Regional Transport Strategy 2021
Strategic Environmental Assessment

March 2007

Prepared for:

Nestrans
Archibald Simpson House
27-29 King Street
Aberdeen City Council
AB24 5AA

01224 625524
www.nestrans.org.uk

Prepared by:

Steer Davies Gleave
68-70 George Street
Edinburgh
EH2 2LR

0131 226 9500
www.steerdaviesgleave.com

1 Introduction

The Strategic Environmental Assessment (SEA) process is being applied to the Nestrans RTS, under the SEA Regulations[1] which require that the environmental consequences of certain plans and programmes are identified and assessed during their preparation and after their adoption. This report summarises the process of Strategic Environmental Assessment, includes the Environmental Report, as circulated to the SEA Gateway and made available for public consultation in December 2006 - February 2007, the formal responses from the statutory consultees and a summary of he key changes made to the strategy to take account of the responses.

A SEA statement will be produced after the approval of the Regional Transport Strategy, which will take the form of a post-adoption statement and will address the specific issues identified by the statutory consultees. This is likely to be completed in summer 2007 after Ministerial approval of the strategy.

2 Environmental Report

The Environmental Report was prepared by Steer Davies Gleave, utilising information collated by the two local authorities in the preparation of their Local Transport Strategies. The report was submitted to the SEA Gateway on 13 December 2006 for eight weeks consultation.

3 SEA Gateway Responses

The responses received from the three consultees (Scottish Natural Heritage, Scottish Environmental Protection Agency and Historic Scotland) are attached as Appendices to this report.

4 Summary of Key Points made by Consultation Authorities

Overview

In general, the Consultation Authorities did not raise any major concerns relating to the Environmental Report or the SEA process as applied to the Nestrans RTS. Some concerns were raised about:

- how the SEA process has influenced the RTS development;
- specific impacts of schemes which will need further investigation in the future, given the current level of information available; and
- lack of clarity over how impacts will be mitigated

Action has been taken to ensure that the final version of the RTS takes account of these concerns.

Process

The Consultation Authorities were not clear on how the SEA process had influenced the formation or sifting of the preferred strategy. SNH conclude that the preferred option was pre-selected and then tested against SEA objectives, as opposed to SEA objectives influencing the development of options, which whilst adequate, is a missed opportunity. Comments suggest it

[1] Scottish Statutory Instrument 2004 No. 258 - The Environmental Assessment of Plans and Programmes (Scotland) Regulations 2004.

would have been desirable to test RTS objectives and the individual options more fully against SEA objectives, instead of merely using the indicator of “car miles” to test packages of options.

A concern was raised that it was not clear if any changes had been or will be made to the RTS as a result of the environmental assessment.

5 Assessment of Impacts

Various specific issues were raised with regards the assessment of impacts. In general, the Consultation Authorities agreed that the level of the draft RTS proposals inhibited a detailed assessment of environmental impacts, and recommended that further assessment should be carried out at the appropriate stage/level. Specific comments on impacts that need attention as Nestrans is further developing the RTS include:

- Whilst the draft RTS indicated a **key impact of 0.2% reduction in private car use,** which is positive, this is so statistically small that it could be outweighed by increases in freight or air traffic.
- SEPA questioned the omission of the **Aberdeen Western Peripheral Route** from the Assessment.
- There were concerns about the impacts of developments in the **River Dee catchment**, specifically improvements to the A944 and Park and Ride on A93 at Banchory. (SNH)
- Impacts on **Natura** sites should be examined at the Local Transport Strategy and project level. (SNH)
- EL3 **Connections by Sea** – EIA would be required to consider potential impacts on marine biodiversity and marine archaeology, and there may be uncertain impacts on the terrestrial historic environment. (HS)
- NC4 **Aberdeen City Centre Interchange** – Aberdeen railway station is an A-listed building, and this needs to be considered in the assessment of impacts. (HS)
- NC4 **Aberdeenshire Towns** – proposals for Park and Ride and new infrastructure may have negative or uncertain impacts on the historic environment. (HS)
- **Air quality**: Nestrans should identify means that will assist Aberdeen City Council in improving air quality within the AQMA. Strategic road improvements may have a positive benefit on air quality if congestion is relieved, however the improvements could lead to increased traffic flows and a net increase in emissions of greenhouse gases. The impacts of any strategic improvements should be evaluated prior to commissioning of any schemes. (SEPA)
- **Greenhouse Gas Emissions**: (See related point above in Air Quality) It was agreed that none of the proposed measures should result in a significant deterioration in air quality or significant increase in greenhouse gas emissions, although any increase in flights at the airport will outweigh any benefits of improved public transport service to the airport. A net carbon balance of each measure in the RTS as proposed by the Scottish Executive for future NTS’s would be beneficial. (SEPA)
- **Water**: The issue of water quantity, as well as quality, should be addressed. Updated flood maps are now available (November 2006) and should be fed into the final development of the RTS and the Environmental Report. (SEPA)
- **Noise**: There is limited coverage on the issue of noise (due to limited information being available on this) – however, the Environmental Noise Directive 2002/49/EC places responsibilities on government (including local authorities) to give greater priority to the issue of noise, and this Directive comes into force in 2007. The competent authorities will be responsible for aspects such as making and, where relevant, approving noise maps and action plans for agglomerations, major roads, major railways and major airports; delimiting quiet areas and collecting noise maps and action plans. (SEPA)

- **Health**: The RTS may / will have negative impacts on health with regard to noise, especially where there are to be increased traffic flows on the roads, air and rail. (SEPA)

6 Future Mitigation

It was suggested that it would be helpful to set out all mitigation measures in a way that clearly identified the measures required, when they would be required and who will be required to implement them. Without the consistent application of such measures it may not be valid to conclude that the RTS will not have any major identifiable detrimental impacts on the environment.

In particular, mitigation measures are required to address the potential negative environmental impacts from flooding and noise, whilst a positive approach to promoting and implementing sustainable drainage systems will address some of the potential negative impacts of new and improved transportation networks.

Mitigation for impacts on landscape should include recognition of the importance of landscape character and visual amenity and the need to ensure that transport designs both reflect and are sympathetic to these.

Transport developments can lead to enhancement for biodiversity, including where the appropriate treatment of road verges is applied, and the removal of alien exotic species. Stronger mitigation measures for the historic environment might include a policy commitment in the RTS to ensure that proposal/project level mitigation measures are taken forward as the strategy is implemented; and the inclusion of specific measures such as formal EIA screening of any scheme with potential impacts, and consideration of where the scheme requires consultation under the General Permitted Development Order.

7 Next Steps in SEA Process

A final step in this stage of the SEA process is to produce an **Environmental Statement**, as soon as is reasonably practical after the adoption of the final RTS. This is considered to be most practically undertaken after approval of the Strategy by Scottish Ministers. This Statement will set out how the findings of the Environmental Report and the consultation feedback have been taken into account in the RTS and include a table of proposed mitigations, as suggested above. Thereafter, Nestrans will endeavour to ensure that the mitigation measures and processes proposed are applied throughout the implementation of the strategy, and that environmental impacts are monitored, recognising that SEA is essentially an ongoing process throughout the lifetime of the RTS.

As individual schemes and proposals are brought forward towards implementation, it will be normal practice to prepare a STAG analysis and this will ensure that environmental factors are fully accounted. Environmental Impact Analysis will also be prepared for more significant schemes.

STRATEGIC ENVIRONMENTAL ASSESSMENT OF THE NESTRANS REGIONAL TRANSPORT STRATEGY

Environmental Report

Report

November 2006

Prepared for:

Nestrans
Archibald Simpson House
27-29 King Street
Aberdeen
AB24 5AA

01224 625524
www.nestrans.org.uk

Prepared by:

Steer Davies Gleave
68-70 George Street
Edinburgh
EH2 2LR

+44 (0)131 226 9500
www.steerdaviesgleave.com

NON-TECHNICAL SUMMARY **1**

1. INTRODUCTION **5**

About this report 5

The SEA process and stages completed to date 6

Structure of the Environmental Report 7

2. THE REGIONAL TRANSPORT STRATEGY **8**

NESTRANS RTS 8

The RTS's relationship with other plans and programmes 10

3. BASELINE ENVIRONMENT **11**

Overview 11

Regional Transport Strategy: Environmental baseline 12

Traffic levels 19

Air Quality levels 20

Maps of the North East Scotland Environmental Baseline 21

SEA objectives and indicators 24

4. ALTERNATIVE OPTIONS **26**

SEA context – the need for alternative options 26

The 'without-plan' scenario 26

Presenting the alternatives 27

Assessment of alternatives 30

Environmental appraisal of alternatives 32

5. ASSESSMENT OF ENVIRONMENTAL EFFECTS OF PREFERRED STRATEGY **34**

Methodology 34

Assessment against SEA topic areas 34

Conclusion of assessment 49

6. MITIGATION **51**

Role of mitigation in SEA 51

Recommendations for mitigation 51

7. MONITORING **57**

Indicators 57

8. NEXT STEPS **59**

Consultation 59

Adoption of full strategy and SEA statement 59

Additional reviews 75

FIGURES

Figure 1-1 The SEA process 6

Figure 3-1 NESTRANS area location map 12

Figure 3-2 Traffic volumes in NESTRANS (1993-2005) 19

Figure 3-3 Indexed traffic levels in NESTRANS AREA (1993-2005) 19

Figure 3-4 Nitrogen dioxide levels in Aberdeen City (2000-2010) 20

Figure 3-5 Particulate levels in Aberdeen City (2000-2010) 20

Figure 3-6 Core environmental protection areas 22

Figure 3-7 Other Environmental protection areas 23

Figure 4-1 Car miles - option assessment 32

TABLES

Table 1 SEA objectives and indicators

Table 2.1 NESTRANS RTS Objectives

Table 3.1 Summary of Environmental Baseline

Table 3.2 SEA objectives and indicators

Table 4.1 Scenarios versus strategy objectives

Table 5.1 Assessment of RTS components: External linkS

Table 5.2 Assessment of RTS components: Network Capability

Table 5.3 Assessment of RTS components: STrategic policy Framework

Table 7.1 SEA objectives and indicators

APPENDICES

A CONSULTATION RESPONSES

B POLICIES AND PROGRAMMES REVIEWED AND ADDITIONAL REVIEWS

C DETAIL OF ALTERNATIVE PACKAGES

Non-Technical summary

Background

1. The Strategic Environmental Assessment (SEA) Directive 2001/42/EC was given legal status in July 2004. The purpose of SEA is to integrate environmental considerations into the preparation and adoption of certain plans and programmes which are likely to have significant effects on the environment. The Regional Transport Strategy (RTS) qualifies as one such plan, and it could include many activities which could affect the environment in some way, perhaps by altering the landscape or lowering the air quality of an area.

2. The main requirements of the SEA Directive are to publish the findings of the assessment in an Environmental Report, which sets out the significant effects of the NESTRANS RTS, and to undertake consultation at relevant stages in the process.

3. The Nestrans RTS has been developed subject to ongoing consultation with key stakeholders across the region. Its overarching vision is "*A transport system for the north east of Scotland which enables a more economically competitive, sustainable, and socially inclusive society".* Furthermore, pertinent to the SEA process, one of the four objectives of the RTS is *"to conserve and enhance the north east's natural and built environment and heritage and reduce the effects of transport on climate and air quality."*

Baseline environment and SEA objectives

4. The scoping study looked at local air quality, greenhouse gas emissions (climate change), biodiversity, cultural heritage, material assets, water, soils, and population and human health impacts. Analysis of the environmental baseline data showed that the environment in the NESTRANS region is generally of a very high quality. There are however a few issues of concern, primarily:

   - Poor air quality in parts of Aberdeen City, leading to poor respiratory health among the population. Aberdeen rates for asthma are significantly higher than the national rates;
   - Poor access to health services in parts of Aberdeenshire. Some areas of Aberdeenshire are among the worst ranked for health in the Scottish Index of Multiple Deprivation; and
   - The region as a whole contains a large number of areas protected for their flora, fauna, landscape or cultural importance and although this in itself is not a concern, it increases the likelihood that elements of the RTS may impact on these areas.

5. Proposals set out in the transport strategy are therefore likely to impact on these areas in some way. A summary of the environmental baseline, objectives and indicators is contained in the table below.

TABLE 1 SEA OBJECTIVES AND INDICATORS

SEA topic	Objective	Indicator	Baseline
Air quality	To protect and improve local air quality.	**NO_2:** Annual mean **PM_{10}:** Annual mean Source: Local Authority Air Quality Monitoring Reports	**Air Quality Management Areas *(2004)*** *Aberdeen City:* 1 AQMA. No other predicted exceedences of National objectives. *Aberdeenshire:* No AQMAs and no predicted exceedences of National objectives
Greenhouse gas emissions	To help tackle climate change by reducing the effects of CO_2 emissions from road, rail and air traffic during the life of the plan, and helping to meet targets to nationally reduce overall emissions of greenhouse gases by 12.5% by 2008-12 in comparison with a 1990 baseline.	Predicted emissions of CO_2 from transport.	**Total Million Vehicle km *(STS, 2004)*:** *Aberdeen City: 1,366* *Aberdeenshire: 2,683* The Scottish Executive estimates that transport accounts for 12% of Scottish CO_2 emissions.
Biodiversity	To protect, maintain and enhance biodiversity, avoiding damage to designated wildlife sites, geological sites, protected species and irreversible losses.	Number of designated sites affected in RTS strategies. Achievement of Biodiversity Action Plan targets.	**Protected areas *(SNH, 2004)*** *Aberdeen City: 13* *Aberdeenshire: >2,700*
Cultural heritage	To protect and, where appropriate, enhance the historic environment.	Number of listed buildings, scheduled monuments, Historic Gardens and Designed Landscapes affected in RTS strategies.	**Heritage sites *(SNH, 2006)*** Aberdeen City: 37 scheduled ancient monuments; 1206 listed buildings; Aberdeenshire: 397 scheduled ancient monuments; 3692 listed buildings 28 gardens and designed landscapes.
Landscape and visual amenity	To retain, protect and enhance landscape and townscape character, local distinctiveness and scenic value, and visual amenity.	Number of landscape character types Areas protected for their international, national or local landscape importance.	**Designated areas *(SNH 2004)*** 1 National Scenic Area (NSAs) 7 Areas of Landscape Significance 37 Conservation Areas in Aberdeenshire
Water	To protect, maintain and improve the quality of all water bodies in the region.	The quality of river, coastal and estuary waters as monitored by SEPA.	All bathing waters in the region are classed as either Excellent or Good quality, with the exception of Stonehaven, which has been downgraded to Poor.
Soils	To reduce contamination and safeguard soil quality and quantity.	Presence of contaminated land. Amounts / loss of greenfield / brownfield land and proportion available for re-use.	**Contaminated Land *(AC, 2005)*** *Aberdeen City:* No sites *Aberdeenshire:* 13.3 ha, 1 Nitrate Vulnerable Zone
Population and human health	To create conditions to improve health and reduce health inequalities To reduce the number of casualties from road traffic accidents.	Air quality indicators (respiratory health) The proportion of the population feeling in 'good health'. Health deprivation, as measured in the Scottish Index of Multiple Deprivation. Road traffic accidents	**Air quality:** *See above* ***% in good health (2001 Census):*** *Aberdeen City: 70%* *Aberdeenshire: 74%* **Road Traffic Accidents *(SE, 2003)*:** *Aberdeen City: 433 all severities* *Aberdeenshire: 713 all severities*

6. More detail concerning the environmental baseline can be found in **Section 3** of this report. A review of the relevant plans, policies and strategies highlighted a number of common themes that should be considered in the SEA for the RTS and in the development of the strategy itself. These are provided in **Section 2** of this report.

Developing the RTS: Alternative strategies

7. The development of the RTS has followed an objective-led process, as recommended by STAG. In addition, a model-based approach has been used to assist the development of the RTS, and this approach has enabled a comprehensive view to be taken of the interactions between transport, land use planning and economic development. Several alternative strategies for the Nestrans RTS have been developed, which have been outlined in **Section 4** of this report. Through an optioneering process, these packages were formulated to include initiatives and policies which contributed to the individual objectives of the RTS. They include proposals that are advanced in nature, and proposals which are new and require further development. Assessment of these against the SEA objective areas facilitated in the selection of a balanced approach to take forward. Furthermore, the indicator of "car miles generated", an output from the modelling process, has been used to identify the relative environmental impacts of the various alternative packages.

8. In summary, discussion of the 'without plan' scenario highlights that traffic growth is likely to rise and that having no transport strategy for the region is not a realistic option.

How the Regional Transport Strategy might affect the environment

9. The chosen RTS strategy has been appraised for its possible impacts on the environment in **Section 5** of this report. The results show that the strategy, with the current level of detail it contains, is likely to have a positive impact on the environment, by promoting modal shift and reduction in vehicle miles in the order of 0.2% compared to the reference case.

10. The RTS may have some negative impacts on the environment, particularly new infrastructure schemes, which in many cases may increase traffic flow on the roads, air and sea travel. However, a key objective of the strategy is *"to enhance and exploit the north east's competitive economic advantages, and reduce the impacts of peripherality"*. To do this, accessibility and the region's infrastructure must be enhanced.

11. The strategy also contains a wide range of measures that will improve the public transport network, encouraging mode shift away from the private car and reducing congestion in built up areas, such as Park and Ride and bus priority initiatives. These measures will have a positive impact on the environment by reducing harmful emissions and reducing the need for further significant infrastructure in the future which may result from rising traffic levels.

12. Furthermore, through enhancing accessibility levels for all sections of the population, the RTS will have a positive impact on population and human health topics assessed in this SEA, and makes a significant contribution to the RTS objective of *"to enhance choice, accessibility and safety of transport, particularly for disadvantaged and vulnerable members of society and those living in areas where transport options are limited."*

What difference has the process made?

13. The SEA process has enabled the incorporation of environmental and sustainability considerations in strategic decision making. This has been possible by commencing the SEA early in the RTS process. The SEA's scoping exercise enabled environmental information to be fed through to officers and decision makers before the RTS programme was established. Following this, the initial appraisal of the environmental implications of the draft strategy took place throughout the plan's formation. In this way, environmental implications could then be considered alongside financial, technical, political and other concerns. The SEA thus adds an additional dimension to the decision-making process.

14. Strategic Environmental Assessment has dealt with impacts which are too difficult to consider at the project level. It considers cumulative and synergistic impacts of multiple projects. It is also able to look at larger-scale environmental impacts such as those on biodiversity and climate change in a more effective way than Environmental Impact Reports (EIR).

15. The formal SEA process has included consultation with the statutory environmental bodies, enabling their valuable input into the RTS process at an early stage. This Environmental Report is distributed to an even wider audience, enabling further consultation and participation in the transport planning process, with better awareness of environmental considerations.

16. The SEA has indicated that, although some schemes may have a negative environmental impact, the NESTRANS RTS will have a positive impact on several aspects of the environment, in particular through enhanced accessibility for all sections of the population, significant modal shift compared to baseline levels, and a reduction (0.2%) in the rate of growth of vehicle miles relative to the "do minimum scenario". At present there is a lack of detail available to calculate the full extent of potential damage, however many of the schemes will necessitate further environmental assessment at the development stage, particularly new and enhanced road infrastructure projects. **Section 6** of this report suggests where mitigation could protect against some of the possible adverse impacts and/or enhance the positive impacts of the strategy.

1 Introduction

About this report

NESTRANS (North East of Scotland Transport Partnership) has become one of seven new statutory Regional Transport Partnerships established under the new legislation to improve the planning and delivery of transport. It is now producing its Regional Transport Strategy (RTS).

The SEA Regulations[2] requires that the environmental consequences of certain plans and programmes are identified and assessed during their preparation and after their adoption. The Regulations apply to statutory plans for which preparation started after 21st July 2004, and when the plan is likely to have significant environmental effects. The NESTRANS RTS falls into this category.

The main requirements of the Regulations are to assess the significant environmental impacts of the plan, publish the findings in an Environmental Report (ER), and to undertake consultation at relevant stages in the process.

NESTRANS has commissioned consultants Steer Davies Gleave to write this report, as part of a commission to develop the RTS. Lead officers from NESTRANS have also contributed to the process, supplying information and feedback on work in progress.

The SEA aims to ensure that environmental impacts are taken into account at the earliest stages and throughout plan development. Its main objectives are to;

- provide for a high level of protection of the local environment; and
- contribute to the integration of environmental considerations into the preparation and adoption of plans and programmes with a view to promoting sustainable development.

The Scottish Transport Appraisal Guidance (STAG) provides 'nationally defined' objectives and sub-objectives against which transport plans should be assessed. Many of the sub-objectives correspond with assessment topics highlighted in the SEA Directive which covers social topics alongside the built and natural environment.

This document forms the Environmental Report, which is the main written output of the SEA process. As set out in the Scottish Executive SEA Toolkit, the purpose of the Environmental Report is to report the results of the environmental assessment[3]. It identifies, describes and provides an evaluation of the likely significant effects, negative and positive, on the environment of implementing a PPS and its reasonable alternatives, and sets out measures to prevent, reduce and as fully as possible offset any adverse significant environmental effects that have been identified.

The majority of the SEA process is documented within this Report, namely:

[2] Scottish Statutory Instrument 2004 No. 258 - The Environmental Assessment of Plans and Programmes (Scotland) Regulations 2004.

[3] Strategic Environmental Assessment Tool Kit, Scottish Executive, October 2006

- An outline of the contents of the RTS;
- Main objectives of the RTS;
- The RTS's relationship with other plans and programmes;
- The state of the environment in the NESTRANS area;
- Existing environmental problems relevant to the RTS;
- Likely significant environmental impacts of the RTS[4];
- Alternative options for the RTS;
- Mitigation measures to prevent, reduce or offset any adverse effects; and
- Description of monitoring measures.

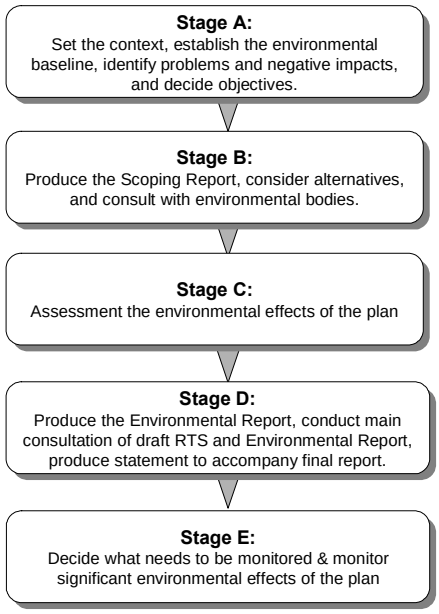
The SEA is a strategic assessment, and is therefore not required to carry out or replicate Environmental Impact Assessment (EIA) of individual schemes. It need only concentrate on the **significant** environmental impacts of the RTS, not ALL the possible impacts and environmental issues. The SEA directive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

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

The SEA process and stages completed to date

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

FIGURE 1-1 THE SEA PROCESS



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

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

Structure of the Environmental Report

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

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

2 The Regional Transport Strategy

NESTRANS RTS

The Transport (Scotland) Act 2005 places a duty on the new Regional Transport Partnerships to draw up a strategy for transport in their region.

NESTRANS (North East of Scotland Transport Partnership) is the transport partnership for the local authorities of Aberdeen City; and Aberdeenshire.

The Partnership was formally established under the Transport (Scotland) Act 2005 on 1 December 2005 and took over the work – and name – of NESTRANS on 1 April 2006. From this date, NESTRANS became a statutory body, with a stronger remit to plan and deliver transport improvements in Aberdeen City and Aberdeenshire.

The RTS has been prepared with full reference to Scottish Executive guidance on developing RTSs and also the Scottish Transport Appraisal Guidance (STAG). In this context, the principles within STAG have assisted in making informed choices between possible alternative strategies by appraising alternatives against five criteria: **environment, safety, economy, integration** and **accessibility**. This strategy has been developed to address current problems facing NESTRANS both today and in the future as well as to achieve the RTP's broader objectives and transport vision.

The first stage to the development of the new Strategy is ensuring a thorough understanding of the problems faced by the region. In fitting with the Scottish Transport Appraisal Guidance, it is imperative to have a detailed and, where practicable, a quantified understanding of the transport problems, constraints and opportunities within the region. In particular it is essential to understand where established policies and objectives are not being achieved as a result of deficiencies within the transport system.

The vision for the Strategy sets out the high level direction for the Strategy and the work of the Partnership, while a series of more specific objectives is required. These objectives will steer the appraisal and prioritisation of projects and initiatives for transport in the region.

The Strategy objectives should then focus on the key ambitions of the Partnership. These, in turn, should be informed by the Partnership's vision, and by the problems, constraints and opportunities identified.

As well as identifying the key problems and opportunities for transport in the area and setting objectives for transport, the RTS provides an implementation programme of specific policy measures and projects to be implemented during the life of the plan. These measures have been developed in response to a detailed consultation programme and to address the specific issues that face the NESTRANS area.

Vision and objectives of the NESTRANS RTS

The vision for regional transport in the NESTRANS area, which has been subject to consultation and agreed with the RTP, is:

"A transport system for the north east of Scotland which enables a more economically competitive, sustainable, and socially inclusive society."

A set of four strategic transport objectives and twelve operational transport objectives have been developed for the Regional Transport Strategy. The objectives will be used to ascertain the success of different measures and packages in achieving what are the main aims of the Regional Transport Strategy.

TABLE 1.1 NESTRANS RTS OBJECTIVES

Strategic Transport Objectives	Operational Transport Objectives
Economy	
a) To enhance and exploit the north east's competitive economic advantages, and reduce the impacts of peripherality.	i) To make the movement of goods and people within the north east and to/from the area more efficient and reliable. ii) To improve the range and quality of transport to/from the north east to key business destinations. iii) To improve connectivity within the north east, particularly between residential and employment areas.
Accessibility and Social Inclusion	
b) To enhance choice, accessibility and safety of transport, particularly for disadvantaged and vulnerable members of society and those living in areas where transport options are limited.	iv) To enhance travel opportunities and achieve sustained cost and quality advantages for public transport relative to the car. v) To reduce the number and severity of traffic related accidents and improve personal safety and security for all users of transport. vi) To achieve increased use of active travel and improve air quality as part of wider strategies to improve the health of north east residents.
Environment	
c) To conserve and enhance the north east's natural and built environment and heritage and reduce the effects of transport on climate and air quality.	vii) To reduce the proportion of journeys made by cars and especially by single occupant cars. viii) To achieve targets for reductions in the environmental impacts of transport, which will be set out in the forthcoming National Transport Strategy. ix) To reduce growth in vehicle kilometres travelled.
Spatial Planning	
d) To support a strong, vibrant and dynamic city centre and town centres across the north east.	x) To improve connectivity to and within Aberdeen, especially by public transport, walking and cycling. xi) To improve connectivity to and within towns in Aberdeenshire, especially by public transport, walking and cycling. xii) To enhance public transport opportunities and reduce barriers to use across the north east, especially rural areas.

RTS options

A range of interventions to address transport issues and achieve transport objectives in the NESTRANS area has been generated and assessed. These are presented in Sections 4 and 5 of this report.

The RTS's relationship with other plans and programmes

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

The review for the SEA of NESTRANS RTS was initiated at a national level, looking at the latest Transport White Paper, the national Air Quality Strategy and other documents. It then went on to study plans and programmes at the regional and local level. A list of the titles reviewed is shown in Appendix B.

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

- Reduce the emissions of greenhouse gases.
- Focus on the sustainable use of natural resources.
- Promote alternative, sustainable modes of transport.
- Promote sustainable economic development and regeneration.
- Improve the reliability, accessibility and range of modes and choices within the transport network.
- Address issues of access and scheme design to promote local services and retail facilities.
- Develop integrated policies and strategies.
- Promote choice and meet national, regional and local targets.
- Develop policies that maintain and enhance landscape character, including character of the built environment.
- Encourage development to locate within transport corridors and near transport modes.
- Seek to optimise economic development.
- Protect and enhance biodiversity, species and habitats.
- Reduce social exclusion and inequalities.
- Promote strategies that reduce road casualties.

3 Baseline environment

Overview

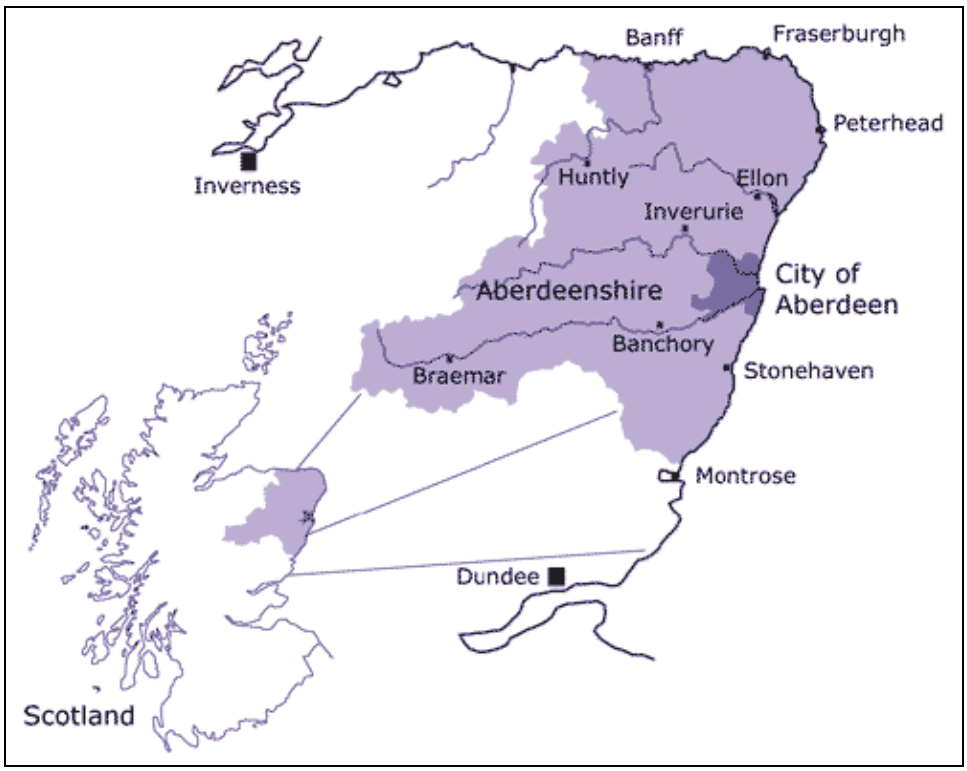
The North East faces a number of distinct challenges that together inform the development of its transport policy. Prime amongst these is the task of managing the economic changes essential if the region is to remain a globally competitive location in the future. It is widely recognised that the region has opportunities to play to its major strength, in developing as a world centre of excellence in the sub-sea sector. At the same time, traditional sectors such as paper are under threat from low cost competition from regions such as Eastern Europe and there is a need to both strengthen sectors where there is sustainable competitive advantage and to manage diversification elsewhere.

Adjusting to and managing demographic change, especially the continuing decentralisation of population from the City of Aberdeen, is also particularly important both in relation to land use, the urban and rural environment and transport, not least because of the effects of population movement on travel. If the region is to enhance its quality of life and retain and expand its key skills, issues such as housing development in the city and the countryside needs to be addressed. Central to the Structure Plan is the development of sustainable communities, and thus the protection and enhancement of the built and natural environment. What will be imperative to the North East RTS will be the ability to join up the economic, land use and transport agendas.

A location map of the region is shown below. There are internationally important designated areas in the region, as well as national, regional and local sites. The coastline is of particular value, with its wildlife and significant landscapes, it is an attraction for tourists and residents and it also associated with marine-based industries such as fishing and oil[5].

[5] Aberdeenshire & Aberdeen City Structure Plan 2001-2016, approved Dec 2001. (Chapter 'Looking After the North East', pp43). http://www.nest-uk.net/Appoved%20NEST%20Pages/looking_after_the_north_east.htm

FIGURE 0-1 NESTRANS AREA LOCATION MAP[6]



Regional Transport Strategy: Environmental baseline

One of the important initial steps in the production of the SEA is to investigate and describe the baseline. This necessarily high level, strategic review highlights environmental, health and quality of life problems and opportunities within the region. This helps inform the setting of objectives specific to the SEA, which will be used later in the SEA process when analysing alternative RTS strategies.

The geographical scope of the assessment will be the area covered by the constituent local authorities of the North East region – Aberdeen City & Aberdeenshire Councils. This is because the policies and proposals of the RTS will only be implemented within this area. However, as the effects of some environmental impacts of the scheme (e.g. air pollution or climate change) will be experienced outside the boundaries of the region, these have been considered when appropriate.

Since the two local authorities are both undertaking the SEA process of their Local Transport Strategies (LTSs), and therefore have already gathered much of the relevant information, the RTS environmental baseline section includes a summary of the information contained in these reports with references to the original documents. Where additional or updated sources have been used to complement these sources, such as the Scottish Transport Statistics, we have referenced this. Furthermore, we have not replicated detailed data here from the Scoping Report for the NESTRANS RTS SEA, and instead make reference to the Scoping Report.

[6] Map sourced from NESTRANS website: http://www.Nestrans.org.uk/about/index.asp

TABLE 0.1 SUMMARY OF ENVIRONMENTAL BASELINE

SEA Topic	Main points
Climate	Aberdeen City (from LTS SEA Scoping Report) No measured data was available from the Aberdeen City LTS SEA. It states "work on this will be completed during the lifetime of the LTS". The total vehicle km (millions) for Aberdeen City was 1,319 in 2000, rising by 3.6% to 1,366 in 2004. Scottish Transport Statistics 2005 report a slight reduction in 2005, at 1,357 million vehicle kms. This is illustrated in the graphs below. Aberdeenshire (from SEA Scoping Report of LTS, Appendix 4) In Aberdeenshire, total vehicle km (millions) was 2,466 in 2000, rising by 8.8% to 2,683 in 2004. Over Scotland as a whole, vehicle km increased by 7.88% over the same period. Scottish Transport Statistics 2005 report an increase to 2,697 million vehicle kms in 2005 for Aberdeenshire. Emissions of CO^2 (tonnes of Carbon per $1km^2$) for Aberdeenshire were obtained from the UK's National Atmospheric Emission Inventory. The data was collected in 2002 and grouped according to UNECE (United Nations Economic Commission for Europe) sectors. The data indicate that the principal sources of CO^2 are the arterial routes within the region. The Scottish Executive publication "*Key Environmental Statistics for Scotland"* shows that in 2000, Scotland as a whole contributed 60.7 million tonnes of CO^2 to the UK total (10.8%). This represents a fall of 1.6 million tonnes from 1990 levels. In Scotland, the transport sector accounts for 12% of CO^2 emissions. In 2003, Defra produced a set of experimental statistics of carbon dioxide emissions for local authority areas for the year 2003. The results estimated that in 2003, 237 kilotonnes of carbon dioxide was emitted from road transport in Aberdeen and 642 kilotonnes in Aberdeenshire. In comparison, Edinburgh was estimated to have emitted 573 kilotonnes from road transport.[7] Without management of traffic growth in the future, these figures will increase and with CO^2 emissions from other sectors declining, transports contribution to carbon emissions will increase.
Air Quality **(Air Quality)**	Aberdeen City (from SEA Scoping Report of LTS) Following assessments in 2000/01, part of Aberdeen City Centre was declared an Air Quality Management Area (AQMA) due to potential exceedances of the annual mean air quality objective for nitrogen dioxide. In 2003 an updated assessment took place, and again, only nitrogen dioxide (NO_2) and particulates (PM10) were found to be of concern. As before, the highest pollution levels were within the city centre, although potential exceedances of both the NO_2 and PM10 objective were also identified on commuter routes such as the Anderson Drive/Great Northern Road/Auchmill corridor. A further Detailed Assessment of the areas of concern was completed in August 2004. This study did not identify exceedances on the commuter routes, although continued monitoring was recommended. An additional continuous air quality station measuring levels of NO_2 and PM10 was installed on Anderson Drive in February 2004, as well as a network of NO_2 diffusion tubes and PM10 across the Harbour Area.

[7] Source: Defra, http://www.defra.gov.uk/environment/statistics/globatmos/galocalghg.htm

SEA Topic	Main points
	PM10 concentrations within the City are not predicted to exceed 2004 NAQS objectives. The background PM10 concentration for 2010 within Aberdeen City was however identified to be 16.6 ugm-3, compared with the annual mean objective in 2010. No exceedances of the 24-hour mean objective for PM10 are predicted in 2010. Existing levels of PM10s and NO_2 at key city centre locations in Aberdeen City are shown in Figure 0-4 and Figure 0-5. Consideration of local air quality against NAQM objectives, which was carried out by the government, prior to publication of the White Paper, indicated that the growth of Aberdeen Airport would not compromise air quality standards for NO_2 or PM10 in the period up to 2015 and beyond.[8] <u>Aberdeenshire (from SEA Scoping Report of LTS, Appendix 4)</u> Nitrogen dioxide predicted concentrations indicate that the annual average objective was unlikely to be exceeded in 2005, including near busy junctions. This was confirmed by diffusion tube measurements. There are no significant industrial sources of nitrogen dioxide in Aberdeenshire. The DMRB screening model indicated that the annual mean objectives for PM10 would be met in 2004 and in 2010. The 24 hour mean objective of 50 µgm-3 would not be exceeded more than 35 times a year in 2004 or 7 times a year in 2010, including in locations close to busy road junctions. It was therefore concluded that a detailed review and assessment was not needed for nitrogen dioxide and PM10 in Aberdeenshire. However, in 2004/05, monitoring for nitrogen dioxide was re-done. Again, no sites tested exceeded the annual mean objective for NO_2. Trend analysis of results since 1993 generally shows a gradual decrease in emissions. Full results are in Table 6.1 of the Aberdeenshire LTS Scoping Report, and Appendix C of the NESTRANS RTS Scoping Report). The RTS could have a significant impact on air quality across the region, particularly in Aberdeen through encouraging modal shift away from the private car to more sustainable forms of transport, including public transport, cycling and walking. In the absence of the RTS, traffic volumes are likely to continue to increase beyond the forecasts and beyond 2015, resulting in decreasing air quality which in turn will impact on the environment and on the health of the population.
Population & Human Health **(Population & Human Health)**	<u>Aberdeen City (from SEA Scoping Report)</u> North East of Scotland population; 2003: 435,930. Predicted decrease of 0.9% by 2021 to 431,989. Employment is also decreasing. In 2003 the NESTRANS area had 241,750 people employed. This is predicted to decrease by 4.7% by 2021 to 230,300 people. Since 2000 Gross Domestic Product growth rates have fallen in North East Scotland from 2.5% to 1.9%, although growth rates have increased during 2004. Skills shortages, an ageing population, relocation to rural areas and the continual decline in the manufacturing industry have been put forward as reasons for this. Unemployment rates are relatively low. Aberdeen City has an average rate of 2% (2004), whereas Aberdeenshire has a rate of just 1.4% (2004). These rates have been consistently lower than the Scottish average since 1996 (in 2004, the national average was 3%). However, within Aberdeen City there are specific wards with much higher levels (such as Woodside ward, which has 5.1%). The Grampian region had 20.1% of men, and 25.6% of women classed as clinically obese in 2003. This was slightly lower than the national

[8] Aberdeen Airport Outline Master Plan, Draft for Consultation 2005

SEA Topic	Main points
	average for men (22%), but higher than the national average for women (24%), and both the national figures have increased over the last ten years, by around 7%. Obesity is linked to energy uptake and expenditure, and can therefore be affected by the transport plans for more walking and cycling. The percentage of people achieving the government's recommended 30 minutes or more of moderate activity on 5 or more days per week are 42% for men, and 32% for women, for both the Grampian region and Scotland as a whole (2003). It has been noted, in the Aberdeen City SEA Scoping Report for the LTS that the Aberdeen rates for asthma were significantly higher than the national rates (In 2005, 215 people per 100,000 for the city, and 135 per 100,000 for the shire). Scotland as a whole has rates similar to the more rural part of the North East, at 164 per 100,000. Causes of asthma include poor air quality via high vehicle emissions as well as smoking. The 2001 Census reported 70% of the population to be in 'Good health'. In terms of safety, Aberdeen has an excellent road accident reduction rate compared with other cities and Scotland as a whole. The number of all severities dropped by 23.4% between 2000 and 2003, to 433 people. This is against a backdrop of increasing traffic within Aberdeen (Scottish Executive, Road Accidents Scotland, 2003). <u>Aberdeenshire (from LTS SEA Scoping Report, Appendix 4)</u> Geographic Access and Telecommunications Deprivation is an indicator studied in the Scottish Index of Multiple Deprivation which can be used to assess or review accessibility. The worst 10% of datazones in Aberdeenshire are spread across the various administrative areas, particularly in Marr, Formartine and Buchan. There has been a significant decline in key facilities including shops, petrol stations and post offices in Aberdeenshire between 1981 and 2004. There has also been a decline in banks (-30) and churches (-24) since 1981. Facilities that have shown a growth in this period include chemists (+3) and libraries (+4), whilst the number of fire stations has not changed since 1981. The Scottish Index of Multiple Deprivation assesses health deprivation according to the comparative mortality factor, hospital episodes, etc. Buchan, and Banff and Buchan, and particularly Fraserburgh and Peterhead have the worst ratings for health according to the Scottish Index of Multiple Deprivation. This would suggest that access to health services will be key issues in these areas. This is also supported by the fact that within the demographic review, it was shown that these settlements had the oldest populations (higher than the Scottish averages). This supports the contention that providing transport solutions that improve access to health services in the aforementioned administrative areas, which can be addressed in the transport strategy. The 2001 Census reported that 74% of the population were in 'Good health'. In terms of road safety, in Aberdeenshire, the number of all severities in 2003 was 713, having fallen from 788 in 2000, a reduction of 9.6% (Scottish Executive, Road Accidents Scotland, 2003). The health of the population could be affected by the RTS, through policies to facilitate an increase in active forms of travel to help combat obesity and through controlling increases in traffic, therefore contributing to improved health through improved air quality. Without such policies, the health of the population could worsen and rates of asthma and obesity levels could increase.

SEA Topic	Main points
Noise	No data was available from the Aberdeen City or Aberdeenshire on noise. It is currently only assessed for individual schemes as required. Data for this will however be pursued and reported in the Environmental report. Aberdeen Airport's Masterplan provides the following projections to 2030 on the number of people that will be affected by noise from the airport: 1990 (base) – 9,900 people 2015 – 8,500 people (-14%) 2030 – 9,900 people (0%) The Masterplan indicates that further noise contour mapping will be undertaken to provide more up to date estimates. Without the RTS, road traffic volumes in and around Aberdeen City and the main commuter routes are likely to increase. This will in turn result in increases noise levels from road traffic.
Historic environment (cultural heritage)	Aberdeen City (source: Historic Scotland comments to NESTRANS RTS Scoping Report, 2006) - 37 scheduled ancient monuments; - 1206 listed buildings; - No gardens and designed landscapes, however there are a number of sites that have been identified for potential inclusion in the inventory. In Aberdeenshire there are: - 397 scheduled ancient monuments; - 3692 listed buildings - 28 gardens and designed landscapes. *Further detail can be sought from the Aberdeenshire Scoping Report* Figure 0-7 shows the distribution of Scheduled Monuments and Conservation Areas across the region. Threats to cultural heritage through the implementation of the RTS (including provision and maintenance of infrastructure) include the loss, damage or disturbance of known or unknown features of cultural heritage importance. Without the RTS however, traffic growth is likely to increase even further with knock on effects on air pollution which can also have an adverse impact on the historic environment.
Landscape	Aberdeenshire (from LTS SEA Scoping Report, Appendix 4, based on SNH Facts and Figures 2003/2004) 1 National Scenic Area (NSAs) - Deeside and Lochnager NSA spans across the Aberdeenshire boundary into Angus, but falls mainly in the North East region. Another, the Cairngorm Mountains NSA, is also within Aberdeenshire, but it mostly falls within Highland, so isn't officially included here. 7 Areas of Landscape Significance – these are important for their physical landforms and for the flora and fauna they support. They include for example the Marr Area and the Buchan Area. 37 Conservation Areas in Aberdeenshire

SEA Topic	Main points
	Figure 0-7 shows the distribution of Scheduled Monuments and Conservation Areas across the region. New infrastructure, if not planned with environmental considerations in mind, can have detrimental effects on the local landscape.
Water & Soil	Aberdeen City (from SEA Scoping Report) Aberdeen City's petrol & diesel consumption was 74.4 thousand tonnes in 2003 (0.8% less than the previous year, which was 75 thousand tonnes). The increase in Aberdeen City could be explained by a rise in the number of people commuting into the City from outside. In terms of contaminated land, Aberdeen City currently has no formally designated contaminated land sites. Aberdeenshire (from SEA Scoping Report, Appendix 4) Aberdeenshire's petrol & diesel consumption was 201.2 thousand tonnes in 2003, which was 1.8% more than the year before (197.7) Aberdeenshire is a relatively large Council in terms of area and there a number of important river catchments within the area. These drain to the eastern and northern coasts of the region. The main catchments include the rivers Dee, Don, Ythan, Deveron, Lossie, Spey and Findhorn and their tributaries. The Scottish Bathing Waters Report 2005 published by SEPA shows that all of the beaches in Aberdeenshire, with the exception of Stonehaven, were classed as either good or excellent, a level that has been consistent since monitoring started in 1994. In 2005, the quality of bathing water at Stonehaven was downgraded to 'poor' after several years of good quality. This is due to sewage effluent. One of the risks to groundwater is the infiltration of nitrates, mainly from agricultural fertilizer run off. There are two areas in Scotland designated as Nitrate Vulnerable Zones (NVZ), one of which is in Aberdeenshire. This is the Ythan NVZ and it was designated on the basis of criteria set out at Annex IA(3) of the EC Nitrates Directive (91/676/EEC), due to elevated levels of nitrate in groundwater and because it was considered that the Ythan estuary was eutrophic, or in the near future may become eutrophic. This designation makes the NVZ a particularly sensitive receptor for diffuse pollution that may be indirectly associated with changes to traffic flows and economic activity in Aberdeenshire. There is very little prime quality land in Aberdeenshire (Aberdeenshire Local Plan 2002). The total agricultural area in Aberdeenshire is approximately 500,000ha. Roughly a third of this is arable where the most important crop is barely. The rest is used predominantly for cattle, sheep and pigs. In Aberdeenshire, there are 13.3ha of contaminated land (Aberdeenshire Council Public Register of Contaminated Land, 2005). Flooding: GIS data on flood prone areas was requested from the local authorities however is currently unavailable. SEPA are however currently working to produce a flood map for the whole of Scotland. More details on this are provided in paragraph 0. There is the potential that through the construction and maintenance of transport infrastructure there is an increased risk of pollution or flooding. The RTS is able to address these concerns and attempt to minimise this risk and where necessary, plan mitigation measures.
Biodiversity, Flora & Fauna	Number of designations in Aberdeen City (from LTS SEA Scoping Report 4 Sites of Special Scientific Interest (SSSI's) at Cove Bay, Nigg Bay, Scotstown Moor, Corby Lily & Bishops' Lochs (0.2% of Local Authority area) 1 Special Area of Conservation (SACs) - on the River Dee

SEA Topic	Main points
(Biodiversity, Flora & Fauna)	4 Local Nature Reserves (LANs) 70 District Wildlife Sites (10.9% of Local Authority area) <u>Number of designations in Aberdeenshire (from SEA Scoping Report, Appendix 4</u> 82 SSSI's (the whole of Scotland has 1,451). In Aberdeenshire, they include areas of inter-tidal sand and mudflat e.g. Loch of Strathbeg and the Sands of Forvie and Ythan Estuary. 18 candidate SACs (Natura Special Areas of Conservation). The 2 main ones cover the Cairngorms and the River Dee and its tributaries. 10 Special Protection Areas (SPAs, Natura sites). In Aberdeenshire, these include a variety of habitats including the Cairngorms, Glen Tanar and the Ythan Estuary. 4 Ramsar sites (includes both freshwater and sea lochs and the Ythan Estuary southeast of Fraserburgh) 4 Country Parks 2 Local Nature Reserves (LANs) 6 National Nature Reserves (NNRs) 22.8 ha of the Cairngorm National Park extend into the southwest corner of Aberdeenshire. The Cairngorm mountains are the largest and most remote upland area in the UK. Areas of Ancient Woodland are scattered across Aberdeenshire but tend to be concentrated along the River Dee. There are 2,584 sites of Ancient Woodland in total in Aberdeenshire occupying approximately 45,000ha, of these, 1,053 are semi-natural (~10000ha). There is 1 Woodland Trust site in Aberdeenshire which is the Den Wood north of Old Meldrum. There are Sites of Interest for Natural Science (SINS) which were designated by the Council as a result of the Study of Environmentally Sensitive Areas (SESA). These include sites that are important for their insects (62 sites), birds (33 sites), plants (118 sites), geology (25 sites), geomorphology (22 sites) and freshwater biology (10 sites). Figure 2.1 in Appendix 4 of the Aberdeenshire Scoping Report shows the sites on a map of the area. ***Additional information not contained in these LTS scoping reports:*** ***European Protected Species such as bat, otter, dolphin and porpoise (Habitats Directive).*** ***All birds and their nests are protected under the Bats Directive and the Nature Conservation (Scotland) Act.*** The RTS can assist with the prevention or reduction of adverse effects on biodiversity and nature conservation by ensuring that transport related activities avoid sensitive areas, where practicable, or through careful planning and design implement appropriate mitigation measures.
Material Assets	In terms of road maintenance, Aberdeen City Council aims to recycle as much of their material assets as possible, although do not have specific targets for this at present. Aberdeenshire Council aims to recycle 25% of relevant materials increasing this by 5% per annum until a total of 50% of relevant materials are being recycled.

Traffic levels

The following graphs illustrate increases in traffic volumes in Aberdeen City, Aberdeenshire and NESTRANS as a whole. Data is shown in million vehicle kilometres, and is total traffic on all roads in the areas shown (trunk and local authority roads).

FIGURE 0-2 TRAFFIC VOLUMES IN NESTRANS (1993-2005)[9]

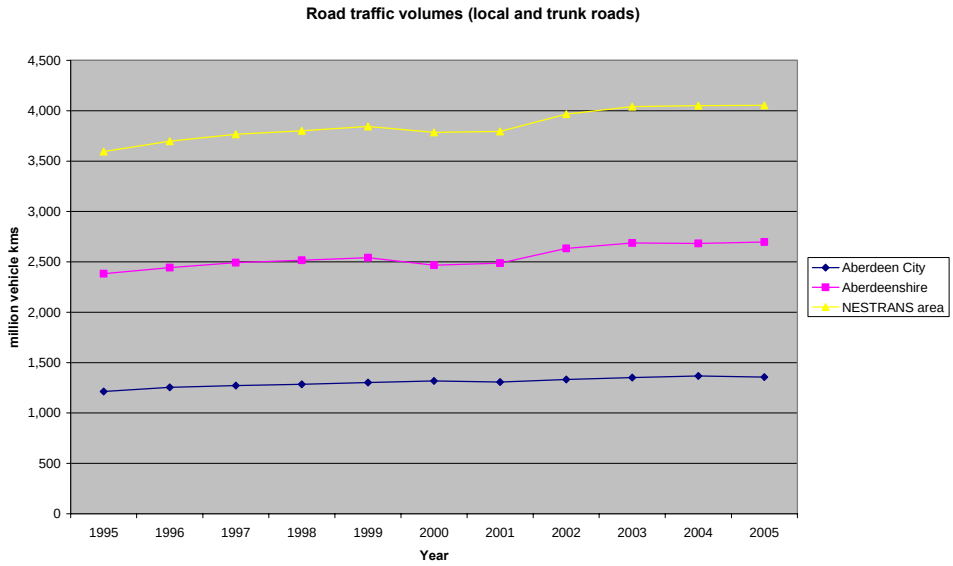
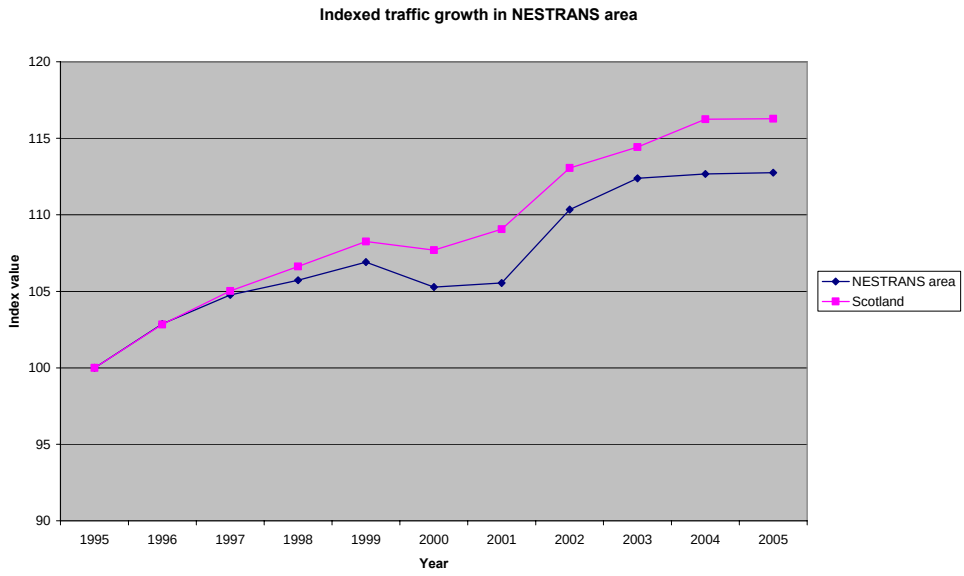


FIGURE 0-3 INDEXED TRAFFIC LEVELS IN NESTRANS AREA (1993-2005)



These graphs show that traffic is rising not just locally and regionally but Scotland wide. The drop of traffic levels in 2001 could be attributed to the introduction of the Metro Network (a high frequency, high quality bus network) by First Aberdeen, the

9 Source: Aberdeen City Council SEA Scoping Report

introduction of Kingswells Park and Ride and extension of the route of Bridge of Don Park and Ride, an array of bus priority measures and infrastructure projects and other important measures such as cycling and walking facilities.

Air Quality levels

Parts of Aberdeen City Centre were designated as an Air Quality Management Area in 2001 due to potential exceedences of the annual mean air quality for nitrogen dioxide. Although further studies did not report any exceedences, continued monitoring was recommended for both nitrogen dioxide and PM10. Air quality is discussed in Table 0.1 above and more detail on the measurements and predictions for nitrogen dioxide and particulates in Aberdeen City is provided in the graphs below.

FIGURE 0-4 NITROGEN DIOXIDE LEVELS IN ABERDEEN CITY (2000-2010)

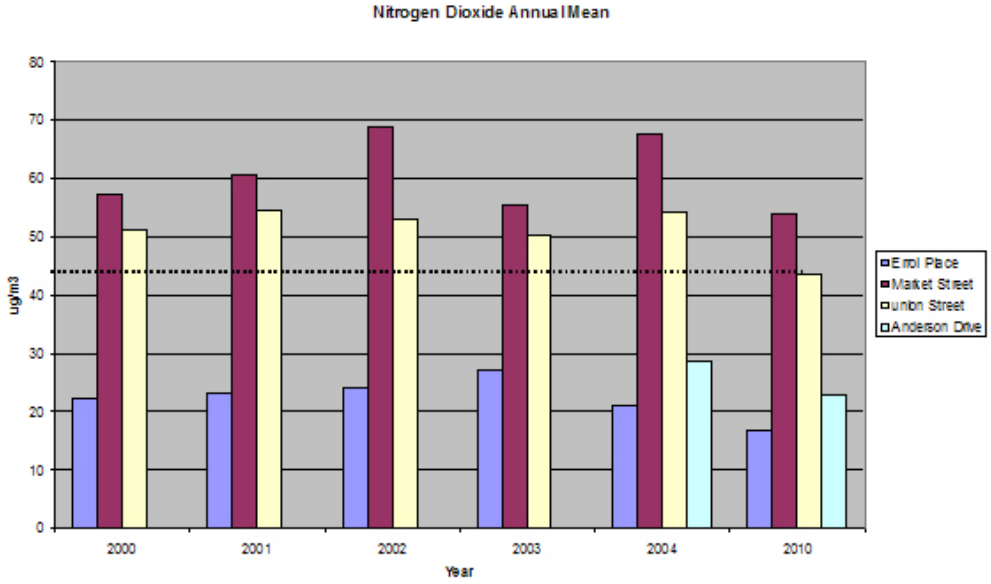
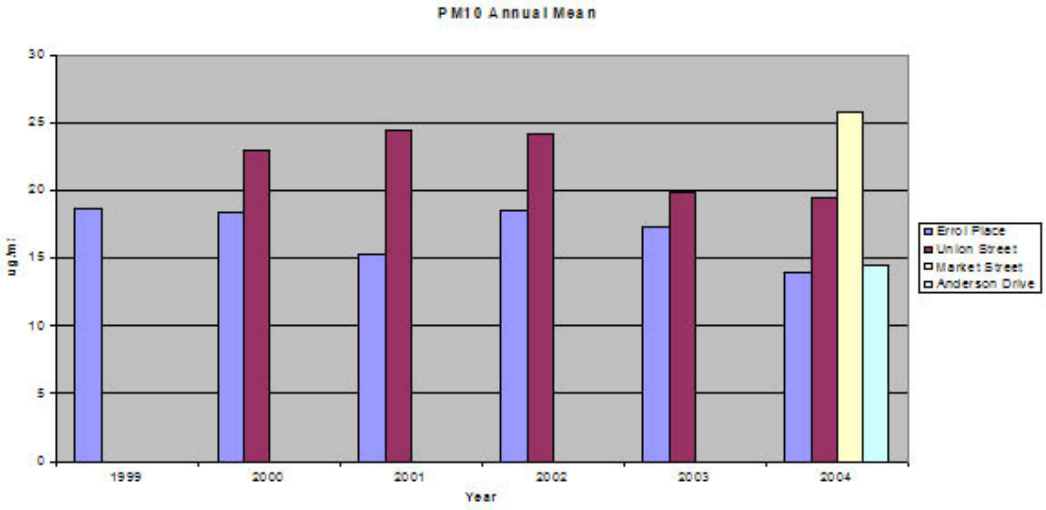


FIGURE 0-5 PARTICULATE LEVELS IN ABERDEEN CITY (2000-2010)



Maps of the North East Scotland Environmental Baseline

The environmental data available to map has been presented in Figure 0-6 and Figure 0-7. Figure 0-6 shows European and nationally protected areas in the region, including:

- *NATURA Sites:* Designated under the Habitats and Birds Directive including a major contribution by the European Community to implementing the Biodiversity Convention agreed by more than 150 countries at the Rio Earth Summit. Natura 2000 includes the designation of:
  - *3 Special Protection Areas (SPA):* These are of European importance for Wild Birds;
  - *4 Special Areas for Conservation (SAC):* These areas are of European importance for wild flora and fauna;
- *Sites of Special Scientific Interest (SSSI):* These are exemplary places for nature conservation. Designation of an SSSI is a legal process.

Many of the protected areas in the region fall under more than one of these categories, for example many of the protected wetland areas are also designated as Sites of Special Scientific Interest.

Figure 0-7 shows locally protected areas, including Sites of Regional Importance, Local Nature Reserves and Tree Preservation Orders. Scheduled and Ancient Monuments are also shown on this map and are predominantly clustered in and around Aberdeen City.

It was hoped that flood prone areas in the region could be included in this baseline mapping, however this data is not currently available from the local authorities. SEPA is however currently working on producing a flood map for the whole of Scotland which will give an indication of the areas in Scotland that are at risk of flooding from either rivers or the sea. Once complete, this tool will provide an important resource in helping local authorities and stakeholders to make planning decisions in support of SPP7. It is anticipated that this tool will be available to local planning authorities during 2006 and this information could feed into the development of the RTS and the Environmental Report.

FIGURE 0-6 CORE ENVIRONMENTAL PROTECTION AREAS

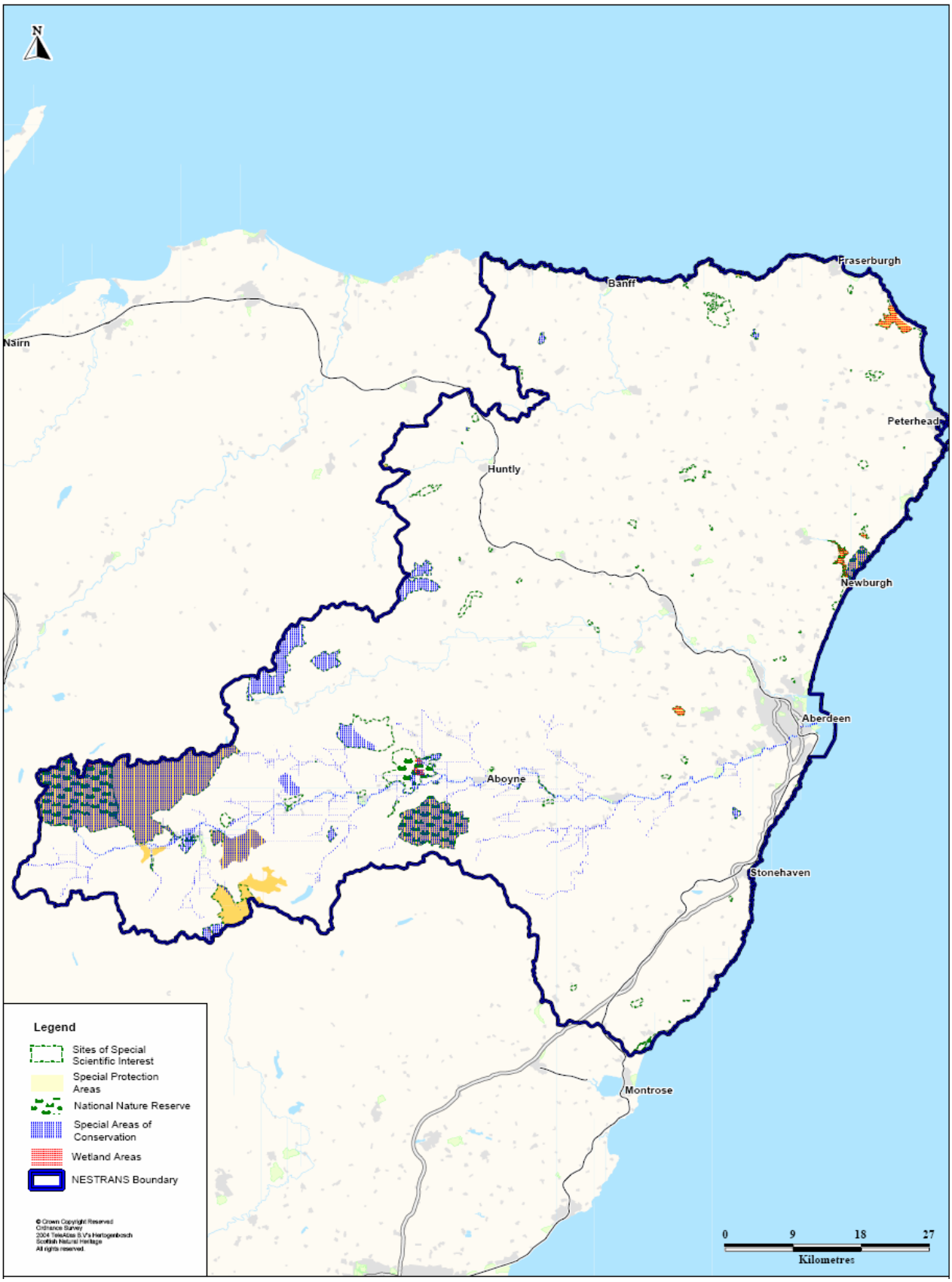
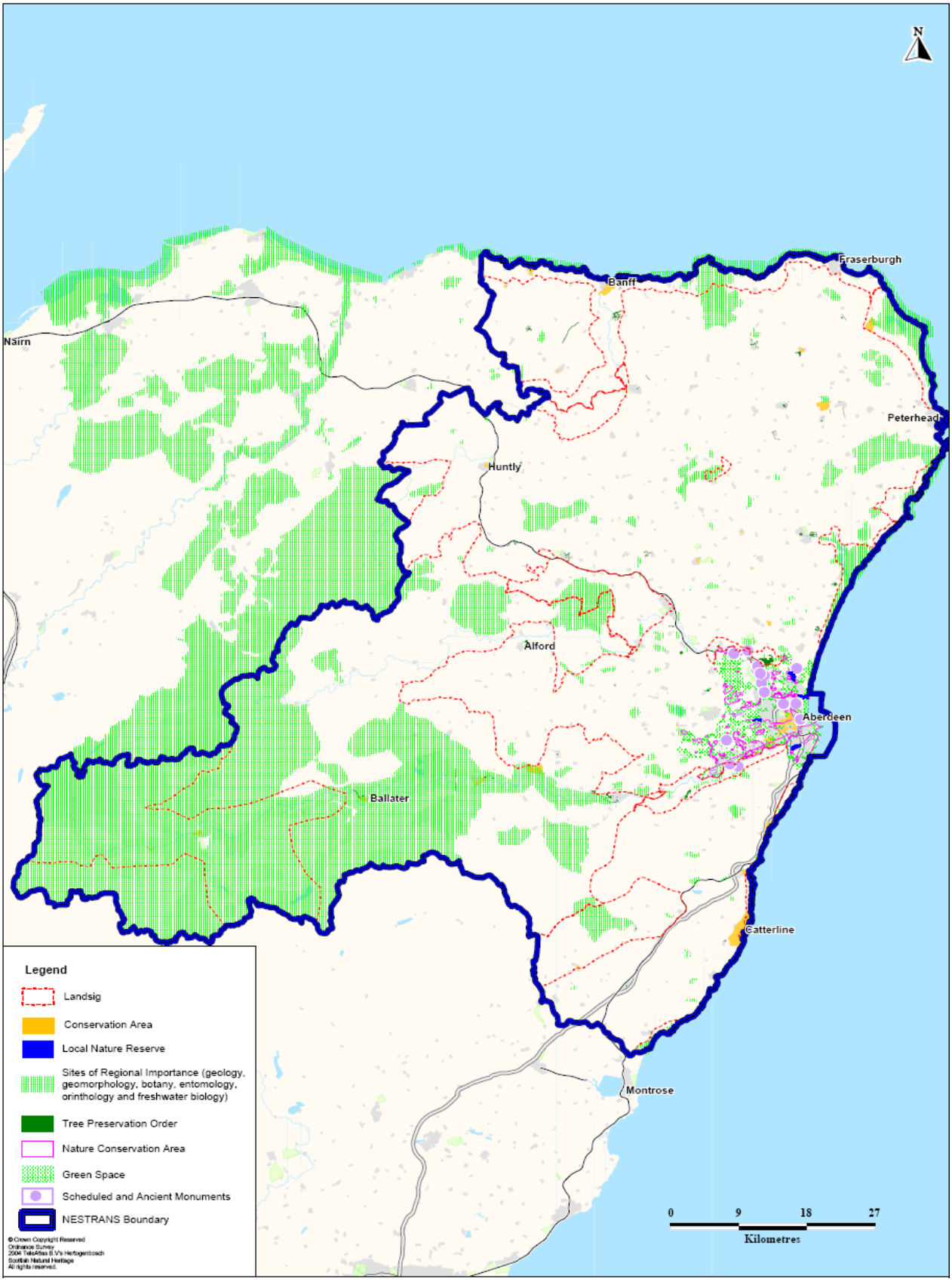


FIGURE 0-7 OTHER ENVIRONMENTAL PROTECTION AREAS



SEA objectives and indicators

The SEA Directive does not specifically require the use of objectives and indicators in SEA, but it is a useful way to describe, analyse and compare the environmental effects and can form the basis for future monitoring over the period in which the RTS is implemented.

The SEA *objectives* state what is intended, whereas the *indicators* measure the performance of the plan against the objectives. The SEA objectives recommended for the RTS are listed in Table 0.2 below. The aim has been to produce a list of SMART objectives, i.e. which are **S**pecific, **M**easurable, **A**ttainable, **R**esult-oriented, and **T**ime-Limited.

When setting the SEA objectives for the RTS, the SEA objectives of the two Local Transport Strategies have been taken into account in order to ensure that those for the RTS are consistent and complimentary.

TABLE 0.2 SEA OBJECTIVES AND INDICATORS

SEA topic	Objective	Indicator	Baseline
Air quality	To protect and improve local air quality.	**NO_2:** Annual mean **PM_{10}:** Annual mean Source: Local Authority Air Quality Monitoring Reports	**Air Quality Management Areas *(2004)*** *Aberdeen City:* 1 AQMA. No other predicted exceedences of National objectives. *Aberdeenshire:* No AQMAs and no predicted exceedences of National objectives
Greenhouse gas emissions	To help tackle climate change by reducing the effects of CO_2 emissions from road, rail and air traffic during the life of the plan, and helping to meet targets to nationally reduce overall emissions of greenhouse gases by 12.5% by 2008-12 in comparison with a 1990 baseline.	Predicted emissions of CO_2 from transport.	**Total Million Vehicle km *(STS, 2004)*:** *Aberdeen City: 1,366* *Aberdeenshire: 2,683* The Scottish Executive estimates that transport accounts for 12% of Scottish CO_2 emissions.
Biodiversity	To protect, maintain and enhance biodiversity, avoiding damage to designated wildlife sites, geological sites, protected species and irreversible losses.	Number of designated sites affected in RTS strategies. Achievement of Biodiversity Action Plan targets.	**Protected areas *(SNH, 2004)*** *Aberdeen City: 13* *Aberdeenshire: >2,700*
Cultural heritage	To protect and, where appropriate, enhance the historic environment.	Number of listed buildings, scheduled monuments, Historic Gardens and Designed Landscapes affected in RTS strategies.	**Heritage sites *(SNH, 2006)*** Aberdeen City: 37 scheduled ancient monuments; 1206 listed buildings; Aberdeenshire: 397 scheduled ancient monuments; 3692 listed buildings 28 gardens and designed landscapes.
Landscape and visual amenity	To retain, protect and enhance landscape and townscape character, local distinctiveness and scenic value, and visual amenity.	Number of landscape character types Areas protected for their international, national or local landscape importance.	**Designated areas *(SNH 2004)*** 1 National Scenic Area (NSAs) 7 Areas of Landscape Significance 37 Conservation Areas in Aberdeenshire

SEA topic	Objective	Indicator	Baseline
Water	To protect, maintain and improve the quality of all water bodies in the region.	The quality of river, coastal and estuary waters as monitored by SEPA.	All bathing waters in the region are classed as either Excellent or Good quality, with the exception of Stonehaven, which has been downgraded to Poor.
Soils	To reduce contamination and safeguard soil quality and quantity.	Presence of contaminated land. Amounts / loss of greenfield / brownfield land and proportion available for re-use.	**Contaminated Land *(AC, 2005)*** *Aberdeen City:* No sites *Aberdeenshire**:*** 13.3 ha, 1 Nitrate Vulnerable Zone
Population and human health	To create conditions to improve health and reduce health inequalities To reduce the number of casualties from road traffic accidents.	Air quality indicators (respiratory health) The proportion of the population feeling in 'good health'. Health deprivation, as measured in the Scottish Index of Multiple Deprivation. Road traffic accidents	**Air quality:** *See above* ***% in good health (2001 Census):*** *Aberdeen City: 70%* *Aberdeenshire: 74%* **Road Traffic Accidents *(SE, 2003)*:** *Aberdeen City: 433 all severities* *Aberdeenshire: 713 all severities*

4 Alternative options

SEA context – the need for alternative options

Alternatives are the range of rational choices open to the plan and programme-makers for delivering plan objectives. The SEA Regulations do not create a specific requirement to put forward alternatives, but it is common practice when developing a plan or programme to propose different ways of fulfilling its objectives[10]. Where this is the case, the SEA regulations do require that the environmental effects of such alternatives be considered. As part of the standard SEA process, the alternatives can be tested against the SEA objectives, to identify if they are relatively better or worse for the environment.

The 'without-plan' scenario

Firstly however, the SEA process must take into account possible planning schemes and developments scheduled to take place independently of the RTS and within the plan period. This is the "without plan" scenario, the "baseline" or "reference case".

In the consideration of the baseline environment (presented in Section 0 of this report), it is clear there are a number of issues which will affect the NESTRANS area whether an RTS is in place or not.

In the absence of the RTS, traffic volumes are likely to continue to increase beyond the forecasts and beyond 2015. This will result in decreasing **air quality** which in turn will impact on the environment and on the health of the population. Furthermore, without management of traffic growth in the future and with CO^2 emissions from other sectors declining, transports contribution to carbon emissions will increase, potentially making a contribution to **climate change**. Therefore, the RTS could have a significant impact on air quality across the region, particularly in Aberdeen through encouraging modal shift away from the private car to more sustainable forms of transport, including public transport, cycling and walking.

The region's **population** levels are unlikely to grow significantly over the period of RTS - indeed, in Aberdeen City, population levels are forecast to decrease, as are employment levels across the region, although the unemployment rate is lower than the Scottish average. The **health** of the population could be affected by the RTS, through policies to facilitate an increase in active forms of travel to help combat obesity and through controlling increases in traffic, therefore contributing to improved health through improved air quality. Without such policies, the health of the population could worsen and rates of asthma and obesity levels could increase.

Whilst there is limited information available on **noise** levels across the NESTRANS area, it can be assumed that without the RTS, road traffic volumes in and around Aberdeen City and the main commuter routes are likely to increase. This will in turn result in increases noise levels from road traffic.

[10] ODPM, 2004, A Practical Guide to the SEA Directive

Threats to **cultural heritage** through the implementation of the RTS (including provision and maintenance of infrastructure) include the loss, damage or disturbance of known or unknown features of cultural heritage importance. Without the RTS however, traffic growth is likely to increase even further with knock on effects on air pollution which can also have an adverse impact on the historic environment. Similarly, traffic growth could potentially impact on **water** and **soil** quality, **biodiversity, flora** and **fauna** through increasing use of fuels, reduced run-off from increased demand for road infrastructure, and impacts on flora and fauna from increased infrastructure. The RTS will need to be cognisant of the fact that new infrastructure, if not planned with environmental considerations in mind, can have detrimental effects on the local landscape.

The current strategic planning documents for the NESTRANS area is the North East Scotland Together (NEST) Structure Plan[11], coving both Aberdeen City and Aberdeenshire. Future challenges for the area taken from this document are as follows:

- unequal distribution of benefits from economic development across the region, with some areas where there is a dependence on fishing and agriculture becoming increasingly fragile;
- there are also situations, in both urban and rural areas, where access to housing, employment and skills training is limited, and accessibility and social inclusion are therefore important issues;
- due mainly to a decline in the North Sea oil and gas, manufacturing and primary sectors, there is an overall trend in a declining number of jobs in the region;
- population is expected to fall by 3% between 1998 and 2016, a drop of more than 13,000. Different age groups will experience different trends, but the overall picture is of an ageing population; and
- notwithstanding a declining population, there will continue to be a high demand for housing from an increasing number of households, with recent forecasts indicating a need for about 18,000 houses by 2011.

The drive for renewed economic development with benefits felt equally across the region, improved accessibility to services and the need to cater for increasing households all suggest that a strategic approach to transport is needed across the region, to ensure that transport solutions are planned in a sustainable manner to cater for the challenges ahead.

Presenting the alternatives

This section describes the generation of alternatives in the NESTRANS RTS.

Developing the alternatives in the NESTRANS RTS

In keeping with the Minister's desire for each RTS to be visionary, a broad range of potential strategic policy interventions was generated for the NESTRANS RTS. The strategy objectives were used as the starting point for the option generation, with schemes and packages developed which were likely to address the issues identified and achieve the agreed objectives. No realistic options were dismissed at this option

[11] North East Scotland Together – Structure Plan 2001-2016, 2002 http://www.nest-uk.net

generation stage in order to ensure that a wide range of options were considered in combination for inclusion in the strategy.

Once NESTRANS was satisfied that all the realistic options had been identified and set in complementary packages, a process of sifting and appraisal commenced. The sifting identified options that make very little contribution towards the strategy's objectives and/or were considered to be extremely difficult to implement. The appraisal methodology measured the merits of all the sifted packages of options against the strategy's objectives.

Given the comparatively long timescale for this strategy (to 2021), and the recognition that a number of variable external influences exist, such as oil prices and land use policies that are beyond the control of Nestrans, it was considered prudent to test each alternative package of options within the context of a number of different frameworks, which reflect the range of potential external influences.

Broad Strategic Interventions

Firstly, a series of broad strategic intervention categories that can address some or all of the strategy's objectives was identified. These have been refined as the RTS has developed, but initially these packages were:

- **External links** – Measures and activities that relate to connections beyond the north east.
- **Network development** – Measures and activities that will develop the existing transport network in the north east, such as road schemes or railway development.
- **Network rationing** – Measures and activities that will physically reallocate the existing road space in the north east towards more sustainable modes. This might include interventions such as bus priority lanes or pedestrianising areas within town and city centres.
- **Travel choice** – Measures and activities that will encourage more sustainable travel within and outside the north east by ensuring travellers are more aware of the alternatives and enhanced, safer facilities are made available.
- **Fiscal and financial** - Measures and activities that will encourage changes in travel behaviour in the north east through adjusting regimes such as the cost of travel (parking or bus fares for example) or stepping up enforcement.

Before these five broad categories were developed further, they were assessed to ensure that they fitted with the strategy's objectives. Comfortable that they could contribute towards achieving the identified objectives, a range of specific schemes were then developed containing different measures and activities under each heading.

Packages of Complementary Measures and Activities

The final strategy will consist of a package of complementary measures and activities, (including all those currently identified in the existing Nestrans MTS) that collectively will best meet the strategy's objectives. It was recognised that not all the options generated at the initial generation stage would form part of the final strategy; indeed some of the options were mutually exclusive and would not normally be implemented together. The various measures and activities generated were therefore assigned to

one or more distinct packages, so that their relative merits could be assessed with a view to identifying the preferred package. The broad strategy interventions, the associated measures and activities, and the various complementary packages are detailed in the following tables.

Six different packages were presented in addition to a base or "reference" case consisting only of current schemes:

- **A Reference Case** – Basically a Do-minimum scenario, consisting of measures and activities which already have a relatively high degree of commitment and are expected be part of the north east's transport network early within the strategy's life. It should be noted that elements contained in the Reference case are expected to be delivered in the early part of the life of the RTS and are therefore all also contained within each of the tested scenarios.
- **1: Low Cost** – Measures and activities that will require relatively low levels of revenue and capital funding. This would approximate to a continuing level of expenditure for transport broadly equivalent to present levels of funding.
- **2: Medium Cost (Economy)** – This package would require an increased level of expenditure on transport over the life of the strategy, to relatively medium levels of revenue and capital funding. Options are included that would achieve the objectives i to iii in the previous Table, yielding benefits with an emphasis towards relieving congestion, boosting the north east's economy and infrastructure-based solutions.
- **3: Medium Cost (Accessibility and Social Inclusion)** - This package also requires relatively medium levels of revenue and capital funding of a scale broadly equivalent to the other Medium Cost packages. Schemes are included which would best achieve objectives iv to vi in the previous table, yielding benefits with an emphasis towards social inclusion such as public transport measures, making travel more affordable and favouring socially excluded sectors of population or areas.
- **4: Medium Cost (Environmental)** - A third package, also requiring relatively medium levels of revenue and capital funding similar to other Medium Cost packages. Focus is on schemes that would best achieve objectives vii to ix, yielding benefits with an emphasis towards the environment, including measures to encourage modal shift and active travel.
- **5: Medium Cost (Spatial Planning)** – a further package requiring relatively medium levels of funding similar to other Medium Cost packages. Emphasis is on schemes which best achieve objectives x to xii, yielding benefits for connectivity within and between settlements in the north east.
- **6: High Cost** – A package, which combines many of the schemes within the medium cost scenarios and contains some measures and activities requiring a relatively high level of revenue and capital funding. Many of the schemes within this category are hugely expensive and could only be considered feasible if taking a very large proportion of all transport expenditure within the north east or in conjunction with new revenue streams, but have been included to ascertain their relative merits and acceptability.

Details of the schemes within these packages are contained in Appendix C. It was recognised that schemes will contribute towards many objectives, but for the purposes of testing these were allocated into different packages. Similarly, it was recognised that it is likely that some elements will require to be implemented, regardless of the chosen emphasis, but that the priority given to them relative to other elements may be

influenced by the direction the strategy takes.

Preferred package

The generation and sifting of options was informed by a consultation exercise and by a parallel modelling exercise. A final package of measures and activities emerged, that was essentially a hybrid of these options. Elements of each package which perform best against the objectives were combined into a "preferred package" and tested for inclusion within the draft Regional Transport Strategy. An assessment of this preferred package against environmental topic areas is detailed in Section 5 of this report.

Assessment of alternatives

The remainder of this section presents a broad assessment of the alternatives against environmental topics considered in this SEA. The preferred package is assessed in more detail in Section 5 of this report.

Compatibility matrix of alternatives with SEA objectives

The RTS alternatives are compared against the RTS Objectives in Table 4.1 below. A scale of ticks and crosses is used to indicate the extent of compatibility (3 ticks is the maximum positive correlation, and three crosses is the maximum of negative correlation). A circle is given for neutral correlation, and a question mark for a unknown compatibility.

TABLE 0.3 SCENARIOS VERSUS STRATEGY OBJECTIVES

	✓✓✓- Supports xxx - Conflicts o - Neutral	0	1	2	3	4	5	6
Strategic Transport Objective	**Operational Transport objectives**	**Reference case / do minimum**	**Low cost**	**Medium cost (economy)**	**Medium Cost (Accessibility and Social Inclusion)**	**Medium Cost (Environmental)**	**Medium Cost (Spatial Planning)**	**High cost**
Economy: To enhance and exploit the north east's competitive economic advantages, and reduce the impacts of peripheral	i) To make the movement of goods and people within the north east and to/from the area more efficient and reliable.			✓✓✓				✓✓✓
	ii) To improve the range and quality of transport to/from the north east to key business destinations.			✓✓✓				✓✓✓
	iii) To improve connectivity within the north east, particularly between residential and employment areas.			✓✓✓				✓✓✓
Accessibility and Social Inclusion: To enhance choice, accessibility and safety of transport, particularly for disadvantaged and vulnerable members of society and those living in areas where transport options are limited.	iv) To enhance travel opportunities and achieve sustained cost and quality advantages for public transport relative to the car.				✓✓✓			✓✓✓
	v) To reduce the number and severity of traffic related accidents and improve personal safety and security for all users of transport.				✓✓✓			✓✓✓
	vi) To achieve increased use of active travel and improve air quality as part of wider strategies to improve the health of north east residents.				✓✓✓			✓✓✓
Environment: To conserve and enhance the north east's natural and built environment and heritage and reduce the effects of transport on climate and air quality	vii) To reduce the proportion of journeys made by cars and especially by single occupant cars.					✓✓✓		✓✓✓
	viii) To achieve targets for reductions in the environmental impacts of transport, which will be set out in the forthcoming National Transport Strategy.					✓✓✓		✓✓✓
	ix) To reduce growth in vehicle kilometres travelled.					✓✓✓		✓✓✓
Spatial Planning: To support a strong, vibrant and dynamic city centre and town centres across the north east.	x) To improve connectivity to and within Aberdeen, especially by public transport, walking and cycling.						✓✓✓	✓✓✓
	xi) To improve connectivity to and within towns in Aberdeenshire, especially by public transport, walking and cycling.						✓✓✓	✓✓✓
	xii) To enhance public transport opportunities and reduce barriers to use across the north east, especially rural areas.						✓✓✓	✓✓✓

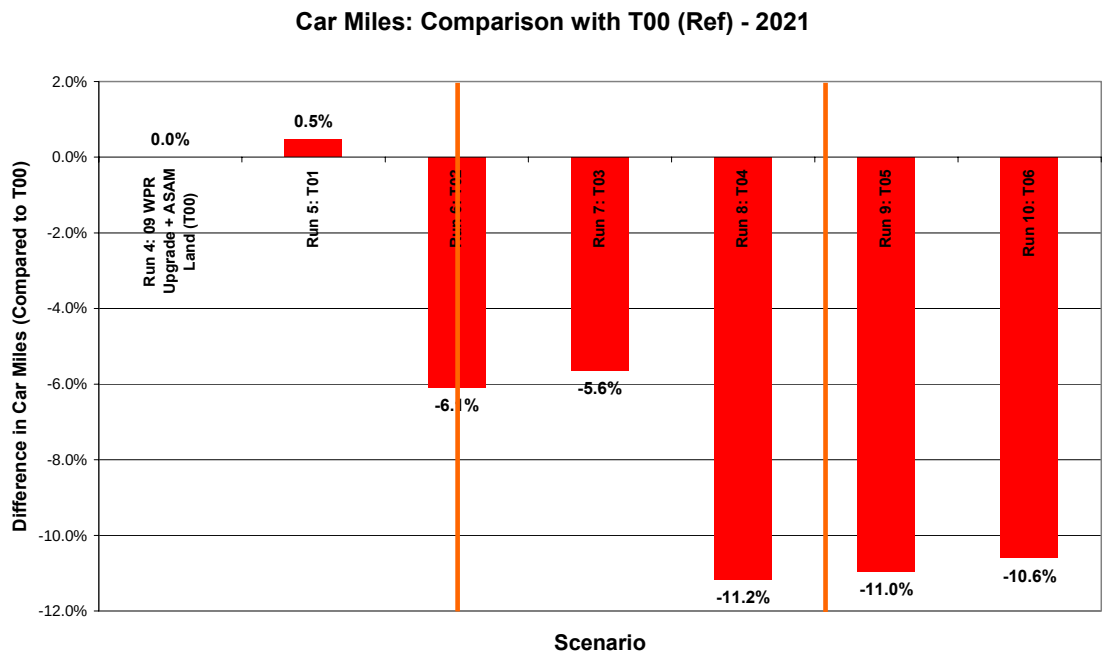
Environmental appraisal of alternatives

The table on the following page sets out the appraisal of the likely environmental effects of the alternative strategy options for the RTS as described above.

Modelling was used in the development of the RTS. For each of the alternative packages of options, the indicator of "car miles generated" was used to demonstrate the impacts of the options. Car miles are a useful proxy indicator for the general impact of transport policies on the environment, as a key aim of transport planning is to reduce congestion and the environmental impacts of private transport. The car miles generated for each option was compared to the reference (or base) case. This initial assessment helped to identify the broad options with the most impact on reducing car miles.

The following figure demonstrates the performance of these initial packages against the reference case in terms of car miles generated. Option numbers are shown in paragraph 0 above. The assessment demonstrates that all packages, except for package 1 (Low cost) are likely to reduce car miles, although to different degrees. The packages with the greatest potential to reduce car miles are packages 4, 5 and 6, or Medium- Social Inclusion, Medium – Spatial Planning, and High Cost.

FIGURE 0-8 CAR MILES - OPTION ASSESSMENT



These are assessed in relative terms, compared with the 'without the plan' scenario as described in paragraphs 0 to 0 above.

Given the diverse nature of proposals within the various packages considered as alternatives, assessing them against SEA objectives provides no meaningful output. The decision making process has chiefly used the indicator of car miles to assess the relative impacts of the alternative packages on the environment.

Next section – assessment of the preferred strategy

The decision to adopt a balanced approach as the preferred strategy for the RTS, which encompasses elements of alternative packages 1 to 6 has been based on the following considerations:

- The compatibility of the elements of the alternative strategies and the objectives identified for the RTS (see Table 4.2);
- The appraisal of the likely environmental effects of the alternative strategies against each of the SEA topic areas and for which we have developed SEA objectives;
- The outcomes of the consultation with RTP Board Members and the public via the North East Consultative Transport Forum carried out by NESTRANS on the option development throughout the strategy development process; and
- Likely available funding for implementation of the strategy.

5 Assessment of environmental effects of preferred strategy

Methodology

The SEA examines the proposed RTS programme and attempts to ascertain, where possible, the predicted extent and magnitude of environmental impacts. The following factors are taken into consideration for this; the time period over which measures within the strategy will occur, whether they are permanent or temporary, positive or negative, probable or improbable, frequent or rare, and whether there are cumulative and/or synergistic effects.

The 'significance' of environmental effects of the strategies considered in the SEA was established by reference to:

- the characteristics of the plan, including the environmental problems identified as relevant, infrastructure projects and other activities it proposes, and their relevance to compliance with environmental legislation (e.g. air quality standards); and
- the nature of the predicted effects and the area likely to be affected (e.g. extensive magnitude and spatial extent of the effects, or effects on designated areas of environmental protection).

Considering the low level of detail the strategic plan entails, an appropriate appraisal technique was chosen. The approach adopted for the appraisal is mainly qualitative, due to the constraints imposed by availability of information, and the strategic nature of the preferred strategy. Many of the proposed initiatives lack the detail required to be able to assess impacts effectively at this stage. However, an overview of the potential impacts, with an identification of areas of uncertainty that will require further investigation when further details of proposed initiatives are available, has helped to inform the decision-making process.

Assessment against SEA topic areas

The impacts of each of the RTS measures contained in the implementation plan must be appraised for their possible impact on the environment, for this SEA. This has been done in Table 0.4 to Table 0.6 using the ten SEA topic areas.

In measures involving physical works, we have assumed there may be some temporary impacts from construction relative to the types of works being carried out. On the whole, we have not commented on this in the assessments unless it is considered to be significant.

The assessments are demonstrated according to the following key, for clarity and consistency:

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

Sub-Strategy 1: The External Connections Strategy

This category of measures and activities within the NESTRANS RTS is aimed at improving the connectivity of the north east region with the rest of Scotland, UK and Europe. It focuses on travel

by air, rail, road and sea.

There are significant negative environmental impacts associated with expanding the **air network** and providing the infrastructure to cater for an increased volume of flights. These impacts will primarily result in increased carbon dioxide emissions, resulting from an increased volume of aircraft movements and a decrease in local air quality from the resulting increase in emissions. However, air travel continues to be important for the economic development of the north east of Scotland. This is reflected by an objective of the RTS, "to enhance and exploit the north east's competitive economic advantages, and reduce the impacts of peripherality". The policies on air travel are primarily aimed at increasing the opportunities for business air travel, as opposed to low-cost passenger air travel.

An Environmental Impact Assessment has been carried out of proposals to extend the runway at Aberdeen Airport. This SEA therefore reiterates the findings of that EIA, which concluded that a longer runway would result in greater efficiency amongst airlines, enabling the use of larger more fuel-efficient aircraft, and higher loadings of existing aircraft. However, it is not clear if this SEA included an assessment of the proposed extension against the indicator of greenhouse gas emissions / climate change.

Sea connections are a crucial part of the transport network in the north east. The movement of goods by sea has the lowest ecological footprint of any mode. Research has suggested the ecological footprint of various modes for freight as follows[12]:

- Air freight – 0.315 global hectares (gha)/per year/tonne km
- Road freight – 0.075 gha/per year/tonne km
- Rail freight – 0.014 gha/per year/tonne km
- Sea freight – 0.006 gha/per year/tonne km

Enhancing short sea shipping services by increasing the number and frequency of sailings and routes available will have a slight negative impact on noise, greenhouse gas emissions and local air quality through an increased number of ferry trips using diesel fuelled vessels. There is also likely to be slight negative impacts on water quality and marine biodiversity as a result of this increased movement of vessels in the sea. Transport by sea carries an associated contamination risk from accidental spills, leakage of fuel and lubricants, anti-foulant paint and refuse. Such impacts would have possible knock-on effects on biodiversity and fisheries and may also affect bathing waters. However, these potential negative impacts need to be balanced with the potential removal of freight from road and rail, both of which have a greater ecological footprint than sea freight.

It has not yet been determined whether new or enhanced ferry infrastructure will be required as a result of the proposals in the RTS. The construction and operation of new ferry infrastructure has the potential to have significant environmental effects on the marine environment. This can include impacts on marine hydrology and the potential for changes in deposition of sediments, with knock on effects on biodiversity and sometimes fisheries. There is will also be environmental impacts if increased dredging to keep navigational channels clear is required. As construction within the water will be required for proposals such as new harbours or breakwaters, a detailed environmental impact assessment will be required in order to fully understand the potential impact

[12] Atkins 2000, Peel Holdings 2000, referenced in Towards a Sustainable London: Reducing the Capital's Ecological Footprint, Phase 1 Report, 2003

on marine biodiversity and marine archaeology. The construction of new harbour infrastructure could also have a negative impact on landscape if not done sensitively.

Travel by rail is generally recognised to be one of the most environmentally friendly forms, and rail provides an important strategic link from the north east to the rest of Scotland and the UK. The impacts of encouraging longer and more frequent trains could be negative for the environmental category of noise. This is particularly important if there are people living in close proximity to the relevant stations. However, improvements to rail services on commuter and regional services will make rail a more attractive option, encouraging mode shift and providing positive health and social impacts by improving the accessibility of the region as a whole.

The preferred package includes a policy to support **strategic road schemes**, to address journey reliability. There are no specific schemes identified within this policy at this stage.

TABLE 0.4 ASSESSMENT OF RTS COMPONENTS: EXTERNAL LINKS

		SEA Topic area									
Policy	**Measure and activity**	**Noise**	**Greenhouse gas emissions**	**Air quality**	**Water, geology and soils**	**Biodiversity**	**Landscape and visual amenity**	**Cultural heritage**	**Material assets**	**Population and Health**	**Comments and overall assessment (including information on short, medium, long term; permanent, temporary; secondary, cumulative, synergistic effects) and proposed changes to the strategy**
EL1: Strategic roads	Strategic roads	?	?	?	?	?	?	?	?	?	This is a strategic policy to promote and support the development of the strategic road network, so environmental impacts of individual projects will be assessed as they are developed.
EL2: Rail	Rail links and services	?	+	?	?	0	0	0	0	+	Rail in general promotes modal shift from car and potentially air travel if long distance, so positive impacts through reducing greenhouse gas emissions. Improvements to existing network as opposed to new infrastructure so minimal environmental impacts.
EL3: Sea	Connections by sea	-	?	?	-	-	?	0	0	?	Overall neutral assessment for sea connections. Sea freight has the lowest ecological footprint of any mode. Potentially negative impacts on air and greenhouse gas emission; impacts on water from oil emissions, spills, and dumping; negative on marine life especially mammals from marine noise pollution and risk of collision. Neutral impact on coastal environments from fast ferry wash. Unknown impacts from new/amended coastal infrastructure as insufficient detail.
EL4: Air	Aberdeen Airport - Air routes and frequency of services	?	--	?	-	0	-	0	?	?	Assessment for based on findings of Environmental Statement into Runway Extension (see next measure), although increase in absolute number of flights and air miles will have negative impact on greenhouse gas emissions.
	Aberdeen Airport - runway extension	0	?	0	-	0	-	0	?	?	Proposal has been subject to an Environmental Statement which concluded that overall there was no significant environmental impacts, and any negative impacts would be mitigated. However, assessment did not appear to cover health, greenhouse gas emissions or material assets.
	Aberdeen Airport – Support for key aviation routes	0	0	0	0	0	0	0	0	0	This policy seeks to continue and retain existing service levels for the benefit of communities and the economy in the North East.

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

Sub-Strategy 2: The Internal Connections Strategy: Network Capability

Measures and activities in this category focus on improving the capability of the transport network.

The preferred package includes a number of measures to address the capacity and safety of the **road network**. It identifies some key routes where work may be required, at a strategic level. There are potential negative environmental impacts in relation to road schemes for noise, greenhouse gas emissions and local air quality, primarily due to increases in traffic levels as a result of journeys becoming more reliable and consistent. New road schemes will also have a negative impact on landscape through construction of a new feature in the landscape. Landscape impacts can also arise from lighting associated with new transport routes, particularly in remote rural settings.

A number of the proposed schemes are located in the vicinity of areas protected for their natural or cultural heritage, including areas of regional importance, and there is the potential for some negative impact on flora and fauna and cultural heritage. However, as the alignments and details of many schemes have not yet been identified, there is scope to ensure that, where possible, such areas are avoided. Mitigation measures can also be introduced to minimise the impact on these aspects of the environment and these are discussed in chapter 7.

Whilst travel by road can be environmentally damaging, it is also essential for certain trips. Moreover, it improvements to the road network enhances journeys for all road users, including cyclists, motorcyclists, public transport users and freight, as well as car users. The region's road network provides an important link to the rest of Scotland and the UK. A key objective of the NESTRANS RTS is "to enhance and exploit the north east's competitive economic advantages, and reduce the impacts of peripherality" – it is felt by NESTRANS that improving strategic roads is critical to achieve this objective.

The proposal to focus on **prioritised maintenance** aims to ensure activity is focused where most needed, particularly to serve the needs of pedestrians, cyclists and public transport users. Re-surfacing projects could have implications for noise, as the smoothness of road surfaces has a notable impact on traffic noise[13]. The unevenness of road surfaces can also, if severe, cause large tyre and suspension movements which can affect the handling of vehicles, with an adverse effect on road safety.

There can be negative environmental implications on soil and water when salt is used during the winter to prevent the formation of frost and ice on the roads and footpaths. The use of salt can damage plants and trees on the verge, and the runoff can cause water pollution and change the properties of soil[14].

Both Aberdeen City and Aberdeenshire Councils have a policy on the use of recycled materials in road maintenance, and this will be beneficial to the environment in terms of minimising the use of finite resources.

As has been discussed against the External Connections sub-strategy, rail is a preferable mode in environmental terms to car and road-freight transport. With regards Aberdeen Crossrail, separate

[13] Design Manual for Roads and Bridges, 1999, Volume 7, Chapter 5, HD3699 www.archive2.official-documents.co.uk/document/deps/ha/dmrb/vol7/section5/hd3699.pdf

[14] Highways Agency, 2003, Building Better Roads: Towards Sustainable Construction (corporate document) www.highways.gov.uk/aboutus/corpdocs/building_better_roads/03.htm

work is ongoing into the feasibility and potential impacts of this scheme, which will be reported in due course.

Promoting bus services across the North East will generally have a positive impact on the environment, through modal shift and reduction in emissions from private vehicle trips.

There are some potential negative impacts from the promotion of buses, which need to be considered. More frequent **buses** could have negative impacts on noise. These large vehicles, which are frequently slowing down and speeding up, emit higher levels of noise than normal traffic, which is more noticeable to human ears, causing higher annoyance. The same applies to improvements to bus stations, stops and other measures which encourage higher bus use. However, at the same time, if these bus improvements cause modal shift away from car use, these measures would hold positive air quality benefits. There is not enough detail available at present to give any more accurate measure of the extent of the positive or negative impacts on noise and air quality.

Guided bus systems (mass transit) are being considered as part of the RTS. However, these proposals are at an early stage of development, and whilst there may be environmental impacts from land take of any new infrastructure, care will be taken to minimise the impact on any designated areas identified by this SEA process.

Measures to increase the uptake of alternative fuel options for public transport across the region, as is being proposed for the City Centre Shuttle service, will help to reduce the impact of increasing levels of bus services on local air quality and greenhouse gas emissions.

There is not enough detail available on the location, route, frequency, demand for, or the types of vehicles to be used in the **Park and Ride** measures in the RTS, so we cannot make an accurate assessment of their impacts on the environment. Overall, there is evidence to suggest that Park and Ride may actually generate additional net vehicle kms. The key benefit from Park and Ride schemes is in reduction of congestion, and potentially local air quality improvements as a consequence. Any such benefits may however be offset by higher emissions of CO^2, for example. There also would be the direct land take and physical impact of the Park and Ride facilities themselves, which can be considerable depending on its location, and care should be taken to ensure they do not encroach on environmentally sensitive designated areas or areas of cultural importance.

Any specific projects affecting sensitive areas such as the River Dee and its catchment, such as the proposed Banchory Transport Interchange, will require further investigation.

There is unlikely to be much negative environmental impact directly from investment in **transport information and ticketing** systems which promote sustainable travel choices – moreover, promoting sustainable travel should have an overall positive environmental impact through reducing vehicular kms and resulting emissions.

Similarly, proposals to improve **interchange** facilities for public transport users will promote sustainable travel choices. In built-up areas, such as Aberdeen City Centre, care will have to be taken to minimise the impact on any buildings of cultural or historical importance.

Encouraging non-motorised transport, that is **walking** and **cycling**, and reallocating road space to non-motorised modes can improve physical fitness and therefore makes a positive contribution to human health. However, care will have to be taken to ensure that any road space freed up by modal shift is not filled by additional vehicular traffic. There has been no estimations, however, as to how many more people will cycle or walk due to the measures within the RTS, so the assessment will have to make the broad generalisation that more activity will occur. If some travellers switch from motorised transport to walking or cycling, this could have a small positive impact on noise and air quality. It is unlikely to make much difference to climate change, at such a small scale. In terms of the physical impact of building work, we cannot yet say whether there will be any impact on biodiversity and the natural environment, as the precise locations of many new lanes and routes are not yet specified in detail. Many of the measures to support pedestrians occur in urban areas where there will be minimal environmental impacts (e.g. Guild Street and Union Street in Aberdeen City Centre).

Proposals to enhance public transport **access to Aberdeen Airport** are positive in that they will aim to reduce vehicle miles by private car travel. Individual schemes, such as fixed links, will have to be assessed for their environmental impacts when more details become available.

Proposals for **freight** could result in negative environmental impacts as, in the main, they are focussed on facilitating the movement of freight both within the region and to elsewhere. Much of this freight will be on the road network (opportunities for shifting it to other modes are limited) and, if volumes of freight increase, this could have negative impacts on road safety, noise and local air quality. However, this is balanced with a proposal for a rail freight terminal, which could result in the removal of vehicle kms from the road network.

TABLE 0.5 ASSESSMENT OF RTS COMPONENTS: NETWORK CAPABILITY

	SEA Topic area									
Action	**Noise**	**Greenhouse gas emissions**	**Air quality**	**Water, geology and soils**	**Biodiversity**	**Landscape and visual amenity**	**Cultural heritage**	**Material assets**	**Population and Health**	**Comments and overall assessment (including information on short, medium, long term; permanent, temporary; secondary, cumulative, synergistic effects) and proposed changes to the strategy**
NC1: Road improvements										
Strategic roads (capacity improvements)	?	?	?	?	?	?	?	?	?	All proposals to be developed – assessment of impacts will be carried out on specific projects. Areas to highlight at this stage are potential impacts on Sites of Regional Importance in the vicinity of some proposed improvements e.g. A96 west of Inverurie/east of Huntly, and A90- between Ellon and Peterhead
Strategic roads (safety priorities)	?	?	?	?	?	?	?	?	?	All proposals to be developed – assessment of impacts will be carried out on specific projects. Areas to highlight at this stage are potential impacts on Sites of Regional Importance in the vicinity of some proposed improvements e.g. A96 west of Inverurie/east of Huntly, and A90- between Ellon and Peterhead
Car share lanes	?	+	+	0	0	0	0	0	+	Overall positive as reducing number of vehicles on the road, and reducing vehicle trips by 4-30%. However, some evidence HOVs can detract from bus use, so this will need to be monitored.
Prioritised maintenance	0	0	0	0	0	0	0	+	+	Overall neutral impact as promoting efficient use and maintenance of authority assets and improving road safety.
NC2: Rail										
Aberdeen Crossrail	0	0	+	?	?	?	0	+	+	Overall positive as promoting modal shift through more reliable public transport, and reducing harmful emissions, thus impacting on air quality, greenhouse gases and health. More detailed assessment of impacts will be carried out on project as part of separate ongoing work to develop proposal by NESTRANS.

Action	SEA Topic area									Comments and overall assessment (including information on short, medium, long term; permanent, temporary; secondary, cumulative, synergistic effects) and proposed changes to the strategy
	Noise	Greenhouse gas emissions	Air quality	Water, geology and soils	Biodiversity	Landscape and visual amenity	Cultural heritage	Material assets	Population and Health	
NC3: Bus improvements										
Bus Quality Improvements	0	+	++	0	0	0	0	0	++	Overall positive as promoting modal shift through increased use of public transport (buses), and improving accessibility. Cumulative impact on emissions at regional level, through reduced car trips. Insufficient information to assess any detailed impacts from new or amended infrastructure.
Bus Priorities/Selective Vehicle Detection (SVD)	0	+	++	?	?	?	?	0	++	Overall positive as promoting modal shift through increased use of public transport (buses), and improving accessibility. Cumulative impact on emissions at regional level, through reduced car trips. Insufficient information to assess any detailed impacts from new or amended infrastructure – some new carriageway may be created, so individual environmental assessments should be carried out.
Mass transit (guided bus)	0	+	+	?	?	?	?	?	+	Overall positive as promoting modal shift through more reliable public transport, thus reducing vehicle emissions and impacting on air quality, greenhouse gases and health. Any new land take would most likely be on land adjacent to existing carriageways and allocated for transport development in development plan. More detailed assessment of impacts required on a project basis.
Park and Ride	0	-	-	?	?	-	?	+	+	More detailed assessment of impacts required on a project basis. Potential positive impact on reducing congestion at localised level. Potential negative impacts from generation of net additional vehicle kms. Negative impacts from land take of P&R. Positive impacts from improving accessibility.
Real Time Bus Management and Information	0	+	++	0	0	0	0	0	++	Overall positive as promoting modal shift through increased use of public transport (buses), and improving accessibility. Cumulative impact on emissions at regional level, through reduced car trips.

Action	SEA Topic area									Comments and overall assessment (including information on short, medium, long term; permanent, temporary; secondary, cumulative, synergistic effects) and proposed changes to the strategy
	Noise	Greenhouse gas emissions	Air quality	Water, geology and soils	Biodiversity	Landscape and visual amenity	Cultural heritage	Material assets	Population and Health	
NC4: Transport Interchange										
Aberdeen City Centre Interchange	0	0	+	?	?	?	0	+	+	More detailed assessment of impacts required on a project basis. Potential positive impact on reducing congestion at localised level. Potential negative impacts from generation of net additional vehicle kms to Park and Ride. Negative impacts from land take of new interchanges if on greenfield land. Positive impacts from improving accessibility.
City Centre Shuttle	0	+	+	0	0	0	0	0	+	Overall positive as promoting modal shift through more reliable public transport, and reducing harmful emissions, thus impacting on air quality, greenhouse gases and health.
Aberdeenshire Towns	0	0	+	?	?	?	0	+	+	More detailed assessment of impacts required on a project basis. Potential positive impact on reducing congestion at localised level. Potential negative impacts from generation of net additional vehicle kms to Park and Ride. Negative impacts from land take of new interchanges if on greenfield land. Positive impacts from improving accessibility.
Ticketing	0	++	++	+	+	+	+	0	++	As a policy to promote use of public transport as opposed to the private car, this has an overall positive impact on the environment through reduction in emissions from private vehicles, and reduction in the need for future road infrastructure.
NC5: Aberdeen Airport Surface Connections										
Express Bus Service	0	+	+	0	0	0	0	0	+	Overall positive as promoting modal shift through more reliable public transport, thus reducing vehicle emissions and impacting on air quality, greenhouse gases and health.

	SEA Topic area									
Action	**Noise**	**Greenhouse gas emissions**	**Air quality**	**Water, geology and soils**	**Biodiversity**	**Landscape and visual amenity**	**Cultural heritage**	**Material assets**	**Population and Health**	**Comments and overall assessment (including information on short, medium, long term; permanent, temporary; secondary, cumulative, synergistic effects) and proposed changes to the strategy**
Dyce Railway Station/Airport Terminal Shuttle Bus	0	+	+	0	0	0	0	0	+	Overall positive as promoting modal shift through more reliable public transport, thus reducing vehicle emissions and impacting on air quality, greenhouse gases and health.
Airport Fixed Link	0	+	+	?	?	?	?	0	+	Overall positive as promoting modal shift through more reliable public transport, and reducing harmful emissions, thus impacting on air quality, greenhouse gases and health. More detailed assessment of impacts required on a project basis, and as route undefined cannot assess physical impacts.
NC6: Pedestrians and Cyclists										
Pedestrian network	0	0	+	0	0	0	0	?	++	Overall positive as facilitating increased levels of walking, accessibility and pedestrian safety.
Low speed zones	0	+	+	0	0	0	0	0	++	Overall positive as promoting safety and slower speeds (reduced emissions).
Cycling Network	0	0	+	0	0	0	0	0	++	Overall positive as facilitating increased levels of cycling, promoting modal shift and physical activity.
Powered Two Wheelers	0	?	+	0	0	0	0	0	-	Potentially negative impacts overall as whilst emissions lower than cars per vehicle/km, additional risk of death or injury to riders and passengers is likely to outweigh any health benefits to third parties. Also more likely to abstract public transport passengers than car users.
NC7: Freight										
Rail freight	?	++	++	?	?	?	?	?	+	Rail freight has less environmental impact than road freight and therefore makes a positive contribution to the environment. Details of specific freight facilities is still to be developed and individual environmental assessments may be required.

	SEA Topic area									
Action	**Noise**	**Greenhouse gas emissions**	**Air quality**	**Water, geology and soils**	**Biodiversity**	**Landscape and visual amenity**	**Cultural heritage**	**Material assets**	**Population and Health**	**Comments and overall assessment (including information on short, medium, long term; permanent, temporary; secondary, cumulative, synergistic effects) and proposed changes to the strategy**
HGV priority	?	?	?	0	0	0	0	0	?	HGVs may inhibit bus flow but impact should be minimised by choice of route. Impacts need to be monitored during trial, and therefore it is not possible to conclude on assessment here.
NC3: Parking										
Parking Strategy for north east - Develop and implement framework for managing supply / demand for parking, including pricing and enforcement	?	?	?	?	?	?	?	?	?	Insufficient information available to be able to assess impacts.
Small vehicle & HOV parking incentives - establish a parking club, offer discount to members with low emission vehicles or car share club agreements, and manage through existing Nestranscarshare.com	0	+	+	0	0	0	0	0	++	Overall positive as promoting higher car occupancy and low emission vehicles, thus reduced vehicle emissions per individual travelling. Insufficient information to assess impacts of any new or amended infrastructure, although unlikely to be major infrastructural requirements.

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

The Strategic Policy Framework

The policy framework sets the boundaries and context for all other strategic measures. It is intended to set the key cross cutting themes of the RTS and to define the overall strategic thrust of the RTS. The framework is intended – over the life of the RTS - to change how people travel, how often they travel and how safely they travel.

Travel Plans are a measure to promote sustainable travel choices. They are often categorised as a 'soft measure', which includes promotional activities to support walking, cycling and public transport as a whole. Collectively, soft measures have been reported to reduce peak period urban traffic by about 21% (off peak 13%)[15]. Benefits include increases in bus use, walking and cycling (with associated health gains). Depending on the extent of these initiatives, the soft measures could have a positive air quality and social impacts.

Promoting community transport and demand responsive transport has potentially beneficial impacts on the health of the population by improving accessibility to key services, including health services. Improved accessibility to facilities, particularly for those who have limited travel options and may otherwise suffer from social exclusion and social isolation, may indeed have a beneficial impact on mental health and overall quality of life, thus benefiting society as a whole.

Changing choices through incentives and partnerships is a cross-cutting theme, including measures concerned with enforcement and commitment of funding to achieve the RTS objectives. They include working with bus operators and investigating subsidies or incentives to make public transport use more attractive to existing and new users. To reduce the impact of vehicle emissions, it is proposed to explore and encourage the use of alternative fuels for the public transport sector.

Enforcement measures are primarily focused on two key areas – reducing emissions, promoting safety for all road users, the latter through effective enforcement of parking regulations and speed limits. These latter measures are unlikely to cause any significant change to the environment, as they do not seek to actually remove any traffic, although enforcing emission standards for public transport will have a positive impact on the environment.

Demand management measures have the potential to improve carbon emissions and air quality by reducing overall traffic volumes. They would also help to maximise the potential environmental benefits arising from mode shift, through effective management of the additional capacity released on the road network. Such measures would ensure that spare capacity created by mode shift does not encourage an overall growth in traffic. In the NESTRANS region, a parking strategy will be developed to assist with demand management.

[15] Cairns S, et al (2004) - **Smarter Choices: Changing The Way We Travel** - Department for Transport, London.

TABLE 0.6 ASSESSMENT OF RTS COMPONENTS: STRATEGIC POLICY FRAMEWORK

	SEA Topic area									
Action	**Noise**	**Greenhouse gas emissions**	**Air quality**	**Water, geology and soils**	**Biodiversity**	**Landscape and visual amenity**	**Cultural heritage**	**Material assets**	**Population and Health**	**Comments and overall assessment (including information on short, medium, long term; permanent, temporary; secondary, cumulative, synergistic effects) and proposed changes to the strategy**
TC1: Travel plans and awareness	0	+	++	0	0	0	0	0	+	Overall positive as aimed at promoting modal shift from private car to walking, cycling and public transport, thus reducing damaging impacts of private car travel.
TC2: Providing more Demand Responsive Transport initiatives	0	+	+	0	0	0	0	0	++	Overall positive as aimed at promoting modal shift from private car to public transport, and enhancing accessibility of key services.
TC3: Supporting Community Transport Initiatives	0	0	?	0	0	0	0	0	++	Overall positive as improving accessibility to key services including health. Unknown impacts on local air quality as outcome is not modal shift – moreover, possible negative impacts as encouraging more travel by those unable to previously.
FF1: Changing Choices through Incentives and Partnerships										
Bus Incentives - to reduce the cost of bus fares	0	+	++	0	0	0	0	0	++	Overall positive as promoting modal shift through increased use of public transport (buses), and improving accessibility. Cumulative impact on emissions at regional level, through reduced car trips.
Bus Partnerships – to improve and extend bus services	0	+	++	0	0	0	0	0	++	Overall positive as promoting modal shift through increased use of public transport (buses), and improving accessibility. Cumulative impact on emissions at regional level, through reduced car trips.
Alternative fuels – incentives	0	++	++	0	?	?	0	+	+	Overall positive impact as reducing use of fossil fuels and resulting harmful emissions. However, questions over potential negative impacts on biodiversity from growth of energy crops.

	SEA Topic area									
Action	**Noise**	**Greenhouse gas emissions**	**Air quality**	**Water, geology and soils**	**Biodiversity**	**Landscape and visual amenity**	**Cultural heritage**	**Material assets**	**Population and Health**	**Comments and overall assessment (including information on short, medium, long term; permanent, temporary; secondary, cumulative, synergistic effects) and proposed changes to the strategy**
FF2: Using enforcement										
Enforcement of emissions - in city centre and elsewhere to ensure UK and European air quality standards are achieved	0	+	+	0	0	0	0	0	++	Overall positive as reducing emissions from vehicles, with impacts on local air quality, cumulative impacts on greenhouse gas emissions at regional level, and reduced impacts on health (e.g. respiratory illness).
Enforcement of speed	0	+	+	0	0	0	0	0	++	Overall positive as promoting safety and slower speeds (reduced emissions).
FF3: Parking Controls										
Parking Strategy for North East	?	?	?	?	?	?	?	?	?	Insufficient information available to be able to assess impacts.
Enforcement of parking	0	+	++	0	0	0	0	0	++	Overall positive as promoting modal shift through increased use of public transport (buses), and improving accessibility. Cumulative impact on emissions at regional level, through reduced car trips.
Small vehicle & HOV parking incentives	0	+	+	0	0	0	0	0	++	Overall positive as promoting higher car occupancy and low emission vehicles, thus reduced vehicle emissions per individual travelling. Insufficient information to assess impacts of any new or amended infrastructure, although unlikely to be major infrastructural requirements.

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

Conclusion of assessment

It is normally desirable to demonstrate how the packages of measures within a strategy perform overall against the SEA objectives. However, the individual measures within the three sub-strategies are of an extremely varied nature. It has therefore been concluded that an overall assessment of these packages against SEA objectives would not give any meaningful or sensible results.

Instead, the key areas of potential impact are summarised here. It should be noted that the NESTRANS RTS is a high-level strategy document, and most schemes or initiatives will have to undergo further detailed appraisal work before a decision is made on whether to implement them. Such appraisal will also most likely include an Environmental Impact Assessment where EIA (Scotland) Regulations 1999 apply to a particular project or scheme.

To conclude, the key areas of potential impact from the RTS are as follows:

- Positive impacts:
  5 Overall, work in the preparation of the preferred package of measures in the RTS has suggested a decrease in vehicle miles in the order of 0.2% compared to the reference case - this will impact positively on local air quality and greenhouse gas emissions indicators, and it is hoped will reduce the demand for new road infrastructure in the future, thus reducing the impact of transport land-take on landscape, biodiversity and so on.
- Unknown impacts:
  6 As many of the proposed measures in the RTS are outline at this stage, and specific details such as routings are unspecified, there are unknown physical impacts from some proposed schemes, particularly those which will result in new or extended infrastructure. Examples of this include a new Fixed Link (public transport) between Dyce Airport and Aberdeen City Centre; and a new Park and Ride facility at Banchory.
- Negative impacts:
  7 Potentially negative impacts could arise from new road infrastructure and expanded air services in particular. However, the impacts of these projects need to be seen in terms of the overall impacts of the preferred package as a whole, which will reduce car miles. Furthermore, efforts to mitigate negative impacts will be made, as discussed in Section 6.

Overall assessment

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

6 Mitigation

Role of mitigation in SEA

One of the key purposes of the SEA process is to ensure environmental protection is an integral part of the plan making process. A principal way of achieving this is by incorporating mitigation measures into the policies and proposals of the plan as it develops.

The SEA Regulations specify the Environmental Report must contain a description of:

'The measures envisaged to prevent, reduce and as fully as possible offset any significant adverse effects on the environment of implementing the plan or programme.'

However, given the nature of the interactions between transport policies and proposals and the environment, it is unlikely that there will be many significantly adverse impacts. The analysis in **Section 6** generally concurs with this, finding mainly some uncertain effects. The lack of detail regarding the extent and location of many of the measures meant it was not possible to identify any significant impacts.

Despite this, it may be prudent to consider ways in which the policies and proposals that may be put forward in the RTS could be changed in order to lessen any adverse environmental effects that they might have, or indeed help to secure environmental improvements. This can be done in three main ways:

- **Avoidance or prevention:** This involves modifying the alternative options for the RTS. One or more elements of an alternative can be refined further in order to avoid particular environmental effects.
- **Reduction:** When all alternative options or approaches to avoiding an effect have been examined, ways of reducing the extent or magnitude of the effect need to be considered. This could focus on timing or phasing of RTS measures to reduce adverse effects. An example would be re-timing of all maintenance works outside of peak periods, to reduce carbon dioxide emissions associated with congestion.
- **Offsetting or compensation:** If no opportunities are available to either avoid or reduce adverse effects, remedial measures can be taken. This could be financial compensation for the loss of, or damage to, environmental resources, although the scope for this might be limited in the context of an RTS. However, it can also include replacing the resource. This could be by providing a comparable or similar resource somewhere else, although this may not be an appropriate response if resources are unique or irreplaceable.

Promoting policies and proposals that enhance the environment may also become an end in itself. For example, a program of street works might be extended to include the removal of unnecessary street railings and obstacles to enhance the setting of historic buildings or areas.

Specific measures that might be applied to reduce the environmental effects of transport, and that may be appropriate to incorporate into the RTS policies and proposals are considered in the following paragraphs under specific topic headings.

Recommendations for mitigation

Noise

Reducing noise effects from existing traffic flows is quite difficult. Traffic management can help, but

traffic flows have to be reduced by more than 50% to have any real effect on noise levels. Reducing speed limits in residential areas is another, perhaps more effective, option. Noise barriers or mounds can be provided to protect homes and schools, but these can only be provided where there is space to do so. Secondary glazing can be provided for homes and other sensitive buildings, but the Council does not have legal powers to do this to resolve noise problems that already exist.

A practical measure that can be effective is the use of low-noise road surfaces, such as porous asphalt or 'whisper' concrete. The use of these can be considered as replacement materials for an on-going maintenance programme. However, there are budget implications of this, as these materials tend to be less durable than those that they replace.

For new highways and railway schemes, noise impacts will be assessed specifically as part of the Environmental Impact Assessment (EIA) process that is part of consent requirements. Noise barriers/mounds and/or secondary glazing have to be provided to mitigate effects if noise levels are predicted to exceed specified levels in nearby residential buildings under the provisions of the Land Compensation (Scotland) Act 1973. Alternatively, alignments can be adjusted to reduce noise to acceptable levels for people living nearby.

Local Air Quality

In order to make a 'significant' difference in air quality, traffic flows would need to drop at least 10% (unless the road has particularly high flows, or there are particular sensitivities, such as traffic congestion, change to the speed limit or the presence an Air Quality Management Area).

The key ways in which local air pollution may be tackled through transport policy measures are:

- Reducing emissions at source, through use of fuel-efficiency, filtering technologies or use of alternative fuels;
- Reducing levels of traffic overall, or at specific locations where air quality is an identified problem; or
- Reducing congestion and high traffic speeds, again focusing on areas where air quality is particularly poor.

In the context of the RTS, there are a myriad of measures that may be considered to achieve one or other of these ends. Some will have already been considered by the NESTRANS and its constituent authorities, and rejected on the basis of the transport outcomes they would have, or other adverse effects on accessibility or economic development, for example. However, the full range of measures which the Scottish Executive recommends should be considered in the context of air quality and transport at a local level are as follows[16]:

- Measures developed under the provisions of the Road Traffic Reduction Act 1997 and other traffic regulation to reduce traffic;
- Promoting the use of cleaner fuels, as advised by the Scottish Executive's 'PowerShift', *autogas* + and 'CleanUp Scotland' programmes[17];

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

[17] The Scottish Executive funds these programmes to promote cleaner fuels. CleanUp Scotland provides grants towards the cost of fitting vehicles with emission reducing equipment, and is managed by the Energy Savings Trust; PowerShift offers a grant of up to 75% of the additional cost of converting a vehicle to run on liquid petroleum gas (LPG) for a vehicle on the PowerShift

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

Measures can also be adopted to avoid stationary vehicles with engines running, e.g. reducing congestion, or requiring taxis and buses have engines turned off at ranks or stands.

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

Climate Change

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

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

Register. autogas+, which only operates in Scotland, complements the main PowerShift Programme and provides a grant of £800 to convert petrol vehicles not on the PowerShift Register to run on LPG

Townscape and Landscape

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

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

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

Heritage

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

If such effects are unavoidable, the advice set out in NPPG5 'Planning and Archaeology'[18] should be followed to devise appropriate mitigation. The general preference is for historic and archaeological resources to be recorded and preserved in situ, although excavation and removal may be an option if there is a risk that the resource may be lost or destroyed otherwise.

Biodiversity, Flora and Fauna

The key principles for mitigating adverse effects on biodiversity are to control the sources of impacts, or the exposure of ecological receptors to them. This can take a wide range of forms, but due to the limited effectiveness of many ecological restoration measures, every effort should be made to avoid significant adverse impacts on biodiversity before resorting to other measures. Some adverse effects might be avoided through changes to the RTS, such as adding, deleting or refining specific policies or proposals, or by bringing forward new alternatives. Where impacts cannot be avoided, it may be possible to limit damage. In some cases biodiversity may recover spontaneously if affected by policies or proposals of the plan, and no "mitigation" other than time is required. In other cases, mitigation could be put into effect through provisions in later plans, requirements to carry out EIA for specific types of projects, etc…

Landscape works, including habitat creation and restoration are often promoted to mitigate adverse ecological impacts. However they are often ineffective or take a long time for satisfactory results to be achieved. Therefore, the guiding principal here should be that compensation should only be used as a last resort, if loss of habitats or species is unavoidable. Mitigation banking can also be considered, where equivalent replacement habitat (in terms of both quantity and quality) to compensate for the loss or damage to any natural or semi-natural habitat.

In general terms, the most important consideration for developing the RTS will be to ensure, as far as is reasonably practical, that policies and proposals do not directly effect protected areas that have been designated on biodiversity grounds (e.g. Wetland areas or Sites of Special Scientific Interest) or habitats where protected species of flora or fauna have been identified. Any developments likely to have significant effects on sites designated under the Habitats and Birds

[18] NPPG5 Archaeology and Planning, 1998, http://www.scotland.gov.uk/Publications/1998/10/nppg5

Directive will require the Appropriate Assessment, which may not necessarily be EIA. Any developments likely to affect European Protected Species will require to have surveys completed and mitigation identified prior to consent being issued by the responsible authority. Consideration at the earliest stage of access corridors for wildlife (as well as people) through major transport developments should be considered.

If effects are unavoidable, commitments should be made to developing appropriate assessment and management procedures to minimise the loss or damage to biodiversity resources, and to re-instate or replace these as appropriate. This would be achieved through the EIA process that forms part of consent processes for major schemes, Appropriate Assessments, or through management commitments on smaller proposals.

Taking account of biodiversity issues in developing traffic management and maintenance programmes in the RTS is particularly important. Measures to reduce noise and air pollution from traffic, as discussed above, can help reduce effects on biodiversity also. In addition, care must be taken over specifying the use of herbicides and pesticides in maintenance work, as also should be the case in the use of de-icing salts and other chemicals. In all cases, the potential toxic effects on flora and fauna should be considered, and measures taken to ensure that no important or protected species are likely to be damaged as a result of their use.

Soil and Water

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

A particular concern is flood risk, and any works that are proposed should not increase the risk of flooding. The Scottish Environmental Protection Agency (SEPA) now is likely to require that a flood risk assessment is undertaken as part of the planning process for any major scheme.

Maintenance programmes within the RTS should also take account of the handling and treatment of contaminated run-off from road surfaces. Drainage systems should be sufficient to cope with the volume of run-off, and include features such as traps or balancing ponds to ensure contaminated water does not cause ground or water pollution. Maintenance regimes should also include routine inspection and cleaning of these features to make sure that they remain effective.

Material Assets

Aberdeen City and Aberdeenshire Councils both already have a policy on the use of recycled materials in its road maintenance. In terms of road maintenance, Aberdeen City Council aims to recycle as much of their material assets as possible, although do not have specific targets for this at present. We recommend the use of targets to ensure that progress is being made.

Aberdeenshire Council aims to recycle 25% of relevant materials, increasing this by 5% per annum until a total of 50% of relevant materials are being recycled.

7 Monitoring

Indicators

At the scoping stage of this SEA, objectives and indicators were selected and presented to NESTRANS and the statutory environmental bodies. The indicators (one for each of the previously established SEA objectives) are listed in Table 0.7 below.

It should be noted that monitoring impacts on noise is a difficult area currently, particularly at a regional level. The Scottish Executive has commissioned work to produce national noise maps for Scotland to comply with the Environmental Noise Directive (END) (2002/49/EC), and any outputs from this appropriate to Nestrans should be incorporated into future RTS monitoring – however, it is likely such noise mapping may take some time to become available.

TABLE 0.7 SEA OBJECTIVES AND INDICATORS

SEA topic	Objective	Indicator	Baseline
Air quality	To protect and improve local air quality.	**NO_2:** Annual mean **PM_{10}:** Annual mean Source: Local Authority Air Quality Monitoring Reports	**Air Quality Management Areas *(2004)*** *Aberdeen City:* 1 AQMA. No other predicted exceedences of National objectives. *Aberdeenshire:* No AQMAs and no predicted exceedences of National objectives
Greenhouse gas emissions	To help tackle climate change by reducing the effects of CO_2 emissions from road, rail and air traffic during the life of the plan, and helping to meet targets to nationally reduce overall emissions of greenhouse gases by 12.5% by 2008-12 in comparison with a 1990 baseline.	Predicted emissions of CO_2 from transport.	**Total Million Vehicle km *(STS, 2004)*:** *Aberdeen City: 1,366* *Aberdeenshire: 2,683* The Scottish Executive estimates that transport accounts for 12% of Scottish CO_2 emissions.
Biodiversity	To protect, maintain and enhance biodiversity, avoiding damage to designated wildlife sites, geological sites, protected species and irreversible losses.	Number of designated sites affected in RTS strategies. Achievement of Biodiversity Action Plan targets.	**Protected areas *(SNH, 2004)*** *Aberdeen City: 13* *Aberdeenshire: >2,700*
Cultural heritage	To protect and, where appropriate, enhance the historic environment.	Number of listed buildings, scheduled monuments, Historic Gardens and Designed Landscapes affected in RTS strategies.	**Heritage sites *(SNH, 2006)*** Aberdeen City: 37 scheduled ancient monuments; 1206 listed buildings; Aberdeenshire: 397 scheduled ancient monuments; 3692 listed buildings 28 gardens and designed landscapes.
Landscape and visual amenity	To retain, protect and enhance landscape and townscape character, local distinctiveness and scenic value, and visual amenity.	Number of landscape character types Areas protected for their international, national or local landscape importance.	**Designated areas *(SNH 2004)*** 1 National Scenic Area (NSAs) 7 Areas of Landscape Significance 37 Conservation Areas in Aberdeenshire
Water	To protect, maintain and improve	The quality of river, coastal and	All bathing waters in the region are

SEA topic	Objective	Indicator	Baseline
	the quality of all water bodies in the region.	estuary waters as monitored by SEPA.	classed as either Excellent or Good quality, with the exception of Stonehaven, which has been downgraded to Poor.
Soils	To reduce contamination and safeguard soil quality and quantity.	Presence of contaminated land. Amounts / loss of greenfield / brownfield land and proportion available for re-use.	**Contaminated Land *(AC, 2005)*** *Aberdeen City:* No sites *Aberdeenshire:* 13.3 ha, 1 Nitrate Vulnerable Zone
Population and human health	To create conditions to improve health and reduce health inequalities To reduce the number of casualties from road traffic accidents.	Air quality indicators (respiratory health) The proportion of the population feeling in 'good health'. Health deprivation, as measured in the Scottish Index of Multiple Deprivation. Road traffic accidents	**Air quality:** *See above* ***% in good health (2001 Census):*** *Aberdeen City: 70%* *Aberdeenshire: 74%* **Road Traffic Accidents *(SE, 2003)*:** *Aberdeen City: 433 all severities* *Aberdeenshire: 713 all severities*

8 Next steps

The draft RTS along with this environmental report will be made available to the general public as well as the statutory consultation bodies (SEPA, Scottish Natural Heritage and Historic Scotland), in accordance with the SEA guidance.

The final RTS is due to be published in April 2007. Comments and responses to this Environmental Report will be considered in early 2007, so that revisions can be made before the RTS is finalised.

Consultation

The purpose of consultation is to allow effective engagement and input into the strategy and the environmental assessment. It also helps ensure that the RTS and its assessment are as comprehensive as possible.

When examining the report, consultees may wish to consider the following:

- Do you agree with the general findings of the SEA that the RTS will have a positive impact on the environment and that significant effects will be effectively managed by the mitigation proposals?
- Are there any additional mitigation techniques for addressing the environmental impact of the RTS which have been overlooked?
- Is there any significant environmental data missing or misrepresented?
- In terms of environmental impact, are there any alternative RTS policies and plans which should have been considered?

Any responses to the SEA Environmental Report will be assessed in terms of environmental significance and likelihood of a negative environmental impact resulting if the response was not dealt with through the SEA process. This assessment will be taken using the expert judgement of the SEA consultant to the Council (Steer Davies Gleave) and NESTRANS members.

Adoption of full strategy and SEA statement

As previously stated, the full RTS will be published in April 2007. The SEA Environmental Statement will be produced as soon as possible after the adoption of the strategy. The Statement must show how environmental considerations have been integrated into the RTS, how the findings of the Environmental Report have been taken into account, and how the consultation responses have been addressed.

Finally, the Statement must also give the reasons for finally selecting the RTS measures and strategies adopted rather than the alternatives considered, and the accompanying monitoring measures.

This should demonstrate the action taken by NESTRANS during the development of the SEA and RTS to produce a better outcome. It shows how the environment has been considered at every step, and relevant information has been reviewed and considered to influence the final shape of the strategy.

APPENDIX A

CONSULTATION RESPONSES

A1 Consultation responses on scoping report for the SEA of the NESTRANS Regional Transport Strategy

HISTORIC SCOTLAND

COMMENT	RESPONSE
The Scoping Report provides a clear outline of the approach to the environmental assessment of the strategy, and subject to the specific comments set out below, I am happy with the scope and level of detail proposed for the environmental assessment.	Noted.
Table 2.1 sets out the plans, programmes, policy and legislation that are relevant to the LTS and the SEA. I note that you have reviewed NPPGs 5 and 18 and PAN 42. You may also wish to refer to *Passed to the Future,* which sets out Scottish Ministers' policy for the sustainable management of the historic environment.	This document has been reviewed and added to the list in Appendix B.
Simply for information, Historic Scotland is developing a new series of policy documents (Scottish Historic Environment Policy (SHEP)) that both sets out Scottish Ministers' vision and strategic policies for the wider Historic Environment, and provides greater policy direction for Historic Scotland. SHEP1 is the overarching policy statement for the historic environment. It provides a framework for more detailed strategic policies and operational policies that inform the day to day work of a range of organisations that have a role and interest in managing the historic environment. SHEP1 was recently available for public consultation; however, I have provided a link to the draft document as you may find it helpful.	Noted.
Paragraph 2.3 sets out the main policy objectives that have been derived from the review of plans, programmes and policies. I note that the requirement to "…protect archaeological sites and listed buildings" is identified. I suggest rewording this to "protect and, where appropriate, enhance the historic environment" to use the term 'historic environment' more consistently and in line with the definition provided in point 1.3 of the covering letter.	Agreed. We have revised this in the Environmental Report.
In the Environmental Report it would be useful to describe how the environmental protection objectives have been taken into account during the preparation of the LTS.	
Scope of environmental effects	
Section 3 describes the potential impacts of transport on each of the environmental parameters, and I found this format helpful in clearly setting out the scope of the assessment. The potential impacts identified in paragraph 3.32, transport – related proposals and activities may also affect the historic environment in the following ways:	
o Construction of new infrastructure may affect the wider landscape setting of particular sites (e.g. scheduled ancient monuments) or sensitive historic landscapes	This has been noted.
o Maintenance and management of existing infrastructure may affect historic environment features e.g. historic bridges.	This has been noted.
o There may also be opportunities to improve the accessibility of historic environment features including towns, landscapes and individual sites, providing that this is undertaken sympathetically. Access could also be	This comment has been noted and passed to the relevant local authorities for future notice.

combined with measure to improve the enjoyment and understanding of the historic environment (e.g. interpretation boards), again provided that this is undertaken sensitively.	
I am content that the assessment of impacts on the historic environment features will be focussed on the features identified in Paragraphs 3.26 and 3.28.	Noted.
The scope of the assessment is summarised at Table 3.1, and in summary for the 'cultural heritage' topic notes that assessment of effects will be focussed on 'designated' suggests that locally important historic environment features may not be considered in the assessment however these are included in the preceding section of the report (paragraph 3.28). I would welcome clarification that impacts on locally important historic environment features will be considered in the assessment e.g. archaeological sites on the Sites and Monuments Record.	For clarification, our definition of 'designated' includes all historic features that are listed on the Sites and Monuments Record.
Environmental Baseline	
Table 4.1 sets out the baseline environmental information that will be used for the SEA and I note that 'cultural heritage' has been grouped with 'landscape' as an SEA topic. This is inconsistent with the SEA topics previously set out in paragraph 1.9. For clarity, I suggest that baseline data for the historic environment is provided separately from landscape in the Environmental Report.	This has been noted and amended in the Environmental Report.
I note that the Scoping Reports for the environmental assessments of Aberdeen LTS and Aberdeenshire LTS are used to provide the baseline information included in Table 4.1. This is a sensible approach, however I should point out that our response to the Aberdeen LTS Scoping Report noted our concerns that the historic environment baseline was described only in terms of two indicators – 'transport infrastructure and functionality' and ' transport infrastructure form and materials'. Baseline data should be provided for the relevant features of the historic environment listed in point 1.3 of the covering letter.	We have not grouped information as in the Aberdeen LTS Scoping Report and all areas listed in 1.3 of the covering letter have been addressed.
Please note that listing historic buildings, scheduled monuments of national importance and identifying sites for inclusion in the Inventory of Gardens and Designed Landscapes are ongoing activities. Accordingly the data included in Table 4.1 may need to be updated. In Aberdeen City there are currently: o 37 scheduled ancient monuments; o 1206 listed buildings; o No gardens and designed landscapes, however there are a number of sites that have been identified for potential inclusion in the inventory. In Aberdeenshire there are: o 397 scheduled ancient monuments; o 3692 listed buildings o 28 gardens and designed landscapes.	We have updated the baseline in the Environmental Report with this information.
Simply for information, at some point in the future Historic Scotland is likely to request that historic landscapes are taken into consideration. Historic environment features are an integral component of landscape, and present day landscapes are the result of both natural environmental conditions and the interaction between people and the environment over a long period of time. Historic land-use assessment (HLA) can add information on the historic dimension of landscape character assessment. The HLA	Noted.

is a GIS-based analysis of past and present land-use, developed jointly by Historic Scotland and RCAHMS and can be found on the RCAHMS web-site (www.rcahms.gov.uk) at HLAMAP. However, the HLA programme foes not yet have Scotland wide coverage.	
Please note at Figure 4.6 that the reference in the legend should be changed to 'scheduled ancient monuments'.	Noted – to be amended in Final Environmental Statement.
When you undertake the assessment it might be useful to map the baseline data alongside the elements of the strategy that have spatial information e.g. transport schemes. This will help you to define any environmental constraints and consider alternative options.	We will do this as far as we are able given availability of data at the time of the assessment.
Environmental objectives	
The scope of the assessment is set out in section 3 and it is noted that consideration of potential impacts on 'landscape and visual amenity' will include effects on Conservation areas and townscape. However, there are no SEA objectives proposed for 'landscape and visual amenity' in Table 5.1. I would welcome clarification of how potential impacts on townscape and Conservation Areas will be considered in the assessment.	An objective on 'landscape and visual amenity' has been added in the Environmental Report.
You may also wish to add an SEA objective: 'to promote the understanding and enjoyment of the historic environment".	This has not been added as an objective as there are no policies contained within the LTS to evaluate this against.
Draft RTS alternatives and assessment methods	
I note that alternative options for the strategic direction of the strategy will be assessed and documented in the Environmental Report. The policies and proposals of the preferred strategy will then be assessed. When assessing policies and proposals, you may wish to group policies which are unlikely to exert environmental effects.	Noted.
Where a preferred option for a project is identified in the LTS, a discussion of the project's alternatives would need to be included in the Environmental Report to demonstrate that the environmental implications of the various options have been taken into account in the final decision that is being taken forward in the LTS.	We will discuss any alternative projects where there is information available as the Environmental Report includes discussion of the overall strategy alternatives.
Section 6 sets out the assessment methods, and I note that impacts of the historic environment will be considered in qualitative terms using an 'environmental capital' approach (the information on locally important sites would be used in this context). I am content with this approach, and with the matrix that will be sued to document the assessment. I found the information in paragraphs 6.34 to 6.36 helpful in describing how impacts on the historic environments will be assessed.	Noted.
Next steps	
I note that mitigation measures will be developed to address the environmental effects identified in the strategy. Mitigation measures should be considered using the mitigation hierarchy i.e. avoid, reduce, remedy or compensate (for negative effects) and enhancement where appropriate (for positive effects). Please note that any enhancement of the historic environment should only be undertaken where appropriate and should be discussed with Historic Scotland in the first instance when features of national interest are being considered.	Noted. We will use the mitigation hierarchy when considering mitigation measures.

SCOTTISH NATURAL HERITAGE

COMMENT	RESPONSE
We welcome the approach taken in preparing the scoping report, particularly in utilising data and information prepared as part of the SEA scoping reports of both Aberdeen City and Aberdeenshire Local Transport Strategies. The scoping report is clearly laid out and identifies key issues and objectives. Whilst the objectives for the actual RTS have not been finalised, the summary of the approach to be taken is helpful.	Noted
Relationship with other relevant plans and programmes	
The following additional plans and programmes are suggested as aching a bearing on the RTS: <u>International level</u> ▪ EU Biofuels Directive: this indicates a target for biofuels to form at least 5% of transport fuels by 2010 <u>National level</u> ▪ UK National Aviation Strategy: this should have bearing on the role of air services and expansion of air facilities, and the need for public transport connections. ▪ Nature Conservation (Scotland) Act 2004: this places a duty on all public bodies to further the conservation of biodiversity, so far as is consistent with the proper exercise of their functions. ▪ Land Reform (Scotland) Act 2003: this places a responsibility on local authorities to identify and manage a core path network in their area. ▪ Scottish Forestry Strategy: this may have an effect on road improvements in rural areas. ▪ Safe Routes to Schools: An Executive policy which links with the policy option to promote modal shift.	Noted. We will review these documents as appropriate and add them in an Appendix in the Environmental Report.
Key Environmental issues	
SNH are satisfied with the list of objectives identified in section 2.3. Most of these objectives contain quite tight definitions, however there are no targets or indicators yet identified. SNH would wish to see early development of these to inform the RTS and SEA process. As stated in the letter, there is a concern that the scoping report document has a bias towards car based transport and further consideration is required to be given to air, maritime and rail modes of transport.	Indicators are provided in the Scoping report in Section 5.1 They will also be included in the Environmental Report. The second point is noted and will be considered. The Assessment of Environmental Impacts will be based on the measures and activities contained in the draft strategy
Biodiversity	
Transport routes (construction, operation and maintenance) can sever and divide habitats as well as blocking and inhibiting species movement. The RTS should consider the scale of such impacts and also identify which habitats and species are likely to be most sensitive. Once these have been identified consideration should also be given to the mitigations strategies which may be encouraged to limit such impacts. Robust data to inform this consideration and implementation may however be difficult to obtain. SNH will be happy to advise further.	This point has been considered, and due to the strategic nature of the NESTRANS RTS, it is difficult to assess impacts precisely on this issue. Instead, the need to consider protected species has been included in Section 6 on Mitigation.

Landscape and visual amenity	
This objective is the least developed of all the objectives and therefore further consideration should be given to this aspect. Many impacts that can arise from transport routes are due to secondary impacts such as lighting and noise. Consideration of hoe increased transport routes and increased maintenance and construction standards are impacting on areas both urban and rural as well as in the maritime environment, require further consideration as to how such impacts can be reduced in terms of landscape character and visual amenity.	A landscape and visual amenity objective has been added.
Population and human health impacts	
The RTS should consider the impacts which can arise from transport routes on public access, including severance of access for non-motorised users of paths. It should consider both the adverse impacts which can arise and mitigation as well as the potential for the creation of new paths / routes and entry points.	We will forward this comment on to the development of the RTS. The Environmental Report will however reflect that this is a Regional Transport Strategy and will deal with transport issues at a strategic level.
The Environmental baseline	
The approach as detailed in section 4 is primarily satisfactory to SNH, however please note SNH has provided comments on both the Aberdeenshire and Aberdeen City scoping reports and consideration of both baselines and the Council's response to our comments should also be given. Please come back to SNH if details of our comments are not easily obtained as we would be happy to provide additional copies.	We have viewed SNH comments on the Environmental Reports.
Assessment tools and techniques	
The scoping report indicates that the RTS objectives will be tested against the SEA objectives using 5 strategic scenarios and will be presented in a clear matrix format. Some of the judgments made will be subjective and as the Environmental Report and RTS will both be public documents and subjective assessment should be clearly explained or justified.	This has been noted
Mitigation measures and monitoring of the strategy	
It is noted in the scoping report that the 3 main principles of mitigation will be utilised i.e. avoidance, reduction and offsetting. It is disappointing to note that no mention is given to enhancement, which could be a key tool in reducing impacts arising from transport infrastructure in the north east. Further consideration should be given to this and any costs added to the strategy costs.	We will consider enhancement when thinking about mitigation measures.
There is very little within the Scoping report to identify how the Environmental Report will assist in identifying key areas of environmental impact that should be monitored for the duration of the RTS and the sort of indicators that should be used to monitor the effects of the Strategy's implementation. Further consideration will also be required to be given to assessing any cumulative effects which may arise from the implementation of the RTS on its own or in combination with other plans, such as the 2 local LTS.	A full monitoring report will be contained in the post adoption statement and if the information is available at the time, could be included in the draft Environmental Report.

SEPA

COMMENT	RESPONSE
Covering letter.	
SEPA welcomes the undertaking of Strategic Environmental Assessment (SEA) for this Regional Transport Strategy and the production and consultation of the Scoping Report as part of that.	We are pleased that SEPA welcome this Scoping Report as a part of the SEA of the RTS.
Generally, the approach to the Scoping Report is comprehensive and well structured and SEPA considers that it sets out the scope of the Environmental Report (ER) clearly. However, SEPA has outlined a number of areas where SEPA considers that the scope and level of detail to be included in the Environmental Report (ER) could be expanded. SEPA has used Table 3.2 set out on page 22 of the Scottish Consultation Authorities' publication 'Information for Responsible Authorities' (available on SEPA's website at currently: www.sepa.org.uk/consultation/closed.htm) to inform its detailed response which can be found below.	Noted.
Specific comments on the Scoping Report	
SEPA notes that although the Scoping Report outlines the background to the RTS it does not appear to include a clear summary of the North East RTS objectives, although it does give an outline of the requirements of the Transport (Scotland) Act 2005. SEPA considers that it would be good practice to clearly set out the aims and objectives of the RTS in the Scoping Report as a context for the SEA.	This is because the NESTRANS objectives had not yet been developed at the time the Scoping Report was published. They are fully set out in the Environmental Report.
Section 2 provides an outline of the plans, programmes and policies which are relevant to the Strategy, supplemented with Appendix A. Most of these which SEPA would have expected to be covered are included; however the following is noted; • A minor point, in table 2.1 the North East Are Waste Strategy is referred to this should be correctly referred to the North East Area Waste Plan; • Table 2.1 does not refer to the National Waste Strategy or Plan although these are included in Appendix A; • The Noise Directive (2002/49/EC) should be included, especially since 'noise' has potentially been identified as an issue in its own right; • UN Framework Convention on Climate Change & its Kyoto Protocol should be included (although comments on the Protocol are made in the Report); and • PAN61 Planning and Sustainable Urban Drainage.	These reports have now been reviewed and can be found in Appendix B of this Environmental Report.
The Council may wish to consider whether the following SEPA policies, available on our website, are relevant to the strategy: Groundwater Protection Policy for Scotland (Policy 19) and Policy on the Culverting of Watercourses (Policy 26).	These policies have now been reviewed and can be found in Appendix B of this Environmental Report.
Environmental Baseline & Issues	
SEPA consider that Section 4 provides a good summary of the environmental baseline and issues affecting the North East Region.	Noted.
In relation to climatic factors, further baseline information on weather data, such as rainfall and average annual temperatures, climate change predictions for Scotland and extreme weather events data could be included. Traffic flow figures for local roads would also provide good baseline data in relation to air quality and	It is felt that such large scale, long term impacts such as that on climate change, could not be accurately predicted for the impacts of the transport plan,

climatic factors.	considering its relatively short time period.
SEPA welcomes the recognition of the potential for transport routes to contribute to diffuse pollution. It is important that measures are put in place to mitigate such effects including the use of Sustainable Urban Drainage Systems (SUDS). Furthermore, the construction of transport infrastructure will generally require watercourse crossings which can lead to disturbance of watercourses and the presence of permanent structures such as bridges can increase the risks of flooding.	This point is noted and will be passed on to those developing the transport strategy.
In terms of "biodiversity", it should be noted that transport routes can cause the severance of habitats and their fragmentation and cause the disruption of hydrogeological patterns and cause an impact on aquatic biodiversity.	This point has been noted.
SEA Methodology and Objectives	
SEPA supports the proposals to assess each strategy or measure included in the Strategy. SEPA notes that Table 6.6.1 includes a matrix whereby each strategy or measure will be assessed against the SEA objectives / criteria and given a score for significant positive and negative effects, positive and negative effects and unknown or neutral effects. SEPA considers this to be a useful approach. SEPA notes that Table 6.6.2 indicates that a justification behind predicted effects should be given, SEPA welcomes the inclusion of such justification to provide the Nestrans with the opportunity to explain the reasoning behind the +, -, ?, etc given in the assessment.	Noted.
SEPA is pleased to note that consideration has been given of the need to identify alternatives and mitigation; this should be further developed in the ER.	Noted.
The assessment methodology proposes a matrix approach that will assess LTS options against SEA objectives. It is not clear whether 'material assets' has been scoped out, although it appears under table 5.1 that no objectives have been set for that issue. A suitable objective should be in place to assess each of the environmental issues outlined in the Regulations unless they have been scoped out. It should be made clear how the chosen objectives relate to the issues listed in Schedule 2 (6) (a), such as population, flora, fauna and material assets.	No topic has been 'scoped out', but if it was considered more appropriate to amalgamate categories as there was similar/shared data, this is what has happened. No objectives have been set for material assets as it is not mandatory to set objectives for each SEA topic, and it was not considered necessary to do so for this one.
SEPA supports the use of objectives which largely have a positive or negative aspect to them, e.g. "increase" or "decrease" and this allows then to link these objectives to monitoring indicators and targets.	Noted.
Other key indicators that could be considered in addition to the ones suggested in Table 5.1 are: • area of prime agricultural land affected by new development, area of development on vacant and derelict land, • Scottish Executive Contaminated Land performance indicators (soil); • groundwater quality; • area of development in areas of flood risk and requiring flood defences,	These have been considered, and due to the strategic nature of the RTS, the inclusion of more detailed indicators is not felt to be appropriate without placing onerous data collection demands on the Regional Transport Partnership. Many of these issues will be more appropriately dealt with on a more detailed, project

• flooding events, • number of water pollution incidents reported to SEPA, • percentage of transport infrastructure incorporating SUDS (water/climatic factors); • traffic growth statistics; • travel/road traffic statistics (air).	level. Transport and traffic growth statistics will be monitored as part of the wider RTS.
Next Steps	
SEPA is satisfied with the proposed consultation period of eight weeks for the ER.	Noted.
Mitigation Measures	
SEPA welcomes the statement in the scoping report that mitigation measures must be considered to prevent, reduce and as fully as possible offset any significant adverse effects on the environment resulting from the implementation of the plan. Enhancement should be considered, where appropriate, for positive effects.	Noted.
Monitoring	
Monitoring of significant environmental effects from the plan is also mentioned in the scoping report. It should be noted that SEPA supports the use of indicators linked to targets. These targets should be specific and easy to monitor progress against and where possible they should also relate to objectives of higher level strategies. Wherever possible, the monitoring measures chosen should capitalise on existing monitoring arrangements, if they are sufficient and appropriate. Monitoring is intended to enable mitigating activities to be undertaken. It would be useful for the ER to include a framework of how it would deal with adverse impacts on the environment.	Noted.

APPENDIX B

POLICIES AND PROGRAMMES REVIEWED AND ADDITIONAL REVIEWS

B1 List of policies and programmes reviewed in relation to the NESTRANS RTS

APPENDIX: TABLE 0.1 LIST OF POLICIES AND PROGRAMMES REVIEWED[19]

International level
The Convention on Biological Diversity, Rio de Janeiro, 1992
Kyoto Protocol to the UN framework Convention on Climate Change (1992)
EU Biofuels Directive: this indicates a target for biofuels to form at least 5% of transport fuels by 2010
European level
Water Framework Directive
Habitats and Birds Directive
Noise Directive (2002/49/EC)
UN Framework Convention on Climate Change & its Kyoto Protocol
Air Quality Framework Directive
National level
Scotland's Transport Future – Transport White Paper – June 2004
Scotland's Transport – Delivering Improvements
The Air Quality Strategy for England, Scotland, Wales and Northern Ireland
The UK Climate Change Programme (2006)
Scottish Executive Marine and Coastal Strategy
UK National Aviation Strategy
Nature Conservation (Scotland) Act 2004: this places a duty on all public bodies to further the conservation of biodiversity, so far as is consistent with the proper exercise of their functions.
Land Reform (Scotland) Act 2003
Scottish Forestry Strategy
SEPA Policy on the Culverting of Watercourses
National Waste Strategy
The UK's Shared Framework for Sustainable Development
Choosing our Future, Scotland's Sustainable Development Strategy
Meeting the Needs…Priorities, Needs, Actions and Targets for Sustainable Development in Scotland.
A Partnership for a Better Scotland
Passed to the future: Historic Scotland
SEPA Groundwater Protection Policy
SPP17 and PAN17 Planning for Transport
SPP2 Economic Development
SPP3 Planning for Housing
SPP7 Planning and Flooding

[19] Those additional to scoping report are shown in italics

SPP15 Planning for Rural Development
SPP21 Greenbelts
NPPG5 Archaeology and Planning
NPPG6 Renewable Energy Developments
NPPG: 9: The Provision of Roadside Facilities on Motorways and Other Trunk Roads in Scotland
NPPG10 Planning and Waste Management
NPPG11 Sport, Physical Recreation and Open Space
NPPG12 Skiing Developments
NPPG13 Coastal Planning
NPPG 14 Natural Heritage
NPPG 15 Planning for Rural Development
NPPG 18 Planning and the Historic Environment
PAN 42: Archaeology – The Planning Process & Scheduled Monument Procedures
PAN 56: Planning and Noise
PAN 58: Environmental Impact Assessment
PAN 59: Improving Town Centres
PAN 60: Planning for Natural Heritage
PAN61 Planning and Sustainable Urban Drainage
PAN 63: Waste Management Planning
PAN 65: Planning and Open Space
PAN 71: Conservation Area Management
PAN 73: Rural Diversification
PAN 75: Transport and Planning
UK Biodiversity Action Plan
Nature Conservation (Scotland) Act
National Waste Strategy
Regional level
Draft Regional Transport Strategy
North East Scotland Together Aberdeen and Aberdeenshire Structure Plan
Economic Growth Strategy for North East Scotland
North East of Scotland Local Biodiversity Action Plan
North East Area Waste Strategy
NESTRANS Annual Report 2005
Local level
Aberdeen Futures – Aberdeen Community Plan
Aberdeenshire Community Plan
Joint Health Improvement Plan
Aberdeen City Local Plan

Aberdeenshire Local Plan
Aberdeen City Local Transport Strategy
Aberdeenshire Local Transport Strategy
Aberdeenshire Council Energy Strategy
Aberdeenshire Updating & Screening Assessment for Air Quality 2003
Cairngorms National Park Plan

Additional reviews

Plan/Programme	Objectives/ requirements of the plan/ programme
International	
The EC Directive on the Conservation of Wild Birds 79/409/EEC 1979	The Directive provides a framework for the conservation and management of, and human interactions with, wild birds in Europe. It sets broad objectives for a wide range of activities, although the precise legal mechanisms for their achievement are at the discretion of each Member State (in the UK delivery is via several different statutes). It imposes a duty to sustain populations of naturally occurring wild birds by sustaining areas of habitats in order to maintain populations at ecologically and scientifically sound levels. This applies to birds, their eggs, nests and habitats.
Conservation of Natural Habitats and Wild Fauna & Flora (Directive 92/43/EC) (The Habitats Directive)	The Directive requires Member States to take legislative and administrative measures to maintain and restore natural habitats and wild species to a good level of conservation within the EU. The overarching goals of the Strategy are described as: • "to contribute to reverse present trends in biodiversity losses". • "to place species and ecosystems in a satisfactory conversation status both within and beyond the territory of the European Union".
Directive 2000/60/EC establishing a framework for the Community action in the field of water policy	The purpose of the Directive is to establish a framework for the protection of inland surface waters (rivers and lakes), transitional waters (estuaries), coastal waters and groundwater. It is a non-prescriptive framework Directive, which requires all Member States to achieve 'good ecological status' of inland water bodies by 2015.
Directive1966/62/ EC on ambient air quality and management	Establishes mandatory standards for air quality and sets limits and guides values for sulphur and nitrogen dioxide, suspended particulates and lead in air.
Directive 2003/30/EC of the European Parliament and of the Council of 8 May 2003 on the promotion of the use of biofuels or other renewable fuels for transport	This Directive sets a framework for the promotion of biofuels for transport.
The Convention on Biological Diversity, Rio de Janeiro, 1992	The Convention on Biological Diversity is a globally legally binding instrument which was agreed at the Rio Conference (UNCED) in 1992. Some 170 countries around the world are Parties to the CBD. The CBD has three objectives:

Plan/Programme	Objectives/ requirements of the plan/ programme
	1. Conservation of biological diversity. 2. Sustainable use of the biological components. 3. Equitable sharing of benefits arising out of the utilisation of genetic resources.
Kyoto Protocol to the UN framework Convention on Climate Change (1997)	The Convention on Climate Change sets an overall framework for intergovernmental efforts to tackle the challenge posed by climate change. It recognizes that the climate system is a shared resource whose stability can be affected by industrial and other emissions of carbon dioxide and other greenhouse gases. Under the Convention governments: • gather and share information on greenhouse gas emissions, national policies and best practices. • launch national strategies for addressing greenhouse emissions and adapting to expected impacts, including the provision of financial and technological support to developing countries. • cooperate in preparing for adaptation to the impacts of climate change.
The Directive on Environmental Noise	EU Parliament and Council have adopted Directive 2002/49/EC of 25th June 2002. Four Main Objectives: Monitoring the environmental problem-developing 'strategic noise maps' to gauge how many people are annoyed or sleep deprived throughout Europe. Informing and consulting the public-about noise exposure, its effects and measures considered to address it. Addressing local noise issues-requires authorities to have action plans for problem areas and for maintaining 'good' noise areas. Developing a long-term EU strategy-Reduce number of people affected by noise in long-term and produce a framework for developing existing Community policy on noise reduction from the source.
Land Reform (Scotland) Act 2003	This Act establishes statutory rights of access to land and inland water for outdoor recreation. It places a responsibility on local authorities to identify and manage a core path network in their area.
Nature Conservation (Scotland) Act 2004	The Nature Conservation (Scotland) Act 2004 imposes a wide-ranging duty on Scotland's public sector to conserve biodiversity and protect the nation's precious natural heritage, so far as is consistent with the proper exercise of their functions. Implementation is linked to a national biodiversity strategy that is endorsed by the Scottish Executive. The Act strengthens protection for Sites of Special Scientific Interest (SSSIs), with maximum fines for intentional or reckless damage to Scotland's most important natural land and wildlife habitat raised from £5,000 to £40,000.
A Strategy towards sustainable development of UK Aviation, 2005	This strategy was developed by the aviation industry to respond to the challenge of building a sustainable future. It contains a number of goals for the industry, committing it to principles of sustainable development. Targets for aircraft include improving fuel efficiency, and promoting low-noise flight procedures.
Scottish Forestry Strategy, 2006	The Scottish Forestry Strategy is based on four key principles: • Sustainable development – underpinned by sustainable forest management; • Social inclusion - through helping to provide opportunities for all, and helping to build stronger communities; • Forestry for and with people; and • Integration with other land uses and businesses. Three outcomes are sought by the Strategy: • Improved health and well-being of people and their communities; • Competitive and innovative businesses contributing to the growth of the Scottish economy; and

Plan/Programme	Objectives/ requirements of the plan/ programme
	• High quality, robust and adaptable environment.
PAN 61 Planning Sustainable Urban Drainage	Provides the background on previous drainage systems and coping strategies for excess surface water. Highlights their flaws and promotes SUDS (Sustainable Urban Drainage Systems) as the way forward. SUDS-'reduces the amount of diffuse pollution and improves environmental quality of development to the benefit of the local community'. Planners are central to the development control process of implementing SUDS on the ground. Planners also have a policy role in setting the framework in structure and local plans, and in masterplanning exercises. SEPA-supports SUDS as the preferred solution for drainage of surface water run-off, including roof water, for all proposed development, greenfield and brownfield.
SEPA Groundwater Protection Policy	This policy aims to: Address groundwater protection in context of sustainable development, taking account of social and economic factors where appropriate. Work to protect, restore and improve understanding of groundwater in Scotland. Use a risk based approach to ensure controls are appropriate to risk. Ensure water use in Scotland is sustainable, and that the quality and quantity of the water is protected. Ensure restoration of groundwater bodies which have poor status due to over abstraction or pollution. The main focus is to prevent pollution or over abstraction through effective protection.
SEPA Policy on the Culverting of Watercourses	In order to minimise the impact of culverting on the environment, SEPA has adopted the following policy: ▪ inappropriate enclosure of watercourses in culverts devalues its own and others efforts to reduce pollutant inputs to watercourses and to improve chemical, biological and physical quality of Scottish running waters. ▪ Developers should be encouraged to protect, restore or enhance the natural heritage value of sites. ▪ SEPA will actively seek to discourage proposals for culverting when responding to planning consultation, ▪ When there is a need for transport links to cross watercourses, bridging should be considered as the first option, avoiding the need for culverting. In all cases where culverting is required, it should be designed according to best practice which will permit the passage of fish and other aquatic fauna under normal flow conditions. ▪ SEPA will take appropriate opportunities to promote the benefits of restoring culverted systems to open watercourses during the development of proposals for brownfield sites and shall encourage and support appropriate river restoration proposals. ▪ SEPA will continue to highlight the difficulties caused by culverting
Passed to the Future	Recognising value of using historic features, retaining and, where possible, re-using existing structures and materials. To promote the continued relevance of traditional building materials and local skills. Good Stewardship-all actions should include strategies for management, conservation, use, maintenance and monitoring. Assessing impact - of our actions for the historic environment. Potentially damaging actions should be avoided. Working Together – The historic environment is still today's environment. Sustainable management should involve everyone. Work together to reduce damage, resolve conflict and maximise benefits for all.

APPENDIX C

DETAIL OF ALTERNATIVE PACKAGES

Strategic Category	Measures and Activities	Ref	1 Low	2 MEc	3 MSoc	4 MEnv	5 MPlan	6 High
External Links *The future competitiveness of the north east as a place to live, work, invest, visit and study depends in part on its external links and on how the region is perceived. There is a need to enhance connections to central Scotland, the rest of the UK, and beyond.*	Rail Freight Gauge Enhancement to enable containerised traffic to better utilise the railway to and from the north east.	●						
	Aberdeen Airport - Increase the number of air routes and frequency of services			●				●
	Aberdeen Airport - runway extension to allow larger aircraft to operate and increase the introduction of direct transatlantic air services.			●				●
	Aberdeen Airport – implement public service obligations, ensuring continuation of services to major hubs, including Heathrow.		●	●				●
	Developing existing and new passenger ferry connections and routes between the north east and Europe - continue to promote and support projects to enhance the role of the north east's ports particularly to Scandinavia and the recent EU accession countries in the Baltic.		●	●				●
	Northern Maritime Corridor/Motorways of the Northern Seas - support development of short sea and coastal shipping, as an alternative to road freight between north east ports and ports on the UK's east coast and the continent.		●	●				●
	Orkney / Shetland ferries - promote and support existing services from Aberdeen		●	●		●		●
	Rail links to central Scotland - Work with the rail industry and others to promote and support measures to reduce journey times, overcrowding improve the reliability of services to central Scotland and beyond.			●		●		●
	Strategic roads - promote and support the development of the strategic road network outwith the north east, including removing constraints on the national network, such as River Forth crossing points.			●				●

Strategic Category	Measures and Activities	Ref	1 Low	2 MEc	3 MSoc	4 MEnv	5 MPlan	6 High
Network development *There will continue to be a need to enhance and develop the existing transport network*	A947 Parkhill junction improvements, including Park and Ride Site and bus services	●						
	A96 to Airport Link Road (Dyce Drive)	●						
	Aberdeen Crossrail - Extending some intercity services from south to terminate at Inverurie, some Inverness to Stonehaven to enable 30 min. frequency service based on intercity improvements and new station at Kintore	●						
	Aberdeen Western Peripheral Route Milltimber Brae Upgrade Route with Stonehaven Fastlink	●						
	Balmedie to Tipperty Dualling	●						
	Chapelbrae Park and Ride Site and bus services (A96)	●						
	Dualling of A956 (Charleston to Souterhead) with associated bus priority	●						
	Grade Separated Junction on A90 at Schoolhill, including Park and Ride Site and bus services	●						
	Reopened railway station at Laurencekirk	●						
	Transport Interchange at Guild Street	●						
	Aberdeen Airport Surface Connections - Enhanced existing bus service between Aberdeen Airport and city centre / other key locations		●			●		
	Aberdeen Airport Surface Connections - Multimodal Interchange at airport terminal. Key components new railway link and branded express bus service between Aberdeen Airport and city centre / other key locations.			●	●		●	●
	Aberdeen Airport Surface Connections - Pedestrian link between Dyce Railway Station and Airport, via subterranean walkway under runway.							●
	Aberdeen Crossrail - Introduce 15 minute dedicated service and new railway stations				●	●	●	●
	Aberdeen Harbour - enhance existing access facilities in vicinity of harbour			●				●
	Bus Park & Ride - A93 (Banchory)				●	●	●	●
	Extended dedicated cycle network - promote and support major enhancements to existing network in partnership with Sustrans, with particular emphasis given to creating off road routes in the city centre, to the south of Aberdeen, along the A93 corridor, and in Aberdeenshire's towns.				●	●	●	●

Strategic Category	Measures and Activities	Ref	1 Low	2 MEc	3 MSoc	4 MEnv	5 MPlan	6 High
	Extended dedicated cycle network - promote and support minor enhancements to existing network in partnership with Sustrans, with particular emphasis given to lowering traffic speeds on shared routes.		●					
	Interchange - Support the introduction of high quality transport interchanges in Aberdeen city centre, Inverurie and Peterhead.				●	●	●	●
	Inner city bus service – free low-emission city centre service			●	●	●	●	●
	Mass transit (Micro Light Tram) - Promote and support introduction of system in Aberdeen's city centre			●		●	●	●
	Mass transit (Light Rail)- Promote and support introduction of tram system on appropriate radial routes within Aberdeen and to/from major towns							●
	Mass transit (Guided Bus)- Promote and support introduction of system on appropriate radial routes to avoid congestion hotspots around Aberdeen				●	●	●	●
	Peterhead Bay Harbour - enhance access facilities in vicinity of harbour			●				●
	Pedestrian linkages between Guild Street and Union Street - Escalator			●			●	●
	Rail extension Ellon - Introduce line and services							●
	Rail extension Peterhead - Introduce line and services							●
	Rail extension Banchory – Introduce line and services							●
	Super Bus – Promote and support system on appropriate radial routes within Aberdeen and to/from major towns				●		●	
	Real time bus management & information - Roll out of existing system across the north east				●	●	●	●
	Strategic roads (capacity improvements) - A90 dualling (Ellon to Peterhead), A96 Complete Dualling (in partnership HITRANS), Haudigan Roundabout, Bridge of Dee, Anderson Drive (dualling on specific sections), Third Don Crossing, Stonehaven/Banchory/Inverurie - highway and public transport connectivity enhancements			●				●
	Strategic roads (safety priorities) - A90 dualling (Ellon to Peterhead), A96 Complete Dualling (in partnership HITRANS), A90 (south of Aberdeen to remove at-grade junctions such as Laurencekirk), A947, A944, A93 route actions (further improvements)				●			●

Strategic Category	Measures and Activities	Ref	1 Low	2 MEc	3 MSoc	4 MEnv	5 MPlan	6 High
Network rationing *Changes in travel demand can also be achieved by rationing and reducing space available for less sustainable travel modes*	Extended city centre parking charge zone	●						
	Union Street Traffic Management (including pedestrianisation of Union Street (Market Street to Bridge Street), new junctions and road layout changes in the City Centre, dualling of Berryden Road, and Variable Message Signs (VMS) to direct drivers to appropriate car parks.	●						
	Bus priority/ bus lanes - On key radial approaches to city: A90 (northern approach), Anderson drive, A947, A96, A93, and A90 (southern approach) and in key locations within Aberdeenshire		●		●	●	●	●
	HGV lanes - promote and support introduction of a trial route to benefit goods vehicle journey times, on a corridor where bus frequency is low			●				
	HOV lanes - identify corridor for trial to assess the impact of implementing a bus and high occupancy vehicle lane		●	●		●	●	●
	Parking Strategy for north east - Develop and implement framework for managing supply / demand for parking, including pricing and enforcement				●	●	●	●
	Pedestrian improvements - promote and support enhancements to pedestrian environment in Aberdeen city centre		●					
	Pedestrian improvements - promote and support enhancements to pedestrian environment throughout the north east				●	●	●	●
	Prioritised maintenance - on routes serving vulnerable road users and public transport across the north east				●	●	●	●
	Prioritised maintenance - on routes serving vulnerable road users and public transport within Aberdeen		●					

Strategic Category	Measures and Activities	Ref	1 Low	2 MEc	3 MSoc	4 MEnv	5 MPlan	6 High
Travel choice *Encourage and inform travellers on the use of alternative sustainable transport*	Bus Park & Ride - Prepare and implement strategy for sustaining and increasing usage at existing facilities.		•		•	•	•	•
	Demand Responsive Transport – expansion of existing Dial-a-Bus and other demand responsive initiatives in Aberdeen and Aberdeenshire				•		•	•
	Extension of Community Transport Initiatives, including voluntary and car-based schemes serving both urban and rural communities,				•			•
	General marketing - promote Nestrans' activities and projects		•	•	•	•	•	•
	Working with existing transport providers to ensure the optimum mix of efficient services – co-ordinating commercial and subsidised bus services with school, health and voluntary transport groups (and others including car share schemes) to ensure effective connections to hospitals, work/study, community facilities, etc.		•		•			•
	Travel information / journey planner - promote sustainable travel by developing and existing information provision and journey planners in the north east		•		•	•	•	•
	Travel plans - build upon Nestrans' existing work to promote individual, businesses, and school travel plans		•					
	Travel plans - promote and support the development of travel plans for individuals, businesses, health care, and schools			•	•	•	•	•

Strategic Category	Measures and Activities	Ref	1 Low	2 MEc	3 MSoc	4 MEnv	5 MPlan	6 High
Financial and fiscal *To achieve key objectives, there may require to be a balance of attractiveness towards sustainable travel. Financial and fiscal measures are intended to provide direct carrots and sticks to transport users and providers to change demand and supply behaviour.*	Alternative fuels - facilitate an increase in the number of suppliers		●		●	●		
	Alternative fuels - facilitate an increase in the number of users		●	●		●		
	Bus Incentives / Subsidies - to help reduce the cost of bus fares				●	●	●	●
	Bus Partnerships - secure high quality bus services through the establishment of new partnership agreements with bus operators and Punctuality Improvement Partnerships		●				●	●
	Bus Quality Contracts - secure high quality bus services through the introduction of formal contracts with bus operators that will legally bind them into prescribed levels of bus service provision				●	●		●
	Secure high quality bus services and help bus running speeds relative to other transport through prioritising public transport opportunities and joint working with bus operators in the north east.				●			●
	Demand Management - consider the appropriateness of introducing measures that will control traffic demand (including urban parking surcharges, workplace parking controls, local congestion charging)			●		●	●	●
	Enforcement of emissions - in city centre and elsewhere to ensure UK and European air quality standards are achieved.		●			●		●
	Enforcement of parking (stepped up) - prioritise areas for enforcement throughout the north east to ensure public transport movements and road safety are not compromised by illegal parking acts.		●			●		●
	Enforcement of speed - promote and support NESCAMP's activities in reducing speeds and traffic-related incidents in the north east, in particular support the introduction of an average speed camera trial, such as the Fraserburgh to Peterhead section of the A90		●		●			●
	Extended low speed zones - promote and support speed reduction schemes across north east, particularly at locations where conflicts arise between vulnerable road users and general traffic				●	●		●
	Extended low speed zones – limited promotion and support for speed reduction schemes, particularly at locations where conflict arises between vulnerable road users and general traffic		●					
	Small vehicle & HOV parking incentives - establish a parking club, offer discount to members with low emission vehicles or car share club agreements, and manage through existing Nestranscarshare.com				●	●	●	●

CONTROL SHEET

Project/Proposal Name:	STRATEGIC ENVIRONMENTAL ASSESSMENT OF THE NESTRANS REGIONAL TRANSPORT STRATEGY
Document Title:	Environmental Report
Client Contract/Project Number:	
SDG Project/Proposal Number:	206693

ISSUE HISTORY

Issue No. 2 **Date 12/12/06** **Details: Final for consultation** **REVIEW**

Originator:	KKM	
Other Contributors:	DEA	
Review By:	Print:	CKF
	Sign:	Remote review

DISTRIBUTION

Clients:

Steer Davies Gleave:

SCOTTISH EXECUTIVE

Environment Group

Environmental Futures
SEA Team, 1-H(Bridge)
Victoria Quay
Edinburgh EH6 6QQ

Telephone: 0131-244 5094
Fax: 0131-244 1704
Elaine.mccall2@scotland.gsi.gov.uk
http://www.scotland.gov.uk

Deborah Andrew
Principal Consultant
Steer Davies Gleave,
68-70 George Street,
Edinburgh, EH2 2LR

7 February 2007

Dear Deborah,

00070 Environmental Report - North East Scotland Regional Transport Partnership - Regional Transport Strategy

With reference to the Environmental Report you submitted to the SEA Gateway on 14 December 2006.

In accordance with Regulation 18, of the Environmental Assessment of Plans and Programmes (Scotland) Regulations 2004, the Consultation Authorities have now considered the Environmental Report you submitted. The individual responses from the Consultation Authorities are attached to this letter. The response from Historic Scotland is outstanding but I expect to be able to forward it to you by tomorrow, Thursday 8 February.

As the Consultation Authorities have now expressed their opinions, you should refer to the Regulations to consider your next step, while taking into account the opinions of the Consultation Authorities.

If you have any queries or would like me to clarify any points, please call me on 0131 244 1704.

Yours sincerely

William McCall

Elaine McCall
SEA Gateway Officer

Scottish Natural Heritage

North East Scotland Transport Partnership
27-29 King Street
Aberdeen
AB24 5AA

Dear Sir

ENVIRONMENTAL ASSESSMENT REGULATIONS
Nestrans REGIONAL TRANSPORT STRATEGY

I refer to your Environmental Report, sent to the Scottish Executive SEA Gateway in November 2006. Scottish Natural Heritage (SNH) welcomes the opportunity to comment on the Environmental Report of the Nestrans Regional Transport Strategy.

The Environmental Report presents a succinct SEA, which SNH considers to have addressed the key requirements under the Act. Detailed comments are provided in the annex to this letter.

If you would like further information in relation to this response, please do not hesitate to contact Zoë Kemp (zoe.kemp@snh.gov.uk, 01738 458588) who is based at our Battleby office near Perth.

Yours faithfully

Robin Payne
Area Manager, Grampian

Annex – detailed comments on the Environmental Report

General overview

1. The Environmental Report presents a succinct SEA, which SNH considers to have addressed the key requirements. The SEA includes:
   - the relevant plans, programmes and strategies that could affect the RTS, or fall within its hierarchy;
   - identification of appropriate baseline data;
   - a summary of the RTS objectives;
   - the chosen SEA objectives and indicators;
   - assessment of alternatives;
   - assessment of the main strategy elements;
   - mitigation and monitoring proposals.

Setting the Context - Other plans and strategies

2. SNH would have expected this section to have included the local biodiversity action plans (LBAP). Relevant access and greenspace strategies have also been omitted.

Baseline data

3. Population and human health – lengths of paths and access tracks would have been useful, data on this are available from Council access officers and core path officers.
4. Landscape – the omission of gardens and designed landscapes is noted
5. Biodiversity – it would have been useful if reference was made to local biodiversity action plans and habitat action plans

SEA Objectives

6. SNH welcomes the inclusion of SEA objectives.

Assessment of Alternatives

7. It appears that the SEA was not used in the process of identifying the preferred option, but rather the preferred option was pre-selected using the STAG approach and then tested against the SEA objectives. While this approach is adequate, it missed the opportunity to fully use the SEA in the iterative selection of the best environmental option. The alternative scenarios were then tested against the SEA objectives, but there is no indication that a positive environmental option could be brought into the preferred package nor, conversely, that proposals with a significant negative effect would be removed.

8. It is suggested (para 4.26) that assessing the proposals within the various scenarios against the SEA objectives would provide "*no meaningful output*". The various strategies were tested against the environmental indicator of car miles only. This is disappointing given that the scoping document (para. 6.9) clearly states that the SEA will examine the "*specific policies and proposals of the plan's preferred strategy*"

9. Para 6.3 of the scoping report refers to "*a full assessment of each plan alternative will be undertaken as part of the SEA and will be reported in the Environmental Report*". Para. 4.27 of the Environmental Report refers to the "*appraisal of the likely environmental effects of the alternative strategies against each SEA topic areas for which we have developed SEA Objectives*", however it is not clear where (or if) this has been presented. The preferred option is made up of an amalgam of elements of all alternative packages. It is therefore unclear how or whether the SEA has informed the selection of options. It might have been more meaningful, though a larger exercise, to assess all the strategy element options and to evaluate various packages iteratively, as seemed to be indicated by the scoping report.

Assessment of Environmental effects of preferred strategy

10. It would have been helpful if the SEA had tested the RTS strategic and operational objectives against the SEA topics or objectives. The strategic and operational objectives could have been tested against each other for internal compatibility as well as against the SEA objectives.

11. It is not clear whether the SEA uses the objectives identified on page 27 to assess the proposals. It seems, rather, to base the assessment on SEA topics.

External connections

12. SNH would broadly agree with the assessment. SNH considers that significant effects on Natura sites and species, e.g. cetaceans in the Moray Firth, could arise from increased sea freight. SNH considers that there will be capacity to implement this policy within the strategy area, but that more detailed assessment of effects will be required at local strategy and project level.

Internal connections

13. SNH considers that significant negative effects on landscape and biodiversity are likely to arise from new roads, upgraded roads and route maintenance. It is likely that these effects can be mitigated through mechanisms identified in lower strategies and at project stage.

14. SNH would have concerns about any developments proposed in the Dee catchment and consider that developments here would be likely to have a significant effect on the River Dee SAC. Within the Strategy only two specific proposals are likely to significantly affect Natura sites. These are:

    - Impacts on the Loch of Skene from improvements to the A944;
    - Impacts on the River Dee SAC from the proposed Park and Ride on A93 at Banchory.

15. These effects should undergo an appropriate assessment at this stage.

16. Other Natura sites could also be affected and should be assessed through the local transport strategy and at the project level. It would have been helpful if the SEA had made reference to the need to assess impacts on Natura sites at lower tiers.

17. Improving walking, cycling and other opportunities for non-motorised transport can improve access to and enjoyment of the natural heritage.

Mitigation

18. SNH welcomes the mitigation principles identified. In particular the commitment to avoid impacts in the first instance and to seek reduction or/and compensation as a later resort is welcomed.

19. SNH would recommend that mitigation for impacts on landscape should include recognition of the importance of landscape character and visual amenity and the need to ensure that transport designs both reflect and are sympathetic to these.

20. Recognition could be given to the ability of transport developments to include enhancement for biodiversity, including appropriate treatment of road verges and the removal of alien exotic species.

21. Negative impacts on human health from increased freight could be offset by provision of access paths for walking, cycling and horse riding.

Monitoring

22. The number and type of landscape character areas cannot be used as a measure of impacts as these are not likely to change, even with significant transport developments. Likewise, the number of areas protected for their landscape importance is not likely to be affected. The quality of these areas could change, and therefore a more appropriate measure might be the number of developments approved which are identified as having significant negative effects on the landscape.

Next steps

23. It is not clear where the conclusion arises (*general findings* para 8.4) that the RTS will have an overall positive effect on the environment. The key impact is likely to be a 0.2% decrease in private car use which, while being a positive outcome, is potentially so small as to be outweighed by increases in freight or air traffic, or to be statistically insignificant. SNH would conclude from this SEA that there is a range of effects, both positive and negative, which have been predicted, but that some of the potentially most significant effects are as yet unknown or unpredictable given the current level of information about future developments.

Scottish Environmental Protection Agency

Our Ref: SEA/00077
SE Ref: SEA/0070

Attention: Rab Dickson

Principal Transport Executive,
Nestrans
27-29 King Street,
Aberdeen,
AB24 5AA

By email: sea.gateway@scotland.gsi.gov.uk

7th February, 2007

Dear Mr Dickson,

ENVIRONMENTAL ASSESSMENT OFPLANS AND PROGRAMMES (SCOTLAND) REGULATIONS 2004
NORTH EAST SCOTLAND REGIONAL TRANSPORT STRATEGY - ENVIRONMENTAL REPORT

I refer to your Environmental Report (ER) in respect of the NES Regional Transport Strategy, submitted to SEPA via the Scottish Executive SEA Gateway on 14th December, 2006.

SEPA considers that the ER is well presented. A detail response is provided as an annex to this letter, where a number of issues are raised. SEPA would be pleased to discuss further any of the matters raised.

As the Plan is finalised the Responsible Authority will require to take account of the findings of the ER and of views expressed upon it during this consultation period. As soon as reasonably practical after the adoption of the Plan, the Responsible Authority should publish a statement setting out how this has occurred. SEPA expects this to be in the form of an "SEA Statement" similar to that advocated in the Scottish Executive SEA templates and toolkit which is available at www.scotland.gov.uk/Publications/2006/09/13104943/13. A copy of the SEA statement should be sent to the Consultation Authorities via the Scottish Executive SEA Gateway on publication.

If you wish to discuss any of the above I can be contacted on 01224 424636 or via SEPA's SEA Gateway at sea.gateway@sepa.org.uk.

Yours sincerely

JONATHAN FS YOUNG
PLANNING LIAISON
PLANNING UNIT (NORTH REGION)

Copy: Susan Haslam, SEPA, Dingwall

ANNEX - SEPA Comments.

General

SEPA notes that the production of the SEA has ensured that environmental and sustainability considerations have been an important part of the process of formulating the Regional Transport Strategy, and have been considered alongside financial, technical, political and other issues. However SEPA feels that the Report does not indicate whether or how the SEA has been able to influence the formulation (or sifting) of the preferred strategy, through an iterative process of evaluating practical alternative strategies.

SEPA agrees that the SEA has been able to look at environmental impacts at a more strategic level, and the RTS does identify key issues to do with peripherality and economic growth which have important implications for the environment. Significant elements of the Transport Strategy to address such issues include the Aberdeen Western Peripheral Route (AWPR) and The Aberdeen Airport runway extension. The AWPR will be the largest transportation network project in the next decade, and yet does not feature in the SEA report, whereas the airport runway and dualling works on the A90 do.

Detailed comments are grouped under the main SEA Topic headings used in the Environmental Report Tables 3.1 Environmental Baseline and 3.2 SEA Objectives and Indicators.

Air quality

In respect of local air quality, areas of Aberdeen city centre have been identified as exceeding National Air Quality Strategy (NAQS) objectives as a result of road traffic emissions, and as such an area of the city centre has been declared as an Air Quality Management Area (AQMA). Aberdeen City Council is required to investigate and implement measures to improve air quality levels within this area.

The Nestrans RTS should recognise the AQMA and identify means that will assist Aberdeen City Council in improving air quality within the AQMA. The target should be the attainment of NAQS objective levels or at least an improvement in the air quality indicator levels identified later in the report.

The UK National Air Quality Strategy (NAQS) objectives, as set out in the Air Quality Regulations (2000), and subsequent amendments, are defined for eight main pollutants, of which nitrogen dioxide (NO_2) and fine particulate material (PM_{10}) are two. The pollutants of most concern emitted by road traffic are NO_2 and PM_{10}, therefore it is considered appropriate to use these pollutants as indicators for monitoring the SEA objectives. The NAQS objectives for each pollutant include both a long-term exposure (annual mean) objective and short-term exposure (1-hour mean for NO_2 and 24-hour mean for PM_{10}) objective. The annual mean objective is considered the more onerous objective for both NO_2 and PM_{10}, therefore it is appropriate to use the annual mean objective as an indicator in preference to the short-term objectives.

Greenhouse gas emissions

The strategy itself will not be able to reduce 'effects' of CO_2 emissions, rather it is focussed on reducing CO_2 emissions. A SMART indicator would be a percentage reduction in CO_2 emissions from transport, however, given that CO_2 emissions are primarily a function of total vehicle km (amongst other variables) then a percentage reduction in total vehicle km travelled would be a valid indicator. The adopted percentage reduction in CO_2 emissions should reflect an equitable share of the contribution towards Scottish Executive targets of a 12.5% reduction in CO_2 emissions by 2012 and a 50% reduction in CO_2 emissions until 2050 in comparison to 1990 base levels.

The conclusions that measures designed to promote modal shift will have a positive benefit on both greenhouse gas emissions and air quality are valid. Strategic road improvements may have a positive benefit on air quality if congestion is relieved, however the improvements could lead to increased traffic flows and a net increase in emissions of greenhouse gases. The impacts of any strategic improvements should be evaluated prior to commissioning of any schemes.

It is agreed that none of the proposed measures should result in a significant deterioration in air quality or significant increase in greenhouse gas emissions, although any increase in flights at the airport will outweigh any benefits of improved public transport service to the airport.

The report appears to address air quality and greenhouse gas emissions accurately, although the quantitative impact on air quality on specific roads is not considered. The report identifies the requirement to reduce emissions of greenhouse gases, although no quantification of the reduction attributable to each measure is provided. A net carbon balance of each measure as proposed by the Scottish Executive for future NTS's would be beneficial.

Biodiversity
Selection of the limited 'protected / designated' sites and species (from the LBAP) is not likely to be a particularly effective indicator. Whilst these may on the face of it provide SMART information, this may not be able to reflect (or promote) potential enhancement schemes to increase the diversity of habitats and wildlife associated with any physical development projects / works.

Water
The issue of water quantity, as well as quality, should be addressed. The ER indicates that flooding information was not available in the preparation of the report (Table 3.1 P19, and Para 3.13 P24). The updated flood maps are now available (November 2006) and should be fed into the final development of the RTS and the ER.

The handling of surface water run off in terms of the quantities produced from roads, parking areas (including Park and Ride facilities being promoted) runways, etc., is an important environmental issue – both in terms of managing water quality as well as reducing peak water runoff levels and flooding. In addition the implementation of Sustainable Urban Drainage Systems (SUDS) can assist in the enhancement of biodiversity objectives in the SEA, through the creation of new habitats and wildlife corridors.

Noise
There is limited coverage on the issue of noise, apart from the affect of airport traffic on local residents. The SEA indicates a lack of information on this Topic (Table 3.1 Page 18). , but mitigation measures are discussed in Para 6.7 to 6.9, P54. The Environmental Noise Directive 2002/49/EC places responsibilities on government (including local authorities) to give greater priority to the issue of noise. The competent authorities will be responsible for aspects such as making and, where relevant, approving noise maps and action plans for agglomerations, major roads, major railways and major airports; delimiting quiet areas and collecting noise maps and action plans.

The SEA needs to reflect that the issue of noise is particularly relevant to the future development and implementation of both the Regional and Local Transport Strategies, as transport networks – road, rail, sea and air. As the measures in the Directive come into force into 2007, authorities will be required to avoid, prevent or limit the effects, including annoyance, caused by exposure to environmental noise. Transport traffic is recognised as one of the principal noise sources, and so the issue may affect acceptable environmental options and plans within the Strategy period (to 2021).

Health
In Table 3.1 Summary of Environmental Baseline, Population & Human Health is one of the SEA topics, and the SEA includes air quality, health deprivation and road traffic accidents as indicators for that topic. Noise can be harmful to health, causing stress and affecting residential and community amenity - quality of life. The RTS may / will have negative impacts on health with regard to noise, especially where there are to be increased traffic flows on the roads, air and rail.

Mitigation
SEPA notes that a wide range of potential mitigation measures are outlined in section 6. SEPA would recommend the incorporation of specific measures that should be applied (to reduce the environmental

effects of transport or help secure environmental improvements) into the RTS strategy. It is not clear from the Report how or when any of the measures discussed will be implemented.

It would be helpful to set out all mitigation measures in a way that clearly identified the measures required, when they would be required and who will be required to implement them. Without such an approach, it can be difficult to tease out the measures required and does not make any commitment that such measures are indeed put in place. Without the consistent application of such measures it may not be valid to conclude that the RTS will not have any major identifiable detrimental impacts on the environment (as stated in Para5.36).

SEPA would welcome the inclusion of a summary table on mitigation measures as part of the preparation of the SEA Statement prior to the Plans adoption. The type of approach might be along the lines of the table suggested below:

Issue / Impact Identified in ER	**Mitigation Measure**	**Lead Authority**	**Proposed Timescale**
(eg) Impacts of road schemes on local air quality	(eg) Amend strategy to include specific action to promote the use of cleaner fuels	(eg) Nestrans	Insert as required
Etc	Etc	Etc	Etc

Conclusion

SEPA welcomes the opportunity to comment on the SEA Environmental Report before the RTS is finalised. SEPA feels that there are significant data gaps with regard to Flooding and Noise, and would recommend that these issues are assessed as part of the final assessment of the RTS**.**

The Indicative River and Coastal Flood Map (Scotland) is available and should be used to inform the final Strategy.

Mitigation measures are required to address the potential negative environmental impacts from flooding and noise. A positive approach to promoting and implementing sustainable drainage systems will address some of the potential negative impacts of new and improved transportation networks. Gathering quality information on traffic noise in the larger urban areas and busier (or new) traffic routes will provide valuable baseline information to prepare for the implementation of the EC Noise Directive, and assessment of the RTS programme.

Historic Scotland

Rab Dickson
Principal Transport Executive
Nestrans
27-29 King Street
Aberdeen
AB24 5AA

Longmore House
Salisbury Place
Edinburgh
EH9 1SH

Direct Line: 0131 668 8747
Direct Fax: 0131 668 8899
Switchboard: 0131 668 8600
HSSEA.gateway@scotland.gsi.gov.uk

Our ref: AMN/28/11/JLC
Your ref:

08 February 2007

Dear Mr Dickson

Environmental Assessment of Plans and Programmes (Scotland) Regulations 2004
North East Scotland Regional Transport Strategy (RTS): Environmental Report

Thank you for consulting Historic Scotland on the Environmental Report prepared for the environmental assessment of the North East Scotland Regional Transport Strategy (RTS), received by the Scottish Executive SEA Gateway on 14 December 2006.

I have reviewed the Environmental Report on behalf of Historic Scotland and should make clear that this response is in the context of the SEA Regulations and our role as a Consultation Authority. It therefore focuses on the environmental assessment, rather than the contents of the RTS. I have set out general comments on the Environmental Report below and included more detailed comments in the annex to this letter.

General comments

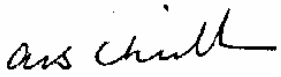
I am content that the comments we provided on the Scoping Report in August 2006 have been taken into account during the preparation of the Environmental Report. Appendix A is helpful in describing how this has been undertaken.

The Environmental Report documents the environmental assessment of strategic alternatives to the RTS and its preferred strategy. I am broadly content with the assessment of impact on the historic environment and have set out more detailed comments in the annex to this letter. The report identifies that most of the policies in the RTS will have either positive or unknown environmental effects and it is recognised that new or expanded infrastructure has the potential to adversely affect the historic environment. The Environmental Report notes that further environmental assessment of these projects will be required at a more detailed stage in order to mitigate adverse effects. I agree that this is appropriate, however it is not clear from the report what mechanisms are in place to ensure that the findings of the environmental assessment are taken into account as the RTS is implemented. In particular, it is not clear how the proposed mitigation measures will be implemented or who is responsible for ensuring that this is undertaken. Further clarification on this matter would be useful.

I have set out more detailed comments on the Environmental Report in the annex to this letter. None of the comments contained in this letter should be construed as constituting a legal interpretation of the requirements of the SEA Regulations. They are intended rather as helpful advice, as part of Historic Scotland's commitment to capacity-building in SEA.

Should you wish to discuss this response please do not hesitate to contact Jennifer Craig (0131 668 8832). If making contacting via email please do so through HS's SEA gateway at HSSEA.gateway@scotland.gsi.gov.uk

Yours sincerely



Amanda Chisholm
Strategic Environmental Assessment Team Leader

Annex A: Detailed comments on the Environmental Report

For ease of reference the comments in this annex follow the same order as the Environmental Report.

Non-technical summary

1. Table 1 sets out the SEA objectives, indicators and baseline information. For cultural heritage the data source is given as SNH, however this should be HS.

The Regional Transport Strategy

2. Section 2 provides a helpful overview of the RTS.

3. I am content with the plans, programmes, strategies and policies that have been reviewed in Appendix B. I agree with the main policy principles that have arisen from this review, however I suggest that the term "historic environment" is used instead of "built environment" as it has a wider meaning.

Baseline environment

4. I am content with the baseline information for the historic environment provided in Section 3.

5. Paragraph 3.10 notes that Figure 3-6 shows European and nationally protected areas in the region. However, it would be more accurate to describe the map as showing European and nationally protected nature conservation areas. For clarity, scheduled ancient monuments and gardens and designed landscapes are nationally protected areas, and listed buildings are nationally protected sites.

6. I am pleased to note that the SEA objective for the historic environment has been amended in line with suggestions made in our scoping response.

Alternative options

7. Table 4.1 sets out the assessment of the strategic scenarios against the RTS objectives. It is not clear from the table whether or not the blank cells represent "neutral effects" as the key states that a blue circle is used for neutral effects. I would welcome clarification on this point. I would expect that the scenarios with an emphasis on the economy or on accessibility and social inclusion may have the potential to adversely affect the environment as new infrastructure may arise from these options.

8. At the scoping stage I suggested that where a preferred option for a project is identified in the RTS, a discussion of the project's alternatives would need to be included in the Environmental Report to demonstrate that the environmental implications of the various options have been taken into account in the final decision that is being taken forward in the RTS. I note that the environmental impact of alternative packages is assessed using the indicator of car miles as it was considered that "assessing them against SEA objectives would provide no meaningful output". I have some concerns about this approach as it limits the consideration of the environmental effects of alternative proposals and also restricts the influence that the SEA will have on the final RTS.

Assessment of environmental effects of preferred strategy

9. I am content with the methods used to assess the environmental effects of the RTS, and note that all of the policies in the RTS are assessed against the SEA objectives (Tables 5.1 to 5.3). I broadly agree with the results of the assessment of potential impacts on the historic environment and have set out some comments below:

    - EL3 Connections by Sea - Paragraph 5.12 notes that it has not yet been determined whether new or enhanced ferry infrastructure will be required as a result of proposals in the RTS. It is noted that an EIA would be required to consider the potential impacts on marine biodiversity and marine archaeology. In addition, the construction of new ferry infrastructure may affect the

terrestrial historic environment depending upon its location and design. Accordingly, the assessment of impact on the historic environment may be better assessed as uncertain rather than neutral.

- NC1 Road Improvements – the commentary notes that "areas to highlight at this stage are potential impacts on Sites of Regional Importance in the vicinity of some proposed improvements". I am not clear what is meant by "Sites of Regional Importance" and if this includes historic environment features. I would welcome clarification on this point.
- NC4 Aberdeen City Centre Interchange – Aberdeen railway station is an A-listed building and it is not clear whether or not this has been considered in the assessment of impact.
- NC4 Aberdeenshire Towns – proposals for Park and Ride facilities and new infrastructure may adversely affect the historic environment depending upon the detail of their design and location. The assessment of impact of the historic environment would be better assessed as either potentially negative or uncertain.
- NC4 Ticketing – I am not sure why the development of an integrated ticketing system will have a positive effect on the historic environment. The assessment would be better scored as neutral.

10. The overall assessment at paragraph 5.36 notes that the RTS will have no major, identifiable detrimental impacts on the environment. However, the assessment has identified that some of the proposals to be taken forward in the RTS have the potential for adverse environmental effects depending upon their location and design. This should be acknowledged more clearly in the overall assessment.

Mitigation

11. Section 6 describes the role of mitigation in SEA and sets out proposed mitigation measures. In addition to the types of mitigation set out in paragraph 6.4, mitigation might also be achieved through the inclusion of environmental protection policies in the RTS. This would provide policy level protection for the environment which is required to be taken into account as the RTS is delivered.

12. Section 6 is clearly set out and relates the proposed mitigation measures to each of the environmental parameters considered in the assessment, which is a sensible approach. However, it is not clear how the mitigation measures will be implemented as the RTS is delivered, and this weakens the mitigation measures proposed for the historic environment. It is recognised in the assessment that new infrastructure has the potential to adversely affect the historic environment and that effects are uncertain at this strategic level due to the dependence on locational factors. Mitigation measures provide an opportunity to manage this uncertainty and, for example, stronger mitigation measures for the historic environment might be:

    - the inclusion of a policy commitment in the RTS to ensure that proposal/project-level mitigation measures are taken forward as the strategy is implemented
    - the inclusion of more specific mitigation measures for proposals/projects taken forward though the RTS e.g.
        - any scheme with the potential to affect scheduled ancient monuments and/or their setting, listed buildings and their setting and gardens and designed landscapes and their setting should be subject to formal screening to determine whether an EIA is required
        - as part of the planning application process the Council should consider whether or not the scheme requires consultation under the General Development Procedure Order (GDPO)

13. Paragraph 6.21 notes that where impacts on the historic environment are unavoidable the advice set out in NPPG 5 should be followed to devise appropriate mitigation. Please note that NPPG 5 deals primarily with archaeological remains and their settings. NPPG 18 is also relevant as this deals with listed buildings, conservation areas, World Heritage Sites, and gardens and designed landscapes, both in terms of the historic features themselves and their settings.

14. It is not clear from the Environmental Report whether any changes have been or will be made to the RTS as a result of the environmental assessment and I would welcome further information on this point.

Monitoring

15. Table 7.1 sets out the indicators proposed to monitor the environmental effects of the RTS. I am content with the indicators suggested to capture potential effects on the historic environment and suggest that when reporting the monitoring information it may be useful to support the 'numbers' with a brief description of the effect.

Next steps

16. Paragraph 8.4 states that the general findings are that the RTS will have a positive effect on the environment, however paragraph 5.35 identifies that the environmental effects of the RTS are positive, unknown and negative. I agree with the latter conclusion. Many of the environmental effects of the RTS are uncertain at this stage as they depend on the design and location of the transport projects that are brought forward as the RTS is implemented.