

# REGIONAL TRANSPORT STRATEGY

2015-2036  
REFRESH

STRATEGIC  
ENVIRONMENTAL  
ASSESSMENT  
ENVIRONMENTAL  
REPORT





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## NON-TECHNICAL SUMMARY

### *Purpose of this Environmental Report and Key Facts*

Tactran is carrying out a Strategic Environmental Assessment (SEA) as part of the Refresh of the Regional Transport Strategy. An SEA is required by the Environmental Assessment (Scotland) Act 2005. It is a systematic method for considering the likely environmental effects of Plans, Programmes and Strategies (PPS). The SEA aims to:

- integrate environmental factors into PPS decision-making
- improve PPS and enhance environmental protections
- increase public participation in decision making, and
- facilitate openness and transparency of decision-making.

An SEA Scoping Report was produced in January 2015. This outlined the scope and level of detail of the Environmental Report, and was subject to consultation with Historic Scotland, the Scottish Environment Protection Agency (SEPA) and Scottish Natural Heritage. This Environmental Report has taken into consideration the consultation responses.

The purpose of this Environmental Report is to:

- provide information on the RTS Re-refresh;
- identify, describe and evaluate the likely significant effects of changes being proposed to the RTS Refresh, principally, new policies and proposals
- provide an early and effective opportunity for the Consultation Authorities and the public to offer views on any aspect of this Environmental Report.

### **Background**

The RTS was approved by Scottish Ministers in June 2008 and published in October 2008. It covers the period 2008-2023, though original guidance from the Scottish Government was that a review should be conducted every four years. Subsequent guidance has indicated that RTPs can update or refresh their strategies as they wish.

This Refresh is intended to better integrate the RTS with the new TAYplan Strategic Development Plan (SDP) and Local Development Plan (LDP) system covering the whole Tactran region, and emerging Community Planning Partnership (CPP) Single Outcome Agreements (SOA); to extend the period that it covers to 2036, in line with TAYplan; and take account of the changes which have occurred since approval of the RTS in 2008.

There has been no update of the National Transport Strategy since 2008 though a number of national policies have been revised or introduced in this period. As well as the new SDP/LDPs and CPP SOAs, Air Quality Action Plans have been produced for the region's two largest settlements. Although the Development Plans are in line with the objectives of the current RTS, they will have significant implications for the region's transport network which need to be taken into consideration.

The purpose of the Refresh therefore is not to change the direction of the RTS but to incorporate significant developments in policy and better align it with the SDP and its transport implications.

A Main Issues Report was published for consultation in September 2014 which presented the key policy changes and reviewed the RTS Vision and Objectives.

Comments received were collated and analysed and fed into the development of a draft final RTS Refresh document. The Refresh document will form an addendum to the existing RTS published in 2008.

The proposed methodology for this strategic environmental assessment of the RTS Refresh was set out in the Scoping Report and is in proportion to the scale of the refresh of the strategy that is being undertaken. Objectives and Key Strategic Themes contained within the existing RTS for which there is no change proposed, have not been re-assessed, as the assessment carried out in the SEA of the RTS in 2008 remains valid. This strategic environmental assessment principally comprises an assessment of the detailed strategies or frameworks which have been developed since the RTS approval, indicating the degree of effect whether positive, negative, neutral or uncertain.

### ***Summary of the assessment***

The Strategic Connectivity Strategy aims to support the delivery of economic prosperity in the region through seeking improvements to the networks and services that connect Tayside and Central Scotland to the rest of Scotland and the UK, Europe and the world. A number of proposals cover infrastructure the effect of which is uncertain. Rail and inter-city bus and coach and movement of freight by sea have the potential to reduce the environmental impact where transfer is made from road.

The Health and Transport Framework aims to ensure that health and transport provisions are considered in a coordinated manner. The impact is neutral to providing major positive effects.

The Active Travel Strategy aims to improve the active travel network across the region and to promote the most sustainable modes of transport. Its impact will be neutral to providing major positive effects.

The Travel Planning Strategy aims to use travel plans and awareness campaigns to promote more sustainable modes of travel. The impact of the Strategy generally is neutral to positive.

The Buses Strategy aims to ensure that key employment, education, retail and tourism locations are linked to the passenger transport network by a service that meets the needs of the local economy and that everyone across the region has access to a key regional centre where they can access a range of services and facilities. The impact of the Strategy generally is neutral to positive.

The Park & Ride Strategy aims to maximise the potential for enhanced Park & Ride in the region's cities, allowing for longer distance travel by bus and coach and encouraging modal shift in favour of rail through station parking provision. The effect of the Strategy will be neutral to positive in terms of promoting modal shift to bus and train.

The Rail Strategy aims to enhance connectivity within the region and between the region and the rest of Britain, and, recognising rail's efficiency in moving people and goods, contribute to the reduction of transport related environmental impacts. Consequently, the overall impact is positive though in some locations, due to increased numbers of services, some noise and vibration impacts are possible at properties close to the line.

The Freight Strategy aims to improve the efficiency and address the adverse environmental impact of freight operations in the region. The impact is broadly positive in terms of reducing the number of road freight movements in urban areas and

encouraging the use of less polluting vehicles. Port and associated development has the potential to reduce environmental impact where transfer of movement is made from road but may generate potentially negative impacts on air quality and the aquatic environment.

The Travel Information Strategy addresses the need to provide travel information covering all modes, incorporating and building on existing initiatives, and promoting and maintaining a comprehensive Travel Information System. The environmental impact is broadly neutral.

Some of the proposals are outline at this stage and have unknown physical impacts. In progressing infrastructure proposals these will have to be fully considered in line with the principles of STAG (Scottish Transport Appraisal Guidance) which includes appraisal of environmental impacts, in order to identify a preferred option before they can be taken forward.

Where negative impacts could arise these need to be seen in terms of the overall impacts of the preferred package as a whole, which will reduce congestion and promote sustainable modes.

It is concluded at this stage that the RTS Refresh will have no major, identifiable detrimental impacts on the environment. Some negative or uncertain impacts have been identified and mitigation measures explored.

### ***Consultation***

The Draft RTS Refresh document will be available for a 6 week period of consultation alongside this SEA Environmental Report and a Draft Equality Impact Assessment.

The consultation period will commence on Friday 27 March 2015 and close at 17.00 on Friday 8 May 2015.

Full details of this consultation are provided on the Tactran website at [www.tactran.gov.uk](http://www.tactran.gov.uk)

## 1 INTRODUCTION

The Environmental Assessment (Scotland) Act 2005 requires transport plans and programmes developed by public bodies to be subject to strategic environmental assessment (SEA). SEA is a systematic method for considering the likely environmental effects of plans, programmes and strategies (PPS) on the environment. SEA aims to integrate environmental factors into PPS decision-making; improve PPS and enhance environmental protections; increase public participation in decision-making; and facilitate openness and transparency of decision making.

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

### 1.1 *The RTS*

The Transport (Act) 2005 places a duty on Regional Transport Partnerships (RTP) to draw up a strategy for transport in their region. The Act calls for the strategy to make provision for the following matters:

- the respects in which transport in the region needs to be provided, developed or improved having regard to, among other things:
  - future needs including those occasioned by demographic and land use changes
  - what can be done, taking account of cost, funding and practicability
- meeting the needs of all inhabited places, in particular, those which the Partnership considers different from the remainder of the region by reason of their remoteness or the sparsity of their populations
- meeting the need for efficient transport links between heavily populated places
- how transport in the region will be provided, developed, improved and operated so as:
  - to enhance social and economic well-being
  - to promote public safety, including road safety and the safety of users of public transport
  - to be consistent with the principle of sustainable development and to conserve and enhance the environment
  - to promote social inclusion
  - to encourage equal opportunities and, in particular, the observance of the equal opportunities requirements
  - to facilitate access to hospitals, clinics, surgeries and other places where a health service is provided
  - to integrate with transport elsewhere
- the order of priority in which different elements of the provision, development and improvement of transport should be undertaken
- how the Transport Partnership's functions will be exercised so as to fulfil its transport strategy and, if the Partnership considers that the conferring of further functions is necessary for that purpose, what those functions are
- how the Transport Partnership, so as to enable it to fulfil its transport strategy, will seek to influence its constituent councils or council in the performance of their functions relating to transport
- the measuring and monitoring of the achievement of the strategy.

The RTS was approved by Scottish Ministers in June 2008 and published in October 2008. Although the RTS had been prepared to cover the period 2008-2023, the original guidance from the Scottish Government was that a review be conducted every four years. However, subsequent guidance from the Scottish Government has indicated that they will not be updating the National Transport Strategy and that they (and RTPs) should focus on delivery of the Strategic Transport Projects Review and RTS Delivery Plans respectively. They have, however, indicated that they are happy for RTPs and partner authorities to update or refresh their strategies if they so wish.

The RTS Refresh notes that the core aims and objectives of the RTS remain consistent and relevant, in terms of the Partnership's statutory role, functions and duties, and aligning with and supporting the achievement of national and local outcomes, as defined in the National Performance Framework and Community Planning Single Outcome Agreements (SOAs). The direction of the RTS is not being changed though it is being extended from 2008 - 2023 to 2036, which aligns it with the TAYplan Strategic Development Plan.

## 1.2 The SEA

A full SEA was undertaken of the RTS when it was first developed in 2006-8. The scale of refresh that is being considered means that much of the appraisal work that was carried out for the SEA still remains valid. This Environmental Report therefore focuses on an appraisal of the proposed changes affecting the RTS since its publication in 2008. Actions and policies contained within the existing RTS for which there is no change proposed will not be re-assessed.

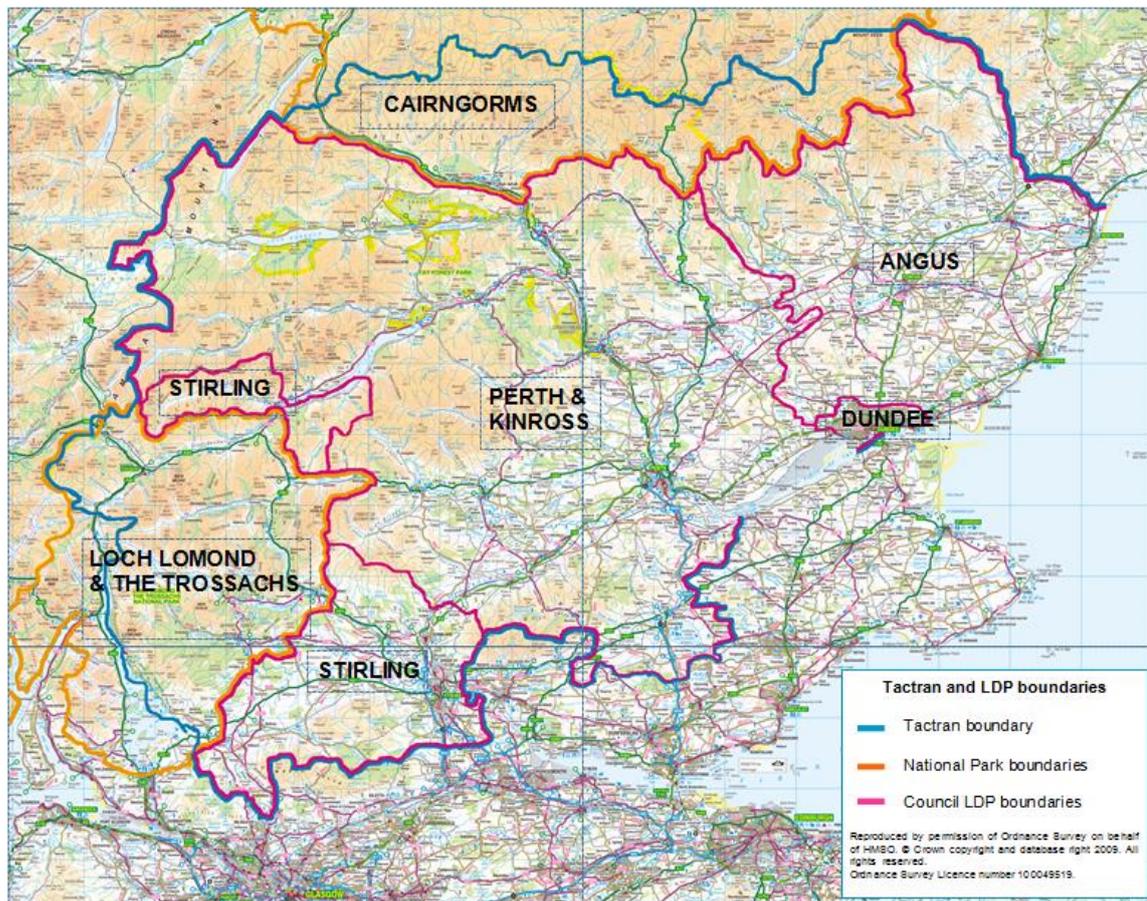
## 1.3 Key Facts

**Table 1 Key Facts relating to the Regional Transport Strategy Refresh**

Name of Responsible Authority	Tayside and Central Scotland Regional Transport Partnership (Tactran)
Title of the Strategy	Regional Transport Strategy refresh
What Prompted the Strategy	The Regional Transport Strategy was adopted in 2008 under the Transport (Scotland) Act 2005. This is the first update, seven years since adoption
Subject	The RTS addresses all aspects of transportation, traffic and accessibility
Period Covered by the Strategy	The current RTS covers the period from 2008 to 2023 but is currently being refreshed to bring it in line with the time scale for the TAYplan Strategic Development Plan (SDP) to 2036
Frequency of Updates	This is the first update, seven years since adoption
Area covered by the Strategy	The local authority areas of the Tactran Partnership covering Angus, Dundee, Perth & Kinross and Stirling
Purpose and/or objectives of the Strategy	The purpose of the RTS is to outline a strategy that is designed to address the diverse transport and accessibility needs of the Tactran region. The RTS Refresh aims to align with policy and other changes since adoption of the RTS in 2008. The TACTRAN vision is: <i>"a transport system, shaped by engagement with its</i>

	<i>citizens, which helps deliver prosperity and connects communities across the region and beyond, which is socially inclusive and environmentally sustainable and which promotes the health and well-being of all.”</i>
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**Figure 1 Plan of the Tactran area**



#### 1.4 RTS Vision and Objectives

The RTS Vision is not being changed as part of the refresh. It aims to deliver:

*“a transport system, shaped by engagement with its citizens, which helps deliver prosperity and connects communities across the region and beyond, which is socially inclusive and environmentally sustainable and which promotes the health and well-being of all.”*

The Objectives developed in the RTS are largely unchanged. They were defined under six broad themes which are unchanged as: **Economy; Accessibility, Equity and Social Inclusion; Environment; Health & Well-being; Safety & Security; and Integration.**

Each theme has related supporting sub-Objectives. These are set out below:

**1. Economy:** To ensure transport helps to deliver regional prosperity.

- A. Ensuring that transport infrastructure and services in the region help deliver economic growth, particularly in key business and employment sectors, and in supporting town centres
- B. Improving the efficiency, reliability and integration of the movement of goods and people
- C. Addressing issues of peripherality associated with the Tactran area
- D. Ensuring good connectivity between Tactran's cities and those in the rest of the UK, and with major airports

**2. Accessibility, Equity & Social Inclusion:** To improve accessibility for all, particularly for those suffering from social exclusion.

- A. Improving access to employment
- B. Improving access to public services, including health and education
- C. Improving access to retail, recreation, leisure and tourist facilities
- D. Reducing severance and social and economic isolation caused by transport, or by a lack of it
- E. Improving the accessibility and inclusivity of the transport system.

**3. Environment:** To ensure that the transport system contributes to safeguarding the environment and promotes opportunities for improvement.

- A. Contributing to the achievement of the Scottish national targets and obligations on greenhouse gas emissions
- B. Promoting a transport system that respects both the natural and the built environment
- C. Promoting a shift towards more sustainable modes.

**4. Health & Well-Being:** To promote the health and well-being of communities.

- A. Helping to meet or better all statutory air quality requirements in the Tactran area
- B. Helping to reduce noise generated on the Tactran transport network.
- C. Promoting a culture of active and healthy lifestyles.

**5. Safety & Security:** To improve the real and perceived safety and security of the transport network.

- A. Improving transport-related safety
- B. Improving real or perceived levels of personal security related to the transport network.

**6. Integration:** To improve integration, both within transport and between transport and other policy areas.

- A. Improving integration of all transport modes
- B. Ensuring integration with land-use planning
- C. Ensuring a fit with other relevant national, regional and local strategies and policies.

A small number of revisions have been made to the sub-Objectives in response to new policies, etc. identified in the Main Issues Report and consultation on an initial draft of the RTS Refresh, as follows:

**1.A** - addition of *supporting town centres*

**1.D** - new sub-Objective

**2.C** - addition of *tourist facilities*

**4.B** - new sub-Objective

These are not considered to significantly alter the direction of the RTS and indeed, in terms of consideration of aiming to reduce noise generated on the Tactran transport network, strengthen environmental considerations.

## **1.5 The Strategy**

The Strategy was developed under three Key Strategic Themes, these are:

- economic prosperity
- connecting communities and being socially inclusive
- environmental sustainability and promoting health and well-being.

No changes are proposed to these themes. The original RTS SEA considered detailed Interventions. Following guidance from Scottish Government Ministers, these Interventions were deleted from the final adopted RTS. As part of this refresh detailed strategies and frameworks have been included, these have been developed since the original RTS. These provide the policies and proposals underlying the three Key Strategic Themes and are appraised as part of this Environmental Report.

## **2 PLAN, PROGRAMME OR STRATEGY CONTEXT**

### **2.1 *Relationship with other PPS and environmental protection objectives***

The Environmental Assessment (Scotland) Act 2005 requires that the Environmental Report includes an outline of the relationships with other relevant Plans, Programmes or Strategies (PPS) and how environmental protection objectives have been taken into account in the PPS preparation. This section covers these issues and describes the policy context within which the PPS operates, and the constraints and targets that this context imposes on the PPS. The PPS introduced since the original RTS in 2008 and thought to have an influence on or be influenced by the RTS refresh are identified in Table 2. Those PPS introduced before 2008 were considered in the original RTS SEA to which reference can be made at: [http://www.tactran.gov.uk/strategy\\_downloads.html](http://www.tactran.gov.uk/strategy_downloads.html).

**Table 2 Relationships with other Plans, Programmes, Strategies and Environmental Objectives**

Name of PPS / environmental protection objective	Main requirements of the PPS	Relationship with PPS
<b>International</b>		
<ul style="list-style-type: none"> <li>▪ The Birds Directive 2009/147/EC</li> <li>▪ European Biodiversity Framework</li> <li>▪ Council Directive 92/43/EEC on the Conservation of Natural Habitats and of Wild Fauna and Flora</li> <li>▪ European Landscape Convention</li> </ul>	<p>Protection of wild birds and their habitats. Promotes the conservation and sustainable use of biological diversity.</p> <p>Promotes the maintenance of biodiversity by requiring EU Member States to take measures to maintain or restore natural habitats and wild species</p> <p>Promotes the protection, management and planning of European landscapes</p>	Strategies and policies should not hinder protection, management and control of species and should support the conservation and sustainable use of biological diversity, and ensure an “all landscape” approach.
<b>National</b>		
<p><b>Climate Change</b></p> <ul style="list-style-type: none"> <li>▪ Scottish Government Climate Change Delivery Plan (2009)</li> </ul>	Sets out high level measures required to meet Scotland's statutory climate change targets, to 2020 and in the long term.	The RTS Refresh should include an objective to contribute to the reduction of greenhouse gases. This may include policies that: <ul style="list-style-type: none"> <li>• promote sustainable alternatives to car; and</li> <li>• promote the use of alternative fuels</li> </ul>
<p><b>Air Quality</b></p> <ul style="list-style-type: none"> <li>▪ Air Quality Strategy for England, Scotland, Wales and Northern Ireland (2011)</li> </ul>	Sets out air quality objectives and policy options to further improve air quality in the UK.	The RTS Refresh should support plans to further improve air quality, in particular addressing transport sources of pollutants.
<p><b>Economy &amp; Sustainable development</b></p> <ul style="list-style-type: none"> <li>▪ Scottish Government Economic Strategy (2011)</li> <li>▪ Scotland's Cities: Delivering for Scotland (2011)</li> <li>▪ National Renewables Infrastructure Plan (2010)</li> </ul>	<p>Identifies strategic priorities critical to achieving sustainable economic growth.</p> <p>Recognises that good connectivity between cities and their regions is the key to widening the reach of cities as well as the importance of international connections. The importance of low carbon transport is also highlighted.</p> <p>Outlines the nature of infrastructure required for the offshore wind, wave and tidal sectors.</p>	The RTS Refresh should seek to integrate with the aims of the strategies and contain actions to reduce the need to use private transport and assist in the reduction of emissions as well as increasing connectivity both to/from and within the region. It should support sustainable economic growth whilst meeting the differing needs of a diverse population. The RTS Refresh should take into account the need to reduce impact on, and adapt to, climate change,

		as well as supporting the renewables sector.
<b>Planning</b> <ul style="list-style-type: none"> <li>▪ Scottish Planning Policy (SPP) (2014)</li> <li>▪ National Planning Framework for Scotland 3 (NPF3) (2014)</li> </ul>	<p>Sets out the main purpose and tasks for land use planning, development planning and control for Scotland.</p> <p>Sets out strategic development priorities to support the Scottish Government's central purpose of sustainable economic growth.</p>	<p>The RTS refresh should support the alignment of development more closely with transport and spatial priorities for change including cities better connected and providing a gateway to the rest of the world and more accessible rural areas.</p>
<b>Transport</b> <ul style="list-style-type: none"> <li>▪ Scottish Government Road Safety Framework (2009)</li> <li>▪ Cycling Action Plan for Scotland (2009) (Refresh – 2013)</li> <li>▪ National Walking Strategy (2014)</li> </ul>	<p>Sets out ambitions for a safer Scotland on the roads.</p> <p>Sets out a vision for cycling that by 2020 10% of all journeys will be by bike.</p> <p>Aims to promote walking as part of everyday journeys.</p>	<p>The RTS Refresh has a strong relationship to these national strategies and should seek to contribute to the delivery of their objectives and targets.</p>
<b>Noise</b> <ul style="list-style-type: none"> <li>▪ Scottish Government Transportation Noise Action Plan</li> </ul>	<p>Ensure that noise management is incorporated into all transport-related activities.</p>	<p>The RTS Refresh should support plans to address transportation generated noise.</p>
<b>Cultural Heritage &amp; Built Environment</b> <ul style="list-style-type: none"> <li>▪ The Scottish Historic Environment Policy (2011)</li> <li>▪ Our Pace in Time – The Historic Environment Strategy for Scotland (2014)</li> </ul>	<p>Provides a framework for more detailed strategic policies and operational policies in managing the historic environment.</p> <p>This is a high level framework which sets out a 10 year vision for the historic environment. The key outcome is to ensure that the cultural, social, environmental and economic value of Scotland's historic environment continues to make a strong contribution to the wellbeing of the nation and its people</p>	<p>The RTS Refresh should seek to reduce and avoid adverse impacts on cultural heritage and the built environment as a result of transport proposals.</p>
<b>Landscape &amp; Soil</b> <ul style="list-style-type: none"> <li>▪ The Scottish Soil Framework (2009)</li> </ul>	<p>The main aim of the Framework is to promote the sustainable management and protection of soils consistent with the economic, social and environmental needs of Scotland.</p> <p>A key aspect is the protection of soil as an asset – for the future of the Scottish economy, as well as a contribution to challenges set by climate change.</p>	<p>The RTS Refresh should seek to avoid adverse impact on soil and landscape as a result of transport proposals.</p>

<p><b>Biodiversity</b></p> <ul style="list-style-type: none"> <li>2020 Challenge for Scotland's Biodiversity (2013)</li> </ul>	<p>Recognises the role biodiversity plays in meeting the Scottish Government's vision of a smart, sustainable and successful Scotland</p>	<p>Strategies and policies should support the conservation and sustainable use of biological diversity</p>
<p><b>Population &amp; Human Health</b></p> <ul style="list-style-type: none"> <li>Equality Act 2010</li> <li>'Making the Links greenspace for a more successful and sustainable Scotland' (2009)</li> </ul>	<p>Sets a framework which protects individuals from unfair treatment and promotes a fair and more equal society.</p> <p>Sets out the key actions that are needed to ensure that greenspace delivers for people, communities and places across the whole of urban Scotland.</p>	<p>The RTS Refresh should consider the needs of society as a whole in the region and take account of its potential role in the delivery of and access to greenspace networks, particularly those that can also act as cycling and walking facilities.</p>
<p><b>Water</b></p> <ul style="list-style-type: none"> <li>The Flood Risk Management (Scotland) Act 2009</li> <li>River Basin Management Plan for Scotland (2009)</li> <li>Our Seas – a shared resource. High Level Marine Objectives (2009)</li> <li>Marine (Scotland) Act 2010</li> </ul>	<p>Creates a framework in which organisations involved in flood risk managed can coordinate actions to delivery sustainable and modern approaches to flood risk management.</p> <p>Details the strategy for River Basin Management Planning in Scotland.</p> <p>Expresses outcomes for the UK marine area and underpins the development of the joint Marine Policy Statement (MPS) and will guide development of national and regional marine plans.</p> <p>Provides a framework which will help balance competing demands on Scotland's seas and introduces duties for sustainable development, protection and enhancement of marine areas, mitigation of and adaptation to climate change, marine planning and conservation and measures to encourage economic investment.</p>	<p>The RTS Refresh should not promote projects that will create flood risks (from the sea or rivers). The RTS refresh should have regard for wider objectives for the marine environment when it comes to actions relating to shipping and harbours.</p>
<p><b>Waste</b></p> <ul style="list-style-type: none"> <li>Scotland's Zero Waste Plan (2010)</li> </ul>	<p>The plan outlines Scotland's key objectives in relation to waste prevention, recycling and reducing the amount of waste sent to landfill on the journey to a Zero Waste Scotland. The plan proposes targets for Scotland's waste and delivering these targets will be supported by the land-use planning system.</p> <p>Provides a vision for Scotland where all waste is seen as a</p>	<p>The RTS Refresh should be aware of the implications of transporting waste.</p>

	resource; waste is minimised; valuable resources are not disposed of in landfill, and most waste is sorted, leaving only limited amounts to be treated.	
<b>Regional and Local</b>		
<b>Planning</b> <ul style="list-style-type: none"> <li>▪ TAYplan SDP (2012)</li> <li>▪ Cairngorms National Park Proposed LDP (2013)</li> <li>▪ Dundee City Council LDP (2014)</li> <li>▪ Perth &amp; Kinross Council LDP (2014)</li> <li>▪ Stirling Council LDP Modified Plan (2014)</li> </ul>	The SDP Guides the development of the TAYplan region for the next 17 years. Sets the strategic context for Angus, Dundee and Perth & Kinross Councils LDPs which in turn set the framework for land use development. The Stirling and Cairngorms National Park LDPs guides the development of their respective areas over the next two decades.	The RTS Refresh Objectives and Strategy reflect the common theme in the region's SDP and LDPs of improving accessibility by a range of modes of transport, promoting a shift towards more sustainable modes and reducing carbon emissions.
<b>Community Planning</b> <ul style="list-style-type: none"> <li>▪ Community Planning Partnerships and Single Outcome Agreements for Angus, Dundee, Perth &amp; Kinross and Stirling</li> </ul>	The Single Outcome Agreements set out the outcomes that partners hope to deliver for local communities. They aim to ensure that people are genuinely engaged in the decisions on public services made that affect them and involve a commitment from organisations to work together, not apart, in providing better public services.	Tactran is a statutory community planning partner in Angus, Dundee, Perth & Kinross and Stirling and is signed up to the delivery of the Single Outcome Agreements. The RTS Refresh should work towards the outcomes set in these documents, a number of which are directly related to the transport network
<b>Air Quality</b> <ul style="list-style-type: none"> <li>▪ Dundee Air Quality Action Plan</li> <li>▪ Perth Air Quality Action Plan</li> </ul>	These set out measures that the Councils intend to introduce to minimise the effects of air pollution on human health.	Transport is a key cause of poor air quality and the RTS Refresh should recognise this impact and contain measures to reduce the impact and improve air quality.
<b>Local Transport Strategies</b> <ul style="list-style-type: none"> <li>▪ Stirling LTS</li> <li>▪ Shaping Perth's Transport Future</li> </ul>	Sets out programmes to address transport problems and opportunities in the Stirling Council area. Outlines a package of measure that aim to provide a transport system in and around Perth that will support sustainable economic growth, protect and improve the environment and improve social inclusion and accessibility.	These detailed Plans put into effect the RTS Economy; Accessibility, Equity and Social Inclusion; Environment; Health and Well-being; and Safety & Security Objectives

The main issues for the RTS Refresh and the SEA, drawn from identifying common themes in the PPS above are:

- avoid adverse effects on biodiversity, including protected sites and species, but also in relation to wider ecological networks
- reduce emissions of greenhouse gases
- promote sustainable economic development
- encourage development to locate within transport corridors
- support renewable power generation and use of low carbon transport
- promote strategies that reduce road casualties
- promote alternative, sustainable modes of transport and reduce congestion, noise and air pollution through walking, cycling and public transport
- support policies that maintain and enhance landscape character, including character of the built environment
- consider the needs of society as a whole
- avoid adverse effects on the water environment or add to or create any significant flood risks
- reduce social exclusion and inequalities.

### 3 ENVIRONMENTAL BASELINE

#### 3.1 Introduction

This section describes the environmental baseline for the SEA of the RTS Refresh. This approach is consistent with that adopted for the SEA for the original RTS.

The key environmental issues and problems that have been identified from the review of plans, programmes and strategies; consultations undertaken in consideration of the RES Refresh Main Issues Report; and review of original RTS SEA baseline information are summarised. An analysis of the baseline environmental conditions is also provided.

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

#### 3.2 SEA Topics

Environmental topics have been identified which provide a structure for the baseline. The topics were selected to provide a sufficiently wide scope for the SEA (and thus the necessary environmental baseline information to be collected) and to reflect the nature, scope and potential effects of the RTS Refresh. These are:

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

The relationship between the environmental topics and the criteria required by the SEA Act is shown in Table 3, together with an indication of the key environmental features identified for each topic.

**Table 3 Relationship between SEA Topics and Schedule 3 Criteria**

Environmental Topics	SEA Act Criteria	Key Environmental Issues
Air Quality and Noise	Air, Climatic Factors, Human Health	Air Quality (concentrations of nitrogen dioxide (NO <sub>2</sub> ) and particulate matter (PM10)) Noise climate
Soils and Geology	Soil, Material Assets	Designated Sites Soil Resources
Aquatic Environment	Water, Climatic Factors	Freshwater and coastal/estuarine quality Hydrological regime / channel characteristics Flooding and flood risk
Climate Change	Climatic Factors	Carbon dioxide (CO <sub>2</sub> ) emissions
Landscape and	Landscape	Designated landscape areas

Townscape		Landscape character
Biodiversity	Biodiversity, fauna and flora	Ecological designations Priority habitats and species Habitat action plans
Cultural Heritage	Cultural Heritage	Designated sites and buildings / structures
Human Health and Safety	Human Health	Key health indicators Transport safety
Population	Population	Demographics Accessibility
Material Assets	Material Assets	Construction aggregates and waste Fuel and energy consumption and efficiency Transport infrastructure

### **3.3 Baseline Data Gathering and Analysis**

This section provides the environmental baseline within the Tactran area. Whilst a broad cross section of environmental baseline issues have been considered (as set out in Table 3), information has been collated to match the level of detail of policies and proposals in the draft RTS Refresh (see Section 7) and focuses on aspects of the environment on which transport policies and proposals are likely to have significant effects.

The key issues and status of the environmental baseline is presented in Table 4. Further analysis of environmental problems in the area of the RTS Refresh is presented in Section 6 of this report.

**Table 4 Environmental Baseline**

Environmental Topics	Key Indicators/Issues	Baseline Status	Trends	Indicative Appraisal Methodology
Air Quality and Noise	Concentrations of NO <sub>2</sub> and PM10 - Designated Air Quality Management Areas (AQMAs)  Noise levels	Some monitored exceedances of national air quality objectives (Dundee City and Perth City area)  Three AQMAs – Crieff, Dundee and Perth City area  Road vehicle emissions key source of NO <sub>2</sub> and PM10  Other sources present across Tactran area	Air quality data indicates reduction in pollutants at most monitoring stations in the Tactran region  Predicted background air quality Improvements  No monitored noise trends  Increasing traffic flows on key roads across area, especially commuter routes	Consideration of influence of proposed policies and proposals on emissions  Use of quantitative data when available; where not available qualitative comment based on experience  Particular consideration of potential to improve or worsen areas of poor air quality
Soils and Geology	Designated sites  Agricultural land quality	18 Geological SSSIs and 11 mixed SSSIs  71 Geological Conservation Review (GCR) sites  Prime agricultural land in Angus and poorer quality soils in the Grampians	There is no routine monitoring of soil and limited information on trends.  There is some evidence that soils are becoming slightly less acidic in some areas due reduced acid deposition.	Review of potential for measure to affect designated sites directly and indirectly by comparing likely impact of measure with baseline information  Appraisal of potential for measure to affect areas of peat by comparing likely impact of measure with baseline information  Appraisal of potential for measure to affect areas of prime agricultural land by comparing likely impact of measure with baseline information
Aquatic Environment	Quality of waterbodies (surface and groundwater)  Flooding	Large network of running and standing water.  Water quality varies widely but generally fair to good with better quality generally associated with upland, remoter locations and poorer quality in urban areas.  Some areas at risk from flooding	Nationally water quality within Scotland is reported to be improving	Qualitative appraisal of potential for measure to affect water quality based on experience, potential for mitigation, best practice guidance etc.  Appraisal of any positive effects from flooding as part of natural hydrological/ecological cycle

Climate Change	Emissions of greenhouse gases  Climate data	Existing climate is generally in line with Scotland as a whole though experiences lower than average rainfall	Climate change predictions suggest potential increases in annual temperature and seasonal precipitation changes	Use of quantitative data where available, if not qualitative appraisal based on likely effects of measure on traffic flows
Landscape and Townscape	Designated areas  Landscape character  Green belt, corridors	Wide variety of landscapes  Range of landscape designations (including 5 National Scenic Areas and 57 Historic Gardens and Designed Landscapes)	Pressure on landscape from development	Appraisal of potential impacts of policy or proposal on landscape of Tactran area and consideration of potential for mitigation
Biodiversity	Designated sites  BAP and LBAP priority habitats and species	29 SACs, 9 SPAs and 7 RAMSAR sites  218 SSSIs (biological and mixed)  7 NNR, 5 LNR and 6 Country Parks  6 key LBAP priority habitat types and various priority species	Habitat loss and loss of biodiversity across Scotland including through development, such as urbanisation and changes in land management practices  Increasing degradation of biodiversity associated with direct and indirect effects from development such as pollution	Review of potential for measure to affect designated areas directly and indirectly by comparing likely impact of measure with baseline information  Appraisal of potential impacts of measure on biodiversity of Tactran area and consideration of potential for mitigation
Cultural Heritage	Designated sites	7,644 Listed Buildings Category A to C  1,351 Scheduled Ancient Monuments  Approximately 100 Conservation Areas  Potential for undiscovered archaeology  Inventory battlefields  Inventory gardens and designed landscapes	No trend data  Increasing development may identify previously unknown archaeology resulting in increased known resources	Review of potential for measure to affect designated resources directly and indirectly by comparing likely impact of measure with baseline information  Qualitative consideration of potential of measure to affect unknown remains
Human Health and Safety	Census Health Indicators  Flooding	Better health than Scottish average (based on specific indicators) and higher life expectancy for men and women  Reduction in road casualty rates and trends from 2004-8 average to 2020 average  Some areas at risk from flooding	None identified	Iterative consideration of potential for measure to affect health by discussion with team responsible for health appraisal  Consideration of potential for measure to cause or exacerbate flooding, drawing on available information, experience etc.

Population	Demographic profile Accessibility indicators Tourism Indicators	Tactran area accounts for 9.4% of the Scottish population  Population distribution within three cities, within smaller towns and villages and throughout rural areas  Lower accessibility to private vehicles than Scottish average  2001 to 2005 saw a 50% increase in international visitors to Scotland and an 11% increase in visitor attraction numbers (of which there are many in the Tactran area)	Predicted increases in population lower than Scottish average in some parts of the Tactran area	Consideration of potential for measure to impact on accessibility drawing on available information, experience, best practice etc.
Material Assets	Aggregates and waste Transport infrastructure	Network of local and national roads, railways and aquatic infrastructure	Waste recycling rates are rising and volumes of waste being sent to landfill are declining	Review of potential for policies and proposals to affect infrastructure resources directly and indirectly by comparing likely impact of policies and proposals with baseline information  Review of potential for policies and proposals to affect aggregate resources directly and indirectly by comparing likely impact of policies and proposals with baseline information

### **3.4 Areas likely to be affected by the RTS Refresh**

Given the nature of the RTS Refresh, the areas that are most likely to be affected are those on or in close proximity to the transport network. The geographical extent of such effects is dependent on the policies and proposals within the RTS Refresh.

## 4 ENVIRONMENTAL ISSUES AND PROBLEMS

A review has been undertaken of environmental problems, issues and opportunities in the Tactran area. This is based on the review carried out for the RTS, updated by a review of issues from relevant strategies, plans and programmes introduced since 2008; and a review of baseline environmental data.

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

### Air Quality and Noise

#### *Issues and Problems*

- levels of NO<sub>2</sub> and PM10 (particularly in urban areas associated with traffic flows and/or congestion)
- noise (traffic associated)
- increasing traffic flows (including new sources such as residential developments)
- dust from construction activities (at a localised level)
- journey times crossing Dundee
- management of tourist traffic summer congestion, overtaking and parking on rural roads
- logging and mineral extraction traffic on rural roads
- number of cars commuting into Dundee is high, although car ownership is low
- Dundee university students have high car ownership
- Dundee city and Perth city are AQMAs. Pollution is caused by congestion, air quality hot spots in Dundee and Perth City Centres and also Crieff High Street
- cumulative impacts from traffic from various developments

#### *Opportunities*

- background levels of NO<sub>2</sub> and PM10 are predicted to decrease in non-urban areas
- promotion of sustainable transport (including walking and cycling) and reduction of private journeys by car
- provision or enhancement of sustainable transport infrastructure
- raising awareness of best site management practices in contracts
- promote access to developments on most suitable roads
- checking new infrastructure does not give rise to greater emissions
- provision of suitable infrastructure in tourism hotspots (laybys, overtaking sections, etc.)
- improvement to transport infrastructure and vehicles (e.g. 'quiet' road surfaces and cleaner fuels and vehicles)

### Soils and Geology

#### *Issues and Problems*

- direct and indirect impact on statutory and non-statutory designated sites (these include geological Sites of Special Scientific Interest (SSSI), Geological Conservation Review (GCR) Sites and Regionally Important Geological Sites (RIGS))

- potential impact on important peat resources
- pressure on soil resources, particularly those supporting prime agricultural land
- areas of potentially contaminated soils and mineral instability (e.g. in former mining areas)
- potential for contamination from transport (e.g. fuel spillages during construction)
- erosion from run-off and peat stability/slippage

#### *Opportunities*

- creation of new geological sites through development (e.g. road cuttings etc.) providing educational opportunities
- good construction design and practice offers the opportunity to minimise impact on soils and geology
- following advice on avoidance of soil and peat instability

### **Aquatic Environment**

#### *Issues and Problems (Freshwater Environment)*

- direct and indirect impact on surface and groundwater (through water quality, flow and affecting physical form)
- flooding including fluvial and urban (associated with insufficient drainage/culvert maintenance and capacity)
- new development in flood plains is a key pressure on the hydrological regime and contributory factor to flooding in some locations and careful planning required to avoid impacts
- pressure on private abstractions
- water abstraction can affect important habitats

#### *Issues and Problems (Marine Environment)*

- direct and indirect impacts on coastal waters and estuaries
- flooding and sea level rise
- pollution from construction related activities or from spills once operational

#### *Opportunities*

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

### **Climate Change**

#### *Issues and Problems*

- emissions of greenhouse gases from traffic and transport
- adaptation to short and long-term impacts of emissions from transport noting that road traffic levels are increasing on some routes
- predicted increases in storm event frequency and severity from climate change in future

- rising sea levels
- dependency on oil and air travel

#### *Opportunities*

- opportunities to reduce private vehicle journeys and promote use of sustainable modes of transport
- education about sustainable transport and promotion of the benefits to the environment and health
- checking new proposals do not give rise to significant new emissions
- opportunities to exploit the potential for biofuels

### **Landscape and Townscape**

#### *Issues and Problems*

- direct and indirect impact on designated sites (such as National Scenic Areas (NSAs), National Parks, Areas of Great Landscape Value (AGLVs), Conservation Areas and Historic Gardens and Designed Landscapes)
- inappropriate or insensitive development, and capacity of the landscape to absorb new infrastructure
- gradual erosion of landscape character (cumulative development effects)
- construction of new infrastructure may affect the wider landscape setting of particular sites or sensitive historic landscapes
- possible severance of historic environment features
- townscapes affected by traffic calming measures
- maintenance of existing infrastructure affecting the historic environment features (e.g. historic bridges)

#### *Opportunities*

- opportunity for landscape/townscape/seascape enhancements with new and revised infrastructure, this is particularly in areas of lower current landscape and townscape value
- the potential to improve the accessibility of historic features such as townscapes

### **Biodiversity**

#### *Issues and Problems*

- direct and indirect impact on designated sites (European, national and local), European Protected Species and nationally important species
- loss of habitat and species (particularly those identified within the Local Biodiversity Action Plans (LBAPs), associated in part with urbanisation and development within the countryside (projected increases in residential developments and associated infrastructure will continue to increase this pressure)
- changes in land use (such as afforestation) resulting in changes to habitat composition (as well as landscape change)
- habitat fragmentation and severance associated with new developments
- disturbance of species from construction works and traffic
- species loss and road kill

### *Opportunities*

- with transport there is the potential to promote and create wildlife habitats
- ensure new development does not affect designated sites or important species
- reducing vehicle traffic may help reduce road kills
- planning development to avoid severance and fragmentation
- new planting associated with transport developments can add to local biodiversity
- there is an opportunity to provide more interpretation facilities
- presence of National Parks within region which have aims of conserving and enhancing the natural heritage and sustainable use of natural resources

## **Cultural Heritage**

### *Issues and Problems*

- direct and indirect impacts on statutory and non-statutory designated sites and the impact on their settings (Scheduled Ancient Monuments, Listed Buildings, Inventory Battlefields, Inventory Gardens, Designed Landscapes and Conservation Areas)
- promotion of Dundee and Angus as tourist destinations, desire to move from day destinations to longer stay
- tourism is a major sector in Perth & Kinross
- risks of impact to unknown and as yet undiscovered resources
- variety of locally important sites which should be safeguarded including battlefields

### *Opportunities*

- there is an opportunity to enhance the setting and potentially the physical form of cultural heritage sites where this is appropriate (and in discussion with Historic Scotland for features of national importance)
- there is an opportunity to improve accessibility to the cultural heritage resource
- potential to enhance interpretation of the cultural resource

## **Human Health and Safety**

### *Issues and Problems*

- inadequate and insufficient infrastructure for sustainable, healthy transport (e.g. walking routes and cycling commuting routes)
- air pollution is a problem with regard to health, particularly in urban locations and close to major transport corridors. Air pollution is also a factor in the promotion of sustainable, healthy transport (e.g. walking and cycling)
- community severance effects e.g. intimidation and safety of road crossings
- personal safety on the transport network can be a factor in the use of sustainable methods of transport, such as road safety for cycles and personal safety for bus networks, particularly at night and in remoter locations
- road traffic casualties
- changes to provision of health care – centralisation/relocation of clinical specialities at specific hospitals (PRI/Ninewells/Stracathro; Stirling Royal Infirmary/Forth Valley Royal Hospital)
- access from rural areas

- Scottish Ambulance Service review (where will future provision for non-emergency transport come from)
- parking levels at hospitals
- in Dundee, Kingsway is a strategic and local problem – severs city, especially for cycles/pedestrians
- access in Angus to healthcare is problematic

### *Opportunities*

- there are opportunities for promoting sustainable methods of transport (e.g. walking and cycling) which can play an important role in improving health
- there are opportunities within the transport network and infrastructure to address these problems through design, maintenance and raising awareness. Opportunities may include improved lighting around bus stops, creation of on and off-line cycle lanes and traffic calming measures
- careful planning in RTS Refresh to address access issues
- promotion of safety measures in RTS Refresh
- presence of National Parks within region which have aims of promoting understanding and enjoyment of the special qualities of the area and promoting sustainable economic and social development of the areas' communities

## **Population**

### *Issues and Problems*

- lack of access within/from towns and villages and to the local countryside
- issues of requirement for better accessibility to public transport facilities and services (adequate pedestrian routes of reasonable distance to services, etc.)
- lifestyle trends and family choices affecting location decisions for housing/work/education which are contributing in many cases to longer commuting distances by car
- lack of attractive long distance safe commuter cycle routes
- train capacity to Edinburgh/Glasgow (Dundee services often over-crowded)
- disparity of rail fares across region
- perception of poor interchange between Dundee bus and rail stations
- lack of integrated ticketing
- large high school catchment areas within rural areas
- access to colleges and universities within the region
- Dundee's population rising very slowly
- Dundee Western gateway – major growth area in housing in south
- need to travel is high in Angus as population is spread out in seven small centres
- severance of communities leading to perceived and/or real peripherality issues
- coordinated travel information for tourists
- ability to sustain bus provision to dispersed locations
- potential for Demand Responsive Transport
- need to retain services (retail/GPs/post offices/banks) within rural and market town locations (reducing need for travel)
- promotion of ports within region and competition between ports
- lack of rail freight facilities
- Forth Road Bridge acts as a barrier to access to Dundee
- air access – issue for Scotland's economy as a whole

### *Opportunities*

- design of new developments and their infrastructure associated with the projected increases in dwellings has the opportunity to promote accessibility to sustainable transport
- the RTS Refresh has the opportunity to support, promote and facilitate sustainable access to strategic development areas
- ensuring the RTS Refresh promotes accessibility
- presence of National Parks within region which have aims of, promoting understanding and enjoyment of the special qualities of the area and promoting sustainable economic and social development of the areas' communities

### **Material Assets**

#### *Issues and Problems*

- transport infrastructure (access to, quality, frequency, maintenance etc.)
- transport related fuel and energy use
- reducing number of 'quiet' roads leading to less walking and cycling
- pressure for aggregates and associated effects of, for example, visual intrusion from quarries and borrow pits

#### *Opportunities*

- RTS Refresh can promote wise use of existing road and other transport infrastructure
- promote reduction of non-renewable resources
- promote re-use of aggregates and other road materials
- reduce construction of new infrastructure for transport unless essential
- re-use of materials on site
- recycling of construction and demolition wastes
- opportunities to exploit the potential for alternative fuels
- presence of National Parks within region which have aims of promoting sustainable economic and social development of the areas' communities

## 5 ENVIRONMENTAL ASSESSMENT

### 5.1 Introduction

This section outlines the detailed environmental assessment of the RTS Refresh. An overview of the alternatives for the RTS Refresh is set out, together with analysis of the key environmental issues and SEA objectives, and the framework used for the appraisal of the RTS Refresh.

### 5.2 Plan Alternatives

Alternatives to the RTS were considered during the development of the original Strategy in 2008. As the purpose of the Refresh is not to change the direction of the RTS but rather to incorporate developments in the wider policy framework within which the RTS sits and to align it better with the TAYplan SDP, the objectives of the RTS are not changing and only small changes are proposed to the sub-Objectives. Following a request from the Consultation Authorities a summary of the alternatives considered is shown in Appendix 3.

### 5.3 Scoping of Significant Environmental Effects

The intended scope of the SEA was undertaken alongside development of the RTS in 2008. Table 5 is an extract from the original SEA. It is considered that this remains applicable to the RTS Refresh.

**Table 5 Scoping of Significant Environmental Effects**

SEA Topic Areas	Scoped In	Scoped Out
Air Quality and Noise	Yes	No
Soils and Geology	Yes	No
Aquatic Environment	Yes	No
Climatic Change	Yes	No
Landscape and Townscape	Yes	No
Biodiversity	Yes	No
Cultural Heritage	Yes	No
Human health and Safety	Yes	No
Population	Yes	No
Material assets	Yes	No

### 5.4 Environmental Appraisal

#### *SEA Vision and Objectives*

The initial SEA of the RTS set out a Vision which stated “To ensure that the RTS contributes to safeguarding the environment, making improvements where possible and promoting sustainable travel choices”. The SEA topics and objectives against which the RTS was assessed are shown in Table 6.

**Table 6 SEA Topics, Objectives and Indicators**

SEA Topic	SEA Objective	Indicator
Air quality and noise	To improve air quality in the region and contribute to meeting national air quality and health objectives	Number of AQMAs  Trends in monitored roadside NO <sub>2</sub> and PM10 by Council area  Traffic flows on busy roads and in AQMAs  Health data in AQMAs
	To reduce transport related noise and vibration pollution	Key sources (contours) of transport noise
Soils and geology	To protect the region's geomorphology, geology, mineral, soils and peat resources	Number of significant effects predicted on designated sites
Aquatic environment	To protect watercourses from the impacts of transport and maintain and enhance the quality of the water environment; and to avoid and reduce the risk of flooding	No deterioration of the water environment or increase in flood risk  Proportion of new transport infrastructure incorporating SUDS
Climate Change	To contribute to meeting the Scottish share in the reduction of carbon emissions and to adapt to the effects of climate change	National CO <sub>2</sub> emissions from transport sector  Traffic counters on key road links  Number of tonnes of CO <sub>2</sub> caused by increased air travel that are offset by the successful implementation of a carbon offset scheme
Landscape and Townscape	To avoid negative impacts from visual intrusion from transport infrastructure	Number of significant visual effects predicted in new proposals
	To protect and enhance the landscape of the region	Number of significant landscape effects predicted for new proposals
	To maintain and enhance townscapes and their settings	Number of proposals in which Historic Scotland provided input on impacts on heritage designations and their settings
Biodiversity	To protect and enhance biodiversity by avoiding fragmentation and restoring connectivity	Number of new proposals likely to have a significant effect on international and national designated sites  All schemes with positive species and habitat enhancement measures  Number of existing schemes with improved/enhanced habitat measures Including management/maintenance regimes)
	To minimise the effects of transport on designated areas and protected species	Number of significant ecological effects on protected species and designated sites predicted in European Sites for new proposals
Cultural Heritage	To protect all (known and unknown) archaeological and historic resources of the region and their settings	Number of significant effects predicted on archaeological remains and historic resources in historic environment assets for new proposals
Human Health and Safety	To improve health and safety by providing appropriate means and modes of transport which contribute to a healthier, safer lifestyle	Km of new cycleway  Number of safe routes to school projects  Change in number of car trips <1km
Population	To provide sustainable access to employment and essential services	Labour market catchment population by public transport  Proportion of population more than a specified journey time by public transport from essential services
Material assets	To promote sustainable travel	Usual mode of travel to work by Tactran residents
	To reduce transport infrastructure related waste	Proportion of recycled or secondary aggregates used in the construction of transport infrastructure

As part of the RTS Refresh the vision, objectives and indicators have been reviewed to ensure that they remain relevant. It has considered the policies and proposals contained within the RTS and updated or added new ones. Policies and proposals contained within the existing RTS to which no change is being made, have not been assessed as the assessment carried out in the SEA of the RTS in 2008 remains valid.

In assessing the amended or new policies and proposals the effects have been predicted as positive, negative, uncertain, or neutral. These have then been further evaluated to determine their significance on the receptors in relation to reversibility or irreversibility of effects, risks, duration and cumulative effect.

Where policies and proposals are predicted to have significant adverse environmental effects, measures must be considered to avoid these, reduce them to acceptable levels (e.g. to meet regulatory standards), or offset them (e.g. by providing a substitute for lost or damaged environmental resources). Such mitigation might include, for example, changes to the alternatives, such as adding, deleting or refining policies and proposals; or requirements for project environmental impact assessments for certain projects if appropriate.

It is considered that this approach is in proportion to the scale of the Refresh being undertaken and is consistent with the methodology used in the SEA of the original RTS.

### 5.5 Assessment of RTS Refresh policies and proposals

A scoring system has been used to assess the RTS Refresh policies and proposals against the SEA framework as set out in Table 7.

**Table 7 SEA Framework Scoring System**

Major positive effect	✓✓
Minor positive effect	✓
Neutral effect	0
Minor negative effect	x
Major negative effect	x x
Uncertain effect	?

The assessment of the policies and proposals listed under each of the nine strategies and frameworks as listed below is shown in Table 8:

Strategic Connectivity  
 Health and Transport  
 Active Travel  
 Travel Planning  
 Buses  
 Park & Ride  
 Rail  
 Freight  
 Travel Information

The **Strategic Connectivity** Strategy aims to support the delivery of economic prosperity in the region through seeking improvements to the networks and services that connect Tayside and Central Scotland to the rest of Scotland and the UK, Europe and the world. It covers the five key modes for people and freight. It includes proposals that have been developed and will be delivered principally by other bodies, notably Transport Scotland through its STPR. A number of proposals cover infrastructure the effect is uncertain and for which EIAs will be required. Rail and inter-city bus and coach and movement of freight by sea have the potential to reduce the environmental impact where transfer is made from road. The Strategy aims to address issues of train capacity, long journey times, fare levels and overcrowding which can limit the attractiveness of rail services as an alternative to car and air travel

The **Health and Transport** Framework aims to ensure that health and transport provisions are considered in a coordinated manner. In this context “healthcare” is taken to encompass a wide range of services and facilities, from acute and emergency services, through to primary and local services including GPs, pharmacies, dentists and opticians. The Framework has four key strands:

- Promoting Active Travel
- Transport and Public Health
- Access to Healthcare
- NHS Staff Travel

In promoting active travel it is intended to ensure that everyone living in the region is able to, and chooses to, travel safely by active modes such as walking and cycling for the majority of their local journeys. This will promote modal shift from more polluting modes of travel and improve accessibility.

The intention of Transport and Public Health is that everyone in the region should be able to live without exposure to air quality or noise levels that are detrimental to health or a threat to personal safety associated with the transport network.

The Access to Healthcare strand aims to integrate healthcare and transport service delivery to enable all patients and their visitors to access healthcare by convenient, affordable transport appropriate to their needs. This also ensures that the environmental impacts of journeys to healthcare services are minimised.

NHS Staff Travel aims to minimise the environmental and financial costs of NHS staff travel, whilst maintaining an efficient, effective healthcare service.

In general, the impact of the Health and Transport Framework is neutral to providing major positive effects.

The **Active Travel** Strategy aims to improve the active travel network across the region and to promote the most sustainable modes of transport. Active Travel covers primarily walking and cycling, but also includes other modes such as the use of scooters and skateboards for journeys to and from school, etc.

The strategy aims to support delivery of the Cycling Action Plan for Scotland (CAPS); and implementation of the National Walking Strategy and the Long Term Vision for Active Travel in Scotland. Its impact will be neutral to providing major positive effects.

The **Travel Planning** Strategy aims to use travel plans and awareness campaigns to promote more sustainable modes of travel. By assessing travel needs and providing greater travel choice, more sensible use of the car and greater use of sustainable modes of travel can be achieved. These can contribute towards health initiatives and reductions in pollution and traffic congestion. The promotion of a regional liftshare scheme and Car Clubs will need consideration to ensure that transfer from more sustainable modes of travel is avoided. The impact of the Strategy generally on SEA Topic Areas is neutral to positive.

The **Buses** Strategy aims to ensure that key employment, education, retail and tourism locations are linked to the passenger transport network by a service that meets the needs of the local economy and that everyone across the region has access to a key regional centre where they can access a range of services and facilities. It seeks to encourage the provision of a high quality, accessible and safe network in order to encourage increased bus use and improve accessibility for those with mobility difficulties. In addition, it seeks to encourage travel by bus as an alternative to the car by improving journey reliability and ensuring integrated fares and ticketing to make the bus network simpler to use and to ensure that bus journeys are affordable so that their cost is not a significant barrier to their use. The impact of the Strategy generally on SEA Topic Areas is neutral to positive.

The **Park & Ride** Strategy aims to maximise the potential for enhanced Park & Ride in the region's cities, allowing for longer distance travel by bus and coach and encouraging modal shift in favour of rail through station parking provision. The effect of the Strategy will be neutral to positive in terms of promoting modal shift to bus and train particularly in urban areas but more detailed assessments and adoption of high quality design will be needed to avoid adverse impacts on soils and geology, aquatic environment, landscape and biodiversity.

The **Rail** Strategy aims to enhance connectivity within the region and between the region and the rest of Britain, and, recognising rail's efficiency in moving people and goods, contribute to the reduction of transport related environmental impacts. Consequently the overall impact is positive though in some locations, due to increased numbers of services, some noise and vibration impacts are possible at properties close to the line. More detailed assessment of impacts will be required where new, relocated or enhanced stations are proposed.

The **Freight** Strategy aims to improve the efficiency and address the adverse environmental impact of freight operations in the region. The impact on SEA Topic Areas is broadly positive in terms of reducing the number of road freight movements in urban areas and encouraging the use of less polluting vehicles. Port and associated development has the potential to reduce environmental impact where transfer of movement is made from road but may generate potentially negative impacts on air quality and the aquatic environment.

The **Travel Information** Strategy addresses the need to provide travel information covering all modes, incorporating and building on existing initiatives, and promoting and maintaining a comprehensive Travel Information System. Travel information has a major role to play in guiding decision-making towards healthier and more sustainable modes. This Strategy aims to ensure people are informed of the negative impact their travel mode may have and are able to access the information they require to make more sustainable travel choices. Whilst it is good practice to seek to minimise the need for travel, many journeys are essential. Therefore, as well as making sure that movements

which are fundamental to regional prosperity are adequately catered for, the Strategy seeks to ensure that the most efficient use is made of the transport network. The direct impact on SEA Topic Areas is broadly neutral.

**Table 8 Environmental Assessment of RTS Refresh policies and proposals**

RTS Refresh policy / proposal	SEA Topic Areas										Comments and overall assessment (including potential impacts, and assessment of residual effect)
	Air quality and noise	Soils and geology	Aquatic environment	Climate Change	Landscape and Townscape	Biodiversity	Cultural Heritage	Human Health and Safety	Population	Material assets	
<b>Strategic Connectivity</b>											
<b>SC1:</b> Work with Transport Scotland to deliver STPR Projects 6: Further Extension of Rail Electrification; 15 Edinburgh to Glasgow Rail Improvements; 17: Highland Main Line rail improvements; and 23: Aberdeen – Central Belt Rail Improvements	✓	0	0	✓	?	0	0	✓	✓	✓	Broadly supportive. Effect will be greater over time as more actions are implemented. Uncertain with regard to visual intrusion effects. Rail investment promotes modal shift from car. Transport Scotland will lead on design and implementation of investments; these will be assessed as part of national strategies.
<b>SC2:</b> Work with the train operators to reduce overcrowding and improve the reliability of passenger services to Edinburgh, Glasgow and beyond	0	0	0	✓	0	0	0	✓	✓	✓	Broadly neutral though rail improvements promote modal shift from car.
<b>SC3:</b> Support improvements to the Caledonian Sleeper, East Coast and CrossCountry services to London and other UK cities and regions	0	0	0	✓	0	0	0	✓	✓	✓	Broadly neutral though rail improvements promote modal shift from car.
<b>SC4:</b> Support the extension of High Speed Rail between London and Central Scotland and to ensure that through services from the region use the new line	✓	0	0	✓	0	0	0	0	0	0	Broadly neutral though rail investment promotes modal shift from car. High Speed Rail will not extend into the Tactran region.
<b>SC5:</b> Support the provision of rail freight infrastructure, rolling stock and services to increase the role of rail freight serving the region	✓	0	0	✓	?	0	0	✓	✓	✓	Broadly supportive as this will promote modal shift from road to rail. More detailed assessment of impacts will be required on a project basis. Potential negative impacts from land take for terminals and visual impact.
<b>SC6:</b> Work with Transport Scotland to support delivery of STPR projects to upgrade the A9 between Dunblane and Inverness; and to improve the A90 through/around Dundee	?	?	0	0	?	0	0	0	0	?	Transport Scotland will lead on design and implementation of investments; these will be assessed as part of national strategies. They may have negative impacts on noise, air quality and landscape however will have a positive impact on health by improving safety. The severity of these impacts will depend on the design and whether they follow the existing road alignments or new lines. Full environmental impact assessments will be required.
<b>SC7:</b> Support partners in delivering improvements to the	✓	?	0	0	?	0	0	0	?	?	These may have negative impacts on noise, air quality and

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strategic road network around Perth and Stirling											landscape however will have a positive impact on health by improving safety and, in the Perth AQMA, air quality. The severity of these impacts will depend on the design and full environmental impact assessments will be required to determine mitigation requirements.
<b>SC8:</b> Support the continuation and development of inter-city bus and coach services	0	0	0	✓	0	0	0	0	✓	✓	Broadly neutral though improved inter-city bus and coach services may promote modal shift from car.
<b>SC9:</b> Support the movement of freight by sea	?	0	?	✓	0	?	0	0	0	0	Broadly neutral though infrastructure requirements are unknown. Maritime freight has a low ecological footprint. Potentially negative impacts on air and quality; impacts on water from oil emissions, spills and dumping; negative impact on marine life, especially mammals from marine noise pollution and risk of collision, and on European designated sites including Firth of Tay and Eden Estuary Special Protection Area. Need for project level Habitats Regulation Appraisal.
<b>SC10:</b> Support the improvement of rail and road links to the region's ports	✓	0	0	✓	0	0	0	0	0	0	Broadly neutral though infrastructure requirements are unknown.
<b>SC11:</b> Support the continuation and development of direct routes from Dundee Airport to London and other key destinations	X	0	0	x	0	0	0	?	0	0	Effects on local air quality from increased number of flights and traffic accessing the airport could have negative potential effects but with mitigation through reduced travel by road to other airports could become neutral.
<b>SC13:</b> Support the further development of facilities at Dundee Airport	x	0	0	x	0	0	0	?	0	0	Negative potential effects but with mitigation through reduced travel by road to other airports could become neutral.
<b>SC14:</b> Support enhanced surface access by all modes to Aberdeen, Edinburgh and Glasgow Airports	0	0	0	0	0	0	0	0	0	0	Broadly neutral but improvements could promote modal shift from car.
<b>SC15:</b> Support the continuation and development of services between Scottish Airports and major hubs, including London Heathrow	0	0	0	0	0	0	0	0	0	0	This seeks to continue existing service levels and therefore effect would be neutral.
<b>Health and Transport</b>											
<b>HT1:</b> Increase the number of journeys made by active	✓✓	0	0	✓	0	0	0	✓✓	0	✓	Positive in terms of increasing use of active travel and promoting

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travel modes by making people aware of the benefits of active travel and ensuring that active travel infrastructure is available and attractive to use											modal shift from car.
<b>HT2:</b> Contribute to achieving road safety targets	0	0	0	0	0	0	0	✓✓	0	0	Positive in terms of improving safety particularly of vulnerable road user – cyclists and pedestrians.
<b>HT3:</b> Improve air quality within any designated Air Quality Management Area (AQMA) to a point where the AQMA is revoked	✓	0	0	0	0	0	0	✓✓	0	0	Positive in terms of reducing emissions and improving health.
<b>HT4:</b> Minimise the number of people exposed to intrusive noise levels	✓	0	0	0	0	0	0	✓✓	0	0	Positive in terms of reducing transport related noise and improving health.
<b>HT5:</b> Reduce the rate of road accident casualties and achieve or better national road safety targets	0	0	0	0	0	0	0	✓✓	0	0	Positive in terms of improving safety particularly of vulnerable road user – cyclists and pedestrians.
<b>HT6:</b> Reduce the effects of severance on communities caused by transport infrastructure or its use	0	0	0	0	0	0	0	✓	✓	0	Positive in improving sustainable access and potentially improving safety.
<b>HT7:</b> Improve equality of access to healthcare	0	0	0	0	0	0	0	✓✓	✓✓	0	Positive in terms of improving health.
<b>HT8:</b> Provide, where possible, healthcare services in locations and at times that are readily accessible	0	0	0	0	0	0	0	✓✓	✓✓	0	Positive in terms of improving health.
<b>HT9:</b> Make transport to healthcare accessible for all, physically, socially and financially	0	0	0	0	0	0	0	✓✓	✓✓	0	Positive in terms of improving health.
<b>HT10:</b> Ensure transport to healthcare is undertaken by sustainable modes wherever possible	0	0	0	0	0	0	0	✓✓	0	0	Positive in terms of improving access to health and encouraging active modes.
<b>HT11:</b> Find alternatives to travel for staff communications wherever appropriate	✓	0	0	✓	0	0	0	0	0	✓	Positive in terms of reducing car use.
<b>HT12:</b> Ensure that essential journeys are undertaken by the most appropriate sustainable modes	✓	0	0	✓	0	0	0	0	0	✓	Positive in terms of promoting modal shift.
<b>Active Travel</b>											
<b>AT1:</b> Work with Councils, CPPs and other partners to deliver the strategy’s aims and ensure it is supported by non-transport policies and programmes	✓	0	0	✓	0	0	0	✓	✓	✓	Positive in terms of improving health through active travel and promoting modal shift.

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<b>AT2:</b> Develop walking and cycling links to and within town and city centres and to employment, health facilities, services, leisure and tourism activities	✓	0	0	✓✓	0	0	0	✓	✓	✓	Positive in terms of improving health through active travel, providing sustainable access and promoting modal shift.
<b>AT3:</b> Establish routes of regional priorities and close gaps in the regional network for walking and cycling in line with expansion of the NCN, national long distance paths, tourism strategies and local active travel strategies	0	0	0	✓	0	0	0	✓	✓	✓	Positive in terms of improving health through active travel and promoting modal shift.
<b>AT4:</b> Promote walking and cycling links to schools as well as further and higher education facilities. Promote continuation and expansion of school travel plans, Cycle Friendly Schools and Campuses	✓	0	0	✓✓	0	0	0	✓	✓	✓	Positive in terms of improving health through active travel, providing sustainable access and promoting modal shift.
<b>AT5:</b> Provide secure and quality cycle parking at key trip destinations and make this an integral part of any infrastructure improvement or expansion	0	0	0	✓	0	0	0	✓	✓	✓	Positive in terms of improving health through active travel and promoting modal shift.
<b>AT6:</b> Where opportunities arise, locally focused active travel audits will identify priorities for future investment in developing the regional walking and cycling network	✓	0	0	✓	0	0	0	✓	✓	✓	Positive in terms of improving health through active travel and promoting modal shift.
<b>AT7:</b> Support the provision of improved walking and cycling access at public transport interchanges and on trains/buses	0	0	0	✓	0	0	0	✓	✓	✓	Positive in terms of improving health through active travel and promoting modal shift.
<b>AT8:</b> Assign greater priority to pedestrians and cyclists in the design and management of the road network and design residential streets to keep vehicles at or below 20mph	✓	0	0	✓✓	0	0	0	✓	✓	✓	Positive in terms of improving health through active travel and promoting modal shift.
<b>AT9:</b> Promote active travel through publicity, events and information provision, Cycling Scotland's Cycle Friendly schemes, forward planning and joint marketing with relevant partners	✓	0	0	✓✓	0	0	0	✓	✓	✓	Positive in terms of improving health through active travel and promoting modal shift.
<b>AT10:</b> Support cycle training in schools and workplaces	✓	0	0	✓	0	0	0	✓	✓	✓	Positive in terms of improving health through active travel and promoting modal shift.

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<b>Travel Planning</b>											
<b>TP1:</b> Maintain close working relationships with the Scottish Government, other RTPs, local authorities, travel organisations, business organisations and stakeholders to share best practice and establish a seamless approach to implementing and coordinating effective Travel Plans	0	0	0	0	0	0	0	0	0	✓	Overall neutral but will assist in promoting modal shift.
<b>TP2:</b> Provide support and advice to establish effective Travel Plans throughout the public sector	✓	0	0	✓	0	0	0	0	0	✓	Positive in terms of promoting modal shift.
<b>TP3:</b> Encourage the development of private sector Travel Plans with major employers	✓	0	0	✓	0	0	0	0	0	✓	Positive in terms of promoting modal shift.
<b>TP4:</b> Provide support and advice to School Travel Plan Coordinators	✓	0	0	✓	0	0	0	0	0	✓	Positive in terms of promoting modal shift for home to school journeys.
<b>TP5:</b> Develop and implement a Travel Plan for Tactran staff and business travel	0	0	0	0	0	0	0	0	0	✓	Positive in terms of promoting modal shift.
<b>TP6:</b> Encourage the production and implementation of effective Travel Plans in new developments	✓	0	0	✓	0	0	0	0	0	✓	Positive in terms of promoting modal shift.
<b>TP7:</b> Promote sustainable transport and travel choice to the community and encourage local authorities to promote initiatives in their area	0	0	0	✓	0	0	0	0	0	✓	Positive in terms of promoting modal shift.
<b>TP8:</b> Promote and support a regional liftshare scheme, particularly within major employers	✓	0	0	✓	0	0	0	0	0	✓	This should encourage more sharing of car journeys with a positive environmental effect. Efforts will be needed to limit transfer from more sustainable modes of transport.
<b>TP9:</b> Support the establishment of Car Clubs in the region	✓	0	0	✓	0	0	0	0	0	✓	Positive in terms of providing an alternative to separate household car ownership. Results from existing schemes indicate that fewer journeys are made than when owning a car.
<b>Buses</b>											
<b>B1:</b> Work with local authorities, operators and developers to ensure that existing and new employment, education, retail, healthcare, and tourism destinations are serviced by	✓	0	0	✓	0	0	0	✓	✓	✓	Positive in terms of promoting modal shift through increased use of buses and improving accessibility.

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road based passenger transport											
<b>B2:</b> Encourage the development of direct, frequent services on strategic routes, supported by an appropriate secondary network of scheduled and demand responsive (DRT) feeder services and efficient interchange provision, including linking with rail services	✓	0	0	✓	0	0	0	✓	✓	✓	Positive in terms of promoting modal shift through increased use of buses and improving accessibility.
<b>B3:</b> Encourage the regular review of supported bus networks to identify opportunities to improve the efficiency of use of available funding in support of policies B2 and B12	0	0	0	0	0	0	0	0	0	0	Broadly neutral but in terms of improving efficiency will assist in maintain existing accessibility.
<b>B4:</b> Ensure that new developments are either located close to existing good public transport services or can be linked in using financial contributions and other funding and partnership mechanisms involving developers and others	✓	0	0	✓	0	0	0	✓	✓	✓	Positive in terms of encouraging use of buses for new journeys instead of private car.
<b>B5:</b> Encourage minimum standards for regionally Strategic Interchanges and deliver improvements	0	0	0	✓	0	0	0	0	0	✓	Broadly neutral but it will help to make bus travel more attractive with the potential to promote modal shift.
<b>B6:</b> Assess opportunities for new interchange facilities	0	0	0	✓	0	0	0	0	0	✓	Broadly neutral but it will help to make bus travel more attractive with the potential to promote modal shift.
<b>B7:</b> Prioritise corridors and individual sites for improvement to bus stop infrastructure	0	0	0	✓	0	0	0	0	0	✓	Broadly neutral but it will help to make bus travel more attractive with the potential to promote modal shift.
<b>B8:</b> Develop a partnership approach to passenger safety that considers the whole journey, including the safety of key walking and cycling routes to and from bus stops and interchanges	0	0	0	0	0	0	0	✓	✓	✓	Broadly neutral but it will help to make bus travel more attractive with the potential to promote modal shift.
<b>B9:</b> Identify and prioritise opportunities for enhanced provision of CCTV on vehicles and at key interchanges and corridors	0	0	0	0	0	0	0	✓	0	✓	Broadly neutral but it will help to improve the perception of personal security when travelling by bus with the potential to prevent modal shift.to the car.
<b>B10:</b> Identify and prioritise a programme of improvements and set appropriate standards for lighting provision at bus stops and interchanges across the region	0	0	0	0	0	0	0	✓	0	✓	Broadly neutral but it will help to improve the perception of personal security when waiting for a bus with the potential to prevent modal shift.to the car.

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<b>B11:</b> Undertake detailed consultation with disabled representative groups and passenger transport operators to identify barriers to travel	0	0	0	0	0	0	0	✓	✓	0	Broadly neutral but it will help to improve accessibility for vulnerable groups.
<b>B12:</b> Work in partnership to identify opportunities to raise the standard of vehicles, including promotion of alternative fuels to diesel	✓	0	0	✓	0	0	0	✓	0	✓	Positive in terms of improving fuel efficiency and use of alternative fuels with consequent reductions in air and other pollutants.
<b>B13:</b> Encourage a good supply of wheelchair accessible taxis and minibuses and other adapted vehicles to meet the needs of all of the population	0	0	0	0	0	0	0	✓	✓	0	Broadly neutral but it will help to improve accessibility for vulnerable groups
<b>B14:</b> Promote environmentally conscious construction, maintenance and operation of the Bus/DRT and CT networks	✓	0	0	✓	0	0	0	✓	0	✓	Positive in terms of reducing resources required and potentially reductions in air and other pollutants.
<b>B15:</b> Work with Transport Scotland, operators and local authorities to explore opportunities for the provision of multi-operator, multi-modal and multi-journey tickets, including the use of smartcard technology	✓	0	0	✓	0	0	0	0	0	✓	Broadly neutral but though making payment of fares easier will help to make bus travel more attractive with the potential to promote modal shift.
<b>B16:</b> Explore opportunities for and facilitate the implementation of Quality Partnerships	✓	0	0	✓	0	0	0	0	0	✓	Broadly neutral but though improving perception of the quality of bus travel will help with the potential to promote modal shift.
<b>B17:</b> Identify and prioritise key strategic corridors for bus priority measures and, in partnership with key stakeholders, explore the potential for introduction of Punctuality Improvement Partnerships	✓	0	0	✓	0	0	0	0	0	✓	Broadly neutral but though improving reliability and regularity of bus services will help with the potential to promote modal shift.
<b>B18:</b> Encourage good enforcement of traffic regulations that facilitate efficient bus service provision	✓	0	0	✓	0	0	0	0	0	✓	Broadly neutral but though improving reliability of bus services will help with the potential to promote modal shift.
<b>B19:</b> Lobby for the Scottish Government concessionary fares scheme to include non-registered CT services	0	0	0	0	0	0	0	0	✓	0	Broadly neutral but it will help to improve affordability and accessibility for vulnerable groups.
<b>B20:</b> Explore the potential for providing further discounted travel schemes	0	0	0	0	0	0	0	0	✓	0	Broadly neutral but it will help to improve affordability and accessibility for groups such as young people.
<b>B21:</b> Identify non transport and national government funding sources for road based transport and lobby for more national Government support	0	0	0	0	0	0	0	0	0	0	Broadly neutral but aims to seek greater funding to safeguard or improve road based transport with consequences in terms of maintaining existing or improving accessibility

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<b>Park &amp; Ride</b>											
<b>PR1:</b> Liaise with Planning Authorities to ensure that land identified as having potential for Park & Ride development is safeguarded within the appropriate Development Plan	0	0	0	0	0	0	0	0	0	0	This relates only to designation of land within the planning system
<b>PR2:</b> Develop and implement proposals for new Park & Ride sites to the south, west, east and north of Dundee, to the north and east of Perth and to the south of Stirling	✓	?	?	✓	?	?	?	0	0	✓	More detailed assessment of impacts will be required on a project basis. Positive impact on reducing traffic volumes and congestion, particularly in city centres where there are AQMAs. Potential negative impacts from generation of net additional vehicle kms. Negative impacts from land take for the P&R car parks and visual impact – significance of effects can be reduced by choosing appropriate sites and implementing high quality designs. Positive impacts greater over time with increased usage and modal shift.
<b>PR3:</b> Support the provision of parking space at new rail stations in the region sufficient to match the anticipated parking demand	✓	?	?	✓	?	?	?	0	0	✓	More detailed assessment of impacts will be required on a project basis. Positive impact on reducing traffic volumes and congestion, particularly in city centres where there are AQMAs. Potential negative impacts from generation of net additional vehicle kms. Negative impacts from land take for station car parks and visual impact – significance of effects can be reduced by choosing appropriate sites and implementing high quality designs. Positive impacts greater over time with increased usage and modal shift.
<b>PR4:</b> Monitor car parking near long distance bus and coach stops in order to facilitate rural interchange by providing small formal car parks next to bus stops where provision can be supported	✓	?	?	✓	?	?	?	0	0	✓	More detailed assessment of impacts will be required on a project basis. Positive impact on reducing traffic volumes and congestion, particularly in city centres where there are AQMAs. Potential negative impacts from generation of net additional vehicle kms. Negative impacts from land take for car parks and visual impact – significance of effects can be reduced by choosing appropriate sites and implementing high quality designs. Positive impacts greater over time with increased usage and modal shift
<b>PR5:</b> Ensure multi-modal facilities and other best practices are incorporated into any new Park & Ride site and	✓	0	0	✓	0	0	0	✓	✓	✓	Broadly neutral but will contribute to more effective Park & Ride and consequent modal shift through integration of Park & Ride with

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corridor											active travel networks
<b>PR6:</b> Review Park & Ride demand at existing sites and, (i) where there is demand and land is available, expand existing sites, and/or (ii) where deemed successful, provide enhanced facilities including staffing and waiting facilities	✓	?	?	✓	?	?	?	0	0	✓	More detailed assessment of impacts will be required on a project basis. Positive impact on reducing traffic volumes and congestion, particularly in city centres where there are AQMAs. Potential negative impacts from generation of net additional vehicle kms. Negative impacts from land take for car parks and visual impact – significance of effects can be reduced by choosing appropriate sites and implementing high quality designs. Positive impacts greater over time with increased usage and modal shift
<b>PR7:</b> Support the provision of additional car and cycle parking at railway stations where demand warrants	✓	?	?	✓	?	?	?	0	0	✓	Cycle parking would generally be accommodated within existing rail station site. Car parking may require additional land. More detailed assessment of impacts will be required on a project basis. Positive impact on reducing traffic volumes and congestion, particularly in city centres where there are AQMAs. Potential negative impacts from generation of net additional vehicle kms. Negative impacts from land take for car parks and visual impact – significance of effects can be reduced by choosing appropriate sites and implementing high quality designs. Positive impacts greater over time with increased usage and modal shift
<b>PR8:</b> Ensure multi-modal facilities and other best practices are incorporated into any upgrade of existing Park & Ride sites and corridors	✓	0	0	✓	0	0	0	✓	✓	✓	Broadly neutral but will contribute to more effective Park & Ride and consequent modal shift through integration of Park & Ride with active travel networks
<b>Rail</b>											
<b>R1:</b> Implement the Tay Estuary Rail Study proposals to achieve an additional hourly service between Arbroath and Glasgow stopping at appropriate local stations, complementing fast Inter City services	0	0	0	✓	0	0	0	0	✓	✓	Overall positive as promoting modal shift through increased train service levels on existing lines. In some locations some noise and vibration impacts from rail services are possible at properties close to the line
<b>R2:</b> Support the provision of rail services that provide and enhance economic growth by connecting key business & employment sectors where possible	0	0	0	✓	0	0	0	0	✓	✓	Overall positive as promoting modal shift through increased train service levels on existing lines. In some locations some noise and vibration impacts from rail services are possible at properties close

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											to the line.
<b>R3:</b> Encourage improving the efficiency, reliability and integration of rail services in the Tactran area, specifically where this will benefit key business and employment sectors	0	0	0	✓	0	0	0	0	✓	✓	Overall positive as promoting modal shift through more reliable train services
<b>R4:</b> Support enhanced accessibility between key destinations within the Tactran area and key external destinations by rail without compromising wider inter-regional rail connectivity	0	0	0	0	0	0	0	0	✓		Broadly neutral but it will help to improve accessibility
<b>R5:</b> Support provision of new, relocated and enhanced stations where this will enhance access to the rail network and improve integration with the area being served	✓	?	?	✓	?	?	?	0	0	✓	More detailed assessment of impacts will be required on a project basis. Positive impact on reducing traffic volumes and congestion, particularly in city centres where there are AQMAs. Negative impacts from land take and visual impact – significance of effects can be reduced by choosing appropriate sites and implementing high quality designs
<b>R6:</b> Support the maintenance or improvement of real and perceived levels of safety and personal security on the rail network	0	0	0	0	0	0	0	✓	0	0	Broadly neutral but it will help to improve attractiveness of rail for car users
<b>R7:</b> Seek to ensure that rail is fully integrated with relevant land-use and planning projects	0	0	0	0	0	0	0	0	0	0	Broadly neutral but will contribute to more effective use of the rail system by new developments and consequent modal shift
<b>R8:</b> Support the provision of rail freight terminals, rolling stock and services for the region.	✓	0	0	✓	?	0	0	✓	✓	✓	Broadly supportive as this will promote modal shift from road to rail. More detailed assessment of impacts will be required on a project basis. Potential negative impacts from land take for terminals and visual impact.
<b>R9:</b> Ensure the rail network is integrated with the wider public transport network, including through promoting interchange with other modes via regionally Strategic Interchanges	0	0	0	0	0	0	0	0	0	0	Broadly neutral but will contribute to more effective use of the rail system and consequent modal shift
<b>R10:</b> Develop a partnership approach to passenger safety that considers the whole journey, including the safety of key walking and cycling routes to and from railway stations	0	0	0	0	0	0	0	✓	✓	✓	Broadly neutral but it will help to make rail travel more attractive with the potential to promote modal shift.

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<b>R11:</b> Support the development of Community Rail Partnerships	✓	0	0	✓	0	0	0	0	0	✓	Broadly neutral but though improving involvement of the railway in the community will help with the potential to promote modal shift.
<b>Freight</b>											
<b>F1:</b> Explore opportunities for improved lorry parking on the region’s road network, including consideration of inclusion of overnight lorry parking in Park & Ride proposals	0	0	0	0	0	0	0	✓	0	0	Broadly neutral but it will help to provide safe parking for lorries and reduce visual intrusion in diverting lorries from laybys on main roads, residential areas, etc. to properly designed parking areas
<b>F2:</b> Promote the implementation of more efficient and environmentally friendly urban logistics, including giving consideration to the implementation of logistics service centres in the region’s main towns and cities	✓	0	0	✓	✓	0	✓	✓	0	✓	Broadly positive with fewer more effectively loaded more environmentally friendly vehicles replacing larger numbers of delivery vehicles, particularly in more densely built up areas containing AQMAs
<b>F3:</b> Support improvements in the efficiency of public sector logistics and the application of joint logistics solutions	✓	0	0	✓	✓	0	✓	✓	0	✓	Broadly positive with fewer more effectively loaded more environmentally friendly vehicles replacing larger numbers of delivery vehicles, particularly in more densely built up areas containing AQMAs
<b>F4:</b> Promote timber transport and reduced environmental impacts through membership and supporting the Stirling & Tayside Timber Transport Group	0	0/ ✓	0/ ✓	0	0	0	0	0	0	0	Largely neutral. S&TTTG aims to promote good practice in timber transport with potential benefits in less damage to more vulnerable rural environments
<b>F5:</b> Support development of the region’s three ports, including the provision of multi-modal freight facilities	?	0	?	✓	0	0	0	0	0	0	Broadly neutral though infrastructure requirements are unknown. Maritime freight has a low ecological footprint. Potentially negative impacts on air quality; impacts on water from oil emissions, spills and dumping; negative impact on marine life, especially mammals from marine noise pollution and risk of collision.
<b>F6:</b> Support the provision of rail connections for freight movements between the region and the rest of the country	✓	0	0	✓	0	0	0	✓	✓	✓	Broadly supportive as this will promote modal shift from road to rail.
<b>F7:</b> Use modern technology to improve routeing and other information for the road freight industry	✓	0	0	✓	0	0	0	0	0	✓	Broadly neutral. Improved information will reduce unnecessary mileage with consequent benefits in reducing emission and noise
<b>Travel Information</b>											
<b>T11:</b> Travel Information that is up to date and current, consistent, coherent, comprehensive (including routes,	✓	0	0	✓	0	0	0	0	0	✓	Broadly neutral though better informed journey choices will reduce unnecessary vehicle mileage and potentially make more

RTS Refresh policy / proposal	SEA Topic Areas										Comments and overall assessment (including potential impacts, and assessment of residual effect)
	Air quality and noise	Soils and geology	Aquatic environment	Climate Change	Landscape and Townscape	Biodiversity	Cultural Heritage	Human Health and Safety	Population	Material assets	
journey times, cost and facilities), easily available and tailored to users' needs											sustainable alternatives more attractive
<b>T12:</b> Implementation of the Regional Buses Information Strategy	✓	0	0	✓	0	0	0	0	✓	✓	Broadly neutral though potentially it could make bus travel more attractive as an alternative to the car
<b>T13:</b> Information on access to key locations	✓	0	0	✓	0	0	0	0	✓	✓	Broadly neutral though potentially it could make more sustainable travel choices more attractive as alternatives to the car
<b>T14:</b> Information that allows for planning and comparing journey options, including sustainable/active travel options, along with guidance on reliability	✓	0	0	✓	0	0	0	0	✓	✓	Broadly neutral though potentially it could make more sustainable travel choices more attractive as alternatives to the car
<b>T15:</b> Information that enhances journey experience and gives reassurance throughout the journey	0	0	0	0	0	0	0	0	✓	0	Broadly neutral
<b>T16:</b> Information on lifeline services	0	0	0	0	0	0	0	0	0	✓	Broadly neutral but will ensure full information is available on accessibility to essential services and facilities
<b>T17:</b> Information on planned and unplanned variations to services	✓	0	0	✓	0	0	0	0	0	✓	Broadly neutral
<b>T18:</b> Information on routeing for lorries	✓	0	0	✓	0	0	0	0	0	✓	Broadly neutral. Improved information will reduce unnecessary mileage with consequent benefits in reducing emission and noise

## **5.6 Cumulative Effects of the RTS Refresh**

Although only the new policies and proposals of the RTS Refresh have been assessed it is important to consider the potential for indirect and cumulative effects of the package of RTS measures as a whole. The cumulative effects of the RTS Refresh have been evaluated and the net effects identified and reported in full in Appendix 1. The key findings of the assessment of the environmental effects of the RTS Refresh are shown in Table 9.

## **5.7 Guidance for EIA scoping**

Section 5 provides guidance for the scoping of topics to be considered in EIAs for detailed interventions. Mitigation measures may be needed to avoid, reduce, remedy or compensate for negative effects, further detail at a strategic level is provided in Section 6.

**Table 9 Assessment of the Cumulative Effects of RTS Refresh Policies and Proposals**

SEA Topic	Predicted Residual Effects	Key Comments
Air quality and noise	Broadly supportive (✓)	Positive effects dependent on level of modal shift. Many policies and proposals in the RTS Refresh have potential to reduce local traffic flows and congestion but these benefits will need to be locked in. Potential for reduction in traffic flows in cities could benefit local air quality and traffic noise but new roads have the potential to increase traffic with negative resultant effects on local air quality and noise
Soils and geology	Broadly neutral	EIA would be required for any new major roads to determine specific effects and mitigation and to inform the decision making process
Aquatic environment	Broadly neutral	EIA would be required for any new major roads to determine specific effects and mitigation and to inform the decision making process
Climate Change	Broadly supportive (✓) Effect will be greater over time as more measures in the RTS Refresh are implemented.	Effect dependent on level of modal shift. Many policies and proposals in the RTS Refresh have the potential to reduce traffic growth (although unlikely to reverse it). Further appraisal required to determine effects on carbon emissions – some negative effects could result if new road infrastructure leads to traffic growth but some benefits could result from modal shift
Landscape and Townscape	Broadly neutral (although potentially negative for infrastructure projects)	EIA would be required for any new major roads to determine specific effects and mitigation and to inform the decision making process
Biodiversity	Broadly neutral (although potentially negative for infrastructure projects)	EIA would be required for any new major roads to determine specific effects and mitigation and to inform the decision making process. Need for project level Habitats Regulation Appraisal for interventions involving promotion of carriage of freight by sea
Cultural Heritage	Broadly neutral	EIA would be required for any new major roads to determine specific effects and mitigation and to inform the decision making process. Modal shift would have potential to enhance the setting of historic townscapes and features through reductions in traffic flows and congestion etc.
Human Health and Safety	Broadly supportive (✓)	Promotion of good health is dependent on reducing car dependency and its emissions and promoting more sustainable modes (e.g. cycling and walking). Further appraisal of proposals required to determine effects on health and safety – some negative effects could result if new infrastructure leads to traffic growth but some benefits could result from modal shift
Population	Broadly supportive (✓)	Tactran should focus on the importance of promoting sustainable access to employment and essential services. New road infrastructure could encourage car-based travel to work. Measures seeking to lock-in benefits of flow reductions could promote more sustainable means of accessing work and essential services
Material assets	Broadly neutral	Tactran should promote information to ensure take-up of more sustainable modes to compensate for potential increases in motorised traffic using any new road infrastructure and promote the use of recycled or secondary aggregates in transport infrastructure construction. The majority of the RTS Refresh seeks to promote more sustainable transport and achieve modal shift. Success will depend on general raising of awareness on sustainable modes of transport within the region and delivery of relevant policies and proposals

## 6 PROPOSED MITIGATION

Mitigation measures have been developed throughout the environmental appraisal process. The approach to mitigation has been to consider measures to avoid, reduce, remedy or compensate for negative effects and enhancement where possible for positive effects. Table 10 presents the assumed measures from the SEA process and comments on their use and effectiveness.

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

The responsibility of delivering mitigation will depend on the agreed strategy for responsibility in delivering proposals in the RTS Refresh.

**Table 10 Mitigation Measures**

SEA Topic	SEA Objective	Mitigation Measure	Comments
Air quality and noise	To improve air quality in the region and contribute to meeting national air quality and health objectives	Implement actions to discourage car use and encourage use of PT and non-motorised transport. Tactran should promote information to ensure take-up of more sustainable modes and ensure that the Active Travel Strategy is delivered	These measures should help to improve local air quality and, in part, address specific air quality problems from congestion in urban areas
	To reduce transport related noise and vibration pollution	Tactran to encourage delivery of measures which support modal shift from car to PT. Promote measures to lock-in benefits of traffic reduction Adequate noise reduction measures to address potential impacts from new infrastructure proposals	Modal shift should help to address traffic noise problems in roadside locations. Secondary effects of measures such as noise barriers (e.g. visual) need to be considered in EIAs
Soils and geology	To protect the region's geomorphology, geology, mineral, soils and peat resources	All projects to be designed to avoid significant effects on designated areas and will need to manage and protect soils and drift deposits during construction and to prevent erosion and contamination of soils during operation. Avoid sterilisation of mineral resources Any new earthworks should be designed to ensure slope stability of the transport infrastructure over their design lives	It has been assumed that designated areas will be avoided and that best practice construction procedures will be adopted to minimise negative effects on geology, minerals and soils e.g. from compaction and erosion Soil is a non-renewable resource, and areas of peat and prime quality agricultural land in particular should be avoided in planning of new infrastructure
Aquatic environment	To protect watercourses from the impacts of transport and maintain and enhance the quality of the water environment; and to avoid and reduce the risk of flooding	Implementation of best practice measures including SUDS and other flood attenuation measures, and compliance with Controlled Activities Regulations (CARs) for new projects. At sensitive locations interceptors to prevent oil/fuel leakage from roads into watercourses	Design of SUDS measures is a standard requirement in all new developments. Implementation of Water Framework Directive is driving new legislation and pollution control procedures such as CARs
Climate Change	To contribute to meeting the Scottish share in the reduction of carbon emissions and to adapt to the effects of climate change	Promote measures to discourage private road transport and encourage public transport and successful implementation of a carbon offset scheme for air travel	Co-ordination with national agencies and the National Transport Strategy will be important in realising traffic and carbon dioxide reductions
Landscape and Townscape	To avoid negative impacts from visual intrusion from transport infrastructure	Measures defined in the relevant Environmental Statements will need to be implemented to ensure that visual impacts are not significant. High quality design will be needed for all new infrastructure All new Park and Ride sites and new or improved infrastructure to be designed to a high standard taking account of potential visual impact. Site options appraisal should be undertaken to ensure least intrusive sites chosen taking account of other environmental impacts	Integration of design mitigation measures to reduce visual effects is an essential element of the EIA process
	To protect and enhance the landscape of the region	Adequate landscape mitigation and design measures in infrastructure plans and projects including sensitive land forming and planting schemes	New proposals need to respect local landscape character and quality. Potential to link with habitat enhancement through scheme mitigation
	To maintain and enhance townscapes and their settings	Any new infrastructure in towns would require to be designed to integrate with local townscapes	Commitment to high quality design essential in achieving adequate mitigation
Biodiversity	To protect and enhance	Adequate biodiversity mitigation measures in infrastructure plans	Opportunities should be taken to link with priorities in Local

	biodiversity	and projects including planting proposals to enhance local biodiversity	Biodiversity Action Plans for habitats and species
	To minimise the effects of transport on designated areas and protected species	Surveys to be undertaken to inform route choice and identify required mitigation	Any routes located in sensitive locations and adequate survey and appraisal would be required to inform the EIAs and appropriate assessments where European Sites could be affected. Need for project level Habitats Regulation Appraisal for interventions involving promotion of carriage of freight by sea
Cultural Heritage	To protect all (known and unknown) archaeological and historic resources of the region and their settings	Adequate mitigation to protect the cultural heritage from new infrastructure plans and projects including archaeological survey and appraisals of the effects of proposal on settings New planting proposals to be designed taking account of any potential risk to any unidentified archaeological remains, the setting of cultural heritage sites and historic landscapes	Proposals need to respect the potential for as yet unknown archaeological resources. Indirect effects of new projects on the settings of features such as listed buildings, designed and historic landscapes should also be fully considered in project planning and appraisal processes
Human Health and Safety	To improve health and safety by providing appropriate means and modes of transport which contribute to a healthier, safer lifestyle	Implement actions to discourage car use and encourage use of PT and non-motorised transport. Tactran to ensure delivery of the Active Travel Strategy for the region which should further promote measures to discourage car use and encourage walking and cycling. Promote better access to healthcare facilities	Health can be influenced directly through improving access to healthcare facilities. Indirect benefits are recognised through improvements in air quality and the potential to encourage greater use of sustainable modes (walking and cycling) through the measures in the RTS Refresh. Health benefits are also linked with improved access to Green Networks, greenspaces and the wider countryside
Population	To provide sustainable access to employment and essential services	Implement actions to discourage car use and encourage use of PT and non-motorised transport. Ensure when all relevant measures of the RTS Refresh are implemented that opportunities for public access are maximised especially by cycling and walking	Key linkages with health and education benefits from enhanced accessibility by walking and cycling for commuting to work and providing access to countryside around towns, Green Networks, greenspaces, parks, cycle routes etc. Synergy with Core Path Plans at the local authority level
Material assets	To promote sustainable travel	Implement actions to discourage car use and encourage use of PT and non-motorised transport. Tactran to ensure delivery of the Active Travel Strategy for the region.	Awareness and behavioural change will be key ingredients to the success of achieving this SEA objective. Tactran should act as a focus for publicity and information dissemination through its various detailed strategies e.g. the Active Travel Strategy. Working with partners on for example Core Path Planning will make a contribution
	To reduce transport infrastructure related waste	Any new infrastructure would require to be designed to ensure use is made of recycled or secondary aggregates in its construction	Commitment to use of contractual requirements for the use of recycled or secondary aggregates in the design and maintenance of new transport infrastructure is essential in achieving adequate mitigation

## **7 MONITORING**

This section outlines the proposed approach to monitoring of the environmental effects of implementation of the RTS Refresh. A series of monitoring indicators have been proposed against which the predicted significant or uncertain environmental effects of the refreshed Strategy could be monitored.

Any significant changes in the RTS Refresh following consultation will need to be reflected in the monitoring arrangements, which may include those proposed for monitoring environmental effects.

### **7.1 *Monitoring Indicators***

Monitoring indicators have been identified for all of the SEA topics (and relevant SEA objectives) where the assessment of environmental effects has identified that there may be significant, potentially significant or uncertain effects from implementation of the RTS Refresh.

The proposed monitoring indicators are presented in Table 11 and potential sources of information to support measurement of the indicator and/or suggested organisational responsibility for monitoring are identified in the final column.

**Table 11 Monitoring Environmental Effects of the RTS Refresh**

SEA Topic	SEA Objective	Indicator	Source/Responsibility
Air quality and noise	To improve air quality in the region and contribute to meeting national air quality and health objectives	Number of AQMAs  Trends in monitored roadside NO <sub>2</sub> and PM10 by Council area  Traffic flows on busy roads and in AQMAs  Health data in AQMAs	Local authority routine air quality monitoring
	To reduce transport related noise and vibration pollution	Key sources (contours) of transport noise	Local authority environmental noise mapping
Soils and geology	To protect the region's geomorphology, geology, mineral, soils and peat resources	Number of significant effects predicted on designated sites	Tactran
Aquatic environment	To protect watercourses from the impacts of transport and maintain and enhance the quality of the water environment; and to avoid and reduce the risk of flooding	No deterioration of the water environment or increase in flood risk  Proportion of new transport infrastructure incorporating SUDS	Tactran
Climate Change	To contribute to meeting the Scottish share in the reduction of carbon emissions and to adapt to the effects of climate change	National CO <sub>2</sub> emissions from transport sector	Scottish Government statistics
		Traffic counters on key road links	Local authority and Transport Scotland traffic count survey data
		Number of tonnes of CO <sub>2</sub> caused by increased air travel that are offset by the successful implementation of a carbon offset scheme	Airlines
Landscape and Townscape	To avoid negative impacts from visual intrusion from transport infrastructure	Number of significant visual effects predicted for new proposals	Tactran
	To protect and enhance the landscape of the region	Number of significant landscape effects predicted for new proposals	Tactran
	To maintain and enhance townscapes and their settings	Number of proposals in which Historic Scotland provided input on impacts on heritage designations and their settings	Historic Scotland/LA planning registers
Biodiversity	To protect and enhance biodiversity	Number of new proposals likely to have a significant effect on international and national designated sites  All schemes with positive species and habitat enhancement measures  Number of existing schemes with improved/enhanced habitat measures (including management/maintenance regimes)	Tactran
		To minimise the effects of transport on designated areas and protected species	Number of significant ecological effects on protected species and designated sites predicted in European Sites for new proposals
Cultural Heritage	To protect all (known and unknown) archaeological and historic resources of the region and their settings	Number of significant effects predicted on archaeological remains and historic resources in historic environment assets for new proposals	Tactran

SEA Topic	SEA Objective	Indicator	Source/Responsibility
Human Health and Safety	To improve health and safety by providing appropriate means and modes of transport which contribute to a healthier, safer lifestyle	Km of new cycleway	Local authorities
		Number of safe routes to school projects	Local authorities
		Change in number of car trips <1km	Transport Scotland
Population	To provide sustainable access to employment and essential services	Labour market catchment population by public transport	Tactran
		Proportion of population more than a specified journey time by public transport from essential services	Tactran
Material assets	To promote sustainable travel	Usual mode of travel to work by Tactran residents	Transport Scotland
	To reduce transport infrastructure related waste	Proportion of recycled or secondary aggregates used in the construction of transport infrastructure	Transport Scotland

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

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

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

## 8 NEXT STEPS

The draft RTS Refresh will be published for consultation along with this Environmental Report and an Equalities Impact Assessment. Consultation will run for a period of 6 weeks during March / April / May 2015 following which comments and responses will be considered and fed into the development of the final RTS Refresh.

The proposed final RTS Refresh will be submitted to the Partnership in June 2015 for its approval before being submitted to Scottish Ministers.

An SEA Post-Adoption Statement will be prepared once the RTS Refresh has been approved by Scottish Ministers.

**APPENDIX A Comments from the Consultation Authorities and action taken**

Comments from the Consultation Authorities	Action taken
<b>Historic Scotland</b>	
Scottish Historic Environment Policy remains a key driver in relation to the historic environment, you should note that the 2009 version was superseded in 2011 by a revised version	Amended
Consider the relationship of the RTS with <i>Our Place in Time - The Historic Environment Strategy for Scotland (2014)</i>	Amended
Include Inventory battlefields and Inventory gardens and designed landscapes as part of your baseline review of designated historic environment assets	Amended
Ensure that your assessment process allows for the identification and assessment of any reasonable alternatives that may arise at a more detailed level as part of the iterative plan making process	Noted
Remove the reference to 'European sites' from the indicator for Cultural Heritage, including in the indicator an explicit reference to the setting of historic environment assets	Amended
Landscape and Townscape topic, the indicator proposed for townscapes is 'number of objections to interventions from Historic Scotland'. Historic Scotland's statutory remit in the planning system is closely defined, and focuses on impacts on specific heritage designations and their settings	Amended
<b>SEPA</b>	
Some of the PPS included have themselves been subject to SEA. Where this is the case you may find it useful to prepare a summary of the key SEA findings that may be relevant to the RTS	Noted
The following PPS are currently under development and may be relevant for the RTS: The second Land Use Strategy The second River Basin Management Plan	Noted
No trends data are available for soils and geology. Please note that some useful information and trends can also be found in the website <a href="http://www.seaguidance.org.uk">www.seaguidance.org.uk</a> . Information on waste data and trends can also be found in the SEPA website	Amended
Table 4 - Air quality: Please note that exceedances are measured in Dundee, Perth and Crieff. Crieff is also an AQMA. Trends: There is a reduction in some pollutants. Some roadside locations are showing little or no improvement. We recommend integrating air quality and greenhouse gas emissions, as they are generated by the same source (traffic)	Amended
The following issues are also of relevance to this assessment: the fairly regular problem of traffic accidents leading to oil/fuel into the water environment. Loch Faskally has been affected on two occasions in the last few years by diesel spillages from the A9. We would therefore recommend increased mitigation measures at some sensitive locations where practicable (e.g. oil interceptors). If not possible we would like to see an enhanced response time and clean-up actions following accidents. Please note that Crieff is also an AQMA.	Amended
We would welcome the reference to the existing RTS alternatives directly in the new ER	Added as Appendix C
There are no objectives for Soil and Material Assets (including waste). An example of objective for Soil is: <i>To maintain or improve soil quality and prevent any further degradation of soils</i> An example of objective for Material Assets (waste) is: <i>To meet the objectives of the Zero Waste Plan and apply the waste hierarchy (prevent, reuse, reduce, recycle)</i>	Noted
We would recommend that the wording of the following SEA objectives be	Amended

revised as follows: <u>Aquatic environment</u> - To protect watercourses from the impacts of transport and maintain and enhance the quality of the water environment. To avoid and reduce the risk of flooding. <u>Climate change</u> - <i>To contribute to meeting the Scottish share in the reduction of carbon emissions and to adapt to the effects of climate change</i>	
The inclusion of a summary table in the Environmental Report such as that presented below will help to track progress on mitigation through the monitoring process	Noted
It would be helpful if the ER included a description of the measures envisaged to monitor the significant environmental effects of the plan	Included in Monitoring Section
Suggest a four weeks consultation	Consultation to be 6 weeks
A summary of the scoping outcomes and how comments from the Consultation Authorities were taken into account	Included as Appendix A
<b>Scottish Natural Heritage</b>	
Council Directive 92/43/EEC on the Conservation of natural habitats and of wild fauna and flora – usually referred to as the Habitats Directive should be included in the International Section	Amended
2020 Challenge for Scotland's Biodiversity – in 2013 the Scottish Government launched this with the statement: <i>Biodiversity plays an essential role in meeting the Scottish Government's vision of a smart, sustainable and successful Scotland, and lies at the heart of our economic strategy.</i> It also identified the need to – <i>move further in aligning policies across a wide of areas concerned with biodiversity.</i> The objectives of that strategy are obviously crucial for any transport planning	Amended
Cycling Action Plan for Scotland – this plan underwent a refresh in 2013	Amended
European Landscape Convention – the previous SEA does not appear to have included the European Landscape Convention (ELC). We suggest that the ELC is relevant to the RTS refresh as it encompasses an 'all landscape' approach in which landscape is important everywhere, not just in special or designated places.	Amended
Fitting Landscapes – this Scottish Government policy sets out a commitment to quality in all aspects of landscape design and management in connection with transport infrastructure. The direction set out in Fitting Landscapes will be highly relevant to the aim that the RTS refresh should seek to avoid adverse impact on landscape as a result of transport proposals	Amended
Priority habitats and species – this terminology is used in two specific circumstances: 1) priority habitats which are qualifying interests of European designated sites (Special Protection Areas and Special Areas of Conservation); and, 2) as set out in the UK Biodiversity Action Plan and as referenced in the scoping report	Noted
Climate change – greenhouse gas emissions are clearly a contributor to and a part of mitigating the effects of climate change. A related key environmental issue for transport proposals will be adaptation to short and long-term impacts. This should be a key determinant of transport proposal design	Noted and amended
While the protection of designated sites is important, it is habitat loss and fragmentation across Scotland generally that is the key issue for biodiversity. If there is to be much chance of meeting the Scottish Government's target of halting biodiversity loss by 2020, all land use and resource use will have to make positive contributions to addressing loss and fragmentation. The Proposed Indicative Appraisal Methodology should make that point more explicitly	Amended
Soils – there is a reference to " <i>changing agricultural policies (e.g. reduced perception of the importance of prime agricultural land)</i> " as an opportunity. We are unclear as to how this would be regarded as an opportunity for the RTS	Noted and deleted
National Parks – included under the Biodiversity topic as an issue/problem. It is not clear why the presence of National Parks in the region would represent a	Amended

<p>problem in relation to Biodiversity in particular. We would also note at this point that the aims of National Parks extend beyond conserving and enhancing the natural heritage and also include sustainable use of natural resources, promoting understanding and enjoyment of the special qualities of the area and promoting sustainable economic and social development of the areas communities. These aims have strong relevance to other SEA topics such as Population and Human Health and Material Assets</p>	
<p>Landscape and townscape – at present this topic includes an indicator for <i>“Number of significant visual effects predicted in European sites for new interventions.”</i> There is considerable scope for confusion here as the term ‘European sites’ would also be used in relation to sites in the Natura 2000 network, which are designated for the habitats and species they support. We recommend that this indicator is clarified in the Environmental Report</p>	Amended
<p>Biodiversity – at present this topic includes an indicator for <i>“Number of significant ecological effects predicted in European sites for new interventions.”</i> We recommend that this indicator is updated along the following lines <i>“Number of new interventions likely to have a significant effect on international and national designated sites</i></p>	Amended
<p>Although habitat fragmentation and severance associated with new developments is recognised as a problem/issue in Section 6, this isn’t followed through into Table 6. The first SEA Objective could be modified to read – <i>To protect and enhance biodiversity by avoiding fragmentation and restoring connectivity.</i> The second indicator could then read: <i>All schemes with positive species and habitat enhancement measures.</i> A third indicator should read: <i>Number of existing schemes with improved/enhanced habitat measures (including management/maintenance regimes)</i></p>	Amended

## APPENDIX B Cumulative Effects of the RTS Refresh

SEA Topics and Objectives – Combined RTS Refresh Policies and Proposals				
Scale: ✓✓ clear contribution (strong compatibility) ✓ broadly supportive (compatible) 0 neutral or no discernible effect x negative/incompatible xx strongly incompatible ? uncertain effect ? (✓/x) uncertain possible positive/negative				
SEA Topic and Objective	Potential Impacts	Mitigation	Nature of Residual Effect	Assessment of Residual Effect / Other Comments
Air quality and noise				
To improve air quality in the region and contribute to meeting national air quality and health objectives	? ✓	Tactran to encourage delivery of RTS Refresh and ensure actions implemented. Promote proposals to discourage private car use and encourage public transport. Tactran to promote measures to lock-in benefits of traffic reduction as a result of new major infrastructure schemes	? ✓	Effect will be greater over time as more actions and initiatives in the RTS Refresh are implemented. Effect dependant on level of modal shift. Many measures in the RTS Refresh have potential to reduce local traffic flows and congestion but these benefits will need to be locked in. Potential for reduction in traffic flows in cities could benefit local air quality but new roads have the potential to increase traffic with negative resultant effects on local air quality. EIA would be required for all new major roads to determine specific effects and inform the decision making process. Implementation of local proposals could help to address specific local air quality hot spots in the region.
To reduce transport related noise and vibration pollution	0 (x for new infrastructure)	Tactran to encourage delivery of RTS Refresh and ensure actions implemented. Promote proposals to discourage private car use and encourage public transport. Adequate noise reduction measures to address potential impacts from new infrastructure proposals	0 / ✓	Measures which have potential to deliver modal shift are not predicted to significantly affect noise and vibration although local benefits could result from specific proposals. The appraisal has assumed has assumed that freight policies and proposals would not significantly encourage increased road haulage. Potential for reduction in traffic flows in cities could benefit noise and vibration impacts from traffic but new roads have the potential to increase traffic with negative resultant effects on noise and vibration. EIA would be required for all new major roads to determine specific effects and inform the decision making process. Specific mitigation would be defined such as low noise surfacing, noise barriers, etc.
Soils and geology				
To protect the region's geomorphology, geology, mineral, soils and peat resources	0 (x for new infrastructure)	Surveys required to identify important resources and appropriate mitigation. All projects to be designed to avoid	? 0	EIA would be required for all new major roads to determine specific effects and mitigation and to inform the decision making process. Many policies and proposals in the RTS

		significant effects on designated areas and will need to manage and protect soils and drift deposits during construction and to prevent erosion and contamination of soils during operation. Any new earthworks should be designed to ensure slope stability over the design life of the infrastructure		Refresh have no potential to affect geomorphology, geology, soils and peat resources
Aquatic environment				
To protect watercourses from the impacts of transport and maintain and enhance their water quality	0 (x for new infrastructure)	Use of SUDS, compliance with CAR and use of flood attenuation measures	0	EIA would be required for all new major roads to determine specific effects and mitigation and to inform the decision making process. Appropriate assessment would be required of all schemes with potential to affect European sites. Implementation of best construction practices would reduce the risk of significant effects. Routine monitoring of watercourses (where it is undertaken) affected by new infrastructure would indicate the adequacy of implemented mitigation measures
Climate Change				
To contribute to meeting the Scottish share in the reduction of carbon emissions	✓ (apart from major new infrastructure schemes)	Tactran to encourage delivery of RTS Refresh and ensure actions implemented. Promote actions to discourage private car use and encourage public transport	✓	Effect will be greater over time as more actions and initiatives in the RTS Refresh are implemented. Effect dependant on level of modal shift. Many policies and proposals in the RTS Refresh have the potential to reduce traffic growth (although unlikely to reverse it). Further appraisal of proposals required to determine effects on carbon emissions – some negative effects could result if new road infrastructure leads to traffic growth but some benefits could result from modal shift
Landscape and Townscape				
To avoid negative impacts from visual intrusion from transport infrastructure	0 (x for new infrastructure)	Measures defined in the relevant environmental statements and appraisals will require to be implemented to reduce the visual impacts of new infrastructure	0 (x for new infrastructure)	Impacts of the new schemes would decrease in time as new planting matures provided roads earthworks designed to reduce impacts at nearby properties. EIA would be required for all new major roads to determine specific effects and mitigation and to inform the decision making process. Many policies and proposals in the RTS Refresh have little potential for significant visual intrusion
To protect and enhance the landscape of the region	0 (x for new infrastructure)	Surveys required to identify routes which best integrate with local landscape. High quality design of all new	0 (x for new infrastructure)	Impacts of any new schemes would decrease in time as new planting matures provided roads earthworks designed to integrate with local landscape.

		infrastructure. Adequate landscape mitigation and design measures required for all infrastructure schemes including sensitive land forming and planting		EIA would be required for all new major roads to determine specific effects and mitigation and to inform the decision making process. Many policies and proposals in the RTS Refresh have no potential for landscape effects
To maintain and enhance townscapes and their settings	? ✓	Relies on delivery of RTS Refresh to reduce traffic in towns. Tactran to promote measures to “lock-in” benefits of traffic reductions as a result of new infrastructure schemes	? ✓	Effects will be greater over time as more actions are implemented. Measures have potential to reduce negative effects of transport on townscapes but unlikely to be significant. Traffic reduction measures offer enhancement of townscapes through de-cluttering of streets etc.
<b>Biodiversity</b>				
To protect and enhance biodiversity	0 (x for new infrastructure)	Adequate biodiversity mitigation measures to be included in all infrastructure schemes including planting proposals to enhance local biodiversity. Surveys to be undertaken to inform route choice for new infrastructure and identify required mitigation		Mitigation measures have potential to enhance local biodiversity in the longer term with good management. There may be some significant effects from new infrastructure projects at some locations. These would require definition of specific mitigation as part of the EIA for those projects
To minimise the effects of transport on designated areas and protected species	0 (x for new infrastructure)	Surveys to be undertaken to inform route choice for new infrastructure and identify required mitigation	0 (?x for new infrastructure)	EIA and appropriate assessment would be required to define time effects of new infrastructure projects. Any proposed new routes located in sensitive locations, adequate survey and appraisal would be required to inform the EIAs and appropriate assessments where European sites could be affected
<b>Cultural Heritage</b>				
To protect all (known and unknown) archaeological and historic resources of the region and their settings	0 (x for new infrastructure)	Routing of new infrastructure to avoid archaeological and historic resources. Careful design to reduce impacts on setting of resources. Survey to identify unknown remains. New planting proposals to be designed taking account of any potential risk to any unidentified archaeological remains, the setting of cultural heritage sites and historic landscapes	0/?x	Impacts of new schemes would decrease in time as new planting matures provided roads earthworks designed to reduce effects of new roads on setting of historic and cultural resources. EIA would be required for all new major roads to determine specific effects and mitigation and to inform the decision making process. Planting proposals should be sited to ensure no direct effects on archaeological remains. Modal shift would have potential to enhance the setting of historic townscapes and features through reductions in traffic flows and congestion etc.
<b>Human Health and Safety</b>				
To improve health and safety by providing appropriate means	✓	Tactran to encourage delivery of RTS Refresh and ensure	✓	Effect will be greater over time as more actions and initiatives in the RTS Refresh are

and modes of transport which contribute to a healthier, safer lifestyle		actions implemented. Promote proposals to discourage private car use and encourage public transport. Promote awareness campaigns of more sustainable healthy options		implemented. Promotion of good health is dependent on reducing car dependency and its emissions and promoting more sustainable modes (e.g. cycling and walking). Further appraisal of policies and proposals required to determine effects on health and safety – some negative effects could result if new infrastructure leads to traffic growth but some benefits could result from modal shift
Population				
To provide sustainable access to employment and essential services	✓	Tactran to encourage delivery of RTS Refresh and ensure actions implemented. Promote policies and proposals to discourage private car use and encourage public transport. Promote awareness campaigns of more sustainable options	✓	Effect will be greater over time as more actions and initiatives in the RTS Refresh are implemented. Tactran should focus on the importance of promoting sustainable access to employment and essential services. New road infrastructure could encourage car-based travel to work. Measures seeking to lock-in benefits of flow reductions could promote more sustainable means of accessing work and essential services
Material assets				
To promote sustainable travel	✓	Tactran to encourage delivery of policies and proposals. Implement actions to discourage use of car and encourage use of PT and non-motorised transport	✓	Effects will be greater over time as more actions are implemented. Tactran should promote information to ensure take-up of more sustainable modes to compensate for potential increases in motorised traffic using new road infrastructure. The majority of the RTS Refresh seeks to promote more sustainable transport and achieve modal shift. Success will depend on general raising of awareness on sustainable modes of transport within the region and delivery of committed actions

## **APPENDIX C Alternatives Considered**

The Environmental Report for the original RTS contained the following consideration of alternatives.

### **2.7 ALTERNATIVES CONSIDERED**

#### **2.7.1 Approach to Alternatives**

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

Specifically, options have been considered in relation to:

- RTS Objectives;
- RTS Interventions and Measures;
- RTS Preferred Strategy; and
- RTS Alternative Strategies

These are discussed in the following subsections.

#### **2.7.2 Objectives**

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

Objectives were drafted under the six main categories of:

- Economy
- Accessibility, Equity and Social Inclusion
- Environment
- Health and Well-Being
- Safety and Security
- Integration

In common with the process adopted for SEA objectives, initial long lists of objectives in each category were refined through discussion and consultation to reflect the key priorities for the TACTRAN region. The RTS objectives under the Environment theme were developed in conjunction with the SEA team to ensure that they were consistent with those being proposed for the environmental assessment process.

### **2.7.3 Measures and Interventions**

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

A process of option sifting was then undertaken which involved qualitative appraisal of each option using a spreadsheet tool to assess the potential of each measure in relation to each of the RTS objectives. This appraisal included analysis of the environmental implications of each measure which was fed back into the overall scoring process. From this ranking, a number of measures were sifted out from further consideration, and the remaining list of measures was taken forward to provide inputs to the Preferred Strategy section of the RTS (see Section 2.7.4).

### **2.7.4 Preferred Strategy**

The RTS has been developed in a progressive manner which has considered and refined options for objectives and measures as described above. This process has allowed for consideration and appraisal of a broad range of alternatives of all scales (from small interventions to major mode share targets) from the start of the RTS development, with an ongoing process of refinement following appraisal against the environmental (and other) RTS and SEA objectives.

The RTS Objectives together with the three key strategic themes of:

- Delivering economic prosperity
- Connecting communities and being socially inclusive
- Environmental sustainability and promoting health and well-being

effectively set the boundaries for the preferred transport strategy. There were then alternatives to be considered in relation to which interventions should be included in each of the 11 groups that make up the Preferred Strategy, drawing in part on the long lists of measures previously assessed.

The ‘preferred draft strategy’ which resulted from this process therefore reflects the balance, priorities, consultation and issues which have been assessed and agreed as the RTS has progressed.

### **2.7.5 Alternative Strategies**

The draft RTS also presents three alternative strategies at a high level. These are based on the three strategic themes set out above under the Preferred Strategy. The RTS seeks to demonstrate that by giving additional weight to certain interventions already within the Preferred Strategy and by adding some additional interventions it is possible to define three alternative scenarios where the thrust is more towards either:

1. Economic Prosperity
2. Connecting Communities and Social Inclusion
3. Environmental Sustainability and Health and Well-being

The Preferred Strategy is considered to represent a balanced approach tailored towards meeting the objectives and needs of the TACTRAN area. Views are sought, however, as to whether this is the case or whether additional weight and action should be given to any one of the key strategic themes.

## 5.5 ASSESSMENT OF ALTERNATIVES

Section 2.7 sets out the approach which has been adopted in this SEA towards the assessment of alternatives. The approach has involved the consideration of options throughout the iterative stages of strategy development (for the strategic themes, objectives, and grouped packages of interventions) as an integrated part of the process.

Nevertheless the RTS also presents three alternative strategies. These demonstrate that if certain packages of measures within the Preferred Strategy are given more weight and if some additional interventions are also added then the alternatives that could be considered would be:

- Alternative Strategy 1: Delivering Economic Prosperity
- Alternative Strategy 2: Connecting Communities and Social Inclusion
- Alternative Strategy 3: Environmental Sustainability and Health and Wellbeing

The results of the appraisal are summarised in the following sections.

### 5.5.1 Delivering Economic Prosperity

This alternative is described in the draft RTS as being the driver behind:

- measures designed to tackle peripherality;
- measures providing improvements in the key commuter corridors;
- most of the rail-based measures;
- all freight and air transport related interventions.

If these measures are given extra weight then the interventions that would have a higher priority would be those that involve the most infrastructure development, including:

- the three main road-based infrastructure interventions;
- the rail freight and port improvements;
- the airport terminal and facilities improvements.

The additional measures would be likely to involve congestion and accident hotspot improvements (including possible road dualling and infrastructure improvements). The summary of the predicted effects of this alternative is presented in Table 5.15.

**Table 5.15 Predicted Effects of the “Delivering Economic Prosperity” Alternative**

SEA Objectives	Predicted Residual Effects	Key Comments
Climate Change	Negative potential effects (x) but with mitigation could become neutral. Effect will be dependant on offset measures for air transport interventions	Effect would only be neutral if carbon offset scheme successfully implemented
Community Well-being	Neutral in relation to certain objectives (flood risk, severance etc)  Negative effects (x) for air quality and noise	Effects on local air quality from increased number of flights and traffic accessing the airport could have negative effects on health from emissions. Significance cannot be quantified as would depend on level of increases  Further appraisal of interventions required to determine effects on health and safety – some negative effects could result if new infrastructure leads to traffic growth but some benefits could result from modal shift  Potential for reduction in traffic flows in cities could benefit local air quality but new roads have the potential to increase traffic with negative resultant effects on local air quality. EIA would be required for all new major roads to determine specific effects and inform the decision making process
Natural Heritage	Uncertain, but likely to be negative effects (x) for new infrastructure projects	There may be some significant effects from new infrastructure projects at some locations. EIA would be required for all new major roads to determine specific effects and mitigation and to inform the decision making process. Appropriate assessment would be required of all schemes with potential to affect European sites. Implementation of best construction practices would reduce the risk of significant effects.
Cultural Heritage	Possible negative effects (x) on archaeological and historic resources with infrastructure projects	EIA would be required for all new major roads to determine specific effects and mitigation and to inform the decision making process. Planting proposals should be sited to ensure no direct effects on archaeological remains. Modal shift would have potential to enhance the setting of historic townscapes and features through reductions in traffic flows and congestion etc
Material Assets and Resources	Uncertain possibly neutral (0)	Carbon offset measures and promotion of sustainable access (via PT) may reduce negative effect of promoting air travel

## 5.5.2 Connecting Communities and Social Inclusion

This alternative is described in the draft RTS as being the driver behind:

- measures in the land-use and planning group;
- the community and demand responsive transport measures;
- measures to remove barriers for disabled travellers.

If these measures are given extra weight then the interventions that would have a higher priority would be those that involve:

- travel plan guidance for large employers;
- improved access to healthcare;
- region-wide coordination of community transport;
- expansion of demand responsive transport services.

The additional measures would be likely to involve additional bus services, concessionary schemes and expanding community and demand responsive transport across the region. The summary of the predicted effects of this alternative is presented in Table 5.16.

**Table 5.16 Predicted Effects of the “Connecting Communities and Social Inclusion” Alternative**

SEA Objectives	Predicted Residual Effects	Key Comments
Climate Change	Broadly Neutral (0) Effect will be greater over time as more actions in the RTS are implemented.	Effect dependent on level of modal shift. RTS has potential to reduce traffic in some locations. Further appraisal of strategy required to quantify effects
Community Well-being	Broadly Neutral (0) Broadly positive with regard to health and safety and sustainable access to employment and essential services	Significant change of traditional attitudes required to achieve significant health and safety benefits
Natural Heritage	Neutral (0) No significant effects are predicted	
Cultural Heritage	Neutral (0) No significant effects are predicted	
Material Assets and Resources	Neutral (0) Positive towards promoting sustainable travel. Effect will be greater over time as more measures in the RTS are implemented.	Measures not predicted to significantly affect material assets and resources  There will be a need to promote information to ensure take-up of more sustainable modes of transport

### 5.5.3 Environmental Sustainability and Health and Well-being

This alternative is described in the draft RTS as being the driver behind:

- measures in the “reducing the need to travel” group;
- travel plan related measures;
- measures in the “changing attitudes and behaviour” group;
- all of the walking and cycling measures.

If these measures are given extra weight then the interventions that would have a higher priority would be those that involve:

- travel plan guidance for large employers;
- improved access to healthcare;
- promoting regional car sharing schemes;
- measures to encourage sustainable tourism;
- the walking and cycling strategy;
- safer routes to school.

The additional measures would be likely to involve support for a national policy on carbon trading, opportunities for short sea shipping, low emission zones in city centres, bio-fuel promotion and car clubs.

The summary of the predicted effects of this alternative is presented in Table 5.17.

**Table 5.17 Predicted Effects of the “Environmental Sustainability and Health and Well-being” Alternative**

SEA Objectives	Predicted Residual Effects	Key Comments
Climate Change	Broadly supportive (✓) Effect will be greater over time as more measures in the RTS are implemented.	Effect dependent on level of modal shift. RTS has potential to reduce traffic in some locations. Further appraisal of strategy required to quantify effects. Carbon trading would contribute to offsetting carbon emissions
Community Well-being	Broadly supportive (✓) Neutral in relation to flood risks and visual intrusion effects	Significant change of traditional attitudes required to achieve significant health and safety benefits. Low emission city centre zones plus promotion of bio-fuels would help improve air quality and increase health benefits
Natural Heritage	Neutral (0)	Measures not predicted to significantly affect the natural environment
Cultural Heritage	Neutral (0)	Appraisal assumes that no measures would significantly affect archaeology or cultural heritage, but could have potential to reduce negative effects of transport on townscapes but not considered to be significant

SEA Objectives	Predicted Residual Effects	Key Comments
Material Assets and Resources	Broadly supportive (✓) Effect will be greater over time as more measures in the RTS are implemented.	<p>Measures not predicted to significantly affect material assets and resources</p> <p>There will be a need to promote information to ensure take-up of more sustainable modes of transport</p> <p>Use of bio-fuels is likely to be a more sustainable option than fossil fuels but would need further investigation</p>



