic Environment	Water, Climatic Factors	<ul style="list-style-type: none"> • Freshwater and coastal/estuarine quality • Hydrological regime / channel characteristics • Flooding and flood risk
Climate Change	Climatic Factors	<ul style="list-style-type: none"> • Carbon dioxide (CO₂) emissions
Landscape and Townscape	Landscape	<ul style="list-style-type: none"> • Designated landscape areas • Landscape character • Visual amenity
Biodiversity	Biodiversity, fauna and flora	<ul style="list-style-type: none"> • Ecological designations • Priority habitats and species • Habitat action plans
Cultural Heritage	Cultural Heritage	<ul style="list-style-type: none"> • Designated sites and buildings / structures (terrestrial and estuarine)
Human Health and Safety	Human Health	<ul style="list-style-type: none"> • Key health indicators • Transport safety (of relevance to health)
Population	Population	<ul style="list-style-type: none"> • Demographics • Accessibility (of relevance to communities)
Material Assets	Material Assets	<ul style="list-style-type: none"> • Construction aggregates and waste • Fuel and energy consumption and efficiency • Transport infrastructure

5.3 BASELINE DATA GATHERING AND ANALYSIS

This section provides a summary of the environmental baseline within the SEStran area. Full details of the environmental baseline are presented within Appendix C.

The collation and analysis of the environmental baseline has been undertaken to a level of detail appropriate to the SEA of the SEStran RTS. Whilst a broad cross section of environmental baseline issues have been considered (as set out in Table 5.1), information has been collated to broadly match the level of detail of measures and interventions in the draft RTS (see Section 2.3) and has been focused on aspects of the environment on which transport policies and measures are likely to have significant effects.

A summary of the key issues and status of the environmental baseline is presented in Table 5.2. Further analysis of environmental problems in the area of the RTS is presented in Section 5.5 of this report.

Table 5.2 Summary of Environmental Baseline

Environmental Topics	Key Indicators/Issues	Baseline Status	Trends
Air Quality and Noise	<ul style="list-style-type: none"> • Concentrations of NO₂ and PM₁₀ • Noise levels 	<ul style="list-style-type: none"> • Some monitored exceedences of the national air quality objectives (Edinburgh, Falkirk and Fife) • Two air quality management areas with one planned • Road vehicle emissions key source of NO₂ and PM₁₀ • Other sources present across SEStran area 	<ul style="list-style-type: none"> • No monitored noise trends • Air quality data are variable in parameters and periods monitored but issues are regularly highlighted at places of acute road traffic congestion • Predicted background air quality improvements • Increasing traffic flows on key roads across area
Soils and Geology	<ul style="list-style-type: none"> • Designated sites • Agricultural land quality • Contaminated land 	<ul style="list-style-type: none"> • 41 Geological SSSIs and 150 mixed SSSIs • 8 Geological Conservation Review (GCR) sites • Areas of peat across higher ground • Prime agricultural land along the Forth Valley and the eastern parts of Fife and the Scottish Borders • Areas of contaminated land throughout the area 	<ul style="list-style-type: none"> • Organic matter in soils may be declining • Change in climate may impact on water-holding capacity, soil structure, nutrient storage and resistance to erosion
Aquatic Environment	<ul style="list-style-type: none"> • Quality of waterbodies (surface and groundwater) • Flooding 	<ul style="list-style-type: none"> • Large network of running and standing water generally flowing east to the North Sea • Water quality varies widely but generally fair to good with better quality generally associated with upland, remoter locations and poorer quality in urban areas • Some areas at risk from flooding 	<ul style="list-style-type: none"> • Nationally water quality within Scotland is reported to be improving • Flooding may increase, particularly in urban areas where run-off is faster and climate change is predicted to exacerbate fluvial and marine flooding
Climate Change	<ul style="list-style-type: none"> • Emissions of greenhouse gases • Climate data 	<ul style="list-style-type: none"> • Existing climate is generally warmer and drier climate than Scotland as a whole 	<ul style="list-style-type: none"> • Climate change predictions suggest potential increases in annual temperature and seasonal precipitation changes
Landscape and Townscape	<ul style="list-style-type: none"> • Designated areas • Landscape character • Green belt, corridors 	<ul style="list-style-type: none"> • Wide variety of landscapes • Range of landscape designations 	<ul style="list-style-type: none"> • Pressure on landscapes from development which may include new transport infrastructure proposals

Environmental Topics	Key Indicators/Issues	Baseline Status	Trends
Biodiversity	<ul style="list-style-type: none"> Designated sites Priority habitats and species 	<ul style="list-style-type: none"> 16 SACs, 12 SPAs and 8 RAMSAR sites 188 SSSIs (biological and mixed) 8 NNRs and 12 Country Parks Ten key LBAP habitat types 	<ul style="list-style-type: none"> Habitat loss through development Changing land management practices result in changing land uses / habitats Indirect effects from light, noise and disturbance
Cultural Heritage	<ul style="list-style-type: none"> Designated sites Other cultural heritage features 	<ul style="list-style-type: none"> World Heritage sites in Edinburgh (and proposed for Antonine Wall in Falkirk) 25,362 listed buildings and structures 1,566 Scheduled Ancient Monuments 127 historic gardens and designed landscapes Approximately 170 conservation areas Potential for undiscovered and marine archaeology 	<ul style="list-style-type: none"> No specific trend data Increasing development may identify previously unknown archaeology resulting in increased known resources
Human Health and Safety	<ul style="list-style-type: none"> Census Health Indicators Transport safety 	<ul style="list-style-type: none"> Generally better health than Scottish average (based on specific indicators) Poorer road casualty rates and trends than Scottish average 	<ul style="list-style-type: none"> West Lothian has not followed the national downward trend in road casualties
Population	<ul style="list-style-type: none"> Demographic profile Accessibility indicators 	<ul style="list-style-type: none"> SEStran area accounts for 30% of the Scottish population Population distribution within a few key large conurbations, within smaller towns and villages and throughout rural areas. Lower accessibility to private vehicles than Scottish average 	<ul style="list-style-type: none"> Predicted increases in population well above Scottish average
Material Assets	<ul style="list-style-type: none"> Aggregates and waste Transport infrastructure 	<ul style="list-style-type: none"> Network of local and national roads, railways and aquatic infrastructure 	<ul style="list-style-type: none"> None identified

5.4 AREAS LIKELY TO BE AFFECTED BY THE RTS

Given the nature of the RTS, the areas which are most likely to be affected are those on or in close proximity to the transport network. The geographical extent of such effects is dependent upon the proposed interventions within the RTS and is localised to the specific interventions which in the majority of cases relate to improvements in public transport services and frequencies.

The level of environmental appraisal for the SEA has been necessarily strategic due to the limited detail available in the RTS for the interventions proposed either in terms of their form or (in some cases) their geographical location. This has made it difficult to be specific about the exact nature of predicted environmental effects and the specific geographical areas which may be affected. Where there is potential for location specific environmental effects (for example in relation to sites of European nature conservation importance – see Section 4.6) then this has been recorded in the appraisal process. The overall findings of the SEA have been presented in Chapter 7 of this report.

5.5 ENVIRONMENTAL ISSUES AND PROBLEMS

A review of environmental problems, issues and opportunities in the SEStran area has been undertaken by the environmental assessment team. This review has included:

- Reviews of issues from relevant strategies, plans and programmes;
- Review of baseline environmental data;
- Team knowledge of environmental conditions in the Strategy area;
- Team knowledge of contemporary national (and regional) environmental issues relevant to transport;
- The SEA workshop (see Appendix A); and
- Comments received from the Consultation Authorities at the scoping stage.

A summary of the key findings of the review is presented below. Where appropriate, opportunities for the environment in relation to the RTS are included.

Air Quality and Noise

Issues & Problems

- Levels of NO₂ and PM₁₀ (particularly in urban areas where hotspots of pollution may be associated with traffic flows and/or congestion).
- Noise (traffic associated, including public transport).
- Increasing traffic flows (including new sources such as residential developments).
- Other sources of air pollution include road freight (and distribution centres/ports) and air traffic growth at Edinburgh Airport.
- Dust from construction activities (at a localised level).

Implications & Opportunities

- Background levels of NO₂ and PM₁₀ are predicted to decrease (2001 – 2010).
- Promotion of sustainable transport and reduction of private journeys by car.
- Improvement to transport infrastructure and vehicles (eg 'quiet' road surfaces and cleaner fuels and vehicles).

Soils and Geology

Issues & Problems

- Direct and indirect impacts on statutory and non-statutory designated sites.
- Potential impact on peat resources.
- Pressure on soil resources, particularly those supporting prime agricultural land.
- Areas of potentially contaminated soils and mineral instability (eg in former mining areas).
- Potential for contamination from transport (eg fuel spillages during construction, spillages from transportation of hazardous and polluting materials).
- Erosion from run-off and peat stability/slippage.

Implications & Opportunities

- Creation of new geological sites through development (eg road cuttings etc).
- Good construction design and practice offers the opportunity to minimise impact on soils and geology.
- Promotion of de-contamination as part of new transport infrastructure developments.
- Changing agricultural policies (eg reduced perception of the importance of prime agricultural land).
- Increased recycling/re-use of roads materials (see also *Material Assets* below).

Aquatic Environment

Issues & Problems – Freshwater Environment

- Direct and indirect impact on surface and groundwater (through water quality, flow and physical form).
- Flooding including fluvial and urban (associated with insufficient drainage/culvert maintenance and capacity).
- New development in flood plains (eg from major developments and airport expansion) is a key pressure on the hydrological regime and contributory factor to flooding in some locations.
- The region has fragile river systems of international importance – sensitive to pollution and hydrological changes.

Issues & Problems – Marine Environment

- Direct and indirect impacts on coastal waters and estuaries.
- Increased ferry and sea traffic may increase risk of pollution to coastal and marine waters.
- Coastal developments also pose risks for coastal water quality and flooding (and flood defences can move the problem elsewhere along the coast).
- Flooding and sea level rise.

Implications & Opportunities

- SEPA reports water quality across Scotland as a whole is improving. The implementation of the RTS has the opportunity to contribute to the improvement of water quality and physical form (as well as the habitat aspect discussed in Biodiversity) through good construction design and practices.
- Potential to develop watercourses as a resource for better health and economic development.

Climate Change

Issues & Problems

- Emissions of greenhouse gases from traffic and transport (particularly carbon dioxide).
- Emissions from transport play an important role in greenhouse gas emissions and as identified in the Air Quality and Noise section road traffic levels are increasing on some routes.
- Predicted increases in storm event frequency and severity from climate change in future.
- Rising sea levels and potential coastal flooding effects.

Implications & Opportunities

- Opportunities to reduce private vehicle journeys and promote use of sustainable modes of transport.
- Carbon off-setting initiatives.
- Promotion of greener fuels and vehicles.
- Educational/behavioural campaigns to influence travel patterns, modal choice and walking/cycling.
- Opportunity to take a wider view of flood management measures, including use of natural techniques (eg managed realignment as at Skinflats).

Landscape and Townscape

Issues & Problems

- Direct and indirect impact on designated sites.
- Inappropriate or insensitive development, and capacity of the landscape to absorb new infrastructure (fragmentation, loss of open space, effects on greenbelt).

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- Gradual erosion of landscape character (cumulative development effects).
 - Visual impact in important townscapes (eg potential tram developments in Edinburgh).
 - Traffic speeds on rural roads.

Implications & Opportunities

- Opportunity for landscape/townscape/seascape enhancements with new and revised infrastructure, this is particularly in areas of lower current landscape and townscape value (eg planting schemes).
- Development of new linear transport infrastructure as “linear parks”.
- Attention to high quality design of transport proposals, for example in terms of integration and fit with townscapes/streetscapes.
- Regional transport plan provides an opportunity to ensure a more integrated approach to landscape/townscape issues.

Biodiversity

Issues & Problems

- Direct and indirect impact on designated sites (European, national and local) and European Protected Species (including bats, otters, badgers, great crested newts and cetaceans).
- Loss of habitat and species (particularly those identified within the Local Biodiversity Action Plans), associated in part with urbanisation and development within the countryside.
- Changes in land use (such as afforestation) resulting in changes to habitat composition and habitat fragmentation.
- Habitat fragmentation and severance associated with new developments and their transport routes.
- Disturbance of species from construction works and traffic.
- Species loss and wildlife road kill.

Implications & Opportunities

- With new transport interventions there is the potential to promote and create wildlife habitats.
- There is an opportunity to provide more interpretation facilities.
- Linear transport schemes can be designed to enhance biodiversity at a local level.
- To reduce wildlife severance when implementing new transport schemes.

Cultural Heritage

Issues & Problems

- Direct and indirect impacts on statutory and non-statutory designated sites and the impact on their settings (Scheduled Ancient Monuments (SAMs), Listed Buildings (LBs), Designed Landscapes and Conservation Areas).
- Transport infrastructure may itself be of historic interest eg listed railway structures and canals.

Implications & Opportunities

- There is an opportunity to enhance the setting and potentially the physical form of cultural heritage sites.
- There is an opportunity to improve accessibility to the cultural heritage resource.

Human Health

Issues & Problems

- Obesity is becoming one of the key health problems in SE Scotland therefore the role of transport in obesity, and reducing its prevalence, is of fundamental importance.
- Inadequate and insufficient infrastructure for sustainable, healthy transport (eg walking routes and cycling commuting routes).
- Air pollution is a problem with regard to health, particularly in urban locations and close to major transport corridors. Air pollution is also a factor in the promotion of sustainable, healthy transport.
- Community severance effects eg intimidation and safety of road crossings.

-
- Personal safety on the transport network can be a factor in the use of sustainable methods of transport such as road safety for bicycles and personal safety for bus networks, particularly at night and in remoter locations.
 - Road traffic casualties.
 - Improved public transport may reduce walking and cycling use.

Implications & Opportunities

- There are opportunities for sustainable methods of transport (eg walking and cycling) which may play an important role in improving health.
- There are opportunities within the transport network and infrastructure to address these problems through design, maintenance and awareness. Opportunities may include improved lighting around bus stops, creation of on and off-line cycle lanes and traffic calming measures.

Population

Issues & Problems

- The SEStran area has c.30% of the Scottish Population within 10% of the area of Scotland, this population is focused around the main settlements of Edinburgh and its environs, Falkirk, Dunfermline, Kirkcaldy, Glenrothes and Livingston (all over 20,000 population).
- The population projection (2004 – 2024) for the SEStran area is well above the Scottish average with the area containing the five Council areas with the highest projections (9 – 21% increase compared with the Scottish average of 1%).
- Demographic change is resulting in fewer people per household and therefore an increase in households, which is fuelling a demand for more cars.
- The population is ageing which has attendant issues for providing services for older people.
- The population projection is reflected in that for dwellings with a projected percentage change from 2002 – 2016 ranging from 7%-23% compared to the Scottish average of 7%.
- Lack of access within/from towns and villages and to the local countryside.
- Issues of requirement for better accessibility to public transport facilities and services.
- Lifestyle trends and family choices affecting location decisions for housing/work/education which are contributing in many cases to longer commuting distances by car.
- Lack of attractive long distance safe commuter cycle routes.
- Growth in tourism in Edinburgh and Borders in particular has transport and environmental implications (eg green tourism issues, parking, public transport provision).
- Community severance from traffic flows along routes, particularly in urban and residential areas.

Implications & Opportunities

- Design of new developments and their infrastructure associated with the projected increases in dwellings has the opportunity to promote accessibility to sustainable transport. While LTS will influence the detailed design, the RTS has the opportunity to support, promote and facilitate the access to strategic development/growth areas.
- Opportunity to encourage walking and cycling, and provision of better integrated networks of walkways and cycleways.

Material Assets

Issues & Problems

- Transport infrastructure (access to, quality, frequency, maintenance etc).
- Transport related fuel and energy use.
- Reducing number of 'quiet' roads leading to less walking and cycling.
- Pressure for aggregates and associated effects of, for example, visual intrusion from quarries and borrow pits.
- Inadequate landfill space to accept spoil from infrastructure construction projects.

Implications & Opportunities

- Re-use of materials on site.
- Recycling of construction and demolition wastes.
- Sustainable procurement.

The environmental issues identified above will be fed back into the RTS plan development process at an early stage in ensuring that the Strategy is developed and refined in accordance with the environmental issues identified.

5.6 LIKELY FUTURE EVOLUTION OF THE ENVIRONMENTAL BASELINE WITHOUT THE PLAN

5.6.1 Introduction

Forecasting the evolution of the environment in the absence of the RTS helps to understand how this Strategy would contribute to changes in the environment in the future. This section therefore evaluates the likely changes to the environment in the SEStran area assuming no RTS is implemented. The assumption is not, however, that previously adopted, draft and future relevant plans and programmes will not continue to be implemented. The SEA therefore assumes that other adopted plans, programmes and policies will be delivered as planned. The assessment is summarised in Table 5.3 below.

The draft RTS does not contain a large number of physical transport infrastructure proposals. It is therefore not predicted that the future environmental baseline without the Strategy would be significantly different compared to the 'with-Strategy' scenario, at least in broad physical environmental terms. There may be some exceptions to this, for example, should the RTS facilitate the development of a sub-regional tram system in the Lothians, or encourage the construction of a second Forth road crossing, then there would inevitably be a number of significant environmental effects from the new infrastructure which would not otherwise have occurred without the influence of the RTS.

5.6.2 Air Quality and Climatic Factors

It is in relation to the predicted effects of the Strategy on traffic growth and hence on emissions of carbon dioxide and local air pollutants where it is likely that the baseline environment in South East Scotland would differ significantly in the absence of the RTS. Information presented in the RTS refers to three different modal share targets for road traffic in the region, and the interventions presented in relation to the three themes of the Strategy are intended to address each of these three targets. On the assumption that the third and most challenging mode share target can be achieved through RTS implementation, this would have the effect of reducing traffic and carbon dioxide emissions by 8% compared with what would be the case without the Strategy. It should be noted, however, that the effect of meeting this mode share target is to reduce the extent to which traffic would otherwise grow in the absence of the RTS, and that in real terms, traffic levels (and therefore emissions) are predicted to increase by 7% over the life of the Strategy from the base year of 2001 to 2015. With or without the RTS it is predicted that air pollutant (NO_x and particulates) and CO₂ emissions are likely to increase, although implementation of the RTS should slow down this increase, thus without the RTS the effect is considered to be adverse.

5.6.3 Landscape and Biodiversity

Over the years the increased pressure from transport, road construction and associated infrastructure has resulted in a loss of landscape quality and biodiversity. Physical transport infrastructure projects (e.g. new roads, rail lines etc) have often led to a loss and fragmentation of habitats although mitigation planting has, in at least some instances enhanced local biodiversity. The RTS has positive measures to encourage the take up of public transport and a shift from heavy reliance on the car which should help to reduce the risk of potential effects that new road building, if permitted, would bring. As mentioned above, there are possible infrastructure schemes that may go ahead within the RTS so these could bring with them negative effects on landscape and biodiversity which the RTS would in effect be responsible for introducing.

Since the RTS has a balance of measures that could impact both positively and negatively on landscape and biodiversity with a greater number of positive measures, it is unlikely that the evolution of the baseline with or without the RTS will differ significantly and so on balance the effect is considered to be indiscernible or neutral.

5.6.4 Soil, Land and Water

The balance of RTS measures was not assessed as having significant impacts on either soil or water. Legislation at the European level (such as the Water Framework Directive) and associated UK legislation aims to deliver long-term protection of the water environment and thus any negative impacts must be identified and a programme of improvement measures introduced. This should prevent any further decline of water quality in the absence of the RTS, so the effect is considered to be slightly beneficial.

5.6.5 Population

One of the main thrusts of the RTS is to provide a framework for accessibility improvements. A key goal will be to deliver some level of modal shift away from the car towards more efficient public transport, cycling and walking and to provide enhanced accessibility. If measures are not introduced that also help to tackle noise increases from traffic growth and congestion then negative effects will be inevitable. Overall, therefore, the local population would most likely be affected negatively without the RTS to combat and mitigate some of these potential effects.

5.6.6 Human Health and Safety

In terms of human health, issues such as obesity and heart disease are on the rise and may be further exacerbated by increases in sedentary modes of transport. Traffic growth and in particular congestion from the number of cars on the road, would be likely to increase air pollutants that affect health and could also have the ancillary effect of increasing the number of road traffic accidents. The RTS has goals aimed at slowing down car traffic growth, encouraging a greater use of public transport and also more sustainable modes such as cycling and walking. It is likely however that health will continue to decline even in the absence of the RTS since it is related to many more complex issues associated with lifestyles and diet.

5.6.7 Cultural Heritage

Although through the activities of agencies such as Historic Scotland the cultural heritage will continue to be conserved and where appropriate enhanced, traffic growth and congestion, particularly in the historic towns and cities could cause harm to historic buildings and archaeological sites through emissions, noise and vibration. This could also impact negatively on townscapes and settings. The RTS includes objectives that aim to reduce or remove such effects and seek ways to help protect the historic environment. In the absence of the RTS there could be a slightly adverse effect on cultural heritage.

5.6.8 Material Assets

The draft RTS includes measures that would help to maintain the quality of transport infrastructure and also introduce measures to encourage more sustainable design and construction techniques and use of recycled materials. Without the RTS therefore, the material assets considered in the SEA could degrade leading to a slight adverse effect.

Table 5.3 Summary of the Evolution of the Environment without the Implementation of the RTS

SEA Topic	Environmental Issue for the RTS	Evolution without RTS
Air quality, climatic factors	Climate Change, Levels of NO ₂ and PM ₁₀	Adverse
Landscape, biodiversity,	Landscape and biodiversity, designated sites	Neutral
Soil, land, water,	Soil resources, peat, contamination, flooding	Slight beneficial
Population,	Accessibility, demographics, lifestyles	Adverse
Human health and safety	Obesity, air quality, nuisance, safety	Adverse
Cultural heritage	Historic environment, monuments, settings	Slight adverse
Material assets	Infrastructure, materials, recycling	Slight adverse

* categories can be – major adverse, adverse, slight adverse, neutral, slight beneficial, beneficial, major beneficial

6 SEA Objectives

6.1 INTRODUCTION

This chapter describes the process of identification and refinement of objectives for the SEA. These were derived at an early stage in the SEA process and refined following the scoping stage taking account of the comments received from the Consultation Authorities. These environmental objectives have been used to provide the basis for the appraisal framework which has guided the structured approach to assessment of the different sections of the RTS which has been described in Chapter 4 of this report.

The objectives and sub-objectives which were developed by the SEA team and incorporated into the appraisal framework are presented in section 6.3.

6.2 DEVELOPING THE SEA OBJECTIVES

SEA Vision and Objectives

An overall vision for the SEA and a set of objectives have been defined based on:

- A review of relevant plans and programmes (see Chapter 3);
- Consultations, including an SEA workshop (see Section 1.4);
- Analysis of the environmental baseline of the region (see Appendix C);
- Review of relevant environmental problems and issues (see Section 5.5); and
- A review of SEA guidance relevant to objectives.

The draft vision, objectives and sub-objectives are shown in Box 6.1.

6.3 APPRAISAL FRAMEWORK

The objectives have been developed to provide a consistent and clear basis or frame of reference for the appraisal of the contents of the RTS including the policies and interventions. This has been undertaken by organising the objectives and sub-objectives into an 'appraisal framework' which allows for the consistent appraisal of individual measures or groups of measures in the Strategy by consideration of the intervention in relation to each environmental objective, sub-objective and question in turn and reporting the predicted effects in a systematic manner.

The appraisal framework is set out in Table 6.1.

The application of the appraisal framework, and the method of assessment used for the SEA has been presented in Section 4.6 of this report.

Box 6.1 SEA Vision and Objectives

Vision: That the RTS contributes to safeguarding the environment of the SEStran area and promotes opportunities for environmental improvement.

SEA Objectives: Five high level objectives have been developed, together with supporting sub-objectives. The high level objectives are:

- Climate change
 - Quality of life
 - Natural environment
 - Cultural heritage
 - Material assets and resources
1. **Climate Change:** To contribute to reducing carbon emissions from all modes of transport.
 - To contribute to meeting the Scottish share* in the reduction of carbon emissions
 2. **Quality of Life:** To protect the well being of communities and improve the regional quality of life
 - To improve air quality in the region and contribute to meeting national air quality objectives
 - To minimise the effects of noise and vibration from transport
 - To avoid negative impacts from visual intrusion from transport infrastructure
 - To improve health and reduce inequalities through sustainable and accessible transport
 - To enhance public access to, and understanding and appreciation of, natural and cultural heritage
 - To minimise the severance effects of transport on communities
 3. **Natural Environment:** To protect and enhance the natural environment and heritage of the region
 - To protect and enhance biodiversity
 - To protect and enhance the landscape
 - To protect and enhance watercourses and their water quality
 - To prevent and reduce risks from flooding
 - To protect the region's geomorphology, geology and soils
 - To protect the natural environment from the negative effects of transport
 4. **Cultural Heritage:** To protect and enhance the cultural heritage of the region
 - To protect the archaeological and historic resources of the region and their settings
 - To protect the unique character of townscapes and their settings
 5. **Material Assets and Resources:** To make wise use of the region's assets and resources
 - To reduce consumption of finite resources
 - To avoid sterilisation of mineral resources
 - To minimise waste and recover and recycle resources efficiently
 - To promote sustainable planning, design and construction methods

* 1.7Mt carbon in annual savings by 2010

Table 6.1 SEA Appraisal Framework

Objectives	SEA Issues	Sub Objectives	SEA Questions
<p>1. Climate Change <i>To contribute to reducing carbon emissions from all modes of transport</i></p>	<ul style="list-style-type: none"> Climatic factors 	<ul style="list-style-type: none"> To contribute to meeting the Scottish share in the reduction of carbon emissions 	<p>Does the measure result in a reduction of greenhouse gas emissions?</p> <ul style="list-style-type: none"> Will greenhouse gas emissions increase or decrease? How does the measure affect green house gas emissions? How will the measure affect traffic flows?
<p>2. Quality of Life <i>To protect the well being of communities and improve the regional quality of life</i></p>	<ul style="list-style-type: none"> Human health Population Air 	<ul style="list-style-type: none"> To improve air quality in the region and contribute to meeting national air quality objectives To minimise the effects of noise and vibration from transport To avoid negative impacts from visual intrusion from transport infrastructure To improve health and reduce inequalities through sustainable and accessible transport To enhance public access to, and understanding and appreciation of, natural and cultural heritage To minimise the severance effects of transport on communities 	<p>Will the measure result in an increase of NO₂ and PM₁₀?</p> <ul style="list-style-type: none"> Will the measure affect an existing AQMA? Could the measure result in the designation of additional AQMAs? Will the measure result in increased traffic in built up areas? <p>How will the measure affect traffic flows?</p> <ul style="list-style-type: none"> How will the measure affect traffic speeds? <p>Will the measure result in a modal shift from cars and HGVs to more sustainable modes?</p> <p>Will the measure introduce new or “visually intrusive” infrastructure or change levels of severance for existing communities?</p> <p>Does the measure promote healthier lifestyles?</p> <ul style="list-style-type: none"> Will the measure enhance accessibility? Will the measure increase community severance? <p>Will the measure enhance access to parks, open spaces and areas of natural and cultural heritage significance?</p>
<p>3. Natural Heritage <i>To protect and enhance the natural environment and heritage of the region</i></p>	<ul style="list-style-type: none"> Biodiversity Flora and fauna Landscape Water Soil 	<ul style="list-style-type: none"> To protect and enhance biodiversity To protect and enhance the landscape of the region To protect and enhance watercourses and their water quality To prevent and reduce risks from flooding To protect the region’s geomorphology, geology and soils To protect the natural environment from the negative effects of transport 	<p>Does the measure affect any designated site?</p> <ul style="list-style-type: none"> Could the measure affect any protected species? Could the measure affect any LBAP species or habitats? Will the measure enhance biodiversity? <p>How will the measure affect local or regional landscape character?</p> <ul style="list-style-type: none"> Will the measure affect any designated sites? Does the measure enhance regional or local landscape character? <p>Will the measure give rise to deterioration in water quality?</p> <ul style="list-style-type: none"> Will the measure adversely affect hydrological or morphological character of watercourses? <p>Will the measure result in an increased risk of flooding?</p>

Objectives	SEA Issues	Sub Objectives	SEA Questions
			<ul style="list-style-type: none"> • Will the measure be affected by potential flood risk? • Will the measure cause or exacerbate downstream flooding in a watercourse and its catchment? <p>Does the measure affect a designated geomorphological site?</p> <ul style="list-style-type: none"> • Does the measure adversely affect soil quality? • Will the measure affect prime agricultural land? • Will the measure affect or be affected by potentially contaminated land? <p>Will the measure have any other effects on the natural environment through changes in quality of land, water or air?</p>
<p>4. Cultural Heritage <i>To protect and enhance the cultural heritage of the region</i></p>	<ul style="list-style-type: none"> • Cultural Heritage 	<ul style="list-style-type: none"> • To protect the archaeological and historic resources of the region and their settings • To protect the unique character of townscapes and their settings 	<p>Will the measure affect any designated site?</p> <ul style="list-style-type: none"> • Will it affect the setting? • Could it affect any unknown historic and/or archaeological remains? <p>Will it affect any historic landscapes or townscapes?</p> <ul style="list-style-type: none"> • Will the measure adversely affect any important townscapes or conservation areas? • Will the measure enhance any townscapes and their settings?
<p>5. Material Assets and Resources <i>To make wise use of the region's assets and resources</i></p>	<ul style="list-style-type: none"> • Material assets 	<ul style="list-style-type: none"> • To reduce consumption of finite resources • To avoid sterilisation of mineral resources • To minimise waste and recover and recycle resources efficiently • To promote sustainable planning, design and construction methods 	<p>Would the measure result in the use of finite resources?</p> <p>Could the measure result in sterilisation of mineral resources and reserves?</p> <p>Does the measure result in increased waste generation?</p> <ul style="list-style-type: none"> • Will the measure encourage recovery and recycling measures? • Will the measure promote waste reduction? <p>Has sustainability been considered within the measure?</p> <ul style="list-style-type: none"> • Will the measure promote sustainable design and construction methods?

7 Assessment of Environmental Effects and Proposed Mitigation Measures

7.1 INTRODUCTION

This chapter presents the findings of the environmental assessment of the RTS. An overview of the alternatives for the RTS is set out, together with an analysis of the significant environmental effects and the proposed measures to mitigate these effects. The assessment has been undertaken using the SEA objectives and framework developed during the scoping stage and refined following receipt of feedback from the Consultation Authorities.

7.2 ASSESSMENT OF ALTERNATIVES

Section 4.7 sets out the approach which has been adopted in this SEA to alternatives. This approach has involved the consideration of options throughout the iterative stages of Strategy development as an integrated part of the process. Section 7.3 sets out a commentary on the findings of the environmental assessment of the core components of the RTS. These are:

- the RTS objectives and policies;
- the RTS individual RTS themes; and
- the combination of measures within the three themes which collectively make up the Strategy Framework element of the RTS.

As discussed in Section 4.7, much of the consideration of options was undertaken as part of the staged process of strategy development. However, where alternatives have been explicitly considered in the SEA process, this has been identified. The approach adopted to the assessment of the various components of the draft RTS is set out in Section 4.6.

7.3 ASSESSMENT OF OBJECTIVES AND POLICIES

7.3.1 Assessment of Objectives

The SEA team input to the development of these objectives and to the iteration of all the other RTS objectives. This was achieved primarily through a review and appraisal of the compatibility of the RTS objectives with those in the SEA. A matrix approach was adopted to assess the consistency of the two sets of objectives and the completed final matrix is shown in Appendix D of this report. The cells of the matrix have been marked with a tick where clear compatibility between SEA and RTS objectives has been identified. In cases where there is no clear compatibility, but where there is also no conflict, then the cells have been left blank. The appraisal indicates that, as would be expected, there is generally clear compatibility between the six RTS 'environmental' objectives and many of the SEA objectives. There is also good synergy between a number of the RTS accessibility and safety objectives with the environmental objectives.

7.3.2 Assessment of Policies

This section presents a summary of the findings of the environmental appraisal undertaken for the draft policies in the RTS. Tables 7.1 to 7.4 summarise the findings of the appraisal of each policy, commenting on the overall impact of the policy on environmental objectives. Where the appraisal process has identified potential conflicts between policies and particular objectives, these have been highlighted with supporting commentary below each table on mitigation measures for policy implementation.

Table 7.1 RTS Policies on Economy

RTS Policy	Summary of Environmental Appraisal
E1 <i>Reduce road traffic levels</i>	The policy has clear synergies with the objectives on climate change and quality of life due to the policy thrust of reducing traffic levels and alleviating congestion. It is broadly supportive or neutral to other SEA objectives.
E2 <i>Maintenance of assets</i>	This policy is neutral in relation to the environment though maintenance of assets is supportive of objectives for material assets.
E3 <i>Reduce demand for car travel</i>	The policy has clear synergies with the objectives on climate change and quality of life due to the policy to reduce travel by car. It is broadly supportive or neutral to other SEA objectives.
E4 <i>Space-efficient modes</i>	The policy is supportive of objectives to tackle climate change, improve quality of life and make better use of resources otherwise it is broadly neutral in effect on other SEA objectives.
E5 <i>New road capacity</i>	There is uncertainty, with possible negative effects in the implementation of this policy since new road links could have potentially positive or negative effects on SEA objectives.
E6 <i>Freight by rail and water</i>	This policy broadly supports environmental objectives, particularly those relating to reduced carbon and air pollutant emissions.
E7 <i>Efficiency of public transport</i>	These policies have similar, positive implications for many of the SEA objectives. Policy E7 is particularly supportive of climate change objectives, and all the policies generally support or contribute to objectives on quality of life, natural heritage and material assets.
E8 <i>Improvement of bus services</i>	
E9 <i>Soft measures</i>	
E10 <i>Promotion of soft measures</i>	
E11 <i>Integrated rail network</i>	Rail policies are generally supportive of the environmental objectives on climate change and quality of life. There is some synergy with natural heritage and material assets.
E12 <i>Rail investment</i>	
E13 <i>Parking</i>	The effect of this policy on the environmental objectives is uncertain, depending on the implementation of parking policy.

The RTS policies for the economy have been developed in a manner which generally maximises where possible a positive contribution to environmental objectives. All but two of the thirteen policies are broadly supportive of, or clearly contribute to, SEA objectives. Uncertain effects have been predicted for two of the policies (relating to new road capacity and parking standards) and the potential for negative environmental effects will need to be monitored in relation to any interventions which are progressed under these policies.

As Policy E5 states, any proposals for new road capacity will need to demonstrate the potential benefits will not be eroded by induced road traffic. There will also need to be full consideration of the environmental effects of specific road proposals through the planning process, in particular via formal Environmental Impact Assessments (EIAs) which demonstrate that routes of least environmental impact have been identified and robust mitigation for significant effects will be delivered. Development of parking policy and standards (Policy E13) will need to take full cognisance of the effects of standards on attracting car based trips and to ensure that such standards are progressed in accordance with other policies (eg E1 and E3) which clearly signal SEStran's intention to reduce road traffic levels.

Table 7.2 RTS Policies on Accessibility

RTS Policy	Summary of Environmental Appraisal
A1 <i>Communities with poor access</i>	This policy generally supports a number of the SEA objectives, particularly those relating to climate change, quality of life and use of resources. It is neutral in relation to the other SEA objectives.
A2 <i>Rural and other areas poorly served by public transport</i>	The environmental effects of this policy are somewhat uncertain since the policy could imply development of new transport infrastructure or enhancement of public transport services. Service based measures would be broadly supportive of some objectives and neutral on the others.
A3 <i>Equal opportunities audits</i>	This policy is essentially neutral with respect to the SEA objectives though it may support objectives in relation to quality of life.
A4 <i>Location of major trip generators</i>	The policy is supportive of many of the SEA objectives, particularly those for climate change, quality of life, natural heritage and material assets. It is neutral in relation to objectives for cultural heritage.
A5 <i>Reducing the need to travel</i>	These two policies have very similar environmental effects with clear contribution to the objectives on climate change, quality of life and materials assets and they are supportive of many of the other objectives.
A6 <i>Non car modes</i>	
A7 <i>Affordability for public</i>	The policy on affordability is broadly supportive of the SEA objectives on climate

<i>transport</i>	change, quality of life and resource use and neutral in relation to the other objectives.
<i>A8 Enhancing conditions for non car modes</i>	This policy contributes significantly to the SEA objectives on climate change, quality of life and material assets and resources. It is also broadly supportive or neutral to the other objectives.
<i>A9 Measures for those with disabilities</i>	The policy contributes to the objective on reduction of inequalities through sustainable and accessible transport, is generally supportive of the quality of life overarching objective and is neutral in relation to the other SEA objectives.
<i>A10 Urban parking provision</i>	These two parking policies are broadly supportive of the climate change and resource use objectives and neutral with respect to all the other SEA objectives.
<i>A11 Parking provision at major employment centres</i>	
<i>A12 Access to health services</i>	This policy has been assessed as contributing directly to objectives on overall regional quality of life, specifically through the objective on improving health and reducing inequalities. It also supports the climate change and air quality objectives and is neutral in relation to the other SEA objectives.

There is strong synergy between the RTS policies proposed for accessibility in the SEStran region and the environmental objectives developed for the SEA.

All policies with the exception of Policy A2 (rural and other areas poorly served by public transport) either directly contribute to, or support, a number of the SEA objectives. In general the policies particularly support the objectives relating to climate change, some elements of quality of life, and material assets and use of resources. This reflects the clear policy thrust of many of the policies towards developing public transport services and encouraging greater use of walking and cycling.

If Policy A2 is implemented by development of new road links to reduce peripherality, there will need to be full consideration of the environmental effects of the proposals through the planning process, in particular via formal Environmental Impact Assessments (EIAs) which demonstrate that routes of least environmental impact are selected and robust mitigation for significant effects will be delivered.

Table 7.3 RTS Policies on Environment

RTS Policy	Summary of Environmental Appraisal
<i>ENV1 Sustainable modes</i>	This policy contributes to the climate change and quality of life objectives in particular. It also supports a number of the natural heritage objectives.
<i>ENV2 Reducing environmental impact</i>	This policy seeks to reduce impacts from transport interventions and thus contributes directly to the SEA objectives on quality of life and protection of the natural environment. The policy also supports the objectives on climate change, natural and cultural heritage.
<i>ENV3 Climate change targets</i>	This policy on reducing greenhouse gas emissions contributes directly to the SEA objectives on climate change and air quality. It supports the overall objective on quality of life, and objectives on flooding, finite resources and sustainable planning. It is neutral to all other objectives.
<i>ENV4 Protection of designated areas</i>	The policy seeks to prevent impacts to areas designated for environmental importance. The policy therefore contributes clearly to the SEA objectives for protection and enhancement of the natural and cultural heritage. It also supports objectives on quality of life, visual amenity, watercourses, geology and soils and townscapes.
<i>ENV5 Non renewable resources</i>	These policies have very similar effects on SEA objectives by reducing resource use and promoting resource efficiency. They contribute directly to objectives on climate change, material assets and resources and support objectives on air quality. Policy ENV5 also supports objectives on geology and soils and avoiding sterilisation of mineral resources. They are neutral to all other objectives.
<i>ENV6 Energy and resource efficiency</i>	
<i>ENV7 Greenspaces, walking and cycling</i>	This policy supports nearly all the SEA objectives (bar those on mineral reserves and recycling, to which it is policy neutral) since it promotes the importance of greenspaces and travel by non motorised modes. The policy specifically contributes to the objectives on overall quality of life and enhancing biodiversity and landscape.

Since the environmental policies for the RTS were developed specifically to protect and enhance the natural and cultural environment and to improve environmental quality, it is unsurprising that they all contribute positively to several SEA objectives and generally support most of the others. The draft environmental policies therefore clearly accord with and reinforce the SEA objectives.

Table 7.4 RTS Policies on Safety & Health (and General Policies)

RTS Policy	Summary of Environmental Appraisal
S1 <i>Accident reduction interventions</i>	This policy on accident reduction supports the SEA objectives in relation to overall quality of life (safer transport systems) and improving health through sustainable and accessible transport. The policy is neutral to all other objectives.
S2 <i>Physical activity and independent travel</i>	This policy seeks to promote greater levels of physical activity, particularly by children, and therefore contributes to the SEA objectives on overall quality of life and improving health. It also supports objectives on reducing carbon emissions, meeting air quality objectives, minimising noise and severance and reducing consumption of finite resources. It is neutral to all other objectives.
S3 <i>Personal security for non car modes</i>	The policy on personal security is largely neutral in relation to the SEA objectives but may support those on overall quality of life and reducing inequalities through sustainable and accessible transport.
S4 <i>Local air quality</i>	This policy contributes strongly to the SEA objectives on reduction of carbon emissions and improving air quality. It also supports a number of other objectives on improving health, reducing severance, protection of the natural environment, reducing consumption of finite resources and promoting sustainable planning. It is neutral to all other objectives.
S5 <i>Minimising transport noise</i>	This policy clearly contributes to the objective to minimise the effects of noise and vibration and supports the objectives for overall quality of life, improving health, protecting the natural environment and sustainable planning. There is some uncertainty of the effects of the policy on several objectives for visual intrusion, severance and landscape since noise reduction measures may have potential negative effects on communities. Other effects are neutral.
G1 <i>National strategic schemes</i> G2 <i>Local projects and services</i>	The effects of implementing these policies are uncertain at this stage for the RTS since they refer to possible (undefined) future transport projects. Environmental effects may be positive or negative depending upon the schemes promoted.

The environmental implications of the safety and health policies of the RTS typically have less extensive effects on the SEA objectives than the other sectoral groups of policies. Policies S2 (physical activity) and S4 (local air quality) have more direct synergies with a limited number of environmental objectives although the majority of effects are neutral. Uncertainty in the appraisal for measures to reduce noise (Policy S5) reflects the potential for noise barriers, screens etc to have negative environmental effects if they are not designed and installed without due consideration for local communities, landscapes/townscapes and visual amenity.

The two proposed general policies cannot be appraised at this time since they refer to as yet unspecified plans and projects. It will be important in bringing forward these projects that they comply with the other draft policies in the RTS and that environmental effects of future transport interventions are subject to the appropriate planning and environmental appraisal procedures and the mitigation measures set out in Section 7.6.

7.4 ASSESSMENT OF RTS THEMES

7.4.1 Initial Appraisal

During the early stages of the development of the RTS, a series of potential transport measures, policies, initiatives and interventions were considered by the study team as a means of addressing various perceived and actual 'gaps' in the transport network or its services. This inventory of schemes was subject to high level appraisal based on the draft RTS objectives, including those for environment. The level of appraisal was similar to that adopted for a Part 1 STAG appraisal and each initiative was considered in turn and scored against a seven point scale. The SEA team undertook the appraisal of all the interventions against the six RTS environmental objectives and the results fed into the overall appraisal spreadsheet developed by the RTS team to help sift out those measures which could be taken forward as part of a 'toolkit' of measures into final Strategy development.

A similar environmental appraisal process was adopted to assess a second group of measures which was developed from the Strategy Framework of the RTS. This group is known as the 'region-wide measures'. High level environmental assessment, using the same scoring approach to that described above for the inventory of measures, was adopted and fed back to the RTS team to assist in refining those region wide proposals which were finally included in the RTS. The environmental assessment of the region-wide measures which were included as one of the three 'themes' of the Strategy Framework in the RTS is discussed further in Section 7.4.2.

7.4.2 Detailed Appraisal

The appraisal of the environmental effects of the detailed part of the RTS concentrated on the three themes (see Section 2.3) which comprise the Strategy Framework. These findings of these appraisals are briefly summarised in the following sub-sections.

Network Based Initiatives

The key findings of the assessment of the environmental effects of this theme are presented in Table 7.5. The assessment results have been summarised into the five key headline groups of environmental objectives and are presented as residual effects (ie following mitigation). Assessment against each individual SEA objective is presented in the more detailed appraisal tables in Appendix G.

Table 7.5 Predicted Effects of the Network Based Initiatives Theme

SEA Objectives	Predicted Residual Effects	Key Comments
Climate Change	Broadly supportive (✓) Effect will be greater over time as more measures in the RTS are implemented.	Effect is dependent on level of modal shift. RTS had potential to reduce predicted traffic growth but not to reverse it by 2015.
Quality of Life	Broadly supportive (✓) Neutral in relation to noise and visual intrusion effects.	There may be some significant effects from new infrastructure projects at some properties. These would require definition as part of the Environmental Impact Assessment (EIA) for those projects.
Natural Environment	Neutral (0) New infrastructure may have localised negative effects and require appropriate mitigation.	Appropriate Assessment will be required for all projects with potential to affect the integrity of the Firth of Forth SPA.
Cultural Heritage	Neutral (0) Tram projects may have negative effects on townscapes.	Difficult to fully mitigate tram overhead infrastructure in sensitive townscapes especially in Edinburgh World Heritage Site (WHS). Traffic reduction measures offer enhancement of townscapes through de-cluttering of streets.
Material Assets and Resources	Broadly supportive (✓) Effect will be greater over time as more measures in the RTS are implemented.	Positive effects rely on rigorous implementation of RTS interventions which can achieve modal shift.
Note: Assumed mitigation is presented in Section 7.6.		

The assessment indicates that the interventions in the network based initiatives theme are, overall, broadly supportive of the environmental objectives in the SEA for climate change, quality of life and material assets and resources. This finding depends upon effective (and full) implementation of the measures in the RTS and achievement of the Strategy's mode share targets (which are discussed further in Section 7.5). A number of interventions in the theme have the potential for significant adverse effects on the natural and cultural heritage, and effective mitigation will be required following thorough environmental impact assessment to ensure that these effects are avoided, reduced or offset as far as possible.

Region Wide Measures

The key findings of the assessment of the environmental effects of this theme are presented in Table 7.6. The assessment results have been summarised into the five key headline groups of environmental objectives and are presented as residual effects (ie following mitigation). Assessment against each individual SEA objective is presented in the more detailed appraisal tables in Appendix G.

Table 7.6 Predicted Effects of the Region Wide Measures Theme

SEA Objectives	Predicted Residual Effects	Key Comments
Climate Change	Broadly supportive (✓) Effect will be greater over time as more measures in the RTS are implemented.	Effect is dependent on level of modal shift. RTS had potential to reduce predicted traffic growth but not to reverse it by 2015.
Quality of Life	Broadly supportive (✓) Neutral in relation to community severance and visual intrusion effects.	Effective public transport interchange and promotion of walking and cycling will be important in achieving health benefits.
Natural Environment	Neutral (0) No significant effects are predicted.	The interventions generally relate to service improvements.
Cultural Heritage	Neutral to broadly supportive (0 to ✓)	Measures have potential to enhance design and reduce negative effects of traffic on townscapes.
Material Assets and Resources	Broadly neutral (0)	Measures may slightly reduce use of fossil fuels.
Note: Assumed mitigation is presented in Section 7.6.		

The assessment indicates that the interventions in the network based initiatives theme are, overall, broadly supportive of the environmental objectives in the SEA for climate change and quality of life. This finding depends upon effective (and full) implementation of the measures in the RTS and achievement of the Strategy's mode share targets (which are discussed further in Section 7.5). The interventions proposed in this theme are broadly neutral in their environmental effect on natural environment, cultural heritage and material assets and resources. Whilst these measures would potentially assist in supporting these objectives, they can only do so in the context of the whole RTS, and the predicted effects of these combined themes are considered later in this section.

Initiatives for Specific Areas and Groups

The key findings of the assessment of the environmental effects of this theme are presented in Table 7.7. The assessment results have been summarised into the five key headline groups of environmental objectives and are presented as residual effects (ie following mitigation). Assessment against each individual SEA objective is presented in the more detailed appraisal tables in Appendix G.

Table 7.7 Predicted Effects of the Initiatives for Specific Areas and Groups Theme

SEA Objectives	Predicted Residual Effects	Key Comments
Climate Change	Broadly supportive (✓) Effect will be greater over time as more measures in the RTS are implemented.	Effect is dependent on level of modal shift. RTS had potential to reduce predicted traffic growth but not to reverse it by 2015.
Quality of Life	Neutral to broadly supportive (0 to ✓)	Potential for positive effects on air quality and health provided rigorous implementation of RTS interventions which can achieve modal shift.
Natural Environment	Neutral (0)	The interventions generally relate to service improvements. No significant effects predicted.

Cultural Heritage	Neutral (0)	The interventions generally relate to service improvements. No significant effects predicted.
Material Assets and Resources	Neutral (0)	The interventions generally relate to service improvements. No significant effects predicted.
Note: Assumed mitigation is presented in Section 7.6.		

The assessment indicates that the interventions in the specific areas and groups initiatives theme are, overall, broadly supportive of the environmental objectives in the SEA for climate change and quality of life. This finding depends upon effective (and full) implementation of the measures in the RTS and achievement of the Strategy's mode share targets (which are discussed further in Section 7.5). The interventions proposed in this theme are predicted to be neutral in their environmental effect on natural environment, cultural heritage and material assets and resources. Whilst these measures would potentially assist in supporting these objectives, they can only do so in the context of the whole RTS, and the predicted effects of these combined themes are considered later in this section.

7.5 ASSESSMENT OF THE DRAFT RTS

7.5.1 Assessment of the RTS

Following completion of the assessments for each of the three themes within the Strategy Framework of the RTS, an appraisal was undertaken for the 'combined' elements of the Strategy, that is the combination of all of the groups of measures presented in the three themes. This appraisal was undertaken using the same type of appraisal matrix as that used for each individual theme and the completed matrix is presented in Appendix G

The environmental effects of the combined Strategy are similar to those presented in the assessment of the network based initiatives (please see Table 7.5). This is because the network initiatives represent the most significant set of physical actions and plans in the RTS, and the addition of the regional wide and area specific measures, whilst supporting these measures, does not significantly alter the overall predictions of environmental impact.

However, the completed RTS was subject to quantitative analysis using a transport model by the RTS team (the Transport Model for Scotland (TMfS)). This allowed the predicted effectiveness of the combined interventions in the Strategy Framework to be tested against the objectives of the Strategy. The modelling exercise focussed on the effects of the RTS on traffic indicators (primarily traffic vehicle kilometres and congestion indices) which were in turn used to predict aggregated effects on carbon dioxide emissions from road traffic.

The appraisal was undertaken with reference to a set of three proposed mode share targets for commuter traffic in the SEStran area. The first target aims to stabilise traffic growth and the next two targets apply a progressively more demanding figure for reduction in traffic growth over the period to 2015. Modelling of the effects of these targets indicates that levels of traffic and carbon dioxide emissions would be reduced between 2001 and 2015 compared with what would otherwise have been a period of significant traffic growth. The key findings are summarised in Table 7.8.

Table 7.8 Effects of Meeting RTS Mode Shift Targets

	2001-15 Stage 1	2015 Stage 2	2015 Stage 3
Commute traffic (veh km)	+15%	-4%	-8%
Congestion (veh km)	+53%	-14%	-23%
CO ₂ emissions	Not modelled	-4%	-8%
Note: The data for Stages 2 and 3 indicate the percentage reduction which would be achieved compared with the Stage 1 target figures.			

The table data show the predicted traffic and carbon reduction effects of meeting the three target stages by 2015 in terms of traffic and congestion in the overall SEStran region. In relation to carbon dioxide emissions, the figures for traffic (in vehicle km) indicate that if traffic growth can be stabilised over the Strategy period (ie Stage 1 is met) then

emissions would still increase by around 15% over the period. Clearly the increase in CO₂ emissions without any strategy target would be significantly more given the predictions for increasing population, car ownership and use in the SEStran region in the next 15 years. Whilst the more ambitious Stage 2 and 3 targets do have a predicted effect in reducing traffic and carbon dioxide emissions compared with Stage 1, in absolute terms they still represent an increase in CO₂ emissions over the Strategy period, against a policy backdrop which sets targets for reductions in carbon emissions across all Scottish sectors (for example in order to meet UK Kyoto and domestic carbon reduction commitments).

It is important to note that the assessment is optimistic (best case) since it is based, like the RTS, on the assumption that the interventions which have been packaged in the RTS against each mode share target will, collectively, achieve the modal shift which is expected. In addition, as the RTS acknowledges (in its Section 13.2), implementation of all the measures in the Strategy will be dependent upon funding availability over the period of the RTS. If some of the measures (or realistic alternatives) are not implemented for resourcing reasons then the predicted environmental benefits of the assessment, including the predicted carbon dioxide reductions, may not be realised.

7.5.2 Cumulative Effects of the RTS and other Plans and Strategies

The cumulative effects of the draft RTS, beyond those which accrue as a result of the combination of policies and interventions across the three themes within the Strategy, have been assessed at a high level with respect to other regional plans and strategies which could have synergistic or additive effects to the RTS. Since the measures presented within the RTS are generally of an indicative and often non location specific nature, the appraisal has been based on a broad consideration of how regional land use development and transportation plans may interact with the RTS during its proposed 15 year implementation life. The cumulative effects which have been predicted are summarised in Table 7.9 below.

Table 7.9 Predicted Cumulative Effects

SEA Topic (see Table 5.1)	SEA Objective (see Box 6.1)	Cumulative Effect of the RTS	Cumulative Effects with Other PPS
Air quality and noise	To improve air quality in the region and contribute to meeting national air quality objectives	Positive effect Dependent on level of modal shift. RTS has potential to reduce traffic flows (and thus air pollutants) but not to reverse them by 2015 (compared with 2001). Effect will be greater over time as more measures in the RTS are implemented.	Uncertain effects (negative/positive) New development, particularly housing in areas such as West Lothian and Fife may increase traffic and erode potential air quality benefits of RTS and LTSs. Rigorous delivery of LTSs with RTS allied to sustainable land use allocations may offer air quality benefits.
	To minimise the effects of noise and vibration from transport	Neutral to positive effect Measures which have potential to deliver modal shift are not predicted to significantly affect noise and vibration although local benefits could result from specific interventions.	Uncertain/slight positive Local Transport Strategies (LTS) could provide the mechanism to deliver benefits in tandem with the RTS.
Soils and Geology	To protect the region's geomorphology, geology and soils	No significant effects	No significant effects
Aquatic Environment	To protect and enhance watercourses and their water quality	No significant effects RTS contains few interventions which could cumulatively affect catchments or water resources	Uncertain Improved transport provision may stimulate new development.

	To prevent and reduce risks from flooding	No significant effects RTS contains few interventions which could cumulatively affect flooding or flood risk.	Uncertain Improved transport provision may stimulate new development.
Climate change	To contribute to meeting the Scottish share in the reduction of carbon emissions	Positive effect Dependent on level of modal shift. RTS has potential to reduce traffic flows (and thus carbon emissions) but not to reverse them by 2015 (compared with 2001). Effect will be greater over time as more measures in the RTS are implemented.	Uncertain effects (negative/positive) New development may increase traffic and erode potential carbon reduction benefits of RTS. Rigorous delivery of LTSs with RTS allied to sustainable land use planning may offer carbon reduction opportunities.
Landscape and Townscape	To avoid negative impacts from visual intrusion from transport infrastructure	No significant effects The RTS contains few interventions with potential for significant visual intrusion.	Uncertain but significant effects considered unlikely.
	To protect and enhance the landscape	No significant effects The RTS contains few interventions with potential for significant landscape effects.	Potential for significant negative effects from combinations of RTS and national transport projects eg EARL, Forth Crossing etc.
	To protect the unique character of townscapes and their settings	Potential for significant effects from trams The majority of interventions in the RTS would not significantly affect townscapes although some benefits could be achieved through reduced traffic. Potential for significant adverse effects occurs where tram lines converge in the WHS.	Uncertain (positive or negative) depending on quality of developments stimulated by enhanced transport links and accessibility such as trams.
Biodiversity	To protect and enhance biodiversity	Potential for significant adverse effects for new infrastructure which requires extensive habitat loss .	Potential for significant effects to habitats and protected species from combination of transport and land use development proposals.
	To protect the natural environment from the negative effects of transport	No significant effects	No significant effects
Cultural Heritage	To protect the archaeological and historic resources of the region and their settings	Potential for significant effects on setting from trams.	Uncertain but potential for significant effects to archaeology from combination of transport and land use development proposals.
Human Health and Safety	To improve health and reduce inequalities through sustainable and accessible transport	Positive effect through region wide modal shifts, better public transport and sustainable modes.	Potential for beneficial effects provided housing and employment areas developed with accessible public transport.
	To minimise the severance effects of transport on communities	No significant effects provided new schemes fully mitigated.	No significant effects provided new schemes fully mitigated.
Population	To enhance public access to, and understanding and appreciation of, natural and cultural heritage	Positive effect from better public transport and promotion of sustainable modes.	No significant effects

Material assets	To reduce consumption of finite resources	Potential for positive effect provided modal shift realised.	Potential for positive effect provided modal shift realised.
	To avoid sterilisation of mineral resources	No significant effects	No significant effects
	To minimise waste and recover and recycle resources efficiently	No significant effects	No significant effects
	To adopt sustainable planning, design and construction methods	No significant effects	Improved public transport could assist in facilitating more sustainable developments.

The appraisal has highlighted that there is a clear need for joint and co-operative working by the agencies involved in regional planning, development and transport if the potential transport, accessibility and environmental benefits of the RTS are to be realised. The SEStran region is predicted to have continued population growth, strong economic development (and associated prosperity) and continued pressure on land, natural and environmental resources. Sustainable allocation of land for development, which is served by accessible and efficient public transport services will be imperative if environmental degradation is to be avoided and the potentially negative effects of increased commuter (and other private) traffic are to be mitigated.

There is a strong potential therefore for the positive environmental effects predicted for the RTS (albeit modest) to be substantially eroded by development resulting from the realisation of other plans and strategies, in particular from structure and local plans. The degree to which this dilution of effect will occur is not possible to accurately predict (hence the high degree of uncertainty reported in the table above) but it is suggested that the relevant regional (and national) agencies involved will need to maintain and develop their plans and strategies in a manner which reflects the priorities placed by the RTS on sustainable forms of transport and reduced traffic-related emissions if the region, and Scotland as a whole, is to achieve internationally and nationally binding commitments on issues such as climate change.

7.6 PROPOSED MITIGATION MEASURES

Mitigation measures have been developed throughout the environmental appraisal process. These measures are presented within each of the appraisal matrices used to assess the environmental effects of the different components of the Strategy Framework for the RTS. Table 7.10 presents a summary of all the assumed measures from the SEA process and comments on their use and effectiveness.

The mitigation measures listed are necessarily at a strategic level. This reflects the nature of the interventions in the draft RTS on which the SEA has been undertaken. It will be very important, in the implementation of the RTS, that measures and initiatives which have the potential for significant environmental effects are screened for EIA and that Environmental Statements are subsequently produced with robust mitigation measures aimed at avoiding, reducing and where appropriate offsetting significant environmental effects from individual schemes.

In addition, all interventions with the potential to affect designated sites of European nature conservation importance (SPAs and SACs) will be reviewed in more detail and the potential requirement for Appropriate Assessment will be considered by SEStran in consultation with SNH (see Section 4.6.3) These findings, and the key predicted effects, are briefly summarised in the following sub-sections.

Table 7.10 Summary of Mitigation Measures

SEA Topic (see Table 5.1)	SEA Objective (see Box 6.1)	Mitigation Measure	Comment
Air quality and noise	To improve air quality in the region and contribute to meeting national air quality objectives	SEStran to encourage delivery of RTS. Promote measures to discourage private road transport and encourage public transport.	This measure should help to improve local air quality and, in part, address specific air quality problems from congestion in urban areas.
	To minimise the effects of noise and vibration from transport	SEStran to encourage delivery of measures which support modal shift from road to PT. Adequate noise reduction measures to address potential impacts from new infrastructure proposals.	Modal shift should help to address traffic noise problems in roadside locations. Secondary effects of measures such as noise barriers (eg visual) need to be considered in environmental impact assessments.
Soils and Geology	To protect the region's geomorphology, geology and soils	All projects to be designed to avoid significant effects on designated areas and will need to manage and protect soils and drift deposits during construction and to prevent erosion and contamination of soils during operation. Any new earthworks should be designed to ensure slope stability of the transport infrastructure over their design lives.	It has been assumed that designated areas will be avoided and that best practice construction procedures will be adopted to minimise negative effects on geology and soils eg from compaction and erosion. Soil is a non-renewable resource, and areas of peat and prime quality agricultural land in particular should be avoided in planning of new infrastructure.
Aquatic Environment	To protect and enhance watercourses and their water quality	Implementation of best practice measures including SUDS and compliance with Controlled Activities Regulations (CARs) for new projects.	Design of SUDS measures is a standard requirement in all new developments. Implementation of Water Framework Directive is driving new legislation and pollution control procedures such as CARs.
	To prevent and reduce risks from flooding	Implementation of SUDS and other flood attenuation measures as part of new infrastructure projects would help to mitigate flood risk resulting from new infrastructure projects. Any new infrastructure will need to be designed and constructed to withstand sea level rise and the effects of climate change through increased fluvial flood risk.	New developments will be required to be flood neutral and will need to be constructed outwith flood risk areas (or further compensation measures provided). Drainage impact assessments may be required to demonstrate that new areas of hardstanding (eg road and car park surfaces) do not increase overall catchment flooding or exceed drainage capacities.
Climate Change	To contribute to meeting the Scottish share in the reduction of carbon emissions	SEStran to encourage delivery of RTS. Promote measures to discourage private road transport and encourage public transport.	Co-ordination with national agencies and the National Transport Strategy will be important in realising traffic and carbon dioxide reductions.
Landscape and Townscape	To avoid negative impacts from visual intrusion from transport infrastructure	Measures defined in the relevant Environmental Statements will require to be implemented to ensure that visual impacts are not significant.	Integration of design mitigation measures to reduce visual effects is an essential element of the EIA process.
	To protect and enhance the landscape	Adequate landscape mitigation and design measures in infrastructure plans and projects including sensitive landforming and planting schemes.	New proposals need to respect local landscape character and quality. Potential to link with habitat enhancement through scheme mitigation.

	To protect the unique character of townscapes and their settings	Any new infrastructure in towns would require to be designed to integrate with local townscapes. Relies on delivery of regional measures in RTS and local measures in LTSs to reduce traffic in towns.	Commitment to high quality design essential in achieving adequate mitigation.
Biodiversity	To protect and enhance biodiversity	Adequate biodiversity mitigation measures in infrastructure plans and projects including planting proposals to enhance local biodiversity .	Opportunities should be taken to link with priorities in Local Biodiversity Action Plans for habitats and species.
	To protect the natural environment from the negative effects of transport	Adequate mitigation measures in infrastructure plans and projects. SEStran to encourage delivery of RTS. Promote measures to discourage private road transport and encourage public transport and other sustainable modes of travel.	Measures to promote improvements in environmental quality will benefit the natural heritage.
Cultural Heritage	To protect the archaeological and historic resources of the region and their settings	Adequate mitigation to protect the cultural heritage from new infrastructure plans and projects including archaeological survey and appraisals of the effects of intervention on settings. New planting proposals to be designed taking account of any potential risk to any unidentified archaeological remains, the setting of cultural heritage sites and historic landscapes. The design of a new crossing of the Forth, if a bridge in proximity to the Forth Rail Bridge, would need to respect the setting of the listed structure.	Proposals need to respect the potential for as yet unknown archaeological resources. Indirect effects of new projects on the settings of features such as listed buildings, designed and historic landscapes should also be fully considered in project planning and appraisal processes.
Human Health and Safety	To improve health and reduce inequalities through sustainable and accessible transport	SEStran to encourage delivery of RTS. Promote measures to discourage private road transport and encourage public transport and to promote measures to improve access to health facilities and employment opportunities for all.	Health can be influenced directly through improving access to health care facilities. Indirect benefits are recognised through improvements in air quality and the potential to encourage greater use of sustainable modes (walking and cycling) through the measures in the RTS (and in LTSs).
	To minimise the severance effects of transport on communities	Implementation of measures to facilitate public crossing points of any new tram lines. SEStran should ensure that all opportunities to reduce community severance are taken when designing and delivering interventions.	Transport measures should also be designed to improve safety for users eg cyclists, and to reduce the intimidation effects of traffic on pedestrians and communities.
Population	To enhance public access to, and understanding and appreciation of, natural and cultural heritage	Ensure that when all relevant measures of the RTS are implemented that opportunities for public access are maximised.	Key linkages with health and education benefits from enhanced accessibility to countryside around towns, greenspaces, parks, cycle routes etc. Synergy with Core Path Plans and LTSs at the local authority level.
Material assets	To reduce consumption of finite resources	Encourage public transport measures and modal shift to reduce fossil fuel use.	Opportunity to link with national campaigns on more efficient/low emissions vehicles and driving practices, and with biofuels. Linkages with green travel plans, car sharing and city car clubs.
	To avoid sterilisation of mineral resources	Project planning to avoid any areas of mineral reserves.	Linkage with development plan policy to protect reserves.
	To minimise waste and recover and recycle resources efficiently	Encourage re-use of materials in construction schemes and seek to balance earthworks for new infrastructure projects.	Co-ordination with Area Waste Plans and promotion of greater use of contractual requirements to reduce, re-use and recycle construction waste from projects.

	To adopt sustainable planning, design and construction methods	<p>Design of measures should incorporate sustainable planning principles in other policies and plans.</p> <p>Attention to detail in use and sourcing of materials and in design of shared spaces and public realm.</p>	Awareness of urban design strategies and local plans. Various techniques available (eg BREEAM, CIRIA guidance) to reduce the environmental impact of materials use and specification in physical projects.
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8 Monitoring

8.1 INTRODUCTION

This chapter briefly sets out the proposed approach to monitoring of the environmental effects of implementation of the RTS. A series of monitoring indicators is proposed against which the predicted significant or uncertain environmental effects of the Strategy could be monitored.

The monitoring indicators and responsibilities will be subject to consultation and any significant changes in the RTS following consultation will need to be reflected in the monitoring arrangements, which may include those proposed for monitoring environmental effects.

8.2 MONITORING INDICATORS

Monitoring indicators have been identified for all of the SEA topics (and relevant SEA objectives) where the assessment of environmental effects (reported in Chapter 7) has identified that there may be significant, potentially significant or uncertain effects from implementation of the RTS. The proposed monitoring indicators are presented in Table 8.1 and potential sources of information to support measurement of the indicator and/or suggested organisational responsibility for monitoring are identified in the final column.

Table 8.1 Monitoring Environmental Effects of the RTS

SEA Topic	SEA Objective	Indicator	Source/Responsibility
Air quality and noise	To improve air quality in the region and contribute to meeting national air quality objectives	<ul style="list-style-type: none"> Number of AQMAs Trends in monitored roadside NO₂ and PM₁₀ by LA area 	<ul style="list-style-type: none"> Local authority routine air quality monitoring
	To minimise the effects of noise and vibration from transport	<ul style="list-style-type: none"> Key sources (contours) of transport noise 	<ul style="list-style-type: none"> Local authority environmental noise mapping (under Environmental Noise Directive implementation)
Climate Change	To contribute to meeting the Scottish share in the reduction of carbon emissions	<ul style="list-style-type: none"> National CO₂ emissions from transport sector Traffic counters on key road links 	<ul style="list-style-type: none"> Scottish Executive statistics Local authority and Transport Scotland traffic count survey data
Landscape and Townscape	To avoid negative impacts from visual intrusion from transport infrastructure	<ul style="list-style-type: none"> Number of significant visual effects predicted in ESs for new interventions 	<ul style="list-style-type: none"> SEStran
	To protect and enhance the landscape	<ul style="list-style-type: none"> Number of significant landscape effects predicted in ESs for new interventions 	<ul style="list-style-type: none"> SEStran
	To protect the unique character of townscapes and their settings	<ul style="list-style-type: none"> Retention of WHS status in Edinburgh Number of objections to interventions from Historic Scotland 	<ul style="list-style-type: none"> Edinburgh WHT Historic Scotland/LA planning registers
Biodiversity	To protect and enhance biodiversity	<ul style="list-style-type: none"> Number of significant ecological effects predicted in ESs for new interventions Number of schemes with positive species and habitat enhancement measures 	<ul style="list-style-type: none"> SEStran
Cultural Heritage	To protect the archaeological and historic resources of the region and their settings	<ul style="list-style-type: none"> Number of significant cultural heritage effects predicted in ESs for new interventions 	<ul style="list-style-type: none"> SEStran
Human Health and Safety	To improve health and reduce inequalities through sustainable and accessible transport	<ul style="list-style-type: none"> Kms of new cycleway Number of safe routes to school projects Change in number of car trips <1km 	<ul style="list-style-type: none"> Local authorities/SEStran SEStran Transport Scotland?

The purpose of monitoring of the RTS implementation is to ensure the following:

- that the RTS is contributing to the achievement of the SEA objectives;
- that mitigation measures are performing as well as can be expected or require modifying;
- whether any further remedial measures are necessary during the lifetime of the Strategy to mitigate any adverse significant effects which had not been identified previously, or to respond to changes to the RTS in the light of periodic reviews and updates during its lifetime.

It is proposed that the effectiveness and sensitivity of the monitoring indicators are reviewed periodically during the RTS implementation to ensure that the effects and benefits of the Strategy are being appropriately monitored and that monitoring information is proving useful to SEStran in its role as the responsible authority for the Strategy.

8.3 TIMESCALES FOR IMPLEMENTATION

The RTS is intended to be implemented gradually over the next 15 years. It is therefore a long term Strategy and the proposals for monitoring will need to reflect the staged process of implementation, and the availability of information to support the indicators.

The detailed proposals for monitoring and the timescales for implementation will be set out in a RTS Delivery Plan which will be published by SEStran following formal approval and adoption of the Strategy. This plan will set timescales and milestones for delivery of the interventions, and delivery will be monitored against these using agreed monitoring indicators in the RTS and in the final SEA Statement.

9 Next Steps

9.1 PROPOSED STAGES

The next stages in the development of the RTS and its environmental assessment are as follows:

- The ER, which reports the findings of the SEA of the RTS will be published for consultation around the same time as the draft RTS. This is programmed for late November 2006, and the public consultation period is scheduled to last for some six weeks.
- Following consultation on the draft RTS and the ER, the RTS will be revised and updated taking account of stakeholder and public comments. If it is necessary, further environmental assessment will be undertaken on revised components of the RTS and the ER would be amended accordingly.
- Following revision of the RTS, an SEA Statement will be prepared and made available to the Consultation Authorities (and made public) setting out how the findings of public and stakeholder consultation exercise and the environmental assessment have been incorporated into the development of the Regional Transport Strategy.
- It is intended to submit the final RTS and associated documents to the Scottish Ministers by 31st March 2007 for approval and adoption.

9.2 ANTICIPATED MILESTONES

The key milestones in the development of the RTS and the SEA are as follows:

- Submission of the ER to the Consultation Authorities and made available for public consultation with the draft RTS, late November 2006;
- Consultation on the draft RTS and ER from late November 2006 to the end of January 2007;
- Finalisation of the RTS in early 2007;
- Finalised RTS to be submitted to the Scottish Ministers by the end of March 2007; and
- Approval of the RTS by July 2007.

Appendix A Workshop Note

Appendix A

Strategic Environmental Assessment (SEA) of SEStran Regional Transport Strategy (RTS): SEA Workshop Report

1. Introduction

1.1 Introduction

Under the provisions of the Environmental Assessment (Scotland) Act strategic environmental assessment (SEA) is required of all major transport plans including a Regional Transport Strategy (RTS). In addition environmental appraisal is required as part of the STAG appraisal of the RTS¹. The key purpose is to ensure that sustainable principles underpin transport plans right from the start rather than considering environmental effects much further down the line as part of, for example, environmental impact assessment (EIA) of specific proposals.

Information for the SEA and STAG appraisal has been gathered from baseline sources and also from consultations with a wide range of stakeholders. To better understand key issues and help draft objectives for the SEA a workshop was held on 18.5.06 in the Burgh Hall, Linlithgow. The workshop ran in parallel with the wider RTS workshop in the County Buildings which explored issues and objectives and the way forward for the RTS.

WSPE/Natural Capital sent out invitations to some 33 stakeholders inviting them to participate at the workshop. Only nine² participants attended. The response was disappointing but those who attended were very active in their participation and much useful information was obtained.

This report describes the workshop and provides a summary of the discussions and outcomes from it.

The focus of the workshop was on:

- exploring environmental issues in the SEStran area;
- what the objectives for the SEA should be; and
- what criteria can be used to check whether RTS proposals meet these objectives.

All discussions were underpinned by reference to the topic areas required by the Act and the SEA Directive:

- air quality and noise;
- soils and geology;
- aquatic environment (freshwater and marine);
- climate change;
- landscape and townscape;
- biodiversity;
- cultural heritage;
- human health and safety;
- population; and
- material assets.

¹ WSPE and Natural Capital are integrating the work for STAG and the SEA to make best use of all information for both

² Not all participants were able to stay all day

1.2 Layout of the Appendix

The remainder of the annex is structured as follows:

- Chapter 2 provides an introduction to the workshop and the agenda which was followed;
- Chapter 3 sets out the outputs from the workshop exercises.

The annex is supported by the following annexes:

- Annex 1: List of attendees;
 - Annex 2: Draft SEA objectives;
 - Annex 3: Sample feedback form.
-

2. Workshops

2.1 Workshop Format

The workshop agenda was designed for some 20-30 participants, with the workshop lasting approximately five hours with a break for lunch. Nine participants attended. A list of attendees is provided in Annex 1.

The format for the workshop was as follows:

RTS Workshop:

- Introduction to the SEStran RTS and overview of workshop – as part of full workshop (*30 minutes*)

SEA Workshop:

- Introduction and Background (*5 minutes*)
- Baseline Mapping and Data Gaps (*5-7 minutes*)
- Exercise 1 – Key Environmental Issues (*60 minutes*)
 - Summary of findings of Exercise 1
 - What are the key issues in the SEStran area – prioritisation exercise & feedback
- Introduction – why objectives (*5 minutes*)
- Exercise 2 – Environmental Objectives (*55 minutes*)
 - What should the environmental objectives be? Brainstorm what is important and from which draft objectives can be evolved
 - Feedback in plenary
 - Comparison with team draft objective
 - Summary of findings of Exercise 2
- Brainstorm session on appraisal criteria for each draft objective (*25 minutes*)
- Q & A, Concluding remarks and Close (*2 minutes*)

2.2 Workshop Exercises

Participants first joined the main RTS workshop when presentations on key trends and emerging issues were given. The SEA workshop then began with an explanation of how SEA and environmental components of STAG were being tackled.

A description of the approach to collating baseline information for the SEStran area was given and it was explained how this information was being used as one source in the identification of issues. Further information about some environmental issues had also been received from consultees.

The first exercise was designed to further explore baseline environmental issues (that is those known at present and those of the future baseline). Participants were asked to use their knowledge of the area and their experiences from other projects to identify environmental issues and problems in the SEStran area and where possible participants were asked to identify specific examples of issues. The exercise was undertaken in groups recording the discussions on flipchart. Handouts of the SEA topics were provided to stimulate wide ranging coverage of environmental issues. Feedback of key issues was then undertaken in a plenary session.

At the end of the feedback session participants were asked to use 5 dots and place these next to issues which they considered to be most important in the SEStran area.

The findings of all parts of Exercise 1 are presented in Section 3.2.

In the second exercise participants explored potential environmental objectives for the SEA taking account of the issues raised in Exercise 1. Each group fed back in plenary and the long list was compared with the study team's draft objectives (see Annex 2).

In the final part of this exercise participants were asked to brainstorm questions which could be asked to test whether the proposals in the RTS were meeting the SEA objectives (appraisal criteria). The findings of this exercise are also included in Section 3.3.

The findings of the workshop will be used to feed into the RTS Issues Paper and also to refine the developing SEA objectives.

Participants were asked to feel welcome to further contribute to the SEA and also the workshop using a feedback form which was distributed (Annex 3).

3. Outputs from Workshop

3.1 Introduction

In this chapter the outputs from the various exercises are listed as recorded on flipcharts during the workshop (participants' contributions and those collated in plenary sessions).

3.2 Exercise 1 – Key Environmental Issues

3.2.1 Group Work

1. Air Quality

- Air quality/emissions
- Local air quality – PM₁₀
- Air quality 'hot spots' at key points of congestion
- Buses, trams, rail (public transport can be noisy)
- Road freight (Rosyth, Edinburgh Waterfront, Distribution Centres generally)
- Air (growth at Edinburgh Airport)

2. Soils & Geology

- Contaminated land/mines
- New infrastructure - impact on soils/drainage
- Contaminated land issues – transport can contaminate land but also promote its decontamination
- Recycling of roads materials – locally sourced materials (material assets)
- Destruction of landforms/geological sites/interpretational context

3. Aquatic Environment (Freshwater & Marine)

- Fragile river systems
- Internationally important rivers and tributaries
- Flooding/water quality (Water Framework Directive (WFD))
- Health/economic aspects
- Airport/major developments - flood plain problems
- Coastal developments
 - flooding elsewhere
 - need flood defences (Tram Line1, Edinburgh)
 - climate change
- Flood risk – landslips
- Sea freight – risk of spillage, compared to road transport
- More run-off
- Spillages (SPA)
- Litter (recreation)
- SUDS
- Growth in ferries

4. Climate Change

- Global warming
- Carbon off-setting
- Promotion of 'green' fuels, travel, sensible car use
- Managed realignment (e.g. Skinflats)
- Flood management (summer storms, soil water logging: regional studies needed), land use policies, erosion

5. Landscape & Townscape

- Land use change
- Visual impact – e.g. trams in Edinburgh
- Smaller households – more housing – more roads
- Sensible streetscape
- Visual amenity on the smaller and regional scale
- Loss of 'greenspace' and greenbelt
- Mitigation: roads as linear, parks/carbon off setting

6. *Biodiversity*

- Loss of habitat
- Fragmentation of habitat
- Improved access – degradation of environment
- More money on transport – less for environment
- 'Brownfield' sites are often more important than greenfield
- Forestry - local biodiversity loss
- Positive: roads as biodiversity corridors
- Negative; roads (etc) can divide/fragment habitats and transport initiatives can destroy biodiversity rich non-designated sites

7. *Cultural Heritage*

8. *Human Health & Safety*

- Health
 - jobs
 - obesity
 - pollution
 - town planning and transport (public especially)
- Health issue – inactivity
- Improved public transport – less walking/cycling

9. *Population*

- Transport corridor
 - pollution
 - community severance
- Forestry - access issues, transportation issues - by road and sea in SEStran area
- Taking a wider view of impacts of development
- Aging population – more developments of PT options needed
- Buoyant economy promoting car use
- Smaller households – more cars
- Urban – rural

10. *Material Assets*

- Sustainable procurement
- Waste – collection/transport

11. *Other: Example Regional Issues*

- Forth Road Bridge (new)
 - Loss of material assets
 - Limiting public access
 - Increase traffic – air quality, carbon dioxide
 - Waverley Rail Link
 - 38 crossings of Gala water
-

3.2.2 Summary in Plenary

1. Air Quality

2. Soils & Geology

- Contaminated land exposure
- Hazardous roads – spillages, road/rail

3. Aquatic Environment (Freshwater & Marine)

- Land stability
 - barriers to water movement
 - increasing flood risks (with climate change)
- Tram line etc close to coast – flood protection: sea level rise, infrastructure can increase flood risk
- Water Quality - run-off, spillages
- Ferry traffic/water based transport
- Specialist transport
- Increased risks
- SUDS

4. Climate Change

- Global warming
 - influences everything
 - CO₂ emissions
 - temperature increases
 - sea-level rise / flooding
 - destabilising economy

5. Landscape & Townscape

- Change of Land Use
 - Biodiversity loss
 - Fragmentation
 - Loss of open space
- Roads as linear parks
- Visual impact – new infrastructure: possible mitigation, new planting, visual character can change
- Sensitive street scaping
- Need for integrated approach
 - Opportunity to look at area as a whole
 - Collective impact – cumulative impacts
- Rural traffic speeds

6. Biodiversity

7. Cultural Heritage

8. Human Health & Safety

- Link with global warming
- Effects on human health – new patterns of disease

9. Population

- Community severance
 - More cases (urban to rural)
 - Wider impacts of development
-

- Joined up thinking (air quality)
- Aging population
- More public transport – empty buses (noise, CO₂ emissions)
- Human health – walking

10. Material Assets

11. Other: Example Regional Issues

- Waverley Rail Link - impact on watercourses

3.2.3 Prioritised Issues

Participants placed dots against any issues listed above.

One Prioritisation Dot

- Soils and geology – contaminated land issues
- Water quality – runoff, spillages
- Fragile river systems
- Flood risks
- Coastal development – flooding elsewhere, climate change
- Land use change
- Sensible streetscape
- Visual impact - e.g. trams in Edinburgh
- Loss of greenspace and greenbelt
- Loss of habitat and fragmentation of habitat
- Human health (effects on human health, new patterns of disease) – Waverley rail link: impact on watercourses, community severance
- Population – joined up thinking

Two Prioritisation Dots

- Flooding/water quality (WFD)
- Population – taking a wider view of impacts of development
- Health issue – inactivity

Three Prioritisation Dots

- Sustainable procurement
- Health – jobs, obesity, pollution, town planning and transport (public especially)
- Air quality/emissions

Four Prioritisation Dots

- Air quality and noise
- Global warming

Five Prioritisation Dots

- Climate change

3.3 Exercise 2 – Environmental Objectives

3.3.1 Group Work – Objective Setting

Group 1

- Reduce noise pollution
 - Protect and enhance water quality, and minimise the risk of flooding
 - Reduce greenhouse gas emissions, in particular CO₂
-

- Reduce local air pollutants, in particular NO₂ and PM₁₀
- Conserve and enhance the natural heritage
- Maintain and improve the cultural heritage, landscape and townscape
- Improve human health
- Increase access to opportunities
- Reduce consumption of finite resource

Group 2

- Maintain and enhance regional air quality through green transport technologies and sustainable transport policies – air
- Promote the use of ‘freight and routes’ to protect sensitive areas from adverse noise and vibration and water pollution – noise
- Mitigate rise in ambient noise levels, to residential areas – noise
- Avoidance of prime agricultural land for development – soils
- Remediation contaminated land where the opportunity arises – soils
- Promote the use of SUDs in all new and improved transport infrastructure schemes (biodiversity, flooding and run off) – water
- Promote the use of low pollution lights for street lighting – climate change
- Develop a carbon off setting scheme, based on regional forestry – cycling, walking, biodiversity, climate mediation - climate change
- To reduce climate change emissions from all modes of transport
- Maintain the integrity of landscapes, through sensitive design or avoidance
- Improve and enhance streetscapes through sensitive design policy
- Promotion of biodiversity corridors on transport links
- Design transport infrastructure to protect protected species and habitats – biodiversity
- Prevent net loss of all designated sites (natural and cultural). No fragmentation (SSSIs, SAMs etc) – Cultural
- Promote SRTS and school travel plans to address the ‘school run’ – Human health and safety
- Promote walking and cycling as an alternative mode for short journeys to reduce impact of car travel on the environment and to promote health – health.
- Promote the use of public transport for medium length journeys, especially for commuting trips to large centres
- Promote the use of rail based freight
- Integrate land-use planning at a regional level, to reduce the need to travel (population)
- Increase accessibility to a range of alternative modes to reduce dependency on the car
- promote ‘travel plans’ to change attitudes to travel and behaviour
- promote local centres (shopping, employment, distribution) to reduce the length of journey and improve local economy – population
- promote the use of car sharing to reduce single occupancy vehicle trips
- promote road user charging and workplace parking levy to change behaviour
- no sterilisation of minerals and promote the use of recycled and locally sourced materials to reduce environmental impact and reduce journey lengths

Group 3

- To maintain and improve water quality
 - To prevent the risk of flooding
 - To reduce Greenhouse Gas emissions
 - To maintain unique character of places
 - To maintain and improve access to countryside
 - To consider the needs of rural populations
-

- To maintain biodiversity and enhance where possible
- To promote health and reduce inequalities
- To improve access to essential services/facilities
- To maximise the use of existing infrastructure
- To maximise the use of recycled materials
- To promote the use of brownfield land

3.3.2 Summary in Plenary

Air Quality and Noise – Environmental Objectives:

- Maintain and enhance regional air quality through green transport technologies and sustainable transport policies
- To reduce greenhouse gas emissions
- To reduce noise pollution (mitigate in residential areas)
- To promote the use of freight routes to protect sensitive areas from noise and Vibration

Air Quality and Noise – Possible Appraisal Criteria

- *Properties affected*
- *Effects on AQMAs - more/less*
- *Likely traffic flows as proxy*

Soils and Geology - Environmental Objectives:

- Promote the use of brownfield land (remediate contaminated land)
- To conserve and enhance natural heritage
- Avoid prime agricultural land for development

Soils and Geology - Possible Appraisal Criteria

- *Does the policy improve soil resource*
- *Does the proposal result in reduction of contaminated land*
- *Loss in Class 1 land*
- *Greenfield/brownfield*

Aquatic - Environmental Objectives:

- To promote the use of SUDs in all new and improved transport infrastructure schemes
- To maintain and improve water quality (and prevent or reduce the risk of flooding)

Aquatic – Possible Appraisal Criteria

- *Measurements of pollution – make relevant*
- *Number of SUDs schemes*

Climate Change - Environmental Objectives:

- To reduce climate change emissions from all modes of transport (including vehicle production)
- Developing carbon off-setting scheme - measure
- To reduce greenhouse gas emissions from transport

Climate Change - Possible Appraisal Criteria

- *Climate*
 - *CO₂ emissions*
 - *Car traffic growth*
 - *Traffic growth*
 - *Flooding storm events*
-

Landscape & Townscape - Environmental Objectives:

- To maintain the unique character of places (settings of towns and villages and wider landscape)
- To maintain and improve the cultural heritage townscape and landscape (sensitive design and avoidance)

Landscape & Townscape - Possible Appraisal Criteria

- *Any designated landscape, affected Historic & Designated Landscapes Inventory sites, Conservation Areas*

Biodiversity - Environmental Objectives:

- To promote biodiversity corridors on transport links
- To maintain and enhance biodiversity
- To protect protected SPP and habitats

Biodiversity - Possible Appraisal Criteria

- *Length of road verges returned to meadows*
- *Number of features affected, i.e. measure fragmentation*
- *Total (net) loss of semi-natural habitat loss*
- *How much/what type?*

Cultural Heritage - Environmental Objectives:

- See Landscape and Townscape
- No net loss of designated sites – Scheduled Ancient Monuments, Listed Buildings etc

Cultural Heritage - Possible Appraisal Criteria

- *Conservation Areas*
- *Designated Landscapes*
- *Designated sites SAMs*

Human Health and Safety – Environmental Objectives:

- To promote health and reduce inequalities
- To improve human health
- To promote walking and cycling as alternative mode to promote health
- To maintain and improve access to the countryside
- To improve access to essential services
- To promote safer routes to school and school travel plans

Human Health and Safety - Possible Appraisal Criteria

- *Walking*
- *Accident rates*
- *Modes of transport*
- *Travel to work*
- *Travel choice*
- *Quality – who does not benefit*
- *Number of green safe travel plans*

Population - Environmental Objectives:

- To promote local centres to reduce length of journeys
- To consider the needs of rural populations – depopulation etc
- To increase access to vulnerable communities
- To integrate land use planning at a regional level to reduce the need to travel

Population - Possible Appraisal Criteria

- *Mental health*
-

- *community severance*
- *Happiness? Quality of life*
- *Accessibility*
- *Modal share*
- *Population structure*
- *Vulnerability*

Material Assets – Environmental Objectives:

- To maximise the use of existing infrastructure
- To reduce consumption of finite resources
- No sterilisation of minerals
- To promote the use of recycled and locally sourced products
- Maximise the use of recycled materials

Material Assets - Possible Appraisal Criteria

- *Low energy measures, energy generation, alternative fuels*
- *Opportunity to recycle*
- *Areas either sterilised or developed*

3.4 Other Discussion Points

Discussions were quite wide-ranging during the workshop. Points not related to issues and objectives listed above were listed separately and are presented below.

- Use of questions as appraisal criteria -if use questions how do you monitor if use questions
 - Need to identify monitoring indicators to see if prescriptions are met
 - Relate questions to plan measures and remember there are may be effects from other sources – positive and negative
 - Not all respiratory disease is from transport
-

Annex 1

Annex 1: List of Attendees

Name	Organisation	Organisation Address	Email
Dermot Gorman	NHS Lothian	Deaconess House, 148 Pleasance, Edinburgh	Dermot.gorman@lht.scot.nhs.uk
Sofia Billet	SEPA	Clearwater House, Riccarton, Edinburgh	Sofia.billet@sepa.org.uk
Paul Lewis	SNH	2 Anderson Place, Edinburgh, EH6 5NP	Paul.lewis@snh.gov.uk
John Love	SPOKES	St Martin's Church, 232 Dalry Road, Edinburgh, EH11 2JG	spokes@spokes.org.uk or johnlove_edinburgh@comuserve.com
Pamela Gidney	Scottish Executive	Area 2D, Victoria Quay, Edinburgh, EH6 6QQ	Pamela.gidney@scotland.gsi.gov.uk
Ross Spalding	Fife Council	Kingdom House, Glenrothes, Fife	Ross.spalding@fife.gov.uk
Lesley Deans	Clackmannanshire Council	Lime Tree House, Alloa	Ideans@clacks.gov.uk
James Garry	City of Edinburgh Council	Sustainable Development Unit, 12 St Giles Street, Edinburgh	James.garry@edinburgh.gov.uk
Helen Corbet	Forth Estuary Forum	Exmouth Building, Rosyth	h.corbet@forthestuaryforum.co.uk

Annex 2

Annex 2: Draft SEA Objectives

SESTRAN: Draft Vision, Objectives and Sub-Objectives

Draft Vision

That the RTS contributes to safeguarding the environment of the SESTRAN area and promotes opportunities for environmental improvement

Draft Objectives and Sub-Objectives

Draft objectives and sub-objectives have been drafted taking account of the issues review, the review of relevant plans and programmes and the requirements of SEA and STAG (in terms of environment). Five high level objectives are suggested:

1. Climate Change
2. Quality of Life
3. Natural Heritage
4. Cultural Heritage
5. Material Assets and Resources

Sub-objectives have been drafted for each draft objective.

1. *Climate Change*

- To contribute to reducing carbon emissions
 - To contribute to meeting European and UK commitments on the reduction of greenhouse gas emissions

2. *Quality of Life*

- To protect the well being of communities and improve the regional quality of life
 - To improve air quality in the region and contribute to meeting national air quality objectives
 - To minimise the effects of noise and vibration from transport
 - To deliver sustainable forms of transport
 - To avoid negative impacts from visual intrusion from transport infrastructure

3. *Natural Heritage*

- To protect and enhance the natural heritage of the region
 - To protect and enhance biodiversity
 - To protect and enhance the landscape of the region
 - To protect and enhance watercourses and their water quality
 - To reduce risks from flooding
 - To protect the region's geomorphology, geology and soils

4. *Cultural Heritage*

- To protect and enhance the cultural heritage of the region
 - To protect the archaeological and historic resources of the region and their settings
 - To protect townscapes and their settings

5. *Material Assets and Resources*

- To make wise use of the region's assets and resources
 - To minimise waste and recover and recycle resources efficiently
 - To adopt sustainable planning, design and construction methods

Link Between Objectives and SEA Baseline Topics and STAG

Objective	Relevant SEA Topic(s)	Relevant STAG Environment Topic
Climate Change	<ul style="list-style-type: none"> Climate change 	<ul style="list-style-type: none"> Global air quality
Quality of Life	<ul style="list-style-type: none"> Air quality and noise Human health Population 	<ul style="list-style-type: none"> Noise and vibration Local air quality Visual amenity (Also Accessibility and Integration)
Natural Heritage	<ul style="list-style-type: none"> Soil and Geology Aquatic Environment Landscape and Townscape Biodiversity 	<ul style="list-style-type: none"> Water quality, drainage and flood defence Geology Biodiversity Landscape
Cultural Heritage	<ul style="list-style-type: none"> Cultural Heritage 	<ul style="list-style-type: none"> Cultural heritage
Material Assets and Resources	<ul style="list-style-type: none"> Material assets 	<ul style="list-style-type: none"> Agriculture and soils

Annex 3

Annex 3: Sample Feedback Form

SEA of SESTRAN RTS

Workshop Feedback Form

Thank you for attending the workshop on environmental issues and objectives for the Strategic Environmental Assessment (SEA) of the South East Scotland Regional Transport Strategy (RTS).

The purpose of this form is to provide you with an opportunity to feed back comments on issues relating to the environment in South East Scotland, and/or to comment on potential objectives for the SEA.

Feel free to respond to the questions below as you consider appropriate to supplement points you have made during the workshop. Please can you pass your completed form to one of the representatives from Natural Capital or WSP Environmental before leaving at the end of the workshop. Thank you.

1. Environmental Baseline Issues and Problems

Please list any issues you consider to be of particular importance to the key environmental issues presented.

2. Environmental Objectives

If you have further comments or suggested environmental objectives (or appraisal criteria), please note them down here.

3. Other Comments

Have we missed anything? Please add any further comments/issues on any aspect of the environmental baseline in South East Scotland or on the SEA process for the RTS.

Thank you

This form can also be returned to Henry Collin (WSP Environmental) by:

- **Fax: 0131 344 2301 or**
- **Post: 4/5 Lochside View, Edinburgh Park, Edinburgh, EH12 9DH**

Appendix B Analysis of Other Strategies, Plans and Programmes

Appendix B Analysis of Strategies, Plans and Programmes

European

Name and Date of Plan: The Water Framework Directive (Directive 2000/60/EC)	
Legislation and Main Requirements: The Water Environment and Water Services (Scotland) Act 2003. The Water Framework Directive requires EU Member States to put in place systems for managing their water environments, based on natural river basin districts and underpinned by extensive environmental monitoring and scientific investigation ("river basin management").	
Relevance to RTS: The WFD requires that the physical and polluting impacts of land based activities (which would include transportation infrastructure) are controlled, with the aim of achieving "good" ecological status for most rivers etc by specified deadlines – 2015 in most cases.	
Relevant Objectives: The basic objectives to be achieved as set out in Article 4(1) are summarised below: Prevent deterioration in the status of surface water bodies Protect, enhance and restore all bodies of surface water with the aim of achieving good surface water status by 2015 Prevent deterioration of the status of groundwater bodies Protect, enhance and restore all bodies of groundwater with the aim of achieving good groundwater status by 2015 Prevent or limit the input of pollutants to groundwater and reverse any significant and sustained upward trend in the concentration of pollutants in groundwater Comply with European wide measures against priority and hazardous substances Achieve compliance with any relevant standards and objectives for protected areas	
Opportunities/synergies: Scope is not restricted to what happens on or in water Land use and activities are central to achieving the objectives of the WFD Requires consideration of any human intervention that could effect water quality, wherever the intervention takes place	Constraints/challenges: Challenge of achieving, monitoring and sustaining good ecological status Adopting a holistic approach to water management based on river basin management planning

Name and Date of Plan: Directive 2002/49/EC relating to the assessment and management of environmental noise	
Legislation and Main Requirements: The Directive should provide a basis for developing and completing the existing set of Community measures concerning noise emitted by the major sources, in particular road and rail vehicles and infrastructure and for developing additional measures in the short, medium and long term.	
Relevance to RTS: To protect against noise from <i>inter alia</i> traffic and transport infrastructure.	
Relevant Objectives: to define a common approach to avoid, prevent or reduce on a prioritised basis the harmful effects, including annoyance, due to exposure to environmental noise To provide a basis for developing Community measures to reduce noise emitted by major sources, in particular road and rail vehicles and infrastructure	
Opportunities/synergies: To promote awareness of the levels of noise caused by major roads or other traffic routes (flight paths etc) and ensure that these levels are managed in a sustainable manner	Constraints/challenges: The Directive only applies to certain areas and does not apply to noise pollution inside transport.

Name and Date of Plan: The Habitats Directive (Directive 92/43/EEC)	
Legislation and Main Requirements: Gives statutory protection to natural habitats and other species of wild plants and animals	
Relevance to RTS: The Habitats Directive underpins a European network of protected areas known as Natura 2000. The construction, use, management and development of transport infrastructure should have	

due regard to the provisions of the Habitats Directive, Natura 2000 sites (including SPAs and SACs) and other protected areas and species.	
Relevant Objectives: To primary objective of the Habitats Directive is to protect natural habitats and other species of wild plants and animals. To establish Natura 2000 sites (protected areas including SACs and SPAs) and protect European protected species.	
Opportunities/synergies: To protect, enhance and sustain natural habitats and other species. To integrate ecological considerations into the development process, including traffic and transport infrastructure.	Constraints/challenges: To integrate ecological and conservation considerations into the traffic infrastructure design process

Name and Date of Plan: The Birds Directive (Directive 79/409/EEC)	
Legislation and Main Requirements: Protects all wild birds, nests, eggs and habitats within the EC.	
Relevance to RTS: The planning, design, use and maintenance of the transport infrastructure needs to have regard to the statutory requirements of the Birds Directive and its enacting legislation.	
Relevant Objectives: To protect all wild birds, nests, eggs and habitats within the EC To ensure that ecological considerations are built into development proposals. To enable member states to classify SPAs to protect birds which are rare/vulnerable in Europe, including all migratory birds	
Opportunities/synergies: The Birds Directive makes certain provisions for the protection of wild birds in the wider countryside out with protected areas	Constraints/challenges: To integrate ecological and conservation considerations into the traffic infrastructure design process

Name and Date of Plan: <i>United Nations Framework Convention on Climate Change (Kyoto Protocol, 1992)</i>	
Legislation and Main Requirements: Kyoto Protocol: International treaty on climate change, an agreement made under the United Nations Framework Convention on Climate Change	
Relevance to RTS: Reduction in emissions of carbon dioxide and greenhouse gases, leading to a positive impact on the environment, biodiversity and human health	
Relevant Objectives: <ul style="list-style-type: none"> The stabilisation of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system Countries that ratify this protocol commit to reduce their emissions of carbon dioxide and five other greenhouse gases, or engage in emissions trading if they maintain or increase emissions of these gases 	
Opportunities/synergies: Reducing pollutants by increasing use of public and sustainable transport, recycling initiatives, waste awareness education etc Reduction in CO2 emissions leads to healthier population and environment	Constraints/challenges: Changing public attitudes

Name and Date of Plan: <i>Air Quality Framework Directive (Directive 96/62/EC) (1996)</i>	
Legislation and Main Requirements: Part of a series of directives introduced to control levels of certain pollutants and to monitor their management	
Relevance to RTS: Transport and related transport infrastructure contribute to ambient air quality	
Relevant Objectives: The general aim of this directive is to define the basic principles of a common strategy to: <ul style="list-style-type: none"> Define and establish objectives for ambient air quality in the community designed to avoid, prevent or reduce harmful effects on human health and the environment as a whole Obtain adequate information on ambient air quality and ensure that it is made available to the public, inter alia by means of alert thresholds 	

<ul style="list-style-type: none"> Maintain ambient air quality where it is good and improve it in other cases 	
Opportunities/synergies: Improved health Benefits to the environment	Constraints/challenges: May hinder economic/industrial development Growing congestion

National (UK wide)

Name and Date of Plan: National Air Quality Strategy, DEFRA, January 2000	
Legislation and Main Requirements: sets out the air quality strategy for the UK with objectives and targets, refers to Environment Act 1995 legislation	
Relevance to RTS: traffic and transport emissions are major air pollutants	
Relevant Objectives: The reduction in the levels of 8 harmful pollutants present in the air, which in turn promote: <ul style="list-style-type: none"> The protection of human health The protection of vegetation and ecosystems 	
Opportunities/synergies: To look towards reducing pollution caused by transport and therefore protecting the health of people and the environment	Constraints/challenges: reducing congestion and pollution caused by traffic, transport infrastructure

Name and Date of Plan: National Cycling Strategy, Department for Transport, October 2004	
Legislation and Main Requirements: sets out the cycling strategy for the UK with objectives and targets	
Relevance to RTS: cycling as a sustainable form of transport	
Relevant Objectives: To increase cycle use To achieve convenient cycle access to key destinations Improve cycle safety Provide for increased cycle use within all local highways and traffic management schemes Cycle parking facilities to be available at all major destinations, including town centres, shopping developments, educational establishments, hospitals and leisure facilities Raise awareness and expertise amongst transport providers, service providers and employers unlock financial resources to meet the Strategy objectives Progress the National Cycling Strategy	
Opportunities/synergies: To increase and integrate cycle use within the transport system which will in turn improve health and contribute to a healthier environment	Constraints/challenges: Changing attitudes

Name and Date of Plan: One Future – Different Paths. The UK’s Shared Framework for Sustainable Development, Sustainable Development Commission, July 2005	
Legislation and Main Requirements: sustainable development	
Relevance to RTS: sustainable development strategy at the national level	
Relevant Objectives: To achieve sustainable consumption and production – achieving more for less Climate change and energy – to change the way we generate and use energy and to set a good example in this To achieve natural resource protection and environmental enhancement – protecting the environmental resources on which we depend Building sustainable communities at the local and global levels Changing behaviour to achieve sustainable development	
Opportunities/synergies:	Constraints/challenges:

Ensuring sustainable development is at the heart of government policy	Fully incorporating sustainable development into the RTS
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Name and Date of Plan: Securing the Future – UK Government Sustainable Development Strategy, March 2005	
Legislation and Main Requirements: Sustainable development	
Relevance to RTS: sustainability strategy	
Relevant Objectives: Sustainable consumption and production Climate change and energy Natural resource protection and environmental enhancement Sustainable communities	
Opportunities/synergies: Ensuring sustainability is central to government policy	Constraints/challenges: Fully incorporating sustainable development into the RTS

Name and Date of Plan: British Waterways – Our Plan for the Future, 2005 - 2009	
Legislation and Main Requirements: to blend best commercial practice with public sector values to earn and increase the income available to conserve and enhance the waterways for the benefit of the public/users.	
Relevance to RTS: British waterways form an integral part of the transport system and infrastructure	
Relevant Objectives: To increase leisure traffic for recreation To increase freight traffic for the transportation of goods To double freight carriage by 2010 (compared to 2000), concentrating on four main markets: minerals, waste, construction and demolition materials and containers	
Opportunities/synergies: To ensure that waterways are an integral part of any planned development and transport infrastructure use of waterways as method of freight transportation and conservation of the waterways lead to cleaner environment and better health	Constraints/challenges: freight as the main waterway purpose safety issues

National (Scotland)

Name and Date of Plan: Scotland's National Transport Strategy Consultation: SEA – Environmental Report, Scottish Executive, 2006	
Legislation and Main Requirements: Environmental report which provides an account of the Strategic Environmental Assessment (SEA) undertaken for the National Transport Strategy Consultation Paper (NTS)	
Relevance to RTS: Considers environmental aspect of the National transport future for Scotland which aims to promote economic growth, social inclusion, health and protection of our environment through a safe, integrated, effective and efficient transport system	
Relevant Objectives: Biodiversity – to conserve biodiversity at all levels and protect statutory nature conservation sites Population – to improve the living environment for all communities, particularly through improved access to services and opportunities Human Health – to promote the health of the human population with improved air quality, improved access to facilities and greater opportunity for engagement in physical activity Soil – to safeguard the quantity and quality of the soil resource Water – to reduce the impact on quantity and quality of the soil resource Air quality – to improve air quality through reducing emissions and pollution Climatic factors – to reduce energy consumption and CO ₂ emissions and the associated impacts of climate change (e.g. flooding) Material assets – to manage, maintain and promote efficient use of the existing transport infrastructure and the efficient use of resources in the development of new infrastructure Cultural heritage – to safeguard the features of the historic environment Landscape- to safeguard the character, diversity and unique qualities of the landscape Visual amenity – to safeguard the quality of the visual amenity Noise – To limit noise related nuisance from operation of the transport system and development of new infrastructure	
Opportunities/synergies: Considers the environmental sustainability of the NTS, thus ensuring the NTS is also environmentally sustainable	Constraints/challenges: ensuring that the environmental aspect and objectives of the RTS are met

Name and Date of Plan: Scotland's National Transport Strategy: A Consultation, Scottish Executive 2006	
Legislation and Main Requirements: Consultation paper setting out the key questions about Scotland's transport future to be addressed in the development of a NTS providing an opportunity for all stakeholders to comment on the key strategic issues for transport in Scotland.	
Relevance to RTS: National transport future for Scotland which aims to promote economic growth, social inclusion, health and protection of our environment through a safe, integrated, effective and efficient transport system	
Relevant Objectives: The high level objectives for transport, as set out in the White Paper, are to: Promote economic growth by building, enhancing, managing and maintaining transport services, infrastructure and networks to maximise their efficiency; Promote social inclusion by connecting remote and disadvantaged communities and increasing the accessibility of the transport network; Protect our environment and improve health by building and investing in public transport and other types of efficient and sustainable transport which minimise emissions and consumption of resources and energy	

<p>Improve safety of journeys by reducing accidents and enhancing the personal safety of pedestrians, cyclists, drivers, passengers and staff; and</p> <p>Improve integration by making journey planning and ticketing easier and working to ensure smooth connection between different forms of transport</p>	
<p>Opportunities/synergies:</p> <p>Ensure that the RTS covers all aspects of and works in conjunction with the objectives set out in the NTS</p>	<p>Constraints/challenges:</p> <p>Ensuring the RTS has strong and effective links and relationships with its adjoining RTS areas and that they connect rather than conflict</p>

<p>Name and Date of Plan: Scotland's Biodiversity: It's in your hands, Scottish Executive, 2004</p>	
<p>Legislation and Main Requirements: a strategy for the conservation and enhancement of biodiversity in Scotland – various biodiversity and environmental regulations</p>	
<p>Relevance to RTS: transport impacts on biodiversity</p>	
<p>Relevant Objectives:</p> <p>To halt the loss of biodiversity and continue to reverse previous losses through targeted action for species and habitats</p> <p>To restore and enhance biodiversity in all our urban, rural and marine environments through better planning, design and practice</p> <p>To develop an effective management framework that ensures biodiversity is taken into account in all decision making</p>	
<p>Opportunities/synergies:</p> <p>Ensuring that traffic and transport infrastructure recognises and adheres by the biodiversity aims and objectives</p>	<p>Constraints/challenges:</p> <p>development of transport infrastructure and network may be hindered by strict biodiversity regulations</p>

<p>Name and Date of Plan: Women and Transport: Moving Forward, Scottish Executive, 2000</p>	
<p>Legislation and Main Requirements: N/A</p>	
<p>Relevance to RTS: transport issues relating specifically to women</p>	
<p>Relevant Objectives:</p> <p>Principle aim was to produce a set of guidelines for central and local government transport policy makers to assist them in taking account of the needs of women in the development of transport policy</p>	
<p>Opportunities/synergies:</p> <p>Women were identified to travel by foot and public transport more than men</p>	<p>Constraints/challenges:</p> <p>Lack of safety on public transport</p> <p>Physical access to transport (especially for disabled and women with children)</p> <p>Timing and routes, especially early morning provision</p> <p>Clarity and accessibility of transport information</p> <p>Lack of consultation with women affecting the development of relevant policy</p>

<p>Name and Date of Plan: Creating Our Future... Minding Our Past. Scotland's National Cultural Strategy, Scottish Executive, 1999</p>	
<p>Legislation and Main Requirements: promoting creativity, the arts, and other cultural activities</p>	
<p>Relevance to RTS: transports relationship to and role in promoting Scotland's cultural activity</p>	
<p>Relevant Objectives:</p> <p>Promoting creativity, the arts, and other cultural activity</p> <p>Realising culture's potential contribution to education, promoting inclusion and enhancing people's quality of life</p>	
<p>Opportunities/synergies:</p> <p>Promoting social inclusion through provision of transport infrastructure related to the enhancement of Scotland's culture</p>	<p>Constraints/challenges:</p> <p>N/A</p>

Name and Date of Plan: National Waste Plan, Waste Action Scotland, 2003	
Legislation and Main Requirements: Framework Directive on Waste (75/442/EEC) (as amended), The Environment Act 1995	
Relevance to RTS: waste management and resource efficiency in Scotland	
Relevant Objectives: The aims of the Plan are to minimise the impact of waste on the environment, both locally and globally, to improve resource use efficiency in Scotland, and to remedy the environmental injustices suffered by those who have to live with the consequences of a wasteful society.	
Opportunities/synergies: Reduction in waste created by transport	Constraints/challenges:

Name and Date of Plan: Trunk Road Biodiversity Action Plan: Review for Discussion, Scottish Executive, 2000	
Legislation and Main Requirements: to assist in the delivery of biodiversity targets and objectives as set down in the Scottish Local Biodiversity Action Plans	
Relevance to RTS: biodiversity alongside trunk roads	
Relevant Objectives: Adopt practices which help to maintain and enhance the biological resource Identify all designated sites (SSSI) adjacent to trunk roads, and ensure that the operation and maintenance of the road does not adversely affect them Reduce reliance on fertilisers and herbicides	
Opportunities/synergies: Design and positive management can help maintain and enhance the biodiversity of trunk roads	Constraints/challenges: Ensuring that biodiversity of trunk roads is included in all trunk road planning and management

Name and Date of Plan: Scotland's Transport Future – The Transport White Paper, June 2004	
Legislation and Main Requirements: Scottish Executive White Paper	
Relevance to RTS: sets out the Scottish Executive's aims and objectives for transport in Scotland	
Relevant Objectives: To promote economic growth by building, enhancing, managing and maintaining transport services, infrastructure and networks to maximise their efficiency; To promote social inclusion by connecting remote and disadvantaged communities and increasing the accessibility of the transport network; To protect our environment and improve health by building and investing in public transport and other types of efficient and sustainable transport which minimise emissions and consumption of resources and energy; To improve safety of journeys by reducing accidents and enhancing the personal safety of pedestrians, drivers, passengers and staff;	
Opportunities/synergies: Transport connections create opportunities in trade, employment, education, shopping, health and leisure There are opportunities to create new transport infrastructure There are opportunities for stabilising traffic growth There are opportunities for technical change Opportunities to develop the cycle and footpath network	Constraints/challenges: Changing public attitudes Stabilising road traffic volumes – by breaking the link between economic growth and increased volume of traffic Make the most of existing transport links and facilitate the development of new links that allow us to play a full part in the global economy and the international community. History of neglect in public transport and lack of investment in road maintenance Traffic growth has major economic, environmental and social costs Improving road safety

Name and Date of Plan: Scottish Transport Appraisal Guidance (STAG) 2000	
Legislation and Main Requirements: it is a requirement that all transport projects for which Scottish Executive support of approval is required shall be appraised in accordance with STAG	
Relevance to RTS: STAG is a document to aid transport planners and decision makers in the development of transport policies, plans, programmes and projects.	
Relevant Objectives: Environment Safety Economy Integration Accessibility and social inclusion	
Opportunities/synergies: Opportunities to integrate objectives into the optioneering, planning and design of transport/infrastructure proposals.	Constraints/challenges: N/A as STAG aimed at assisting RTS.

Name and Date of Plan: SPP1 The Planning System, Scottish Executive, November 2002	
Legislation and Main Requirements: various planning regulations, including Town and Country Planning (Scotland) Act 1997	
Relevance to RTS: SPP1 identifies the key priorities for the planning system, this has an implication for transport	
Relevant Objectives: To encourage integrated transport and more sustainable travel patterns	
Opportunities/synergies: The planning system can encourage more sustainable travel patterns by: allocating land for development and selecting priority areas for regeneration to maximise the scope for access by foot, cycle and public transport; promoting an efficient transport network for the movement of freight and goods distribution, including where possible use of rail and water; providing direct and safe access to local facilities by a choice of transport modes; supporting mixed use, increased tenure choice and local service provision	Constraints/challenges: changing public attitudes planning as a constraint to expansion of transport infrastructure

Name and Date of Plan: SPP2: Economic Development, Scottish Executive, November 2002	
Legislation and Main Requirements: various planning regulations, including Town and Country Planning (Scotland) Act 1997	
Relevance to RTS: discusses how transport plays a role in economic development	
Relevant Objectives: to secure and support the delivery of sites for economic development in sustainable locations by identifying key locations that are highly accessible by public transport. Safeguard and enhance the environment, by requiring that new development is of a high design quality and protecting the natural and built heritage.	
Opportunities/synergies: Continued reinvigoration of the transport system to meet Scotland's economic and social needs without threatening the health of the environment Good, affordable and reliable public transport links Growth and expansion of airports and ports supports the economy	Constraints/challenges: Ensuring that environmental sustainability is taken account of

Name and Date of Plan: SPP3: Planning and Housing, Scottish Executive, February 2003	
Legislation and Main Requirements: Housing (Scotland) Act 2001. Various planning regulations, including Town and Country Planning (Scotland) Act 1997	
Relevance to RTS: refers to location of new housing in relation to integration with transport	
Relevant Objectives: To create quality residential environments - New housing should make a positive contribution to the built and rural environment, and should be designed and <i>laid out</i> to provide lasting benefits. To guide new housing developments to the right places - New housing areas should be easily accessible by public transport and well integrated into walking and cycling networks.	
Opportunities/synergies: Promoting sustainable methods of transport such as walking, cycling and public transport Opportunity to reduce travel demand with location and layout of new housing	Constraints/challenges: Changing public attitudes

Name and Date of Plan: SPP7 – Planning and Flooding	
Legislation and Main Requirements: Sustainable Flood Management supported by The Water Environment and Water Services (Scotland) Act 2003 (“The WEWS Act”).	
Relevance to RTS: Gives guidance to ensure that development proposals, including transport infrastructure, have due regard to flood risk and sustainable flood management.	
Relevant Objectives: to prevent further development which would have a significant probability of being affected by flooding or which would increase the probability of flooding elsewhere.	
Opportunities/synergies: To integrate sustainable flood management into transport infrastructure proposals Requirements of the Water Framework Directive	Constraints/challenges: Functional flood plain restrictions culverting

Name and Date of Plan: SPP15: Planning for Rural Development, Scottish Executive, February 2005	
Legislation and Main Requirements: planning to be sensitive to demand for new types of development in rural areas. Various planning regulations including Town and Country Planning (Scotland) Act 1997	
Relevance to RTS: rural development and transport	
Relevant Objectives: The overarching aim is to have a prosperous rural economy, with a stable or increasing population that is more balanced in terms of age structure and where rural communities have reasonable access to good quality services.	
Opportunities/synergies: Rural accessibility – ensuring those living in rural areas have sufficient and sustainable transport links To integrate transport issues into rural land use planning	Constraints/challenges: Accessibility, costs, frequency and reliability of rural (public) transport Reliance on private cars

Name and Date of Plan: SSP17: Planning for Transport, Scottish Executive, August 2005	
Legislation and Main Requirements: SPP1: The Planning System and various planning regulations, including Town and Country Planning (Scotland) Act 1997	
Relevance to RTS: integrates transport and planning	
Relevant Objectives: to meet European and UK commitments and targets on greenhouse gases and local air quality; to maintain and enhance the natural and built environment, through avoiding or mitigating adverse environmental impacts, minimising environmental intrusion and retaining, improving and enhancing areas for biodiversity; to maintain and enhance the quality of urban life, particularly the vitality and viability of urban centres; to reinforce the rural economy and way of life; and to ensure that the impact of development proposals on transport networks does not compromise their safety	

or efficiency.	
Opportunities/synergies: Promote healthier lifestyles through transport use Economic development Integration	Constraints/challenges: For the transport network to most effectively support the economy, land use planning should assist in reducing the need to travel; in creating the right conditions for greater use of sustainable transport modes; and in avoiding or mitigating adverse environmental impacts.

Name and Date of Plan: NPPG5 Archaeology and Planning, October 1998	
Legislation and Main Requirements: associated with Planning Advice Note <i>Archaeology - the Planning Process and Scheduled Monument Procedures</i>	
Relevance to RTS: traffic and transportation infrastructure's effect on archaeological sites	
Relevant Objectives: To preserve and enhance archaeological heritage	
Opportunities/synergies: transport policies and plans are in line with the protection of archaeological features	Constraints/challenges: strict planning regulations in specific areas may hinder growth of transport links

Name and Date of Plan: NPPG6 Renewable Energy Developments, November 2000	
Legislation and Main Requirements: to support an increase in renewable energy development in Scotland	
Relevance to RTS: relationship between transport and renewable energy developments	
Relevant Objectives: To encourage more electricity generation from renewable sources To recognise the planning system's important role in providing a framework for promoting renewable energy development	
Opportunities/synergies: Encouragement of renewable and sustainable transport, such as hydrogen fuel cell cars and bicycles	Constraints/challenges: Changing public attitudes

Name and Date of Plan: NPPG8 Town Centres and Retailing, January 2003	
Legislation and Main Requirements: planning guidance in relation to town centres and retailing	
Relevance to RTS: access to town centres and retail developments	
Relevant Objectives: to sustain and enhance the vitality, viability and design quality of town centres, as the most appropriate location for retailing and other related activities to ensure that new developments are located where there are good public transport services, and better access for those walking and cycling, leading to less dependence on access by car.	
Opportunities/synergies: That town centre and retailing plans are compatible with sustainable development This includes new developments being located by public transport links and better access for walkers and cyclers.	Constraints/challenges: To change public's behaviour and reduce reliance on private transport use in town centres and retail areas

Name and Date of Plan: NPPG11 Sport, Physical Recreation and Open Space, June 1996	
Legislation and Main Requirements: considers the land use implications of sport and physical recreation and aspects of informal physical recreation that take place in urban open spaces and the countryside, associated with the House of Commons Environment Committee's Report <i>The Environmental Impact of Leisure Activities</i> , 1995	
Relevance to RTS: access to sport and the implications on land use as a result of this access	
Relevant Objectives: to pay special regard to those who find it difficult to gain access to sport; to ensure that new sports facilities are readily accessible by public transport, cycling and on foot; to improve the health of the population through sport and recreational activities	

<p>Opportunities/synergies: Ensuring that leisure activities are a means of creating awareness of, and appreciation for, the environment Maintaining transport links that provide access for all people to various sport/leisure/recreational facilities To improve health of the population – may promote forms of sustainable transport such as cycling and walking</p>	<p>Constraints/challenges: Environmental impacts caused by sport/physical recreation/leisure activities including; overcrowding, traffic congestion, wear and tear of local environment, disturbance and noise impacting on countryside, inappropriate development</p>
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<p>Name and Date of Plan: NPPG13 Coastal Planning, August 1997</p>	
<p>Legislation and Main Requirements: takes account of recent and likely development pressures on the coast, new nature conservation designations, and the Government's commitment to sustainable development and other relevant Government policies</p>	
<p>Relevance to RTS: traffic and transportation infrastructure's effect on coastal areas</p>	
<p>Relevant Objectives: To contribute to achieving sustainable development and also maintaining and enhancing biodiversity on the coast To promote sensitive development, including reuse of existing buildings, for the promotion of tourism in coastal areas</p>	
<p>Opportunities/synergies: Commitment to sustainable development Providing suitable non intrusive access to coastal areas, to enable recreation and tourist access to coastal areas</p>	<p>Constraints/challenges: Strict planning regulations in coastal areas</p>

<p>Name and Date of Plan: NPPG14 Natural Heritage, January 1999</p>	
<p>Legislation and Main Requirements: gives guidance on how the Government's policies for the conservation and enhancement of Scotland's natural heritage should be reflected in land use planning, associated with the UK BAP</p>	
<p>Relevance to RTS: transport and associated infrastructure impacts on the natural heritage of Scotland</p>	
<p>Relevant Objectives: to ensure that society's land requirements in terms of housing, economic activity, transport infrastructure and recreation are met in ways which do not erode environmental capital to conserve and enhance Scotland's natural heritage</p>	
<p>Opportunities/synergies: to create transportation infrastructure that does not destroy the natural heritage</p>	<p>Constraints/challenges: Strict planning regulations in specific areas</p>

<p>Name and Date of Plan: NPPG18 Planning and the Historic Environment, April 1999</p>	
<p>Legislation and Main Requirements: national planning guidance for planning and the historic environment, deals primarily with listed buildings, conservation areas, world heritage sites, historic gardens, designed landscapes and their settings</p>	
<p>Relevance to RTS: traffic and transportation infrastructure impact on the historic environment</p>	
<p>Relevant Objectives: To protect, conserve and enhance the historic environment</p>	
<p>Opportunities/synergies: To maintain and enhance Scotland's historic environment – economical, social and cultural value To contribute to sustainable development</p>	<p>Constraints/challenges: Strict planning regulations could place regulations on the growth of transport network and infrastructure</p>

Name and Date of Plan: PAN 56: Planning and Noise, April 1999	
Legislation and Main Requirements: integrating noise issues into planning considerations	
Relevance to RTS: noise created from traffic and transport infrastructure (construction and operation)	
Relevant Objectives: To set out a range of noise issues that planning authorities need to be aware of in formulating development plans and making decisions on planning applications To demonstrate the role of the planning system in preventing and limiting the adverse effects of noise without prejudicing investment in enterprise, development and transport	
Opportunities/synergies: Reducing noise pollution	Constraints/challenges: Integrating noise planning into future transportation planning and developments to ensure that the levels of noise created/produced by traffic and transport infrastructure is kept to a minimum

Name and Date of Plan: PAN 57 – Transport and Planning (April 1999)	
Legislation and Main Requirements: Accompanies SSP17 Planning for Transport	
Relevance to RTS: Details how planning process relates to transport	
Relevant Objectives: The report does not identify specific objectives but includes the following comments. The design of transport proposals should be fully considered in terms of safety and convenience for all users. Car parking should consider local characteristics such as accessibility, car ownership and pollution. Transport aspects of land use planning will need to have regard to air quality, noise, water quality, road traffic reduction and safety concerns and landscape quality. Encouragement of cycle lanes and networks, crossing points and secured parking. Encouragement to make travel easier and more convenient for those whose mobility is impaired.	
Opportunities/synergies: Good accessibility will be achieved where many people are linked to opportunities by regular, reliable and affordable travel Inland waterways can provide walking and cycling routes as well as a transport role	Constraints/challenges: The quality of public transport has to be high if motorists are to be enticed out of their cars

Name and Date of Plan: PAN 59: Improving Town Centres, October 1999	
Legislation and Main Requirements: accompanies NPPG8: Town Centres and Retailing	
Relevance to RTS: accessibility to town centres	
Relevant Objectives: For town centres to be accessible by a variety of efficient and effective modes of transport, have an amenity which is attractive, clean and safe, and are planned, managed and promoted in a positive way	
Opportunities/synergies: Opportunities to make town centres more accessible through the provision of effective and reliable transport links – this can include the promotion of public transport use leading to a reduction in the use of private transport	Constraints/challenges: Reducing the ever increasing dependency on private cars within city centres and the associated problems with this (congestion etc) Changing public attitudes to lead to increased use of public transport

Name and Date of Plan: PAN 60: Planning for Natural Heritage, August 2000	
Legislation and Main Requirements: The role of planning in protecting, managing and enhancing natural heritage (complements the NPPG14: Natural Heritage)	
Relevance to RTS: Inter-relationship between natural heritage and development is crucial to land-use planning, including transport and transport infrastructure developments	
Relevant Objectives: To provide advice on how development and the planning system can contribute to the conservation, enhancement, enjoyment and understanding of Scotland's natural environment To encourage developers and planning authorities to be positive and creative in addressing natural heritage issues	

<p>Opportunities/synergies: Prevention of the loss of biodiversity A sustainable approach to the conservation of the natural heritage Providing access through transportation links</p>	<p>Constraints/challenges: Strict planning and guidelines for specific areas of natural heritage</p>
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<p>Name and Date of Plan: PAN 61: Planning and Sustainable Urban Drainage Systems, July 2001</p>	
<p>Legislation and Main Requirements: provides advice on good practice and other relevant information on SUDS</p>	
<p>Relevance to RTS: SUDS are often a key requirement of transport infrastructure development</p>	
<p>Relevant Objectives: To provide good practice on the use of SUDS in new developments To demonstrate the role of the planning system in getting SUDS accepted as a normal part of the development process, including transport related developments</p>	
<p>Opportunities/synergies: Integrate SUDS into all new developments associated with transport</p>	<p>Constraints/challenges: Ensuring SUDS are incorporated into all new developments associated with transport</p>

<p>Name and Date of Plan: PAN 71: Conservation Area Management, August 2004</p>	
<p>Legislation and Main Requirements: complements existing national policy (NPPG18 Planning and the Historic Environment) and provides further advice on the management of conservation areas</p>	
<p>Relevance to RTS: relationship between transport and the environment / conservation areas</p>	
<p>Relevant Objectives: To identify good practice for managing change, sets out a checklist for appraising conservation areas and provides advice on funding and implementation</p>	
<p>Opportunities/synergies: Working with conservation policy to enhance existing conservation areas (promote pedestrian access, cycling etc) and their associated access and transportation links</p>	<p>Constraints/challenges: Strict policy may hinder development of transportation links required to promote economic development</p>

<p>Name and Date of Plan: PAN 72: Housing in the Countryside, February 2005</p>	
<p>Legislation and Main Requirements: to create more widespread good quality rural housing which respects the Scottish landscape and building traditions</p>	
<p>Relevance to RTS: transportation links and access to the increasing number of people dwelling in the countryside</p>	
<p>Relevant Objectives: sets out key design principles which need to be taken into account by applicants when planning a new development and by planning authorities, when preparing development plans and supporting guidance, and determining applications.</p>	
<p>Opportunities/synergies: Increased transport links to rural areas Chance to improve and update public transport links and decrease reliance on private car dependency</p>	<p>Constraints/challenges: Providing adequate, efficient and inexpensive public transport links and changing public attitudes Ever increasing congestion in the countryside and increase traffic on the road Road safety</p>

<p>Name and Date of Plan: PAN 75: Planning for Transport, August 2005</p>	
<p>Legislation and Main Requirements: accompanies SPP17: Planning for Transport</p>	
<p>Relevance to RTS: provides good practice guidance which planning authorities should carry out in their transport policy development, proposal assessment and delivery. PAN 75 aims to create greater awareness of how linkages between planning and transport can be managed</p>	
<p>Relevant Objectives: To help achieve better and earlier integration between land use planning at national, regional and local levels</p>	

<p>Opportunities/synergies: The integration of land use and transport planning is a key element of sustainable development PAN75 reinforces the principles and policy set out in SPP17</p>	<p>Constraints/challenges: Modal shift</p>
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<p>Name and Date of Plan: The Scottish Executive's Community Regeneration Statement <i>Better Communities in Scotland – Closing the Gap</i>, June 2002</p>	
<p>Legislation and Main Requirements: sets out how the Scottish Executive and partners intend to turn around disadvantaged communities to improve quality of life and social justice</p>	
<p>Relevance to RTS: access to public transport is important to community regeneration</p>	
<p>Relevant Objectives: To make core public services as effective as possible in deprived areas To ensure individuals and communities have the social capital, including resources, to take advantage of and increase the opportunities available to them Community regeneration has 5 priority areas – health, education, transport, crime and employment</p>	
<p>Opportunities/synergies: Transport is central to delivering sustainable communities, particularly in providing access to opportunities and employment Providing access through public transport links</p>	<p>Constraints/challenges: Poor quality, inaccessible, unreliable and infrequent public transport is a barrier to regenerating communities and sustainability</p>

<p>Name and Date of Plan: A Partnership for a Better Scotland: Partnership Agreement, Scottish Executive, 2003</p>	
<p>Legislation and Main Requirements: partnership working</p>	
<p>Relevance to RTS: Scottish Executive (high level) approach and commitment to transport</p>	
<p>Relevant Objectives: Our aim is for an accessible Scotland, with a modern, safe, efficient and sustainable transport system</p>	
<p>Opportunities/synergies: The transport system will meet the needs of business, transport users and the environment improve access for rural communities protect the environment and improve safety ensure that our future transport system is well planned and delivered</p>	<p>Constraints/challenges: The Scottish people and economy needs reliable, efficient transport. An effective transport system is central to a thriving economy and strong communities</p>

<p>Name and Date of Plan: Scotland's Transport, Delivering Improvements, Scottish Executive, March 2002</p>	
<p>Legislation and Main Requirements: Transport Policy</p>	
<p>Relevance to RTS: Presents the Scottish executive's vision for transport and transport improvements</p>	
<p>Relevant Objectives: To deliver transport improvements consistent with that vision (to work together to build a sustainable, effective and integrated transport system) and appropriate to the different needs in different parts of Scotland, and delivering a transport system for Scotland fit for the 21st century</p>	
<p>Opportunities/synergies: The integration of land use and transport planning is a key element of sustainable development</p>	<p>Constraints/challenges: Time versus increased congestion and pollution caused by transport Modal shift</p>

Name and Date of Plan: Communities Scotland Corporate Plan 2003 – 2006	
Legislation and Main Requirements: community regeneration	
Relevance to RTS: part of the aims of Communities Scotland involve transport aspects of the community	
Relevant Objectives: To regenerate our communities. In part this will be through Communities Scotland demonstrating that they are closing the opportunity gap for disadvantaged communities in respect of key outcomes for education, health, justice, transport, housing and employment.	
Opportunities/synergies: Aiding the regeneration of disadvantaged communities by providing access	Constraints/challenges: Provision of sustainable, affordable, efficient and user friendly public transport for those disadvantaged communities

Name and Date of Plan: Cycling Scotland – Assessment of Local Authorities: Performance on Cycling, April 2005	
Legislation and Main Requirements: the study focuses on Local Authority plans and policies relating to cycling and to the engagement of stakeholders	
Relevance to RTS: provision, promotion and use of cycling facilities is central to sustainable transport	
Relevant Objectives: To support the development of cycling in Scotland To compare Local Authority performance in promoting cycling as a sustainable form of transport To establish a baseline on cycling in Scotland for policy and planning purposes To provide observations and comment on good practice and general recommendations for improving cycling strategies, stakeholder engagement, infrastructure and promotion of cycling	
Opportunities/synergies: To provide synergy between and comparison of Local Authority performance throughout the UK Promotion of cycling – health, sustainability	Constraints/challenges: Differences in need between urban and rural areas Difference in approach, resources and funding between Local Authorities

Name and Date of Plan: SEPA Policy 26 – Policy on the Culverting of Watercourses (1998)	
Legislation and Main Requirements: The Town and Country Planning Act (1997), The Environment Act (1995), The Water Framework Directive	
Relevance to RTS: Culverting is often required as a result of transport infrastructure.	
Relevant Objectives: To outline SEPA policy on the culverting of watercourses To outline SEPA and developers' responsibilities in terms of culverting watercourses, including in relation to transport infrastructure. To improve the quality of the water environment by promoting alternatives to culverting and the benefits of de-culverting.	
Opportunities/synergies: To improve quality of the water environment To develop and promote alternatives to culverting	Constraints/challenges: Culverting is often the only solution where transport infrastructure crosses watercourses.

Name and Date of Plan: SEPA Policy 19 – Groundwater Protection Policy for Scotland	
Legislation and Main Requirements: Water Framework Directive (2000/60/EC) and Groundwater Directive (80/68/EEC)	
Relevance to RTS: Traffic and transport infrastructure implications for the protection of groundwater.	
Relevant Objectives: The policy aims to provide a sustainable future for Scotland's groundwater resources by protecting legitimate uses of groundwater and providing a common SEPA framework to: Protect groundwater quality by minimising the risks posed by point and diffuse sources of pollution Maintain the groundwater resource by influencing the design of abstractions and developments which could affect groundwater quantity.	
Opportunities/synergies: The policy recognises that soil is an important factor in groundwater protection.	Constraints/challenges: Threats to groundwater from human activities Risk of over-abstraction

Name and Date of Plan: <i>PAN 65: Planning and Open Space, January 2003</i>	
Legislation and Main Requirements: Advice on the role of the planning system in protecting and enhancing existing open spaces and providing high quality new spaces, partners with NPPG 11: Sport, Physical Recreation and Open Space, June 1996	
Relevance to RTS: Transport and transportation infrastructure impacts directly and indirectly on open space.	
Relevant Objectives: The planning system performs two key functions in relation to open space: <ul style="list-style-type: none"> • Protecting areas that are valuable and valued; and • Ensuring provision of appropriate quality in, or within easy reach of, new development. 	
Opportunities/synergies: Managing and maintaining the quality and accessibility of open spaces Maintaining key open spaces and recreation ground for the health and well being of the population	Constraints/challenges: Increasing congestion from transport and associated infrastructure affecting open spaces Increasing encroachment of transport and associated infrastructure onto open spaces

Name and Date of Plan: <i>Passed to the Future: Sustainability Policy, Historic Scotland, 2002</i>	
Legislation and Main Requirements: Historic Scotland's policy for the sustainable management of the historic environment	
Relevance to RTS: Protection and sustainable management of the historic environment from the potential negative impacts of transport and related infrastructure	
Relevant Objectives: Historic Scotland considers the following broad principles as fundamental: <ul style="list-style-type: none"> • Recognising value • Good stewardship • Assessing impact • Working together 	
Opportunities/synergies: Preserving the historic environment Promoting sustainable practices	Constraints/challenges: Transport and related infrastructure may impact negatively on the historic environment.

Name and Date of Plan: <i>Scotland's Historic Environment Policy (SHEP 1): Scotland's Historic Environment, March 2006</i>	
Legislation and Main Requirements: SHEP 1 is the overarching policy statement for the historic environment providing a framework for more detailed strategic policies and operational policies to inform the day-to-day work of a range of organisations.	
Relevance to RTS: Protection and sustainable management of the historic environment from the potential negative impacts of transport and related infrastructure	
Relevant Objectives: <ul style="list-style-type: none"> • The historic environment is cared for, protected and enhanced for the benefit of our own and future generations • There is increased public appreciation and enjoyment of the historic environment amongst all people of Scotland and visitors to the country • The historic environment's importance as a key asset in Scotland's economic, social and cultural success is recognised and skilfully enhanced 	
Opportunities/synergies: Policy set in place to protect the historic environment	Constraints/challenges: Transport and related infrastructure may impact negatively on the historic environment.

Regional

Name and Date of Plan: Regional Transport Strategy, South East Scotland Regional Transport Strategy (SESTRANS, 2003)	
Legislation and Main Requirements: reflects the Scottish Executive's 2002 Transport Delivery Plan	
Relevance to RTS: it is the RTS!	
Relevant Objectives: To reduce road and rail congestion and related local and global air pollution	
Opportunities/synergies: The RTS takes account of the environment – in terms of aiming to reduce air pollution caused by transportation	Constraints/challenges: Addressing this environmental aim

Name and Date of Plan: Lothian Local Health Plan, NHS Lothian, 2005	
Legislation and Main Requirements: sets out aims, objectives, targets and vision for health in the Lothians	
Relevance to RTS: Access to health services, health benefits of walking and cycling	
Relevant Objectives: Reduction in health inequalities Delivering safe and accessible health services	
Opportunities/synergies: Providing access (public transport) to NHS sites Continued growth of health walk schemes	Constraints/challenges: Changing public perceptions/attitudes

Name and Date of Plan: West Edinburgh Planning Framework, Scottish Executive, The City of Edinburgh Council and Scottish Enterprise Edinburgh and Lothians, 2003	
Legislation and Main Requirements: National planning framework	
Relevance to RTS: discusses transport issues in West Edinburgh, an area covered by the RTS	
Relevant Objectives: To introduce tram networks into and through the area for rapid transit within and between Edinburgh and the Lothians and local distribution To introduce rail links to Edinburgh Airport to improve accessibility and reduce journey times from other parts of Scotland and the UK To integrate of transport modes through the construction of a high quality transport interchange at Edinburgh Airport and park and ride facilities	
Opportunities/synergies: Promotion of sustainable transport links	Constraints/challenges: Changing public perceptions

Name and Date of Plan: The River Almond Catchment – A Plan for Integrated Management, The River Almond Catchment Partnership Group, 1997	
Legislation and Main Requirements: catchment management planning	
Relevance to RTS: access issues and sustainable transport	
Relevant Objectives: Establish a framework for the integrated management of the catchments The completion of one continuous footpath along the River Almond To establish footpath links with adjacent sites The completion of a cycleway along the River Almond	
Opportunities/synergies: Improved health through creation of access to river footpaths and cycleways Promotion of sustainable transport	Constraints/challenges: Focuses on the local not the regional, though could connect into integrated transport plan

Name and Date of Plan: Strategic Operating Plan 2005 – 2008, Scottish Enterprise Edinburgh and Lothians	
Legislation and Main Requirements: sets out strategic aims, objectives and vision for strengthening Edinburgh and the Lothians economy	
Relevance to RTS: discusses transportation issues within the Lothians in relation to boosting the economy	
Relevant Objectives: Continue to work closely with operators and providers of external and internal transport communications at a city region level and key partners such as the Scottish Executive and Transport Scotland to influence their development and investment priorities to ensure continued growth of priority sectors	
Opportunities/synergies: Key projects identified include the expansion of Edinburgh Airport and associated surface transport infrastructure (light and heavy rail) Improved public transport networks	Constraints/challenges: Transport infrastructure keeping pace with growth of economy Transportation to facilitate economic growth is not the only factor to consider...the environment and sustainability may hinder this

Name and Date of Plan: Lothian and Borders Area Waste Plan	
Legislation and Main Requirements: sets out a framework within which Lothian and Borders can reduce waste production and increase sustainable waste management	
Relevance to RTS: transport and its infrastructure creates waste	
Relevant Objectives: Maintain and review data on waste management infrastructure Ensure waste management systems are developed in line with the best practicable environmental option (BPEO)	
Opportunities/synergies: Accessibility to waste recycling points End of life vehicles	Constraints/challenges: Providing accessible, convenient recycling points

Name and Date of Plan: Policing Your Roads, A Strategy for Safer Roads for Beyond 2000, Lothian and Borders Police	
Legislation and Main Requirements: working towards creating safer roads by adopting the 4 'Es' – Education, Engineering, Enforcement and Encouragement to comply	
Relevance to RTS: concerns the safety of traffic and transport infrastructure within the region	
Relevant Objectives: Improving road safety conditions	
Opportunities/synergies: Newly designed modern roads may contribute to improved road safety Accessible, efficient public transport provision may reduce numbers of cars on the road and therefore lead to improved road safety	Constraints/challenges: Reducing the number of private cars using roads

Surrounding Structure Plans

Name and Date of Plan: Dundee and Angus Structure Plan 2001 - 2016	
Legislation and Main Requirements: Set of guidelines to provide a long-term vision for the area and to set out the broad land use planning strategy guiding development and change. Takes account of European legislation and the wider planning agenda, including National Planning Policy.	
Relevance to RTS: Travel and transport plans in Dundee and Angus impact on RTS	
Relevant Objectives: The Structure Plan aims for Transport and Travel are to: Improve accessibility both within Dundee and Angus and to the rest of Scotland, the UK and Europe to promote development and address issues of peripherality Promote wider travel choice with a sustainable approach to transport and land use development	
Opportunities/synergies: Reinforcement of importance of the East Coast main line for both passengers and freight and as alternative to road travel Sustainable travel links throughout Scotland	Constraints/challenges: Cost and compatibility / continuity of travel and transport infrastructure across local authority boundaries

Name and Date of Plan: Perth and Kinross Structure Plan 2003-2020	
Legislation and Main Requirements: key strategic land-use planning document providing the long term land use planning vision for development and the environment in Perth & Kinross to the year 2020	
Relevance to RTS: Travel and transport plans in Perth and Kinross impact on RTS	
Relevant Objectives: To reduce the need to travel by focusing development on major settlements, locating developments in relation to each other and to the transport network To improve Perth and Kinross's links to and from other centres to encourage economic growth	
Opportunities/synergies: Sustainable travel links throughout Scotland Economic growth	Constraints/challenges: Cost and compatibility / continuity of travel and transport infrastructure across local authority boundaries

Name and Date of Plan: Glasgow and the Clyde Valley Joint Structure Plan, 2000	
Legislation and Main Requirements: to promote the balanced and sustainable development of the area	
Relevance to RTS: Travel and transport plans in Glasgow and the Clyde Valley impact on RTS	
Relevant Objectives: To promote the strategic management of travel demands, including decisions on land use and development proposals To promote investment in the strategic transport network	
Opportunities/synergies: Sustainable travel links throughout Scotland Economic growth	Constraints/challenges: Cost and compatibility / continuity of travel and transport infrastructure across local authority boundaries

Name and Date of Plan: Dumfries and Galloway Structure Plan, 1999	
Legislation and Main Requirements: sets out a vision for the future sustainable development of Dumfries and Galloway	
Relevance to RTS: Travel and transport plans in Dumfries and Galloway impact on RTS	
Relevant Objectives: To support development of the local community To support urban and rural communities To support and protect the natural and built environment To make best use of services and facilities	
Opportunities/synergies: Sustainable travel links throughout Scotland Economic growth	Constraints/challenges: Cost and compatibility / continuity of travel and transport infrastructure across local authority boundaries

Name and Date of Plan: Cumbria County Council Structure Plan	
Legislation and Main Requirements: to ensure that development is managed in a manner that protects the environment through wise stewardship and also meets the needs of communities.	
Relevance to RTS: Travel and transport plans in Cumbria County Council area impact on RTS	
Relevant Objectives: The aim of the Structure Plan is to secure a more sustainable pattern of development by: social progress which recognises the needs of everyone, effective protection of the environment, prudent use of natural resources, maintenance of high and stable levels of economic growth and employment.	
Opportunities/synergies: Sustainable travel links to, from and throughout Scotland to Northern England Promote economic growth Provide communications and access	Constraints/challenges: Cost and compatibility / continuity of travel and transport infrastructure across local authority boundaries

Name and Date of Plan: Northumberland County Council Structure Plan, 1996	
Legislation and Main Requirements: sets out the County Council's strategic planning framework to guide future development and use of land in Northumberland, to safeguard and improve the environment and to balance the need for development with the protection of the environment	
Relevance to RTS: Travel and transport plans in Northumberland County Council area impact on RTS	
Relevant Objectives: to ensure that the County's irreplaceable environmental resources are not destroyed, and that change and development maintains the character and quality of the environment and, wherever possible, provides environmental benefits; to accommodate a level of growth sufficient to assist in the regeneration of the Northumberland economy and to meet the employment and housing needs of local people; to maintain a range of services well distributed throughout the County; to make the most efficient use of existing infrastructure and resources; to provide a safe, efficient communication system which respects the environment and contributes to the achievement of a sustainable development strategy.	
Opportunities/synergies: Sustainable travel links to, from and throughout Scotland to Northern England Promote economic growth Provide communications and access	Constraints/challenges: Cost and compatibility / continuity of travel and transport infrastructure across local authority boundaries

Surrounding Local Authorities

Name and Date of Plan: City of Dundee Local Plan	
Legislation and Main Requirements: The Finalised Plan sets out detailed policies and proposals for land use and development in the City for the period to 2011.	
Relevance to RTS: issues relating to travel and transport infrastructure may be contained within the local plan	
Relevant Objectives: Achievement of the Community Plan's vision for Dundee demands the advancement of a sustainable development strategy that: recognises that action is required to build on economic progress in the City and improve employment prospects for its citizens; understands the positive impact that the use and development of land can have on tackling social exclusion and improving the quality of life for Dundee's residents; and recognises that the actions of today will shape the environment enjoyed by citizens of today and tomorrow.	
Opportunities/synergies: To be aware of surrounding local authorities local plans and ensure compatibility	Constraints/challenges: Planning constraints set by surrounding local plans

Name and Date of Plan: Perth and Kinross Local Plans	
Legislation and Main Requirements: 6 local plans covering the area of Perth and Kinross, containing detailed guidance planning regulations - an essential point of reference for anyone who wants to build in the area.	
Relevance to RTS: issues relating to travel and transport infrastructure may be contained within the local plan	
Relevant Objectives: The prime functions of the Local Plan are To set the land use framework for promoting economic development. To encourage economic, social and environmental regeneration. To indicate where there are opportunities or specific proposals for the development or change of use of land. To apply National, Regional and European policies. To show how the policies and proposals for change in land use and activities fit together to form a coherent whole. To provide a sound basis for development control.	
Opportunities/synergies: To be aware of surrounding local authorities local plans and ensure compatibility	Constraints/challenges: Planning constraints set by surrounding local plans

Name and Date of Plan: Stirling Local Plan, 1999	
Legislation and Main Requirements: detailed guidance planning regulations - an essential point of reference for anyone who wants to build in the area	
Relevance to RTS: issues relating to travel and transport infrastructure may be contained within the local plan	
Relevant Objectives: to retain and improve nature conservation interest, natural heritage and landscape quality; to secure an appropriate balance between the use and conservation of resources; to safeguard the rural environment through the protection of the landscape and landscape setting of the area's towns and villages; to require that the existing environment is not compromised by new development, but improved, through insistence upon high design standards, the reduction of energy consumption and control of all types of development; to pursue the improvement of existing housing and the development of new housing to meet the needs of local residents and increase in households in the district; to protect existing wealth creating activities and enable their expansion, through the promotion of economic development in a planned manner which respects the quality, potential and strengths of the area.	
Opportunities/synergies: To be aware of surrounding local authorities local plans and ensure compatibility	Constraints/challenges: Planning constraints set by surrounding local plans

Name and Date of Plan: North Lanarkshire Local Transport Strategy	
Legislation and Main Requirements:	
Relevance to RTS:	
Relevant Objectives: To create a healthy society and an attractive environment Create an inclusive society of equality and access to resources Create a prosperous society where regeneration supports long term sustainable growth	
Opportunities/synergies: Community engagement Sustainable transport	Constraints/challenges: Transport infrastructure

English Council Plans

Name and Date of Plan: Carlisle District Local Plan (1997 – adopted version)	
Legislation and Main Requirements: The Town and Country Planning Act 1990	
Relevance to RTS: implications for transport infrastructure	
Relevant Objectives: Objectives relating to pedestrianisation and environmental improvement; car ownership; parking; public transport; journey to work; rail services; and, alternative modes of transport.	
Opportunities/synergies: N/A	Constraints/challenges: N/A

Name and Date of Plan: Tynedale District Local Plan	
Legislation and Main Requirements: The Town and Country Planning Act 1990	
Relevance to RTS: implications for transport infrastructure	
Relevant Objectives: To provide conditions for the safe and convenient movement of all sections of the community To ensure that new development contributes towards the principle of environmental sustainability through reduced journey times, fuel consumption and CO2 emissions To remove through traffic from settlements To seek the introduction of traffic management schemes to reduce congestion and establish pedestrian propriety in the District's main towns and residential areas To encourage initiatives which promote the transfer of freight movements from road to rail transport To support and enhance the public transport network to serve rural and urban areas of the District	
Opportunities/synergies: N/A	Constraints/challenges: N/A

Name and Date of Plan: Alnwick Local Plan	
Legislation and Main Requirements: The Town and Country Planning Act 1990	
Relevance to RTS: The economic vitality and quality of life for residents is dependent upon the effectiveness of the transport infrastructure.	
Relevant Objectives: Improve the accessibility of the residents and businesses of the District to the national transportation systems Achieve a balance between the provision of an improved transport network and the retention, protection and enhancement of the conservation and landscape interests of the District Ameliorate the impact of the motor vehicle on the rural and built environment Promote the improvement of the trunk and primary road links leading to the District Encourage the Highways Agency to upgrade the A1 trunk road to dual carriageway standard through the District at the earliest opportunity Maintain and encourage the improvement of a comprehensive system of public transport Encourage a range of routes and facilities for cyclists Encourage the provision of improved pedestrian facilities where appropriate	
Opportunities/synergies: N/A	Constraints/challenges: N/A

Name and Date of Plan: Berwick upon Tweed Local Plan	
Legislation and Main Requirements: The Town and Country Planning Act 1990	
Relevance to RTS: Implications for transport infrastructure	
Relevant Objectives: to meet the overall requirement for transportation in a manner which conserves or enhances the environmental wealth of the Borough to enhance accessibility to opportunities for shelter, work, recreation and community support to maintain and improve choice for people to walk, cycle or use public transport, rather than drive to minimise the overall negative impact of transport on communities and the environment to improve safety in transportation to reduce the overall need to travel	
Opportunities/synergies: N/A	Constraints/challenges: N/A

Name and Date of Plan: Northumberland Local Plan	
Legislation and Main Requirements: The Town and Country Planning Act 1990	
Relevance to RTS: Implications for transport infrastructure	
Relevant Objectives: Unavailable at the time of the review	
Opportunities/synergies: N/A	Constraints/challenges: N/A

Name and Date of Plan: Northumberland Local Transport Plan 2006-2011	
Legislation and Main Requirements: sets out aims, objectives and vision for transport policy and strategy	
Relevance to RTS: Implications for transport infrastructure	
Relevant Objectives: promote integrated transport systems and land use patterns that minimise dependence on the private car develop convenient, quality and affordable public transport services that meet the needs of all sections of the community, particularly to main employment centres and services contribute to the creation of safe, convenient and attractive places for people to work and live by improving access for all by sustainable means and managing traffic to reduce its impact on the environment and the community maintain and where necessary improve transport links to assist economic and community regeneration extend the highway network only where necessary to improve road safety, reduce unacceptable environmental impacts on local communities or to enable new development	
Opportunities/synergies: N/A	Constraints/challenges: N/A

Name and Date of Plan: Cumbria Local Plan	
Legislation and Main Requirements: The Town and Country Planning Act 1990	
Relevance to RTS: Implications for transport infrastructure	
Relevant Objectives: Unavailable at the time of the review	
Opportunities/synergies: N/A	Constraints/challenges: N/A

Name and Date of Plan: Cumbria Local Transport Plan	
Legislation and Main Requirements: sets out vision, aims and priorities for transport infrastructure	
Relevance to RTS: Implications for transport infrastructure	
Relevant Objectives: To develop transport infrastructure to support improvements to the Cumbrian economy To improve accessibility to jobs, education and training, health and other key services To reduce the high level of road casualties To maintain to a high standard the extensive road network	
Opportunities/synergies: N/A	Constraints/challenges: N/A

Local (to SESTRAN Area)

Local Plans and Transport Strategies

Name and Date of Plan: Finalised Rural West Edinburgh Local Plan 2003 (Deposit Version)	
Legislation and Main Requirements: Sets out local planning framework for rural west Edinburgh	
Relevance to RTS: Outlines traffic and transport infrastructure policies within a planning context	
Relevant Objectives: To reduce reliance (on) and use of the private car and maximise accessibility for all, through careful location and design of new development and the provision of dedicated infrastructure to encourage walking, cycling and public transport use. To improve road safety and enhance the quality of the environment, particularly for pedestrians and cyclists through the introduction of appropriate traffic management measures and provision of dedicated infrastructure. To improve public transport linkages between the city and the major traffic generators in Rural West Edinburgh. To encourage the movement of freight by rail wherever possible. To safeguard land for new transport infrastructure where this can be fully justified in strategic terms, while ensuring that adverse environmental impacts will be minimised.	
Opportunities/synergies: N/A	Constraints/challenges: N/A

Name and Date of Plan: Edinburgh City Local Plan (Consultative Draft)	
Legislation and Main Requirements: Sets out local planning framework for the City of Edinburgh	
Relevance to RTS: Outlines traffic and transport infrastructure policies within a planning context	
Relevant Objectives: To conserve, manage and enhance the built, natural and historic environment and environmental assets and resources. To protect the network of open spaces To consolidate and improve existing residential communities To promote employment growth in sustainable and accessible locations To promote shopping and high quality cultural, entertainment and commercial leisure provision primarily in the city centre and in other suitable and sustainable locations and the protection of valued local facilities To provide appropriate transport infrastructure to support new developments and promote more sustainable patterns of travel	
Opportunities/synergies: N/A	Constraints/challenges: N/A

Name and Date of Plan: City of Edinburgh Local Transport Strategy 2004 - 2007	
Legislation and Main Requirements: The Transport (Scotland) Act 2001	
Relevance to RTS: Outlines policies, plans and projects for the Edinburgh transport network a vision for transport for the next 20 years	
Relevant Objectives: To improve safety for all road and transport users To reduce the environmental impacts of travel To support the local economy To promote better health and fitness To reduce social exclusion To reduce congestion on all modes of transport To increase the proportion of journeys on foot, by cycle, by powered two wheelers and by public transport To reduce the need to travel, especially by car To reduce the adverse impacts of travel, including road accidents and environmental damage To maximise the community role of streets as places where people can meet, shop and children can play To improve the ability of people with low incomes or mobility impairments to use the transport system To ensure that the road, footway and cycle network are of a standard suitable for safe and comfortable movement	
Opportunities/synergies: Congestion charging scheme	Constraints/challenges: Congestion charging scheme

Name and Date of Plan: Clackmannanshire Local Plan	
Legislation and Main Requirements: Sets out local planning framework for the Clackmannanshire region	
Relevance to RTS: Outlines traffic and transport infrastructure policies, with potential impacts on Scottish Borders.	
Relevant Objectives: Aim 1: Caring for the Environment Protection and enhancement of environmental assets Managing the countryside and the urban fringe Managing minerals and waste Aim 2: Jobs Creating and sustaining jobs in business areas Promoting vitality in town centres Balancing jobs and amenity in suburban areas Creating and sustaining jobs in rural areas Aim 3: Homes Locations for new homes Promoting choice in housing supply Promoting high quality standards Aim 4: Community Infrastructure Promoting integrated transport Managing technological change Promoting integrated educational, community and leisure facilities Promoting health facilities and healthy lifestyles	
Opportunities/synergies: Accessibility – ensuring jobs and facilities are located close to homes, minimising long journeys Technology – the trend towards digital formats will increase accessibility to employment and services, particularly for those presently disadvantaged by the lack of a car, remoteness from main centres or disabilities.	Constraints/challenges: N/A

Name and Date of Plan: Clackmannanshire Draft Local Transport Strategy 2006-2009	
Legislation and Main Requirements: The Transport (Scotland) Act 2001; Travel Choices for Scotland	
Relevance to RTS: Sets out the Council's plans, policies, projects and vision for transport to 2009	
Relevant Objectives: To support and enhance the local economy by continuing to develop a sustainable transport system through asset management. To manage travel to reduce its environmental impact To improve the transport environment to reduce the actual and perceived safety issues To work towards a seamless transport system to reduce social exclusion To remove barriers to accessibility by enhancing healthy and alternative modes of travel Integrate land use and transport planning to reconcile development and sustainability To maintain and improve the existing infrastructure in order to fully utilise the network, whilst reducing the impact on the environment.	
Opportunities/synergies: Integrated approach to delivery	Constraints/challenges: Capital investment Changing and supporting public attitudes

Name and Date of Plan: Finalised East Lothian Local Plan 2005 (Final Written Statement)	
Legislation and Main Requirements: Sets out the local planning framework for East Lothian	
Relevance to RTS: The location of new development has a major impact on the travel system and how people travel. New development will therefore be located in a way that allows a choice of means of access and encourages the use of more sustainable transport modes, thus reflecting the Local Transport Strategy.	
Relevant Objectives: The Council's policies for land use and development therefore seek to make it easier to reduce traffic growth, minimise the length of journeys people are obliged to make and promote sustainable alternatives to the private car – public transport, cycling and walking. This is to be achieved by:	
<ul style="list-style-type: none"> • directing major travel generating developments to locations which reduce the need to travel and which are or can be made highly accessible by public transport, pedestrians and cyclists; • maintaining local centres and facilities which are well served by public transport and accessible on foot or by cycle; • resisting proposals for out-of-centre developments where their siting would encourage longer journeys, especially by car; • encouraging a more mixed pattern of development when this can help reduce the need to travel; • supporting higher density developments in highly accessible locations, consistent with design, amenity and environmental standards; and • introducing or contributing to traffic management and restraint measures which favour public transport, walking and cycling. 	
Opportunities/synergies: links with and implications for LTS	Constraints/challenges: Development constraints and impacts on transport network

Name and Date of Plan: East Lothian Local Transport Strategy (2001)	
Legislation and Main Requirements: The Transport (Scotland) Act 2001; Travel Choices for Scotland	
Relevance to RTS: Sets out the Council's plans, policies, projects and vision for transport to 2020.	
Relevant Objectives: To reduce overall dependence on the private car and promote the use of more sustainable modes of transport, where practicable.	
Opportunities/synergies: Develop closer links with the land use planning process and its ability to influence the location of new development.	Constraints/challenges: Availability of adequate resources Future changes in government policy

Name and Date of Plan: Falkirk Council Local Plan Finalised Draft (March 2005)	
Legislation and Main Requirements: Sets out the local planning framework for Falkirk	
Relevance to RTS: Falkirk is a neighbouring Local Authority – traffic and transport infrastructure implications	
Relevant Objectives: To effect a significant improvement in the quality of the built and natural environment in the area. To sustain the viability and quality of life of each individual community within the area. To promote a stronger and more diverse local economy building on the area's locational and other strategic assets. To create an integrated network of transport and other physical infrastructure which supports sustainable development goals. ST1 - to safeguard and promote the development of the core path network. ST2 - to ensure new development provides an appropriate standard of pedestrian and cycle infrastructure. ST3 - to ensure new development provides appropriate levels of bus infrastructure or suitable links to existing bus stops, services or stations. ST4 – new and improved rail infrastructure will be delivered where this supports the use of rail for mid to long distance commuter journeys and meets the cost/benefit criteria for such investments. ST5 – to work with communities and other authorities in identifying opportunities to promote travel to school by sustainable means. ST6 – to deliver improvements to the road network. ST7 – requirement for transport assessments where the impact of development on the transport network is considered likely to require mitigation. ST8 – requirement for a safety audit of new schemes where appropriate. ST9 – to encourage freight intensive development to locations that can be accessed without significant	

<p>impact on local communities or on the local or strategic road network (areas of rail or sea access will be particularly favoured).</p> <p>ST10 – to manage parking provision as an integral part of wider transport policy to ensure that road traffic reduction, public transport, walking, cycling and safety objectives are met.</p>	
<p>Opportunities/synergies: Partnership working Community engagement</p>	<p>Constraints/challenges: Changing public attitudes</p>

<p>Name and Date of Plan: Falkirk Local Transport Strategy</p>	
<p>Legislation and Main Requirements: The Transport (Scotland) Act 2001; Travel Choices for Scotland</p>	
<p>Relevance to RTS: sets out the Council's overarching transport vision</p>	
<p>Relevant Objectives: To support the growth of the local economy in a sustainable way To contribute to community regeneration through promoting social inclusion To protect the environment by minimising the impact that transport can have on it and to improve health by promoting more active travel To improve safety for all those using the transport network To improve integration between different forms of transport</p>	
<p>Opportunities/synergies: Partnership working Community and stakeholder engagement supporting and promoting the more sustainable travel modes to encourage some modal shift whilst actively improving the efficiency of the road network to gain maximum benefits for car journeys with only limited restraint measures operating</p>	<p>Constraints/challenges: traffic congestion will continue to increase across the Council area. Wide ranging changes, outwith the scope of this strategy, would need to come into play to achieve high levels of accessibility and mobility without resulting in increasing congestion and its negative consequences.</p>

<p>Name and Date of Plan: Draft Dunfermline and West Fife Local Plan</p> <p>The draft, which consolidates 4 existing local plans, was not available at the time of this review.</p>	
<p>Legislation and Main Requirements:</p>	
<p>Relevance to RTS:</p>	
<p>Relevant Objectives:</p>	
<p>Opportunities/synergies:</p>	<p>Constraints/challenges:</p>

<p>Name and Date of Plan: Draft Kirkcaldy and Mid Fife Local Plan</p> <p>This draft, which consolidates 8 existing local plans, was not available at the time of this review.</p>	
<p>Legislation and Main Requirements:</p>	
<p>Relevance to RTS:</p>	
<p>Relevant Objectives:</p>	
<p>Opportunities/synergies:</p>	<p>Constraints/challenges:</p>

<p>Name and Date of Plan: Draft St Andrews and East Fife Local Plan</p> <p>The draft, which consolidates 6 existing local plans, was not available at the time of this review</p>	
<p>Legislation and Main Requirements:</p>	
<p>Relevance to RTS:</p>	
<p>Relevant Objectives:</p>	
<p>Opportunities/synergies:</p>	<p>Constraints/challenges:</p>

Name and Date of Plan: Fife Local Transport Strategy (Working Draft for Consultation 2005)	
Legislation and Main Requirements: The Transport (Scotland) Act 2001; Travel Choices for Scotland	
Relevance to RTS: Sets the long term and strategic vision for transport provision and services for the next 20 years	
Relevant Objectives: To provide all people with suitable access to their crucial everyday needs of employment, education, health services, leisure activities and shopping To provide quality, safe transport networks that give people confidence and encouragement to access and use the transport systems To encourage people to reconsider how and when we need to travel and how we should do so in a more sustainable and environmentally friendly way We need to secure greater funding to safeguard the condition of the existing infrastructure to ensure that it provides the necessary access for people to maintain social inclusion, accessibility and economic prosperity We need to carefully plan future development to ensure the proper location of housing and businesses to reduce the need to travel and minimise congestion on our transport networks To promote innovation and best practice to better design the future transport network to provide more sustainable and integrated travel for all Through proper planning and design, we aspire to give people an affordable, integrated transport network for walking and cycling; passenger transport; cars, motorcycles and parking; and freight transport	
Opportunities/synergies: Partnership working Community engagement	Constraints/challenges: Changing public attitudes

Name and Date of Plan: Midlothian Local Plan	
A Finalised Midlothian Local Plan should be available in Spring 2006 but unavailable at the time of this review	
Legislation and Main Requirements: sets development framework for Midlothian	
Relevance to RTS: implications for transport infrastructure	
Relevant Objectives: The key objective is to improve the quality of life in Midlothian, underpinned by: Protect and enhance Midlothian's countryside and rural environment Protect and enhance the built environment of Midlothian's towns and villages Protect and enhance the high quality landscape of the Green Belt Integrate land use and transport considerations in a manner that reflects the aims of national planning policy to protect the environment by reducing the need to travel, particularly by private car, and to favour walking and cycling above motorised transport Reduce traffic congestion in and around Midlothian by measures such as improved public transport and traffic management Identify locations for new development which minimise environmental impact and which can be well served by public transport Identify new economic and commercial opportunities to help reduce the levels of out-commuting from Midlothian Seek agreements and partnerships with developers and agencies to ensure the delivery of infrastructure and environmental enhancement Ensure the efficient use is made of existing and new infrastructure Identify measures to regenerate rundown urban areas and revitalise rural communities	
Opportunities/synergies: Partnership working Community and stakeholder engagement	Constraints/challenges: N/A

Name and Date of Plan: Midlothian Local Transport Strategy (2001 – 2004)	
Legislation and Main Requirements: The Transport (Scotland) Act 2001; Travel Choices for Scotland	
Relevance to RTS: Sets out the Council's plans, policies, projects and vision for transport to 2004.	
Relevant Objectives: To deliver a better, safer environment To facilitate the planned development of the local economy To reduce the environmental impact of traffic To promote and improve healthy modes of transport To maximise access to transport for all	
Opportunities/synergies: Provision of further off-road routes to encourage greater cycle use Improvements to bus services	Constraints/challenges: Maximum fares and minimum frequencies for public transport Encourage operators to operate where demands for services are relatively low

Name and Date of Plan: Scottish Borders Local Plan – Consultative Draft (May 2004)	
Legislation and Main Requirements: Sets out local planning framework for the Borders region	
Relevance to RTS: Outlines traffic and transport infrastructure policies, with potential impacts on Scottish Borders.	
Relevant Objectives: To promote public transport, cycling and walking as sustainable forms of transport. To encourage development which supports sustainable transport.	
Opportunities/synergies: N/A	Constraints/challenges: N/A

Name and Date of Plan: Scottish Borders Local Transport Strategy	
Legislation and Main Requirements: Travel Choices in Scotland 1998	
Relevance to RTS: sets out commitments, priorities and vision for transport and wider community/economic strategy in the Borders region	
Relevant Objectives: Strategic focus for transport is on: <ul style="list-style-type: none"> • Integrated transport and land-use planning • Moderating levels of car travel • Noise, air and water quality To encourage the use of public transport, particularly in those areas where public transport can offer a level of service sufficient to provide a viable alternative to the car To support land use policies which encourage reductions in travel and increased use of public transport To improve traffic and road-use management To encourage walking through good design, publicity and careful land-use planning To encourage cycling for a range of trip purposes, particularly for the large proportion of trips that are relatively short To support voluntary employer-based trip reduction programmes which have proven effective elsewhere if carefully targeted and supported Development of car pooling programmes Teleworking, or working from home Flexible working hours Enhancing traffic and road use management to achieve smoother driving, including traffic signal linking, route guidance and driver education	
Opportunities/synergies: Community engagement and partnership working	Constraints/challenges: Development pressure

Name and Date of Plan: Finalised West Lothian Local Plan, West Lothian Council, 2005	
Legislation and Main Requirements: Sets out local planning framework for West Lothian	
Relevance to RTS: Implications for traffic and transport infrastructure	
Relevant Objectives: <p>To conform to the principles of sustainability by promoting development in accessible locations which will encourage trips by sustainable modes of travel.</p> <p>Adopt transport policies that:</p> <ul style="list-style-type: none"> - encourage a shift away from car use by promoting less environmentally damaging modes of travel. - Complement and integrate the development strategy in order to help secure strategic and local transport policy objectives. - Maximise accessibility for all by promoting public transport. - Encourage walking and cycling. - Improve road and pedestrian safety. <p>Develop partnerships between West Lothian Council and neighbouring local authorities to implement key strategic planning and transportation policies and proposals that improve accessibility across the Central Belt.</p>	
Opportunities/synergies: <p>The Local Plan identifies three key policies related to transport, these are:</p> <p>For West Lothian Council to co-operate with other agencies in preparing investment programmes to enhance the environment by improving traffic conditions, public transport facilities and parking management in its towns and villages.</p> <p>Developers will be required to provide, or contribute towards, the provision of travel improvements including traffic and environmental management measures.</p> <p>The Council will encourage walking and cycling by providing and improving safe and attractive pedestrian facilities, footpaths and cycle routes.</p> <p>Policy ENV13 supports woodland planting for biofuel sources.</p> <p>The ecology and landscapes of rivers and streams in West Lothian including the Rivers Almond and Avon is specifically identified in the Local Plan.</p> <p>Use of SUDS in Core Development Areas and other development proposals will be rigorously applied (Policy ENV16).</p> <p>Opportunities to enhance the environmental and historic setting of the Union Canal and its use for recreation and tourism and integration with the Core Path Network (CPN).</p>	Constraints/challenges: <p>Transport strategies need to ensure that car traffic based growth associated with the rapid economic and population expansion is minimised and public transport use is maximised.</p>

Name and Date of Plan: West Lothian Local Transport Strategy 2006 – 2009, Consultation Paper – Draft Issues and Objectives	
Legislation and Main Requirements: N/A	
Relevance to RTS: Prepared as an initial stage in the development of the Local Transport Strategy	
Relevant Objectives: <p>A series of objectives/issues are identified in the section dealing with Environment. These are:</p> <ul style="list-style-type: none"> To reduce the levels of harmful transport emissions; To reduce the adverse effects of transport noise and vibration on our communities; To promote and encourage walking and cycling as healthy, fuel – free transport; To promote and encourage greater use of public transport as fuel – efficient transport; To stabilise traffic volumes; To support the introduction of cleaner fuel technology. 	
Opportunities/synergies: N/A	Constraints/challenges: N/A

Structure Plans

<p>Name and Date of Plan: Lothian Structure Plan 2015 (prepared by The City of Edinburgh Council, East Lothian Council, Midlothian Council and West Lothian Council)</p>	
<p>Legislation and Main Requirements: Town and Country Planning (Scotland) Act 1997 and Town and Country Planning (Structure and Local Plans) (Scotland) Regulations 1983</p>	
<p>Relevance to RTS: Transport implications for local planning. The Plan sets out a series of policies for transport in Lothian, and identifies a number of safeguards for transport investment proposals. In West Lothian these are: Tram extensions to Broxburn, Uphall and Livingston; Enhancements to the Shotts Railway line and services; Bathgate rail line upgrading, new station/P&R at Boghall and extension to Airdrie; Winchburgh station M8 rapid bus transit, park and ride and interchanges A801 road completion at Avon Gorge; New motorway junctions; and Bus priority and cycling/walking networks.</p>	
<p>Relevant Objectives: The Structure Plan will encourage a more sustainable pattern of development by integrating land use and transport. Identify strategic employment locations which are, or can be made, highly accessible by foot, cycle and public transport. Identify new transport infrastructure required to support the local economy. Maintain and enhance the area's quality of life as defined by the built and natural environment. Increase access to shopping and leisure facilities by giving preference to locations for new development with easy access by foot, cycle and public transport. Locate new development so as to reduce the need to travel particularly by private car. Reduce commuting to Edinburgh from the landward Council areas. Maximise accessibility for all in the community by foot, cycle and public transport. Identify new transport infrastructure required to support the development strategy.</p>	
<p>Opportunities/synergies: Opportunities for Fastlink buses to Edinburgh and for tram network extension to Broxburn, Uphall and Livingston. Enhancement of Shotts railway line. East Calder Parkway Station. Bathgate line upgrade and re-opening to Airdrie. M8 rapid transit, bus park and ride interchange. Livingston and Almond valley identified as a Core Development Area (CDS). Winburgh/East Broxburn/Uphall and Armadale also identified as CDAs.</p>	<p>Constraints/challenges: The public transport network is focussed around Edinburgh. Only Edinburgh has good public transport accessibility to the rest of the Lothians. Congestion on road links from Livingston to Edinburgh. CDAs will require enhanced bus and rail facilities and possible tram/busway links to Edinburgh. Linlithgow and north-west West Lothian identified as areas of constraint due to environmental and landscape issues.</p>

<p>Name and Date of Plan: Scottish Borders Structure Plan 2001-2011</p>
<p>Legislation and Main Requirements: Town and Country Planning (Scotland) Act 1997 and Town and Country Planning (Structure and Local Plans) (Scotland) Regulations 1983</p>
<p>Relevance to RTS: Outlines transportation strategy within a development planning context.</p>
<p>Relevant Objectives: To guide development to the most sustainable locations To encourage growth which supports development of a sustainable Scottish Borders community and within it, the development of individual sustainable communities which have access to a range of permanent, quality jobs; educational and health facilities and resources; a range of shops and services; a choice of methods of transport including cycling and walking opportunities, leisure, recreational and cultural facilities; and a range of multi-use green space.</p>

<p>Opportunities/synergies: The degree of dependence upon Edinburgh, Carlisle and Berwick-upon-Tweed could be reduced The level of interdependence between Scottish Borders towns could be increased as the region develops and grows</p>	<p>Constraints/challenges: Capital investment</p>
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<p>Name and Date of Plan: The Finalised Fife Structure Plan 2006 - 2026</p>	
<p>Legislation and Main Requirements: Town and Country Planning (Scotland) Act 1997 and Town and Country Planning (Structure and Local Plans) (Scotland) Regulations 1983</p>	
<p>Relevance to RTS: Outlines transportation strategy within a development planning context.</p>	
<p>Relevant Objectives: The strategy to improve accessibility to, from and within Fife is: To maximise the efficient use of existing Forth and Tay crossings through supporting increased modal shift to public transport and car share To support growth in both the national and metropolitan Edinburgh economies through the development of a new multi-modal Forth crossing at Queensferry To promote mixed use developments to achieve improved accessibility To support the provision of a cross-Forth ferry service and associated infrastructure To promote routes for public transport rapid transit corridors and interchange with other networks To support the provision of strategic transport improvements outwith Fife which support and improve Fife's economy and accessibility, including the proposed Edinburgh Airport Link To support the provision of strategic transport improvements within Fife including Cupar relief road, St Andrews link road, upgrading of the A92 and the Rosyth bypass</p>	
<p>Opportunities/synergies: Improved transport links are critical to east central Scotland's economy and must be strengthened to meet the challenges of the 21st century. Rosyth is a European hub with the opportunity and potential to develop further as a national transport hub Need to better link regeneration areas with employment hubs Proposal for a passenger ferry between Fife and Edinburgh will assist in regenerating Mid Fife The proposal to re-open the Levenmouth rail line will assist social inclusion Increasing modal shift to public transport and increasing the occupancy of vehicles.</p>	<p>Constraints/challenges: Downward population and economic activity trends in Central Fife Increased congestion and major public transport infrastructure challenges require investment to improve sustainable travel choices Large scale investment in new infrastructure</p>

<p>Name and Date of Plan: Clackmannanshire and Stirling Structure Plan</p>	
<p>Legislation and Main Requirements: Town and Country Planning (Scotland) Act 1997 and Town and Country Planning (Structure and Local Plans) (Scotland) Regulations 1983</p>	
<p>Relevance to RTS: Outlines transportation strategy within a development planning context.</p>	
<p>Relevant Objectives: Overall: Promoting access to opportunity: Reducing the need to travel Promoting alternatives to the private car Local provision of services and facilities Promoting education and lifelong learning Promoting new technology</p>	
<p>Opportunities/synergies: Partnership working Finding a balance between promoting development, improving quality of life and accessibility all within the time limits set by the need to care for the</p>	<p>Constraints/challenges: Large scale investment in new infrastructure</p>

environment.	
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Name and Date of Plan: Falkirk Council Structure Plan – Approved June 2002	
Legislation and Main Requirements: Town and Country Planning (Scotland) Act 1997 and Town and Country Planning (Structure and Local Plans) (Scotland) Regulations 1983	
Relevance to RTS: Outlines transportation strategy within a development planning context.	
Relevant Objectives: To reduce the proportion of journeys made by car and increase the proportion by foot, using public transport and cycling Ensure that wherever possible new development is located so as to reduce the need to travel and be accessible by people walking, cycling or using public transport Safeguarding land for infrastructure that will encourage journeys to be made on foot, cycling or using public transport Promote the completion of key links in the strategic and local road network	
Opportunities/synergies: To encourage local residents to make short distance trips by foot or cycle instead of by car Stakeholder consultation and partnership working	Constraints/challenges: Large scale investment in new infrastructure

Biodiversity Action Plans or Similar

Name and Date of Plan: City of Edinburgh Local Biodiversity Action Plan	
Legislation and Main Requirements: Identification of biodiversity resources and priorities and development of habitat and species action plans for biodiversity conservation, including targets.	
Relevance to RTS: Identification of biodiversity resources and priorities and development of habitat and species action plans for biodiversity conservation, including targets.	
Relevant Objectives: Increase the public's understanding of the importance of rock faces for biodiversity through interpretation such as guided walks To provide accessible natural green space for all residents in Edinburgh – for everyone to have access to a natural green space within 300m walking distance of home and work Maintain and enhance the biological diversity (habitats and species) of Edinburgh's...canals	
Opportunities/synergies: Partnership working Community and stakeholder engagement	Constraints/challenges: N/A

Name and Date of Plan: Clackmannanshire Biodiversity Action Plan (July 2003)	
Legislation and Main Requirements: Identification of biodiversity resources and priorities and development of habitat and species action plans for biodiversity conservation, including targets.	
Relevance to RTS: Identification of biodiversity resources and priorities and development of habitat and species action plans for biodiversity conservation, including targets.	
Relevant Objectives: Translate national targets for species and habitats into effective action at the local level Stimulate effective local working partnerships to ensure that programmes for biodiversity conservation are developed and maintained Raise awareness of the need and responsibilities for biodiversity conservation and enhancement Identify biodiversity resources and priorities Identify targets for species and habitats according to local circumstance Ensure that delivery mechanisms for conservation and enhancement of biodiversity are promoted and understood Provide a local basis for monitoring progress in biodiversity conservation	
Opportunities/synergies: Partnership working Community and stakeholder engagement	Constraints/challenges: To secure additional funding

Environmental education Cross-cutting themes and links with other plans and policies To develop a monitoring system	
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Name and Date of Plan: East Lothian LBAP	
Legislation and Main Requirements: Unavailable at the time of this review	
Relevance to RTS:	
Relevant Objectives:	
Opportunities/synergies:	Constraints/challenges:

Name and Date of Plan: Falkirk Area Biodiversity Action Plan	
Legislation and Main Requirements: Identification of biodiversity resources and priorities and development of habitat and species action plans for biodiversity conservation, including targets.	
Relevance to RTS: Outlines biodiversity conservation strategy for Falkirk with implications for new and existing transport infrastructure and projects	
Relevant Objectives: Primary Objective - To safeguard local variety of life Protect and enhance rare and threatened plants, animals and habitats, responding to the local and national needs of biodiversity Encourage, inspire and enable all local groups and individuals to take action to conserve their local biodiversity Promote awareness and understanding of biodiversity, its importance for local and global communities, and our responsibility to conserve it and use it wisely	
Opportunities/synergies: Partnership working Community and stakeholder engagement To focus resources that partner organisations can offer	Constraints/challenges: Pressure from new and proposed development

Name and Date of Plan: Fife Local Biodiversity Action Plan (2 nd Edition, 2003-2006)	
Legislation and Main Requirements:	
Relevance to RTS: Identification of biodiversity resources and priorities and development of habitat and species action plans for biodiversity conservation, including targets.	
Relevant Objectives: Farmland Core Project Enhance farmland and farming practices for the benefit of biodiversity and the farming community Work with local communities to ensure integration of biodiversity with farming practices Urban Core Project Protect urban sites important for wildlife from changes in land use Increase the number of households living within 10 minutes walk of an attractive Greenspace Raise awareness among the general public of the importance and value of urban biodiversity Encourage communities to survey, plan and manage urban wildlife habitats Ensure the conservation and enhancement of wildlife is incorporated into the management of urban greenspace Coastal Fringe Core Project Promote the Fife coast as a series of interlinked, biodiverse habitats Provide an first class visitor experience with excellent public access and facilities based around a high quality, clean environment. This will demonstrate how biodiversity can be integrated and enhanced within the social, cultural and economic framework of society Rivers Core Project	

To improve the extent and quality of river habitat in Fife To help maintain or improve water quality in Fife's three main river systems, in line with SEPA's target of 66% of monitored watercourses to be of fair quality or better by 2006	
Opportunities/synergies: Partnership working Community and stakeholder engagement	Constraints/challenges: Pressure from new and proposed development

Name and Date of Plan: Midlothian LBAP	
Legislation and Main Requirements:	
Relevance to RTS: Unavailable at the time of this review.	
Relevant Objectives:	
Opportunities/synergies:	Constraints/challenges:

Name and Date of Plan: Scottish Borders Local Biodiversity Action Plan	
Legislation and Main Requirements:	
Relevance to RTS: Identification of biodiversity resources and priorities and development of habitat and species action plans for biodiversity conservation, including targets.	
Relevant Objectives: Ensure the conservation, educated use and appropriate enhancement of the biodiversity of the Scottish Borders through the development of an effective regional partnership Act as a framework for the process of biodiversity planning Measures and inform the sustainable development of the Scottish Borders Link action in the Scottish Borders to the UK Biodiversity Action Plan	
Opportunities/synergies: Coordinate current activity and promote future action Identify and secure external funding and guide the efficient use of local resources	Constraints/challenges: Pressure from new and proposed development

Name and Date of Plan: Planning for Biodiversity Action: 2005 – 2009, West Lothian Council, 2005	
Legislation and Main Requirements: UK Biodiversity Action Plan	
Relevance to RTS: Protection of habitats and species in West Lothian	
Relevant Objectives: No further reduction in area of raised bog in West Lothian. To maintain, enhance and expand the woodland resource. Maintain and protect river and streams supporting semi-natural assemblages of animals and plants in both the channel and riparian zone.	
Opportunities/synergies: Partnership working Stakeholder engagement	Constraints/challenges: Avoidance of habitat loss or species impact

Outdoor Access Strategy, Core Paths Plans, Countryside Access Strategy or similar

Name and Date of Plan: <i>Core Paths Plan (All SESTRAN Area Local Authorities)</i>	
Legislation and Main Requirements: Under the Land Reform (Scotland) Act 2003, each local authority is required to draw up a 'Core Paths Plan', which will designate a system of paths sufficient for giving the public reasonable access throughout the area.	
Relevance to RTS: Core Paths are afforded protection and access along these routes must be maintained	
Relevant Objectives: Not all of the 7 local authority areas have confirmed objectives and those that have are not available at present. The current Core Paths Situation: <ul style="list-style-type: none"> Clackmannanshire - The Council is currently developing a timetable and methodology for the production 	

<p>of the Clackmannanshire Core Path Plan</p> <ul style="list-style-type: none"> • East Lothian – no documents as yet but plan for core paths plan completion in January 2008 • Edinburgh – no documents as yet but core paths planning well under way. • Falkirk – first round of consultations and preliminary assessment covered, next stage is the second round of consultations with project completion and adoption of core paths plan in 2008 • Fife – draft set of core paths produced and second round of consultations taken place in August 2006 • Midlothian – draft core paths report underway • Scottish Borders – no documents as yet but core paths planning well under way • West Lothian – completed first draft of paths and going out to consultation. 	
<p>Opportunities/synergies:</p> <p>Improved health and well being</p> <p>Promotion of sustainable modes of travel</p>	<p>Constraints/challenges:</p> <p>Safety on paths close to key transport routes</p>

Name and Date of Plan: Clackmannanshire Outdoor Access Strategy (Draft)	
Legislation and Main Requirements: Land Reform (Scotland) Act 2003	
Relevance to RTS: Includes everyday/recreational access and active pursuits	
<p>Relevant Objectives:</p> <p>Address the access needs and aspirations of people of all ages and abilities.</p> <p>Reflect the benefits and links between access and other policy agendas, including economic development and community planning, and consider how well planned and managed access can contribute to social inclusion, improved health, support sustainable transport networks and contribute to the overall quality of life within Clackmannanshire.</p>	
<p>Opportunities/synergies:</p> <p>Partnership working</p> <p>Stakeholder engagement</p>	<p>Constraints/challenges:</p> <p>Land use conflict</p> <p>Access issues – right to roam</p>

Name and Date of Plan: East Lothian Outdoor Access Strategy	
Unavailable at the time of this review.	
Legislation and Main Requirements:	
Relevance to RTS:	
Relevant Objectives:	
Opportunities/synergies:	Constraints/challenges:

Name and Date of Plan: Falkirk Council Countryside Access Strategy 2005 – 2010 Consultative Draft	
Legislation and Main Requirements: Land Reform (Scotland) Act 2003 – Implications for Falkirk Council	
Relevance to RTS: The Strategy focuses on non-motorised access to the countryside and aims to address the needs and aspirations of people of all ages and abilities, and reflects the increasing priority of access issues with the enactment of the Land Reform Act.	
<p>Relevant Objectives:</p> <p>To create a well used, high quality recreational resource which will encourage healthier lifestyles, strengthen community identities, improve appreciation of the environment, and add to the range of visitor attractions across the council area.</p> <p>To provide a functional and recreational path network around and between settlements with links to local facilities and key visitor attractions.</p> <p>To promote and maintain the path network, encouraging its use by local people and visitors to the area.</p>	
<p>Opportunities/synergies:</p> <p>The Strategy emphasises the role of local communities and other stakeholders in bringing forward local path proposals within the framework provided by the Strategy.</p>	<p>Constraints/challenges:</p> <p>Moving the strategy forward from a vision to achieving standards and targets.</p>

Name and Date of Plan: Scottish Borders Council – An Outdoor Access Strategy for the Scottish Borders – New Ways to Access (December 2003)	
Legislation and Main Requirements: Land Reform (Scotland) Act 2003	
Relevance to RTS: Sets out the Council's obligations, commitment and vision for non-motorised outdoor	

access.	
Relevant Objectives: Vision: to develop a high quality and renowned access network, based on local and visitor needs and aspirations, which respects and reflects local character and provides clear economic and social benefits. To contribute positively towards achieving and sustaining: A connected place Thriving organisations Vibrant communities Getting people to their full potential Quality of life Sustainable development	
Opportunities/synergies: Partnerships	Constraints/challenges: Resources

Name and Date of Plan: Fife Access Strategy Unavailable at the time of this review.	
Legislation and Main Requirements:	
Relevance to RTS:	
Relevant Objectives:	
Opportunities/synergies:	Constraints/challenges:

Name and Date of Plan: Midlothian Access Strategy Unavailable at the time of this review.	
Legislation and Main Requirements:	
Relevance to RTS:	
Relevant Objectives:	
Opportunities/synergies:	Constraints/challenges:

Name and Date of Plan: A Countryside Access Strategy for West Lothian, December 2000	
Legislation and Main Requirements: Sets out countryside access issues and policies, aims and objectives	
Relevance to RTS: Relates to countryside access including footpaths and cycle networks	
Relevant Objectives: To establish a framework which facilitates efficient and integrated development of the path network	
Opportunities/synergies: Increased countryside access around main settlements. Maximise linkages between public transport. Increased path network links. To reduce vehicular air pollution by facilitating increase local journeys by foot / bicycle.	Constraints/challenges: Conflicts between path users. Physical problems / Maintenance.

Community Plans

Name and Date of Plan: A Community Plan for Edinburgh – The Key Challenges 2004-2010	
Legislation and Main Requirements: Sets out priorities for Edinburgh which have been agreed by communities and agencies.	
Relevance to RTS: Includes policies and vision for sustainable transport and infrastructure	
Relevant Objectives: Strategic Aims: sustainable development; listening to communities; social justice; economic prosperity; equality of opportunity; social responsibility and citizenship Key Challenges <i>Inter alia</i> : To improve services for older people To tackle discrimination and disadvantage To improve transport To ensure clean, green and safe neighbourhoods	

To improve the city centre To improve health for all	
Opportunities/synergies: Partnership working Stakeholder and community engagement Cross-cutting with other plans and policies	Constraints/challenges: Partnership working Community engagement Monitoring progress

Name and Date of Plan: Clackmannanshire Community Plan 2006 – 2009	
Legislation and Main Requirements: Sets out priorities for Clackmannanshire which have been agreed by communities and agencies.	
Relevance to RTS: Includes policies and vision for sustainable transport and infrastructure	
Relevant Objectives: Priorities for Action: Ensuring a balanced approach between improving transport infrastructure, encouraging green or alternative approaches to transport provision and the protection of the environment. Developing the existing network of public pathways and managing responsible access to the countryside.	
Opportunities/synergies: Promoting physical activity Reducing road accidents and improving road safety Promoting the potential for transport to become more environmentally friendly through new technology	Constraints/challenges: Pockets of persistent deprivation Rapid suburban growth Pressures on local authority and environmental organisation funding

Name and Date of Plan: East Lothian Community Plan – Working Together for a Better East Lothian	
Legislation and Main Requirements: Sets out priorities for East Lothian which have been agreed by communities and agencies.	
Relevance to RTS: Includes policies and vision for sustainable transport and infrastructure	
Relevant Objectives: To develop and sustain an East Lothian where communities are vibrant, with opportunities for participation and development for people of all ages and backgrounds, where services are people centred and responsive to community needs and where the quality of East Lothian's environment is recognised, valued and protected for future generations.	
Opportunities/synergies: Community engagement Partnership working	Constraints/challenges: Resources Equality of opportunity, engagement and access

Name and Date of Plan: Falkirk Council Community Regeneration Strategy	
Legislation and Main Requirements: Sets out priorities for Falkirk which have been agreed by communities and agencies.	
Relevance to RTS: Includes policies and vision for sustainable transport and infrastructure	
Relevant Objectives: To create safer communities in which to work and play by improving neighbourhood safety To improve the image and quality of the physical environment including our town centres	
Opportunities/synergies: Partnership working Community engagement	Constraints/challenges: Partnership working Community engagement Funding resources

Name and Date of Plan: Fife Council: A Stronger Future for Fife – Fife Community Plan (Rev. Edition 2004)	
Legislation and Main Requirements: Sets out priorities for Falkirk which have been agreed by communities and agencies.	
Relevance to RTS: Includes policies and vision for sustainable transport and infrastructure	
Relevant Objectives: to develop and sustain a Fife that is ambitious, highly skilled, creative, caring and able to make and take advantage of opportunities...ambitious to improve our environment, the health of Fifers, the quality and performance of all public services, Fife's economy and infrastructure and quality of life for all our communities.	

<p>To deliver an Inclusive Fife – to ensure that everyone in Fife enjoys the full benefits of society</p> <p>To Deliver a Sustainable Fife – to sustain a high quality of life for everyone in Fife through wise use of resources and with regard to the needs of future generations.</p> <p>To Deliver Best value for Fife – to provide high quality and cost effective services</p>	
<p>Opportunities/synergies:</p> <p>To make more of Fife’s assets and potential – to be more ambitious in terms of tourism, transport infrastructure and town centre development</p>	<p>Constraints/challenges:</p> <p>Demographic trends (particularly with regard to children and older people) will present major resource pressures in terms of social care, educational and transportation resources</p> <p>Increasing levels of congestion will continue to affect existing communities in Fife and deter future population and economic growth, implying the need for major investment in transport infrastructure, improved links between population centres and more sustainable travel choices</p> <p>To diversify the economic base...to offer good transport links to existing and potential business</p> <p>Tackling inequality is a principle that must underpin all activity in Fife</p>

<p>Name and Date of Plan: Midlothian Moving Forward – The Community Plan</p>	
<p>Legislation and Main Requirements: sets out a vision for community development, quality of life and sustainability in Midlothian to 2020.</p>	
<p>Relevance to RTS: transport infrastructure as central to community development in terms of access to services, resources and opportunities.</p>	
<p>Relevant Objectives:</p> <p>To develop and sustain: Lifelong learning; health and well being; community safety; economic capacity; social inclusion; cultural identify and diversity; environment.</p>	
<p>Opportunities/synergies:</p> <p>Partnership working Community involvement Community leadership</p>	<p>Constraints/challenges:</p> <p>Funding and resources</p>

<p>Name and Date of Plan: Scottish Borders Draft Community Plan (2005-2015)</p>	
<p>Legislation and Main Requirements: sets out a vision for community development, quality of life and sustainability in the Scottish Borders to 2015</p>	
<p>Relevance to RTS: transport infrastructure as central to community development in terms of access to services, resources and opportunities.</p>	
<p>Relevant Objectives:</p> <p>Priority Projects/Actions: Develop a new LTS and, in partnership with neighbouring areas, formulate a RTS for the SE of Scotland Promote the case for the opening of a station at Reston on the East Coast Line Jointly promote the project to reinstate the Waverley line from Edinburgh to Tweedbank and promote Phase 2 of the Waverley route to feasibility study stage Explore demand responsive transport Parking strategies in major town centres Finalise and implement the Scottish Borders Tourism Action Plan</p>	
<p>Opportunities/synergies:</p> <p>Partnership working (“New Ways”) Listening to communities</p>	<p>Constraints/challenges:</p> <p>N/A</p>

<p>Name and Date of Plan: Community Plan for West Lothian – Shaping the Future (2000 – 2010)</p>	
<p>Legislation and Main Requirements: sets out a vision for community development, quality of life and sustainability in West Lothian to 2010.</p>	

Relevance to RTS: transport infrastructure as central to community development in terms of access to services, resources and opportunities.	
Relevant Objectives: To build a dynamic, inclusive, learning community which allows people in West Lothian to develop their potential to the full To promote a more inclusive community by providing housing, health and social care services in an integrated way which allows all groups of people to live as independently as possible To build a modern, high performance, knowledge based economy with world wide links, creating jobs and a rising quality of life for everyone in West Lothian To manage and balance the effects of social and geographical diversity, and protect and improve our physical environment for the future: <ul style="list-style-type: none"> - To improve public transport: <ul style="list-style-type: none"> • Encourage greater use of public transport by promoting and improving services, facilities and security for all prospective passengers • Ensure that there is adequate road network capacity and public transport links to all areas of West Lothian • Encourage investment in bus and rail infrastructure To promote and health and well-being of West Lothian citizens and to reduce inequalities of health across communities	
Opportunities/synergies: Partnership working Community and stakeholder engagement	Constraints/challenges: N/A

Local Agenda 21

Name and Date of Plan: A Strategy for Sustainable Development (Local Agenda 21), West Lothian	
Legislation and Main Requirements: UK Government strategic framework "One Future – Different Paths"	
Relevance to RTS: The Scottish Executive identifies three main priorities for sustainable development, these being: resource use, energy and travel.	
Relevant Objectives: Implement sustainable planning and transport policies which minimise the need for travel and promote walking, cycling and use of public transport, in conjunction with health enhancing physical activity strategy. With our partners, sustainably manage our water resources in West Lothian through river catchment plans, urban drainage schemes and action on water quality and conservation.	
Opportunities/synergies: N/a	Constraints/challenges: To reduce the use of natural resources and costs and playing a role in responding to the issues associated with climate change.

Name and Date of Plan: Clackmannanshire Sustainability Strategy - Pending	
Legislation and Main Requirements: to develop a vision for a more sustainable Clackmannanshire	
Relevance to RTS: relationship between travel and transport infrastructure and sustainability	
Relevant Objectives: To develop policies which address the need for mitigation of and adaptation to climate change. To build on the improved scope for sustainable travel offered by the new Stirling-Alloa passenger rail line and Stirling-Alloa-Kinross freight rail line, opening in 2007. To monitoring air quality and enforce pollution laws To promote the health of Clackmannanshire residents through a range of practical projects and initiatives To increase recycling rates and waste minimisation within the community To continue to develop and implement planning policies which are consistent with the principles of sustainable development To promote sustainable design and construction, including a focus on energy efficiency and encouraging adoption of micro-renewables.	
Opportunities/synergies: Synergy between travel and transport infrastructure	Constraints/challenges: Sustainability requirements may hinder transport

and sustainability Health and well being of Clackmannanshire's residents	infrastructure's growth
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Name and Date of Plan: Sustainable Falkirk Strategy 2002 - 2004	
Legislation and Main Requirements: a drive to take forward Falkirk's commitment to sustainability and Local Agenda 21	
Relevance to RTS: relationship between travel and transport infrastructure and sustainability	
Relevant Objectives: Identified Priority Areas: Waste minimisation and recycling Greener transport The image and quality of the physical environment of the area Climate change Integration of environmental issues into plans, policies and strategies	
Opportunities/synergies: Synergy between travel and transport infrastructure and sustainability Health and well being of Falkirk's residents	Constraints/challenges: Sustainability requirements may hinder transport infrastructure's growth

Name and Date of Plan: Midlothian Draft Sustainability Strategy	
Legislation and Main Requirements: the Draft Sustainability Strategy proposes an approach to meeting both the statutory duty to contribute to sustainable development and the expectations of the international community in terms of Local Agenda 21	
Relevance to RTS: relationship between travel and transport infrastructure and sustainability	
Relevant Objectives: No detailed objectives, just an overall aim to follow the UK Sustainable Development Strategy's 5 key principles.	
Opportunities/synergies: Synergy between travel and transport infrastructure and sustainability Health and well being of Midlothian's residents	Constraints/challenges: Sustainability requirements may hinder transport infrastructure's growth

Name and Date of Plan: Scottish Borders, New Ways Environmental Strategy, 2001	
Legislation and Main Requirements: The strategy is about taking action in the Scottish Borders to protect and improve the local and global environment	
Relevance to RTS: relationship between travel and transport infrastructure and sustainability	
Relevant Objectives: Transport – implement transport planning and development planning in order to reduce the need to travel and increase the availability of more sustainable choices of travel mode Travel – seek to reduce the environmental impacts associated with staff travel to and at work	
Opportunities/synergies: Synergy between travel and transport infrastructure and sustainability Health and well being of Scottish Border's residents	Constraints/challenges: Sustainability requirements may hinder transport infrastructure's growth

Name and Date of Plan: A Strategy for Sustainable Development (Local Agenda 21), West Lothian	
Legislation and Main Requirements: UK Government strategic framework "One Future – Different Paths"	
Relevance to RTS: relationship between travel and transport infrastructure and sustainability	
Relevant Objectives: Implement sustainable planning and transport policies which minimise the need for travel and promote walking, cycling and use of public transport, in conjunction with health enhancing physical activity strategy With our partners, sustainably manage our water resources in West Lothian through river catchment plans, urban drainage schemes and action on water quality and conservation	
Opportunities/synergies: Promotion of sustainable travel	Constraints/challenges: Reducing resources used by transport and infrastructure

Appendix C Environmental Baseline

1 Introduction

This appendix includes baseline environmental information which has been used in the SEA of the SEStran RTS. Collation of data has been undertaken to what is considered to be appropriate for a regional level strategy, and taking account of the level of specificity in the draft RTS. The baseline has therefore been focussed on those elements of the environment which are most relevant to, and likely to be affected by, the RTS. Each topic area has been collated using relevant website data, information from consultees, feedback from the SEA workshop and reviews of relevant documents and plans.

2 Air Quality and Noise

2.1 INTRODUCTION

There are a range of sources of air pollutants within the SEStran area, however road traffic emissions are the key source. The two main air pollutants associated with road traffic emissions are:

- Nitrogen Dioxide (NO₂); and
- Particulate Matter (PM₁₀).

Noise can be defined as unwanted sound. Road traffic and other forms of transportation are key sources of noise both within the urban and rural environments of the SEStran area.

2.2 CURRENT BASELINE

Air Quality

The Air Quality Archive website (<http://www.airquality.co.uk/archive/laqm/>) identifies predicted background concentrations for these two parameters across the SEStran area based on an estimated background concentration in 2001. The predicted background concentrations for NO₂ are presented within Figure 2 (2001, 2005 and 2010) and for PM₁₀ within Figure 3 (2001, 2004 and 2010).

Air quality monitoring is undertaken by the eight Councils within the SEStran area, a summary of which is presented below.

Table 2.1: Air Quality Monitoring Undertaken by Local Authorities

Council ^{Note 1}	Nitrogen Dioxide ^{Note 2}	Particulate Matter (PM ₁₀)	Other Monitoring
Edinburgh City Council (2003)	4 mobile real time monitors 39 PDTs	3 mobile monitoring locations	N/A
Clackmannanshire Council (2005)	10 PDTs around Alloa, Tullibody and Tillicoultry	1 roadside TEOM monitoring point	Sulphur Dioxide
East Lothian Council (2004)	1 continuous analyser 12 PDTs	3 monitoring locations	Sulphur Dioxide
Falkirk Council (2004)	5 automatic monitoring sites (includes 2 mobile units) 65 PDTs*	4 monitoring sites using automatic TEOM analysers*	Sulphur Dioxide Carbon Monoxide Benzene 1,3 Butadiene Lead and Heavy Metals

Council ^{Note 1}	Nitrogen Dioxide ^{Note 2}	Particulate Matter (PM₁₀)	Other Monitoring
Fife Council (2003)	1 mobile real time monitors 34 PDT sites	1 mobile TEOM analyser	N/A
Midlothian Council (2003)	13 PDT sites	N/A	Carbon Monoxide Benzene 1,3-Butadiene Lead Sulphur Dioxide
Scottish Borders Council (2005)	19 PDT sites	Monitoring in Melrose	N/A
West Lothian Council (date not specified)	1 mobile real time monitors 6 PDT sites	1 mobile TEOM analyser	N/A

Sources: Local air quality reports (see air quality references section)

Note 1: Dates associated with council names relate to the year of monitoring

Note 2: PDT refers to Passive Diffusion Tubes

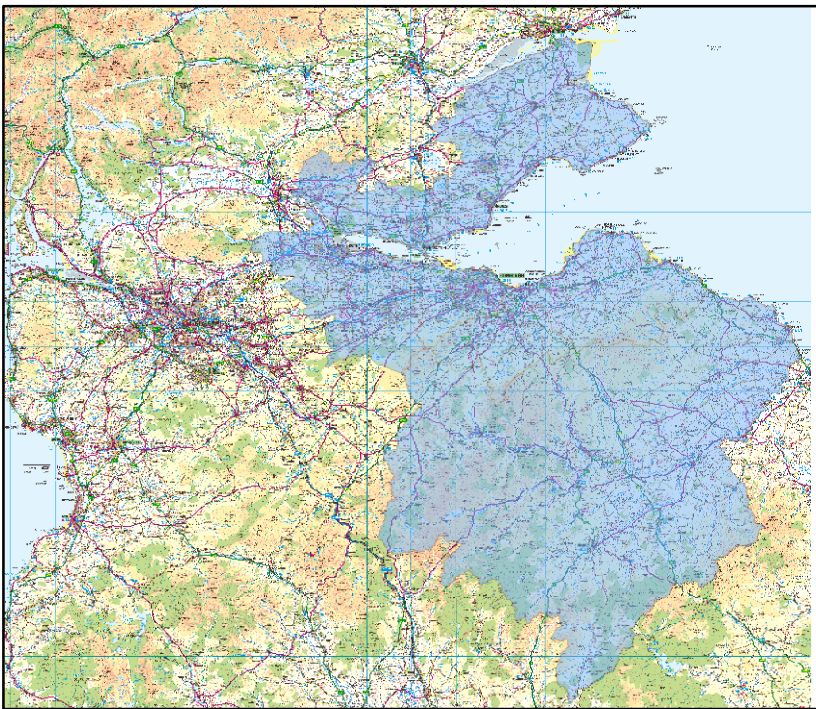
The air quality progress reports for the eight councils identifies a number of exceedences of monitoring data, as summarised in Table 2.2 below.

Table 2.2: Air Quality Exceedences

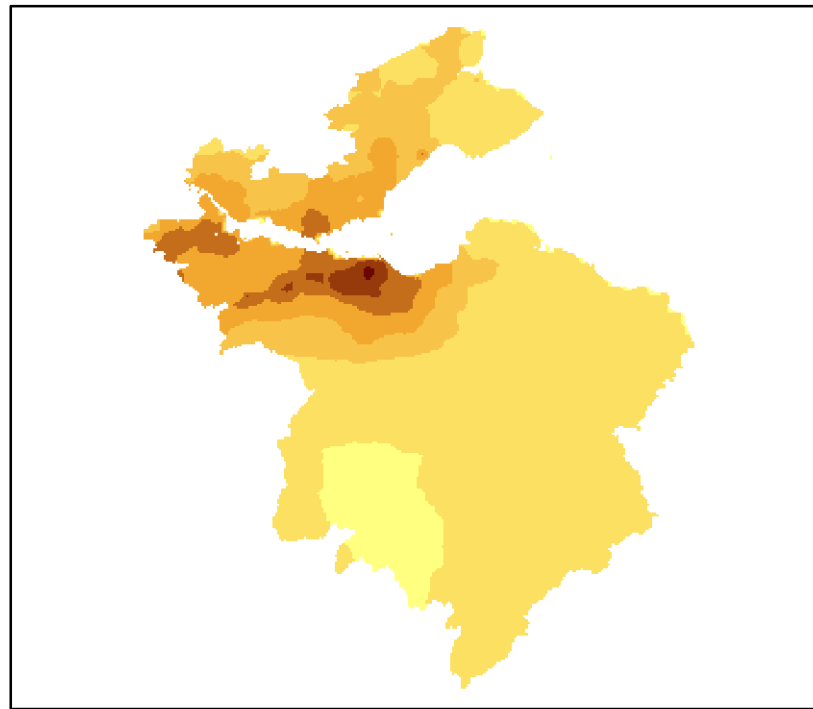
Council	Nitrogen Dioxide (No. of exceedences)	Particulate Matter (PM₁₀) (No. of exceedences)	Other Monitoring (No. of exceedences)
Edinburgh City Council (2003)	2 PDT Locations ^{outside AQMA} 10 PDT Locations ^{within AQMA} 3 Mobile Monitor Locations	3 locations exceeded average annual levels and the 24 hour mean more than 7 times.	N/A
Clackmannanshire Council (2005)	None reported	None reported	None reported
East Lothian Council (2004)	None reported	None Reported	None reported
Falkirk Council (2004)	10 exceedences of 1 hour objective of 200ug/m3 at Municipal Chambers Grangemouth	1 exceedence of 24 hour objective of 50ug/m3 at Hope Street (2004)	Sulphur – 1 of 24 hour objective of 125ug/m3 at Inchyra Park Grangemouth
Fife Council (2003)	4 Locations with PDTs 1 Location with mobile	2 occasions with exceedence of 24hr AQS objective.	None reported
Midlothian Council (2003)	No data	No data	None reported
Scottish Borders Council (2005)	No data	No data	No data
West Lothian Council (date not specified)	None reported	None reported	N/A

Sources: Local air quality reports (see air quality references section)

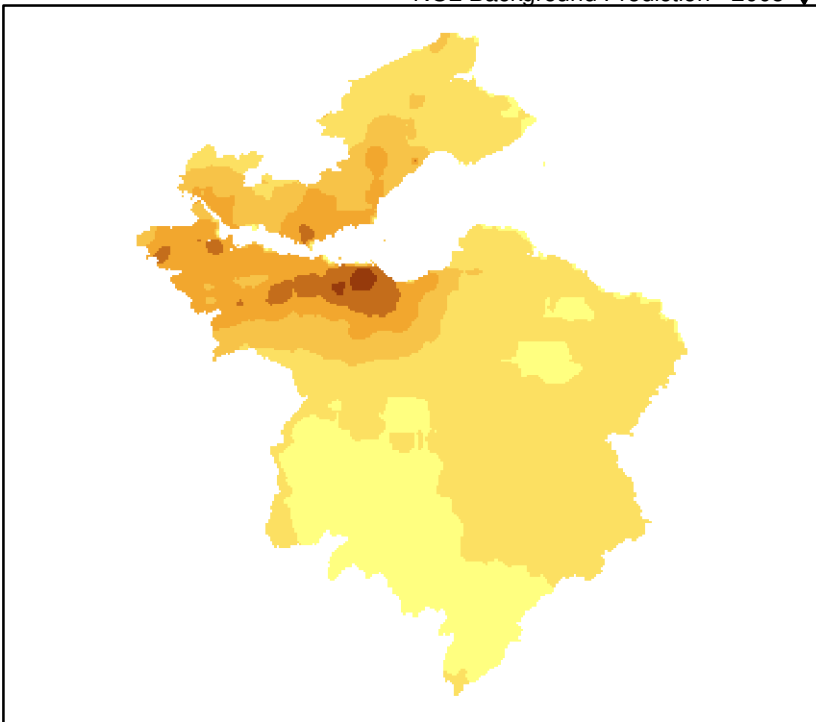
Data Limitations: Air quality monitoring data from Local Authorities is reported for different years, WSP has used the latest monitoring reports provided by the Councils.



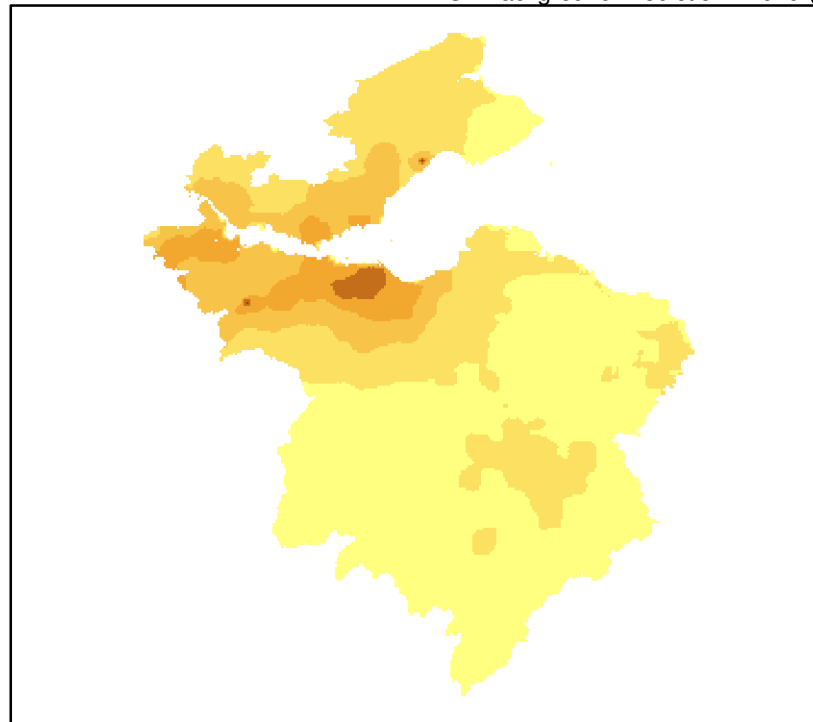
▲ Overview of SESTRAN Area



▲ NO2 Background Estimate - 2001



NO2 Background Prediction - 2005 ▼



NO2 Background Prediction - 2010 ▼

NO2 Concentrations

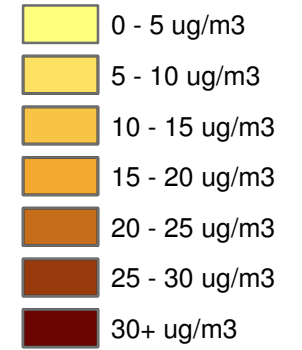


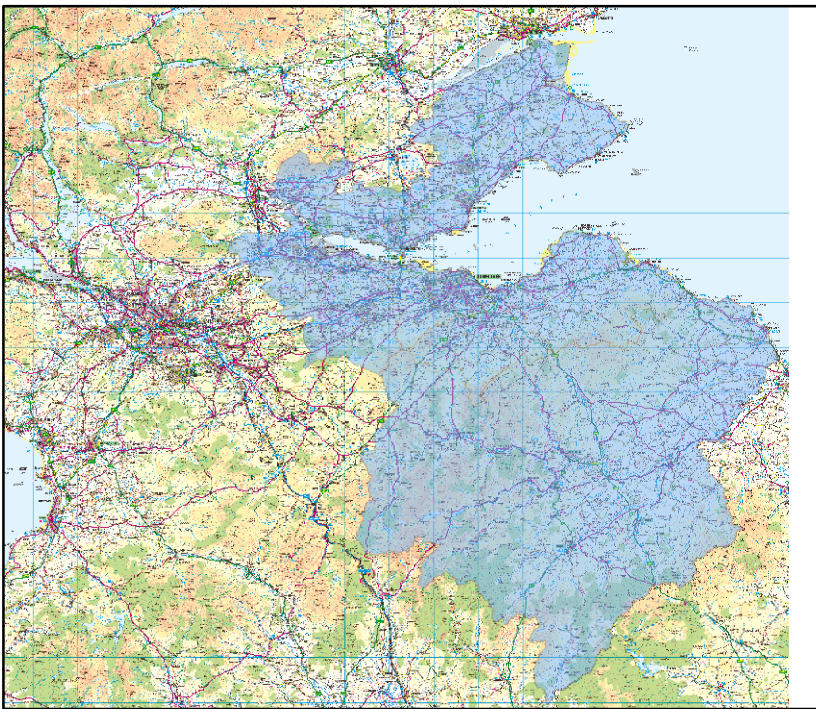
Figure 2
Background Air Quality
Predictions - Nitrogen Dioxide

Scale: 1:1,700,000

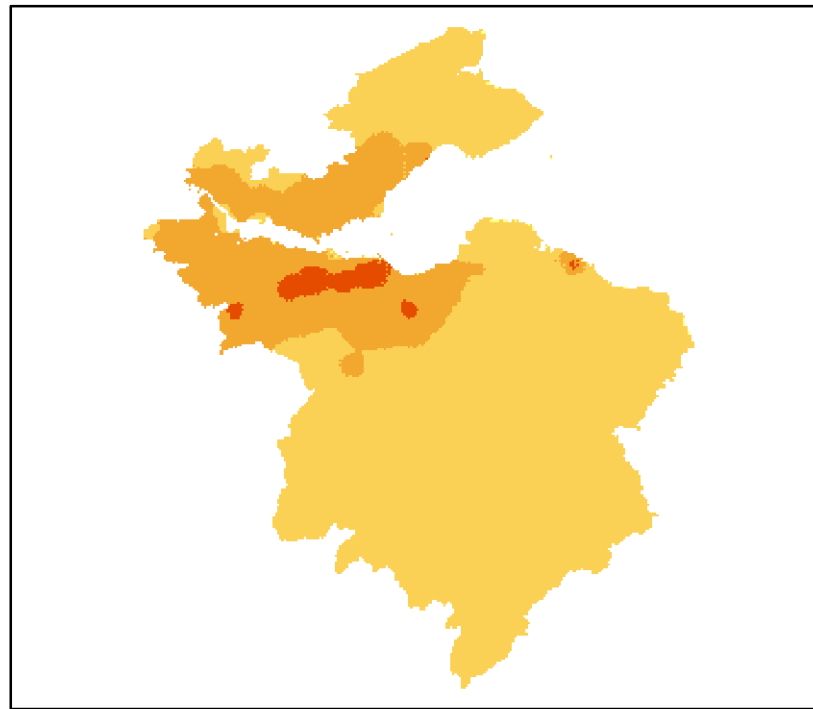
Project: 12150968-001 SESTRAN



Date: 21.03.06
Revision: -
Drawn by: JS

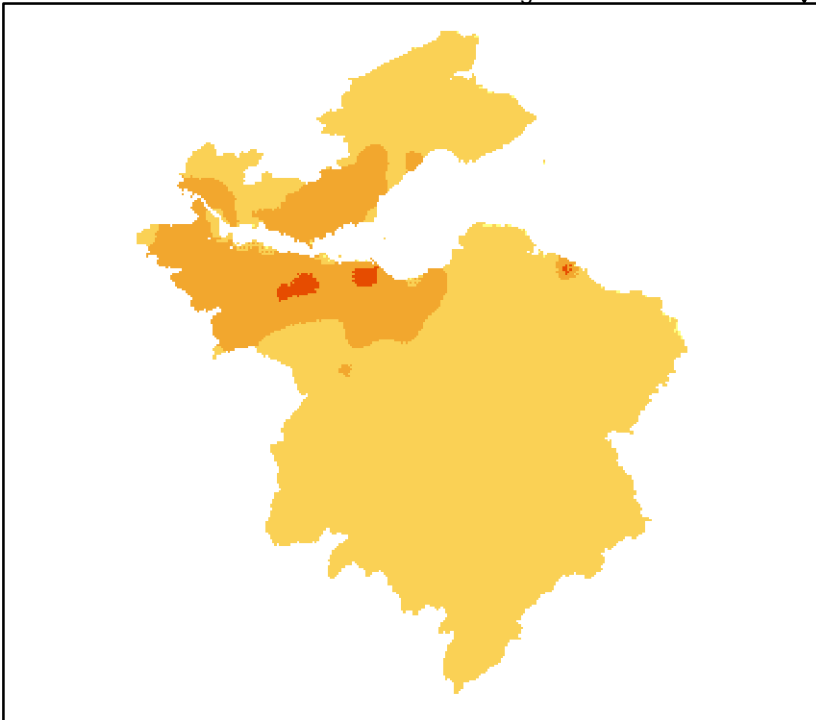


▲ Overview of SESTRAN Area

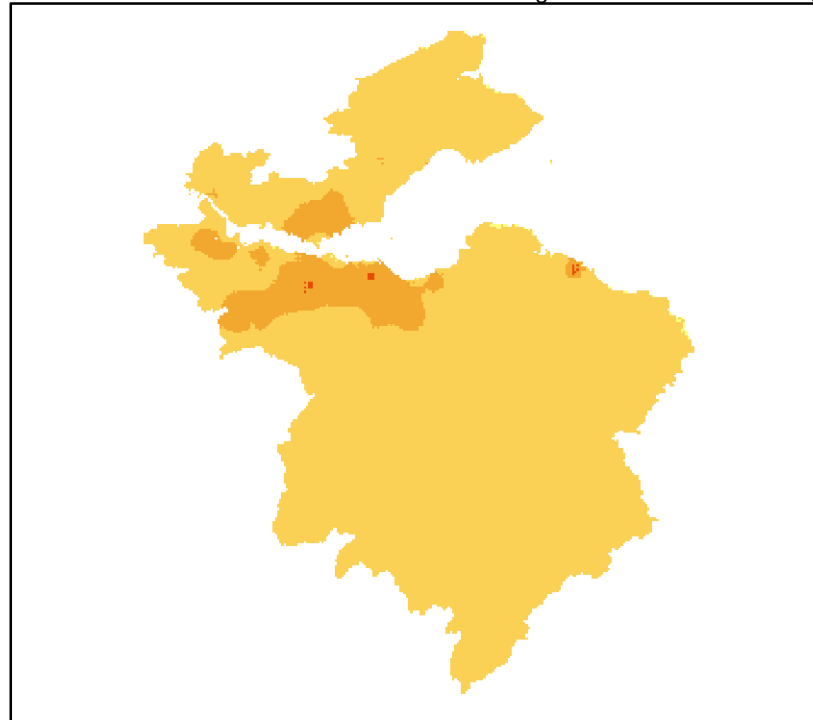


▲ PM10 Background Estimate - 2001

PM10 Background Prediction - 2004 ▼



PM10 Background Prediction - 2010 ▼



PM10 Concentrations

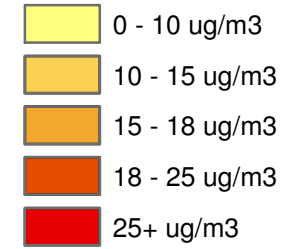


Figure 3
Background Air Quality
Predictions - PM10

Scale: 1:1,700,000

Project: 12150968-001 SESTRAN



Date: 21.03.06
Revision: -
Drawn by: JS

Associated with Table 2.2 there are a number of council specific notes, these are:

- The City of Edinburgh Council notes in the report that a detailed assessment of PM₁₀ is required along with additional traffic related NO₂ work.
- Fife Council - Mobile monitor identified some exceedences in NO₂ however these did not exceed the AQS objective of 18 times a year. This is however adjacent to the north side of the Kincardine Bridge and since this report this section of road has been by-passed. Mobile monitoring is also reported to only have been undertaken for short term studies.
- Falkirk Council – PDT numbers based on Table 3, Section 2.1.1 of LAQM Progress Report (BMT Cordah, April 2005). Particulate monitoring stations based on information in Section 2.3.1 of LAQM Progress Report.

A review of the relevant local authorities' most recent updating and screening air quality reports has identified that in most locations, monitored levels of air pollutants are declining or steady. Nevertheless, most of the authorities have identified locations, primarily adjacent to heavily trafficked roads where there may be air quality issues and/or where further monitoring is being undertaken. This highlights the link between road traffic and poor air quality, particularly where traffic is slow moving causing congestion, for example at heavily used road junctions in urban areas and town centres.

Within the SEStran area there are two air quality management areas (AQMA) which have been designated by the local authorities. These include:

- Central Edinburgh designated for NO₂. This encompasses the central area of Edinburgh (Queen Street to Princes Street) and corridors away from the centre along Leith Walk, North Bridge, Roseburn and Gorgie also taking in an area around Haymarket.
- Grangemouth petrochemical complex designated for SO₂.
- A second site within Edinburgh is in the process of being considered as an AQMA, it is likely that the boundary will be from the Drumbrae roundabout to the part of St Johns Road where it meets with Station Road.

Other significant pollutant sources, in addition to road traffic, present within the SEStran area which may contribute to local and regional air quality include:

- Longannet Power Station (Fife);
- Cockenzie Power Station (East Lothian);
- Mossmorran Petrochemical Complex (Fife);
- Grangemouth Oil Refinery and Petrochemical Complex (Falkirk);
- Shipping using key ports (e.g. Leith Docks and Grangemouth) (City of Edinburgh and Falkirk);
- Railway Locomotives (all SESTRAN local authorities);
- Aircraft (Edinburgh Airport, RAF Leuchars and several smaller airfields, such as Fife and East Fortune);
- Construction works (all SESTRAN local authorities); and
- A number of active quarries across the area.

Noise

No widespread monitoring of noise is undertaken within the SEStran area. Noise monitoring is generally undertaken as a result of assessments for specific sites or projects or complaints. No meaningful noise data relevant to the RTS are available for the SEStran area.

2.3 PROBLEMS AND OPPORTUNITIES

Background concentrations of NO₂ and PM₁₀ are generally predicted to decrease over the period up until 2010. However, the predictions for 2010 still identify that there will be higher background concentrations within the main urban areas.

The predictions of background levels of NO₂ and PM₁₀ discussed in the baseline section above identify an improvement in predicted background levels of these parameters across the SEStran area between the 2001 estimate and 2010.

Trends in traffic flow may have an influence on the levels of associated air pollutants throughout the SEStran area. In the absence of area wide trend data on air quality trends in traffic data may be used as a proxy given road traffic's role as a primary source of local air pollution. Data on traffic flows on key roads within the area were obtained from the Scottish Executive and have been summarised in Table 2.3.

Table 2.3: Traffic Flow Figures for SESTRAN Trunk Roads

Location	2000	2001	2002	2003	2004	2005	% Increase (over data held)
A1 Macmerry	-	-	-	23,014*	23,332	23,712	3.0
A720 West of Jnc with A701	52,854	55,277	58,254	57,600	62,064	61,586	16.5
A68 Pathhead	8,587	8,483	9,217	7,791	9,663	9,159	6.7
A7 Netherbarns	-	7,068*	7,568	9,023	9,176	9,124	29.1
A702 Fulford	-	-	-	-	10,384*	9,900	N/A
M876 at Railway Bridge	-	-	-	26,236*	26,211	24,961	-4.9
M90 Kelty	26,275	26,399	27,607	20,338	17,568	28,410	8.1
A92 East Dock Street	-	26,484*	25,482	27,570	28,569	27,256	2.9
A985 High Valleyfield	11,309	11,435	11,851*	12,026	12,222	10,525	-6.9
A90 Powrie – North of Duntrune Road	22,446	22,688	22,631	23,561	24,840	25,199	12.3

Sources: Traffic flow monitoring data provided by Scottish Executive

Note: Figures provided are as average annual 7 day average flows

* Data not available for all months of the year

The data within Table 2.3 demonstrate a general increase in traffic flows over the monitoring period. Some monitoring locations record a decrease over the period although these generally demonstrate an increase or level growth over the years preceding 2005. It should be borne in mind that other factors will play a role in the traffic emissions such as engine technology etc.

Poor air quality and elevated noise levels have implications on the health of the population as well as the built and natural environment. Poor air quality may also be a factor in the perception of an area, particularly in areas with visible industrial activity, for example at Grangemouth.

Opportunities exist to reduce air pollution and noise levels associated with transport, notably road traffic, through a variety of measures including:

- Reduction in the number and length of private vehicle journeys;
- Improvements in vehicle design (such as pollution reduction technology);
- Transport infrastructure design, such as 'quiet' road surfaces and screening; and
- Improved road network and traffic management (resulting in the avoidance of queues or 'bottlenecks' in town centres).

2.4 EVOLUTION OF BASELINE WITHOUT RTS IMPLEMENTATION

Whilst there are no area wide data available for long-term trends in air quality and noise levels, the air quality and noise environment is affected by a range of factors, a key one of which is road traffic. Road traffic levels on key roads throughout the area have been increasing over recent years although the use of traffic flows as a proxy do not take account of other measures such as vehicle design and 'quiet' road surfaces which may act to reduce the per vehicle air quality and/or noise emissions. Communities situated within 200 to 300m of either side of motorways, trunk roads and more heavily trafficked roads may be subject to elevated noise levels and local air pollutant concentrations.

The RTS has the opportunity to influence the air quality and noise baseline of the area through its influence on transport. Where the RTS can reduce traffic flows and promote sustainable transport and modal shift for example, it has the potential to reduce air pollution and the noise environment in comparison to the evolution without the strategy.

3 Soil and Geology

3.1 INTRODUCTION

The geology and soils of the SEStran area play an important role in shaping the landscape and supporting different types of agriculture and have played an influential role in the industrial evolution and settlement pattern of the area. The quality of the soils across the SESTRAN area vary widely from the prime agricultural land of the areas surrounding the Forth Estuary to the poorer quality soils of the uplands such as the Ochil Hills and Southern Uplands.

3.2 CURRENT BASELINE

The baseline can be considered in terms of the physical geology of the area, the nature and quality of soil and the presence of geological designations.

Geology

The geology of the SEStran area has been predominantly formed by glacial activity and covers a number of key areas from the hill ranges in the northern and southern parts of the area, the lowlands through the central part of the area around the Forth Valley and the lowland coastal areas along the North Sea coast. A summary of the key geology of the area is presented within Table 3.1.

Table 3.1: Bedrock Geology Summary

Key Geology Type	SEStran Area Coverage
Igneous / Volcanic Rocks	Igneous rocks of volcanic origin form the Ochil Hill range which runs along the northern part of the SEStran area from Menstrie and Alva in the north-west of Clackmannanshire to Tayport in the north-east of Fife.
Carboniferous Sedimentary Rocks	Underlying the majority of the central Belt of Scotland are Carboniferous Sedimentary Rocks, including coal and limestone seams which have been historically mined in places. This area of geology stretches from Denny and Fauldhouse in the west of Falkirk and West Lothian to St.Andrews in the east of Fife and Dunbar in East Lothian.
Igneous / Volcanic Rock Pockets	Throughout the central belt of Scotland, there are a number of localised areas of volcanic rock including areas throughout Fife, West Lothian, Edinburgh and East Lothian and incorporating the Pentland Hills and prominent features such as Arthur's Seat in Edinburgh and The Law in North Berwick.
Sedimentary Rocks (Silurian and Ordovician)	A large area of the Scottish Borders and parts of East Lothian are underlain by sedimentary rocks of the Silurian and Ordovician period. The area underlain by these strata include a number of upland areas such as the Lammermuirs, Cheviots and Southern Uplands.
Carboniferous Sedimentary Rocks	Carboniferous sedimentary rocks are also present along the coastal part of East Lothian and the Scottish Borders and along part of the border with Northumberland.

Drift deposits across the SEStran area vary widely based on a number of factors including the nature of the underlying bedrock, topography and surface features such as watercourses.

In general, much of the SEStran area is covered by glacial till (generally formed by clays) with areas of glacial sand and gravels and alluvium present in the vicinity of watercourses and coastal areas. Throughout the area there are areas of peat, typically in upland and plateau areas.

Soil

The nature and quality of soil within the SEStran area is governed to a degree by the nature of the bedrock and drift deposits, by historical and current vegetation cover, by existing land use and by factors such as industrial activity and physical influence from engineering and development.

The soils of SEStran area have a varied quality with regard to agricultural capability with better quality soils capable of supporting a wider range of arable crops including areas of prime agricultural land located predominantly along the Forth Valley, throughout central and eastern Fife (progressing east from Glenrothes) and along the southern part of the Scottish Borders from Kelso and Duns through to Eyemouth on the east coast. The poorest quality soils within the area with regard to agricultural capability are generally those associated with upland areas such as the Ochils, Pentlands and the uplands of the Scottish Borders where land is only capable of supporting rough grazing. It is noted in the 'West Lothian Soil Sustainability Report' (West Lothian Council and SNH, 2004) that the majority of soils found in West Lothian are formed by glacial till parent material with imperfect to poor drainage conditions. Similar soils occur throughout the remainder of the SEStran area, with the land able to support a smaller range of crops and improved grassland than on prime agricultural land.

The historical and current industrial activity within the SEStran area has resulted in the potential for contaminated soils in some locations. The eight local authorities are currently investigating the status of potentially contaminated sites as part of their Contaminated Land Inspection Strategies.

Designated Sites

There are a number of sites of geological importance within the area, these being both designated and non-designated. A summary is provided in Table 3.2 below.

Table 3.2: Designated Geological Sites

Site Type	Number	Total Area (hectares)
Geological Sites of Scientific Interest (SSSIs)	41	c. 340ha
Mixed SSSIs (biological and geological)	150	c. 6,600ha
Geological Conservation Review Sites (GCR)	8	1,700ha
Regionally Important Geological Sites (RIGS)	34	Not available

Sources: SSSIs and GCR sites (SNH digital data as of January 2006) and RIGS (UKRIGS Geoconservation Association)

Geomorphology

The SEStran area is characterised by a range of geomorphological features which have influenced *inter alia* settlement pattern, agricultural and industrial activity and transport systems. Dominated by upland hill ranges such as the Pentlands and Ochils as discussed above, other geomorphological features include drumlins, kames, eskers and moraines, in addition to fluvial landforms such as floodplains and river and estuarine systems. As discussed, geological and geomorphological processes and landforms have influenced the topography of the SEStran area with resultant implications for the evolution of human settlements and transport systems. However, such features have also been influenced and changed by human activity, often by large scale engineering projects and industry, such as railway lines, motorways and settlement expansion. Further discussion on the problems associated with development impacts on the landform and landscape are discussed in Section 6: Landscape and Townscape.

3.3 PROBLEMS AND OPPORTUNITIES

The various SEStran LBAPs indicate that the conservation of soils is important, as is the conservation of plants, animals and habitats that soils support. As urbanisation increases, more attention is needed to sustain and conserve soils, particularly in areas experiencing development pressure such as on the outskirts of existing settlements.

The Scottish Executive Environmental Research Report 'Scotland's Soil Resource - Current State and Threats' (2006), identifies a number of pressures and threats to the integrity, extent and quality of soils, including the SEStran area. These pressures and threats include:

- Climate change and increased rainfall;
- Intensive cultivation and loss of organic matter;
- Loss of biodiversity;
- Structural degradation and compaction, such as through new developments and infrastructure;
- Soil contamination;
- Poor soil handling and management leading to soil erosion; and
- Poor restoration techniques.

Modifications that will occur to soils through climate change are not well understood, due partly to the unknown level of temperature rise and associated alterations in precipitation. However, it is known that soil organic matter will decompose more readily with a rise in temperature, leading to a decrease in organic matter levels in soils. This will affect water-holding capacity, soil structure, nutrient storage and resistance to erosion. Higher temperatures will also increase the leaching potential of nitrates within the soil, therefore increased rainfall would increase the loss of soil nitrogen to drainage water. Warmer, drier conditions would increase the loss of nitrogen from the soil through ammonia gas.

New developments and infrastructure may impact on soil through soil loss or impacts such as compaction, erosion, contamination and alteration in soil biodiversity, both for soil invertebrates and microbial communities. Built development does not equate with total soil loss, as soil is usually stripped prior to construction and then some will be reused elsewhere in verges, amenity ground or as part of remediation processes. However, soils which are reused in this way cannot be compared to soil in its original state as it is likely to have become disturbed and the original horizons mixed to some degree.

Construction best practice and the design process provide opportunities to protect the high quality soil resource (including prime agricultural land) and poorer quality soils which can also be important for habitat and nature conservation. Across the SEStran area, there are pressures on land for housing and industry which makes it necessary to consider the conservation, sustainable management and after use of soils.

Opportunities exist through construction practice and design to minimise the impact on soil resources such as extraction and removal and through compaction and contamination.

3.4 EVOLUTION OF BASELINE WITHOUT RTS IMPLEMENTATION

There is unlikely to be any significant evolution of the soil and geological environment notwithstanding long term geological evolution processes. However, the resource may be locally impacted primarily as a result of new developments which may include schemes within the RTS. Strategic and project level mitigation would minimise the impact of the implementation of the RTS and its schemes on the geological and soil resource.

4 Aquatic Environment

4.1 INTRODUCTION

The aquatic environment of the SEStran area comprises a network of running water in rivers, burns, the Firths of Forth and Tay, and standing waters such as ponds, reservoirs, canals and bogs/marshes. The aquatic environment plays an important role both in its own right and through its contribution to biodiversity, landscape, cultural heritage and the community as well as providing transport infrastructure.

4.2 CURRENT BASELINE

Watercourses and Waterbodies

The SEStran area lies predominantly within watercourse catchments that drain eastwards into the Firths of Tay and Forth and directly into the North Sea. Parts of the south-west of the Scottish Borders lie within catchments that flow to the west to the Solway Firth. There is an extensive network of watercourses within the SEStran area from upland drains and burns through to the key lowland watercourses which drain the area.

The key watercourses within the SEStran area are identified in Table 4.1.

Table 4.1: Key Watercourses

River Name	Broad Catchment Area	Location of River Mouth
River Tay / Tay Estuary	Runs along the northern boundary of Fife draining areas of Fife and Perth and Kinross (to the north of the SESTRAN area).	Dundee / Tayport
River Eden	Northern Fife	Guardbridge (north of St. Andrews)
River Forth / Forth Estuary	Parts of Stirlingshire (to the north-west of the SEStran area) and then flows through the SEStran area to the North Sea taking in the catchments of tributaries such as the Rivers Carron (Falkirk), Avon (West Lothian), Almond (West Lothian & City of Edinburgh) and Devon (Clackmannanshire) and covering a large part of the SEStran area.	East of Fife/East Lothian
River Tyne	East Lothian	Dunbar
River Tweed	Scottish Borders	Berwick-upon-Tweed
Liddel Water	Southern part of Scottish Borders	Gretna (Solway Firth)

There are a number of lochs and reservoirs within the SEStran area, predominantly located in rural and upland areas. These include larger commercial reservoirs, natural lochs and local standing water features. Key areas with notable reservoirs and lochs include:

- Upland areas south of Peebles
 - Lammermuir Hills
 - Moorfoot Hills
 - Pentland Hills
 - Ochil Hills
 - Central Fife
-

Groundwater

Groundwater is an important resource throughout the SEStran area both in terms of the hydrological cycle and as a source of raw water for public supply.

SEPA have produced a series of new aquifer and vulnerability classifications for Water Framework Directive characterisation. These maps (derived by the British Geological Society in consultation with SEPA) have been produced for both the superficial and bedrock deposits. The Superficial Aquifer Map (SEPA, 2004) indicates that superficial aquifers exhibiting intergranular flow and high productivity are found throughout the SEStran area. Aquifers of medium productivity can be found in coastal locations particularly in the northern Forth coast of Edinburgh and East Lothian and parts of North East Fife, while aquifers of low productivity are located in parts of central Fife, Midlothian, Borders and East Lothian.

The Bedrock Aquifer Map (SEPA, 2004) shows that intergranular fracture flow with moderate productivity is present throughout the SEStran area, with fracture flow (low productivity) dominating the Scottish Borders. Throughout the SEStran area there are scattered aquifers of low/very low productivity with a band of very high productivity sweeping through Fife.

Water Quality

Water quality is monitored by the Scottish Environment Protection Agency (SEPA) and the latest water quality data is displayed on their interactive water quality map (2004). This identifies a range of water quality classifications within the SEStran area. Table 4.2 presents a summary of the monitored water quality within the area.

Table 4.2: Water Quality (Watercourses)

Council	Water Quality within Council Area
City of Edinburgh	Water quality generally ranges from Class A2 to B. Some stretches upstream of Edinburgh in the Pentlands range from Class A1 to A2.
Clackmannanshire	Watercourses within Clackmannanshire are generally Classes A2 to B with some upper stretches in the Ochil Hills classified as Class A1.
East Lothian	Watercourses in the northern part of East Lothian are generally Classes B and C with the watercourses in the southern part generally better quality with Classes of A1 and A2.
Falkirk	Watercourses in Fife are generally classified as Class A2 to B with the poorer water quality generally associated with developed areas such as within Falkirk.
Fife	There is a variety in the classification of watercourses within Fife generally ranging from Class A2 to C. There are some locations with better quality (Class A1) as well as poorer quality stretches (Class D).
Midlothian	Watercourses in Midlothian are generally classified as Classes A1 to C with the better quality watercourses generally located in upland, more rural locations such as in the south and east of the area.
Scottish Borders	Watercourses within the Scottish Borders are generally Classes A1 and A2 with some stretches Class B and C (such as near Hawick, Melrose and around Coldstream).
West Lothian	Watercourses within West Lothian generally range from Classes A2 to C with locations of better quality (A1 and A2) located in the upland areas of the Pentlands and between Bathgate and Linlithgow and some poorer quality watercourses (Class D) located around Whitburn.

Note: The classification used within this table is that used by SEPA, this being Class A1 (Excellent), Class A2 (Good), Class B (Fair), Class C (Poor) and Class D (Seriously Polluted)

Sources: SEPA's interactive water quality map, 2004 data (data obtained April 2006)

The interactive water quality map also provides information on estuarine and coastal water quality, a summary of which is provided in Table 4.3, presented by geographical area.

Table 4.3: Water Quality (Estuarine and Coastal)

Area	Water Quality
Fife Coast: Newport-on-Tay to Pittenweem	This section of coast is classified as Class A (Excellent).
Forth Estuary (North Side): Pittenweem to North Queensferry	This section of the Forth Estuary is generally classified as Class B (Good) although some sections are Class C (Unsatisfactory) around Methil and Kirkcaldy and some Class A (Excellent) at Aberdour and Burntisland.
Forth Estuary (South Side): South Queensferry to Aberlady	This section along the southern side of the Forth Estuary is predominantly classified as Class B (Good) with a short section at Granton which is Class D (Seriously Polluted).
East Lothian/Scottish Borders Coast: Aberlady Bay to Eyemouth	This section is predominantly classified as Class A (Excellent) with the exception of a few sections at North Berwick and Dunbar which are Class B (Good).

Sources: SEPA's interactive water quality map, 2004 data (data obtained April 2006)

Water Framework Directive

The Water Framework Directive (WFD) is European Legislation which became law in Scotland in 2003 through the Water Environment and Water Services (Scotland) Act 2003. The Directive established a legal framework for the protection, improvement and sustainable use of surface waters, transitional waters, coastal waters and groundwaters.

SEPA maintains a classification of watercourses and waterbodies based on their target ecological status. Watercourses within the SESTRAN area are classified according to risk, as below:

- Class 1a: At Risk
- Class 1b: At Risk (Probably)
- Class 2a: Not at Risk (Probably)
- Class 2b: Not at Risk

Flooding

There are flooding issues across the SEStran area associated with fluvial, coastal and urban flooding. SEPA is in the process of finalising its plans of areas potentially at risk of flooding.

Throughout the SEStran area there are generic locations which are prone to flooding, categorised as below:

- **Flood plains.** These are the natural fluvial flood inundation areas for rivers and burns. Flooding can occur when development encroaches on these flood plains with the direct impact of flooding on the development and the indirect effects of the development up and downstream.
- **Urban areas.** Poorly maintained urban drainage (such as culverts and drains) and insufficient drainage capacity has the potential to result in flooding. This can be caused both by a reduction in capacity from blockage, increased loading from new development on the drainage system as well as natural changes in rainfall pattern resulting in more heavy rainfall periods.

4.3 PROBLEMS AND OPPORTUNITIES

There are a series of potential issues affecting the aquatic environment, including:

- **Pollution / Run-off.** Diffuse and point sources of pollution are an important issue with regard to water quality. Sources include agricultural land uses as well as point sources such as urban drainage, industry and road drainage.
- **Physical Form.** There are problems associated with the physical form of watercourses including impacts such as culverting and hard engineered channels. These have an impact on the hydrological regime as well as the physical and biological properties of the watercourses. Such impacts on the hydrological regime can

lead to changes in the flood capability of watercourses and therefore affect the flood risk along the watercourse.

SEPA's Water Quality Classification Report for 2004 identifies that, across Scotland as a whole, the results for 2004 demonstrate continuing substantial quality improvements in rivers and coastal waters. It also notes some expected short-term downgrading of local coastal waters due to particular weather conditions, including prolonged rainfall.

However there are opportunities for new developments to enhance the aquatic environment. Associated with all new developments, including transport infrastructure, there is an opportunity for the design and construction/maintenance of such projects to enhance the aquatic environment. Measures such as sustainable urban drainage systems (SUDS) and bridging as opposed to culverting may improve the aquatic environment. Further discussion of problems and opportunities facing the habitat aspect of the aquatic environment is presented in Section 7: Biodiversity.

4.4 EVOLUTION OF BASELINE WITHOUT RTS IMPLEMENTATION

The trends identified by SEPA can be expected to continue with potential localised impacts on water quality and hydrological flows associated with new developments and industrial activity. Measures being promoted through legislation and best practice, such as the Controlled Activity Regulations (CAR) and SUDS, are likely to contribute to improving water quality and flows throughout the area.

Measures in the RTS are only likely to have impacts on the local hydrological environment along with any associated impacts either up or downstream of the schemes. The RTS therefore has the potential to affect the evolution of the hydrological baseline through direct and indirect local effects.

5 Climate Change

5.1 INTRODUCTION

Climate change is a cross-cutting issue for the environment which affects, and is affected by, a range of different environmental features and assets throughout the SEStran area and beyond. The causes of climate change are thought to arise from the release of greenhouse gases, principally carbon dioxide, largely from anthropogenic activities involving the combustion of fossil fuels, but also from changes in land management practices and agriculture.

5.2 CURRENT BASELINE

The SEStran area is generally located in the Central Belt of Scotland. The current climate of the Central Belt is noted within average annual climate maps produced by the Meteorological Office to have the following characteristics:

- Rainfall: predominantly within an area of lower to average rainfall compared to the Scottish average.
- Temperature: Average annual temperature within the SEStran area varies with warmer temperatures experienced in the lowland areas such as through the Forth Valley and along the eastern coast and cooler temperatures associated with inland upland areas such as those across much of the Scottish Borders

The UK Climate Impacts Programme (UKCIP, <http://www.ukcip.org.uk>) produce climate change predictions for a range of parameters under a series of emissions scenarios. Table 5.1 below is based on the climate change prediction maps produced by UKCIP for temperature, precipitation and wind speed parameters.

Table 5.1: Climate Change Predictions in Central Scotland

Variable	Forecast Period	Low Emissions Scenario	Medium Low Emissions Scenario	High Emissions Scenario	
Annual Mean Temp Change (Increase)	2020s	0.5 to 1.0°C	0.5 to 1.0°C	0.5 to 1.0°C	
	2050s	1.0 to 1.5°C	1.0 to 1.5°C	1.5 to 2.0°C	
	2080s	1.5 to 2.0°C	1.5 to 2.5°C	3.0 to 3.5°C	
Percentage change in winter precipitation (increase)	2020s	Change within natural variability with 0 to 10% increase in places	Change within natural variability with 0 to 10% increase in places	Change within natural variability with 0 to 10% increase in places	
	2050s	0 to 15%	0 to 15%	0 to 25%	
	2080s	10 to 20 %	10 to 25%	20 to 30%	
Percentage change in summer precipitation (decrease)	2020s	0 to 10	0 to 20	10 to 20	
	2050s	10 to 20	10 to 30	20 to 30	
	2080s	20 to 30	20 to 30	40 to 50	
Changes in wind speeds	2020s	Change within natural variability	Change generally within natural variability with slight decrease of 0 to 3% in the summer		
	2050s	Change generally within natural variability with slight decrease of 0 to 3% in the summer and autumn			
	2080s	Change generally within natural variability 0 to 3% decrease in the summer and autumn	Change generally within natural variability with slight decrease of 0 to 3% in the autumn	Change within natural variability with a 3 to 6% increase in winter and spring	

Source: UKCIP (accessed May 2006). All data are subject to confidence levels used by UKCIP in the forecasting process.

The changes predicted for wind speed and temperature in the eastern part of central Scotland are generally similar to those predicted across Scotland. The east central Scotland area is however predicted to experience a higher variation in precipitation in future years than Scotland as a whole.

5.3 PROBLEMS AND OPPORTUNITIES

The effects of climate change, like the causes, are not fully understood. However, it seems likely that in future years weather patterns will change with warmer winters, cooler summers and increased frequency and severity of storms. There is also the possibility of sea level rise which may affect the SEStran area's coastline and low-lying inland areas. Whilst the causes of climate change, and the relative contributions to it from areas like the SEStran area vary

enormously, the effects of changing weather are a global phenomenon which do not recognise regional or administrative boundaries.

Emissions from transport are a significant contributor to greenhouse gas emissions and, as identified in the Air Quality and Noise section, road traffic levels on key routes are generally increasing in the SEStran area. Other factors may however act to mitigate increases in transport usage such as cleaner combustion technologies and alternative fuels.

Table 5.2 below identifies the range of synergies which link the causes and effects of climate change with the baseline environment in the SEStran area.

Table 5.2: Climate Change Impacts

Topic	Climate Change Synergy
Land Use	<ul style="list-style-type: none"> • Changes in land management and agricultural practices can give rise to release of stored carbon in soils and vegetation. This may be an issue with new developments and associated transport infrastructure. • The potential for increased flooding from changes in precipitation may be exacerbated by new developments which incorporate areas of impermeable hardstanding (eg car parks, roads, roofs) • Other material assets such as electricity supply infrastructure may require strengthening against increased severity of storms
Ecology	<ul style="list-style-type: none"> • Key semi-natural and natural habitats such as peat bogs, heaths and woodlands perform an important carbon sink role and these habitats are well represented in the SEStran area. Any development and related transport infrastructure has the potential to impact on the integrity and ecosystems of these habitats. • Important habitats and species may be affected by changing climatic conditions, for example changes in the condition and extent of upland habitats such as heaths and heather moorland
Aquatic Environment	<ul style="list-style-type: none"> • Rainfall supply may be affected by changes in meteorological patterns with wetter winters and drier summers • Flooding frequency is likely to increase with rainfall and protection of natural floodplains being important factors, together with maintenance of urban drainage systems. Transport infrastructure can impact on the hydrological cycle. • Increased rainfall may promote greater erosion, scour, and turbulence in watercourses with attendant effects on water quality and fisheries
Geology and soils	<ul style="list-style-type: none"> • Peat resources, particularly bogs, form important carbon storage reserves • Soils in Scotland are carbon rich and changes in forestry and agricultural practices can lead to increased emissions of carbon • Increased rainfall may exacerbate soil erosion, waterlogging of soil, and possible loss of agricultural productivity
Waste	<ul style="list-style-type: none"> • Methane emissions from existing and closed landfills have significant global warming potential and require management (29% of methane emissions in Scotland are from waste facilities)
Energy	<ul style="list-style-type: none"> • Renewable energy sources offer an opportunity to replace fossil fuel based power supplies with low carbon technologies
Air Quality	<ul style="list-style-type: none"> • Carbon dioxide (CO₂) is emitted from existing sources such as road transport and energy use
Communities	<ul style="list-style-type: none"> • Increased maintenance burden for recreational and community facilities due to damage caused by increased flooding and increased storm severity

5.4 EVOLUTION OF BASELINE WITHOUT RTS IMPLEMENTATION

Climate change is likely to evolve in a similar manner without the RTS implementation. There is the potential however for regional influences on climate change to be supported and influenced by the RTS implementation through, for example, the promotion of sustainable transport, reductions in private car use and related emissions generation.

Whilst recognising regional contributions and impacts, climate change is being addressed at a national and global level. The introduction of measures to reduce greenhouse gas emissions and therefore address global climate change may reduce the rate and level of climate change.

6 Landscape and Townscape

6.1 INTRODUCTION

The SEStran area has a broad and mixed landscape ranging from the coastal landscape along east Fife and the Scottish Borders through the urban settlements of the Forth Valley to the uplands and moorland of the Ochils, Pentlands and much of the Scottish Borders. A number of areas within the SEStran area have been identified as having a national and local landscape value with a range of designations. Many of the urban centres of the SEStran area have important townscape and historical value with a number of these protected within conservation areas.

6.2 CURRENT BASELINE

Landscape Character

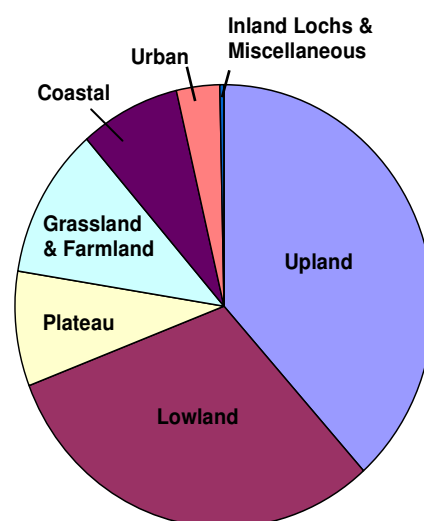
SNH has prepared a number of Landscape Character Assessments across the SEStran area, including 74 different landscape characters. These characters have been grouped for this report into eight broad categories and are presented in Graph 6.1 and summarised in Table 6.1 below.

Table 6.1 and Graph 6.1: Landscape Character Areas

Landscape Character	Area (ha)	% of SEStran Area
Upland Landscapes	316,796	38.4
Plateau Landscapes	68,388	8.3
Grassland and Farmland Landscapes	93,147	11.3
Lowland Landscapes	252,991	30.7
Coastal Landscapes	62,553	7.6
Urban Landscapes	26,873	3.3
Inland Lochs and Islands	2,745	0.3
Miscellaneous ⁺	594	0.1

+ Miscellaneous Includes character areas with minimal surface area, predominantly associated with the perimeter of the SESTRAN area and adjoining character areas.

Source: SNH Landscape Character Assessment GIS Data, March 2006



The landscape of the SEStran area has been shaped both by geological and industrial activity. The landscape is influenced by its coastal and estuarine location along the North Sea coast, including the Firths of Tay and Forth. Inland, these landscapes are bordered by a number of hill ranges such as the Ochils in the north and the Pentlands, Moorfoot and Lammermuir Hills in the central part, with the Southern Uplands and Cheviot Hills in the south. Throughout the area river valleys provide a dominant local landscape through narrow valleys such as parts of the River Almond and the flatter valleys of the River Eden.

Historical industrial activity has helped shape these landscapes. In particular, the industrial activity through the Forth Valley, notably mining related, has played a key role through the creation of settlements, transport infrastructure residual spoil heaps / bings which are particularly prominent within West Lothian. The area has a mixture of historic settlements, settlements associated with industrial expansion during the 19th Century and new towns of the post-war period. Each of these types of settlement has a different townscape, with conservation areas designated within some

villages and towns (see Section 8: Cultural Heritage for more detail on Conservation Areas). Throughout the SEStran area there are other areas of townscape which, although not designated as conservation areas, provide a historical, industrial and/or architectural value.

Farming throughout the area has also played a role in shaping the landscape both within lowland arable farming and upland pastoral farming. In more recent times the landscape has been increasingly influenced by urban development both within existing conurbations and within more rural settings such as the new towns of Glenrothes and Livingston.

Designated Sites

Areas of Great Landscape Value (AGLVs) are designated because of their special local landscape character and significance and require special protection against inappropriate forms of development. The concept of AGLV was introduced by SDD Circular 2/1962 requiring local authorities to define the boundaries of AGLV and to ensure careful control over development proposals to safeguard these areas. As there were data gaps in the AGLV baseline information provided by the various Councils in the SEStran area, no list of AGLVs is provided.

Areas of Special Landscape Control are areas which do not merit designation as AGLV but which are landscapes of character and local importance. Due to data availability across the SEStran area, lists of landscape designations have not been included in this baseline section.

Within the SEStran area there are a variety of designations around urban areas, such as green belts and countryside belts, which aim to protect the urban fringe areas from development.

At a local level, residential properties in urban areas, smaller communities and isolated properties potentially form visual receptors. In addition there is a network of public recreational areas, country parks and walking and cycling routes. These receptors may be sensitive to changes in the local landscape and visual amenity as a result of new development, including transport infrastructure.

6.3 PROBLEMS AND OPPORTUNITIES

There is the potential for inappropriate or insensitive development to impact on the landscape and townscape, and to result in visual impact on sensitive receptors. New transport infrastructure has the largest potential to impact on the landscape, particularly in areas with a greater sensitivity such as those which have been designated.

The use of the transport network also has the potential to impact on landscape with changes in the usage of networks having a varying impact on landscape.

There is the opportunity for enhancements to the landscape associated with new transport infrastructure and changes in the use of existing infrastructure. Opportunities for partnership with other organisations (such as the Central Scotland Countryside Trust) exist to implement landscape enhancement projects along existing and new transport infrastructure.

Sensitive design of new infrastructure may help to reduce any detrimental impacts on the landscape.

6.4 EVOLUTION OF BASELINE WITHOUT RTS IMPLEMENTATION

The evolution of the landscape of the SEStran area may be affected by a range of factors however new development, particularly those which are inappropriate or insensitive, are likely to have an impact on landscape and townscape throughout the area. Controls on new development design and landscaping and on landscape enhancement, such as urban renewal, may provide opportunities for improving landscape quality.

7 Biodiversity

7.1 INTRODUCTION

There is a variety of biodiversity within the area with a number of European, national and locally designated sites and a diverse mix of habitats and species. The variety of habitats within the area reflects the diverse extent of the area including coastal, estuarine, lowland and upland areas.

7.2 CURRENT BASELINE

The biodiversity baseline of the SEStran area can be considered in terms of two key components:

- Designated sites; and
- Habitats and species.

Designated sites are afforded a level of protection based on the nature of the designation. Habitats and species comprise the biodiversity of the area. Their importance and protection vary, with a number identified as priority habitats and species within Local Biodiversity Action Plans (LBAPs).

Designated Sites

Scottish Natural Heritage (SNH) and the local plans for the eight councils identify a number of designated sites, as outlined in Table 7.1 below. Given the size of the SEStran area and the general scale of the designated sites, these have not been mapped however the boundaries are held for use on the subsequent environmental assessment.

Table 7.1: Ecological Designations

Designation	Number	Area (ha)	% of SESTRAN area
Special Area of Conservation (SAC)	16	12,768	1.6%
Special Protection Area (SPA)	12	5,329	0.7%
Site of Special Scientific Interest (SSSI) (Biological and Mixed Sites only)	188	36,606	4.4%
RAMSAR	8	1,584	0.2%
Marine Conservation Area (MCA)	1	26	<0.1%
National Nature Reserve (NNR)	8	366	<0.1%
Regional Park	3	15,273	1.9%
Local Nature Reserve (LNR)	15	694	<0.1%
Country Park	12	1,637	0.2%
National Scenic Area (NSA)	2	14,100	1.8%
Historic Garden and Designed Landscape (HGDL)	(See Section 8.2 of this Environmental Baseline)		

Data based on digital data from SNH received February 2006 (last updated January 2006)

LBAP Habitats and Species

There is a wide variety of habitats within the SEStran area ranging from coastal habitats to farmland, urban and upland habitats.

Review of local plans for each local authority area has indicated that the following types of habitats have been identified as of importance for the region.

The LBAPs prepared for the eight council areas identify a number of habitats which are presented below:

- Woodland and Scrub
- Grassland and Marsh
- Tall Herb and Fern
- Heathland
- Mires and Peatlands
- Swamp
- Open Water
- Coastland
- Rock and Spoil
- Miscellaneous (cultivated land)

7.3 PROBLEMS AND OPPORTUNITIES

There is a wide range of potential issues and threats affecting the biodiversity of the SEStran area. In general, pressures are related to a loss of biodiversity (particularly habitat), associated with increased development pressures from urbanisation and changing land use practices. Such pressures also affect the quality of the remaining biodiversity resource with degradation of biodiversity both directly and indirectly.

Urbanisation and development of the countryside has resulted in habitat loss throughout the SEStran area. This may continue to increase as development (particularly housing) increases to meet the projected development targets across the area. Key issues and pressures on the biodiversity resource include:

- Changes in land use have occurred such as afforestation resulting in changes to the habitat composition;
- Direct impact of transport infrastructure on habitat loss;
- Habitat fragmentation associated with new developments (such as roads) and through changes in land management practices;
- Species loss / road kill (badgers and roe deer are identified as particular problems); and
- Degradation of biodiversity associated with direct and indirect effects from development, including pollution, over-use of resources and land use change.

General threats affecting biodiversity are presented in Table 7.2 below.

Table 7.2: Specific Threats to Strategic Habitats

Habitat	Potential Issues and Threats
Rivers and Streams	Urbanisation and culverting, drainage, minewater discharges, agricultural run-off and diffuse pollution, silting through adjoining land use activities, bank poaching by livestock and invasive non-native species. These issues may be affected by transport infrastructure and new and existing developments on both brownfield and greenfield sites.
Farmland	Grassland is threatened by ploughing, fertilising, drainage, herbicide application, change of land use and invasion by bracken, scrub and trees, under and over grazing Cultivated land is threatened by urban encroachment and urban fringe pressures, non-targeted cultivations and farm operations, soil erosion Wildlife corridors – spray drift, urban development, service installations, salt spray, culverting, inappropriate

Habitat	Potential Issues and Threats
	management, fragmentation
Woodland	Lack of management and renewal, felling, urban encroachment, under-grazing and recreational pressure, including as a result of transport infrastructure and development.
Lowland Raised Bog	Drainage and reclamation, fires, woodland encroachment, open cast mining and over grazing
Heather moorland	Aforestation, overgrazing, poor muir burn practices, reclamation, heather beetle infestations, wind farms, acidification and nitrogen deposition, climate change and peat degradation
Coastline	Threats from development and disturbance and from river, coastal and marine pollution
Oil Shale Bings	A key threat on bing habitats is from reclamation, pressures also from recreation use of the bings and through restoration using non-native species planting. Insensitive habitat management may also represent a threat

Alongside these potential issues, threats and problems affecting biodiversity, there are a number of opportunities for biodiversity, as below:

- New developments, such as new road sections, have the opportunity to provide for enhancement of biodiversity within their design, such as through the creation of new habitat or contribution to wildlife corridors.
- Ongoing maintenance of transport infrastructure has the opportunity to promote and enhance biodiversity such as through the creation of enhanced roadside verges by sensitive mowing practices.
- Appropriate design and construction of transport infrastructure may also reduce the potential for negative impact on biodiversity associated with transport.

7.4 EVOLUTION OF BASELINE WITHOUT RTS IMPLEMENTATION

No SEStran area cumulative data on biodiversity trends are readily available however actions and schemes within the various local authority LBAPs and with other organisations include increased awareness and management of biodiversity as priorities. Development has a potential to detrimentally affect the evolution of the biodiversity baseline through direct and indirect impacts although also provides opportunities for enhancement. Impacts on the baseline may be greater in areas with higher levels of development such as around settlements and conurbations and brownfield sites.

8 Cultural Heritage

8.1 INTRODUCTION

The SEStran area has a varied cultural heritage resource, from pre-historic remains through to twentieth century industrial heritage. Many of these sites are afforded varying levels of protection through designation of national and local importance.

8.2 CURRENT BASELINE

There is a wide range of cultural heritage designated sites within the SEStran area, as summarised in Table 8.1 below. As with biodiversity, given the size of the SEStran area and the number and scale of cultural heritage designated sites, these have not been mapped for this report although these sites were held for the environmental assessment. Designations range from those of national importance to those with a local value.

Table 8.1: Designated Cultural Heritage Sites

Designation	Number
World Heritage Sites	1 (and 1 proposed)
Listed Buildings ^{Ref 1}	
<i>Category A</i>	3,436
<i>Category B</i>	13,901
<i>Category C</i>	320
<i>Category C(s)</i>	7,705
Total	25,362
Scheduled Ancient Monuments ^{Ref 1}	1,566
Historic Gardens and Designed Landscapes ^{Ref 2}	127 (23,425ha)

Data obtained from (1) Historic Scotland's website – data as at 10 February 2006, (2) provided by Scottish Natural Heritage in February 2006 – data accurate as of January 2006 and (3) provided by Local Authorities

In addition, identified within the local plans, there are approximately 170 designated Conservation Areas within the SEStran area and these are afforded protection by legislation. A full list of Conservation Areas throughout the area is provided in Table 8.2 below, listed by Local Authority.

Table 8.2: Conservation Areas

Council	Conservation Areas
City of Edinburgh	Edinburgh City Centre Local Plan Proposals Map reportedly contains the boundaries of the Conservation Areas – However this map is not available on the Council's website for download alongside the Local Plan document. Balerno, Currie, Dalmeny, Hermiston, Kirkliston, Ratho, and South Queensferry.
Clackmannanshire	Alloa, Clackmannan, Dollar, Kennet, Old Alloa, Pool of Muckhart, and Tillicoultry.
East Lothian	Aberlady, Athelstaneford, Cockenzie and Port Seton, Dirleton, Drem, Dunbar, Belhaven and West Barns, East Linton, East Saltoun, Garvald, Gifford, Glenkinchie, Gullane, Haddington, Innerwick, Musselburgh and Inveresk, New Winton, North Berwick, Oldhamstocks, Ormiston, Pencaitland,

Council	Conservation Areas
	Prestonpans and Harlawhill, Spott, Stenton, Tranent, Tynninghame, and Whitekirk.
Falkirk	Airth Estate/Industrial Village, Allandale Estate/Industrial Village, Arnothill Victorian Suburb, Bo'ness Town Centre, Bo'ness Victorian Suburb, Dunmore Estate/Industrial Village, Falkirk and Grange Victorian Suburb, Falkirk Town Centre, Letham Estate/Industrial Village, and Muirhouses Estate/Industrial Village.
Fife	Aberdour, Anstruther, Auchtermuchty, Balmerino, Brunton, Burntisland, Cadham Village, Glenrothes, Cellardyke, Ceres, Charlestown, Coaltown of Wemyss, Colinsburgh, Collessie, Crail, Culross, Cupar, Dunfermline Town Centre, Dysart, Elie and Earlsferry, Falkland, Hepburn Gardens, Inverkeithing, Kennoway, Kilconquhar, Kilrenny, Kincardine, Kinghorn, Kingsbarns, Kirkcaldy (Central Area), Kirkcaldy (Harbour and Port Brae), Leslie, Letham, Leuchars, Leven, Limekilns, Lower Largo, Markinch, Newburgh, Newport, North Queensferry, Pattiesmuir, Pittenweem, St Andrews, St Monans, Strathmiglo, Upper Largo, and West Wemyss.
Midlothian	Borthwick and Crichton (Outstanding), Broomieknowe (Bonnyrigg), Carrington, Dalkeith (Outstanding), Dewartown, Edgehead, Eskbank and Ironmills, Fala, Fala Dam, Gorebridge, Howgate, Lasswade and Kevock (Bonnyrigg), Mavisbank (Outstanding), Newbattle, Newlandrig, Newtongrange, Pathhead / Ford, Penicuik, Roslin, and Temple / Arniston.
Scottish Borders	Allanton, Ancrum, Ayton, Bowden, Carlops, Clint Mains, Cockburnspath, Coldingham, Coldstream, Darnick, Denholm, Dryburgh, Duns, Eddleston, Eyemouth, Foulden, Galashiels, Gattonside, Gavinton, Greenlaw, Hawick, Innerleithen, Jedburgh, Kelso, Lauder, Melrose, Midlem, Minto, Morebattle, Newcastleton, Newstead, Nisbet, Peebles, Redpath, Selkirk, Skirling, Smailholm, St Abbs, St Boswells, West Linton, and Yetholm.
West Lothian	Bangour Village Hospital, Broxburn, Kirknewton, Linlithgow Palace and High Street, Upper Linlithgow and Union Canal, Livingston Village, Mid Calder, Torphichen, and Uphall.

Given the history of the SEStran area, there are a large number of non-designated sites registered on sites and monument records and in addition other sites and areas of archaeological interest which have not yet been recognised. The latter would only be identified when disturbed.

8.3 PROBLEMS AND OPPORTUNITIES

There are a number of potential issues facing the cultural heritage of the SEStran area, primarily related to development pressure both directly on the sites and on their setting.

Associated with new development and schemes (such as new transport infrastructure) there is an opportunity to enhance the setting and potentially the physical form of designated sites and buildings. Associated with physical enhancement, improved interpretation of such features would provide benefit to the wider community resource.

8.4 EVOLUTION OF BASELINE WITHOUT RTS IMPLEMENTATION

The cultural heritage baseline within SEStran area is likely to continue to change as new developments encounter previously unknown archaeological and cultural heritage remains and these are preserved and recorded (or lost to development). Depending upon the nature, condition and status of these finds some may be designated at national or local level. As with other components, the impacts associated with development are likely to be greater in areas of high development potential or activity, where there is a greater focus on proposed development.

9 Human Health and Safety

9.1 INTRODUCTION

The health and safety of the population of the SEStran area is briefly discussed within this section. The health of the population is a complex issue with a range of contributory factors.

9.2 CURRENT BASELINE

Human Health

Information on the health of the population has been obtained from the 2001 Census. The 2001 Census questioned respondents on their perceived level of health and these responses are presented in Table 9.1 below.

Table 9.1: Health Data from 2001 Census

Council	% with Perceived Health: Good	% with Perceived Health: Not Good	% with Limiting Long Term Illness
City of Edinburgh	71.91	8.07	17.20
Clackmannanshire	65.75	10.85	21.60
East Lothian	69.94	8.73	19.02
Falkirk	66.46	10.46	21.19
Fife	67.14	9.49	20.35
Midlothian	69.16	9.00	19.18
Scottish Borders	70.98	7.66	17.43
West Lothian	69.13	9.52	18.46
SESTRAN	68.8	9.22	19.30
Scotland	67.91	10.15	20.31

Source: 2001 Census Data from SCROL Website, April 2006

There are often limitations with health statistics obtained from all sources based on the scope and nature of the surveys. Care should be taken with the use of all statistics for the identification of future trends to ensure that comparisons are made with like for like data, or where this is not possible, allowance should be made for limiting factors.

The figures presented in Table 9.1 suggest that the perceived health of the SEStran population and those with limiting long term illness is better than the Scottish average. Aggregate data for the SEStran area are being sought to identify any trends in relevant health indicators and applicable information on respiratory conditions and/or hospital admissions.

As NHS areas are not always congruous with local authority administrative areas, collating meaningful health and safety data specific to the SEStran area has not been possible.

Safety

Safety of the transport system throughout the SEStran area can be considered with regard to two key areas, that of physical safety on the transport network (i.e. road or rail accidents) and that of personal safety using the transport network (i.e. personal attacks and fear of attack).

No aggregate data on such safety issues are available for the SEStran area.

9.3 PROBLEMS AND OPPORTUNITIES

There are many aspects to the health and safety of the SEStran population and transport is only one component of this. Opportunities for sustainable methods of transport such as walking and cycling may play an important role in improving health alongside other measures. However, suitable infrastructure must be in place to achieve this such as cycling lanes and footpaths etc as well as programmes of education to facilitate this. Given the many factors affecting health, it is difficult to ascertain the role of transport in health indicators.

The effects of air pollution (discussed in the Air Quality and Noise section) may have an impact on human health, particularly to those in close proximity to heavily trafficked roads (such as the M8, M9, M90 and A721 or other main roads in urban areas).

Personal safety on the transport network is a factor in the use of sustainable methods of transport such as road safety for bicycles and personal safety on bus networks, particularly at night and in remoter locations.

There are opportunities within the transport network and infrastructure to address these problems through design, maintenance and awareness. Opportunities may include improved lighting around bus stops, creation of on and off-line cycle lanes and traffic calming measures.

9.4 EVOLUTION OF BASELINE WITHOUT RTS IMPLEMENTATION

The evolution of the health and safety baseline in the SEStran area is likely to be influenced by a number of factors. Safety levels may improve over time through national or local targets on improving road safety and ongoing design of the transport network. Areas to address these will form an important component of the new RTS.

10 Population

10.1 INTRODUCTION

At the time of the 2001 Census, the SEStran area had a population of approximately 1.4 million people (approximately 30% of the Scottish population). This population is focused on the main urban centres such as Edinburgh, its surrounding commuter belt and other key towns across the area.

10.2 CURRENT BASELINE

The 2001 Census identifies the population of the eight Councils within the SEStran area and these are presented in Table 10.1 below. The SESTRAN area contains approximately 30% of the Scottish population.

Table 10.1: Population of SESTRAN Area

Council	Population	% of Scottish Population
City of Edinburgh	448,624	8.86%
Clackmannanshire	48,077	0.95%
East Lothian	90,088	1.78%
Falkirk	145,191	2.87%
Fife	349,429	6.90%
Midlothian	80,941	1.60%
Scottish Borders	106,764	2.11%
West Lothian	158,714	3.14%
SESTRAN Area	1,427,828	28.21%
Scotland	5,062,011	100%

Source: 2001 Census Data from SCROL Website, April 2006

Within the SEStran area the population is distributed between a number of larger towns/cities (>20,000 people) such as Falkirk, Dunfermline, Kirkcaldy, Glenrothes, Livingston and Edinburgh, within smaller towns and villages throughout the area and in rural locations.

The main density of population is focused around Edinburgh and its commuter belt, along the key transport corridors such as the M8, M9 and M90/A90 and in historical locations such as the valleys of the Scottish Borders and the coastal industrial towns of South Fife.

The SCROL website provides information from the 2001 Census for car/van ownership, this is summarised in Table 10.2 and demonstrates that a greater percentage of the population of the SEStran area does not have access to a car or van than for the Scottish average.

Table 10.2: Percentage of the Population with no Car/Van

Council	% with no car/van
City of Edinburgh	39.52
Clackmannanshire	29.47
East Lothian	27.19
Falkirk	30.77
Fife	29.54
Midlothian	27.70
Scottish Borders	23.74
West Lothian	27.64
SEStran	29.45
Scotland	23.74

Source: 2001 Census Data from SCROL Website, April 2006

10.3 PROBLEMS AND OPPORTUNITIES

The General Register Office for Scotland's (GRO) report on population projections (2004 – 2024) identifies that the SEStran area contains the five Council areas with the highest projected increases in population over this period. This ranges from 9 – 21% increases compared to a project Scotland-wide increase of 1%. Table 10.3 below provides the projected increases for the SEStran area by local authority area.

Table 10.3: Population Projections by Council (2004 – 2024)

Council	All Ages	0 – 15 years	16 – 59/64 ^{Note 1}	60/65+ ^{Note 1}
City of Edinburgh	10	3	12	8
Clackmannanshire	-1	-14	-7	31
East Lothian	13	-1	13	26
Falkirk	7	-7	8	20
Fife	9	0	6	27
Midlothian	-2	-11	-6	20
Scottish Borders	15	7	10	35
West Lothian	21	5	20	47
Scotland	1	-12	-1	19

Note 1: Includes the change in women's state pension age between 2010 and 2020.

Source: Population Projections Scotland (2004-based), General Registrar for Scotland, 2005

The figures identified above identify that the population of the SEStran area, particularly the Councils in and around Edinburgh, are projected to increase at levels well over the Scottish average. The largest projected increase in population being that in the working age and retirement bandings which is reflected in the Scottish average figures which suggest a decreasing birth rate and increase in the number of people within the retirement band.

The projected increases in the population are reflected in the projected increase in dwellings, Table 10.4 below identifies the projected increases by Council area as identified within the GRO's statistical bulletin, housing series.

Table 10.4: Projected Numbers of Dwelling

Council	Total Households 2002	Total Households 2016	% Change 2002 – 2016
City of Edinburgh	207,080	236,000	14%
Clackmannanshire	20,760	22,260	7%
East Lothian	38,790	45,300	17%
Falkirk	63,570	71,770	13%
Fife	152,080	169,310	11%
Midlothian	33,120	37,310	13%
Scottish Borders	48,190	52,840	10%
West Lothian	66,150	81,530	23%
SESTRAN	629, 740	716, 320	12%
Scotland	2,216,780	2,381,090	7%

Source: General Registrar for Scotland, 2005

The figures demonstrate that the number of dwellings within the SEStran area is projected to increase, as with the projected population, at a greater level than that of the Scottish average.

Design of new developments associated with the predicted increases in population and households has the opportunity to promote accessibility to sustainable transport. Whilst the local transport strategies will have an influence in the detail design and local level planning, the RTS has the opportunity to support, promote and facilitate the access to strategic development areas / core development areas.

10.4 EVOLUTION OF BASELINE WITHOUT RTS IMPLEMENTATION

The population baseline is likely to evolve in a similar manner without the RTS implementation. There is the potential however for the evolution to be supported and influenced by the RTS implementation through the choice and location of regional transport schemes.

11 Material Assets

11.1 INTRODUCTION

Within the SEStran area there are a range of material assets which are discussed within this section with regard to natural and man-made material assets, including:

- Natural Material Assets: Fuel / Energy
- Man-Made Material Assets: Transport Infrastructure and Aggregates / Construction Waste

11.2 CURRENT BASELINE

Natural Material Assets

The increasing traffic flow figures on roads within the SEStran area indicates a potential increase in transport related fuel and energy use. There are opportunities within the area for increasing the use of biofuels for the public transport fleet and for the reduction in fuel use (through measures such as a modal shift and fuel efficiency).

Man-Made Material Assets

Two distinct man-made assets have been identified within the SEStran area: transport infrastructure and aggregates / construction waste.

Transport Infrastructure

There is a wide range of transport infrastructure within the SEStran area. In summary, the key infrastructure includes:

- Road Infrastructure, including:
 - M8 Motorway – Linking Glasgow with Edinburgh
 - M9 Motorway – Linking Stirling with Edinburgh
 - M90 Motorway – Linking Edinburgh with Fife
 - A720 – Edinburgh City Bypass
 - A1 – Linking Edinburgh with the Scottish Borders
 - Railway Infrastructure, including:
 - Edinburgh to Glasgow and Stirling
 - Edinburgh to Bathgate
 - Edinburgh to England (West and East Coast)
 - Fife Circle
 - Borders Rail Link – at planning stages
 - Kincardine to Stirling – under construction
 - Aquatic Infrastructure, including:
 - Firths of Forth and Tay including key ports such as Grangemouth, Rosyth, Leith, and Kirkcaldy
 - North Sea
 - Forth and Clyde and Union Canals
 - Rosyth to Zeebrugge Ferry Terminal
-

Aggregates and Construction Waste

The use of aggregates within transport infrastructure places a pressure on the natural resources of the SEStran area and further afield. Opportunities exist for the use of recycled aggregates and construction waste in the construction of new and maintenance of existing infrastructure.

11.3 PROBLEMS AND OPPORTUNITIES

The use of both finite and infinite resources in the construction and operation of transport infrastructure and the operation of vehicles is an important component in assessing the impact of the RTS on both material assets and the raw materials used in their construction and ongoing maintenance. The use of alternatives, such as biofuel to replace unleaded fuels, present opportunities for incorporating more environmentally acceptable technologies into the transport system.

There are also opportunities to reduce, reuse and recycle resources as part of a sustainable waste management system which could be adopted to contribute towards greening the wider built environment, including transport infrastructure.

11.4 EVOLUTION OF BASELINE WITHOUT RTS IMPLEMENTATION

The man-made and natural resource base is expected to continue to be developed and exploited without the implementation of the RTS. Wider local, regional and national governmental strategies and targets for waste management and recycling will continue to develop and impact on resource use.

References

The following references have been used within this baseline report.

Air Quality and Noise

- Air Quality Archive Website (<http://www.airquality.co.uk/archive/laqm/>).
- Updating and Screening Assessment – Local Air Quality Management Phase 2, The City of Edinburgh Council, July 2003.
- Local Air Quality Management Progress Report, Falkirk Council, April 2005
- Air Quality Review and Assessment Progress Report, Fife Council, July 2004
- Air Quality Review and Assessment Progress Report for Fife Council, AEAT, July 2004.
- Progress Report 2005: Air Quality in West Lothian, West Lothian Council, April 2005.
- Local Air Quality Management Progress Report: East Lothian Council, August 2005.
- Local Air Quality Management Progress Report: Clackmannanshire Council, BMT, April 2005.
- Midlothian Air Quality Management Progress Report, 2003
- Scottish Borders: Nitrogen Dioxide Monitoring Data Spreadsheet (2005)

Soil and Geology

- Overview geology maps reviewed on British Geological Survey's website (March 2006).
- Land Capability for Agriculture Maps produced by the Macaulay Institute for Soil Research, 1:50,000 scale. Sheets 57, 58, 59, 64, 65, 66, 67, 72, 73 and 74.
- Scottish Executive (2006) Scotland's Soil Resource: Current State and Threats.
- West Lothian Council (2004) West Lothian Soil Sustainability Report.

Water

- Scottish Environment Protection Agency (SEPA) website – Interactive water quality map.
- Scottish Environment Protection Agency (SEPA) website – Interactive Water Framework Directive map.

Climate Change

- UK Climate Impacts Programme website (www.ukcip.org.uk).

Landscape and Townscape

- Landscape Character Assessment GIS data provided by Scottish Natural Heritage (March 2006).
- Landscape designation information obtained from review of Local Plans for the eight Councils.

Biodiversity

- Designated site data provided by Scottish Natural Heritage (Data accurate as of January 2006).
- Information obtained from a review of Local Biodiversity Action Plans for the eight Councils.

Cultural Heritage

- Designated site data (Listed Buildings and Scheduled Ancient Monuments) downloaded from Historic Scotland website (10 February 2006).
 - Scottish Natural Heritage information on historic gardens and designed landscapes.
 - Information on conservation areas obtained from a review of the Local Plans for the eight Councils.
-

Human Health and Safety

- 2001 Census information obtained from the Scotland's Census Results Online (SCROL) website (<http://www.scrol.gov.uk>).

Population

- Population Projections Scotland (2004-based), General Registrar for Scotland, 2005
- Scottish Census Online (SCROL) Website for 2001 Census, data downloaded April 2006

Material Assets

- No reference material applicable.
-

Appendix D Matrix of Compatibility of SEA Objectives and RTS Objectives

RTS Objectives					SEA Objectives					
To protect and enhance the landscape										Accessibility - to improve accessibility for those with limited transport choice or no access to a car, particularly those who live in rural areas:
										to improve access to employment
										to improve access to health facilities
										to improve access to other services, such as retailing, leisure and education
										to make public transport more affordable and socially inclusive
										Economy - To ensure transport facilitates economic growth, regional prosperity and vitality in a sustainable manner
										to maintain and improve labour market accessibility to key business / employment locations
										to maintain and improve connectivity to the rest of Scotland, the UK and beyond
										to support other strategies, particularly land use planning and economic development
										to reduce the negative impacts of congestion, in particular to improve journey time reliability for passengers and freight
										Environment - to ensure that development is achieved in an environmentally sustainable manner
										to contribute to the achievement of the UK's national targets and obligations on greenhouse gas emissions
										to minimise the negative impacts of transport on natural and cultural resources
										To promote sustainable travel
										To reduce the need to travel
										To reduce the dependency on the private car
										Safety and Health - To promote a healthier and more active SESTRAN area population
										to improve safety (accidents) and personal security
										to increase the proportion of trips by walk / cycle
										to meet or better all statutory air quality requirements
										To reduce the impacts of transport noise
Cultural Heritage										
To protect and enhance the cultural heritage of the region										
To protect the archaeological and historic resources of the region and their settings										
To protect the unique character of townscapes and their settings										
Materials Assets and Resources										
To make wise use of the region's assets and resources										
To reduce consumption of finite resources										
To avoid sterilisation of mineral resources										

To promote sustainable planning, design and construction methods	To minimise waste and recover and recycle resources efficiently	<div style="display: flex; justify-content: space-between;"> SEA Objectives RTS Objectives </div>
✓		Accessibility - to improve accessibility for those with limited transport choice or no access to a car, particularly those who live in rural areas:
✓		to improve access to employment
✓		to improve access to health facilities
✓		to improve access to other services, such as retailing, leisure and education
✓		to make public transport more affordable and socially inclusive
✓		Economy - To ensure transport facilitates economic growth, regional prosperity and vitality in a sustainable manner
		to maintain and improve labour market accessibility to key business / employment locations
		to maintain and improve connectivity to the rest of Scotland, the UK and beyond
✓		to support other strategies, particularly land use planning and economic development
✓		to reduce the negative impacts of congestion, in particular to improve journey time reliability for passengers and freight
✓	✓	Environment - to ensure that development is achieved in an environmentally sustainable manner
✓		to contribute to the achievement of the UK's national targets and obligations on greenhouse gas emissions
✓	✓	to minimise the negative impacts of transport on natural and cultural resources
✓		To promote sustainable travel
✓		To reduce the need to travel
✓		To reduce the dependency on the private car
		Safety and Health - To promote a healthier and more active SESTRAN area population
		to improve safety (accidents) and personal security
		to increase the proportion of trips by walk / cycle
		to meet or better all statutory air quality requirements
		To reduce the impacts of transport noise

Appendix E Appraisal Matrix for RTS Policies

Appendix E

Matrix of RTS Policies against SEA Objectives

This appendix includes a series of matrices which present the high level assessment undertaken of the policies within the Regional Transport Strategy (RTS). Policies are presented in the following groups in the RTS:

- Economy (13 policies)
- Accessibility (12 policies)
- Environment (7 policies)
- Safety and Health (5 policies)
- General policies (2 policies)

An environmental appraisal of each policy in the above groupings has been undertaken, by considering the effect of the policy in relation to each of the objectives developed for the SEA. A simple appraisal system has been used to report the findings as shown below:

✓✓	Clear contribution to the objective (or a strong compatibility/positive effect)
✓	Broadly supportive of the objective (or a compatible/positive effect)
0	Neutral/no effect
X	Negative effect/incompatibility with policy
? (✓/X)	Uncertain effect (positive/negative)

RTS Policies: Economy (See over page for full text of policies)	E1 (reduce road traffic levels)	E2 (maintenance of assets)	E3 (reduce demand for car travel)	E4 (space-efficient modes)	E5 (new road capacity)	E6 (freight by rail and water)	E7 (efficiency of public transport)	E8 (improvement of bus services)	E9 ("soft" measures)	E10 (promotion of "soft" measures)	E11 (integrated rail network)	E12 (rail investment to enhance public transport capacity)	E13 (parking)
SEA Objectives													
<u>Climate Change</u>													
To contribute to reducing carbon emissions from all modes of transport	✓✓	0	✓✓	✓	?(X)	✓✓	✓✓	✓	✓	✓	✓	✓	?(X)
To contribute to meeting the Scottish share in the reduction of carbon emissions	✓✓	0	✓✓	✓	?(X)	✓✓	✓✓	✓	✓	✓	✓	✓	?(X)
<u>Quality of Life</u> To protect the well being of communities and improve the regional quality of life	✓	0	✓	✓	?(X)	✓✓	✓✓	✓	✓	✓	✓	✓	0
To improve air quality in the region and contribute to meeting national air quality objectives	✓✓	0	✓✓	✓	?(X)	✓✓	✓✓	✓	✓	✓	✓	✓	?(X)
To minimise the effects of noise and vibration from transport	✓	0	✓	0	?(X)	✓	✓	?(✓)	?(✓)	?(✓)	✓	?(✓)	0
To avoid negative impacts from visual intrusion from transport infrastructure	0	0	0	0	?(X)	0	0	0	0	0	✓	0	0
To improve health and reduce inequalities through sustainable and accessible transport	✓	0	0	✓	?(X/✓)	0	✓	✓	✓	✓	✓	✓	?(X)
To enhance public access to, and understanding and appreciation of, natural and cultural heritage	0	0	0	0	0	0	✓	✓	✓	✓	0	0	0

RTS Policies: Economy (See over page for full text of policies)	E1 (reduce road traffic levels)	E2 (maintenance of assets)	E3 (reduce demand for car travel)	E4 (space-efficient modes)	E5 (new road capacity)	E6 (freight by rail and water)	E7 (efficiency of public transport)	E8 (improvement of bus services)	E9 ("soft" measures)	E10 (promotion of "soft" measures)	E11 (integrated rail network)	E12 (rail investment to enhance public transport capacity)	E13 (parking)
SEA Objectives													
To minimise the severance effects of transport on communities	✓	0	✓	0	?(X)	✓	✓	✓	✓	✓	✓	✓	?(X)
Natural Heritage													
To protect and enhance the natural environment and heritage of the region	✓	0	✓	✓	?(X)	✓	✓	✓	✓	✓	✓	✓	0
To protect and enhance biodiversity	✓	0	✓	0	?(X)	0	✓	✓	✓	✓	✓	✓	0
To protect and enhance the landscape	0	0	0	0	?(X)	0	0	0	0	0	? (✓/X)	0	0
To protect and enhance watercourses and their water quality	0	0	0	0	?(X)	0	0	0	0	0	0	0	0
To prevent and reduce risks from flooding	0	✓	0	0	0	0	0	0	0	0	0	0	0
To protect the region's geomorphology, geology and soils	0	0	0	0	?(0)	0	0	0	0	0	0	0	0
To protect the natural environment from the negative effects of transport	✓	0	✓	✓	?(X)	✓	✓✓	✓	✓	✓	✓	✓	?(X)

RTS Policies: Economy (See over page for full text of policies)	E1 (reduce road traffic levels)	E2 (maintenance of assets)	E3 (reduce demand for car travel)	E4 (space-efficient modes)	E5 (new road capacity)	E6 (freight by rail and water)	E7 (efficiency of public transport)	E8 (improvement of bus services)	E9 ("soft" measures)	E10 (promotion of "soft" measures)	E11 (integrated rail network)	E12 (rail investment to enhance public transport capacity)	E13 (parking)
SEA Objectives													
<u>Cultural Heritage</u>													
To protect and enhance the cultural heritage of the region	0	0	0	0	?(X)	0	0	0	0	0	0	0	0
To protect the archaeological and historic resources of the region and their settings	0	0	0	0	?(X)	0	0	0	0	0	0	0	0
To protect the unique character of townscapes and their settings	✓	0	✓	✓	?	0	✓	✓	✓	✓	0	0	?(X)
<u>Materials Assets and Resources</u>													
To make wise use of the region's assets and resources	✓	0	✓	✓	?(X)	✓	✓✓	✓✓	✓	✓	✓	✓	?(X)
To reduce consumption of finite resources	✓	0	✓	✓	?(X)	✓	✓✓	✓✓	✓	✓	✓	✓	?(X)
To avoid sterilisation of mineral resources	0	0	0	0	?	0	0	0	0	0	0	0	0
To minimise waste and recover and recycle resources efficiently	0	0	0	0	0	0	0	0	?(✓)	?(✓)	0	0	0
To promote sustainable planning, design and construction methods	0	✓	0	0	?	0	0	✓	✓	✓	✓	✓	?(X)

Full Text of RTS Economy Policies

E1	The RTS will seek to reduce road traffic levels, especially single occupant cars in the most congested places at the most congested times.
E2	The RTS will give high priority to the maintenance of any future SESTRAN assets.
E3	There will be a presumption in favour of addressing problems of congestion through measures to reduce demand for car travel and promote modal shift.
E4	Any additional capacity on commuter corridors that are congested, or forecast to become congested within the lifetime of the strategy, will normally be used to benefit space-efficient modes such as bus, train and high-occupancy vehicle and cycles. Such additional capacity on strategic freight corridors may also be used to benefit HGVs.
E5	New road capacity to improve journey times and reliability, may be provided where it can be demonstrated that these benefits will not be eroded by induced traffic in the medium to long term, and that other alternatives have been evaluated and found to be less effective.
E6	The RTS will seek to move freight from road to rail and water.
E7	There will be a general presumption in favour of schemes that improve the efficiency and effectiveness of public transport, and make it a more attractive option for existing car users.
E8	High priority will be given to the improvement of all aspects of bus services (services, vehicle quality, fares, infrastructure and integration) as a means of reducing congestion and enhancing accessibility.
E9	Investment in new infrastructure and services will generally be complemented by “soft” measures such as information, marketing, personalised travel assistance, awareness campaigns (including the promotion of the links between transport, safety, health and environment) travel plans and, where relevant, traffic management measures to ensure that benefits will not be eroded by induced traffic.
E10	The RTS will give high priority to the promotion of “soft” measures such as information, marketing, personalised travel assistance and travel plans.
E11	Encouragement will be given by SESTRAN to Transport Scotland for cost-effective investment and service support that builds an integrated rail-based regional transport network, fully integrated with existing and planned development.
E12	There will be a presumption in favour of supporting the targeting of rail investment to enhance the public transport capacity (including, where appropriate, station capacity) of existing heavily-used and congested rail corridors for passengers and/or freight.
E13	A consistent framework for maximum parking standards for new development will be applied across the region to ensure that comparable developments of a similar size in similar locations have similar parking standards.

RTS Policies: Accessibility (See over page for full text of policies) SEA Objectives	A1 (communities with poor access)	A2 (rural and other areas poorly served by public transport)	A3 (equal opportunities audits)	A4 (location of major trip generators)	A5 (reducing the need to travel)	A6 (non car modes)	A7 (affordability for public transport)	A8 (enhancing conditions for non car modes)	A9 (measures for those with disabilities)	A10 (urban parking provision)	A11 (parking provision at major employment centres)	A12 (access to health services)
<u>Climate Change</u> To contribute to reducing carbon emissions from all modes of transport	✓	?(✓)	0	✓	✓✓	✓✓	✓	✓✓	0	✓	✓	✓
To contribute to meeting the Scottish share in the reduction of carbon emissions	✓	?(✓)	0	✓	✓✓	✓✓	✓	✓✓	0	✓	✓	✓
<u>Quality of Life</u> To protect the well being of communities and improve the regional quality of life	✓✓	✓	✓	✓✓	✓✓	✓✓	✓	✓✓	✓	✓	✓	✓✓
To improve air quality in the region and contribute to meeting national air quality objectives	✓	?(✓)	0	✓	✓	✓	✓	✓✓	0	✓	✓	✓
To minimise the effects of noise and vibration from transport	0	0	0	✓	✓	✓	0	✓	0	0	0	0
To avoid negative impacts from visual intrusion from transport infrastructure	0	? (✓/X)	0	✓	✓	✓	0	✓	0	0	0	0
To improve health and reduce inequalities through sustainable and accessible transport	✓	✓	0	✓	✓	✓	✓	✓✓	✓✓	✓	✓	✓✓
To enhance public access to, and understanding and appreciation of, natural and cultural heritage	0	✓	✓	0	0	0	0	✓	✓	0	0	0

<p style="text-align: center;">RTS Policies: Accessibility (See over page for full text of policies)</p> <p>SEA Objectives</p>	A1 (communities with poor access)	A2 (rural and other areas poorly served by public transport)	A3 (equal opportunities audits)	A4 (location of major trip generators)	A5 (reducing the need to travel)	A6 (non car modes)	A7 (affordability for public transport)	A8 (enhancing conditions for non car modes)	A9 (measures for those with disabilities)	A10 (urban parking provision)	A11 (parking provision at major employment centres)	A12 (access to health services)
To minimise the severance effects of transport on communities	✓	✓	0	✓	✓	✓	✓	✓	✓	0	0	0
<p><u>Natural Heritage</u></p> <p>To protect and enhance the natural environment and heritage of the region</p>	0	0	0	✓	✓	0	0	✓	0	0	0	0
To protect and enhance biodiversity	0	0	0	✓	✓	0	0	✓	0	0	0	0
To protect and enhance the landscape	0	0	0	✓	✓	0	0	✓	0	0	0	0
To protect and enhance watercourses and their water quality	0	0	0	0	✓	0	0	✓	0	0	0	0
To prevent and reduce risks from flooding	0	0	0	0	0	0	0	0	0	0	0	0
To protect the region's geomorphology, geology and soils	0	0	0	0	0	0	0	0	0	0	0	0
To protect the natural environment from the negative effects of transport	✓	0	0	✓	✓	✓	✓	✓	0	0	0	0

RTS Policies: Accessibility (See over page for full text of policies) SEA Objectives	A1 (communities with poor access)	A2 (rural and other areas poorly served by public transport)	A3 (equal opportunities audits)	A4 (location of major trip generators)	A5 (reducing the need to travel)	A6 (non car modes)	A7 (affordability for public transport)	A8 (enhancing conditions for non car modes)	A9 (measures for those with disabilities)	A10 (urban parking provision)	A11 (parking provision at major employment centres)	A12 (access to health services)
<u>Cultural Heritage</u> To protect and enhance the cultural heritage of the region	0	0	0	0	0	0	0	0	0	0	0	0
To protect the archaeological and historic resources of the region and their settings	0	0	0	0	0	0	0	0	0	0	0	0
To protect the unique character of townscapes and their settings	0	0	0	0	0	0	0	0	0	0	0	0
<u>Materials Assets and Resources</u> To make wise use of the region's assets and resources	✓	?(✓)	0	✓	✓✓	✓✓	✓	✓✓	0	✓	✓	0
To reduce consumption of finite resources	✓	?(✓)	0	✓	✓✓	✓✓	✓	✓✓	0	✓	✓	0
To avoid sterilisation of mineral resources	0	0	0	0	0	0	0	0	0	0	0	0
To minimise waste and recover and recycle resources efficiently	0	0	0	0	0	0	0	0	0	0	0	0
To promote sustainable planning, design and construction methods	✓	?(✓)	0	✓	✓✓	✓✓	✓	✓✓	0	✓	✓	0

Full Text of RTS Accessibility Policies

A1	SESTRAN will seek to ensure that communities with poor access to employment by PT and low car ownership / high deprivation will be the subject of targeted measures to address this, and that such measures will be accorded a high priority.
A2	In selecting interventions as part of the RTS, SESTRAN will seek to pay particular regard to the need to reduce problems caused by peripherality in rural and other areas of the region that are less well served by PT.
A3	All interventions will be subject to an equal opportunities audit to ensure that they promote equal opportunities in accordance with the law.
A4	SESTRAN will use its influence to support development plan strategies by seeking to ensure that major trip generating sites – including housing – are located in areas that are capable of being well served by walking, cycling and public transport.
A5	SESTRAN will support planning authorities in using their land-use planning powers to reduce the need to travel, to promote the provision of non-car access to and within new developments and to promote travel plans.
A6	Schemes that improve the accessibility by public transport, walking and cycling of key development areas will be afforded higher priority for implementation.
A7	SESTRAN will seek to intervene where affordability is recognised by the Partnership as a barrier to the use of public transport.
A8	Where improvements in accessibility are found to be required, the RTS will seek, in the first instance, to deliver these by enhancing conditions for pedestrians, cyclists and public transport users.
A9	SESTRAN will seek to ensure that people unable to use conventional public transport due to disability will be the subject of targeted measures to address this, and that such measures will be accorded a high priority.
A10	Town and city centre parking provision (including areas on the edge of centres) will favour shoppers, essential business users and residents, whilst commuter parking for that town or city centre will be discouraged.
A11	Parking provision at major employment and essential service centres outwith town and city centres (e.g. hospitals, areas around business parks) will favour shoppers, visitors, business/service users and residents, whilst commuter parking will be discouraged.
A12	SESTRAN and its constituent authorities will work in partnership with Health Boards to improve access to health services and to reduce congestion caused by travel to these services. This would not include subsidy for services needed for new health buildings or services, which would be subject to the normal transport assessments and access policies.

RTS Policies: Environment		
SEA Objectives		ENV1 The RTS will prioritise interventions that promote the use of more sustainable modes of transport, in particular non-motorised modes
Climate Change	To contribute to reducing carbon emissions from all modes of transport	ENV2 Transport interventions will be designed and operated to minimise their impact on the environment
	To contribute to meeting the Scottish share in the reduction of carbon emissions	ENV3 Interventions in the RTS should contribute to the achievement of national and international targets related to climate change, particularly reducing emissions of CO2 and other greenhouse gases
Quality of Life	To protect the well being of communities and improve the regional quality of life	ENV4 New transport infrastructure proposals which could have significant adverse effects on areas designated for their natural or cultural heritage and environmental quality will not normally be supported
	To improve air quality in the region and contribute to meeting national air quality objectives	ENV5 The RTS will promote interventions that will reduce the consumption of non-renewable resources
	To minimise the effects of noise and vibration from transport	ENV6 The RTS will promote interventions that will improve energy and resource efficiency
	To avoid negative impacts from visual intrusion from transport infrastructure	ENV7 There will be a presumption in favour of schemes that safeguard greenspaces especially where these are strategically important for promoting walking and cycling and access to work and essential services
	To improve health and reduce inequalities through sustainable and accessible transport	
	To enhance public access to, and understanding and appreciation of, natural and cultural heritage	

RTS Policies: Environment		
SEA Objectives		
To minimise the severance effects of transport on communities	✓	ENV1 The RTS will prioritise interventions that promote the use of more sustainable modes of transport, in particular non-motorised modes
	✓✓	ENV2 Transport interventions will be designed and operated to minimise their impact on the environment
	0	ENV3 Interventions in the RTS should contribute to the achievement of national and international targets related to climate change, particularly reducing emissions of CO2 and other greenhouse gases
	0	ENV4 New transport infrastructure proposals which could have significant adverse effects on areas designated for their natural or cultural heritage and environmental quality will not normally be supported
	0	ENV5 The RTS will promote interventions that will reduce the consumption of non-renewable resources
	0	ENV6 The RTS will promote interventions that will improve energy and resource efficiency
	✓	ENV7 There will be a presumption in favour of schemes that safeguard greenspaces especially where these are strategically important for promoting walking and cycling and access to work and essential services
Natural Heritage		
To protect and enhance the natural environment and heritage of the region	✓	✓
To protect and enhance biodiversity	✓	✓
To protect and enhance the landscape	✓	0
To protect and enhance watercourses and their water quality	✓	0
To prevent and reduce risks from flooding	0	✓
To protect the region's geomorphology, geology and soils	0	✓
To protect the natural environment from the negative effects of transport	✓✓	✓

RTS Policies: Environment		
SEA Objectives		ENV1 The RTS will prioritise interventions that promote the use of more sustainable modes of transport, in particular non-motorised modes
Cultural Heritage		ENV2 Transport interventions will be designed and operated to minimise their impact on the environment
To protect and enhance the cultural heritage of the region	0	✓
To protect the archaeological and historic resources of the region and their settings	0	✓
To protect the unique character of townscapes and their settings	✓	✓
Materials Assets and Resources		ENV3 Interventions in the RTS should contribute to the achievement of national and international targets related to climate change, particularly reducing emissions of CO2 and other greenhouse gases
To make wise use of the region's assets and resources	✓✓	✓
To reduce consumption of finite resources	✓✓	✓
To avoid sterilisation of mineral resources	0	0
To minimise waste and recover and recycle resources efficiently	0	0
To promote sustainable planning, design and construction methods	✓	✓
		ENV4 New transport infrastructure proposals which could have significant adverse effects on areas designated for their natural or cultural heritage and environmental quality will not normally be supported
	0	✓✓
	0	0
	✓✓	✓✓
	0	0
	✓✓	✓✓
	0	0
	✓✓	✓✓
	0	0
	✓	✓
	0	0
	✓	✓

RTS Policies: Safety and Health & General Policies			
SEA Objectives		Safety and Health	
Climate Change			
To contribute to reducing carbon emissions from all modes of transport	0	S1 Interventions that are cost-effective in reducing accidents, such as Camera Partnerships, AIP scheme and 20 mph zones, will be accorded high priority	0
	✓	S2 There will be a presumption in favour of schemes that lead to greater physical activity, and that facilitate independent travel especially by children	0
	0	S3 There will be a presumption in favour of schemes that enhance personal security, especially for pedestrians, cyclists and public transport users	0
	✓✓	S4 There will be a presumption in favour of schemes that assist the achievement of local air quality targets	0
	0	S5 In the development of new infrastructure, appropriate measures will be taken to minimise the adverse impacts of transport noise	0
		General Policies	
	?	G1 Schemes supported in national strategy and policy documents will be afforded a higher priority for implementation	?
	?	G2 SESTRAN will set aside funding to support cost-effective local projects and services consistent with region-wide initiatives in the RTS	?
Quality of Life			
To protect the well being of communities and improve the regional quality of life	✓		?
To improve air quality in the region and contribute to meeting national air quality objectives	0		?
To minimise the effects of noise and vibration from transport	0		?
To avoid negative impacts from visual intrusion from transport infrastructure	0		?
To improve health and reduce inequalities through sustainable and accessible transport	✓		?
To enhance public access to, and understanding and appreciation of, natural and cultural heritage	0		?

RTS Policies: Safety and Health & General Policies			
SEA Objectives To minimise the severance effects of transport on communities	Safety and Health		
	S1 Interventions that are cost-effective in reducing accidents, such as Camera Partnerships, AIP scheme and 20 mph zones, will be accorded high priority	0	0
	S2 There will be a presumption in favour of schemes that lead to greater physical activity, and that facilitate independent travel especially by children	✓	0
	S3 There will be a presumption in favour of schemes that enhance personal security, especially for pedestrians, cyclists and public transport users	0	0
	S4 There will be a presumption in favour of schemes that assist the achievement of local air quality targets	✓	0
	S5 In the development of new infrastructure, appropriate measures will be taken to minimise the adverse impacts of transport noise	?(✓)	?(0/X)
	General Policies		
	G1 Schemes supported in national strategy and policy documents will be afforded a higher priority for implementation	?	?
	G2 SESTRAN will set aside funding to support cost-effective local projects and services consistent with region-wide initiatives in the RTS	?	?
	Natural Heritage To protect and enhance the natural environment and heritage of the region		
To protect and enhance biodiversity	0	0	?
To protect and enhance the landscape	0	0	?
To protect and enhance watercourses and their water quality	0	0	?
To prevent and reduce risks from flooding	0	0	?
To protect the region's geomorphology, geology and soils	0	0	?
To protect the natural environment from the negative effects of transport	0	✓	?

Appendix F Appraisal Tables for RTS Initiatives

Appendix F Environmental Appraisal of Initiatives

This appendix reports the environmental assessment undertaken on the initiatives presented within the core sections of the RTS as follows:

- Network based initiatives (Chapter 9 of the RTS);
- Region wide measures (Chapter 10 of the RTS);
- Initiatives for Specific Areas and Groups (Chapter 11 of the RTS).

Due to the strategic nature of the initiatives and measures in the RTS, the appraisal has been undertaken at a high level. An appraisal system has been developed and used based on the following scale of effects.

✓✓	Strong compatibility with the objective (or a strong positive effect)
✓	Broadly supportive of the objective (or a compatible/positive effect)
0	Neutral/no effect
X	Negative effect/incompatibility with the objective
XX	Strongly negative effect/incompatibility with the objective
? (✓/X)	Uncertain effect (positive/negative)

The appraisal has been reported in a series of tables which list the SEA objectives and present the findings of the assessment in relation to these objectives for each of the individual measures and initiatives presented in Chapters 9 to 11 of the draft RTS. The measures and initiatives are also presented in geographical or topic based groups and the groups included in each table are listed in the titles of each table.

Table F1.1 to F1.8 presents the initiatives (in their geographical groups) for the Network Based Initiatives.

Table F2.1 to F2.4 presents the initiatives (in their sectoral groups) for the Region Wide Measures.

Table F3.1 presents the initiatives (in their sectoral areas) for the Network Based Initiatives.

Table F1.1: Network Based Initiatives: (i) Edinburgh north to Edinburgh West (ii) Edinburgh North to Edinburgh South (both ways) (iii) Fife Bridgehead/Central – Edinburgh west

RTS Initiatives	Edinburgh north to Edinburgh west	Haymarket Interchange	Edinburgh Inner Orbital QBC	Edinburgh Outer Orbital Bus	Edinburgh North to Edinburgh South (both ways)	Edin north to Edin south improved links	Fife Bridgehead/Central – Edinburgh west	Interchange at the Airport	Interchange at Barnton	A90 Bus Priority (Outbound)	Ferryfold Access A90 Measures	Bus Lanes and Priorities on New Forth Crossing	Reduce Edinburgh Fife Train Fares	Restructure of Fife Line and Aberdeen Services	Ramp Metering on Forth Road Bridge	HOV Lanes in Fife Edinburgh Corridor
SEA Objectives																
<u>Climate Change</u> To contribute to reducing carbon emissions from all modes of transport																
To contribute to meeting the Scottish share in the reduction of carbon emissions	✓	✓	✓	✓	✓	✓	✓	?(x)	✓	0	0	✓	✓	✓	0	✓
<u>Quality of Life</u> To protect the well being of communities and improve the regional quality of life																
To improve air quality in the region and contribute to meeting national air quality objectives	✓	✓	✓	✓	✓	✓	✓	?(x)	✓	0	0	✓	✓	✓	0	✓
To minimise the effects of noise and vibration from transport	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
To avoid negative impacts from visual intrusion from transport infrastructure	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
To improve health and reduce inequalities through sustainable and accessible transport	✓	✓	✓	✓	✓	✓	✓	?(x)	✓	0	0	✓	✓	✓	0	✓

To enhance public access to, and understanding and appreciation of, natural and cultural heritage	✓	✓	✓	✓	0	0	0	0	0	0	0	0	✓	0	0	0
To minimise the severance effects of transport on communities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Natural Heritage To protect and enhance the natural environment and heritage of the region																
To protect and enhance biodiversity	0	0	0	0	0	0	0	?	0	0	0	0	0	0	0	0
To protect and enhance the landscape	0	0	0	0	0	0	0	?(x)	0	0	0	0	0	0	0	0
To protect and enhance watercourses and their water quality	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
To prevent and reduce risks from flooding	0	0	0	0	0	0	0	?	0	0	0	0	0	0	0	0
To protect the region's geomorphology, geology and soils	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
To protect the natural environment from the negative effects of transport	0	0	0	0	0	0	0	?	0	0	0	0	0	0	0	0
Cultural Heritage To protect and enhance the cultural heritage of the region																
To protect the archaeological and historic resources of the region and their settings	0	?	0	0	0	0	0	0	0	0	0	0	0	0	0	0
To protect the unique character of townscapes and their settings	0	?	0	0	0	0	0	0	0	0	0	0	?(✓)	0	0	0

Materials Assets and Resources To make wise use of the region's assets and resources																
To reduce consumption of finite resources	✓	✓	✓	✓	✓	✓	✓	0	✓	✓	0	✓	✓	✓	0	✓
To avoid sterilisation of mineral resources	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
To minimise waste and recover and recycle resources efficiently	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
To promote sustainable planning, design and construction methods	0	?(✓)	0	0	0	0	0	?(✓)	?(✓)	0	0	0	0	0	0	0

RTS Initiatives	Edinburgh east - Edinburgh west	Ocean Terminal to Airport Tram	East West Tram to Newcraighall and Queen Margaret College	Increased Frequency on Crossrail from Newcraighall	Direct Bus Services to Gyle/Edinburgh Park	Support for SE Tram	South Suburban Railway	Outer Orbital Bus	Edinburgh south – Edinburgh east	Inner and Outer Orbital Bus Services	South Suburban Rail Link	Link South Suburban Rail with Trams	Stirling - Clackmannan	Improved PT from opening of Stirling Alloa Railway	Additional Bus Services
SEA Objectives															
To protect the natural environment from the negative effects of transport	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Cultural Heritage To protect and enhance the cultural heritage of the region															
To protect the archaeological and historic resources of the region and their settings	0	?(x)	?(x)	0	0	?(x)	0	0	0	0	0	0	0	0	0
To protect the unique character of townscapes and their settings	0/X	X	X	0	0	X	0	0	0	0	0	0	0	0	0
Materials Assets and Resources To make wise use of the region's assets and resources															
To reduce consumption of finite resources	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
To avoid sterilisation of mineral resources	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
To minimise waste and recover and recycle resources efficiently	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
To promote sustainable planning, design and construction methods	0	?(✓)	?(✓)	0	0	?(✓)	0	0	0	0	0	0	0	0	0

RTS Initiatives	Fife East - Dundee	Review Bus Services between Cupar/St Andrews and Dundee	Park and Choose Site South of Tay Bridge	West Lothian South - Edinburgh city centre	Bus Priority and Service Enhancement on A71	Develop Edinburgh - Shotts Railway as Commuter Line	Livingston Tram	Falkirk - West Lothian South	Peak hour bus services between Falkirk and Livingston
SEA Objectives									
To protect the natural environment from the negative effects of transport	✓	✓	✓	✓	✓	✓	✓	✓	✓
<u>Cultural Heritage</u> To protect and enhance the cultural heritage of the region									
To protect the archaeological and historic resources of the region and their settings	0	0	0	0	0	0	0	0	0
To protect the unique character of townscapes and their settings	0	0	0	0	0	0	0	0	0
<u>Materials Assets and Resources</u> To make wise use of the region's assets and resources									
To reduce consumption of finite resources	✓	✓	✓	✓	✓	✓	✓	✓	✓
To avoid sterilisation of mineral resources	0	0	0	0	0	0	0	0	0
To minimise waste and recover and recycle resources efficiently	0	0	0	0	0	0	0	0	0
To promote sustainable planning, design and construction methods	?(✓)	0	?(✓)	0	0	0	?(✓)	0	0

Table F1.4: Major Commuter Corridors (i) Fife Central – Fife Bridgehead (both ways) (ii) Edinburgh south – Edinburgh city centre (iii) West Lothian mid – West Lothian south

RTS Initiatives	Fife Central – Fife Bridgehead	A92 Express Bus Services	Bus Priority at A92 Junctions	PT Hubs at Kirkcaldy, Markinch and Dunfermline	Re-open Levenmouth Line	Edinburgh south – Edinburgh city centre	Bus priority at all key junctions	Services and Priority on A702	South Suburban Railway	South East Tram Line	Traffic restrictions on bridges	West Lothian mid – West Lothian south	Bus Links to Employment Centres	Bus Links from Livingston North Station	Travel Plans for Major Employers	Car Sharing Initiatives
SEA Objectives																
Climate Change To contribute to reducing carbon emissions from all modes of transport																
To contribute to meeting the Scottish share in the reduction of carbon emissions	✓	✓	✓	✓	✓	✓	✓	✓		✓	0	✓✓	✓	✓	✓✓	✓✓
Quality of Life To protect the well being of communities and improve the regional quality of life																
To improve air quality in the region and contribute to meeting national air quality objectives	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓✓
To minimise the effects of noise and vibration from transport	0	0	0	0	?(x/✓)	0	0	0		?(x)	0	✓	0	0	✓	✓
To avoid negative impacts from visual intrusion from transport infrastructure	0	0	0	?	?	0	0	0		?(x)	✓	0	0	0	0	0
To improve health and reduce inequalities through sustainable and accessible transport	✓	✓	0	✓	✓	0	0	0		✓	0	✓	✓	✓	0	✓

RTS Initiatives	Fife Central – Fife Bridgehead	A92 Express Bus Services	Bus Priority at A92 Junctions	PT Hubs at Kirkcaldy, Markinch and Dunfermline	Re-open Levenmouth Line	Edinburgh south – Edinburgh city centre	Bus priority at all key junctions	Services and Priority on A702	South Suburban Railway	South East Tram Line	Traffic restrictions on bridges	West Lothian mid – West Lothian south	Bus Links to Employment Centres	Bus Links from Livingston North Station	Travel Plans for Major Employers	Car Sharing Initiatives
SEA Objectives																
To enhance public access to, and understanding and appreciation of, natural and cultural heritage	✓	✓	0	✓	✓	0	0	0		✓	0	0	0	✓	0	0
To minimise the severance effects of transport on communities	0	0	0	0	0	0	0	0		?(x)	0	✓	✓	✓	0	✓
Natural Heritage To protect and enhance the natural environment and heritage of the region																
To protect and enhance biodiversity	0	0	0	?	X	0	0	0		? (x/✓)	0	0	0	0	0	0
To protect and enhance the landscape	0	0	0	0	?	0	0	0		?(x)	0	0	0	0	0	0
To protect and enhance watercourses and their water quality	0	0	0	0	?(x)	0	0	0		?(x)	0	0	0	0	0	0
To prevent and reduce risks from flooding	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0
To protect the region's geomorphology, geology and soils	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0

RTS Initiatives	Fife Central – Fife Bridgehead	A92 Express Bus Services	Bus Priority at A92 Junctions	PT Hubs at Kirkcaldy, Markinch and Dunfermline	Re-open Levenmouth Line	Edinburgh south – Edinburgh city centre	Bus priority at all key junctions	Services and Priority on A702	South Suburban Railway	South East Tram Line	Traffic restrictions on bridges	West Lothian mid – West Lothian south	Bus Links to Employment Centres	Bus Links from Livingston North Station	Travel Plans for Major Employers	Car Sharing Initiatives
SEA Objectives																
To protect the natural environment from the negative effects of transport	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0
<u>Cultural Heritage</u> To protect and enhance the cultural heritage of the region																
To protect the archaeological and historic resources of the region and their settings	0	0	0	0	?	0	0	0		0	0	0	0	0	0	0
To protect the unique character of townscapes and their settings	0	0	0	0	?	0	0	0		?(x)	✓	0	0	0	0	0
<u>Materials Assets and Resources</u> To make wise use of the region's assets and resources																
To reduce consumption of finite resources	✓	✓	0	✓	✓	0	0	0		✓	0	✓	✓	✓	✓	✓
To avoid sterilisation of mineral resources	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0
To minimise waste and recover and recycle resources efficiently	0	0	0	0	0	0	0	0		0	0	0	0	0	0	0

To promote sustainable planning, design and construction methods	<p style="text-align: center;">RTS Initiatives</p> <p>SEA Objectives</p>
0	Fife Central – Fife Bridgehead
0	A92 Express Bus Services
0	Bus Priority at A92 Junctions
0	PT Hubs at Kirkcaldy, Markinch and Dunfermline
✓	Re-open Levenmouth Line
0	Edinburgh south – Edinburgh city centre
0	Bus priority at all key junctions
0	Services and Priority on A702
	South Suburban Railway
✓	South East Tram Line
0	Traffic restrictions on bridges
0	West Lothian mid – West Lothian south
0	Bus Links to Employment Centres
0	Bus Links from Livingston North Station
0	Travel Plans for Major Employers
0	Car Sharing Initiatives

RTS Initiatives	Edinburgh North – Edinburgh City Centre	Support for Trams in Corridor	Bus Priority Measures	Edinburgh South – Edinburgh West	Orbital Bus	South Suburban Railway	Interchange at Haymarket	East Lothian – Edinburgh City Centre	Park and Ride at Wallyford	Rail Link to Wallyford	Stopping service to Dunbar	Tram 3 to Musselburgh
SEA Objectives												
To protect the natural environment from the negative effects of transport	0	0	0	0	0	0	0	0	0	0	0	0
<u>Cultural Heritage</u> To protect and enhance the cultural heritage of the region												
To protect the archaeological and historic resources of the region and their settings	0	0	0	0	0	0	?	0	0	0	0	0
To protect the unique character of townscapes and their settings	0	?(X)	0	0	0	0	?(X/✓)	0	0	0	0	?(X)
<u>Materials Assets and Resources</u> To make wise use of the region's assets and resources												
To reduce consumption of finite resources	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
To avoid sterilisation of mineral resources	0	0	0	0	0	0	0	0	0	0	0	0
To minimise waste and recover and recycle resources efficiently	0	0	0	0	0	0	0	0	0	?(X/✓)	0	0

To promote sustainable planning, design and construction methods	<p style="text-align: center;">RTS Initiatives</p> <p>SEA Objectives</p>
0	Edinburgh North – Edinburgh City Centre
?(✓)	Support for Trams in Corridor
0	Bus Priority Measures
0	Edinburgh South – Edinburgh West
0	Orbital Bus
0	South Suburban Railway
?(✓)	Interchange at Haymarket
0	East Lothian – Edinburgh City Centre
0	Park and Ride at Wallyford
0	Rail Link to Wallyford
0	Stopping service to Dunbar
?(✓)	Tram 3 to Musselburgh

Table F1.6: Major Commuter Corridors (vii) Midlothian east – Edinburgh city centre (viii) Edinburgh east – Edinburgh city centre

RTS Initiatives	Midlothian East – Edinburgh City Centre	Bus Lanes at Sheriffhall Junction	PT Improvements Linked to Waverley Line Stations	Bus Priority Measures on A7 and A68	Park and Ride/PT for Tram Line 3	Edinburgh East – Edinburgh City Centre	Bus Priority Measures	Bus Priority on Niddrie Mains Road	Increased Service at Newcraighall	Tram Line 3
SEA Objectives										
<u>Climate Change</u> To contribute to reducing carbon emissions from all modes of transport										
To contribute to meeting the Scottish share in the reduction of carbon emissions	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
<u>Quality of Life</u> To protect the well being of communities and improve the regional quality of life										
To improve air quality in the region and contribute to meeting national air quality objectives	✓	0	✓	0	✓	✓	0	0	✓	✓
To minimise the effects of noise and vibration from transport	0	0	0	0	0	0	0	0	0	?(X)
To avoid negative impacts from visual intrusion from transport infrastructure	0	0	0	0	?(X)	0	0	0	0	?(x)
To improve health and reduce inequalities through sustainable and accessible transport	✓	✓	✓	✓	0	✓	✓	✓	✓	0
To enhance public access to, and understanding and appreciation of, natural and cultural heritage	✓	0	✓	0	✓	✓	0	0	✓	✓

RTS Initiatives	Midlothian East – Edinburgh City Centre	Bus Lanes at Sheriffhall Junction	PT Improvements Linked to Waverley Line Stations	Bus Priority Measures on A7 and A68	Park and Ride/PT for Tram Line 3	Edinburgh East – Edinburgh City Centre	Bus Priority Measures	Bus Priority on Niddrie Mains Road	Increased Service at Newcraighall	Tram Line 3
SEA Objectives										
To minimise the severance effects of transport on communities	0	0	0	0	0	0	0	0	0	?(X)
Natural Heritage To protect and enhance the natural environment and heritage of the region										
To protect and enhance biodiversity	0	0	0	0	0	0	0	0	0	?(X)
To protect and enhance the landscape	0	0	0	0	0	0	0	0	0	?(X)
To protect and enhance watercourses and their water quality	0	0	0	0	0	0	0	0	0	0
To prevent and reduce risks from flooding	0	0	0	0	0	0	0	0	0	0
To protect the region's geomorphology, geology and soils	0	0	0	0	0	0	0	0	0	0
To protect the natural environment from the negative effects of transport	✓	0	✓	0	✓	✓	0	0	✓	✓

RTS Initiatives	Midlothian East – Edinburgh City Centre	Bus Lanes at Sheriffhall Junction	PT Improvements Linked to Waverley Line Stations	Bus Priority Measures on A7 and A68	Park and Ride/PT for Tram Line 3	Edinburgh East – Edinburgh City Centre	Bus Priority Measures	Bus Priority on Niddrie Mains Road	Increased Service at Newcraighall	Tram Line 3
Cultural Heritage To protect and enhance the cultural heritage of the region										
To protect the archaeological and historic resources of the region and their settings	0	0	0	0	0	0	0	0	0	?(X)
To protect the unique character of townscapes and their settings	0	0	0	0	0	0	0	0	0	?(X)
Materials Assets and Resources To make wise use of the region's assets and resources										
To reduce consumption of finite resources	✓	0	✓	✓	✓	✓	✓	✓	✓	✓
To avoid sterilisation of mineral resources	0	0	0	0	0	0	0	0	0	0
To minimise waste and recover and recycle resources efficiently	0	0	0	0	0	0	0	0	0	0
To promote sustainable planning, design and construction methods	0	0	0	0	0	0	0	0	0	?(✓)

Table F1.7: Crowded Corridors (all measures summarised into one group)

RTS Initiatives	Crowded Corridors	Increased Bus Services	Bus Priority Measures Throughout	High Capacity Buses	Monitoring Crowding on PT Network	Hearts and Minds Campaigns	Better Utilisation of Trains
SEA Objectives							
<u>Climate Change</u> To contribute to reducing carbon emissions from all modes of transport							
To contribute to meeting the Scottish share in the reduction of carbon emissions	✓	✓	✓	✓	0	✓	✓
<u>Quality of Life</u> To protect the well being of communities and improve the regional quality of life							
To improve air quality in the region and contribute to meeting national air quality objectives	✓	✓	✓	✓	0	✓	✓
To minimise the effects of noise and vibration from transport	0	0	0	0	0	0	0
To avoid negative impacts from visual intrusion from transport infrastructure	0	0	0	0	0	0	0
To improve health and reduce inequalities through sustainable and accessible transport	✓	✓	✓	0	0	✓	✓
To enhance public access to, and understanding and appreciation of, natural and cultural heritage	✓	✓	0	0	0	✓	✓

RTS Initiatives	Crowded Corridors	Increased Bus Services	Bus Priority Measures Throughout	High Capacity Buses	Monitoring Crowding on PT Network	Hearts and Minds Campaigns	Better Utilisation of Trains
SEA Objectives							
To minimise the severance effects of transport on communities	✓	0	0	0	0	✓	✓
<u>Natural Heritage</u> To protect and enhance the natural environment and heritage of the region							
To protect and enhance biodiversity	0	0	0	0	0	0	0
To protect and enhance the landscape	0	0	0	0	0	0	0
To protect and enhance watercourses and their water quality	0	0	0	0	0	0	0
To prevent and reduce risks from flooding	0	0	0	0	0	0	0
To protect the region's geomorphology, geology and soils	0	0	0	0	0	0	0
To protect the natural environment from the negative effects of transport	0	0	0	0	0	✓	?(✓)

Table F1.8: Key Economic Links

RTS Initiatives SEA Objectives	Key Economic Links	Support for Maintenance and Development of Key Economic Corridors (not heavily used commuter corridors)	Sheriffhall Roundabout Upgrade	A801 – M9 Link	Gogar to Edinburgh Airport Road Link	Construction of Town Bypasses	Forth Crossing	Variable Bridge Tolls	PT Opportunities on New Bridge	Provide Safe Overtaking Opportunities on Strategic Road Network
<u>Climate Change</u> To contribute to reducing carbon emissions from all modes of transport										
To contribute to meeting the Scottish share in the reduction of carbon emissions	X	✓	?(x)	X	Xx	Xx	Xx	✓	✓✓	0
<u>Quality of Life</u> To protect the well being of communities and improve the regional quality of life										
To improve air quality in the region and contribute to meeting national air quality objectives	0	✓	0	?(✓)	X	?	?(x)	?(✓)	✓	0
To minimise the effects of noise and vibration from transport	0/X	0	0	?(✓)	?(x)	?(x)	?(x)	0	0	0
To avoid negative impacts from visual intrusion from transport infrastructure	X	0	?(x)	X	X	?(x)	?	0	0	0
To improve health and reduce inequalities through sustainable and accessible transport	0	?(✓)	0	0	X	X	✓	0	✓	0

RTS Initiatives	Key Economic Links	Support for Maintenance and Development of Key Economic Corridors (not heavily used commuter corridors)	Sheriffhall Roundabout Upgrade	A801 – M9 Link	Gogar to Edinburgh Airport Road Link	Construction of Town Bypasses	Forth Crossing	Variable Bridge Tolls	PT Opportunities on New Bridge	Provide Safe Overtaking Opportunities on Strategic Road Network
SEA Objectives										
To enhance public access to, and understanding and appreciation of, natural and cultural heritage	0	?(✓)	0	0	0	0	✓	0	✓	0
To minimise the severance effects of transport on communities	0	?(x/✓)	?(✓)	0	0	✓	✓	0	0	0
<u>Natural Heritage</u> To protect and enhance the natural environment and heritage of the region										
To protect and enhance biodiversity	X	?(x)	0	?(✓)	X	X	?(x)	0	0	0
To protect and enhance the landscape	X	?(x)	0	?(✓)	X	X	?(x)	0	0	0
To protect and enhance watercourses and their water quality	X	?(x)	0	?(x)	X	?(x)	?(x)	0	0	0
To prevent and reduce risks from flooding	0	0	0	0	?(x)	?(x)	0	0	0	0
To protect the region's geomorphology, geology and soils	0	0	0	0	0	?(x)	?(x)	0	0	0

RTS Initiatives	Key Economic Links	Support for Maintenance and Development of Key Economic Corridors (not heavily used commuter corridors)	Sheriffhall Roundabout Upgrade	A801 – M9 Link	Gogar to Edinburgh Airport Road Link	Construction of Town Bypasses	Forth Crossing	Variable Bridge Tolls	PT Opportunities on New Bridge	Provide Safe Overtaking Opportunities on Strategic Road Network
SEA Objectives										
To protect the natural environment from the negative effects of transport	X	0	0	X	X	X	X	0	0	0
<u>Cultural Heritage</u> To protect and enhance the cultural heritage of the region										
To protect the archaeological and historic resources of the region and their settings	0	0	0	0	X	X	?(x)	0	0	0
To protect the unique character of townscapes and their settings	0	0	0	0	0	✓	0	0	0	0
<u>Materials Assets and Resources</u> To make wise use of the region's assets and resources										
To reduce consumption of finite resources	X	0	0	?(x)	X	X	X	0	✓	0
To avoid sterilisation of mineral resources	0	0	0	0	0	?(x)	0	0	0	0
To minimise waste and recover and recycle resources efficiently	X	0	0	?(x)	X	X	X	0	0	0
To promote sustainable planning, design and construction methods	0	0	0	? (✓/x)	? (✓/x)	? (✓/x)	? (✓/x)	0	0	0

Table F2.1: Region Wide Proposals (i) Travel Behaviour – ‘Smarter Choices’ (ii) Ticketing Arrangements (iii) Freight

RTS Initiatives	Travel Behaviour	Facilitation of Voluntary Travel Plans	Development Control Standards and Travel Plans	Car Share Schemes & Residential Travel Plans	OPTIMUM Marketing of Sustainable Transport at Large Employment Areas	Facilitate Tele-Working	Travel Plan Framework	Awareness Campaigns on Sustainable Modes	Ticketing Arrangements	Promoting Through Ticketing	Regional Taxi-Card	Freight	Regional Freight Partnership	HGV Parks, Route Bans, Signing Strategy
SEA Objectives														
Climate Change														
To contribute to reducing carbon emissions from all modes of transport														
To contribute to meeting the Scottish share in the reduction of carbon emissions	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	0	? (x/✓)	0
Quality of Life														
To protect the well being of communities and improve the regional quality of life														
To improve air quality in the region and contribute to meeting national air quality objectives	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	0	0	? (x/✓)	0
To minimise the effects of noise and vibration from transport	0	0	0	0	0	0	0	0	0	0	0	?	? (x/✓)	? (✓)
To avoid negative impacts from visual intrusion from transport infrastructure	0	0	0	0	0	0	0	0	0	0	0	0	0	? (x)
To improve health and reduce inequalities through sustainable and accessible transport	✓	✓	✓	✓	✓	0	✓	✓✓	✓	✓	✓	0	0	0
To enhance public access to, and understanding and appreciation of, natural and cultural heritage	0	0	0	0	0	0	0	✓	✓	✓	✓	0	0	0

RTS Initiatives	Travel Behaviour	Facilitation of Voluntary Travel Plans	Development Control Standards and Travel Plans	Car Share Schemes & Residential Travel Plans	OPTIMUM Marketing of Sustainable Transport at Large Employment Areas	Facilitate Tele-Working	Travel Plan Framework	Awareness Campaigns on Sustainable Modes	Ticketing Arrangements	Promoting Through Ticketing	Regional Taxi-Card	Freight	Regional Freight Partnership	HGV Parks, Route Bans, Signing Strategy
SEA Objectives														
To minimise the severance effects of transport on communities	0	0	0	0	0	0	0	0	0	0	0	?	? (x/√)	? (√)
Natural Heritage To protect and enhance the natural environment and heritage of the region														
To protect and enhance biodiversity	0	0	0	0	0	0	0	0	0	0	0	0	0	0
To protect and enhance the landscape	0	0	0	0	0	0	0	0	0	0	0	0	0	? (x)
To protect and enhance watercourses and their water quality	0	0	0	0	0	0	0	0	0	0	0	0	0	0
To prevent and reduce risks from flooding	0	0	0	0	0	0	0	0	0	0	0	0	0	0
To protect the region's geomorphology, geology and soils	0	0	0	0	0	0	0	0	0	0	0	0	0	0
To protect the natural environment from the negative effects of transport	✓	✓	✓	✓	✓	✓	✓	✓	0	0	0	? (x)	? (x)	? (x)

Table F2.2: Region Wide Proposals (iv) Parking (v) Congestion Charging (vi) Safety (vii) Public Transport – Vehicles (viii) Public Transport - Fares

RTS Initiatives	Parking	Consistent Set of Maximum Parking Standards	Regional Parking Management Policy, Decriminalised Parking	Congestion Charging	Congestion Charging & Variable Bridge Tolls	Safety	Regional Road Safety Plan	Safer Routes to Schools	Public Transport - Vehicles	Grants to promote LEVs and Biodiesel	Minimum Standards for Public Transport Vehicle	Public Transport – Fares	Fares Measures
SEA Objectives													
<u>Climate Change</u> To contribute to reducing carbon emissions from all modes of transport													
To contribute to meeting the Scottish share in the reduction of carbon emissions	✓	✓	✓	✓	✓	✓	0	✓✓	✓	✓✓	✓	✓	✓
<u>Quality of Life</u> To protect the well being of communities and improve the regional quality of life													
To improve air quality in the region and contribute to meeting national air quality objectives	✓	✓	✓	✓	✓	✓	0	✓✓	✓	✓✓	✓	✓	✓
To minimise the effects of noise and vibration from transport	0	0	0	✓	✓	✓	0	✓	✓	0	✓	0	0
To avoid negative impacts from visual intrusion from transport infrastructure	0	?(✓)	0	0	0	0	0	0	0	0	0	0	0
To improve health and reduce inequalities through sustainable and accessible transport	✓	✓	0	✓	✓	✓	✓	✓✓	✓	✓	✓	✓	✓

RTS Initiatives													
SEA Objectives	Parking	Consistent Set of Maximum Parking Standards	Regional Parking Management Policy, Decriminalised Parking	Congestion Charging	Congestion Charging & Variable Bridge Tolls	Safety	Regional Road Safety Plan	Safer Routes to Schools	Public Transport - Vehicles	Grants to promote LEVs and Biodiesel	Minimum Standards for Public Transport Vehicle	Public Transport – Fares	Fares Measures
To protect the natural environment from the negative effects of transport	✓	✓	✓	✓	✓	✓	0	✓	✓	✓	✓	0	0
Cultural Heritage To protect and enhance the cultural heritage of the region													
To protect the archaeological and historic resources of the region and their settings	0	0	0	0	0	0	0	0	0	0	0	0	0
To protect the unique character of townscapes and their settings	✓	✓	✓	?(✓)	?(✓)	0	0	0	0	0	0	0	0
Materials Assets and Resources To make wise use of the region's assets and resources													
To reduce consumption of finite resources	✓	✓	✓	✓	✓	✓	0	✓✓	✓	✓	✓	✓	✓
To avoid sterilisation of mineral resources	0	0	0	0	0	0	0	0	0	0	0	0	0
To minimise waste and recover and recycle resources efficiently	0	0	0	0	0	0	0	0	✓	0	✓	0	0
To promote sustainable planning, design and construction methods	✓	✓	✓	0	0	0	0	0	✓	0	✓	0	0

Table F2.3: Region Wide Proposals (ix) Public Transport – Integration (x) Public Transport – Information (xi) Urban Design (xii) Enforcement

RTS Initiatives	Public Transport - Integration	Bus and Rail Timetable and Service Integration	Improved Pedestrian and Cycle Access to PT Facilities	Public Transport – Information	Real Time Information	Mobility Impaired Transport Information	SESTRAN Public Transport Map	Urban Design	Shared Surface Pilots	Design Standards for Sustainable Settlements & Streetscapes	Enforcement	Bus Lane Enforcement Cameras	Unified Bus Lane Operating Hours
SEA Objectives													
<u>Climate Change</u> To contribute to reducing carbon emissions from all modes of transport													
To contribute to meeting the Scottish share in the reduction of carbon emissions	✓	✓	✓	✓	✓	0	✓	✓	0	✓		0	0
<u>Quality of Life</u> To protect the well being of communities and improve the regional quality of life													
To improve air quality in the region and contribute to meeting national air quality objectives	✓	✓	✓	✓	✓	0	✓	0	0	0	0	0	0
To minimise the effects of noise and vibration from transport	0	0	0	0	0	0	0	0	0	0	0	0	0
To avoid negative impacts from visual intrusion from transport infrastructure	0	0	0	0	0	0	0	✓	0	✓	0	0	0

To promote sustainable planning, design and construction methods	To minimise waste and recover and recycle resources efficiently	SEA Objectives	RTS Initiatives			
				0	0	Public Transport - Integration
				0	0	Bus and Rail Timetable and Service Integration
				0	0	Improved Pedestrian and Cycle Access to PT Facilities
				0	0	Public Transport – Information
				0	0	Real Time Information
				0	0	Mobility Impaired Transport Information
				0	0	SESTRAN Public Transport Map
				✓	✓	Urban Design
				✓	0	Shared Surface Pilots
				✓	✓	Design Standards for Sustainable Settlements & Streetscapes
				0	0	Enforcement
				0	0	Bus Lane Enforcement Cameras
				0	0	Unified Bus Lane Operating Hours

Table F2.4: Region Wide Proposals (xiii) Cycling (ix) Other Area Wide Initiatives

RTS Initiatives	Cycling	Urban Cycle Networks	Rural Cycle Networks	Other Area Wide Measures	Tourist Signing Strategy	Community and Accessible Transport Services	Regional Standards for ITS Measures	City Car Clubs
SEA Objectives								
<u>Climate Change</u> To contribute to reducing carbon emissions from all modes of transport								
To contribute to meeting the Scottish share in the reduction of carbon emissions	✓	✓	✓	0	0	0	0	✓
<u>Quality of Life</u> To protect the well being of communities and improve the regional quality of life								
To improve air quality in the region and contribute to meeting national air quality objectives	✓	✓✓	✓	0	0	0	0	✓
To minimise the effects of noise and vibration from transport	✓	✓	0	0	0	0	0	0
To avoid negative impacts from visual intrusion from transport infrastructure	0	0	0	0	0	0	0	0
To improve health and reduce inequalities through sustainable and accessible transport	✓✓	✓✓	✓✓	0	0	✓	0	0

Table F3.1: Specific Areas (i) Access to Healthcare (ii) Access to Employment (iii) Demand Responsive Transport & Other Services for Mobility Impaired Travellers

RTS Initiatives	Access to Healthcare	Improving PT links to, and between, hospitals	Promoting Best Practice	Access to Employment	Improved PT links and services to areas of employment (with consultation)	Demand Responsive Transport & Other Services for Mobility Impaired Travellers	Enhanced Demand Responsive Transport and Other Services
SEA Objectives							
<u>Climate Change</u> To contribute to reducing carbon emissions from all modes of transport							
To contribute to meeting the Scottish share in the reduction of carbon emissions	✓	✓	✓	✓	✓	0	0
<u>Quality of Life</u> To protect the well being of communities and improve the regional quality of life							
To improve air quality in the region and contribute to meeting national air quality objectives	✓	✓	✓	✓	✓	0	0
To minimise the effects of noise and vibration from transport	0	0	0	0	0	0	0
To avoid negative impacts from visual intrusion from transport infrastructure	0	0	0	0	0	0	0
To improve health and reduce inequalities through sustainable and accessible transport	✓	✓✓	✓	✓	✓	✓✓	✓✓

RTS Initiatives	Access to Healthcare	Improving PT links to, and between, hospitals	Promoting Best Practice	Access to Employment	Improved PT links and services to areas of employment (with consultation)	Demand Responsive Transport & Other Services for Mobility Impaired Travellers	Enhanced Demand Responsive Transport and Other Services
SEA Objectives							
To protect the natural environment from the negative effects of transport	0	0	0	0	0	0	0
<u>Cultural Heritage</u> To protect and enhance the cultural heritage of the region							
To protect the archaeological and historic resources of the region and their settings	0	0	0	0	0	0	0
To protect the unique character of townscapes and their settings	0	0	0	0	0	0	0
<u>Materials Assets and Resources</u> To make wise use of the region's assets and resources							
To reduce consumption of finite resources	✓	✓	✓	✓	✓	0	0
To avoid sterilisation of mineral resources	0	0	0	0	0	0	0
To minimise waste and recover and recycle resources efficiently	0	0	0	0	0	0	0
To promote sustainable planning, design and construction methods	0	0	0	0	0	0	0

Appendix G Appraisal Matrices for RTS Themes, Complete RTS and Cumulative Effects

Group 1 Network Based Initiatives

RTS Theme – Network Based Initiatives							
Scale: ✓ broadly supportive, ✓✓ strong compatibility, 0 neutral or no discernible effect, x negative/incompatible, xx strongly incompatible, ? uncertain effect, ? (✓/x) uncertain possible positive/negative							
Sustainability Objective	Potential Impacts	Mitigation	Nature of Residual Effect	Assessment of Residual Effect			Comments
				Short term	Med term	Long term	
Climate Change To contribute to reducing carbon emissions from all modes of transport							
To contribute to meeting the Scottish share in the reduction of carbon emissions	✓	SESTRAN to encourage delivery of RTS. Promote measures to discourage private road transport and encourage public transport.	✓	Effect will be greater over time as more measures in the RTS are implemented.			Effect dependent on level of modal shift. RTS had potential to reduce predicted traffic growth but not to reverse it by 2015. Effect will be greater over time as more measures in the RTS are implemented. If the RTS promoted and delivered greater modal shift targets then a much stronger contribution to carbon reduction targets could be achieved. The modelling indicates that a Stage 1 mode share target results in a 15% growth in commuter traffic from 2001 to 2015. Stage 2 minus 4% and stage 3 minus 8% as compared with the Stage 1 growth represents an increase in 7% and 11% for Stage 2 and Stage 3 over Stage 1.
Quality of Life To protect the well being of communities and improve the regional quality of life							
To improve air quality in the region and contribute to meeting national air quality objectives	✓	SESTRAN to encourage delivery of RTS. Promote measures to discourage private road transport and encourage public transport.	✓	Effect will be greater over time as more measures in the RTS are implemented.			Effect dependent on level of modal shift. RTS had potential to reduce predicted traffic congestion but not to reverse it by 2015. Effect will be greater over time as more measures in the RTS are implemented.
To minimise the effects of noise and vibration from transport	0 (X for new infrastructure)	Adequate noise reduction measures in infrastructure plans	0				There may be some significant effects from new infrastructure projects at some properties. These would require definition as part of the Environmental Impact Assessment (EIA) for those projects.
To avoid negative impacts from visual intrusion from transport infrastructure	0	Measures defined in the relevant Environmental Statements will require to be implemented to ensure that visual impacts are not significant	0				Detailed visual mitigation measures would require definition as part of the EIA for all significant infrastructure projects. RTS contains few interventions with potential for significant visual intrusion.
To improve health and reduce inequalities through sustainable and accessible transport	✓	SESTRAN to encourage delivery of RTS. Promote measures to discourage private road transport and encourage public transport.	✓	Effect will be greater over time as more measures in the RTS are implemented			Promotion of good health is dependent on reducing private road transport and its emissions, and promoting more sustainable modes (eg cycling and walking).
To enhance public access to, and understanding and appreciation of, natural and cultural heritage	✓	Ensure that when all relevant measures of the RTS are implemented that opportunities for public access are maximised	✓	Effect will be greater over time as more measures in the RTS are implemented			Effective public transport interchange will help to achieve this objective and measures to promote cycling, walking and public transport opportunities for all abilities.
To minimise the severance effects of transport on communities	0 (? X for tram proposals)	Implementation of measures to facilitate public crossing points of any new tram lines	0	Depends on timescale of implementation			It is not considered that the proposed bus service enhancement measures would significantly affect severance.
Natural Environment To protect and enhance the natural environment and heritage of the region							
To protect and enhance biodiversity	0 (X for new infrastructure)	Adequate biodiversity mitigation measures in infrastructure plans and projects	0	Mitigation measures have the potential to enhance local biodiversity in the longer term with good management			There may be some significant effects from new infrastructure projects at some locations. These would require definition as part of the EIA for those projects. Appropriate Assessment will be required for all projects with potential to affect the integrity of the Firth of Forth SPA.
To protect and enhance the landscape	0 (X for new infrastructure)	Adequate landscape mitigation and design measures in infrastructure plans and projects	0 (? X for new infrastructure)	New landscape planting will become more effective in the longer term if well maintained			There may be some significant effects from new infrastructure projects at some locations. These would require definition as part of the EIA for those projects.
To protect and enhance watercourses and their water quality	0 (X for new infrastructure)	Implementation of SUDS and compliance with Controlled Activities Regulations for new projects	0				Routine monitoring of watercourses affected by new infrastructure would indicate the adequacy of implemented mitigation measures.
To prevent and reduce risks from flooding	0	Implementation of SUDS and other flood attenuation measures as part of new infrastructure projects would help to mitigate flood risk resulting from the projects	0				New infrastructure will need to be designed and constructed to withstand sea level rise and the effects of climate change through increased fluvial flood risk.

RTS Theme – Network Based Initiatives							
Scale: ✓ broadly supportive, ✓✓ strong compatibility, 0 neutral or no discernible effect, x negative/incompatible, xx strongly incompatible, ? uncertain effect, ? (✓/x) uncertain possible positive/negative							
Sustainability Objective	Potential Impacts	Mitigation	Nature of Residual Effect	Assessment of Residual Effect			Comments
				Short term	Med term	Long term	
To protect the region's geomorphology, geology and soils	0	All projects should be designed to avoid significant effects on designated areas and will need to manage and protect soils during construction and prevent erosion and contamination of soils during operation	0				Any new earthworks should be designed to ensure slope stability of the transport infrastructure over their design lives.
To protect the natural environment from the negative effects of transport	0 (X for new infrastructure)	Adequate mitigation measures in infrastructure plans and projects	0				There could be potential for effects, however it is not considered that air pollutants from the RTS implementation would significantly affect the natural environment in the SESTRAN region.
Cultural Heritage							
To protect and enhance the cultural heritage of the region							
To protect the archaeological and historic resources of the region and their settings	0 (X for new infrastructure)	Adequate mitigation to protect the cultural heritage from new infrastructure plans and projects including archaeological survey and appraisals of the effects of intervention on settings.	0				New planting proposals to be designed taking account of any potential risk to any unidentified archaeological remains. The design of a new crossing of the Forth, if a bridge in proximity to the Forth Rail Bridge, would need to respect the setting of the listed structure.
To protect the unique character of townscapes and their settings	0 (X for new infrastructure; ✓ for traffic reduction measures)	Any new infrastructure in towns would require to be designed to integrate with local townscapes	0 (X for tram proposals, ✓ for traffic reduction measures)				Difficult to fully mitigate tram overhead infrastructure in sensitive townscapes especially in Edinburgh World Heritage Site (WHS). Traffic reduction measures offer enhancement of townscapes through de-cluttering of streets.
Materials Assets and Resources							
To make wise use of the region's assets and resources							
To reduce consumption of finite resources	✓	Encourage public transport measures and modal shift to reduce fossil fuel use	✓	Effect will be greater over time as more measures in the RTS are implemented			Relies on rigorous implementation of RTS interventions which can achieve modal shift.
To avoid sterilisation of mineral resources	0	Project planning to avoid any areas of mineral reserves	0				RTS proposals are not planned in areas which would sterilise significant mineral or fuel reserves.
To minimise waste and recover and recycle resources efficiently	0	Encourage re-use of materials in construction schemes and seek to balance earthworks	0				Compliance with End of Life Vehicles Directive should promote uptake and markets for vehicle recycling. Focus of RTS on public transport measures reduces inefficient use of resources.
To adopt sustainable planning, design and construction methods	✓	Attention to detail in use and sourcing of materials and in design of shared spaces and public realm	✓				Car parking and shared space measures for all, have potential to contribute to the delivery of sustainable planning in the region.

Group 2 Region Wide Measures

RTS Theme – Region Wide Measures							
Scale: ✓ broadly supportive, ✓✓ strong compatibility, 0 neutral or no discernible effect, x negative/incompatible, xx strongly incompatible, ? uncertain effect, ? (✓/x) uncertain possible positive/negative							
Sustainability Objective	Potential Impacts	Mitigation	Nature of Residual Effect	Assessment of Residual Effect			Comments
				Short term	Med term	Long term	
Climate Change To contribute to reducing carbon emissions from all modes of transport							
To contribute to meeting the Scottish share in the reduction of carbon emissions	✓	SESTRAN to encourage delivery of RTS. Promote measures to discourage private road transport and encourage public transport.	✓	Effect will be greater over time as more measures in the RTS are implemented.			Effect dependent on level of modal shift. RTS had potential to reduce predicted traffic growth but not to reverse it by 2015.
Quality of Life To protect the well being of communities and improve the regional quality of life							
To improve air quality in the region and contribute to meeting national air quality objectives	✓	SESTRAN to encourage delivery of RTS. Promote measures to discourage private road transport and encourage public transport.	✓	Effect will be greater over time as more measures in the RTS are implemented.			Effect dependent on level of modal shift. RTS had potential to reduce predicted traffic congestion but not to reverse it by 2015.
To minimise the effects of noise and vibration from transport	✓	SEStran to encourage delivery of measures which support modal shift from road to PT	✓	Effect will be greater over time as more measures in the RTS are implemented.			The proposed region wide measures are not predicted to significantly affect noise and vibration. It is assumed that freight measures would not encourage increased road haulage.
To avoid negative impacts from visual intrusion from transport infrastructure	0	No specific mitigation	0				Measures not predicted to have significant visual effects.
To improve health and reduce inequalities through sustainable and accessible transport	✓	SESTRAN to encourage delivery of RTS. Promote measures to discourage private road transport and encourage public transport.	✓	Effect will be greater over time as more measures in the RTS are implemented			Promotion of good health is dependent on reducing private road transport and its emissions, and promoting more sustainable modes (eg cycling and walking).
To enhance public access to, and understanding and appreciation of, natural and cultural heritage	✓	Ensure that when all relevant measures of the RTS are implemented that opportunities for public access are maximised	✓				Effective public transport interchange will help to achieve this objective and measures to promote cycling, walking and public transport opportunities for all abilities.
To minimise the severance effects of transport on communities	0	No specific mitigation	0				Measures not predicted to significantly affect community severance.
Natural Environment To protect and enhance the natural environment and heritage of the region							
To protect and enhance biodiversity	0	No specific mitigation	0				Measures not predicted to significantly affect biodiversity.
To protect and enhance the landscape of the region	0	No specific mitigation	0				Measures not predicted to significantly affect landscape resources as majority of measures are urban specific.
To protect and enhance watercourses and their water quality	0	No specific mitigation	0				Appraisal assumes no measures would significantly affect aquatic resources and drainage.
To prevent and reduce risks from flooding	0	No specific mitigation	0				As above.
To protect the region's geomorphology, geology and soils	0	No specific mitigation	0				Measures not predicted to significantly affect geological resources and soils.
To protect the natural environment from the negative effects of transport	0	SESTRAN to encourage delivery of RTS. Promote measures to discourage private road transport and encourage public transport	0				Measures are not predicted to result in sufficient modal shift to directly benefit the natural heritage and result in positive effects.
Cultural Heritage To protect and enhance the cultural heritage of the region							

RTS Theme – Region Wide Measures							
Scale: ✓ broadly supportive, ✓✓ strong compatibility, 0 neutral or no discernible effect, x negative/incompatible, xx strongly incompatible, ? uncertain effect, ? (✓/x) uncertain possible positive/negative							
Sustainability Objective	Potential Impacts	Mitigation	Nature of Residual Effect	Assessment of Residual Effect			Comments
				Short term	Med term	Long term	
To protect the archaeological and historic resources of the region and their settings	0	No specific mitigation	0				No significant effects predicted on archaeology or cultural heritage.
To protect the unique character of townscapes and their settings	✓	Relies on delivery of regional measures in RTS.	✓	Effect will be greater over time as more measures in the RTS are implemented			Measures have potential to enhance design and reduce negative effects of traffic on townscapes.
Materials Assets and Resources							
To make wise use of the region's assets and resources							
To reduce consumption of finite resources	✓	No specific mitigation	✓				Measures promote reduction in use of fossil fuels.
To avoid sterilisation of mineral resources	0	No specific mitigation	0				Measures do not affect mineral resources.
To minimise waste and recover and recycle resources efficiently	0	No specific mitigation	0				RTS policies seek to promote reduction in waste and increased re-use and recycling of materials.
To adopt sustainable planning, design and construction methods	0	No specific mitigation	0				Design of measures should incorporate sustainable planning principles in other policies and plans.

Group 3 Initiatives for Specific Areas and Groups

RTS Theme – Initiatives for Specific Areas and Groups							
Scale: ✓ broadly supportive, ✓✓ strong compatibility, 0 neutral or no discernible effect, x negative/incompatible, xx strongly incompatible, ? uncertain effect, ? (✓/x) uncertain possible positive/negative							
Sustainability Objective	Potential Impacts	Mitigation	Nature of Residual Effect	Assessment of Residual Effect			Comments
				Short term	Med term	Long term	
Climate Change To contribute to reducing carbon emissions from all modes of transport							
To contribute to meeting the Scottish share in the reduction of carbon emissions	✓	SESTRAN to encourage delivery of RTS. Promote measures to discourage private road transport and encourage public transport.	✓	Effect will be greater over time as more measures in the RTS are implemented.			Effect dependent on level of modal shift. RTS had potential to reduce predicted traffic growth but not to reverse it by 2015.
Quality of Life To protect the well being of communities and improve the regional quality of life							
To improve air quality in the region and contribute to meeting national air quality objectives	✓	SESTRAN to encourage delivery of RTS. Promote measures to discourage private road transport and encourage public transport.	✓	Effect will be greater over time as more measures in the RTS are implemented.			Effect dependent on level of modal shift. RTS had potential to reduce predicted traffic congestion but not to reverse it by 2015.
To minimise the effects of noise and vibration from transport	0	No specific mitigation	0				No significant effects on noise and vibration are predicted.
To avoid negative impacts from visual intrusion from transport infrastructure	0	No specific mitigation	0				No significant effects on visual amenity are predicted.
To improve health and reduce inequalities through sustainable and accessible transport	✓	SESTRAN to encourage delivery of RTS. Promote measures to improve access to health facilities and employment opportunities for all.	✓	Effect will be greater over time as more measures in the RTS are implemented			SEStran should ensure that opportunities to deliver measures to improve access to health facilities and employment opportunities are promoted to reduce socio-economic inequalities in the region.
To enhance public access to, and understanding and appreciation of, natural and cultural heritage	0	No specific mitigation	0				SEStran should ensure that all opportunities are taken to facilitate access to the natural and cultural heritage for those with disabilities.
To minimise the severance effects of transport on communities	0	No specific mitigation	0				SEStran should ensure that all opportunities to reduce community severance are taken when designing and delivering specific measures.
Natural Environment To protect and enhance the natural environment and heritage of the region							
To protect and enhance biodiversity	0	No specific mitigation	0				No significant effects on biodiversity are predicted.
To protect and enhance the landscape of the region	0	No specific mitigation	0				No significant effects on landscape resources are predicted.
To protect and enhance watercourses and their water quality	0	No specific mitigation	0				No significant effects on water quality or resources are predicted.
To prevent and reduce risks from flooding	0	No specific mitigation	0				No significant flooding effects are predicted.
To protect the region's geomorphology, geology and soils	0	No specific mitigation	0				No significant effects on geology and soils are predicted.
To protect the natural environment from the negative effects of transport	0	No specific mitigation	0				No significant effects are predicted.
Cultural Heritage To protect and enhance the cultural heritage of the region							
To protect the archaeological and historic resources of the region and their settings	0	No specific mitigation	0				No significant effects on archaeology and cultural heritage are predicted.

RTS Theme – Initiatives for Specific Areas and Groups							
Scale: ✓ broadly supportive, ✓✓ strong compatibility, 0 neutral or no discernible effect, x negative/incompatible, xx strongly incompatible, ? uncertain effect, ? (✓/x) uncertain possible positive/negative							
Sustainability Objective	Potential Impacts	Mitigation	Nature of Residual Effect	Assessment of Residual Effect			Comments
				Short term	Med term	Long term	
To protect the unique character of townscapes and their settings	0	No specific mitigation	0				No significant effects on townscapes are predicted.
Materials Assets and Resources To make wise use of the region's assets and resources							
To reduce consumption of finite resources	0	No specific mitigation	0				Greater use of public transport to access health and employment has potential to cut consumption of fossil fuels.
To avoid sterilisation of mineral resources	0	No specific mitigation	0				No significant effects on mineral resources are predicted.
To minimise waste and recover and recycle resources efficiently	0	No significant mitigation	0				No significant material resource effects are predicted.
To adopt sustainable planning, design and construction methods	0	No significant mitigation	0				Proposed measures are not predicted to contribute significantly to sustainable design and planning.

Table 4 Combined RTS Measures and Initiatives

Combined RTS Measures and Initiatives							
Scale: ✓ broadly supportive, ✓✓ strong compatibility, 0 neutral or no discernible effect, x negative/incompatible, xx strongly incompatible, ? uncertain effect, ? (✓/x) uncertain possible positive/negative							
Sustainability Objective	Potential Impacts	Mitigation	Nature of Residual Effect	Assessment of Residual Effect			Comments
				Short term	Med term	Long term	
Climate Change To contribute to reducing carbon emissions from all modes of transport							
To contribute to meeting the Scottish share in the reduction of carbon emissions	✓	SESTRAN to encourage delivery of RTS. Promote measures to discourage private road transport and encourage public transport.	✓	Effect will be greater over time as more measures and initiatives in the RTS are implemented.			Effect dependent on level of modal shift. RTS had potential to reduce predicted traffic growth but not to reverse it by 2015. Effect will be greater over time as more measures in the RTS are implemented. If the RTS promoted and delivered greater modal shift targets then a much stronger contribution to carbon reduction targets could be achieved. The modelling indicates that a Stage 1 mode share target results in a 15% growth in commuter traffic from 2001 to 2015. Stage 2 minus 4% and stage 3 minus 8% as compared with the Stage 1 growth represents an increase in traffic of 7% and 11% for Stage 2 and Stage 3 over Stage 1.
Quality of Life To protect the well being of communities and improve the regional quality of life							
To improve air quality in the region and contribute to meeting national air quality objectives	✓	SESTRAN to encourage delivery of RTS. Promote measures to discourage private road transport and encourage public transport.	✓	Effect will be greater over time as more measures in the RTS are implemented.			Effect dependent on level of modal shift. RTS has potential to reduce traffic flows and congestion but not to reverse them by 2015 (compared with 2001). Effect will be greater over time as more measures in the RTS are implemented. Implementation of local interventions could help to address specific local air quality hotspots. Local Transport Strategies (LTS) could provide the mechanism to deliver further benefits.
To minimise the effects of noise and vibration from transport	0 (X for new infrastructure)	SESTRAN to encourage delivery of measures which support modal shift from road to PT Adequate noise reduction measures to address potential impacts from new infrastructure proposals	0 to ✓	Effect will be greater over time as more measures in the RTS are implemented.			Measures which have potential to deliver modal shift are not predicted to significantly affect noise and vibration although local benefits could result from specific interventions. Local Transport Strategies (LTS) could provide the mechanism to deliver further benefits. The appraisal has assumed that freight measures would not encourage increased road haulage. There may be some significant effects from new infrastructure projects at some properties. These would require definition as part of the Environmental Impact Assessment (EIA) for those projects and specific mitigation to be defined such as low noise surfacing, noise barriers etc.
To avoid negative impacts from visual intrusion from transport infrastructure	0	Measures defined in the relevant Environmental Statements will require to be implemented to ensure that visual impacts are not significant	0				Detailed visual mitigation measures would require definition as part of the EIA for significant infrastructure projects. The RTS contains few interventions with potential for significant visual intrusion.
To improve health and reduce inequalities through sustainable and accessible transport	✓	SESTRAN to encourage delivery of RTS. Promote measures to discourage private road transport and encourage public transport and to promote measures to improve access to health facilities and employment opportunities for all	✓	Effect will be greater over time as more measures in the RTS are implemented			Promotion of good health is dependent on reducing private road transport and its emissions, and promoting more sustainable modes (eg cycling and walking). SEStran should ensure that opportunities to deliver measures to improve access to health facilities and employment opportunities are promoted to reduce socio-economic inequalities in the region.
To enhance public access to, and understanding and appreciation of, natural and cultural heritage	✓	Ensure that when all relevant measures of the RTS are implemented that opportunities for public access are maximised	✓	Effect will be greater over time as more measures in the RTS are implemented			Interventions including effective public transport interchanges and measures to promote cycling, walking and public transport opportunities for all abilities will help to achieve this objective. SEStran should also ensure that all opportunities are taken to facilitate access to the natural and cultural heritage for those with disabilities.

Combined RTS Measures and Initiatives							
Scale: ✓ broadly supportive, ✓✓ strong compatibility, 0 neutral or no discernible effect, x negative/incompatible, xx strongly incompatible, ? uncertain effect, ? (✓/x) uncertain possible positive/negative							
Sustainability Objective	Potential Impacts	Mitigation	Nature of Residual Effect	Assessment of Residual Effect			Comments
				Short term	Med term	Long term	
To minimise the severance effects of transport on communities	0 (? X for tram proposals)	Implementation of measures to facilitate public crossing points of any new tram lines SEStran should ensure that all opportunities to reduce community severance are taken when designing and delivering interventions.	0	Depends on timescale of implementation			It is not considered that the proposed bus service enhancement measures would significantly affect severance.
Natural Environment To protect and enhance the natural environment and heritage of the region							
To protect and enhance biodiversity	0 (X for new infrastructure)	Adequate biodiversity mitigation measures in infrastructure plans and projects including planting proposals to enhance local biodiversity	0	There may be some significant effects from new infrastructure projects at some locations. These would require definition of specific mitigation as part of the EIA for those projects Mitigation measures have the potential to enhance local biodiversity in the longer term with good management			Appropriate Assessment will be required for all new infrastructure projects with the potential to affect the integrity of the Firth of Forth SPA.
To protect and enhance the landscape	0 (X for new infrastructure)	Adequate landscape mitigation and design measures in infrastructure plans and projects including sensitive landforming and planting schemes	0 (? X for new infrastructure)	There may be some significant landscape effects from new infrastructure projects at some locations. These would require definition as part of the EIA for those projects. New landscape planting will become more effective in the longer term if well maintained			The RTS contains few interventions with potential for significant landscape effects.
To protect and enhance watercourses and their water quality	0 (X for new infrastructure)	Implementation of best practice measures including SUDS and compliance with Controlled Activities Regulations for new projects	0				Implementation of best construction practice would ensure that significant effects are avoided. Routine monitoring of watercourses (where it is undertaken) affected by new infrastructure would indicate the adequacy of implemented mitigation measures.
To prevent and reduce risks from flooding	0	Implementation of SUDS and other flood attenuation measures as part of new infrastructure projects would help to mitigate flood risk resulting from new infrastructure projects Any new infrastructure will need to be designed and constructed to withstand sea level rise and the effects of climate change through increased fluvial flood risk.	0				The RTS contains few interventions with potential to increase flood risk.
To protect the region's geomorphology, geology and soils	0	All projects to be designed to avoid significant effects on designated areas and will need to manage and protect soils and drift deposits during construction and to prevent erosion and contamination of soils during operation Any new earthworks should be designed to ensure slope stability of the transport infrastructure over their design lives.	0				The RTS contains few interventions with potential to affect geology, geomorphology and soils.

Combined RTS Measures and Initiatives							
Scale: ✓ broadly supportive, ✓✓ strong compatibility, 0 neutral or no discernible effect, x negative/incompatible, xx strongly incompatible, ? uncertain effect, ? (✓/x) uncertain possible positive/negative							
Sustainability Objective	Potential Impacts	Mitigation	Nature of Residual Effect	Assessment of Residual Effect			Comments
				Short term	Med term	Long term	
To protect the natural environment from the negative effects of transport	0 (X for new infrastructure)	Adequate mitigation measures in infrastructure plans and projects SESTRAN to encourage delivery of RTS. Promote measures to discourage private road transport and encourage public transport and other sustainable modes of travel	0				There could be potential for effects, however it is not considered that air pollutants from the RTS implementation would significantly affect the natural environment in the SESTRAN region. Measures are not predicted to result in sufficient modal shift to significantly benefit the natural heritage and result in positive effects.
Cultural Heritage To protect and enhance the cultural heritage of the region							
To protect the archaeological and historic resources of the region and their settings	0 (X for new infrastructure)	Adequate mitigation to protect the cultural heritage from new infrastructure plans and projects including archaeological survey and appraisals of the effects of intervention on settings New planting proposals to be designed taking account of any potential risk to any unidentified archaeological remains, the setting of cultural heritage sites and historic landscapes. The design of a new crossing of the Forth, if a bridge in proximity to the Forth Rail Bridge, would need to respect the setting of the listed structure.	0				The RTS contains few interventions with potential to negatively affect archaeology and cultural heritage. Modal shift would have potential to enhance the setting of historic townscapes and features through reductions in traffic flows and congestion etc.
To protect the unique character of townscapes and their settings	0 (X for new infrastructure; ✓ for traffic reduction measures)	Any new infrastructure in towns would require to be designed to integrate with local townscapes Relies on delivery of regional measures in RTS and local measures in LTSs to reduce traffic in towns	0 (X for tram proposals, ✓ for traffic reduction measures)	Effect will be greater over time as more measures in the RTS are implemented			Difficult to fully mitigate tram overhead infrastructure in sensitive townscapes especially in Edinburgh World Heritage Site (WHS). Traffic reduction measures offer enhancement of townscapes through de-cluttering of streets. Measures have potential to reduce negative effects of traffic on townscapes.
Materials Assets and Resources To make wise use of the region's assets and resources							
To reduce consumption of finite resources	✓	Encourage public transport measures and modal shift to reduce fossil fuel use	✓	Effect will be greater over time as more measures in the RTS are implemented			Relies on rigorous implementation of RTS interventions which can achieve modal shift. Measures cumulatively can promote reduction in use of fossil fuels through traffic reduction and promotion of sustainable modes Greater use of public transport to access health and employment has potential to cut consumption of fossil fuels
To avoid sterilisation of mineral resources	0	Project planning to avoid any areas of mineral reserves	0				RTS proposals are not planned in areas which would sterilise significant mineral or fuel reserves.
To minimise waste and recover and recycle resources efficiently	0	Encourage re-use of materials in construction schemes and seek to balance earthworks for new infrastructure projects	0				Compliance with End of Life Vehicles Directive should promote uptake and markets for vehicle recycling. Focus of RTS on public transport measures reduces inefficient use of resources. RTS policies seek to promote reduction in waste and increased re-use and recycling of materials

Combined RTS Measures and Initiatives							
Scale: ✓ broadly supportive, ✓✓ strong compatibility, 0 neutral or no discernible effect, x negative/incompatible, xx strongly incompatible, ? uncertain effect, ? (✓/x) uncertain possible positive/negative							
Sustainability Objective	Potential Impacts	Mitigation	Nature of Residual Effect	Assessment of Residual Effect			Comments
				Short term	Med term	Long term	
To adopt sustainable planning, design and construction methods	✓	Design of measures should incorporate sustainable planning principles in other policies and plans Attention to detail in use and sourcing of materials and in design of shared spaces and public realm	✓	Not time related			Car parking and shared space measures for all, have potential to contribute to the delivery of sustainable planning in the region.